

SPECIFICATION

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

Product Name : 10mm 25dB Active GPS Patch Antenna

Features : World smallest GPS active patch
High performance 25dB
Low power consumption
RoHS compliant

Photo :



REVISION STATUS

Version	Date	Page	Revision Description	Prepared	Approved
01	Apr 9 th 2008	All	New product	TW Product Centre	Zita Lin
02	Oct 15th 2008	3	Environmental Conditions	TW Product Centre	Dermot O'Shea

1.0 Introduction

The AP.10b.01 25dB 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 two stage LNA , this small active patch has the same relative 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 $\pm$ 1.023MHz
Gain	Typ -3dBic @ Zenith
Impedance	50 Ω
Polarization	RHCP
Axial Ratio	Max 4.0dB @ Zenith
Dimension	10mm x 10mm x 4mm

LNA

Frequency	1575.42 $\pm$ 1.023MHz
Gain	Min. 23dB, Typ. 25dB @ 25oC $\pm$ 5oC
Noise Figure	Typ. 1.4dB @ 25oC $\pm$ 5oC Max 1.8dB @ 85oC
Output Impedance	50 Ω
Output VSWR	Max. 2.0

Cable *& Connector

RF Cable	Coaxial Cable ϕ 0.8 $\pm$ 0.1mm, length 50 $\pm$ 2.0mm
Connector	IPEX MHFI (U.FL)

Total Specification

Parameter	Specification
Frequency	1575.42 ± 1.023MHz
Gain	22 ± 4dBic @ 90o
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. 10mA, Max. 13mA

3.0 Technical Drawing

