

# SPECIFICATION

Part No. : **AP.10D.01**

Product Name : 10mm SMT 25dB Active GPS Patch Antenna

Features : Unique SMT GPS active patch  
 High performance 25dB LNA  
 Patented T mounting antenna structure  
 Ultra low power consumption  
 RoHS compliant

Photo :



## REVISION STATUS

Version	Date	Page	Revision Description	Prepared	Approved
01	Apr 9 <sup>th</sup> 2008	All	New product	TW Product Centre	Zita Lin
02	Oct 1 <sup>st</sup> 2008	3	Temperature range	Ireland	Dermot O'Shea
02	Oct 23 <sup>rd</sup> 2008	4	Suggested Layout added	Ireland	Dermot O'Shea

## 1.0 Introduction

The AP.10D.01 active GPS patch antenna is the smallest SMT GPS high performance embedded antenna currently available in the world. Using extremely sensitive high dielectric constant powder formulation and tight process control the 10mm x 10mm x 4mm patch antenna is accurately tuned to have its frequency band right at 1575.42MHz for GPS systems. A patented T mounting antenna structure gives high reliability in integration. With a low power consumption two stage LNA , this small active patch has the performance of an ordinary active patch, but at only a quarter of the size. This product is suited to small form factor mobile devices such as GPS Smartphones, Personal Location, Medical devices, Telematic devices and Automotive navigation and tracking. Custom gain, connector and cable versions are available.

## 2.0 Specification

### Antenna

Frequency	1575.42 ± 1.023MHz
Gain	Typ -3dBic @ Zenith
Impedance	50Ω
Polarization	RHCP
Axial Ratio	Max 4.0dB @ Zenith
Dimension	10mm x 10mm x 4mm (add 7.3mm depth for vertical PCB)

### LNA

Frequency	1575.42 ± 1.023MHz
Gain	Min. 23dB, Typ. 25dB @ 25°C ± 5°C
Noise Figure	Typ. 1.4dB @ 25°C ± 5°C Max 1.8dB @ 85°C
Output Impedance	50Ω
Output VSWR	Max. 2.0

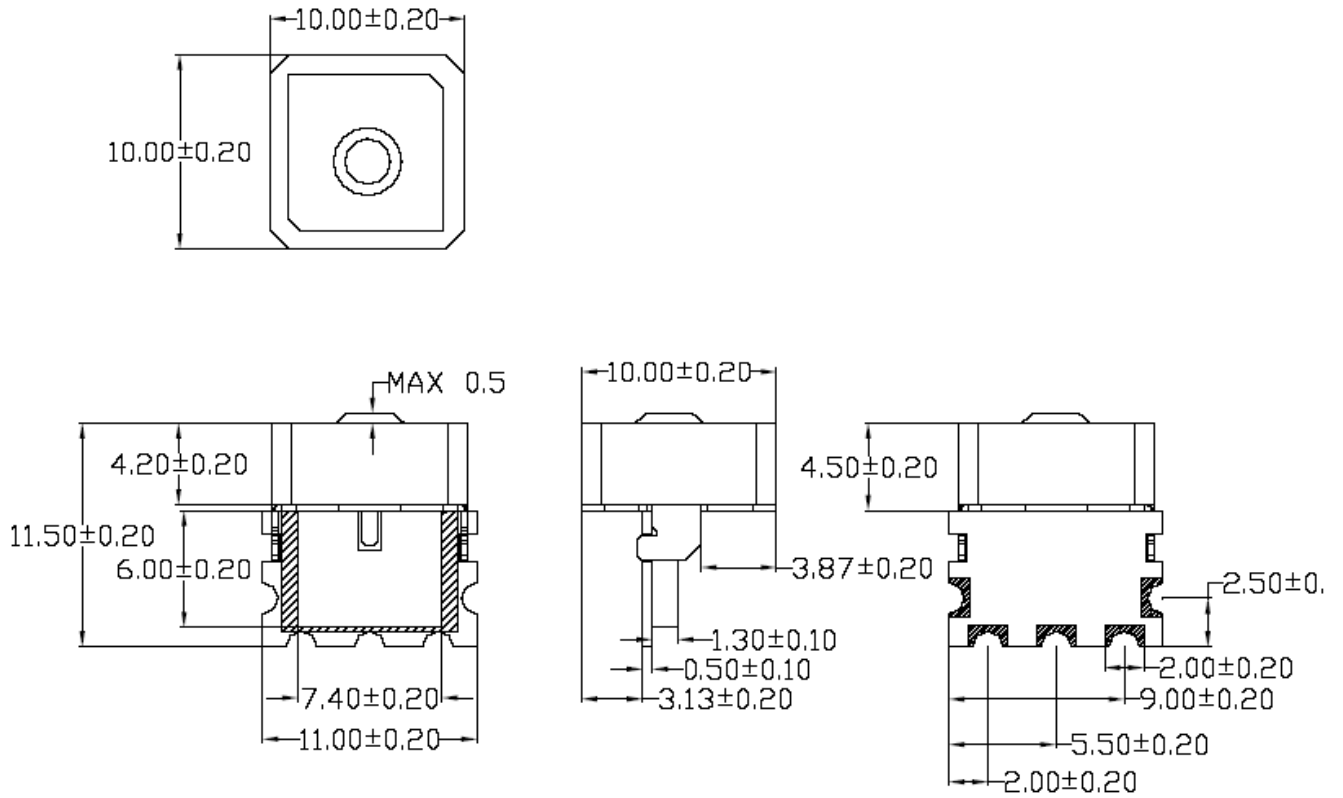
### Connection

Connection	SMT via solder pads
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### Total Specification

Frequency	1575.42 ± 1.023MHz
Gain	22 ± 4dBic @ 90°
Output Impedance	50Ω
Polarization	RHCP
Output VSWR	Max 2.0
Operation Temperature	-20°C to + 85°C
Storage Temperature	-30°C to + 85°C
Relative Humidity	40% to 95%
Input Voltage	Min. 2.7V, Typ. 3.0V, Max. 3.3V
Current	Typ. 10mA, Max. 13mA

### 3.0 Technical Drawing



**Unit:mm**

