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Attorneys for Plaintiff
TWILIO INC.

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

TWILIO INC.,

Plaintiff,

vs.

TELESIGN CORPORATION,

Defendant.

Case No. _____

COMPLAINT FOR PATENT INFRINGEMENT

JURY TRIAL DEMANDED

1. Plaintiff Twilio Inc. ("Twilio" or "Plaintiff"), files this Complaint against Defendant TeleSign Corporation ("TeleSign" or "Defendant"), and allege as follows:

Introduction to Twilio

2. Twilio is a Delaware corporation with its principal place of business at 375 Beale Street, 3rd Floor, San Francisco, California 94105.

3. Twilio is a cloud communications company that enables developers to build and manage applications without the complexity of creating and maintaining the underlying structure.

4. Over 1,000,000 developer accounts have registered with Twilio's platform.

5. Twilio's approach consists of at least a Programmable Communications Cloud which enables developers to embed voice, messaging, video, and authentication capabilities into developers applications via Twilio's Application Programming Interfaces ("API").

6. Twilio offers at least 18 different messaging, voice, and communication products to its customers.

7. Twilio invests substantial resources in its research and development.

8. Twilio employs over 624 employees.

9. The vast majority of Twilio's employees are located in the San Francisco Bay area.

10. Twilio's research and development organization consists of at least 326 employees, the vast majority of which are located in the San Francisco Bay area.

11. Twilio has been issued over 47 United States patents, has 45 pending patent applications, and 10 pending provisional applications.

12. In additional to its U.S. patents, Twilio also have five issued patents and nine pending applications in foreign jurisdictions.

13. Twilio's technical development of its products and research are primarily based in the San Francisco Bay area.

14. The inventors of Twilio's patents are primarily located in the San Francisco Bay area.

Introduction to Defendant

15. Defendant is a California corporation with its principal place of business in Marina Del Rey, California.

16. Defendant has a primary office in Sunnyvale, California.

17. Defendant opened its San Francisco Bay area office to sell to its customers and clients based in the area.

18. Defendant has many customers in the San Francisco Bay area.

19. Defendant attempts to sell its infringing products from its Sunnyvale office.

20. Defendant was a customer of Twilio.

21. As a customer of Twilio, Defendant used services of Twilio.

22. Defendant gained access to the details of Twilio's products and their operation.

23. Defendant gained access to Twilio's information, such as Twilio's APIs.

24. Stacy Stubblefield, the Co-Founder and Vice President of Product Strategy for Defendant had a private Twilio account.

25. Stacy Stubblefield gained knowledge of Twilio's products.

26. Defendant's engineers learned of Twilio's technology when Defendant was a customer of Twilio.

27. Defendant used the information it learned about Twilio products to develop its own products to compete with Twilio.

28. Defendant knew that Twilio filed patent applications and had obtained patents. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

29. Defendant views Twilio as a competitor.

30. Defendant used the information it learned about Twilio to enhance its sales.

31. Using its infringing products, Defendant attempts to take sales from Twilio.

32. Defendant has inflicted harm on Twilio.

33. Defendant offers eight different products: Score, Phone ID, Voice Verify, SMS Verify, Push Verify, Auto Verify, Smart Verify, and Behavior ID.

(https://telesign.com/products/).

34. Seven of these eight products infringe Twilio's patents.

Overview of Infringement

35. Of Twilio's 47 issued patents, Twilio is currently asserting seven patents against Defendant: United States Patent No. 8,306,021 ("the '021 Patent") (attached as Exhibit A), United States Patent No. 8,837,465 ("the '465 Patent") (attached as Exhibit B), United States Patent No. 8,755,376 ("the '376 Patent") (attached as Exhibit C), United States Patent No. 8,738,051 ("the '051 Patent") (attached as Exhibit D), United States Patent No. 8,737,962 ("the '962 Patent") (attached as Exhibit E), United States Patent No. 9,270,833 ("the '833 Patent") (attached as Exhibit F), United States Patent No. 9,226,217 ("the '217 Patent") (attached as Exhibit G) (collectively, the "Asserted Patents").

36. The Asserted Patents fall within four patent families:

- The Platform Family (the '021 Patent, '465 Patent, and '376 Patent)
    - The Platform Family is generally, but not exclusively, directed towards the concept of initiating and controlling a voice, push, or SMS message based on a REST API request.
- The Score Family (the '692 Patent and the '833 Patent)
    - The Score Family is generally, but not exclusively, directed towards detecting fraudulent account activity.
- The Path Selection Family (the '217 Patent)
    - The Path Selection Family is generally, but not exclusively, directed towards the selection of a communication provider for transmitting messages.
- The Delivery Receipts Family (the '051 Patent)
    - The Delivery Receipts Family is generally, but not exclusively, directed towards the selection of the best routing carrier for transmitting messages.

37. Defendant advertises eight different products: Score, Phone ID, Voice Verify,

SMS Verify, Push Verify, Auto Verify, Smart Verify, and Behavior ID. (https://telesign.com/products/).

38. Seven of Defendant's eight products infringe the Asserted Patents and are built on Twilio's technology.

39. Each of Defendant's seven infringing products infringe multiple Twilio patents.

40. Defendant's Smart Verify product infringes the '051 Patent, the '021 Patent, and the '217 Patent.

41. Defendant's Auto Verify product infringes the '051 Patent and the '021 Patent.

42. Defendant's SMS Verify product infringes the '051 Patent, the '021 Patent, the '376 Patent, and the '217 Patent.

43. Defendant's Voice Verify product infringes the '051 Patent, the '465 Patent, the '376 Patent, and the '217 Patent.

44. Defendant's Push Verify product infringes the '051 Patent and the '021 Patent.

45. Defendant's Score and Phone ID products infringe the '833 Patent and the '962 Patent.

46. Defendant sells and offers to sell these infringing products to companies located in the San Francisco Bay area and throughout the United States.

47. Defendant could not effectively compete against Twilio without the technology covered by the Asserted Patents.

Nature of the Action

48. This is a civil action for the infringement of the Asserted Patents under the patent laws of the United States, 35 U.S.C. § 1, *et seq*.

49. This action involves Defendant's manufacture, use, sale, offer for sale, and importation into the United States of infringing products, methods, processes, services and systems that are primarily used or primarily adapted for, but not exclusively, the transmission of messages.

50. For example, but without limitation, such products include Defendant's Smart Verify, Auto Verify, SMS Verify, Voice Verify, Push Verify, Score, and Phone ID

(https://telesign.com/products/).

51. Defendant has made extensive use of Twilio's patented technologies, including each of the Asserted Patents.

Jurisdiction and Venue

52. This Court has original jurisdiction over the subject matter of this Complaint under 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, including 35 U.S.C. §§ 271, et seq.

53. This Court has personal jurisdiction over Defendant because Defendant has committed acts of patent infringement and contributed to or induced acts of patent infringement by others in the State of California and in this District.

54. Defendant is a California corporation and maintains an office in the San Francisco Bay area.

55. Defendant has established sufficient minimum contacts with this District such that it should reasonably and fairly anticipate being called into court in this District and has purposefully directed activities at residents of the state and this District.

56. Venue in this district is proper under 28 U.S.C. §§ 1400(b) and 1391(b) and (c), because Defendant is subject to personal jurisdiction in this district and has committed acts of infringement in this district.

Willful Infringement

57. Defendant's infringement of the Asserted Patents is willful.

58. Defendant became aware of the Asserted Patents as part of its analysis of Twilio's products, for example, during its diligence in filing suit against Twilio. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

59. Defendant knew of Twilio's patents and products. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

60. Defendant's engineers had access to Twilio when Defendant was a customer of

Twilio.

61. Defendant's engineers were able to study Twilio's source code and design of Twilio's products.

62. Defendant's Stacy Stubblefield had a Twilio account.

63. Stacy Stubblefield's private account was created in September of 2009.

64. Stacy Stubblefield is the co-founder and vice president of product strategy at TeleSign.

65. Stacy Stubblefield gained access to Twilio's products.

66. Stacy Stubblefield used the information she learned from her Twilio account to develop products to compete with Twilio. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

67. Defendant designed competing products after learning of Twilio's products. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

68. Defendant's products closely match at least some of Twilio's products.

69. For example, Defendant's Score product closely matches the '833 Patent and the '962 Patent.

70. For example, Defendant's two-factor authentication service closely matches Twilio's two-factor authentication technology.

71. Defendant's infringement of the Asserted Patents has been deliberate, flagrant, wanton, and constitutes willful infringement. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

Count I (Infringement of U.S. Patent 8,737,962)

72. Twilio incorporates by reference and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

73. The United States Patent and Trademark Office ("USPTO") duly and legally

issued the '962 Patent on May 27, 2014.

74. Twilio owns the right, title and interest in the '962 Patent, with full rights to pursue recovery of royalties or damages for infringement.

75. Defendant has infringed and continues to infringe one or more claims of the '962 Patent, including at least Claim 1 by advertising, distributing, making, using, selling and offering for sale within the United States and importing into the United States related software and related services, including but not limited to Defendant's Score and Phone ID products.

76. Defendant's Score and Phone ID products relate generally to fraud detection. *See* https://www.telesign.com/products/.

77. The Score product at least receives a phone number, analyzes the phone number, and assigns a fraud score to the phone number. *See* https://www.telesign.com/products/.

78. The Phone ID product may be used with the Score product.

79. The Score and Phone ID products are offered together and come bundled together.

80. Defendant's developer API documentation makes reference to the "Phone ID Score web service." *See* https://developer.telesign.com/docs/rest_api-phoneid-score.

81. Defendant's operation of its Score and Phone ID products infringe one or more claims of the '962 Patent. As an example of one theory of infringement and with reference to Claim 1 of the '962:

Claim 1	**TeleSign's Score and PhoneID Product**
[1] A method comprising:	See below for elements.
[1a]enrolling a plurality of accounts on a telecommunications platform, wherein an account includes account configuration;	By Defendant's operation of the Score and PhoneID products, Defendant performs this step. With reference to TeleSign's Score and Phone ID products, TeleSign enrolls a plurality of accounts. Further, each account that enrolls includes account configuration. For example, an account may include a telephone number. *See* https://www.telesign.com/products/score/ and https://www.telesign.com/products/phone-id/.
[1b] at a fraud detection system of the telecommunications	By Defendant's operation of the Score and PhoneID products, Defendant performs this step.

<table>
<tr><th>Claim 1</th><th>TeleSign's Score and PhoneID Product</th></tr>
<tr><td>platform, receiving account usage data, wherein the account usage data includes at least communication configuration data and billing configuration data of account configuration and further includes communication history of the plurality of accounts;</td><td>With reference to TeleSign's Score and Phone ID products, TeleSign receives account usage data related to the account, wherein the data includes at communication and billing data. For example, TeleSign checks an account through its Global Clearinghouse. See https://www.telesign.com/products/score. As another example, checks account usage data through historical data on phone number usage. See https://www.telesign.com/products/score. As another example, TeleSign continually extracts historical data from phone numbers. See https://developer.telesign.com/docs/rest_api-phoneid-score. As yet another example, TeleSign at least has data relating to the phone number, phone type, and carrier. See https://developer.telesign.com/docs/rest_api-phoneid-score.</td></tr>
<tr><td>[1c] calculating fraud scores of a set of fraud rules from the usage data, wherein at least a sub-set of the fraud rules include conditions of usage data patterns between at least two accounts;</td><td>By Defendant's operation of the Score and PhoneID products, Defendant performs this step.

With reference to TeleSign's Score and Phone ID products, TeleSign calculates a fraud score from the obtained data that includes a least two accounts. For example, TeleSign assigns a score value from 0 to 1000. See https://www.telesign.com/products/score/. See also
A phone number's score is a measure of the risk involved with conducting online business transactions with its registered owner.

It is a rating on a scale from zero to a thousand, and the scale is divided into five successively increasing ranges. Scores correlate with the risk level associated with the range they fall into, and each risk level has an associated recommendation.

<table><tr><th>Score</th><th>Risk Level</th><th>Recommendation</th></tr><tr><td>801-1000</td><td>High</td><td>Block</td></tr><tr><td>601-800</td><td>Medium-High</td><td>Block</td></tr><tr><td>401-600</td><td>Medium</td><td>Flag</td></tr><tr><td>201-400</td><td>Medium-Low</td><td>Allow</td></tr><tr><td>0-200</td><td>Low</td><td>Allow</td></tr><tr><td>N/A</td><td>Neutral</td><td>N/A</td></tr></table>
https://developer.telesign.com/docs/rest_api-phoneid-score. As yet another example, TeleSign tries to reduce fake accounts with its product and keeps a blacklist to make sure repeat users cannot open multiple accounts. See https://www.telesign.com/use-cases/reduce-fake-accounts/ and https://www.telesign.com/products/score/.</td></tr>
<tr><td>[1d] detecting when the fraud scores of an</td><td>By Defendant's operation of the Score and PhoneID products,</td></tr>
</table>

Claim 1	TeleSign's Score and PhoneID Product
account satisfy a fraud threshold;	Defendant performs this step. With reference to TeleSign's Score and Phone ID products, TeleSign detects when the fraud score of an account hits a threshold amount. For example, TeleSign uses a numbering system between 0 and 1000 and will detect when an account score reaches a certain threshold. *See* https://developer.telesign.com/docs/implement-your-score-policy and https://www.telesign.com/products/score.
[1e] initiating an action response when a fraud score satisfies the fraud threshold.	By Defendant's operation of the Score and PhoneID products, Defendant performs this step. With reference to TeleSign's Score and Phone ID products, TeleSign initiates an action response when an account reaches a certain threshold. For example, TeleSign uses a numbering system between 0 and 1000 and upon an account reaching a certain threshold initiates an action. For example, TeleSign may indicate whether an account should be blocked or not blocked. *See* https://developer.telesign.com/docs/rest_api-phoneid-score and https://www.telesign.com/products/score/.

82. Defendant's infringement has caused, and is continuing to cause, damage and irreparable injury to Twilio, and Twilio will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

83. Twilio is entitled to injunctive relief and damages in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

84. Based on Defendant's behavior and analysis of Twilio's products, Defendant became aware of the '962 Patent, for example, at least during its diligence in filing suit against Twilio. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

85. Defendant's infringement of the '962 Patent has been and continues to be willful, flagrant, wanton, and deliberate, justifying a trebling of damages under 35 U.S.C. § 284. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

86. Based on at least Defendant's analysis of Twilio's products, Defendant either

knows or should have known about its risk of infringement regarding the '962 Patent.

87. Defendant's conduct despite this knowledge is made with a reckless disregard for the infringing nature of their activities.

Count II (Infringement of U.S. Patent No. 9,270,833)

88. Twilio incorporates by reference and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

89. The United States Patent and Trademark Office ("USPTO") duly and legally issued the '833 Patent on February 23, 2016.

90. Twilio owns the right, title and interest in the '833 Patent, with full rights to pursue recovery of royalties or damages for infringement.

91. Defendant has infringed and continues to infringe one or more claims of the '833 Patent, including at least Claim 5 by advertising, distributing, making, using, selling and offering for sale within the United States and importing into the United States related software and related services, including but not limited to Defendant's Score and Phone ID product.

92. Defendant's Score and Phone ID products relate generally to fraud detection. *See* https://www.telesign.com/products/.

93. The Score product at least receives a phone number, reviews the phone number for fraud, and assigns a score to the phone number. *See* https://www.telesign.com/products/.

94. The Phone ID product may be used with the Score product.

95. Defendant's developer API documentation makes reference to the "Phone ID Score web service." *See* https://developer.telesign.com/docs/rest_api-phoneid-score.

96. Defendant's operation of its Score and Phone ID products infringe one or more claims of the '833 Patent. As an example of one theory of infringement and with reference to Claim 5 of the '833:

Claim 5	TeleSign's Score and PhoneID Product
[5] A method comprising: at a telecommunication platform:	By Defendant's operation of the Score and PhoneID products, Defendant performs this step. With reference to TeleSign's Score and Phone ID products, TeleSign

Claim 5	TeleSign's Score and PhoneID Product
	maintains a telecommunication platform, for example its Phone ID Score web service. *See* https://developer.telesign.com/docs/rest_api-phoneid-score.
[5a] enrolling a plurality of parent accounts in the telecommunication platform;	By Defendant's operation of the Score and PhoneID products, Defendant performs this step. With reference to TeleSign's Score and Phone ID products, TeleSign advertises its products to help customers protect end-user accounts from fraud. *See* https://www.telesign.com/contact/. Further, TeleSign enrolls a plurality of parent accounts on its platform. *See* https://www.telesign.com/products/score/ and https://www.telesign.com/products/phone-id/.
[5b] within a first enrolled account, enrolling at least one sub-account that is managed by the first account;	By Defendant's operation of the Score and PhoneID products, Defendant performs this step. With reference to TeleSign's Score and Phone ID products, TeleSign enrolls a plurality of sub-accounts that may be managed by the first account. For example, the sub-accounts that enroll are the accounts of users that are managed by the developer of the application. *See* https://www.telesign.com/products/score/ and https://www.telesign.com/products/phone-id/.
[5c] at a fraud detection system of the telecommunications platform, receiving sub-account usage data of a plurality of sub-accounts of the telecommunication platform, wherein the sub-account usage data of each of the plurality of sub-accounts includes at least configuration data of the sub-account and communication history data;	By Defendant's operation of the Score and PhoneID products, Defendant performs this step. With reference to TeleSign's Score and Phone ID products, TeleSign receives sub-account usage data related to the account, wherein the sub-account usage data includes both configuration data and communication history data. For example, TeleSign checks an account through its Global Clearinghouse. *See* https://www.telesign.com/products/score. As another example, TeleSign checks sub-account usage data through historical data on phone number usage. *See* https://www.telesign.com/products/score. As another example, TeleSign continually extracts historical data from phone numbers. *See* https://developer.telesign.com/docs/rest_api-phoneid-score. As yet another example, TeleSign at least has data relating to the phone number, phone type, and carrier. *See* https://developer.telesign.com/docs/rest_api-phoneid-score.
[5d] calculating fraud	By Defendant's operation of the Score and PhoneID products,

<table>
<tr><th>Claim 5</th><th>TeleSign's Score and PhoneID Product</th></tr>
<tr><td>scores of a set of fraud scores from the sub-account usage data;</td><td>Defendant performs this step.

With reference to TeleSign's Score and Phone ID products, TeleSign calculates a fraud score based on the obtained data from the sub-account. For example, TeleSign assigns a score value from 0 to 1000. See https://www.telesign.com/products/score/. See also
A phone number's score is a measure of the risk involved with conducting online business transactions with its registered owner.

It is a rating on a scale from zero to a thousand, and the scale is divided into five successively increasing ranges. Scores correlate with the risk level associated with the range they fall into, and each risk level has an associated recommendation.

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https://developer.telesign.com/docs/rest_api-phoneid-score. As yet another example, TeleSign looks at the velocity and traffic patterns of an account in calculating a fraud score. See https://www.telesign.com/products/score/. As yet another example, TeleSign's PhoneID Score may return a Risk, Risk Level, Recommendation, or Score associated with a sub-account. See https://developer.telesign.com/docs/rest_api-phoneid-score.</td></tr>
<tr><td>[5e] in a case where the set of fraud scores of a sub-account satisfy a fraud threshold, programmatically notifying the corresponding parent account of illicit behavior of the sub-account, the notification being provided via the telecommunication platform;</td><td>By Defendant's operation of the Score and PhoneID products, Defendant performs this step.

With reference to TeleSign's Score and Phone ID products, TeleSign detects when the fraud score of an account hits a threshold amount. For example, TeleSign uses a numbering system between 0 and 1000 and will detect when an account score reaches a certain threshold. See https://developer.telesign.com/docs/implement-your-score-policy and https://www.telesign.com/products/score. Further, TeleSign notifies the parent account of the potentially fraudulent account. For example, TeleSign may ask the parent account whether a sub-account should be blocked or not blocked. See https://developer.telesign.com/docs/rest_api-phoneid-score and https://www.telesign.com/products/score/.</td></tr>
<tr><td>[5f] wherein illicit</td><td></td></tr>
</table>

Claim 5	TeleSign's Score and PhoneID Product
behavior includes at least one of toll fraud, spamming, terms of service violations, denial of service attacks, credit card fraud, suspicious behavior, and phishing attacks,	By Defendant's operation of the Score and PhoneID products, Defendant performs this step. With reference to TeleSign's Score and Phone ID products, TeleSign's software is implemented to prevent illicit behavior. For example, TeleSign tries to reduce fake accounts with its product and keeps a blacklist to make sure repeat users cannot open multiple accounts. *See* https://www.telesign.com/use-cases/reduce-fake-accounts/ and https://www.telesign.com/products/score/. As yet another example, TeleSign's product may determine illicit behavior through credit card stop payments, identify theft, spam, hacking, or other types of online fraud. https://developer.telesign.com/docs/rest_api-phoneid-score.
[5g] wherein the parent account is an account of an external service provider system, and wherein each sub-account is an account of a system that uses a service of the external service provider system.	By Defendant's operation of the Score and PhoneID products, Defendant performs this step. With reference to TeleSign's Score and Phone ID products, the parent account is associated with an external service and each sub-account is an account that uses the external service. For example, TeleSign includes developer API documentation on its website that allows for parent accounts of an external service to integrate the Score and Phone ID product. *See* https://developer.telesign.com/docs/implement-your-score-policy and https://www.telesign.com/customers/tinder/. Further, the sub-accounts use the external service that is provided by the parent account. *See* https://developer.telesign.com/docs/implement-your-score-policy and https://www.telesign.com/customers/tinder/.

97. Defendant's infringement has caused, and is continuing to cause, damage and irreparable injury to Twilio, and Twilio will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

98. Twilio is entitled to injunctive relief and damages in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

99. Based on Defendant's behavior and analysis of Twilio's products, Defendant became aware of the '833 Patent, for example, at least during its diligence in filing suit against Twilio. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

100. Defendant's infringement of the '833 Patent has been and continues to be willful,

flagrant, wanton, and deliberate, justifying a trebling of damages under 35 U.S.C. § 284. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

101. Based on at least Defendant's analysis of Twilio's products, Defendant either knows or should have known about its risk of infringement regarding the '833 Patent.

102. Defendant's conduct despite this knowledge is made with a reckless disregard for the infringing nature of their activities.

Count III (Infringement of U.S. Patent No. 8,738,051)

103. Twilio incorporates by reference and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

104. The United States Patent and Trademark Office ("USPTO") duly and legally issued the '051 Patent on May 27, 2014.

105. Twilio owns the right, title and interest in the '051 Patent, with full rights to pursue recovery of royalties or damages for infringement.

106. Defendant has infringed and continues to infringe one or more claims of the '051 Patent, including at least Claim 1 by advertising, distributing, making, using, selling and offering for sale within the United States and importing into the United States related software and related services, including but not limited to Defendant's Smart Verify, SMS Verify, Voice Verify, Push Verify, and Auto Verify products.

107. Defendant's Smart Verify, SMS Verify, Voice Verify, Push Verify, and Auto Verify products relate generally to end-user verification and two-factor authentication. *See* https://www.telesign.com/products/.

108. Defendant's Smart Verify, SMS Verify, Voice Verify, Push Verify, and Auto Verify products each transmit messages to verify a user.

109. For example, and with reference to SMS Verify, the SMS Verify product transmits SMS text messages to verify users. *See* https://www.telesign.com/products/sms-verify/.

110. The SMS Verify product transmits messages through different networks or

carriers.

111. Defendant's operation of its SMS Verify product infringes one or more claims of the '051 Patent. As an example of one theory of infringement and with reference to Claim 1 of the '051 Patent:

Claim 1	TeleSign's SMS Verify Product
[1] A method for transmitting telephony messages comprising:	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign transmits SMS messages. *See* https://developer.telesign.com/docs/rest_api-verify-sms and https://www.telesign.com/products/sms-verify/.
[1a] transmitting a first outgoing telephony message through a first channel using a first routing option selected from a plurality of routing options;	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign transmits outgoing messages through a first channel. For example, TeleSign transmits SMS messages to users for verification. *See* https://developer.telesign.com/docs/rest_api-verify-sms and https://www.telesign.com/products/sms-verify/. Further, TeleSign transmits the messages through a routing option. For example, TeleSign may transmit messages through a network or a carrier. As yet another example, TeleSign is a Mobile Network Operator (MNO). *See* https://www.telesign.com/products/.
[1b] receiving a message delivery report through at least a second channel, wherein the second channel is different from the first channel;	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign receives a message delivery report through a channel different than the first channel. For example, after TeleSign transmits a message, TeleSign may then receive feedback regarding information about the transmitted message that is received on a different channel. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-sms#obtain-verification-results--send-completion-data and https://www.telesign.com/products (TeleSign is a Mobile Network Operator).
[1c] updating message routing data in response to the message delivery report;	By Defendant's operation of its SMS Verify product, Defendant performs this step.

Claim 1	TeleSign's SMS Verify Product
	With reference to TeleSign's SMS Verify product, after receiving the message delivery report, TeleSign may update its routing data based on the report. For example, TeleSign makes necessary adjustments to ensure delivery of its messages through the best possible route. *See* https://developer.telesign.com/page/faq. For example, TeleSign is a MNO and has relations with telecommunication operators that permit TeleSign to use multiple different routing options based on a delivery report. *See* https://www.telesign.com/products/.
[1d] selecting a second routing option for at least a second outgoing message, the second routing option selected from the plurality of routing options prioritized by the updated message routing data; and	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, after TeleSign has updated the message routing data, TeleSign then may select a second routing option based on the updated message routing data. For example, TeleSign makes necessary adjustments to ensure delivery of its messages through the best possible route. *See* https://developer.telesign.com/page/faq. For example, TeleSign is a MNO and has relations with telecommunication operators that permit TeleSign to use multiple different routing options based on a delivery report. *See* https://www.telesign.com/products/.
[1e] transmitting the second outgoing telephony message through the first channel using the selected second routing option.	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign transmits outgoing messages through a first channel. For example, TeleSign transmits SMS messages to users for verification. *See* https://developer.telesign.com/docs/rest_api-verify-sms and https://www.telesign.com/products/sms-verify/. Further, TeleSign transmits the messages through a routing option this is different than the routing option that was used for transmitting a previous message. For example, TeleSign transmits messages through a numerous networks or carriers. As yet another example, TeleSign is a Mobile Network Operator (MNO). *See* https://www.telesign.com/products/.

112. For example, and with reference to Voice Verify, the Voice Verify product transmits voice messages to verify users. *See* https://www.telesign.com/products/voice-verify.

113. The Voice Verify product transmits messages through different networks or carriers.

114. Defendant's operation of its Voice Verify product infringes one or more claims of the '051 Patent. As an example of one theory of infringement and with reference to Claim 1 of the '051 Patent:

Claim 1	TeleSign's Voice Verify Product
[1] A method for transmitting telephony messages comprising:	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign transmits voice messages. *See* https://developer.telesign.com/docs/rest_api-verify-call and https://www.telesign.com/products/voice-verify/.
[1a] transmitting a first outgoing telephony message through a first channel using a first routing option selected from a plurality of routing options;	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign transmits outgoing messages through a first channel. For example, TeleSign transmits voice messages to users for verification. *See* https://developer.telesign.com/docs/rest_api-verify-call and https://www.telesign.com/products/voice-verify/. Further, TeleSign transmits the messages through a routing option. For example, TeleSign may transmit messages through a network or a carrier. As yet another example, TeleSign is a Mobile Network Operator (MNO). *See* https://www.telesign.com/products/.
[1b] receiving a message delivery report through at least a second channel, wherein the second channel is different from the first channel;	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign receives a message delivery report through a channel different than the first channel. For example, after TeleSign transmits a message, TeleSign may then receive feedback regarding information about the transmitted message that is received on a different channel. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-call#obtain-verification-results--send-completion-data and https://www.telesign.com/products (TeleSign is a Mobile Network Operator).
[1c] updating message routing data in response to the message delivery report;	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, after receiving the

Claim 1	TeleSign's Voice Verify Product
	message delivery report, TeleSign may update its routing data based on the report. For example, TeleSign makes necessary adjustments to ensure delivery of its messages through the best possible route. *See* https://developer.telesign.com/page/faq. For example, TeleSign is a MNO and has relations with telecommunication operators that permit TeleSign to use multiple different routing options based on a delivery report. *See* https://www.telesign.com/products/.
[1d] selecting a second routing option for at least a second outgoing message, the second routing option selected from the plurality of routing options prioritized by the updated message routing data; and	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, after TeleSign has updated the message routing data, TeleSign then selects a second routing option based on the updated message routing data. For example, TeleSign makes necessary adjustments to ensure delivery of its messages through the best possible route. *See* https://developer.telesign.com/page/faq. For example, TeleSign is a MNO and has relations with telecommunication operators that permit TeleSign to use multiple different routing options based on a delivery report. *See* https://www.telesign.com/products/.
[1e] transmitting the second outgoing telephony message through the first channel using the selected second routing option.	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign transmits outgoing messages through a first channel. For example, TeleSign transmits voice messages to users for verification. *See* https://developer.telesign.com/docs/rest_api-verify-call and https://www.telesign.com/products/voice-verify/. Further, TeleSign transmits the messages through a routing option that is different than the routing option that was used for transmitting a previous message. For example, TeleSign transmits messages through a numerous networks or carriers. As yet another example, TeleSign is a Mobile Network Operator (MNO). *See* https://www.telesign.com/products/.

115. For example, and with reference to Push Verify, the Push Verify product transmits push messages to verify users. *See* https://www.telesign.com/products/push-verify/.

116. The Push Verify product transmits messages through different networks or carriers.

117. Defendant's operation of its Push Verify product infringes one or more claims of the '051 Patent. As an example of one theory of infringement and with reference to Claim 1 of

the '051 Patent:

Claim 1	TeleSign's Push Verify Product
[1] A method for transmitting telephony messages comprising:	By Defendant's operation of its Push Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, TeleSign transmits messages through a push request. *See* https://developer.telesign.com/docs/overview and https://www.telesign.com/products/push-verify/.
[1a] transmitting a first outgoing telephony message through a first channel using a first routing option selected from a plurality of routing options;	By Defendant's operation of its Push Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, TeleSign transmits outgoing messages through a first channel. For example, TeleSign transmits push notification messages to users for verification. *See* https://developer.telesign.com/docs/overview and https://www.telesign.com/products/push-verify/. Further, TeleSign transmits the messages through a routing option. For example, TeleSign may transmit messages through a network or a carrier. As yet another example, TeleSign is a Mobile Network Operator (MNO). *See* https://www.telesign.com/products/.
[1b] receiving a message delivery report through at least a second channel, wherein the second channel is different from the first channel;	By Defendant's operation of its Push Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, TeleSign receives a message delivery report through a channel different than the first channel. For example, after TeleSign transmits a message, TeleSign may then receive feedback regarding information about the transmitted message that is received on a different channel. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-push#to-get-the-verification-results and https://www.telesign.com/products (TeleSign is a Mobile Network Operator).
[1c] updating message routing data in response to the message delivery report;	By Defendant's operation of its Push Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, after receiving the message delivery report, TeleSign updates its routing data based on the report. For example, TeleSign makes necessary adjustments to ensure delivery of its messages through the best possible route. *See* https://developer.telesign.com/page/faq. For example, TeleSign is a

Claim 1	TeleSign's Push Verify Product
	MNO and has relations with telecommunication operators that permit TeleSign to use multiple different routing options based on a delivery report. *See* https://www.telesign.com/products/.
[1d] selecting a second routing option for at least a second outgoing message, the second routing option selected from the plurality of routing options prioritized by the updated message routing data; and	By Defendant's operation of its Push Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, after TeleSign has updated the message routing data, TeleSign then selects a second routing option based on the updated message routing data. For example, TeleSign makes necessary adjustments to ensure delivery of its messages through the best possible route. *See* https://developer.telesign.com/page/faq. For example, TeleSign is a MNO and has relations with telecommunication operators that permit TeleSign to use multiple different routing options based on a delivery report. *See* https://www.telesign.com/products/.
[1e] transmitting the second outgoing telephony message through the first channel using the selected second routing option.	By Defendant's operation of its Push Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, TeleSign transmits outgoing messages through a first channel. For example, TeleSign transmits push notification messages to users for verification. *See* https://developer.telesign.com/docs/overview and https://www.telesign.com/products/push-verify/. Further, TeleSign transmits the messages through a routing option that is different than the routing option that was used for transmitting a previous message. For example, TeleSign transmits messages through a numerous networks or carriers. As yet another example, TeleSign is a Mobile Network Operator (MNO). *See* https://www.telesign.com/products/.

118. For example, and with reference to Auto Verify, the Auto Verify product transmits voice calls or SMS messages to verify users. *See* https://developer.telesign.com/docs/av-sdk-overview.

119. The Auto Verify product transmits messages through different networks or carriers.

120. Defendant's operation of its Auto Verify product infringes one or more claims of the '051 Patent. As an example of one theory of infringement and with reference to Claim 1 of the '051 Patent:

Claim 1	TeleSign's Auto Verify Product
[1] A method for transmitting telephony messages comprising:	By Defendant's operation of its Auto Verify product, Defendant performs this step. With reference to TeleSign's Auto Verify product, TeleSign transmits a voice call or SMS message. *See* https://developer.telesign.com/docs/av-sdk-overview and https://www.telesign.com/products/auto-verify/.
[1a] transmitting a first outgoing telephony message through a first channel using a first routing option selected from a plurality of routing options;	By Defendant's operation of its Auto Verify product, Defendant performs this step. With reference to TeleSign's Auto Verify product, TeleSign transmits outgoing messages through a first channel. For example, TeleSign transmits a voice or SMS message to users for verification. *See* https://developer.telesign.com/docs/av-sdk-overview and https://www.telesign.com/products/auto-verify/. Further, TeleSign transmits the messages through a routing option. For example, TeleSign may transmit messages through a network or a carrier. As yet another example, TeleSign is a Mobile Network Operator (MNO). *See* https://www.telesign.com/products/.
[1b] receiving a message delivery report through at least a second channel, wherein the second channel is different from the first channel;	By Defendant's operation of its Auto Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign receives a message delivery report through a channel different than the first channel. For example, after TeleSign transmits a message, TeleSign may then receive feedback regarding information about the transmitted message that is received on a different channel. *See* https://developer.telesign.com/docs/av-sdk-obtaining-verification-status and https://www.telesign.com/products (TeleSign is a Mobile Network Operator).
[1c] updating message routing data in response to the message delivery report;	By Defendant's operation of its Auto Verify product, Defendant performs this step. With reference to TeleSign's Auto Verify product, after receiving the message delivery report, TeleSign updates its routing data based on the report. For example, TeleSign makes necessary adjustments to ensure delivery of its messages through the best possible route. *See* https://developer.telesign.com/page/faq. For example, TeleSign is a MNO and has relations with telecommunication operators that permit TeleSign to use multiple different routing options based on a delivery

Claim 1	TeleSign's Auto Verify Product
	report. *See* https://www.telesign.com/products/.
[1d] selecting a second routing option for at least a second outgoing message, the second routing option selected from the plurality of routing options prioritized by the updated message routing data; and	By Defendant's operation of its Auto Verify product, Defendant performs this step. With reference to TeleSign's Auto Verify product, after TeleSign has updated the message routing data, TeleSign then selects a second routing option based on the updated message routing data. For example, TeleSign makes necessary adjustments to ensure delivery of its messages through the best possible route. *See* https://developer.telesign.com/page/faq. For example, TeleSign is a MNO and has relations with telecommunication operators that permit TeleSign to use multiple different routing options based on a delivery report. *See* https://www.telesign.com/products/.
[1e] transmitting the second outgoing telephony message through the first channel using the selected second routing option.	By Defendant's operation of its Auto Verify product, Defendant performs this step. With reference to TeleSign's Auto Verify product, TeleSign transmits outgoing messages through a first channel. For example, TeleSign transmits a voice or SMS message to users for verification. *See* https://developer.telesign.com/docs/av-sdk-overview and https://www.telesign.com/products/auto-verify/. Further, TeleSign transmits the messages through a routing option that is different than the routing option that was used for transmitting a previous message. For example, TeleSign transmits messages through a numerous networks or carriers. As yet another example, TeleSign is a Mobile Network Operator (MNO). *See* https://www.telesign.com/products/.

121. Defendant's Smart Verify product infringes one or more claims of the '051 Patent, including at least Claim 1.

122. The Smart Verify product transmits messages to users. *See* https://www.telesign.com/products/smart-verify/.

123. Smart Verify uses either Push Verify, SMS Verify, or Voice Verify to transmit messages. https://developer.telesign.com/docs/rest_api-smart-verify.

124. Smart Verify also transmits messages through a plurality of routing options through use of Push Verify, SMS Verify, or Voice Verify.

125. Smart Verify works in the same manner as the above charted products, but

bundles Defendant's infringing products (including Push, SMS, and Voice Verify, which charts are incorporated by reference) into a single product.

126. Defendant's infringement has caused, and is continuing to cause, damage and irreparable injury to Twilio, and Twilio will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

127. Twilio is entitled to injunctive relief and damages in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

128. Based on Defendant's behavior and analysis of Twilio's products, Defendant became aware of the '051 Patent, for example, at least during its diligence in filing suit against Twilio. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

129. Defendant's infringement of the '051 Patent has been and continues to be willful, flagrant, wanton, and deliberate, justifying a trebling of damages under 35 U.S.C. § 284. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

130. Based on at least Defendant's analysis of Twilio's products, Defendant either knows or should have known about its risk of infringement regarding the '051 Patent.

131. Defendant's conduct despite this knowledge is made with a reckless disregard for the infringing nature of their activities.

Count IV (Infringement of U.S. Patent No. 8,306,021)

132. Twilio incorporates by reference and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

133. The United States Patent and Trademark Office ("USPTO") duly and legally issued the '021 Patent on November 6, 2012.

134. Twilio owns the right, title and interest in the '021 Patent, with full rights to pursue recovery of royalties or damages for infringement.

135. Defendant has infringed and continues to infringe one or more claims of the '021 Patent, including at least Claim 13 by advertising, distributing, making, using, selling and

offering for sale within the United States and importing into the United States related software and related services, including but not limited to Defendant's Smart Verify, Auto Verify, SMS Verify, and Push Verify.

136. Defendant's Smart Verify, Auto Verify, SMS Verify, and Push Verify products relate generally to end-user verification and two-factor authentication. *See* https://www.telesign.com/products/.

137. Defendant's Smart Verify, Auto Verify, SMS Verify, and Push Verify products each communicate with applications through an application layer protocol, send messages to applications, and receive and respond to API requests.

138. Defendant's operation of its SMS Verify product infringes one or more claims of the '021 Patent. As an example of one theory of infringement and with reference to Claim 13 of the '021 Patent:

Claim 13	**TeleSign's SMS Verify Product**
[13] A method comprising:	See below for elements.
[13a] communicating with an application server using an application layer protocol; processing telephony instructions with a call router;	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign communicates with an application server through an application layer protocol and processes telephony instructions with a call router. For example, TeleSign's SMS Verify communicates with applications by at least receiving requests to transmit SMS messages to users for verification. *See* https://developer.telesign.com/docs/rest_api-verify-sms and https://www.telesign.com/products/sms-verify/. Further, TeleSign's SMS Verify communicates with the application server using an application layer protocol. For example, the application layer protocol is HTTP. Further, SMS Verify processes instructions for a call router at least upon receiving a request to transmit a message. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-sms#verifying-the-code. As yet another example, TeleSign is a Mobile Network Operator (MNO) and as such must process telephony instructions with a call router. *See* https://www.telesign.com/products/.
[13b] creating call router resources	By Defendant's operation of its SMS Verify product, Defendant performs this step.

Claim 13	TeleSign's SMS Verify Product
accessible through a call router Application Programming Interface (API), wherein the call router resources are accessible by outside devices at an addressable Uniform Resource Identifier (URI);	With reference to TeleSign's SMS Verify product, TeleSign creates call router resources that it makes accessible through its API and where the call router resources are accessible by an outside device at an URI. For example, TeleSign makes the SMS Verify product accessible through its SMS Verify API. *See* https://developer.telesign.com/docs/rest_api-verify-sms. Further, the call router resources are accessible by outside devices at an addressable URI. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-sms#uri. For example, TeleSign's SMS Verify API documentation explains the construction of resource URIs. *See* https://developer.telesign.com/docs/rest_api-verify-transaction-callback.
[13c] mapping a telephony session to the URI, the URI being associated with the application server; sending a request to the application server; embedding state information of the telephony session in the request;	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, in addition to creating the call router resource, TeleSign also maps the telephony session to the URI that is associated with the application server, sends the request to the application server, and embeds state information associated with the telephony session in the request. For example, the SMS Verify API creates at least a reference ID and URI when communicating with the application server which embeds state information. *See* https://developer.telesign.com/docs/rest_api-verify-transaction-callback, https://developer.telesign.com/v2.0/docs/getting-started-with-the-rest-api#uri-structure. As yet another example, the reference ID that is associated with the application server is sent to the application server. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-transaction-callback#getstatus.
[13d] receiving from the application server a response comprising telephony instructions for sequential processing;	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, SMS Verify receives a response from an application that comprises telephony instructions for processing. For example, TeleSign's SMS Verify may receive requests related to at least authentication that comprise telephone instructions and that are processed sequentially. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-sms#requests.
[13e] receiving an API	

Claim 13	TeleSign's SMS Verify Product
request from the application server for interaction with a resource; and responding to an API request based on the interaction with a resource.	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, SMS Verify receives API requests from applications for interaction with a resource and responds to the API requests based on the interaction with the resource. As by way of example, TeleSign's SMS Verify may receive *GET* and *POST* requests from an application for interaction with a resource and responded to the request according. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-sms#supported-http-methods and https://developer.telesign.com/v2.0/docs/rest_api-verify-transaction-callback.

139. For example, and with reference to Push Verify, the Push Verify product communicates with applications through an application layer protocol, sends messages to applications, and receives and responds to API requests. *See* https://developer.telesign.com/docs/overview.

140. Defendant's operation of its Push Verify product infringes one or more claims of the '021 Patent. As an example of one theory of infringement and with reference to Claim 13 of the '021 Patent:

Claim 13	TeleSign's Push Verify Product
[13] A method comprising:	See below for elements.
[13a] communicating with an application server using an application layer protocol; processing telephony instructions with a call router;	By Defendant's operation of its Push Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, TeleSign communicates with an application server through an application layer protocol and processes telephony instructions with a call router. For example, TeleSign's Push Verify communicates with applications by at least receiving requests to transmit push notifications to users for verification. *See* https://developer.telesign.com/docs/overview and https://www.telesign.com/products/push-verify/. Further, TeleSign's SMS Verify communicates with the application server using an application layer protocol. For example, the application layer protocol is HTTP. Further, Push Verify processes instructions for a call router at least upon receiving a request to transmit a message. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-push#to-get-the-verification-results. As yet another example, TeleSign is a Mobile Network Operator (MNO) and as such must process telephony

Claim 13	TeleSign's Push Verify Product
	instructions with a call router. *See* https://www.telesign.com/products/.
[13b] creating call router resources accessible through a call router Application Programming Interface (API), wherein the call router resources are accessible by outside devices at an addressable Uniform Resource Identifier (URI);	By Defendant's operation of its Push Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, TeleSign creates call router resources that it makes accessible through its API and where the call router resources are accessible by an outside device at an URI. For example, TeleSign makes the Push Verify product accessible through its Push Verify API. *See* https://developer.telesign.com/docs/overview. Further, the call router resources are accessible by outside devices at an addressable URI. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-push#uri. For example, TeleSign's Push Verify API documentation explains the construction of resource URIs. *See* https://developer.telesign.com/docs/rest_api-verify-transaction-callback.
[13c] mapping a telephony session to the URI, the URI being associated with the application server; sending a request to the application server; embedding state information of the telephony session in the request;	By Defendant's operation of its Push Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, in addition to creating the call router resource, TeleSign also maps the telephony session to the URI that is associated with the application server, sends the request to the application server, and embeds state information associated with the telephony session in the request. For example, the Push Verify API creates at least a reference ID and URI when communicating with the application server which embeds state information. *See* https://developer.telesign.com/docs/rest_api-verify-transaction-callback, https://developer.telesign.com/v2.0/docs/getting-started-with-the-rest-api#uri-structure. As yet another example, the reference ID that is associated with the application server is sent to the application server. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-transaction-callback#getstatus.
[13d] receiving from the application server a response comprising telephony instructions for sequential processing;	By Defendant's operation of its Push Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, Push Verify receives a response from an application that comprises telephony instructions for processing. For example, TeleSign's Push Verify may

Claim 13	TeleSign's Push Verify Product
	receive requests related to at least authentication that comprise telephone instructions and that are processed sequentially. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-push#requests.
[13e] receiving an API request from the application server for interaction with a resource; and responding to an API request based on the interaction with a resource.	By Defendant's operation of its Push Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, Push Verify receives API requests from applications for interaction with a resource and responds to the API requests based on the interaction with the resource. As by way of example, TeleSign's Push Verify may receive *GET* and *POST* requests from an application for interaction with a resource and respond to the request accordingly. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-push#supported-http-methods and https://developer.telesign.com/v2.0/docs/rest_api-verify-transaction-callback.

141. For example, and with reference to Auto Verify, the Auto Verify product communicates with applications through an application layer protocol, sends messages to applications, and receives and responds to API requests. *See* https://developer.telesign.com/docs/av-sdk-overview.

142. Defendant's operation of its Auto Verify product infringes one or more claims of the '021 Patent. As an example of one theory of infringement and with reference to Claim 13 of the '021 Patent:

Claim 13	TeleSign's Auto Verify Product
[13] A method comprising:	See below for elements.
[13a] communicating with an application server using an application layer protocol; processing telephony instructions with a call router;	By Defendant's operation of its Auto Verify product, Defendant performs this step. With reference to TeleSign's Auto Verify product, TeleSign communicates with an application server through an application layer protocol and processes telephony instructions with a call router. For example, TeleSign's Auto Verify communicates with applications by at least receiving requests to transmit a voice call or SMS message to users for verification. *See* https://developer.telesign.com/docs/av-sdk-overview and https://www.telesign.com/products/auto-verify/. Further, TeleSign's SMS Verify communicates with the application

Claim 13	TeleSign's Auto Verify Product
	server using an application layer protocol. For example, the application layer protocol is HTTP. Further, Auto Verify processes instructions for a call router at least upon receiving a request to transmit a message. *See* https://developer.telesign.com/docs/av-sdk-obtaining-verification-status. As yet another example, TeleSign is a Mobile Network Operator (MNO) and as such must process telephony instructions with a call router. *See* https://www.telesign.com/products/.
[13b] creating call router resources accessible through a call router Application Programming Interface (API), wherein the call router resources are accessible by outside devices at an addressable Uniform Resource Identifier (URI);	By Defendant's operation of its Auto Verify product, Defendant performs this step. With reference to TeleSign's Auto Verify product, TeleSign creates call router resources that it makes accessible through its API and where the call router resources are accessible by an outside device at an URI. For example, TeleSign makes the Auto Verify product accessible through its Auto Verify API. *See* https://developer.telesign.com/docs/av-sdk-getting-started. Further, the call router resources are accessible by outside devices at an addressable URI. *See* https://developer.telesign.com/v2.0/docs/av-sdk-obtaining-verification-status#section-get-status-service. For example, TeleSign's Auto Verify API documentation explains the construction of resource URIs. *See* https://developer.telesign.com/docs/rest_api-verify-transaction-callback.
[13c] mapping a telephony session to the URI, the URI being associated with the application server; sending a request to the application server; embedding state information of the telephony session in the request;	By Defendant's operation of its Auto Verify product, Defendant performs this step. With reference to TeleSign's Push Verify product, in addition to creating the call router resource, TeleSign also maps the telephony session to the URI that is associated with the application server, sends the request to the application server, and embeds state information associated with the telephony session in the request. For example, the SMS Push API creates at least a reference ID and URI when communicating with the application server which embeds state information. *See* https://developer.telesign.com/docs/rest_api-verify-transaction-callback, https://developer.telesign.com/v2.0/docs/getting-started-with-the-rest-api#uri-structure. As yet another example, the reference ID that is associated with the application server is sent to the application server. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-transaction-callback#getstatus.
[13d] receiving from	

Claim 13	TeleSign's Auto Verify Product
the application server a response comprising telephony instructions for sequential processing;	By Defendant's operation of its Auto Verify product, Defendant performs this step. With reference to TeleSign's Auto Verify product, Auto Verify receives a response from an application that comprises telephony instructions for processing. For example, TeleSign's Auto Verify may receive requests related to at least authentication that comprise telephone instructions that are processed sequentially. *See* https://developer.telesign.com/v2.0/docs/av-sdk-obtaining-verification-status#section-sending-a-get-request.
[13e] receiving an API request from the application server for interaction with a resource; and responding to an API request based on the interaction with a resource.	By Defendant's operation of its Auto Verify product, Defendant performs this step. With reference to TeleSign's Auto Verify product, Auto Verify receives API requests from applications for interaction with a resource and responds to the API requests based on the interaction with the resource. As by way of example, TeleSign's Auto Verify may receive *GET* and *POST* requests from an application for interaction with a resource and respond to the request according. *See* https://developer.telesign.com/v2.0/docs/av-sdk-obtaining-verification-status#section-get-status-service, https://developer.telesign.com/v2.0/docs/av-sdk-obtaining-verification-status#section-post-callback-service, and https://developer.telesign.com/v2.0/docs/rest_api-verify-transaction-callback.

143. Defendant's operation of its Smart Verify product infringes one or more claims of the '021 Patent , including at least Claim 13.

144. The Smart Verify product communicates with applications through an application layer protocol, sends messages to applications, and receives and responds to API requests. *See* https://www.telesign.com/products/smart-verify/.

145. Smart Verify uses either the Push Verify or SMS Verify to communicate with applications through an application layer protocol, send messages to applications, and receive and responds to API requests. https://developer.telesign.com/docs/rest_api-smart-verify.

146. Smart Verify works in the same manner as the above charted products, but bundles Defendant's infringing products (including Push, SMS, and Voice Verify, which charts are incorporated by reference) into a single product.

147. Defendant's infringement has caused, and is continuing to cause, damage and irreparable injury to Twilio, and Twilio will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

148. Twilio is entitled to injunctive relief and damages in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

149. Based on Defendant's behavior and analysis of Twilio's products, Defendant became aware of the '021 Patent, for example, at least during its diligence in filing suit against Twilio. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

150. Defendant's infringement of the '021 Patent has been and continues to be willful, flagrant, wanton, and deliberate, justifying a trebling of damages under 35 U.S.C. § 284. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

151. Based on at least Defendant's analysis of Twilio's products, Defendant either knows or should have known about the risk of infringement the '021 Patent.

152. Defendant's conduct despite this knowledge is made with a reckless disregard for the infringing nature of their activities.

Count V (Infringement of U.S. Patent No. 8,837,465)

153. Twilio incorporates by reference and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

154. The United States Patent and Trademark Office ("USPTO") duly and legally issued the '465 Patent on September 16, 2014.

155. Twilio owns the right, title and interest in the '465 Patent, with full rights to pursue recovery of royalties or damages for infringement.

156. Defendant has infringed and continues to infringe one or more claims of the '465 Patent, including at least Claim 1 by advertising, distributing, making, using, selling and offering for sale within the United States and importing into the United States related software and related services, including but not limited to Defendant's Voice Verify.

157. Defendant's Voice Verify product relates generally to end-user verification and two-factor authentication through voice calls. *See* https://www.telesign.com/products/voice-verify/.

158. Defendant's Voice Verify product processes telephony instructions that includes at least, associating an URI with a telephony endpoint, initiating a telephony session, mapping the URI to the telephony session, sending and receiving requests to and from an application resource, and executing telephony instructions. *See* https://developer.telesign.com/docs/rest_api-verify-call.

159. Defendant's operation of its Voice Verify product infringes one or more claims of the '465 Patent. As an example of one theory of infringement and with reference to Claim 1 of the '465 Patent:

Claim 1	**TeleSign's Voice Verify Product**
[1] A method for processing a telephony communication comprising:	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, Voice Verify processes telephony communications. For example, Voice Verify is used for user verification and two-factor authentication sent over voice messages. *See* https://www.telesign.com/products/voice-verify/.
[1a] associating an initial URI with a telephony endpoint;	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign Voice Verify associates URIs with telephony endpoints. For example, in order to use the Verify Call web service a request must be sent to a particular URI. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-call#uri.
[1b] initiating a telephony voice session for a telephony communication to the telephony endpoint; mapping the initial URI to the telephony session;	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign initiates telephony voice sessions for communications to an end point and maps a particular URI to the telephony session. For example, TeleSign initiates a voice session, such as a voice call, when TeleSign's Voice Verify sends a passcode to telephony endpoint. *See*

Claim 1	TeleSign's Voice Verify Product
	https://www.telesign.com/products/voice-verify/. Further, TeleSign maps the URI to the telephony session. For example, a request must initially be sent to a particular URI I order to use the web service. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-call#uri. As yet another example, TeleSign creates reference identifiers which uniquely identified each web request. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-call#requests.
[1c] sending an application layer protocol request to an application resource specified by the URI and embedding state information of the telephony voice session in the request;	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, Voice Verify sends and receives requests to application resources that are specified by an URI and also embeds state information in such request. For example, TeleSign's Voice Verify sends an application layer protocol request to an application resource specified by the URI at least by sending a resource URI or subresource to the application. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-call#requests. Further, and as yet another example, in sending the request to the application resource that is specified by the URI, Voice Verify also embeds state information of the telephony session in the request. For example, and as shown above, Voice Verify embeds state information at least through its reference ID. For example, the reference ID is sent to the application. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-call#requests and https://developer.telesign.com/v2.0/docs/rest_api-verify-transaction-callback.
[1d] receiving a response to the application layer protocol request sent to the application resource, wherein the response includes a document of telephony instructions; and	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, Voice Verify receives a response to the application layer request that was sent to the application resource, and the response includes a document of telephony instructions. For example, Voice Verify receives responses from applications that include documents of telephony instructions to at least initiate a phone verification. *See* https://www.telesign.com/products/voice-verify/. For example, the response that includes a document of telephony instructions is an XML document or a URI. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-call#uri. As yet another example, Voice Verify receives instructions to initiate two-factor authentication through a voice session. *See* https://www.telesign.com/products/voice-verify/. As yet another example, Voice Verify may receive instructions to obtain results of

Claim 1	TeleSign's Voice Verify Product
	such instructions. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-call#obtain-verification-results--send-completion-data.
[1e] executing telephony actions during the telephony voice session according to a sequential processing of at least a subset of the telephony instructions of the response.	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, Voice Verify executes telephony actions during a telephony voice session according to the processing of at least a subset of telephony instructions. For example, Voice Verify executes instructions by at least verifying a phone number or initiating the two-factor authentication process that are sent over voice messages. *See* https://www.telesign.com/products/voice-verify/. As yet another example, TeleSign's Voice Verify may receive *GET* and *POST* requests from an application for interaction with a resource and responded to the request according. *See* https://developer.telesign.com/v2.0/docs/av-sdk-obtaining-verification-status#section-get-status-service, https://developer.telesign.com/v2.0/docs/av-sdk-obtaining-verification-status#section-post-callback-service, and https://developer.telesign.com/v2.0/docs/rest_api-verify-transaction-callback.

160. Defendant's infringement has caused, and is continuing to cause, damage and irreparable injury to Twilio, and Twilio will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

161. Twilio is entitled to injunctive relief and damages in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

162. Based on Defendant's behavior and analysis of Twilio's products, Defendant became aware of the '465 Patent, for example, at least during its diligence in filing suit against Twilio. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

163. Defendant's infringement of the '465 Patent has been and continues to be willful, flagrant, wanton, and deliberate, justifying a trebling of damages under 35 U.S.C. § 284. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary

support after a reasonable opportunity for further investigation or discovery.

164. Based on at least Defendant's analysis of Twilio's products, Defendant either knows or should have known about the risk of infringement the '465 Patent.

165. Defendant's conduct despite this knowledge is made with a reckless disregard for the infringing nature of their activities.

Count VI (Infringement of U.S. Patent No. 8,755,376)

166. Twilio incorporates by reference and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

167. The United States Patent and Trademark Office ("USPTO") duly and legally issued the '376 Patent on June 17, 2014.

168. Twilio owns the right, title and interest in the '376 Patent, with full rights to pursue recovery of royalties or damages for infringement.

169. Defendant has infringed and continues to infringe one or more claims of the '376 Patent, including at least Claim 1 by advertising, distributing, making, using, selling and offering for sale within the United States and importing into the United States related software and related services, including but not limited to Defendant's SMS and Voice Verify.

170. Defendant's SMS and Voice Verify products relate generally to end-user verification and two-factor authentication through voice calls. *See* https://www.telesign.com/products/.

171. Defendant's SMS and Voice Verify products may be accessed through a REST API. *See* https://developer.telesign.com/docs/getting-started-with-the-rest-api.

172. Defendant's use the internet and a telephony network in conjunction with a plurality of API resources that comprises at least: initiating a telephony session, communicating with an application server to receive a response, converting the application response into executable operations to process the session, create at least one API resource, and also expose a plurality of API resources through a REST API that comprises receiving and responding to API requests that specify a URI. *See* https://developer.telesign.com/docs/rest_api-verify-call and https://developer.telesign.com/docs/rest_api-verify-sms.

173. Defendant's operation of its SMS Verify product infringes one or more claims of the '376 Patent. As an example of one theory of infringement and with reference to Claim 1 of the '376 Patent:

Claim 1	TeleSign's SMS Verify Product
[1] A method comprising:	See below for elements.
[1a] operating a telephony network and internet connected system cooperatively with a plurality of application programming Interface (API) resources, wherein operating the system comprises:	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign operates a telephony network and internet connected system with a plurality of API resources. For example, For example, TeleSign is a TeleSign is a Mobile Network Operator MNO and has relations with telecommunication operators. As an MNO, TeleSign operates a telephony network and internet system. *See* https://www.telesign.com/products/. Further, TeleSign system operates cooperatively with a plurality of API resources. As by way of example, TeleSign uses an API to operate its network that include resources. *See* https://developer.telesign.com/docs/getting-started-with-the-rest-api.
[1b] initiating a telephony session,	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign initiates telephony sessions. For example, TeleSign initiates telephony sessions at least when TeleSign's SMS Verify sends a passcode to telephony endpoint. *See* https://www.telesign.com/products/sms-verify/.
[1c] communicating with an application server to receive an application response, converting the application response into executable operations to process the telephony session, creating at least one informational API resource; and	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign communicates with application servers to receive responses, converts the responses into executable operations to process a telephony session, and creates at least one information API resource. For example, SMS Verify sends and receives requests from applications. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-sms#requests. Further, TeleSign converts the applications responses into executable operations to process a telephone session. For example, in communication with an application TeleSign's SMS Verify receives responses from the application that require SMS

Claim 1	TeleSign's SMS Verify Product
	Verify to convert the response into executable operations to process telephony sessions. For example, SMS Verify receives responses to initiate a telephony session through verification or two-factor authentication. *See* https://www.telesign.com/products/sms-verify/. Further, TeleSign creates at least one information API resource in operating its system. For example, an API resource is created by TeleSign at least when TeleSign's Voice Verify receives an application response. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-sms#responses.
[1d] exposing the plurality of API resources through a representational state transfer (REST) API that comprises:	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign exposes a plurality of API resources through a REST API. For example, TeleSign implements a REST API that exposes a number of API resources. *See* https://developer.telesign.com/docs/getting-started-with-the-rest-api.
[1e] receiving a REST API request that specifies an API resource URI, and responding to the API request according to the request and the specified resource URI.	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, SMS Verify receives and responds to API requests that specify a resource URI. For example, For example, SMS Verify receives requests from applications that include instructions to at least initiate a phone verification that specifies an API resource URI. *See* https://www.telesign.com/products/sms-verify/. As yet another example, SMS Verify receives requests to initiate two-factor authentication through a message session that includes resource URIs. *See* https://www.telesign.com/products/sms-verify/. As yet another example, SMS Verify may receive instructions to obtain results of such instructions which include resource URIs. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-sms#obtain-verification-results--send-completion-data. As yet another example, SMS Verify responds to the API request according the request and the specified URI. For example, SMS Verify responds by at least verifying a phone number or initiating the two-factor authentication process that are sent via SMS messages. *See* https://www.telesign.com/products/SMS-verify/. As yet another example, TeleSign's SMS Verify may receive *GET* and *POST* requests that specify an URI and respond to the request accordingly. *See* https://developer.telesign.com/v2.0/docs/av-sdk-obtaining-verification-status#section-get-status-service, https://developer.telesign.com/v2.0/docs/av-sdk-obtaining-

Claim 1	TeleSign's SMS Verify Product
	verification-status#section-post-callback-service, and https://developer.telesign.com/v2.0/docs/rest_api-verify-transaction-callback.

174. Defendant's operation of its Voice Verify product infringes one or more claims of the '376 Patent. As an example of one theory of infringement and with reference to Claim 1 of the '376 Patent:

Claim 1	TeleSign's Voice Verify Product
[1] A method comprising:	See below for elements.
[1a] operating a telephony network and internet connected system cooperatively with a plurality of application programming Interface (API) resources, wherein operating the system comprises:	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign operates a telephony network and internet connected system with a plurality of API resources. For example, For example, TeleSign is a TeleSign is a Mobile Network Operator MNO and has relations with telecommunication operators. As an MNO, TeleSign operates a telephony network and internet system. *See* https://www.telesign.com/products/. Further, TeleSign system operates cooperatively with a plurality of API resources. As by way of example, TeleSign uses an API to operate its network that include resources. *See* https://developer.telesign.com/docs/getting-started-with-the-rest-api.
[1b] initiating a telephony session,	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign initiates telephony sessions. For example, TeleSign initiates telephony sessions at least when TeleSign's SMS Verify sends a passcode to telephony endpoint. *See* https://www.telesign.com/products/voice-verify/.
[1c] communicating with an application server to receive an application response, converting the application response into executable operations to process	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign communicates with application servers to receive responses, converts the responses into executable operations to process a telephony session, and creates at least one information API resource. For

Claim 1	TeleSign's Voice Verify Product
the telephony session, creating at least one informational API resource; and	example, Voice Verify sends and receives requests from applications. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-call#requests. Further, TeleSign converts the applications responses into executable operations to process a telephone session. For example, in communication with an application TeleSign's Voice Verify receives responses from the application that require Voice Verify to convert the response into executable operations to process telephony sessions. For example, Voice Verify receives responses to initiate a telephony session through verification or two-factor authentication. *See* https://www.telesign.com/products/voice-verify/. Further, TeleSign creates at least one information API resource in operating its system. For example, an API resource is created by TeleSign at least when TeleSign's Voice Verify receives an application response. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-call#responses.
[1d] exposing the plurality of API resources through a representational state transfer (REST) API that comprises:	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign exposes a plurality of API resources through a REST API. For example, TeleSign implements a REST API that exposes a number of API resources. *See* https://developer.telesign.com/docs/getting-started-with-the-rest-api.
[1e] receiving a REST API request that specifies an API resource URI, and responding to the API request according to the request and the specified resource URI.	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, Voice Verify receives and responds to API requests that specify a resource URI. For example, For example, Voice Verify receives requests from applications that include instructions to at least initiate a phone verification that specifies an API resource URI. *See* https://www.telesign.com/products/voice-verify/. As yet another example, Voice Verify receives requests to initiate two-factor authentication through a voice session that includes resource URIs. *See* https://www.telesign.com/products/voice-verify/. As yet another example, Voice Verify may receive instructions to obtain results of such instructions which include resource URIs. *See* https://developer.telesign.com/v2.0/docs/rest_api-verify-call#obtain-verification-results--send-completion-data. As yet another example, Voice Verify responds to the API request according the request and the specified URI. For example, Voice Verify responds by at least verifying a phone number or initiating the two-factor authentication

Claim 1	TeleSign's Voice Verify Product
	process that are sent over voice messages. *See* https://www.telesign.com/products/voice-verify/. As yet another example, TeleSign's Voice Verify may receive *GET* and *POST* requests that specify an URI and respond to the request accordingly. *See* https://developer.telesign.com/v2.0/docs/av-sdk-obtaining-verification-status#section-get-status-service, https://developer.telesign.com/v2.0/docs/av-sdk-obtaining-verification-status#section-post-callback-service, and https://developer.telesign.com/v2.0/docs/rest_api-verify-transaction-callback.

175. Defendant's infringement has caused, and is continuing to cause, damage and irreparable injury to Twilio, and Twilio will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

176. Twilio is entitled to injunctive relief and damages in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

177. Based on Defendant's behavior and analysis of Twilio's products, Defendant became aware of the '376 Patent, for example, at least during its diligence in filing suit against Twilio. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

178. Defendant's infringement of the '376 Patent has been and continues to be willful, flagrant, wanton, and deliberate, justifying a trebling of damages under 35 U.S.C. § 284. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

179. Based on at least Defendant's analysis of Twilio's products, Defendant either knows or should have known about the risk of infringement the '376 Patent.

180. Defendant's conduct despite this knowledge is made with a reckless disregard for the infringing nature of their activities.

Count VII (Infringement of U.S. Patent No. 9,226,217)

181. Twilio incorporates by reference and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

182. The United States Patent and Trademark Office ("USPTO") duly and legally

issued the '217 Patent on December 29, 2015.

183. Twilio owns the right, title and interest in the '217 Patent, with full rights to pursue recovery of royalties or damages for infringement.

184. Defendant has infringed and continues to infringe one or more claims of the '217 Patent, including at least Claim 15 by advertising, distributing, making, using, selling and offering for sale within the United States and importing into the United States related software and related services, including but not limited to Defendant's Voice Verify.

185. Defendant's Smart Verify, SMS Verify, and Voice Verify products relates generally to end-user verification and two-factor authentication through voice calls. *See* https://www.telesign.com/products/voice-verify/.

186. Defendant's Smart Verify, SMS Verify, and Voice Verify receive communication requests that specify destinations.

187. Defendant's determining appropriate routing addresses when using its web services, such as Smart Verify, SMS Verify, and Voice Verify.

188. Defendant's select communication providers when using its web services, such as Smart Verify, SMS Verify, and Voice Verify.

189. Defendant's operation of its Smart Verify, SMS Verify, and Voice Verify products infringe one or more claims of the '217 Patent. As an example of one theory of infringement and with reference to Claim 15 of the '217 Patent:

Claim 15	**TeleSign's SMS Verify Product**
[15] A method comprising	See below for elements.
[15a] at a multi-tenant communication platform, and responsive to authentication of a communication request provided by an external system, the communication request specifying a communication destination and account	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign uses a multi-tenant communication, which authorizes communication requests provided by an external system, wherein the communication request specifies a communication destination and account information. For example, the SMS Verify API serves multiple customers. *See* https://www.telesign.com/products/sms-verify/. Further, SMS Verify authorizes communication requests. For example, to access TeleSign a user requests authorization. *See*

Claim 15	TeleSign's SMS Verify Product
information:	https://developer.telesign.com/v2.0/docs/authentication-1. Further, the communication request specifies a destination and account information. For example, SMS Verify receives request that includes at least telephone numbers. https://developer.telesign.com/v2.0/docs/rest_api-verify-sms#requests. As yet another example, account information can include a form authentication, an account identifier, or any suitable source of information. TeleSign's SMS Verify must first authorize use of its service. *See* https://developer.telesign.com/v2.0/docs/authentication-1.
[15b] determining a routing address record of the communication platform that matches the communication destination of the communication request, the matching routing address record associating the communication destination with a plurality of external communication providers;	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign determines a routing address record of the communication platform that matches the destination of the communication request, where the matching routing address record associates the communication destination with a plurality of external provides. For example, when TeleSign receives requests to transmit messages TeleSign transmits messages through a routing options that match the destination of the communication request. *See* https://www.telesign.com/products/. For example, TeleSign may transmit messages through a network or a carrier to reach the correct destination. *See* https://www.telesign.com/products/sms-verify/. As yet another example, TeleSign is a Mobile Network Operator (MNO). *See* https://www.telesign.com/products/. For example, TeleSign is a MNO and has relations with telecommunication operators that permit TeleSign to use multiple different routing and communication providers to reach the correct matching destination. *See* https://www.telesign.com/products/.
[15c] selecting at least one communication provider associated with the matching routing address record; and	By Defendant's operation of its SMS Verify product, Defendant performs this step. With reference to TeleSign's SMS Verify product, TeleSign selects at least one communication provider associated with the matching routing address record. For example, and as stated in the previous element, TeleSign is a Mobile Network Operator that has relations with telecommunication providers that permit TeleSign to use multiple routing addresses to reach the correct matching destination. *See* https://www.telesign.com/products/.
[15d] providing a request to establish	By Defendant's operation of its SMS Verify product, Defendant

Claim 15	TeleSign's SMS Verify Product
communication with the communication destination to each selected communication provider.	performs this step. With reference to TeleSign's SMS Verify product, TeleSign provides a request to establish communication with the communication destination to each selected communication provider. For example, and as stated in the previous two elements, TeleSign is a Mobile Network Operator that has relations with telecommunications providers. *See* https://www.telesign.com/products/. Further, TeleSign provides requests to establish communications with the communication destination in order to complete the request that was initially send to the SMS Verify API. For example, TeleSign provides a request to establish the communication upon receiving a request for SMS Verify to initiate two-factor authentication. *See* https://www.telesign.com/products/sms-verify/.

190. Defendant's operation of its Voice Verify product infringes one or more claims of the '217 Patent. As an example of one theory of infringement and with reference to Claim 1 of the '217 Patent:

Claim 15	TeleSign's Voice Verify Product
[15] A method comprising	See below for elements.
[15a] at a multi-tenant communication platform, and responsive to authentication of a communication request provided by an external system, the communication request specifying a communication destination and account information:	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign uses a multi-tenant communication, which authorizes communication requests provided by an external system, wherein the communication request specifies a communication destination and account information. For example, the Voice Verify API serves multiple customers. *See* https://www.telesign.com/products/voice-verify/. Further, SMS Verify authorizes communication requests. For example, to access TeleSign a user requests authorization. *See* https://developer.telesign.com/v2.0/docs/authentication-1. Further, the communication request specifies a destination and account information. For example, SMS Verify receives request that includes at least telephone numbers. https://developer.telesign.com/v2.0/docs/rest_api-verify-call#requests. As yet another example, account information can include a form authentication, an account identifier, or any suitable source of information. TeleSign's Voice Verify must first authorize use of its service. *See* https://developer.telesign.com/v2.0/docs/authentication-1.
[15b] determining a	By Defendant's operation of its Voice Verify product, Defendant

Claim 15	TeleSign's Voice Verify Product
routing address record of the communication platform that matches the communication destination of the communication request, the matching routing address record associating the communication destination with a plurality of external communication providers;	performs this step. With reference to TeleSign's Voice Verify product, TeleSign determines a routing address record of the communication platform that matches the destination of the communication request, where the matching routing address record associates the communication destination with a plurality of external provides. For example, when TeleSign receives requests to transmit messages TeleSign transmits messages through a routing options that match the destination of the communication request. https://www.telesign.com/products/. For example, TeleSign may transmit messages through a network or a carrier to reach the correct destination. https://www.telesign.com/products/voice-verify/. As yet another example, TeleSign is a Mobile Network Operator (MNO). *See* https://www.telesign.com/products/. For example, TeleSign is a MNO and has relations with telecommunication operators that permit TeleSign to use multiple different routing and communication providers to reach the correct matching destination. *See* https://www.telesign.com/products/.
[15c] selecting at least one communication provider associated with the matching routing address record; and	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign selects at least one communication provider associated with the matching routing address record. For example, and as stated in the previous element, TeleSign is a Mobile Network Operator that has relations with telecommunication providers that permit TeleSign to use multiple routing addresses to reach the correct matching destination. *See* https://www.telesign.com/products/.
[15d] providing a request to establish communication with the communication destination to each selected communication provider.	By Defendant's operation of its Voice Verify product, Defendant performs this step. With reference to TeleSign's Voice Verify product, TeleSign provides a request to establish communication with the communication destination to each selected communication provider. For example, and as stated in the previous two elements, TeleSign is a Mobile Network Operator that has relations with telecommunications providers. *See* https://www.telesign.com/products/. Further, TeleSign provides requests to establish communications with the communication destination in order to complete the request that was initially send to the Voice Verify API. For example, TeleSign provides a request to establish the communication upon receiving a request for Voice Verify to initiate two-factor authentication. *See*

Claim 15	TeleSign's Voice Verify Product
	https://www.telesign.com/products/sms-verify/

191. Defendant's operation of its Smart Verify product infringes one or more claims of the '217 Patent , including at least Claim 15.

192. The Smart Verify product uses either SMS Verify or Push Verify to perform the elements listed above. *See* https://www.telesign.com/products/smart-verify/.

193. Smart Verify works in the same manner as the above charted products, but includes multiple products in one.

194. Defendant's infringement has caused, and is continuing to cause, damage and irreparable injury to Twilio, and Twilio will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

195. Twilio is entitled to injunctive relief and damages in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

196. Based on Defendant's behavior and analysis of Twilio's products, Defendant became aware of the '217 Patent, for example, at least during its diligence in filing suit against Twilio. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

197. Defendant's infringement of the '217 Patent has been and continues to be willful, flagrant, wanton, and deliberate, justifying a trebling of damages under 35 U.S.C. § 284. See, for example, ¶¶52 – 71. The evidence tending to support this allegation will likely have evidentiary support after a reasonable opportunity for further investigation or discovery.

198. Based on at least Defendant's analysis of Twilio's products, Defendant either knows or should have known about the risk of infringement the '271 Patent.

199. Defendant's conduct despite this knowledge is made with a reckless disregard for the infringing nature of their activities.

Prayer for Relief

200. Twilio demands trial by jury for all issues so triable by a jury.

WHEREFORE, Twilio respectfully requests:

a. Judgment be entered that Defendant has infringed each of the Asserted Patents;

b. Judgment be entered that Defendant has willfully infringed and is willfully infringing one or more claims of the Asserted Patents;

c. That, in according with 35 U.S.C. § 283, Defendant be permanently enjoined from infringing each of the Asserted Patents;

d. That Defendant recall and destroy any products incorporating the patented technology;

e. An award of damages sufficient to compensate Twilio for Defendant's direct infringement of each of the Asserted Patents, including lost profits suffered by Twilio as a result of Defendant's infringement in an amount not less than a reasonably royalty;

f. An award of damages based on Twilio's provisional rights under 35 U.S.C. § 154(d).

g. An order awarding Twilio treble damages under 35 U.S.C. § 284 as a result of Defendant's willful and deliberate infringement of each of the Asserted Patents;

h. That the case be found exceptional under 35 U.S.C. § 285 and that Twilio be awarded its attorney's fees.

i. Costs and expenses in this action;

j. An award of prejudgment and post-judgment interest, including supplemental damages for any continuing post-verdict or post-judgment infringement with an accounting as needed; and

k. Such other and further relief as the Court may deem just and proper under the circumstances.

Dated: December 1, 2016

Respectfully submitted,

BAKER BOTTS L.L.P.

/s/ Sarah Guske
Sarah Guske

Attorney for Twilio Inc.