$\qquad$

# United States Court of Appeals for the Federal Circuit 

In re Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.

Petitioners

On Petition for a Writ of Mandamus to the United States District Court for the Western District of Texas, No. 6:20-cv-00259-ADA
Hon. Alan D. Albright

## SAMSUNG ELECTRONICS CO., LTD. AND SAMSUNG ELECTRONICS AMERICA, INC.'S PETITION FOR WRIT OF MANDAMUS

Nicholas J. Whilt
Jeffrey G. Lau
O'MELVENY \& MYERS LLP
400 South Hope Street, 18th Floor
Los Angeles, CA 90071
Telephone: (213) 430-6000

Bradley N. Garcia
O’MELVENY \& MYERS LLP
1625 Eye Street, NW
Washington, DC 20006-4061
Telephone: (202) 383-5300
Darin W. Snyder
David S. Almeling
Daniel A. Silverman
O’MELVENY \& MYERS LLP
Two Embarcadero Center, 28th Floor
San Francisco, CA 94111-3823
Telephone: (415) 984-8700

Counsel for Petitioners Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.

# UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT 

CERTIFICATE OF INTEREST


#### Abstract

Case Number 21 - Short Case Caption In re Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. Filing Party/Entity Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.


Instructions: Complete each section of the form. In answering items 2 and 3, be specific as to which represented entities the answers apply; lack of specificity may result in non-compliance. Please enter only one item per box; attach additional pages as needed and check the relevant box. Counsel must immediately file an amended Certificate of Interest if information changes. Fed. Cir. R. 47.4(b).

I certify the following information and any attached sheets are accurate and complete to the best of my knowledge.

Date: 04/06/2021
Signature: /s/ Bradley N. Garcia
Name: $\quad$ Bradley N. Garcia

| 1. Represented <br> Entities. <br> Fed. Cir. R. 47.4(a)(1). | 2. Real Party in <br> Interest. <br> Fed. Cir. R. 47.4(a)(2). | 3. Parent Corporations <br> and Stockholders. <br> Fed. Cir. R. 47.4(a)(3). |
| :---: | :---: | :---: |
| Provide the full names of <br> all entities represented <br> by undersigned counsel in <br> this case. | Provide the full names of <br> all real parties in interest <br> for the entities. Do not <br> list the real parties if <br> they are the same as the <br> entities. <br> None/Not Applicable | Provide the full names of <br> all parent corporations <br> for the entities and all <br> publicly held companies <br> that own 10\% or more <br> stock in the entities. <br> $\square$ None/Not Applicable |
| Samsung Electronics Co., Ltd. |  | Samsung Electronics Co., Ltd. |$|$| Google LLC |
| :--- |

Additional pages attached
4. Legal Representatives. List all law firms, partners, and associates that (a) appeared for the entities in the originating court or agency or (b) are expected to appear in this court for the entities. Do not include those who have already entered an appearance in this court. Fed. Cir. R. 47.4(a)(4).
$\square \quad$ None/Not Applicable $\quad \square \quad$ Additional pages attached

| Jeffrey G. Lau | Mann Tindel Thompson | J. Mark Mann |
| :---: | :--- | :--- |
| G. Blake Thompson |  |  |
|  |  |  |

5. Related Cases. Provide the case titles and numbers of any case known to be pending in this court or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal. Do not include the originating case number(s) for this case. Fed. Cir. R. 47.4(a)(5). See also Fed. Cir. R. 47.5(b).

| $\square \quad$ None/Not Applicable | $\square \quad$ Additional pages attached |  |
| :--- | :--- | :--- | :--- |
| Ikorongo Texas LLC v. LG Electronics Inc., No. <br> 6:20-cv-0257-ADA (W.D. Tex.) | Ikorongo Texas LLC v. Lyft, Inc., No. <br> 6:20-cv-00258-ADA (W.D. Tex.) | Ikorongo Texas LLC v. Uber Technologies, Inc., <br> No. 6:20-cv-00843-ADA (W.D. Tex.) |
|  |  |  |
|  |  |  |
|  |  |  |


| 6. Organizational Victims and Bankruptcy Cases. Provide any information |
| :--- |
| required under Fed. R. App. P. 26.1(b) (organizational victims in criminal cases) |
| and 26.1(c) (bankruptcy case debtors and trustees). Fed. Cir. R. 47.4(a)(6). |
| None/Not Applicable <br> $\square$$\| \quad \square \quad$ Additional pages attached |
|  |

## TABLE OF CONTENTS

Page
CERTIFICATE OF INTEREST ..... i
TABLE OF CONTENTS ..... iv
TABLE OF AUTHORITIES ..... vi
STATEMENT OF RELATED CASES ..... ix
CIRCUIT RULE 28(j) CERTIFICATION .....  X
INTRODUCTION .....  1
RELIEF SOUGHT ..... 4
ISSUES PRESENTED ..... 4
STATEMENT OF FACTS ..... 5
I. The Parties And Plaintiffs' Claims ..... 5
II. The Asserted Patents, Accused Applications, And Relevant Third Parties ..... 5
III. Procedural Background ..... 7
A. Plaintiffs' Pre-Filing Maneuvers ..... 7
B. Petitioners' Motion To Transfer And The District Court's Ruling ..... 9
STATEMENT OF REASONS WHY THE WRIT SHOULD ISSUE ..... 10
I. Governing Legal Standards ..... 11
II. This Action Could Have Been Brought In The Northern District Of California Under § 1400(b) ..... 12
A. This Court And The Supreme Court Have Repeatedly Rejected Attempts By Plaintiffs To Manipulate Venue And Jurisdiction ..... 12
B. Under Those Established Principles, Plaintiffs' Maneuvers Should Be Disregarded ..... 16

## TABLE OF CONTENTS (continued)

## Page

C. The District Court's Ruling Would Lead To Results Contrary To The Purposes Of The Venue Statutes ..... 17
D. "Where the Defendant Has Committed Acts of Infringement" Under 28 U.S.C. § 1400(b) Focuses On Where the Defendant's Conduct Occurred ..... 19
III. The Private and Public Interest Factors Clearly Weigh In Favor of Transfer ..... 22
A. The Private Interest Factors Favor Transfer. ..... 24

1. Sources of proof are more readily accessible in the NDCA than the WDTX. ..... 24
2. Compulsory process for relevant witnesses is available in the NDCA, not the WDTX. ..... 24
3. Many relevant witnesses are in the NDCA; contrary to the district court, none are in the WDTX. ..... 27
4. The district court clearly erred by treating co-pending litigation as the dominant factor in the private interest factor analysis. ..... 29
B. The Public Interest Factors Favor Transfer ..... 31
5. The district court erred in finding the local interest factor neutral ..... 31
6. The district court gave too much weight to the court congestion factor. ..... 32
C. The NDCA Is Clearly More Convenient Than The WDTX ..... 33
CONCLUSION ..... 33
CERTIFICATE OF COMPLIANCE ..... 35
PROOF OF SERVICE ..... 36

## TABLE OF AUTHORITIES

Page(s)
CASES
Action Indus., Inc. v. U.S. Fid. \& Guar. Co., 358 F.3d 337 (5th Cir. 2004) ..... 23
Atl. Marine Constr. Co. v. U.S. Dist. Court for W. Dist. of Tex., 571 U.S. 49 (2013) ..... 21
Dainippon Screen Mfg. Co. v. CFMT, Inc., 142 F.3d 1266 (Fed. Cir. 1998) ..... 15
Duha v. Agrium, Inc., 448 F.3d 867 (6th Cir. 2006) ..... 26
Eason v. Holt,
73 F.3d 600 (5th Cir. 1996) ..... 22
Hertz Corp. v. Friend, 559 U.S. 77 (2010) ..... 14
In re Acer Am. Corp., 626 F.3d 1252 (Fed. Cir. 2010) ..... 28, 32
In re Adobe Inc.,
823 F. App’x 929 (Fed. Cir. 2020) ..... 33
In re Apple Inc., 581 F. App’x 886 (Fed. Cir. 2014) ..... 26
In re Apple Inc.,
979 F.3d 1332 (Fed. Cir. 2020) ..... 28, 32
In re Cray Inc.,
871 F.3d 1355 (Fed. Cir. 2017) ..... 20
In re Genentech, Inc., 566 F.3d 1338 (Fed. Cir. 2009) ..... passim
In re Google Inc., 2015 WL 5294800 (Fed. Cir. July 16, 2015) ..... 19

## TABLE OF AUTHORITIES (continued)

Page(s)
In re Google Inc.,
2017 WL 977038 (Fed. Cir. Feb. 23, 2017) ..... 29, 30, 31
In re Hoffmann-La Roche Inc., 587 F.3d 1333 (Fed. Cir. 2009) ..... 14, 31, 33
In re HTC Corp.,
889 F.3d 1349 (Fed. Cir. 2018) ..... 1,17
In re Microsoft Corp., 630 F.3d 1361 (Fed. Cir. 2011) passim
In re Toyota Motor Corp.,
747 F.3d 1338 (Fed. Cir. 2014) ..... 11, 22, 29
In re TS Tech USA Corp., 551 F.3d 1315 (Fed. Cir. 2008) ..... 11
In re Volkswagen of Am., Inc., 545 F.3d 304 (5th Cir. 2008) ..... passim
In re Zimmer Holdings Inc., 609 F.3d 1378 (Fed. Cir. 2010) ..... 13, 14, 29
Lehigh Min. \& Mfg. Co. v. Kelly, 160 U.S. 327 (1895) ..... 14
Miller \& Lux, Inc. v. E. Side Canal \& Irrigation Co., 211 U.S. 293 (1908) ..... 14, 15
Oyster Optics, LLC v. Coriant Am. Inc., 2017 WL 4225202 (E.D. Tex. Sept. 22, 2017) ..... 31
Peteet v. Dow Chem. Co., 868 F.2d 1428 (5th Cir. 1989) ..... 26
Signal IP, Inc. v. Ford Motor Co., 2014 WL 4783537 (C.D. Cal. Sept. 25, 2014) ..... 31

## TABLE OF AUTHORITIES (continued)

## Page(s)

TC Heartland LLC v. Kraft Foods Grp. Brands LLC, 137 S. Ct. 1514 (2017) ..... 18
Van Dusen v. Barrack, 376 U.S. 612 (1964) ..... passim
STATUTES
28 U.S.C. § 1332(c)(1) ..... 15
28 U.S.C. § 1391(c)(3) ..... 18, 23
28 U.S.C. § 1400(b) ..... passim
28 U.S.C. § 1404(a) ..... passim
RULES
Fed. R. Civ. P. 15(c) ..... 23
Fed. R. Civ. P. 45 ..... 26

## STATEMENT OF RELATED CASES

There are related district court cases, but none are consolidated for pre-trial purposes. In the action giving rise to this petition ("the Samsung action"), Plaintiff Ikorongo Texas LLC ("Ikorongo Texas") sued Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., on March 31, 2020, for alleged infringement of U.S. Patent Nos. RE 41,450, RE 45,543, RE 47,704, and 8,874,554. Ikorongo Texas LLC v. Samsung Electronics Co., No. 6:20-cv-00259-ADA, Dkt. 1 (W.D. Tex.). The next day, an amended complaint was filed adding Plaintiff Ikorongo Technology LLC ("Ikorongo Technology") (and together with Ikorongo Texas, "Plaintiffs"). Id., Dkt. 2.

On March 31, 2020, Ikorongo Texas also filed separate suits alleging infringement of some or all of the same patents against (1) LG Electronics Inc. and LG Electronics U.S.A., Inc., (2) Bumble Trading Inc., and (3) Lyft Inc. Ikorongo Texas LLC v. LG Electronics Inc., No. 6:20-cv-00257-ADA, Dkts. 1, 2 (W.D. Tex.); Ikorongo Texas LLC v. Bumble Trading Inc., No. 6:20-cv-00256-ADA, Dkts. 1, 2 (W.D. Tex.); Ikorongo Texas LLC v. Lyft, Inc., No. 6:20-cv-00258ADA, Dkts. 1, 2 (W.D. Tex.). In each suit, as in this one, the next day an Amended Complaint was filed adding Plaintiff Ikorongo Technology. The defendants in each suit moved to transfer the actions to the Northern District of California, but Bumble withdrew its motion to transfer. Bumble, No. 20-cv-00258,

Dkts. 29, 39. The district court denied transfer in each of the remaining actions on March 1, 2021. LG, No. 20-cv-00257, Dkt. 76; Samsung, No. 20-cv-00259, Dkt. 67; Lyft, No. 20-cv-00258, Dkt. 68. The district court entered essentially identical orders denying Petitioners' motion to transfer in this case and the LG defendants' motion to transfer in that case. $L G$, No. 20-cv-00257, Dkt. 76; Samsung, No. 20-cv-00259, Dkt. 67.

Similarly, on September 15, 2020, Ikorongo Texas filed another separate suit alleging infringement of some of the same patents against Uber Technologies, Inc. Ikorongo Texas LLC v. Uber Technologies, Inc., No. 6:20-cv-00843-ADA, Dkts. 1, 2 (W.D. Tex.). There, as in this case, the next day an Amended Complaint was filed adding Ikorongo Technology. Uber moved to transfer the action to the Northern District of California, and that motion is currently pending. Id. Dkt. 26.

This petition challenges the district court's order denying transfer in the Samsung action, Samsung, No. 20-cv-00259, Dkt. 67. There have been no other appeals or writ proceedings arising from the Samsung action.

## CIRCUIT RULE 28(j) CERTIFICATION

Pursuant to Circuit Rule 28(j), Petitioners state that the body of this petition is identical-except for record citations and references to Petitioners-to the body of a petition filed this same day by LG Electronics Inc. and LG Electronics U.S.A.,

Inc., who are represented by the same counsel and challenge a materially identical order issued by the same district court.

## INTRODUCTION

Venue rules are intended "to allocate suits to the most appropriate or convenient federal forum," In re HTC Corp., 889 F.3d 1349, 1356 (Fed. Cir. 2018), and to prevent both "the waste of time, energy and money" and "unnecessary inconvenience" to "litigants, witnesses and the public" that arise when litigation is conducted in an inconvenient forum, Van Dusen v. Barrack, 376 U.S. 612, 616 (1964). Plaintiffs here concocted a novel scheme that flouts those important public policies and long-established case law by seeking-through various pre-filing maneuvers-to effectively confine their suit to their chosen district no matter how inconvenient that forum is. The district court denied Petitioners' motion to transfer on two alternative grounds, both of which turned, either completely or in part, on Plaintiffs' pre-filing maneuvering. This Court should issue a writ of mandamus to correct those errors and require this case to be transferred.

Plaintiffs seek nationwide damages for alleged infringement of four patents. Until 11 days before this suit was filed, the sole owner of the asserted patents, Ikorongo Technology, had full rights to assert the patents anywhere in the country, and could have sued Petitioners in the Northern District of California ("NDCA"). But Ikorongo Technology then assigned to Ikorongo Texas-a related entity created approximately one month before suit was filed-the exclusive rights to the
asserted patents in carefully chosen geographic locations: all but one county in each of the Eastern District of Texas ("EDTX") and Western District of Texas ("WDTX"). Ikorongo Texas then filed suit in the WDTX, and Ikorongo Technology was added as a co-plaintiff in an Amended Complaint the next day.

This suit, however, has no meaningful connection to the WDTX; not a single relevant document or witness is located there. The vast majority of both are instead located in the NDCA, where most of the allegedly infringing technology was developed. When Petitioners moved under 28 U.S.C. § 1404(a) to transfer the suit to the NDCA, Plaintiffs argued that their pre-filing maneuvers categorically defeated that motion. In patent infringement actions, proper venue under 28 U.S.C. § 1400(b) turns on, among other things, "where the defendant has committed acts of infringement." According to Plaintiffs, because their "Texas" entity had rights to the asserted patents only in specified parts of Texas, any "acts of infringement" as to that entity could have occurred only in those carefully chosen districts in Texas. The district court accepted that argument and held that Petitioners could not show that the suit "might have been brought" in the NDCA by Ikorongo Texas as § 1404(a) requires.

That ruling was incorrect and will have far-reaching consequences if not reversed. Plaintiffs' pre-filing contractual maneuvers had no plausible purpose except to defeat transfer under § 1404(a) and confine this suit to their chosen
venue. This Court and the Supreme Court have repeatedly rejected similar efforts to manipulate venue rules. And although Plaintiffs' effort here appears to be novel, it provides a roadmap for other plaintiffs to file suits for nationwide damages in a preferred forum while effectively foreclosing the possibility of a transfer to more convenient locations: Just create a related entity, assign strategically chosen geographic patent rights to that entity, have that entity sue first, and then join the original entity in the same suit. The district court's rationale overlooks that § 1400(b) is intended to protect defendants from suit in inconvenient forums, not provide plaintiffs an artificial hook to limit the jurisdictions to which their suit might be transferred. There is no reason to read § 1400(b)'s focus on "where the defendant has committed acts of infringement" to turn on the type of pre-filing contractual maneuvering that Plaintiffs engaged in here.

The district court alternatively ruled that transfer was not warranted even if the suit could have been brought in the NDCA. That ruling was a clear abuse of discretion and was impacted in multiple respects by Plaintiffs' improper pre-filing maneuvering. The relevant documents and majority of potential third-party witnesses are located in the NDCA, where the allegedly infringing applications were developed. No documents and no relevant witnesses are located in the WDTX. The district court nevertheless minimized the importance of those crucial
factors and relied exclusively on its belief that judicial economy would be promoted by retaining this case in the WDTX because Plaintiffs filed other suits involving the same patent family in the WDTX. Especially because those suits were part and parcel of Plaintiffs' improper scheme to defeat a transfer motion, that consideration cannot outweigh the undisputed evidence showing that the NDCA is clearly a more convenient forum for the parties and witnesses.

## RELIEF SOUGHT

Petitioners respectfully petition for a writ of mandamus directing the district court to vacate its March 1, 2021 order denying transfer of this action and to transfer this action to the NDCA.

## ISSUES PRESENTED

1. Whether the district court erred by holding that Plaintiffs' pre-filing assignment of geographically limited patent rights to a newly minted related entity precluded transfer regardless of the convenience of parties and witnesses.
2. Whether the district court clearly abused its discretion by denying Petitioners' motion to transfer where the most important factors-sources of proof, the availability of compulsory process, and the convenience of witnesses-clearly favor the NDCA, and the only record-supported reasons weighing against transfer are speculation about court congestion and the fact that Plaintiffs filed similar suits against other defendants in the WDTX.

## STATEMENT OF FACTS

## I. The Parties And Plaintiffs' Claims

Petitioners are Samsung Electronics Co., Ltd. ("SEC") and Samsung Electronics America, Inc. ("SEA"). SEC is a Korean-chartered corporation with its principal place of business in Korea. Appx 136 \| 6. SEC designed, engineered, and manufactured the accused Samsung devices outside the United States, mostly in Korea. Appx 137 9ी13, 14.

SEA is a corporation founded under the laws of New York with its principal place of business in Ridgefield Park, New Jersey. Appx141 97. SEA has offices in various states, including California, New York, New Jersey, Washington, Kansas, Georgia, and Texas. Id. SEA has over 300 employees in the Northern District of California. Appx142 912 .

Plaintiffs are Ikorongo Texas and Ikorongo Technology. Both have the same address in Chapel Hill, North Carolina. Appx26 9\$1-2. Neither entity appears to conduct any non-litigation business in Texas.

## II. The Asserted Patents, Accused Applications, And Relevant Third Parties

Plaintiffs allege that Petitioners' smartphones and tablets infringe four patents-U.S. Patent Nos. RE41,450; RE45,543; RE47,704; and 8,874,554 (collectively, the "Asserted Patents"). The three reissue patents are directed to users sharing geographic location data with a group of other users using mobile
 '554 patent is directed to providing location-based media recommendations. Appx36 9151; Appx61-62 『1.a.

Plaintiffs' infringement contentions are directed at functionality found in the Google Maps, Google+, Google Play Music, YouTube Music, and AT\&T Secure Family applications (collectively, the "Accused Applications") running on products sold by Petitioners. Appx61; Appx63-64; Appx66.

No employees of any Samsung entity control the design and development of any features of the Accused Applications. Appx136 948. Instead, the Accused Applications were developed by third parties. Third-party Google LLC is a Delaware limited liability company with its principal place of business in Mountain View in the NDCA. Appx 143 | 2 . Google's Mountain View headquarters and nearby offices in the NDCA are the strategic center of Google's business. Id. Google's employees knowledgeable about the accused Google Maps and Google+ features are based in the NDCA. Appx144-145 9T4-8. The teams who worked on location-sharing for Google Maps, Android location infrastructure, and the accused Google+ features are all located in Mountain View. Appx144-145 945, 7-8. Google is unaware of any employees located in the WDTX who have worked on the accused Google Maps and Google+ functionality. Appx144-145

9 9 15, 8. Google’s employees knowledgeable about the accused Google Play Music
and YouTube Music features are located primarily in New York City, with team members also located in Seattle and Mountain View. Appx145-146 ब| $\mid 9-10$.

The remaining Accused Application, AT\&T Secure Family, was researched, designed, and developed by a team of 30 engineers at third-party Location Labs at its headquarters in Emeryville, California within the NDCA. Appx101-120; Appx122-123; Appx125-127; Appx200-205. Location Labs was later acquired by Avast Software s.r.o. ("Avast"). Appx125-127. Avast currently has four U.S. offices, two of which (the Silicon Valley and Emeryville offices) are in NDCA. Appx129-132. Avast does not have any offices in Texas. Id. Although AT\&T is headquartered in Dallas, Texas, it did not develop Secure Family.

## III. Procedural Background

## A. Plaintiffs' Pre-Filing Maneuvers

Ikorongo Texas initiated this suit on March 31, 2020, alleging infringement of the Asserted Patents. Appx12. Ikorongo never served that complaint on Petitioners. Appx4. The next day, Ikorongo Technology was added as a coplaintiff in an amended complaint. Appx26. On those same days, in the same sequence, Plaintiffs filed three similar suits against other defendants in the WDTX alleging infringement of some or all of the Asserted Patents. See supra at ix-x (statement of related cases). They did the same in a similar suit against Uber six months later. $I d$.

Plaintiffs allege that Ikorongo Texas owns exclusive rights to the Asserted Patents, including the rights to sue for infringement and collect damages, but only in "a specified part of the United States ... that includes specific counties within the" WDTX. Appx28 99. Plaintiffs allege that Ikorongo Technology owns the exclusive rights to the Asserted Patents everywhere else, which includes "at least one county within the" WDTX. Appx28 『10. The Amended Complaint seeks nationwide damages. Appx28 『11; Appx38.

The record developed in litigating Petitioners' motion to transfer paints a fuller picture of Plaintiffs' efforts to manipulate their corporate structure in an effort to anchor the cases in the WDTX. Until one month before this suit was filed, Ikorongo Texas did not exist and Ikorongo Technology owned the exclusive, geographically unlimited rights to the Asserted Patents. Appx171. Approximately one month before the suit was filed, Ikorongo Texas was formed. Appx134. Then, on March 20, 2020-just 11 days before the suit was filed-Ikorongo Technology assigned to Ikorongo Texas, through various individuals, the geographically limited rights described above. Appx168-191. Ikorongo Technology retained exclusive rights to the Asserted Patents in the rest of the country, including one county in each of the WDTX and the EDTX. Appx28 1 11; Appx179.

The same person-Hugh Svendsen-signed the relevant assignment documents on behalf of both Plaintiffs. He signed the initial transfer from

Ikorongo Technology, as its manager, to various individuals. Appx173. And he signed the later assignment from those various individuals to Ikorongo Texas as its manager. Appx185. Both entities share the same North Carolina address. Appx26 T191, 2.

## B. Petitioners' Motion To Transfer And The District Court's Ruling

On September 11, 2020, Petitioners moved to transfer this suit to the NDCA under 28 U.S.C. § 1404(a). Petitioners emphasized, among other things, that every relevant document is accessible from and many potential witnesses are located in the NDCA, while no relevant documents or witnesses are located in the WDTX.

In opposing Petitioners' motion, Plaintiffs made a novel argument: transfer was impossible because Ikorongo Texas's carefully circumscribed geographic rights in the Asserted Patents meant Petitioners committed no "acts of infringement" in the NDCA as to that entity under § 1400(b), as required for transfer under § 1404(a). Appx 155. In reply, Petitioners countered on multiple grounds, including that if this pre-filing maneuvering prevented transfer "regardless of convenience," any patent holder could defeat the purpose of § 1404(a) simply by "incorporating a new company and assigning to that company the right to sue only in a particular district." Appx194. The district court agreed with Plaintiffs' argument, however, holding that Ikorongo Texas could not have
sued in the NDCA because "acts of infringement as to Ikorongo Texas" under $\S 1400(\mathrm{~b})$ could occur only in the WDTX or the EDTX. Appx210.

The court also held that transfer was unwarranted under § 1404(a) "even assuming" Petitioners had "met the threshold issue as to Ikorongo Texas."

Appx211. As detailed infra Part III, the district court discounted the importance of the many witnesses in the NDCA and relied heavily on (1) its estimation that its time-to-trial would be faster than in the NDCA and (2) the fact that the defendant in one of the simultaneously filed suits involving only a subset of the Asserted Patents and different accused products had withdrawn its motion to transfer. Appx211-218.

## STATEMENT OF REASONS WHY THE WRIT SHOULD ISSUE

The district court erred by allowing Plaintiffs to defeat Petitioners' transfer motion by strategically dividing geographic rights to the Asserted Patents. This Court and the Supreme Court have long warned against artificial venue manipulation, and such manipulation contravenes the purpose of $\S \S 1400$ (b) and 1404(a). If this Court does not intervene, others will surely imitate Plaintiffs' tactic, which will only further undermine those statutes. The district court also clearly abused its discretion in its alternative ruling finding that the balance of convenience factors did not warrant transfer. A writ of mandamus is warranted.

## I. Governing Legal Standards

Fifth Circuit law applies to this Court's review of § 1404(a) rulings. In re TS Tech USA Corp., 551 F.3d 1315, 1319 (Fed. Cir. 2008). Under Fifth Circuit law, a petitioner seeking mandamus relief must (1) show a "clear and indisputable" right to the writ; (2) have "no other adequate means to attain the relief he desires"; and (3) demonstrate that "the writ is appropriate under the circumstances." In re Volkswagen of Am., Inc., 545 F.3d 304, 311 (5th Cir. 2008) (en banc) (citation omitted). This Court has repeatedly recognized that, under Fifth Circuit law, mandamus is appropriate to correct transfer denials that are "clear abuses of discretion." In re Toyota Motor Corp., 747 F.3d 1338, 1339 (Fed. Cir. 2014) (collecting cases).

The § 1404(a) analysis proceeds in two steps. First, the court asks whether the "action 'might have been brought' in the destination venue." In re Volkswagen, 545 F.3d at 312 (quoting 28 U.S.C. § 1404(a)). A patent infringement case may be brought in "the judicial district where the defendant resides, or where the defendant has committed acts of infringement and has a regular and established place of business." 28 U.S.C. § 1400(b). Second, a court must assess whether transfer is warranted based on a number of factors concerning "the convenience of parties and witnesses" and "the proper administration of justice." In re Microsoft Corp., 630 F.3d 1361, 1363 (Fed. Cir. 2011).

## II. This Action Could Have Been Brought In The Northern District Of California Under § 1400(b)

The district court's holding that Petitioners could not show the action "might have been brought" in the NDCA turned entirely on Ikorongo Texas's strategically limited geographic rights to the Asserted Patents. Appx210. Under a long line of precedent examining similar pre-filing attempts to manipulate venue, the district court should have disregarded Plaintiffs' pre-filing maneuvering and treated this action as what it is: a nationwide suit for infringement of the Asserted Patents. Moreover, even if Plaintiffs' pre-filing maneuvering is not ignored, the district court also erred in interpreting § 1400(b) to turn on a plaintiff's contractual rights rather than a plain reading of where "the defendant [allegedly] has committed acts of infringement" as the statute requires.

## A. This Court And The Supreme Court Have Repeatedly Rejected Attempts By Plaintiffs To Manipulate Venue And Jurisdiction

In Van Dusen v. Barrack, 376 U.S. 612 (1964), the Supreme Court held that
§ 1404(a) "should be construed to prevent parties who are opposed to a change of venue from defeating a transfer which, but for their own deliberate acts or omissions, would be proper, convenient and just." Id. at 625. Crediting Plaintiffs’ pre-filing maneuvering in this case contravenes that principle. And although Plaintiffs' specific scheme here appears to be novel, this Court and the Supreme

Court have repeatedly rejected similar efforts to manipulate venue and jurisdictional laws.

For example, in In re Microsoft, the plaintiff had opened an office in the EDTX that "staffed no employees," transferred documents to that in-district office, and reincorporated under the laws of Texas sixteen days before filing suit. 630 F.3d at 1364-65. The plaintiff then cited those connections to its preferred district in opposing transfer, and the district court credited those maneuvers "without scrutiny." Id. at 1364.

This Court disagreed and issued a writ ordering transfer, explaining that the "Supreme Court has long urged courts to ensure that the purposes of jurisdictional and venue laws are not frustrated by a party's attempt at manipulation." Id. The Court therefore concluded that it need not "honor" the connections that plaintiff made to its preferred forum "in anticipation of litigation and for the likely purpose of making that forum appear convenient." Id. As the Court put it, those steps "were recent, ephemeral, and a construct for litigation and appeared to exist for no other purpose than to manipulate venue." Id. at 1365.

Similarly, in In re Zimmer Holdings Inc., 609 F.3d 1378 (Fed. Cir. 2010), the plaintiff claimed that the EDTX was its "principal place of business." Id. at 1381. But this Court looked to "the realities" of the case - that the claimed location was essentially empty "office space" shared with the plaintiff's lawyer's
other clients-and concluded that "the plaintiff is attempting to game the system by artificially seeking to establish venue[.]" Id. And in In re Hoffmann-La Roche Inc., 587 F.3d 1333 (Fed. Cir. 2009), the plaintiff transferred 75,000 pages of documents relevant to the suit to its chosen district "in anticipation of litigation." Id. at 1336. This Court again concluded that the "assertion that these documents are 'Texas' documents is a fiction which appears to ... have been created to manipulate the propriety of venue." Id. at 1336-37. In both cases, this Court granted writs directing transfer.

Those decisions are supported by broader jurisprudence condemning manipulation of venue and jurisdictional rules. Both In re Microsoft and In re Zimmer Holdings drew on Hertz Corp. v. Friend, 559 U.S. 77 (2010), which cautioned against efforts to manipulate diversity of citizenship jurisdiction. The Supreme Court instructed courts to disregard a corporation's claimed "principal place of business" when assessing diversity of citizenship under 28 U.S.C. § 1332(c)(1) "if the record reveals attempts at manipulation-for example, that the alleged [principal place of business] is nothing more than a mail drop box, a bare office with a computer, or the location of an annual executive retreat." Id. at 97 .

In re Microsoft also relied on Miller \& Lux, Inc. v. East Side Canal \& Irrigation Co., 211 U.S. 293 (1908), and Lehigh Min. \& Mfg. Co. v. Kelly, 160 U.S. 327 (1895), in which the "Supreme Court held that a corporation could not
create federal diversity jurisdiction by merely assigning its claim to an otherwise fictitious subsidiary for just that purpose" or by transferring property to a related entity. In re Microsoft, 630 F.3d at 1364. In both cases a party attempted to create diversity jurisdiction by assigning rights to a related entity. But in both cases the Supreme Court disregarded the effort because it was "only a device" to manipulate jurisdiction. Miller, 211 U.S. at 303.

This Court has also rejected efforts to manipulate personal jurisdiction rules. In Dainippon Screen Mfg. Co. v. CFMT, Inc., 142 F.3d 1266 (Fed. Cir. 1998), a parent corporation that sold products throughout the country and thus could be subject to personal jurisdiction in many jurisdictions assigned its patent rights to a "holding company" and then licensed the patents back to itself. The goal was to allow the parent company to "threaten its competitors with infringement" suits but then argue in any declaratory judgment action seeking to invalidate the patents that the holding company was a necessary party and was subject to personal jurisdiction only in its state of incorporation. Id. at 1271. This Court gave the plaintiff a "'chutzpah' award" and deemed the holding company subject to personal jurisdiction elsewhere. Id.

In short, this Court and the Supreme Court have consistently rejected a range of creative attempts by plaintiffs to manipulate venue and jurisdictional rules in anticipation of litigation.

## B. Under Those Established Principles, Plaintiffs' Maneuvers Should Be Disregarded

Those settled principles require ignoring Plaintiffs' blatant attempt to manipulate the applicable venue rules and effectively confine their suit to the WDTX, no matter how inconvenient that forum is for Petitioners and third parties. As in the foregoing cases, Plaintiffs plainly took every step of their pre-filing efforts in anticipation of opposing transfer on the basis the district court allowed.

As detailed supra at 7-9, one month before this suit was filed, Ikorongo Technology formed Ikorongo Texas, an "otherwise fictitious subsidiary." And just 11 days before the suit was filed, Ikorongo Technology assigned to Ikorongo Texas carefully curated geographic rights to the Asserted Patents, i.e., exclusive rights in some, but not all, counties within the WDTX and EDTX. The same manager even signed the requisite assignments on behalf of both entities, and the entities share the same North Carolina address. Ikorongo Texas then filed this suit and three others in the WDTX, but did not even bother to serve Petitioners with that complaint. Ikorongo Technology joined the suits via an Amended Complaint the very next day. See supra at ix-x, 7-8 (collecting record citations).

This is exactly the type of tactic the Supreme Court warned against in Van Dusen, and that this Court has accordingly disregarded as improper "attempt[s] at manipulation" "made in anticipation of litigation." In re Microsoft, 630 F.3d at 1364; see supra Part II.A. There is no basis to conclude Ikorongo

Texas was created and given these specified geographic rights for any purpose except specifically in anticipation of opposing Petitioners' transfer motion from Texas to a more convenient forum. In re Microsoft, 630 F.3d at 1364.

This Court therefore need not "honor" Plaintiffs' strategic maneuvers. Id. Instead, the Court should treat this case as what it is: a suit for nationwide damages for alleged infringement of the Asserted Patents by the owners of those patents. That suit plainly "might have been brought" in the NDCA as § 1404(a) requires. SEC is subject to suit in any judicial district under the alien-venue rule of § 1391(c)(3). See In re HTC Corp., 889 F.3d 1349 (Fed. Cir. 2018). As for SEA, neither Plaintiffs nor the district court doubted that Ikorongo Technology-which owned the complete and exclusive rights to the Asserted Patents until 11 days before this suit was initiated-could have brought suit in the NDCA because "acts of infringement" as to its rights occurred in that district and SEA has offices there. Appx209 n.1.

## C. The District Court's Ruling Would Lead To Results Contrary To The Purposes Of The Venue Statutes

The district court's contrary approach will encourage copycat efforts and lead to problematic results. Using Plaintiffs' scheme, any patent holder could preemptively defeat a § 1404(a) motion by merely incorporating a new company and assigning to that new company rights to the patent only in a portion of a particular judicial district, and first suing with that new company. The original
patent holder could then join that same action and, together with the new company, seek nationwide damages. The prospect for transfer out of the chosen district would be all but foreclosed, even if another district is plainly more convenient. That is precisely what Ikorongo Technology accomplished here.

The district court identified one theoretically possible way to defeat Plaintiffs' scheme: § 1400(b) provides for venue where an entity resides, so a domestic corporate defendant could move to transfer to its state of incorporation. TC Heartland LLC v. Kraft Foods Grp. Brands LLC, 137 S. Ct. 1514 (2017); Appx210-211. But where an entity is incorporated (e.g., Delaware) bears no necessary relation (and frequently no relation at all) to the district that would be most convenient under the "individualized, case-by-case consideration of convenience and fairness" inquiry that § 1404(a) requires. In re Genentech, Inc., 566 F.3d 1338, 1346 (Fed. Cir. 2009) (quoting Van Dusen, 376 U.S. at 622). In most cases, Plaintiffs' scheme will allow a patent holder to sue a domestic entity for nationwide damages in the patent holder's chosen forum and leave the defendant with no recourse under § 1404(a). Allowing plaintiffs to arbitrarily confine a suit for nationwide damages to this extent is contrary to the recognized purpose of § 1404(a): to "prevent the waste of time, energy, and money and to protect litigants, witnesses and the public against unnecessary inconvenience and expense" that results "when defendants are forced to expend resources litigating
substantive matters in an inconvenient venue." In re Google Inc., 2015 WL 5294800, at *1 (Fed. Cir. July 16, 2015) (quoting Van Dusen, 376 U.S. at 616 (internal quotation marks omitted)).
D. "Where the Defendant Has Committed Acts of Infringement" Under 28 U.S.C. § 1400(b) Focuses On Where the Defendant's Conduct Occurred

Even if the Court does not conclude that Ikorongo Texas and its geographically limited rights should be disregarded entirely, the district court was still incorrect to conclude that Ikorongo Texas could not have brought its suit in the NDCA.

As noted, Ikorongo Texas could have sued SEC in the NDCA because foreign defendants may be sued in any district. 28 U.S.C. § 1391(c)(3). As for SEA, 28 U.S.C. $\S 1400(b)$ provides that an "action for patent infringement may be brought ... where the defendant has committed acts of infringement and has a regular and established place of business." SEA has offices in the NDCA and is accused of committing "acts of infringement" in that district because it has allegedly been "selling" and "offering for sale" the accused products throughout


The district court was not persuaded by that straightforward analysis, reasoning that Petitioners could not show that they are alleged to have committed any "acts of infringement as to Ikorongo Texas" in the NDCA. Appx210.

Infringement of Ikorongo Texas's contractually defined right in the patents, the court posited, "could have only occurred" within specified regions of Texas. Id.

Although this Court has never addressed that issue, the district court was wrong as a matter of law to conclude that Plaintiffs' contractual arrangements limit where venue is proper in this case under $\S 1400(\mathrm{~b})$.

The statute says simply that venue is proper where "the defendant has committed acts of infringement." 28 U.S.C. § 1400(b) (emphasis added). The statute does not say that venue is proper only where "acts of infringement as to each plaintiff' occurred. Again, both Petitioners are alleged to have infringed the Asserted Patents nationwide, including in the NDCA, and nothing in the text of the statute suggests that Plaintiffs' peculiar contracts with each other should have any relevance to the analysis.

The statute's purpose also undermines the district court's conclusion. Venue rules are meant to protect defendants. See, e.g., In re Cray Inc., 871 F.3d 1355 (Fed. Cir. 2017) (explaining that $\S 1400(b)$ "was a restrictive measure, limiting a prior, broader venue" rule). That purpose is inconsistent with a reading that would allow a plaintiff to artificially limit the districts to which a suit may be transferred merely by artificially limiting its own rights. See Van Dusen, 376 U.S. at 621 (citing the purposes of $\S 1404(a)$ and declining to read phrase "might have been brought" in a way that "would grant personal representatives bringing wrongful-
death actions the power unilaterally to reduce the number of permissible federal forums simply by refraining from qualifying as representatives in States other than the one in which they wished to litigate"); Atl. Marine Constr. Co. v. U.S. Dist. Court for W. Dist. of Tex., 571 U.S. 49 (2013) (holding contractual forum-selection clause does not render forum improper if it is otherwise proper under federal venue laws).

Focusing on the defendant's contacts with the proposed forum also conforms to this Court's precedent under §§ 1400(b) and 1404(a). For example, In re Genentech, Inc., 566 F.3d 1338 (Fed. Cir. 2009), held it was clear error for a district court to conclude that the transferee forum's lack of jurisdiction over a plaintiff heavily disfavored transfer. $I d$. at 1346. This Court explained that " $[t]$ here is no requirement under § 1404(a) that a transferee court have jurisdiction over the plaintiff or that there be sufficient minimum contacts with the plaintiff; there is only a requirement that the transferee court have jurisdiction over the defendants in the transferred complaint." Id. The patent venue rules focus on a defendant's activities in the forum; they do not turn on anything about the plaintiffs.

Finally, the practical reality of this case bears repeating. Although Plaintiffs argued below-without support-that their artifice of filing an initial complaint with just Ikorongo Texas the day before filing an Amended Complaint with both
entities should affect the analysis, the Amended Complaint is the operative complaint. See, e.g., Eason v. Holt, 73 F.3d 600, 603 (5th Cir. 1996) ("[T]he amended complaint ... supersede[s] the original complaint under the well-settled law of this circuit."); Fed. R. Civ. P. 15(c). And that complaint seeks nationwide damages on behalf of two entities that together own the entire rights to the Asserted Patents. Furthermore, it is undisputed that Ikorongo Technology could have sued Petitioners in the NDCA and even Ikorongo Texas could have sued SEC in the NDCA under the alien-venue rule of § 1391(c)(3). Section 1400(b) governs where the "action" may be brought. Even if infringement in the NDCA does not technically infringe Ikorongo Texas's carefully limited rights, Petitioners are alleged in this "action" to have committed "acts of infringement" in the NDCA within the meaning of § 1400 (b).

## III. The Private and Public Interest Factors Clearly Weigh In Favor of Transfer

This Court should also overrule the district court's convenience analysis and order that the case be transferred to the NDCA. In cases arising from the Fifth Circuit, this Court "has granted writs of mandamus to correct denials of transfer that were clear abuses of discretion under governing legal standards." In re Toyota, 747 F.3d at 1339. This is such a case.
"The determination of 'convenience' turns on a number of public and private interest factors, none of which can be said to be of dispositive weight." Action

Indus., Inc. v. U.S. Fid. \& Guar. Co., 358 F.3d 337, 340 (5th Cir. 2004). The private factors include: "(1) the relative ease of access to sources of proof; (2) the availability of compulsory process to secure the attendance of witnesses; (3) the cost of attendance for willing witnesses; and (4) all other practical problems that make trial of a case easy, expeditious and inexpensive." In re Volkswagen, 545 F.3d at 315 (quotation omitted). The public factors include: "(1) the administrative difficulties flowing from court congestion; (2) the local interest in having localized interests decided at home; (3) the familiarity of the forum with the law that will govern the case; and (4) the avoidance of unnecessary problems of conflict of laws of the application of foreign law." Id.

The district court clearly abused its discretion in weighing those factors here. There are no relevant documents or witnesses in the WDTX, and many of both are in the NDCA. The district court made clearly erroneous factual findings and legal errors in discounting the witness-related factors, which under governing law are the driving force in the transfer analysis. The only factors the district court identified as disfavoring transfer-"practical problems" and "administrative difficulties"-are secondary, and in any event they do not weigh against transfer here.

## A. The Private Interest Factors Favor Transfer

## 1. Sources of proof are more readily accessible in the NDCA than the WDTX.

Ease of access to sources of proof is a "meaningful factor" in the convenience analysis. In re Volkswagen, 545 F.3d at 316. Here, nearly all documents related to the development or operation of the Google Accused Applications, including the source code, and technical documents related to the accused AT\&T Secure Family application are either physically present in or electronically accessible from the NDCA. Appx144-145 9世44-8; Appx200-205. Ikorongo has not identified any documents or evidence located in the WDTX. The district court properly found that this factor "tilts" toward transfer, but noted its disagreement with Fifth Circuit precedent requiring it to consider the location of documents. Appx214 \& n.2.

## 2. Compulsory process for relevant witnesses is available in the NDCA, not the WDTX.

Petitioners identified more than a dozen potential third-party witnesses in the NDCA that have knowledge of material facts relevant to this litigation-in particular, the Google engineers who developed the accused functionality in Google Maps and Google Plus and the Avast engineers who developed the accused

AT\&T Secure Family application. Appx144-146 Tโ|5, 8, 10; Appx200-205.

Moreover, named inventors of two of the Asserted Patents live in the NDCA.
Appx56-57 $\mid 8$. These potential third-party witnesses are subject to compulsory
process in the NDCA. By contrast, Plaintiffs did not identify a single relevant third-party witness in the WDTX. Plaintiffs pointed to unnamed "end users" of Samsung phones, but such users are present in every judicial district. Appx214215. The district court-appropriately-did not rely on those end users in its analysis. Id. The factor thus weighs heavily in favor of transfer.

Nevertheless, the district court concluded this factor was "neutral."
Appx215. That conclusion was based on two clear legal errors. First, the district court discounted the location of third-party engineers not within the WDTX's subpoena power by stating that it had "previously held that certain third parties with locations within this District and their employees do fall within the Court's subpoena power." Appx215. That assertion-that the WDTX court has the power to subpoena a third party in the NDCA because her employer has an office in the WDTX—is clearly incorrect. Federal Rule of Civil Procedure 45(c) speaks in terms of where a person is located, not all the locations of his or her employer. See Fed. R. Civ. P. 45 ("within 100 miles of where the person resides, is employed, or regularly transacts business in person").

Second, the district court put the burden on Petitioners to show that the potential third-party witnesses were in fact "unwilling to testify." Appx215. Neither the Fifth Circuit nor this Court has imposed an affirmative obligation on movants to show that potential third-party witnesses are in fact unwilling to testify.

Instead, this Court, applying Fifth Circuit law, has presumed unwillingness and held that this "factor will weigh heavily in favor of transfer when more third-party witnesses reside within the transferee venue than reside in the transferor venue"full stop. In re Apple Inc., 581 F. App’x 886, 889 (Fed. Cir. 2014). That approach makes sense: any showing that a potential third-party witness would be unwilling to attend a future trial is inherently speculative and would require time-consuming consultation with each individual potential witness before a transfer motion could be filed. That is contrary to the principle that "[p]arties seeking a change of venue should act with reasonable promptness." Peteet v. Dow Chem. Co., 868 F.2d 1428, 1436 (5th Cir. 1989) (internal quotations omitted). The factor, after all, is the "availability of compulsory process," In re Volkswagen, 545 F.3d at 316 (emphasis added), and it is the availability of subpoena power that guards against the possibility that third-party witnesses will be unwilling. Given the number of NDCA third-party witnesses who will potentially testify, this factor clearly weighs heavily in favor of transfer.

The district court relied on a Sixth Circuit case for the contrary approach, but even that case held only that absent a showing of unwillingness this factor should not be given "much weight." Duha v. Agrium, Inc., 448 F.3d 867, 877 (6th Cir. 2006). The district court clearly erred by disregarding the non-party witnesses in the NDCA and deeming this factor "neutral." Appx215.

## 3. Many relevant witnesses are in the NDCA; contrary to the district court, none are in the WDTX.

The convenience of witnesses is "probably the single most important factor in a transfer analysis." In re Genentech, 566 F.3d at 1343). This factor also weighs heavily in favor of transfer. As discussed above, Petitioners have identified more than a dozen third-party Google and Avast engineers located in the NDCA who are likely to testify, and Ikorongo has not identified a single likely witness in the WDTX.

The district court nevertheless concluded that this crucial factor "weighs only very slightly in favor of transfer." Appx217. The district court again clearly erred. Most prominently, the district court stated that "Samsung has established that Google and Avast would have few potential witnesses in this District."

Appx218. In fact, there is no evidence Google and Avast have any witnesses in the WDTX; Ikorongo did not even suggest otherwise. The district court also reasoned that although Petitioners identified many potential witnesses in the NDCA, "few party witnesses and even fewer non-party witnesses will likely testify at trial." Id. That assertion was not based on any evidence, and it is particularly inapt in this case because, given the nature of Plaintiffs' claims, the Google and Avast engineers in the NDCA are the most likely to testify. See Appx61-67 9T1.a, 2.a, 3.a, 4.a. Google and Avast engineers in the NDCA designed and developed the Google Maps, Google Plus, and AT\&T Secure Family applications at the core of

Ikorongo's infringement allegations. Appx144-146 9955, 8, 10; Appx200-205. Moreover, two of the Asserted Patents' inventors, who may also testify at trial, live in the NDCA. Appx56-57 ब/8.

Finally, the district court stated that the relative food and lodging costs in the two districts and the fact that Ikorongo "expressed a willingness to cover those expenses for non-party witnesses" were "not insignificant" factors weighing against transfer. Appx218. The district court cited no precedent supporting that rationale, and giving weight to the latter fact improperly allows a plaintiff to pay its way toward keeping a case in its preferred venue. Moreover, the "convenience of witnesses" is not purely about dollars and cents: "[w]itnesses not only suffer monetary costs, but also personal costs associated with being away from work, family, and community." In re Volkswagen, 545 F.3d at 317; see In re Apple Inc., 979 F.3d 1332, 1342 (Fed. Cir. 2020).

At bottom, the evidence clearly established that there are numerous likely witnesses in NDCA and zero in WDTX. The district court's conclusion that this factor weighed "only very slightly" in favor of transfer was an abuse of discretion. See, e.g., In re Acer Am. Corp., 626 F.3d 1252, 1255 (Fed. Cir. 2010) (this factor "clearly favors transfer" where a substantial number of party witnesses and third parties reside in or close to the NDCA, and the number of witnesses in EDTX is "insignificant" in comparison); In re Genentech, 566 F.3d at 1344-45 (this factor
weighed "substantially in favor of transfer" where a "substantial number of material witnesses reside within the transferee venue and the state of California, and no witnesses reside in the [EDTX]").

## 4. The district court clearly erred by treating co-pending litigation as the dominant factor in the private interest factor analysis.

The district court emphasized that Bumble, a defendant in another case that is accused of infringing only two of the four patents asserted here withdrew its transfer motion. The court therefore reasoned that "judicial economy and the possibility of inconsistent rulings ... weigh[] against transfer." Appx220.

That rationale is improper under this Court's precedent, which holds that the "mere co-pendency of related suits in a particular district" does not "automatically" tip this factor against transfer. In re Google, 2017 WL 977038, at *2 (Fed. Cir. Feb. 23, 2017). Indeed, this Court has ordered transfer in several cases despite co-pending suits involving the patents at issue. Id.; see also, e.g., In re Toyota, 747 F.3d at 1340-41. This Court has also specifically held that "substantial weight" should not be given to a co-pending suit when the suits, despite involving somewhat overlapping patents, involve different products and defendants. In re Zimmer Holdings, 609 F.3d at 1382.

That is the case here. Of the four Asserted Patents, only the '543 and '704 Patents are asserted in Bumble; the '450 and '554 Patents are not. And the subject
matter of the '554 Patent-providing location-specific media recommendationsis quite different from the technology of the ' 543 and ' 704 Patents, which relate to sharing a user's location. See supra at 5-6. In addition, the Accused Applications in Petitioners' accused products-Google Maps, Google Play, Google Play Music, YouTube Music, and AT\&T Secure Family-are very different from the accused Bumble application, a social media dating application. Given these differences, gains in judicial economy by keeping both cases in the WDTX are minimal to non-existent.

The district court failed to assess the degree of relation between this suit and Bumble. Instead, it held that because some of the patents overlap, the risk of "potentially inconsistent rulings" weighed against transfer. But that will be true in any case where there is another pending case involving at least one patent. The district court's rationale would therefore "automatically tip" this factor against transfer whenever a plaintiff files multiple suits in the same district. In re Google, 2017 WL 977038, at *2. Indeed, because this was the only factor-apart from court congestion, discussed infra-that the court found weighed against transfer, it is clear that the district court accorded almost dispositive weight to this factor. The district court erred by "allowing the co-pending litigation to dominate the analysis" while minimizing the other private interest factors, which, when properly considered, strongly weigh in favor of transfer. In re Google, 2017 WL 977038, at
*2; see also Oyster Optics, LLC v. Coriant Am. Inc., 2017 WL 4225202, at *7 (E.D. Tex. Sept. 22, 2017) (ordering transfer despite five co-pending cases and noting "that, while judicial economy may 'play a significant role' in a court's transfer analysis, it may not 'dominate' the analysis when other factors of note are present"); Signal IP, Inc. v. Ford Motor Co., 2014 WL 4783537, at *6 (C.D. Cal. Sept. 25, 2014) (similar).

## B. The Public Interest Factors Favor Transfer

The parties and the district court agreed that public factors (3) and (4) are neutral. Appx223. Taken together, the other two public factors support transfer.

## 1. The district court erred in finding the local interest factor neutral.

The district court erroneously found the local interest factor neutral.
Appx222. Three of the five Accused Applications were designed and developed in the NDCA-Google Maps, Google Plus, and AT\&T Secure Family. Appx144-145 9T44-8; Appx200-205. The district court recognized that the NDCA therefore had a "localized interest" because the suit "calls into question the work and reputation of several individuals residing" in the NDCA. Appx223 (quoting In re Hoffmann-La Roche, 587 F.3d at 1338).

On the other side of the ledger, the district court noted only that Ikorongo Texas's claims "specifically relate to infringement in this District." Appx223. That rationale not only improperly credits Plaintiffs' improper pre-filing
maneuvering, but also ignores that the suit as a whole seeks damages for infringement throughout the country. It was a clear abuse of discretion to conclude that the WDTX's interest-which is indistinguishable from the interest of any other district-is equal in weight to the NDCA's local interest. See In re Acer Am., 626 F.3d at 1256 (the "sale of an accused product offered nationwide does not give rise to a substantial interest in any single venue"). As this Court has put it, "if there are significant connections between a particular venue and the events that gave rise to a suit, this factor should be weighed in that venue's favor." Id.; see also In re Apple, 979 F.3d at 1345.

## 2. The district court gave too much weight to the court congestion factor.

Finally, the district court found that court congestion weighs against transfer.
It relied on its then-currently scheduled January 2022 trial date, its Order Governing Proceedings, which assertedly indicates a greater efficiency of bringing patent cases to trial in the WDTX as compared to the NDCA, and a finding in a prior case that the WDTX's time-to-trial was then $25 \%$ faster than the NDCA's. Appx221-222. This Court has previously rejected that reasoning.
"[A] court's general ability to set a fast-paced schedule is not particularly relevant to this factor." In re Apple, 979 F.3d at 1344. Indeed, "scheduled trial dates are often subject to change." Id. at 1344 n.5. And merely referencing the court's own statement in a prior case of time-to-trial statistics is hardly the type of
record evidence to demonstrate "an appreciable difference" in docket congestion between the forums. In re Adobe Inc., 823 F. App'x 929, 932 (Fed. Cir. 2020). Further, because this factor is "the most speculative," this Court has squarely held that it "should not alone outweigh all of th[e] other factors." In re Genentech, 566 F.3d at 1347.

## C. The NDCA Is Clearly More Convenient Than The WDTX

When the private and public interest factors are properly weighed, the NDCA is clearly more convenient than the WDTX. Four of the factors strongly favor transfer: the convenience and cost of attendance of witnesses, compulsory process, ease of access to sources of proof, and local interests. By contrast, only the judicial efficiency and court congestion factors are neutral or at most weigh slightly against transfer. There is, in short, "a stark contrast in relevance, convenience, and fairness between the two venues," and a writ directing transfer is appropriate. In re Hoffmann-La Roche, 587 F.3d at 1336.

## CONCLUSION

The Court should issue a writ of mandamus and direct the district court to transfer the case to the U.S. District Court for the NDCA.

Respectfully submitted, O'MELVENY \& MYERS LLP
/s/ Bradley N. Garcia Bradley N. Garcia Counsel for Petitioners

## CERTIFICATE OF COMPLIANCE

1. This petition complies with the type-volume limitation of Federal Rule of Appellate Procedure 21(d)(1). The body of the petition contains 7,645 words, excluding the portions exempted by rule.
2. This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6). The brief has been prepared in a proportionally spaced typeface using Microsoft ${ }^{\circledR}$ Word and 14-point Times New Roman type.

Dated: April 6, 2021
/s/ Bradley N. Garcia
Bradley N. Garcia
Counsel for Petitioners

## PROOF OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Federal Circuit by using the appellate CM/ECF system on April 6, 2021.

A copy of the foregoing was served upon the following counsel of record and district court via an express carrier:

Bradley Earl Beckworth
Jeffrey John Angelovich
Nicholas Andrew Wyss
Nix Patterson, LLP
3600 N. Capital Of Texas Hwy., Bldg. B, Suite 350
Austin, TX 78746
Telephone: (512) 328-5333
bbeckworth@nixlaw.com
jangelovich@nixlaw.com
nwyss@nixlaw.com
Karl Anthony Rupp
Nix Patterson, LLP
Advancial Building
1845 Woodall Rodgers Freeway, Suite 1050
Dallas, TX 75201
Telephone: (972) 831-1188
krupp@nixlaw.com
Howard Wisnia
Wisnia PC
12707 High Bluff Drive
Suite 200
San Diego, CA 92130
Telephone: (858) 461-0989
Howard@wisnialaw.com

Derek T. Gilliland
Sorey, Gilliland \& Hull, LLP
109 W. Tyler Street
Longview, TX 75601
Telephone: (903) 212-2822
derek@soreylaw.com
Hon. Alan D. Albright
United States District Court for the Western District of Texas
800 Franklin Avenue, Room 301
Waco, Texas 76701
Telephone: (254) 750-1510
I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

Dated: April 6, 2021
/s/Bradley N. Garcia
Bradley N. Garcia
Counsel for Petitioners

No. 21- $\qquad$

# United States Court of Appeals for the Federal Circuit 

In re Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.,<br>Petitioners

On Petition for a Writ of Mandamus to the United States District Court for the Western District of Texas, No. 6:20-cv-00259-ADA
Hon. Alan D. Albright

## NONCONFIDENTIAL APPENDIX TO PETITION FOR WRIT OF MANDAMUS

Nicholas J. Whilt
Jeffrey G. Lau
O'MELVENY \& MYERS LLP
400 South Hope Street, 18th Floor
Los Angeles, CA 90071
Telephone: (213) 430-6000

Bradley N. Garcia
O'MELVENY \& MYERS LLP 1625 Eye Street, NW
Washington, DC 20006-4061
Telephone: (202) 383-5300
Darin W. Snyder
David S. Almeling
Daniel A. Silverman
O'MELVENY \& MYERS LLP
Two Embarcadero Center, 28th Floor
San Francisco, CA 94111-3823
Telephone: (415) 984-8700

Counsel for Petitioners Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.

## TABLE OF CONTENTS

## Docket for Western District of Texas Case No. 6:20-cv-00259-ADA <br> Appx001

## Complaint for Patent Infringement

Dkt. 1, filed March 31, 2020
Appx012
First Amended Complaint for Patent Infringement

Dkt. 2, filed April 1, 2020

Appx026
Defendants' Opposed Motion to Transfer to the Northern District of California Under 28 U.S.C. § 1404(a)
Dkt. 27, filed September 11, 2020 ..... Appx040
Declaration of Jeffrey Lau in Support of Defendants' Motion to Transfer to the Northern District of California
Dkt. 27-1, filed September 11, 2020 ..... Appx054
Exhibit 1 to Defendants' Motion to Transfer
Dkt. 27-2, filed September 11, 2020 ..... Appx060
Exhibit 2 to Defendants' Motion to Transfer
Dkt. 27-3, filed September 11, 2020 ..... Appx100
Exhibit 3 to Defendants' Motion to Transfer
Dkt. 27-4, filed September 11, 2020 ..... Appx121
Exhibit 4 to Defendants' Motion to Transfer Dkt. 27-5, filed September 11, 2020 ..... Appx124
Exhibit 5 to Defendants' Motion to Transfer
Dkt. 27-6, filed September 11, 2020 ..... Appx 128
Exhibit 13 to Defendants' Motion to Transfer
Dkt. 27-14, filed September 11, 2020 ..... Appx 133
Declaration of JinHee Lee in Support of Defendants' Motion to Transfer
Dkt. 28-1, filed September 11, 2020 (Filed Under Seal; Contains Confidential Materials)
Dkt. 27-25, filed September 11, 2020 (Public Version) ..... Appx 135

## Declaration of Kang Won Lee in Support of Defendants' Motion to Transfer

Dkt. 28-2, filed September 11, 2020
(Filed Under Seal; Contains Confidential Materials)
Dkt. 27-26, filed September 11, 2020
(Public Version) .............................................................................Appx 138
Declaration of Edward Viejo in Support of Defendants' Motion to Transfer
Dkt. 28-3, filed September 11, 2020
(Filed Under Seal; Contains Confidential Materials)
Dkt. 27-27, filed September 11, 2020
(Public Version) .............................................................................Appx 140
Declaration of Daniel S. Friedland in Support of Defendants' Motion to
Transfer
Dkt. 28-4, filed September 11, 2020
(Filed Under Seal; Contains Confidential Materials)
Dkt. 27-28, filed September 11, 2020
(Public Version) Appx 143

Plaintiffs' Response in Opposition to Defendants' Motion to Transfer Venue and
Brief in Support Brief in Support
Dkt. 54, filed January 20, 2021
(Filed Under Seal; Contains Confidential Materials)
Dkt. 55, filed January 5, 2021
(Public Version).
Appx 148
Exhibit A to Plaintiffs' Response in Opposition to Defendants' Motion to
Transfer
Dkt. 55-4, filed January 5, 2021
Appx 168
Exhibit B to Plaintiffs' Response in Opposition to Defendants' Motion to
Transfer
Dkt. 55-5, filed January 5, 2021
Appx 180
Defendants' Reply in Support of Defendants' Opposed Motion to Transfer to the
Northern District of California Under 28 U.S.C. § 1404(a)
Dkt. 58-2, filed January 19, 2021
(Filed Under Seal; Contains Confidential Materials) (No Corresponding Public Version). Appx192

Exhibit 1 to Defendants' Reply in Support of Defendants' Opposed Motion to
Transfer to the Northern District of California Under 28 U.S.C. § 1404(a)

Dkt. 58-3, filed January 19, 2021
(Filed Under Seal; Contains Confidential Materials) (No Corresponding Public Version)

Dkt. 67, filed March 1, 2021.
Appx206

## CONFIDENTIAL MATERIAL OMITTED

The material omitted from the Nonconfidential Appendix includes confidential information relating to business practices and other commercially sensitive information of Petitioners and Plaintiffs. That material is subject to the district court's protective order in its Order Governing Proceedings - Patent Case Version 3.2 (No. 6:20-cv-00259, Dkt. 40) ${ }^{1}$ and was redacted from public filings in the district court. For material that is part of the record and had a sealed and a public version of a document, the Confidential Appendix includes the sealed version and the Nonconfidential Appendix includes the public version. In the Confidential Appendix, confidential material is highlighted in yellow, which corresponds to the redacted portions of the public versions.

[^0]
## U.S. District Court [LIVE] Western District of Texas (Waco) CIVIL DOCKET FOR CASE \#: 6:20-cv-00259-ADA

Ikorongo Texas LLC v. Samsung Electronics Co., LTD et al Assigned to: Judge Alan D Albright Cause: 35:271 Patent Infringement

Plaintiff
Ikorongo Texas LLC

Date Filed: 03/31/2020
Jury Demand: Plaintiff Nature of Suit: 830 Patent Jurisdiction: Federal Question
represented by Bradley Earl Beckworth
Nix Patterson, LLP 3600 N. Capital Of Texas Hwy., Bldg. B, Suite 350
Austin, TX 78746
512-328-5333
Fax: 512-328-5335
Email: bbeckworth@nixlaw.com
LEAD ATTORNEY
PRO HAC VICE
ATTORNEY TO BE NOTICED
Jeffrey John Angelovich
Nix Patterson, LLP
3600 N. Capital Of Texas Hwy., Bldg. B, Suite 350
Austin, TX 78746
512-328-5333
Fax: 512-328-5335
Email: jangelovich@nixlaw.com
LEAD ATTORNEY
ATTORNEY TO BE NOTICED
Karl Anthony Rupp
Nix Patterson, LLP
Advancial Building
1845 Woodall Rodgers Freeway, Suite
1050
Dallas, TX 75201
972-831-1188
Fax: 972-444-0716
Email: krupp@nixlaw.com
LEAD ATTORNEY
ATTORNEY TO BE NOTICED
Nicholas Andrew Wyss
Nix Patterson LLP
3600 N. Capital of Texas Hwy, Suite 350B
Austin, TX 78746
(512) 328-5333

Fax: (512) 328-5335
Email: nwyss@ nixlaw.com
LEAD ATTORNEY
PRO HAC VICE
ATTORNEY TO BE NOTICED
Howard Wisnia
Wisnia PC
12707 High Bluff Drive
Suite 200
San Diego, CA 92130
858-461-0989

Email: Howard@ wisnialaw.com
ATTORNEYTO BE NOTICED
Derek T. Gilliland
Sorey, Gilliland \& Hull, LLP
109 W. Tyler Street
Longview, TX 75601
903.212.2822

Fax: 903.212.2864
Email: derek@soreylaw.com attorney To be NOTICED

## Plaintiff

Ikorongo Technology LLC

## V.

## Defendant

Samsung Electronics Co., LTD
represented by Bradley Earl Beckworth
(See above for address)
LEAD ATTORNEY
PRO HAC VICE
ATTORNEY TO BE NOTICED
Jeffrey John Angelovich
(See above for address)
LEAD ATTORNEY
ATTORNEY TO BE NOTICED
Karl Anthony Rupp
(See above for address)
LEAD ATTORNEY
ATTORNEY TO BE NOTICED
Nicholas Andrew Wyss
(See above for address)
LEAD ATTORNEY
PRO HAC VICE
ATTORNEY TO BE NOTICED
Howard Wisnia
(See above for address)
ATTORNEY TO BE NOTICED
Derek T. Gilliland
(See above for address)
ATTORNEY TO BE NOTICED
represented by David S. Almeling
O'Melveny \& Myers LLP
Two Embarcadero Center, 28th Floor
San Francisco, CA 94111-3823
415-984-8700
Fax: 415-984-8701
Email: dalmeling @ omm.com
LEAD ATTORNEY
PRO HAC VICE
ATTORNEY TO BE NOTICED
Nicholas J. Whilt
O'Melveny \& Myers LLP
400 South Hope Street, 18th Floor
Los Angeles, CA 90071
(213) 430-6000

Fax: (213) 430-6407

Email: nwhilt@omm.com
LEAD ATTORNEY
ATTORNEY TO BE NOTICED
Darin W. Snyder
O'Melveny \& Myers LLP
Two Embarcadero Center, 28th Floor
San Francisco, CA 94111-3823
415-984-8846
Fax: 415-984-8701
Email: dsnyder@omm.com
PRO HAC VICE
ATTORNEY TO BE NOTICED
G. Blake Thompson

Mann Tindel Thompson
201 E. Howard Street
Henderson, TX 75654
(903) 657-8540

Fax: (903) 657-6003
Email: blake@themannfirm.com
ATTORNEY TO BE NOTICED

## J. Mark Mann

Mann Tindel Thompson
201 E. Howard Street
Henderson, TX 75654
903/657-8540
Fax: 903/657-6003
Email: mark@themannfirm.com
ATTORNEY TO BE NOTICED

## Jeffrey G. Lau

O'Melveny \& Myers LLP
400 South Hope Street, 18th Floor
Los Angeles, CA 90071-2899
213-430-8383
Email: jeffreylau@omm.com
ATTORNEY TO BE NOTICED

## Defendant

Samsung Electronics America, Inc.
represented by David S. Almeling
(See above for address)
LEAD ATTORNEY
PRO HAC VICE
ATTORNEY TO BE NOTICED
Nicholas J. Whilt
(See above for address)
LEAD ATTORNEY
ATTORNEY TO BE NOTICED
Darin W. Snyder
(See above for address)
PRO HAC VICE
ATTORNEY TO BE NOTICED
G. Blake Thompson
(See above for address)
attorney to be noticed
J. Mark Mann
(See above for address)
ATTORNEY TO BE NOTICED

Jeffrey G. Lau

(See above for address)
ATTORNEY TO BE NOTICED

| Date Filed | \# | Docket Text |
| :---: | :---: | :---: |
| 03/24/2020 | 5 | STANDING ORDER from U.S. District Judge Alan D. Albright regarding scheduled civil hearings. Signed by Judge Alan D Albright. (Attachments: \# 1 Amended Order from Chief Judge Garcia re COVID19, \# $\underline{2}$ Order from Chief Judge Garcia re COVID19)(mc5) (Entered: 04/01/2020) |
| 03/31/2020 | 1 | COMPLAINT for Patent Iinfringement ( Filing fee $\$ 400$ receipt number 0542-13409187). No Summons requested at this time, filed by Ikorongo Texas LLC. (Attachments: \# 1 Civil Cover Sheet, \# $\underline{2}$ Exhibit A, \# $\underline{3}$ Exhibit B, \# 4 Exhibit C, \# $\underline{5}$ Exhibit D, \# $\underline{6}$ Exhibit E, \# $\underline{7}$ Exhibit F, \# $\underline{8}$ Exhibit G, \# 9 Exhibit H, \# $\underline{0}$ Exhibit I)(Gilliland, Derek) (Entered: 03/31/2020) |
| 04/01/2020 | 2 | AMENDED COMPLAINT for Patent Infringement against All Defendants amending, filed by Ikorongo Texas LLC, Ikorongo Technology LLC. (Attachments: \# 1 Exhibit A, \# 2 Exhibit B, \# $\underline{3}$ Exhibit C, \# 4 Exhibit D, \# $\underline{5}$ Exhibit E, \# $\underline{6}$ Exhibit F, \# 7 Exhibit G, \# $\underline{8}$ Exhibit H, \# $\underline{9}$ Exhibit I)(Gilliland, Derek) (Entered: 04/01/2020) |
| 04/01/2020 | 3 | Notice of Filing of Patent/Trademark Form (AO 120). AO 120 forwarded to the Director of the U.S. Patent and Trademark Office. (Gilliland, Derek) (Entered: 04/01/2020) |
| 04/01/2020 |  | Case assigned to Judge Alan D Albright. CM WILL NOW REFLECT THE JUDGE INITIALS AS PART OF THE CASE NUMBER. PLEASE APPEND THESE JUDGE INITIALS TO THE CASE NUMBER ON EACH DOCUMENT THAT YOU FILE IN THIS CASE. (am) (Entered: 04/01/2020) |
| 04/01/2020 | 4 | AMENDED Notice of Filing of Patent/Trademark Form (AO 120). AO 120 forwarded to the Director of the U.S. Patent and Trademark Office. (Gilliland, Derek) (Entered: 04/01/2020) |
| 04/01/2020 | 6 | NOTICE of Attorney Appearance by Karl Anthony Rupp on behalf of Ikorongo Technology LLC, Ikorongo Texas LLC (Rupp, Karl) (Entered: 04/01/2020) |
| 04/02/2020 | 7 | REQUEST FOR ISSUANCE OF SUMMONS by Ikorongo Technology LLC, Ikorongo Texas LLC. to Samsung Electronics America, Inc. (Gilliland, Derek) (Entered: 04/02/2020) |
| 04/02/2020 | 8 | Summons Issued as to Samsung Electronics America, Inc. (lad) (Entered: 04/02/2020) |
| 04/09/2020 | 2 | SUMMONS Returned Executed by Ikorongo Technology LLC, Ikorongo Texas LLC. Samsung Electronics America, Inc. served on 4/3/2020, answer due 4/24/2020. (Rupp, Karl) (Entered: 04/09/2020) |
| 04/16/2020 | 10 | RULE 7 DISCLOSURE STATEMENT filed by Ikorongo Technology LLC, Ikorongo Texas LLC. (Gilliland, Derek) (Entered: 04/16/2020) |
| 04/21/2020 | 11 | MOTION for Extension of Time to File Answer and Waiver of Foreign Service Requirement by Ikorongo Technology LLC, Ikorongo Texas LLC. (Attachments: \# 1 Proposed Order)(Rupp, Karl) (Entered: 04/21/2020) |
| 04/23/2020 |  | Text Order GRANTING 11 Motion for Extension of Time to Answer entered by Judge Alan D Albright. Before the Court is the Unopposed Motion for Extension of Time to Move, Answer or Otherwise Respond to Ikorongo Plaintiffs' First Amended Complaint and Waiver of Foreign Service Requirement. The Court GRANTS the motion. It is therefore ORDERED that Defendants Samsung Electronics Company, Ltd. and Samsung Electronics America, Inc. have up to and including July 23, 2020 to move, answer or otherwise respond to Plaintiffs' First Amended Complaint for Patent Infringement. (This is a text-only entry generated by the court. There is no document associated with this entry.) (jy) (Entered: 04/23/2020) |


| 04/23/2020 |  | Set/Reset Deadlines: Samsung Electronics America, Inc. answer due 7/23/2020; Samsung Electronics Co., LTD answer due 7/23/2020. (mc5) (Entered: 04/23/2020) |
| :---: | :---: | :---: |
| 06/06/2020 | 12 | NOTICE of Attorney Appearance by Howard Wisnia on behalf of Ikorongo Technology LLC, Ikorongo Texas LLC. Attorney Howard Wisnia added to party Ikorongo Technology LLC(pty:pla), Attorney Howard Wisnia added to party Ikorongo Texas LLC(pty:pla) (Wisnia, Howard) (Entered: 06/06/2020) |
| 07/23/2020 | 13 | NOTICE of Attorney Appearance by J. Mark Mann on behalf of Samsung Electronics America, Inc., Samsung Electronics Co., LTD. Attorney J. Mark Mann added to party Samsung Electronics America, Inc.(pty:dft), Attorney J. Mark Mann added to party Samsung Electronics Co., LTD(pty:dft) (Mann, J.) (Entered: 07/23/2020) |
| 07/23/2020 | 14 | MOTION to Appear Pro Hac Vice by J. Mark Mann for Darin W. Snyder ( Filing fee \$ 100 receipt number 0542-13791090) by on behalf of Samsung Electronics America, Inc., Samsung Electronics Co., LTD. (Attachments: \# 1 Proposed Order)(Mann, J.) (Entered: 07/23/2020) |
| 07/23/2020 | 15 | MOTION to Appear Pro Hac Vice by J. Mark Mann for David S. Almeling ( Filing fee $\$ 100$ receipt number 0542-13791114) by on behalf of Samsung Electronics America, Inc., Samsung Electronics Co., LTD. (Attachments: \# 1 Proposed Order)(Mann, J.) (Entered: 07/23/2020) |
| 07/23/2020 | 16 | MOTION to Dismiss Ikorongo's Claims of Indirect Infringement by Samsung Electronics America, Inc., Samsung Electronics Co., LTD. (Attachments: \# 1 Declaration of Jeffrey Lau, \# $\underline{2}$ Exhibit 1, \# $\underline{3}$ Exhibit 2, \# 4 Exhibit 3, \# $\underline{5}$ Proposed Order)(Mann, J.) (Entered: 07/23/2020) |
| 07/23/2020 | 17 | RULE 7 DISCLOSURE STATEMENT filed by Samsung Electronics America, Inc.. (Mann, J.) (Entered: 07/23/2020) |
| 07/23/2020 | 18 | RULE 7 DISCLOSURE STATEMENT filed by Samsung Electronics Co., LTD. <br> (Mann, J.) (Entered: 07/23/2020) |
| 07/24/2020 |  | Text Order GRANTING 14 Motion to Appear Pro Hac Vice. Before the Court is the Motion for Admission Pro Hac Vice. The Court, having reviewed the Motion, finds it should be GRANTED and therefore orders as follows: IT IS ORDERED the Motion for Admission Pro Hac Vice is GRANTED. IT IS FURTHER ORDERED that Applicant, if he/she has not already done so, shall immediately tender the amount of $\$ 100.00$, made payable to: Clerk, U.S. District Court, in compliance with Local Rule AT-I (f)(2). Pursuant to our Administrative Policies and Procedures for Electronic Filing, the attorney hereby granted to practice pro hac vice in this case must register for electronic filing with our court within 10 days of this order. entered by Judge Alan D Albright. (This is a text-only entry generated by the court. There is no document associated with this entry.) (jy) (Entered: 07/24/2020) |
| 07/24/2020 |  | Text Order GRANTING 15 Motion to Appear Pro Hac Vice. Before the Court is the Motion for Admission Pro Hac Vice. The Court, having reviewed the Motion, finds it should be GRANTED and therefore orders as follows: IT IS ORDERED the Motion for Admission Pro Hac Vice is GRANTED. IT IS FURTHER ORDERED that Applicant, if he/she has not already done so, shall immediately tender the amount of $\$ 100.00$, made payable to: Clerk, U.S. District Court, in compliance with Local Rule AT-I (f)(2). Pursuant to our Administrative Policies and Procedures for Electronic Filing, the attorney hereby granted to practice pro hac vice in this case must register for electronic filing with our court within 10 days of this order. entered by Judge Alan D Albright. (This is a text-only entry generated by the court. There is no document associated with this entry.) (jy) (Entered: 07/24/2020) |
| 07/27/2020 | 19 | ORDER GOVERNING PROCEEDINGS PATENT CASE, Telephone Conference set for 8/13/2020 01:30 PM before Judge Alan D Albright. Signed by Judge Alan D Albright. (am) (Entered: 07/27/2020) |
| 08/06/2020 | $\underline{20}$ | Joint MOTION to Dismiss Stipulated Motion to Dismiss Plaintiffs' Pre-Suit Indirect infringement Claims Without Prejudice and Extension of Time to Respond Regarding Post-Suit Indirect Infringement by Ikorongo Technology LLC, Ikorongo Texas LLC. (Attachments: \# 1 Proposed Order)(Gilliland, Derek) (Entered: 08/06/2020) |


| 08/07/2020 |  | Text Order GRANTING $2 \underline{0}$ Motion to Dismiss entered by Judge Alan D Albright. Before the Court is the Parties' Stipulated Motion to Dismiss Plaintiff's Pre-suit Indirect Infringement Claims Without Prejudice and Extension of Time to Respond Regarding Post-suit Indirect Infringement. The Court GRANTS the motion. It is therefore ORDERED that Plaintiff may reassert those portions of the claims (and if required seeking leave of Court to do so) no later than seven (7) days after the close of fact discovery and Plaintiff may have until August 20, 2020 to respond to Defendants' Motion regarding post-suit indirect infringement. (This is a text-only entry generated by the court. There is no document associated with this entry.) (jy) (Entered: 08/07/2020) |
| :---: | :---: | :---: |
| 08/13/2020 | $\underline{21}$ | ORDER CANCELLING August 13, 2020 TELEPHONIC SCHEDULING CONFERENCE. Signed by Judge Alan D Albright. (lad) (Entered: 08/13/2020) |
| 08/20/2020 | $\underline{22}$ | Response in Opposition to Motion, filed by Ikorongo Technology LLC, Ikorongo Texas LLC, re 16 MOTION to Dismiss Ikorongo's Claims of Indirect Infringement filed by Defendant Samsung Electronics Co., LTD, Defendant Samsung Electronics America, Inc. (Attachments: \# 1 Declaration of Derek Gilliland, \# 2 Exhibit Exhibit 1)(Rupp, Karl) (Entered: 08/20/2020) |
| 08/24/2020 | $\underline{23}$ | Proposed Scheduling Order by Ikorongo Technology LLC, Ikorongo Texas LLC. (Rupp, Karl) (Entered: 08/24/2020) |
| 08/24/2020 | $\underline{24}$ | SCHEDULING ORDER: Joinder of Parties due by 3/19/2021. Amended Pleadings due by $4 / 30 / 2021$. Motions due by $11 / 12 / 2021$. Markman Hearing set for $2 / 5 / 2021$ 01:30 PM before Judge Alan D Albright. Pretrial Conference set for $1 / 14 / 2022$ before Judge Alan D Albright. Jury Selection Jury Trial set for 1/24/2022 before Judge Alan D Albright. Signed by Judge Alan D Albright. (am) (Entered: 08/25/2020) |
| 08/27/2020 | $\underline{25}$ | REPLY to Response to Motion, filed by Samsung Electronics America, Inc., Samsung Electronics Co., LTD, re 16 MOTION to Dismiss Ikorongo's Claims of Indirect Infringement filed by Defendant Samsung Electronics Co., LTD, Defendant Samsung Electronics America, Inc. (Almeling, David) (Entered: 08/27/2020) |
| 09/04/2020 | $\underline{26}$ | Unopposed MOTION for Hearing re 16 MOTION to Dismiss Ikorongo's Claims of Indirect Infringement by Ikorongo Technology LLC, Ikorongo Texas LLC. (Attachments: \# 1 Proposed Order)(Gilliland, Derek) (Entered: 09/04/2020) |
| 09/11/2020 | $\underline{27}$ | Opposed MOTION to Change Venue to Northern District of California Under 28 U.S.C. § 1404(a) by Samsung Electronics America, Inc., Samsung Electronics Co., LTD. (Attachments: \# 1 Declaration of Jeffrey Lau, \# $\underline{2}$ Exhibit 1, \# $\underline{3}$ Exhibit 2, \# 4 Exhibit 3, \# $\underline{5}$ Exhibit 4, \# $\underline{6}$ Exhibit 5, \# 7 Exhibit 6, \# $\underline{8}$ Exhibit 7, \# $\underline{9}$ Exhibit 8, \# $\underline{10}$ Exhibit 9, \# 11 Exhibit 10, \# 12 Exhibit 11, \# $\underline{3}$ Exhibit 12, \# 14 Exhibit 13, \# 15 Exhibit 14, \# 16 Exhibit 15, \# 17 Exhibit 16, \# 18 Exhibit 17, \# 19 Exhibit 18, \# 20 Exhibit 19, \# $\underline{21}$ Exhibit 20, \# $\underline{22}$ Exhibit 21, \# 23 Exhibit 22, \# 24 Exhibit 23, \# $\underline{25}$ Declaration of JinHee Lee, \# $\underline{26}$ Declaration of Kang Won Lee, \# $\underline{27}$ Declaration of Edward Viejo, \# 28 Declaration of Daniel S. Friedland, \# 29 Proposed Order)(Mann, J.) (Additional attachment(s) added on 9/14/2020: \# 30 JinHee Lee Declaration, \# 31 Kang Won Lee Declaration, \# 32 Viejo Declaration, \# 33 Friedland Declaration) (lad) (Entered: 09/11/2020) |
| 09/11/2020 | $\underline{28}$ | Unopposed Motion for leave to File Sealed Document (Attachments: \# 1 Declaration of JinHee Lee, \# $\underline{2}$ Declaration of Kang Won Lee, \# $\underline{3}$ Declaration of Edward Viejo, \# 4 Declaration of Daniel S. Friedland, \# $\underline{5}$ Proposed Order) (Mann, J.) (Entered: 09/11/2020) |
| 09/13/2020 |  | Text Order GRANTING $\underline{28}$ Motion for Leave to File Sealed Document entered by Judge Alan D Albright. Before the Court is Defendants' motion for leave to file a sealed document. The Court GRANTS the motion. The Clerk's Office is directed to file the Declaration of JinHee Lee, the Declaration of Kang Won Lee, the Declaration of Edward Viejo, and the Declaration of Daniel S. Friedland under seal. (This is a text-only entry generated by the court. There is no document associated with this entry.) (jy) (Entered: 09/13/2020) |
| 09/26/2020 | $\underline{29}$ | STIPULATION of the Parties re Agreed Schedule for Defendants' Motion to Transfer Venue by Ikorongo Technology LLC, Ikorongo Texas LLC. (Attachments: \# 1 Proposed Order)(Rupp, Karl) (Entered: 09/26/2020) |


| 09/28/2020 | $\underline{30}$ | NOTICE OF INTER PARTES REVIEW by Ikorongo Technology LLC, Ikorongo Texas LLC (Gilliland, Derek) (Entered: 09/28/2020) |
| :---: | :---: | :---: |
| 09/28/2020 | 31 | MOTION to Amend/Correct Unopposed Motion to Amend Scheduling Order by Samsung Electronics America, Inc., Samsung Electronics Co., LTD. (Attachments: \# 1 Proposed Order)(Snyder, Darin) (Entered: 09/28/2020) |
| 09/30/2020 |  | Text Order GRANTING 31 Unopposed Motion to Amend/Correct entered by Judge Alan D Albright. The Court will enter separately an Amended Scheduling Order reflecting the new deadlines. (This is a text-only entry generated by the court. There is no document associated with this entry.) (as) (Entered: 09/30/2020) |
| 09/30/2020 | $\underline{32}$ | SCHEDULING ORDER: Markman Hearing set for 2/5/2021 01:30 PM before Judge Alan D Albright, Joinder of Parties due by 3/19/2021, Amended Pleadings due by 4/30/2021, Dispositive/Daubert Motions due by 11/12/2021, Pretrial Conference set for 1/14/2022 before Judge Alan D Albright, Jury Selection set and Trial set for 1/24/2022 before Judge Alan D Albright. Signed by Judge Alan D Albright. (lad) (Entered: 09/30/2020) |
| 10/01/2020 | 33 | ORDER re 29 Stipulation filed by Ikorongo Technology LLC, Ikorongo Texas LLC. Signed by Judge Alan D Albright. (lad) (Entered: 10/01/2020) |
| 10/01/2020 | $\underline{34}$ | ORDER SETTING TELEPHONIC DISCOVERY HEARING. Telephone Conference set for 10/2/2020 02:00 PM before Judge Alan D Albright. Signed by Judge Alan D Albright. (bw) (Entered: 10/01/2020) |
| 10/02/2020 | 35 | Minute Entry for proceedings held before Judge Alan D Albright: Discovery Hearing held on 10/2/2020. Case called for telephonic discovery hearing. Arguments were presented regarding discovery with deposition witnesses. Case heard with two companion cases. (Minute entry documents are not available electronically.). (Court Reporter Lily Reznik.)(lad) (Entered: 10/02/2020) |
| 10/06/2020 | 36 | TRANSCRIPT REQUEST by Ikorongo Technology LLC, Ikorongo Texas LLC for proceedings held on 10/02/2020. Proceedings Transcribed: Discovery Hearing. Court Reporter: Lily Reznik. (Rupp, Karl) (Main Document 36 replaced on 10/6/2020) (lad). (Entered: 10/06/2020) |
| 10/09/2020 | $\underline{37}$ | MOTION to Appear Pro Hac Vice by Karl Anthony Rupp for Bradley E. Beckworth ( Filing fee $\$ 100$ receipt number 0542-14057923) by on behalf of Ikorongo Technology LLC, Ikorongo Texas LLC. (Attachments: \# 1 Proposed Order)(Rupp, Karl) (Entered: 10/09/2020) |
| 10/09/2020 | $\underline{38}$ | MOTION to Appear Pro Hac Vice by Karl Anthony Rupp for Jeffrey J. Angelovich ( Filing fee $\$ 100$ receipt number 0542-14057940) by on behalf of Ikorongo Technology LLC, Ikorongo Texas LLC. (Attachments: \# 1 Proposed Order)(Rupp, Karl) (Entered: 10/09/2020) |
| 10/13/2020 |  | Text Order GRANTING 37 Motion to Appear Pro Hac Vice for Attorney Bradley Earl Beckworth for Ikorongo Technology LLC and Ikorongo Texas LLC. Before the Court is the Motion for Admission Pro Hac Vice. The Court, having reviewed the Motion, finds it should be GRANTED and therefore orders as follows: IT IS ORDERED the Motion for Admission Pro Hac Vice is GRANTED. IT IS FURTHER ORDERED that Applicant, if he/she has not already done so, shall immediately tender the amount of $\$ 100.00$, made payable to: Clerk, U.S. District Court, in compliance with Local Rule AT-I (f)(2). Pursuant to our Administrative Policies and Procedures for Electronic Filing, the attorney hereby granted to practice pro hac vice in this case must register for electronic filing with our court within 10 days of this order entered by Judge Alan D Albright. (This is a text-only entry generated by the court. There is no document associated with this entry.) (mm6) (Entered: 10/13/2020) |
| 10/13/2020 |  | Text Order GRANTING 38 Motion to Appear Pro Hac Vice for Attorney Jeffrey John Angelovich for Ikorongo Technology LLC and Ikorongo Texas LLC. Before the Court is the Motion for Admission Pro Hac Vice. The Court, having reviewed the Motion, finds it should be GRANTED and therefore orders as follows: IT IS ORDERED the Motion for Admission Pro Hac Vice is GRANTED. IT IS FURTHER ORDERED that Applicant, if he/she has not already done so, shall immediately tender the amount of $\$ 100.00$, made payable to: Clerk, U.S. District Court, in compliance with Local Rule AT-I (f)(2). Pursuant to our Administrative Policies and Procedures for Electronic |


|  |  | Filing, the attorney hereby granted to practice pro hac vice in this case must register for electronic filing with our court within 10 days of this order entered by Judge Alan D Albright. (This is a text-only entry generated by the court. There is no document associated with this entry.) (mm6) (Entered: 10/13/2020) |
| :---: | :---: | :---: |
| 10/31/2020 | 39 | Transcript filed of Proceedings held on October 2, 2020, Proceedings Transcribed: Telephonic Discovery Hearing. Court Reporter/Transcriber: Lily I. Reznik, Telephone number: 512-391-8792 or Lily_Reznik@txwd.uscourts.gov. Parties are notified of their duty to review the transcript to ensure compliance with the FRCP 5.2(a)/FRCrP 49.1(a). A copy may be purchased from the court reporter or viewed at the clerk's office public terminal. If redaction is necessary, a Notice of Redaction Request must be filed within 21 days. If no such Notice is filed, the transcript will be made available via PACER without redaction after 90 calendar days. The clerk will mail a copy of this notice to parties not electronically noticed Redaction Request due 11/23/2020, Redacted Transcript Deadline set for 12/1/2020, Release of Transcript Restriction set for 1/29/2021, (lr) (Entered: 10/31/2020) |
| 11/09/2020 | 40 | Updated Standing Order Governing Proceedings Patent Cases. Signed by Judge Alan D Albright. (jkda) (Entered: 11/10/2020) |
| 11/11/2020 | 41 | Joint MOTION to Amend/Correct Scheduling Order to Adopt Claim Construction Briefing Protocol of Court's New Default Order Governing Proceedings by Samsung Electronics America, Inc., Samsung Electronics Co., LTD. (Attachments: \# 1 Proposed Order)(Lau, Jeffrey) (Entered: 11/11/2020) |
| 11/16/2020 | 42 | Amended SCHEDULING ORDER. Signed by Judge Alan D Albright. (lad) (Entered: 11/16/2020) |
| 11/17/2020 | 43 | MOTION to Appear Pro Hac Vice by Nicholas J. Whilt ( Filing fee \$ 100 receipt number 0542-14192365) by on behalf of Samsung Electronics America, Inc., Samsung Electronics Co., LTD. (Whilt, Nicholas) (Entered: 11/17/2020) |
| 11/18/2020 |  | Text Order GRANTING 43 Motion to Appear Pro Hac Vice for Attorney Nicholas J. Whilt for Samsung Electronics America, Inc. and Samsung Electronics Co., LTD. Before the Court is the Motion for Admission Pro Hac Vice. The Court, having reviewed the Motion, finds it should be GRANTED and therefore orders as follows: IT IS ORDERED the Motion for Admission Pro Hac Vice is GRANTED. IT IS FURTHER ORDERED that Applicant, if he/she has not already done so, shall immediately tender the amount of $\$ 100.00$, made payable to: Clerk, U.S. District Court, in compliance with Local Rule AT-I (f)(2). Pursuant to our Administrative Policies and Procedures for Electronic Filing, the attorney hereby granted to practice pro hac vice in this case must register for electronic filing with our court within 10 days of this order entered by Judge Alan D Albright. (This is a text-only entry generated by the court. There is no document associated with this entry.) (mm6) (Entered: 11/18/2020) |
| 11/20/2020 | 44 | STIPULATION OF THE PARTIES REGARDING REVISED SCHEDULE FOR DEFENDANTS MOTION TO TRANSFER VENUE by Samsung Electronics America, Inc., Samsung Electronics Co., LTD. (Attachments: \# 1 Proposed Order)(Lau, Jeffrey) (Entered: 11/20/2020) |
| 12/02/2020 | 45 | BRIEF by Ikorongo Technology LLC, Ikorongo Texas LLC. (Attachments: \# 1 Affidavit Declaration of Howard Wisnia, \# $\underline{2}$ Exhibit 1, \# $\underline{3}$ Exhibit 2, \# 4 Exhibit 3, \# $\underline{5}$ Exhibit 4, \# $\underline{6}$ Exhibit 5, \# $\underline{7}$ Exhibit 6, \# $\underline{8}$ Exhibit 7, \# $\underline{9}$ Exhibit 8, \# $1 \underline{0}$ Exhibit 9, \# $\underline{11}$ Exhibit 10, \# 12 Exhibit 11, \# 13 Exhibit 12, \# 14 Exhibit 13)(Gilliland, Derek) (Entered: 12/02/2020) |
| 12/08/2020 | 46 | MOTION to Stay Pending Transfer by Samsung Electronics America, Inc., Samsung Electronics Co., LTD. (Attachments: \# 1 Proposed Order)(Lau, Jeffrey) (Entered: 12/08/2020) |
| 12/10/2020 | 47 | STIPULATION re Schedule as to Motion to Transfer Venue by Ikorongo Technology LLC, Ikorongo Texas LLC. (Attachments: \# 1 Proposed Order)(Rupp, Karl) (Entered: 12/10/2020) |
| 12/14/2020 | 48 | MOTION to Appear Pro Hac Vice by Karl Anthony Rupp for Nicholas Wyss ( Filing fee $\$ 100$ receipt number $0542-14282416$ ) by on behalf of Ikorongo Technology LLC, |


|  |  | Ikorongo Texas LLC. (Attachments: \# 1 Proposed Order)(Rupp, Karl) (Main Document 48 replaced on 12/15/2020) (bw). (Entered: 12/14/2020) |
| :---: | :---: | :---: |
| 12/15/2020 | 49 | Response in Opposition to Motion, filed by Ikorongo Technology LLC, Ikorongo Texas LLC, re 46 MOTION to Stay Pending Transfer filed by Defendant Samsung Electronics Co., LTD, Defendant Samsung Electronics America, Inc. (Attachments: \# 1 Declaration of Karl Rupp)(Rupp, Karl) (Entered: 12/15/2020) |
| 12/15/2020 |  | Text Order GRANTING 48 Motion to Appear Pro Hac Vice for Attorney Nicholas Andrew Wyss for Ikorongo Technology LLC and Ikorongo Texas LLC. Before the Court is the Motion for Admission Pro Hac Vice. The Court, having reviewed the Motion, finds it should be GRANTED and therefore orders as follows: IT IS ORDERED the Motion for Admission Pro Hac Vice is GRANTED. IT IS FURTHER ORDERED that Applicant, if he/she has not already done so, shall immediately tender the amount of $\$ 100.00$, made payable to: Clerk, U.S. District Court, in compliance with Local Rule AT-I (f)(2). Pursuant to our Administrative Policies and Procedures for Electronic Filing, the attorney hereby granted to practice pro hac vice in this case must register for electronic filing with our court within 10 days of this order entered by Judge Alan D Albright. (This is a text-only entry generated by the court. There is no document associated with this entry.) (mm6) (Entered: 12/15/2020) |
| 12/18/2020 | 50 | ORDER GRANTING STIPULATION OF THE PARTIES REGARDING REVISED SCHEDULE FOR DEFENDANTS MOTION TO TRANSFER VENUE. Signed by Judge Alan D Albright. (bw) (Entered: 12/18/2020) |
| 12/22/2020 | 51 | REPLY to Response to Motion, filed by Samsung Electronics America, Inc., Samsung Electronics Co., LTD, re 46 MOTION to Stay Pending Transfer filed by Defendant Samsung Electronics Co., LTD, Defendant Samsung Electronics America, Inc. Defendants' Reply in Support of Motion to Stay Pending Transfer (Lau, Jeffrey) (Entered: 12/22/2020) |
| 12/23/2020 | $\underline{52}$ | BRIEF by Samsung Electronics America, Inc., Samsung Electronics Co., LTD. (Attachments: \# 1 Declaration of Jeffrey Lau, \# $\underline{2}$ Ex. 1, \# $\underline{3}$ Ex. 2, \# 4 Ex. 3, \# $\underline{5}$ Ex. 4, \# 6 Ex. 5, \# 7 Ex. 6, \# $\underline{8}$ Ex. 7, \# 9 Ex. 8, \# 10 Ex. 9, \# 11 Ex. 10, \# 12 Ex. 11, \# 13 Ex. 12, \# 14 Ex. 13, \# $\underline{5}$ Ex. 14, \# $\underline{6}$ Ex. 15, \# $\underline{7}$ Ex. 16, \# 18 Ex. 17, \# $\underline{9}$ Ex. 18, \# $\underline{0}$ Ex. 19)(Almeling, David) (Entered: 12/23/2020) |
| 01/05/2021 | 53 | Motion for leave to File Sealed Document (Attachments: \# 1 Proposed Order, \# $\underline{2}$ Sealed Document, \# $\underline{3}$ Sealed Document, \# 4 Proposed Order) (Rupp, Karl) (Entered: 01/05/2021) |
| 01/05/2021 | $\underline{54}$ | Motion for leave to File Sealed Document (Attachments: \# 1 Proposed Order, \# $\underline{2}$ Sealed Document, \# $\underline{3}$ Sealed Document, \# 4 Sealed Document, \# $\underline{5}$ Sealed Document) (Rupp, Karl) (Entered: 01/05/2021) |
| 01/05/2021 | 55 | ATTACHMENT to $\underline{54}$ Motion for leave to File Sealed Document by Ikorongo Technology LLC, Ikorongo Texas LLC. (Attachments: \# 1 Declaration of Karl Rupp, \# $\underline{2}$ Declaration of Brady Bruce, \# $\underline{3}$ Declaration of Michael Mitchell, \# 4 Exhibit, \# $\underline{5}$ Exhibit, \# $\underline{6}$ Exhibit, \# $\underline{7}$ Exhibit, \# $\underline{8}$ Exhibit, \# 9 Exhibit)(Rupp, Karl) (Main Document 55 replaced on $1 / 6 / 2021$ ) (mc5). (Attachment 1 replaced on $1 / 6 / 2021$ ) (mc5). (Entered: 01/05/2021) |
| 01/08/2021 | 56 | BRIEF regarding 45 Brief, by Ikorongo Technology LLC, Ikorongo Texas LLC. (Attachments: \# 1 Affidavit Declaration of Nicholas Wyss, \# $\underline{2}$ Exhibit A, \# $\underline{3}$ Exhibit B)(Wisnia, Howard) (Entered: 01/08/2021) |
| 01/12/2021 | 57 | Unopposed Motion for leave to File Sealed Document (Attachments: \# 1 Proposed Order Granting Defendants' Unopposed Motion for Leave to File Defendants' Response in Opposition to Plaintiffs' Evidentiary Objections to and Motion to Strike Declaration of Daniel S. Friedland Under Seal, \# $\underline{2}$ Sealed Document Defendants' Response in Opposition to Plaintiffs' Evidentiary Objections to and Motion to Strike Declaration of Daniel S. Friedland) (Mann, J.) (Entered: 01/12/2021) |
| 01/19/2021 | $\underline{58}$ | Unopposed Motion for leave to File Sealed Document (Attachments: \# 1 Proposed Order, \# $\underline{2}$ Sealed Document Reply in Support of Opposed Motion to Transfer to The Northern District of California Under 28 U.S.C. § 1404(a), \# $\underline{3}$ Exhibit 1) (Mann, J.) (Entered: 01/19/2021) |


| 01/19/2021 | $\underline{59}$ | Unopposed Motion for leave to File Sealed Document (Attachments: \# 1 Proposed Order, \# $\underline{2}$ Sealed Document Plaintiffs' Reply ISO Motion to Strike Friedland Declaration) (Rupp, Karl) (Entered: 01/19/2021) |
| :---: | :---: | :---: |
| 01/22/2021 | $\underline{60}$ | RESPONSE Defendants' Sur-Reply Claim Construction Brief by Samsung Electronics America, Inc., Samsung Electronics Co., LTD. (Attachments: \# 1 Declaration of Jeffrey Lau, \# $\underline{2}$ Exhibit 1, \# $\underline{3}$ Exhibit 2)(Mann, J.) (Entered: 01/22/2021) |
| 01/27/2021 | 61 | NOTICE of Filing Joint Claim Construction Statement by Ikorongo Technology LLC, Ikorongo Texas LLC (Attachments: \# 1 Exhibit A - Disputed Claim Terms)(Rupp, Karl) (Entered: 01/27/2021) |
| 02/01/2021 | 62 | ORDER RESETTING Markman Hearing for 2/5/2021 09:30 AM before Judge Alan D Albright. Signed by Judge Alan D Albright. (bot2) (Entered: 02/01/2021) |
| 02/09/2021 | 63 | Unopposed MOTION for Entry of Amended Scheduling Order by Ikorongo Technology LLC, Ikorongo Texas LLC. (Attachments: \# 1 Proposed Amended Scheduling Order)(Rupp, Karl) (Entered: 02/09/2021) |
| 02/12/2021 | 65 | Standing Order Regarding Filing Documents Under Seal and Redacted Pleadings in Patent Cases. Signed by Judge Alan D Albright. as of 2/12/2021. (bot1) (Entered: 02/24/2021) |
| 02/22/2021 | 64 | SCHEDULING ORDER: Markman Hearing set for 3/2/2021 01:30 PM before Judge Alan D Albright. Joinder of Parties due by 3/19/2021. Amended Pleadings due by $4 / 30 / 2021$. Dispositive Motions due by $11 / 12 / 2021$. Pretrial Conference set for 1/14/2022 before Judge Alan D Albright. Jury Selection and Trial set for 1/24/2022 before Judge Alan D Albright. Signed by Judge Alan D Albright. (bw) (Entered: 02/22/2021) |
| 02/25/2021 | 66 | NOTICE Updated Notice of Inter Partes Review by Ikorongo Technology LLC, Ikorongo Texas LLC (Gilliland, Derek) (Entered: 02/25/2021) |
| 03/01/2021 | 67 | ORDER DENYING 27 Motion to Change Venue Signed by Judge Alan D Albright. (lad) (Entered: 03/01/2021) |
| 03/02/2021 | 68 | ORDER RESETTING Zoom Markman Hearing for 4/1/2021 09:00 AM before Judge Alan D Albright. Signed by Judge Alan D Albright. (bot3) (Entered: 03/02/2021) |
| 03/23/2021 | 69 | ORDER RESETTING Zoom Markman Hearing for 4/1/2021 08:30 AM before Judge Alan D Albright. Signed by Judge Alan D Albright. (bot2) (Entered: 03/23/2021) |
| 03/31/2021 |  | Text Order GRANTING 16 Motion to Dismiss entered by Judge Alan D Albright. Before the Court is Defendants motion to dismiss Plaintiffs claims of indirect infringement. On August 20, 2020, Plaintiffs filed their Response. ECF No. 22. On August 27, 2020, Defendants filed their Reply. ECF No. 25. After careful consideration of the parties briefs and the applicable law, the Court GRANTS the motion WITHOUT PREJUDICE. However, the Court ORDERS that Plaintiffs be allowed to take discovery related to these claims when discovery opens. The Court also GRANTS Plaintiffs leave to amend their pleadings to reassert these claims after the start of discovery if they are able to substantiate those allegations. Plaintiffs shall have up to and including June 2, 2021 (three months from the opening of discovery) to amend their pleadings on a good faith basis under Rule 11.(This is a text-only entry generated by the court. There is no document associated with this entry.) (hs) (Entered: 03/31/2021) |
| 03/31/2021 |  | Set/Reset Deadlines: Amended Pleadings due by $6 / 2 / 2021$. (mc5) (Entered: 03/31/2021) |
| 04/01/2021 | 70 | Minute Entry for proceedings held before Judge Alan D Albright. Markman Hearing held on 4/1/2021. Case called for Markman Hearing by Zoom. Parties announce ready. Defts begin with the plain and ordinary meaning of the term record[s/ed] and the term collect the visited geographic location data. Plaintiffs make counter arguments regarding the construction terms. Court orders that they will maintain their preliminary instruction and keep the plain and order meaning that the court previously determined. Plaintiff argues the term Detection Network Directory. Plaintiffs wishes to modify the courts preliminary instruction with (additional in ): A directory that stores and |



## UNITED STATES DISTRICT COURT WESTERN DISTRICT OF TEXAS WACO DIVISION



## COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Ikorongo Texas LLC ("Ikorongo" or "Plaintiff") for its complaint against defendants Samsung Electronics Co., Ltd. ("SEC") and Samsung Electronics America, Inc. ("SEA") (together "Samsung" or "Defendants"), hereby alleges as follows:

## THE PARTIES

1. Ikorongo is a Texas limited liability company having an address at 678 Bear Tree Creek, Chapel Hill, NC 27517.
2. Upon information and belief, Defendant SEC is a corporation organized under the laws of South Korea, with its principal place of business at 129 Samsung-Ro, Maetan-3dong, Yeongtong-gu, Suwon, 443-742, South Korea.
3. Upon information and belief, SEA is a wholly owned subsidiary of SEC and a corporation organized under the laws of the State of New York, with its principal place of business at 85 Challenger Rd., Ridgefield Park, New Jersey 07660.

## JURISDICTION

4. This is a civil action for patent infringement under the patent laws of the United States, 35 U.S.C. § 271, et seq. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).
5. This Court has general personal jurisdiction over Samsung because Samsung is engaged in substantial and not isolated activity at its regular and established places of business within this judicial district. This Court has specific jurisdiction over Samsung because Samsung has committed acts of infringement giving rise to this action and has established more than minimum contacts within this judicial district, such that the exercise of jurisdiction over Samsung in this Court would not offend traditional notions of fair play and substantial justice. Samsung, directly and through subsidiaries or intermediaries, has committed and continues to commit acts of infringement of Ikorongo's rights in the Asserted Patents in this District by, among other things, making, using, offering to sell, selling, and importing products and/or services that infringe the Asserted Patents.
6. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391 and 1400(b). Defendants are registered to do business in Texas, and upon information and belief, Samsung has transacted business in this District and has committed acts of direct and indirect infringement of Ikorongo's rights in this District by, among other things, making, using, offering to sell, selling, and importing products and/or services that infringe the Asserted Patents. Samsung has regular and established places of business in this District, including at 12100 Samsung Boulevard, Austin, Texas 78754; 7300 Ranch Road 2222, Austin, Texas 78730; and 1700 Scenic Loop, Round Rock, Texas 78681. ${ }^{1}$
[^1]
## FACTUAL BACKGROUND

7. This action concerns U.S. Patent Numbers RE 41,450 (the '450 Patent), RE 45,543 (the '543 Patent), RE 47,704 (the ‘704 Patent), and 8,874,554 (the '554 Patent), (collectively the "Asserted Patents"), true and correct copies of which are attached as Exhibits A, B, C, and D, respectively.
8. Ikorongo, pursuant to the principles of Waterman v. Mackenzie, 138 U.S. 252 (1891) and 35 U.S.C. §261, is the owner of the exclusive right under the Asserted Patents within and throughout a specified part of the United States ("the Specified Part") that includes specific counties within the present judicial district, including the right to sue for past, present and future infringement and damages thereof.
9. Ikorongo Technology LLC is the owner of the entire right, title and interest in the Asserted Patents, including the exclusive right under the Asserted Patents, within and throughout all parts of the United States and world not included in the Specified Part, including the right to sue for past, present and future infringement and damages thereof. This includes at least one county within the present judicial district.
10. Together Ikorongo and Ikorongo Technology LLC own the entire right, title and interest in the Asserted Patents, including the right to sue for past, present and future infringement and damages thereof, throughout the entire United States and world.
11. Each of the '450 Patent, the '543 Patent and the ' 704 Patent is a Reissue Patent of U.S. Patent No. 7,080,139 (the '139 Patent). The '139 Patent, entitled "Method and Apparatus for Selectively Sharing and Passively Tracking Communication Device Experiences" was filed
it-will-invest-291-million-in-austin-operations; https://www.service-center-locator.com/samsung/texas/samsung-austin-texas.htm.
on April 24, 2001 as U.S. Patent Application No. 09/841,475. It was duly and legally issued by the U.S. Patent and Trademark Office (PTO) on July 18, 2006. It received 597 days of patent term extension. A true and correct copy of the ' 139 Patent is attached as Exhibit E.
12. The ' 450 Patent was filed as Reissue Application $12 / 172,518$ on July 14, 2008. It was duly and legally reissued by the PTO on July 20, 2010.
13. The '543 Patent was filed as Reissue Application 13/894,009 on May 14, 2013. It was duly and legally reissued by the PTO on June 2, 2015.
14. The '704 Patent was filed as Reissue Application 14/577,746 on December 19, 2014. It was duly and legally reissued by the PTO on November 5, 2019.
15. The '554 Patent, entitled "Turnersphere" was filed on November 1, 2013 as U.S. Application 14/069,761. It was duly and legally issued by the PTO on October 28, 2014.
16. The elements claimed by Asserted Patents, taken alone or in combination, were not well-understood, routine or conventional to one of ordinary skill in the art at the times of their respective invention.

## COUNT I

## (Samsung's Infringement of the ‘450 Patent)

17. Paragraphs 1-16 are reincorporated by reference as if fully set forth herein.
18. The elements claimed by the ' 450 patent, taken alone or in combination, were not well-understood, routine or conventional to one of ordinary skill in the art at the time of the invention. Rather, the ' 450 patent provides a technical solution to technical problems.
19. Samsung has infringed and continues to infringe, literally and/or by the doctrine of equivalents, individually and/or jointly, at least claim 67 of the ' 450 patent by making, using, testing, selling, offering for sale or importing into the Specified Part products and/or services
covered by the ‘ 450 patent. Samsung’s products and/or services that infringe the‘ 450 patent include, but are not limited to, Samsung smart phones and tablets with GPS capabilities -- such as the Galaxy line including but not limited to the Samsung Galaxy S10, S10+, Galaxy S20, Galaxy Note 10, Galaxy Note 10+ -- and any other Samsung products and/or services, either alone or in combination, that operate in substantially the same manner ("the Accused Instrumentalities"). As one non-limiting example, use of Samsung S10+, including during testing, repair and corporate use, includes a computer-implemented method of sharing computer usage experiences as claimed. See, e.g., exemplary claim chart Exhibit F, which is incorporated herein by reference.
20. Additionally, Samsung has been, and currently is, an active inducer of infringement of the '450 patent under 35 U.S.C. § 271(b) and a contributory infringer of the ' 450 patent under 35 U.S.C. § 271(c) either literally and/or by the doctrine of equivalents.
21. Samsung has induced and continues to induce infringement of the ' 450 patent by intending that others use, offer for sale, or sell in the Specified Part, products and/or services covered by the ' 450 patent, including but not limited to the Accused Instrumentalities. Samsung provides these products and/or services to others, such as customers, resellers and end-user customers, who, in turn, use, provision for use, offer for sale, or sell in the Specified Part products and/or services that directly infringe one or more claims of the 450 patent.
22. Samsung has contributed to and continues to contribute to the infringement of the '450 patent by others by knowingly providing products and/or services that when configured result in a system that directly infringes one or more claims of the ' 450 patent.
23. Samsung knew of the ' 450 patent, or should have known of the ' 450 patent, but was willfully blind to its existence. Upon information and belief, Samsung has had actual
knowledge of the ' 450 patent since at least as early as the service upon Samsung of this Complaint.
24. Samsung has committed and continues to commit affirmative acts that cause infringement of one or more claims of the ' 450 patent with knowledge of the ' 450 patent and knowledge or willful blindness that the induced acts constitute infringement of one or more claims of the ' 450 patent. As an illustrative example only, Samsung induces such acts of infringement by its affirmative actions of intentionally providing hardware and or software components that when used in their normal and customary way, infringe one or more claims of the ' 450 patent and/or by directly or indirectly providing instructions on how to use its products and/or services in a manner or configuration that infringes one or more claims of the ' 450 patent, including those found at www.Samsung.com and in product literature.
25. Samsung has committed and continues to commit contributory infringement by, inter alia, knowingly selling products and/or services that when used cause the direct infringement of one or more claims of the ' 450 patent by a third party, and which have no substantial non-infringing uses, or include a separate and distinct component that is especially made or especially adapted for use in infringement of the '450 patent and is not a staple article or commodity of commerce suitable for substantial non-infringing use.
26. As a result of Samsung's acts of infringement, Plaintiff has suffered and will continue to suffer damages in an amount to be proved at trial.

## COUNT II

(Samsung's Infringement of '543 Patent)
27. Paragraphs 1-26 are reincorporated by reference as if fully set forth herein.
28. The elements claimed by the '543 patent, taken alone or in combination, were not well-understood, routine or conventional to one of ordinary skill in the art at the time of the invention. Rather, the ' 543 patent provides a technical solution to technical problems.
29. Samsung has infringed and continues to infringe, literally and/or by the doctrine of equivalents, individually and/or jointly, at least claim 45 of the ' 543 patent by making, using, testing, selling, offering for sale or importing into the Specified Part products and/or services covered by the ' 543 patent, including but not limited to Accused Instrumentalities. As one nonlimiting example, the Samsung S10+ meets the claim. See, e.g., exemplary claim chart Exhibit G, which is incorporated herein by reference.
30. Additionally, Samsung has been, and currently is, an active inducer of infringement of the '543 patent under 35 U.S.C. § 271(b) and a contributory infringer of the '543 patent under 35 U.S.C. § 271(c) either literally and/or by the doctrine of equivalents.
31. Samsung has induced and continues to induce infringement of the ' 543 patent by intending that others use, offer for sale, or sell in the Specified Part, products and/or services covered by the '543 patent, including but not limited to the Accused Instrumentalities. Samsung provides these products and/or services to others, such as customers, resellers and end-user customers, who, in turn, use, provision for use, offer for sale, or sell in the Specified Part products and/or services that directly infringe one or more claims of the ' 543 patent.
32. Samsung has contributed to and continues to contribute to the infringement of the '543 patent by others by knowingly providing products and/or services that when configured result in a system that directly infringes one or more claims of the '543 patent.
33. Samsung knew of the ' 543 patent, or should have known of the ' 543 patent, but was willfully blind to its existence. Upon information and belief, Samsung has had actual
knowledge of the ' 543 patent since at least as early as the service upon Samsung of this Complaint.
34. Samsung has committed and continues to commit affirmative acts that cause infringement of one or more claims of the ' 543 patent with knowledge of the ' 543 patent and knowledge or willful blindness that the induced acts constitute infringement of one or more claims of the ' 543 patent. As an illustrative example only, Samsung induces such acts of infringement by its affirmative actions of intentionally providing hardware and or software components that when used in their normal and customary way, infringe one or more claims of the '543 patent and/or by directly or indirectly providing instructions on how to use its products and/or services in a manner or configuration that infringes one or more claims of the '543 patent, including those found at www.Samsung.com and in product literature.
35. Samsung has committed and continues to commit contributory infringement by, inter alia, knowingly selling products and/or services that when used cause the direct infringement of one or more claims of the '543 patent by a third party, and which have no substantial non-infringing uses, or include a separate and distinct component that is especially made or especially adapted for use in infringement of the '543 patent and is not a staple article or commodity of commerce suitable for substantial non-infringing use.
36. As a result of Samsung's acts of infringement, Plaintiff has suffered and will continue to suffer damages in an amount to be proved at trial.

## COUNT III

(Samsung's Infringement of '704 Patent)
37. Paragraphs 1-36 are reincorporated by reference as if fully set forth herein.
38. The elements claimed by the ' 704 patent, taken alone or in combination, were not well-understood, routine or conventional to one of ordinary skill in the art at the time of the invention. Rather, the ' 704 patent provides a technical solution to technical problems.
39. Samsung has infringed and continues to infringe, literally and/or by the doctrine of equivalents, individually and/or jointly, at least claim 48 of the ' 704 patent by making, using, testing, selling, offering for sale or importing into the Specified Part products and/or services covered by the ' 704 patent, including but not limited to Accused Instrumentalities. As one nonlimiting example, the Samsung S10+ infringes the patent. See, e.g., exemplary claim chart Exhibit H, which is incorporated herein by reference.
40. Additionally, Samsung has been, and currently is, an active inducer of infringement of the '704 patent under 35 U.S.C. § 271(b) and a contributory infringer of the '704 patent under 35 U.S.C. § 271(c) either literally and/or by the doctrine of equivalents.
41. Samsung has induced and continues to induce infringement of the ' 704 patent by intending that others use, offer for sale, or sell in the Specified Part, products and/or services covered by the '704 patent, including but not limited to the Accused Instrumentalities. Samsung provides these products and/or services to others, such as customers, resellers and end-user customers, who, in turn, use, provision for use, offer for sale, or sell in the Specified Part products and/or services that directly infringe one or more claims of the' 704 patent.
42. Samsung has contributed to and continues to contribute to the infringement of the '704 patent by others by knowingly providing products and/or services that when configured result in a system that directly infringes one or more claims of the ' 704 patent.
43. Samsung knew of the ' 704 patent, or should have known of the ' 704 patent, but was willfully blind to its existence. Upon information and belief, Samsung has had actual
knowledge of the ' 704 patent since at least as early as the service upon Samsung of this Complaint.
44. Samsung has committed and continues to commit affirmative acts that cause infringement of one or more claims of the ' 704 patent with knowledge of the ' 704 patent and knowledge or willful blindness that the induced acts constitute infringement of one or more claims of the ' 704 patent. As an illustrative example only, Samsung induces such acts of infringement by its affirmative actions of intentionally providing hardware and or software components that when used in their normal and customary way, infringe one or more claims of the ' 704 patent and/or by directly or indirectly providing instructions on how to use its products and/or services in a manner or configuration that infringes one or more claims of the ' 704 patent, including those found at www.Samsung.com and in product literature.
45. Samsung has committed and continues to commit contributory infringement by, inter alia, knowingly selling products and/or services that when used cause the direct infringement of one or more claims of the ' 704 patent by a third party, and which have no substantial non-infringing uses, or include a separate and distinct component that is especially made or especially adapted for use in infringement of the ' 704 patent and is not a staple article or commodity of commerce suitable for substantial non-infringing use.
46. As a result of Samsung's acts of infringement, Plaintiff has suffered and will continue to suffer damages in an amount to be proved at trial.

## COUNT IV

## (Samsung's Infringement of '554 Patent)

47. Paragraphs 1-46 are reincorporated by reference as if fully set forth herein.
48. The elements claimed by the '554 patent, taken alone or in combination, were not well-understood, routine or conventional to one of ordinary skill in the art at the time of the invention. Rather, the ' 554 patent provides a technical solution to technical problems.
49. Samsung has infringed and continues to infringe, literally and/or by the doctrine of equivalents, individually and/or jointly, at least claim 1 of the '554 patent by making, using, testing, selling, offering for sale or importing into the Specified Part products and/or services covered by the '554 patent, including but not limited to Accused Instrumentalities. As one nonlimiting example, the Samsung S10+ infringes the patent. See, e.g., exemplary claim chart Exhibit I, which is incorporated herein by reference.
50. Additionally, Samsung has been, and currently is, an active inducer of infringement of the '554 patent under 35 U.S.C. § 271(b) and a contributory infringer of the '554 patent under 35 U.S.C. § 271(c) either literally and/or by the doctrine of equivalents.
51. Samsung has induced and continues to induce infringement of the ' 554 patent by intending that others use, offer for sale, or sell in the Specified Part, products and/or services covered by the '554 patent, including but not limited to the Accused Instrumentalities. Samsung provides these products and/or services to others, such as customers, resellers and end-user customers, who, in turn, use, provision for use, offer for sale, or sell in the Specified Part products and/or services that directly infringe one or more claims of the '554 patent.
52. Samsung has contributed to and continues to contribute to the infringement of the '554 patent by others by knowingly providing products and/or services that when configured result in a system that directly infringes one or more claims of the '554 patent.
53. Samsung knew of the '554 patent, or should have known of the '554 patent, but was willfully blind to its existence. Upon information and belief, Samsung has had actual
knowledge of the '554 patent since at least as early as the service upon Samsung of this Complaint.
54. Samsung has committed and continues to commit affirmative acts that cause infringement of one or more claims of the '554 patent with knowledge of the '554 patent and knowledge or willful blindness that the induced acts constitute infringement of one or more claims of the ' 554 patent. As an illustrative example only, Samsung induces such acts of infringement by its affirmative actions of intentionally providing hardware and or software components that when used in their normal and customary way, infringe one or more claims of the '554 patent and/or by directly or indirectly providing instructions on how to use its products and/or services in a manner or configuration that infringes one or more claims of the '554 patent, including those found at www.Samsung.com and in product literature.
55. Samsung has committed and continues to commit contributory infringement by, inter alia, knowingly selling products and/or services that when used cause the direct infringement of one or more claims of the '554 patent by a third party, and which have no substantial non-infringing uses, or include a separate and distinct component that is especially made or especially adapted for use in infringement of the '554 patent and is not a staple article or commodity of commerce suitable for substantial non-infringing use.
56. As a result of Samsung's acts of infringement, Plaintiff has suffered and will continue to suffer damages in an amount to be proved at trial.

## PRAYER FOR RELIEF

Plaintiff requests that the Court enter judgment against Samsung:
(A) that Samsung has infringed one or more claims of each of the Asserted Patents, directly and/or indirectly, literally and/or under the doctrine of equivalents;
(B) awarding damages sufficient to compensate Plaintiff for Samsung's infringement under 35 U.S.C. § 284;
(C) finding this case exceptional under 35 U.S.C. § 285 and awarding Plaintiff its reasonable attorneys' fees;
(D) awarding Plaintiff its costs and expenses incurred in this action;
(E) awarding Plaintiff prejudgment and post-judgment interest; and
(F) granting Plaintiff such further relief as the Court deems just and appropriate.

## DEMAND FOR JURY TRIAL

Plaintiff demands trial by jury of all claims so triable under Federal Rule Of Civil
Procedure 38.

Date: March 31, 2020

Respectfully submitted,

## /s/Derek Gilliland

## Derek Gilliland

State Bar No. 24007239
Sorey, Gilliland \& Hull, LLP
109 W. Tyler St.
Longview, Texas 75601
903.212 .2822 (telephone)
903.212 .2864 (facsimile)
derek@soreylaw.com

## Karl Rupp

State Bar No. 24035243
Nix Patterson L.L.P.
1845 Woodall Rodgers Fwy., Suite 1050
Dallas, Texas 45001
972.831.1188 (telephone)
972.444.0716 (facsimile)
krupp@nixlaw.com

## OF COUNSEL:

Howard Wisnia (pro hac vice forthcoming) Wisnia PC
12770 High Bluff Dr., Suite 200
San Diego, CA 92130
Tel: (858) 461-0989
howard@wisnialaw.com
COUNSEL for PLAINTIFF

## UNITED STATES DISTRICT COURT WESTERN DISTRICT OF TEXAS WACO DIVISION

|  | Civil Action No. 6:20-cv-259 |
| :---: | :---: |
| IKORONGO TECHNOLOGY LLC |  |
| and IKORONGO TEXAS LLC, |  |
| Plaintiffs, |  |
|  |  |
|  |  |
| v. |  |
|  |  |
| SAMSUNG ELECTRONICS CO., LTD., and SAMSUNG ELECTRONICS AMERICA, INC., |  |
|  |  |
|  |  |
| Defendants. | JURY TRIAL DEMANDED |
|  |  |

## FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs Ikorongo Technology LLC ("Ikorongo Tech") and Ikorongo Texas LLC ("Ikorongo TX") (together "Ikorongo" or "Plaintiffs") for their complaint against defendants Samsung Electronics Co., Ltd. ("SEC") and Samsung Electronics America, Inc. ("SEA") (together "Samsung" or "Defendants"), hereby alleges as follows:

## THE PARTIES

1. Ikorongo Tech is a North Carolina limited liability company having an address at 678 Bear Tree Creek, Chapel Hill, NC 27517.
2. Ikorongo TX is a Texas limited liability company having an address at 678 Bear Tree Creek, Chapel Hill, NC 27517.
3. Upon information and belief, Defendant SEC is a corporation organized under the laws of South Korea, with its principal place of business at 129 Samsung-Ro, Maetan-3dong, Yeongtong-gu, Suwon, 443-742, South Korea.
4. Upon information and belief, SEA is a wholly owned subsidiary of SEC and a corporation organized under the laws of the State of New York, with its principal place of business at 85 Challenger Rd., Ridgefield Park, New Jersey 07660.

## JURISDICTION

5. This is a civil action for patent infringement under the patent laws of the United States, 35 U.S.C. § 271, et seq. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).
6. This Court has general personal jurisdiction over Samsung because Samsung is engaged in substantial and not isolated activity at its regular and established places of business within this judicial district. This Court has specific jurisdiction over Samsung because Samsung has committed acts of infringement giving rise to this action and has established more than minimum contacts within this judicial district, such that the exercise of jurisdiction over Samsung in this Court would not offend traditional notions of fair play and substantial justice. Samsung, directly and through subsidiaries or intermediaries, has committed and continues to commit acts of infringement of Ikorongo's rights in the Asserted Patents in this District by, among other things, making, using, offering to sell, selling, and importing products and/or services that infringe the Asserted Patents.
7. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391 and 1400(b). Defendants are registered to do business in Texas, and upon information and belief, Samsung has transacted business in this District and has committed acts of direct and indirect infringement in this District by, among other things, making, using, offering to sell, selling, and importing products and/or services that infringe the Asserted Patents. Samsung has regular and established places of business in this District, including at 12100 Samsung Boulevard, Austin, Texas 78754;

7300 Ranch Road 2222, Austin, Texas 78730; and 1700 Scenic Loop, Round Rock, Texas 78681. ${ }^{1}$

## FACTUAL BACKGROUND

8. This action concerns U.S. Patent Numbers RE 41,450 (the ' 450 Patent), RE 45,543 (the '543 Patent), RE 47,704 (the '704 Patent), and 8,874,554 (the '554 Patent), (collectively the "Asserted Patents"), true and correct copies of which are attached as Exhibits A, B, C, and D, respectively.
9. Ikorongo TX, pursuant to the principles of Waterman v. Mackenzie, 138 U.S. 252 (1891) and 35 U.S.C. §261, is the owner of the exclusive right under the Asserted Patents within and throughout a specified part of the United States ("the Specified Part") that includes specific counties within the present judicial district, including the right to sue for past, present and future infringement and damages thereof.
10. Ikorongo Tech is the owner of the entire right, title and interest in the Asserted Patents, including the exclusive right under the Asserted Patents, within and throughout all parts of the United States and world not included in the Specified Part, including the right to sue for past, present and future infringement and damages thereof. This includes at least one county within the present judicial district.
11. Together Ikorongo TX and Ikorongo Tech own the entire right, title and interest in the Asserted Patents, including the right to sue for past, present and future infringement and damages thereof, throughout the entire United States and world.

[^2]12. Each of the '450 Patent, the '543 Patent and the ' 704 Patent is a Reissue Patent of U.S. Patent No. 7,080,139 (the '139 Patent). The '139 Patent, entitled "Method and Apparatus for Selectively Sharing and Passively Tracking Communication Device Experiences" was filed on April 24, 2001 as U.S. Patent Application No. 09/841,475. It was duly and legally issued by the U.S. Patent and Trademark Office (PTO) on July 18, 2006. It received 597 days of patent term extension. A true and correct copy of the ' 139 Patent is attached as Exhibit E.
13. The ' 450 Patent was filed as Reissue Application 12/172,518 on July 14, 2008. It was duly and legally reissued by the PTO on July 20, 2010.
14. The '543 Patent was filed as Reissue Application 13/894,009 on May 14, 2013. It was duly and legally reissued by the PTO on June 2, 2015.
15. The '704 Patent was filed as Reissue Application 14/577,746 on December 19, 2014. It was duly and legally reissued by the PTO on November 5, 2019.
16. The '554 Patent, entitled "Turnersphere" was filed on November 1, 2013 as U.S. Application 14/069,761. It was duly and legally issued by the PTO on October 28, 2014.
17. The elements claimed by Asserted Patents, taken alone or in combination, were not well-understood, routine or conventional to one of ordinary skill in the art at the times of their respective invention.

## COUNT I

(Samsung's Infringement of the '450 Patent)
18. Paragraphs 1-17 are reincorporated by reference as if fully set forth herein.
19. The elements claimed by the ' 450 patent, taken alone or in combination, were not well-understood, routine or conventional to one of ordinary skill in the art at the time of the invention. Rather, the ' 450 patent provides a technical solution to technical problems.
20. Samsung has infringed and continues to infringe, literally and/or by the doctrine of equivalents, individually and/or jointly, at least claim 67 of the ' 450 patent by making, using, testing, selling, offering for sale or importing into the United States products and/or services covered by the‘ 450 patent. Samsung's products and/or services that infringe the' 450 patent include, but are not limited to, Samsung smart phones and tablets with GPS capabilities -- such as the Galaxy line including but not limited to the Samsung Galaxy S10, S10+, Galaxy S20, Galaxy Note 10, Galaxy Note 10+ -- and any other Samsung products and/or services, either alone or in combination, that operate in substantially the same manner ("the Accused Instrumentalities"). As one non-limiting example, use of Samsung S10+, including during testing, repair and corporate use, includes a computer-implemented method of sharing computer usage experiences as claimed. See, e.g., exemplary claim chart Exhibit F, which is incorporated herein by reference.
21. Additionally, Samsung has been, and currently is, an active inducer of infringement of the '450 patent under 35 U.S.C. § 271(b) and a contributory infringer of the ' 450 patent under 35 U.S.C. § 271(c) either literally and/or by the doctrine of equivalents.
22. Samsung has induced and continues to induce infringement of the ' 450 patent by intending that others use, offer for sale, or sell in the United States, products and/or services covered by the ' 450 patent, including but not limited to the Accused Instrumentalities. Samsung provides these products and/or services to others, such as customers, resellers and end-user customers, who, in turn, use, provision for use, offer for sale, or sell in the United States products and/or services that directly infringe one or more claims of the‘ 450 patent.
23. Samsung has contributed to and continues to contribute to the infringement of the '450 patent by others by knowingly providing products and/or services that when configured result in a system that directly infringes one or more claims of the ' 450 patent.
24. Samsung knew of the ' 450 patent, or should have known of the ' 450 patent, but was willfully blind to its existence. Upon information and belief, Samsung has had actual knowledge of the ' 450 patent since at least as early as the service upon Samsung of this Complaint.
25. Samsung has committed and continues to commit affirmative acts that cause infringement of one or more claims of the ' 450 patent with knowledge of the ' 450 patent and knowledge or willful blindness that the induced acts constitute infringement of one or more claims of the ' 450 patent. As an illustrative example only, Samsung induces such acts of infringement by its affirmative actions of intentionally providing hardware and or software components that when used in their normal and customary way, infringe one or more claims of the ' 450 patent and/or by directly or indirectly providing instructions on how to use its products and/or services in a manner or configuration that infringes one or more claims of the ' 450 patent, including those found at www.Samsung.com and in product literature.
26. Samsung has committed and continues to commit contributory infringement by, inter alia, knowingly selling products and/or services that when used cause the direct infringement of one or more claims of the ' 450 patent by a third party, and which have no substantial non-infringing uses, or include a separate and distinct component that is especially made or especially adapted for use in infringement of the ' 450 patent and is not a staple article or commodity of commerce suitable for substantial non-infringing use.
27. As a result of Samsung's acts of infringement, Plaintiffs have suffered and will continue to suffer damages in an amount to be proved at trial.

## COUNT II

(Samsung's Infringement of '543 Patent)
28. Paragraphs 1-27 are reincorporated by reference as if fully set forth herein.
29. The elements claimed by the '543 patent, taken alone or in combination, were not well-understood, routine or conventional to one of ordinary skill in the art at the time of the invention. Rather, the ' 543 patent provides a technical solution to technical problems.
30. Samsung has infringed and continues to infringe, literally and/or by the doctrine of equivalents, individually and/or jointly, at least claim 45 of the ' 543 patent by making, using, testing, selling, offering for sale or importing into the United States products and/or services covered by the ' 543 patent, including but not limited to Accused Instrumentalities. As one nonlimiting example, the Samsung S10+ meets the claim. See, e.g., exemplary claim chart Exhibit G, which is incorporated herein by reference.
31. Additionally, Samsung has been, and currently is, an active inducer of infringement of the ' 543 patent under 35 U.S.C. § 271(b) and a contributory infringer of the ' 543 patent under 35 U.S.C. § 271(c) either literally and/or by the doctrine of equivalents.
32. Samsung has induced and continues to induce infringement of the ' 543 patent by intending that others use, offer for sale, or sell in the United States, products and/or services covered by the ' 543 patent, including but not limited to the Accused Instrumentalities. Samsung provides these products and/or services to others, such as customers, resellers and end-user customers, who, in turn, use, provision for use, offer for sale, or sell in the United States products and/or services that directly infringe one or more claims of the' 543 patent.
33. Samsung has contributed to and continues to contribute to the infringement of the '543 patent by others by knowingly providing products and/or services that when configured result in a system that directly infringes one or more claims of the '543 patent.
34. Samsung knew of the ' 543 patent, or should have known of the ' 543 patent, but was willfully blind to its existence. Upon information and belief, Samsung has had actual knowledge of the '543 patent since at least as early as the service upon Samsung of this Complaint.
35. Samsung has committed and continues to commit affirmative acts that cause infringement of one or more claims of the '543 patent with knowledge of the '543 patent and knowledge or willful blindness that the induced acts constitute infringement of one or more claims of the ' 543 patent. As an illustrative example only, Samsung induces such acts of infringement by its affirmative actions of intentionally providing hardware and or software components that when used in their normal and customary way, infringe one or more claims of the '543 patent and/or by directly or indirectly providing instructions on how to use its products and/or services in a manner or configuration that infringes one or more claims of the ' 543 patent, including those found at www.Samsung.com and in product literature.
36. Samsung has committed and continues to commit contributory infringement by, inter alia, knowingly selling products and/or services that when used cause the direct infringement of one or more claims of the '543 patent by a third party, and which have no substantial non-infringing uses, or include a separate and distinct component that is especially made or especially adapted for use in infringement of the '543 patent and is not a staple article or commodity of commerce suitable for substantial non-infringing use.
37. As a result of Samsung's acts of infringement, Plaintiffs have suffered and will continue to suffer damages in an amount to be proved at trial.

## COUNT III

(Samsung's Infringement of '704 Patent)
38. Paragraphs 1-37 are reincorporated by reference as if fully set forth herein.
39. The elements claimed by the ' 704 patent, taken alone or in combination, were not well-understood, routine or conventional to one of ordinary skill in the art at the time of the invention. Rather, the ' 704 patent provides a technical solution to technical problems.
40. Samsung has infringed and continues to infringe, literally and/or by the doctrine of equivalents, individually and/or jointly, at least claim 48 of the ' 704 patent by making, using, testing, selling, offering for sale or importing into the United States products and/or services covered by the ' 704 patent, including but not limited to Accused Instrumentalities. As one nonlimiting example, the Samsung S10+ infringes the patent. See, e.g., exemplary claim chart Exhibit H, which is incorporated herein by reference.
41. Additionally, Samsung has been, and currently is, an active inducer of infringement of the '704 patent under 35 U.S.C. § 271(b) and a contributory infringer of the ' 704 patent under 35 U.S.C. § 271(c) either literally and/or by the doctrine of equivalents.
42. Samsung has induced and continues to induce infringement of the ' 704 patent by intending that others use, offer for sale, or sell in the United States, products and/or services covered by the ' 704 patent, including but not limited to the Accused Instrumentalities. Samsung provides these products and/or services to others, such as customers, resellers and end-user customers, who, in turn, use, provision for use, offer for sale, or sell in the United States products and/or services that directly infringe one or more claims of the' 704 patent.
43. Samsung has contributed to and continues to contribute to the infringement of the '704 patent by others by knowingly providing products and/or services that when configured result in a system that directly infringes one or more claims of the ' 704 patent.
44. Samsung knew of the ' 704 patent, or should have known of the ' 704 patent, but was willfully blind to its existence. Upon information and belief, Samsung has had actual knowledge of the '704 patent since at least as early as the service upon Samsung of this Complaint.
45. Samsung has committed and continues to commit affirmative acts that cause infringement of one or more claims of the '704 patent with knowledge of the '704 patent and knowledge or willful blindness that the induced acts constitute infringement of one or more claims of the ' 704 patent. As an illustrative example only, Samsung induces such acts of infringement by its affirmative actions of intentionally providing hardware and or software components that when used in their normal and customary way, infringe one or more claims of the ' 704 patent and/or by directly or indirectly providing instructions on how to use its products and/or services in a manner or configuration that infringes one or more claims of the ' 704 patent, including those found at www.Samsung.com and in product literature.
46. Samsung has committed and continues to commit contributory infringement by, inter alia, knowingly selling products and/or services that when used cause the direct infringement of one or more claims of the ' 704 patent by a third party, and which have no substantial non-infringing uses, or include a separate and distinct component that is especially made or especially adapted for use in infringement of the ' 704 patent and is not a staple article or commodity of commerce suitable for substantial non-infringing use.
47. As a result of Samsung's acts of infringement, Plaintiffs have suffered and will continue to suffer damages in an amount to be proved at trial.

## COUNT IV

(Samsung's Infringement of '554 Patent)
48. Paragraphs 1-47 are reincorporated by reference as if fully set forth herein.
49. The elements claimed by the '554 patent, taken alone or in combination, were not well-understood, routine or conventional to one of ordinary skill in the art at the time of the invention. Rather, the ' 554 patent provides a technical solution to technical problems.
50. Samsung has infringed and continues to infringe, literally and/or by the doctrine of equivalents, individually and/or jointly, at least claim 1 of the '554 patent by making, using, testing, selling, offering for sale or importing into the United States products and/or services covered by the ' 554 patent, including but not limited to Accused Instrumentalities. As one nonlimiting example, the Samsung S10+ infringes the patent. See, e.g., exemplary claim chart Exhibit I, which is incorporated herein by reference.
51. Additionally, Samsung has been, and currently is, an active inducer of infringement of the ' 554 patent under 35 U.S.C. § 271(b) and a contributory infringer of the ' 554 patent under 35 U.S.C. § 271(c) either literally and/or by the doctrine of equivalents.
52. Samsung has induced and continues to induce infringement of the ' 554 patent by intending that others use, offer for sale, or sell in the United States, products and/or services covered by the '554 patent, including but not limited to the Accused Instrumentalities. Samsung provides these products and/or services to others, such as customers, resellers and end-user customers, who, in turn, use, provision for use, offer for sale, or sell in the United States products and/or services that directly infringe one or more claims of the ' 554 patent.
53. Samsung has contributed to and continues to contribute to the infringement of the '554 patent by others by knowingly providing products and/or services that when configured result in a system that directly infringes one or more claims of the '554 patent.
54. Samsung knew of the ' 554 patent, or should have known of the ' 554 patent, but was willfully blind to its existence. Upon information and belief, Samsung has had actual knowledge of the '554 patent since at least as early as the service upon Samsung of this Complaint.
55. Samsung has committed and continues to commit affirmative acts that cause infringement of one or more claims of the '554 patent with knowledge of the '554 patent and knowledge or willful blindness that the induced acts constitute infringement of one or more claims of the ' 554 patent. As an illustrative example only, Samsung induces such acts of infringement by its affirmative actions of intentionally providing hardware and or software components that when used in their normal and customary way, infringe one or more claims of the '554 patent and/or by directly or indirectly providing instructions on how to use its products and/or services in a manner or configuration that infringes one or more claims of the '554 patent, including those found at www.Samsung.com and in product literature.
56. Samsung has committed and continues to commit contributory infringement by, inter alia, knowingly selling products and/or services that when used cause the direct infringement of one or more claims of the '554 patent by a third party, and which have no substantial non-infringing uses, or include a separate and distinct component that is especially made or especially adapted for use in infringement of the '554 patent and is not a staple article or commodity of commerce suitable for substantial non-infringing use.
57. As a result of Samsung's acts of infringement, Plaintiffs have suffered and will continue to suffer damages in an amount to be proved at trial.

## PRAYER FOR RELIEF

Plaintiffs request that the Court enter judgment against Samsung:
(A) that Samsung has infringed one or more claims of each of the Asserted Patents, directly and/or indirectly, literally and/or under the doctrine of equivalents;
(B) awarding damages sufficient to compensate Plaintiffs for Samsung's infringement under 35 U.S.C. § 284;
(C) finding this case exceptional under 35 U.S.C. § 285 and awarding Plaintiffs their reasonable attorneys' fees;
(D) awarding Plaintiffs their costs and expenses incurred in this action;
(E) awarding Plaintiffs prejudgment and post-judgment interest; and
(F) granting Plaintiffs such further relief as the Court deems just and appropriate.

## DEMAND FOR JURY TRIAL

Plaintiffs demand trial by jury of all claims so triable under Federal Rule Of Civil
Procedure 38.

Date: April 1, 2020

Respectfully submitted,

## /s/Derek Gilliland

## Derek Gilliland

State Bar No. 24007239
Sorey, Gilliland \& Hull, LLP
109 W. Tyler St.
Longview, Texas 75601
903.212 .2822 (telephone)
903.212 .2864 (facsimile)
dgilliland@SoreyLaw.com

## Karl Rupp

State Bar No. 24035243
Nix Patterson L.L.P.
1845 Woodall Rodgers Fwy., Suite 1050
Dallas, Texas 45001
972.831.1188 (telephone)
972.444.0716 (facsimile)
krupp@nixlaw.com

## OF COUNSEL:

Howard Wisnia (pro hac vice forthcoming) Wisnia PC
12770 High Bluff Dr., Suite 200
San Diego, CA 92130
Tel: (858) 461-0989
howard@wisnialaw.com
COUNSEL for PLAINTIFFS

## IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF TEXAS WACO DIVISION

IKORONGO TECHNOLOGY LLC and IKORONGO TEXAS LLC,

Civil Action No. 6:20-cv-259-ADA

JURY TRIAL DEMANDED

DEFENDANTS' OPPOSED MOTION TO TRANSFER TO THE NORTHERN DISTRICT OF CALIFORNIA UNDER 28 U.S.C. § 1404(a)

TABLE OF CONTENTS
Page
I. INTRODUCTION ..... 1
II. FACTUAL BACKGROUND ..... 2
A. Ikorongo's Allegations Are Directed At Third-Party Applications ..... 2
B. Google is Located in the NDCA ..... 2
C. Relevant Samsung Employees and Documents Are Not in This District ..... 3
D. AT\&T Secure Family Was Researched, Designed, and Developed in the NDCA ..... 4
E. Named Inventors Are Located in the NDCA ..... 4
III. LEGAL STANDARD ..... 5
IV. THIS CASE COULD HAVE BEEN FILED IN THE NDCA ..... 5
V. THE NDCA IS THE MOST CONVENIENT FORUM FOR THIS CASE ..... 6
A. The Private Interest Factors Heavily Favor Transfer to the NDCA ..... 6

1. The Relative Access to Sources of Proof ..... 6
2. The Availability of Compulsory Process to Secure the Attendance of Witnesses ..... 7
3. The Convenience of Third-Party Witnesses and Party Witnesses Strongly Favors Transfer ..... 7
4. All Other Practical Problems That Make Trial of a Case Easy, Expeditious, and Inexpensive ..... 9
B. The Public Interest Factors Favor Transfer ..... 9
VI. CONCLUSION ..... 10

TABLE OF AUTHORITIES

## Page(s)

Cases
Action Indus., Inc. v. U.S. Fid. \& Guar. Co., 358 F.3d 337 (5th Cir. 2004) ..... 5
In re Adobe Inc.,
No. 2020-126, 2020 WL 4308164 (Fed. Cir. July 28, 2020) ..... 9, 10
In re Genentech, Inc., 566 F.3d 1338 (Fed. Cir. 2009) ..... 7, 9, 10
In re Volkswagen $A G$,
371 F.3d 201 (5th Cir. 2004) (Volkswagen I) ..... 5
In re Volkswagen of Am., Inc.,
545 F.3d 304 (5th Cir. 2008) (Volkswagen II) ..... $5,6,7,8$
Parus Holdings Inc. v. LG Elecs. Inc.,
No. 6:19-CV-00432-ADA, 2020 WL 4905809 (W.D. Tex. Aug. 20, 2020) ..... 1, 7, 9
Wet Sounds, Inc. v. Audio Formz, LLC,
No. A-17-CV-141-LY, 2017 WL 4547916 (W.D. Tex. Oct. 11, 2017) ..... 8
XY, LLC v. Trans Ova Genetics, LC,
No. 16-CA-00447-RP, 2017 WL 5505340 (W.D. Tex. Apr. 5, 2017) ..... 6
Statutes
28 U.S.C. § 1391(c)(3) ..... 5
28 U.S.C. § 1400(b) ..... 5
28 U.S.C. § 1404(a) ..... 5
Rules
Fed. R. Civ. P. 45(c)(1)(A) ..... 7

## I. INTRODUCTION

Pursuant to 28 U.S.C. § 1404(a), Defendants Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, "Samsung") seek transfer of this action to the Northern District of California ("NDCA"). The private and public interest factors courts deem most important-convenience for witnesses, particularly third-party witnesses, compulsory process for third parties, and the location of evidence-all weigh in favor of transfer. Indeed, this Court recently granted a motion to transfer in Parus Holdings under similar circumstances. See Parus Holdings Inc. v. LG Elecs. Inc., No. 6:19-CV-00432-ADA, 2020 WL 4905809 (W.D. Tex. Aug. 20, 2020).

Transfer to the NDCA is clearly more convenient. While Plaintiffs Ikorongo Technology LLC and Ikorongo Texas LLC (collectively, "Ikorongo") allege infringement against smartphones and tablets sold by Samsung, Ikorongo's infringement contentions are directed at functionality found in the Google Maps, Google+, Google Play Music, YouTube Music, and AT\&T Secure Family applications (collectively, the "Accused Applications") running on those devices. For three out of the five applications, the accused features were developed in the NDCA: Google Maps, Google+, and AT\&T Secure Family. The accused features in Google Play Music and YouTube Music were primarily developed in New York City. None of the Accused Applications were developed in the Western District of Texas ("WDTX"). Moreover, two of the named inventors of the four asserted patents currently reside in the NDCA, and no named inventors or other thirdparty witnesses appear to be located in the WDTX. Because the location of the third parties and evidence in the NDCA strongly favor transfer, this action should be transferred to the NDCA.

## II. FACTUAL BACKGROUND

## A. Ikorongo's Allegations Are Directed At Third-Party Applications

Ikorongo alleges that Samsung's smartphones and tablets infringe four patents-U.S. Patent Nos. RE41,450 (the "' 450 Patent"); RE45,543 (the "' 543 Patent"); RE47,704 (the "' 704 Patent"); and 8,874,554 (the "'554 Patent") (collectively, "Asserted Patents"). The three reissue patents are directed to users sharing visited geographic location data with a group of other users using mobile devices. Am. Compl., ECF No. 2, Exs. F-H. The '554 Patent is directed to providing location-based media recommendations. Am. Compl., ECF No. 2, Ex. I.

Ikorongo's preliminary infringement contentions, served on August 8, 2020, make clear that its allegations rely on functionality found in the Accused Applications. See Lau Decl., Ex. 1 (Ikorongo Infringement Contentions Cover Pleading) at 1, 3-4, 6. Indeed, Ikorongo's allegations concern devices "preloaded" with the Accused Applications. Id.

## B. Google is Located in the NDCA

Third-party Google LLC ("Google") is a Delaware limited liability company with its principal place of business in Mountain View, California in the NDCA. Declaration of Daniel S. Friedland in Support of Defendants’ Motion to Transfer ("Friedland Decl.") 『 2. Google’s headquarters, which includes offices in Sunnyvale and San Francisco (collectively referred to as "Bay Area"), is the strategic center of Google's business. Id.

Google's employees knowledgeable about the accused Google Maps and Google+ features are based in the NDCA. Id. IIII 4-8. For example, the engineer who leads a team working on location sharing for Google Maps is based in Mountain View, along with her team members. Id. II 5. Another engineer who leads a team working on Android location infrastructure and his team members are also based in Mountain View. Id. Additionally, the team of engineers that developed and supported the accused Google+ features were located in Mountain View. Id. TIII 7-8. Google
is unaware of any employees located in the WDTX who have worked on the accused Google Maps and Google+ functionality. Id. IIII 5, 8.

Google's employees knowledgeable about the accused Google Play Music and YouTube Music features are located primarily in New York City, with team members also located in Seattle and Mountain View. Id. III 9-10. For example, one engineer who has worked on the accused Google Play Music and YouTube Music features is currently based in Seattle, Washington, but belongs to a broader team of engineers, most of whom are based in New York City. Id. If 10. Google is unaware of any employees who have worked on the accused Google Play Music and YouTube Music functionality and are located in the WDTX. Id.

## C. Relevant Samsung Employees and Documents Are Not in This District

Defendant Samsung Electronics Co., Ltd. "SEC") is a corporation founded under the laws of Korea with its principal place of business in Korea. Declaration of Jinhee Lee in Support of Defendants’ Motion to Transfer ("Lee Decl.") ๆ 6. Defendant Samsung Electronics America, Inc. ("SEA") is a corporation formed under the laws of New York with its principal place of business in New Jersey. Declaration of Edward Viejo in Support of Defendants' Motion to Transfer ("Viejo Decl.") II 7. SEA has offices in the NDCA with over three hundred employees. Id. II 12.

SEC and SEA (collectively "Samsung") have no employees in this District or elsewhere who control the design and development of the functionality of the Accused Applications. Lee Decl. IIII 8-9; Viejo Decl. II 8-9; Declaration of Kang Won Lee in Support of Defendants’ Motion to Transfer ("W. Lee Decl.") ๆ 5. Further, Samsung does not have any employees who modify any aspect of the source code for the Accused Applications. Lee Decl. If 10; Viejo Decl. If 10; W. Lee Decl. II 6. Nor does it have source code or internal, non-public technical documentation regarding the Accused Applications. Lee Decl. II 11; Viejo Decl. II 11; W. Lee Decl. II 7. Samsung employees responsible for the design, engineering, sourcing components, testing, quality
management, and manufacturing of the Accused Devices are located in Korea. Lee Decl. II 14. Samsung employees responsible for incorporating the Accused Applications into Samsung products are located in Korea and Bellevue, Washington. Lee Decl. III 14; W. Lee Decl. II 8. To the extent Samsung has any technical documents relevant to this case, the vast majority of them would be located in Korea. Lee Decl. II 12.

## D. AT\&T Secure Family Was Researched, Designed, and Developed in the NDCA

Based on publicly available information, it appears that AT\&T's Secure Family was researched, designed, and developed by third-party Location Labs at its headquarters in Emeryville, California within the NDCA. Lau Decl., Ex. 2 (Location Labs by Avast Blog); Ex 3 (Shanna Jan Resume); Ex. 4 (Location Labs Crunchbase Webpage). A team of approximately 30 engineers at Location Labs researched, designed, and developed Secure Family. Lau Decl., Ex. 2 (Location Labs by Avast Blog). Location Labs was later acquired by Avast Software s.r.o. ("Avast"). Lau Decl., Ex. 4 (Location Labs Crunchbase Webpage). Avast currently has four U.S. offices, two of which are in NDCA—Avast's Silicon Valley and Emeryville offices. Lau Decl., Ex. 5 (Avast Contacts Webpage). Avast does not have any offices in Texas. Id. Moreover, although AT\&T is headquartered in Dallas, Texas, it appears they did not develop Secure Family, as detailed above. Instead, the lead app developer for Secure Family is a Location Labs employee located in Merced, California. Lau Decl., Ex. 6 (Secure Family Lead LinkedIn Profile).

## E. Named Inventors Are Located in the NDCA

There are six named inventors in the Asserted Patents. Two of them, Brady Bruce and Michael Mitchell, currently reside in the NDCA in San Francisco and Santa Cruz, California, respectively. Lau Decl. II 8. None of the named inventors currently reside in or near WDTX. Id.

## III. LEGAL STANDARD

Under 28 U.S.C. § 1404(a), "For the convenience of parties and witnesses, in the interest of justice, a district court may transfer any civil action to any other district or division where it might have been brought . . . ." 28 U.S.C. § 1404(a)."The preliminary question under § 1404(a) is whether a civil action 'might have been brought' in the destination venue." In re Volkswagen of Am., Inc., 545 F.3d 304, 312 (5th Cir. 2008) (Volkswagen II) (quoting 28 U.S.C. § 1404(a)).
"The determination of 'convenience' turns on a number of public and private interest factors, none of which can be said to be of dispositive weight." Action Indus., Inc. v. U.S. Fid. \& Guar. Co., 358 F.3d 337, 340 (5th Cir. 2004). The private factors include: "(1) the relative ease of access to sources of proof; (2) the availability of compulsory process to secure the attendance of witnesses; (3) the cost of attendance for willing witnesses; and (4) all other practical problems that make trial of a case easy, expeditious and inexpensive." In re Volkswagen AG, 371 F.3d 201, 203 (5th Cir. 2004) (Volkswagen I). The public factors include: "(1) the administrative difficulties flowing from court congestion; (2) the local interest in having localized interests decided at home; (3) the familiarity of the forum with the law that will govern the case; and (4) the avoidance of unnecessary problems of conflict of laws of the application of foreign law." Id.

## IV. THIS CASE COULD HAVE BEEN FILED IN THE NDCA

A patent infringement case may be brought in "the judicial district where the defendant resides, or where the defendant has committed acts of infringement and has a regular and established place of business." 28 U.S.C. § 1400(b). SEA has offices in the NDCA with over 300 employees. Additionally, SEC is a foreign corporation, so venue is proper in any district, including the NDCA. 28 U.S.C. § 1391(c)(3). Thus, these cases could have been brought in the NDCA.

## V. THE NDCA IS THE MOST CONVENIENT FORUM FOR THIS CASE

## A. The Private Interest Factors Heavily Favor Transfer to the NDCA

## 1. The Relative Access to Sources of Proof

"[T]he sources of proof requirement is a meaningful factor" in the transfer analysis. In re Volkswagen of Am., Inc., 545 F.3d 304, 316 (5th Cir. 2008) (Volkswagen II). To determine the ease of access to sources of proof, the Court should look at "the location where the allegedly infringing products were researched, designed, developed and tested." XY, LLC v. Trans Ova Genetics, LC, No. 16-CA-00447-RP, 2017 WL 5505340, at *13 (W.D. Tex. Apr. 5, 2017).

This factor heavily favors transfer because the greatest volume of evidence is in the NDCA with Google and other key third-parties. As discussed in Section II.A above, Ikorongo's infringement allegations focus on features in the Accused Applications. A significant number of the development activities related to the accused features in Google Maps and Google+ occurred at Google's Mountain View headquarters. Friedland Decl. IIII 4-8. And nearly all the documents that relate to the development or operation of these applications, including highly confidential proprietary source code, are either physically present in or electronically accessible from Google's offices within the NDCA. Id., IIII 4, 7. In addition, based on publicly available information, it appears that Secure Family was researched, designed, and developed by third-party Location Labs from its Emeryville, California headquarters. See Section II.D, supra. Secure Family witnesses and documents are thus also likely to be in the NDCA. While some witnesses for Google Play Music and YouTube Music are in Seattle and New York, none are in the WDTX. Friedland Decl. IIII 9-10.

Moreover, none of Samsung's employees with responsibilities for the accused functionality in the Accused Applications are located in Austin. Lee Decl. TIII 8-11. Defendants
are also unaware of any Austin-based AT\&T or Google employees involved in the research or design of the Accused Applications.

While Ikorongo Texas LLC has not yet identified any relevant evidence in WDTX, any such limited evidence is greatly outweighed by the relevant evidence located in the NDCA. See In re Genentech, Inc., 566 F.3d 1338, 1345 (Fed. Cir. 2009). The relative ease of access of proof heavily favors transfer.

## 2. The Availability of Compulsory Process to Secure the Attendance of Witnesses

When deciding a transfer motion, the Court considers the availability of compulsory process to secure the attendance of witnesses, particularly non-party witnesses whose attendance may need to be secured by a court order. In re Volkswagen of Am., Inc., 545 F.3d 304, 316 (5th Cir. 2008) (Volkswagen II). A court may subpoena a witness to attend trial only "within 100 miles of where the person resides, is employed, or regularly transacts business in person." Fed. R. Civ. P. 45(c)(1)(A).

The availability of compulsory process weighs heavily in favor of transfer. As discussed above in connection with the first factor, the vast majority of third-party witnesses who are likely to testify reside in the NDCA. No identifiable witnesses reside in WDTX or are subject to the Court's subpoena power. Accordingly, this factor weighs heavily in favor of a transfer.

## 3. The Convenience of Third-Party Witnesses and Party Witnesses Strongly Favors Transfer

"The convenience of witnesses is the single most important factor in the transfer analysis." Parus Holdings Inc. v. LG Elecs. Inc., No. 6:19-CV-00432-ADA, 2020 WL 4905809, at *5 (W.D. Tex. Aug. 20, 2020) (citing In re Genentech, Inc., 566 F.3d at 1342). "The Court gives the convenience of party witnesses little weight." Id.

The convenience of witnesses weighs strongly in favor of transfer to NDCA. As detailed in Section II.B, the majority of key third-party witnesses reside in the NDCA, Seattle, and New York, while none reside in or even near this District. If this case remains in WDTX, those witnesses will need to fly and/or drive to Waco, Texas for trial and any hearings that require their testimony. Flying multiple employees to Waco and providing food, lodging, and transportation is unduly expensive. These inconveniences are easily avoided by transferring this action to the NDCA, where many third-party witnesses can drive less than 50 miles to any court proceeding and return home afterwards.

The lost productivity and interruption to the witnesses' daily and personal lives due to the time they will spend traveling also greatly weighs in favor of transfer. See In re Volkswagen of Am., 545 F.3d at 317 ("Witnesses not only suffer monetary costs, but also the personal costs associated with being away from work, family, and community."). The shortest commercial flights to Waco from the Bay Area require around 5 hours and 15 minutes of air travel (including a one hour layover in Dallas), not to mention time spent getting to, from, and waiting at the airport. As this Court has recognized, "the task of scheduling fact witnesses so as to minimize the time when they are removed from their regular work or home responsibilities gets increasingly difficult and complicated when the travel time from their home or work site to the court facility is five or six hours one-way as opposed to 30 minutes or an hour." Wet Sounds, Inc. v. Audio Formz, LLC, No. A-17-CV-141-LY, 2017 WL 4547916, at *3 (W.D. Tex. Oct. 11, 2017), report and recommendation adopted, No. 1:17-CV-141-LY, 2018 WL 1219248 (W.D. Tex. Jan. 22, 2018).

For any third-party witnesses that do not reside in the NDCA, adding flight time to the Bay Area is insignificant when compared to the cost of requiring Google and other third-party inventors to travel to Waco. These witnesses will already need food, lodging, and transportation in Waco
because none reside in WDTX. Furthermore, the Federal Circuit has recently explained that "[t]he comparison between the transferor and transferee forums is not altered by the presence of other witnesses and documents in places outside both forums." In re Adobe Inc., No. 2020-126, 2020 WL 4308164, at *3 (Fed. Cir. July 28, 2020). Accordingly, any argument that other third parties who live outside of WDTX may be inconvenienced by a transfer does not withstand scrutiny.

Moreover, it is much more convenient for SEC's Korea-based witnesses to travel to the Bay Area than to Waco, Texas, which requires over 17 hours of travel and multiple flights. Lau Decl. IIII 5-6. While Waco may be more convenient for Ikorongo, it is improper for a court to use "its central location as a consideration in the absence of witnesses within the plaintiff"s choice of venue." In re Genentech, Inc., 566 F.3d at 1344. This factor weighs in favor of transfer. Parus Holdings Inc., 2020 WL 4905809, at *6 (W.D. Tex. Aug. 20, 2020).

## 4. All Other Practical Problems That Make Trial of a Case Easy, Expeditious, and Inexpensive

There are no practical problems associated with transfer. This case is in its infancy. The Markman hearing will not occur for five months, on February 5, 2021. Thus, transfer at this point would not cause delays. This factor is neutral.

## B. The Public Interest Factors Favor Transfer

The public interest factors also weigh in favor of transfer. NDCA has a strong local interest in this dispute: three of the Accused Applications, Google Maps, Google+, and AT\&T Secure Family were developed in the NDCA. By contrast, the WDTX has little local interest in this dispute. Public records indicate Ikorongo Texas LLC was just recently incorporated in Texas on February 26, 2020, only weeks before it filed suit against Samsung. Lau Decl., Ex. 13 (Ikorongo Texas LLC Public Business Record). And the Amended Complaint provides the same North Carolina address for both Ikorongo Technology LLC and Ikorongo Texas, LLC, indicating
that neither entity, including Ikorongo Texas, LLC, is based in the WDTX. Am. Compl., ECF No. 2 at IIII 1-2. Moreover, although this Court may be able to try the case earlier than a court in the NDCA, "time to trial appears to be the most speculative" of the factors in the transfer analysis. In re Genentech, Inc., 566 F.3d 1338, 1347 (Fed. Cir. 2009); see also In re Adobe Inc., No. 2020-126, 2020 WL 4308164, at *3 (Fed. Cir. July 28, 2020) ("Nothing about [a] court’s general ability to set a schedule directly speaks to that issue."). The familiarity with governing law and conflict of laws factors are neutral as both NDCA and this District are familiar with, and will apply, federal patent law.

## VI. CONCLUSION

For the foregoing reasons, Samsung respectfully requests the Court transfer this case to NDCA.

Dated: September 11, 2020

/s/J. Mark Mann<br>J. Mark Mann<br>State Bar No. 12926150<br>Email: Mark@themannfirm.com<br>G. Blake Thompson<br>State Bar No. 24042033<br>Email: Blake@themannfirm.com<br>MANN TINDEL THOMPSON<br>300 West Main Street<br>Henderson, Texas 75652<br>Telephone: (903) 657-8540<br>Facsimile: (903) 657-6003

Darin W. Snyder (Pro Hac Vice)<br>dsnyder@omm.com<br>David S. Almeling (Pro Hac Vice)<br>dalmeling@omm.com<br>O’Melveny \& Myers LLP<br>Two Embarcadero Center<br>28th Floor<br>San Francisco, CA 94111<br>Telephone: 415-984-8700<br>Facsimile: 415-984-8701<br>Jeffrey Lau<br>jeffreylau@omm.com<br>O’Melveny \& Myers LLP<br>400 South Hope Street<br>18th Floor<br>Los Angeles, CA 90071<br>Telephone: 213-430-6000

Attorneys for Defendants Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.

## CERTIFICATE OF CONFERENCE

Pursuant to Local Rule CV-7(i), counsel for Samsung conferred with counsel for
Ikorongo on September 9, 2020, in a good-faith effort to resolve the matter presented herein and counsel for Ikorongo stated that it opposed the motion.
/s/J. Mark Mann
Mark Mann

## CERTIFICATE OF SERVICE

Pursuant to the Federal Rules of Civil Procedure and Local Rule CV-5, I hereby certify that, on September 11, 2020, all counsel of record who have appeared in this case are being served with a copy of the foregoing via the Court's CM/ECF system.

/s/J. Mark Mann<br>Mark Mann

## IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF TEXAS WACO DIVISION

IKORONGO TECHNOLOGY LLC and IKORONGO TEXAS LLC,

Plaintiffs,
v.

SAMSUNG ELECTRONICS CO., LTD., and SAMSUNG ELECTRONICS AMERICA, INC.,

Civil Action No. 6:20-cv-259-ADA

JURY TRIAL DEMANDED

DECLARATION OF JEFFREY LAU IN SUPPORT OF DEFENDANTS' MOTION TO TRANSFER TO THE NORTHERN DISTRICT OF CALIFORNIA

I, Jeffrey Lau, declare and state as follows:

1. I am a Counsel at O’Melveny \& Myers LLP, located at 400 South Hope Street, 18th Floor, Los Angeles, California 90071. I represent Defendants Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, "Samsung") in this action. I submit this Declaration in support of Defendants' Opposed Motion to Transfer to the Northern District of California, and I make this declaration based upon my personal knowledge.
2. I looked for flight times from the San Francisco International Airport (SFO) to the Waco Regional Airport (ACT) and also from the San Jose Airport (SJC) to the Waco Regional Airport (ACT). I found that there were no direct flights. I found that the shortest commercial flights from SFO to ACT require approximately 5 hours and 19 minutes of travel time one-way including about an hour and 4 minute layover, and the shortest commercial flights from SJC to ACT require approximately 5 hours and 19 minutes of travel time including about an hour and 6 minute layover. I also looked up flight prices from SFO and SJC to ACT. I found that prices for these flights begin at approximately at $\$ 298$ round-trip. See Exhibits 14-15.
3. I looked for flight times from the John F. Kennedy International Airport (JFK) to ACT and also from LaGuardia Airport (LGA) to ACT. I found that there were no direct flights. I found that the shortest commercial flights from JFK to ACT require approximately 9 hours and 49 minutes of travel time one-way, including two layovers of approximately 2 hours and 55 minutes and 1 hour and 36 minutes. I found that the shortest commercial flights from LGA to ACT require approximately 5 hours and 19 of travel time one-way, including one layover of about 44 minutes. I also looked up flight prices from JFK and LGA to ACT. I found that prices for these flights begin at approximately $\$ 335$ round-trip. See Exhibits 16-17.
4. I looked up flight times from JFK to SFO. I found that the shortest commercial
flights from JFK to SFO are direct flights that require approximately 6 hours and 16 minutes of travel time one-way. I also looked up flight prices from JFK to SFO. I found that prices for these flights begin at approximately $\$ 197$ round-trip. See Exhibit 18.
5. I looked up the flight times from the Incheon International Airport (ICN) in Korea to ACT. I found that the shortest commercial flights require approximately 17 hours and 49 minutes of travel time one-way, including one layover of approximately 3 hours and 40 minutes. I also looked at flight prices from ICN to ACT. Flights from ICN to ACT begin at approximately \$722. See Exhibit 19.
6. I looked up flight times from ICN to SFO. I found that the shortest commercial flights are direct flights that require approximately 10 hours and 35 minutes of travel time oneway. I also looked up flight prices from ICN to SFO. I found that prices for these flights begin at approximately $\$ 655$ round-trip. See Exhibit 20.
7. I looked up the distance between Google's Mountain View headquarters and the Phillip Burton Federal Building \& United States Courthouse. I found that the distance between these locations was approximately 35 miles. I also looked up the distance between Google's Mountain View Headquarters and the Ronald V. Dellums Federal Building. I found the distance between these locations was approximately 37 miles. I also looked up the distance between Google's Mountain View headquarters and the Robert F. Peckham Federal Building. I found the distance between these locations is approximately 14.4 miles. See Exhibits 21-23.
8. Upon information and belief, two inventors of U.S. Patent Nos. RE41,450, RE45,543, and RE47,704, Brady Bruce and Michael Mitchell, currently reside in San Francisco, California and Santa Cruz, California, respectively. See Exhibits 7-8. Upon information and
belief, the following table presents the current residences of the inventors of the Asserted Patents ${ }^{1}$.
See Exhibits 7-12.

| Patent | Named Inventor | Residence |
| :--- | :--- | :--- |
| RE41,450, RE45,543, <br> RE47,704 | Brady O. Bruce | San Francisco, CA |
| RE41,450, RE45,543, <br> RE47,704 | Michael W. Mitchell | Santa Cruz, CA |
| RE41,450, RE45,543, <br> RE47,704 | Darren P. Briggs | Nashville, TN |
| RE41,450. RE45,543, <br> RE47,704 | Emile L. Reed, IV | Denver, CO |
| $8,874,554$ | Hugh Svedsen | Chapel Hill, NC |
| $8,874,554$ | Scott Curtis | Durham, NC |

9. Exhibit 1 to my declaration is a true and correct copy of Exhibit 1 to Plaintiffs' Ikorongo Texas LLC and Ikorongo Technology LLC August 6, 2020 Preliminary Infringement Contentions in this case.
10. Exhibit 2 is a true and correct printout of the webpage at http://www.shannajan.com/location-labs-by-avast, as of September 10, 2020.
11. Exhibit 3 is a true and correct printout of the webpage at http://www.shannajan.com/about, as of September 10, 2020.
12. Exhibit 4 is a true and correct printout of the webpage at https://www.crunchbase.com/organization/location-labs, as of September 10, 2020.
13. Exhibit 5 is a true and correct printout of screenshots of the webpage at https://www.avast.com/contacts, as of September 10, 2020.
14. Exhibit 6 is a true and correct printout of the LinkedIn profile of Francisco Velazquez, which indicates that Mr. Velazquez currently resides in Merced, California.
[^3]Case 6:20-cv-00259-ADA Document 27-1 Filed 09/11/20 Page 5 of 6
15. Exhibit 7 is a true and correct printout of the LinkedIn profile of Brady Bruce, inventor of U.S. Patent Nos. RE41,450, RE45,543, and RE47,704, which indicates that Mr. Bruce is located in San Francisco, California.
16. Exhibit 8 is a true and correct redacted printout of an excerpt of a LexisNexis Public Records Report of Michael W. Mitchell, inventor of U.S. Patent Nos. RE41,450, RE45,543, and RE47,704, which indicates Mr. Mitchell currently resides in Santa Cruz, California.
17. Exhibit 9 is a true and correct printout of the LinkedIn profile of Darren P. Briggs, inventor of U.S. Patent Nos. RE41,450, RE45,543, and RE47,704, which indicates Mr. Briggs is located in Nashville, Tennessee.
18. Exhibit 10 is a true and correct redacted printout of an excerpt of a LexisNexis Public Records Report of Emile L. Reed, IV, inventor of U.S. Patent Nos. RE41,450, RE45,543, and RE47,704, which indicates that Mr. Reed currently resides in Denver, Colorado.
19. Exhibit 11 is a true and correct printout of the LinkedIn profile of Hugh Svedsen, inventor of U.S. Patent No. 8,874,554, which indicates that he currently resides in Chapel Hill, North Carolina.
20. Exhibit 12 is a true and correct printout of the LinkedIn profile of Scott Curtis, inventor of U.S. Patent No. 8,874,554, which indicates that he currently resides in Durham, North Carolina.
21. Exhibit 13 is a true and correct printout of an excerpt of a LexisNexis Public Record Report for Ikorongo Texas LLC, as of September 10, 2020.

Case 6:20-cv-00259-ADA Document 27-1 Filed 09/11/20 Page 6 of 6

I declare under penalty of perjury that the foregoing is true and correct.
Executed on September 11, 2020, in Los Angeles, California.
/s/ Jeffrey Lau
Jeffrey Lau

# UNITED STATES DISTRICT COURT <br> WESTERN DISTRICT OF TEXAS WACO DIVISION 



## PLAINTIFES' IKORONGO TEXAS LLC AND IKORONGO TECHNOLOGY LLC PRELIMINARY INFRINGEMENT CONTENTIONS

Plaintiffs Ikorongo Texas LLC ("Ikorongo TX") and Ikorongo Technology LLC ("Ikorongo Tech") (together "Ikorongo" or "Plaintiffs"), pursuant to the Order Governing Proceedings - Patent Case, submit this disclosure of asserted claims and infringement contentions.

## Disclosure of Asserted Claims and Infringement Contentions

1. U.S. Patent No. $8,874,554$ ("the ' 554 Patent"):
a. Ikorongo asserts that Defendants infringe at least claims 1-4, 9-12, 17-20, 2528, 33-36, 39-42. See, claim charts submitted herewith. The claim charts are exemplary in that they describe a particular device of the Defendants that was preloaded with Google Play Music or YouTube Music. However, Ikorongo asserts that each Defendant mobile device that has GPS and was preloaded with Android Version Marshmallow or later and/or was preloaded with the Google

Play Music version announced on November 14, 2014 or later and/or was preloaded with YouTube Music (believed to be Samsung Android Devices available after September 2019 with Android Version 9 or later) infringes the asserted claims . This includes, but is not limited to, those products of Defendants identified in Exhibit A hereto. In addition, other products and/or services of the Defendants that are substantially similar to the listed products infringe. Plaintiff's investigation is ongoing and much of the relevant infringement evidence is not publicly available or not yet identified, as such Plaintiffs reserve its rights to identify additional and/or different accused products and services as discovery proceeds.
b. Ikorongo asserts infringement literally and/or under the doctrine of equivalents. Ikorongo asserts direct and indirect infringement (including but not limited to contributory infringement and infringement by inducement).
c. With respect to method claims, Ikorongo asserts direct infringement and indirect infringement, where Defendants' customers or end customers directly infringe. With respect to Samsung Electronics Co., Ltd., Ikorongo also asserts indirect infringement to the extent others import and distribute the accused products in the U.S. (e.g., where Samsung Electronics America imports and distributes the products).
d. With respect to non-method claims, Ikorongo asserts direct infringement. With respect to Samsung Electronics Co., Ltd., Ikorongo also asserts indirect infringement to the extent others import and distribute the accused products in
the U.S. (e.g., where Samsung Electronics America imports and distributes the products).
e. A copy of the prosecution history is being served with this document.
f. The earliest date of invention for claims 1-4, 17-20 and 33-36 is at least as early as July 2007. The earliest date of invention for the remaining asserted claims is at least as early as September 9, 2011. Documents relevant to the conception and reduction to practice are being produced with this document. Plaintiffs' investigation is ongoing, and they reserve the right to produce additional documents related to the conception or reduction to practice and reserves the right to identify an earlier priority date should it become appropriate.
2. U.S. Patent No. RE41,450 ("the '450 Patent"):
a. Ikorongo asserts that Defendants infringe at least claims 67, 74-75, 83, 84, 93, 94, 96. See, claim charts submitted herewith. The claim charts are exemplary in that they describe a particular device of the Defendants that was preloaded with Google Maps or that was preloaded with Google+ during the period of time that Google+ contained the features described in the claim charts. However, Ikorongo asserts that each Defendant mobile device that has GPS and was preloaded with Android Version KitKat or later infringes the asserted claims. This includes, but is not limited to, those products of Defendants identified in Exhibit A hereto. In addition, other products and/or services of the Defendant that are substantially similar to the listed products infringe. Plaintiffs' investigation is ongoing and much of the relevant infringement evidence is not publicly available or not yet identified, as such Plaintiffs reserve
their rights to identify additional and/or different accused products and services as discovery proceeds.
b. Ikorongo asserts infringement literally and/or under the doctrine of equivalents. Ikorongo asserts direct and indirect infringement (including but not limited to contributory infringement and infringement by inducement).
c. With respect to method claims, Ikorongo asserts direct infringement. It also asserts indirect infringement, where Defendants' customers or end customers directly infringe. With respect to Samsung Electronics Co., Ltd., Ikorongo also asserts indirect infringement to the extent others import and distribute the accused products in the U.S. (e.g., where Samsung Electronics America imports and distributes the products) and those entities practice the method, e.g., as part of testing, quality control and marketing.
d. A copy of the prosecution history is being served with this document.
e. The earliest date of invention for the asserted claims is at least as early as the filing date of its parent application on April 24, 2001. Plaintiffs' investigation is ongoing, and they reserve the right to produce additional documents related to the conception or reduction to practice and reserve the right to identify an earlier priority date should it become appropriate.
3. U.S. Patent No. RE45543 ("the '543 Patent"):
a. Ikorongo asserts that Defendants infringe at least claims 32, 36, 38, 39, 43, 44$49,51,54,56,72,73,75$. See, claim charts submitted herewith. The claim charts are exemplary in that they describe a particular device of the Defendants that was preloaded with AT\&T Secure Family, Google Maps or that was
preloaded with Google+ during the period of time that Google+ contained the features described in the claim charts. However, Ikorongo asserts that each Defendant mobile device that has GPS and was preloaded with AT\&T Secure Family, or Android version KitKat or later infringes the asserted claims. This includes, but is not limited to, those products of Defendants identified in Exhibit A hereto. In addition, other products and/or services of the Defendant that are substantially similar to the listed products infringe. Plaintiffs' investigation is ongoing and much of the relevant infringement evidence is not publicly available or not yet identified, as such Plaintiffs reserve their rights to identify additional and/or different accused products and services as discovery proceeds. For example, it is believed that discovery will reveal additional preloaded programs, similar to AT\&T Secure Family, for other carriers that provide the infringing features.
b. Ikorongo asserts infringement literally and/or under the doctrine of equivalents. Ikorongo asserts direct and indirect infringement (including but not limited to contributory infringement and infringement by inducement).
c. With respect to method claims, Ikorongo asserts direct infringement. It also asserts indirect infringement, where Defendants' customers or end customers directly infringe. With respect to Samsung Electronics Co., Ltd., Ikorongo also asserts indirect infringement to the extent others import and distribute the accused products in the U.S. (e.g., where Samsung Electronics America imports and distributes the products) and those entities practice the method, e.g., as part of testing, quality control and marketing.
d. With respect to non-method claims, Ikorongo asserts direct infringement. With respect to Samsung Electronics Co., Ltd., Ikorongo also asserts indirect infringement to the extent others import and distribute the accused products in the U.S. (e.g., where Samsung Electronics America imports and distributes the products).
e. A copy of the prosecution history is being served with this document.
f. The earliest date of invention for the asserted claims is at least as early as the filing date of its parent application on April 24, 2001. Plaintiffs' investigation is ongoing, and they reserve the right to produce additional documents related to the conception or reduction to practice and reserve the right to identify an earlier priority date should it become appropriate.
4. U.S. Patent No. RE47704 ("the '704 Patent"):
a. Ikorongo asserts that Defendants infringe at least claims 33-40, and 45-48. See, claim charts submitted herewith. The claim charts are exemplary in that they describe a particular device of the Defendants that was preloaded with AT\&T Secure Family, Google Maps or that was preloaded with Google+ during the period of time that Google+ contained the features described in the claim charts. However, Ikorongo asserts that each Defendant mobile device that has GPS and was preloaded with AT\&T Secure Family or Android version KitKat or later infringes the asserted claims. This includes, but is not limited to, those products of Defendants identified in Exhibit A hereto. In addition, other products and/or services of the Defendant that are substantially similar to the listed products infringe. Plaintiffs' investigation is ongoing and much of the relevant
infringement evidence is not publicly available or not yet identified, as such Plaintiffs reserve their rights to identify additional and/or different accused products and services as discovery proceeds. For example, it is believed that discovery will reveal additional preloaded programs, similar to AT\&T Secure Family, for other carriers that provide the infringing features.
b. Ikorongo asserts infringement literally and/or under the doctrine of equivalents. Ikorongo asserts direct and indirect infringement (including but not limited to contributory infringement and infringement by inducement).
c. With respect to method claims, Ikorongo asserts direct infringement. It also asserts indirect infringement, where Defendants' customers or end customers directly infringe. With respect to Samsung Electronics Co., Ltd., Ikorongo also asserts indirect infringement to the extent others import and distribute the accused products in the U.S. (e.g., where Samsung Electronics America imports and distributes the products) and those entities practice the method, e.g., as part of testing, quality control and marketing.
d. With respect to non-method claims, Ikorongo asserts direct infringement. With respect to Samsung Electronics Co., Ltd., Ikorongo also asserts indirect infringement to the extent others import and distribute the accused products in the U.S. (e.g., where Samsung Electronics America imports and distributes the products).
e. A copy of the prosecution history is being served with this document.
f. The earliest date of invention for the asserted claims is at least as early as the filing date of its parent application on April 24, 2001. Plaintiffs' investigation
is ongoing, and they reserve the right to produce additional documents related to the conception or reduction to practice and reserve the right to identify an earlier priority date should it become appropriate.

Date: August 6, 2020 Respectfully submitted,
/s/Derek Gilliland
DEREK GILLILAND
State Bar No. 24007239
Sorey, Gilliland \& Hull, LLP
109 W. Tyler St.
Longview, Texas 75601
903.212 .2822 (telephone)
903.212 .2864 (facsimile)
derek@soreylaw.com

## Karl Rupp

State Bar No. 24035243
Nix Patterson L.L.P.
1845 Woodall Rodgers Fwy., Suite 1050
Dallas, Texas 45001
972.831.1188 (telephone)
972.444.0716 (facsimile)
krupp@nixlaw.com

## Howard Wisnia

Wisnia PC
12770 High Bluff Dr., Suite 200
San Diego, CA 92130
Tel: (858) 461-0989
howard@wisnialaw.com
COUNSEL for PLAINTIFFS

## CERTIFICATE OF SERVICE

The undersigned certifies that a true and correct copy of the above and foregoing Plaintiffs' Preliminary Infringement Contentions is being served on this August 6, 2020, via e-mail, on all counsel of record for Defendants, each of whom are deemed to have consented to electronic service per Local Rule CV-5.

## /s/Derek Gilliland <br> DEREK GILLILAND

## Page 12 of 40

Samsung Mobile Communication Devices with Cellular and GPS from January 2014 through August 6， 2020

| WLAN | GPs |  |
| :---: | :---: | :---: |
| Wi－Fi 802.11 ablghnacle，dual－band，WW－Fi－Direct，hots | Yes，with A－GPS，GLONASS，GALILEO，BDS |  |
| WiFi－ 880.11 aldg／n／acl6，dual－band，Wi－Fi Direct，hotsp | ，GLO |  |
| Wi－Fi 802.11 al／g／l／acl6，dual－band，Wi－Fi Did | Yes，with A－GPs，GLONASS，GALLEO，BDS |  |
| Wi－Fi 802.11 ablghlacl6，dual－ban | \％， |  |
| 302．11 ab | Yes，with A－GPs，GLonAss，GALLEO， |  |
| WiFif $802.11 \mathrm{albg} / \mathrm{l} / \mathrm{cac} / 6$ d | Yes，with A－GPs，Glonass，GALIEO， |  |
| Wi－Fi $80.111 \mathrm{albg} / \mathrm{l} / \mathrm{ack}$ ，dual－band，Wi－Fi Direct，hot | Yes，with A－GPS，GLONASS，GALLLEO，B |  |
| Wi．Fif $802.11 \mathrm{ablg} / \mathrm{l} / \mathrm{lack}$ 6，du | Yes | SM－F707B |
| Wi－Fi 802.11 albg／h／acl6，dual－band，Wi－Fi Direct，hotsp | Yes，with A－GPS，GLONASS，GALLLEO， B | SM－F707N |
| Wi－Fi $802.11 \mathrm{ab} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，W．F．Fi Direct，hotspot | Yes，with A．GPS，GLONASS，GALILEO，BDS | na |
| Wi－Fi 802.11 l lg／n，Wi－Fi i irect，hotspot | S，GALILEO， | SM－M017 |
| Wi．Fi $802.11 \mathrm{l} / \mathrm{g} / \mathrm{m}$ ，Wi－Fi Direct，hotspot | Yes，with A－GPS，GLONASS，GALLLEO，BDS | SM－M017FID |
| $802.11 \mathrm{hlg} / \mathrm{n}$ ，W | Yes，with A－GPS，GLoNASS | SM－M013F |
| Wi－f | Yes，with A－gPs，Glonass | SM－M013FIDS |
| Wi．Fi $802.11 \mathrm{l} \mathrm{g} / \mathrm{h}$ ，Wi．Fi Di | SPS | $13 F$ |
| Wi－Fi 802.11 lg g ，Wi．Fi Direct，hotspot | －GPS | SM－A013FID |
| Wi－Fi 802.11 bg g ，Wi－Fi Direct，hotspot | with A．GPS | 36 |
| Fi． $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{l}$ ，Wi－Fi Direct，hotspot | Yes，with A．GPS | SM－A013GIDS |
| Fi $802.11 \mathrm{al} / \mathrm{l} / \mathrm{h} / \mathrm{lac}$ ，dual－band，W．F－Fi Difect，hotspot | Yes，with A－GPS，GLONASS，GALILEO，BDS | SM－A716V |
| Wi．Fif $802.11 \mathrm{bg} / \mathrm{g}$ ，W．F．Fi Direct， | Yes，with A－GPS，GLONASS，GALILEO，BDS | DS |
| Wi－Fi 802.11 l lg／n，Wi－Fi Direct，hotspot | Yes，with A．GPS，GLONASS，GALILEO，BDS | SM－M015F |
| Wi－Fi 802.11 ablgh／rac，dual－band，W．F．Fi Direct，hotspot | Yes，with A－GPS，GLONASS，GALILEO，BDS | s |
|  | Yes，with A－GPS，GLONASS，GA | SM－A217FIDS |
| Wi－Fi 802.11 ablgh／rac，dual－band，W．F．Fi Direct，hotspot | Yes，with A．GPS，GLoNASS，GAL | SM－A217FISS |
| Wi．Fi 802.11 albgh／lac，dual－band，Wi．Fi Diriect，hotspot | Yes，with A－GPS，GLONASS，GALLLEO， B | SM－A716N |
| Wi－Fi 802.11 alig／g／ac，dual－band，Wi．Fi Difeet，hotspot | Yes，with A－GPS，GLONASS，GALILEO，BDS | SM－A7 |
| Wi－Fi $802.11 \mathrm{bg} \mathrm{g} / \mathrm{W}$ Wi－Fi Direct，hotspot | A．GP | SM－J260GU |
| Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{N}$, Wi－Fi Direct，hotspot | S，GLONASS，BDS | s |
| Wi－Fi 802.11 albgh／／ac，dual－band，W．F．Fi Direct，hotspot | Yes，with A－GPS，GLONASS，GALILEO，BDS | SM－A716F |
| Wi－Fi 802.11 albgh／／ac，dual－band，W．F．Fi Direct，hotspot | Yes， | SM |
|  | Yes，with A－gPs，Glona | SN |
|  | Yes，with A．GP | SM－A7160 |
| Wi－Fir $802.11 \mathrm{ablgh/lac}, \mathrm{dual-band}, \mathrm{Wi-Fi} \mathrm{Direct}$, | Yes，with A－GPs，GLoNASS，GALLEO，BDS | SM－A716B／DS |
|  | Yes，with A－GPS，GLONASS，GALLEO，BDS | SM－A76U |
|  | Yes，with A．GPS，GLONASS，G | SM－A516F |
| Wi－Fi 802.11 ablgh／rac，dual－band，W．F．Fi Direct，hotspot | Yes，with A．gPs，glonass，galleo，bos | SM－A516F／DSN |
|  | A－GPS，GLONASS，GALLLEO，BDS | SM－A516N |
|  | Ves，with A－GPS，GLONASS，GALILEO，BDS | SM－A518B／DS |
| Wi－Fi 802.11 alig／g／ac，dual－band，Wi．Fi Direet，hotspot | Yes，with A－gPs，GLondss，BDS | SM－A215U |
| Fi 802.1 |  | A215 |

Sep 1， 2020 Android 10，One U I 2.1
Aug 21， 2020 Androrid 10 One Ul 2.1
Aug 21， 2020 Android 10，One UI 2.1
Aug 21， 2020 Android 10，One U 12.1
Aug 21， 2020 Android 10 ，One U1 2
Aug 7， 2020 Android 10，One UI 2
Aug 7,2020 Android 10 ，One U U 2
Aug 6， 2020 Android 10 ，One U1 2
Jul 16,2020 Androrid 9.0 （Pie），One U
edition）
Jul 27,2020 Android 10 （Go edtition）
 Aug 21， 2020 Android 10 （Go edition）

 Jun 2， 2020 Android 10 ，One U 12

 Jun 2， 2020 Android 10 ，One U I 2 May 22，2020 Android 10，One UI 2
oedition） Apr 27， 2020 Android 8.1 Oreo（Go edtition） Jun 15， 2020 Android 10 ，One U I 2 Jun 15， 2020 Androidid 10 ，One U I 2 Jun 15，2020 Android 10，One UI 2 Jun 15， 2020 Android 10，One U1 2 Jun 15， 2020 Android 10，One UI 2 Jun 15， 2020 Android 10，One U 12
 Apr 29， 2020 Android 10，One U I 2 Apr 29，2020 Android 10，One U1 2 Jun 26,2020 Android 10 ，One UI 2 Jun 26,2020 Android 10 ，One UI 2営豪 $\frac{0}{2} \frac{0}{2} \frac{0}{2} \frac{0}{2} \frac{0}{2}$ Phone
Phone
Phone $\stackrel{\circ}{\frac{2}{2}}$ Phone浗 Phone膏 $\stackrel{\circ}{\frac{2}{2}}$皆 Phone
Phone

Phone | Phone |
| :--- |
| Phone |浗 $\stackrel{\circ}{\circ}$

 $\stackrel{0}{\circ}$ Pane昌㐆皆


 Samsung Galaxy Note20 Ulita Samsung Galaxy Note20 50

 og dill Z Ixeleo funsues Samsung Galaxy M31s
Samsung Galaxy M01s

Mn os $\operatorname{LV}$ AXeleo Sunsures Samsung Galaxy M01

Wi-Fi 802.11 blg'n, Wi-Fi Direct, hotspot Yes, with A-GPS, GLoNASS, GALLLEO, BDS SM-A115F/DS Wi-Fi 802.11 albgg/hac, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALLLEO, BDS SM-M3115F
 Wi-Fi 802.11 ablg/l/aclax, dual-band, Wi-Fi Direct, hotsF Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-G988 Wi-Fi 802.11 allg/nlacalax, dual-band, Wi-Fi Direct, hotsf Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-G988U Wi-Fi 802.11 ablg/l/aclacx, dual-band, Wi-Fi Direct, hotsF Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-G988U1 Wi-Fi 802.11 allg/g/acalax, dual-band, Wi-F Direct, hotss Yes, with A-GPS, GLONASS, BDS, GALLLEO SMM-G9880 Wi-Fi 802.11 abbg/n/acaxa, dual-band, Wi-Fi Direct, hotss Yes, with A-GPS, GLoNASS, BDS, GALLLEO SM-G988BB/DS Wi-Fi 802.11 alblghlacalax, dual-band, Wi-Fi Direct, hotsF Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-G988N

 Wi-Fi 802.11 allggrlacaxa, dual-band, Wi-Fi Direct, hotss Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-G986
 Wi.Fi 802.11 ablg/n/racaxax, dual-band, Wi-F Direct. hots. Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-G986U Wi-Fi 802.11 allg/g/raclax, dual-band, Wi-Fi Direct, hotss Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-G986U1

 Wi-Fi 802.11 allgglacrax, dual-band, Wi-Fi Direct, hotss: Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-G986N







 Wi-Fi 802.11 albg/lhaclax, dual-band, Wi-Fi Direct, hotss Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-G981U1 Wi-Fi 802.11 ablgl/naclax, dual-band, Wi-Fi Direct, hotsfy Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-G981N Wi-Fi 802.11 ablg/n/ac/ax, dual-band, Wi-Fi Direct, hotss Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-G980




Apr 27, 2020 Android 10, One U 1





























 Mar 6,2020 Android 10, One Ul 2
 $\stackrel{\circ}{\frac{2}{2}} \stackrel{0}{2}$豪皆 Samsung Galaxy M11 Samsung Galaxy Tab S6 Lite

Samsung Galaxy A31

## Samsung Galaxy A41

Samsung Galaxy S20 Ultra 56


## Samsung Galaxy 52056

| WLAN | GPS | Model |
| :---: | :---: | :---: |

Wi-Fi 802.11 a/b/g/n/ac/ax, dual-band, Wi-Fi Direct, hotsp Yes, with A-GPS, GLONASS, BDS, GALILEO SM-G980F
 Wi-Fi 802.11 a/b/g/n/ac, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALLLEO, BDS SM-F700 Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALILEO, BDS SM-FToor
 Wi-Fli $802.11 \mathrm{a} / \mathrm{d} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ c, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALILEO, BDS SM-F700U1/DS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALILEO, BDS SM-F700N Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALLLEO, BDS SM-F7000 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS, GALLLEO SM-T866N Wi-Fi $802.11 \mathrm{al} / \mathrm{l} / \mathrm{h} / \mathrm{lac} / \mathrm{k} / \mathrm{l} / \mathrm{r}$, dual-band, Wi-Fi Direct, hot Yes, with A-GPS $\quad$ SM-G715FN Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac/} / \mathrm{kV} / \mathrm{l}$, dual-band, Wi-Fi Direct, hot Yes, with A-GPS $\quad$ SM-G715F
 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALLLEO, BDS SM-G770F
 Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALILEO, BDS SM-A015F Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot $\quad$ Yes, with A-GPS, GLONASS, GALILEO, BDS SM-A015F/DS Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALILEO, BDS SM-A015G Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot $\quad$ Yes, with A-GPS, GLONASS, GALILEO, BDS SM-A015G/DS Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot $\quad$ Yes, with A-GPS, GLONASS, GALILEO, BDS SM-A015M Wi-F 802.11 b/g/n, Wi-Fi Direct, hotspot $\quad$ es, with A-GPS, GLONASS, GALILEO, BDS SM-A015MIDS


 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{m} / \mathrm{ac} / \mathrm{axili}$ r, dual-band, Wi-Fi Direct, hol Yes, with A-GPS, GLONASS, GALILEO $\quad$ SM-G889F Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac} / \mathrm{axili}$ r, dual-band, Wi-Fi Direct, hol Yes, with A-GPS, GLONASS, GALLLEO $\quad$ SM-G889A

 Wi-Fi 802.11 ab/g/g/h/ac, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALILEO, BDS SM-A515F/DST
 Wi-Fi 802.11 a/b/g/h/ac, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALLLEO, BDS SM-A515F/N
 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{l} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALILEO, BDS SM-A707FN

 Wi-Fi 802.11 a/b/g/n/ac, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, GALLLEO, BDS SM-A7070

Dec 16, 2019 Android 10, One UI 2
Dec 16, 2019 Android 10, One UI 2
 Dec 16, 2019 Android 10, One UI 2

 $\qquad$ Sep 30,2019 Android 9.0 (Pie), upgradable to Android 10 , One UI 2.0 Sep 30,2019 Android 9.0 (Pie), upgradable to Android 10 , One Ul 2.0 Sep 30,2019 Android 9.0 (Pie), upgradable to Android 10 , One UI 2.0 Sep 30, 2019 Android 9.0 (Pie), upgradable to Android 10 , One UI 2.0

 | $\stackrel{0}{\circ}$ |
| :--- |
| $\frac{1}{0}$ |






## Samsung Galaxy S10 Lite

## 







 |  |  |
| :--- | :--- |






| Year | Device Name | Device | Available Date | Android Version | WLAN | GPS | Model |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One Ul 2.0 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/r} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A707W |
|  | Samsung Galaxy A20s | Phone | Oct 5, 2019 | Android 9.0 (Pie), upgradable to Android 10, One Ul 2.0 | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A207F |
|  |  | Phone | Oct 5, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.0 | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A207M |
|  |  | Phone | Oct 5, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.0 | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A2070 |
|  | Samsung Galaxy M 30 s | Phone | Oct 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-M307F |
|  |  | Phone | Oct 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-M307FN |
|  |  | Phone | Oct 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-M307F/DS |
|  |  | Phone | Oct 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-M307FN/DS |
|  | Samsung Galaxy M10s | Phone | Sep 30, 2019 | Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-M107F |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-M107G |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-M107Y |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{b/g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-M107M |
|  | Samsung Galaxy Fold 5G | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l}$ ax, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-F907F |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l}$ ax, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-F9007 |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One Ul 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{h} / \mathrm{ac} / \mathrm{ax}$, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-F907W |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l} / \mathrm{x}$, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-F907U |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l}$ ax, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-F907B |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UU 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{/} / \mathrm{g} / \mathrm{/} / \mathrm{cac} / \mathrm{ax}$, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-F907N |
|  | Samsung Galaxy Fold | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l} / \mathrm{x}$, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-F900F |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l}$ ax, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-F9000 |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One Ul 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{h} / \mathrm{ac} / \mathrm{ax}$, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-F900w |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l} / \mathrm{x}$, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-F900U |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l}$ ax, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-F900N |
|  | Samsung Galaxy Tab Active Pro | Tablet | Oct 30, 2019 | Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{a} / \mathrm{l} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-T545 |
|  |  | Tablet | Oct 30, 2019 | Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-T547 |
|  | Samsung Galaxy A90 5G | Phone | Sep 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A908B |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A908N |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A9080 |
|  | Samsung Galaxy A30s | Phone | Sep 11, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.0 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A307F |
|  |  | Phone | Sep 11, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.0 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A307FN |
|  |  | Phone | Sep 11, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.0 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A307G |
|  |  | Phone | Sep 11, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.0 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A307GN |
|  |  | Phone | Sep 11, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.0 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A307GT |
|  | Samsung Galaxy A50s | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One Ul 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A507F |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One UI 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A507FN |
|  |  | Phone | Sep 30, 2019 | Android 9.0 (Pie), upgradable to Android 10, One Ul 2.1 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-A5070 |
|  | Samsung Galaxy Note $10+5 \mathrm{~F}$ | Phone | Aug 30, 2019 | Android 9.0 (Pie), planned upgrade to Android 10, One UI 2 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac} / \mathrm{ax}$, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N976F |
|  |  | Phone | Aug 30, 2019 | Android 9.0 (Pie), planned upgrade to Android 10, One UI 2 | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l} / \mathrm{x}$, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N976U |
|  |  | Phone | Aug 30, 2019 | Android 9.0 (Pie), planned upgrade to Android 10, One UI 2 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l}$ ax, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N976 |
|  |  | Phone | Aug 30, 2019 | Android 9.0 (Pie), planned upgrade to Android 10, One UI 2 | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{h} / \mathrm{ac} / \mathrm{ax}$, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N976B |
|  |  | Phone | Aug 30, 2019 | Android 9.0 (Pie), planned upgrade to Android 10, One UI 2 | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l} / \mathrm{x}$, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N976N |
|  |  | Phone | Aug 30, 2019 | Android 9.0 (Pie), planned upgrade to Android 10, One UI 2 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c} / \mathrm{l}$ ax, dual-band, Wi-Fi Direct, hotsp | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N976V |

0926N-WS OヨาITVO ‘sas ‘SS甘NO7כ



 |  |
| :--- | :--- |


 없
0
$\sum_{n}^{n}$ z

 $\begin{array}{ccc}3 & 3 \\ 0 & \circ \\ \vdots\end{array}$ 웅 ISOLW－ws

InOL60－ws Osotw－WS | 山⿱山⿳亠口冋口 |
| :--- |
| $\sum_{n}^{0}$ |
| $\sum_{n}$ |


 SM－M305M
SM－A3051 $\infty$
$e_{0}^{\circ}$
$\sum_{n}^{n}$
$\sum_{n}$


 4
$y_{0}$
$\sum_{0}^{0}$
$\sum_{n}$
$\sum_{0}$
 $\sum_{\sum_{0}}^{\infty}$





 2
$L_{0}$
$\frac{1}{4}$
$\sum_{n}^{n}$ GLONASS，GALILEO，BDS Wi－Fi $802.11 \mathrm{ab} / \mathrm{g} / \mathrm{g} / \mathrm{lac} / \mathrm{ax}$ ，dual－band，Wi－Fi Direct，hotsp Yes，with A－GPS，GLONASS，GALILEO，BDS Wi Fi 80211 ， Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac} / \mathrm{ax}$ ，dual－band，Wi－Fi Direct，hotsp Yes，with A－GPS，GLONASS，GALILEO，BDS Wi－Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{h} / \mathrm{ac} / \mathrm{ax}$, dual－band，Wi－Fi Direct，hotsp Yes，with A－GPS，GLONASS，GALLLO，B Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac} / \mathrm{ax}$, dual－band，Wi－Fi Direct，hotsp Yes，with A－GPS，GLONASS，GALILEO，BDS Wi－F $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{lac}$ ，dual band，W Wirect，hospol Ye，win APs，GLONASS， Wi－Fi $80211 \mathrm{a} / \mathrm{g} / \mathrm{a}$ ，daalbana，Wi Fi

 Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{l} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BD Wi－Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BL
Wi－Fi $802.11 \mathrm{abb} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ dual－band，Wi－Fi Direct，hotspot
Yes，with A－GPS，GLONASS，BDS Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BDS Wi－Fi $802.11 \mathrm{ab} / \mathrm{g} / \mathrm{g} / \mathrm{lac}$ ，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BDS Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$ ，Wi－Fi Direct，hotspot

Wi－Fi $802.11 \mathrm{~b} / \mathrm{g}$ ，Wi－Fi Direct，hotspot | Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi－Fi Direct，hotspot | Yes，with A－GPS，GLONASS，BDS |
| :--- | :--- |
| Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$ ，Wi－Fi Direct，hotspot | Yes，with A－GPS，GLONASS，BDS | Yes，with A－GPS，GLONASS， Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$ ，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BDS

 Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$ ，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BDS


 Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{l} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{cc}$ ，dual－band，Wi－Fi Direct，hotspot
 Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{a}$ ，dual－band，Wi－Fi Direct，hotspot


| WLAN |  |  |  |  |  | GPS | Model |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

[^4]| Year | Device Name | Device | Available Date | Android Version | WLAN | GPS | Model |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Tablet | Apr 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb/g////ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | 720 |
|  | Samsung Galaxy Tab A 10.1 (201 | Tablet | Apr 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-T515 |
|  |  | Tablet | Apr 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-T510 |
|  | Samsung Galaxy Tab A 8.0 \& SP | Tablet | Apr 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-P205 |
|  |  | Tablet | Apr 30, 2019 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-P200 |
| 2018 |  |  |  |  |  |  |  |
|  | Samsung Galaxy Tab A 8.0 (2018 | Tablet | Sep 30, 2018 | Android 8.1 (Oreo) | Wi-Fi $802.11 \mathrm{a} \mathrm{l} / \mathrm{g} / \mathrm{m}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-T387 |
|  |  | Tablet | Sep 30, 2018 | Android 8.1 (Oreo) | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{m}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-T387W |
|  |  | Tablet | Sep 30, 2018 | Android 8.1 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-T387V |
|  | Samsung Galaxy Tab S4 10.5 | Tablet | Aug 30, 2018 | Android 8.1 (Oreo), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-T830 |
|  |  | Tablet | Aug 30, 2018 | Android 8.1 (Oreo), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-T835 |
|  | Samsung Galaxy Tab A 10.5 | Tablet | Aug 30, 2018 | Android 8.1 (Oreo) | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-T590 |
|  |  | Tablet | Aug 30, 2018 | Android 8.1 (Oreo) | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-T595 |
|  | Samsung Galaxy A8s | Phone | Dec 30, 2018 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-G8870 |
|  |  | Phone | Dec 30, 2018 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-G887F |
|  |  | Phone | Dec 30, 2018 | Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, GALILEO, BDS | SM-G887N |
|  | Samsung Galaxy A6s | Phone | Nov 30, 2018 | Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G6200 |
|  | Samsung Galaxy A9 (2018) | Phone | Nov 30, 2018 | Android 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-A920F |
|  |  | Phone | Nov 30, 2018 | Android 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-A9200 |
|  |  | Phone | Nov 30, 2018 | Android 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-A920N |
|  | Samsung Galaxy A7 (2018) | Phone | Oct 30, 2018 | Android 8.0 (Oreo), upgradable to Android 10, One U U 2.0 | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A750F |
|  |  | Phone | Oct 30, 2018 | Android 8.0 (Oreo), upgradable to Android 10, One Ul 2.0 | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A750FN |
|  |  | Phone | Oct 30, 2018 | Android 8.0 (Oreo), upgradable to Android 10, One Ul 2.0 | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A750G |
|  |  | Phone | Oct 30, 2018 | Android 8.0 (Oreo), upgradable to Android 10, One U U 2.0 | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A750GN |
|  | Samsung Galaxy Note9 | Phone | Aug 24, 2018 | Android 8.1 (Oreo), upgradable to Android 10, One Ul 2.0 | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N960F |
|  |  | Phone | Aug 24, 2018 | Android 8.1 (Oreo), upgradable to Android 10, One Ul 2.0 | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N9600 |
|  |  | Phone | Aug 24, 2018 | Android 8.1 (Oreo), upgradable to Android 10, One U U 2.0 | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N960F |
|  |  | Phone | Aug 24, 2018 | Android 8.1 (Oreo), upgradable to Android 10, One Ul 2.0 | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N960U |
|  |  | Phone | Aug 24, 2018 | Android 8.1 (Oreo), upgradable to Android 10, One Ul 2.0 | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N960U1 |
|  |  | Phone | Aug 24, 2018 | Android 8.1 (Oreo), upgradable to Android 10, One U U 2.0 | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N960N |
|  |  | Phone | Aug 24, 2018 | Android 8.1 (Oreo), upgradable to Android 10, One U 2.0 | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N960W |
|  |  | Phone | Aug 24, 2018 | Android 8.1 (Oreo), upgradable to Android 10, One Ul 2.0 | Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{/} / \mathrm{lac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N960X |
|  |  | Phone | Aug 24, 2018 | Android 8.1 (Oreo), upgradable to Android 10, One UI 2.0 | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{c}$ c, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SCV40 |
|  | Samsung Galaxy J6+ | Phone | Oct 30, 2018 | Android 8.1 (Oreo), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J610F |
|  |  | Phone | Oct 30, 2018 | Android 8.1 (Oreo), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J610F |
|  |  | Phone | Oct 30, 2018 | Android 8.1 (Oreo), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J610G |
|  |  | Phone | Oct 30, 2018 | Android 8.1 (Oreo), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J610FN |
|  | Samsung Galaxy J4 Core | Phone | Nov 30, 2018 | Android 8.1 Oreo (Go edition) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J410D |
|  |  | Phone | Nov 30, 2018 | Android 8.1 Oreo (Go edition) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J410F |
|  |  | Phone | Nov 30, 2018 | Android 8.1 Oreo (Go edition) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J410G |
|  | Samsung Galaxy J4+ | Phone | Oct 30, 2018 | Android 8.1 (Oreo) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J415F |
|  |  | Phone | Oct 30, 2018 | Android 8.1 (Oreo) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J415FN |


| SM-J415G |
| :--- |
| SM-J415GN |
| SM-J415N |
| SM-J260M |
| SM-J260Y |
| SM-J260G |
| SM-J260F |
| SM-J260T1 |
| SM-J260A |
| SM-J260AZ |
| SM-J600GF |
| SM-J737F |
| SM-J737V |
| SM-J737T |
| SM-J737A |
| SM-J737P |
| SM-J737T1 |
| SM-J737U |
| SM-J737S |
| SM-J337U |
| SM-J337W |
| SM-J337A |
| SM-J337R |
| SM-J337T |
| SM-J337P |
| SM-J337AZ |
| SM-J337VPP |
| SM-G885F |
| SM-J6000GF |
| SM-J8810GF |
| SM-J8600G |
| SM-J8850 |
| SM-G885Y |
| SM-G8750 |
| SM-J810G |
| SM810F |
| SM |

# Yes, with A-GPS, GLONASS, BDS 

 Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS, BDS






 Yes, with A-GPS
Yes, with A-GPS
Yes, with A-GPS Yes, with A-GPS
Yes, with A-GPS
Yes, with A-GPS
 Yes, with A-GPS
 Wi-Fi $802.11 \mathrm{a} \mathrm{lb} / \mathrm{g} / \mathrm{h} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot
Wi-Fi $802.11 \mathrm{a} \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot 믈 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{a}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot
Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot
Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot


 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Ni-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot
 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot







 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot

 Yes, with A-GPS
 Yes, with A-GPS, GLONASS, BDS,

 Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS, BDS
 Yes, with A-GPS, GLONASS, BDS
 Wi-Fi 802.11 a/b/g/n/ac, dual-band, Wi-Fi Direct, hotspot Wi-Fi 802.11 b/g/n, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS

$$
\begin{aligned}
& \text { Phone May 30, } 2018 \text { Android } 8.0 \text { (Oreo), upgradable to Android 10, One UI } 2.0
\end{aligned}
$$

## әлоэ 乙г Кхеןеэ bunsues

loz) $\operatorname{Lr}$ Kxeleg bunsmes
guo кxeleg bunswes

Knxn7 746! 7 S イxeleo bunsures

| WLAN | GPS | Model |
| :---: | :---: | :---: |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J600GT |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J600L |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J400G |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J400F |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J400M |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A605FN |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{lg} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A605G |
| Wi-Fi $802.11 \mathrm{ab} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A605F |
| Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A605GN |
| Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A6050 |
| Wi-Fi $802.11 \mathrm{ab} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A605K |
| Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A600F |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{lg} / \mathrm{m}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A600FN |
| Wi-Fi $802.11 \mathrm{ab} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A600A |
| Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A600G |
| Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A600GN |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{lg} / \mathrm{m}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A600P |
| Wi-Fi $802.11 \mathrm{al} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A600N |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{lg} / \mathrm{m}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A600T1 |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{lg} / \mathrm{m}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A600AZ |
| Wi-Fi $802.11 \mathrm{ab} / \mathrm{g} / \mathrm{/} / \mathrm{cac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J720F |
| Wi-Fi $802.11 \mathrm{ab} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J720M |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G611F |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G611FF |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G611M |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G611MT |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G611K |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G965F |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G965U |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G965W |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{lg} / \mathrm{l} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G9650 |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G965U1 |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G965N |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{lg} / \mathrm{l} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SCV39 |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G965X |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SC-03k |
| Wi-Fi $802.11 \mathrm{a} \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$ c, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G960F |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{lg} / \mathrm{/} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G960 |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G960F |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{lg} / \mathrm{/} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G960U |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{l} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-G960W |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{lg} / \mathrm{/} / \mathrm{/ac}$, dual-band, Wi-Fi Direct, hotspot | S, GLO | SM-G9600 |

[^5]

## 

## 

## 

Samsung Galaxy J7 Prime 2 Ni－Fi 802.11 albgl／nac，dual－band，W．Fi－i Direct，hotspot Yes，with A－GPs，GLONASS，BDS，GALLLEO SM－G960X Wi－Fi 802.11 ablg／n／ac，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPs，GLONASS，BDS，GALLEO SC－O2K SM－220F
SM－ 2200 G SM－220F SM -250 M
SM -250 Y高営免


 SM－A53OW


䓂
 Wi－Fi 802.11 ablg／nac，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BDS，GALLLEO SM－N950F Wi－Fi 802.11 ablg／g／mac，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BDS，GALILEO SM－N950U Wi－Fi 802.11 ablgI／lac，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BDS，GALLLEO SM－N9500 Wi－Fi 802.11 ablg／r／ac，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BDS，GALLLEO SM－N950U1
Wi－Fi 802.11 albghnac，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BDS，GALLEOO SM－N550N

 SM－M95022A





 Wi－Fi 802.11 ablg／n，dualband，Wi－Fi Direct，hotspot Wi－Fi 802.11 ablg／l／ac，dual－band，Wi－Fi Direct，hotspot


 Wi－fooz．11 ablghn，dual－band，WiFif Direct，hotspot Yes，with A－GPS，GLONASS，BDS Wi－for 11 ablgn，dual－band，W．－F Drect，hots Yes，with A－GPS，GLONASS，BDS Wi－Fi 802.11 ablg／n／ac，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLoNASS Wi－Fi 802.11 ablggnlac，dual－band，Wi－F Direct，hotspot




 Wi－Fi 802.11 atb／g／n／ac，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS
 Mar 30,2018 Android 8.0 （ Oreoo），upgradable to Android 10 ，One U U 2.0 Mar 30,2018 Android 8.0 （ Oreoo），upgradable to Android 10 ，One UI 2.0 Mar 30， 2018 Android 8.0 （Oreo），upgradable to Android 10, One U1．O Jan 30,2018 Android 7.1 （Nougat），upgradable to Android 8.0 （Oreo） Jan 30,2018 Android 7.1 （Nougat），upgradable to Android 8.0 （Oreo） Jan 30,2018 Android 7.1 （Nougat），upgradable to Android 8.0 （Oreo） Jan 30， 2018 Android 7．1（Nougat），upgradable to Android 8．0（Oreo） Jan 30,2018 Android 7.1 .1 （Nougat），upgradable to Android 9.0 （Pie） Jan 30,2018 Android 7.1 .1 （Nougat），upgradable to Android 9.0 （Pie），One UI
Jan 30,2018 Android 7.1 .1 （Nougat），upgradable to Android 9.0 （Pie），One UI Jan 30,2018 Android 7.1 .1 （Nougat），upgradable to Android 9.0 （Pie），One UI Jan 30,2018 Android 7.1 .1 （Nougat），upgradable to Android 9.0 （Pie），One UI Jan 30,2018 Android 7.1 .1 （ Nougat），upgradable to Android 9.0 （Pie），One UI
 Oct 30,2017 Android 7.0 （Nougat） Nougat） Sep 30,2017 Android 7.1 （ Nougat），upgradable to Android 9.0 （Pie），One UI Sep 30， 2017 Android 7.1 （（Nougat），upgradable to Android 9.0 （Pie），One UI Oct 30， 2017 Android 7.1 （Nougat）
 Oct 30， 2017 Android 7.1 （Nougat） Sep 30， 2017 Android 7．1．1（Nougat），upgradable to Android 9.0 （Pie）

 Sep 30,2017 Android 7．1．（Nougat），upgradable to Android 9.0 （Pie）
 Sep 30,2017 Android 7.1 .1 （ Nougat），upgradable to Android 9.0 （ Pie） Sep 30,2017 Android 7.1 .1 （ Nougat），upgradable to Android 9.0 （Pie）
 Aug 30， 2017 Android 7.0 （Nougat），upgradable to Android 9.0 （Pie），One UI Aug 30,2017 Android 7.0 （ Nougat），upgradable to Android 9.0 （Pie），One UI Mar 30， 2017 Android 7.0 .1 （Nougat） Mar 30， 2017 Android 7.01 （ Nougat） Mar 30， 2017 Android 7．0．1（Nougat）

器

 $\stackrel{\circ}{\circ}$ $\stackrel{\circ}{\stackrel{0}{2}}$
 $\stackrel{0}{\circ}$ $\stackrel{\otimes}{\circ}$

##  <br> \section*{Samsung Galaxy A8（2018）}

## 

## 



## 8900（xxeleg funswes




## Appx081

| Year | Device Name | Device | Available Date | Android Version | WLAN | GPS | Model |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Phone | Mar 30, 2017 | Android 7.0.1 (Nougat) | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J727S |
|  |  | Phone | Mar 30, 2017 | Android 7.0.1 (Nougat) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J727VPP |
|  |  | Phone | Mar 30, 2017 | Android 7.0.1 (Nougat) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J727AZ |
|  |  | Phone | Mar 30, 2017 | Android 7.0.1 (Nougat) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-S727VL |
|  |  | Phone | Mar 30, 2017 | Android 7.0.1 (Nougat) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J727R4 |
|  |  | Phone | Mar 30, 2017 | Android 7.0.1 (Nougat) | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J727A |
|  | Samsung Galaxy Note FE | Phone | Jul 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N935F |
|  |  | Phone | Jul 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N935L |
|  |  | Phone | Jul 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N935S |
|  |  | Phone | Jul 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N935K |
|  | Samsung Galaxy J7 Max | Phone | Jun 30, 2017 | Android 7.0 (Nougat), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G615F |
|  |  | Phone | Jun 30, 2017 | Android 7.0 (Nougat), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G615FU |
|  | Samsung Galaxy J7 Pro | Phone | Jul 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J730G |
|  |  | Phone | Jul 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J730GM |
|  | Samsung Galaxy $\mathrm{J7}$ (2017) | Phone | Jul 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J730F |
|  |  | Phone | Jul 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J730FM |
|  |  | Phone | Jul 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-S727VL |
|  |  | Phone | Jul 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J730K |
|  | Samsung Galaxy J5 (2017) | Phone | Jun 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{l} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J530F |
|  |  | Phone | Jun 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J530Y |
|  |  | Phone | Jun 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J530FM |
|  |  | Phone | Jun 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J530G |
|  |  | Phone | Jun 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J530YM |
|  |  | Phone | Jun 30, 2017 | Android 7.1 .1 ( Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J530L |
|  |  | Phone | Jun 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J530S |
|  |  | Phone | Jun 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J530K |
|  |  | Phone | Jun 30, 2017 | Android 7.1.1 (Nougat), upgradable to Android 9.0 (Pie), One UI | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J530GM |
|  | Samsung Galaxy J3 (2017) | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J330F |
|  |  | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | J330F |
|  |  | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | J330G |
|  |  | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J330G |
|  |  | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J330FN |
|  |  | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J3308 |
|  |  | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J327F |
|  |  | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-S337TL |
|  |  | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J3300 |
|  |  | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J330L |
|  |  | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J327U |
|  |  | Phone | Jul 30, 2017 | Android 7.0 (Nougat), 8.0 (Oreo), upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J330N |
|  | Samsung Galaxy Folder2 | Phone | Jul 30, 2017 | Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G1650W |
|  | Samsung 74 | Phone | Jun 30, 2017 | Tizen 3.0 | Wi-Fi $802.11 \mathrm{~d} \mathrm{~g} / \mathrm{m}$, Wi-Fi Direct | Yes, with A-GPS, GLONASS | SM-Z400F |
|  |  | Phone | Jun 30, 2017 | Tizen 3.0 | Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct | Yes, with A-GPS, GLONASS | SM-Z400Y |


| Year | Device Name | Device | Available Date | Android Version | WLAN | GPS | Model |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Tablet | Apr 30, 2017 | Android 7.0 (Nougat) , upgradable to Android 9.0 (Pie) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | -7825Y |
|  | Samsung Galaxy J3 Emerge | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J327A |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J327 |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J327T |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J327V |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J327P |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J327W |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J326AZ |
|  | Samsung Galaxy C7 Pro | Phone | Feb 28, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-C7010 |
|  |  | Phone | Feb 28, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-C701F |
|  |  | Phone | Feb 28, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-C7018 |
|  | Samsung Galaxy A7 (2017) | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A720F |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A720S |
|  | Samsung Galaxy A5 (2017) | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A520F |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A520F |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A520K |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A520L |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A520S |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-A520W |
|  | Samsung Galaxy A3 (2017) | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-A320F |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-A320Y |
|  |  | Phone | Jan 30, 2017 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-A320FL |
| 2016 |  |  |  |  |  |  |  |
|  | Samsung Galaxy J1 mini prime | Phone | Dec 30, 2016 | Android 5.1 (Lollipop) - 3 G model | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J106F |
|  |  | Phone | Dec 30, 2016 | Android 5.1 (Lollipop) - 3 G model | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J106B |
|  |  | Phone | Dec 30, 2016 | Android 5.1 (Lollipop) - 3 G model | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J106H |
|  |  | Phone | Dec 30, 2016 | Android 5.1 (Lollipop) - 3G model | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J106M |
|  | Samsung Galaxy Grand Prime Plu | Phone | Nov 30, 2016 | Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G532F |
|  | Samsung Galaxy J2 Prime | Phone | Nov 30, 2016 | Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G532G |
|  |  | Phone | Nov 30, 2016 | 6 Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G532M |
|  |  | Phone | Nov 30, 2016 | 6 Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G532G |
|  |  | Phone | Nov 30, 2016 | 6 Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G532F |
|  |  | Phone | Nov 30, 2016 | 6 Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G532MT |
|  | Samsung Galaxy C9 Pro | Phone | Nov 30, 2016 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region del | SM-C9000 |
|  |  | Phone | Nov 30, 2016 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region del | SM-C900F |
|  |  | Phone | Nov 30, 2016 | Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region del | SM-C9008 |
|  |  | Phone | Nov 30, 2016 | 6 Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region del | SM-C900Y |
|  | Samsung Galaxy A8 (2016) | Phone | Oct 30, 2016 | 6 Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A8100 |
|  |  | Phone | Oct 30, 2016 | Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A810F |
|  |  | Phone | Oct 30, 2016 | Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A810F |
|  |  | Phone | Oct 30, 2016 | Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A810YZ |
|  |  | Phone | Oct 30, 2016 | Android 6.0 (Marshmallow) | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{cac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A810S |

## Filed 09/11/20 Page 26 of 40

| WLAN | GPS | Mo |
| :---: | :---: | :---: |
| Wi-Fi 802.11 b/g/n, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-J710 |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region de | SM-G6100 |
| Wi-Fi $802.11 \mathrm{b/g/n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region de | SM |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region de | SM-G610K |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region de | SM-G570F |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region de | SM-G570F/DD |
| Wi-Fi $802.11 \mathrm{b/g/n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region de | SM-G570F |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region de | SM-G570Y |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region de | SM-G570M |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G610F |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G610Y |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G610M |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-J727T1 |
| Wi-Fi $802.11 \mathrm{b/g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G610 |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-Z200F/DD |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-Z200F |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-Z200Y |
| Wi-Fi $802.11 \mathrm{al} / \mathrm{lg} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-N930V |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{l} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-N930A |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{l} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-N930P |
| Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-N930T |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{l} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-N930R4 |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-N930W8 |
| Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-N930F |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{l} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-N930G |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-N930S |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N930V |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{l} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N930A |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N930P |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N930T |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N930R4 |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N930W8 |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N930F |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N930G |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS, GALILEO | SM-N930S |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (region de | SM-G600FY |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G5500 |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G550F |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G550FY |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-T285YD |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-T285 |
| Wi-Fi $802.11 \mathrm{blg} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-T285YD |




## әuب̃d G饣 Kxejeg Bunswes



Aug 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz UI
Aug 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz UI Aug 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz UI Aug 30, 2016 Android 6.0 .1 (Marshmallow), TouchWiz UI Aug 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz UI


 Aug 30, 2016 Android 6.0 .1 (Marshmallow), TouchWiz UI Sep 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz UI
 Sep 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz UI

 Sep 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz UI
Sep 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz UI Sep 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz UI Sep 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz UI Sep 30, 2016 Android 6.0.1 (Marshmallow), TouchWiz UI Jul 30, 2016 Android 6.0.1 (Marshmallow)
 Jul 30, 2016 Android 6.0.1 (Marshmallow) Jul 30, 2016 Android 6.0.1 (Marshmallow) Aug 30, 2016 Android 5.1 (Lollipop)
Aug 30, 2016 Android 5.1 (Lollipop) Aug 30, 2016 Android 5.1 (Lollipop)
Aug 30, 2016 Android 5.1 (Lollipop) Aug 30, 2016 Android 5.1 (Lollipop)

 Oct 30, 2016 Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) Oct 30, 2016 Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) Oct 30, 2016 Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) Oct 30, 2016 Android 6.0.1 (Marshmallow), upgradable to Android 8.0 (Oreo) Oct 30, 2016 Android 6.0 .1 (Marshmallow), upgradable to Android 8.0 (Oreo)
0.0 .1 (Marshmallow), upgradable to Android 9.0 (Pie), One UI Nov 30, 2016 Android 6.0.1 (Marshmallow), upgradable to Android 9.0 (Pie), One UI Nov 30, 2016 Android 6.0.1 (Marshmallow), upgradable to Android 9.0 (Pie), One UI Nov 30, 2016 Android 6.0.1 (Marshmallow), upgradable to Android 9.0 (Pie), One UI Nov 30, 2016 Android 6.0.1 (Marshmallow), upgradable to Android 9.0 (Pie), One UI Aug 30, 2016 Tizen 2.4

 Jure, 201 A Jul 30, 2016 Android 6.0.1 (Marshmallow) Jul 30, 2016 Android 6.0 .1 (Marshmallow)
 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, holspol
Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{co}$, dual-band, Wi-Fi D Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot

 Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS/ BDS
Yes, with A-GPS, GLONASS/ BDS Yes, with A-GPS, GLONASS/ BDS
Yes, with A-GPS, GLONASS/ BDS
Yes, with A-GPS, GLONASS/ BDS
Yes, with A-GPS, GLONASS/ BDS
Yes, with A-GPS, GLONASS, BDS




 Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS






 Yes, with A-GPS, GLONASS Yes, with A-GPS, GLONASS
Yes, with A-GPS, GLONASS Yes, with A-GPS, GLONASS

Wi－Fi $802.11 \mathrm{lg} / \mathrm{g}$, Wi－Fi
 Yes，with A－GPS，GLONASS，BDS
Yes，with A－GPS，GLONASS，BDS Yes，with A－GPS，GOONASS，BDS


 Yes，with A－GPS，GLONASS，BDS





 | 0 |
| :--- | :--- | :--- |








 | 0 |
| :---: | :---: | :---: |






 May 30,2016 Android 6.0 （Marshmmallow），upgradable to Android 8.1 （Oreo） May 30,2016 Android 6.0 （Marshmallow），upgradable to Android 8.1 （Oreo） May 30,2016 Android 6.0 （Marshmallow），upgradable to Androidid 8.1 （Oreo） Mar 30， 2016 Android 5.1 .1 （Lolliopop） Mar 30， 2016 Android 5．1．1（Lollipop）



 Mar 11， 2016 Android 6.0 （Marshmallow），upgradable to Android 8.0 （Oreo），TouchWiz Mar 11，2016 Android 6.0 （Marshmallow），upgradable to Android 8.0 （Oreo），
 Mar 11， 2016 Android 6.0 （Marshmallow），upgradable to Android 8.0 （Oreo），TouchWiz uchWiz




 Mar 11，2016 Android 6.0 （Marshmmilow），upgradable to Android 8.0 （Oreo），TouchWiz


 Mar 11， 2016 Android 6.0 （Marshmallow），upgradable to Android 8.0 （Oreo），TouchWiz



 Feb 28， 2016 Android 5.1 （Lolipop）

 Feb 28， 2016 Android 5.1 （LOllipop）
 을르를菏营 Phone皆 을를 $\stackrel{\frac{2}{2}}{2}$ Phone 흘 눈 ${ }^{2}$是 Phone $\stackrel{0}{\circ}$吳这 $\stackrel{\circ}{\frac{2}{2}}$ 흘卷 R ${ }^{8}$

Samsung Galaxy 57 edge（USA）



 Yes, with A-GPS, GLONASS Yes, with A-GPS, GLONASS Yes, with A-GPS, GLONASS
 Yes, with A-GPS, GLONASS Yes, with A-GPS, GLONASS



 Yes, with A-GPS, GLONASS

 $n$
0
2
0
0
0
0
0
0
0
$\vdots$
$\vdots$
3
3
0
0
0










 0
0
2
0
0
0
0
0
0
0
$\vdots$
$\vdots$
3
3
0
0

 Yes, with A-GPS, GLONASS





Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot Wi-F $802.11 \mathrm{ab} / \mathrm{g} / \mathrm{m}$, dual-band, Wi-Fi Direct, hot Wi-f $802.11 \mathrm{ab} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Diect, 8 otspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{m}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot
 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot
 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot
 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot
 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot

















 Jan 30, 2016 Android 5.1.1 (Lollipop), upgradable to 7.1 (Nougat) Jan 30, 2016 Android 5.1.1 (Lollipop), upgradable to 7.1 (Nougat) Jan 30, 2016 Android 5.1.1 (Lollipop), upgradable to 7.1 (Nougat) Jan 30, 2016 Android 5.1.1 (Lollipop) Jan 30, 2016 Android 5.1.1 (Lollipop) Jan 30, 2016 Android 5.1.1 (Lollipop) Jan 30, 2016 Android 5.1.1 (Lollipop) Jan 30, 2016 Android 5.1.1 (Lollipop) Jan 30, 2016 Android 5.1.1 (Lollipop) Jan 30, 2016 Android 5.1.1 (Lollipop) Jan 30, 2016 Android 5.1.1 (Lollipop) (dod.||17) I' I ' plouput $910 z^{\circ} 08$ uer Jan 30, 2016 Android 5.1.1 (Lollipop) Jan 30, 2016 Android 5.1.1 (Lollipop) Jan 30, 2016 Android 5.1.1 (Lollipop), | Jan 30, 2016 Android 5.1.1 (Lollipop), upgradable to 6.01 (Marshmallow) |
| :--- |
| Jan 30, 2016 Android 5.1.1 (Lollipopp), upgradable to 6.0.1 (Marshmallow) |
| Apr 30, 2016 Android 6.0 (Marshmallow) | Jan 30, 2016 Android 5.1.1 (Lollipop), upgradable to 6.0.1 (Marshmallow)

Apr 30, 2016 Android 6.0 (Marshmallow)

May 6, 2016 Android 5.1.1 (Lollipop) or Android 6.0 (Marshmallow), upgradable to 7. May 6, 2016 Android 5.1.1 (Lollipop) or Android 6.0 (Marshmallow), upgradable to 7 May 6, 2016 Android 5.1.1 (Lollipop) or Android 6.0 (Marshmallow), upgradable to 7.1 May 6, 2016 Android 5.1.1 (Lollipop) or Android 6.0 (Marshmallow), upgradable to 7.1. May 6, 2016 Android 5.1.1 (Lollipop) or Android 6.0 (Marshmallow), upgradable to 7.
 May 6, 2016 Android 5.1.1 (Lollipop) or Android 6.0 (Marshmallow), upgradable to 7. May 6, 2016 Android 5.1.1 (Lollipop) or Android 6.0 (Marshmallow), upgradable to 7 May 6, 2016 Android 5.1.1 (Lollipop) or Android 6.0 (Marshmallow), upgradable to 7
 May 6, 2016 Android 5.1.1 (Lollipop) or Android 6.0 (Marshmallow), upgradable to 7.1 . foid 6.0 (Marshmallow), upgraa



Dec 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat)

 Dec 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat)
 Dec 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat)

$\stackrel{\circ}{\circ}$

$\stackrel{\circ}{\stackrel{0}{⿺}}$
$\stackrel{0}{\circ}$
$\stackrel{\circ}{\circ}$

$\stackrel{0}{\circ}$
$\stackrel{\circ}{\circ}$
$\stackrel{0}{\circ}$


#  

## 

## Page 30 of 40 <br> Filed 09/11/20

Yes, with A-GPS, GLONASS

Nov 30,2015 Android 5.1 ( Lollipop), upgradable to 6.0 .1 (Marshmallow)

 Nov 30, 2015 Androic 5.1 (Lollipop), upgradable to 6.0 .1 (Marshmallow)










Oct 30, 2015 Android 4.4.4 (kitkat), upgradable to 5.1.1 (Lollipop)
 Oct 30, 2015 Android 4.4 .4 (KitKat), upgradable to 5.1 .1 (Lollipop) Oct 30,2015 Android 4.4 .4 (Kitkat), upgradable to 5.1 .1 (LOllipop) Oct 30, 2015 Androidd 4.4.4 (kitkat), upgradable to 5.1.1 (Lollipop)
 Oct 30, 2015 Android 4.4 .4 (KKitKat), upgradable to 5.1 .1 (LOllipop)
 (910z) sy fxefeg bunsues

## Samsung Galaxy On7

| Model |
| :--- |
| SM-N920 |
| SM-N920P |
| SM-N220V |
| SM-N920R |
| SM-N920W8 |
| SM-N920R4 |
| SM-N920 |
| SM-N920T |
| SM-N920A |
| SM-N920I |
| SM-N920G |
| SM-N920F |
| SM-N920S |
| SM-N920L |
| SM-N920K |
| SM-N9200 |
| SM-N920 |
| SM-N9208 |
| SM-N920CD |
| SM-N920C |
| SM-G928V |
| SM-G928P |
| SM-G928R |
| SM-G928A |
| SM-G928F |
| SM-G928A |
| SM-G928T |
| SM-G928I |
| SM-G928G |
| SM-G928C |
| SM-G928I |
| SCV31 |
| SM-G9280 |
| SM-G928L |
| SM-G928S |
| SM-G988K |
| SM-G928W8 |
| SM-G9287C |
| SM-G9287 |
| SM-G928A |
| SM-G928F |
| SM-G903F |




 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS |
| :--- | :--- |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{h} / \mathrm{cc}$, |  |

 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS

 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS
 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS



 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS

 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BSS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS

 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS



 $n$
0
0
0
0
2
2
0
0
0
0
0
0
0
1
1
3
3
0
0
0 Yes, with A-GPS, GLONASS
 sloz ' 0 \& 万n $\forall$ Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat)
 Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat)
 Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat) Aug 30, 2015 Android 5.1.1 (Lollipop), TouchWiz UI

 Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI
 Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI

 Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 6.0.1 (Marshmallow), TouchWiz UI Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 6.0.1 (Marshmallow), TouchWiz UI Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Aug 30, 2015 Android 5.1.1 (Lollipop), upgradable to 6.0.1 (Marshmallow), TouchWiz UI Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot



 ${ }^{\frac{1}{8}}$ \& $\frac{1}{2}$


## 

## 

## 

## 

$\qquad$ $n$
0
2
2
0
0
$n$
0
0
$\vdots$
$\vdots$
$\vdots$
3
3


 with A-GPS, GLONASS

 Yes, with A-GPS, GLONASS
Yes, with A-GPS, GLONASS
 with A-GPS, GLONASS with A-GPS, GLONASS

 with A-GPS, GLONASS/ BDS (market de zodsion 'ponla! !-M 'pueq-lenp Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{m}$, hotspot
Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{c}$ c, dual-band, Wi-Fi Direct, hotspot
Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{hac}$, dual-band, Wi-Fi Direct, hotspot
 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot
Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{a}$, dual-band, Wi-Fi Direct, hotspot
 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{g} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{cac}$, dual-band, Wi-Fi Direct, hotspot
Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{hac}$, dual-band, Wi-Fi Direct, hotspot
皆


 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{c}$ c, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ca}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{a}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{ab} / \mathrm{g} / \mathrm{h} / \mathrm{cc}$, dual-band, Wi-Fi Direct, hotspot
 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{/} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot

 | 訾 |
| :--- |
| $\vdots$ |
|  |


 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{m}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot


 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot
181 'O1


 Sep 30, 2015 Android 5.0.2 (Lollipop), upgradable to 6.0.1 (Marshmalow) Sep 30, 2015 Android 5.0.2 (Lollipop), upgradable to 6.0 .1 (Marshmallow) Sep 30, 2015 Android 5.0.2 (Lollipop), upgradable to 6.0 .1 (Marshmallow) Sep 30, 2015 Android 5.0.2 (Lollipop), upgradable to 6.0 .1 (Marshmallow) Sep 30, 2015 Android 5.0.2 (Lollipop), upgradable to 6.0.1 (Marshmallow) Jul 30,2015 Android 5.0.2 (Lollipop), upgradable to 6.0 .1 (Marshmallow) Jul 30, 2015 Android 5.0.2 (Lollipop), upgradable to 6.0 .1 (Marshmallow) Jul 30, 2015 Android 5.0.2 (Lollipop), upgradable to 6.0 .1 (Marshmallow) Jul 30, 2015 Android 5.0.2 (Lollipop), upgradable to 6.0 .1 (Marshmallow) Jul 30, 2015 Android 5.0.2 (Lollipop), upgradable to 6.0 .1 (Marshmallow) Jul 30, 2015 Android 5.0.2 (Lollipop), upgradable to 6.0 .1 (Marshmallow) Jul 30, 2015 Android 5.0.2 (Lollipop), upgradable to 6.0 .1 (Marshmallow) Aug 30, 2015 Android 5.1 (Lollipop), upgradable to 6.0 (Marshmallow) Aug 30, 2015 Android 5.1 (Lollipop), upgradable to 6.0 (Marshmallow) Aug 30, 2015 Android 5.1 (Lollipop), upgradable to 6.0 (Marshmallow) Aug 30, 2015 Android 5.1 (Lollipop), upgradable to 6.0 (Marshmallow) Aug 30, 2015 Android 5.1 (Lollipop), upgradable to 6.0 (Marshmallow) Aug 30, 2015 Android 5.1 (Lollipop), upgradable to 6.0 (Marshmallow) Aug 30, 2015 Android 5.1 (Lollipop), upgradable to 6.0 (Marshmallow) Aug 30, 2015 Android 5.1 (Lollipop), upgradable to 6.0 (Marshmallow) Aug 30, 2015 Android 5.1 (Lollipop), upgradable to 6.0 (Marshmallow) Jul 30, 2015 Android 4.4.2 (KitKat) Jul 30, 2015 Android 4.4.2 (KitKat) Jul 30, 2015 Android 4.4.2 (KitKat) Jul 16, 2015 Android 5.1 (Lollipop), upgradable to 7.1.1 (Nougat) Jul 16, 2015 Android 5.1 (Lollipop), upgradable to 7.1.1 (Nougat) Jul 16, 2015 Android 5.1 (Lollipop), upgradable to 7.1.1 (Nougat) Jul 16, 2015 Android 5.1 (Lollipop), upgradable to 7.1 .1 (Nougat) Jul 16, 2015 Addroid 5.1 (Lollipop), upgradable to 7.1.1 (Nougat) Jul 16, 2015 Android 5.1 (Lollipop), upgradable to 7.1.1 (Nougat) Jul 16, 2015 Android 5.1 (Lollipop), upgradable to 7.1.1 (Nougat) Jul 16, 2015 Android 5.1 (Lollipop), upgradable to 7.1.1 (Nougat) Jul 30, 2017 Android 7.0 (Nougat), upgradable to Android 9.0 (Pie), One UI Jul 30, 2017 Android 7.0 (Nougat), upgradable to Android 9.0 (Pie), One UI Jul 30, 2017 Android 7.0 (Nougat), upgradable to Android 9.0 (Pie), One Ul Jul 30, 2017 Android 7.0 (Nougat), upgradable to Android 9.0 (Pie), One UI 운
 + $\stackrel{0}{\circ}$
 $\stackrel{\circ}{\circ}$
 $\stackrel{\circ}{2}$ $\stackrel{\circ}{\circ}$ $\stackrel{\circ}{\circ}$ 1 $\stackrel{8}{8}$
 $\stackrel{\otimes}{\circ}$
 $\stackrel{0}{\circ}$
 $\stackrel{\otimes}{\stackrel{0}{\Sigma}}$ Phone Samsung Galaxy S4 mini 191951
 Samsung Galaxy A8 Duos Samsung Galaxy V Plus


Samsung Galaxy Tab S2 8.0

## 6 ZS qe $\perp$ Kxeןeo Kunswes

$8 \forall$ fxeleg Gunswes

Samsung Galaxy J7 Nxt

Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS
Yes, with GLONASS
Yes, with GLONASS
Yes, with GLONASS
Yes, with GLONASS
Yes, with GLONASS
Yes, with A-GPS, GLONASS, BDS
 0
0
2
0
0
0
0
0
0
0
1
1
2
3
3
0
0
0 Yes, with A-GPS, GLONASS Yes, with A-GPS, GLONASS 0
0
2
0
0
0
0
0
0
1
1
2
3
3
0
0
0

Yes, with A-GPS, GLONASS, BDS Yes, with A-GPS, GLONASS


 | 0 |
| :--- |
| 0 |
| 2 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 1 |
| 1 |
| 5 |
| 3 |
| 3 |
| 0 |
| 0 |
|  |



 0
0
2
0
0
0
0
0
0
0
1
1
3
3
3
0
0 0
0
2
0
0
0
0
0
0
0
0
$\vdots$
$\vdots$
2
3
3
0
0
0



 Yes, with A-GPS, GLONASS, BDS
Yes, with A-GPS, GLONASS, BDS Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspo Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot





 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspo

 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot
Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi
Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot $\stackrel{+}{\circ}$ $\stackrel{n}{\circ}$

 $\sum_{i n}^{\infty}$ $\stackrel{n}{n}$ | $\circ$ |
| :--- |
| 0 |
| $\sum_{n}^{1}$ |
| $\sum_{n}$ |

 | 2 |  |
| :--- | :--- |
|  | 0 |
| O |  |
| 0 | 0 |
| $\vdots$ | 0 |
| $\sum_{n}$ | $\sum_{0}$ |

 $\infty$
$\sum_{n}$
N
O
$\sum_{n}^{1}$
$n_{n}$ d0Z6כ-WS
 $\infty$
$\sum_{0}^{\infty}$
$\sum_{0}^{1}$
$\sum_{n}^{1}$

 | N |
| :--- |
| I |
| N | $\sum_{2}$

$\sum_{0}$
$\sum_{0}^{1}$ SM-G9250
SM-G925A SM-G925A
Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi 802.11 a/b/g/n/ac, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS
 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS


 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS
 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Yes, with A-GPS, GLONASS, BDS




 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot $\quad$ Yes, with A-GPS, GLONASS

 | 0 |
| :--- |
| 0 |
| 2 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 1 |
| 2 |
| 3 |
| 3 |
| 0 |
| 0 |
| $\vdots$ |


 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot $\quad$ Yes, with A-GPS, GLONASS









 Yes, with A-GPS
Yes, with A-GPS,

 Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to 7.0 (Nougat), TouchWiz UI Jun 30, 2015 Android 5.0.2 (Lollipop), upgradable to Android 8.0 (Oreo), TouchWiz UI Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to Android 8.0 (Oreo), TouchWiz UI Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to Android 8.0 (Oreo), TouchWiz UI Apr 30, 2015 Android 5.0.2 (Loliipop), upgradable to Android 8.0 (Oreo), TouchWiz UI Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to Android 8.0 (Oreo), TouchWiz UI
 Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to Android 8.0 (Oreo), TouchWiz UI Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to Android 8.0 (Oreo), TouchWiz UI
 Apr 30, 2015 Android 5.0.2 (Lollipop), upgradable to Android 8.0 (Oreo), TouchWiz Mar 30, 2015 Android 4.4 .4 (KitKat)
 Feb 28, 2015 Android 4.4.4 (KitKat) Feb 28, 2015 Android 4.4 .4 (KitKat) Feb 28, 2015 Android 4.4 .4 (KitKat)

 Feb 28, 2015 Android 4.4.4 (KitKat) Feb 28, 2015 Android 4.4 .4 (KitKat) Feb 28, 2015 Android 4.4 .4 (KitKat) Feb 28, 2015 Android 4.4.4 (KitKat) Sep 30, 2015 Android 5.1.1 (Lollipop)



 Sep 30, 2015 Android 5.1.1 (Lollipop) Mar 30, 2015 Android 4.4.4 (KitKat)



## Feb 28, 2015 Android 4.4 .4 (KitKat)



## 




| WLAN | GPS | Mode |
| :---: | :---: | :---: |
| Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A |
| Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A700H |
| Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{n}$ dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A700YD |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A700F |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{l} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A700F |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A700K |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A700L |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$ dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A700S |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS/ BDS (market de | SM-A700X |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G720N0 |
| Wi-Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-G720AX |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-E7000 |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-E7009 |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-E700F |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-E700F |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-E700H |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-E700H/DD |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-E700H |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-E700M |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS | SM-E700M |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{m}$, hotspot | Yes, with A-GPS, GLONASS | SM-E500F |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, hotspot | Yes, with A-GPS, GLONASS | SM-E500F |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, hotspot | Yes, with A-GPS, GLONASS | SM-E500H |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, hotspot | Yes, with A-GPS, GLONASS | SM-E500H/DD |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, hotspot | Yes, with A-GPS, GLONASS | SM-E500H |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, hotspot | Yes, with A-GPS, GLONASS | SM-E500HQ |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, hotspot | Yes, with A-GPS, GLonAss | SM-E500M |
| Wi-Fi $802.11 \mathrm{~d} / \mathrm{g} / \mathrm{n}$, hotspot | Yes, with A-GPS, GLONASS | SM-E500M |
|  |  |  |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G360T |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G3606 |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G3608 |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G3609 |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G360BT |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G360F |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G360FY |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G360G |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G360GY |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G360H |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G360H/D |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G360BT |
| Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot | Yes, with A-GPS, GLONASS, BDS | SM-G361 |

Feb 28, 2015 Android 4.4 .4 (KitKat) Feb 28, 2015 Android 4.4.4 (KitKat) Feb 28, 2015 Android 4.4.4 (KitKat)

Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.0 .2 (Lollipop) Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.0.2 (Lollipop) Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.0.2 (Lollipop) Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.0.2 (Lollipop) Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.0.2 (Lollipop) Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.0.2 (Lollipop) Jan 30, 2015 Android 4.4 .4 (KitKat) Jan 30, 2015 Android 4.4.4 (KitKat) Feb 28, 2015 Android 4.4.4 (Kitkat), upgradable to 5.1.1 (Lollipop) Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop) Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop) Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop) Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop)

 Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop) Feb 28, 2015 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop)
 Feb 28, 2015 Android 4.4.4 (KitKat) Feb 28, 2015 Android 4.4 .4 (KitKat) Fee 28.2015 Android 4.4.4 (KitKat) Feb 28, 2015 Android 4.4.4 (KitKat)

 Feb 28, 2015 Android 4.4.4 (KitKat)

Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop)
 Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop)
 Nov 30, 2014 Android 4.4 .4 (Kitkat), upgradable to 5.1.1 (Lollipop)



 Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop)
 Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop)


| Model |
| :--- |
| SM-G361H |
| SM-G361F |
| SM-G360HU |
| SM-G360T1 |
| SM-G360M |
| SM-G360P |
| SM-G360V |
| SM-A500G |
| SM-A500H |
| SM-A500M |
| SM-A5000 |
| SM-A500F |
| SM-A5000 |
| SM-A5009 |
| SM-A500F |
| SM-A500F1 |
| SM-A500FQ |
| SM-A500FU |
| SM-A500G |
| SM-A500H |
| SM-A500HQ |
| SM-A500K |
| SM-A500L |
| SM-A500S |
| SM-A500YZ |
| SM-A500Y |
| SM-A500W |
| SM-A300F |
| SM-A300G |
| SM-A300H |
| SM-A300M |
| SM-A300F |
| SM-A300FU |
| SM-A300G |
| SM-A300HQ |
| SM-A300M |
| SM-A300XU |
| SM-A300XZ |
| SM-A300Y |
| SM-A300YZ |
| SM-A300H |
| SM-G901F |



Phone $\quad$ Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop) Nov 30, 2014 Android 4.4.4 (Kitkat), upgradable to 5.1.1 (Lollipop) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop) Nov 30, 2014 Android 4.4.4 (Kitkat), upgradable to 5.1.1 (Lollipop) Nov 30, 2014 Android 4.4.4 (Kitkat), upgradable to 5.1.1 (Lollipop) Nov 30, 2014 Android 4.4 .4 (KitKat), upgradable to 5.1.1 (Lollipop) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.1.1 (Lollipop) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.0 .2 (Lollipop) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.0.2 (Lollipop) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.0.2 (Lollipop) Nov 30, 2014 Android 4.4 .4 (KitKat), upgradable to 5.0 .2 (Lollipop) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 5.0.2 (Lollipop)





 | $\bar{W}$ |
| :--- |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |



 Dec 30, 2014 Android 4.4 .4 (KitKat), upgradable to 7.0 (Nougat)




 Dec 30, 2014 Android 4.4 .4 (KitKat), upgradable to 5.0 .2 (Lollipop)


 Dec 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 .1 (Marshmallow)
 Dec 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 .1 (Marshmallow) Dec 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 .1 (Marshmallow) Dec 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 .1 (Marshmallow) Dec 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 .1 (Marshmallow) Dec 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 .1 (Marshmallow)
 Dec 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 .1 (Marshmallow)



 $\stackrel{\otimes}{\frac{0}{2}} \stackrel{\unrhd}{\frac{0}{2}}$ $\stackrel{\otimes}{\circ}$ $\stackrel{\circ}{\circ}$ $\stackrel{0}{\circ}$ $\stackrel{0}{\circ}$ $\stackrel{\text { ® }}{\text { g }}$ $\stackrel{\circ}{\circ}$ | $\stackrel{0}{2}$ |
| :---: | :---: |
| $\stackrel{\circ}{2}$ |
| $\frac{0}{2}$ |

 $\stackrel{\circ}{\circ}$ 은 $\stackrel{0}{\circ}$ $\stackrel{0}{\stackrel{0}{⿺}}$ $\stackrel{\unrhd}{0}$ $\stackrel{0}{\circ}$ $\stackrel{0}{\circ}$ $\stackrel{\otimes}{\circ}$ | O. |
| :---: |
| 름 |

 $\stackrel{0}{\stackrel{0}{c}}$ $\stackrel{\circ}{2}$ $\stackrel{\circ}{\circ}$ $\stackrel{0}{0}$ $\stackrel{0}{\circ}$
 Pone

## 

Samsung Galaxy A3 Duos


| Model |
| :--- |
| SM-G110B |
| SM-G110B |
| SM-G110H |
| SM-G110M |
| - |
| SM-G530BT |
| SM-G357FZ |
| SM-N9150 |
| SM-N915A |
| SM-N915D |
| SM-N915F |
| SM-N915FY |
| SM-N915G |
| SM-N915K |
| SM-N915L |
| SM-N915P |
| SM-N915R4 |
| SM-N915S |
| SM-N915T |
| SM-N915V |
| SM-N915W8 |
| SM-N915X |
| SM-N9100 |
| SM-N910A |
| SM-N910T |
| SM-N910V |
| SM-N910M |
| SM-N910P |
| SM-N910R4 |
| SM-N910W8 |
| SM-N910T3 |
| SM-N910C |
| SM-N910S |
| SM-N910H |
| SM-N910F |
| SM-N910G |
| SM-N910U |
| SM-N910K |
| SM-N916S |
| SM-N910L |
| SM-N916L |
| SM-N916K |



 $\infty$
0
0
2
0
0
0
0
0
0
0
0
1
1
2
3
3
0
0
0
0
 $\infty$
0
0
0
0
0
0
0
0
0
1
2
3
3
0
0
0
 0
0
2
0
0
0
0
0
0
1
2
2
3
0
0
0


 $\stackrel{i}{1}$











 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot
Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot
 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot

 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot


 33
 (мо॥emцs.ıew) 0.9 of әqерелбdn (мо॥eшus.ıew) $0 \cdot 9$ ot ə |qере..6dn

 Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Nov 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow)
 Oct 30, 2014 Android 4.4 .4 (KitKat), upgradable to 6.0 (Marshmallow) Oct 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Oct 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Oct 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Oct 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Oct 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow)
 Oct 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Oct 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Oct 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Oct 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow)

 Oct 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow) Oct 30, 2014 Android 4.4.4 (KitKat), upgradable to 6.0 (Marshmallow)
 Oct 30, 2014 Android 4.4 .4 (KitKat), upgradable to 6.0 (Marshmallow)



 $\qquad$




Samsung Galaxy Note 4
$\qquad$







 |  |
| :---: | :---: |




 \begin{tabular}{l}
I <br>
\hline$⿳ 亠 口 冋 刂$ <br>
0 <br>
$\vdots$ <br>
<br>
\hline

 

z <br>
\hline$⿳ 亠 口 冋 刂$ <br>
\hline
\end{tabular}


 0
0
0





Wi－Fi $802.11 \mathrm{alb} / \mathrm{g} / \mathrm{n}$ ，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BDS

 with A－GPS，GLONASS




 0
0
2
0
0
0
0
0
0
0
$\vdots$
$\vdots$
3
3 Yes，with A－GPS，GLONASS Yes，with A－GPS，GLONASS Yes，with A－GPS，GLONASS


 with A－GPS，GLONASS Yes，with A－GPS，GLONASS

 | $\infty$ |
| :--- |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| $\vdots$ |
| $\vdots$ |
| $\vdots$ |
| 3 | with A－GPS，GLONASS Yes，with A－GPS，GLONASS

 $n$
0
2
0
0
0
0
0
0
0
$\vdots$
$\vdots$
$\vdots$
3







 Wi－Fi $802.11 \mathrm{a} / \mathrm{h} / \mathrm{g} / \mathrm{h} / \mathrm{ca}$ ，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS，BDS Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{m}$ ，dual－band，Wi－Fi Direct，hotspot $W_{i-F i} 802.11 \mathrm{ab} / \mathrm{b} / \mathrm{g}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$ ，dual－band，Wi－Fi Direct，hotspot



 Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$ ，Wi－Fi Direct，hotspot




 Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$ ，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{c}$ ，dual－band，Wi－Fi Direct，hotspot


## Device Available Date


 Sep 30， 2014 Android 4．4．3（KitKat）


Aug 30， 2014 Android 4．4．2（KitKat），Touch Wiz UI
Sep 30， 2014 Android 4.44 （KitKat），upgradable to 5.0 （Lollipop）
Sep 30， 2014 Android 4.4 .4 （KitKat），upgradable to 5.0 （Lollipop）
Sep 30， 2014 Android 4．4．4（KKitKat），upgradable to 5.0 （Lollipop）
Sep 30， 2014 Android 4．4．4（KitKat），upgradable to 5.0 （Lollipop）
Aug 30， 2014 Android 4.4 .4 （KitKat），upgradable to 5.0 .2 （Lollipop）
Aug 30， 2014 Android 4.4 .4 （KitKat），upgradable to 5．0．2（Lollipop）
 Aug 30， 2014 Android 4.4 .4 （Kitkat），upgradable to 5.0 .2 （Lollipop） Aug 30， 2014 Android 4.4 .4 （KitKat），upgradable to 5.0 .2 （Lollipop）



 Aug 30， 2014 Android 4.4 .4 （KitKat），upgradable to 6.0 .1 （Marshmallow），TouchWiz UI
Jul 30， 2014 Android 4．4．2（KitKat）
 Aug 30， 2014 Android 4．4．2（KitKat） Aug 30， 2014 Android 4．4．2（KitKat）
 Jul 30， 2014 Android 4．4．2（KitKat）
Jul 30， 2014 Android 4．4．2（KitKat），upgradable to 5．1．1（Lollipop），TouchWiz UI
Jul 30， 2014 Android 4．4．2（KitKat），upgradable to 5．1．1（Lollipop），TouchWiz UI Jul 30， 2014 Android 4．4．2（KitKat），upgradable to 5．1．1（Lollipop），TouchWiz UI Aug 30， 2014 Android 4．4．2（KitKat）





Jun 30， 2014 Android 4．4．2（Kitkat），upgradable to 6.0 （Marshmallow），TouchWiz UI Jun 30， 2014 Android 4．4．2（KitKat），upgradable to 6.0 （Marshmallow），TouchWiz UI
Jul 30， 2014 Android 4．4．2（KitKat），upgradable to 6.0 （Marshmallow），TouchWiz UI Jul 30， 2014 Android 4．4．2（KitKat），upgradable to 6.0 （Marshmallow），TouchWiz UI Jul 30， 2014 Android 4.4 .2 （KitKat），upgradable to 6.0 （Marshmallow），TouchWiz UI Jul 30， 2014 Android 4．4．2（KitKat），upgradable to 6.0 （Marshmallow），TouchWiz UI
$\qquad$

 $\stackrel{\otimes}{\stackrel{\circ}{2}} \stackrel{0}{2}$ $\stackrel{0}{2}$ $\stackrel{\otimes}{\frac{0}{2}}$ $\stackrel{\circ}{\stackrel{0}{⿺}}$




 ${ }^{\circ}$ $\stackrel{\text { 은 }}{\substack{2}}$
 $\stackrel{0}{\circ}$


Samsung Galaxy Ace NXT

 Samsung Galaxy Young 2
 $\qquad$
Samsung Galaxy S5 Sport



Yes, with A-GPS, GLONASS,
Yes, with A-GPS, GLONASS Yes, with A-GPS, GLONASS
Yes, with A-GPS

Yes, with A-GPS, GLONASS 0
0
2
0
0
0
0
0
0
0
1
2
2
3
3
$n$
0



 Yes, with A-GPS, GLONASS Yes, with A-GPS, GLONASS Yes, with A-GPS, GLONASS Yes, with A-GPS, GLONASS \begin{tabular}{l}
0 <br>
0 <br>
2 <br>
0 <br>
0 <br>
0 <br>
0 <br>
0 <br>
0 <br>
$\vdots$ <br>
4 <br>
2 <br>
3 <br>
3 <br>
\hline

 

$n$ <br>
0 <br>
$\vdots$ <br>
0 <br>
0 <br>
0 <br>
0 <br>
0 <br>
0 <br>
0 <br>
0 <br>
1 <br>
1 <br>
3 <br>
3 <br>
0 <br>
0 <br>
0 <br>
\hline
\end{tabular} es, with A-GPS











 | 0 |
| :--- |
| 0 |
| 2 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 1 |
| 4 |
| 2 |
| 3 |
| 3 |
| 0 |





 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, hotspot
 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot
 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot

 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$, dual-band, Wi-Fi Direct, hotspot

 | Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} /$ ac, dual-band, Wi-Fi Direct, hotspot |
| :--- |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot |
| Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot | Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot

 Wi-Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$, Wi-Fi Direct, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} /$ ac, dual-band, hotspot Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot



 Wi-Fi 802.11 bin, dat
 Wi-Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$, dual-band, Wi-Fi Direct, hotspot

Jul 30, 2014 Android 4.4.2 (KitKat), upgradable to 6.0 (Marshmallow), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 6.0.1 (Marshmallow), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 5.0.1 (Lollipop), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 5.0.1 (Lollipop), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 5.0.1 (Lollipop), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 5.0.1 (Lollipop), TouchWiz UI

Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 6.0 (Marshmallow), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 6.0 (Marshmallow), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 6.0 (Marshmallow), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 6.0 (Marshmallow), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 6.0 (Marshmallow), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 6.0 (Marshmallow), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 6.0 (Marshmallow), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 6.0 (Marshmallow), TouchWiz UI Apr 30, 2014 Android 4.4.2 (KitKat), upgradable to 6.0 (Marshmallow), TouchWiz UI






## 

## amsung Galaxy Beam2

## oən \&S イxeleo loǫ6l funsures

Samsung Galaxy Ace Style Samsung Galaxy Tab 47.0 3G

 $\exists \perp 70.8 \triangleright$ qe $\perp$ Kxeleg Sunswes


 !ulu IIIS Kxe|eo 00z81 Kunsmes

 Samsung Galaxy S5 (USA)

Samsung Galaxy S5
1


 \begin{tabular}{l}
0 <br>
\hline <br>
\hline <br>
\hline

 

0 <br>
$\sum_{0}^{0}$ <br>
0 <br>
\hline 0 <br>
$\sum_{\omega}^{1}$ <br>
$\sum_{0}$
\end{tabular}






 | 0 | $n$ |
| :---: | :---: |
| $\sum_{n}^{n}$ | $n_{n}$ |
| $\sum_{n}^{1}$ | $\sum_{n}$ |
| $\sum_{0}^{1}$ |  | 늘

$\stackrel{\rightharpoonup}{n}$
$\sum_{n}^{n}$
$\sum_{n}$








 Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot
Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspo $02.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotsp Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n}$ ，dual－band，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{h}$ ，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$ ，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$ ，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，DLNA，Wi－Fi Direct，$h$ Yes，with A－GPS，GLONASS Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，DLNA，Wi－Fi Direct，$h$ Yes，with A－GPS，GLONASS Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{n} / \mathrm{ac}$ ，dual－band，DLNA，Wi－Fi Direct，$h$ Yes，with A－GPS，GLONASS Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，DLNA，Wi－Fi Direct，$h$ Yes，with A－GPS，GLONASS Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，DLNA，Wi－Fi Direct，$h$ Yes，with A－GPS，GLONASS Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，DLNA，Wi－Fi Direct，$h$ Yes，with A－GPS，GLONASS Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$ ，Wi－Fi Direct，hotspot $\quad$ Yes，with A－GPS，GLONASS
 Yes，with A－GPS，GLONASS

 | 0 |
| :--- |
| 0 |
| 2 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 1 |
| 1 |
| 2 |
| 3 |
| 3 |
| 0 |




 Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS Wi－Fi $802.11 \mathrm{a} / \mathrm{b} / \mathrm{g} / \mathrm{h} / \mathrm{ac}$ ，dual－band，Wi－Fi Direct，hotspot Yes，with A－GPS，GLONASS Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$ ，hotspot $\quad$ Yes，with A－GPS，GLONASS


 Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$ ，Wi－Fi Direct，hotspot Wi－Fi $802.11 \mathrm{~b} / \mathrm{g} / \mathrm{n}$ ，Wi－Fi Direct，hotspot Feb 28， 2014 Android 4.3 （Jelly Bean），upgradable to 5．1．1（Lollipop），TouchWiz UI Feb 28， 2014 Android 4.3 （Jelly Bean），upgradable to 5．1．1（Lollipop），TouchWiz UI Feb 28， 2014 Android 4.3 （Jelly Bean），upgradable to 5．1．1（Lollipop），TouchWiz UI Feb 28， 2014 Android 4.3 （Jelly Bean），upgradable to 5．1．1（Lollipop），TouchWiz UI \begin{tabular}{|l|l|}
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），upgradable to 5.0 .2 （Lollipop），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline

 

\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），upgradable to 5．0．2（Lollipop），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline

 

\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），upgradable to 5．0．2（Lollipop），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline

 

\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），upgradable to 5．0．2（Lollipop），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline

 

\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），upgradable to 5．0．2（Lollipop），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline

 

\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），upgradable to 5．0．2（Lollipop），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline

 

\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），upgradable to 5．0．2（Lollipop），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline

 

\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），upgradable to 5.0 .2 （Lollipop），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline

 

\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Feb 28， 2014 \& Android 4.2 （Jelly Bean） <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），upgradable to 5.0 .2 （Lollipop），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline

 

Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline Mar 30， 2014 \& Android 4.4 （KitKat），TouchWiz UI <br>
\hline
\end{tabular} Mar 30， 2014 Android 4.4 （KitKat），TouchWiz UI May 30， 2014 Android 4.2 （Jelly Bean）



 $\stackrel{\unrhd}{0}$ $\stackrel{\unrhd}{0}$ | O |
| :---: |
| $\frac{0}{⿺}$ | $\stackrel{0}{\circ}$

| $\begin{aligned} & \stackrel{\rightharpoonup}{\mathbf{0}} \\ & \stackrel{\rightharpoonup}{\stackrel{ }{\circ}} \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { © } \\ & \stackrel{\text { 듬 }}{ } \end{aligned}$ |  |  | $\begin{aligned} & \text { O} \\ & \frac{0}{⿺ ⿻ 一 丿 丶 ⿻ 乚 ㇒ 土 口 𧘇 ~} \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \frac{0}{⿺ ⿻ 一 丿 丶 ⿻ 乚 ㇒ 土 口 𧘇 ~} \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \frac{0}{⿺ ⿻ 一 丿 丶 ⿻ 乚 ㇒ 土 口 𧘇 ~} \end{aligned}$ | $\begin{array}{\|l\|l} \stackrel{\rightharpoonup}{\mathrm{o}} \\ \stackrel{\rightharpoonup}{\varpi} \end{array}$ | $\begin{array}{\|l} \stackrel{\rightharpoonup}{\mathbf{\omega}} \\ \stackrel{\rightharpoonup}{\stackrel{\rightharpoonup}{r}} \end{array}$ | $\begin{array}{\|l} \stackrel{\rightharpoonup}{\mathbf{\omega}} \\ \stackrel{\rightharpoonup}{\stackrel{\rightharpoonup}{r}} \end{array}$ | $\begin{array}{\|l} \frac{\stackrel{\rightharpoonup}{\mathrm{o}}}{\stackrel{\pi}{⿺}} \\ \hline \end{array}$ | $\begin{array}{\|l\|l} \stackrel{\rightharpoonup}{\mathrm{o}} \\ \stackrel{\rightharpoonup}{\varpi} \end{array}$ | $\stackrel{\text { ¢ }}{\text { ¢ }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Samsung Galaxy Tab 3 Lite 7.031 |  |  |  |  |  |  |  |  |  |  |  |  |


 Samsung Galaxy Note 3 Neo
Samsung Galaxy Note Pro 12.2 L
Samsung Galaxy Note Pro 12.23

SHANNA JAN (/) product design

## Location Labs by Avast

Parental controls app to empower parents to limit when and how often their children's phones can be used. Launched with Verizon and AT\&T.


## The Problem

Location Labs has been providing apps to all the major US phone carriers like Verizon, AT\&T, T-Mobile, and Sprint since 2002. By 2016, a lot of these platforms were outdated and extremely difficult to update. AT\&T's platform allowed parents to locate their children and Verizon's platform allowed for parental controls. Even though they had valuable features, we were facing stark competition which threatened our business contracts.

## The Task

The design team was asked to reimagine the platforms into one powerful app for families that would revive the product and win renewed carrier deals. With dynamic UI design, new features, and critical design thinking, we were able to win over Verizon and AT\&T and put our company back on track.

## The Team

- 30 engineers
- 10 quality assurance testers
- 2 product managers
- 1 project manager
- 2 product designers
- 1 visual designer



## My Role

- prioritize features and roadmap with PM's
- lead and conduct user research and usability testing
- present key research findings to clients and company
- wireframe and UI design
- create interactive prototypes
- create design documentation for engineering and QA
- organize alignment meetings between teams
- aid visual designer to create component library
- aid QA teams to catch visual, copy, and ux bugs
- illustration
- copywriting
- light visual design


## The Pitch

We needed to come up with a compelling and extensible product vision to win renewed contracts with our carrier partners. Our idea was to create an app that was more than a parental controls product but something that would serve the family as it evolved. I was able to help bring the product vision to life through my illustrations of the "highlight" cards, below.



## Verizon signed on and AT\&T quickly followed.

## Project Timeline

We had less than 6 months
 from start to launch for Verizon Smart Family and another 6 months to hand off AT\&T Secure Family with some overlap.

## Starting Point

Luckily for our timeline, we had already been experimenting and testing new designs for each of the legacy platforms we were to update and combine. We also had a great deal of research about our users spanning the life of all of our products.

## User Research

Although we had a wealth of research from previous product launches, I lead several more runs to validate our assumptions about our users, their habits, and their needs. We interviewed over 25 parents that represented our target audience and presented our findings company-wide and to carrier partners. Not surprisingly, we found little differences between parent concerns from our recent research to our older research.


Appx 106


Research synthesis after a slew of user interviews

## Top Parent Concerns:

Keeping kids safe - digitally and physically

- Inappropriate content - To limit exposure and target specific concerns
- Location - This becomes more important as kids gain independence in cases like walking home from school, driving, etc.

Helping kids become successful adults - balancing parental management with teaching self-sufficiency

- Screen time - To teach kids to balance a healthy amount of screen time at an early age

Feeling like they are being good parents

- Understand their child's usage and behaviors in the context of other kids their age
- Perception of self among other parents


## Goals

After distilling user goals and concerns, we set off to define our design and business goals.

## Business <br> Goals

Design Goals

- Leverage our existing technologies to create
- Win over carrier partners with strong product vision for the future
- Maintain and grow our user base by providing new product value
- Improve user retention and lifetime value
the one parental controls app that every family could use
- Assist parents in their goals to keep their kids safe, help them raise successful adults, and feel like good parents
- Integrate seamlessly into a parent's normal habit and routine


## Design Principles

We then created design principles to guide our thinking throughout the entire process.

1. Grow with the family

As kids grow up, parenting techniques change with them. Using the Avast Mobile Intelligence lab, we gleaned insights to help the app adapt to changing family needs over time. This is an important factor to the lifetime value of the product and user retention.

## 2. Deliver value proactively

Parents are busy. Leave them alone unless there's something important to tell them. Give them insights, not data. By delivering insights with minimal effort from the parent, they can spend less time in the app and more time with their family, increasing the app's perceived value.
3. Be action-oriented

Allow parents to take immediate action when issues arise so they can feel confident about taking charge. This empowers parents to take control and feel like good parents.

## 4. Require minimal behavior change

Working with a parent's natural behavior means less user drop off. Work into their lives, don't make them work more.

## Sketching

After countless hours sketching, pair designing, collaborating with engineers, and design critiques, we were ready to move forward with usability testing.


Sketching UI and listing goals for each segment of the app

## Usability Testing

We performed multiple usability testing sessions throughout our process, putting hand-drawn sketches to high fidelity prototypes in front of participants to tease out issues in flow, copy, and UI.

Below, is a sketch of the 3 different navigation models we tested. We showed each one to a different participant and had them perform a task. At the end, we showed all 3 of the navigation models to them and asked for their feedback. The majority of our participants preferred the first model, which we ultimately moved forward with.


Quick and dirty sketch of the navigation models we tested

Another challenge was the information hierarchy within the "status" section, illustrated in the sketch below. Again, usability testing was able to help us move forward.


Appx 112

Figuring out the hierarchy within the "status" section.

We wrapped up every session by asking our participants how they would describe the app to their friend to see which main features stuck with them. Without being primed by the value propositions we had written, we were pleased to find that the majority of our users could easily understand, repeat the main product features, and relate to moments in their lives where the product would be useful.

## Home Screen Tour

There are a differences between the home screen of Verizon and AT\&T but the basic components are the same. The image below is from Verizon Smart Family.


Status

We wanted to use the most valuable real estate to offer immediate answers to questions about a kid's location and allows parents

to pause access to the internet when their kid needs a break.

Insights

New insight cards are shown every few times the parent return to the app providing details on their child's device usage and serving as a method of passive onboarding; telling parents about other features they can use.

## Controls

Controls are the "set it and forget it" features that are unlikely to change often. Unlike the more dynamic highlight cards, we set them at the bottom of the screen, out of the way. We use different onboarding techniques to help parents set up more features.

## Visual Design \& Component

## Library

Both Verizon and AT\&T had an established branding library and strict guidelines about use of color and iconography. Because Verizon's color palette was mainly black and white with minimal iconography, it was an interesting challenge creating visual interest in pages and creating UI cues. AT\&T was on the other side of the spectrum with lots of colors and iconography which meant being very judicious about what we used. Alongside the visual design team, we worked to create and maintain Sketch Libraries to improve design consistency and efficiency.


AT\&T - Branded Component Library

## Featured in

- The Verge
(https://www.theverge.com/2018/4/19/17257114/verizon-new-parental-control-app-smart-family)
- Engadget (https://www.engadget.com/2018/04/19/verizon-adds-location-tracking-to-parental-control-app/)
- MacRumors
(https://www.macrumors.com/2018/04/19/verizon-smart-family-ios-app/)

VIEW PRODUCT SITE
(HTTPS://WWW.VERIZONWIRELESS.COM/SOLUTIONS -AND-SERVICES /VERIZON-SMART-FAMILY/)

## AT\&T



Appx 116


## Featured In

- The Verge
(https://www.theverge.com/2018/11/15/18097410/att-secure-family-app-smart-limits)
- PC Mag (https://www.pcmag.com/news/364992/at-t-launches-secure-family-parental-control-app)

\section*{| Chal_ |  |  |
| :--- | :--- | :--- |
| Not only did we need to keep |  |  |
| track of the differences | $=$ |  | between iOS and Android}

platforms, we needed to keep track of the differences between Verizon Smart Family and AT\&T Secure Family product.

Because we had such a large development team, the best way to disseminate information was to document in great detail and to hold kick-off meetings with team
leads to ensure everyone was
clear on what we were making. I became the keyholder for creating and updating this "source of truth" document.

## Learnings

It's all about documentation! Documenting product changes, design reasonings, future updates, and iterations were insurmountable to getting engineering and PM buy-in and maintaining a comprehensive catalogue of information for the entire team. It provided clarity and alignment which was helpful as we made progress.

榢 in

## Launching Verizon

With over 1.7 million users, we have seen an increase of $40 \%$ in daily active users from the legacy product, Verizon FamilyBase.

Introducing Verizon Smart Family



## Hi, I'm Shanna

I'm a full stack product designer and illustrator living in foggy San Francisco.

I found design through art, film, and video, getting my BFA from The School Of The Art Institute Of Chicago (http://www.saic.edu/t4/front /).

Design ethics and accessibility are important to me and I look to incorporate them into every project.
Check out my résumé (/resume) to see what l've been working on.

When I'm not behind a computer screen, I'm crafting, voguing, lifting weights, and petting cats.

Let's be pen pals! Drop me a line at
heygirl@shannajan.com
(mailto:heygirl@shannajan.co
m)


## crunchbase

ᄂ. Location Labs

Summary
Financials
People
Technology
Signals \& News

```
About
Location Labs provides mobile security solutions for people worldwide.
Acquired by
anva AVG Technologies
San Francisco Bay Area, West Coast, Western US
101-250
Series B
Private
locationlabs.com
108,126
```


## Highlights

| Number of Acquisitions | Total Funding Amount |
| :--- | :--- |
| 2 | $\$ 25.8 \mathrm{M}$ |
| Number of Current Team Members | Number of Investors |
| 12 | 7 |

## Recent News \& Activity

```
News • Sep 30, }201
PE HUB - PE-backed Avast completes take-private AVG acquisition
```

News • Aug 8, 2016
Funders Club Blog - Building a Customer-focused Grocery Delivery Startup with Max Mullen, co-founder at Instacart.
News • Jun 15, 2016
Next Gov - Linkedln May Just Be the Beginning of Mega-Acquisitions for Silicon Valley
VIEW ALL >

## Details

Industries
Location Based Services Mobile Security Wireless

Headquarters Location
Emeryville, California, United States

Headquarters Regions
San Francisco Bay Area, West Coast, Western US


## Location Labs

## . SAVE

Summary $\quad$ Financials $\quad$ People $\quad$ Technology $\quad$ Signals \& News

Operating Status
Active
Last Funding Type
Series B
Also Known As
wavemarket

Company Type
For Profit

Contact Email
contact@locationlabs.com
Location Labs provides mobile security solutions for people worldwide.
The company offers Phone Controls which provides anti-virus and cloud-based backup solutions for protecting people who carry phones, including kids, families, and individuals; Locator that enables users to see where important people are on a map, get automatic location...
READ MORE

## Lists Featuring This Company

| Acquired West Coast Companies (Top 10K) | 4 TRACK |
| :---: | :---: |
| United States Acquired Companies (Top 10K) | 4 TRACK |
| Bain \& Company Alumni Founded Companies | 4 TRACK |
| Security Companies that Exited | 4 TRACK |
| 4 SHOW MORE |  |

## M\&A Details

[^6]

## Discover more with Pro

Upgrade to Pro to access the expansive Crunchbase dataset to uncover the companies, people, and news that matters.
4 Target your search with intuitive filters \& unlimited results
4 Uncover hidden opportunities with growth signals
4 Monitor companies and industry trends with customizable alerts
4 Pull data on multiple companies in one-go when you import a list of targets
davast

## Worldwide offices



Appx 129

## むodavast <br> Worldwide offices



Appx 130
afavast

## Worldwide offices



Appx 131


Appx 132

Appx 133

## Texas Secretary of State

| Corporate Filing 1 |  |
| :---: | :---: |
| Business Information |  |
| Filing Type: | CURRENT |
| Filing Number: | 0803558902 |
| Name: | IKORONGO TEXAS, LLC |
| Name TYpe: | LEGAL |
| Filing Date: | 02/26/2020 |
| Filing Type: | CREATICN |
| Status: | IN USE |
| Place Incorporated: | TEXAS |
| Date Incorporated: | 02/26/2020 |
| Partnership: | NO |
| Status Comment: | RIGHT TO TRANSACT BUSINESS: ACTIVE |
| Date Last Seen: | 03/07/2020 |
|  |  |
| Corporate Filing 2 |  |
| Business Information |  |
| Filing Type: | CURRENT |
| Filing Number: | 0803559982 |
| Name: | IKORONGO TEXAS, LLC |
| Name Type: | LEGAL |
| Standard Business Address: | 206 E 9TH ST STE 1200 AUSTIN, TX 78701-4411 |
| Original Business Address: | 206 E 9TH ST STE 1300 AUSTIN, TX 787014411 US |
| State Tax ID: | 32073559000 |
| Business Type: | DONESTIC LIMITED LIAEILITY COMPANY (LLC) |
| Status: | IN EXISTENCE |
| place Incorporated: TEXAS |  |
| Date Incorporated: 02/26/2020 |  |
| Foreign/Domestic: DONESTIC |  |
| Terms: PERPETUAL |  |
| Partnership: NO |  |
| Status Comment: | RIGHT TO TRANSACT BUSINESS: ACTIVE |
| Date Last Seen: | 03/07/2020 |

# Declaration of JinHee Lee <br> Filed Under Seal 

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

Filed Under Seal

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

# Declaration of Edward Viejo 

Filed Under Seal

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

# Declaration of Daniel S. Friedland 

Filed Under Seal

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## IN THE UNITED STATES DISTRICT COURT FOR THE <br> WESTERN DISTRICT OF TEXAS <br> WACO DIVISION

IKORONGO TEXAS LLC and
IKORONGO TECHNOLOGY LLC,
Plaintiffs,
v.

SAMSUNG ELECTRONICS CO, LTD. and SAMSUNG ELECTRONICS AMERICA, INC.,
$\cos \cos \cos \cos \cos \cos \cos \cos \cos \cos \cos \cos \cos$

Case No. 6:20-cv-00259-ADA
[FILED UNDER SEAL]

Defendant.

PLAINTIFFS' RESPONSE IN OPPOSITION TO DEFENDANT'S MOTION TO TRANSFER VENUE AND BRIEF IN SUPPORT

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## EXHIBIT A

| SUBMISSION TYPE: | NEW ASSIGNMENT |
| :--- | :--- |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| SEQUENCE: | 1 |

CONVEYING PARTY DATA

| Name | Execution Date |
| :--- | :--- |
| IKORONGO TECHNOLOGY, LLC | $03 / 20 / 2020$ |

## RECEIVING PARTY DATA

| Name: | HUGH B SVENDSEN |
| :--- | :--- |
| Street Address: | 678 BEAR TREE CREEK |
| City: | CHAPEL HILL |
| State/Country: | NORTH CAROLINA |
| Postal Code: | 27517 |
| Name: | SARAH S SVENDSEN |
| Street Address: | 678 BEAR TREE CREEK |
| City: | CHAPEL HILL |
| State/Country: | NORTH CAROLINA |
| Postal Code: | 27517 |
| Name: | SCOTT D CURTIS |
| Street Address: | 3611 UNIVERSITY DRIVE \#11U |
| City: | DURHAM |
| State/Country: | NORTH CAROLINA |
| Postal Code: | 27707 |
| Name: | EUGENE FARRELLY |
| Street Address: | 103 ORILLA COURT |
| City: | CARY |
| State/Country: | NORTH CAROLINA |
| Postal Code: | 27513 |
| Name: | MICHAEL W HELPINGSTINE |
| Street Address: | WATERLOO STATION DRIVE |
| City: | CARY |
| State/Country: | NORTH CAROLINA |
| Postal Code: | 27513 |

[^7]

Case 6:20-cv-00259-ADA Document 55-4 Filed 01/05/21 Page 4 of 12

## ASSIGNMENT OF PATENT RIGHTS

(Assignment 1 of 2)
This Assignment of Patent Rights (this "Assignment"), effective as of March 20, 2020 (the "Effective Date"), is made by and between (a) Ikorongo Technology, LLC, a North Carolina limited liability company with an address at 678 Bear Tree Creek, Chapel Hill, NC 27517 (the "Assignor"), on the one hand, and (b) each of Hugh B. Svendsen, an individual with an address at 678 Bear Tree Creek, Chapel Hill, NC 27517 ("H. Svendsen"), Sarah Sowers Svendsen, an individual with an address at 678 Bear Tree Creek, Chapel Hill, NC 27517 ("S. Svendsen"), Eugene Farrelly, an individual with an address at 103 Orilla Court, Cary, NC 27513 ("Farrelly"), Michael W. Helpingstine, an individual with an address at 108 Waterloo Station Dr., Cary, NC 27513 ("Helpingstine"), and Scott D. Curtis, an individual with an address at 1706 Ward St., Durham, NC 27707 ("Curtis," and, together with H. Svendsen, S. Svendsen, Farrelly, and Helpingstine, the "Assignee"), on the other hand.

WHEREAS, Assignor is the owner of all rights, title and interest in and to all of the patents, reissues, reissue applications and patent applications identified in Schedule A and in any patent letters, reissues, and patent registrations that have been and/or may be granted with respect to the same, and all divisions, renewals, and continuations thereof, and all patents which may be granted thereon and all reissues and extensions thereof (collectively the "Patents");

WHEREAS, Assignee owns all of the issued and outstanding membership interests in Assignor;
WHEREAS, Assignor desires to assign, grant and convey to Assignee as a distribution, and Assignee desires to acquire and assume from Assignor as a distribution, the exclusive right under the Patents within and throughout the specified part of the United States identified on Schedule B; and

WHEREAS, this assignment is made consistent with the principles of Waterman v. Mackenzie, 138 U.S. 252 (1891) and 35 U.S.C. §261;

NOW, THEREFORE, for good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged Assignor hereby assigns, grants and conveys to Assignee as a distribution, and Assignee hereby acquires and assumes from Assignor as a distribution, the exclusive right under the Patents within and throughout the specified part of the United States identified on Schedule B, including the right to sue for past, present and future infringement and damages thereof;

For the avoidance of doubt, Assignor retains for itself (and does not assign, grant or convey to Assignee) the exclusive right under the Patents within and throughout all parts of the United States and world not identified on Schedule B;

ASSIGNOR HEREBY covenants and agrees that it has the full right to convey the entire interest herein assigned, and that Assignor has not executed, and will not execute, any agreement in conflict herewith; and

ASSIGNOR agrees to execute and deliver to Assignee all documents necessary to effectuate and maintain registrations pertaining to the Patents and inventions therein described now and in the future and to perfect - including through the correction of any inaccuracy or omission to the Patents or otherwise enable the transfer, conveyance and assignment of the assigned exclusive right in the Patents; and

ASSIGNOR AND ASSIGNEE agree that this Assignment may be executed in any number of counterparts, each of which shall be deemed an original of this Assignment. Counterparts of this Assignment may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.
[Signature Page Follows]

N WITNESS WHEREOF: Assignor and Assigne have executd this Assigmment as of be Efective Date.


## ASSIGNEE:



Uugh B, Svexdean


Fagene Fawely

Michael W. Helpmgatise

Scott D, Camis

N WITNESS WHEREOE, Assigmor and Assignee bave excented this Assigmment as of the Effective Date.

## SSSIGNOR:

MORONGO WECHNOROQY, LIC

By:
Name: Hugh B. Syendsen
Tite: Manager

ASSIGNEE:

Hugh B. Svendsen


Mohael 4 . Gelpingstine

Scot D. Cutis

IN WITNESS WHEREOF, Assignor and Assignee have executed this Assignment as of the Effective Date.

## ASSIGNOR:

IKORONGO TECHNOLOGY, LC

By:
Name: Hugh B. Svendsen
Title: Manager

## ASSIGNEE:

Hugh B. Svendsen

Sarah Sowers Svendsen

Eugene Farrelly


Michael W. Helpingstine

Scott D. Curtis

IN WITNESS WHEREOF, Assignor and Assignee have executed this Assignment as of the Effective Date.

## ASSIGNOR:

## IKORONGO TECHNOLOGY, LLC

By:
Name: Hugh B. Svendsen
Title: Manager

## ASSIGNEE:

Hugh B. Svendsen

Sarah Sowers Svendsen

Eugene Farrelly


## SCHEDULE A

| APPLICATION <br> NUMBER | FILING <br> DATE | PATENT <br> NUMBER | ISSUE <br> DATE | STATUS | TITLE |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 09841475 | $4 / 24 / 2001$ | 7080139 | $7 / 18 / 2006$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
| 12172518 | $7 / 14 / 2008$ | RE41450 | $7 / 20 / 2010$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
| 12820579 | $6 / 22 / 2010$ | RE44324 | $6 / 25 / 2013$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
| 13893992 | $5 / 14 / 2013$ | RE45351 | $1 / 20 / 2015$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
| 13894009 | $5 / 14 / 2013$ | RE45543 | $6 / 2 / 2015$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
| 14550100 | $11 / 21 / 2014$ |  |  |  |  |
| 14577746 | $12 / 19 / 2014$ | RE47704 | $11 / 5 / 2019$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
|  |  |  |  | Method and system for <br> generating media <br> recommendations in a <br> distributed <br> environment based on <br> tagging play history <br> information with <br> location information |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Case 6:20-cv-00259-ADA Document 55-4 Filed 01/05/21 Page 11 of 12

| 12192682 | $08 / 15 / 2008$ | 8117193 | $02 / 14 / 2012$ | Active | Tunersphere |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 13228688 | $09 / 09 / 2011$ | 8316015 | $11 / 20 / 2012$ | Active | Tunersphere |
| 13286746 | $01 / 11 / 2011$ | 8332425 | $12 / 11 / 2012$ | Active | Method and system for <br> generating media <br> recommendations in a <br> distributed <br> environment based on <br> tagging play history <br> information with <br> location information |
| 13655648 | $10 / 19 / 2012$ | 8577874 | $11 / 05 / 2013$ | Expired | Tunersphere |
| 14069761 | $01 / 11 / 2013$ | 8874554 | $10 / 28 / 2014$ | Active | Turnersphere <br> 13616651 |
|  | $09 / 14 / 2012$ | 8886666 | $11 / 11 / 2014$ | Expired | Method and system for <br> generating media <br> recommendations in a <br> distributed <br> environment based on <br> tagging play history <br> information with <br> location information |
| 14488456 | $09 / 17 / 2014$ | 8983937 | $03 / 17 / 2015$ | Active | Tunersphere |
|  |  |  |  | System for generating <br> media <br> recommendations in a <br> distributed <br> environment based on <br> seed information |  |
| 15056310 | $03 / 16 / 2015$ | 9275138 | $03 / 01 / 2016$ | Active |  |
|  |  |  |  | System for generating <br> media <br> recommendations in a <br> distributed <br> environment based on <br> seed information |  |

## SCHEDULE B

The specified part of the United States is the following counties of the State of Texas
Andrews, Atascosa, Bandera, Bastrop, Bell, Bexar, Blanco, Bosque, Brewster, Burleson, Burnet, Caldwell, Comal, Coryell, Crane, Culberson, Dimmit, Ector, Edwards, Falls, Freestone, Frio, Gillespie, Gonzales, Guadalupe, Hamilton, Hays, Hill, Hudspeth, Jeff Davis, Karnes, Kendall, Kerr, Kimble, Kinney, Lampasas, Lee, Leon, Limestone, Llano, Loving, Martin, Mason, Maverick, McCulloch, McLennan, Medina, Midland, Milam, Pecos, Presidio, Real, Reeves, Robertson, San Saba, Somervell, Terrell, Travis, Upton, Uvalde, Val Verde, Ward, Washington, Williamson, Wilson, Winkler, Zavalla;

Anderson, Angelina, Bowie, Camp, Cass, Cherokee, Collin, Cook, Delta, Denton, Fannin, Franklin, Grayson, Gregg, Hardin, Harrison, Henderson, Hopkins, Houston, Jasper, Lamar, Liberty, Marion, Morris, Nacogdoches, Newton, Orange, Panola, Polk, Rains, Red River, Rusk, Sabine, San Augustine, Shelby, Smith, Titus, Trinity, Tyler, Upshur, Van Zandt, and Wood.

## EXHIBIT B

| SUBMISSION TYPE: | NEW ASSIGNMENT |
| :--- | :--- |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| SEQUENCE: | 2 |

CONVEYING PARTY DATA

| Name | Execution Date |
| :--- | :--- |
| HUGH B SVENDSEN | $03 / 20 / 2020$ |
| SARAH S SVENDSEN | $03 / 20 / 2020$ |
| SCOTT D CURTIS | $03 / 20 / 2020$ |
| EUGENE FARRELLY | $03 / 20 / 2020$ |
| MICHAEL W HELPINGSTINE | $03 / 20 / 2020$ |

## RECEIVING PARTY DATA

| Name: | IKORONGO TEXAS, LLC |
| :--- | :--- |
| Street Address: | 678 BEAR TREE CREEK |
| City: | CHAPEL HILL |
| State/Country: | NORTH CAROLINA |
| Postal Code: | 27517 |

PROPERTY NUMBERS Total: 17

| Property Type | Number |
| :--- | :--- |
| Patent Number: | 7080139 |
| Patent Number: | RE41450 |
| Patent Number: | RE44324 |
| Patent Number: | RE455353 |
| Patent Number: | 14550100 |
| Application Number: | RE47704 |
| Patent Number: | 8060525 |
| Patent Number: | 8117193 |
| Patent Number: | 8316015 |
| Patent Number: | 8332425 |
| Patent Number: | 8577874 |
| Patent Number: | 8874554 |
| Patent Number: | 8886666 |
| Patent Number: | 8983937 |
| Patent Number: |  |




Case 6:20-cv-00259-ADA Document 55-5 Filed 01/05/21 Page 4 of 12

## ASSIGNMENT OF PATENT RIGHTS

(Assignment 2 of 2)
This Assignment of Patent Rights (this "Assignment"), effective as of March 20, 2020 (the "Effective Date"), is made by and between (a) each of Hugh B. Svendsen, an individual with an address at 678 Bear Tree Creek, Chapel Hill, NC 27517 ("H. Svendsen"), Sarah Sowers Svendsen, an individual with an address at 678 Bear Tree Creek, Chapel Hill, NC 27517 ("S. Svendsen"), Eugene Farrelly, an individual with an address at 103 Orilla Court, Cary, NC 27513 ("Farrelly"), Michael W. Helpingstine, an individual with an address at 108 Waterloo Station Dr., Cary, NC 27513 ("Helpingstine"), and Scott D. Curtis, an individual with an address at 1706 Ward St., Durham, NC 27707 ("Curtis," and, together with H. Svendsen, S. Svendsen, Farrelly, and Helpingstine, the "Assignor"), on the one hand, and (b) Ikorongo Texas, LLC, a Texas limited liability company with an address at 678 Bear Tree Creek, Chapel Hill, NC 27517 (the "Assignee"), on the other hand.

WHEREAS, all of the patents, reissues, reissue applications and patent applications identified in Schedule A and any patent letters, reissues, and patent registrations that have been and/or may be granted with respect to the same, and all divisions, renewals, and continuations thereof, and all patents which may be granted thereon and all reissues and extensions thereof are collectively defined herein as the "Patents";

WHEREAS, Assignor is the owner of the exclusive right under the Patents within and throughout the specified part of the United States identified on Schedule B;

WHEREAS, Assignor owns all of the issued and outstanding membership interests in Assignee;
WHEREAS, Assignor desires to assign, grant and convey to Assignee as a contribution, and Assignee desires to acquire and assume from Assignor as a contribution, the exclusive right under the Patents within and throughout the specified part of the United States identified on Schedule B; and

WHEREAS, this assignment is made consistent with the principles of Waterman v. Mackenzie, 138 U.S. 252 (1891) and 35 U.S.C. §261;

NOW, THEREFORE, for good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged Assignor hereby assigns, grants and conveys to Assignee as a contribution, and Assignee hereby acquires and assumes from Assignor as a contribution, the exclusive right under the Patents within and throughout the specified part of the United States identified on Schedule B, including the right to sue for past, present and future infringement and damages thereof;

ASSIGNOR HEREBY covenants and agrees that it has the full right to convey the entire interest herein assigned, and that Assignor has not executed, and will not execute, any agreement in conflict herewith; and

ASSIGNOR agrees to execute and deliver to Assignee all documents necessary to effectuate and maintain registrations pertaining to the Patents and inventions therein described now and in the future and to perfect - including through the correction of any inaccuracy or omission to the Patents or otherwise enable the transfer, conveyance and assignment of the assigned exclusive right in the Patents; and

ASSIGNOR AND ASSIGNEE agree that this Assignment may be executed in any number of counterparts, each of which shall be deemed an original of this Assignment. Counterparts of this

Assignment may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.
[Signature Page Follows]
 abective Date.


Mugh S. Svendsers


## Fagene Famelly

Mchaek W, Hefpingstine

## Soom D. Cumb

SWIGMEX:


By,


Nane: Hugk B. Syendmem
The: Vamager

EN WTYNESS WHEREOF, Assignor and Assignee bave executed this Assignment as of the Effective Bate.

ASSIGNOR:

Hugh B. Sverdsen


Michael W. Helpingstine

Scotl D. Cmmis

ASSGMEE:
IKORONGOTEXAS LIC

By:
Name: Mugh B. Svendsen
The: Manaser

IN WITNESS WHEREOF, Assignor and Assignee have executed this Assignment as of the Effective Date.

## ASSIGNOR:

Hugh B. Svendsen

Sarah Sowers Svendsen

Eugene Farrelly


Michael W. Helpingstine

## Scott D. Curtis

## ASSIGNEE:

IKORONGO TEXAS, LLC

By:
Name: Hugh B. Svendsen
Title: Manager

IN WITNESS WHEREOF, Assignor and Assignee have executed this Assignment as of the Effective Date.

## ASSIGNOR:

Hugh B. Svendsen

Sarah Sowers Svendsen

Eugene Farrelly


ASSIGNEE:
IKORONGO TEXAS, LLC

By:
Name: Hugh B. Svendsen
Title: Manager

## SCHEDULE A

| APPLICATION <br> NUMBER | FILING <br> DATE | PATENT <br> NUMBER | ISSUE <br> DATE | STATUS | TITLE |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 09841475 | $4 / 24 / 2001$ | 7080139 | $7 / 18 / 2006$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
| 12172518 | $7 / 14 / 2008$ | RE41450 | $7 / 20 / 2010$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
| 12820579 | $6 / 22 / 2010$ | RE44324 | $6 / 25 / 2013$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
| 13893992 | $5 / 14 / 2013$ | RE45351 | $1 / 20 / 2015$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
| 13894009 | $5 / 14 / 2013$ | RE45543 | $6 / 2 / 2015$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
| 14550100 | $11 / 21 / 2014$ |  |  |  |  |
| 14577746 | $12 / 19 / 2014$ | RE47704 | $11 / 5 / 2019$ | Patented | Method and apparatus <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences <br> for selectively sharing <br> and passively tracking <br> communication device <br> experiences |
|  |  |  |  | Method and system for <br> generating media <br> recommendations in a <br> distributed <br> environment based on <br> tagging play history <br> information with <br> location information |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Case 6:20-cv-00259-ADA Document 55-5 Filed 01/05/21 Page 11 of 12

| 12192682 | $08 / 15 / 2008$ | 8117193 | $02 / 14 / 2012$ | Active | Tunersphere |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 13228688 | $09 / 09 / 2011$ | 8316015 | $11 / 20 / 2012$ | Active | Tunersphere |
| 13286746 | $01 / 11 / 2011$ | 8332425 | $12 / 11 / 2012$ | Active | Method and system for <br> generating media <br> recommendations in a <br> distributed <br> environment based on <br> tagging play history <br> information with <br> location information |
| 13655648 | $10 / 19 / 2012$ | 8577874 | $11 / 05 / 2013$ | Expired | Tunersphere |
| 14069761 | $01 / 11 / 2013$ | 8874554 | $10 / 28 / 2014$ | Active | Turnersphere <br> 13616651 |
|  | $09 / 14 / 2012$ | 8886666 | $11 / 11 / 2014$ | Expired | Method and system for <br> generating media <br> recommendations in a <br> distributed <br> environment based on <br> tagging play history <br> information with <br> location information |
| 14488456 | $09 / 17 / 2014$ | 8983937 | $03 / 17 / 2015$ | Active | Tunersphere |
|  |  |  |  | System for generating <br> media <br> recommendations in a <br> distributed <br> environment based on <br> seed information |  |
| 15056310 | $03 / 16 / 2015$ | 9275138 | $03 / 01 / 2016$ | Active |  |
|  |  |  |  | System for generating <br> media <br> recommendations in a <br> distributed <br> environment based on <br> seed information |  |

## SCHEDULE B

The specified part of the United States is the following counties of the State of Texas
Andrews, Atascosa, Bandera, Bastrop, Bell, Bexar, Blanco, Bosque, Brewster, Burleson, Burnet, Caldwell, Comal, Coryell, Crane, Culberson, Dimmit, Ector, Edwards, Falls, Freestone, Frio, Gillespie, Gonzales, Guadalupe, Hamilton, Hays, Hill, Hudspeth, Jeff Davis, Karnes, Kendall, Kerr, Kimble, Kinney, Lampasas, Lee, Leon, Limestone, Llano, Loving, Martin, Mason, Maverick, McCulloch, McLennan, Medina, Midland, Milam, Pecos, Presidio, Real, Reeves, Robertson, San Saba, Somervell, Terrell, Travis, Upton, Uvalde, Val Verde, Ward, Washington, Williamson, Wilson, Winkler, Zavalla;

Anderson, Angelina, Bowie, Camp, Cass, Cherokee, Collin, Cook, Delta, Denton, Fannin, Franklin, Grayson, Gregg, Hardin, Harrison, Henderson, Hopkins, Houston, Jasper, Lamar, Liberty, Marion, Morris, Nacogdoches, Newton, Orange, Panola, Polk, Rains, Red River, Rusk, Sabine, San Augustine, Shelby, Smith, Titus, Trinity, Tyler, Upshur, Van Zandt, and Wood.

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

## Slip Sheet

(Pursuant to Practice Notes to Federal Circuit Rule 25.1, this slip sheet is to cover pages in its corresponding version included in the Confidential Appendix)

# IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF TEXAS WACO DIVISION 

CAUSE NO. 6:20-cv-00259-ADA
JURY TRIAL DEMANDED

## ORDER DENYING DEFENDANTS’ MOTION TO TRANSFER

Before the Court is Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc’s (collectively, Samsung) Opposed Motion to Transfer (ECF No. 27), Plaintiffs Ikorongo Texas LLC and Ikorongo Technology LLC’s (collectively, Ikorongo) Response (ECF No. 54), and Defendants’ Reply (ECF No. 58). After having reviewed the parties’ briefs, case file, and applicable law, the Court has determined that Defendants' Motion to Transfer should be DENIED.

## I. Background

Ikorongo Texas filed this action on March 31, 2020, pursuant to the Court's original jurisdiction under 28 U.S.C. §§ 1331 and 1338(a). ECF No. 1. Ikorongo Texas and Ikorongo Technologies then filed an amended complaint on April 1, 2020. ECF No. 2. Plaintiffs allege patent infringement claims against Samsung relating to four U.S. Patents, Nos. RE 41,450; RE 45,543; RE 47,704; and 8,874,554. Id. at 3 .

On September 11, 2020, Samsung filed an opposed Motion to Transfer under 28 U.S.C. § 1404(a). Defendants’ Opposed Mot. to Transfer to the Northern District of California Under 28 U.S.C. § 1404(a) (hereinafter "Mot. to Transfer"), ECF No. 27. In Samsung’s Motion to Transfer, Samsung argues transfer to the Northern District of California is proper because: (1) Ikorongo could have originally filed suit in the proposed transferee venue and (2) the convenience of the
parties and interests of justice weigh in favor of transfer. Id. at 8-13. On January 5, 2021, Ikorongo filed a response to Samsung's Motion. Pls.' Resp. in Opp'n to Defs.' Mot. to Transfer Venue and Br. in Supp. (hereinafter "Resp."), ECF No. 54. On January 19, 2021, Samsung filed a reply. Defs.' Reply in Supp. of Defs.' Opposed Mot. to Transfer to the Northern District of California Under 28 U.S.C. § 1404(a) (hereinafter "Reply"), ECF No. 58.

## II. Legal Standard

In patent cases, motions to transfer under 28 U.S.C. § 1404(a) are governed by the law of the regional circuit. In re TS Tech USA Corp., 551 F.3d 1315, 1319 (Fed. Cir. 2008). Under § 1404(a), "[f]or the convenience of parties and witnesses, in the interest of justice, a district court may transfer any civil action to any other district or division where it might have been brought or to any district or division to which all parties have consented." 28 U.S.C. § 1404(a). Section 1404(a)'s threshold inquiry is whether the case could initially have been brought in the proposed transferee forum. In re Volkswagen AG, 371 F.3d 201, 202-03 (5th Cir. 2004) [Volkswagen I]. If that inquiry is satisfied, the Court determines whether transfer is proper by analyzing and weighing various private and public interest factors. Humble Oil \& Ref. Co. v. Bell Marine Serv., 321 F.2d 53, 56 (5th Cir. 1963); In re Apple Inc., 979 F.3d 1332, 1338 (Fed. Cir. 2020) (applying Fifth Circuit law). The private interest factors are "(1) the relative ease of access to sources of proof; (2) the availability of compulsory process to secure the attendance of witnesses; (3) the cost of attendance for willing witnesses; and (4) all other practical problems that make trial of a case easy, expeditious and inexpensive." In re Volkswagen of Am., Inc., 545 F.3d 304, 315 (5th Cir. 2008) (en banc) [Volkswagen II] (quoting Volkswagen I, 371 F.3d at 203). The public interest factors are "(1) the administrative difficulties flowing from court congestion; (2) the local interest in having localized interests decided at home; (3) the familiarity of the forum with the law that will govern
the case; and (4) the avoidance of unnecessary problems of conflict of laws [or in] the application of foreign law." Id. (quoting Volkswagen I, 371 F.3d at 203) (alterations in original). The factors are neither exclusive nor exhaustive, and no one factor is dispositive. Id. In applying these factors, the court enjoys considerable discretion and assesses the case "on an 'individualized, case-by-case consideration of convenience and fairness.'" In re Vistaprint Ltd., 628 F.3d 1342, 1346 (Fed. Cir. 2010) (quotation omitted). The burden to prove that a case should be transferred for convenience falls squarely on the moving party. See id. Although the plaintiff's choice of forum is not a separate factor entitled to special weight, respect for the plaintiff's choice of forum is encompassed in the movant's elevated burden to "clearly demonstrate" that the proposed transferee forum is "clearly more convenient" than the forum in which the case was filed. Id. at 314-15. While "clearly more convenient" is not necessarily equivalent to "clear and convincing," the moving party "must show materially more than a mere preponderance of convenience, lest the standard have no real or practical meaning." Quest NetTech Corp. v. Apple, Inc., No. 2:19-cv-118, 2019 WL 6344267, at *7 (E.D. Tex. Nov. 27, 2019).

## III. Discussion

The Court now turns to examine Samsung’s § 1404(a) arguments. Samsung argues the Northern District of California is both a proper and more convenient venue for this action. Mot. to Transfer at 8-13.

## A. Samsung Has Not Met the Threshold Requirement as to Ikorongo Texas LLC, But It Has Met the Threshold Requirement as to Ikorongo Technology LLC.

Samsung has not met its burden to show that Ikorongo Texas's current action could have initially been brought in the Northern District of California. Under 28 U.S.C. § 1400(b), a patent infringement action "may be brought" in any judicial district "where the defendant has committed acts of infringement and has a regular and established place of business." 28 U.S.C. § 1400(b).

Ikorongo alleges Samsung committed acts of infringement in the Northern District of California and does not dispute it has a regular and established place of business in the Northern District of California. However, Ikorongo argues that this case could not have been brought in the Northern District because Ikorongo Texas owns exclusive rights under the Asserted Patents only in a geographic location that includes this District. Resp. at 5. According to Ikorongo, this ownership only permits Ikorongo Texas to file suit in this geographic location because Samsung's alleged acts of infringement with respect to Ikorongo Texas only occur within this geographic location. Id. at $8 .{ }^{1}$

The Court agrees. Waterman v. Mackenzie, 138 U.S. 252 (1891) and 35 U.S.C. § 261, which Ikorongo references in support of its argument, provide the principles that an applicant, patentee, or the individual's assigns or legal representatives can convey an exclusive right under his application to the whole or any specified part of the United States. These rights include the right to sue infringers. Waterman, 138 U.S. at 255. The Specified Part allows Ikorongo Texas to protect its rights to the patent within the prescribed geographic region.

Samsung argues that Ikorongo alleges Samsung committed acts of infringement in the Northern District of California and that the Court should focus on a defendant's contacts with the transferee forum when determining the threshold issue rather than if a plaintiff can sue in the transferee forum based on contractual permissions. Reply at 2, 3. As to the first argument, Samsung presumes far too much from Ikorongo's complaint. Ikorongo merely alleges that Samsung infringed and continues to infringe in the United States in each paragraph cited by Samsung. First Am. Compl. for Patent Infringement, ECF No. 2, at $\mathbb{4} \mathbb{T}$ 21, 31, 41, 51. The Court does not read

[^8]these paragraphs as allegations that infringement occurred in the Northern District of California for each plaintiff's claims just as the Court would not read these paragraphs as allegations that infringement occurred in this District for each plaintiff's claims.

Samsung's second argument incorrectly casts Ikorongo Texas's Specified Part as incidental to Samsung's contacts with the proposed transferee forum. Of course, a defendant's mere contacts with the proposed forum does not satisfy the threshold question's test. As noted above, a plaintiff can bring an action in any district where the defendant has a regular and established place of business and where the defendant has committed acts of infringement. 28 U.S.C. § 1400(b). While Samsung protests that the Specified Part cannot fix venue, it misses the fact that infringement itself is not fixed in one venue. Indeed, the Supreme Court recognized as far back as Waterman that assignment of an exclusive right to make, use, and vend a patented machine within a district gives the grantee the right to sue for infringement within that district because the assignment excludes all others, even the patentee, from making, using, or vending like machines within that particular district. Waterman, 138 U.S. at 256 . Thus, the focus turns not to where Samsung committed any alleged acts of infringement but to where Samsung committed any alleged acts of infringement as to Ikorongo Texas. Any alleged infringement by Samsung of Ikorongo Texas’s Specified Part could have only occurred within the geographic locations described in the specialized part. As with the hypothetical grantee in Waterman, Ikorongo Texas only has the right to sue for infringement that occurred within the districts included in its assignment.

Samsung argues that the Court should not endorse Ikorongo’s "gamesmanship" because any patent holder could defeat § 1404 by simply creating a new entity and assigning that new entity the right to sue only in a particular district. Reply at 2-3. The Court does not agree. First, a suit
brought on any Specified Part still must satisfy the venue requirements of § 1400(b). An assignee cannot simply avoid transfer by pointing to its geographically limited right. The district still must be either the district where the defendant resides or where the defendant has committed acts of infringement and has a regular and established place of business. In other words, assignment cannot grant a plaintiff access to a forum it could not access already. Second, regardless of whether an entity's right to sue has been limited by a Specified Part, an action may always be brought in the judicial district where the defendant resides. 28. U.S.C. 1400(b). A § 1404 motion to transfer to that district will always satisfy the threshold issue. Thus, Samsung has not met the threshold issue as to Ikorongo Texas. However, even assuming, arguendo, that Samsung has met the threshold issue as to Ikorongo Texas, the Volkswagen private and public interest factors do not support transfer.

## B. The Volkswagen Private and Public Interest Factors Disfavor Transfer

In order to determine whether Samsung has demonstrated good cause, the Court must weigh the private and public interest factors catalogued in Volkswagen II. The private interest factors include: "(1) the relative ease of access to sources of proof; (2) the availability of compulsory process to secure the attendance of witnesses; (3) the cost of attendance for willing witnesses; and (4) all other practical problems that make trial of a case easy, expeditious and inexpensive." Volkswagen II, 545 F.3d at 315 (quoting Volkswagen I, 371 F.3d at 203). The public interest factors are "(1) the administrative difficulties flowing from court congestion; (2) the local interest in having localized interests decided at home; (3) the familiarity of the forum with the law that will govern the case; and (4) the avoidance of unnecessary problems of conflict of laws [or in] the application of foreign law." Id. (quoting Volkswagen I, 371 F.3d at 203) (alterations in original). If, when added together, the relevant private and public interest factors are in
equilibrium, or even if they do not clearly lean in favor of the transferee venue, the motion must be denied. Volkswagen II, 545 F.3d at 315. Once again, the Court's ultimate inquiry is which forum will best serve the convenience of the parties and the interests of justice. Koster v. Am. Lumbermens Mut. Cas. Co., 330 U.S. 518, 527 (1947).

In this case, the relevant factors do not support Samsung's motion to transfer this case. Samsung has not shown that the Northern District of California is "clearly more convenient" than the Western District of Texas when weighing the Volkswagen private and public interest.

## 1. The Private Interest Factors Do Not Clearly Establish that the Northern District of California is a More Convenient Venue

In considering private factors, the Court necessarily engages in a comparison between the hardships the defendant would suffer through the retention of jurisdiction and the hardships the plaintiff would suffer from transferring the action to the transferee venue. Cf. Iragorri v. United Technologies Corp., 274 F.3d 65, 74 (2d Cir. 2001) (stating courts engage in such a comparison for forum non conveniens analyses). The Court will assess each of these factors in turn.

## i. The Relative Ease of Access to Sources of Proof

A court looks to where documentary evidence, such as documents and physical evidence, is stored when considering the first private interest factor. Volkswagen II, 545 F.3d at 316. "To properly consider this factor, parties must "describe with specificity the evidence they would not be able to obtain if trial were held in the [alternate forum]." Piper Aircraft Co. v. Reyno, 454 U.S. 235, 258 (1981).

Samsung claims the ease of access to sources of proof compared across venues weighs heavily in favor of transfer, stating that the greatest volume of evidence is with key third parties located in the Northern District of California. Mot. to Transfer at 9. Specifically, Samsung argues that technical documents and source code relating to the accused technology are in Mountain View
and Emeryville, California. Id. Additionally, Samsung alleges that Ikorongo has not identified any evidence in this District, but to the extent such evidence does it exist, far more relevant evidence exists in the Northern District of California. Id. at 10.

Ikorongo responds to Samsung's contentions by advancing two arguments. First, Ikorongo argues this factor weighs against transfer because Samsung could access sources of proof just as easily in this District as in the proposed transferee district and that certain sources of proof are not even accessible in the proposed transferee district. Resp. at 9-10. According to Ikorongo, key third-party documents from Google are electronically accessible from anywhere and are not physically present in the Northern District of California. Id. Ikorongo also argues that Samsung has not identified any Samsung documents that are located in the Northern District of California. Id. at 11-12. Additionally, Ikorongo challenges the competence of Samsung's evidence on this factor; Ikorongo has filed a separate motion on this point. See Ikorongo Evidentiary Objs. to and Mot. to Strike Friedland Decl., ECF No. 53.

In its reply, Samsung reiterates that key third-party sources of proof are located in the Northern District of California. Reply at 4. Essentially, Samsung maintains that no Texas-based third-party locations can access relevant source code or technical documents, and all such sources of proof are created, maintained, and accessed by engineers and other third parties in the Northern District of California. Id. Samsung also argues that Ikorongo has not identified any relevant sources of proof in or around this District. Id.

The Court determines the ease of access to sources of proof factor weighs in favor of transfer. Given that Samsung is the accused infringer, it will likely have the bulk of the documents that are relevant in this case. See, e.g., In re Genentech, Inc., 566 F.3d 1338, 1345 (Fed. Cir. 2009) ("In patent infringement cases, the bulk of the relevant evidence usually comes from the accused
infringer. Consequently, the place where the defendant's documents are kept weighs in favor of transfer to that location."). Therefore, the Court finds that the location of the documents relevant in this case tilts this factor towards transfer. ${ }^{2}$

## ii. The Availability of Compulsory Process to Secure the Attendance of Witnesses

When balancing this factor, the Court considers the availability of compulsory process to secure the attendance of witnesses whose attendance may require a court order. Volkswagen II, 545 F.3d at 316.

In its initial brief, Samsung asserts this factor weighs in favor of transfer because the majority of third-party witnesses who it expects to testify are located in the Northern District of California. Mot. to Transfer at 11. Ikorongo responds to Samsung’s arguments by stating the factor weighs against transfer. Resp. at 12-13. Ikorongo argues Samsung has not provided evidentiary support that the majority of third-party witnesses reside in the proposed transferee district and that the Court should not credit this argument. Id. at 12. Ikorongo also argues that the factor weighs

[^9]against transfer because Google is not a true third-party in this case. Id. at 13. Finally, Ikorongo alleges that third-party end users reside in this District, and it might need to subpoena those individuals for trial. Id. In response, Samsung simply points out that compulsory process would exist over non-party engineers and inventors and that Ikorongo has not specifically identified witnesses likely to testify at trial who are subject to the Court's compulsory process. Reply at 45.

After considering the parties’ arguments, the Court finds that this factor neutral. First, as to Samsung's arguments that third-party engineers are not within the Court's subpoena power, this Court has previously held that certain third parties with locations within this District and their employees do fall within the Court's subpoena power. Parkervision, Inc. v. Intel Corp., No. 6:20-cv-00108, 2021 WL $\qquad$ , at *7 (W.D. Tex. Jan. 26, 2021).

Second, and perhaps more to the point, Samsung has not shown any potential witness is unwilling to testify. When no party has alleged or shown any witness's unwillingness, a court should not attach much weight to the compulsory process factor. Duha v. Agrium, Inc., 448 F.3d 867, 877 (6th Cir. 2006); CloudofChange, LLC v. NCR Corp., No. 6:19-cv-00513, 2020 WL 6439178, at *4 (W.D. Tex. Mar. 17, 2020). Here, neither Samsung nor Ikorongo have identified any unwilling witnesses. Indeed, while Samsung points to Google and Avast employees as witnesses within the subpoena power of the Northern District of California, the Court is reluctant to give these witnesses weight because these parties collaborate with Samsung to implement their technology into Samsung products, which makes it unlikely that the employees would be unwilling to testify at a trial concerning Samsung. Parus Holdings Inc. v. LG Elecs. Inc., No. 6:19-cv-00432, 2020 WL 4905809, at *4 (W.D. Tex. Aug. 20, 2020). Absent any showing of unwillingness, the Court will not attach much weight to this factor. Consequently, the Court finds this factor neutral.

## iii. The Cost of Attendance for Willing Witnesses

The convenience of witnesses is the most important factor in a § 1404(a) analysis. Genentech, Inc., 566 F.3d at 1342. While a court should not consider the significance of identified witnesses’ testimonies, it should consider whether the witnesses may provide materially relevant evidence. Id. at 1343.

To assist in analyzing this factor, the Fifth Circuit adopted a "100-mile rule." Volkswagen I, 371 F.3d at 204-205; see also Volkswagen II, 545 F.3d at 317. "When the distance between an existing venue for trial of a matter and a proposed venue under § 1404(a) is more than 100 miles, the factor of inconvenience to witnesses increases in direct relationship to the additional distance to be traveled." Volkswagen I, 371 F.3d at 204-05. Consequently, the threshold question is whether the movant's proposed venue and a plaintiff's chosen venue are more than 100 miles apart. See Volkswagen II, 545 F.3d at 317. If the distance is greater, then a court will consider the distances between the witnesses and the two proposed venues. See id. Importantly, the venue need not be convenient for all witnesses. Genentech, Inc., 566 F.3d at 1345. If a substantial number of witnesses reside in one venue and no witnesses reside in another, the factor will weigh in favor of the venue where witnesses reside. See id.

As previously stated by this Court, "given typical time limits at trial, the Court does not assume that all of the party and third-party witnesses listed in 1404(a) briefing will testify at trial." Fintiv, Inc., 2019 WL 4743678, at *6. Indeed, the Court assumes only a few party witnesses and even fewer non-party witnesses (if any) will testify at trial. Id. Consequently, long lists of potential party and non-party witnesses do not affect the Court's analysis for this factor. Id.

Samsung argues that this factor weighs in favor of transfer because its relevant party witnesses and third-party witnesses are either closer to or within the Northern District of California
than this District. Mot. to Transfer at 11-12. In response, Ikorongo argues that Samsung has not carried its burden to show that the proposed transferee district is clearly more convenient because relevant witnesses are scattered across the country. Resp. at 13-14. According to Ikorongo, the varied locations of these witnesses make this District more convenient than the proposed transferee district. Id. Additionally, Ikorongo also argues Samsung failed to carry its burden on this factor because the cost of bringing witnesses to the Northern District of California far exceeds the cost of bringing them to this District. Id. at 15-16. Finally, Ikorongo stated it would cover the costs for the attendance of any live witness other than Samsung corporate representatives. Id. at 16. Samsung replies by stating it expects key testimony from third-party witnesses who are located in the Northern District of California. Reply at 5. Samsung also argues that Ikorongo has not identified any relevant witnesses in this District. Id. Finally, Samsung states that any cost savings due to the difference in food and lodging costs between the two districts would likely balance out because more witnesses would have to travel to this District. Id.

The Court finds that this factor weighs only very slightly in favor of transfer. First, the convenience of party witnesses is typically given little weight because the witnesses’ employer could compel their testimony at trial. Turner v. Cincinnati Ins. Co., 6:19-cv-642-ADA-JCM, 2020 WL 210809, at *4 (W.D. Tex. Jan. 14, 2020); Freehold Licensing, Inc. v. Aequitatem Capital Partners, LLC, A-18-cv-413 LY, 2018 WL 5539929, at *7 (W.D. Tex. Oct. 29, 2018). Some courts have considered how far these witnesses would need to travel if few or no witnesses reside within the current district. See, e.g., Genentech, Inc., 566 F.3d at 1345 (determining the convenience factor favored transfer, and not only slightly, in part because the defendants’ employees and managers would not have to travel as far and the foreign plaintiff had no connection to the current venue); contra Fintiv, Inc., 2019 WL 4743678, at *6 (stating the cost of attendance for party
witnesses did not weigh for or against transfer because there were several potential witnesses in both potential venues). However, because courts give the convenience of party witnesses little weight, the Court finds this consideration neutral irrespective of where these individuals may reside.

The Court agrees with Samsung that Ikorongo's failure to identify specific third-party witnesses in this District should factor into the analysis of this factor. The Court also recognizes that Samsung has established that Google and Avast would have few potential witnesses in this District and that it would be more convenient for these third-party witnesses to testify in the Northern District of California. This Court has recognized that the Northern District of California is the more convenient forum for a high percentage of Google’s employees who may be relevant witnesses. Parus Holdings Inc., 2020 WL 4905809, at *6. However, as mentioned above, this Court has previously recognized that only a few party witnesses and even fewer non-party witnesses will likely testify at trial. Fintiv, Inc., 2019 WL 4743678, at *6. Moreover, given this reality, the Court finds the difference in cost of food and lodging somewhat relevant. Perhaps if every third-party witness were to testify, the cost-savings between the two districts would offset. Given the likelihood that not every identified third-party witness will testify and that Ikorongo has stated a willingness to cover those expenses for non-party witnesses, the Court finds these considerations not insignificant when evaluating this factor. Consequently, this factor weighs only slightly in favor of transfer.

## iv. Other Factors That Make Trial Easy, Expeditious, and Inexpensive

In considering a transfer motion, the court considers "all other practical problems that make trial of a case easy, expeditious and inexpensive." Volkswagen II, 545 F.3d at 315. Samsung initially asserted that this factor weighs neutrally because the case is still in early stages and transfer
would not cause delays. Mot. to Transfer at 12. Ikorongo responded by arguing that transferring the case would actually be less expeditious because Ikorongo has filed suit against other entities, such as Bumble, in this District on some of the same patents Resp. at 16-17. Ikorongo also claims that transfer would make the case more expensive and hinder the progress of the case. Id. at 1718. Samsung counters by now arguing the factor favors transfer because the case is still in its early stages. Reply at 5-6. Samsung also argues that the co-pendency of related suits does not automatically tip this factor in Ikorongo’s favor. Id.

The Court finds this factor weighs against transfer. Even if transfer may not cause delay as Samsung argues, the Court notes such a finding would not weigh for or against transfer. The fact that a transfer would not cause a delay does not mean it rises to the level of a practical problem that clearly shows the proposed transferee venue is more convenient. It simply shows transfer is feasible.

While cases involving the same patents but different defendants, products, and witnesses will not necessarily be expedited by being in the same court, judicial economy may be served by having the Court try cases that involve the same patents. See Hammond Dev. Int'l, Inc. v. Google LLC, 1:20-cv-00342-ADA, 2020 WL 3452987 (W.D. Tex. June 24, 2020) (denying motion to transfer venue and finding that judicial economy was served by having the same district court try cases involving the same patents due to consolidation of the cases). As Ikorongo correctly points out, it has filed suit against Bumble in this District for infringing on patents asserted in this action, and Bumble withdrew its motion to transfer. Samsung's argument that the co-pendency of related suits should not play a role in the Court's analysis does not apply here. Granted, the co-pendency of suits does not automatically tip this factor in favor of the non-movant. In re Google Inc., No. 2017-107, 2017 WL 977038, at *2 (Fed. Cir. Feb. 23, 2017). However, this simply means that the
mere existence of co-pending cases does not weigh against transfer. It does not mean co-pending cases should never affect the weight of this factor.

An examination of the case cited by Samsung proves instructive. In Google, there were copending cases against Walmart, Google, and Amazon. Id. All three filed motions to transfer to the same venue. Id. at *1. The district court denied Walmart's motion to transfer and found this factor weighed against transfer in large part because of the co-pending cases against Google and Amazon. Id. at *2. The district court then denied Google’s motion to transfer and found this factor weighed against transfer in large part because of the co-pending cases against Walmart and Amazon. Id. The Court of Appeals held that the district court incorrectly analyzed this factor because "[b]ased on the district court's rationale . . . the mere co-pendency of related suits in a particular district would automatically tip the balance in non-movant's favor regardless of the existence of copending transfer motions and their underlying merits." Id. The outcome of the district court's analysis of this factor would, at best, depend on which transfer motion the court ruled on first. Id. In other words, mere co-pendency cannot weigh against transfer; it must implicate issues of judicial economy, potentially inconsistent rulings, or expeditious litigation.

Here, co-pendency does raise these concerns. Ikorongo has a co-pending case against Bumble implicating the same patents in this District. That case will continue in this District. The Court emphasizes it does not find this factor weighs against transfer merely because Ikorongo has filed suits against multiple defendants in this District. Rather, judicial economy and the possibility of inconsistent rulings causes the Court to find this factor weighs against transfer, given that at least one of the co-pending cases will remain in this District.

## 2. The Public Interest Factors Do Not Clearly Establish the Northern District of California is a More Convenient Venue

The relevant public-interest factors also do not favor transfer. As previously noted, these factors include: (1) the administrative difficulties flowing from court congestion; (2) the local interest in having localized interests decided at home; (3) the familiarity of the forum with the law governing the case; and (4) the avoidance of unnecessary problems of conflict of laws or the application of foreign law. Volkswagen II, 545 F.3d at 315. The Court will also consider each of these factors in turn.

## i. Administrative Difficulties

Administrative difficulties manifest when litigation accumulates in congested centers instead of being handled at its origin. Gulf Oil, 330 U.S. at 508. This factor concerns "whether there is an appreciable difference in docket congestion between the two forums." Parsons $v$. Chesapeake \& Ohio Ry. Co., 375 U.S. 71, 73 (1963); Koehring Co. v. Hyde Constr. Co., 324 F.2d 295, 296 (5th Cir. 1963). The relevant inquiry under this factor is the speed with which a case comes to trial and is resolved. Genentech, Inc., 566 F.3d at 1347.

Samsung states that, while this Court may be able to try this case earlier than the Northern District of California, time-to-trial is the most speculative of factors in this analysis. Mot. to Transfer at 13. Ikorongo, on the other hand, argues against transfer because the Court has set a trial date of January 2022 and surmises that the Northern District of California will suffer from more congestion than usual given the continued suspension of in-person proceedings due to the current COVID-19 pandemic. Resp. at 18. Samsung responds by simply stating this factor is neutral because time-to-trial is speculative. Reply at 6 .

This Court recently had reason to analyze the difference in congestion between the Northern District of California and this District. Parus Holdings Inc., 2020 WL 4905809, at *7.

At that time, this Court's time-to-trial was $25 \%$ faster than the Northern District of California. Id. Further, the comparison of time-to-trial throughout the Western District of Texas may overlook a faster time-to-trial within the Waco Division. Importantly, the Waco Division has its own patentspecific Order Governing Proceedings ("OGP") that ensures efficient administration of patent cases. In fact, a trial date has already been set in January 2022, which is roughly 11 months away. These facts indicate a greater efficiency of bringing cases, especially patent cases, to trial in the Western District of Texas than in the Northern District of California. This factor weighs against transfer.

## ii. Local Interests

There is "a local interest in having localized controversies decided at home." Gulf Oil Corp. v. Gilbert, 330 U.S. 501, 511 (1947); Piper Aircraft, 454 U.S. 235, 260 (1981).

Samsung argues that the Northern District of California has a stronger local interest in this litigation than the Western District of Texas because three of the applications were developed there. Mot. to Transfer at 13. To further bolster this position, Samsung points out that Ikorongo Texas formed only a few weeks before it filed suit against Samsung and has a North Carolina address. Id. In response, Ikorongo argues that Samsung has not provided competent evidence that no Austin-based Google employees work on relevant functions. Resp. at 19. Ikorongo alleges Samsung ignores the fact that Ikorongo Texas's claims relate to infringement in Texas and this District. Id. Samsung replies by stating nothing about Ikorongo Texas's infringement claim is distinct from an infringement claim in any other district or the specific interests of the proposed transferee forum given the development of "nearly every Accused Application" in the Northern District of California. Reply at 6 .

The Court finds this factor weighs neutrally for the reasons that follow. First, Samsung rightly argues that the infringement of an accused product offered nationwide does not allow for any venue to claim a substantial interest. In re Hoffmann-La Roche Inc., 587 F.3d 1333, 1338 (Fed. Cir. 2009). Such arguments in this regard typically speak more to whether an entity could reasonably expect to be hailed into court in this District, not whether this District is more convenient for parties, witnesses, and in the interest of justice. The localized interest of a district exists when "the cause of action calls into question the work and reputation of several individuals residing in or near that district who presumably conduct business in that community." Id. at 1336. Such a situation presents itself here.

However, these interests are mitigated because a company's presence in a particular district weighs only slightly in favor of transfer because "it is generally a fiction that patent cases give rise to local controversy or interest, particularly without record evidence suggesting otherwise." Found. Med., Inc., 2017 WL 590297, at *4. Along with this fiction, Ikorongo Texas’s claims do specifically relate to infringement in this District. This fact holds true regardless of when the entity formed because Ikorongo Texas has the exclusive right to assert infringement claims that arise within this District. Accordingly, the Court finds that the local interest in having localized interests decided at home weighs neutrally.

## iii. Familiarity of the Forum with the Law That Will Govern the Case

Both parties agree that this factor is neutral. Mot. to Transfer at 13; Resp. at 19. The Court also agrees.

## iv. Avoiding Conflict of Laws and the Application of Foreign Laws Factors

Both parties agree that this factor is neutral. Mot. to Transfer at 13; Resp. at 19. The Court also agrees.

## IV. Conclusion

Having found that Samsung has not met the threshold issue as to Ikorongo Texas and, even if it has satisfied the threshold issue, that the access to proof and the cost of attendance for willing witnesses weigh in favor or only slightly in favor of transfer while other practical problems that make trial of a case easy, expeditious and inexpensive, and administrative difficulties weigh against transfer with the other factors being neutral, the Court finds that Samsung has not met its "heavy burden" to demonstrate that the Northern District of California is "clearly more convenient." Volkswagen II, 545 F.3d at 314 n.10, 315.

IT IS THEREFORE ORDERED that Defendants' Motion to Transfer (ECF No. 27) is DENIED. It is further ORDERED that the above-styled case remain on the docket of United States District Judge Alan D Albright.

SIGNED this $1^{\text {st }}$ day of March, 2021.


## PROOF OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Federal Circuit by using the appellate CM/ECF system on April 6, 2021.

A copy of the foregoing was served upon the following counsel of record and district court via an express carrier:

Bradley Earl Beckworth
Jeffrey John Angelovich
Nicholas Andrew Wyss
Nix Patterson, LLP
3600 N. Capital Of Texas Hwy., Bldg. B, Suite 350
Austin, TX 78746
Telephone: (512) 328-5333
bbeckworth@nixlaw.com
jangelovich@nixlaw.com
nwyss@nixlaw.com
Karl Anthony Rupp
Nix Patterson, LLP
Advancial Building
1845 Woodall Rodgers Freeway, Suite 1050
Dallas, TX 75201
Telephone: (972) 831-1188
krupp@nixlaw.com
Howard Wisnia
Wisnia PC
12707 High Bluff Drive
Suite 200
San Diego, CA 92130
Telephone: (858) 461-0989
Howard@wisnialaw.com
Derek T. Gilliland

Sorey, Gilliland \& Hull, LLP
109 W. Tyler Street
Longview, TX 75601
Telephone: (903) 212-2822
derek@soreylaw.com
Hon. Alan D. Albright
United States District Court for the Western District of Texas
800 Franklin Avenue, Room 301
Waco, Texas 76701
Telephone: (254) 750-1510
I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

Dated: April 6, 2021
/s/ Bradley N. Garcia
Bradley N. Garcia
Counsel for Petitioners


[^0]:    ${ }^{1}$ See also Order Governing Proceedings - Patent Case, Version 3.3 (W.D. Tex. Feb. 23, 2021), https://www.txwd.uscourts.gov/wp-content/uploads/ Standing\%20Orders/Waco/Albright/Order\%20Governing\%20Proceedings\%20\%20Patent\%20Cases\%20022321.pdf.

[^1]:    ${ }^{1}$ See, e.g., https://www.samsung.com/semiconductor/insights/news-events/austin-texas-named-new-home-for-samsung-electronics/; https://www.statesman.com/news/20181115/samsung-says-

[^2]:    ${ }^{1}$ See, e.g., https://www.samsung.com/semiconductor/insights/news-events/austin-texas-named-new-home-for-samsung-electronics/; https://www.statesman.com/news/20181115/samsung-says-it-will-invest-291-million-in-austin-operations; https://www.service-center-locator.com/samsung/texas/samsung-austin-texas.htm.

[^3]:    ${ }^{1}$ U.S. Patent Nos. RE41,450, RE45,543, RE47,704, and '8,874,554 (collectively, "Asserted Patents").

[^4]:    May 1,2019 Android 9.0 (Pie), upgradable to Android 10, One UI 2.0 0 in auo Jun 30, 2019 Android 9.0 (Pie), upgradable to Android 10, One UI 2.0 Jun 35,2019 Andrid 9.0 (Pie) upgradable to Android 10 One UI 2.0 Feb 25, 2019 Android 9.0 (Pie), upgradable to Android 10 , One UI 2.0 Feb 25, 2019 Android 9.0 (Pie), upgradable to Android 10 , One UI 2.0
     Feb 25, 2019 Android 9.0 (Pie), upgradable to Android 10 , One Ul 2.0
     Feb 25, 2019 Android 9.0 (Pie), upgradable to Android 10, One Ul 2.0 Feb 25, 2019 Android 9.0 (Pie), upgradable to Android 10 , One Ul 2.0
     Feb 25,2019 Android 9.0 (Pie), upgradable to Android 10 , One UI 2.0 Feb 25, 2019 Android 9.0 (Pie), upgradable to Android 10 , One UI 2.0 Feb 25, 2019 Android 9.0 (Pie), upgradable to Android 10, One UI 2.0 Feb 25, 2019 Android 9.0 (Pie), upgradable to Android 10 , One Ul 2.0
    

    Apr 30, 2019 Android 9.0 (Pie)
    Feb 25, 2019 Android 9.0 (Pie), upgradable to Android 10 , One UI 2.0
    
    
     Feb 25, 2019 Android 9.0 (Pie), upgradable to Android 10 , One UI 2.0
    
    
    
    
    
     Apr 5, 2019 Android 9.0 (Pe), On U 2019 Android 9.0 (Pie), One UI Apr 5, 2019 Android 9.0 (Pie), One UI
    
    
    
    
     Mar 19, 2019 Android 9.0 (Pie), upgradable to Android 10, One UU 2.0 Mar 19, 2019 Android 9.0 (Pie), upgradable to Android 10, One UI 2.0
    

[^5]:    May 30, 2018 Android 8.0 (Oreo), upgradable to Android 10, One UI 2.0 May 30,2018 Android 8.0 (Oreo), upgradable to Android 10, One UI 2.0 May 30, 2018 Android 8.0 (Oreo) May 30, 2018 Android 8.0 (Oreo) May 30, 2018 Android 8.0 (Oreo)

    May 30, 2018 Android 8.0 (Oreo), upgradable to Android 9.0 (Pie), One UI May 30, 2018 Android 8.0 (Oreo), upgradable to Android 9.0 (Pie), One UI May 30, 2018 Android 8.0 (Oreo), upgradable to Android 9.0 (Pie), One UI May 30, 2018 Android 8.0 (Oreo), upgradable to Android 9.0 (Pie), One UI May 30, 2018 Android 8.0 (Oreo), upgradable to Android 9.0 (Pie), One UI May 30, 2018 Android 8.0 (Oreo), upgradable to Android 9.0 (Pie), One UI May 30, 2018 Android 8.0 (Oreo), upgradable to Android 10, One UI 2.0 May 30, 2018 Android 8.0 (Oreo), upgradable to Android 10, One UI 2.0 May 30, 2018 Android 8.0 (Oreo), upgradable to Android 10, One UI 2.0 May 30, 2018 Android 8.0 (Oreo), upgradable to Android 10, One UI 2.0

     | 0 |
    | :--- |
    | ${ }_{3}$ |

     May 30, 2018 Android 8.0 (Oreo), upgradable to Android 10, One UI 2.0 Apr 30, 2018 Android 8.0 (Oreo), upgradable to Android 9.0 (Pie)
    
    
     Apr 30, 2018 Android 7.0 (Nougat), upgradable to Android 9.0 (Pie) Apr 30, 2018 Android 7.0 (Nougat), upgradable to Android 9.0 (Pie) Apr 30, 2018 Android 7.0 (Nougat), upgradable to Android 9.0 (Pie)
    
    
     Mar 30, 2018 Android 8.0 (Oreo), upgradable to Android 10, One UI 2.0
    
    
    
    
    
    
     Mar 30, 2018 Android 8.0 (Oreo), upgradable to Android 10, One UI 2.0
     Mar 30, 2018 Android 8.0 (Oreo), upgradable to Android 10, One UI 2.0
    

[^6]:    Location Labs was acquired by AVG Technologies for $\$ 220$ M on Sep 3, 2014. This deal was done in Cash.

[^7]:    PROPERTY NUMBERS Total: 17

[^8]:    ${ }^{1}$ Because neither party argues that Samsung cannot satisfy this issue as to Ikorongo Technology LLC, the Court will simply state the threshold issue has been satisfied for Ikorongo Technology.

[^9]:    ${ }^{2}$ Although the Court wishes to make clear that it has followed Fifth Circuit precedent regarding this factor, the Court believes that the factor itself is at odds with the realities of modern patent litigation. In patent disputes like the one now before the Court, relevant documents are typically located on a server, which may or may not be in the transferee district (or given the use of cloud-based storage, may be located on multiple servers in multiple districts, or even multiple countries) and are equally accessible from both the transferee and transferor districts. Therefore, in this Court's view, there is no difference in the relative ease of access to sources of proof from the transferor district as compared to the transferee district when the vast bulk of documents are electronic. District courts - particularly those with patent-heavy dockets that have very significant document productions - have recently begun to acknowledge this reality. Uniloc USA Inc. v. Samsung Elecs. Am., No. 2:16-cv-00642-JRG, ECF No. 216 at 8-9 (E.D. Tex. Apr. 19, 2017) ("Despite the absence of newer cases acknowledging that in today's digital world computer stored documents are readily moveable to almost anywhere at the click of a mouse, the Court finds it odd to ignore this reality in favor of a fictional analysis that has more to do with early Xerox machines than modem server forms."). The Court emphasizes that this factor was meant to be one of convenience, developed in a now antiquated world where hauling hundreds of boxes of physical documents across the country was most impractical. Indeed, it seems odd that, despite the likely relative ease of access to all kinds of relevant documents in today's digital world, a party (and a technologically savvy one at that) can automatically tilt a private factor in this analysis in its favor and away from a plaintiff's selected forum simply by raising its hand and acknowledging its status as the alleged infringer. However, under current Fifth Circuit precedent, the physical location of electronic documents affects this factor's outcome. See, e.g., Volkswagen II, 545 F.3d at 316. Even though it would not have changed the outcome of this motion, this Court expresses its hope that the Fifth Circuit will consider addressing and amending its precedent to explicitly give district courts the discretion to fully consider the ease of accessing electronic documents.

