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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# SPECIFICATION

Part No. : **AP.10A.07.0050B**

Product Name : 10mm One Stage Active GPS Patch Antenna

Features : World smallest GPS active patch  
High performance  
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 15 <sup>th</sup> 2008	3	Environmental Conditions	TW Product Centre	Dermot O'Shea

## 1.0 Introduction

The AP.10A.07.0050B active GPS patch antenna is the smallest GPS high performance 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. With an ultra low power consumption one 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

Parameter	Specification
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

### LNA

Frequency	1575.42 ± 1.023MHz
Gain	Min. 13dB, Typ. 15dB @ 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

### Cable\* & Connector

RF Cable	Coaxial Cable $\phi$ 0.8 ± 0.1mm, length 50 ± 2.0mm
Connector	Ipex MHFI (U.FL)

## Total Specification

Parameter	Specification
Frequency	1575.42 ± 1.023MHz
Gain	12 ± 4dBic @ 90°
Output Impedance	50Ω
Polarization	RHCP
Output VSWR	Max 2.0
Operation Temperature	-40°C to + 85°C
Storage Temperature	-40°C to + 85°C
Relative Humidity	40% to 95%
Input Voltage	Min. 2.7V, Typ. 3.0V, Max. 3.3V
Current	Typ. 3mA, Max. 5mA

### 3.0 Technical Drawing

