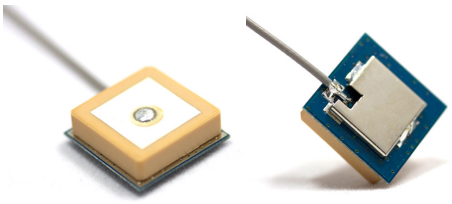
MIA-GNSS-1500

ACTIVE GPS/GLONASS/BEIDOU MICROSTRIP ANTENNA

Part #: 189-00054-01

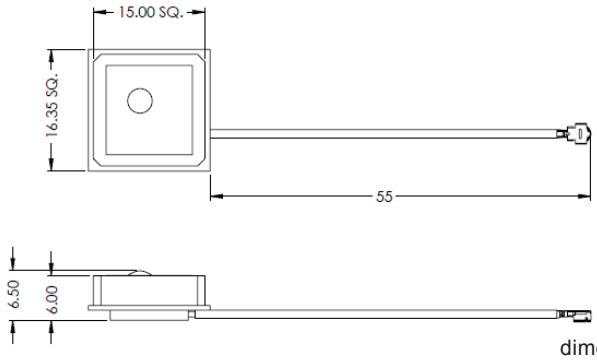


Description

Our patch antenna offerings are perfect for projects with a smaller scope and budget for which high performance and lower weight is not a primary factor for consideration for the antenna. This antenna is designed for embedded applications such as GNSS handheld units, mobile devices, and tracking devices. It features a low noise figure and high-linearity LNA. The interface connector is available in U.FL or other. Cable length can also be customized. This antenna is designed to cover GPS, GLONASS and Beidou frequency bands.

Mechanical Specifications

Parameter	Design Specifications
RF Connector	U.FL or other



dimensions in mm

Electrical Specifications

76x76 mm ground plane

Parameter	Design Specifications
Frequency Range	1575.42 / 1602 / 1561 MHz
Polarization	RHCP
DC voltage	2.5 to 3.5 V
DC current	4 mA @ 2.5 V / 7 mA @ 3.5 V
Axial ratio	1.5 dB (typical) / 2.5 dB (max)
Bandwidth (-1 dB)	10 MHz
LNA network gain	16 dB @ 2.5 V / 16 dB @ 3.5 V
VSWR	1.3 (max)
Impedance	50 Ohm
Operating temp.	from -40˚C to 85˚C

Features

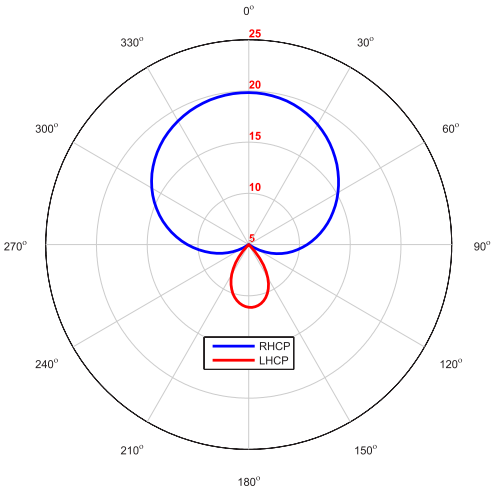
- GPS, GLONASS, Beidou frequencies
- Active LNA circuitry
- Compact size
- Custom tuning
- Custom connector/cable size

Applications

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

Realized gain plot

Measured at 1575.42 MHz on a 76x76 mm ground plane (E plane, 2.5 V)



MAXTENA
WIRELESS INNOVATIONS COMPANY

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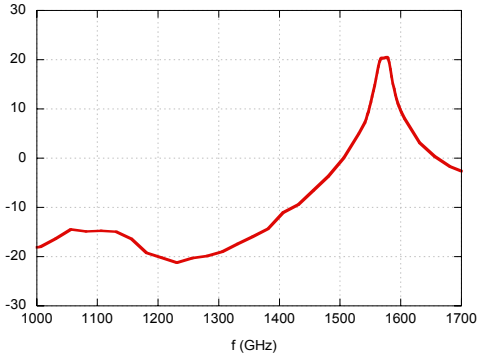
LNA network characteristics

Parameter	Design Specifications
Frequency	1575.42 MHz
DC voltage	2.5 to 3.5 V
DC current	4 mA @ 2.5 V / 7 mA @ 3.5 V
Noise figure	1.8 dB (max)
VSWR	1.3 (max)
Gain	16 dB @ 2.5 V / 16 dB @ 3.5 V
Input P1dB	-10 dBm @ 2.5 V / -12 dBm @ 3.5 V

System wide band response @ 2.5 V

76x76 mm ground plane



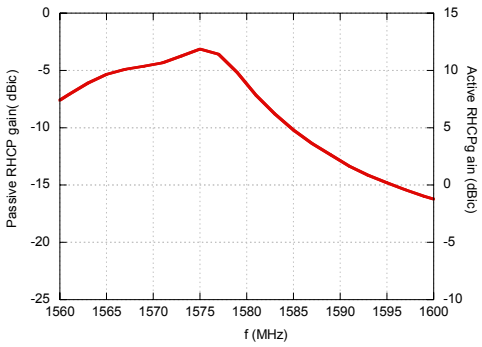
Antenna element characteristics

15x15 mm ground plane

Parameter	Design Specifications
Frequency	1575.42 MHz
Polarization	RHCP
Antenna element gain	-3 dBic
Efficiency	35 %
Bandwidth (-1dB)	5 MHz

Active/Passive gain vs. frequency

15x15 mm ground plane



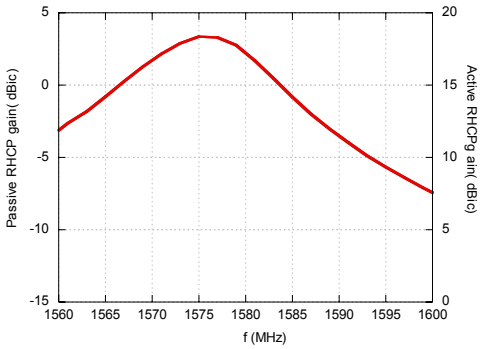
Antenna element characteristics

76x76 mm ground plane

Parameter	Design Specifications
Frequency	1575.42 MHz
Polarization	RHCP
Antenna element gain	4 dBic
Efficiency	70%
Bandwidth (-1db)	10 MHz

Active/Passive gain vs. frequency

76x76 mm ground plane



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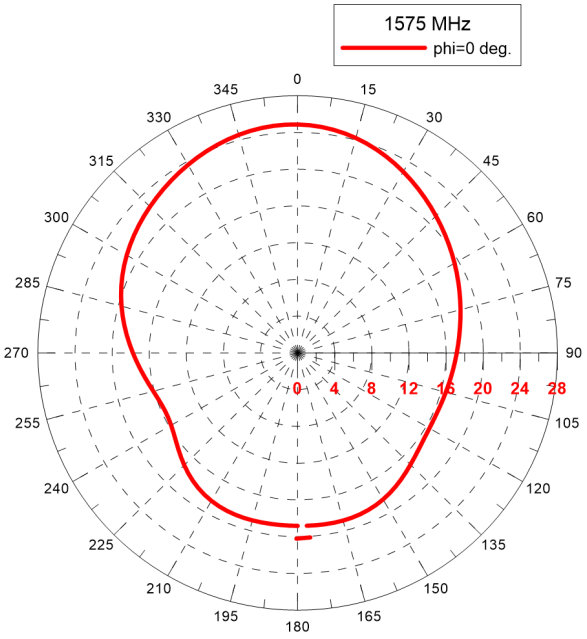
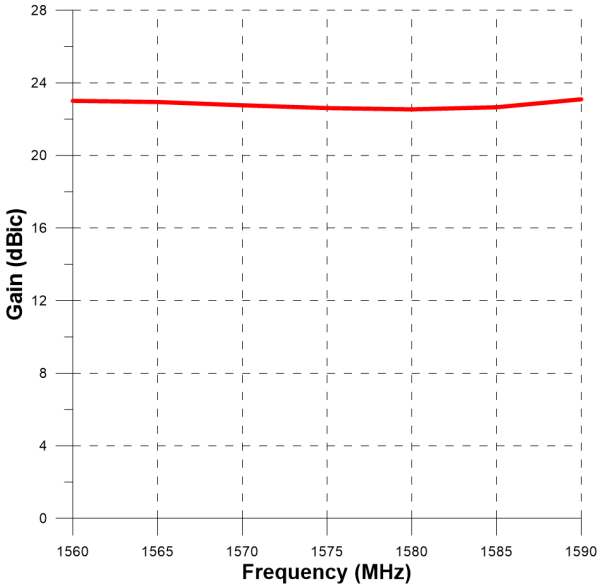
Radiation Performance

1575.42 GPS

Etotal



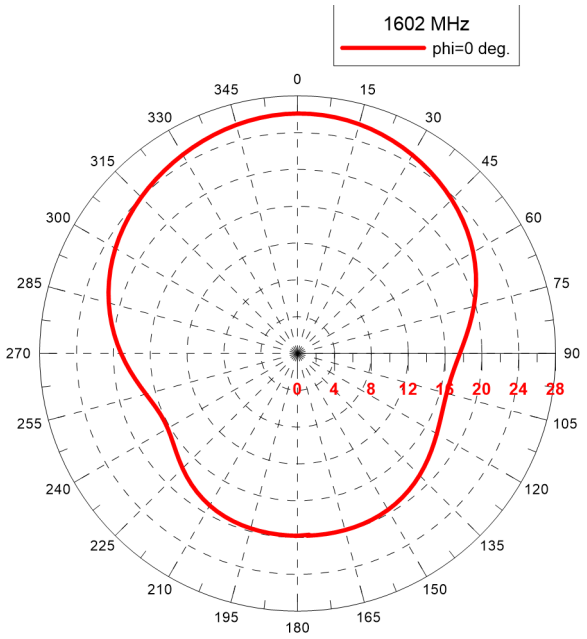
Gain vs. Frequency



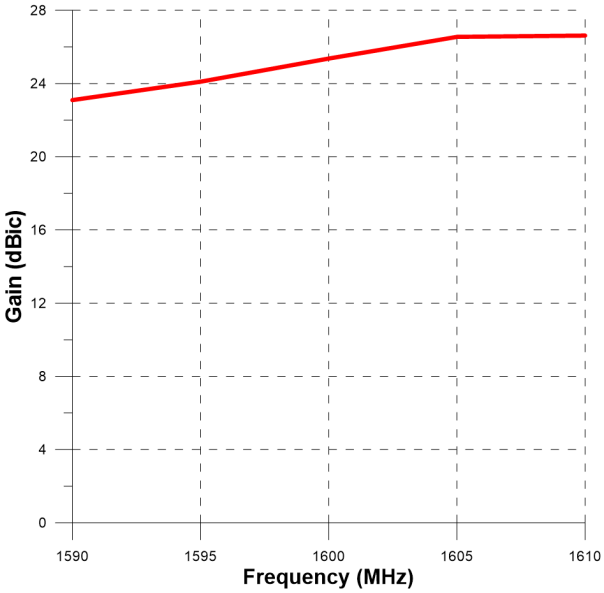
Radiation Performance

1602 GLONASS

Etotal



Gain vs. Frequency



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