

# Combined Antenna Module - Body Mount

**APAMPSBJ-144**

RoHS/RoHS II Compliant



Ø 77.3mm x 66.5mm

MSL level: Not Applicable

## FEATURES:

- Active GPS and Multiband External Antenna,
- Covering Active GPS / GLONASS (1592 - 1610 MHz)
- Cellular: AMPS (850 MHz), GSM (900 MHz), DCS (1800 MHz), PCS (1900 MHz),
- 3G (UMTS 2.1 GHz)
- WiFi / Bluetooth (2.4GHz)
- LTE (791-960/1710-2690 MHz)
- 2 coaxial output feeds; active GNSS and Other bands
- IP67, IK09, IP69K approved
- Body Mount attachment
- LNA Gain: 23dB at 3V, 24dB at 5V
- Cellular Gain: 2dBi
- Cellular VSWR < 2.5:1
- RoHS/RoHS II compliant
- 2J Technology

## TYPICAL APPLICATIONS:

- Vehicle GPS/GLONASS, Cellular and UMTS (3G and LTE)
- Vehicle Cellular Routers

## STANDARD SPECIFICATIONS:

### Mobile (Cable1)

Parameters	Min.	Typ.	Max.	Units	Note
Receiving Frequency	791		960	MHz	4G/LTE
	1710		2960	MHz	4G/LTE
		850		MHz	AMPS
		900		MHz	GSM
		1800		MHz	DCS
		1900		MHz	PCS
		2.1		GHz	3G-UMTS
		2.4		GHz	BLUETOOTH
VSWR			2.5:1		
Polarization Model	Linear				
Impedance		50		Ω	
Gain			2	dBi	
Power Handling		25		W	
Operating Temperature	-40		+85	°C	

### Navigation (Cable 2)

Parameters	Min.	Typ.	Max.	Units	Note
Receiving Frequency	1572		1610	MHz	GPS+GLONASS
Impedance		50		Ω	
VSWR			1.5:1		
Noise figure	1.2			dB	
Polarization Model	RHCP				
Ceramic Patch Gain	2		3	dBi	@ zenith
Operating Temperature	-40		+85	°C	

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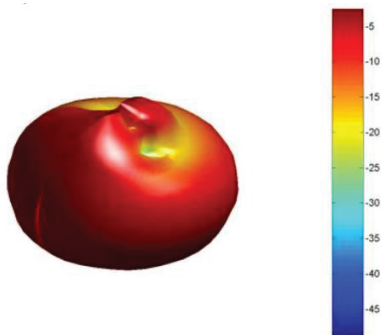
## Low Noise Amplifier (LNA)

Parameters	Min.	Typ.	Max.	Units	Note
DC Voltage	2.7		5.5	V	
Gain			23	dB	@ 3.0V
			24	dB	@ 5.0V
Current	15		25	mA	
Power			138	mW	
Operating Temperature	-40		+85	°C	

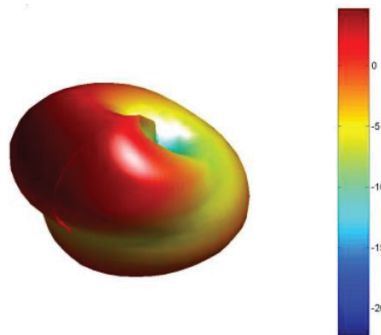
## MEASUREMENTS

### Radiation Patterns Azimuth 45° and Elevation 45°

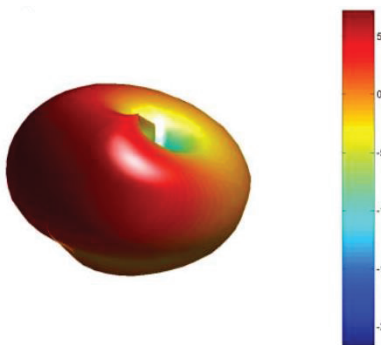
Frequency=798MHz Az=45 EL=45



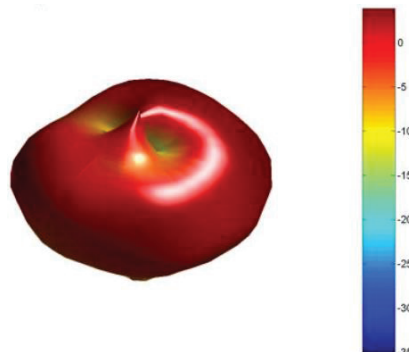
Frequency=853MHz Az=45 EL=45



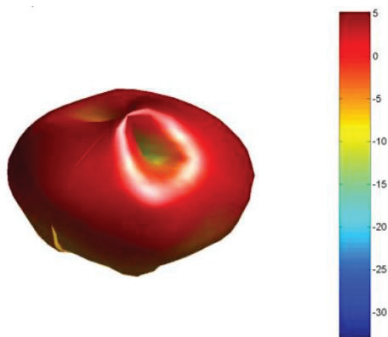
Frequency=897MHz Az=45 EL=45



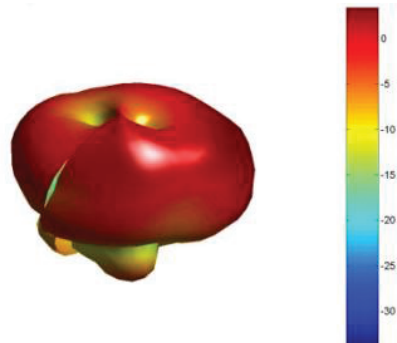
Frequency=1799MHz Az=45 EL=45



Frequency=1909MHz Az=45 EL=45



Frequency=2107MHz Az=45 EL=45



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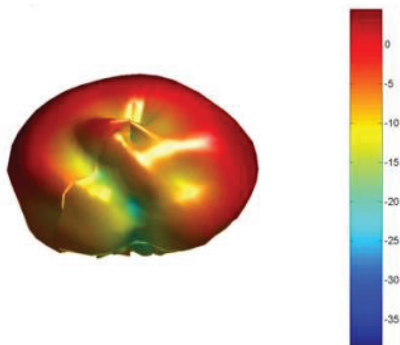
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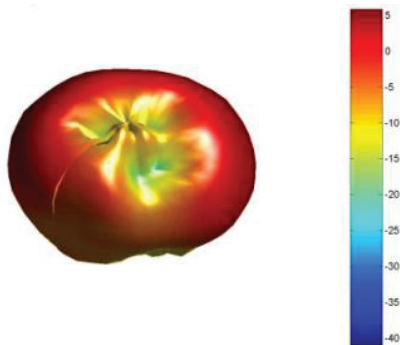


## MEASUREMENTS

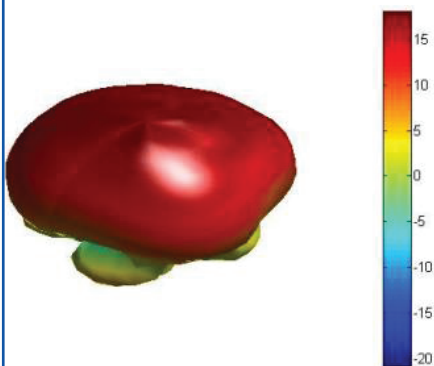
Frequency=2404MHz Az=45 EL=45



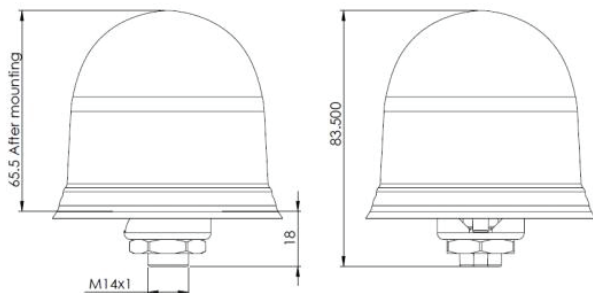
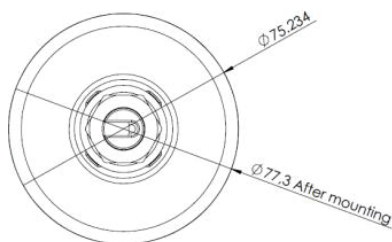
Frequency=2602MHz Az=45 EL=45



Frequency=1575.42MHz Az=45 EL=45



## OUTLINE DIMENSION:



Parameters	Description
RF Connector	LTE (Cable 1) - SMA male GNSS (Cable 2) - SMA male
Weight	150g
Cable Type	Cable 1 – RG174U Cable 2 - RG174U
Cable Length	15cm
Lid	ABS
Base	Zamak
Gasket	TPE
Color	Black
Certificates	IP67, IK09, IP69K
Ceramic Patch Size	24x24x4mm

Dimension: mm

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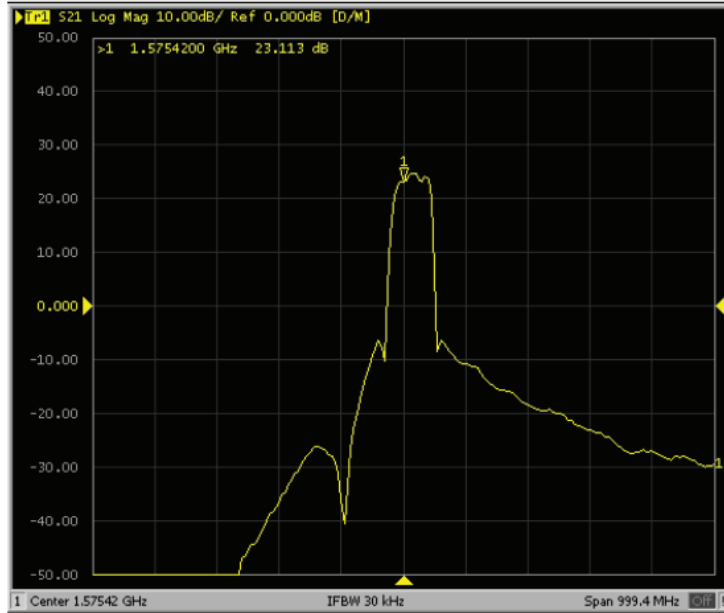
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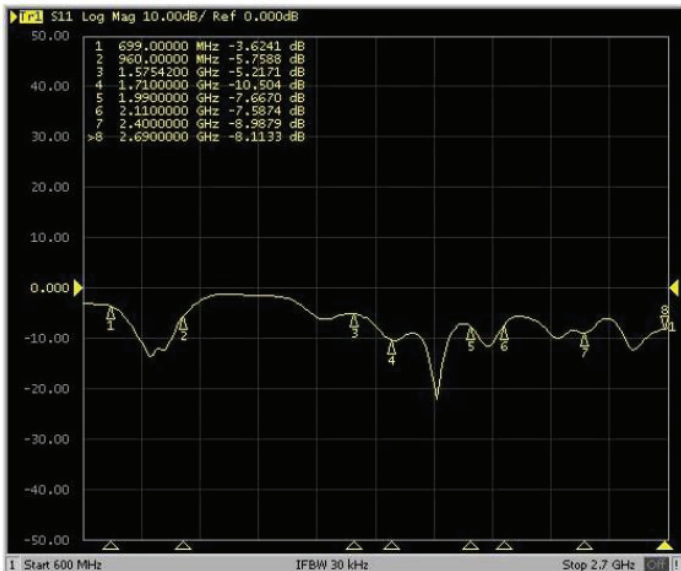
## GNSS Log Mag - 1575.42MHz



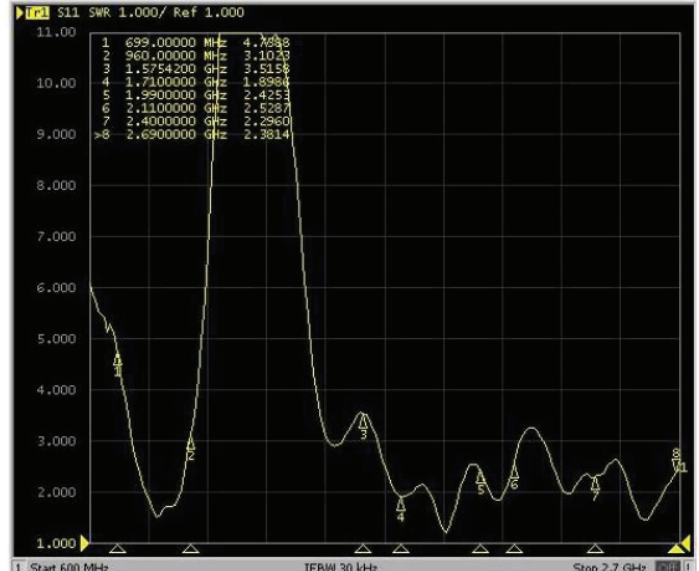
### Gain at 3.0V

Note: Measurements made with Antenna mounted on 20x20cm metal ground plane, with a 15cm cable RG174 used for testing.

## LTE Responses



LTE S11 (Log Mag)



LTE S11 (VSWR)

Dimension: mm

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## PACKAGING:

- Each antenna is packaged in a 140x120x81mm size box.
- Each 20 boxes are packaged in one 465x310x250mm size box.
- Each 30 boxes are packaged in a 590x390x230mm 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 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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