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20 UNITED STATES DISTRICT COURT
 21 CENTRAL DISTRICT OF CALIFORNIA

22 UNILOC 2017 LLC,
 23
 24 Plaintiff,
 25 v.
 26 MICROSOFT CORPORATION,
 27
 28 Defendant.

CASE NO. 8:19-cv-00781
**COMPLAINT FOR PATENT
 INFRINGEMENT**
DEMAND FOR JURY TRIAL

1 Plaintiff Uniloc 2017 LLC (“Uniloc”), by and through the undersigned
2 counsel, hereby brings this action and makes the following allegations of patent
3 infringement relating to U.S. Patent Nos. 6,836,654 and 9,869,362 against
4 Defendant Microsoft Corporation (“Microsoft”), and alleges as follows upon actual
5 knowledge with respect to itself and its own acts and upon information and belief as
6 to all other matters:

7 **NATURE OF THE ACTION**

8 1. This is an action for patent infringement. Uniloc alleges that
9 Microsoft infringes U.S. Patent Nos. 6,836,654 (the “’654 patent”) and 9,869,362
10 (the “’362 patent”) (collectively, the “Asserted Patents”), copies of which are
11 attached hereto as Exhibits A-B.

12 2. Uniloc alleges that Microsoft directly and indirectly infringes the
13 Asserted Patents by making, using, offering for sale, selling and importing devices
14 that practice a method of protecting a mobile radiotelephony device such as the
15 Microsoft Surface Pro and Go products with LTE and practice a computer-
16 implemented method for reporting a location of a mobile computer device such as
17 the Windows 10 operating system and its location service, and devices running the
18 Windows 10 operating system and its location service, such as the Microsoft
19 Surface Pro and Go products with LTE. Uniloc further alleges that Microsoft
20 induces and contributes to the infringement of others. Uniloc seeks damages and
21 other relief for Microsoft’s infringement of the Asserted Patents.

22 **THE PARTIES**

23 3. Uniloc 2017 LLC is a Delaware corporation having places of business
24 at 1209 Orange Street, Wilmington, Delaware 19801 and 620 Center Drive,
25 Newport Beach, California 92660.

26 4. Uniloc holds all substantial rights, title and interest in and to the
27 Asserted Patents.
28

1 1391(b)-(d) and 1400(b) because Microsoft has committed acts of infringement in
2 the Central District of California and has multiple regular and established places of
3 business in the Central District of California.

4 **COUNT I – INFRINGEMENT OF U.S. PATENT NO. 6,836,654**

5 9. The allegations of paragraphs 1-8 of this Complaint are incorporated
6 by reference as though fully set forth herein.

7 10. The '654 patent, titled "Anti-Theft Protection For A Radiotelephony
8 Device," issued on December 28, 2004. A copy of the '654 patent is attached as
9 Exhibit A.

10 11. Pursuant to 35 U.S.C. § 282, the '654 patent is presumed valid.

11 12. Invented by Koninklijke Philips Electronics N.V., the '654 patent
12 relates to mobile radiotelephony devices that practice a computer-implemented
13 method for reporting a location of a mobile computing device.

14 13. On information and belief, Microsoft makes, uses, offers for sale, and
15 sells in the United States and imports into the United States devices such as the
16 Microsoft Surface Pro and Go Products with LTE that practice a method of
17 protecting a mobile radiotelephony device, (collectively the "Accused Infringing
18 Devices").

19 14. Upon information and belief, the Accused Infringing Devices infringe
20 at least claim 10 of the '654 patent in the exemplary manner described below.

21 15. The Accused Infringing Devices practice a method of protecting a
22 mobile radiotelephony device (e.g., requiring a SIM card for outgoing calls and
23 securing access to a using timeout screen lock). The Accused Infringing Devices
24 are radiotelephony devices that can make and receive calls over a cellular
25 connection, e.g., using Skype, and they include a Qualcomm Snapdragon X16 LTE
26 modem, which provides cellular wireless connectivity.

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The Surface Pro with LTE Advanced brings cellular wireless connectivity to the convertible tablet/laptop, offering speeds of up to 450Mbps.

"When you want the ultimate in versatility and still want performance to move you forward, we bring the new Surface Pro," said Microsoft's hardware chief Panos Panay, speaking at Microsoft's Future Decoded conference in London.

The LTE version of the Pro uses a Cat 9 modem with support for 20 cellular bands, and is expected to work with a wide variety of 4G networks worldwide, rather than being limited to networks within a specific region.

The new machine has a seven-antenna Qualcomm X16 Gigabit Class LTE modem, which is integrated directly onto the motherboard to optimize its responsiveness when recovering from sleep and hibernation modes.



Surface Pro (2017): Small refinements to a familiar design

Don't call it Surface Pro 5. The latest iteration of the Surface Pro loses the model number, keeps the kickstand, and adds mostly subtle refinements.

Source: <https://www.zdnet.com/article/microsofts-new-surface-pro-with-lte-and-450mbps-downloads-out-in-december/>

- This LTE variant will also come with the same Qualcomm Snapdragon X16 modem that Microsoft used on the Surface Pro LTE. However, the antenna design will be different on the Surface Go as Microsoft went with a two-antenna LTE array, unlike the seven antennas present in the Surface Pro LTE.

Source: <https://www.onmsft.com/news/check-out-this-engineers-tour-of-microsofts-new-surface-go>

- **The best of Microsoft hardware and software.** Surface Pro with LTE Advanced ships with Windows 10 Creators Update and is fully compatible with the programs people need to be productive. Optimized for Windows Hello, Skype⁴ and Microsoft Office 365³ with new inking features in Word, Excel and PowerPoint coming first to Windows touch-enabled devices and designed to work best with the new Surface Pen on Surface Pro. Now people can work, connect and create even more in the most widely used productivity suite — no matter where people are.


Source: <https://news.microsoft.com/uploads/2017/11/SurfaceProLTEAdvancedFS-FINAL.pdf>

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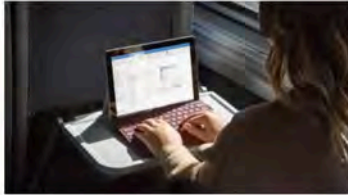
Surface Go for Business Overview Tech specs Revi > \$449.00 Add to cart

Sleek, modern, and compact


Slim, compact design that doesn't compromise your productivity. Surface Go delivers the performance and versatility you need to be productive.



Sleek, slim design
At only 10" and 1.15 lbs, Surface Go slips in and out of your bag, ready to go, any time. From full feature desktop software to mobile apps, Surface Go gets the job done.



Work on the stunning touchscreen
Designed to be viewed, touched, and written on, the high-resolution 10" PixelSense™ Display pairs with new Surface Go Signature Type Cover for the best laptop keyboard experience.



Front- and rear-facing cameras
Capture high-resolution on-the-job photos with the rear-facing, auto-focus HD camera and unlock crisp, clear Skype for Business* video calls with the front-facing camera.

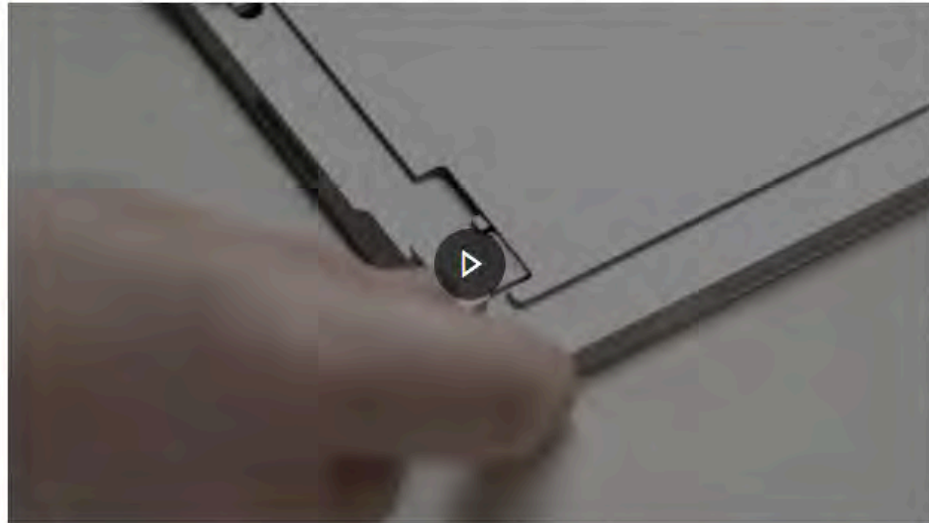
11 **Source:** <https://www.microsoft.com/en-us/p/surface-go-for-business/909wr0x3sgfk?activetab=pivot%3aoverviewtab>

12
13 16. The Accused Infringing Devices verify a user identification module
14 (e.g., SIM card) mounted inside the mobile radiotelephony device and linked to the
15 mobile radiotelephony device. The SIM card must be linked with the Accused
16 Infringing Devices before they are used for making and receiving phone and/or
17 Skype calls over a cellular network. The Accused Infringing Devices verify the
18 presence of a SIM card and display the network carrier name and signal strength.
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Using SIM and data plan from your mobile operator

1. Contact your mobile operator to sign up for a data plan or add to your current plan.
2. Insert the SIM card into your Surface Pro (5th Gen) with LTE Advanced. [Learn how](#)



3. Once the SIM card is inserted, select **Start** > **Settings** > **Network & Internet** > **Cellular** and then select **SIM1** from **Use this SIM for cellular data**. Learn more about your cellular data settings in [Cellular settings in Windows 10](#).

Source: <https://support.microsoft.com/en-us/help/4036286>

On Surface Go with LTE Advanced

Your Surface Go with LTE Advanced has a single SIM tray that will allow you to insert a nano SIM card. Before you set up your LTE connection, you'll need an activated nano SIM card from your mobile operator.

To get started with LTE on Surface Go:

1. Contact your mobile operator to sign up for a data plan or add to your current plan.
2. Insert the SIM card into your Surface Go with LTE Advanced. [Learn how](#)
3. To check that you're connected to a cellular network, select **Start** > **Settings** > **Network & Internet** > **Cellular**.

Source: <https://support.microsoft.com/en-us/help/4036286>

Surface says "Insert a SIM" but the SIM card is already in the Surface

If you have just inserted the SIM card, wait at least 30 seconds to see if your Surface recognizes the SIM card. If you still see the message, remove the SIM card tray and check that the card is seated properly in the tray. Here's how:

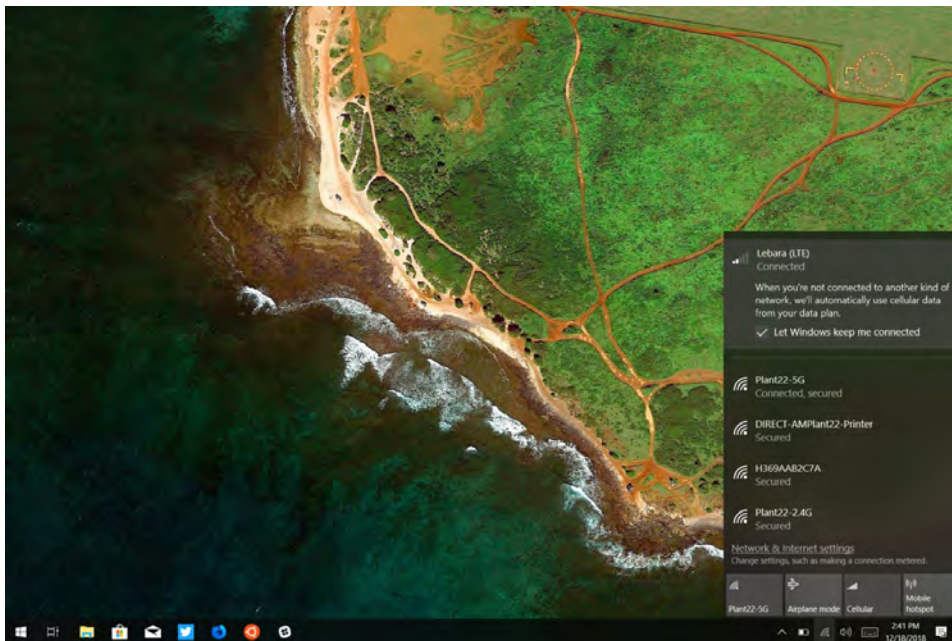
1. Shut down your Surface.
2. Remove the SIM card tray. Avoid touching the metallic part of the SIM card.
If you aren't sure how to remove the SIM card, see [Remove a SIM card from Surface](#).
3. Replace the SIM card in the tray, lining up the notches on the card and the tray.
4. Replace the SIM card tray with the logo side toward you, and slide it into your Surface, pressing it in slightly.
5. Turn on your Surface.

If you're using a dongle to access mobile broadband, shut down your Surface, remove and replace the dongle, and restart your Surface.

If your Surface still doesn't recognize the SIM card, try using another data SIM card and see if your Surface recognizes it. If your Surface does recognize the new card, the problem is likely your other SIM card. Contact your mobile operator to replace your SIM card.

If your Surface does not recognize either SIM card, [contact us](#).

Source: <https://support.microsoft.com/en-us/help/4036284/surface-cant-connect-to-mobile-broadband>



<https://char.gd/blog/2018/surface-go-is-proof-that-every-computer-needs-lte>

17. The Accused Infringing Devices detect a period of inactivity of the

1 mobile radiotelephony device during a normal operation of the mobile
2 radiotelephony device, wherein the normal operation includes a processing of all
3 outgoing calls. It further comprises preventing the normal operation of the mobile
4 radiotelephony device in response to the verification of the linked user
5 identification module and in response to the detection of the period of inactivity of
6 the mobile radiotelephony device. Subsequent to a valid SIM card being inserted
7 into the Accused Infringing Devices, at least when screen lock functionality is
8 enabled, access to the mobile device including the functionality to make phone
9 and/or Skype calls via cellular is blocked in response to the detection of a period of
10 inactivity.

How To: Make A Skype Call

Now that you have your contacts, the next thing you'll probably want to do is call one of them.



To do that just follow these instructions:

- Start Skype
- Select the person you want to call from the Contacts or Favorites area of the Home Screen. The contact needs to be available (if they are, a green icon will be displayed next to their name) for you to call them. If they're not available, your call will fail but you could send an IM or video message.



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- In the screen that appears, you have to make a choice, you can either select the **Video Call** or **Voice Call** button in the lower left of the screen (we'll touch on the Send/Add button in a bit)



- As you might expect, the Video Call option will try to transmit/receive video and sound during your call and the Voice Call option will only send sound. If you're on a low-bandwidth internet connection or haven't showered yet that day, this is a good option.
- The screen will change color and some call option icons appear near the bottom of the screen and you'll hear ringing until the other person answers or the call fails. The illustration below outlines what the call option icons do

Source: <https://www.lovemysurface.net/using-skype-surface-tablets/>

Sleep and hibernation

If you don't use your Surface for a few minutes, the screen turns off and your Surface goes into a power-saving state. This allows the device to resume quickly when you want to start working again.

If you don't use your Surface for several hours, it will hibernate. Hibernation saves your work and turns off your Surface. When you start your Surface again, you're back where you left off.

To change when the screen dims or turns off or when your Surface goes into power-saving sleep mode, go to **Settings > System > Power & sleep**. To view hibernation settings, go to **Additional power settings > Change plan settings > Change advanced power settings**. In Power Options, select **Sleep > Hibernate after**.

Wake and unlock

There are several ways to wake your Surface:

- Press any key on your Surface Type Cover.
- Press any key on your Surface Book or Surface Laptop keyboard.
- Press and release the power button on your Surface.

To unlock your Surface:

1. Swipe up from the bottom edge of the screen or press a key.
2. At the sign-in screen, enter your password. Your Surface is now ready to use.
If you need help signing in, see [Sign in to and out of your Surface](#).

Source: <https://support.microsoft.com/en-us/help/4036282/surface-surface-power-states>

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3 18. Microsoft has infringed, and continues to infringe, at least claim 10 of
4 the '654 patent in the United States, by making, using, offering for sale, selling
5 and/or importing the Accused Infringing Devices in violation of 35 U.S.C. § 271(a).

6 19. Microsoft also has infringed, and continues to infringe, at least claim
7 10 of the '654 patent by actively inducing others to use, offer for sale, and sell the
8 Accused Infringing Devices. Microsoft's users, customers, agents or other third
9 parties who use those devices in accordance with Microsoft's instructions infringe
10 claim 10 of the '654 patent, in violation of 35 U.S.C. § 271(a). Microsoft
11 intentionally instructs its customers to infringe through training videos,
12 demonstrations, brochures and user guides, such as those located at:

13 www.microsoft.com; www.support.microsoft.com;

14 <https://support.microsoft.com/en-us/help/4036282/surface-surface-power-states>;

15 [https://support.microsoft.com/en-us/help/4036284/surface-cant-connect-to-mobile-](https://support.microsoft.com/en-us/help/4036284/surface-cant-connect-to-mobile-broadband)
16 [broadband](https://support.microsoft.com/en-us/help/4036286); <https://support.microsoft.com/en-us/help/4036286>; and

17 [https://news.microsoft.com/uploads/2017/11/SurfaceProLTEAdvancedFS-](https://news.microsoft.com/uploads/2017/11/SurfaceProLTEAdvancedFS-FINAL.pdf)

18 [FINAL.pdf](https://news.microsoft.com/uploads/2017/11/SurfaceProLTEAdvancedFS-FINAL.pdf). Microsoft is thereby liable for infringement of the '654 patent under
19 35 U.S.C. § 271(b).

20 20. Microsoft also has infringed, and continues to infringe, at least claim
21 10 of the '654 patent by offering to commercially distribute, commercially
22 distributing, or importing the Accused Infringing Devices which devices are used in
23 practicing the processes, or using the systems, of the '654 patent, and constitute a
24 material part of the invention. Microsoft knows portions of the Accused Infringing
25 Devices to be especially made or especially adapted for use in infringement of the
26 '654 patent, not a staple article, and not a commodity of commerce suitable for
27 substantial noninfringing use. Microsoft is thereby liable for infringement of the
28 '654 Patent under 35 U.S.C. § 271(c).

1 21. Microsoft has been on notice of the '654 patent since April 29, 2019.
2 By the time of trial, Microsoft will have known and intended (since receiving such
3 notice) that its continued actions would actively induce and contribute to the
4 infringement of at least claim 10 of the '654 patent.

5 22. Upon information and belief, Microsoft may have infringed and
6 continues to infringe the '654 patent through other software and devices utilizing
7 the same or reasonably similar functionality, including other versions of the
8 Accused Infringing Devices.

9 23. Microsoft's acts of direct and indirect infringement have caused and
10 continue to cause damage to Uniloc and Uniloc is entitled to recover damages
11 sustained as a result of Microsoft's wrongful acts in an amount subject to proof at
12 trial.

13 **COUNT II – INFRINGEMENT OF U.S. PATENT NO. 9,869,362**

14 24. The allegations of paragraphs 1-8 of this Complaint are incorporated
15 by reference as though fully set forth herein.

16 25. The '362 patent, titled "Mobile Device Monitoring And Analysis,"
17 issued on January 16, 2018. A copy of the '362 patent is attached as Exhibit B.

18 26. Pursuant to 35 U.S.C. § 282, the '362 patent is presumed valid.

19 27. Invented by Craig Etchegoyen, the '362 patent relates to a method for
20 determining the location of a wireless mobile computing device.

21 28. On information and belief, Microsoft makes, uses, offers for sale, and
22 sells in the United States and imports into the United States devices such as the
23 Windows 10 operating system and related devices using the Windows 10 operating
24 system, such as Microsoft Surface Pro and Go with LTE running Windows 10 that
25 practice a method of determining the location of a wireless mobile computing
26 device (collectively the "Accused Infringing Devices").

27 29. Upon information and belief, the Accused Infringing Devices infringe
28

1 at least claim 1 of the '362 patent in the exemplary manner described below.

2 30. The Accused Infringing Products practice a computer-implemented
 3 method for reporting a location of a mobile computing device. All Windows 10
 4 devices including Wi-Fi, GPS and LTE capabilities can use the built-in location
 5 services feature of the Windows 10 operating system to determine their precise
 6 geographic location. This location data can be reported to any application
 7 requesting such data. The Accused Infringing Devices support Wi-Fi, LTE and
 8 GPS.

Wireless	Wi-Fi: IEEE 802.11 a/b/g/n/ac compatible Bluetooth Wireless 4.1 technology
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13 **Source:** <https://www.microsoft.com/en-us/surface/devices/surface-go/tech-specs>, Page 4, last
 14 accessed April 3, 2019

Network (LTE Advanced models) ⁵	Nano SIM Tray 4G LTE Advanced (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 19, 20, 25, 26, 28, 29, 30, 38, 39, 40, 41, 66) GPS/GLONASS: Standalone and assisted GNSS, accuracy up to 3 meters
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19 **Source:** <https://www.microsoft.com/en-us/surface/devices/surface-go/tech-specs>, Page 4, last
 20 accessed April 3, 2019

How the location settings work


The device location setting enables certain Windows features such as auto-setting the time zone or Find my device to function properly. When the device location setting is enabled, the Microsoft location service will use a combination of global positioning service (GPS), nearby wireless access points, cell towers, and your IP address to determine your device's location. Depending on the capabilities of your device, your device's location can be determined with varying degrees of accuracy and may in some cases be determined precisely.

If you have enabled the device location setting, your device sends de-identified location information (including wireless access point information, cellular tower information, and precise GPS location if available) to Microsoft after removing all personally identifiable information at the device. This de-identified copy of location information is used to improve Microsoft location services and, in some instances, shared with our location service provider partners, currently HERE (see <https://www.here.com/>), to improve the location services of the provider.

Source: <https://support.microsoft.com/en-us/help/4468240/windows-10-location-service-and-privacy-microsoft-privacy>, Page 4, last accessed April 3, 2019

Windows.Devices.Geolocation Namespace

Assemblies: Windows.Devices.Geolocation.dll, Windows.dll

Provides APIs for [getting the current location](#) or tracking the device's location over time.  Edit
Location information may come from estimating a position from beacons like Wi-Fi access points and cell towers, from the device's IP address, or it may come from other sources such as a GNSS or GPS device. The [Windows.Devices.Geolocation](#) API provides the most appropriate geolocation data from all available sources.

The accuracy of the location information depends on the source. The latitude and longitude may vary within the following ranges:

- **GPS** : within approximately 10 meters
- **Wi-Fi** : between approximately 30 meters and 500 meters
- **Cell towers** : between approximately 300 meters and 3,000 meters
- **IP address** : between approximately 1,000 meters and 5,000 meters

Source: <https://docs.microsoft.com/en-us/uwp/api/Windows.Devices.Geolocation>, Page 1, last accessed April 10, 2019

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Location services architecture

The first layer of the location services architecture consists of hardware in the device. This includes the GPS receiver, Wi-Fi, and the cellular radio. These can all function as providers of location data with varying levels of accuracy and power consumption. On top of the hardware sits the native code layer. This layer communicates directly with the available sources of location data and decides which sources to use to determine the location of the device based on the availability of data and on the performance requirements specified by the application. The native code layer also communicates over the Internet with a Microsoft-hosted web service to look up location-related information from a database. The top layer of the location service is the managed interface, exposed through a DLL that is included with Windows SDK. An app uses this interface to start and stop location requests, to set the level of accuracy required by the app, and to receive location data from the native code layer as it becomes available.

Source: <https://docs.microsoft.com/en-us/uwp/api/Windows.Devices.Geolocation>, Page 2, last accessed April 10, 2019

PositionSource Enum

Namespace: Windows.Devices.Geolocation

Assemblies: Windows.Devices.Geolocation.dll, Windows.dll

Indicates the source used to obtain a [Geocoordinate](#).

Edit

C#

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```
public enum PositionSource
```

Attributes: [ContractVersionAttribute](#)

Windows 10 requirements

Device family	Windows 10 (introduced v10.0.10240.0)
API contract	Windows.Foundation.UniversalApiContract (introduced v1)
Capabilities	location ID_CAP_LOCATION [Windows Phone]

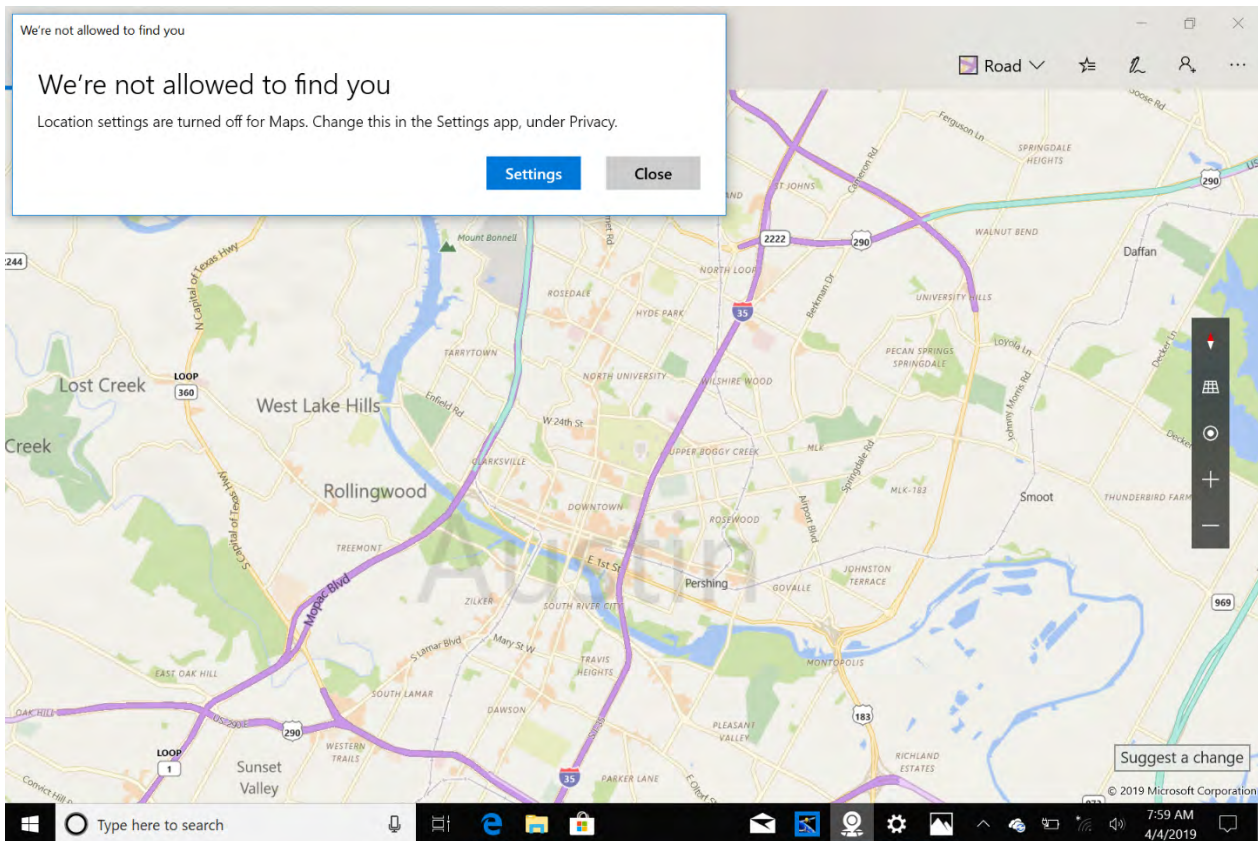
Fields

Cellular	0	The position was obtained from cellular network data.
Default	5	(Starting with Windows 10, version 1607.) The position was obtained from the user's manually-set location.
IPAddress	3	(Starting with Windows 8.1.) The position was obtained from an IP address.
Obfuscated	6	(Starting with Windows 10, version 1607.) The position was obtained via the coarse location feature and was therefore intentionally made inaccurate to a degree.
Satellite	1	The position was obtained from satellite data.
Unknown	4	(Starting with Windows 8.1.) The position was obtained from an unknown source.
WiFi	2	The position was obtained from Wi-Fi network data.

Source: <https://docs.microsoft.com/en-us/uwp/api/windows.devices.geolocation.positionsource>, Page 1-2, last accessed April 10, 2019

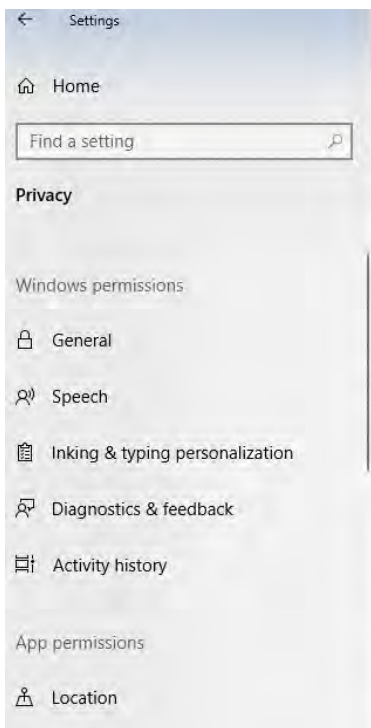
31. The Accused Infringing Devices attempt to determine the location of the mobile computing device using a satellite based global positioning system. The Accused Infringing Devices utilize GPS to determine their location through the use of, for example, the Microsoft Edge browser. Microsoft Edge asks the user for permission to access the location of the device. For example, as shown below from a snapshot of product testing, Microsoft Edge running on the Accused Infringing

1 Devices requests the user to access the device’s location and open the settings for
2 allowing to use Microsoft’s Location Services.



17 **Source:** Product Testing

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Location

Allow access to location on this device

If you allow access, you will enable Windows to use your device's capabilities to determine your location and Microsoft will use your location data to improve location services. People using this device will be able to choose if their apps have access to location by using the settings on this page. Denying access blocks Windows from providing location to Windows features, Microsoft Store apps, and most desktop apps.

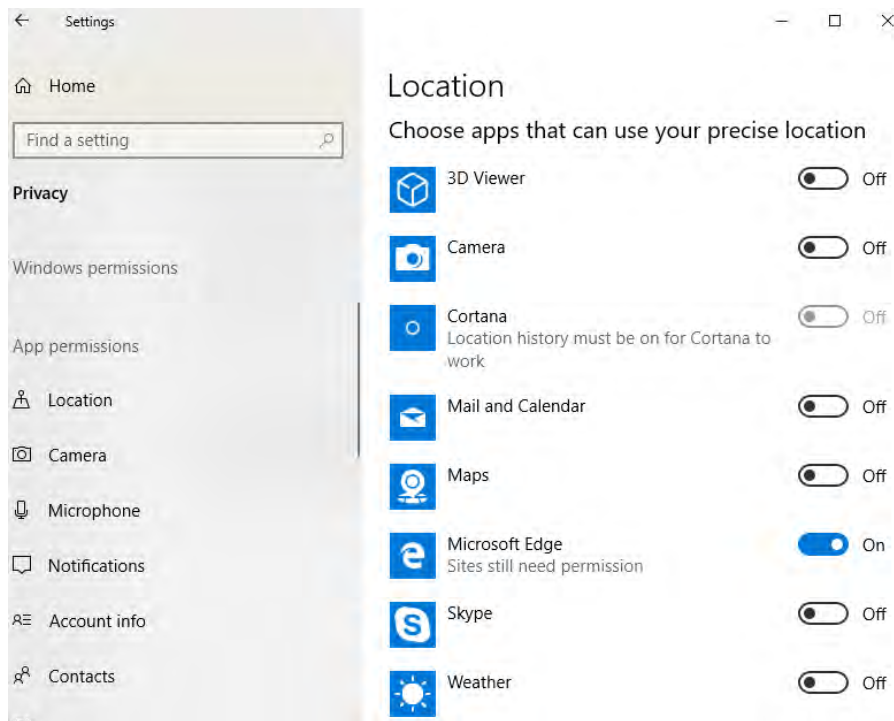
Location for this device is on

[Change](#)

Allow apps to access your location

If you allow access, you can use the settings on this page to choose which apps can access your device's precise location and location history to enable location-based experiences such as directions and weather. If you are signed in with a Microsoft account on this device, your last known location is saved to the cloud, and shared with other devices where you are signed in with your Microsoft account. Denying access only blocks the apps listed on this page from accessing your location.

Source: Product Testing



Source: Product Testing

Geolocator Class

Namespace: Windows.Devices.Geolocation

Assemblies: Windows.Devices.Geolocation.dll, Windows.dll

Provides access to the current geographic location.

 Edit

C#

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```
public sealed class Geolocator
```

Source: <https://docs.microsoft.com/en-us/uwp/api/Windows.Devices.Geolocation.Geolocator>, Page 1, last accessed April 10, 2019

This example shows how to use the [Geolocator](#) class to retrieve the device's location. For more info, see [Get current location](#).

C#

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```
using Windows.Devices.Geolocation;
...
var accessStatus = await Geolocator.RequestAccessAsync();
switch (accessStatus)
{
    case GeolocationAccessStatus.Allowed:
        // notify user: Waiting for update

        // If DesiredAccuracy or DesiredAccuracyInMeters are not set (or value is 0), Desi
        Geolocator geolocator = new Geolocator { DesiredAccuracyInMeters = _desireAccuracy

        // Subscribe to StatusChanged event to get updates of location status changes
        _geolocator.StatusChanged += OnStatusChanged;

        // Carry out the operation
        Geoposition pos = await geolocator.GetGeopositionAsync();

        UpdateLocationData(pos);
        // notify user: Location updated
        break;
}
```

Source: <https://docs.microsoft.com/en-us/uwp/api/Windows.Devices.Geolocation.Geolocator>, Page 2, last accessed April 10, 2019

Methods

<code>AllowFallbackToConsentless Positions()</code>	Sets the Geolocator to use coarse location as a fallback option (see Remarks).
<code>GetGeopositionAsync()</code>	Starts an asynchronous operation to retrieve the current location of the device.
<code>GetGeopositionAsync(Time Span, TimeSpan)</code>	Starts an asynchronous operation to retrieve the current location of the device.
<code>GetGeopositionHistory Async(DateTime)</code>	Starts an asynchronous operation to retrieve the location history of the device.

Source: <https://docs.microsoft.com/en-us/uwp/api/Windows.Devices.Geolocation.Geolocator>, Page 3, last accessed April 10, 2019

GeocoordinateSatelliteData Class

Namespace: `Windows.Devices.Geolocation`

Assemblies: `Windows.Devices.Geolocation.dll, Windows.dll`

Provides additional information about a [Geocoordinate](#). This information is only applicable to position estimates obtained using satellite signals. ✎ Edit

```
C#
public sealed class GeocoordinateSatelliteData
```

Attributes: `ContractVersionAttribute, DualApiPartitionAttribute, MarshalingBehaviorAttribute`

Windows 10 requirements

Device family	Windows 10 (introduced v10.0.10240.0)
API contract	Windows.Foundation.UniversalApiContract (introduced v1)
Capabilities	location ID_CAP_LOCATION [Windows Phone]

Remarks

You can use the [Geocoordinate.PositionSource](#) property to receive the [GeocoordinateSatelliteData](#) information.

The properties of this class convey information about the satellite geometry with which the position was obtained. Their values indicate the level of confidence that the position provided is precise. Lower values for dilution of precision (DOP) indicate high confidence on the precision of the position obtained. Positions with a DOP of 5 or less are considered reliable. Positions with a DOP higher than 10 are low confidence and should generally be discarded other than for a rough position estimation. Positions with a DOP higher than 20 should always be discarded.

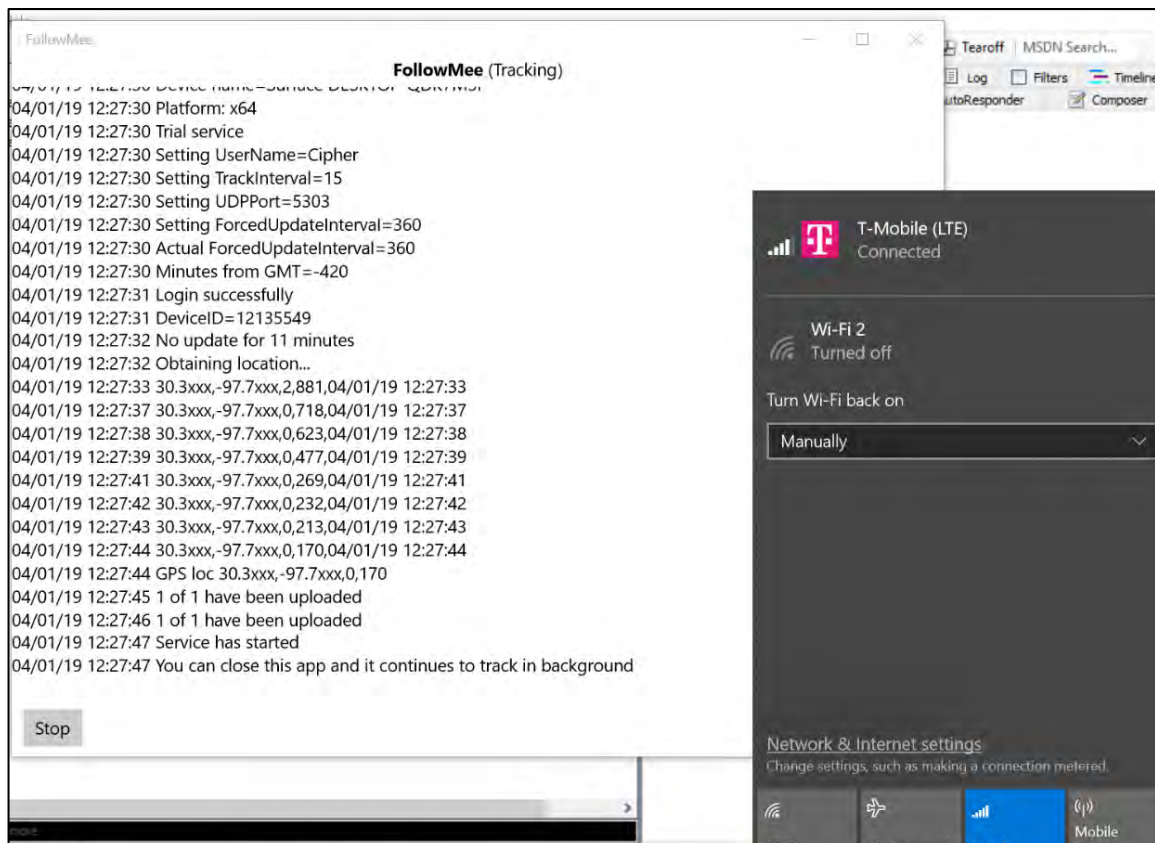
Note

If the GPS sensor returns a zero for any of the dilution of precision (DOP) values, the corresponding properties will return `NULL`.

Source: <https://docs.microsoft.com/en->

1 [us/uwp/api/windows.devices.geolocation.geocoordinatesatellitedata](https://us.uwp/api/windows.devices.geolocation.geocoordinatesatellitedata), Page 1-2, last accessed April
2 10, 2019

3 32. As another example, an app called FollowMee running on an Accused
4 Infringing Device obtains location data using GPS.

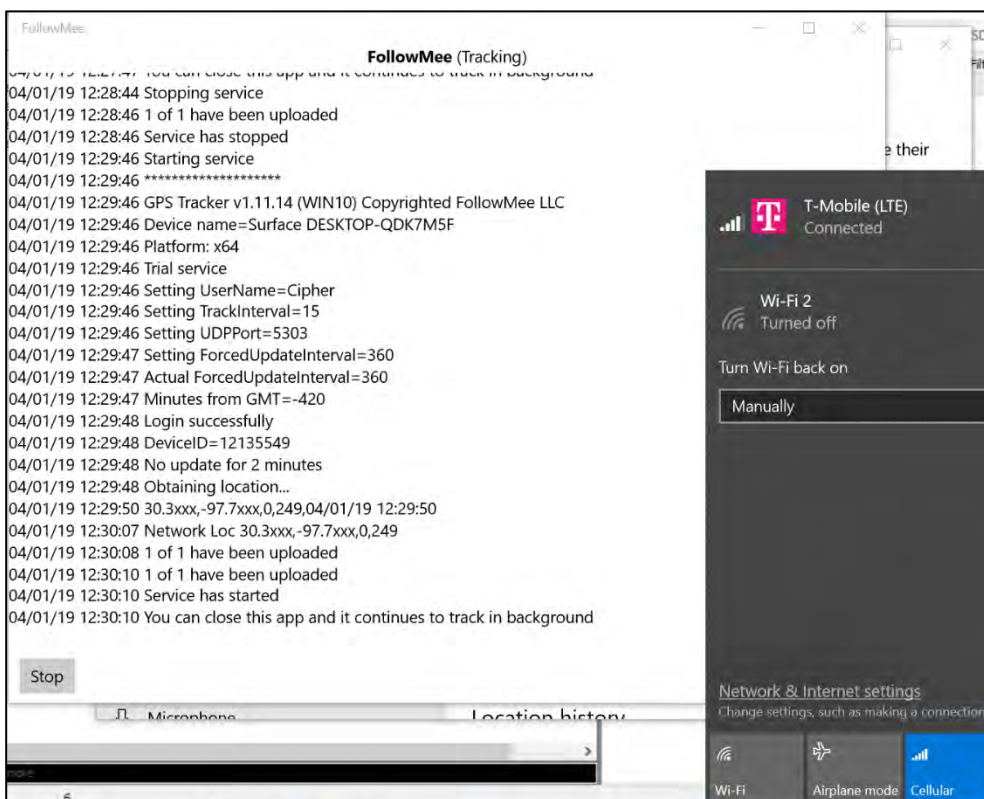


19 **Source:** Product Testing

20 33. The Accused Infringing Devices determine that the location
21 determination using the satellite-based global positioning system failed and in
22 response to determining that the location determination using the satellite-based
23 global positioning system failed, attempt to determine the location of the mobile
24 computing device by triangulating respective measured distances of the mobile
25 computing device from two or more wireless telephone network base stations. For
26 example, the Global Positioning System fails to determine the location of the
27 Accused Infringing Device when the device is inside a closed room with no
28

1 windows. In this case, the GPS Satellite is unable to make line of sight contact with
2 the device and hence, fails to determine the location of the device.

3 34. When the Accused Infringing Devices fail to determine their location
4 using GPS, the Location Services attempts to determine the location of the device
5 by triangulation using the cellular (LTE) network.



17 **Source:** Product Testing

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21 35. Triangulation is the process of determining the location of a mobile
22 device based on its position and distance with respect to three base stations in the
23 surroundings.

1 Using cell towers to detect location is not as accurate as GPS. Locating a mobile phone based
 2 on a single cell tower can place the mobile phone in a broad area, but it cannot pinpoint it. As
 3 the phone connects to more towers, the accuracy improves. By using cell tower triangulation (3
 4 towers), it is possible to determine a phone location to within an area of about ¼ square mile. In
 5 densely populated urban areas, the cell towers are close together, and a much closer estimation
 6 of phone location can be made than in a rural area, where the towers are far apart. If the
 nearest cell tower is busy, the cell signal would be picked up by the next nearest tower which
 could decrease location accuracy to beyond ¼ square mile or 30 meters of that cell tower.
 Sometimes, the diverted signal may go to a cell tower that is out of the PSAP's jurisdiction.

7 **Source:**

8 https://transition.fcc.gov/pshs/911/Apps%20Wrkshp%202015/911_Help_SMS_WhitePaper0515.pdf, Page 4, last accessed April 3, 2019

9
 10 36. Microsoft's Windows Location Platform API website shows that its
 11 API uses a mobile phone tower triangulator that determines location based on
 12 nearby towers/base stations.

13 Location devices make up one especially interesting category. By now, most people are
 14 familiar with global positioning systems (GPS). In Windows, a GPS sensor is part of the
 15 Location category. The Location category could include other sensor types. Some of these
 16 sensor types are software based, such as an IP resolver that provides location information
 17 based on an Internet address, a mobile phone tower triangulator that determines location
 18 based on nearby towers, or a Wi-Fi network location provider that reads location
 information from the connected wireless network hub.

19 **Source:** <https://docs.microsoft.com/en-us/windows/desktop/sensorsapi/introduction-to-the-sensor-and-location-platform-in-windows> Page 4, last accessed April 3, 2019

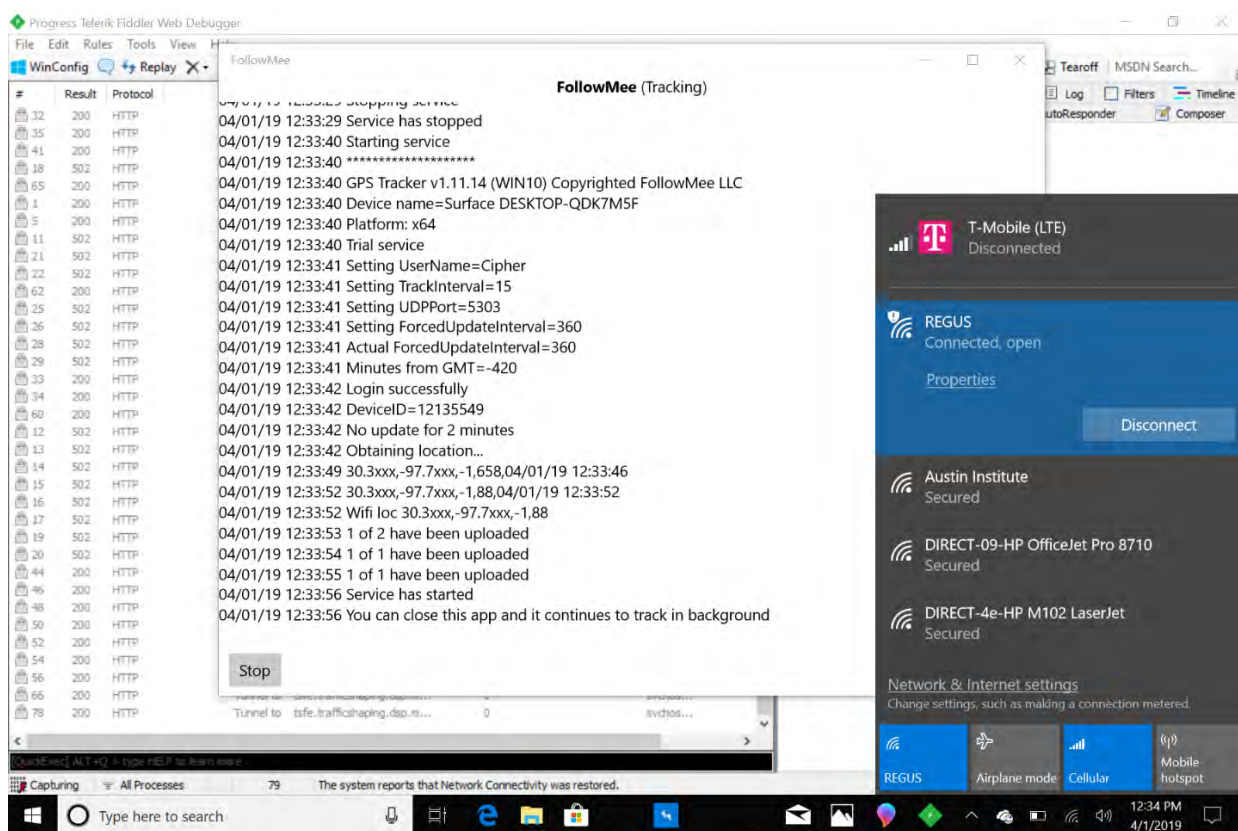
21 **Use Cases**

22 Currently, LTE is usually used as a fallback for when other technologies are not
 23 effective. For instance, your phone will resort to use LTE triangulation when it cannot
 24 get an accurate position using GPS. Another application includes tracking a package
 25 from sender to receiver. A package will go through warehouses and many forms of
 26 transportation before it reaches you. LTE can track it effectively all the way. LTE is an
 effective solution when reliability is crucial but accuracy isn't a major requirement.

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 28 **Source:** <https://www.leverage.com/blogpost/lte-triangulation-indoor-asset-tracking> Page 4, last
 accessed April 3, 2019

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37. The Accused Infringing Devices determine that the location determination by triangulating failed and in response to determining that the location determination by triangulating failed, determine that the mobile computing device is sufficiently near a wireless device with a known location to communicate with the wireless device. This is shown, for example, by Location Services failing to locate the Accused Infringing Device by triangulation by turning off the LTE data services and keeping the device indoors in a closed room (to avoid GPS reception). In this example, the Location Services attempted to determine the location of the Accused Infringing Device by connecting to a nearby wireless device with known location for communication (in this case, a Wi-Fi access point).

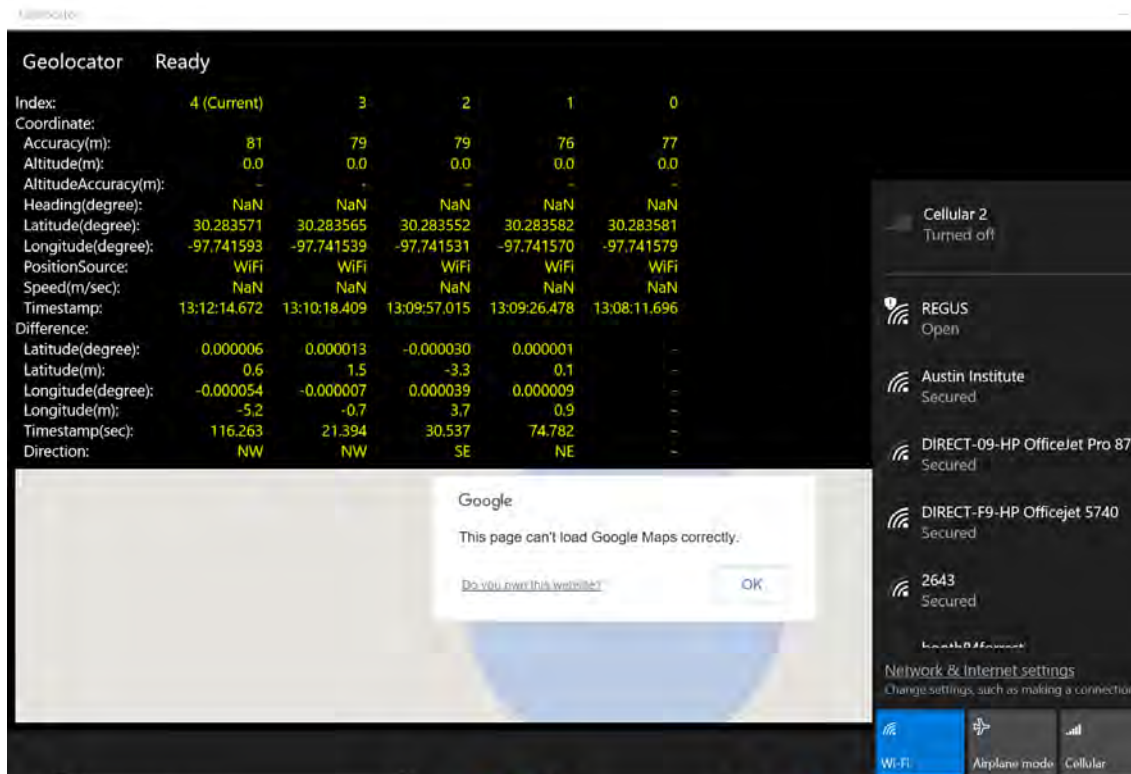


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Source: Product Testing

38. In response to determining that the Accused Infringing Device is near

1 a wireless device, the Accused Infringing Device reports the location of the wireless
 2 device as the location of the mobile computing device. For example, Location
 3 Services determines the location of the Accused Infringing Device by determining
 4 that it is near (but not connected to) a Wi-Fi access point. Location Services uses
 5 the Wi-Fi access point’s location to determine its own location using the Wi-Fi
 6 receiver.



19 **Source:** Product Testing

20
 21 39. The Accused Infringing Devices estimate the location of the wireless
 22 device from locations of one or more other mobile computing devices reported by
 23 the other mobile computing devices when those other mobile computing devices are
 24 sufficiently near the wireless device to communicate with the wireless device.

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How the location settings work

The device location setting enables certain Windows features such as auto-setting the time zone or Find my device to function properly. When the device location setting is enabled, the Microsoft location service will use a combination of global positioning service (GPS), nearby wireless access points, cell towers, and your IP address to determine your device's location. Depending on the capabilities of your device, your device's location can be determined with varying degrees of accuracy and may in some cases be determined precisely.

If you have enabled the device location setting, your device sends de-identified location information (including wireless access point information, cellular tower information, and precise GPS location if available) to Microsoft after removing all personally identifiable information at the device. This de-identified copy of location information is used to improve Microsoft location services and, in some instances, shared with our location service provider partners, currently HERE (see <https://www.here.com/>), to improve the location services of the provider.

Source: <https://support.microsoft.com/en-us/help/4468240/windows-10-location-service-and-privacy-microsoft-privacy>, Page 1, last accessed April 3, 2019

How Wi-Fi Location Services Work

Devices that have both GPS and Wi-Fi can be used to send information about a network back to a GPS company so that they can determine where the network is. The way this works is by having the device send the access point's BSSID ([MAC address](#)) along with the location determined by GPS.

When GPS is used to determine the location of a device, it also scans nearby networks for publicly accessible information that can be used to identify the network. Once the location and nearby networks are found, the information is recorded online.

The next time someone is near one of those networks but they don't have great GPS signal, the service can be used to determine an approximate location since the network's location is known.

Source: <https://www.lifewire.com/wifi-positioning-system-1683343>, Page 3, last accessed April 3, 2019

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How we build the location services database

To help us provide location services, Microsoft records the location of mobile cell towers and Wi-Fi access points. Our database might include the MAC addresses of your wireless router or other Wi-Fi network devices. We don't associate MAC addresses with you personally or with the devices connected to your network.

To prevent Microsoft from using the MAC addresses of your Wi-Fi access points in our location services database, go to [Opt out of location services](#).

Source: <https://support.microsoft.com/en-us/help/4468240/windows-10-location-service-and-privacy-microsoft-privacy>, Page 3-4, last accessed April 9, 2019

Opt out of location services

Applies to: General

To provide location services, Microsoft assembles and maintains a database that records the location of mobile cell towers and Wi-Fi access points. If you would like your Wi-Fi network to be excluded from supporting location services, submit the MAC address of the hardware that broadcasts your Wi-Fi signal. It can take up to 5 days for this address to be added to the block list.

The MAC address for a Wi-Fi access point (such as a wireless router) is a 12 character code that you can usually find on a sticker located on the bottom of the device. If no sticker is present, you can also find the MAC address through the utility used to manage your wireless network.

Microsoft takes measures to protect our services, including the block list for Wi-Fi devices, from fraudulent requests and security attacks. If a request seems problematic, it may not be added to the block list.

Source: <https://support.microsoft.com/en-us/help/20039/opt-out-of-location-services>, Page 1, last accessed April 9, 2019

Location services, motion sensing, and recording

Windows location service. Microsoft operates a location service that helps determine the precise geographic location of a specific Windows device. Depending on the capabilities of the device, the device's location can be determined with varying degrees of accuracy and may in some cases be determined precisely. When you have enabled location on a Windows device, or you have given permission for Microsoft apps to access location information on non-Windows devices, data about cell towers and Wi-Fi access points and their locations is collected by Microsoft and added to the location database after removing any data identifying the person or device from which it was collected. This de-identified copy of location information is used to improve Microsoft's location services and, in some instances, shared with our location service provider partners, currently HERE (see <https://www.here.com/>), to improve the location services of the provider.

1 **Source:** [https://privacy.microsoft.com/en-](https://privacy.microsoft.com/en-US/privacystatement#mainlocationservicesmotionsensingmodule)
2 [US/privacystatement#mainlocationservicesmotionsensingmodule](https://privacy.microsoft.com/en-US/privacystatement#mainlocationservicesmotionsensingmodule), Page 11, last accessed April 9,
3 2019

4 40. Microsoft has infringed, and continues to infringe, at least claim 1 of
5 the '362 patent in the United States, by making, using, offering for sale, selling
6 and/or importing the Accused Infringing Devices in violation of 35 U.S.C. § 271(a).

7 41. Microsoft also has infringed, and continues to infringe, at least claim 1
8 of the '362 patent by actively inducing others to use, offer for sale, and sell the
9 Accused Infringing Devices. Microsoft's users, customers, agents or other third
10 parties who use those devices in accordance with Microsoft's instructions infringe
11 claim 1 of the '362 patent, in violation of 35 U.S.C. § 271(a). Microsoft
12 intentionally instructs its customers to infringe through training videos,
13 demonstrations, brochures and user guides, such as those located at:

14 www.microsoft.com; support.microsoft.com; [https://support.microsoft.com/en-](https://support.microsoft.com/en-us/help/4468240/windows-10-location-service-and-privacy-microsoft-privacy)
15 [us/help/4468240/windows-10-location-service-and-privacy-microsoft-privacy](https://support.microsoft.com/en-us/help/4468240/windows-10-location-service-and-privacy-microsoft-privacy);
16 <https://support.microsoft.com/en-us/help/20039/opt-out-of-location-services>; and
17 [https://privacy.microsoft.com/en-](https://privacy.microsoft.com/en-US/privacystatement#mainlocationservicesmotionsensingmodule)
18 [US/privacystatement#mainlocationservicesmotionsensingmodule](https://privacy.microsoft.com/en-US/privacystatement#mainlocationservicesmotionsensingmodule). Microsoft is
19 thereby liable for infringement of the '362 patent under 35 U.S.C. § 271(b).

20 42. Microsoft also has infringed, and continues to infringe, at least claim 1
21 of the '362 patent by offering to commercially distribute, commercially
22 distributing, or importing the Accused Infringing Devices which devices are used in
23 practicing the processes, or using the systems, of the '362 patent, and constitute a
24 material part of the invention. Microsoft knows portions of the Accused Infringing
25 Devices to be especially made or especially adapted for use in infringement of the
26 '362 patent, not a staple article, and not a commodity of commerce suitable for
27 substantial noninfringing use. Microsoft is thereby liable for infringement of the
28 '362 Patent under 35 U.S.C. § 271(c).

1 43. Microsoft has been on notice of the '362 patent since April 29, 2019.
2 By the time of trial, Microsoft will have known and intended (since receiving such
3 notice) that its continued actions would actively induce and contribute to the
4 infringement of at least claim 1 of the '362 patent.

5 44. Upon information and belief, Microsoft may have infringed and
6 continues to infringe the '362 patent through other software and devices utilizing
7 the same or reasonably similar functionality, including other versions of the
8 Accused Infringing Devices.

9 45. Microsoft's acts of direct and indirect infringement have caused and
10 continue to cause damage to Uniloc and Uniloc is entitled to recover damages
11 sustained as a result of Microsoft's wrongful acts in an amount subject to proof at
12 trial.

13 **PRAYER FOR RELIEF**

14 WHEREFORE, plaintiff Uniloc 2017 LLC respectfully prays that the Court
15 enter judgment in its favor and against Microsoft as follows:

16 a. A judgment that Microsoft has infringed one or more claims of
17 the '654 Patent literally and/or under the doctrine of equivalents directly and/or
18 indirectly by inducing infringement and/or by contributory infringement;

19 b. A judgment that Microsoft has infringed one or more claims of
20 the '362 Patent literally and/or under the doctrine of equivalents directly and/or
21 indirectly by inducing infringement and/or by contributory infringement;

22 c. That this Court award Uniloc its damages pursuant to 35 U.S.C.
23 § 284 and any royalties determined to be appropriate;

24 d. That this be determined to be an exceptional case under 35
25 U.S.C. § 285 and that Uniloc be awarded enhanced damages up to treble damages
26 for willful infringement as provided by 35 U.S.C. § 284;

27 e. That this Court award Uniloc prejudgment and post-judgment
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1 interest on its damages;

2 f. That Uniloc be granted its reasonable attorneys' fees in this
3 action;

4 g. That this Court award Uniloc its costs; and

5 h. That this Court award Uniloc such other and further relief as the
6 Court deems proper.

7

8

DEMAND FOR JURY TRIAL

9 Uniloc hereby demands trial by jury on all issues so triable pursuant to Fed.
10 R. Civ. P. 38.

11

12 Dated: April 29, 2019

FEINBERG DAY ALBERTI LIM &
BELLOLI LLP

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By: /s/ M. Elizabeth Day

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M. Elizabeth Day

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Attorneys for Plaintiff
Uniloc 2017 LLC

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