

Seven Tips to Identify a **Quality Cellular Amplifier**

With a lack of industry standards in the cellular amplifier market, Wilson Electronics outlines seven tips for selecting a quality amplifier to reduce dropped calls, increase data rates and ensure cellular signals stay within reach.

- 1 Bi-directional amplification:** Select an amplifier that is bi-directional, meaning an amplifier that boosts both the cell site's incoming downlink signal and outgoing uplink signal. Some amplifiers on the market only boost the downlink signal to the phone, with no amplification of the uplink signal. In this scenario, users will show an increase in bars and might be able to receive calls, but will not have the power to reach back to the cell site for a reliable call. High power uplink amplification yields two benefits - better call reliability and longer battery life.
- 2 High downlink receiver sensitivity:** Receiver sensitivity is an amplifier's ability to pick up weak signals that a typical cell phone may not hear. The higher the receiver sensitivity an amplifier can provide the better. Buyer beware, some amplifier manufacturers claiming to have high receiver sensitivity are touting numbers collected in perfect cellular signal scenarios. Quality amplifiers are tested in real world, weak signal, environments to ensure unsurpassed receiver sensitivity.
- 3 High uplink output power:** The lack of output power from the phone to the cell site is the reason most dropped calls occur. Lowering output power is the easy and low-quality method to prevent oscillation and to keep costs down through less expensive components and simpler designs. By cutting these corners, many amplifiers on the market today deliver less output power than a typical cell phone or data card. Higher output power, with no corners cut, ensures the strongest possible cellular connection.
- 4 Oscillation detection and shutdown:** Similar to a microphone being too close to a speaker, oscillation, also known as feedback, can be attributed to improper installation. However, improper design of a wireless amplifier can also be the cause. This oscillation can make cell sites shut down, violating FCC regulations. A violation could lead to fines imposed by the FCC and confiscation of a user's amplifier. An amplifier that has a reliable and proven method of quickly and automatically detecting oscillation and shutting down when needed will protect both the cell site and the user.
- 5 Cell site overload protection:** A quality amplifier is capable of monitoring proximity to a cell tower and automatically adjusts its output power to accommodate this change in distance. An amplifier operating at full power when too close to a cell tower will overload the site and impair service to a large number of users. Like oscillation, cell site overload can lead to intervention by the cellular operator and the FCC, as well as put the user at risk to costly fines and amplifier confiscation.
- 6 100 percent customer satisfaction guaranteed:** Identify a company that stands behind its products and be skeptical of sellers and manufacturers that do not offer an unconditional money back guarantee. Also, read the fine print to make sure the guarantee you are getting is legitimate. A company that stands behind its products and offers extended customer services to the end user, such as a U.S. based tech support helpline, is a good indicator that the product is of high quality.
- 7 Design Excellence:** Inquire as to the prospective supplier's engineering team. Many suppliers today are not able to maintain the extensive research and development team needed for reliable amplifier performance. Choose a vendor that has a full time engineering staff solely dedicated to the design of quality amplifiers and antennas.



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