

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

**SHERMAN DIVISION**

VIRGINIA INNOVATION SCIENCES,  
INC.,

Plaintiff,

v.

HTC CORPORATION,

Defendant.

**Civil Action No.** \_\_\_\_\_

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Virginia Innovation Sciences, Inc. (“VIS” or “Plaintiff”), for its Complaint against Defendant HTC Corporation (“HTC” or “Defendant”), alleges the following:

**NATURE OF THE ACTION**

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

**THE PARTIES**

2. Plaintiff is a corporation organized under the laws of the State of Virginia with a place of business at 6301 Edsall Road #517, Alexandria, Virginia 22312.

3. Upon information and belief, Defendant HTC is a foreign company organized and existing under the laws of Taiwan, with its principal place of business at 23 Xinghua Road, Taoyuan City, Taoyuan County 330, Taiwan, and can be served at that address. Upon information and belief, HTC sells and offers to sell products and services throughout the United States, including in this judicial district, and introduces products and services that into the stream

of commerce and that incorporate infringing technology knowing that they would be sold in this judicial district and elsewhere in the United States.

### **JURISDICTION AND VENUE**

4. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

5. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

6. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1400(b). HTC is a foreign corporation and may be sued in this judicial district. Venue is further proper because, upon information and belief, HTC has committed acts of infringement in this judicial district, and/or has purposely transacted business involving the accused products in this judicial district.

7. On information and belief, Defendant is subject to this Court's general and specific personal jurisdiction because it has sufficient minimum contacts within the State of Texas and this District, pursuant to due process and/or the Texas Long Arm Statute because Defendant purposefully availed itself of the privileges of conducting business in the State of Texas and in this District, because Defendant regularly conducts and solicits business within the State of Texas and within this District, and because Plaintiff's causes of action arise directly from each of Defendant's business contacts and other activities in the State of Texas and this District.

### **COUNT I – INFRINGEMENT OF U.S. PATENT NO. 9,912,983**

8. The allegations set forth in the foregoing paragraphs 1 through 7 are incorporated into this First Claim for Relief.

9. On March 6, 2018, U.S. Patent No. 9,912,983 ("the '983 patent"), entitled "METHOD AND SYSTEM FOR EFFICIENT COMMUNICATION," was duly and legally

issued by the United States Patent and Trademark Office. A true and correct copy of the '983 patent is attached as Exhibit 1.

10. The inventions of the '983 patent resolve technical problems related to the use of a multi-function wireless hub for information processing. For example, the '983 patent overcomes limitations in the prior art relating to efficiently delivering multimedia information content received over a wireless communication network. Furthermore, the '983 patent overcomes limitations in the prior art relating to providing alerts as to the status of an item over the internet or other next-generation wireless communication network.

11. The inventions allow a user to efficiently set up a system comprising a hub configured to notify a user device of a status update. Furthermore, the inventions of the '983 patent enable a user to pair a variety of sensors to the hub through short-range communications.

12. The claims of the '983 patent recite an invention that is not merely the routine or conventional use of a wireless hub system. Instead, the invention relies on using a network interface and a wireless channel concurrently to both decompress a compressed information signal and to communicate information regarding the item status of an item in connection with an updated status of the item. The '983 patent claims thus specify how signals are received and transmitted over both channels to perform both functions.

13. The technology claimed in the '983 patent does not preempt all ways of using wireless hub based decoding or monitoring systems, nor preempt the use of all wireless hub based decoding or monitoring systems, nor preempt any other well-known or prior art technology.

14. Accordingly, each claim of the '983 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

15. Plaintiff is the assignee and owner of the right, title and interest in and to the '983 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

16. Upon information and belief, Defendant has and continues to directly infringe at least claims 22 and 25 of the '983 patent by making, using, selling, importing and/or providing and causing to be used a wireless hub system, including but not limited to the HTC U11 and U12 smartphones (the "Accused Instrumentalities").

17. In particular, claim 22 of the '983 patent recites a wireless hub system configured to receive, through a wireless communication network and via an input interface, a wireless signal, decompress the signal with a decoder, and convert it for production. The wireless hub system is further configured to communicate information for managing an item status of an item in connection with a short range wireless communication regarding an updated status of the item.

18. Claim 25 depends from claim 22 and further recites that the wireless hub is configured to communicate a video from a video camera to a user's terminal at least in part through a cellular network.

19. The Accused Instrumentalities infringe claims 22 and 25 of the '983 patent. By way of example, the HTC U11 smartphone acts as a wireless hub system. *See* <https://www.htc.com/us/smartphones/htc-u11/>.

20. The HTC U11 smartphone is able to send and receive wireless signals by connecting to a wi-fi network. To support a wi-fi connection, the HTC U11 includes an input

interface configured to receive a wireless signal through a wireless communication network. *See* <https://www.htc.com/us/support/htc-u11/howto/wi-fi.html>.

21. The HTC U11 supports encoded/compressed data, such as MP3 or AAC formatted files. Upon information and belief, the HTC U11, thus, includes a decoder. *See* <https://www.htc.com/us/smartphones/htc-u11/>.

22. To support 802.11 communication, the HTC U11 supports communications of the 7-layer Open Systems Interconnected (OSI) model, which includes lower-level layers, i.e., layer 1 communications and layer 2 communications, which support wi-fi, in addition to higher-level layers (e.g., layer 3 – network layer, layer 4 – transport layer, layer 5 – session layer, layer 6 – presentation layer, and layer 7 – application layer). Upon information and belief, the HTC U11 supports 802.11 (wi-fi) by supporting layers 1 and 2 of the OSI model. The HTC U11 also supports communications via the Internet. *See* <https://www.htc.com/us/support/htc-u11/howto/sharing-data-connection-with-usb-tethering.html>. To support communications via the Internet, the HTC U11 supports higher-level layer (e.g., layers 3-7) communications of the OSI model. Further, to transmit data over the Internet, HTC U11 supports transmission and reception of TCP/IP packets. The HTC U11 includes a processor and communications components to support such higher-level layer (e.g., layers 3 and above) communications.

23. The HTC U11 supports encoded/compressed data, such as MP3 or AAC formatted files. *See* <https://www.htc.com/us/smartphones/htc-u11/>. Upon information and belief, the HTC U11, thus, includes a decoder. The HTC U11 (e.g., via the decoder) is configured to perform a conversion of a wireless signal (e.g., a wireless signal including a compressed audio file (such as music), for example from a Spotify or Pandora computer server) to accommodate production of a corresponding information item, such as by outputting audio

(e.g., playing music). For example, the HTC U11 may receive a wireless signal that includes compressed audio data (e.g., a compressed signal, corresponding to a MP3 or AAC file) and the HTC U11 decompresses the compressed signal (e.g., the compressed audio data) to support the playback of uncompressed audio (i.e., a song).

24. The HTC U11, by executing the Alexa application, communicates with smart devices, such as smart light switches. *See, e.g.,*:

[Amazon Device Support](#) › [Alexa Support](#) › [Smart Home](#) ›

## Connect a Smart Home Device to Alexa

After you set up a compatible smart home device, enable the skill and then ask Alexa to discover your devices.

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**Important:** Before you enable a smart home skill, please read [Safety Information for Using Smart Home Devices with Alexa](#).

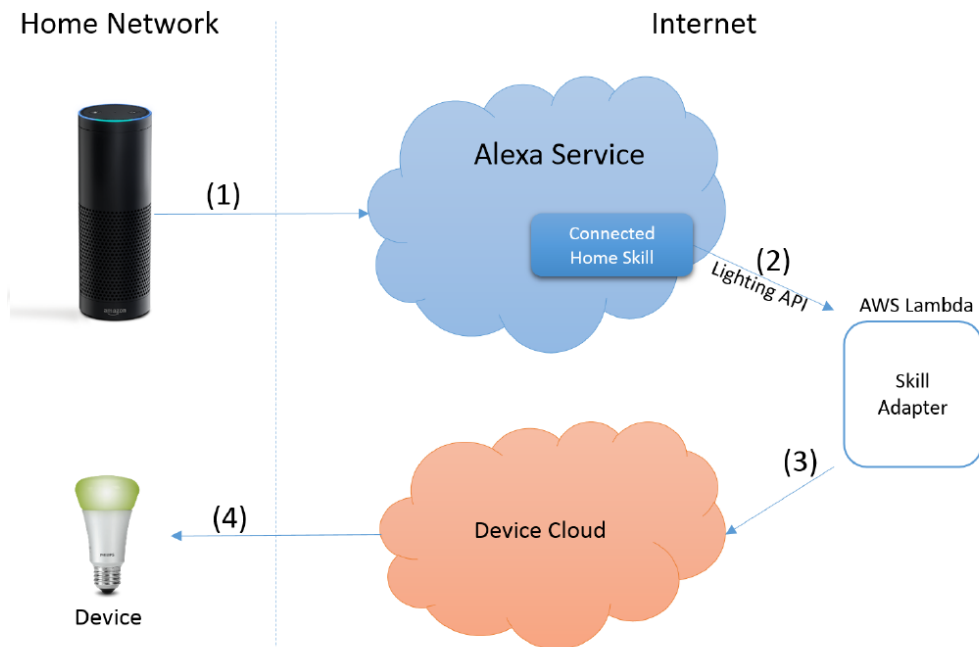
For smart home devices that connect to Echo Plus using a simple set up, go to [Supported Smart Home Devices for Echo Plus](#).

**Before you begin:**

- Check your smart home device is [compatible with Alexa](#).
- Complete setup for your smart home device, using the manufacturer's companion app or website.
- Connect the device to the same Wi-Fi network as your Alexa devices.
- Download the Alexa app on your mobile device, or use <https://alexa.amazon.com>.
- Download and install the latest software updates for your devices.

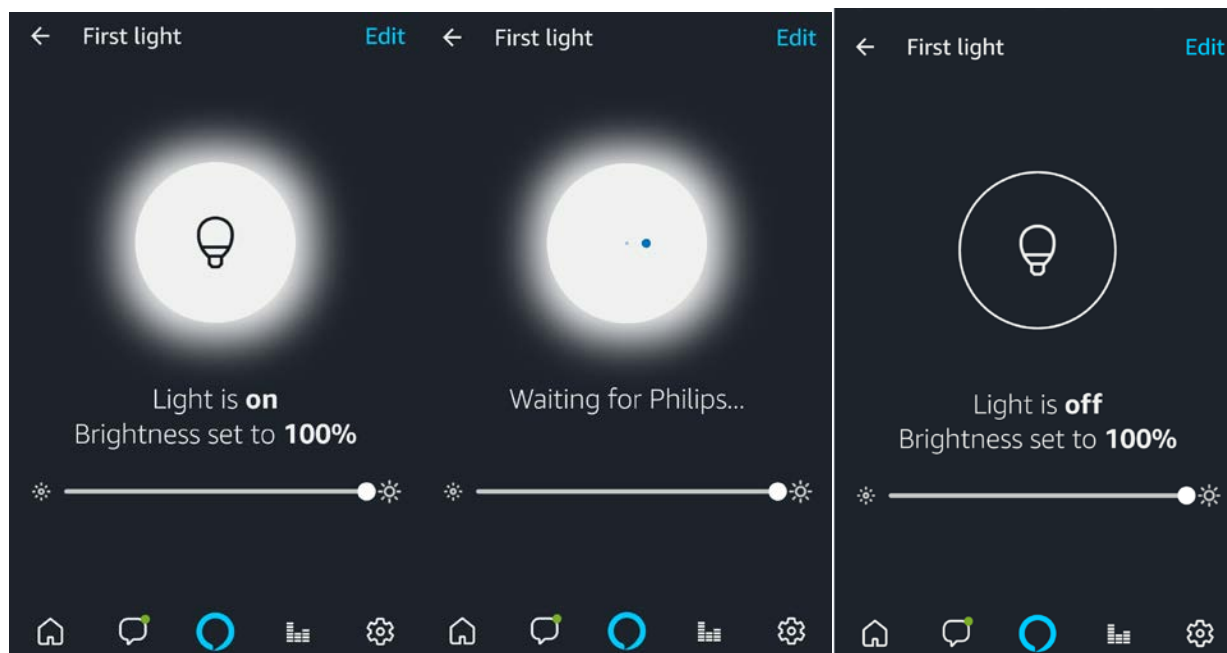
**Note:** To learn how to connect a smart home camera to Alexa, go to [Use Smart Home Cameras with Alexa](#).

<https://www.amazon.com/gp/help/customer/display.html?nodeId=201749240>.



See <https://developer.amazon.com/public/binaries/content/assets/html/alexa-lighting-api.html>.

25. As one particular example of controlling smart devices, the HTC U11, via Amazon Alexa, can control a Philips Hue smart bulb that is connected to a Philips Hue hub. See <https://www2.meethue.com/en-us/friends-of-hue/amazon-alexa>. The Philips Hue hub communicates with the Philips Hue smart bulb using Zigbee, a short range wireless communication protocol. See <https://www2.meethue.com/en-us/p/hue-bridge/046677458478>. Thus, the Philips Hue smart bulb is configured to communicate (e.g., receive commands and transmit information) with the Philips Hue hub. The Philips Hue smart bulb communicates information regarding a status of the Philips Hue smart bulb to the Philips Hue hub, and the Philips Hue hub passes the status information (e.g., on or off) to servers and the HTC U11 executing the Amazon Alexa application. The HTC U11 executing the Alexa application receives information about a status of an item. For example, the HTC U11 executing the Alexa application displays the on/off status related to a Philips Hue smart bulb.



26. Furthermore, the HTC U11 can wirelessly transmit content to another device, such as a smart TV. By way of example, the U11 can be mirrored to a digital television by the use of a USB-C to HDMI adapter, wirelessly through Chromecast, or via screen mirroring using Miracast. (See, e.g., <https://www.mobilefun.co.uk/blog/2017/07/how-to-connect-htc-u11-to-tv/>.) By casting the screen (e.g., a screen displaying the Amazon Alexa application) in this manner to a television, the HTC U11 communicates, through a network communication channel, information for managing an item status (e.g., the on/off status of a light, such as the Philips Hue smart bulb). The network communication channel, such as via a wi-fi network, is distinct from the Zigbee communication between the Philips Hue hub and the Philips Hue light.

27. On information and belief, the Accused Instrumentalities are used, marketed, provided to, and/or used by or for each of Defendant's partners, clients, customers and end users across the country and in this District.

28. Defendant was made aware of the '983 patent and its infringement thereof at least as early as the filing of this Complaint.



29. Upon information and belief, since at least the time Defendant received notice, Defendant has induced and continues to induce others to infringe at least one claim of the '983 patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including but not limited to Defendant's partners, clients, customers, and end users, whose use of the Accused Instrumentalities constitutes direct infringement of at least one claim of the '983 patent.

30. In particular, Defendant's actions that aid and abet others such as its partners, customers, clients, and end users to infringe include advertising and distributing the Accused Instrumentalities and providing instruction materials, training, and services regarding the Accused Instrumentalities. On information and belief, Defendant has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because Defendant has had actual knowledge of the '983 patent and knowledge that its acts were inducing infringement of the '983 patent since at least the date Defendant received notice that such activities infringed the '983 patent.

31. Upon information and belief, Defendant is liable as a contributory infringer of the '983 patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States wireless hub systems to be especially made or adapted for use in an infringement of the '983 patent. The Accused Instrumentalities are a material component for use in practicing the '983 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

32. Since at least the filing of this Complaint, Defendant's infringement has been willful.

33. Plaintiff has been harmed by Defendant's infringing activities.

**COUNT II – INFRINGEMENT OF U.S. PATENT NO. 9,942,798**

34. The allegations set forth in the foregoing paragraphs 1 through 33 are incorporated into this Second Claim for Relief.

35. On April 10, 2018, U.S. Patent No. 9,942,798 (“the ’798 patent”), entitled “METHOD AND SYSTEM FOR EFFICIENT COMMUNICATION,” was duly and legally issued by the United States Patent and Trademark Office. A true and correct copy of the ’798 patent is attached as Exhibit 2.

36. The inventions of the ’798 patent resolve technical problems related to the use of a multi-function wireless hub and management system for information processing. For example, the ’798 patent overcomes limitations in the prior art relating to efficiently delivering multimedia information content received over a wireless communication network. Furthermore, the ’798 patent overcomes limitations in the prior art relating to managing alerts as to a status of an item over the internet or other next-generation wireless communication network.

37. The inventions of the ’798 patent allow a user to efficiently set up a system comprising a hub and management center system to communicate with each other to facilitate retrieval of a compressed information content requested from the hub and production by a digital television. Furthermore, the inventions of the ’798 patent enable a user to pair a variety of wireless hubs with a variety of management center systems to provide increased cross-platform compatibility.

38. The inventions of the ’798 patent allow a user to efficiently set up a system comprising a hub and one or more sensors capable of sensing the status of an item, such that the hub can detect which of the plurality of sensors has sensed an updated status and notify a user device accordingly. Furthermore, the inventions of the ’798 patent enable a user to pair a variety

of sensors supporting a wide range of short-range communications to provide increased compatibility with the hub.

39. The claims of the '798 patent recite an invention that is not merely the routine or conventional use of a wireless hub or management center system. Instead, the invention relies on using a network interface and a wireless channel concurrently to both decompress a compressed information signal and to communicate information regarding the item status of an item in connection with an updated status of the item. The '798 patent claims thus specify how signals are received and transmitted over both channels to perform both functions.

40. The technology claimed in the '798 patent does not preempt all ways of using wireless hub based decoding or monitoring systems, nor preempt the use of all wireless hub based decoding or monitoring systems, nor preempt any other well-known or prior art technology.

41. Accordingly, each claim of the '798 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

42. Plaintiff is the assignee and owner of the right, title and interest in and to the '798 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

43. Upon information and belief, Defendant has and continues to directly infringe at least claim 1 of the '798 patent by making, using, selling, importing and/or providing and causing to be used a wireless apparatus, including but not limited to the HTC U11 and U12 smartphones (the "Accused Instrumentalities").

44. In particular, claim 1 of the '798 patent recites a management system comprising a centralized hub system, further comprising an encoder and decoder, wherein the hub system is configured to receive an compressed signal for a requested information content over a wireless network, decompress it, and encode the decompressed signal for transmission over a high definition digital output interface to accommodate production the requested information content on a high definition digital television. The hub system is further configured to communicate information for managing an item status of a household item in connection with a short range wireless communication regarding an updated status of the item.

45. The Accused Instrumentalities infringe claim 1 of the '798 patent.

46. The Accused Instrumentalities support encoded/compressed data, such as MP3 or AAC formatted files. (*See, e.g.*, <https://www.htc.com/us/smartphones/htc-u11/>.) Upon information and belief, the Accused Instrumentalities, thus, includes a decoder. The Accused Instrumentalities (e.g., via the decoder) are configured to perform a conversion of a wireless signal (e.g., a wireless signal including a compressed audio file (such as music), for example from a Spotify or Pandora computer server) to accommodate production of a corresponding information item, such as by outputting audio (e.g., playing music). For example, the Accused Instrumentalities may receive a wireless signal that includes compressed audio data (e.g., a compressed signal, corresponding to a MP3 or AAC file) and the Accused Instrumentalities decompress the compressed signal (e.g., the compressed audio data) to support the playback of uncompressed audio (i.e., a song).

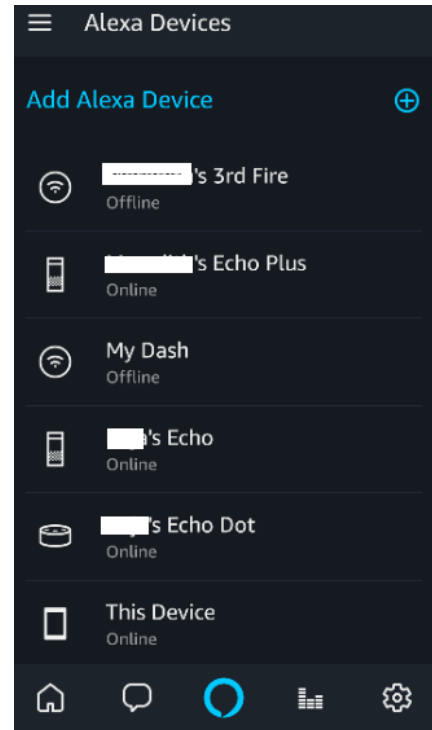
47. The Accused Instrumentalities execute the Amazon Alexa application. On information and belief, the HTC U11 is associated with a unique identifier that is stored in at least one mapping table. For example, the Alexa application on a user's U11 phone is linked to

the user's Amazon account, which indicates that Amazon maintains a mapping table between device identifiers and Amazon account IDs. As yet another example, because the U11 can be used to stream video, a network address of the U11 is stored in a mapping table (e.g., an IP address table).

48. Furthermore, the Accused Instrumentalities execute video streaming apps, such as Netflix. (See, e.g., <https://help.netflix.com/en/node/23939>.) When a user streams video (e.g., Netflix, Amazon Prime Video, etc.), the Accused Instrumentalities wirelessly receive information content (e.g., video stream data). The information content is requested by the user because the user selects what video to watch. The request is made in connection with identifying the unique identifier (e.g., IP address) of the U11, so that the video stream packets can be successfully delivered. The video stream is a compressed digital video signal, such as H.264 or MP4.

49. The Accused Instrumentalities convert the received digital video signal for production on a digital television. On information and belief, because the streamed video is displayed on the U11, the U11 decompresses the received compressed digital video (e.g. H.264 or MP4) signal to a decompressed video signal that is shown on the U11 display screen.

50. By way of example, the Accused Instrumentalities can be mirrored to a digital television by the use of a USB-C to HDMI adapter, wirelessly through Chromecast, or via screen mirroring using Miracast. On information and belief, each of these methods of mirroring screen content to a digital television involves encoding the decompressed digital video signal to a format suitable for reproduction on the television. See, e.g.:



## 1. Use a USB-C to HDMI adapter




Unlike the vast majority of phones on the market, the HTC U11 supports USB-C to HDMI adapters. These are the best way to connect your phone to a monitor, projector or TV without sacrificing visual quality or adding latency, and it works even in situations where you don't have (reliable) Wi-Fi, like in hotel rooms, schools and RVs.

All you need is a display with an HDMI port and an adapter like [Samsung's USB-C to HDMI Adapter](#). A cheaper alternative is the [Kanex USB-C to HDMI adapter](#). Finally, you could also use the same [Satechi USB-C Multiport Adapter](#) that is intended to work with the MacBook and other USB-C laptops. Whatever you choose, you should appreciate the ability to get perfect quality streaming on the biggest screen in the room!

## 2. Wirelessly stream using Chromecast



If you'd rather have a convenient wireless solution, Chromecast should be near the top of your list. This streaming dongle from Google plugs into the back of your TV and connects to your WiFi. From there, it's simplicity itself to open an app on your phone, hit the cast icon  and settle back to enjoy the video, music or audio that you've queued up.

The clever thing about the Chromecast is that it goes and gets the stream you've sent it directly from the internet, rather than streaming it indirectly from your phone, so your phone can take a break and the quality is much better. Of course, if you do need to stream something that's on your phone (like your screen), you have the option to do that to using the Google Home app — just select the 'Cast my screen and audio' option.

### 3. Turn on screen mirroring using Miracast



If you have a modern smart TV, you probably already have the ability to cast your U11's screen to your TV. Just check your TV for its 'mirroring' option, which may appear as an app or a special input, and enable it. From there, open HTC Connect by swiping up with three fingers on your home screen. Select 'Choose other' when asked to choose a device to stream to, and find your TV. You can stop streaming by closing the Connect notification at any time.

If your TV doesn't have Miracast, you can pick up a dongle cheaply online. As with the Chromecast, just plug it into your TV's HDMI and USB ports and then set it up using the instructions provided on-screen. Then, you can follow the instructions above to start screen mirroring.

[\(https://www.mobilefun.co.uk/blog/2017/07/how-to-connect-htc-u11-to-tv/.\)](https://www.mobilefun.co.uk/blog/2017/07/how-to-connect-htc-u11-to-tv/)

51. The Accused Instrumentalities are configured to execute Amazon's Alexa voice application. The Alexa App can be used to control smart home devices. See, e.g.:

#### **Using the Alexa App**

You can set and manage settings for some Alexa features using our free [Amazon Alexa App](#) for Fire OS, Android, iOS, and supported desktop web browsers (available at [alexa.amazon.com](http://alexa.amazon.com)).

Your Alexa-enabled Fire tablet should already have the Alexa app installed. You can find it with your other apps on the Home screen by swiping up if needed.

[\(https://www.amazon.com/gp/help/customer/display.html?nodeId=202083830.\)](https://www.amazon.com/gp/help/customer/display.html?nodeId=202083830)



Amazon Device Support > Alexa Support > Smart Home >

# Connect a Smart Home Device to Alexa

After you set up a compatible smart home device, enable the skill and then ask Alexa to discover your devices.

**Important:** Before you enable a smart home skill, please read [Safety Information for Using Smart Home Devices with Alexa](#).

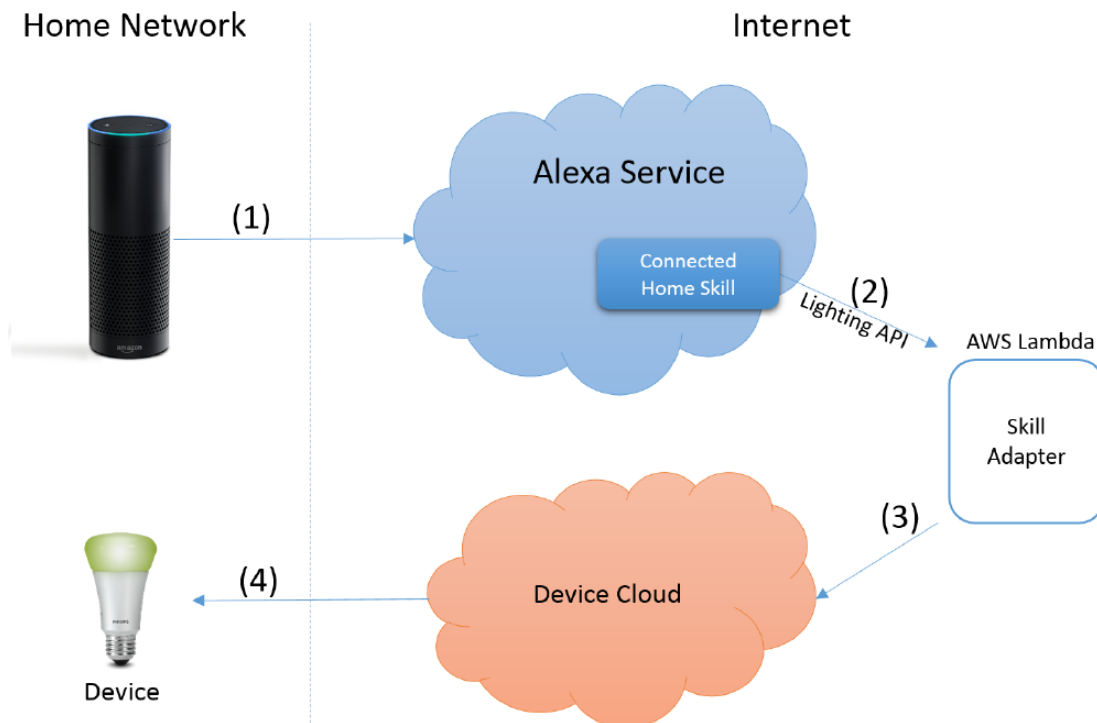
For smart home devices that connect to Echo Plus using a simple set up, go to [Supported Smart Home Devices for Echo Plus](#).

**Before you begin:**

- Check your smart home device is [compatible with Alexa](#).
- Complete setup for your smart home device, using the manufacturer's companion app or website.
- Connect the device to the same Wi-Fi network as your Alexa devices.
- Download the Alexa app on your mobile device, or use <https://alexa.amazon.com>.
- Download and install the latest software updates for your devices.

**Note:** To learn how to connect a smart home camera to Alexa, go to [Use Smart Home Cameras with Alexa](#).

(<https://www.amazon.com/gp/help/customer/display.html?nodeId=201749240>.)



Example: The customer says "Alexa, turn on my kitchen light."

1. Amazon Echo or other Alexa-enabled device listens to the command and sends it to the Alexa service for interpretation. The Alexa service determines the customer's intent and routes this command to the Alexa Lighting API.
2. The Alexa Lighting API interprets the *action* as "turn on" and the *device name* as "kitchen light". It then sends a message called a *directive* to the *skill adapter*, hosted in AWS Lambda. The directive includes:
  - a. The action (turn on).
  - b. The device identifier (an ID representing the device that the customer named "kitchen light").
  - c. Information authenticating the customer.
3. The skill adapter uses the authentication information, action, and device identifier to communicate with the device cloud.
4. The device cloud performs the requested action on the given device on the customer's network. In this example, the device cloud turns on the light identified as "kitchen light."
5. The skill adapter sends a response back to the Alexa Lighting API indicating whether it was successful. Alexa uses this response to determine the appropriate response to the customer, for example stating "OK" to indicate that the request has been completed, or informing the customer if there was a problem.

<https://developer.amazon.com/public/binaries/content/assets/html/alexa-lighting-api.html>.)

52. As one particular example of controlling smart devices, Alexa can control a Philips Hue smart bulb that is connected to a Philips Hue hub. Each bulb has a unique identifier that is used to communicate with the bulb. See, e.g.:

Your home just got a little smarter. And brighter. Philips Hue works with Amazon Alexa to control your lights with your voice. Use the Alexa Voice Service to switch on your Philips Hue lights before getting out of bed, to dim your Hue lights from the couch to watch a movie, or to set the lights for reading in your favorite chair—all without lifting a finger. New functionalities are constantly added to provide the best voice controlled lighting experience.

<https://www2.meethue.com/en-us/friends-of-hue/amazon-alexa>.)

## Turning a light on and off

Okay now that we have a username with permission to use the system lets start having some fun with it.

Each light has its own URL. You can see what lights you have with the following command:

Address	<code>http://&lt;bridge ip address&gt;/api/1028d66426293e821ecfd9ef1a0731df/lights</code>
Body	
Method	GET

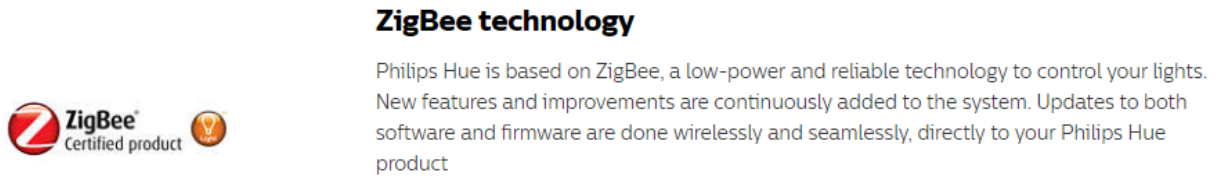
You should get a JSON response with all the lights in your system and their names.

Now let's get information about a specific light. The light with id 1.

Address	<code>http://&lt;bridge ip address&gt;/api/1028d66426293e821ecfd9ef1a0731df/lights/1</code>
Body	
Method	GET

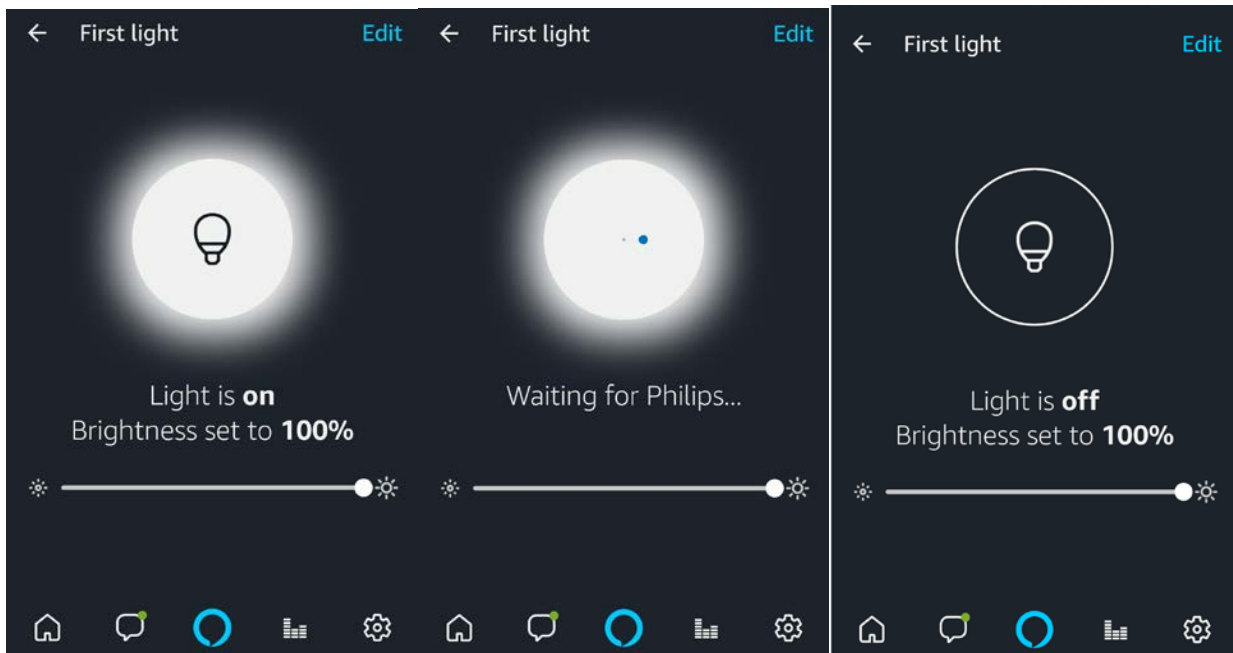
<https://www.developers.meethue.com/documentation/getting-started.>)

53. The Philips Hue hub communicates with the Philips Hue smart bulb using Zigbee, a short range wireless communication protocol. See, e.g.:



<https://www2.meethue.com/en-us/p/hue-bridge/046677458478.>)

54. The HTC U11 executing the Alexa application communicates information about a status of an item. For example, the HTC U11 executing the Alexa application displays the on/off status related to a Philips Hue smart bulb.



55. On information and belief, the Accused Instrumentalities are used, marketed, provided to, and/or used by or for each of Defendant's partners, clients, customers and end users across the country and in this District.

56. Defendant was made aware of the '798 patent and its infringement thereof at least as early as the filing of this Complaint.

57. Upon information and belief, since at least the time Defendant received notice, Defendant has induced and continues to induce others to infringe at least one claim of the '798 patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including but not limited to Defendant's partners, clients, customers, and end users, whose use of the Accused Instrumentalities constitutes direct infringement of at least one claim of the '798 patent.

58. In particular, Defendant's actions that aid and abet others such as its partners, customers, clients, and end users to infringe include advertising and distributing the Accused Instrumentalities and providing instruction materials, training, and services regarding the Accused Instrumentalities. On information and belief, Defendant has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because Defendant has had actual knowledge of the '798 patent and knowledge that its acts were inducing infringement of the '798 patent since at least the date Defendant received notice that such activities infringed the '798 patent.

59. Upon information and belief, Defendant is liable as a contributory infringer of the '798 patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States management systems and centralized hub systems to be especially made or adapted for use in infringement of the '798 patent. The Accused Instrumentalities are a material component for use in practicing the '798 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

60. Since at least the filing of this Complaint, Defendant's infringement has been willful.

61. Plaintiff has been harmed by Defendant's infringing activities.

**COUNT III – INFRINGEMENT OF U.S. PATENT NO. 9,729,918**

62. The allegations set forth in the foregoing paragraphs 1 through 61 are incorporated into this Third Claim for Relief.

63. On August 8, 2017, U.S. Patent No. 9,729,918 ("the '918 patent"), entitled "METHOD AND SYSTEM FOR EFFICIENT COMMUNICATION," was duly and legally issued by the United States Patent and Trademark Office. A true and correct copy of the '918 patent is attached as Exhibit 3.

64. The inventions of the '918 patent resolve technical problems related to the use of a mobile wireless device for processing multimedia content. For example, the '918 patent overcomes limitations in the prior art relating to efficiently delivering multimedia information content received over a wireless communication network to a destination device.

65. The inventions allow a user to efficiently set up a wireless device to accommodate production of a received multimedia content on a destination device such as a digital television over a high definition output interface. Furthermore, the inventions of the '918 patent enable a user to pair a variety of wireless devices with a variety of destination devices for viewing the multimedia content.

66. The claims of the '918 patent recite an invention that is not merely the routine or conventional use of a mobile wireless device or digital television. Instead, the invention relies on using a decoder and encoder to efficiently decompress received digital video signals and encode them as appropriate for the destination device. The '918 patent thus claims how digital

video signals are efficiently converted for transmission over a predetermined channel once received by a wireless device.

67. The technology claimed in the '918 patent does not preempt all ways of using mobile wireless devices, digital output interfaces, or digital televisions for digital video processing, nor preempt the use of all mobile wireless video processing systems, nor preempt any other well-known or prior art technology.

68. Accordingly, each claim of the '918 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

69. Plaintiff is the assignee and owner of the right, title and interest in and to the '918 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

70. Upon information and belief, Defendant has and continues to directly infringe at least claims 1, 9, and 99 of the '918 patent by making, using, selling, importing and/or providing and causing to be used a wireless apparatus, including but not limited to the HTC U11 and U12 smartphones (the "Accused Instrumentalities").

71. In particular, claim 1 of the '918 patent recites a mobile terminal configured to receive a compressed multimedia signal appropriate for displaying a multimedia content, a decoder to decompress the digital signal, an encoder to encode the decompressed signal to an encoded signal comprising a decompressed high-definition video signal, and wherein the mobile terminal is configured to transmit the encoded signal to a destination device through a predetermined channel (i.e., a high definitional digital output interface) in conjunction with a navigational command.

72. Claim 9 of the '918 patent recites a wireless signal conversion apparatus configured to receive a compressed multimedia signal, a processing unit to decompress the digital signal by a decoder and further encoding the decompressed signal by an encoder to an encoded signal, and wherein the apparatus is configured to transmit the encoded signal to a destination device (i.e., a digital television) through a predetermined channel (i.e., a high definitional digital output interface) in conjunction with a navigational command.

73. Claim 99 of the '918 patent recites a wireless signal conversion apparatus configured to receive a compressed multimedia signal, decompress the digital signal by a decoder for production, and further encoding the decompressed signal by an encoder to an encoded signal, and wherein the apparatus is configured to transmit the encoded signal to a destination device (i.e., a digital television) through a predetermined channel (i.e., a high definition digital output interface) in conjunction with a navigational command.

74. The Accused Instrumentalities support encoded/compressed data, such as MP3 or AAC formatted files. (*See, e.g.*, <https://www.htc.com/us/smartphones/htc-u11/>.) Upon information and belief, the Accused Instrumentalities, thus, includes a decoder. The Accused Instrumentalities (e.g., via the decoder) are configured to perform a conversion of a wireless signal (e.g., a wireless signal including a compressed audio file (such as music), for example from a Spotify or Pandora computer server) to accommodate production of a corresponding information item, such as by outputting audio (e.g., playing music). For example, the Accused Instrumentalities may receive a wireless signal that includes compressed audio data (e.g., a compressed signal, corresponding to a MP3 or AAC file) and the Accused Instrumentalities decompress the compressed signal (e.g., the compressed audio data) to support the playback of uncompressed audio (i.e., a song).

75. Furthermore, the Accused Instrumentalities execute video streaming apps, such as Netflix. (See, e.g., <https://help.netflix.com/en/node/23939>.) On information and belief, when a user streams video (e.g., Netflix, Amazon Prime Video, etc.), the Accused Instrumentalities wirelessly receive a compressed digital video signal, such as H.264 or MP4.

76. The Accused Instrumentalities convert the received digital video signal for production on a digital television. On information and belief, because the streamed video is displayed on the U11, the U11 decompresses the received compressed digital video (e.g. H.264 or MP4) signal to a decompressed video signal that is shown on the U11 display screen.

77. By way of example, the Accused Instrumentalities can be mirrored to a digital television by the use of a USB-C to HDMI adapter, wirelessly through Chromecast, or via screen mirroring using Miracast. On information and belief, each of these methods of mirroring screen content to a digital television involves encoding the decompressed digital video signal to a format suitable for reproduction on the television. See, e.g.:



## 1. Use a USB-C to HDMI adapter




Unlike the vast majority of phones on the market, the HTC U11 supports USB-C to HDMI adapters. These are the best way to connect your phone to a monitor, projector or TV without sacrificing visual quality or adding latency, and it works even in situations where you don't have (reliable) Wi-Fi, like in hotel rooms, schools and RVs.

All you need is a display with an HDMI port and an adapter like [Samsung's USB-C to HDMI Adapter](#). A cheaper alternative is the [Kanex USB-C to HDMI adapter](#). Finally, you could also use the same [Satechi USB-C Multiport Adapter](#) that is intended to work with the MacBook and other USB-C laptops. Whatever you choose, you should appreciate the ability to get perfect quality streaming on the biggest screen in the room!

## 2. Wirelessly stream using Chromecast



If you'd rather have a convenient wireless solution, Chromecast should be near the top of your list. This streaming dongle from Google plugs into the back of your TV and connects to your WiFi. From there, it's simplicity itself to open an app on your phone, hit the cast icon  and settle back to enjoy the video, music or audio that you've queued up.

The clever thing about the Chromecast is that it goes and gets the stream you've sent it directly from the internet, rather than streaming it indirectly from your phone, so your phone can take a break and the quality is much better. Of course, if you do need to stream something that's on your phone (like your screen), you have the option to do that to using the Google Home app — just select the 'Cast my screen and audio' option.

### 3. Turn on screen mirroring using Miracast



If you have a modern smart TV, you probably already have the ability to cast your U11's screen to your TV. Just check your TV for its 'mirroring' option, which may appear as an app or a special input, and enable it. From there, open HTC Connect by swiping up with three fingers on your home screen. Select 'Choose other' when asked to choose a device to stream to, and find your TV. You can stop streaming by closing the Connect notification at any time.

If your TV doesn't have Miracast, you can pick up a dongle cheaply online. As with the Chromecast, just plug it into your TV's HDMI and USB ports and then set it up using the instructions provided on-screen. Then, you can follow the instructions above to start screen mirroring.

[\(https://www.mobilefun.co.uk/blog/2017/07/how-to-connect-htc-u11-to-tv/.\)](https://www.mobilefun.co.uk/blog/2017/07/how-to-connect-htc-u11-to-tv/)

78. On information and belief, each of the methods of mirroring screen content from the U11 to a digital television further involves the use of a navigational command in the form of user input from the U11 screen and controls.

79. On information and belief, the Accused Instrumentalities are used, marketed, provided to, and/or used by or for each of Defendant's partners, clients, customers and end users across the country and in this District.

80. Defendant was made aware of the '918 patent and its infringement thereof at least as early as August 8, 2017.

81. Upon information and belief, since at least the time Defendant received notice, Defendant has induced and continues to induce others to infringe at least one claim of the '918 patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including but not limited to Defendant's partners, clients, customers, and end users, whose use of the Accused Instrumentalities constitutes direct infringement of at least one claim of the '918 patent.

82. In particular, Defendant's actions that aid and abet others such as its partners, customers, clients, and end users to infringe include advertising and distributing the Accused Instrumentalities and providing instruction materials, training, and services regarding the Accused Instrumentalities. On information and belief, Defendant has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because Defendant has had actual knowledge of the '918 patent and knowledge that its acts were inducing infringement of the '918 patent since at least the date Defendant received notice that such activities infringed the '918 patent.

83. Upon information and belief, Defendant is liable as a contributory infringer of the '918 patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States wireless mobile devices to be especially made or adapted for use in an infringement of the '918 patent. The Accused Instrumentalities are a material component for use in practicing the '918 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

84. Since at least August 8, 2017, Defendant's infringement has been willful.

85. Plaintiff has been harmed by Defendant's infringing activities.

**JURY DEMAND**

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff demands a trial by jury on all issues triable as such.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff demands judgment for itself and against Defendant as follows:

- A. An adjudication that Defendant has infringed the '983, '798, and '918 patents;
- B. An award of damages to be paid by Defendant adequate to compensate Plaintiff for Defendant's past infringement of the '983, '798, and '918 patents and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;
- C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Plaintiff's reasonable attorneys' fees; and
- D. An award to Plaintiff of such further relief at law or in equity as the Court deems just and proper.

Dated: July 5, 2018

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