

MIA-18

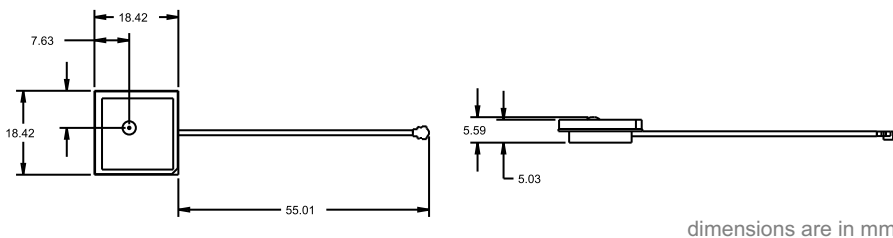
Embedded Active GPS Antenna 18 mm

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 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 are required. The interface connector is available in U.FL or other.

Mechanical Specifications

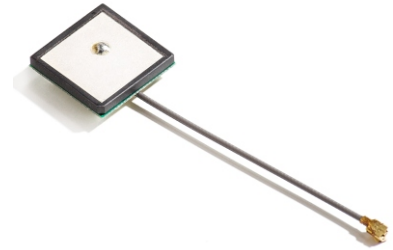
Parameter	Design Specifications
RF connector	SMA/IPEX or other



Electrical Specifications

76X76 mm ground plane

Parameter	Design Specifications
Frequency	1575.42 MHz
Polarization	RHCP
Antenna element peak gain	5 dBic
DC voltage	2.5 to 3.5 V
DC current	5 mA @ 2.5 V / 7 mA @ 3.5 V
Bandwidth (-1dB)	10 MHz
LNA network gain	24 dB @ 2.5 V / 28 dB @ 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

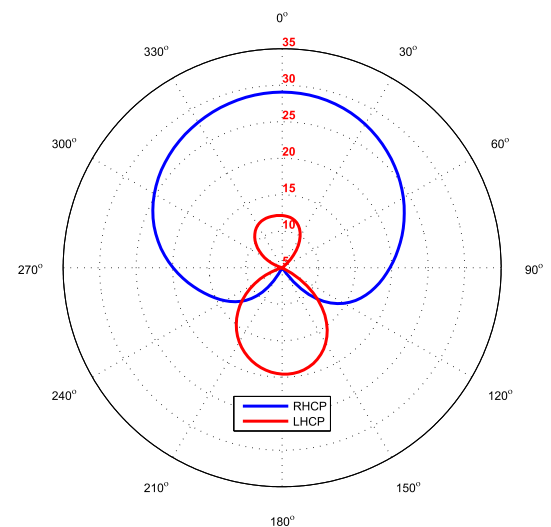
- GPS L1 frequency
- Active LNA circuitry
- Custom connector options
- Low current

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 76mmX76mm ground plane (E plane, 2.5 V)



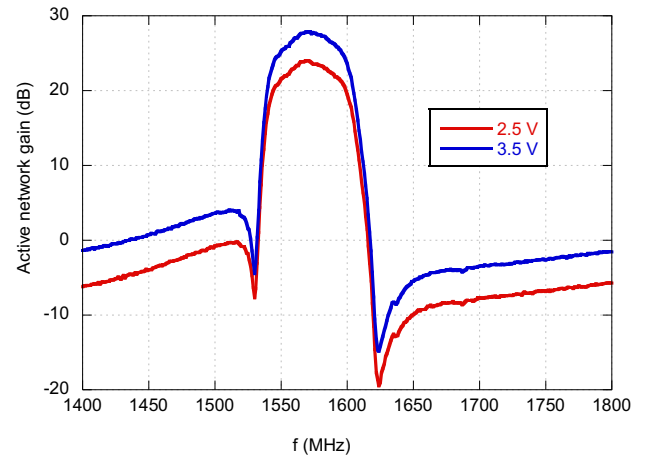
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Active network characteristics

Parameter	Design Specifications
Frequency	1575.42 MHz
DC voltage	2.5 V to 3.5 V
DC current	5 mA @ 2.5 V / 7 mA @ 3.5 V
Noise figure	1.8 dB (max)
VSWR	1.3 (max)
Gain	24 dB @ 2.5 V / 28 dB @ 3.5 V
Input P1dB	-26 dBm @ 2.5 V / -26 dBm @ 3.5 V

Active network wide band response



Antenna element characteristics

76X76 mm ground plane

Parameter	Design Specifications
Frequency	1575.42 MHz
Polarization	RHCP
Antenna element gain	5 dBic
Efficiency	80%
Bandwidth (-1dB)	15 MHz

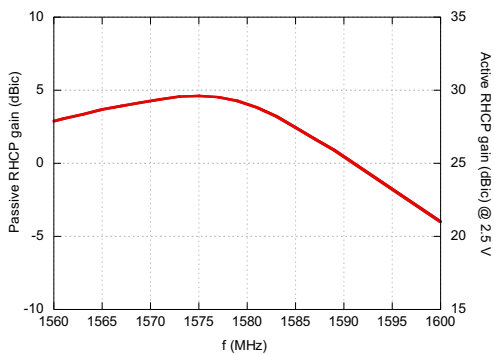
Antenna element characteristics

18X18 mm ground plane

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

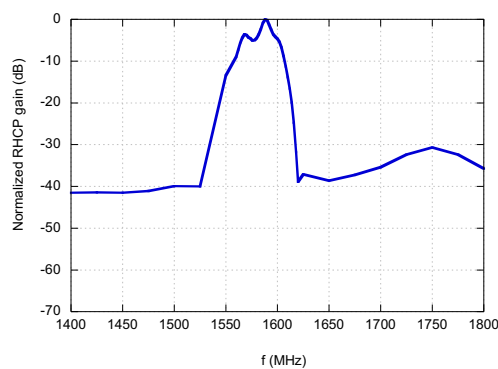
Antenna element gain vs. frequency

76X76 mm ground plane



System rejection

75X75 mm ground plane



Antenna element gain vs. frequency

18X18 mm ground plane

