

## **SPECIFICATION**

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

Product Name : 10mm One Stage Active GPS Patch Antenna

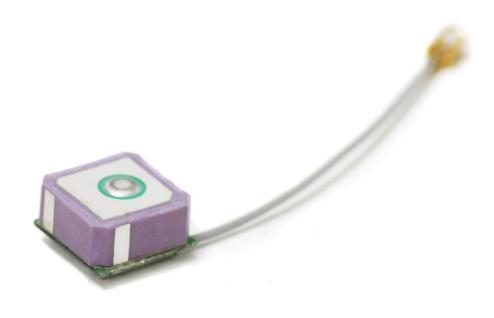
Features : World smallest GPS active patch

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	
Noise Figure	Max 1.8dB @ 85°C	
Output Impedance	<b>50</b> Ω	
Output VSWR	Max. 2.0	

#### Cable\* & Connector

RF Cable	Coaxial Cable $\phi$ 0.8 ± 0.1mm, length	
	50 ± 2.0mm	
Connector	lpex 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

