

Series: Low Profile Blade

Description: 3G/Active GNSS Blade Antenna

PART NUMBER: W4120GNSS5000



Features:

- 2-Feeds (3G, GNSS)
- GNSS Active Antenna
 - LNA gain 30dB
 - Pre and post LNA filtering
- Adhesive tape mount
- Size 136 x 37.7 x 13.8mm
- Connector SMA Male
- Cable 16.4 feet
- RoHS compliant

Applications:

- 3G 806-2170MHz
- GNSS (Beidou, GPS, Galileo, Glonass)
- Vehicular mounting
- Asset Tracking, Navigation, Fleet Management
- Mobile and Fixed broadband
- Utility boxes

All dimensions are in mm / inches

Issue: 1709

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ELECTRICAL SPECIFICATIONS

Frequency(LTE Cable)	806-960/1710-2170	MHz
	1561.098±2.046/	
Frequency(GNSS cable)	1575.42±1.023/	MHz
	1602.5625±4	
Nominal Impedance	50	Ω
VSWR (LTE)*	2.5:1	Max
VSWR (GNSS)*	2:1	Max
Peak Gain (LTE,698-960MHz,Typical)**	1.7	dBi
Peak Gain (LTE,1710-2700MHz,Typical)**	2.9	dBi
Efficiency (LTE,698-960MHz,Typical)**	55	%
Efficiency (LTE,1710-2700MHz,Typical)**	75	%
HPBW / Horizontal Plane (LTE/WiFi)**	Omni	
HPBW / Vertical Plane (LTE, 698-960MHz, Typical)**	32°	
HPBW / Vertical Plane (LTE,1710-2700MHz, Typical)**	50°	
Polarization (LTE)	Vertical	
Polarization (GNSS)	RHCP	
RHCP Peak Gain (GNSS Radiating element, Typical)***	1	dBic
Gain (LNA gain)	30	dB ± 2 dB
Out of Band Rejection		
698 MHz	>70	dB
960MHz	>65	dB
1710MHz	>60	dB
2170MHz	>65	dB
2400MHz	>65	dB
2700MHz	>65	dB

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ELECTRICAL SPECIFICATIONS

Noise Figure	<2.4 dB
Operating Voltage	3.3-5 Vdc±0.5V
Current Consumption	9 mA± 2 mA

MECHANICAL SPECIFICATIONS

Overall size	136 x 37.7 x 13.8mm
Weight	194g
Antenna Color	black
Connector type	SMA male
Cable type (LTE)	RG174
Cable type (GNSS)	RG174
Cable length	16.4' (5 m)

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40/+85 ° C
Storage Temperature	-40/+85 ° C
Ingress Protection	IP67
Wind-loading	100mph
RoHS Compliant	Yes

OTHER SPECIFICATIONS

Mounting	Adhesive Tape
Radome Material	PC/PET, UV resistant

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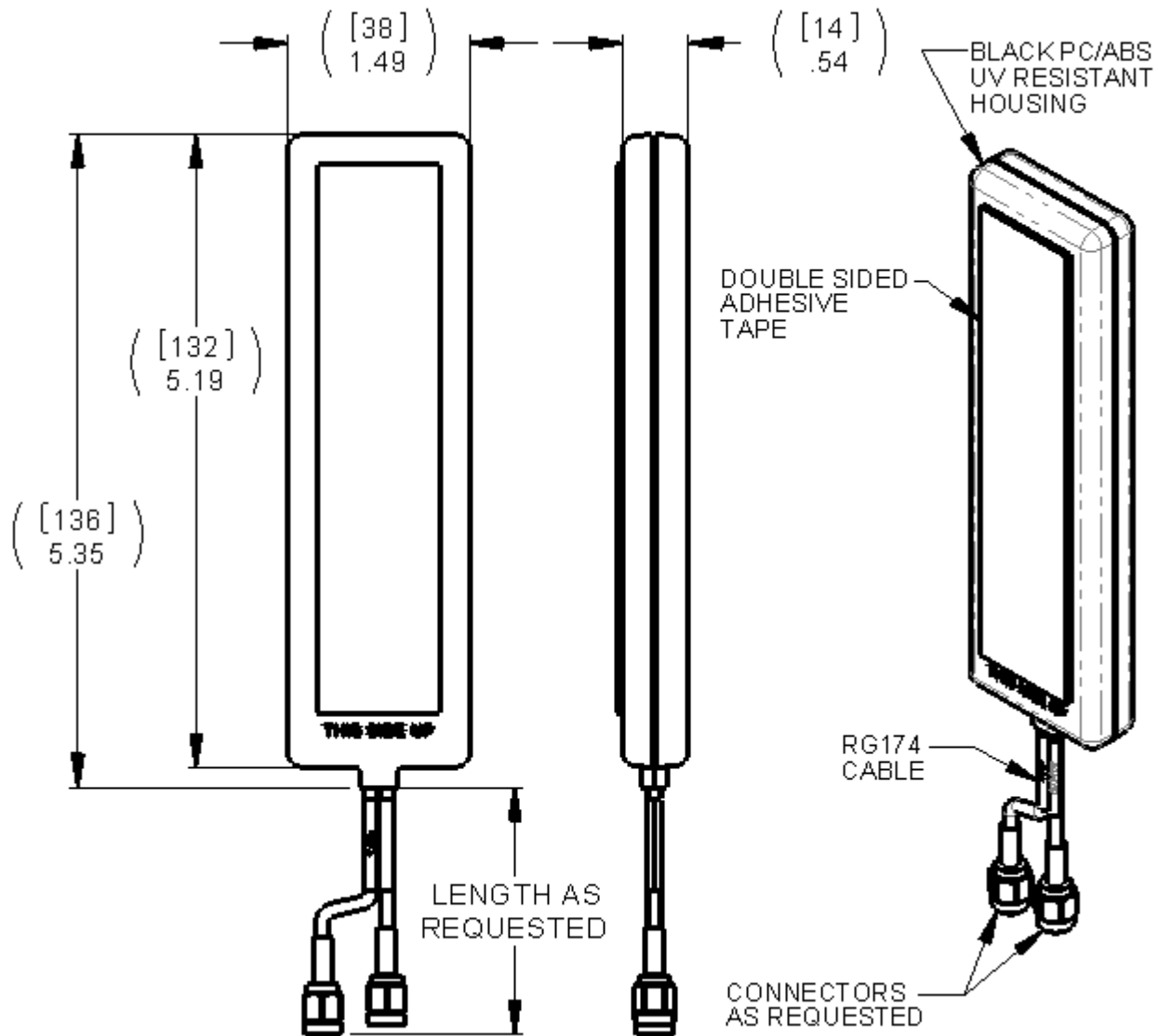
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MECHANICAL DRAWING



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Test Setup

*VSWR is tested with 5m cable in free space

** Radiation Performance is tested with 200mm cable in free space

***GNSS module is tested on 70X70mm ground plane

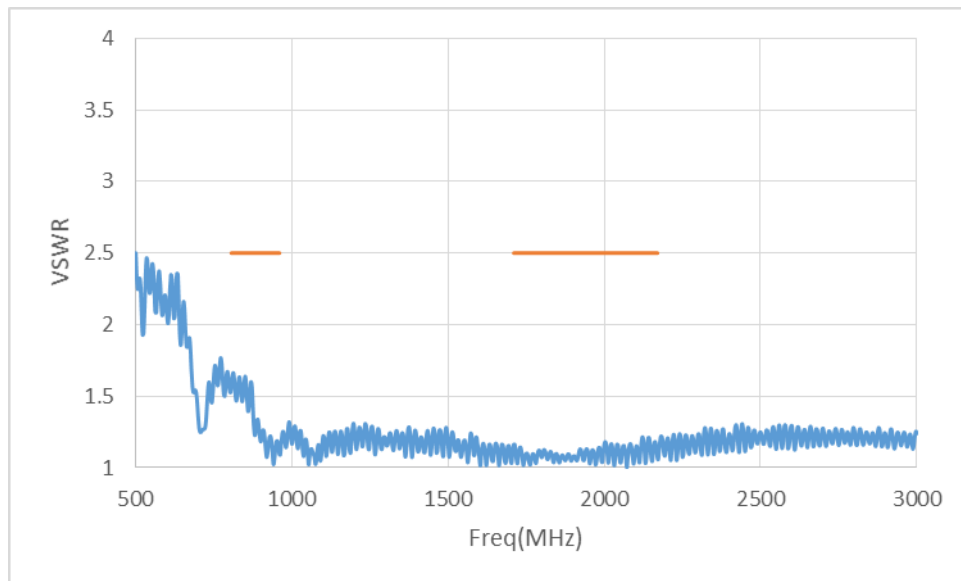
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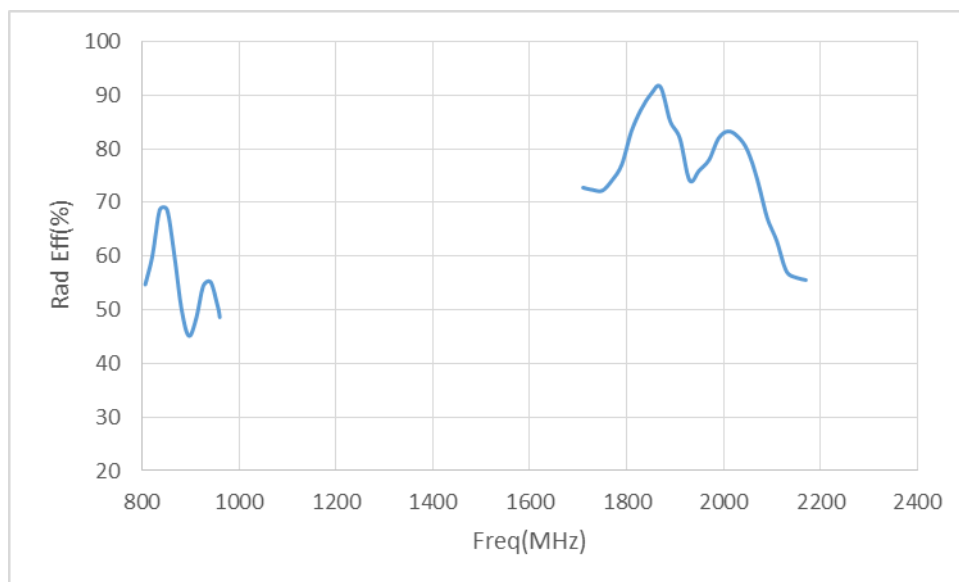
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CHARTS

VSWR of 3G antenna



Radiation efficiency of 3G antenna



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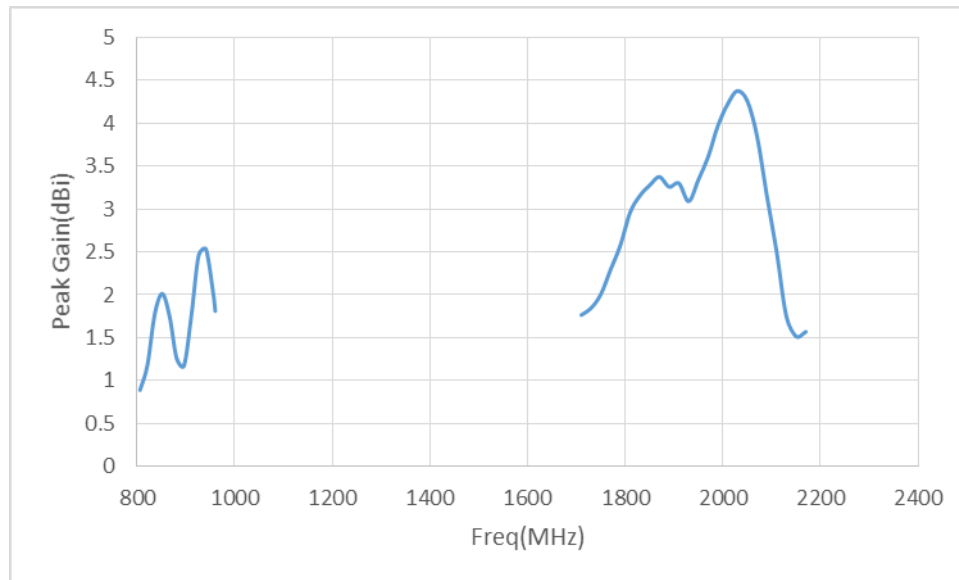
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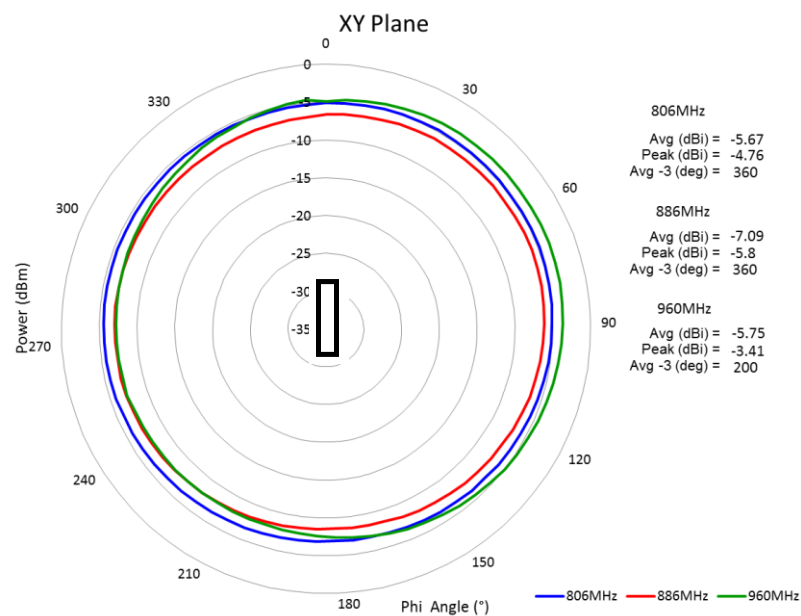
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CHARTS

Peak Gain of 3G antenna



3G antenna X-Y plane radiation pattern at 3G low band



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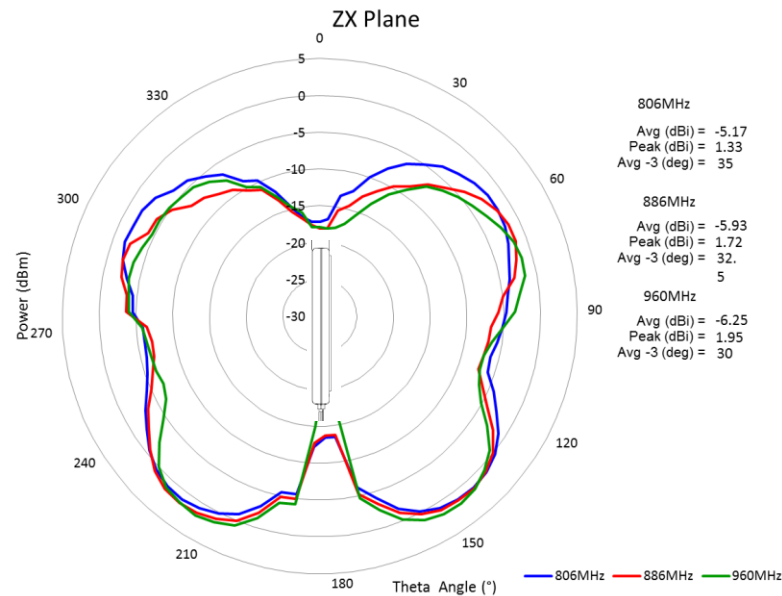
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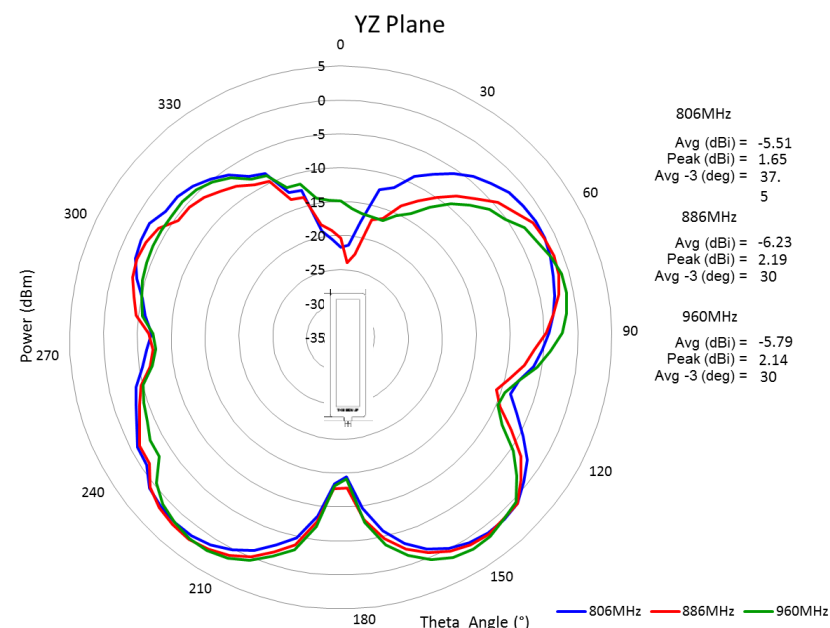
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CHARTS

3G antenna Z-X plane radiation pattern at 3G low band



3G antenna Y-Z plane radiation pattern at 3G low band



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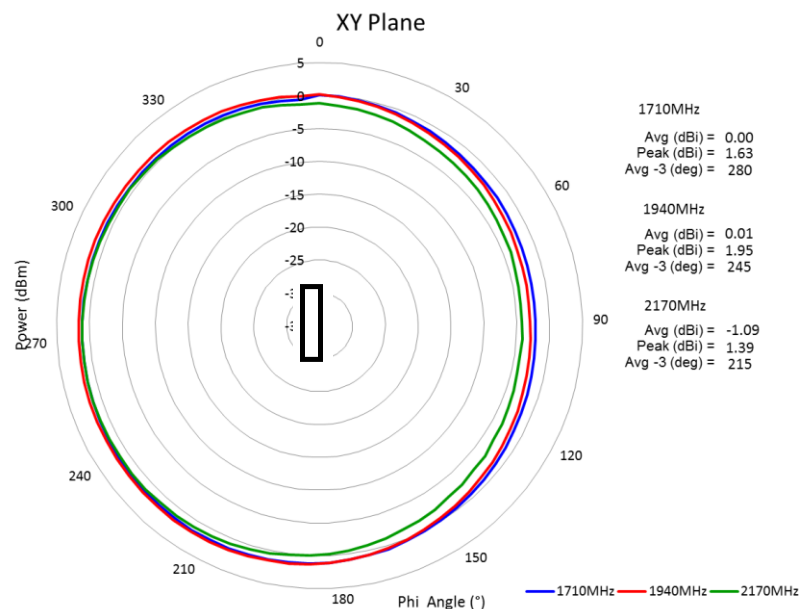
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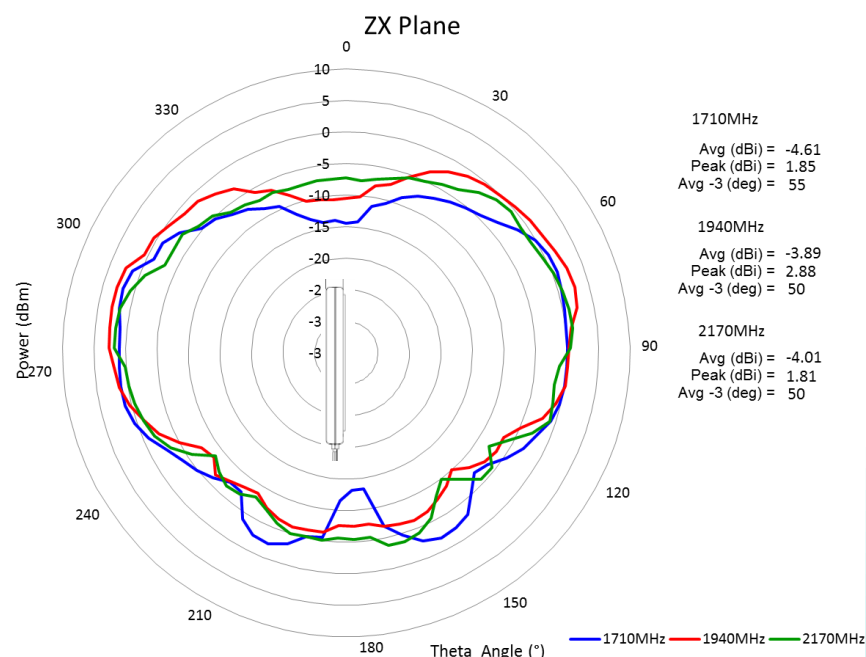
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CHARTS

3G antenna X-Y plane radiation pattern at 3G high band



3G antenna Z-X plane radiation pattern at 3G high band



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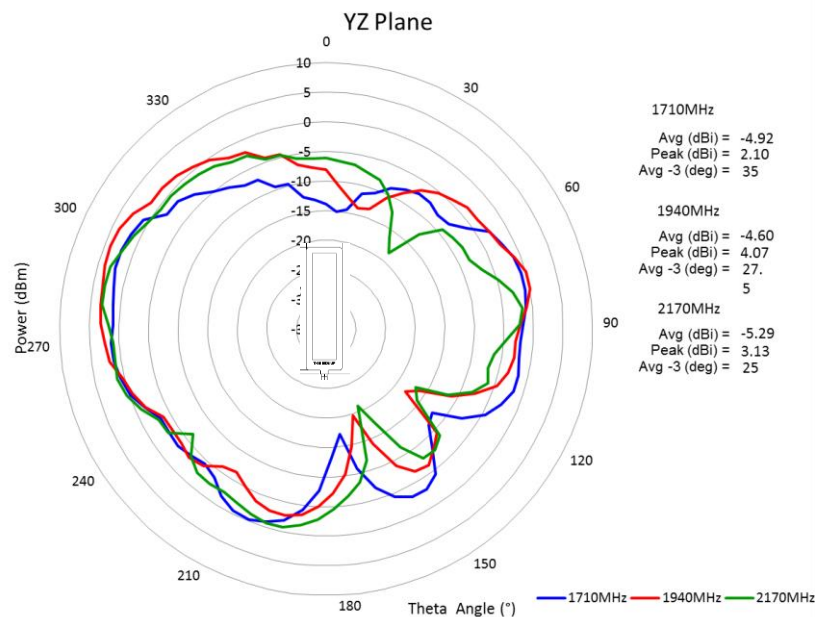
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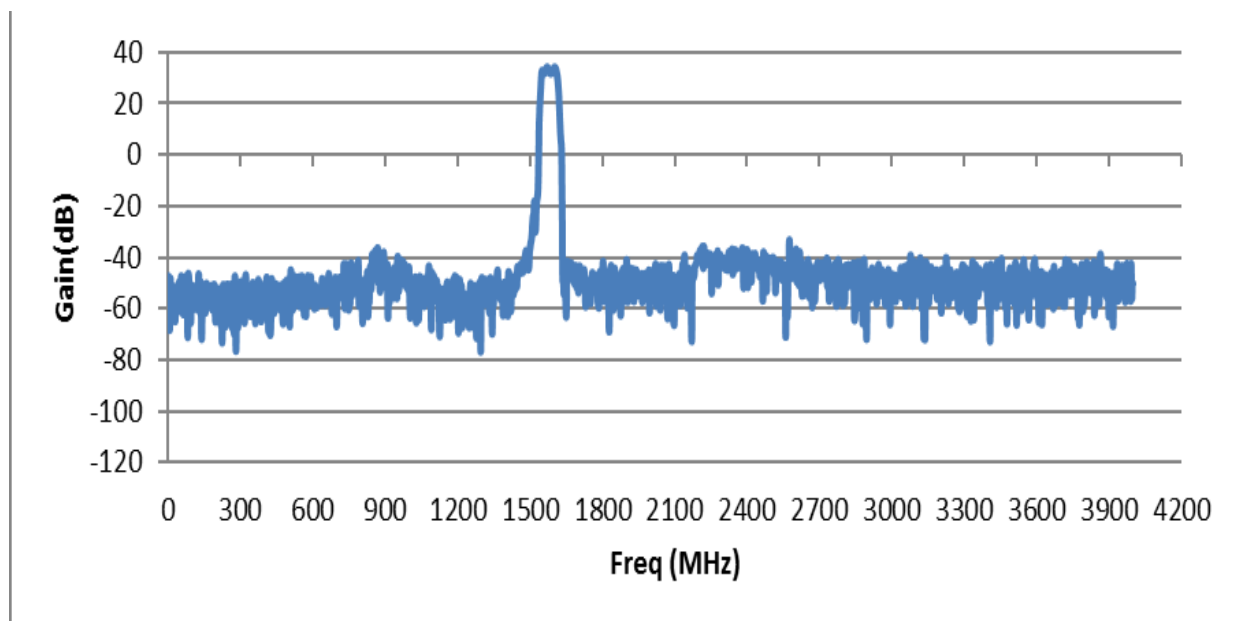
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CHARTS

3G antenna Y-Z plane radiation pattern at 3G high band



LNA Gain and out-of-band rejection



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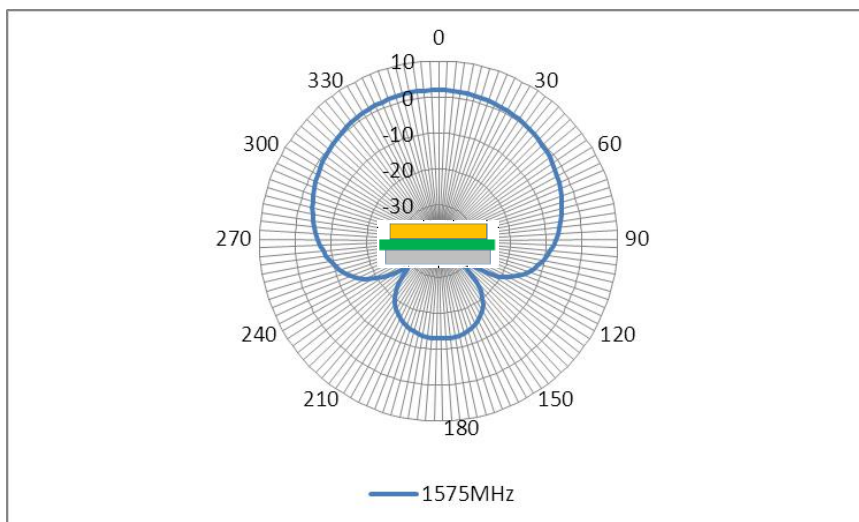
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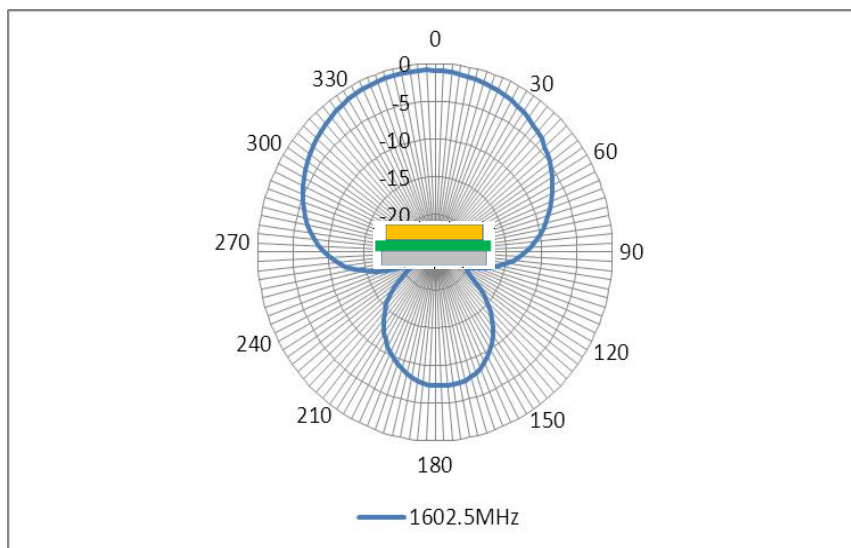
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CHARTS

Radiation Pattern (70mm x 70mm ground plane) GPS & Galileo



Radiation Pattern (70mm x 70mm ground plane) GLONASS



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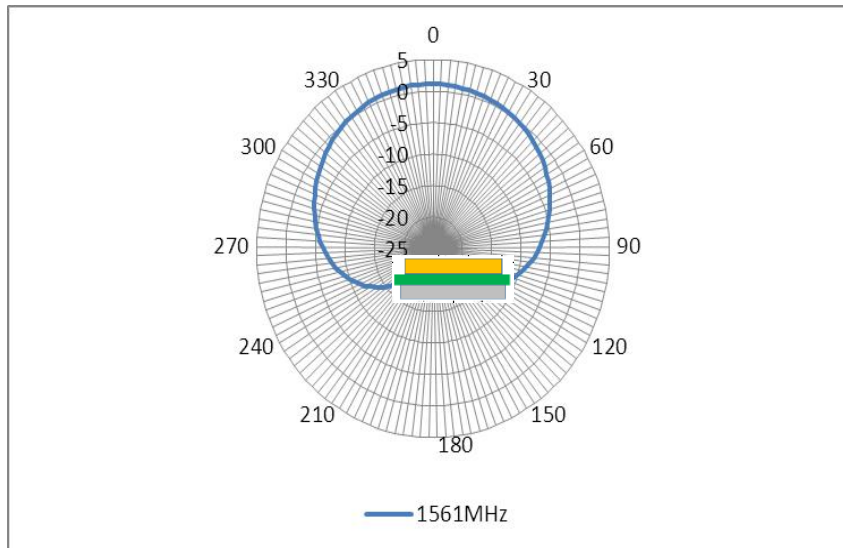
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CHARTS

Radiation Pattern (70mm x 70mm ground plane) BD2



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PACKAGING

56pcs antennas per package box

56pcs PE bags per package box

1pcs antenna per PE bag

Package box: 440mm*292mm*310mm