

## Miniature GPS Antenna

### Features

- Miniature GPS Patch Antenna
- Centre freq 1.575.42MHz
- 20mm x 20mm x 8mm
- VSWR <1.5:1
- Gain (Zenith) 2dB
- Polarisation RHCP
- LNA Gain 28dB (+/-2)
- Noise Figure 1.5dB
- 2.5m RG174 Connecting Lead
- Alternative Connectors: FME / TNC / SMA / MMCX
- 50 Ohm Impedance
- Max Power 50W



### Applications

- GPS Systems
- Embedded positioning

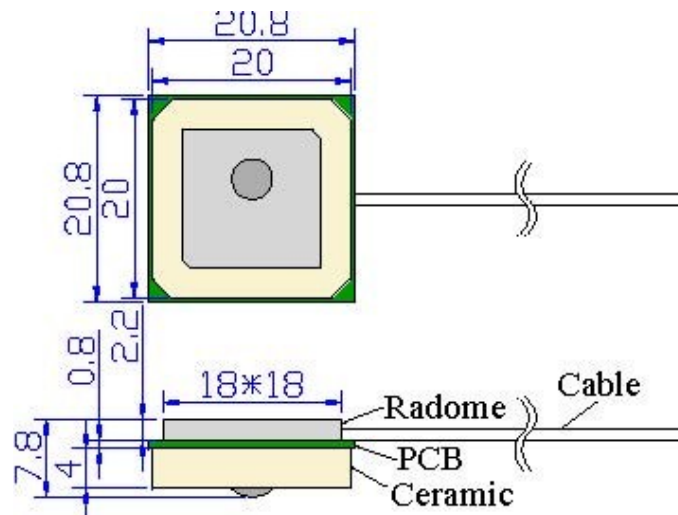
### Description

A compact GPS Antenna for embedded positioning applications where high performance is required.

### Ordering Information

Part Number	Dimensions (mm)	Cable	Connector
ANT-GPS-P20SMA	20mm sq	RG174	SMA (M)

## Mechanical Detail



## Reliability Data

The module has been tested to operate within the following Environmental Conditions;

Condition: Temperature range  $25 \pm 3^\circ\text{C}$

Relative Humidity range 55~75%RH

Operating Temperature range  $-40^\circ\text{C} \sim +85^\circ\text{C}$

Storage Temperature range  $-40^\circ\text{C} \sim +100^\circ\text{C}$

Moisture Resilience

The device satisfies the stated electrical characteristics specified after being exposed to the temperature  $40 \pm 2^\circ\text{C}$  and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

Vibration Resistance

The device satisfies the electrical characteristics specified after being vibrated from 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X, Y and Z directions.

Drop Shock

The device satisfies the electrical characteristics specified after being dropped onto a hard wooden board from a height of 30cm 3 times on each face of the 3 dimensions of the device.

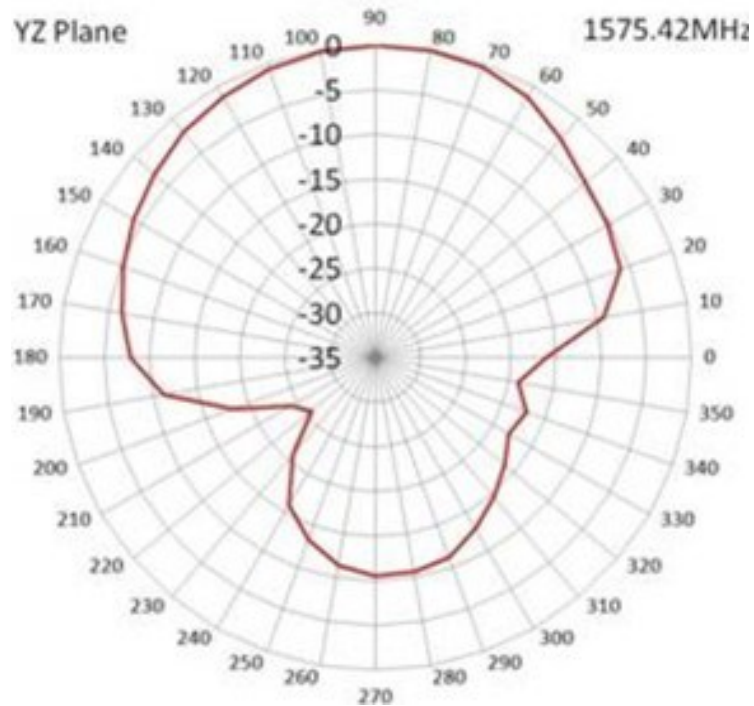
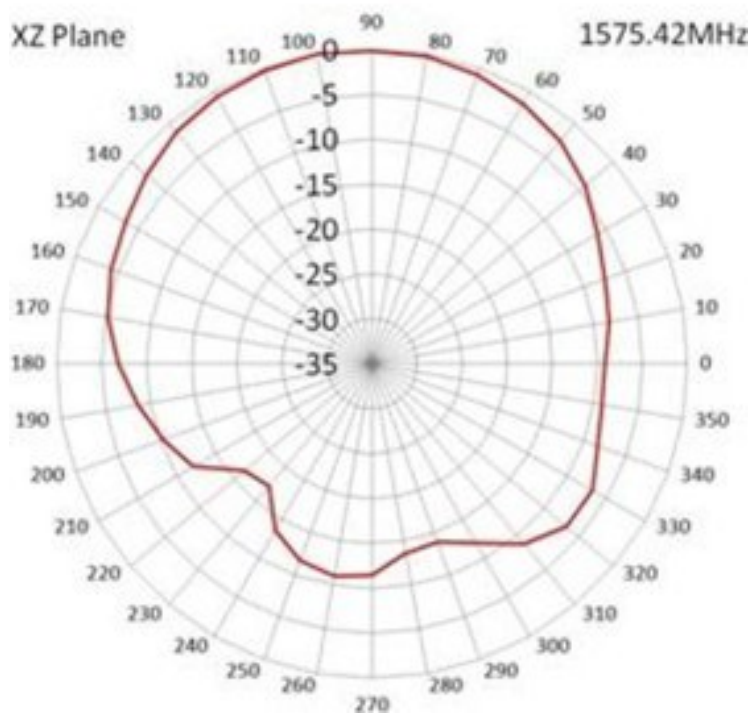
High / Low Temperature Endurance

The device satisfies the electrical characteristics specified after being exposed to temperature  $80 \pm 5^\circ\text{C}$  for  $24 \pm 2$  hours and being given 1~2 hours recovery time under normal temperature. And after being exposed to the temperature  $-40^\circ\text{C} \pm 5^\circ\text{C}$  for  $24 \pm 2$  hours and being given 1 to 2 hours recovery time under normal temperature.

Temperature Cycle Test

The device satisfies the electrical characteristics specified after being exposed to  $-25^\circ\text{C}$  and  $+85^\circ\text{C}$  for  $30 \pm 2$  min each by 5 cycles and being given 1 to 2 hours recovery time under normal temperature.

## Radiation Data



## Dielectric Antenna

Item	Specification	Tolerance
Centre Frequency	1575.42Hz	+/-3MHz
Band Width (MHz)	±5 MHz	±1 MHz
V.S.W.R (in BW)	1.5 : 1	—
Gain (Zenith)	2 dB	±0.5 dB
Polarization	RHCP	—
Impedance	50 Ω	—

## LNA / Filter

Item	Specification	Tolerance
LNA Gain	28±2 dB	±2.5 dB
Noise Figure	1.5 dB	—
Filter Out Band Attenuation	30dB Min f0+40MHz 30dB Min f0-40MHz 40dB Min f0+100MHz 35dB Min f0-100MHz	±1.0 dB
DC Voltage	3~5 V	
DC Current	5~10 mA	

### RF Solutions Ltd. Recycling Notice Meets the following EC Directives:

#### DO NOT

Discard with normal waste, please recycle.

#### ROHS Directive 2002/95/EC

Specifies certain limits for hazardous substances.

#### WEEE Directive 2002/96/EC

Waste electrical & electronic equipment. This product must be disposed of through a licensed WEEE collection point. RF Solutions Ltd., fulfills its WEEE obligations by membership of an approved compliance scheme.

#### Waste Batteries and Accumulators Directive 2006/66/EC

Where batteries are fitted, before recycling the product, the batteries must be removed and disposed of at a licensed collection point.

#### Environment Agency producer registration number: WEE/JB0104WV.

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