

# GPS Active Antenna Module

## APAMPJ-133

RoHS/RoHS II compliant

Lead in copper alloy exemption (6c); and Lead in glass exemption (7c-1)



41.0 X 34.0 X 14.5mm

MSL level: Not Applicable

### FEATURES:

- GPS External Module 1575.42MHz
- Compact design 41 x 34 x 14.5mm
- Patch with low gain LNA
- Low gain to reduce chance of saturation of RFIC
- Gain (13dBm min / 17dBm max)
- Out of band rejection 83dB min
- DC Supply (2.7V min / 5.5V max)
- Easy to install (adhesive tape base)
- RoHS/RoHS II compliant

### TYPICAL APPLICATIONS:

- Automotive Navigation
- Tracking Systems
- GPS Navigation in urban canyons

### STANDARD SPECIFICATIONS:

#### Antenna

Parameters	Min.	Typ.	Max.	Units	Note
Center Frequency		1575.42		MHz	
Bandwidth	10			MHz	
VSWR at Center Frequency			1.5:1		
Polarization Model	RHCP				(Right Hand Circular Polarization)
Impedance		50		$\Omega$	
Gain		4		dBic	(Based on 70x 70mm ground plane)

#### Low Noise Amplifier (LNA)

Parameters	Min.	Typ.	Max.	Units	Note
Center Frequency		1575.42		MHz	
DC Voltage	1.8		5.0	V	
Gain	13	15	17	dB	(Without cable +25°C± 10°C)
Out-of-band Rejection (Absolute Value)	83			dB	(fo+100MHz)
	53			dB	(fo-100MHz)
Output VSWR			2.0		
Noise Figure			2	dB	
DC current			3	mA	(@ 1.8V)
			7		(@ 3.3V)
			12		(@ 5.0V)
Power			60	mW	

#### Overall (complete module including RF connector)

Parameters	Min.	Typ.	Max.	Units	Note
Center Frequency		1575.42		MHz	
Gain	14	16	18	dBic	(Based on 70x70mm ground plane.)
Output VSWR			2.0		
Impedance		50		$\Omega$	
Operating Temperature	-40		+85	°C	

# GPS Active Antenna Module

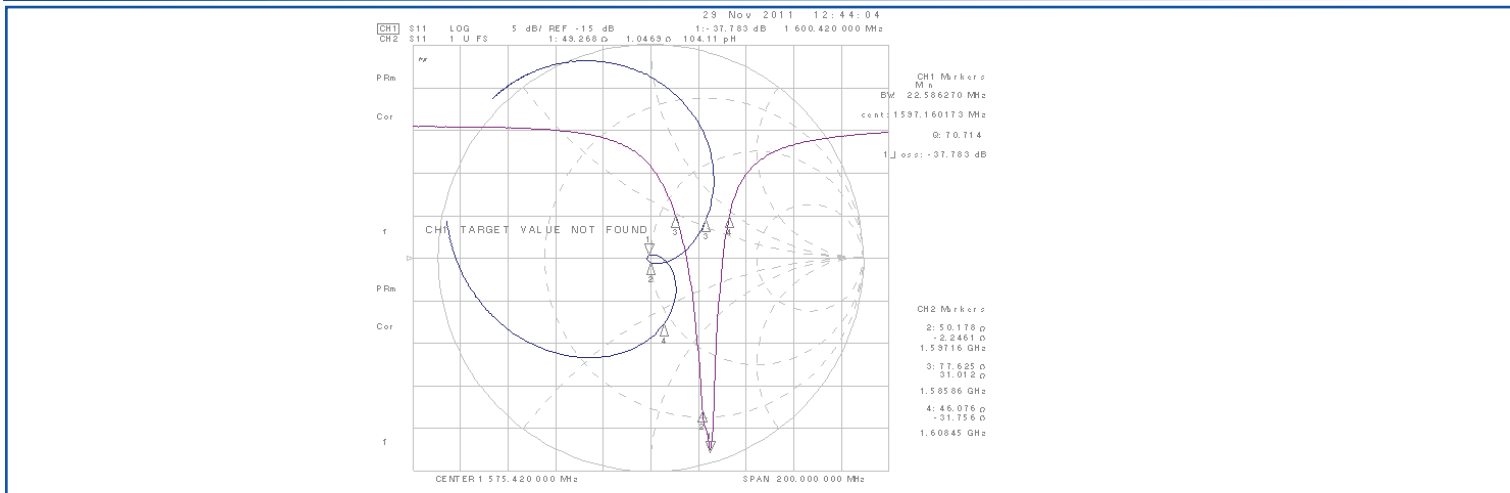
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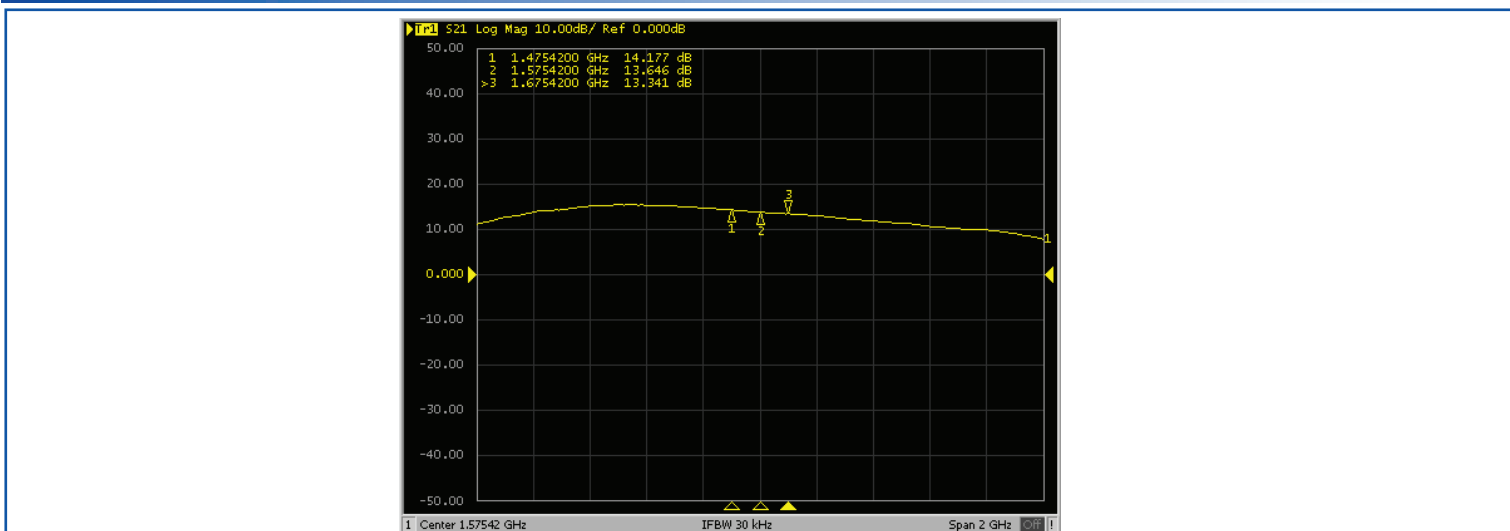


41.0 X 34.0 X 14.5mm

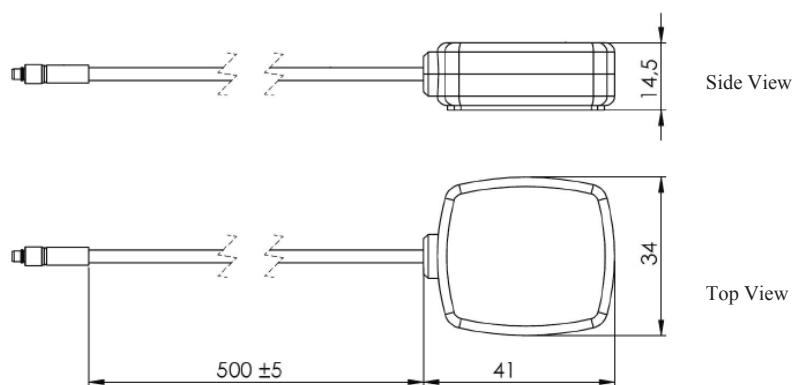
## ANTENNA'S IMPEDANCE AND RETURN-LOSS CHARACTERISTICS



## ANTENNA S21 GAIN



## OUTLINE DRAWING:



Parameters	Description
L (Cable Length)	500±5cm
Antenna	Dielectric Ceramic
RF Cable Attenuation	1.3 dB/m
RF Cable	Coax. cable RG174U
PCB	FR4
RF Connector	MMCX, Male, Straight, Nickel
Housing	Black ABS
Mounting	Adhesive Tape

Unit:mm

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## PACKAGING:

Antenna is packaged in 100x200x0.1mm size poly bag. There are 300pcs in 465x310x250mm size box.



### CAUTION:

- (1) Do not apply excess mechanical stress to the component body or terminations.  
Do not attempt to re-form or bend the components as this will cause damage to them.
- (2) Do not expose the component to open flame.
- (3) This specification applies to the functionality of the component as a single unit.  
Please evaluate your specifications before mounting this product.

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