

MIA-10

Embedded Active GPS Antenna

10 mm

Description

This is a high performance antenna designed for embedded applications. It is ideal for GPS handhelds, PDAs and tracking devices. The very compact size and lightweight features make it perfect for various commercial and industrial applications. With a low noise figure and high-linearity LNA, this antenna is the ideal solution for the most extreme and demanding applications, where reliable satellite reception and high accuracy is required. The interface connector is available in U.FL/SMA or other.

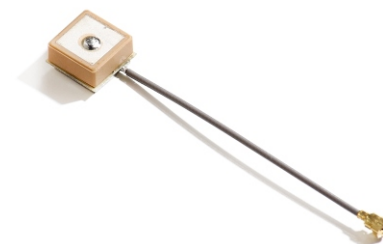
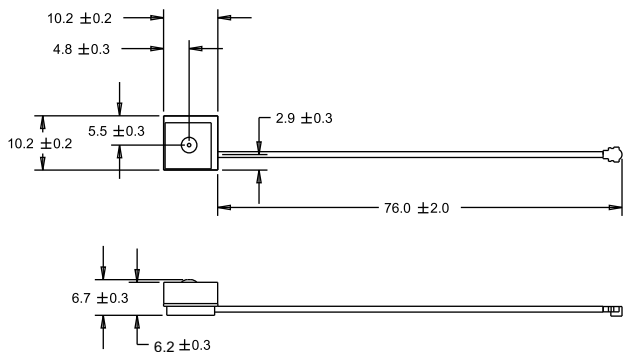


Image does not reflect the actual size of the antenna

Mechanical Specifications

Parameter	Design Specifications
RF connector	U.FL or other



dimensions are in mm

Electrical Specifications

76X76 mm ground plane

Parameter	Design Specifications
Frequency	1575.42 MHz
Polarization	RHCP
Antenna element peak gain	2.5 dBic
DC voltage	2.5 to 3.5 V
DC current	9 mA @ 2.5 V / 15 mA @ 3.5 V
Bandwidth (-1dB)	10 MHz
Total system peak gain	23 dB @ 2.5 V / 26 dB @ 3.5 V
Axial ratio	1.5 dB (typical) / 2.5 dB (max)
VSWR	1.3 (max)
Impedance	50 Ohm
Operating temp.	from -40°C to 85°C

Features

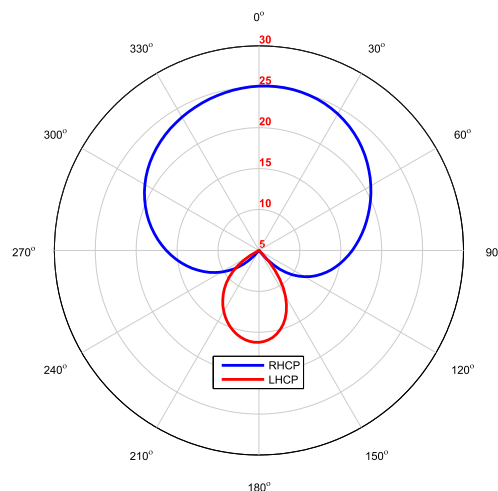
- GPS L1 frequency
- Active LNA circuitry
- Custom connector options
- Low current

Applications

- Vehicle & fleet tracking
- Embedded applications
- Military & security
- Asset tracking
- PDAs and laptops
- Oil & gas industries
- Navigation devices
- Law enforcement
- LBS & M2M applications

Realized gain plot

measured at 1575.42 MHz on a 76X76 mm ground plane (E plane, 2.5 V)



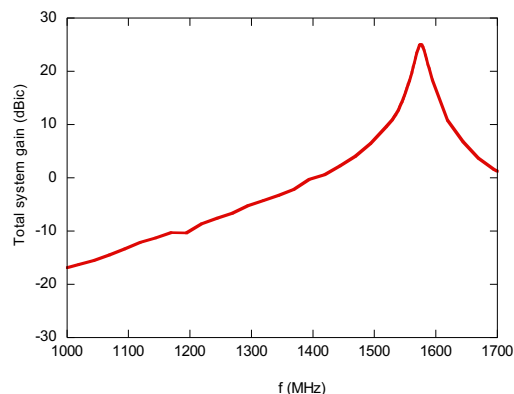
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LNA network characteristics

Parameter	Design Specifications
Frequency	1575.42 MHz
DC voltage	2.5 V to 3.5 V
DC current	9 mA @ 2.5 V / 15 mA @ 3.5 V
Noise figure	1.8 dB (max)
VSWR	1.3 (max)
Gain	23 dB @ 2.5 V / 26 dB @ 3.5 V
Input P1dB	-24 dBm @ 2.5 V / -26 dBm @ 3.5 V

Total system wide band response @ 2.5 V
76X76 mm ground plane

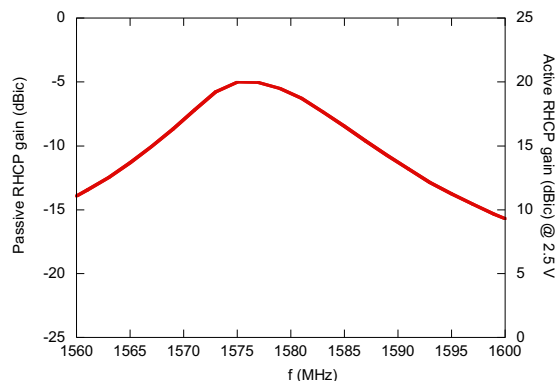


Antenna element characteristics

10X10 mm ground plane

Parameter	Design Specifications
Frequency	1575.42 MHz
Polarization	RHCP
Antenna element gain	-5 dBic
Efficiency	20%
Bandwidth (-1dB)	5 MHz

Active/Passive gain vs. frequency
15X15 mm ground plane



Antenna element characteristics

76X76 mm ground plane

Parameter	Design Specifications
Frequency	1575.42 MHz
Polarization	RHCP
Antenna element gain	2.5 dBic
Efficiency	50%
Bandwidth (-1dB)	10 MHz

Active/Passive gain vs. frequency
76X76 mm ground plane

