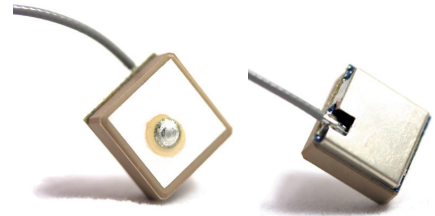




MIA-GPS-12

EMBEDDED ACTIVE GPS MICROSTRIP ANTENNA

Ordering Part #: 189-00011-01



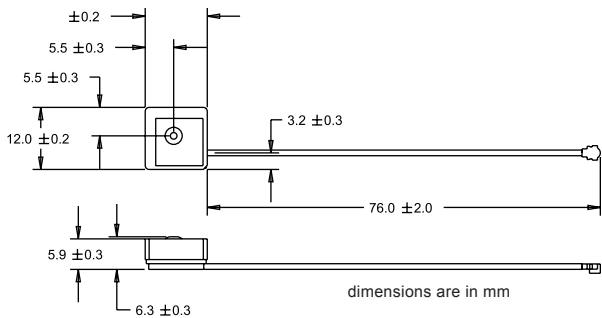
12 mm

Description

This is a high performance antenna designed for embedded applications. It is ideal for GPS handhelds, PDAs, and tracking devices. The compact size and light weight features make it perfect for various commercial and industrial applications. With a low noise figure and high-linearity LN2, this antenna is the ideal solution for the most extreme and demanding applications where reliable satellite reception and high accuracy are required. The interface connector is available in U.FL or other. Cable length can also be customized.

Mechanical Specifications

Parameter	Design Specifications
RF connector	U.FL or other



Electrical Specifications

76x76 mm ground plane

Parameter	Design Specifications
Frequency	1575.42 MHz
Polarization	RHCP
Antenna element peak gain	3.5 dBic
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 (-1db)	10 MHz
LNA network gain	20 dB @ 2.5 V / 24 dB @ 3.5 V
VSWR	1.3 (max)
Impedance	50 Ohm
Operating temp.	from -40°C to 85°C

Features

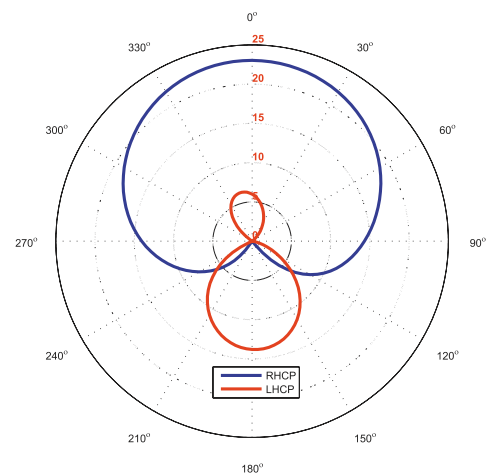
- GPS L1 frequency
- Active LNA circuitry
- Compact size
- Custom tuning
- Custom connector/Cable size

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)



MIA-GPS-12

EMBEDDED ACTIVE GPS MICROSTRIP ANTENNA

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	20 dB @ 2.5 V / 24 dB @ 3.5 V
Input P1dB	-33 dBm @ 2.5 V / -35 dBm @ 3.5 V

Antenna element characteristics

12x12 mm ground plane

Parameter	Design Specifications
Frequency	1575.42 MHz
Polarization	RHCP
Antenna element gain	-4 dBic
Efficiency	30 %
Bandwidth (-1dB)	10 MHz

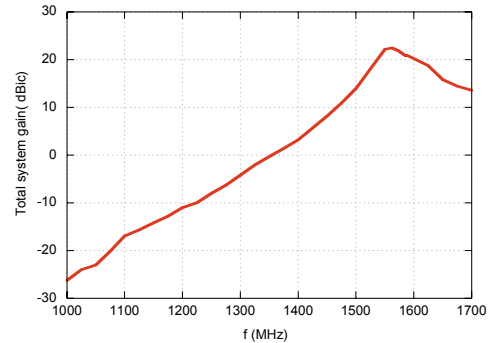
Antenna element characteristics

76x76 mm ground plane

Parameter	Design Specifications
Frequency	1575.42 MHz
Polarization	RHCP
Antenna element gain	3.5 dBic
Efficiency	60%
Bandwidth (-1db)	10 MHz

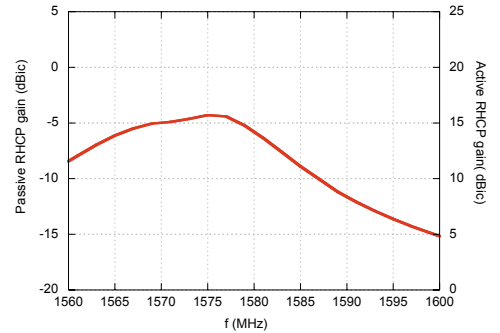
System wide band response @ 2.5 V

76x76 mm ground plane



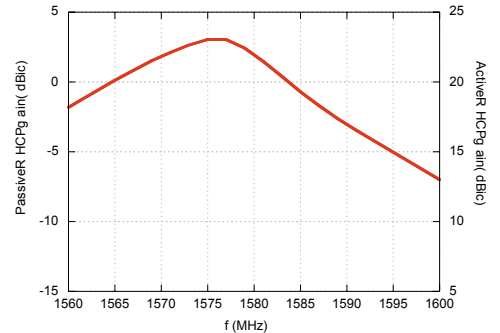
Active/Passive gain vs. frequency

12x12 mm ground plane



Active/Passive gain vs. frequency

76x76 mm ground plane



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