

# Multiband Active GNSS (GPS/GLONASS/BEIDOU) External Antenna



AEARBA048014-SG3



48.5 x 47.0 x 14.0 mm  
 RoHS/RoHS II Compliant  
 MSL = N/A: Not Applicable

## Features

- External Multiband GNSS antenna
- GPS/GLONASS/BEIDOU support
- Active antenna with integrated LNA
- Low VSWR across bands
- SMA connector
- Adhesive mounting

## Applications

- GPS/GLONASS/BeiDou applications
- IoT
- M2M
- Surveillance
- Fleet management and asset tracking
- Autonomous driving
- Telematics
- Agriculture
- Instrumentation

## Electrical Specifications

Parameters	BeiDou	GPS	GLONASS	Units	Notes
Operating Frequency	1561.098 ± 2.046	1575.420 ± 1.023	1602.000 ± 8.000	MHz	
VSWR	2.0				Max.
Peak Gain	5.78	4.27	5.65	dBi	Typ.
Impedance	50			Ω	
Polarization	RHCP				

## LNA

Parameters	BeiDou	GPS	GLONASS	Units	Notes
Operating Frequency	1561.098 ± 2.046	1575.420 ± 1.023	1602.000 ± 8.000	MHz	
VSWR	2.0				Max.
Gain	28			dB	Typ.
Noise Figure	1.5			dB	Typ. @ 25°C
	1.8				Max. @ 85°C
Impedance	50			Ω	
Input Voltage (DC)	1.8			V	Min.
	3.0				Typ.
	5.5				Max.

# Multiband Active GNSS (GPS/GLONASS/BEIDOU) External Antenna

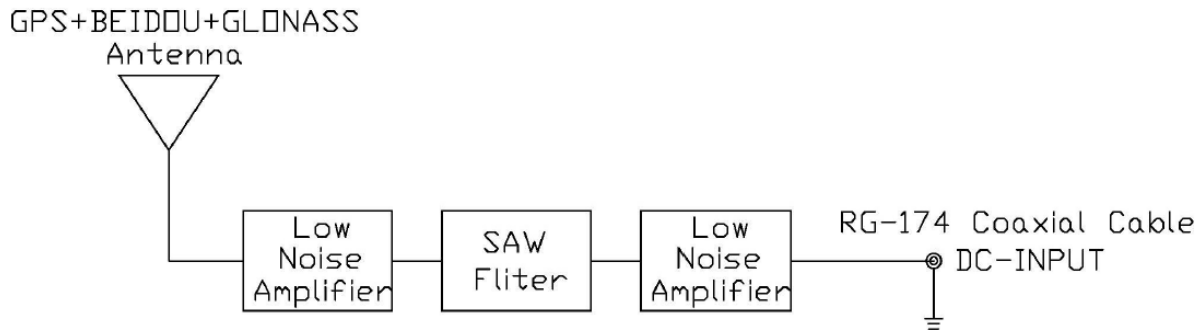


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## System Set-up



Parameters	BeiDou	GPS	GLONASS	Units	Notes
Operating Frequency	1561.098 ± 2.046	1575.420 ± 1.023	1602.000 ± 8.000	MHz	
VSWR	2.0				Max.
Gain	28			dBic	@Zenith - Cable Loss (@ 3.0 V DC input)
Input Voltage (DC)	1.8			V	Min.
	3.0				Typ.
	5.5				Max.
Impedance	50			Ω	
Cable Loss	-1.4			dB/m	Max.

## Mechanical Specification

Parameters	Description	Notes
RF Cable	Ø2.7 ± 0.2 mm	Color : Black
Cable Length (L)	5 ± 0.05 m	
RF Connector	SMA - M	
Mounting Type	Adhesive	

## Environmental Specification

Parameters	Description
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +105°C
Relative Humidity	40% to 95%

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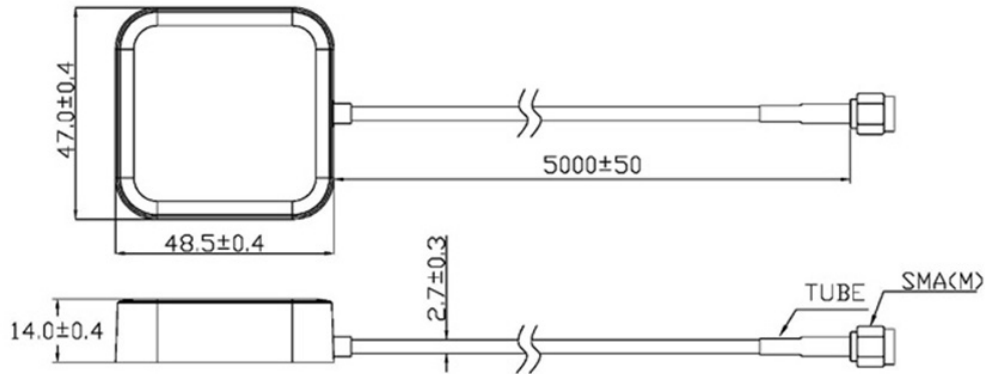


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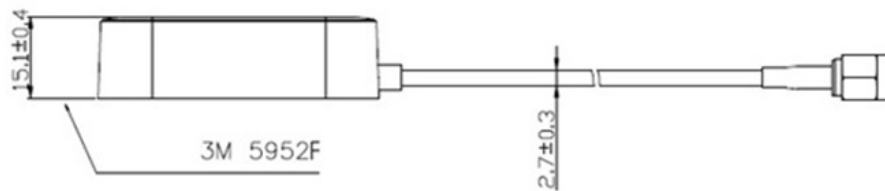
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## Product Dimensions



Unit : mm

## With Adhesive Tape :



Unit : mm

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## Return Loss and Impedance Characteristics

Frequency (MHz)	Return Loss (dB)	Impedance ( $\Omega$ )	VSWR
1561	-36.58	52.73 - j02.00	1.06
1575	-18.77	44.64 + j06.58	1.24
1602	-16.98	43.96 - j38.40	1.25



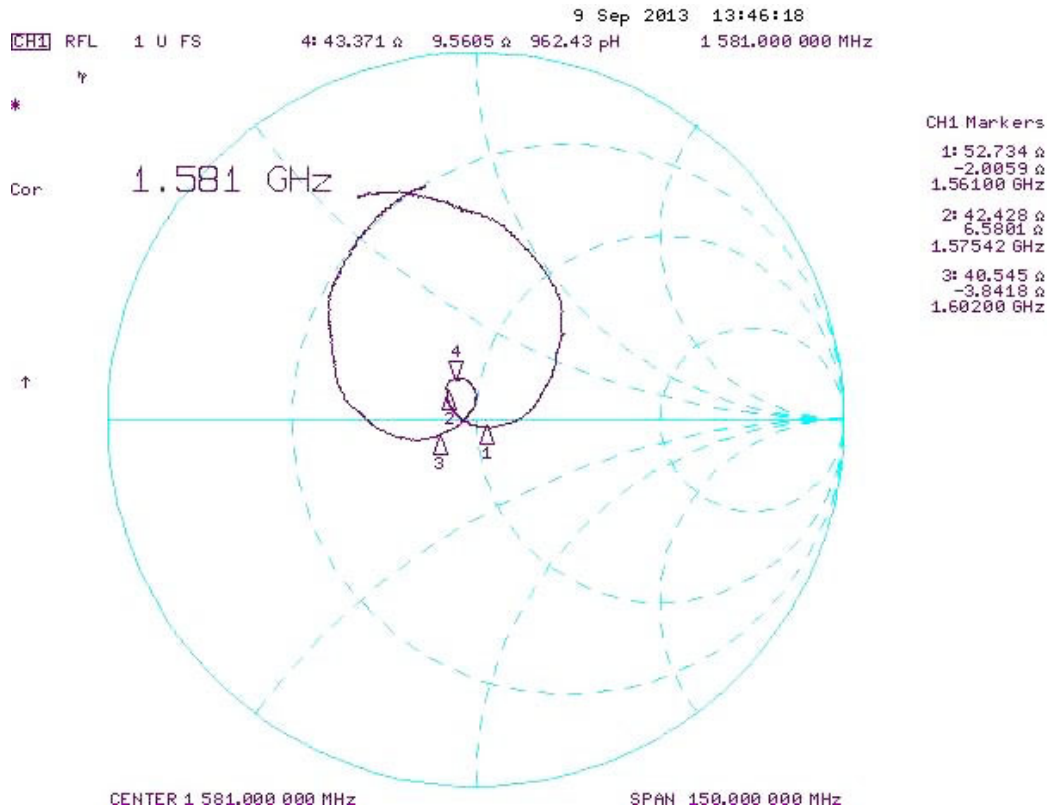


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## Return Loss and Impedance Characteristics





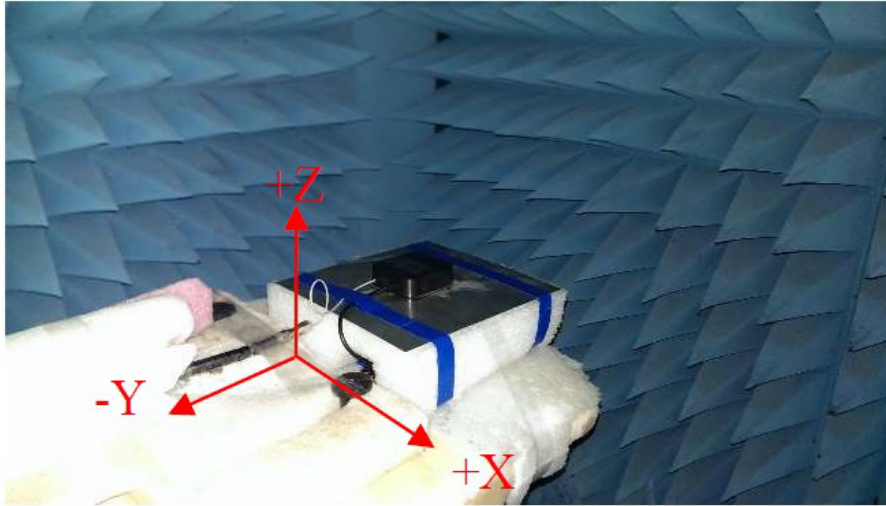
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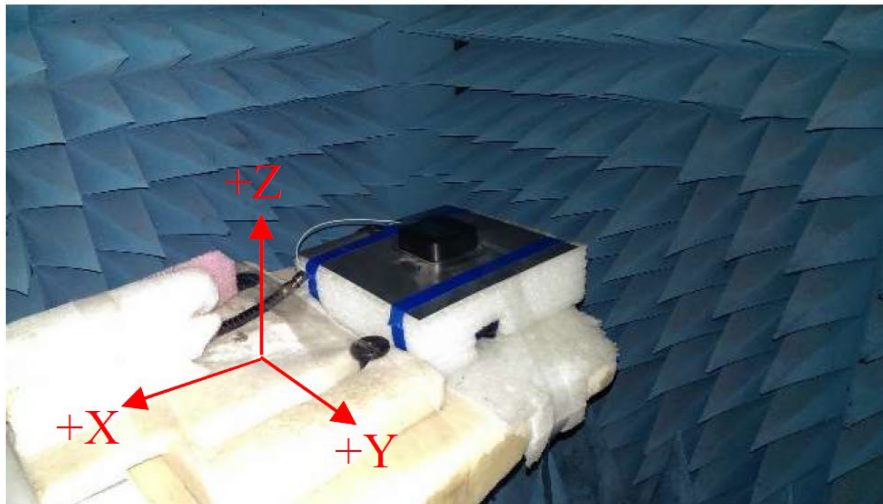
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## Radiation Pattern

XZ - Plane



YZ - Plane



# Multiband Active GNSS (GPS/GLONASS/BEIDOU) External Antenna



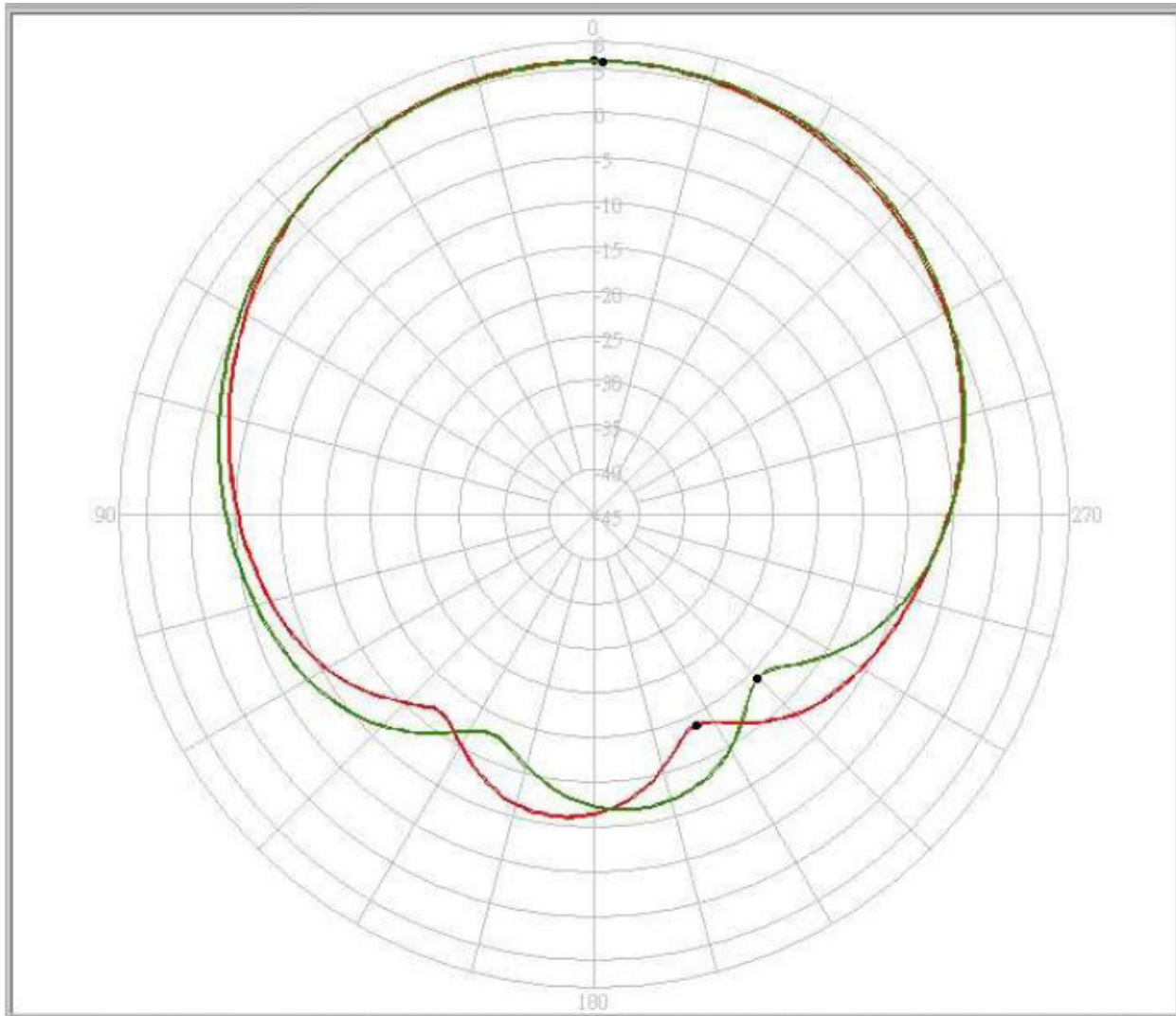
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## Radiation Pattern

BeiDou : 1561 MHz



1561 MHz	Peak Gain (dBi)	Zenith Gain (dBi)
XZ	5.81	5.81
YZ	5.78	5.78

# Multiband Active GNSS (GPS/GLONASS/BEIDOU) External Antenna



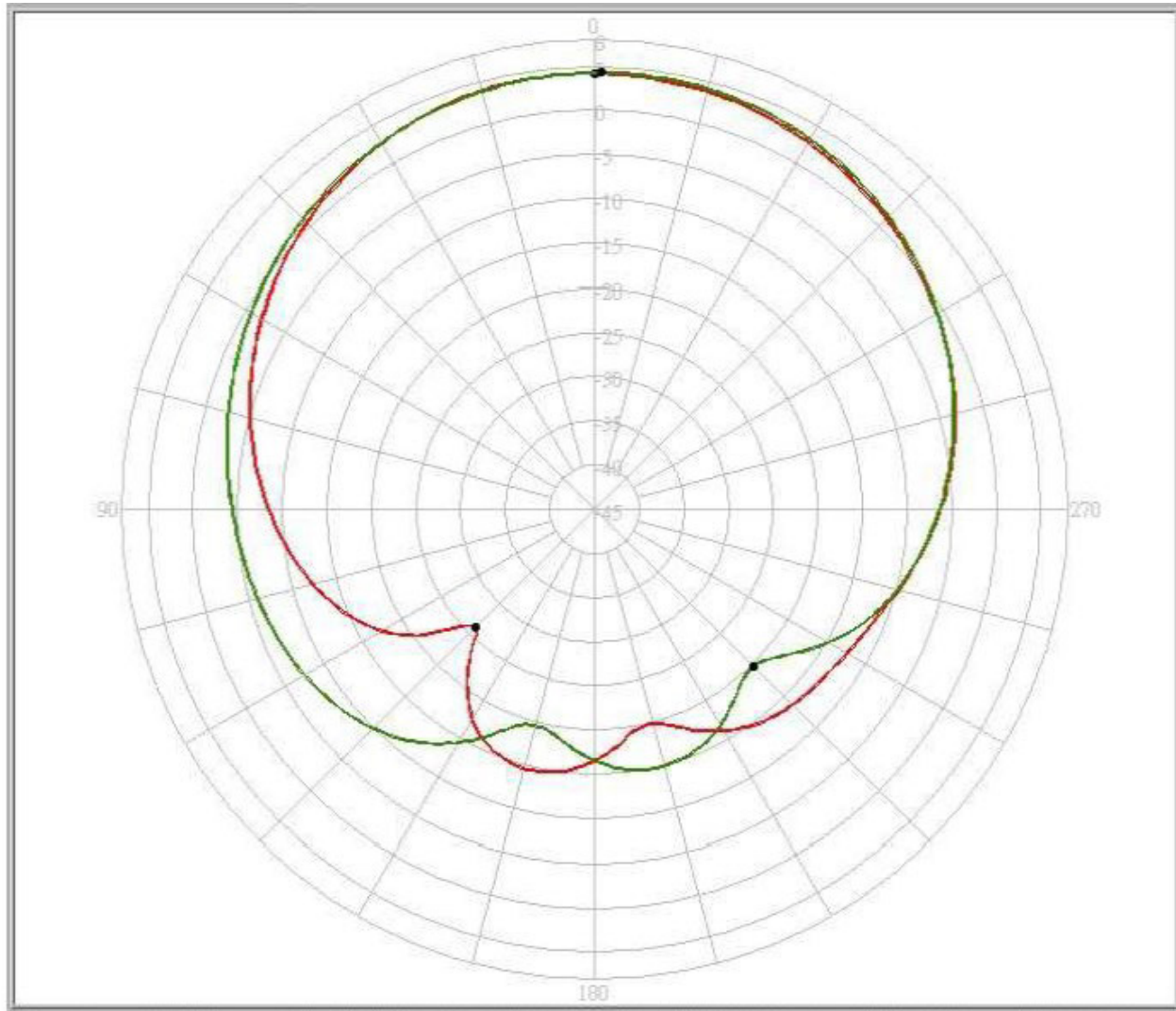
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## Radiation Pattern

GPS : 1575.42 MHz



1561 MHz	Peak Gain (dBi)	Zenith Gain (dBi)
XZ	4.18	4.18
YZ	4.27	4.18

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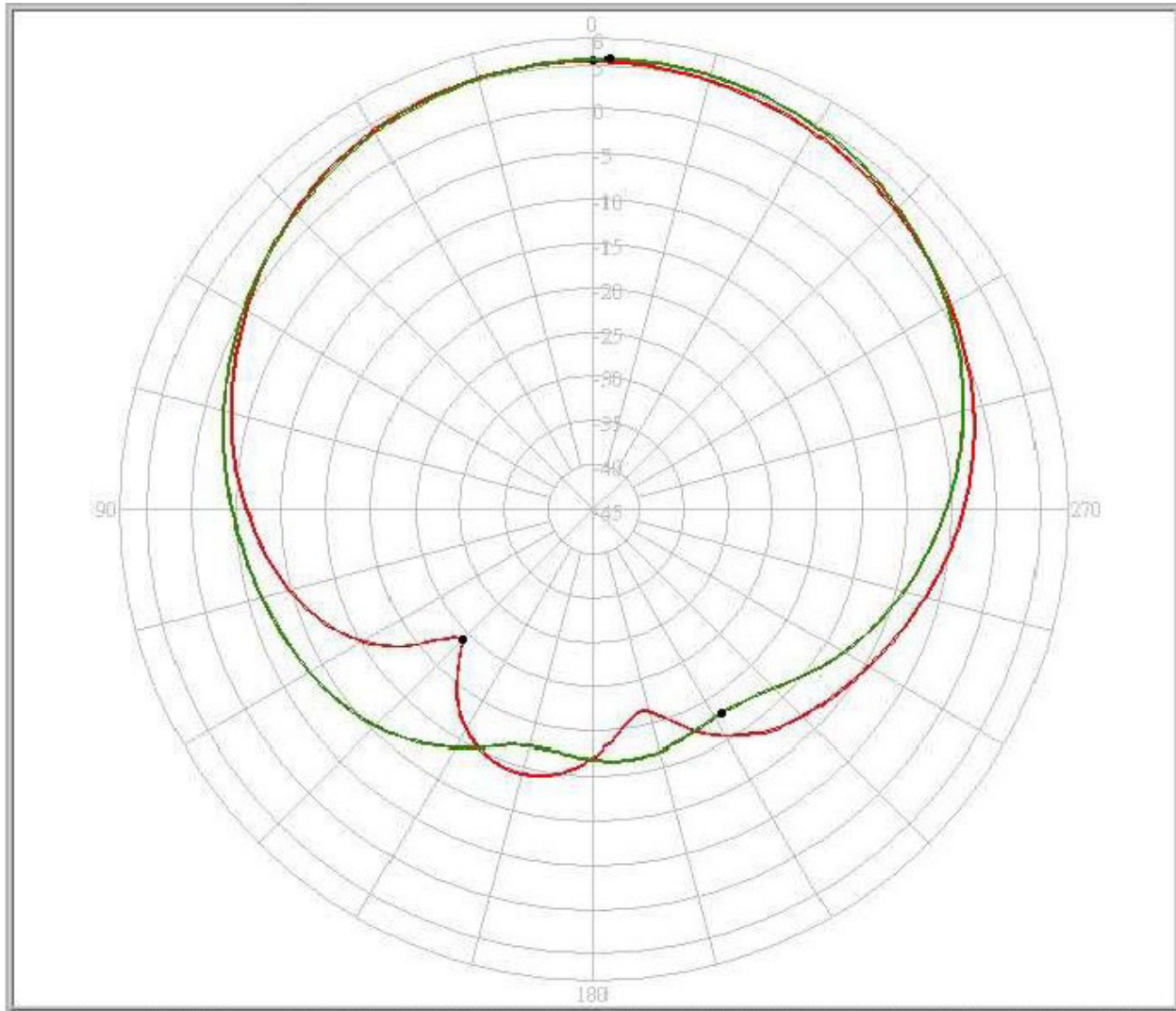
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## Radiation Pattern

GLONASS : 1602 MHz



1561 MHz	Peak Gain (dBi)	Zenith Gain (dBi)
XZ	5.40	5.40
YZ	5.65	5.40



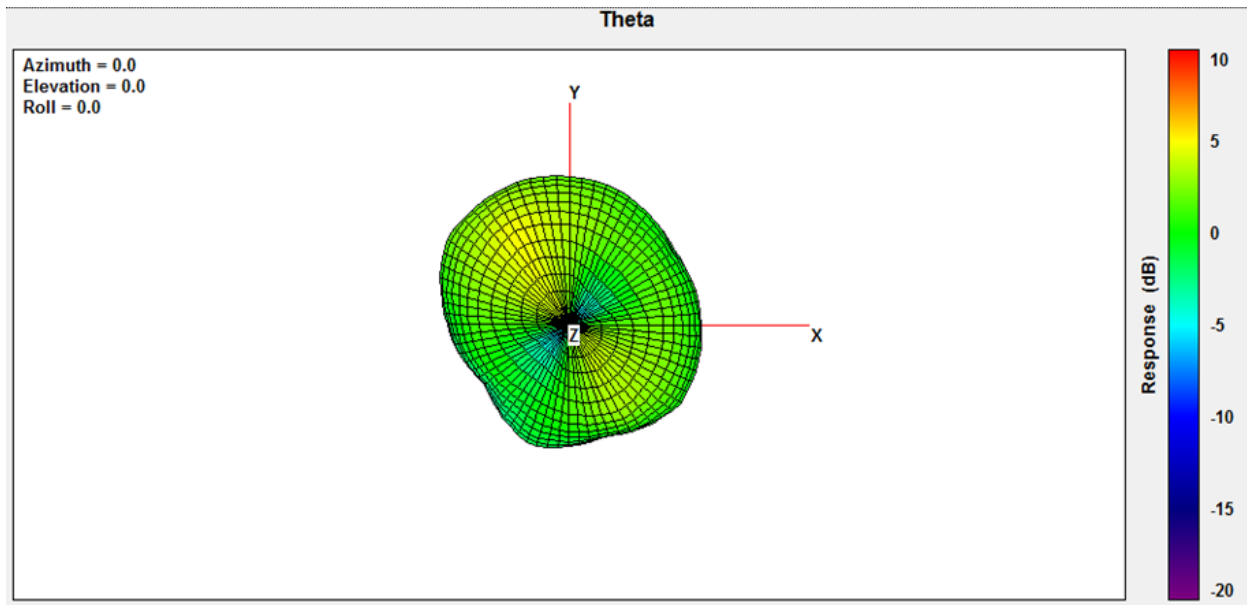
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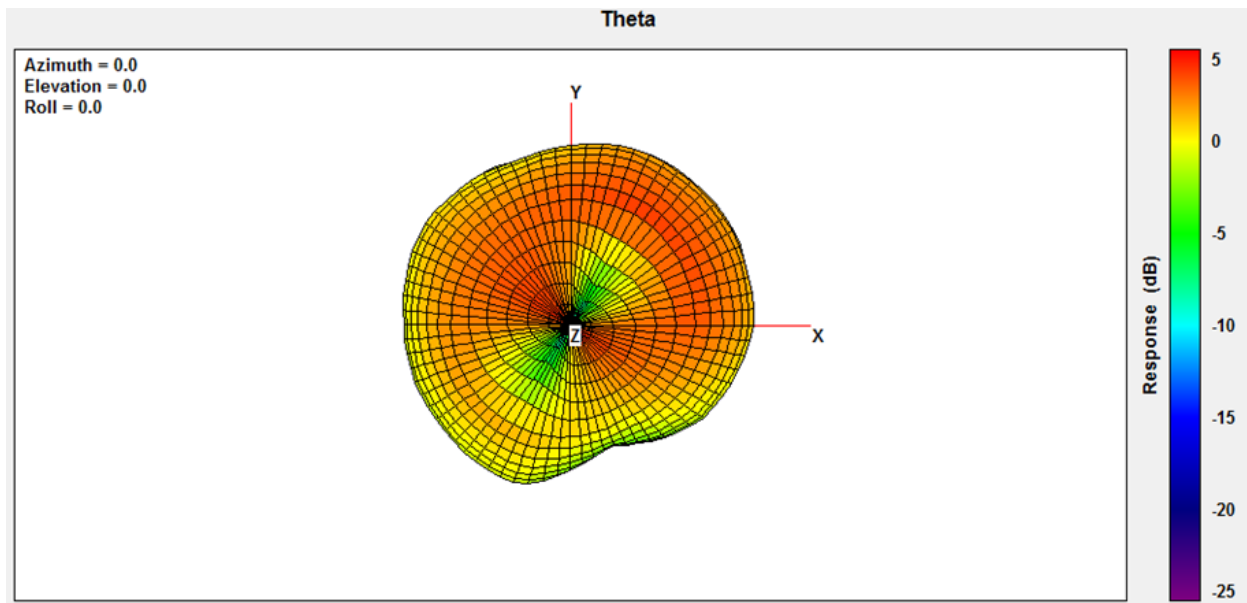
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## Radiation Pattern - 3D Pattern

BeiDou : 1561 MHz



GPS : 1575.42 MHz



# Multiband Active GNSS (GPS/GLONASS/BEIDOU) External Antenna



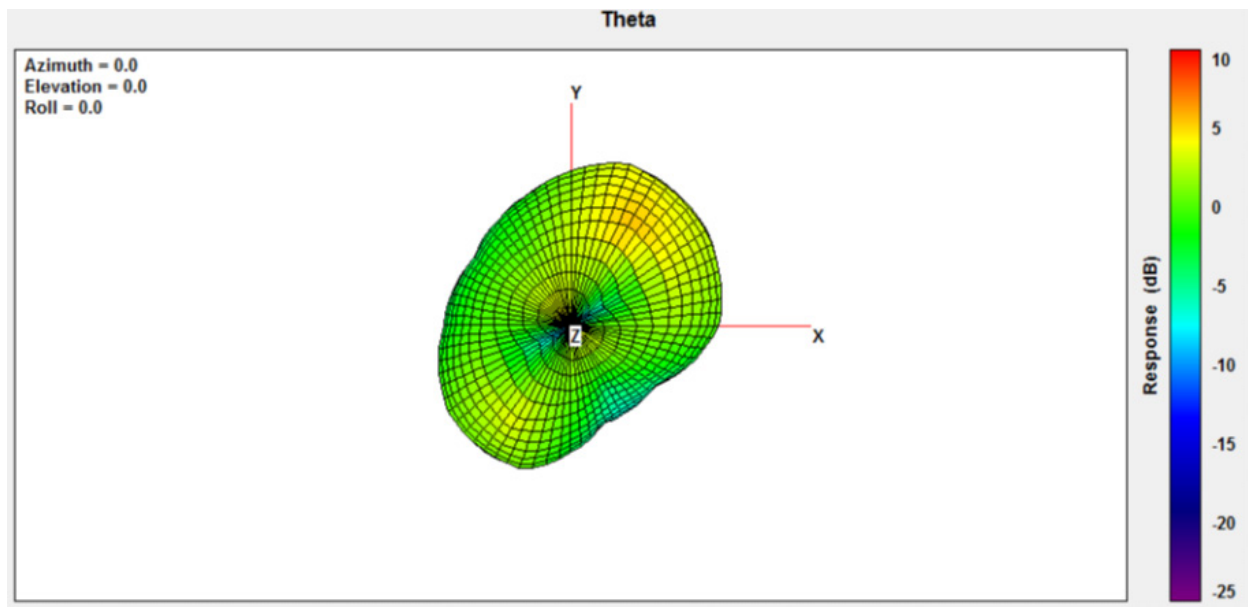
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## Radiation Pattern - 3D Pattern

GLONASS : 1602 MHz



## Packaging

Each carton is of dimension 370 x 370 x 300 mm with 100 units.

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