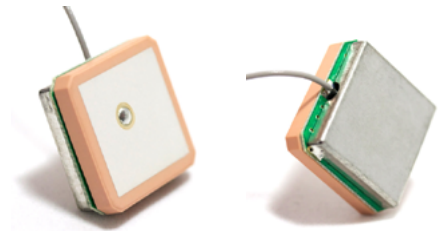




# MIA-GPS-25

EMBEDDED ACTIVE GPS MICROSTRIP ANTENNA

Ordering Part #: 189-00014-01



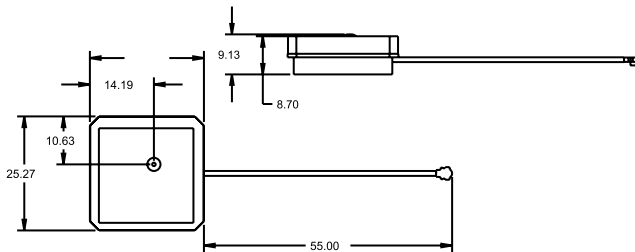
25 mm

## 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. They are ideal for less demanding applications where extreme performance and battery life can be sacrificed at the expense of device cost. This antenna is designed for embedded applications such as GPS 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.

## 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	5.5 dBic
DC voltage	2.5 to 5 V
DC current	7 mA @ 2.5 V / 11 mA @ 3.5 V
Axial ratio	1.5 dB (typical) / 2.5 dB (max)
Bandwidth (-1db)	20 MHz
LNA network gain	28.5 dB @ 2.5 V / 28.5 dB @ 3.5 V
VSWR	2 (max)
Impedance	50 Ohm
Operating temp.	from -40°C to 85°C

## Features

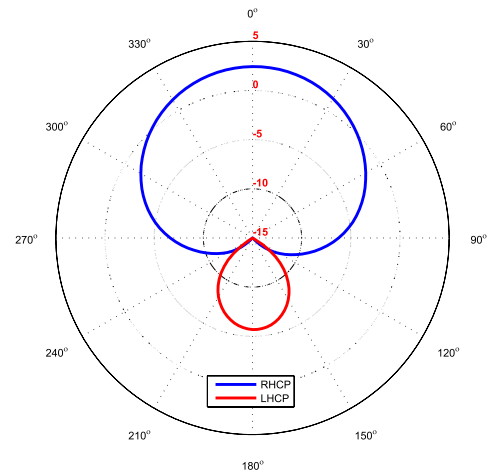
- GPS L1 frequency
- Active LNA circuitry
- Compact size
- Custom tuning
- Custom connector/Cable size

## 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)



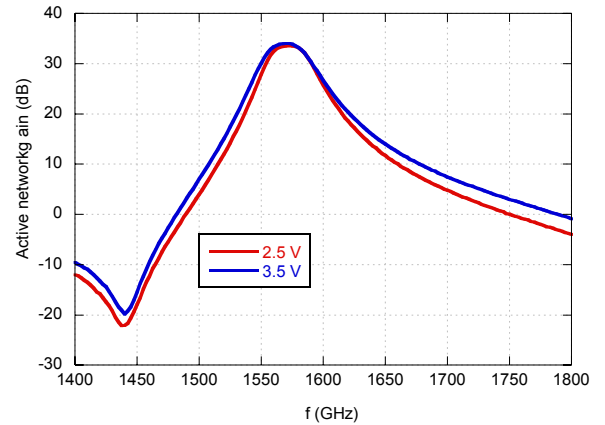
# MIA-GPS-25

EMBEDDED ACTIVE GPS MICROSTRIP ANTENNA

## Active network characteristics

Parameter	Design Specifications
Frequency	1575.42 MHz
DC voltage	2.5 to 3.5 V
DC current	7 mA @ 2.5 V / 11 mA @ 3.5 V
Noise figure	1.5 dB (max)
VSWR	1.3 dB (max)
Gain	34 dB @ 2.5 V / 34 dB @ 3.5 V
Input P1dB	-35 dBm @ 2.5 V / -30 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	5.5 dBic
Efficiency	90 %
Bandwidth (-1dB)	20 MHz

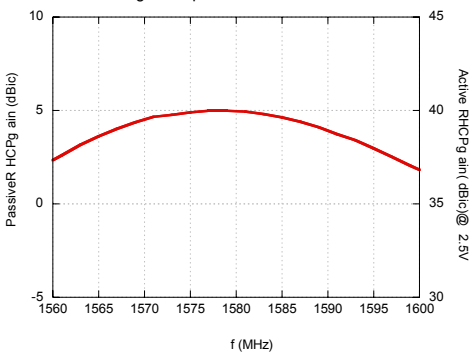
## Antenna element characteristics

25x25 mm ground plane

Parameter	Design Specifications
Frequency	1575.42 MHz
Polarization	RHCP
Antenna element gain	0 dBic
Efficiency	70 %
Bandwidth (-1dB)	15 MHz

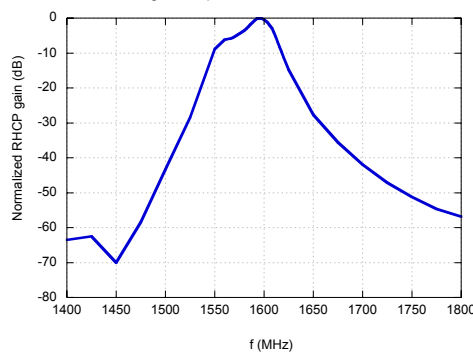
### Active element gain vs. frequency

76x76 mm ground plane



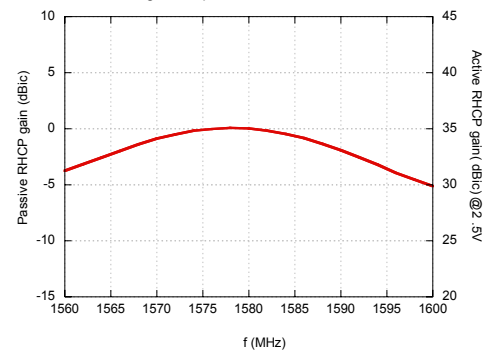
### System rejection

76x76 mm ground plane



### Active element gain vs. frequency

25x25 mm ground plane



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