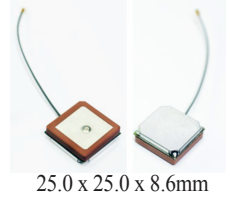


# GPS / GLONASS Active Internal Patch

## APAMPGJ-141

RoHS/RoHS II Compliant



25.0 x 25.0 x 8.6mm

MSL level: Not Applicable

### FEATURES:

- Active GPS and GLONASS Module (1575.42 and 1592 - 1610 MHz)
- Internal Module with Pre-Filter and LNA Gain block
- Patch Gain 2dBic (min) 3dBic (max),
- LNA Gain 23dB (3V), 24dB (5V)
- Wide Supply range (2.7V ~ 5.5V)
- VSWR 1.5:1
- Compact size (25mm x 8.6mm x 25mm)
- RHCP
- U.FL connector and 100mm micro-coax (1.13mm)
- RoHS/RoHS II compliant

### TYPICAL APPLICATIONS:

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

### STANDARD SPECIFICATIONS:

#### Antenna

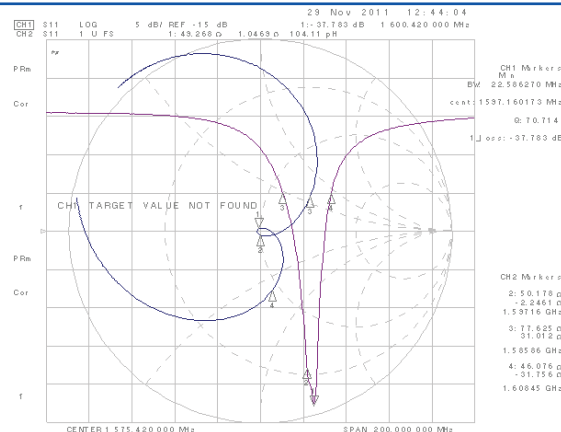
Parameters	Min.	Typ.	Max.	Units	Note
Center Frequency		1575.42		MHz	GPS (In free Space)
	1592		1610	MHz	GLONASS
Bandwidth	10			MHz	GPS
	18			MHz	GLONASS
VSWR			1.5:1		(In free Space)
Polarization Model	RHCP				
Impedance		50		$\Omega$	
Gain	2		3	dBic	(Based on 70x 70mm ground plane)
Operating Temperature	-40		+85	$^{\circ}\text{C}$	

#### Low Noise Amplifier (LNA)

Parameters	Min.	Typ.	Max.	Units	Note
Center Frequency		1575.42		MHz	GPS
	1592		1610	MHz	GLONASS
DC Voltage	2.7		5.5	V	
Gain	21	23	25	dB	(at 3.0V)
	22	24	26	dB	(at 5.0V)
Output VSWR			2:1		
Noise Figure			2.5	dB	(Filter is placed before amplifier)
DC current	15	22	25	mA	(At 3.0V)
Power			138	mW	

### Antenna's Impedance and Return-Loss Characteristics

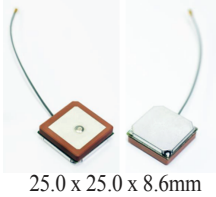
#### (S11 and Impedance Smith Chart)



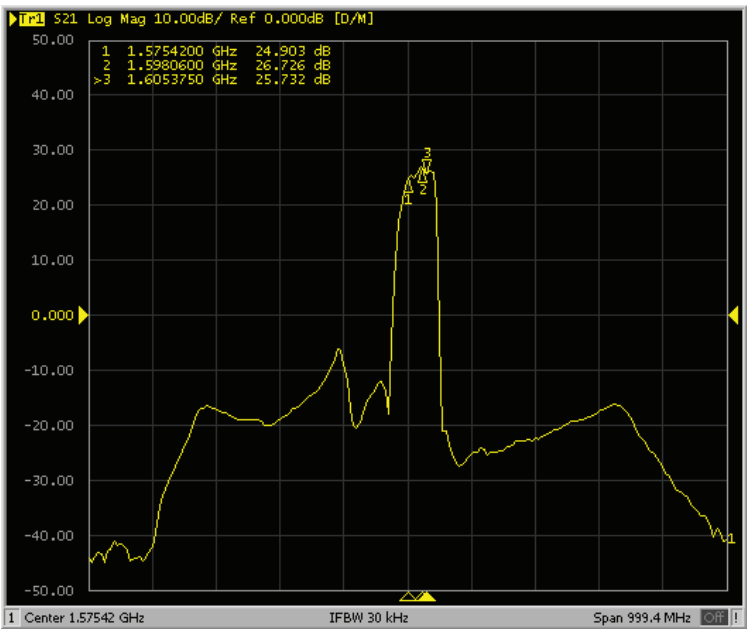
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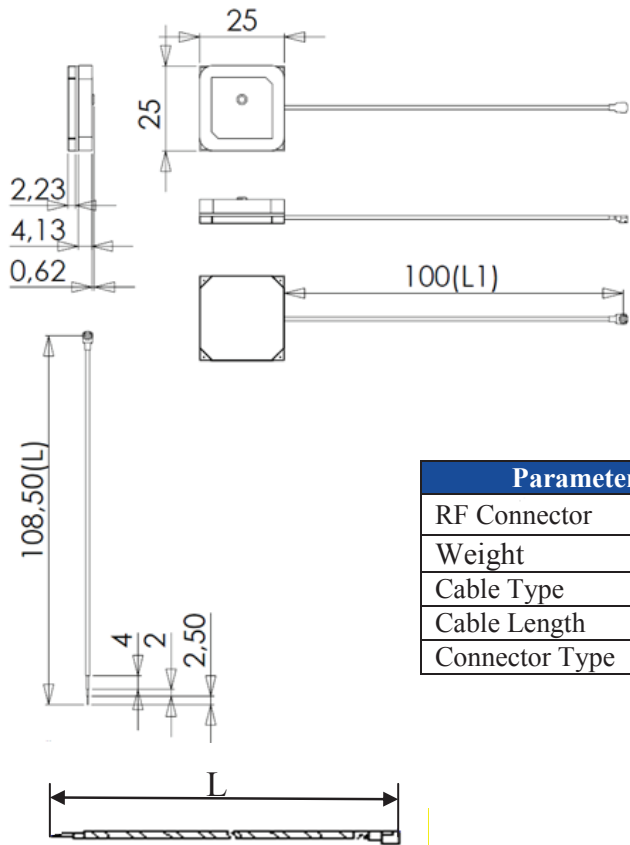


Antenna Gain (S21)

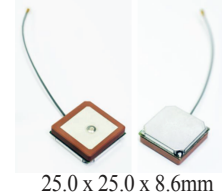


Antenna gain at 3V

OUTLINE DRAWING:

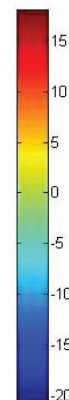


Parameters	Description
RF Connector	U.FL
Weight	14 g
Cable Type	Micro-coax, $\Phi 1.13\text{mm}$
Cable Length	$L1=100\pm 1.5\text{mm}$ , $L=108.5\text{mm}$
Connector Type	UFL

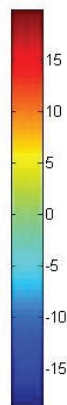


## RADIATION PATTERN

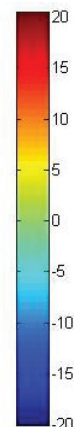
3D Radiation Pattern at 1.5754GHz, AZ=45, EL=45

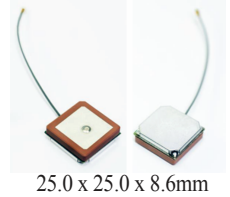


3D Radiation Pattern at 1.5979GHz, AZ=45, EL=45



3D Radiation Pattern at 1.6054GHz, AZ=45, EL=45

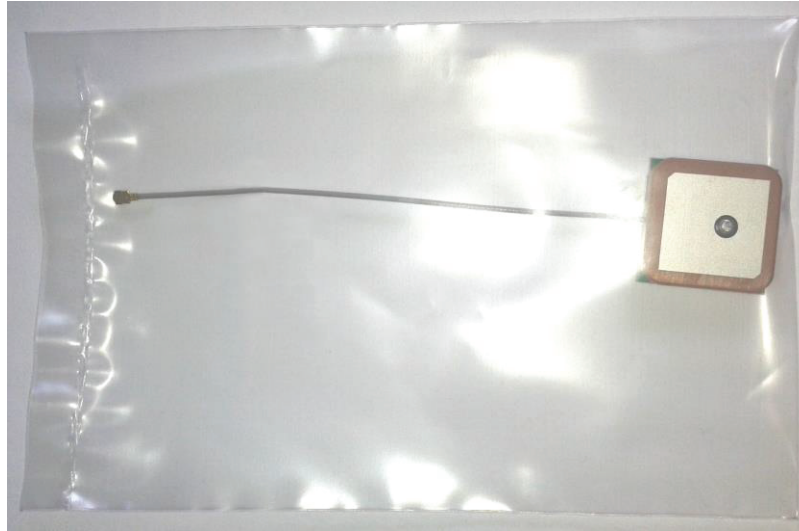




25.0 x 25.0 x 8.6mm

## PACKAGING:

Each antenna is packed individually in a poly bag. 1000pcs is the suggested quantity per 465x310x250mm 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 the component.
- (2) Do not expose the component to open flame.
- (3) This specification applies to the functionality of the component as a single unit. Please insure the component is thoroughly evaluated in the application circuit.

## NOTE:

- 1) The parts are manufactured in accordance with this specification. If other conditions and specifications which are required for this specification, please contact ABRACON for more information.
- 2) ABRACON will supply the parts in accordance with this specification unless we receive a written request to modify prior to an order placement.
- 3) In no case shall ABRACON be liable for any product failure from in appropriate handling or operation of the item beyond the scope of this specification.
- 4) When changing your production process, please notify ABRACON immediately.
- 5) ABRACON Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. ABRACON's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from ABRACON Corporation is required. Please contact ABRACON Corporation for more information.
- 6) All specifications and Marking will be subject to change without notice.

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