

DATASHEET

UC-1574-431R

GPS L1 antenna, RHCP

+22 dB LNA



The UC-1574-431R is a Quadrifilar Helix Antenna (4 cm/1.5" OD x 11 cm/4.5" H) designed for use with GPS L1, 1.5754 GHz receivers and systems.

It features a built-in, robust (+10 dBm IIP3, In -5 dBm/Out +18 dBm P1dB), +22 dB Low Noise Amplifier, preceded by a GPS filter, and followed by another GPS filter (2 filters). This combination of a small QFHA, a tough LNA and 2 filters, makes the UC-1574-431R an ideal antenna for very harsh electromagnetic environments, or in applications where GPS performance is affected by out-of-band interference from other devices, such as a radio transmitter.

This antenna has been reported to work exceptionally well as a GPS Microcell Antenna, or GPS Femtocell Antenna for local (free) 3G connectivity. The UC-1574-431R has been successfully used on Microcells operating in RF noisy environments and concrete building basements. AT&T Microcell models require an MCX Male connector (-MCXM), Verizon Microcell models use an SMB Female connector (-SMBF).

LNA power is provided by your GPS receiver through the coaxial cable. No external power supplies are necessary. The UC-1574-431R is very tolerant of wide voltage variations and voltage range. Minimum supply voltage for nominal operation is +3.5 VDC. Operation at lower voltages gracefully derates performance of the LNA.

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SPECIFICATIONS:

- ❑ **Frequency range:** 1565-1585 MHz
- ❑ **Coverage:** Hemispherical
- ❑ **Polarization:** Right-Handed, Circular (AR 3 dB)
- ❑ **Gain:** +27 dBic
- ❑ **Nominal Impedance:** 50 ohm (RF)
- ❑ **Input Power:** Receive only antenna
- ❑ **VSWR:** 2.0
- ❑ **LNA Noise Figure:** 3.9 dB
- ❑ **LNA IIP3:** +10 dBm
- ❑ **LNA P1dB:** +18 dBm out / -5 dBm in
- ❑ **LNA Current:** 70 mA
- ❑ **LNA Supply Voltage:** 3.5-18 VDC (internally regulated)
- ❑ **Connector:** SMA Male on 24" coaxial cable
- ❑ **Dimensions:**
 - Housing 4 cm (1.5") OD x 11 cm (4.5") h
 - Bottom flange 5 cm (2") OD x 13 mm (0.5") h
- ❑ **Mounting:** 1 screw, 1/4"-20
- ❑ **Operating Temperatures:** -40C to +85C
- ❑ **Weight:** 250 g / 0.5 lbs
- ❑ **Shipping Weight:** 300 g / 0.6 lbs

NOTES:

- Does not require a ground plane
- Specifications and prices are subject to change without notice

This product is compatible with the following Antenna Accessories:

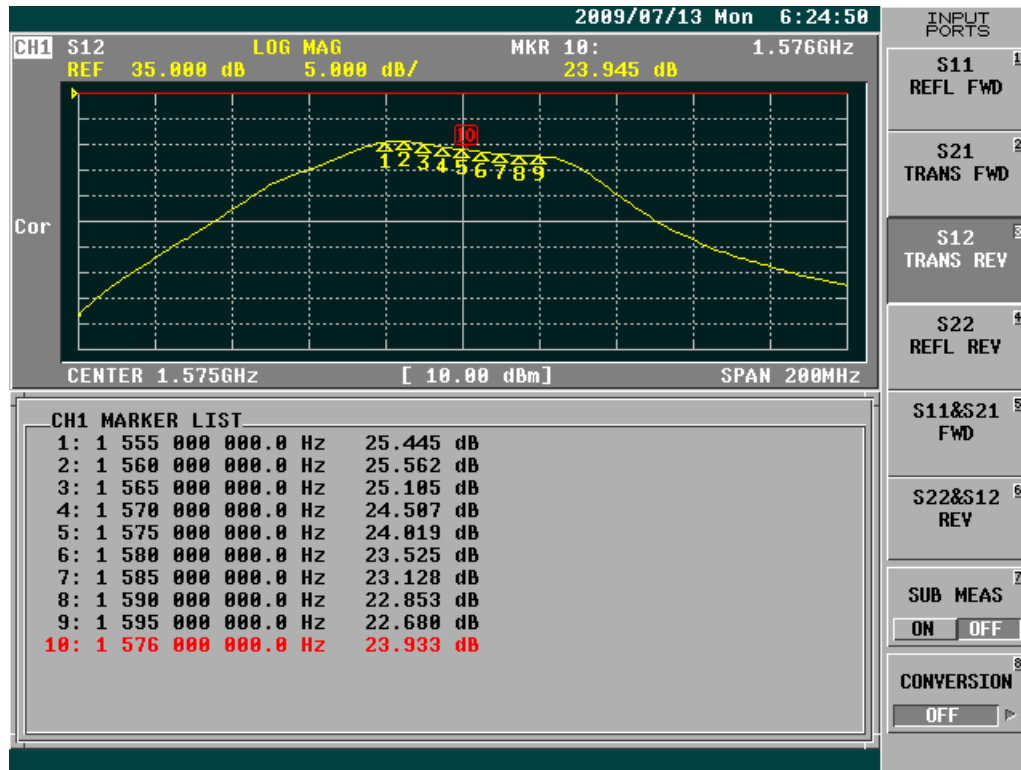
- ❑ [12 cm \(5"\) Magnetic Base](#)
- ❑ [7 cm \(3"\) Magnetic Base](#)
- ❑ [9 cm \(3.5"\) Suction Cup](#)

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UC-1574-431R GAIN PLOT



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