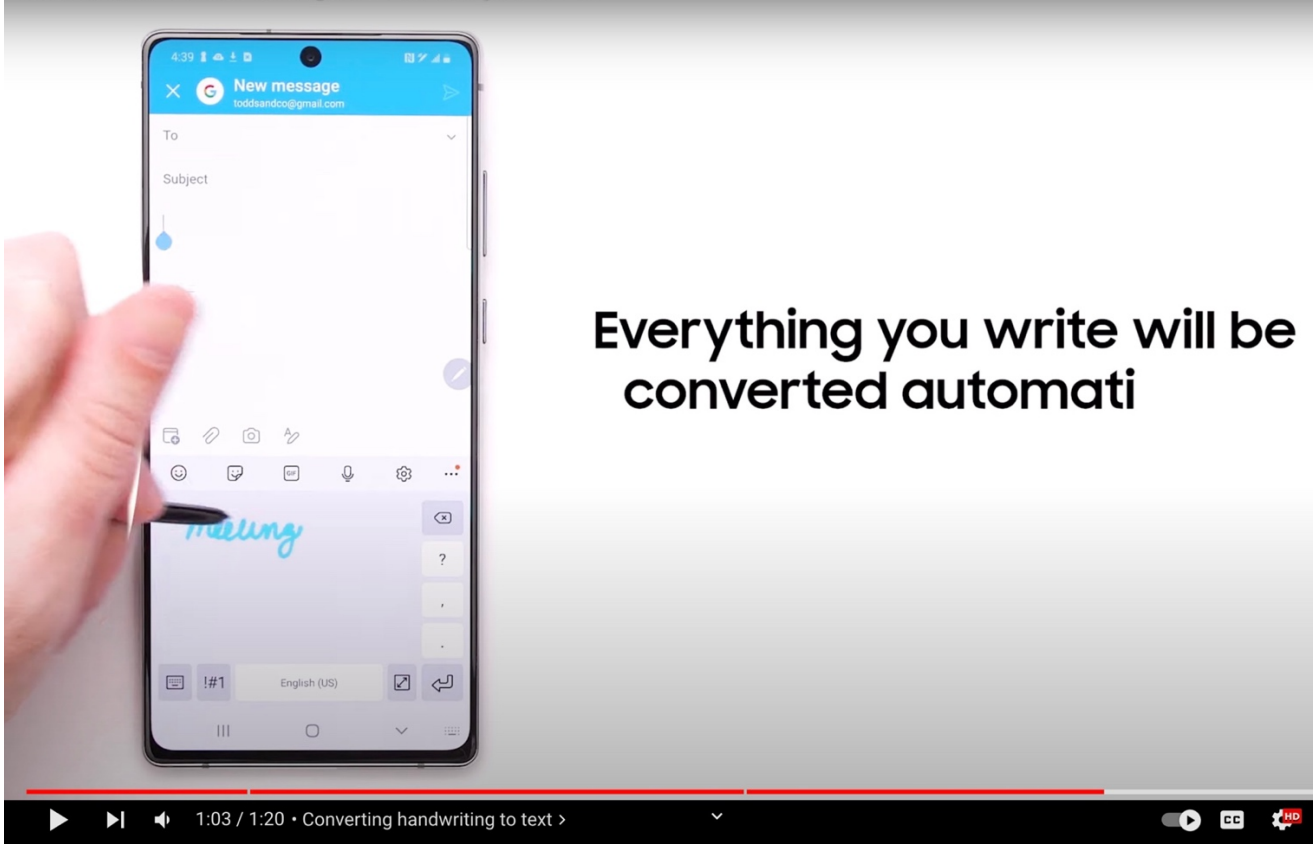
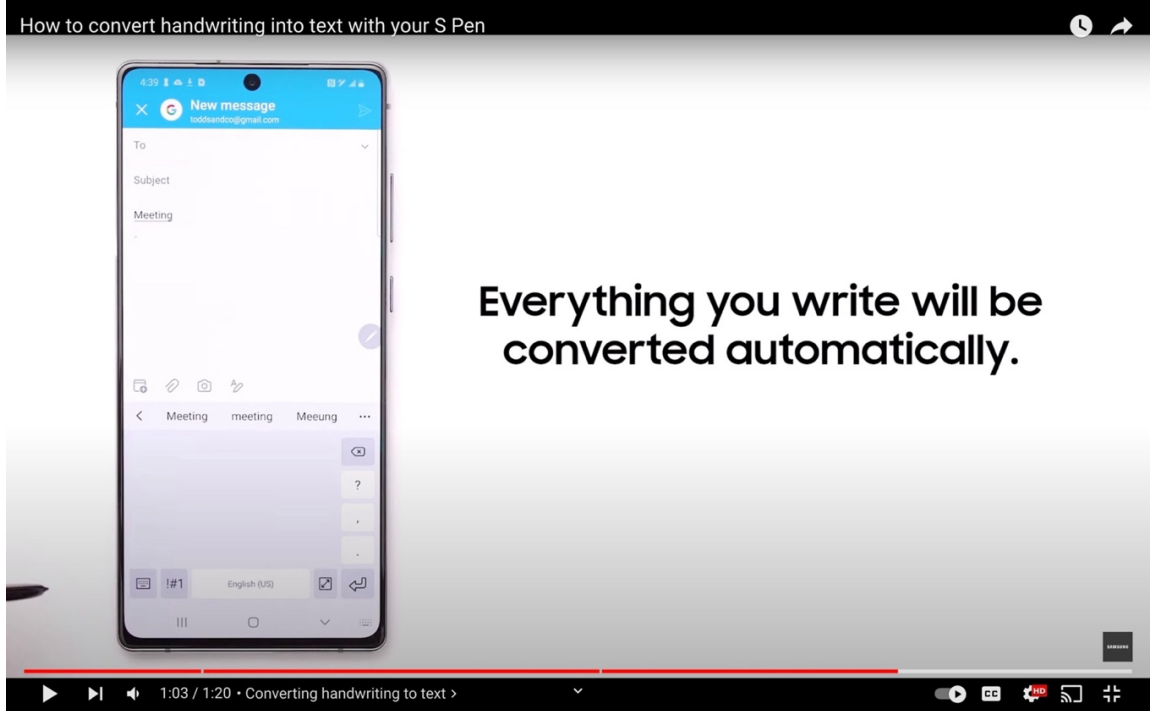


Exhibit A-1
U.S. Patent No. 7,680,334 (“’334 Patent”)
v.
Samsung’s Galaxy Devices (“Accused Instrumentalities”)

Claim 1	Samsung’s Infringement through the Accused Instrumentalities
[pre] 1. A method performed by a handwriting recognition device for presenting a recognized handwritten symbol, the recognition device having a processor and detection means for detecting entry of a handwritten symbol, the method comprising the steps of:	To the extent the preamble is limiting, Samsung’s Accused Instrumentalities perform a method performed by a handwriting recognition device for presenting a recognized handwritten symbol, the recognition device having a processor and detection means for detecting entry of a handwritten symbol. For example, the Samsung Galaxy Note20 comprises a handwriting recognition device for presenting a recognized handwritten symbol, the recognition device having a processor and detection means for detecting entry of a handwritten symbol. <i>See, e.g.</i>, evidence and analysis for claim limitation 1(a)-(e); https://www.samsung.com/levant/smartphones/galaxy-note20/models/. ; https://www.youtube.com/watch?v=Qlpxc0xcAZA. Investigation of both the patent and Samsung’s Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.
[a] detecting, by the detection means, a handwritten pattern that is entered by a user,	Samsung’s Accused Instrumentalities practice a method comprising detecting, by the detection means, a handwritten pattern that is entered by a user. For example, the Samsung Galaxy Note20 detects a first handwritten user input, e.g., the handwritten “Meeting”, on the touchscreen of the mobile device. The onscreen keyboard applications that are shipped with the Accused Instrumentalities include the Google Keyboard (“GBoard”) and Samsung Keyboard, and are able to accept and detect handwritten inputs.

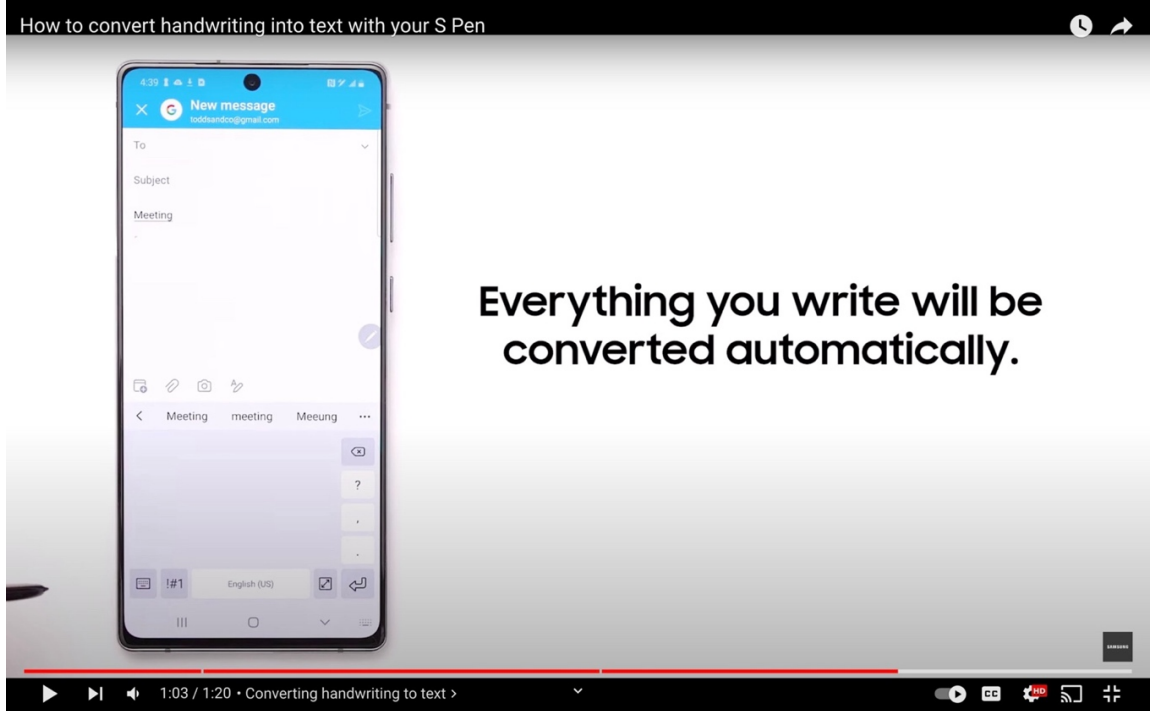
Claim 1	Samsung's Infringement through the Accused Instrumentalities
	How to convert handwriting into text with your S Pen  Everything you write will be converted automati https://youtu.be/Qlpxc0xcAZA?t=63 As another example, using the GBoard application on the Accused Instrumentalities, inputting the word “hello” into the handwriting input portion of the user interface results in the device to present a list of candidates for selection. This indicates the Accused Instrumentalities practice “detecting, by the detection means, a handwritten pattern that is entered by a user.”

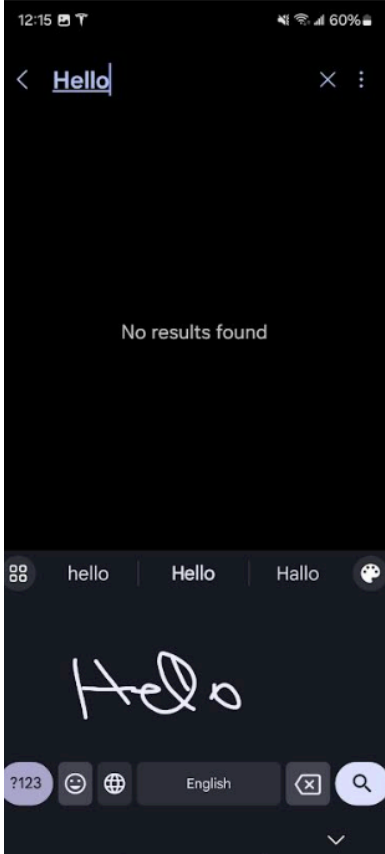
Claim 1	Samsung's Infringement through the Accused Instrumentalities
	Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.
[b] recognizing, by the processor, the detected handwritten pattern, wherein said step of recognizing comprises:	Samsung's Accused Instrumentalities practice a method comprising recognizing, by the processor, the detected handwritten pattern. For example, the Samsung Galaxy Note 20 recognizes a detected handwritten pattern, e.g., the typed text "Meeting", based on user input, e.g., handwritten "Meeting."

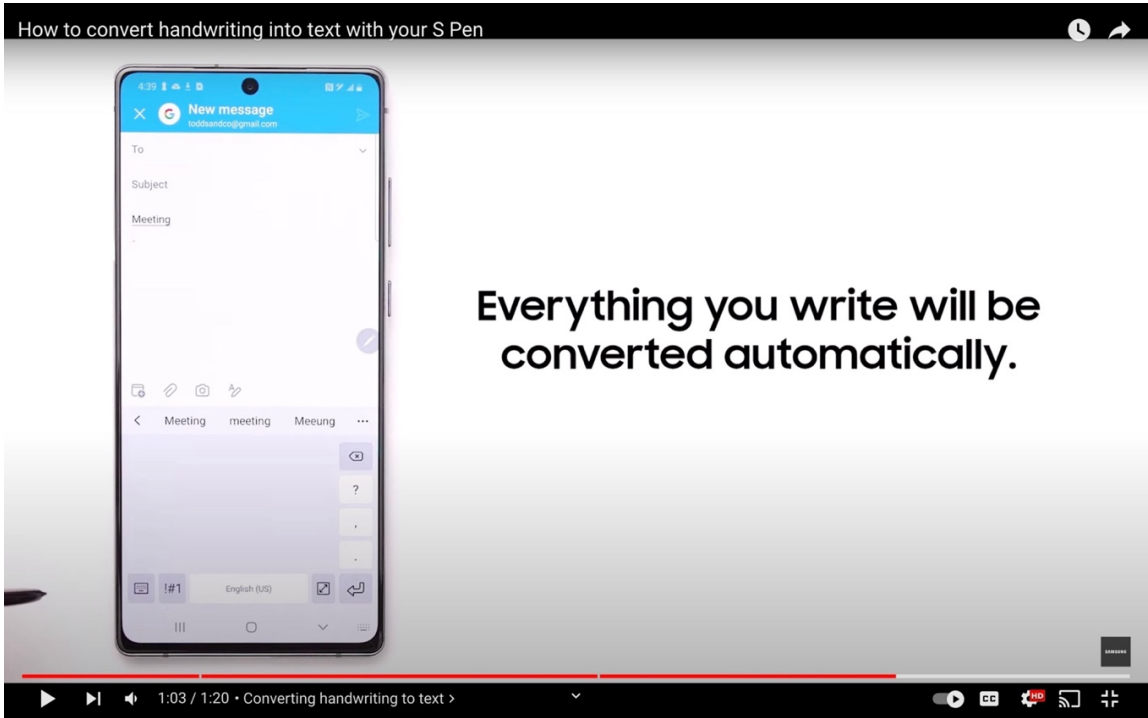
Claim 1	Samsung's Infringement through the Accused Instrumentalities
	 https://youtu.be/Qlpxc0xcAZA?t=63 As another example, using the GBoard application on the Accused Instrumentalities, inputting the word “hello” into the handwriting input portion of the user interface results in the device to present a list of candidates for selection. This indicates the Accused Instrumentalities practice “recognizing, by the processor, the detected handwritten pattern.” Investigation of both the patent and Samsung’s Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses.

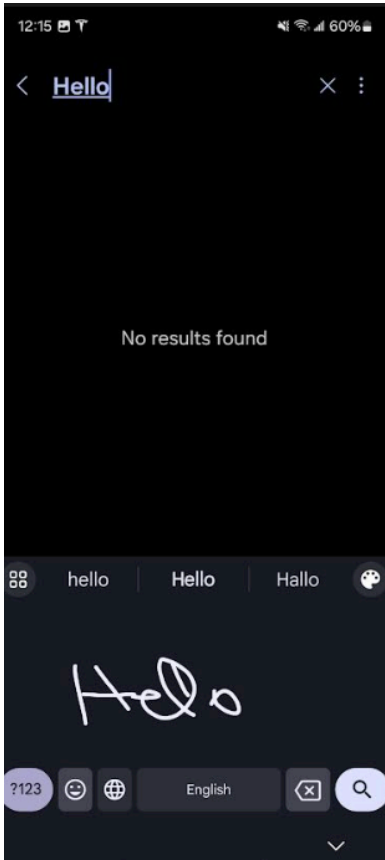
Claim 1	Samsung's Infringement through the Accused Instrumentalities
[c] comparing the handwritten pattern to a plurality of templates, wherein each of the plurality of templates represents at least one of a plurality of handwriting symbol patterns of handwritten ways of hand writing symbols, and	Samsung's Accused Instrumentalities practice a "recognizing" step, comprising "comparing the handwritten pattern to a plurality of templates, wherein each of the plurality of templates represents at least one of a plurality of handwriting symbol patterns of handwritten ways of hand writing symbols." For example, the Samsung Galaxy devices, such as the Samsung Galaxy Note20, compares the detected handwritten pattern to a plurality of words or phrases the device determines is a potential match to the handwritten pattern. Each of these comparison points is a template representing "at least one of a plurality of handwriting symbol patterns of handwritten ways of hand writing symbols." Results of that comparison are displayed to the user as options to select. https://youtu.be/qlpxc0xcAZA?t=63

Claim 1	Samsung's Infringement through the Accused Instrumentalities
	As another example, using the GBoard application on the Accused Instrumentalities, inputting the word “hello” into the handwriting input portion of the user interface results in the device to present a list of candidates for selection. Each candidate represents or is associated with a “template,” which in turn represent “at least one of a plurality of handwriting symbol patterns of handwritten ways of hand writing symbols.” Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.
[d] returning a best template selected from the plurality of templates that represents one of the plurality of handwriting symbol patterns as a best handwriting symbol pattern which, according to a predefined rule, is most similar to the handwritten pattern, wherein at least two of the plurality of templates comprise different ones of the plurality of handwriting symbol patterns which represent different handwritten ways of handwriting a single symbol; and	Samsung's Accused Instrumentalities practice a “recognizing” step, comprising “returning a best template selected from the plurality of templates that represents one of the plurality of handwriting symbol patterns as a best handwriting symbol pattern which, according to a predefined rule, is most similar to the handwritten pattern, wherein at least two of the plurality of templates comprise different ones of the plurality of handwriting symbol patterns which represent different handwritten ways of handwriting a single symbol.” For example, the Samsung Galaxy Note 20 selects and displays a “best” template from among a plurality of templates (several of which are also displayed alongside the “best” template). Each template comprises different ones of the plurality of handwriting symbol patterns—i.e., each is a different word or phrase. For instance, the typed text “Meeting” below is identified as the best match for the user input and is located to the leftmost portion of the UI for selecting a template of typed text based on the handwritten input.

Claim 1	Samsung's Infringement through the Accused Instrumentalities
	 https://youtu.be/Qlpxc0xcAZA?t=63 As another example, using the GBoard application on the Accused Instrumentalities, inputting the word “hello” into the handwriting input portion of the user interface results in the device to present a list of candidates for selection, with the best candidate (“best template”) identified through textual bolding. A comparison of at least two “templates” (e.g., those representing “hello” and “Hello”, respectively) indicates “two of the plurality of templates comprise different ones of the plurality of handwriting symbol patterns which represent different handwritten ways of handwriting a single symbol.”

Claim 1	Samsung's Infringement through the Accused Instrumentalities
	 Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

Claim 1	Samsung's Infringement through the Accused Instrumentalities
[e] presenting the best handwriting symbol pattern of the best template.	Samsung's Accused Instrumentalities practice a "recognizing" step, comprising "presenting the best handwriting symbol pattern of the best template." For example, the Samsung Galaxy Note20 presents the "best" handwriting symbol pattern of the best template, as illustrated with the typed text "Meeting" below, with "Meeting" being determined by the device to be the best handwriting symbol pattern of the best template.  https://youtu.be/qlpxc0xcAZA?t=63

Claim 1	Samsung's Infringement through the Accused Instrumentalities
	As another example, using the GBoard application on the Accused Instrumentalities, inputting the word “hello” into the handwriting input portion of the user interface results in the device to present a list of candidates for selection, with the best candidate identified through textual bolding.  Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including

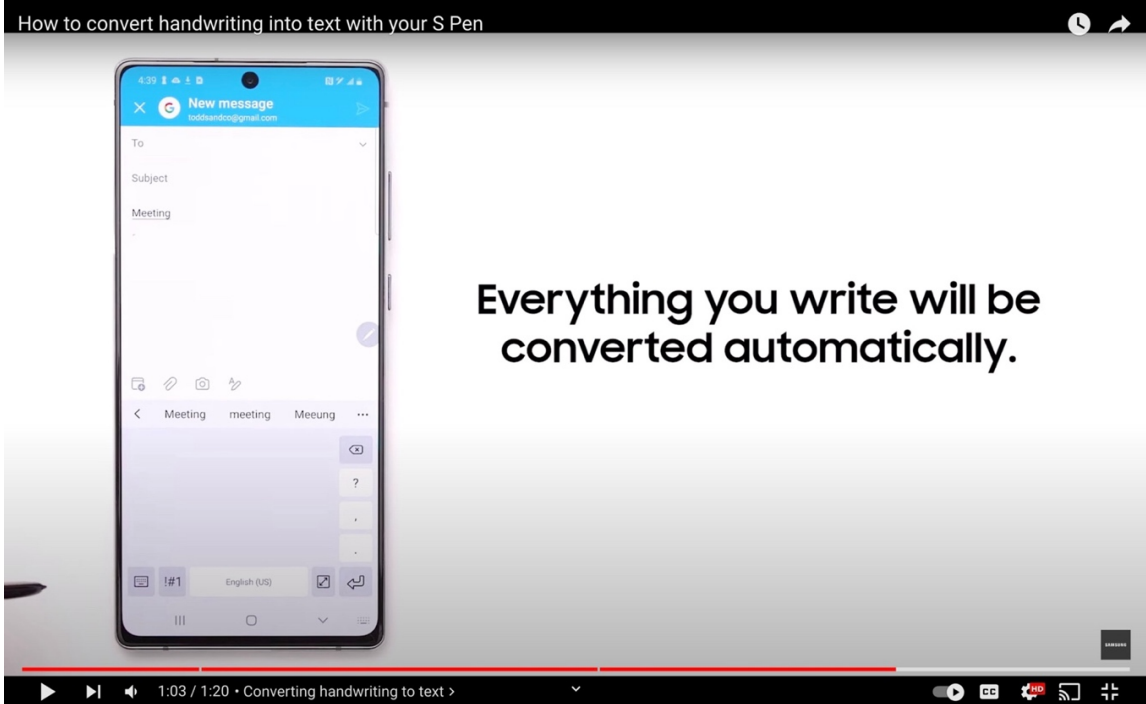
Claim 1	Samsung's Infringement through the Accused Instrumentalities
	adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

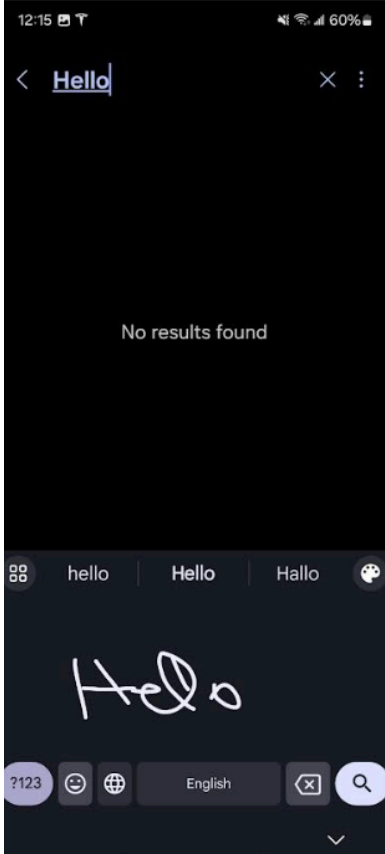
Claim 2	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 1, wherein the at least one of the plurality of handwriting symbol patterns of each of the plurality of templates is represented by geometrical information relating to an appearance of said handwriting symbol pattern.	Samsung's Accused Instrumentalities practice claim 1, "wherein the at least one of the plurality of handwriting symbol patterns of each of the plurality of templates is represented by geometrical information relating to an appearance of said handwriting symbol pattern." As explained for claim 1[a]-1[e], the Accused Instrumentalities (whether through Samsung's handwriting enabled applications or the Gboard application, compare handwritten inputs of the device user with a plurality of templates, each template corresponding to at least one handwriting symbol pattern, where a plurality of handwriting symbol patterns are determined to correspond to the handwritten input and then presented to the user for selection. The handwriting symbol patterns are represented by geometrical information relating to the appearance of said handwriting symbol pattern, and the geometrical information (relating to the general shape and appearance of the handwriting symbol pattern) is compared with a user's handwritten input. Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

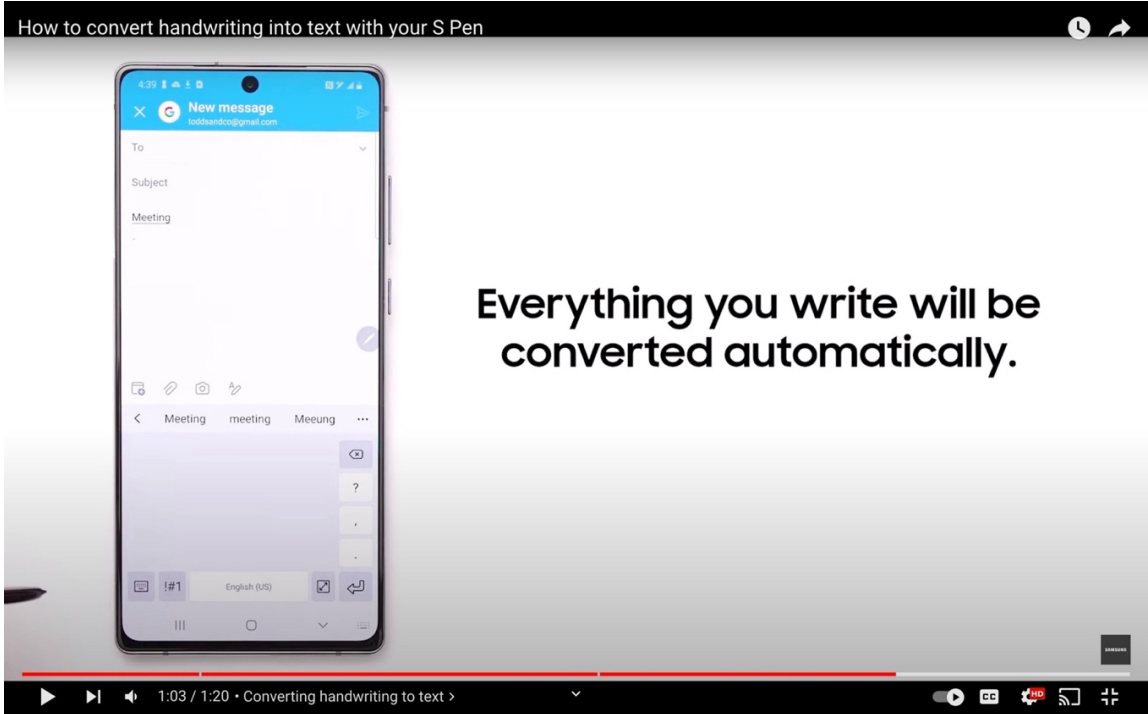
Claim 4	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 1, wherein the step of presenting comprises presenting the whole best	Samsung's Accused Instrumentalities practice claim 1, "wherein the step of presenting comprises presenting the whole best handwriting symbol pattern of the best template at once." As explained for claim 1[a]-1[e], the Accused Instrumentalities (whether through Samsung's handwriting enabled applications or the Gboard application, compare handwritten inputs of the

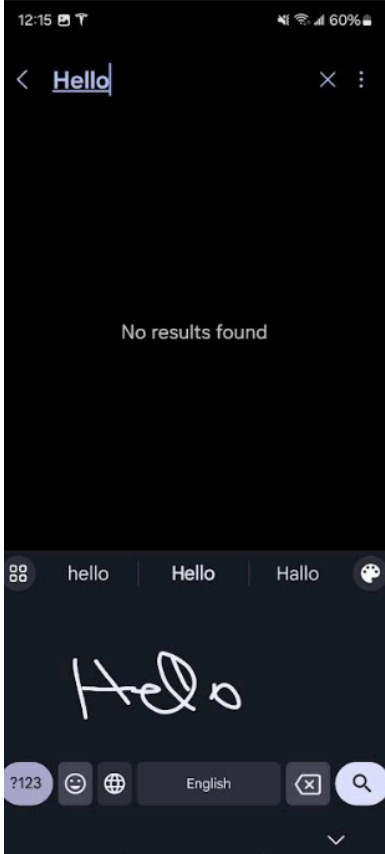
Claim 4	Samsung's Infringement through the Accused Instrumentalities
handwriting symbol pattern of the best template at once.	device user with a plurality of templates, each template corresponding to at least one handwriting symbol pattern, where a plurality of handwriting symbol patterns are determined to correspond to the handwritten input and then presented to the user for selection. The “best” handwriting symbol pattern is presented to the user, as shown in the cited videos and screenshots. With the GBoard keyboard, for example, the “whole best handwriting symbol pattern” is presented immediately after the user completes the handwritten input and is bolded to visually distinguish it from other handwriting symbol patterns presented to the user as alternative candidates. <i>See, e.g.</i>, claim 1[a]-1[e]. Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

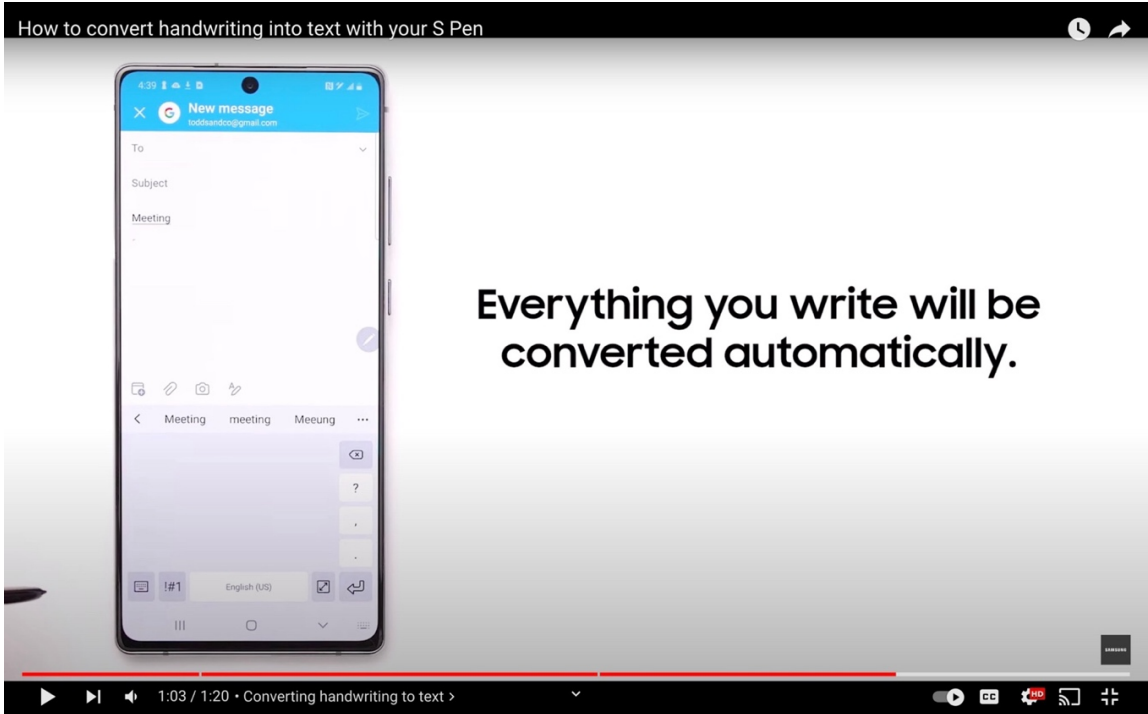
Claim 8	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 1, wherein the handwritten pattern is entered on an input area on the screen and the best handwriting symbol pattern of the best template is presented in a presentation area on the screen, wherein said presentation area overlaps the input area.	Samsung's Accused Instrumentalities practice claim 1, “wherein the handwritten pattern is entered on an input area on the screen and the best handwriting symbol pattern of the best template is presented in a presentation area on the screen, wherein said presentation area overlaps the input area.” As explained and illustrated above in connection with claims 1[a]-1[e], the input area of the user interface for the handwriting input functionality in the Accused Instrumentalities overlaps with the presentation area (e.g., the portion of the UI where candidates for handwriting symbol patterns are presented for selection by the user is a part of the same portion of the user interface in which the input area is located.

Claim 8	Samsung's Infringement through the Accused Instrumentalities
	 How to convert handwriting into text with your S Pen Everything you write will be converted automatically. 1:03 / 1:20 • Converting handwriting to text

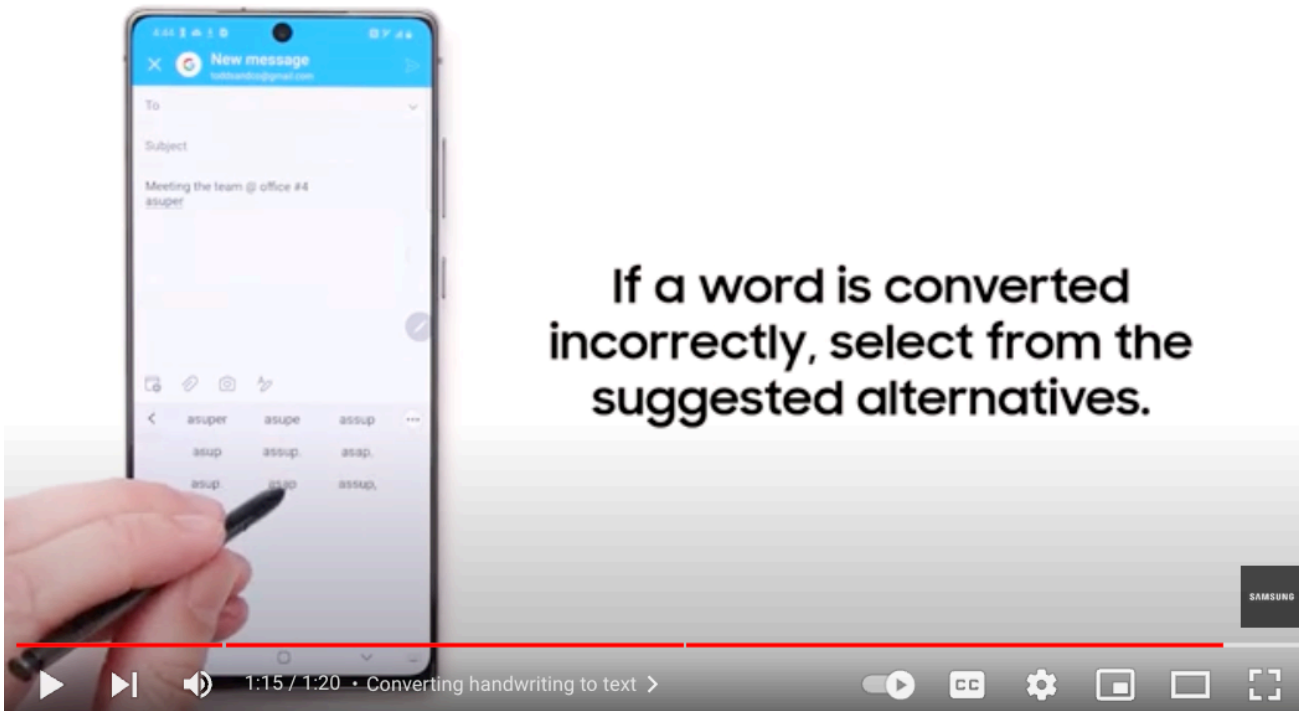
Claim 8	Samsung's Infringement through the Accused Instrumentalities
	 The screenshot shows a Samsung smartphone interface. At the top, the status bar displays the time 12:15, signal strength, Wi-Fi, and 60% battery. Below the status bar is a search bar with the text 'Hello' and a back arrow on the left, and a close button and a menu icon on the right. The main area of the screen displays 'No results found'. At the bottom, there is a keyboard with a search bar containing 'Hello' and a search icon. The keyboard also shows a 'Hello' button and a 'Hallo' button. The bottom of the screen shows a navigation bar with a search bar containing 'Hello' and a search icon, and a keyboard with a search bar containing 'Hello' and a search icon. Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

Claim 9	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 1, wherein the step of recognizing comprises returning at least one alternative template selected from the plurality of templates.	Samsung's Accused Instrumentalities practice claim 1, "wherein the step of recognizing comprises returning at least one alternative template selected from the plurality of templates." As explained and illustrated above in connection with claims 1[a]-1[e], the Accused Instrumentalities returns multiple alternatives in response to a user's handwritten input: e.g., "Meeting," "meeting, and "Meeung," or "hello," "Hello," and "Hallo." Each of these may comprise an "alternative template selected from the plurality of templates." 

Claim 9	Samsung's Infringement through the Accused Instrumentalities
	 The screenshot shows a Samsung smartphone interface. At the top, the status bar displays the time 12:15, signal strength, Wi-Fi, and 60% battery. Below the status bar is a search bar with the text 'Hello' and a magnifying glass icon. Below the search bar, the text 'No results found' is displayed. At the bottom of the screen, there is a keyboard with the word 'Hello' typed in. The keyboard also shows a 'Hello' button and a 'Hallo' button. The bottom of the screen shows a navigation bar with icons for home, app drawer, and search. Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

Claim 10	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 9, wherein the step of presenting comprises presenting the at least one of the plurality of handwriting symbol patterns of the at least one alternative template at a request of a user.	Samsung's Accused Instrumentalities practice claim 9, "wherein the step of presenting comprises presenting the at least one of the plurality of handwriting symbol patterns of the at least one alternative template at a request of a user." As explained and illustrated above in connection with claims 1[a]-1[e] and claim 9, the Accused Instrumentalities returns multiple alternatives in response to a user's handwritten input: e.g., "Meeting," "meeting, and "Meeung," or "hello," "Hello," and "Hallo." Each of these may comprise an "alternative template selected from the plurality of templates." 

Claim 10	Samsung's Infringement through the Accused Instrumentalities
	The screenshot shows a mobile application interface. At the top, the status bar displays the time 12:15, signal strength, Wi-Fi, and 60% battery. Below the status bar is a search bar containing the text 'Hello'. To the right of the search bar are a close button (X) and a menu button (three dots). Below the search bar, the text 'No results found' is displayed. Below this text is a list of suggested alternatives: 'hello', 'Hello', and 'Hallo'. Below the list is a handwritten 'Hello' in white ink. At the bottom of the screen is a keyboard with a search icon (magnifying glass) and a close button (X). Further, the user may input a further request to expand the list of suggested alternatives, such as by tapping on the ellipse hamburger icon shown below.

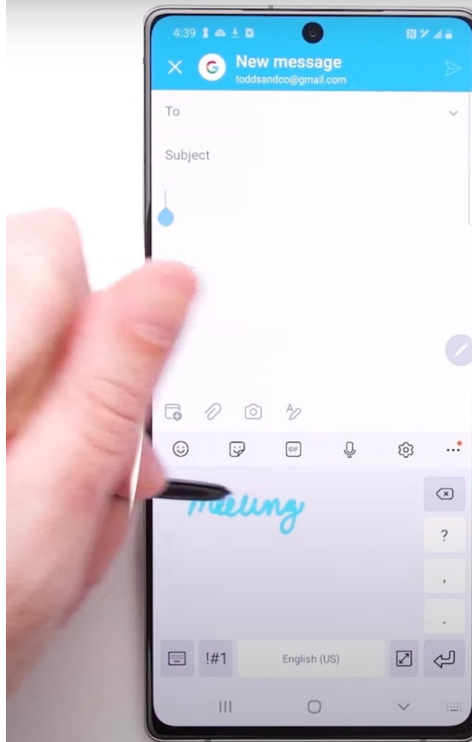
Claim 10	Samsung's Infringement through the Accused Instrumentalities
	 Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

Claim 15	Samsung's Infringement
[pre] A method performed by a handwriting recognition device for sequentially presenting a plurality of recognized handwritten symbols, the recognition device having a processor and detection means for detecting entry of a handwritten symbol, the method comprising for each handwritten pattern the steps of:	To the extent the preamble is limiting, Samsung's Accused Instrumentalities perform a method performed by a handwriting recognition device for sequentially presenting a plurality of recognized handwritten symbols, the recognition device having a processor and detection means for detecting entry of a handwritten symbol. For example, the Samsung Galaxy Note20 comprises a handwriting recognition device for presenting a recognized handwritten symbol, the recognition device having a processor and detection means for detecting entry of a handwritten symbol. <i>See, e.g.,</i> evidence and analysis for claim limitation 1(a)-(e); https://www.samsung.com/levant/smartphones/galaxy-note20/models/. ; https://www.youtube.com/watch?v=Qlpxc0xcAZA. Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.
[a] detecting, by the detection means, the handwritten pattern,	Samsung's Accused Instrumentalities practice a method comprising detecting, by the detection means, the handwritten pattern. For example, the Samsung Galaxy Note20 detects a first handwritten user input, e.g., the handwritten "Meeting", on the touchscreen of the mobile device. The onscreen keyboard applications that are shipped with the Accused Instrumentalities include the Google Keyboard ("GBoard") and Samsung Keyboard, and are able to accept and detect handwritten inputs.

Claim 15

Samsung's Infringement

How to convert handwriting into text with your S Pen



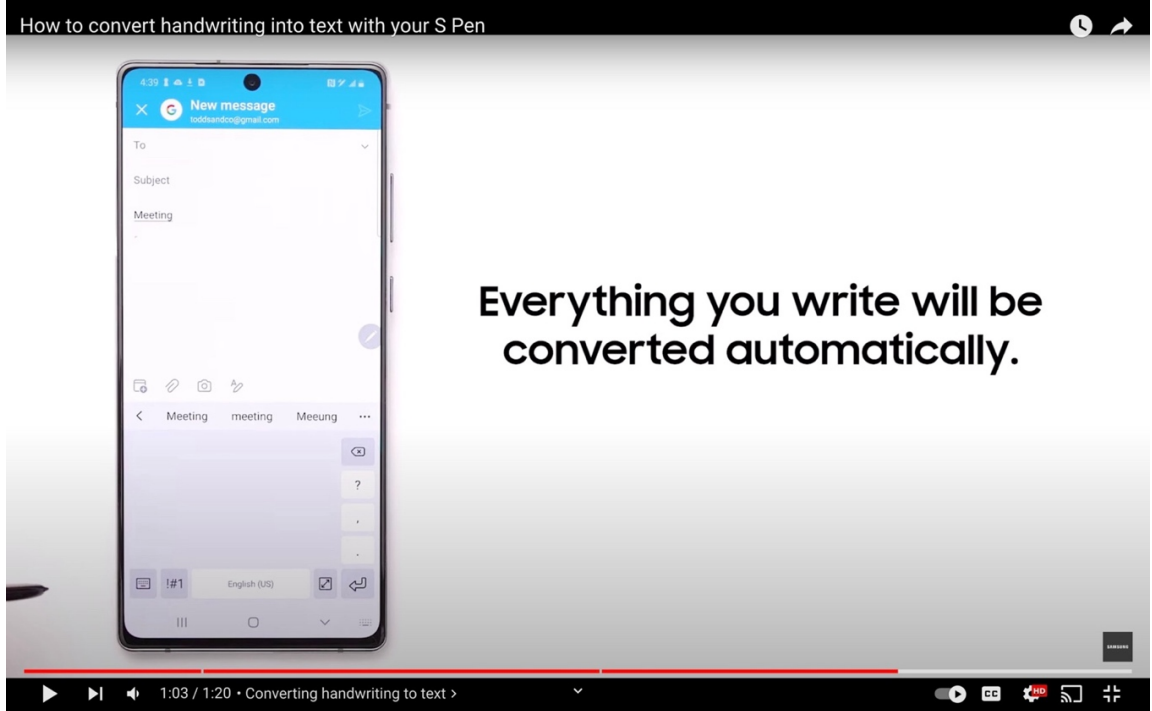
Everything you write will be converted automati

1:03 / 1:20 • Converting handwriting to text >

<https://youtu.be/Qlpxc0xcAZA?t=63>

As another example, using the GBoard application on the Accused Instrumentalities, inputting the word “hello” into the handwriting input portion of the user interface results in the device to present a list of candidates for selection. This indicates the Accused Instrumentalities practice “detecting, by the detection means, a handwritten pattern that is entered by a user.”

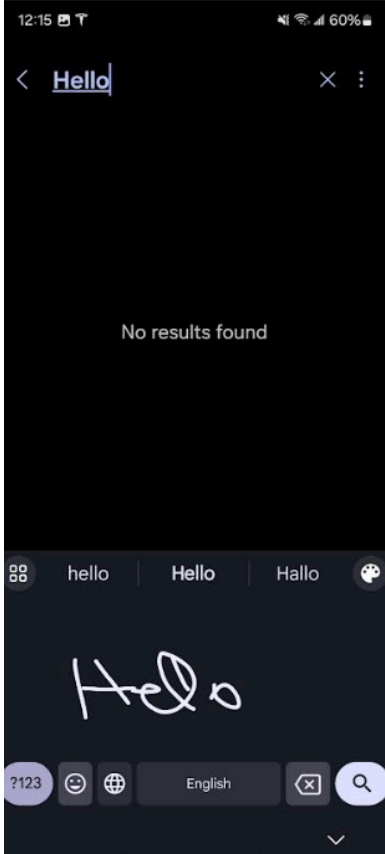
Claim 15	Samsung's Infringement
	Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.
[b] recognizing, by the processor, the detected handwritten pattern, wherein said step of recognizing comprises:	Samsung's Accused Instrumentalities practice a method comprising recognizing, by the processor, the detected handwritten pattern. For example, the Samsung Galaxy Note 20 recognizes a detected handwritten pattern, e.g., the typed text "Meeting", based on user input, e.g., handwritten "Meeting."

Claim 15	Samsung's Infringement
	 How to convert handwriting into text with your S Pen Everything you write will be converted automatically. 1:03 / 1:20 • Converting handwriting to text https://youtu.be/Qlpxc0xcAZA?t=63 As another example, using the GBoard application on the Accused Instrumentalities, inputting the word “hello” into the handwriting input portion of the user interface results in the device to present a list of candidates for selection. This indicates the Accused Instrumentalities practice recognizing, by the processor, the detected handwritten pattern. Investigation of both the patent and Samsung’s Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation

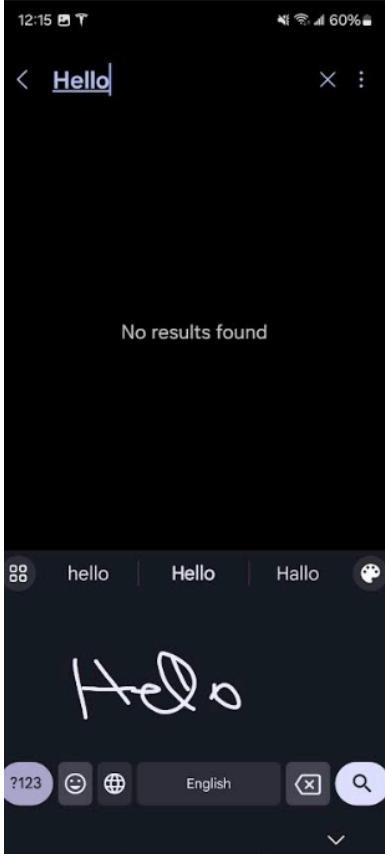
Claim 15	Samsung's Infringement
[c] comparing the handwritten pattern to a plurality of templates, wherein each of the plurality of templates represents at least one of a plurality of handwriting symbol patterns of handwritten ways of hand writing symbols and	Samsung's Accused Instrumentalities practice "comparing the handwritten pattern to a plurality of templates, wherein each of the plurality of templates represents at least one of a plurality of handwriting symbol patterns of handwritten ways of hand writing symbols." For example, the Samsung Galaxy devices, such as the Samsung Galaxy Note20, compares the detected handwritten pattern to a plurality of words or phrases the device determines is a potential match to the handwritten pattern. Each of these comparison points is a template representing "at least one of a plurality of handwriting symbol patterns of handwritten ways of hand writing symbols." Results of that comparison are displayed to the user as options to select. https://youtu.be/qlpxc0xcAZA?t=63

Claim 15	Samsung's Infringement
	As another example, using the GBoard application on the Accused Instrumentalities, inputting the word “hello” into the handwriting input portion of the user interface results in the device to present a list of candidates for selection. Each candidate represents or is associated with a “template,” which in turn represent “at least one of a plurality of handwriting symbol patterns of handwritten ways of hand writing symbols.” Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.
[d] returning a best interpretation of the handwritten pattern, said best interpretation being based on one of the plurality of handwriting symbol patterns as a best handwriting symbol pattern of a best template selected from the plurality of templates that, according to a predefined rule, is most similar to the handwritten pattern, wherein at least two of the plurality of templates comprise different ones of the plurality of handwriting symbol patterns which represent different handwritten ways of handwriting a single symbol, and wherein the different ones of the plurality of handwriting	Samsung's Accused Instrumentalities practice “returning a best interpretation of the handwritten pattern, said best interpretation being based on one of the plurality of handwriting symbol patterns as a best handwriting symbol pattern of a best template selected from the plurality of templates that, according to a predefined rule, is most similar to the handwritten pattern, wherein at least two of the plurality of templates comprise different ones of the plurality of handwriting symbol patterns which represent different handwritten ways of handwriting a single symbol, and wherein the different ones of the plurality of templates return different best interpretations when being most similar to the handwritten pattern.” For example, the Samsung Galaxy Note 20 selects and displays a “best” template from among a plurality of templates (several of which are also displayed alongside the “best” template). Each template comprises different ones of the plurality of handwriting symbol patterns—i.e., each is a different word or phrase. For instance, the typed text “Meeting” below is identified as the best match for the user input and is located to the leftmost portion of the UI for selecting a template of typed text based on the handwritten input. This indicates the “best interpretation being based on one of the plurality of handwriting symbol patterns as a best handwriting symbol pattern of a best template selected from the plurality of templates that, according to a predefined rule, is most similar to the handwritten pattern.”

Claim 15	Samsung's Infringement
symbol patterns of said at least two of the plurality of templates return different best interpretations when being most similar to the handwritten pattern; and	https://youtu.be/Qlpxc0xcAZA?t=63 As another example, using the GBoard application on the Accused Instrumentalities, inputting the word “hello” into the handwriting input portion of the user interface results in the device to present a list of candidates for selection, with the best candidate (“best template”) identified through textual bolding. A comparison of at least two “templates” (e.g., those representing “hello” and “Hello”, respectively) to handwritten input, and selection of which template as corresponding best to the handwritten input, indicates “at least two of the plurality of templates comprise different ones of the plurality of handwriting symbol patterns which represent different handwritten ways of handwriting a single symbol, and wherein the different ones of the plurality of handwriting symbol patterns of said at least two of the plurality of templates return different best interpretations when being most similar to the handwritten pattern.”

Claim 15	Samsung's Infringement
	 Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

Claim 15	Samsung's Infringement
[e] presenting the best interpretation.	Samsung's Accused Instrumentalities practice "presenting the best interpretation." For example, the Samsung Galaxy Note20 presents the "best" handwriting symbol pattern of the best template, as illustrated with the typed text "Meeting" below, with "Meeting" being determined by the device to be the best handwriting symbol pattern of the best template. https://youtu.be/Qlpxc0xcAZA?t=63 As another example, using the GBoard application on the Accused Instrumentalities, inputting the word "hello" into the handwriting input portion of the user interface results in the device to present a list of candidates for selection, with the best candidate identified through textual bolding.

Claim 15	Samsung's Infringement
	 The screenshot shows a Samsung smartphone interface. At the top, the status bar displays the time 12:15, signal strength, Wi-Fi, and 60% battery. Below the status bar is a search bar with the text 'Hello' entered. To the left of the search bar is a back arrow, and to the right are a close 'X' button and a three-dot menu. Below the search bar, the text 'No results found' is centered. At the bottom of the screen, there is a keyboard with a 'Hello' suggestion bar above it. The suggestion bar shows three options: 'hello', 'Hello', and 'Hallo'. Below the suggestion bar, the word 'Hello' is written in a large, stylized font. At the very bottom, there is a keyboard with a '123' button, a smiley face, a globe, the word 'English', a backspace key, and a search magnifying glass. Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

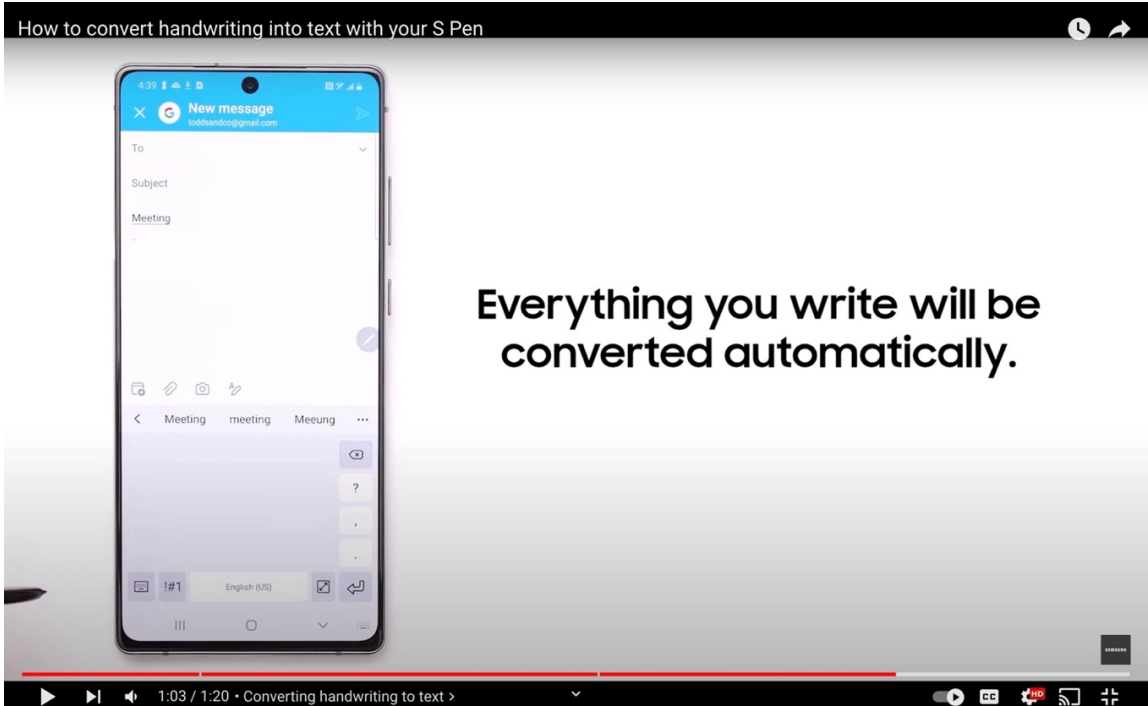
Claim 16	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 15, further comprising, before the step of presenting, retrieving as the best interpretation, from a database comprising allographs, a best allograph that is associated with the best handwriting symbol pattern of the best template.	Samsung's Accused Instrumentalities practice the "method according to claim 15, further comprising, before the step of presenting, retrieving as the best interpretation, from a database comprising allographs, a best allograph that is associated with the best handwriting symbol pattern of the best template." For example, prior to presenting interpretations of handwritten input to the user in the user interface, the Accused Instrumentalities compare the handwritten input to multiple allographs of the same handwriting symbol(s). This is demonstrated on the Accused Instrumentalities by, for example, inputting a handwritten "N," which is compared to at least two allographs stored in the Accused Instrumentalities for comparison (e.g., allographs corresponding to "N" and "n"). In the below screenshot, the Accused Devices (using GBoard) returns both "N" and "n" allographs, with the upper case "N" being presented as the "best interpretation."

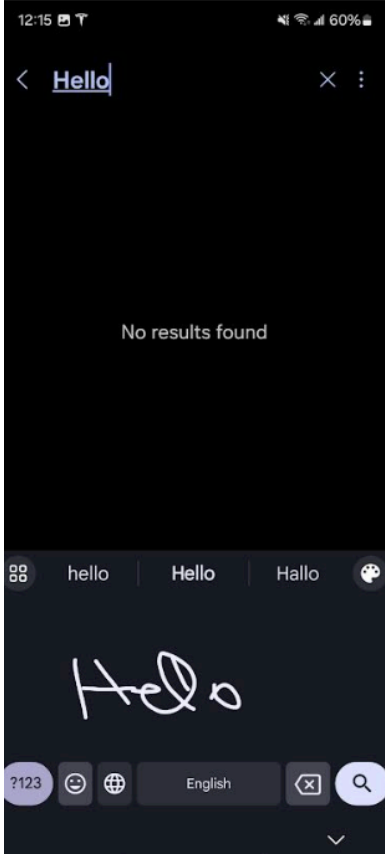
Claim 16	Samsung's Infringement through the Accused Instrumentalities
	Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

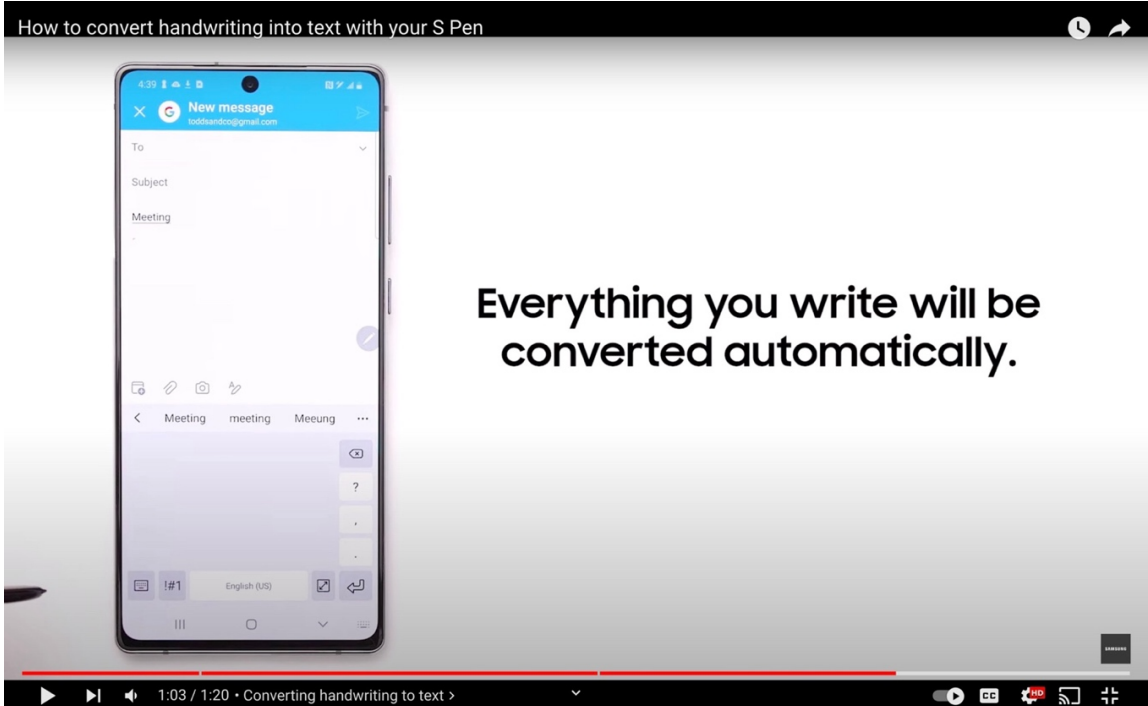
Claim 19	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 15, wherein the best interpretation is the handwriting symbol pattern of the best template, and wherein the step of presenting comprises presenting the best handwriting symbol pattern of the best template on a screen.	Samsung's Accused Instrumentalities practice the method according to claim 15, "wherein the best interpretation is the handwriting symbol pattern of the best template, and wherein the step of presenting comprises presenting the best handwriting symbol pattern of the best template on a screen." As explained and illustrated in connection with claim 15, the presentation of the best handwriting symbol pattern is on the "screen" of the Accused Instrumentalities. Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.
Claim 20	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 19, wherein each of the plurality of handwriting symbol patterns of a template is represented by geometrical information relating to an appearance of each of said plurality of handwriting symbol patterns.	Samsung's Accused Instrumentalities practice the method according to claim 19, wherein each of the plurality of handwriting symbol patterns of a template is represented by geometrical information relating to an appearance of each of said plurality of handwriting symbol patterns." As explained for claim 1[a]-1[e] and 15[a]-[e], the Accused Instrumentalities (whether through Samsung's handwriting enabled applications or the Gboard application, compare handwritten inputs of the device user with a plurality of templates, each template corresponding to at least one handwriting symbol pattern, where a plurality of handwriting symbol patterns are determined to correspond to the handwritten input and then presented to the user for selection. The handwriting symbol patterns are represented by geometrical information relating to the appearance of said handwriting symbol pattern, and the geometrical information (relating to the general shape and appearance of the handwriting symbol pattern) is compared with a user's handwritten input. Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

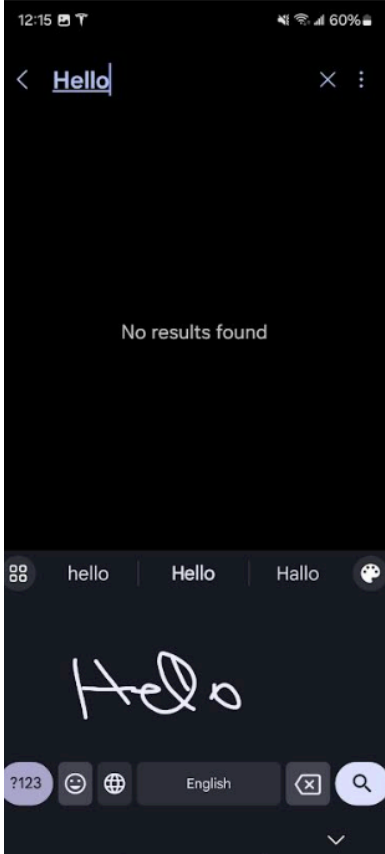
Claim 22	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 15, wherein the step of presenting comprises presenting the whole best handwriting symbol pattern represented by the best interpretation at once.	Samsung's Accused Instrumentalities practice claim 15, "wherein the step of presenting comprises presenting the whole best handwriting symbol pattern represented by the best interpretation at once." As explained for claim 1[a]-1[e], the Accused Instrumentalities (whether through Samsung's handwriting enabled applications or the Gboard application, compare handwritten inputs of the device user with a plurality of templates, each template corresponding to at least one handwriting symbol pattern, where a plurality of handwriting symbol patterns are determined to correspond to the handwritten input and then presented to the user for selection. The "best" handwriting symbol pattern is presented to the user, as shown in the cited videos and screenshots. With the GBoard keyboard, for example, the "whole best handwriting symbol pattern" is presented immediately after the user completes the handwritten input and is bolded to visually distinguish it from other handwriting symbol patterns presented to the user as alternative candidates. <i>See, e.g.</i>, claim 15[a]-15[e]. Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

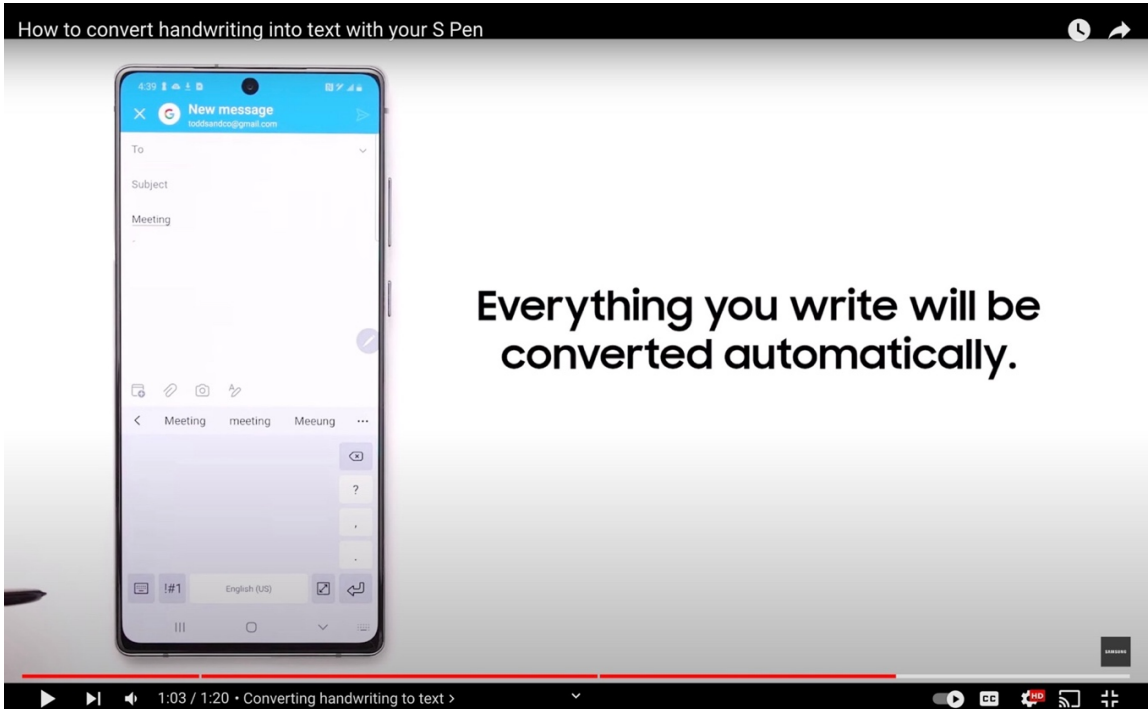
Claim 26	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 15, wherein the handwritten pattern is entered on an input area on a screen and the best interpretation is presented in a presentation area on the screen, whereby said	Samsung's Accused Instrumentalities practice claim 15, "wherein the handwritten pattern is entered on an input area on a screen and the best interpretation is presented in a presentation area on the screen, whereby said presentation area overlaps the input area." As explained and illustrated above in connection with claims 15[a]-15[e], the input area of the user interface for the handwriting input functionality in the Accused Instrumentalities overlaps with the presentation area (e.g., the portion of the UI where candidates for handwriting symbol patterns or interpretations are presented for selection by the user is a part of the same portion of the user interface in which the input area is located.

Claim 26	Samsung's Infringement through the Accused Instrumentalities
presentation area overlaps the input area.	 How to convert handwriting into text with your S Pen Everything you write will be converted automatically. 1:03 / 1:20 • Converting handwriting to text

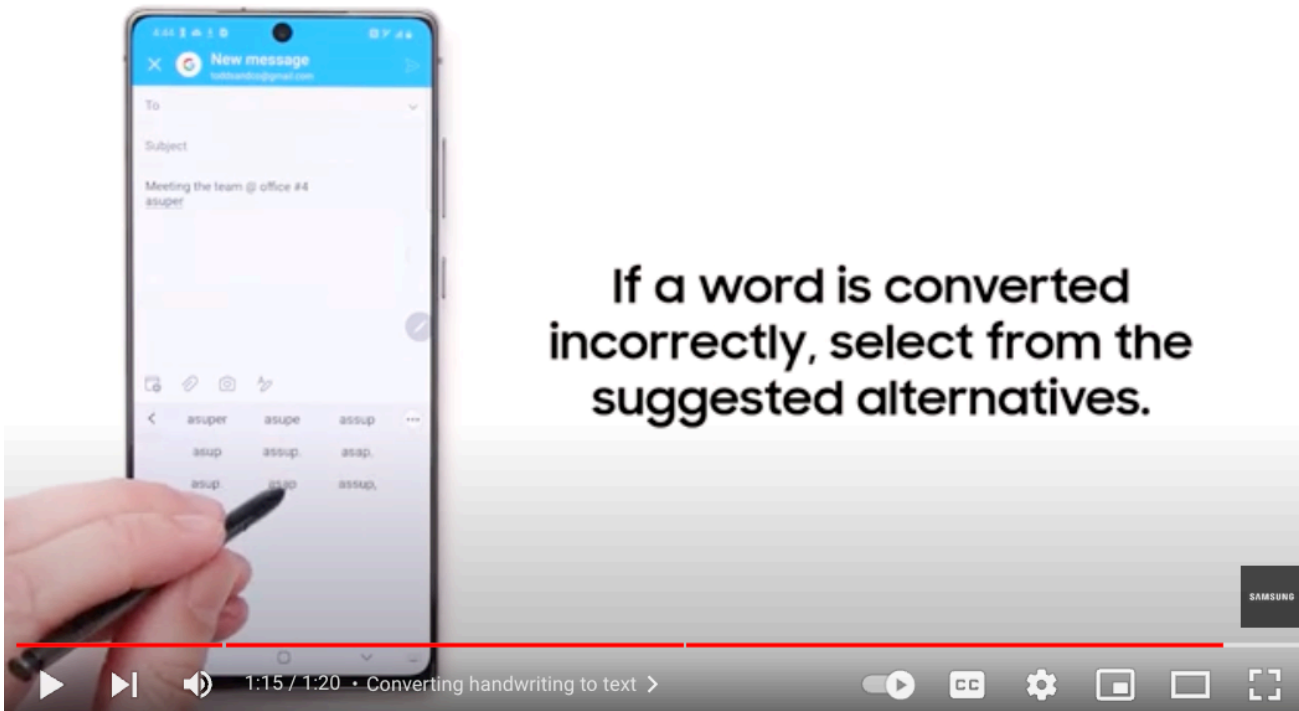
Claim 26	Samsung's Infringement through the Accused Instrumentalities
	 The screenshot shows a smartphone interface with a search bar at the top containing the text 'Hello'. Below the search bar, the text 'No results found' is displayed. At the bottom of the screen, there is a keyboard with the word 'Hello' typed in. The status bar at the very top shows the time as 12:15 and a battery level of 60%. Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

Claim 27	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 15, wherein the step of recognizing comprises returning at least one alternative interpretation.	Samsung's Accused Instrumentalities practice claim 15, "wherein the step of recognizing comprises returning at least one alternative interpretation." As explained and illustrated above in connection with claims 15[a]-15[e], the Accused Instrumentalities returns multiple alternatives in response to a user's handwritten input: e.g., "Meeting," "meeting, and "Meeung," or "hello," "Hello," and "Hallo." Each of these may comprise an "alternative template selected from the plurality of templates." 

Claim 27	Samsung's Infringement through the Accused Instrumentalities
	 The screenshot shows a Samsung smartphone interface. At the top, the status bar displays the time 12:15, signal strength, Wi-Fi, and 60% battery. Below the status bar is a search bar with the text 'Hello' and a back arrow on the left, and a close button and menu icon on the right. The main area of the screen displays 'No results found'. At the bottom, there is a keyboard with a search bar containing 'Hello' and a search icon. The keyboard also shows a 'Hello' button and a 'Hallo' button. The bottom of the screen shows a navigation bar with a search bar containing 'Hello' and a search icon. Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.

Claim 28	Samsung's Infringement through the Accused Instrumentalities
The method according to claim 27, wherein the step of presenting comprises presenting the at least one alternative interpretation at the request of a user.	Samsung's Accused Instrumentalities practice claim 27, "wherein the step of presenting comprises presenting the at least one alternative interpretation at the request of a user." As explained and illustrated above in connection with claims 15[a]-15[e] and claim 27, the Accused Instrumentalities returns multiple alternatives in response to a user's handwritten input: e.g., "Meeting," "meeting, and "Meeung," or "hello," "Hello," and "Hallo." Each of these may comprise an "alternative template selected from the plurality of templates." 

Claim 28	Samsung's Infringement through the Accused Instrumentalities
	The screenshot shows a mobile application interface. At the top, there is a status bar with the time '12:15', signal strength, and battery level '60%'. Below the status bar is a search bar with the text 'Hello' and a back arrow on the left. To the right of the search bar are a close button (X) and a menu icon (three dots). Below the search bar, the text 'No results found' is displayed. Below this, there are three suggested alternatives: 'hello', 'Hello', and 'Hallo'. At the bottom of the screen, there is a keyboard with a search icon (magnifying glass) and a close button (X). Further, the user may input a further request to expand the list of suggested alternatives, such as by tapping on the ellipse hamburger icon shown below.

Claim 28	Samsung's Infringement through the Accused Instrumentalities
	 Investigation of both the patent and Samsung's Accused Instrumentalities (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Cerence Operating Co. reserves the right to update and amend its contentions, including adding additional claims and evidence, as the litigation progresses, and discovery is provided by the defendant.