Combined Antenna Module

APAMSJ-147

ESD Sensitive

RoHS/ RoHS II compliant

Ø 77.0mm x 12mm

MSL level: Not Applicable

FEATURES:

- Twin cable solution
- Cable 1 covering GSM850, GSM900, DCS, PCS, & UMTS
- Cable 2 covering GPS/GLONASS
- Peak Gain - 824 ~ 960MHz (1.5dBi), 1710 ~ 2170MHz (0.5dBi)
- VSWR – Low band 1.6:1, High band 2.4:1
- Impedance 50 Ohms
- Linear Polarization
- GNSS band 1592 ~ 1610MHz
- GNSS Gain 26dB (3V), 27dB (5V)
- Noise figure 1.2dB
- RHCP Polarization
- RoHS/RoHS II compliant
- 2J Technology

TYPICAL APPLICATIONS:

- GSM and Active GNSS
- Vehicle Tracking
- Vehicle window mount

STANDARD SPECIFICATIONS:

The APAMSJ-147 is an active GPS/GLONASS and passive cellular antenna with dual feeders. It has an adhesive mount for non-metallic surfaces, and is suited to window applications in vehicles.

Mobile (Cable 1)

Parameters	Min.	Typ.	Max.	Units	Note
Low Band	**850**		**900**	**MHz**	**AMPS / GSM**
Frequency	824		960	MHz	
VSWR		~1.6:1			
Return Loss		-12.7		dB	
Peak Gain		1.5		dBi	
Average Gain		-3.7		dB	
Efficiency		43		%	
High Band	**1700**		**2100**	**MHz**	**DCS/PCS/UMTS**
Frequency	1710		2170	MHz	
VSWR		2.4:1			
Return Loss		-7.7		dB	
Peak Gain		0.5		dBi	
Average Gain		-5.0		dB	
Efficiency		32		%	
Polarization Model		Linear			
Radiation Pattern		Omni-Directional			
Impedance		50		Ω	
Maximum Input Power		25		W	
Operating Temperature	-40		+85	˚C	

Navigation (Cable 2)

Parameters	Min.	Typ.	Max.	Units	Note
Receiving Frequency		1575.42		MHz	GPS
	1592.00		1610.00	MHz	GLONASS
Impedance		50		Ω	
VSWR			1.5:1		
Return Loss			-14	dB	
Polarization Model		RHCP			
Radiation Pattern		Hemispherical		mm	
Operating Temperature	-40		+85	˚C	

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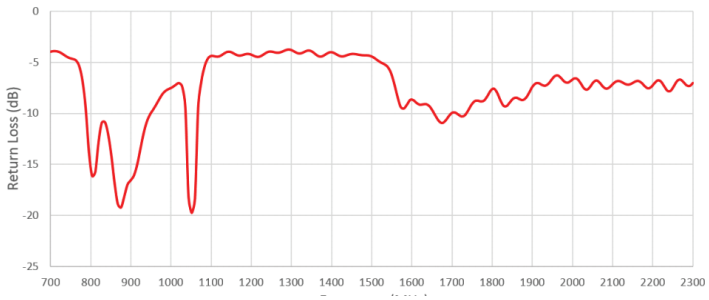
Low Noise Amplifier (LNA)

Parameters	Min.	Typ.	Max.	Units	Note
DC Voltage	2.7		5.5	V	
Gain			26	dB	at 3.0V
			27	dB	at 5.0V
Noise Figure			1.2	dB	
Current	15		25	mA	
Power Consumption	40		137	mW	
Operating Temperature	-40		+85	˚C	

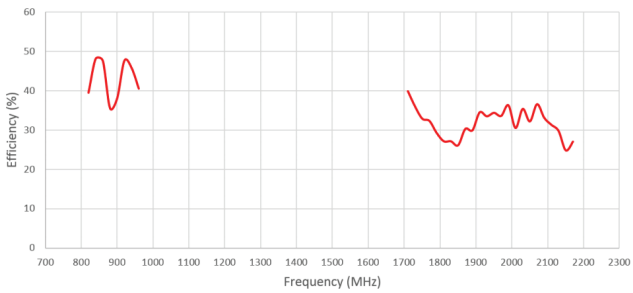
Antenna Measurement Conditions:
Antenna mounted on a 30 x 30 x 0.25 cm ABS Plate.
200 cm Cable Length (30 cm of RG174 + 170 cm of LMR195).
Measured in certified CTIA 3D anechoic chamber.

MEASUREMENTS

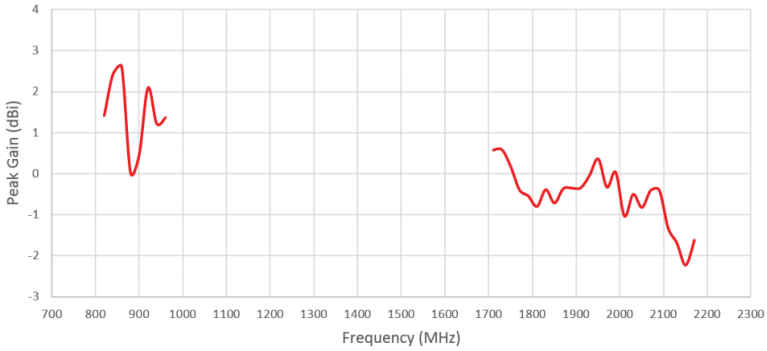
Return Loss



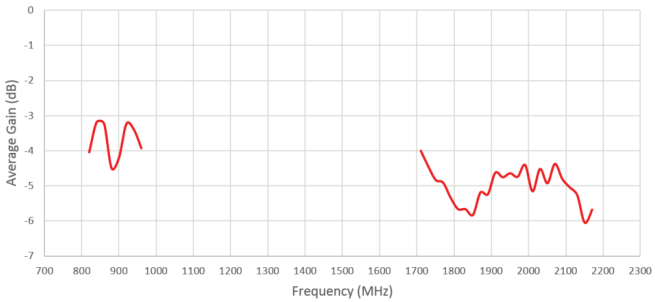
Efficiency



Peak Gain (dBi)



Average Gain (dB)



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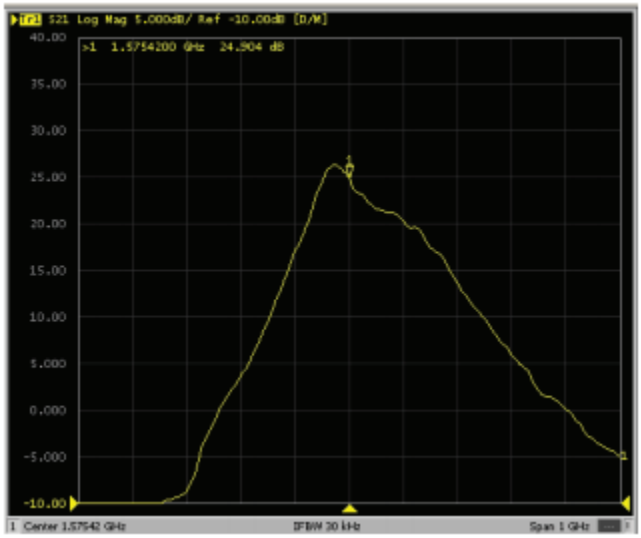
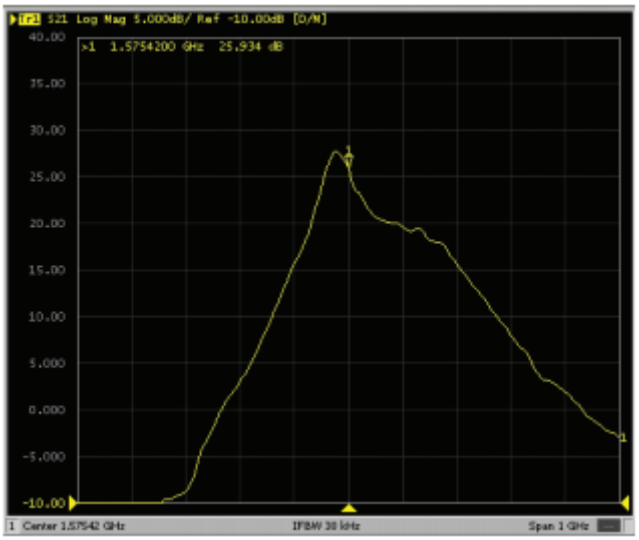
MEASUREMENTS

GNSS Log Mag - 1575.42MHz



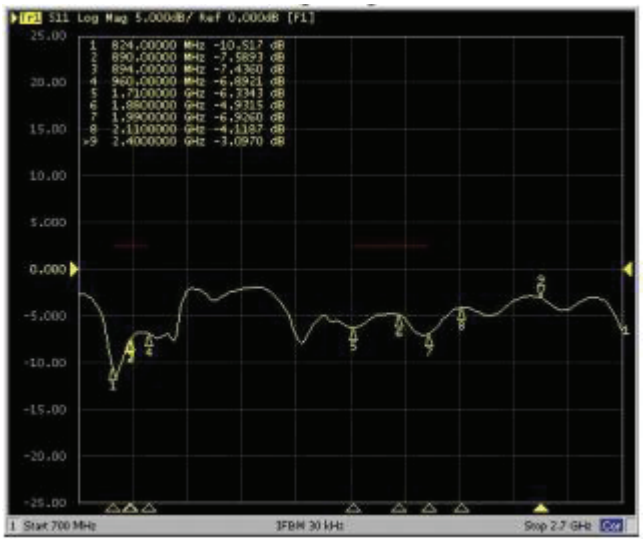
Gain at 5V



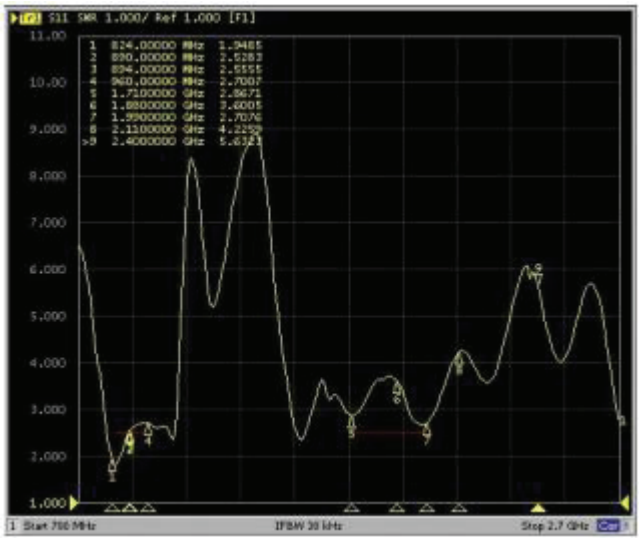
Gain at 3.0V

Note: Measurements made with Antenna mounted on 6mm thin glass with 30cm cable length (RG174).

GSM Responses



GSM S11 (Log Mag)



GSM S11 (VSWR)

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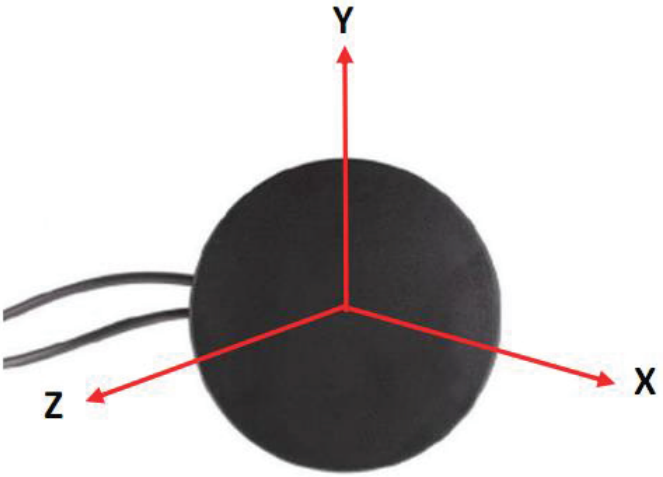
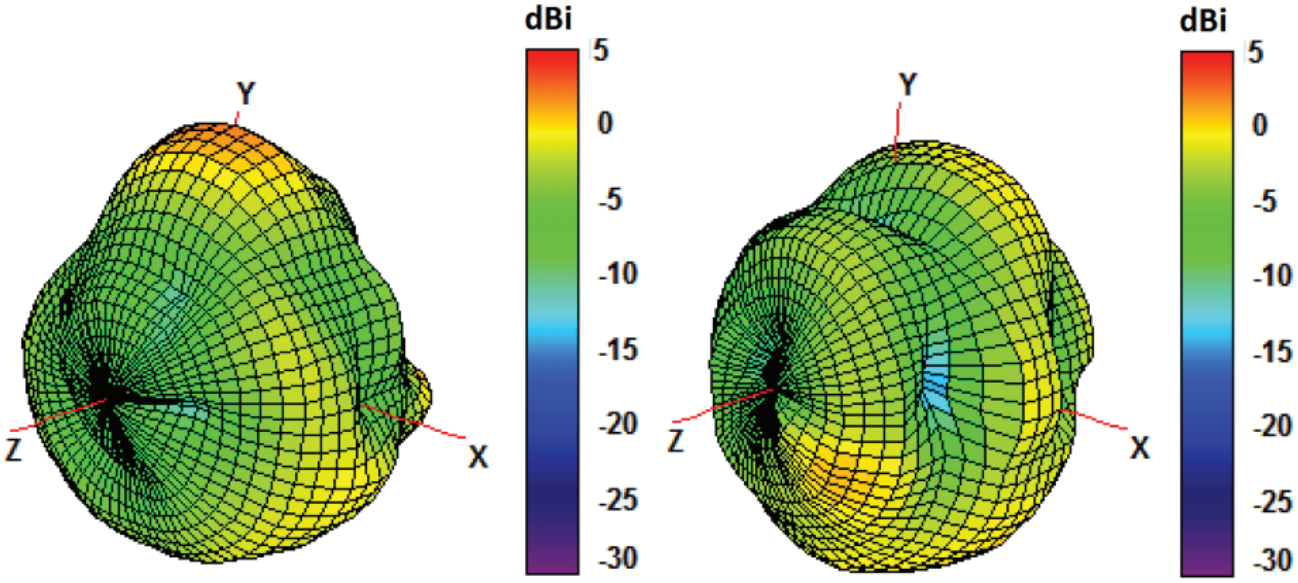
MEASUREMENTS

Radiation Patterns (Reference)



Radiation Pattern (850MHz & 940MHz)



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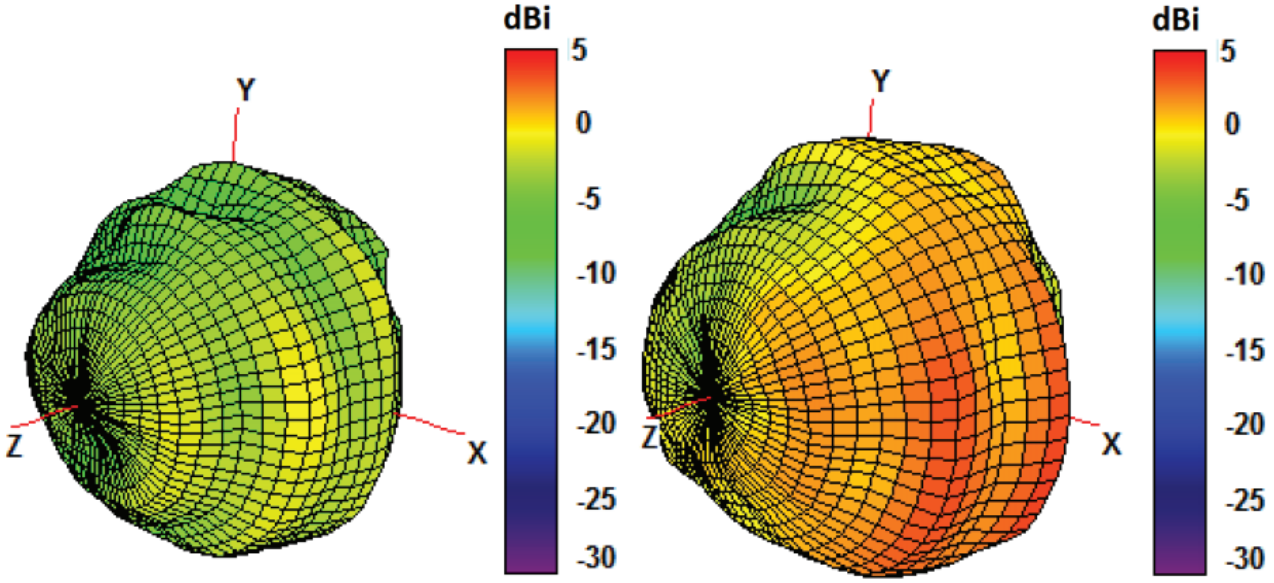
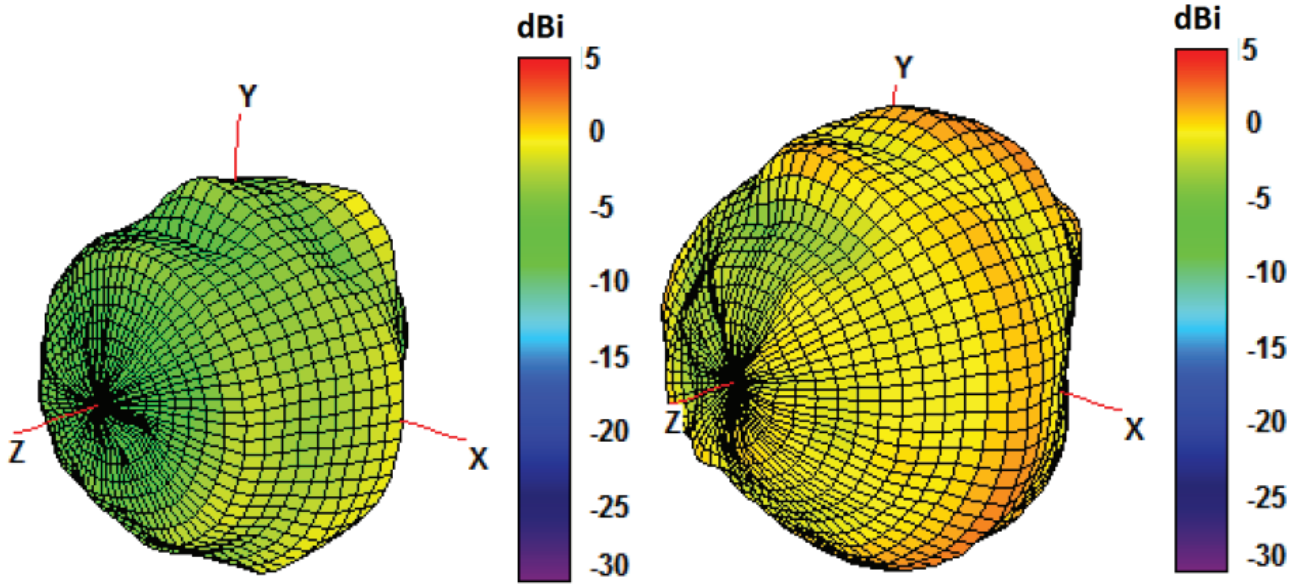
Radiation Patterns (1750MHz & 1850MHz)



Radiation Patterns (1950MHz & 2100MHz)



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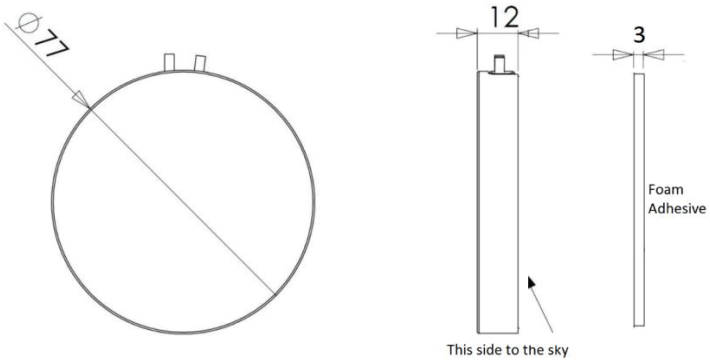
OUTLINE DIMENSION:



Parameters	Description
RF Connector	GNSS (Cable 1) - SMA male
	Cellular (Cable 2) - SMA male
Weight	150g
Cable Type	Cable 1 – RG174U Cable 2 - RG174U
Cable Length	Standard (300cm RG174 + 270cm LMR195)
Lid	PC/ABS UV Stable
Base	Zamak / Adhesive Sticker
Color	Black (standard)
Ingress Protection	IP67
Test Condition	Tested on 6mm Glass with 30cm cable

Unit: mm

PACKAGING:

Antenna is packaged in 100x200x0.1mm size poly bag. There are 300pcs in 465 x 310 x 250mm size box.

Antennas are packing singularly in an individual plastic bag, then into cardboard box holding up to 100pcs.
Box dimensions are 47 x 31 x 25cm

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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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.

Как с нами связаться

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