

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

S3G TECHNOLOGY LLC,

Plaintiff,

v.

VITAMIN SHOPPE, INC.

Defendant.

Case No. 6:23-cv-721

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff S3G Technology LLC (“S3G” or “Plaintiff”) alleges as follows for its complaint against Defendant Vitamin Shoppe, Inc. (“Defendant” or “Vitamin Shoppe”):

NOTICE OF RELATED CASES

This case is related to the following cases, which share at least one common patent:

- *S3G Technology LLC v. Foot Locker, Inc., No. 6-23-cv-00642 (WDTX)*
- *S3G Technology LLC v. Jo-Ann Stores, LLC, No. 6-23-cv-00601 (WDTX)*
- *S3G Technology LLC v. Carter's, Inc., No. 6-23-cv-00507 (WDTX)*
- *S3G Technology LLC v. Barnes & Noble Booksellers, Inc., 6-23-cv-00352 (WDTX)*
- *S3G Technology LLC v. Claire's Stores Inc., No. 6:23-cv-00306-ADA*
- *S3G Technology LLC v. Skechers USA, Inc., No. 6:23-cv-00126-ADA*
- *S3G Technology LLC v. Staples, Inc., No. 6:23-cv-00004-ADA*
- *S3G Technology LLC v. Party City Corporation, No. 6:22-cv-01166-ADA*
- *S3G Technology LLC v. Michaels Stores, Inc., No. 6:22-cv-00637-ADA*

- *S3G Technology LLC v. Ace Hardware Corporation*, No. 6:22-cv-00593-ADA
- *S3G Technology LLC v. Sephora USA, Inc.*, No. 6:22-cv-00063-ADA
- *S3G Technology LLC v. Raising Cane’s Restaurants, LLC*, No. 6:22-cv-00051-ADA
- *S3G Technology LLC v. OYO Hotels, Inc.*, No. 6:21-cv-01093-ADA
- *S3G Technology LLC v. Belk, Inc.*, No. 6:21-cv-00832-ADA
- *S3G Technology LLC v. Movoto, Inc.*, No. 6:21-cv-00152-ADA
- *S3G Technology LLC v. Coldwell Banker Real Estate LLC*, No. 6:20-cv-01090-ADA
- *S3G Technology LLC v. Urban Compass, Inc. d/b/a Compass*, No. 6:20-cv-00848-ADA
- *S3G Technology LLC v. Homeaway, Inc., et al*, No. 6:20-cv-00564-ADA
- *S3G Technology LLC v. Keller Williams Realty, Inc.*, No. 6:20-cv-00349-ADA
- *S3G Technology LLC v. Qv21 Technologies, Inc.*, No. 6:20-cv-00042-ADA

JURISDICTION AND VENUE

1. This is an action for patent infringement in violation of the Patent Act of the United States, 35 U.S.C. §§ 1 et seq.

2. This Court has original and exclusive subject matter jurisdiction over patent infringement claims for relief under 28 U.S.C. §§ 1331 and 1338(a).

3. The Court has specific and general personal jurisdiction over Defendant pursuant to due process and/or the Texas Long Arm Statute, due at least to Defendant’s substantial business in this forum, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct, and/or deriving substantial revenue from goods and services provided to individuals in Texas and in this District.

4. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1400(b) because, among other things, Defendant is subject to personal jurisdiction in this judicial district, Defendant

has a regular and established place of business in the state of Texas and in this judicial district, Defendant has purposely transacted business involving the use of the Accused Instrumentalities (defined below) in this judicial district, and committed acts of infringement in this judicial district as described herein. For example, examples, Defendant distributes the Accused Instrumentalities directly to customers, such as through the Apple App Store and Google Play Store. Among other business, Defendant is in the business of providing mobile ordering using the Accused Instrumentalities in this District. Defendant puts its mobile ordering application in service within this District to allow users within this District to order from stores in this District in a manner alleged to infringe the asserted claims, as detailed herein. On information and belief, Defendant derives a significant portion of its revenue from the use, promotion, sale and distribution of its products and services in this District, including through the use of the Accused Instrumentalities.

PARTIES

5. S3G is a limited liability company organized under the laws of the State of California with its principal place of business in Foster City, California. S3G has been, and continues to, develop technology-based solutions that facilitate economic empowerment and development. For example, S3G is developing mobile solutions that enable the authenticated access to different types of spaces, including to buildings and portions thereof. The information that S3G's technology solutions may collect and maintain about its users further enable the delivery of educational and other services that may help these users to emerge from poverty and change their lives and those of their families. In connection with its mobile solutions, S3G has obtained patents covering its technology. S3G is a Massachusetts Institute of Technology (MIT) Computer Science and Artificial Intelligence Lab (CSAIL) Startup, and is a member of MIT CSAIL Alliances' Startup Connect.

6. The Managing Member of S3G, who is also the named inventor of the asserted patents, is an award-winning MIT-trained researcher, technologist and inventor who has used and continues to use innovative technologies to address many of the world's critical problems, including poverty, access to financial services and access to clean drinking water. The World Economic Forum has recognized him for his professional accomplishments, commitment to society and potential to contribute to shaping the future of the world.

7. Upon information and belief, Vitamin Shoppe is a corporation organized and existing under the laws of the State of New Jersey with a principal place of business located at 300 Harmon Meadow Blvd, Secaucus, NJ 07094. Vitamin Shoppe can be served with process through its registered agent, Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19801. S3G is further informed and believes, and on that basis alleges, that Defendant derives a significant portion of its revenue from the promotion and/or sale of its products and services using its system(s), server(s), and software, including at least the Defendant's App for devices running the Android operating system¹ and the mobile applications for iOS,² and other of Defendant's applications for smartphones and other devices (collectively, "Defendant app"), as well as its other supporting system(s), server(s), and software (along with the Defendant app collectively the "Accused Instrumentalities").

8. S3G is informed and believes, and on that basis alleges, that, at all times relevant hereto, Defendant has conducted and continues to conduct business, including the use, distribution, promotion, and/or the offer for sale and sale of its products and services using the Accused

¹ Last updated August 31, 2023

https://play.google.com/store/apps/details?id=vitaminshoppe.consumerapp&hl=en_US&gl=US

² Last updated September 17, 2023

<https://apps.apple.com/us/app/the-vitamin-shoppe/id1164196896>

Instrumentalities, including the Defendant app, in this Judicial District, including its retail store located at 2456 W Loop 340, Waco, TX 76711. On information and belief, Defendant does business itself, or through its subsidiaries, affiliates, and franchisees, in the State of Texas and the Western District of Texas.

PATENTS

9. United States Patent No. 9,940,124 (the “’124 patent”) entitled “Modification of Terminal and Service Provider Machines Using an Update Server Machine” was duly and legally issued on April 10, 2018. A true and correct copy of the ’124 patent is attached hereto as Exhibit “A” and incorporated herein by this reference. S3G is the owner of the entire right, title and interest in and to the ’124 patent, including all rights to enforce the ’124 patent and to recover for infringement. The ’124 patent is valid and in force.

10. United States Patent No. 10,387,140 (the “’140 patent”) entitled “Modification of Terminal and Service Provider Machines Using an Update Server Machine” was duly and legally issued on August 20, 2019. A true and correct copy of the ’140 patent is attached hereto as Exhibit “B” and incorporated herein by this reference. By assignment, S3G is now the assignee of the entire right, title and interest in and to the ’140 patent, including all rights to enforce the ’140 patent and to recover for infringement. The ’140 patent is valid and in force.

11. United States Patent No. 9,304,758 (the “’758 patent”) entitled “Modification of Terminal and Service Provider Machines Using an Update Server Machine” was duly and legally issued on April 5, 2016. A true and correct copy of the ’758 patent is attached hereto as Exhibit “C” and incorporated herein by this reference. S3G is the assignee of the entire right, title and interest in and to the ’758 patent, including all rights to enforce the ’758 patent and to recover for infringement. The ’758 patent is valid and in force.

The Technical Problems Addressed by the Patents-in-Suit

12. The '124, '140, and '758 patents (collectively, the “Asserted Patents”) disclose that at the time of the invention, often times, after a computerized system has been initially constructed, modifications may be required, either to improve the functionality of the system or to customize the system to meet new requirements. Typically, a software application includes computer-executable instructions that are not able to be edited or modified directly by a developer. Instead, the developer may make the required changes by either creating or editing original source code. Once edited or modified, the updated source code must then be recompiled or translated into an updated set of computer-executable instructions. These updated set of computer-executable instructions often includes a relatively large amount of information, which must then be distributed to the hardware devices in the system as an updated software application. '140 Patent, Col. 2:17-33.³

13. At the time of the invention, in many situations it may be difficult to distribute a newly compiled version of the updated software application to all of the devices in the system. This is particularly true if the system is distributed over a large geographic area making it difficult to locate each system device and transport it to a central location where the newly updated computer-executable instructions can be uploaded. This lack of physical access to the devices often means that the new software application cannot be uploaded using a traditional wired connection (*e.g.*, an interface cable). Col. 2:34-43.

14. The Asserted Patents further explain that using a wireless communications network to upload the updated computer-executable instructions also has several significant drawbacks. First, the size of the updated computer-executable instructions may exceed the transmission

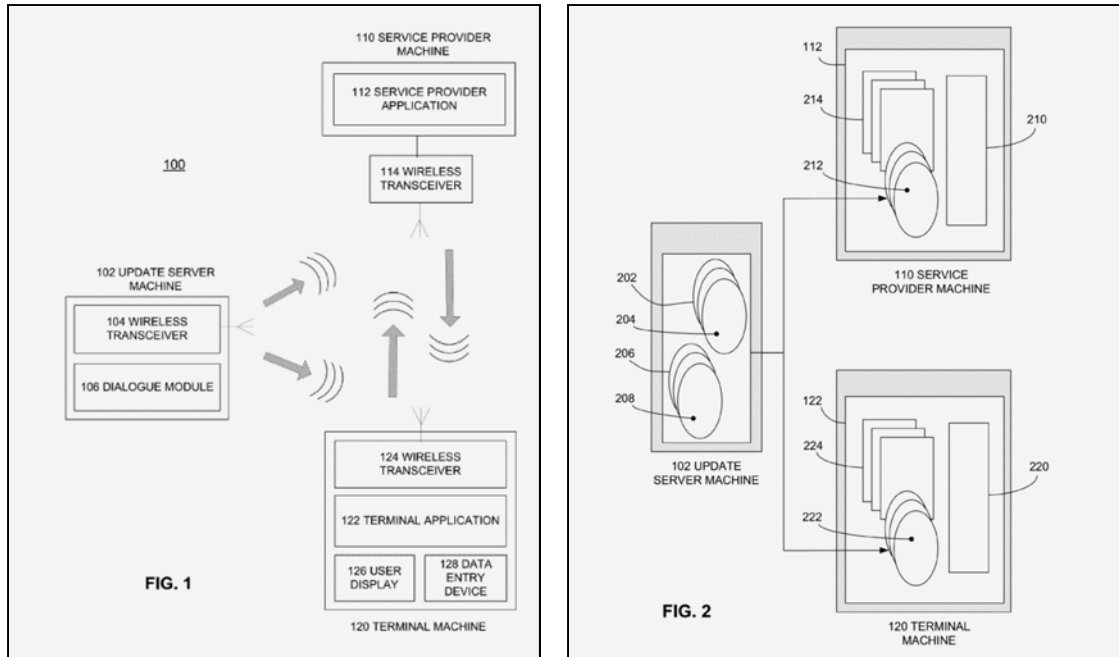
³ Unless otherwise indicated, all citations are to the '140 patent.

capabilities of the communications network, *i.e.*, the size of the file is too large to be uploaded. Second, even if the updated computer-executable instructions can be uploaded and transmitted over the wireless network, it may take an excessive amount of time. Third, these problems are exacerbated if (1) the computer system includes a large number of devices that must be updated with the modified computer-executable instructions and (2) the devices contain different versions of the application or multiple applications need updates. Col. 2:44-3:2.

The Claimed Solutions Are Directed to a Specific Improvement

in the way Computers Operate

15. The Asserted Patents are directed to a technological solution, *i.e.*, improving the way computers operate. In particular, the Asserted Patents claim a specific computerized system able to provide efficient modification of a specific type of software applications that are distributed across a network of remote devices. Col. 3:3-5. As an example, FIG. 1 (below) discloses, and the Asserted Patents claim, a unique and very specific type of computer system structure involving three entities: a service provider machine 110, a terminal machine 120 and an update server machine 102. Within this specific system, a terminal machine 120 and a service provider machine 110 communicate via applications running on the machines (as depicted by the vertical arrows in the figure).



16. As shown above in FIG. 2, the applications running on these machines have a very specific structure: namely, the terminal application 122 comprises first computer-executable instructions 224, which has been construed to mean “computer instructions that can be directly executed on a processor,”⁴ and first code 222. Col. 8:27-32. The Asserted Patents expressly define that “code” is not just any generic software code; instead, the Asserted Patents teach a very specific structure for “code,” clearly stating that “[t]he code represents, at least some information that *must be translated* by the software application before it can be implemented on the machine processor.” Col. 4:57-64 (emphasis added).⁵ The terminal application conducts the terminal machine’s portion of the dialogue with the service provider machine.

17. In like fashion, as shown in FIG. 2, the service provider machine runs an application having a very specific structure: namely, the provider application 112 comprises second computer-

⁴ See also *S3G Tech. LLC v. Unikey Techs., Inc.*, Civil Action No. 6:16-cv-400-RWS-KNM, Dkt. 74 [Report and Recommendation of United States Magistrate Judge], attached hereto as Exhibit D; see also Dkt. 91 [Order Adopting Rep. & Rec. of Mag. Judge], attached hereto as Exhibit E.

⁵ Consistent with the specification, the term “code” has been construed to mean “information that must be translated before it can be executed on a processor.” See Exhibit D, Appendix A.

executable instructions 214, which can be directly executed on a processor, and second code 212, which must be translated before it can be executed on a processor. The provider application conducts the service provider's portion of the dialogue with the terminal machine.

18. FIGS. 1 and 2 also show that the computer system structure in the Asserted Patents is unique in having a third entity, an update server machine. The update server machine is able to communicate with both the terminal machine and the service provider machine (as depicted by the diagonal arrows in the FIG. 1). The update server machine also has a unique and very specific data structure for communicating with the terminal and service provider machines: namely, the update server machine sends one or more dialogue modules, which has been construed to mean "code or instructions related to a dialogue sequence."⁶

19. As part of the dialogue between the terminal machine and the service provider machine, the terminal machine is modified by receiving a terminal dialogue module. As noted, the dialogue module is a specific structure that contains information that must be translated by the software application before it can be implemented on the machine processor. After receiving the dialogue module, specific actions can be taken. For example, the dialogue module may replace existing terminal code already saved on the terminal machine or the terminal code may supplement other code previously saved on the terminal machine. Col. 9:41-49. These steps produce first updated code, which adapts the terminal application to display a further prompt for the terminal machine's portion of a modified dialogue sequence with the service provider machine. Significantly, when terminal and service provider applications are modified using a dialogue module it does not result in replacing the prior applications with entirely new applications. This is important because this system with its specific structures results in a number of technological

⁶ *Id.*

benefits: namely, computing resource, improved network utilization, and design efficiencies. Col. 7:31-33; 15:52-59; FIGS. 8A-8B.

20. During litigation of the Asserted Patents, the Court also held that the “dialogue module” is a very specific type of structure:

The recital [in the claims] of “sending a . . . dialogue module” demonstrates that the claim uses the term “module” to refer to ***a particular type of structure rather than to any structure for performing a function***. Further, the specification is consistent with such an interpretation by disclosing that a “dialogue module” can contain code or other data and can be communicated....

Exhibit D at 12 (emphasis added).

21. The Court also held that the claimed three entity system of the Asserted Patents also is a particular structure. Specifically, the Court stated that “the surrounding claim language [of terminal machine] provides details regarding how the terminal machine interacts with other components . . . in a way that . . . inform[s] the structural character of [it] or otherwise impart[s] structure.” *Id.* at 23. The Court held that “[s]ubstantially the same analysis” applies to service provider and update server machines. *Id.* at 26, 29.

22. Among other features, the Asserted Patents thus claim an unconventional and inventive solution to the problem of transmitting large executable files required to replace applications running on remote devices, which previously required networks having massive bandwidth. Specifically, the Asserted Patent disclose the unconventional and inventive system and method of transmitting dialogue modules to terminal and service provider machines to modify and/or update software applications running on those machines. The software applications also are unconventional and inventive in utilizing both computer-executable instructions, which can be directly executed on a processor, and code, which must be translated before it can be executed on a processor, to solve this technological problem.

23. The use of “dialogue modules” containing “code” also results in various technical benefits. For example, as the Asserted Patents explain, transmitting an entire software application may represent a “large amount of information” that may not be feasible to transmit due to bandwidth limitations on data transfer over the network. Col. 2:44-49. And, even if an upload of the entire modified application is possible, it may take an unacceptable amount of time due to the slow transfer rate of a wireless network.” Col. 2:58-61. By comparison, the Asserted Patents disclose that, “[i]n a preferred embodiment, the dialogue module is less than 1 Mb to facilitate communication over a network with limited data transfer capacity.” Col. 7:31-33. Therefore, the use of the “dialogue modules” reduces network bandwidth utilization, thereby allowing efficient modification of applications running on remote devices on a network. Another benefit of using “dialogue modules” is that it enables the use of design tools that facilitate their development and modification. Col. 15:52-59, FIGS. 8A-8B. These tools thus enable and improve the efficiency of modifying applications.

24. During the prosecution of patents related to the Asserted Patents, the United States Patent Examiner allowed the claims because, among other things, this unique structure described and claimed in the Asserted Patents was not known and would not have been obvious to persons of ordinary skill in the art at the time of the invention:

As Applicants pointed out in the Remarks, **the prior art of record do not disclose and/or fairly suggest at least claimed limitations recited** in such manners in independent claim 1 “... an update server machine comprising a processor and operable for sending a terminal dialogue module to the terminal machine and a provider dialogue module to the service provider machine to allow the terminal machine and the service provider machine to conduct a dialogue sequence with each other [...]...wherein the **terminal application comprises a first set of computer-executable instructions and a first set of code, wherein the first set of computer-executable instructions are able to execute directly on a terminal processor of the terminal machine, and wherein the first set of code is not able to execute directly on the terminal processor;** ... wherein the first set of updated code adapts the terminal application to use a second sequence of prompts and a

second sequence of data entries for the terminal machine's portion of a modified dialogue sequence with the service provider machine...”

These claimed limitations are not present in the prior art of record and would not have been obvious, thus all pending claims are allowed.

Exhibit F [’571 FH, Notice of Allowability, dated July 11, 2013, at Examiner’s Statement of Reasons for Allowance] (emphasis added).

FIRST CLAIM FOR RELIEF

Infringement of the ’124 patent

25. S3G refers to and incorporates herein by reference the preceding paragraphs.

26. Defendant, by the acts complained of herein, and by making, using, selling, offering for sale, and/or importing in the United States, including in the Western District of Texas, instrumentalities embodying the invention, has in the past, does now, and continues to infringe the ’124 patent directly, contributorily, and/or by inducement, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271.

27. At least since the filing of this complaint, Defendant has had actual knowledge of the ’124 patent.

28. On information and belief, Defendant has directly infringed one or more claims of the ’124 patent by making, using, importing, supplying, selling, or offering for sale the Accused Instrumentalities. By doing so, Defendant has directly infringed at least claim 1 of the ’124 patent.

29. The Accused System includes a method of conducting a dialogue between a terminal machine and a service provider machine.

30. The Accused System includes a method comprising displaying a first prompt on a terminal display of a terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) by running a terminal application (*e.g.*, Defendant app for Android), the terminal application comprising first computer-executable instructions and first code

(*e.g.*, Android Runtime and Defendant app's bytecode, respectively) that conduct the terminal machine's portion of the dialogue. When conducting the dialogue, the terminal application displays a first prompt and accepts a first data entry at the terminal machine, wherein the first data entry is associated with the first prompt. For example, without limitation, using the Defendant app, a user is able to create or review saved address information and edit it.⁷ The user is prompted with one or more saved address to, for example, order from a saved address. The user is also able to edit and delete a saved address. This information is necessarily communicated to the service provider machine (*e.g.*, Defendant server) because, for example, without limitation, it must be stored and available to the user in the future. One of ordinary skill would understand that the terminal application (*e.g.*, Defendant app for Android) comprises first computer executable instructions and first code. As noted, for example, without limitation, the Android Runtime (ART) comprises computer executable instructions, while the app's bytecode comprises code.

31. As explained above, the Accused System includes a method comprising accepting a first data entry at the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app), wherein the first data entry is associated with the first prompt.

32. The Accused System includes a method comprising communicating information associated with the first data entry from the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) to the service provider machine (*e.g.*, Defendant server), wherein the service provider machine (*e.g.*, Defendant server) uses a provider application (*e.g.*, Defendant server application) comprising second computer-executable instructions and second code that conduct the service provider machine's portion of the dialogue,

⁷ The analysis herein applies equally to other aspects of the Accused System, including, but not limited to, Health Concerns, Stores, Cart, Personal Information, Shipping Address, Billing Address, Payment Methods, Purchase History, Auto Delivery, and Preferences.

and wherein the provider application is capable of sending an authorization code to the terminal machine. In the Accused System, information associated with the first data entry is communicated from the terminal machine to the service provider machine. For example, without limitation, using the Defendant app, a user is able to edit saved address. This information is necessarily communicated to the Defendant server because, for example, without limitation, it must be stored and available to the user in the future. The provider application (*e.g.*, Defendant server application, which, upon information and belief, is a .NET program) runs on the service provider machine (*e.g.*, Defendant server), and one of ordinary skill would understand that the Defendant server application comprises second computer-executable instructions and second code. For example, without limitation, the CLR engine comprises computer-executable instructions, while the .NET program comprises second code. In the Accused System, the provider application is capable of sending an authorization code to the terminal machine, for example, without limitation, by authorizing logging into the Defendant system.

33. The Accused System includes a method storing at least a portion of the information associated with the first data entry in memory for analysis. For example, the service provider machine stores for analysis at least a portion of the information associated with the first data entry, *e.g.*, an order of a saved address, so that these orders may be analyzed and the appropriate rewards can be made available on the Accused System. If at least a portion of the information was not stored in memory, the rewards would not be available to the user.

34. The Accused System includes a method comprising receiving, at the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app), a terminal dialogue module (*e.g.*, terminal machine portion of a dialogue (*e.g.*, saved address)) that updates at least a portion of the first code to produce first updated code, wherein the

first updated code adapts the terminal application (*e.g.*, Defendant app for Android) to display a second prompt for the terminal machine's portion of a modified dialogue sequence (*e.g.*, series of prompts and corresponding user data entries) with the service provider machine, wherein at least one of the first code, the second code, and the first updated code comprise intermediate code. For example, when a user inputs a saved address using the Accused System, information is communicated to the user's Defendant app (terminal application on the terminal machine). The format of the information that is sent from the Defendant server to the user's Defendant app is, for example, JSON. At least a portion of the information is necessarily stored on the terminal machine because, for example, without limitation, the saved address appears on the user's Android device and allows the user to select it even at a later time. Therefore, the terminal dialogue module updates at least a portion of the first code to produce first updated code. The dialogue sequence (*e.g.*, series of prompts and corresponding user data entries) is evidenced in the one or more saved addresses and the corresponding user data entry of selecting a desired saved address (*e.g.*, button). Additional prompts include reviewing saved address information and editing and deleting saved addresses. For example, without limitation, the second prompt is evidenced by the ability to access a *new* saved address. At least one of the first code, the second code, and the first updated code comprise intermediate code. As explained above, the terminal application is identified as, for example, without limitation, the Defendant app for Android, and the first code and the first updated code is identified as, for example, without limitation, the app's bytecode.

35. On information and belief, Defendant manufactures, or contracts with vendors and others to manufacture, uses and distributes the Accused System, including the accused software applications running on the mobile devices and servers. Within this jurisdiction and elsewhere, Defendant and its employees, agents and affiliates use the Accused System in connection with its

design, development, testing and maintenance of the Accused System as well as in connection the use of the Accused System by its employees, agents, affiliates, and customers.

36. On information and belief, Defendant further provides and distributes, or contracts with others to provide and distribute, the Defendant app of the Accused System, including the accused mobile applications. Customers and/or end users download the Defendant app in accordance with Defendant's provided instructions. As set forth above, the Defendant app interacts with Defendant's servers by communicating with and giving and/or receiving instructions, data, and other information to and from Defendant's servers.

37. To the extent that some elements or steps of a claim in the '124 patent are performed or provided by a different party than Defendant, those elements or steps are attributable to the Defendant because Defendant participates in the infringement (as described above and herein) and receives a benefit upon use and performance of the claimed systems and methods of the '124 patent. In particular, Defendant provides the software that establishes the manner and/or timing of the performance of the use of Defendant's software and thus directs and controls the actions that a user may request or the results from a user's actions. Defendant receives a benefit from such actions by the customer as it allows the customer to shop and purchase Defendant's products from Defendant and Defendant's customers receive a benefit in that they are able to shop and purchase Defendant's products remotely using their own devices. Defendant's contracts with a user also create an agency relationship or governs infringing activity for purposes of joint infringement.

38. On information and belief, Defendant instructs its customers and end users to download and install on end users' devices the infringing software applications, including updates, in order to use the claimed systems and practice the claimed methods of the '124 patent. On information and belief, in accordance with Defendant's instructions, Defendant's customers and

other end users use the Accused System in a way that practice the claimed methods of the '124 patent as set forth above. The Defendant app issues computerized instructions to direct or control users, including Defendant's customers and other end users, in the manner or timing of their use of their devices and the Defendant app. Through its software on Defendant's servers and embedded on users' devices, as well as its contractual relationships with users, Defendant thus directs and controls users and their devices to perform acts of infringement alleged above.

39. On information and belief, Defendant enters into agreements with customers and/or end users and others and conditions their use of Defendant's infringing software and its functionality, including but not limited to the Defendant app, upon consent with Defendant's Terms and Conditions and Privacy Policies, within this jurisdiction and elsewhere.

40. On information and belief, at least since the filing of this complaint, Defendant has knowingly and actively induced the infringement of one or more of the '124 patent claims by, *inter alia*, marketing, promoting, and offering for use the Accused Instrumentalities, knowingly and intending that the use of such instrumentalities by Defendant customers and by users infringes the '124 patent. For example, Defendant intends to induce such infringement by, among other things, promoting users to download and run its mobile applications, including at least applications for devices running the Android operating system, knowing that the use of the its applications on a user's portable device or smart phone in connection with supporting systems such as its server(s) infringes one or more claims of the '124 patent.

41. On information and belief, at least since the filing of this complaint, Defendant has contributed to the infringement of the '124 patent by, *inter alia*, marketing and promoting products and services. Defendant has used and promoted within the United States the Accused Instrumentalities, which are not staple articles or commodities of commerce suitable for substantial

non-infringing use, and are known by Defendant to be especially made or especially adapted to the infringe the '124 patent. As a result, Defendant's Accused Instrumentalities have been used by its customers and by users to infringe the '124 patent. Defendant continues to engage in acts of contributory infringement of the '124 patent.

42. By reason of the acts of Defendant alleged herein, S3G has suffered damage in an amount to be proved at trial.

43. Defendant threatens to continue to engage in the acts complained of herein and, unless restrained and enjoined, will continue to do so, all to S3G's irreparable injury. It would be difficult to ascertain the amount of compensation that would afford S3G adequate relief for such future and continuing acts, and a multiplicity of judicial proceedings would be required. S3G does not have an adequate remedy at law to compensate it for the injuries threatened.

SECOND CLAIM FOR RELIEF

Infringement of the '140 patent

44. S3G refers to and incorporates herein by reference the preceding paragraphs.

45. Defendant, by the acts complained of herein, and by making, using, selling, offering for sale, and/or importing in the United States, including in the Western District of Texas, instrumentalities embodying the invention, has in the past, does now, and continues to infringe the '140 patent directly, contributorily, and/or by inducement, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271.

46. At least since the filing of this complaint, Defendant has had actual knowledge of the '140 patent.

47. On information and belief, Defendant has directly infringed one or more claims of the '140 patent by making, using, importing, supplying, selling, or offering for sale the Accused Instrumentalities. By doing so, Defendant has directly infringed at least claim 1 of the '140 patent.

48. For example, Defendant provides a system that performs the method of conducting a dialogue sequence between a terminal machine and a service provider machine (“Accused System”).

49. The Accused System performs a method that displays a first prompt on a terminal display of the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) by running a terminal application (*e.g.*, Defendant app for Android), the terminal application comprising first computer-executable instructions and first code (*e.g.*, Android Runtime and Defendant app’s bytecode, respectively) that conduct the terminal machine’s portion of the dialogue sequence (*e.g.*, series of prompts and corresponding user data entries) between the terminal machine and the service provider machine. For example, without limitation, using the Defendant app, a user is able to create, review, edit, delete or place an order from a saved address. The user is prompted with one or more saved address to, for example, place an order. The user is also able to edit and delete one or more saved address. This information is necessarily communicated to the service provider machine (*e.g.*, Defendant’s server) because, for example, without limitation, it must be stored and available to the user in the future. One of ordinary skill would understand that the terminal application (*e.g.*, Defendant app for Android) comprises first computer executable instructions and first code that conduct the terminal machine’s portion of the dialogue sequence between the terminal machine and the service provider machine. For example, without limitation, the Android Runtime (ART) comprises computer executable instructions, while the Defendant app program comprises code.

50. The method performed by the Accused System includes receiving entry of first data at the first prompt. As explained above, in the Accused System, among other things, the user is able to edit and delete one or more saved address. One of ordinary skill would understand this to be receiving entry of first data at the first prompt.

51. The method performed by the Accused System includes communicating information associated with the first data from the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) to a provider application (*e.g.*, Defendant server application) at the service provider machine (*e.g.*, Defendant server), the provider application (*e.g.*, Defendant server application) comprising second computer-executable instructions and second code that conduct the service provider machine's portion of the dialogue sequence (*e.g.*, series of prompts and corresponding user data entries), and wherein the provider application (*e.g.*, Defendant server application) is capable of sending an authorization code to the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app). In the Accused System, information associated with the first data is communicated from the terminal machine to the provider application at the service provider machine. For example, without limitation, using the Defendant app, a user is able to review, edit, and delete a saved address. This information is necessarily communicated to the Defendant server because, for example, without limitation, it must be stored and available to the user in the future. The provider application (*e.g.*, Defendant server application, which, upon information and belief, is a .NET program) runs on the service provider machine (*e.g.*, Defendant server), and one of ordinary skill would understand that the Defendant server application comprises second computer-executable instructions and second code. For example, without limitation, the CLR engine comprises computer-executable instructions, while the .NET program comprises code. In the

Accused System, the provider application is capable of sending an authorization code to the terminal machine, for example, without limitation, by authorizing logging into the Accused System.

52. The method performed by the Accused System includes storing at least a portion of the information associated with the first data in memory for analysis. For example, without limitation, the service provider stores for analysis at least a portion of the information associated with the first data, e.g., an order, so that these orders may be analyzed and the appropriate rewards and credit can be made available on the Accused System. If at least a portion of the information was not stored in memory, the rewards would not be available to the user.

53. The method performed by the Accused System includes receiving, at the terminal machine (e.g., an Android smart phone or other Android computing device running the Defendant app), third code that modifies at least a portion of the first code to produce first updated code, wherein the first updated code adapts the terminal application (e.g., Defendant app for Android) to conduct a modified dialogue sequence (e.g., series of prompts and corresponding user data entries) with the service provider machine. For example, without limitation, when a user inputs a saved address using the Accused System, information is communicated to the user's Defendant app (terminal application on the terminal machine). The format of the information that is sent from the Defendant server to the user's Defendant app is, for example, JSON.⁸ At least a portion of the information is necessarily stored on the terminal machine because, for example, without limitation, the saved address appears on the user's Android device and allows the user to select it even at a later time. Therefore, the third code modifies at least a portion of the first code to produce

⁸ JSON, or JavaScript Object Notation, is a lightweight data-interchange format that must first be translated or converted from the JSON format to a format that the Android app can use. *See e.g.*, <http://www.json.org/> and <https://github.com/google/gson>.

first updated code. The first updated code adapts the terminal application to conduct a modified dialogue sequence (*e.g.*, series of prompts and corresponding user data entries), which is evidenced in the one or more saved address, and the corresponding user data entry of selecting a saved address (*e.g.*, button). For example, without limitation, the modified dialogue sequence is evidenced by the ability to access *new* saved address.

54. The Accused System performs a method wherein receiving the third code is performed in response to the terminal machine satisfying a trigger condition. For example, as explained above, the third code is received in response to the terminal machine satisfying a trigger condition, *e.g.*, user action, such as connecting to the network and/or accessing the Defendant app. In addition to or alternatively, the trigger is based on location and/or proximity.

55. The Accused System performs a method receiving the third code from an update server machine that is separate and distinct from the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) and the service provider machine (*e.g.*, Defendant server). For example, as explained above, the third code is received from an update server machine (*e.g.*, an Android, iOS or other smart phone or other computing device accessing the Accused System).

56. The Accused System performs a method wherein the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) and the service provider machine (*e.g.*, Defendant server) include different types of processors, whereby the first computer-executable instructions are not able to be executed on the service provider machine and the second computer-executable instructions are not able to be executed on the terminal machine. For example, without limitation, many popular mobile handsets are based on the Snapdragon processor. (*See e.g.*, <https://www.qualcomm.com/products/snapdragon>;

<https://www.qualcomm.com/products/snapdragon/devices/all>). One of ordinary skill understands that processors used for mobile handsets are different from processors used for servers. And, because of architecture and other differences, the first computer-executable instructions are not able to be executed on the provider processor, and the second computer-executable instructions are not able to be executed on the terminal processor. For example, ARM-based processors are oftentimes used for mobile devices, e.g., smart phones. (See e.g., <http://www.arm.com/markets/mobile/>, “The market defining ARM® Cortex®-A 32-bit and 64-bit processors are at the heart of the mobile application processors.”). Alternative, x86 processors are oftentimes used for desktop and server machines. The architectures are different, for example, because an ARM processor is a Reduced Instruction Set Computer (RISC) processor, while an x86 processor is a Complex Instruction Set Computer (CISC) processor. RISC architectures have a smaller number of more general purpose instructions. (See e.g., <http://stackoverflow.com/questions/14794460/how-does-the-arm-architecture-differ-from-x86>).

57. The Accused System performs a method wherein the first and second computer-executable instructions are fully compiled. Since the first computer-executable instructions are able to execute directly on a terminal processor of the terminal machine and the second computer-executable instructions are able to execute directly on a provider processor of the service provider machine, one of ordinary skill would understand that they are fully compiled.

58. The Accused System performs a method wherein the terminal machine is distinct from the service provider machine. As identified and explained above, the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) is distinct from the service provider machine (*e.g.*, Defendant server).

59. On information and belief, Defendant manufactures, or contracts with vendors and others to manufacture, uses and distributes the Accused System, including the accused software applications running on the mobile devices and servers. Within this jurisdiction and elsewhere, Defendant and its employees, agents and affiliates use the Accused System in connection with its design, development, testing and maintenance of the Accused System as well as in connection the use of the Accused System by its employees, agents, affiliates, and customers.

60. On information and belief, Defendant further provides and distributes, or contracts with others to provide and distribute, the Defendant app of the Accused System, including the accused mobile applications. Customers and/or end users download the Defendant app in accordance with Defendant's provided instructions. As set forth above, the Defendant app interacts with Defendant's servers by communicating with and giving and/or receiving instructions, data, and other information to and from Defendant's servers.

61. To the extent that some elements or steps of a claim in the '140 patent are performed or provided by a different party than Defendant, those elements or steps are attributable to the Defendant because Defendant participates in the infringement (as described above and herein) and receives a benefit upon use and performance of the claimed systems and methods of the '140 patent. In particular, Defendant provides the software that establishes the manner and/or timing of the performance of the use of Defendant's software and thus directs and controls the actions that a user may request or the results from a user's actions. Defendant receives a benefit from such actions by the customer as it allows the customer to shop and purchase Defendant's products from Defendant and Defendant's customers receive a benefit in that they are able to shop and purchase Defendant's products remotely using their own devices. Defendant's contracts with a user also create an agency relationship or governs infringing activity for purposes of joint infringement.

62. On information and belief, Defendant instructs its customers and end users to download and install on end users' devices the infringing software applications, including updates, in order to use the claimed systems and practice the claimed methods of the '140 patent. On information and belief, in accordance with Defendant's instructions, Defendant's customers and other end users use the Accused System in a way that practice the claimed methods of the '140 patent as set forth above. The Defendant app issues computerized instructions to direct or control users, including Defendant's customers and other end users, in the manner or timing of their use of their devices and the Defendant app. Through its software on Defendant's servers and embedded on users' devices, as well as its contractual relationships with users, Defendant thus directs and controls users and their devices to perform acts of infringement alleged above.

63. On information and belief, Defendant enters into agreements with customers and/or end users and others and conditions their use of Defendant's infringing software and its functionality, including but not limited to the Defendant app, upon consent with Defendant's Terms and Conditions and Privacy Policies, within this jurisdiction and elsewhere.

64. On information and belief, at least since the filing of this complaint, Defendant has knowingly and actively induced the infringement of one or more of the '140 patent claims by, *inter alia*, marketing, promoting, and offering for use the Accused Instrumentalities, knowingly and intending that the use of such instrumentalities by Defendant customers and by users infringes the '140 patent. For example, Defendant intends to induce such infringement by, among other things, promoting users to download and run the Defendant app knowing that the use of its applications on a user's portable device or smart phone in connection with supporting systems such as its server(s) infringes one or more claims of the '140 patent.

65. On information and belief, at least since the filing of this complaint, Defendant has contributed to the infringement of the '140 patent by, *inter alia*, marketing and promoting products and services. Defendant has used and promoted within the United States the Accused Instrumentalities. The Accused Instrumentalities are not staple articles or commodities of commerce suitable for substantial non-infringing use and are known by Defendant to be especially made or especially adapted to the infringe the '140 patent. As a result, Defendant's Accused Instrumentalities have been used by its customers and by users to infringe the '140 patent. Defendant continues to engage in acts of contributory infringement of the '140 patent.

66. By reason of the acts of Defendant alleged herein, S3G has suffered damage in an amount to be proved at trial.

67. Defendant threatens to continue to engage in the acts complained of herein and, unless restrained and enjoined, will continue to do so, all to S3G's irreparable injury. It would be difficult to ascertain the amount of compensation that would afford S3G adequate relief for such future and continuing acts, and a multiplicity of judicial proceedings would be required. S3G does not have an adequate remedy at law to compensate it for the injuries threatened.

THIRD CLAIM FOR RELIEF

Infringement of the '758 patent

68. S3G refers to and incorporates herein by reference the preceding paragraphs.

69. Defendant, by the acts complained of herein, and by making, using, selling, offering for sale, and/or importing in the United States, including in the Western District of Texas, instrumentalities embodying the invention, has in the past, does now, and continues to infringe the '758 patent contributorily and/or by inducement, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271.

70. At least since the filing of this complaint, Defendant has had actual knowledge of the '758 patent.

71. On information and belief, Defendant has directly infringed one or more claims of the '758 patent by making, using, importing, supplying, selling, or offering for sale the Accused Instrumentalities. By doing so, Defendant has directly infringed at least claim 1 of the '758 patent.

72. The Accused System performs a method of conducting a dialogue between a terminal machine and a service provider machine.

73. The Accused System performs a method comprising displaying a first prompt on a terminal display of a terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) by running a terminal application (*e.g.*, Defendant app for Android), the terminal application comprising first computer-executable instructions and first code that conduct the terminal machine's portion of the dialogue. The terminal application displays a first prompt and accepts a first data entry at the terminal machine, wherein the first data entry is associated with the first prompt. For example, without limitation, using the Defendant app, a user is able to access a saved address, and the user is prompted to review saved addresses. Additionally, a user is prompted to edit and delete saved addresses. This information is necessarily communicated to the Defendant server because, for example, without limitation, it must be stored and available to the user in the future. One of ordinary skill would understand that the terminal application (*e.g.*, Defendant app for Android) comprises first computer executable instructions and first code. For example, without limitation, the Android Runtime (ART) comprises computer executable instructions, while the app's bytecode comprises code.

74. As explained above, the Accused System performs a method comprising accepting a first data entry at the terminal machine (e.g., an Android smart phone or other Android computing device running the Defendant app), wherein the first data entry is associated with the first prompt.

75. The Accused System performs a method comprising communicating information from the terminal machine (e.g., an Android smart phone or other Android computing device running the Defendant app) to the service provider machine (e.g., Defendant server), the information associated with the first data entry, the service provider machine (e.g., Defendant server) using a provider application (e.g., Defendant server application), the provider application comprising second computer-executable instructions and second code that conduct the service provider machine's portion of the dialogue. In the Accused System, information from the terminal machine is communicated to the service provider machine, the information associated with the first data entry. For example, without limitation, using the Defendant app, a user is able to select, delete or edit a saved address. This information is necessarily communicated to the Defendant server because, for example, without limitation, it must be stored and available to the user in the future. The provider application (e.g., Defendant server application, which, upon information and belief, is, for example, a .Net program) runs on the service provider machine (e.g., Defendant server), and one of ordinary skill would understand that the Defendant server application comprises second computer-executable instructions and second code. For example, without limitation, the CLR engine that manages the execution of the .Net program comprises computer-executable instructions, while the .Net program comprises code.

76. The Accused System performs a method comprising receiving, at the terminal machine (e.g., an Android smart phone or other Android computing device running the Defendant app), a terminal dialogue module (e.g., terminal machine portion of a saved address) that replaces

at least a portion of the first code to produce first updated code, wherein the first updated code adapts the terminal application (e.g., Defendant app for Android) to display a second prompt for the terminal machine's portion of a modified dialogue sequence (e.g., series of prompts and corresponding user data entries) with the service provider machine, wherein at least one of the first code, second code, and first updated code comprise Java Byte code. For example, when a user inputs a saved address using the Accused System, information is communicated to the Defendant app (terminal application on the terminal machine). The format of the information that is sent from the Defendant server to the Defendant app is, based on information and belief, for example, JSON. At least a portion of the information is necessarily stored on the terminal machine because, for example, without limitation, the saved address appears on the user's Android device and allows the user to select it even at a later time. Therefore, the terminal dialogue module replaces at least a portion of the first code to produce first updated code. The terminal application displays a second prompt for the terminal machine's portion of a modified dialogue sequence (e.g., series of prompts and corresponding user data entries), which is evidenced in the one or more prompts associated with, for example, editing or deleting the saved address and the corresponding user data entry (e.g., selecting the corresponding button). Additional prompts and associated data entries include, for example, without limitation, selecting search results and other associated prompts. At least one of the first code, second code, and first updated code comprise Java Byte code. As explained above, the terminal application is identified as, for example, without limitation, the Defendant app for Android, and the first code is, for example, without limitation, the app's bytecode. One of ordinary skill would understand this to comprise Java Byte code.

77. On information and belief, Defendant manufactures, or contracts with vendors and others to manufacture, uses and distributes the Accused System, including the accused software

applications running on the mobile devices and servers. Within this jurisdiction and elsewhere, Defendant and its employees, agents and affiliates use the Accused System in connection with its design, development, testing and maintenance of the Accused System as well as in connection the use of the Accused System by its employees, agents, affiliates, and customers.

78. On information and belief, Defendant further provides and distributes, or contracts with others to provide and distribute, the Defendant app of the Accused System, including the accused mobile applications. Customers and/or end users download the Defendant app in accordance with Defendant's provided instructions. As set forth above, the Defendant app interacts with Defendant's servers by communicating with and giving and/or receiving instructions, data, and other information to and from Defendant's servers.

79. To the extent that some elements or steps of a claim in the '758 patent are performed or provided by a different party than Defendant, those elements or steps are attributable to the Defendant because Defendant participates in the infringement (as described above and herein) and receives a benefit upon use and performance of the claimed systems and methods of the '758 patent. In particular, Defendant provides the software that establishes the manner and/or timing of the performance of the use of Defendant's software and thus directs and controls the actions that a user may request or the results from a user's actions. Defendant receives a benefit from such actions by the customer as it allows the customer to shop and purchase Defendant's products from Defendant and Defendant's customers receive a benefit in that they are able to shop and purchase Defendant's products remotely using their own devices. Defendant's contracts with a user also create an agency relationship or governs infringing activity for purposes of joint infringement.

80. On information and belief, Defendant instructs its customers and end users to download and install on end users' devices the infringing software applications, including updates,

in order to use the claimed systems and practice the claimed methods of the '758 patent. On information and belief, in accordance with Defendant's instructions, Defendant's customers and other end users use the Accused System in a way that practice the claimed methods of the '758 patent as set forth above. The Defendant app issues computerized instructions to direct or control users, including Defendant's customers and other end users, in the manner or timing of their use of their devices and the Defendant app. Through its software on Defendant's servers and embedded on users' devices, as well as its contractual relationships with users, Defendant thus directs and controls users and their devices to perform acts of infringement alleged above.

81. On information and belief, Defendant enters into agreements with customers and/or end users and others and conditions their use of Defendant's infringing software and its functionality, including but not limited to the Defendant app, upon consent with Defendant's Terms and Conditions and Privacy Policies, within this jurisdiction and elsewhere.

82. On information and belief, at least since the filing of this complaint, Defendant has knowingly and actively induced the infringement of one or more of the '758 patent claims by, *inter alia*, marketing, promoting, and offering for use the Accused Instrumentalities, knowingly and intending that the use of such instrumentalities by Defendant customers and by users infringes the '758 patent. For example, Defendant intends to induce such infringement by, among other things, promoting users to download and run the Defendant app knowing that the use of its application on a user's portable device or smart phone in connection with supporting systems such as its server(s) infringes one or more claims of the '758 patent.

83. On information and belief, at least since the filing of this complaint, Defendant has contributed to the infringement of the '758 patent by, *inter alia*, marketing and promoting the Accused Instrumentalities within the United States. The Accused Instrumentalities are not staple

articles or commodities of commerce suitable for substantial non-infringing use and are known by Defendant to be especially made or especially adapted to the infringe the '758 patent. As a result, Defendant's Accused Instrumentalities have been used by its customers and by users to infringe the '758 patent. Defendant continues to engage in acts of contributory infringement of the '758 patent.

84. By reason of the acts of Defendant alleged herein, S3G has suffered damage in an amount to be proved at trial.

85. Defendant threatens to continue to engage in the acts complained of herein and, unless restrained and enjoined, will continue to do so, all to S3G's irreparable injury. It would be difficult to ascertain the amount of compensation that would afford S3G adequate relief for such future and continuing acts, and a multiplicity of judicial proceedings would be required. S3G does not have an adequate remedy at law to compensate it for the injuries threatened.

JURY DEMAND

S3G demands a jury trial on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, S3G prays for relief as follows:

- A. For an order finding that the Asserted Patents are valid and enforceable;
- B. For an order finding that Defendant has infringed the Asserted Patents directly, contributorily and/or by inducement, in violation of 35 U.S.C. § 271;
- C. For an order finding that Defendant's infringement is willful;
- D. For an order temporarily, preliminarily and permanently enjoining Defendant, its officers, directors, agents, servants, affiliates, employees, subsidiaries, divisions, branches, parents, attorneys, representatives, privies, and all others acting in concert or participation with

any of them, from infringing the Asserted Patents directly, contributorily and/or by inducement, in violation of 35 U.S.C. § 271;

E. For an order directing Defendant to file with the Court, and serve upon S3G's counsel, within thirty (30) days after entry of the order of injunction, a report setting forth the manner and form in which it has complied with the injunction;

F. For an order awarding S3G general and/or specific damages adequate to compensate S3G for the infringement by Defendant, including a reasonable royalty and/or lost profits, in amounts to be fixed by the Court in accordance with proof, including enhanced and/or exemplary damages, as appropriate, as well as all of the profits or gains of any kind made by Defendant from its acts of patent infringement;

G. For an order awarding S3G pre-judgment interest and post-judgment interest at the maximum rate allowed by law;

H. For an order requiring an accounting of the damages to which S3G is found to be entitled;

I. For an order declaring this to be an exceptional case pursuant to 35 U.S.C. § 285 and awarding S3G its attorneys' fees;

J. For an order awarding S3G its costs of court; and

K. For an order awarding S3G such other and further relief as the Court deems just and proper.

DATED: October 18, 2023

Respectfully Submitted,

By: /s/ Charles Ainsworth

Charles Ainsworth

State Bar No. 00783521

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