How to check GSM signal strength

Contents

Determining Factors of Signal Values

There are many different factors that influence signal strength and quality, including but not limited to:

- Tower load
- Proximity to the cellular tower
- Signal going through a cellular repeater
- Competing signals
- Physical barriers (mountains, buildings, trains, etc.)
- Weather

Therefore, measurements like Signal Strength (RSSI) and Signal Quality (EC/IO) do not incorporate all of the relevant factors to describe the quality of the connection. For example, you may have an excellent RSSI value of -51 dBm, but the Tower Load (the number of mobile users) in your area is very high. In this case, even though you have a great Signal Strength value, you may not achieve maximum mobile data speeds.

Disclaimers

- Both Signal Strength and Signal Quality must be considered for successful cellular data connection
- Measured or reported values vary by modem, carrier, and network environment
- There is no black/white answer to what constitutes a successful connection
- Although signal strength may appear to be adequate, throughput speeds may vary due to dependencies on cellular tower loads

2G (GSM)

2G (GSM) Signal strength is defined by only one value: **RSSI** – Received Signal Strength Indicator; RSSI is a negative value, and the closer to 0, the stronger the signal.

RSSI

RSSI	Signal strength	GSM Signal Quality value:	Description
>= -51 dBm to -65 dBm	Excellent signal	5	Strong signal with maximum data speeds
-66 dBm to -77 dBm	Good signal	4	Strong signal with good data speeds
-78 dBm to -89 dBm	Fairly good signal	3	Fair but useful, fast and reliable data speeds may be attained, but marginal data with drop-outs is possible
< -90 dBm to -101 dBm	Poor signal	2	Performance will drop drastically
-102 dBm to -111 dBm	Bad signal	1	Low Performance
<-112 dBm to -113 dBm	No signal	0	Disconnection

How to check signal strength in the configurator

Signal Level

To check the 2G signal strength value of your device, go to the **Status → GSM info → Signal Level** window:

How to check signal strength over SMS/GPRS

To check signal strength over remote, send `getstatus` SMS/GPRS command.

For more information about `getstatus` SMS/GPRS command, visit: getstatus

getstatus command