



Specification

# SPECIFICATION

- Part No. : **AP.25B.07.0052A**
- Product Name : **25mm One Stage GPS Active Patch Antenna Module**
- Features : 35mm\*35mm\*4.50mm (Ground Plane)  
52mm Ø1.13 I-PEX MHFI (U.FL)  
15dB LNA  
1.8V/3.0V/5.0V  
ROHS Compliant
- Photo :



## REVISION STATUS

Version	Date	Page	Revision Description	Prepared	Approved
01	May 11 <sup>th</sup> 2007	All	New format	TW Product Centre	Ronan Quinlan
02	Oct 13 <sup>th</sup> 2009	All	New format Voltage range increased	Ireland	Dermot O'Shea



## Specification

### 1.0 Introduction

Designed for embedded (inside device) integration with GPS receiver modules, the AP.25B combines a 25\*25\*2mm advanced low profile ceramic patch antenna with a one stage LNA and ultra thin coaxial cable. The Ground Plane size of 35\*35mm gives this solution a performance increase in gain of 1~2dB. It also helps shields the patch antenna from noise. Taoglas active antenna modules utilise XtremeGain™ technology for the highest sensitivity in the industry.

The AP.25B has been optimized for telematics, asset tracking, navigation, and remote monitoring applications or simply any GPS device that requires high performance and needs quick, reliable and consistent lock. It has been designed to sit directly above the main board adhered to the underside of the plastic housing. There is a constant Voltage Regulator built into the LNA integrated circuit this allows any device using the AP.25B to benefit from Lower Power Consumption.

### 2.0 Specification

#### Patch Antenna

Frequency	1575.42 ± 1.023MHz
Antenna Gain	90°: 2.0 dBi Min. 20°: -5.0 dBi Min Mounted on a 60*60mm Ground Plane
Polarization	RHCP
Axialratio	90°: 4.0 dBi Max. Mounted on a 60*60mm Ground Plane
Patch Dimension	25mm x 25mm x 2mm

#### LNA

Frequency	1575.42 ± 1.023MHz
Gain	Typ. 15dB ± 2.5dB (+25°C±5°C)
Output Impedance	50 Ω
Noise Figure	Max 1.5dB (+25°C±5°C) Max: 2.2dB (+85°C)
Output VSWR	2.0 Max



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**Cable\* & Connector**

RF Cable	Coaxial Cable $\phi$ 1.13 $\pm$ 0.1mm, length 52 $\pm$ 3.0mm
Connector	Ipex MHFI (U.FL)

**Dimensions**

Dimensions	35*35*4.50mm
Weight	12.3g (typ)

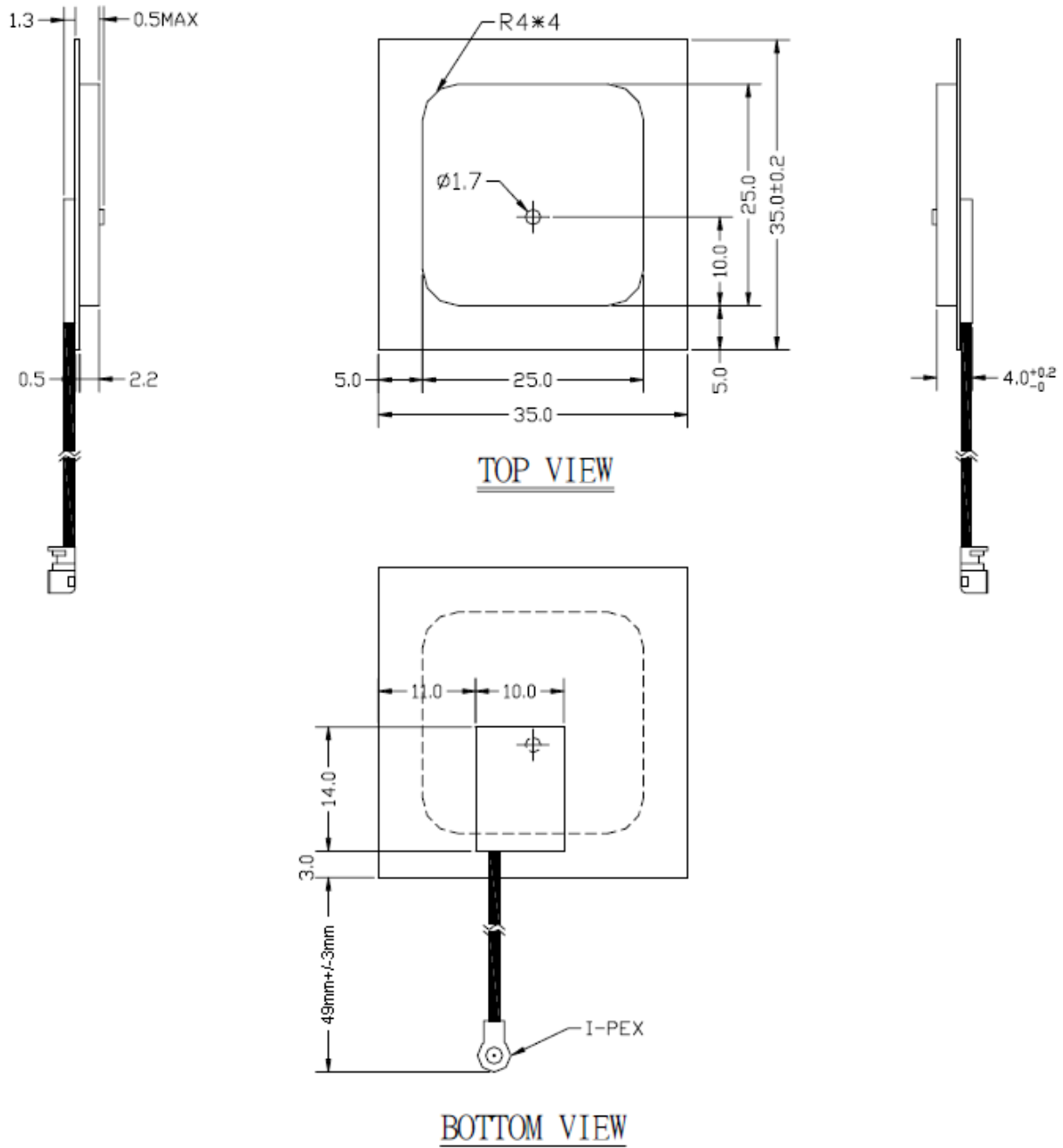
**Total Specification**

Frequency	1575.42 $\pm$ 5MHz
Gain	90°: 17 $\pm$ 4.5dBi
Output Impedance	50 $\Omega$
Polarization	RHCP
Output VSWR	Max 2.0
Operation Temperature	-40°C to + 85°C
Storage Temperature	-40°C to + 100°C
Relative Humidity	40% to 95%
Input Voltage	1.8V/3.0V/5.0V Max: 5.0V
Current	Typ. 3.8mA at 3v



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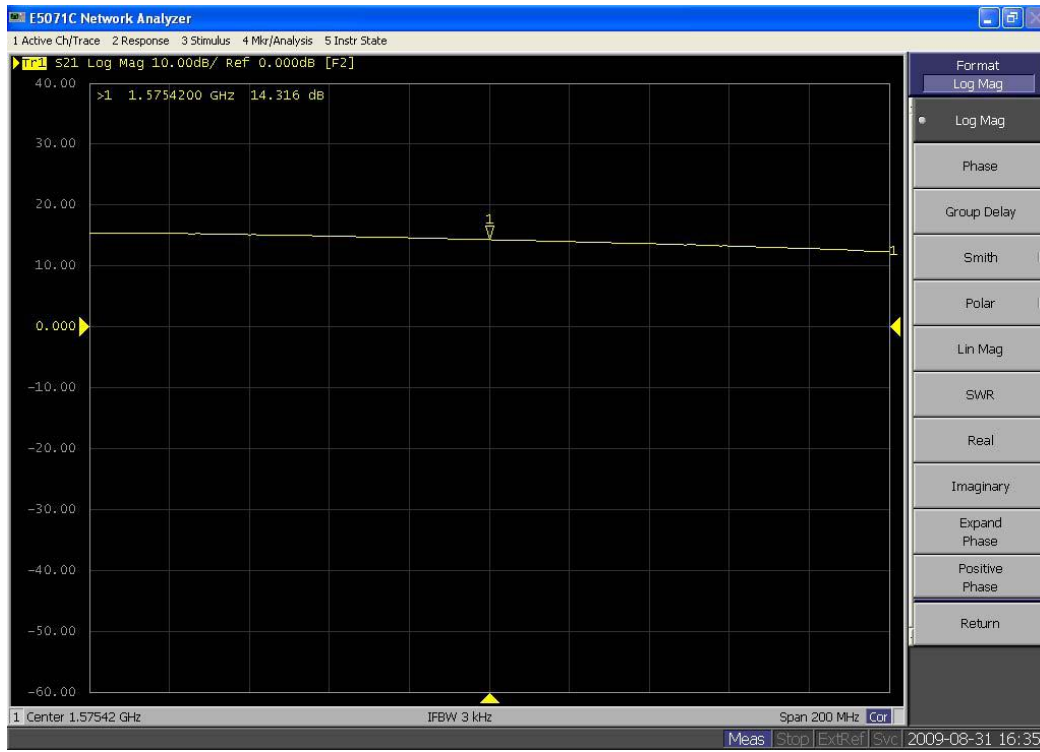
### 3.0 Technical Drawing



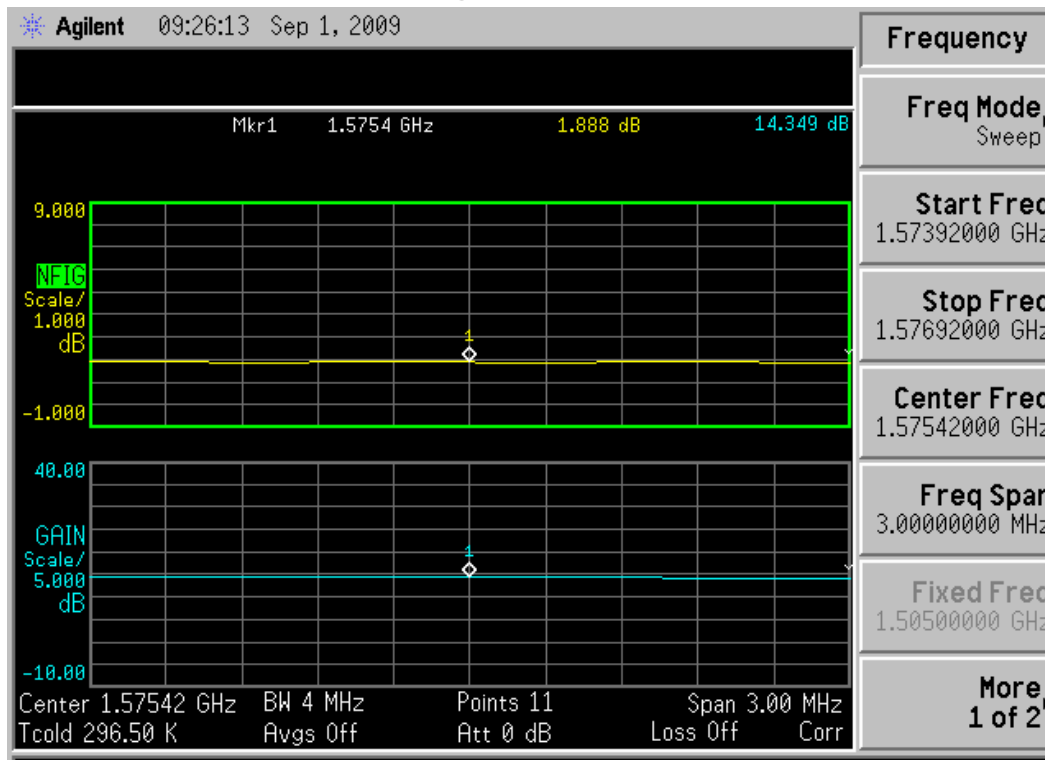


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### S21 – Gain – Input Voltage 1.8V



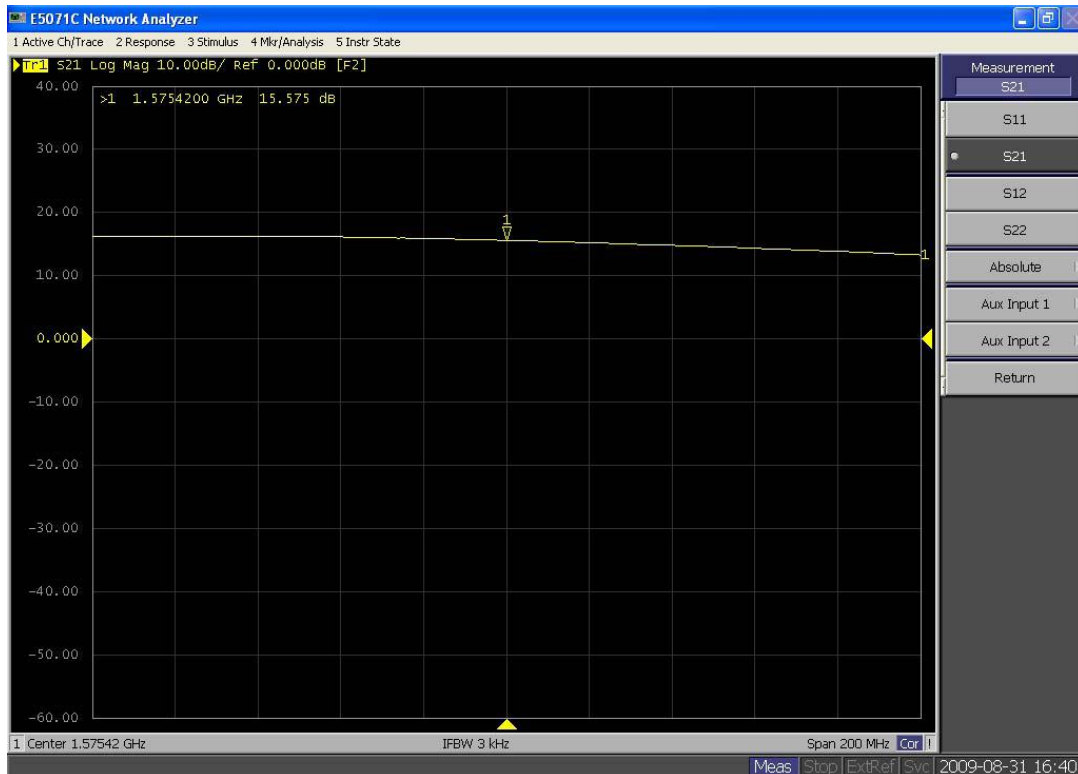
### Noise Figure Meter – 1.8V



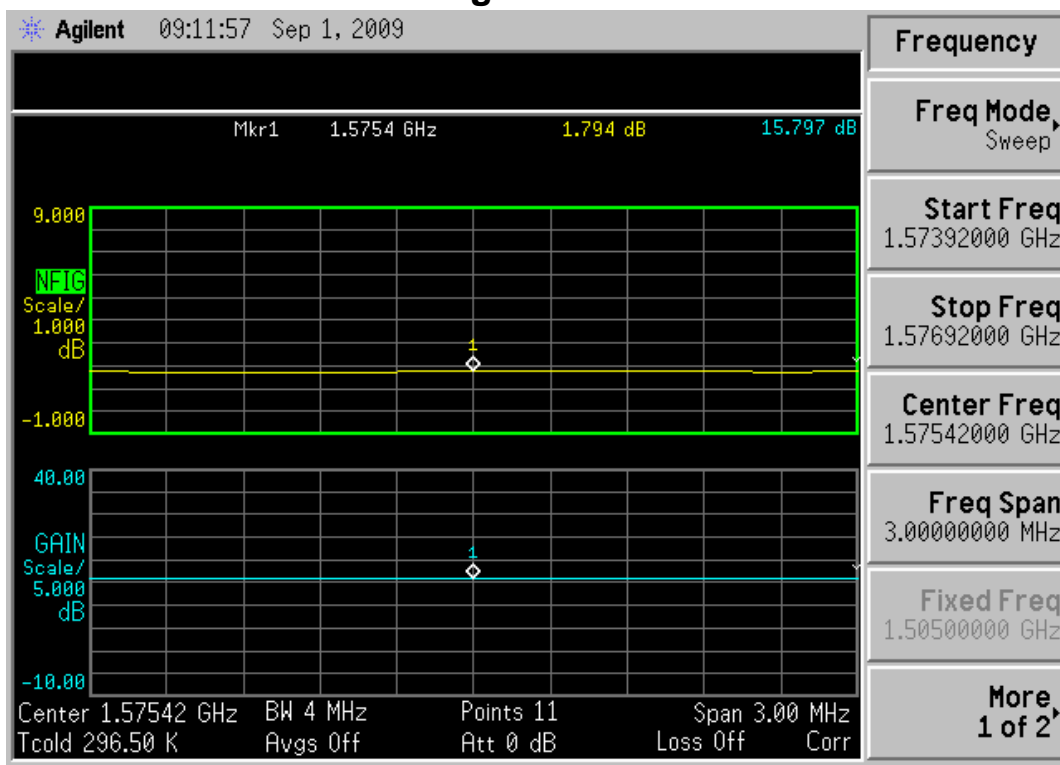


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### S21 – Gain – Input Voltage 3V



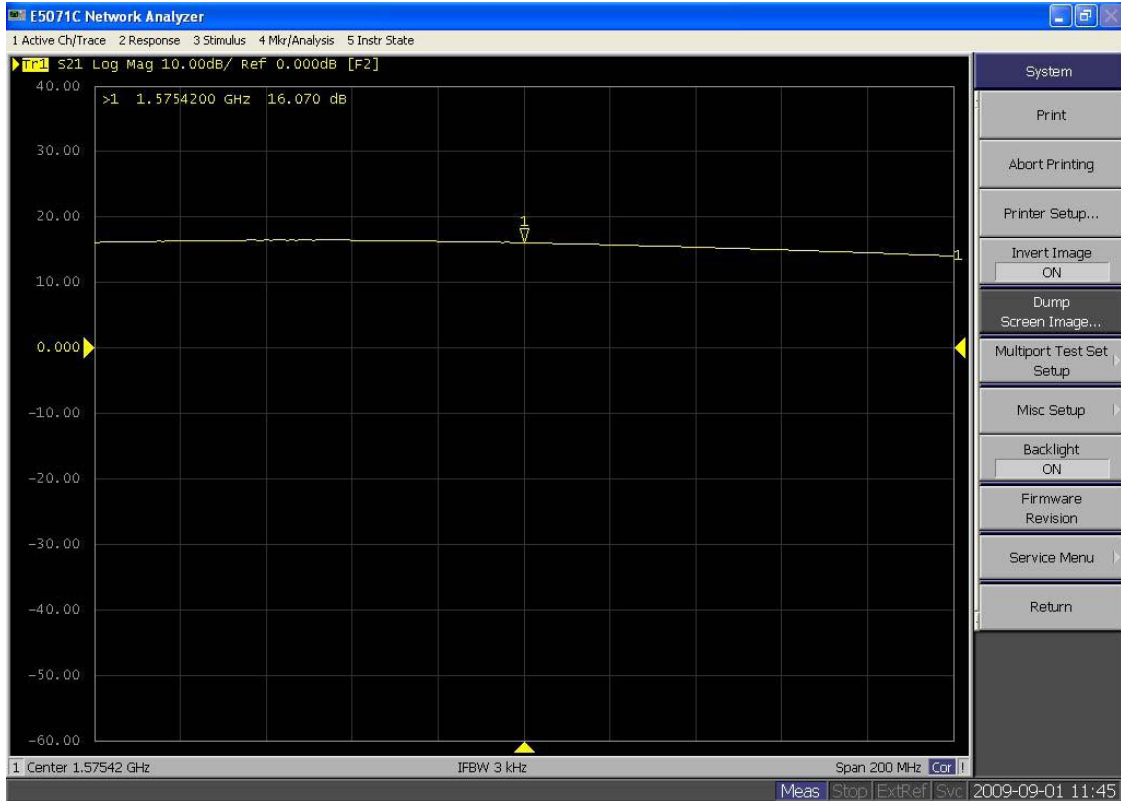
### Noise Figure Meter – 3V





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S21 – Gain – Input Voltage 5V



Noise Figure Meter – 5V

