**IN THE UNITED STATES DISTRICT COURT**
**FOR THE EASTERN DISTRICT OF TEXAS**
**SHERMAN DIVISION**

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| **COMPETITIVE ACCESS SYSTEMS, INC.** | ) | |
| | ) | |
| | ) | Case No: |
| Plaintiff, | ) | |
| | ) | **JURY TRIAL DEMANDED** |
| v. | ) | |
| | ) | |
| **SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC., and SAMSUNG RESEARCH AMERICA** | ) | |
| | ) | |
| Defendants. | ) | |

## COMPLAINT

Plaintiff Competitive Access Systems, Inc. ("CAS" or "Plaintiff") makes this Complaint, including a demand for a jury trial, against Defendants Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Research America (collectively, "Defendants" or "Samsung") and alleges as follows:

## NATURE OF THE ACTION

1. This is an action for infringement of U.S. Patent Nos. 8,861,349; 9,350,649; 11,418,641; 11,582,343; 8,228,801, and 10,868,908 ("Asserted Patents"). This action seeks past money damages for the Defendants' acts of making, using, selling, offering for sale, and/or importing its infringing products that infringe CAS's rights in six issued U.S. Patents. Such infringing products include, but are not limited to, consumer electronic products, including but not limited to Samsung's Galaxy Smartphones, that implement 3GPP standards in conjunction with Samsung device's simultaneous use of 4G LTE and 5G connections.

## THE PARTIES



Competitive Access Systems EX2010
Red Hat, Inc. v. Competitive Access Systems, Inc.
IPR2025-01380

2. Plaintiff Competitive Access Systems, Inc., is incorporated under the laws of the State of Texas, and its principal place of business is located in Plano, Texas.

3. On information and belief, Defendant Samsung Electronics Co., Ltd. ("SEC") is a publicly held corporation organized under the laws of Republic of Korea, with its principal place of business at 129, Samsung-Ro, YeongTong-Gu, Suwon-Si, Gyonggi-Do, 443-742, Republic of Korea. SEC places products in the stream of commerce knowing or understanding that such products would be sold and used in the United States, including in this District. SEC sells to SEA products, including smartphones that implement and practice 5G wireless technologies and SEA sells and offers to sell those products in the United States. Samsung products with 5G capability also have 4G capability.

4. On information and belief, Defendant Samsung Electronics America, Inc. ("SEA") is a United States corporation organized under the laws of the State of New York, with its principal place of business at 85 Challenger Road, 6th Floor, Ridgefield Park, NJ 07660. SEA is a wholly owned subsidiary of SEC. SEA conducts business in this District and maintains a regular place of business in this District. SEA is registered to do business in Texas and has a registered agent for service of process, CT Corporation System, that has an address listed in Texas as 1999 Bryan St., Ste. 900, Dallas, Texas 75201. SEA has an office where it conducts business located at 6625 Excellence Way, Plano, Texas 75023. SEA employs full-time personnel at this office, including certain sales personnel and engineers. SEA distributes certain Samsung consumer electronics products, including the infringing products, in the United States, including in this District. SEA places these products in the stream of commerce knowing or understanding that such products would be sold and used in the United States, including in this District.

5. On information and belief, Defendant Samsung Research America ("SRA") is a

California corporation with its principal place of business at Mountain View, California, and is a wholly owned subsidiary of SEA. SRA is a subsidiary of SEC. SEC is the parent corporation of SRA. SRA is responsible for research and development related to cellular standards, smartphones, cellular network infrastructure equipment, and other mobile devices. SRA conducts business in this District and maintains a regular place of business in this District. SRA is registered to do business in Texas and has registered agent, CT Corporation, located at 1999 Bryan St., Ste. 900, Dallas, Texas 75201. SRA has an office where it conducts business at 6105 Tennyson Parkway, Plano, Texas 75024.

6. Defendants SEA, SEC, and SRA (collectively "Samsung" or "Defendants") are related entities that work in concert to design, manufacture, import, distribute, offer to sell and/or sell the infringing products.

## JURISDICTION AND VENUE

7. This action arises under the United States patent laws, 35 U.S.C. § 101, *et seq.*, including 35 U.S.C. § 271, *et seq*. This Court has subject matter jurisdiction under 28 U.S.C. § 1331 and § 1338(a).

8. This Court has personal jurisdiction over Samsung in this action pursuant to due process and/or the Texas Long Arm Statute, by virtue of at least the substantial business each Defendant conducts in this forum, directly and/or through intermediaries, including but not limited to: (1) having committed acts within the Eastern District of Texas giving rise to this action and having established minimum contacts with this forum such that the exercise of jurisdiction over each Defendant would not offend traditional notions of fair play and substantial justice; (2) having directed its activities to customers in the State of Texas and this District, solicited business in the State of Texas and this District, transacted business within the State of

Texas and this District, attempted to derive financial benefit from residents of the State of Texas and this District, including benefits directly related to the instant patent infringement causes of action set forth herein; (3) having placed their products and services into the stream of commerce throughout the United States and having been actively engaged in transacting business in Texas and in this District; and (4) either individually, as members of a common business enterprise, and/or in conjunction with third parties, having committed acts of infringement within Texas and in this District.

9. For example, SEA maintains regular and established offices in the Eastern District of Texas, including at 6625 Excellence Way, Plano, TX 75023. Further, on information and belief, SEC directs and controls the actions of SEA, or acts in consort with SEA, such that it too maintains regular and established offices in the Eastern District of Texas, including at 6625 Excellence Way, Plano, TX 75023. Furthermore, the purposeful contacts by SEA are imputable to SEC. Upon information and belief, Samsung's Plano office serves as a hub for its smartphone product line with divisions, including networks, marketing, wearables, and product management being located in the Plano facilities in this District.

10. Each defendant, directly or through their distribution network, has purposefully and voluntarily placed infringing products in the stream of commerce knowing and expecting them to be purchased and used by consumers in the United States, including in the Eastern District of Texas.

11. On information and belief, Samsung has also derived substantial revenues from infringing acts in the Eastern District of Texas, including from the sale and use of infringing products (including the Infringing Products, to be defined below).

12. Venue is proper in this District pursuant to 28 U.S.C. § 1391 and 28 U.S.C. §

1400.

13. For example, venue is proper against SEC in this District pursuant to 28 U.S.C. § 1391(c)(3) because SEC is a foreign corporation not resident in the United States, and venue is proper in any district against a foreign corporation. Venue is further proper as to SEC under 28 U.S.C. § 1391(b)(2) because SEC performs a substantial part of its infringing acts in this District by making, using, selling, offering to sell, and importing infringing products in this District and SEC has committed, and continues to commit, acts of patent infringement within the District.

14. For example, venue is proper against SEA in this District pursuant to 28 U.S.C. § 1391 (b)(1). (b)(2), (b)(3), (c)(2) and/or 28 U.S.C. § 1400(b) because SEA has a regular and established places of business in this District, including a 216,000 square foot facility at 6625 Excellence Way, Plano, TX 75023, and SEA has committed acts of infringement in this District.

15. Venue is proper against SRA in this District pursuant to 28 U.S.C. § 1391 (b)(1). (b)(2), (b)(3), (c)(2) and/or 28 U.S.C. § 1400(b) because SRA has a regular and established place of business in this District and has committed acts of infringement in this District.

16. Defendants are properly joined under 35 U.S.C. § 299(a)(1) because Defendants, through their own acts and/or through the acts of other entities acting as their agent, representative, or alter ego, commonly and/or jointly design and/or sell infringing products such that at least one right to relief is asserted against Defendants jointly, severally, and in the alternative with respect to the same transactions, occurrences, or series of transactions or occurrences relating to the making, using, selling and/or offering to sell in, and/or importing into the United States the same infringing products.

17. Defendants are properly joined under 35 U.S.C. § 299(a)(2) because Defendants, through their own acts and/or through the acts of other entities acting as their agent,

representative, or alter ego, make, use, sell, and/or offer to sell in, and/or import into the United States the same or similar infringing products, such that questions of fact will arise that are common to all Defendants.

18. Upon information and belief, SEC, SRA, and SEA, acting in consort, have placed the infringing products in the stream of commerce, knowing the likely destination of the products in the United States and this District.

19. Upon information and belief, SEC has further purposefully availed itself of the United States and this District by directing SEA and SRA to take action in the United States and this District.

20. Upon information and belief, each Defendant serves as agent, representative, and/or alter ego of each other Defendant for the purposes of conducting business in the United States and this District in relation to making, using, selling, offering to sell, and importing into the United States the infringing products.

21. Upon information and belief, each Defendant exercises direction and control over the performance of each other Defendant, or the Defendants form a joint enterprise such that the performance by one Defendant is attributable to the other Defendant.

## INTRODUCTION

***CAS and Eric Delangis***

22. CAS was founded by Eric Delangis as a technology design and development company.

23. Mr. Delangis has extensive experience designing communications systems for satellites and terrestrial applications. While living in rural Colorado, Mr. Delangis was unable to obtain high speed internet. Rather than settle for slow, dial-up internet, Mr. Delangis attempted

to find a commercial solution for pooling multiple internet connections. When he was unable to locate any solutions to his problem, Mr. Delangis invented innovative router technology to route data over several internet connections, including DSL, ISDN, dial-up, and wireless connections, and combine the received data for the intended receiving device.

24. In particular, Mr. Delangis developed a variety of systems and protocols for transmitting and receiving data in a faster and more efficient manner by transmitting data over multiple communication channels to improve the effective bandwidth between the sender and recipient of the data. The usage of multiple communication channels further provides enhanced reliability as data can be transmitted even when some of the communication channels are suffering from reduced performance or are unavailable. This improves the functionality of the computer networks themselves, particularly as compared to the solutions available at the time Mr. Delangis invented his router technology.

25. Mr. Delangis' solution is necessarily rooted in computer technology and wired and wireless communications to overcome a problem specifically arising in the realm of computer networks. By enabling the simultaneous use of multiple communication channels, Mr. Delangis' technology reduces the likelihood of dropped connections, slow data rates, or service interruptions. This is particularly important for wireless applications that demand high reliability, including video conferencing, real-time navigation, and emergency communications, where network interruptions can have significant consequences. The increased speed, bandwidth, and reliability this technology offers is a key advantage for users.

***Samsung Products***

26. Samsung designs, markets and sells consumer electronics, such as wireless portable electronic devices, including smartphones, and networking devices, such as

telecommunications equipment, including base stations.

27. As early as 2014, Samsung designed, marketed, and sold consumer electronics, including smartphones, with a feature called Download Booster. The Download Booster functionality enabled a device to download large files faster by using a Wi-Fi connection and a mobile data connection simultaneously. On information and belief, Samsung used a technology called multipath TCP ("MPTCP") to develop and implement its Download Booster functionality.

28. With the release of E-UTRAN New Radio Dual Connectivity ("EN-DC") based on the 3GPP 5G New Radio (NR) standard in 2019 ("3GPP"), Samsung smartphones and base stations applying dual connectivity technology used both 4G and 5G networks to obtain high speeds, low latency, and increased connectivity by combining the capabilities of both 4G and 5G networks.

29. With the release of Carrier Aggregation ("CA"), as specified in multiple 3GPP specifications, Samsung smartphones and base stations combine multiple carriers within a single radio access technology.

30. As explained more fully below, Samsung products infringe the Asserted Patents, including, for example, those implementing 3GPPP, EN-DC and CA. To recover appropriate remedies for past infringement, CAS brings this action for patent infringement.

## THE CAS ASSERTED PATENTS

31. The claims in this Complaint are for infringement of U.S. Patent Nos. 8,861,349; 9,350,649; 11,418,641; 11,582,343; 8,228,801; and 10,868,908 (collectively the "Asserted Patents"). CAS does not waive, and expressly reserves, all rights and claims for relief against Samsung and others with regard to its patent rights beyond those set forth in this Complaint.

## THE '349 PATENT

32. U.S. Patent No. 8,861,349 (the "'349 Patent") is entitled "Broadband Communications Device." The '349 Patent was duly and legally issued on October 14, 2014, by the United States Patent and Trademark Office. A copy of the '349 Patent is attached to this Complaint as Exhibit A and incorporated herein by reference.

33. CAS is the owner and assignee of the '349 Patent and possesses all rights of recovery under the '349 Patent.

34. The '349 Patent expired on October 14, 2023. This Complaint seeks damages for infringement of the '349 Patent prior to its expiration.

35. The '349 Patent claims are valid and enforceable.

**THE '649 PATENT**

36. U.S. Patent No. 9,350,649 (the "'649 Patent") is entitled "Multipath Communication Devices and Methods." The '649 Patent was duly and legally issued on May 24, 2016, by the United States Patent and Trademark Office. A copy of the '649 Patent is attached to this Complaint as Exhibit B and incorporated herein by reference.

37. CAS is the owner and assignee of the '649 Patent and possesses all rights of recovery under the '649 Patent.

38. The '649 Patent expired on October 14, 2023. This Complaint seeks damages related to infringement of the '649 Patent prior to its expiration.

39. The '649 Patent claims are valid and enforceable.

**THE '641 PATENT**

40. U.S. Patent No. 11,418,641 (the "'641 Patent") is entitled "Devices and Methods for Multipath Communications." The '641 Patent was duly and legally issued on August 16, 2022, by the United States Patent and Trademark Office. A copy of the '641 Patent is attached to

this Complaint as Exhibit C and incorporated herein by reference.

41. CAS is the owner and assignee of the '641 Patent and possesses all rights of recovery under the '641 Patent.

42. The '641 Patent expired on December 11, 2023. This Complaint seeks damages related to infringement of the '641 Patent prior to its expiration.

43. The '641 Patent claims are valid and enforceable.

**THE ‘343 PATENT**

44. U.S. Patent No. 11,582,343 (the "'343 Patent") is entitled “Devices and Methods for Multipath Communications." The '343 Patent was duly and legally issued on February 14, 2023, by the United States Patent and Trademark Office. A copy of the '343 Patent is attached to this Complaint as Exhibit D and incorporated herein by reference.

45. CAS is the owner and assignee of the '343 Patent and possesses all rights of recovery under the '343 Patent.

46. The '343 Patent expired on October 14, 2023. CAS seeks damages for infringement of the ‘343 Patent occurring prior to its expiration.

47. The '343 Patent claims are valid and enforceable.

**THE ‘801 PATENT**

48. U.S. Patent No. 8,228,801 (the "'801 Patent") is entitled “Broadband Communications Device." The '801 Patent was duly and legally issued on July 24, 2012, by the United States Patent and Trademark Office. A copy of the '801 Patent is attached to this Complaint as Exhibit E and incorporated herein by reference.

49. CAS is the owner and assignee of the '801 Patent and possesses all rights of recovery under the '801 Patent.

50. The '801 Patent expired on January 22, 2025. CAS seeks damages for infringement of the '801 Patent occurring prior to its expiration.

51. The '801 Patent claims are valid and enforceable.

**THE '908 PATENT**

52. U.S. Patent No. 10,868,908 (the "'908 Patent") is entitled "Devices and methods for multipath communications." The '908 Patent was duly and legally issued on December 15, 2020, by the United States Patent and Trademark Office. A copy of the '908 Patent is attached to this Complaint as Exhibit F and incorporated herein by reference.

53. CAS is the owner and assignee of the '908 Patent and possesses all rights of recovery under the '908 Patent.

54. The '908 Patent expired on October 14, 2023. This Complaint seeks damages related to infringement of the '908 Patent prior to its expiration.

55. The asserted '908 Patent claims are valid and enforceable. While certain claims were rejected in a reexamination proceeding (and that judgment is currently being disputed), the asserted claims of the '908 Patent have not been challenged.

**EXAMPLES OF DEFENDANTS' INFRINGING PRODUCTS**

56. In February of 2019, Samsung released the Galaxy S10, its first 5G smartphone. *See* Exhibit G, p.1.

57. The Galaxy S10 was the first Samsung smartphone to demonstrate EN-DC technology via simultaneous use of 4G LTE and 5G New Radio (NR) connections, using the simultaneous throughput of 1.5Gbps on the 5G network and 1.15Gbps on the 4G-LTE network. *Id.*

58. Samsung smartphones and base stations are also capable of implementing CA

technology. *See* Exhibit S, p. 4.

59. Samsung smartphones and base station equipment deploying EN-DC and CA technology implement the standards described in 3GPP protocols, such as 3GPP TS 37.340 and related, which Samsung cites in its product materials. *See* Exhibit H, pp. 3-4.

60. 3GPP protocols explain that when the device user is connected to 4G-LTE and 5G-NR networks via EN-DC, it communicates via both networks with any remote system which the user is accessing, leveraging a "Master Cell Group" or "Master Node" in a first network (e.g. 4G-LTE), and a "Secondary Cell Group" or "Secondary Node" in a second network (e.g. 5G-NR). *See* Exhibit I, at Section 4.2.2, 4.3.2.1; *see also* Exhibit H, pp 4-8, 12-15.

61. Since 2019, Samsung has continued to highlight its use of EN-DC and CA technology, for example, disclosing in 2021 that it "[i]n a demonstration carried out in Samsung's lab in Korea, the company successfully combined 40MHz of 4G frequency and 800MHz of 5G frequency in mmWave, achieving 5.23Gbps in data speeds to a single device." Exhibit J, p. 1.

62. In addition, as early as 2014, Samsung designed, marketed, and sold consumer electronics, including smartphones, with a feature called Download Booster that leverages MPTCP technology.

63. Samsung infringed CAS's patents rights by making, using, selling, offering for sale, and/or importing Samsung products, including, but not limited to, those in compliance with portions of 3GPP protocols (including but not limited to through its use of EN-DC and CA) and MPTCP. These known Samsung "Infringing Products" include, but are not limited to, the following models and devices:

a. Note4

b. S5

c. S6

d. S8

e. S10 5G,

f. S20 5G,

g. S20+ 5G,

h. S20 Ultra 5G,

i. Note20 5G,

j. Note20 Ultra 5G,

k. S21 5G,

l. S21+ 5G,

m. S21 Ultra 5G,

n. A54 5G,

o. Z Fold3 5G,

p. Z Flip3 5G,

q. Z Fold4 5G,

r. Z Flip4 5G; and/or

s. Base stations and the components thereof.

**DEFENDANT'S KNOWLEDGE OF CAS PATENT RIGHTS**

64. On October 2, 2023, Clay McGurk, Esq. ("McGurk"), as Licensing Agent for Eric Delangis, founder of CAS and inventor with respect to the Asserted Patents, sent a letter to Samsung to provide notice of the Asserted Patents. *See* Exhibit F.

65. As such, Samsung had knowledge of the Asserted Patents at least as early as on or

around October 2, 2023.

66. Upon receiving the letter concerning the Asserted Patents, Samsung did not respond and therefore declined to engage in good faith licensing negotiations.

67. After receiving notice of the Asserted Patents, Samsung continued to make, use, offer for sale, and/or sell infringing products and/or continued to import into the United States its infringing products.

68. On information and belief, Samsung has not made any attempt to redesign, modify, or withdraw any of its Infringing Products in response to CAS's infringement notice.

69. Samsung knows and at all relevant times has known of its infringement of the Asserted Patents, or at the very least has been willfully blind to its infringement of the Asserted Patents. Samsung has actively induced their subsidiaries, customers, end users, and/or others to make, use, sell, and/or offer to sell and/or to import the Infringing Products. Samsung has thus known and intended their continued actions would actively induce actual infringement. For example, as mentioned elsewhere in this Complaint, Samsung has advertised infringing uses of the Infringing Products and instructed others how to engage in an infringing use. Thus, Samsung has encouraged and had specific intent to induce infringement through another.

70. Upon information and belief, such infringement has been willful, and upon further belief, Samsung lacks any reasonable invalidity or non-infringement defense making this case exceptional and entitling CAS to increased damages and reasonable attorneys' fees pursuant to 35 U.S.C. §§ 284 and 285.

## CLAIMS FOR RELIEF

### COUNT ONE
### (INFRINGEMENT OF U.S. PATENT NO. 8,861,349)

71. CAS repeats, re-alleges, and incorporates by reference the averments of paragraphs 1-70 of this Complaint as though fully set forth herein.

72. Samsung's Infringing Products infringe at least claim 13 of the '349 Patent.

73. By way of further illustrative infringement, claim 13 of the '349 Patent recites as follows:

> **13**. A device comprising:
> an interface that establishes a network connection at a first location to a first network and receives first data packets over the network connection;
> a wireless interface that is configured to establish a wireless connection to a remote communications device, the remote communications device being connected at a second location to a second network; and
> a processor that sends a multilink request over the wireless interface to the remote communications device to join the multilink connection, receives from the interface the first data packets from the first network and when the multilink request is accepted by the remote communications device, concurrently receives from the wireless interface second data packets from the second network, the second data packets being received at the second location from the second network.

74. For example, any Samsung device implementing 3GPP, including through EN-DC, has "an interface that establishes a network connection at a first location to a first network and receives first data packets over the network connection." For example, each Samsung Infringing Product can connect to a "Master Node" (e.g. ENB and/or GNB) at a first location and receive first data packets through a 4G-LTE network connection according to 3GPP specifications. *See* Exhibit I, at Sections 3, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, and 10.2.1, 10.3.1; *see also* Exhibit H, at p. 4-8, p. 12-15.

75. Any Samsung device implementing 3GPP, including through EN-DC, has "a wireless interface that is configured to establish a wireless connection to a remote communications device, the remote communications device being connected at a second location to a second network." For example, each Samsung Infringing Product can connect to one or more "Secondary Nodes" (e.g. GNB) at a second location and receive second data packets through a

5G-NR wireless interface according to 3GPP specifications. *See* Exhibit I, at Sections 3, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, 10.2.1, and 10.3.1; *see also* Exhibit H, at p. 4-8, p. 12-15.

76. Any Samsung device implementing 3GPP, including through EN-DC, has "a processor that sends a multilink request over the wireless interface to the remote communications device to join the multilink connection." For example, a Samsung device in the EN-DC configuration exchanges several messages and data structures including but not limited to those described in the following 3GPP specifications:

a. **RRC Connection Setup Complete** which also includes the “Attach Request,” “PDN Connectivity Request,” and “UE Network Capability” data structures and elements. *See* Exhibit K, at Sections 5.5.1.2.4, 5.5.3.2.4, 8.2.4, 8.3.20, and 9.9.3.34.

b. **UE Capability Information** which also includes the “UE-MRDC-Capability” and “SupportedBandListNR” data structures. *See* Exhibit L, at Section 6.3.3; *see also* Exhibit M, at Section 4.2.8.

c. **GNB Addition Request** which also includes the “CG-Config” data structure. *See* Exhibit L, at Section 11.2.2.

d. **RRC Connection Reconfiguration for 5G-NR Bearer** which also includes the “CG-Config” and the “RRCReconfigurationComplete” data structures. *See* Exhibit L, at Sections 11.2.2 and 6.2.2.

e. **SgNB Reconfiguration Complete** which also includes the “RRCReconfigurationComplete” data structure. *See* Exhibit N, at Section 8.7.5; *see also* Exhibit L at Section 6.2.2.

f. **NR PDCCH DCI** and **NR MAC PDU**. *See* Exhibit O, at Section 7; *see also*

Exhibit P, at Section 6.

77. Any Samsung device implementing 3GPP, including through EN-DC, has a processor that "receives from the interface the first data packets from the first network." For example, a Samsung device in the EN-DC configuration is connected to a “first network” (e.g. a 4G-LTE network via an ENB) and second network (e.g. a 5G-NR network via a GNB) and can receive data packets from the “first network” via wireless base stations (e.g. the 4G-LTE ENB) according to 3GPP specifications.

78. Any Samsung device implementing 3GPP, including through EN-DC, has a processor that "when the multilink request is accepted by the remote communications device, concurrently receives from the wireless interface second data packets from the second network, the second data packets being received at the second location from the second network." For example, a Samsung device in the EN-DC configuration is simultaneously connected to a “first network” (e.g. a 4G-LTE network via an ENB) and second network (e.g. a 5G-NR network via a GNB). Using the “split bearer” configuration, the Samsung device receives data packets from both the first network (e.g. the 4G-LTE ENB) and the second network (e.g. the 5G-NR GNB). *See* Exhibit I, at Sections 4.2.2 and 4.3.2.1; *see also* Exhibit H, at p. 14.

79. As such, Samsung, without license or authorization to do so, has directly infringed one or more claims of the '349 Patent, literally or under the doctrine of equivalents, by making, using, offering for sale and/or selling its Infringing Products within this District and elsewhere in the United States, and/or importing into the United States its Infringing Products, in violation of 35 U.S.C. § 271(a).

80. On information and belief, Samsung has also indirectly infringed, literally or under the doctrine of equivalents, one or more claims of the '349 Patent by actively, knowingly,

and intentionally inducing infringement by its customers and/or others of the '349 Patent in violation of 35 U.S.C. § 271(b).

81. Samsung has been aware of the '349 Patent at least as early as approximately October 2, 2023.

82. Samsung actively advertises, instructs, and encourages users and/or developers to use the Infringing Products in a manner that infringes one or more claims of the '349 Patent.*See generally* Exhibit R and S.

83. CAS is entitled to damages for past infringement in an amount to be determined by the Court but in no event less than a reasonable royalty.

**COUNT TWO**
**(INFRINGEMENT OF U.S. PATENT NO. 9,350,649)**

84. CAS repeats, re-alleges, and incorporates by reference the averments of paragraphs 1-83 of this Complaint as though fully set forth herein.

85. Samsung's Infringing Products infringe at least claim 18 of the '649 Patent.

86. By way of further illustrative infringement, claim 18 of the '649 Patent recites as follows:

> **18**. A data-requesting device comprising:
> at least one interface capable of connecting concurrently to a plurality of network-edge devices during a multipath connection, the multipath connection comprising the connections between the data-requesting device and each of the network-edge devices; and
> at least one processor coupled to the at least one interface that
> sends multipath information to each of the network-edge devices that is capable of joining the multipath connection; and
> receives different data at the data-requesting device from different ones of the network-edge devices that are able to join the multipath connection.

87. For example, any Samsung device implementing 3GPP, including through EN-DC, is "a data-requesting device."

88. Any Samsung device implementing 3GPP, including through EN-DC, has "at least one interface capable of connecting concurrently to a plurality of network-edge devices during a multipath connection, the multipath connection comprising the connections between the data-requesting device and each of the network-edge devices." For example, each Samsung Infringing Product is capable of connecting concurrently to these one or more “Master Nodes” (e.g. ENB and/or GNB) and one or more “Secondary Nodes” (e.g. GNB), each of which comprise network edge devices, and maintaining a multipath connection via the network edge devices’ 4G-LTE or 5G-NR wireless interfaces according to 3GPP specifications for EN-DC. *See* Exhibit I, at Sections 3, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, 10.2.1, and 10.3.1; *see also* Exhibit H, at p. 4-8, p. 12-15.

89. Any Samsung device implementing 3GPP, including through EN-DC, has "at least one processor coupled to the at least one interface[.]"

90. Any Samsung device implementing 3GPP, including through EN-DC, has a processor that "sends multipath information to each of the network-edge devices that is capable of joining the multipath connection[.]" For example, a Samsung device in the EN-DC configuration exchanges several messages and data structures including but not limited to those described in the following 3GPP specifications:

a. **RRC Connection Setup Complete** which also includes the “Attach Request,” “PDN Connectivity Request,” and “UE Network Capability” data structures and elements. *See* Exhibit K, at Sections 5.5.1.2.4, 5.5.3.2.4, 8.2.4, 8.3.20, and 9.9.3.34.

b. **UE Capability Information** which also includes the “UE-MRDC-Capability” and “SupportedBandListNR” data structures. *See* Exhibit L, at Section 6.3.3; *see*

*also* Exhibit M, at Section 4.2.8.

c. **GNB Addition Request** which also includes the "CG-Config" data structure. *See* Exhibit L, at Section 11.2.2.

d. **RRC Connection Reconfiguration for 5G-NR Bearer** which also includes the "CG-Config" and the "RRCReconfigurationComplete" data structures. *See* Exhibit L, at Sections 11.2.2 and 6.2.2.

e. **SgNB Reconfiguration Complete** which also includes the "RRCReconfigurationComplete" data structure. *See* Exhibit N, at Section 8.7.5; *see also* Exhibit L at Section 6.2.2.

f. **NR PDCCH DCI** and **NR MAC PDU**. *See* Exhibit O, at Section 7; *see also* Exhibit P, at Section 6.

91. Any Samsung device implementing 3GPP, including through EN-DC, has a processor that is capable of receiving "different data at the data-requesting device from different ones of the network-edge devices that are able to join the multipath connection." For example, any Samsung Infringing Product implementing 3GPP receives different data from the Master Node and Secondary Node, as described in 3GPP specifications including TS 37.340, via a "multipath connection", where the data is transmitted through the 3GPP "split bearer" configuration. *See* Exhibit I, at Sections 4.2.2, 4.3.2.1; *see also* Exhibit H, at p.14.

92. Therefore, Defendant Samsung, without license or authorization to do so, has directly infringed one or more claims of the '649 Patent, literally or under the doctrine of equivalents, by making, using, offering for sale and/or selling its Infringing Products within this District and elsewhere in the United States, and/or importing into the United States its Infringing Products, in violation of 35 U.S.C. § 271(a).

93. On information and belief, Samsung has also indirectly infringed, literally or under the doctrine of equivalents, one or more claims of the '649 Patent by actively, knowingly, and intentionally inducing infringement by its customers and/or others of the '649 Patent in violation of 35 U.S.C. § 271(b).

94. Samsung has been aware of the '649 Patent at least as early as approximately October 2, 2023.

95. Samsung actively advertises, instructs, and encourages users and/or developers to use the Infringing Products in a manner that infringes one or more claims of the '649 Patent. *See generally* Exhibit R and S.

96. CAS is entitled to damages for past infringement in an amount to be determined by the Court but in no event less than a reasonable royalty.

**COUNT THREE**
**(INFRINGEMENT OF U.S. PATENT NO. 11,418,641)**

97. CAS repeats, re-alleges, and incorporates by reference the averments of paragraphs 1-96 of this Complaint as though fully set forth herein.

98. Samsung's Infringing Products infringe at least claim 1 of the '641 Patent.

99. By way of further illustrative infringement, claim 1 of the '641 Patent recites as follows:

> **1**. A communications device that is capable of providing broadband communications services, comprising:
> at least one connection for connecting to a communications network;
> at least one wireless interface for connecting wirelessly to at least one remote communications device; and
> a processor that

requests the at least one remote communications device to assist in transferring data,
sends a request to the at least one remote communications device for availability for participating in a multilink communication,
if available, sends control information through the at least one remote communications device for participating in a multilink connection,
receives packets from the at least one remote communications device, and
aggregates the data from the at least one remote communications device with data transfers from the at least one connection to increase data bandwidth for the communications device.

100. For example, any Samsung device implementing 3GPP, including through EN-DC, is "a communications device that is capable of providing broadband communications services."

101. Any Samsung device implementing 3GPP, including through EN-DC, has "at least one connection for connecting to a communications network." For example, each Samsung Infringing Product can connect one or more “Master Nodes” (e.g. ENB and/or GNB) and receive first data packets through a 4G-LTE communications network according to 3GPP specifications. *See* Exhibit I, at Sections 3, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, 10.2.1, and 10.3.1; *see also* Exhibit H, at p. 4-8, p. 12-15.

102. Any Samsung device implementing 3GPP, including through EN-DC, has "at least one wireless interface for connecting wirelessly to at least one remote communications device." For example, each Samsung Infringing Product can connect to one or more “Secondary Nodes” (e.g., GNB) and receive second data packets through a 5G-NR wireless interface according to 3GPP specifications. *See* Exhibit I, at Sections 3, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, 10.2.1, and 10.3.1; *see also* Exhibit H, at p. 4-8, p. 12-15.

103. Any Samsung device implementing 3GPP, including through EN-DC, has "a processor that requests the at least one remote communications device to assist in transferring data." For example, a Samsung device in the EN-DC configuration exchanges several messages

and data structures including but not limited to those described in the following 3GPP specifications:

a. **RRC Connection Setup Complete** which also includes the "Attach Request," "PDN Connectivity Request," and "UE Network Capability" data structures and elements. *See* Exhibit K, at Sections 5.5.1.2.4, 5.5.3.2.4, 8.2.4, 8.3.20, and 9.9.3.34.

b. **UE Capability Information** which also includes the "UE-MRDC-Capability" and "SupportedBandListNR" data structures. *See* Exhibit L, at Section 6.3.3; *see also* Exhibit M, at Section 4.2.8.

c. **GNB Addition Request** which also includes the "CG-Config" data structure. *See* Exhibit L, at Section 11.2.2.

d. **RRC Connection Reconfiguration for 5G-NR Bearer** which also includes the "CG-Config" and the "RRCReconfigurationComplete" data structures. *See* Exhibit L, at Sections 11.2.2 and 6.2.2.

e. **SgNB Reconfiguration Complete** which also includes the "RRCReconfigurationComplete" data structure. *See* Exhibit N, at Section 8.7.5; *see also* Exhibit L at Section 6.2.2.

f. **NR PDCCH DCI** and **NR MAC PDU**. *See* Exhibit O, at Section 7; *see also* Exhibit P, at Section 6.

104. Any Samsung device implementing 3GPP, including through EN-DC, has a processor that "sends a request to the at least one remote communications device for availability for participating in a multilink communication." For example, as discussed in the paragraph above, a Samsung device in the EN-DC configuration exchanges several messages and data

structures. *See* Exhibit I, at Section 3, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, 10.2.1, and 10.3.1; *see also* Exhibit H, at p. 4-8, p. 12-15.

105. Any Samsung device implementing 3GPP, including through EN-DC, has a processor that "if available, sends control information through the at least one remote communications device for participating in a multilink connection." For example, a Samsung device in the EN-DC configuration sends several messages and data structures as mentioned above.

106. Any Samsung device implementing 3GPP, including through EN-DC, has a processor that "receives packets from the at least one remote communications device." For example, a Samsung device in the EN-DC configuration can receive packets from the at least one remote communications device (e.g. a 4G-LTE network via an ENB) via wireless base stations (e.g. the 4G-LTE ENB) according to 3GPP specifications.

107. Any Samsung device implementing 3GPP, including through EN-DC, "aggregates the data from the at least one remote communications device with data transfers from the at least one connection to increase data bandwidth for the communications device." For example, a Samsung device in the EN-DC configuration is simultaneously connected to “at least one remote communications device” such as a 4G-LTE base station (ENB) and a 5G-NR base station (GNB) via “at least one connection” such as a 4G-LTE wireless link and/or a 5G-NR wireless link according to 3GPP specifications. Using the “split bearer” configuration, the data is aggregated to increase bandwidth for the Samsung device. *See* Exhibit I, at Sections 4.2.2 and 4.3.2.1; *see also* Exhibit H, at p. 14.

108. As such, Samsung, without license or authorization to do so, has directly infringed one or more claims of the '641 Patent, literally or under the doctrine of equivalents, by

making, using, offering for sale and/or selling its Infringing Products within this District and elsewhere in the United States, and/or importing into the United States its Infringing Products, in violation of 35 U.S.C. § 271(a).

109. On information and belief, Samsung has also indirectly infringed, literally or under the doctrine of equivalents, one or more claims of the '641 Patent by actively, knowingly, and intentionally inducing infringement by its customers and/or others of the '641 Patent in violation of 35 U.S.C. § 271(b).

110. Samsung has been aware of the '641 Patent at least as early as approximately October 2, 2023.

111. Samsung actively advertises, instructs, and encourages users and/or developers to use the Infringing Products in a manner that infringes one or more claims of the '641 Patent. *See generally* Exhibit R and S.

112. CAS is entitled to damages for past infringement in an amount to be determined by the Court but in no event less than a reasonable royalty.

**COUNT FOUR**
**(INFRINGEMENT OF U.S. PATENT NO. 11,582,343)**

113. CAS repeats, re-alleges, and incorporates by reference the averments of paragraphs 1-112 of this Complaint as though fully set forth herein.

114. For example, Samsung's Infringing Products infringe at least claim 12 of the '343 Patent.

115. By way of further illustrative infringement, claim 12 of the '343 Patent recites as follows:

> **12**. A communication device capable of providing broadband communications services comprising:

a first connection via a first device to a first network having a first bandwidth including an allocated first portion of the first bandwidth;

a second connection via a second device to a second network having a second bandwidth including an allocated second portion of the second bandwidth; and

a third connection to a remote device via the first network and the second network, the third connection having an effective bandwidth including the allocated first portion of the first bandwidth and the allocated second portion of the second bandwidth;

wherein, in response to transmitting a request to the remote device via the third connection, the communication device receives a response from the remote device wherein a portion of the response is received via the first network and a portion of the response is received via the second network.

116. For example, any Samsung device implementing 3GPP, including through EN-DC, is "communication device capable of providing broadband communications services."

117. Any Samsung device implementing 3GPP, including through EN-DC, has a "first connection via a first device to a first network having a first bandwidth including an allocated first portion of the first bandwidth." For example, the Samsung devices implementing 3GPP can have a 4G-LTE link to a serving 4G-LTE base station (ENB), or "Master Node." This network provides a "first bandwidth" which is allocated for use by the Samsung device, and an "allocated portion of the first bandwidth" is used to communicate via the 4G-LTE network according to 3GPP specifications. *See* Exhibit I, at Sections 3, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, and 10.2.1, 10.3.1; *see also* Exhibit H, at p. 4-8, p. 12-15.

118. Any Samsung device implementing 3GPP, including through EN-DC, has "a second connection via a second device to a second network having a second bandwidth including an allocated second portion of the second bandwidth." For example, the Samsung devices implementing 3GPP have a second connection to a 5G-NR link to a serving 5G-NR base station (GNB), or "Secondary Node." The "second device" is connected to either a 4G-LTE core network (EPC) or a 5G core network (5GC) which has a "second bandwidth." An "allocated second portion of the second bandwidth" is used to communicate via the 5G-NR network. *See*

Exhibit I, at Sections 3, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, and 10.2.1, 10.3.1; *see also* Exhibit H, at p. 4-8, p. 12-15.

119. Any Samsung device implementing 3GPP, including through EN-DC, has "a third connection to a remote device via the first network and the second network, the third connection having an effective bandwidth including the allocated first portion of the first bandwidth and the allocated second portion of the second bandwidth." For example, a Samsung device in the EN-DC configuration is simultaneously connected to a "first network" (e.g. a 4G-LTE network) and "second network" (e.g. a 5G-NR network), both of which are used to communicate with a remote server via a "third connection", which aggregates bandwidth from the first network and the second network to provide an effective bandwidth which combines the allocated first portion of the first bandwidth (e.g. from the 4G-LTE network) and the allocated second portion of the second bandwidth (e.g. from the 5G-NR network). *See* Exhibit I, at Sections 4.2.2. and 4.3.2.1; *see also* Exhibit H, at p. 14.

120. Any Samsung device implementing 3GPP, including through EN-DC, "wherein, in response to transmitting a request to the remote device via the third connection, the communication device receives a response from the remote device wherein a portion of the response is received via the first network and a portion of the response is received via the second network." For example, a Samsung device in the EN-DC configuration is simultaneously connected to a "first network" (e.g. a 4G-LTE network) and "second network" (e.g. a 5G-NR network). Both the "first network" and the "second network" are used to communicate with a "remote device" via a "third connection" (e.g. a TCP/IP connection). Using the "split bearer" configuration, the Samsung device receives data packets from both the first network and the second network. *See* Exhibit I, at Sections 4.2.2 and 4.3.2.1; *see also* Exhibit H, at p. 14.

121. As such, Samsung, without license or authorization to do so, has directly infringed one or more claims of the '343 Patent, literally or under the doctrine of equivalents, by making, using, offering for sale and/or selling its Infringing Products within this District and elsewhere in the United States, and/or importing into the United States its Infringing Products, in violation of 35 U.S.C. § 271(a).

122. On information and belief, Samsung has also indirectly infringed, literally or under the doctrine of equivalents, one or more claims of the '343 Patent by actively, knowingly, and intentionally inducing infringement by its customers and/or others of the '343 Patent in violation of 35 U.S.C. § 271(b).

123. Samsung has been aware of the '343 Patent at least as early as approximately October 2, 2023.

124. Samsung actively advertises, instructs, and encourages users and/or developers to use the Infringing Products in a manner that infringes one or more claims of the '343 Patent. *See generally* Exhibit R and S.

125. CAS is entitled to damages for the past infringement in an amount to be determined by the Court but in no event less than a reasonable royalty.

**COUNT FIVE**
**(INFRINGEMENT OF U.S. PATENT NO. 8,228,801)**

126. CAS repeats, re-alleges, and incorporates by reference the averments of paragraphs 1-125 of this Complaint as though fully set forth herein.

127. For example, Samsung's Infringing Products infringe at least claim 1 of the '801 Patent.

128. By way of further illustrative infringement, claim 1 of the '801 Patent recites as follows:

> **1**. A communications device that is capable of providing broadband communications services, comprising:
>
> at least one connection for connecting to a communications network;
>
> at least one wireless interface for connecting wirelessly to at least one remote communications device; and
>
> a processor that requests the at least one remote communications device to assist in transferring data, sends a request to the at least one remote communications device for requesting use of a portion of unused bandwidth of the at least one remote communications device, receives a response from the at least one remote communications device, the response containing information about the portion of unused bandwidth, selects the at least one remote communications device with unused bandwidth, sends control information to the at least one remote communications device for participating in a multilink connection, receives packets from the at least one remote communications device and aggregates the data from the at least one remote communications device with data transfers from the at least one connection to increase data bandwidth for the communications device.

129. For example, any Samsung device implementing 3GPP, including through EN-DC, is a "communications device that is capable of providing broadband communications services."

130. Any Samsung device implementing 3GPP, including through EN-DC, has "at least one connection for connecting to a communications network." For example, each Samsung Infringing Product can establish at least one connection through a 4G-LTE link to a serving 4G-LTE base station (ENB) or a 5G-NR link to a serving 5G-NR base station (GNB) and subsequent connections via the "communications network" according to 3GPP specifications. The "communications network" is the 4G-LTE network (e.g. ENB and EPC) or the 5G-NR network (e.g. GNB and 5GC) which provides connection to a remote system via a network such as the Internet.

131. Any Samsung device implementing 3GPP, including through EN-DC, has "at least one wireless interface for connecting wirelessly to at least one remote communications device." For example, each Samsung Infringing Product has a network interface (modem) which connects to a 4G-LTE link to a serving 4G-LTE base station (ENB) or a 5G-NR link to a serving

5G-NR base station (GNB). The ENB and/or GNB are the "remote communications device" to which the Samsung device is connected wirelessly according to 3GPP specifications. *See* Exhibit I, at Sections 3, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, and 10.2.1, 10.3.1; *see also* Exhibit H, at p. 4-8, p. 12-15.

132. Any Samsung device implementing 3GPP, including through EN-DC, has "a processor that requests the at least one remote communications device to assist in transferring data." For example, a Samsung device in the EN-DC configuration has a processor that exchanges several messages and data structures including but not limited to those described in the following 3GPP specifications:

a. **RRC Connection Setup Complete** which also includes the "Attach Request," "PDN Connectivity Request," and "UE Network Capability" data structures and elements. *See* Exhibit K, at Sections 5.5.1.2.4, 5.5.3.2.4, 8.2.4, 8.3.20, and 9.9.3.34.

b. **UE Capability Information** which also includes the "UE-MRDC-Capability" and "SupportedBandListNR" data structures. *See* Exhibit L, at Section 6.3.3; *see also* Exhibit M, at Section 4.2.8.

c. **GNB Addition Request** which also includes the "CG-Config" data structure. *See* Exhibit L, at Section 11.2.2.

d. **RRC Connection Reconfiguration for 5G-NR Bearer** which also includes the "CG-Config" and the "RRCReconfigurationComplete" data structures. *See* Exhibit L, at Sections 11.2.2 and 6.2.2.

e. **SgNB Reconfiguration Complete** which also includes the "RRCReconfigurationComplete" data structure. *See* Exhibit N, at Section 8.7.5;

*see also* Exhibit L at Section 6.2.2.

f. **NR PDCCH DCI** and **NR MAC PDU**. *See* Exhibit O, at Section 7; *see also* Exhibit P, at Section 6.

133. Any Samsung device implementing 3GPP, including through EN-DC, has a processor that "sends a request to the at least one remote communications device for requesting use of a portion of unused bandwidth of the at least one remote communications device, receives a response from the at least one remote communications device, the response containing information about the portion of unused bandwidth, selects the at least one remote communications device with unused bandwidth." For example, as discussed in the paragraph above, a Samsung device in the EN-DC configuration has a processor that exchanges several messages and data structures.

134. Any Samsung device implementing 3GPP, including through EN-DC, has a processor that "sends control information to the at least one remote communications device for participating in a multilink connection." For example, as discussed in the paragraphs above, a Samsung device in the EN-DC configuration has a processor that exchanges several messages and data structures. *See* Exhibit I, at Sections 3, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, and 10.2.1, 10.3.1; *see also* Exhibit H, at p. 4-8, p. 12-15.

135. Any Samsung device implementing 3GPP, including through EN-DC, has a processor that "receives packets from the at least one remote communications device and aggregates the data from the at least one remote communications device with data transfers from the at least one connection to increase data bandwidth for the communications device." For example, a Samsung device in the EN-DC configuration is simultaneously connected to "at least one remote communications device" such as a 4G-LTE base station (ENB) and a 5G-NR base

station (GNB) via “at least one connection” such as a 4G-LTE wireless link and/or a 5G-NR wireless link. Both or either of these wireless links and base stations may be used to communicate with a remote system using the 3GPP “split bearer” configuration. The “split bearer” configuration of EN-DC transfers data simultaneously via multiple network connections (e.g. 4G-LTE and 5G-NR) which “aggregates the data” and “increases data bandwidth.” *See* Exhibit I, at Sections 4.2.2 and 4.3.2.1; *see also* Exhibit H, at p. 14.

136. As such, Samsung, without license or authorization to do so, has directly infringed one or more claims of the '801 Patent, literally or under the doctrine of equivalents, by making, using, offering for sale and/or selling its Infringing Products within this District and elsewhere in the United States, and/or importing into the United States its Infringing Products, in violation of 35 U.S.C. § 271(a).

137. On information and belief, Samsung has also indirectly infringed, literally or under the doctrine of equivalents, one or more claims of the '801 Patent by actively, knowingly, and intentionally inducing infringement by its customers and/or others of the '801 Patent in violation of 35 U.S.C. § 271(b).

138. Samsung has been aware of the '801 Patent at least as early as approximately October 2, 2023.

139. Samsung actively advertises, instructs, and encourages users and/or developers to use the Infringing Products in a manner that infringes one or more claims of the '801 Patent. *See generally* Exhibit R and S.

140. CAS is entitled to damages for past infringement in an amount to be determined by the Court but in no event less than a reasonable royalty.

**COUNT SIX**
**(INFRINGEMENT OF U.S. PATENT NO. 10,868,908)**

141. CAS repeats, re-alleges, and incorporates by reference the averments of paragraphs 1-140 of this Complaint as though fully set forth herein.

142. For example, Samsung's Infringing Products infringe at least claim 16 of the '908 Patent.

143. By way of further illustrative infringement, claim 16 of the '908 Patent recites as follows:

> **16**. A first device for multilink communication, comprising:
> at least one network interface; and
> one or more processors coupled to the at least one network interface and configured to:
> receiving one or more multilink packets where each multilink packet comprises information associated with one or more of a plurality of network communication interfaces of a second device that are capable of being used to receive data packets;
> during a multilink session
> splitting up data from a data source into different groups of data packets; and
> controlling a data server where the data server sends the different groups of data packets from the data server to different network communication interfaces of the second device, wherein each of the different groups of data packets includes the multilink session identification.

144. For example, Samsung wireless telecommunications base stations implementing 3GPP, including through EN-DC and CA, is a "first device for multilink communication."

145. A Samsung wireless telecommunications base station implementing 3GPP, including through EN-DC and CA, has a "at least one network interface." For example, the network interface provides one or more 4G-LTE links or 5G-NR links to client UE devices.

146. A Samsung wireless telecommunications base station implementing 3GPP, including through EN-DC and CA, has "one or more processors coupled to the at least one network interface."

147. A Samsung wireless telecommunications base station implementing 3GPP, including through EN-DC and CA, has a processor configured to receive "one or more multilink packets where each multilink packet comprises information associated with one or more of a plurality of network communication interfaces of a second device that are capable of being used to receive data packets." For example, a Samsung wireless telecommunications base station, in the EN-DC configuration, receives packets of information via 4G-LTE or 5G-NR wireless interfaces according to 3GPP specifications. *See* Exhibit I, at Sections 3, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, and 10.2.1, 10.3.1. As an additional example, a Samsung wireless telecommunications base station, in the CA configuration, receives packets of information via 4G-LTE or 5G-NR wireless interfaces according to 3GPP specifications. *See* Exhibit T; *see also* Exhibit U; *see also* Exhibit V; *see also* Exhibit W; *see also* Exhibit X, at Section 5.3; *see also* Exhibit L, at Section 5.3.

148. A Samsung wireless telecommunications base station implementing 3GPP, including through EN-DC and CA, has a processor configured to "splitting up data from a data source into different groups of data packets" "during a multilink session." For example, in both EN-DC and CA configurations, one or both networks (e.g. 4G-LTE ENB and/or 5G-NR GNB) may be used to communicate with a "data source" (e.g. a remote system) via the "multilink session" (e.g. EN-DC or CA). Data to/from the "data source" may be transmitted via the 3GPP "split bearer" configuration. Such transmissions may travel via different paths between the "data source" and the UE (e.g. via the 4G-LTE ENB and/or 5G-NR GNB).

149. A Samsung wireless telecommunications base station implementing 3GPP, including through EN-DC, has a processor configured to "controlling a data server where the data server sends the different groups of data packets from the data server to different network

communication interfaces of the second device" "during a multilink session." For example, in the EN-DC or CA configuration, UE devices are simultaneously connected to a 4G-LTE base station (ENB) and/or a 5G-NR base station (GNB) via a 4G-LTE wireless link and/or a 5G-NR wireless link. Both or either of these wireless links and base stations may be used to communicate with a remote system using the 3GPP "split bearer" configuration. *See* Exhibit I, at Sections 4.2.2 and 4.3.2.1; *see also* Exhibit H, at p. 14. The UE devices receive packets from a remote system (e.g. an HTML-formatted web page from a web server) in response to a request to the remote system (e.g. an "HTTP GET" request to retrieve a web page from a remote web server). The packets comprising the web page are transmitted to the UE via the wireless base stations (e.g. the 4G-LTE ENB and/or the 5G-NR GNB) using different network communication interfaces of each system.

150. Each transmission transferred via the EN-DC or CA configuration includes, according to 3GPP specifications, messages and data structures. For example, in the EN-DC configuration, specifications include TS 37.340 and related. *See* Exhibit I, at Sections 3, 4, 4.1.2, 4.1.3.1, 4.3.1, 4.3.2, 10 and 10.2.1, 10.3.1. For example, in the CA configuration, specifications include TS 36.300 and 36.104 for 4G-LTE systems, and TS 38.300 and 38.104 for 5G-NR systems. *See* Exhibit T; *see also* Exhibit U; *see also* Exhibit V; *see also* Exhibit W; *see also* Exhibit X, at Section 5.3; *see also* Exhibit L, at Section 5.3. Depending on the configuration, such messages include but are not limited to the following:

a. **RRC Connection Reconfiguration** message instructs the UE to begin CA or other radio link configuration changes such as adding a secondary connection. For example, in CA the UE may add one or more Secondary Cells ("SCells") based on the configuration provided by the base station, including frequency,

bandwidth, and parameters for each component carrier. When configurations are completed, the UE responds with an "RRC Reconfiguration Complete" message. *See* Exhibit X, at Sections 5.3 and 6.2; *see also* Exhibit L, at Sections 5.3 and 6.2.

**b.** **RRC Reconfiguration Complete** confirms that the requested CA process has been completed at the radio link level. *See* Exhibit X, at Section 5.3; *see also* Exhibit L, at Section 5.3.

c. **RRC Connection Setup Complete** which also includes the "Attach Request," "PDN Connectivity Request," and "UE Network Capability" data structures and elements. *See* Exhibit K, at Sections 5.5.1.2.4, 5.5.3.2.4, 8.2.4, 8.3.20, and 9.9.3.34.

d. **UE Capability Information** which also includes the "UE-MRDC-Capability" and "SupportedBandListNR" data structures. *See* Exhibit L, at Sections 5.3 and 6.3.3; *see also* Exhibit M, at Section 4.2.8; *see also* Exhibit X, at Section 5.3.

e. **GNB Addition Request** which also includes the "CG-Config" data structure. *See* Exhibit L, at Section 11.2.2.

f. **RRC Connection Reconfiguration for 5G-NR Bearer** which also includes the "CG-Config" and the "RRCReconfigurationComplete" data structures. *See* Exhibit L, at Sections 11.2.2 and 6.2.2.

g. **SgNB Reconfiguration Complete** which also includes the "RRCReconfigurationComplete" data structure. *See* Exhibit N, at Section 8.7.5; *see also* Exhibit L at Section 6.2.2.

h. **PDCCH DCI** and **NR MAC PDU**. *See* Exhibit O, at Section 7; *see also* Exhibit P, at Section 6; *see also* Exhibit X, at Section 5.3; *see also* Exhibit L, at Section

5.3.

151. A Samsung wireless telecommunications base station implementing 3GPP, including through EN-DC and CA, has a processor configured to control a data server "wherein each of the different groups of data packets includes the multilink session identification" "during a multilink session." Packets may travel via different paths (e.g. via the 4G-LTE ENB and/or 5G-NR GNB). For example, when a 3GPP multilink connection has been established (e.g. CA or EN-DC or similar), a PDU (Protocol Data Unit) Session ID is created to control the session traffic, and to uniquely identify the UE's sessions. The PDU Session ID is used by the Packet Data Convergence Protocol (PDCP) software layers or entities, which exist on base station systems as well as UE devices. PDCP entities are responsible for handling session data (e.g., IP packets) and can duplicate or split data across multiple paths (e.g., in EN-DC or CA scenarios) to ensure reliable transmission across frequency bands. *See* Exhibit Y, at Sections 4.2 and 4.4.

152. As such, Samsung, without license or authorization to do so, has directly infringed one or more claims of the '908 Patent, literally or under the doctrine of equivalents, by making, using, offering for sale and/or selling its Infringing Products within this District and elsewhere in the United States, and/or importing into the United States its Infringing Products, in violation of 35 U.S.C. § 271(a).

153. On information and belief, Samsung has also indirectly infringed, literally or under the doctrine of equivalents, one or more claims of the '908 Patent by actively, knowingly, and intentionally inducing infringement by its customers and/or others of the '908 Patent in violation of 35 U.S.C. § 271(b).

154. Samsung has been aware of the '908 Patent at least as early as approximately October 2, 2023.

155. Samsung actively advertises, instructs, and encourages users and/or developers to use the Infringing Products in a manner that infringes one or more claims of the '908 Patent. *See generally* Exhibit R and S.

156. CAS is entitled to damages for past infringement in an amount to be determined by the Court but in no event less than a reasonable royalty.

**PRAYER FOR RELIEF**

WHEREFORE, CAS respectfully requests that the Court find in its favor and against Defendants, and that the Court grant CAS the following relief:

a. A judgment in favor of CAS that Defendants have infringed one or more claims of the following Asserted Patents of CAS: 8,861,349; 9,350,649; 11,418,641; 11,582,343; 8,228,801, and 10,868,908.

b. An accounting of and an award to CAS of damages adequate to compensate CAS for Defendants' acts of infringement, including a reasonable royalty, and also including supplemental damages for any post-verdict infringement up until entry of final judgment with an accounting as needed, together with pre-judgment and post-judgment interest pursuant to 35 U.S.C. § 284;

c. Finding Defendants' infringement to be willful and an award to CAS of enhanced damages in an amount up to treble the amount of compensatory damages as justified under 35 U.S.C. § 284 for Defendants' willful infringement;

d. A declaration that this is an exceptional case, including, an award to CAS of its costs, expenses, and reasonable attorneys' fees under 35 U.S.C. § 285 and all other applicable statutes and rules in common law as may apply;

e. An award to CAS of its costs pursuant to 35 U.S.C. § 284 and/or Fed. R. Civ. P.

54(d); and

f. An award of any such further relief that the Court deems just and proper.

**JURY DEMAND**

CAS hereby demands a jury trial on all issues so triable.

Dated August 15, 2025.

Respectfully submitted,

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