



# AT&T Mobility FAQ for Interference

## 1. What is an AT&T RFME?

**Radio Frequency Maintenance Engineer** is an AT&T employee with advanced technical skills and equipped to address radio wave interference location and resolution. Our engineers use cell site data to track the source of the interference to a particular location. Once the interference location is found, an AT&T engineer may visit your home or place of business. The engineer will identify the device emitting the interference and in some cases, may provide a solution. You can identify an AT&T RF Maintenance engineer by:

- AT&T company vehicle
- AT&T uniform
- AT&T identification badge

Our engineers will always identify themselves and ask for consent before entering your property. They will always provide proper identification.





## 2. What types of identification do AT&T employees carry?

All AT&T RF Maintenance Engineers display a company-issued photo ID, are in company uniform and drive a company vehicle clearly marked with our AT&T branding.

## 3. How do you know the signal is coming from my residence/business?

Radio waves are strongest at their source and they become weaker as they move away from the source. Using highly specialized instruments and directional antennas, our engineers take multiple measurements from several different vantage points in order to "triangulate" the source. They also record the strength of the interference signal and determine where it is strongest. When these measurements all intersect at your residence or place of business, that means that something on your property is possibly the source of the noise.

## 4. Everything's working - How can something be causing interference?

This is an excellent question, and there are several answers to it, depending on the type of device causing the interference. Here are a few common examples:

Metal Halide Lights - These are commercial-type lights of the type you might see illuminating a large parking lot or garage. As these lights age, their internal ballasts often start to arc internally. It is a tiny, almost microscopic electrical arcing, but it is enough to create electrical noise. On an AM radio, this would sound like static or a very loud buzzing sound. If the lights are physically close enough to the affected antenna (i.e., about 800-feet or less for most radio technologies), then the noise is usually strong enough to cause reception problems. In many cases, the metal halide light will still shine brightly - but it is also broadcasting electrical noise.

Cell phone Boosters - These devices occasionally cause feedback or interference. This occurs if there is insufficient isolation or distance between the two antennas. This is similar to the loud squeal that occurs when a microphone is held too close to the audio speaker.



Unlike audio feedback, a cell phone boosters feedback are too high in frequency to be heard by the human ear. It is often quite difficult for a layperson to know if a cell booster is malfunctioning unless the malfunction causes dropped calls or slow data service. Sometimes, a cell booster will work fine for one network, yet still cause problems for one or more other networks. If you were not a subscriber to those other networks, you would probably be unaware of the problem.

Starting April 30, 2014, all consumer signal boosters must be certified as complying with the new technical standards established by the FCC Order dated February 20, 2013. AT&T has already consented to allow signal boosters compliant with the Order to operate on its network. All you have to do is register the signal booster on the AT&T site at

<https://securec45.securewebsession.com/attsignalbooster.com/>.

Signal Booster FAQ: <http://www.attsignalbooster.com/faq.html>

Update: The FCC has recently published an informative "[Consumer Guide](#)" for owners of signal boosters. (Requires Adobe Acrobat Reader to view – Link to download is located at the end of this document.)

FCC Consumer Guide: [http://fjallfoss.fcc.gov/edocs\\_public/attachmatch/DOC-319195A1.pdf](http://fjallfoss.fcc.gov/edocs_public/attachmatch/DOC-319195A1.pdf)

Amplified TV Antennas – a frequent issue. Before Internet, cable and satellite, folks used to get their TV signals "over-the-air" using "rabbit ears" or similar types of antennas. Some of these antennas included a small amplifier to help "boost" the signal so that a far-away station could be received on-screen. If the amplifier malfunctions, it can broadcast an electrical signal it was not intended (or designed) to do.

If this unintended signal occurs on someone else's channel, it can cause problems. An amplified TV antenna behaving in this way is not doing its intended job. The power it should be using to amplify those remote TV signals is instead being wasted as interference and noise. Usually, the easiest and least expensive fix is to simply replace the antenna.

Cable-TV Leakage - Cable TV companies use the same frequencies that are used by others, even within the same city or town. The difference is that cable TV is confined to a cable or wire, while other users of that same



spectrum will broadcast their signals "over-the-air". It is important that the two never meet. If there is a break in the cable system or a bad connection, it can cause the cable-TV signal to "leak" out and enter the airwaves where it will interfere with other users of that same spectrum. The process can also work in reverse - where the "over-the-air" signal can "sneak into" the cable TV, causing image quality problems on the TV sets. If the cable TV provider operates a digital system (most do), the TV picture can look fine even though there is a serious noise problem. Usually, however, the picture will "pixelate" or the sound quality will suffer, often resulting in the cable customer calling the cable TV company. Cable-TV leaks can also slow down your Internet speed if your broadband connection is provided via cable.

Wireless Baby Monitors and Internet Routers - To most folks, devices like these are so complicated it is sometimes hard to know if they're working right to begin with. Suffice it to say that these wireless devices, and others like them, may "appear" to work right, but in fact they are not working to their full potential. For example, most wireless 802.11 Internet routers will slow down in the presence of interference. This allows them to stay connected (giving the appearance of "working"), when they really ought to be working a lot better!

## **5. What are my obligations and responsibilities to correct the problem?**

Most consumer electronics products are governed by FCC Part-15 rules and regulations. These rules allow you to operate the device on the condition it does not cause harmful interference to a licensed radio service. The FCC requires manufacturers to submit their products for testing and evaluation prior to sale to help ensure that the devices do not create interference. Part-15 rules also cover certain other commercial products, or devices that are not intended to use or radiate electromagnetic energy (such as an electric motor). If you are notified by an FCC licensee that your Part-15 compliant device is causing interference, you must stop using it immediately. Many users' manuals offer suggestions on how to remedy this problem, which often involves relocating or reorienting the device.



If you have a license to operate the device (i.e., it is not regulated under the FCC's Part-15 low-power rules), then the FCC has certain other rules for its licensees to abate the interference, and these rules vary considerably from service to service. Since most interference in residential and small-office environments involves unlicensed or low-power devices, these rules probably do not apply to you.

## **6. How much will it cost? Do you offer reimbursement?**

There is no charge to you for AT&T's RF Maintenance Engineers external interference work activities. The work we perform benefits our customers and improves their experience on AT&T's network. However, if the interfering device requires adjustment, repair or replacement, you are responsible for those costs. If the product is under warranty, the manufacturer is generally responsible for the cost of repairs or replacement. Occasionally, a manufacturer will recall an interfering product from the market which likely entitles you to a free replacement directly from that manufacturer.

## **7. I'm really very busy. What if I don't comply... what happens then?**

We appreciate that your schedule is busy. We will always strive to appropriately prioritize interference cases according to their severity.

AT&T Mobility has a legal obligation to operate its network in accordance with rules and regulations established by the FCC. We also strive to ensure that our own subscribers receive wireless service free of harmful interference caused by devices not authorized by us.

We will always try to accommodate reasonable requests for scheduling a convenient time and date to address the interference problem, as determined by the "seriousness" of the event.

If you decide not to cooperate, we refer the interference case to federal authorities (FCC) for resolution.

You may work directly with the authorities if you choose. Please contact the investigating engineer to obtain your case#.



## 8. Can I use electronics that I purchased in or from another country while I am in the United States?

If the device is intended to use wireless signals, the answer is generally "No". However, there are many exceptions. Some equipment, such as cell phones, laptop computers and wireless routers conform to international standards and can be used in the USA without risk of causing harmful interference. Other devices, such as cordless phones, certain types of two-way radios, and wireless microphones cannot legally be used in the United States if they have not been previously certified by the FCC to meet its technical rules for operational compliance. If you suspect that you have received this notice because you are operating a transmitter or other wireless device that was not intended for use in this country, look for an FCC type acceptance label or refer to the manual.

## 9. Are cell phone jammers legal if I only use them in my home or place of business?

Cell phone jammers are illegal for use in the United States. The [FCC imposes strict penalties](#) if you are caught using a jammer, regardless of where or how you use it. The fine for using a jammer is up to \$112,500 for the first offense, plus possible imprisonment for up to a year. If you received this notice and you have a jammer - stop using it immediately and destroy the device. AT&T is primarily interested in keeping the spectrum licensed by the FCC clear of interference and has no desire for cooperative individuals to be subjected to such harsh penalties. After you have destroyed the jammer, please call us so that we can pull the interference report before it is sent to the FCC Enforcement Bureau.

FCC Enforcement Advisory: [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-12-347A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-12-347A1.pdf)

## 10. Our church wireless microphones have worked perfectly for years - what's changed?

Older wireless microphones were designed to operate in the spectrum that was previously occupied by TV channels 52 through 69. Those



channels have been reallocated to improved cellular services as well as to public safety interoperability systems. Unfortunately, these older wireless microphones cannot co-exist with the improved cellular services and public safety systems. They will have to be serviced or replaced. In many cases, these older microphones can simply be re-programmed. Valid channels include TV channels 2 through 51, except Ch-37 which is dedicated for deep-space telemetry radios. Please call us if you need assistance. Older microphones that are not programmable are probably crystal controlled units. While it is possible to "re-crystal" these older microphones, it is often cheaper to simply replace them.

After June 2010, it is no longer legal to operate a wireless microphone in the 700 MHz band.

The FCC has a very informative [Public Advisory](#) on the use of wireless microphones. (Requires Adobe Acrobat Reader to view – Link to download is located at the end of this document.)

FCC Public Advisory: <https://www.fcc.gov/general/wireless-microphones-fcc-publications>

## **11. My TV reception is poor, or I'm dropping calls on my cell phone - could this be related?**

It might be. Whenever interference affects more than one "type" of device or radio service, it is generally classified as a "broadband interference" source. Many of these sources are electrical in nature, such as a bad power line lightning arrestor, a misbehaving marine radar set, or similar wideband device. Electrical broadband noise should be investigated promptly since it may indicate the presence of a shock or fire hazard. We work closely with nearly all of the local public utilities to identify interfering equipment.

## **12. Does interference cause my computer to be slow?**



Sometimes. It really depends on the exact type of interference being created by the offending device. It is certainly possible that whatever is interfering with AT&T, is also interfering with you!

### **13. Does interference cause any health problems?**

Ordinarily, no. Most radio signals are simply too weak to cause health problems, however there are exceptions to this rule. For example, if an X-ray machine at a dentist's office were to malfunction and cause interference, it might also pose a health risk to those nearby. Usually, these situations involve highly specialized devices that are unlikely to be found in the vast majority of residential or commercial settings. Furthermore, most of these products will have many extra safety features designed to shut turn off the device if a malfunction occurs. In a residential setting, the types of devices that typically cause interference are very low-power to begin with, and the interfering component of the broadcasted signal is generally even lower than the nameplate rating for the device.

### **14. My interference case was immediately reported to the FCC. Why?**

In some cases, we may report an interference problem to authorities without making any effort to resolve the event. Some broadcasts are illegal, and therefore operated by criminal elements. To protect our employees and staff, we will not attempt to resolve an interference complaint that involves an intentionally broadcast signal that violates local, state or federal law. In other cases, we may not have the proper test equipment to fully characterize the nature and extent of the interference, or be able to identify its source. In still other cases, we may be denied access to the interference source if it is located in a restricted area (i.e., nuclear power plant, military base, or restricted access commercial or residential area).

### **15. Where can I find additional information?**

In the United States, interference complaints that cannot be resolved at the local level may be referred to the Enforcement Bureau of the Federal





Communications Commission. You may contact FCC officials in writing at the following addresses:

Federal Communications Commission  
Enforcement Bureau  
445 12th Street, SW  
Washington, DC 20554  
Phone: (202) 418-7450

Adobe Acrobat Reader: <http://www.get.adobe.com/reader/>