



Specification

# SPECIFICATION

- Part No. : **AP.35A.07.0062A**
- Spec No. : **SP03B115750-0530 (0310152T1EI0100)GBA-146**
- Product Name : **35mm One Stage GPS Active Patch Antenna Module**
- Features : 35mm\*35mm\*5.5mm (Ground Plane)  
62mm Ø1.13 I-PEX MHFI (U.FL)  
15dB LNA  
ROHS Compliant
- Photo :



## REVISION STATUS

Version	Date	Page	Revision Description	Prepared	Approved
01	Oct 1 <sup>st</sup> 2009	All	New Antenna	TWN Product Centre	Ronan Quinlan



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### 1.0 Introduction

The AP.35A has been designed for embedded (inside device) integration with GPS receiver modules, the AP.35A combines a 35\*35\*3.5mm advanced low profile ceramic patch antenna with a one stage LNA and ultra thin coaxial cable.

The Ground Plane size of 35\*35mm combined with the larger size GPS Patch, gives this solution a performance increase in gain of 1~2dB. It also helps shields the patch antenna from noise and increases performance at low elevations.. Taoglas active antenna modules utilise XtremeGain™ technology for the highest sensitivity in the industry.

### 2.0 Specification

#### Patch Antenna

Parameter	Specification
Frequency	1575.42 ± 1.023MHz
Gain @ Zenith	+2.5 dBic Typ @ Zenith
Polarization	RHCP
Axialration	90°: 3.0dB max
Patch Dimension	35*35*3.5mm

#### LNA

Parameter	Specification
Frequency	1575.42 ± 1.023MHz
Gain	At 5V: Typ. 15.5dB (+25°C ± 5°C) At 3V: Typ. 15dB (+25°C ± 5°C) At 1.8V: Typ. 13dB (+25°C ± 5°C)
Output Impedance	50Ω
Output VSWR	2.0 Max
Noise Figure	Typ. 1.6dB (+25°C ± 5°C) 2.2dB Max. (+85°C) Max 2.2dB (+85°C)

#### Cable\* & Connector

Parameter	Specification
RF Cable	Coaxial Cable Ø1.13 ± 0.1mm, length 62 ± 2.0mm
Connector	IPEX MHFI (U.FL)



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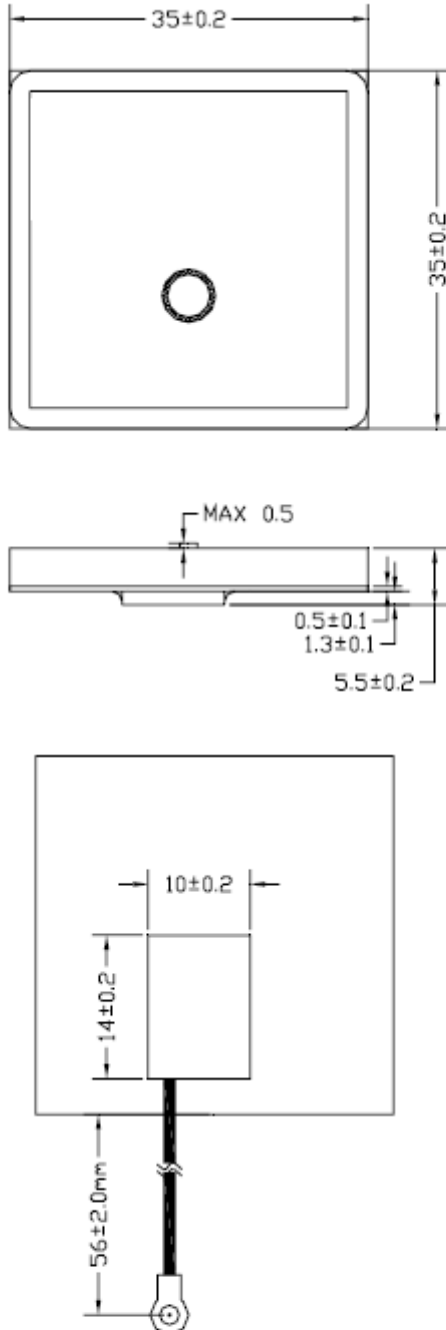
**Total Specification (through Antenna, LNA, Cable and Connector)**

Parameter	Specification
Frequency	1575.42 ± 1.023MHz
Gain	At 90° At 5V: 18 ± 3dBi At 3V: 17.5 ± 3dBi At 1.8V: 15.5 ± 3dBi
Output Impedance	50Ω
Polarization	RHCP
Output VSWR	Max 2.0
Operation Temperature	-30°C to + 80°C
Storage Temperature	-40°C to + 100°C
Relative Humidity	40% to 95%
Input Voltage	Min: 1.8V Typ. 3.0V Max: 5V
Current Consumption	At 3.0V Typ. 3.2mA, Max. 5mA
Antenna	35*35*5.5mm



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### 3.0 Technical Drawing

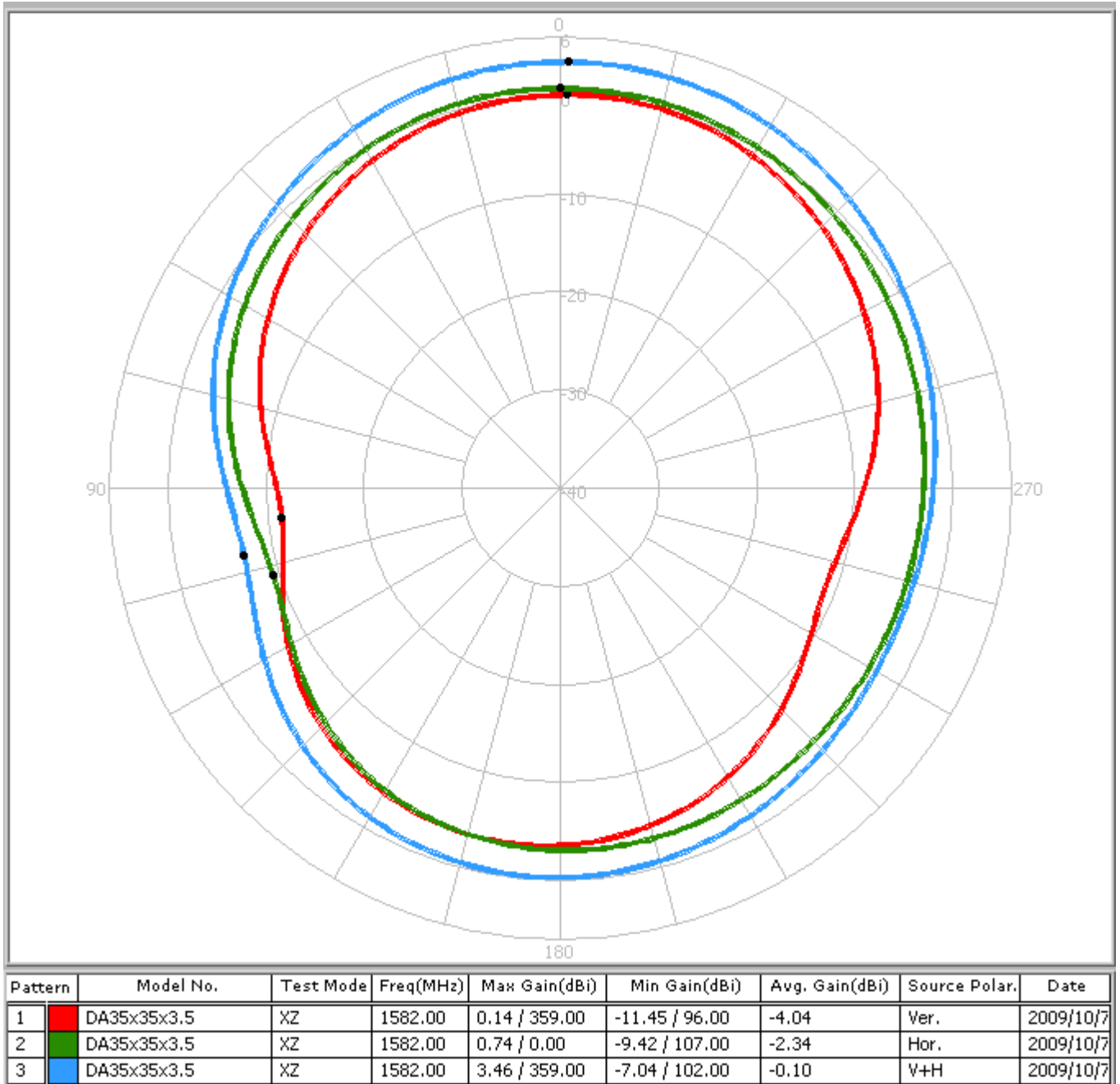


**Unit:mm**



## 4.0 Radiation Patterns

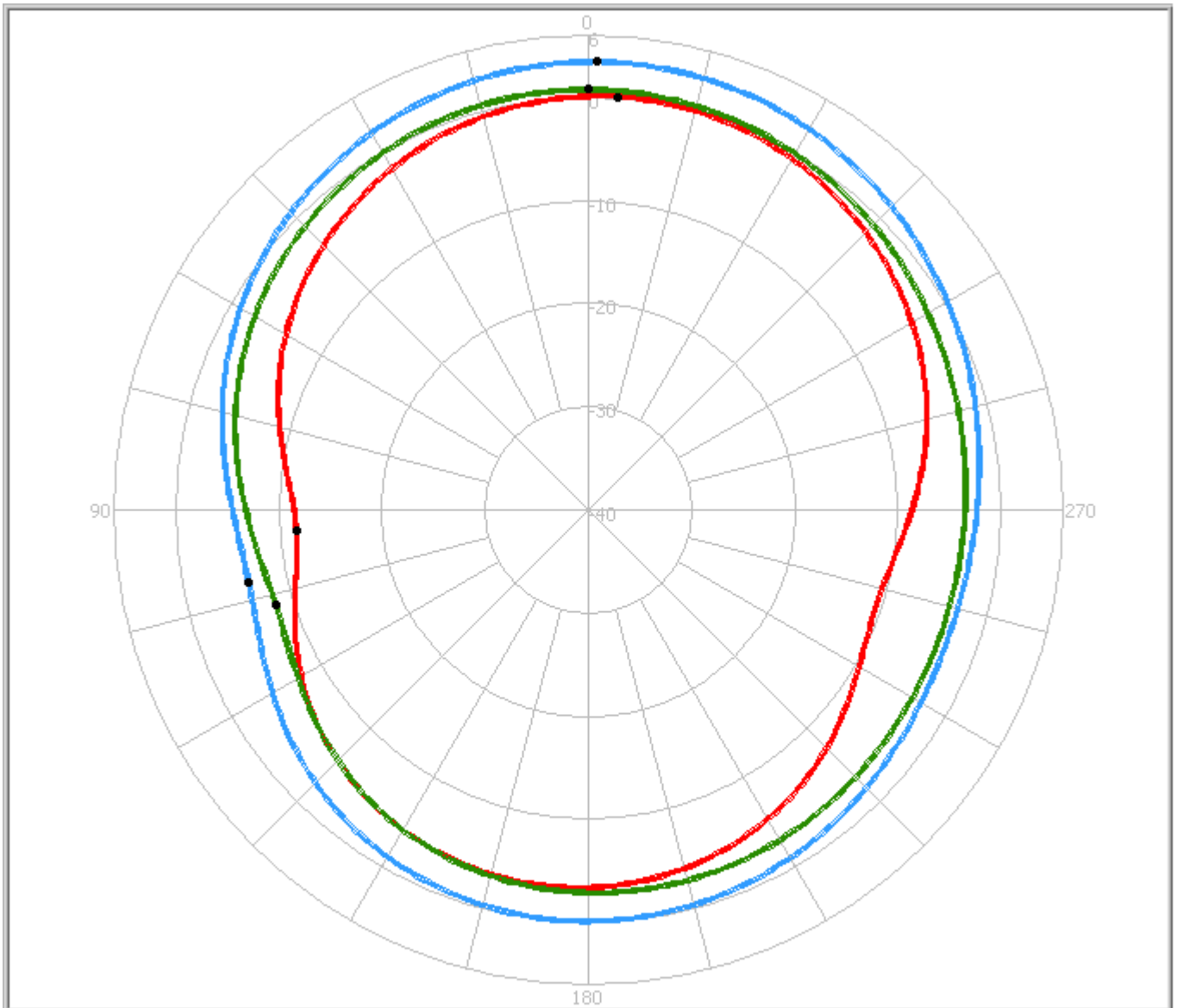
XZ





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**YZ**



Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	DA35x35x3.5	YZ	1582.00	0.16 / 356.00	-11.61 / 94.00	-3.97	Ver.	2009/10/7
2	DA35x35x3.5	YZ	1582.00	0.75 / 0.00	-8.30 / 107.00	-2.35	Hor.	2009/10/7
3	DA35x35x3.5	YZ	1582.00	3.46 / 359.00	-6.33 / 102.00	-0.07	V+H	2009/10/7



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## 5.0 Axial Ratio

