



Specification

# SPECIFICATION

Part No. : **AP.25C.01.5000D**

Model No. : **AP.25C.01.**

Product Name : **25mm Two Stage GPS Active Patch Antenna Module**

Features : 25mm\*25mm\*8mm  
5M RG-174 SMA(M) straight  
30dB LNA  
ROHS Compliant

Photo :



## REVISION STATUS

Version	Date	Page	Revision Description	Prepared	Approved
01	Nov 22 <sup>nd</sup> 2004	All	New format	TW Product Centre	Ronan Quinlan
02	Dec 3 <sup>rd</sup> 2008	All	New Format	IRL Head Office	Áine Doyle



## 1.0 Introduction

Designed for onboard integration with GPS receivers, this combines a 25\*25\*4mm advanced ceramic patch antenna with a powerful two stage LNA for 30dB+ gain and optional custom cable and connector. Taoglas active antenna modules utilise XtremeGain™ technology for the highest sensitivity in the industry. It is optimised for asset tracking, navigation and remote monitoring applications.

Gives performance boost for all GPS receivers in the industry, Falcom, SiRF Star II, SiRF Star III, uNav, Nemerix, Fastrax, etc.

## 2.0 General

### 2.1 Environmental Conditions

2.1.1	Operation Temperature	-30°C to + 80°C
2.1.2	Storage Temperature	-40°C to + 100°C
2.1.3	Relative Humidity	40% to 95%

### 2.2 Electrical Specifications

2.2.1	Input Voltage	Min:2.5V	Max: 5.5V	
2.2.2	Current Consumption	At 3.0 V	Typ: 13mA. Max: 16mA. At 5.0 V	Typ: 18mA. Max: 22mA.

### 2.3 Cable & Connector

2.3.1	RF Cable	RG-174, Black	
		Cable Length	5M ± 5cm
2.3.2	RF Connector	SMA(M) Straight	



## Specification

## 2.4 Mechanical Specifications

2.4.1	Mounting	Magnet Mount	
		Cable Length	5m ± 5cm
2.4.2	Horizontal Pulling Force of Magnet	1.5 Kg Min	
2.4.3	Water Proof	Immersion in Water at 50cm for 30 Min.	
2.4.4	Shock	10msec. Half sine wave.	
2.4.5	Vibration	10~200Hz Log. Sweep 3.0G sweep time: 15 Minutes, 3 Axes	
2.4.6	Magnet Threshold	The antenna must stay attached to the vehicle, at a speed of 180 km/h.	
2.4.7	Cable Shear Force	At room temperature Min 7Kg /10sec. Apply 7Kg/10sec pulling force between the cable and the antenna unit, no visible damage shall appear on the cable and connector.	
2.4.8	Bend Test	Bend 90° right and left for 1,000 cycles, no damage found	
2.4.9	Weight	105g Max.	
2.4.10	Dimension	See Fig. 2	

## 3.0 Antenna

3.1	Frequency Range	1575.42 ± 1.023 MHz.
3.2	Gain	90° : 2.0 dBi Min. 20° : -5.0 dBi Min. Mounted on a 60mm*60mm ground plane
3.3	Polarization	RHCP
3.4	Axial Ratio	90° : Max 4.0dB Mounted on a 60mm*60mm ground plane

## 4.0 LNA

4.1	Frequency Range	1575.42 ± 1.023 MHz
4.2	Gain	28 ± 4.5dB ( + 25°C ± 5°C)
4.3	Noise Figure	1.5 dB Max. ( +25 °C ± 5°C) 2.2 dB Max. ( +85 °C)



Specification

4.4	Out band Rejection	fo = 1575.42MHz fo ± 20 MHz 7dB Min. fo ± 30 MHz 12dB Min. fo ± 50 MHz 20dB Min. <b>fo ± 100 MHz 30dB Min.</b>
4.5	Output Impedance	50Ω
4.6	Output VSWR	2.0 Max

**5.0 Overall Specification (Antenna, LNA, Cable and Connector)**

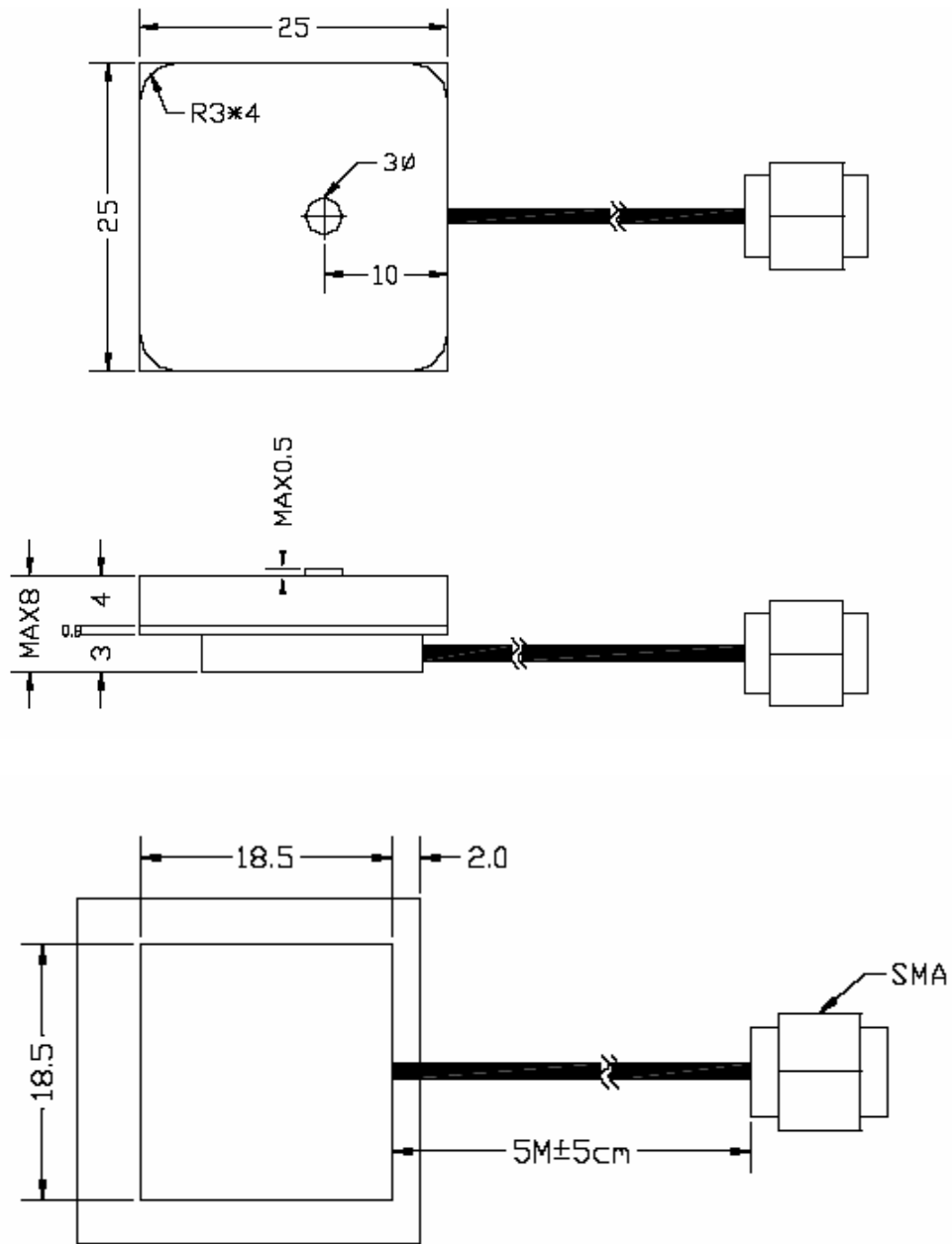
5.1	Frequency Range	1575.42 ± 1.023MHz
5.2	Gain	At 90° 30± 4.5dBi – cable loss (Note 1)
5.3	Output Impedance	50Ω
5.4	VSWR	2.0 Max

**Note 1: Cable Loss = Max.( -1.2dB / m)**



Specification

6.0 OUTLINE



Unit:mm