



### Features:

- 3-Feeds (4G, WiFi, GNSS)
- GNSS Active Antenna
  - LNA gain 30dB
  - Pre and post LNA filtering
- Direct mount
- Connector SMA Male
- Cable 17 feet
- RoHS compliant

### Applications:

- 4G LTE 698-2700MHz
- WiFi dualband 2.4/5GHz
- DSRC 5850-5925GHz
- GNSS (Beidou, GPS, Galileo, Glonass)
- Vehicular mounting
- Asset Tracking, Navigation, Fleet Management
- Mobile and Fixed broadband

All dimensions are in mm / inches

Issue: 1709

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Tel: 86 512 6807 9998



**Series: SharkFin**
**Description: 4G/WiFi/Active GNSS Direct Mount Antenna**
**PART NUMBER: GNSSDM700/5800SSS**
**ELECTRICAL SPECIFICATIONS**

|                                                       |                                                  |     |
|-------------------------------------------------------|--------------------------------------------------|-----|
| Frequency(LTE Cable)                                  | 698-960/1710-2170/2300-2700                      | MHz |
| Frequency(WiFi cable)                                 | 2400-2485/5150-5925                              | MHz |
| Frequency(GNSS cable)                                 | 1561.098±2.046/<br>1575.42±1.023/<br>1602.5625±4 | MHz |
| Nominal Impedance                                     | 50                                               | Ω   |
| VSWR (LTE)*                                           | 2.5:1                                            | Max |
| VSWR (WiFi/GNSS)*                                     | 2:1                                              | Max |
| Peak Gain (LTE,698-960MHz,Typical)**                  | 3.0                                              | dBi |
| Peak Gain (LTE,1710-2700MHz,Typical)**                | 4.5                                              | dBi |
| Peak Gain (WiFi, 2400-2500MHz,Typical)**              | 4.1                                              | dBi |
| Peak Gain (WiFi, 5150-5925MHz,Typical)**              | 5.9                                              | dBi |
| Efficiency (LTE,698-960MHz,Typical)**                 | 83                                               | %   |
| Efficiency (LTE,1710-2700MHz,Typical)**               | 82                                               | %   |
| Efficiency (WiFi,2400-2500MHz,Typical)**              | 82                                               | %   |
| Efficiency (WiFi,5150-5925MHz,Typical)**              | 54                                               | %   |
| HPBW / Horizontal Plane (LTE/WiFi)**                  | Omni                                             |     |
| HPBW / Vertical Plane (LTE, 698-960MHz, Typical)**    | 52°                                              |     |
| HPBW / Vertical Plane (LTE,1710-2700MHz, Typical)**   | 35°                                              |     |
| HPBW / Vertical Plane (WiFi, 2400-2485MHz, Typical)** | 32°                                              |     |
| HPBW / Vertical Plane (WiFi,5150-5925MHz, Typical)**  | 25°                                              |     |
| Polarization (LTE/WiFi)                               | Vertical                                         |     |
| Polarization (GNSS)                                   | RHCP                                             |     |
| Power Withstanding (LTE, 698-960MHz)                  | 100                                              | W   |
| Power Withstanding (LTE, 1710-2700MHz)                | 20                                               | W   |
| Power Withstanding (WiFi, 2400-5925MHz)               | 20                                               | W   |

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Mount Antenna

PART NUMBER: GNSSDM700/5800SSS

|                                                |                      |
|------------------------------------------------|----------------------|
| RHCP Peak Gain (Radiating element, Typical)*** | 1 dBic               |
| Gain (LNA gain)                                | 30 dB $\pm$ 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               |
| Noise Figure                                   | <2.4 dB              |
| Operating Voltage                              | 3.3-5 Vdc $\pm$ 0.5V |
| Current Consumption                            | 9 mA $\pm$ 2 mA      |

\* Tested with 5.18m cable and with 500mm ground plane

\*\*Tested with 200mm cable and with 500mm ground plane

\*\*\*Tested with 70X70mm ground plane

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### MECHANICAL SPECIFICATIONS

|                |                                   |
|----------------|-----------------------------------|
| Overall Length | 3.5 H x Ø4.26 /88.3 x Ø108[in/mm] |
| Weight         | 470g                              |
| Antenna Color  | BLACK or WHITE                    |
| Connector type | SMA MALE                          |
| Cable type     | RG58/RG174[GNSS/ LTE&WLAN]        |
| Cable length   | 17' / 5.18m                       |

### ENVIRONMENTAL SPECIFICATIONS

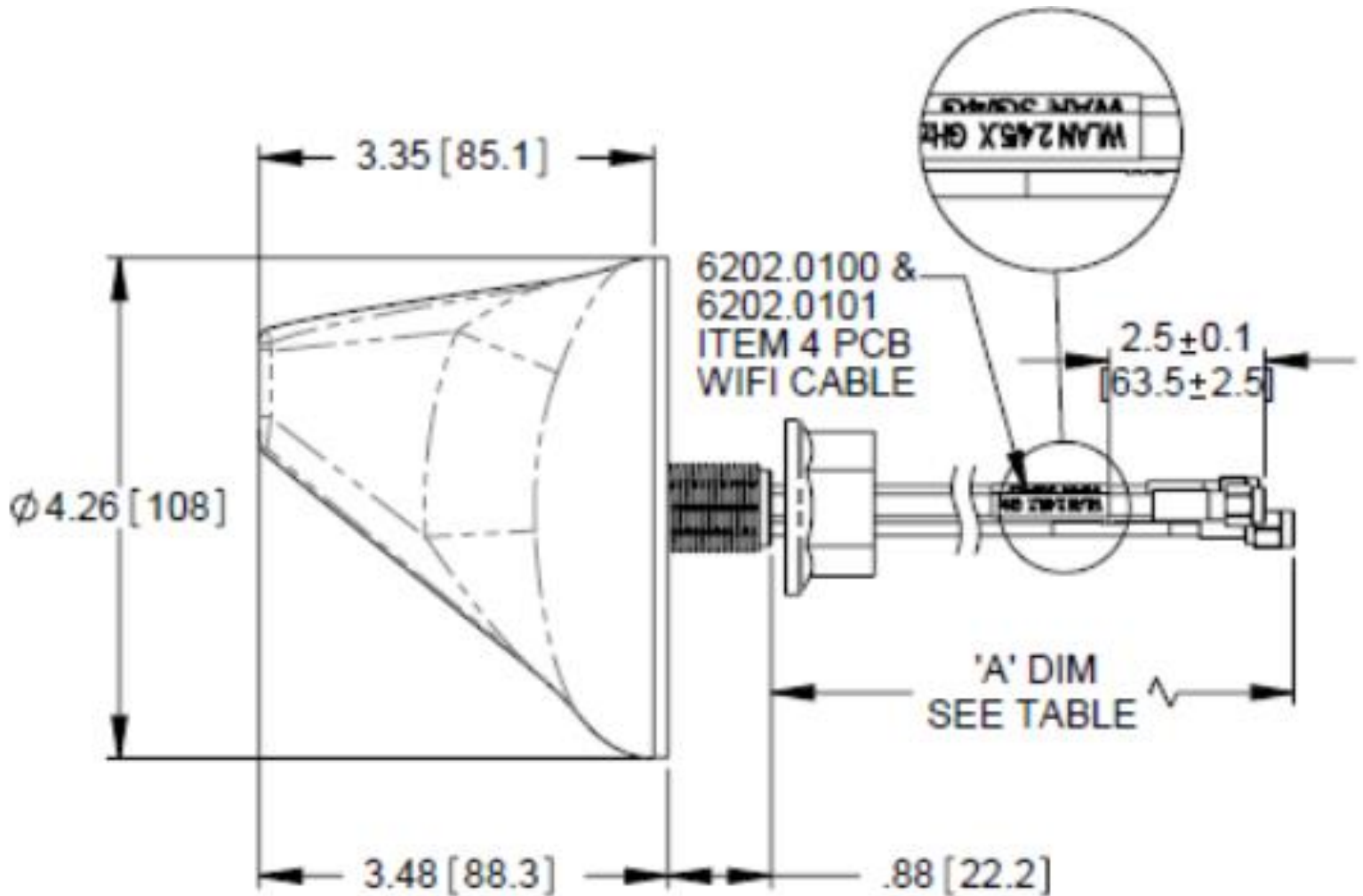
|                       |             |
|-----------------------|-------------|
| Operating Temperature | -40/+85 ° C |
| Storage Temperature   | -40/+85 ° C |
| Ingress Protection    | IP65        |
| Wind-loading          | 120km/h     |
| RoHS Compliant        | Yes         |

Series: SharkFin

Description: 4G/WiFi/Active GNSS Direct Mount Antenna

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MECHANICAL DRAWING



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**Description:** 4G/WiFi/Active GNSS Direct  
Mount Antenna

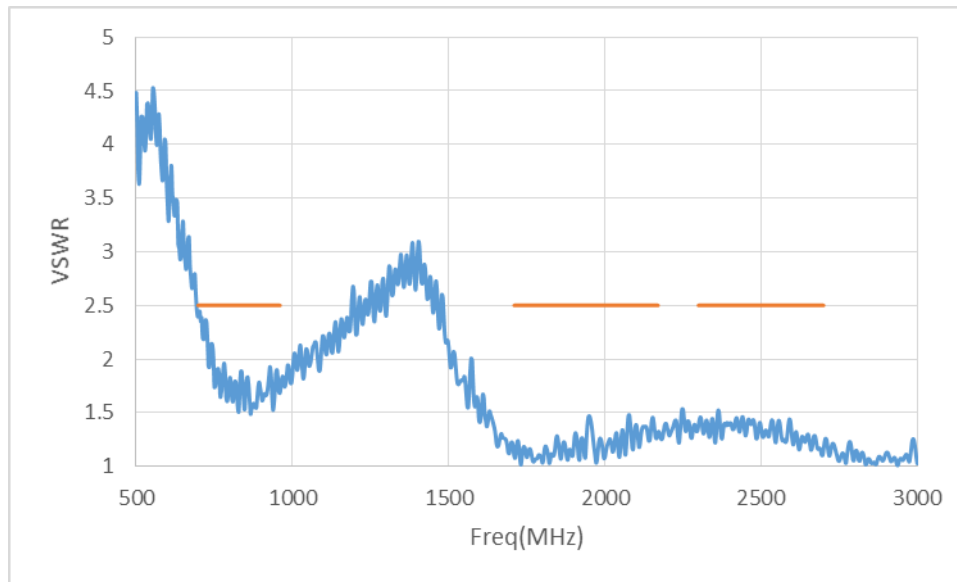
**PART NUMBER: GNSSDM700/5800SSS**

### Test Setup

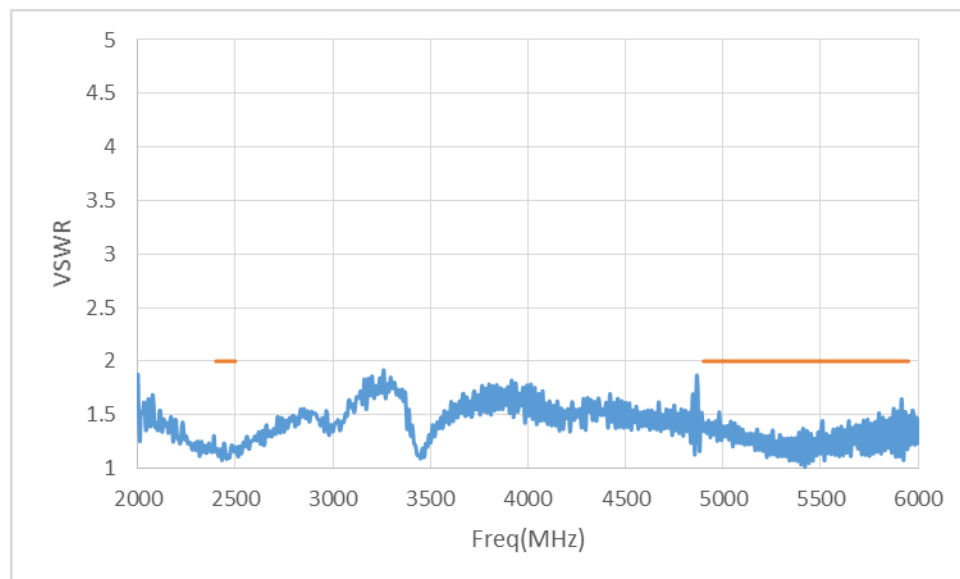
- \* VSWR is tested with 5.18m cable and with 500mm ground plane
- \*\*Radiation performance is tested with 200mm cable and with 500mm ground plane
- \*\*\*GNSS module is tested with 70X70mm ground plane

## CHARTS

### VSWR of LTE



### VSWR of WiFi



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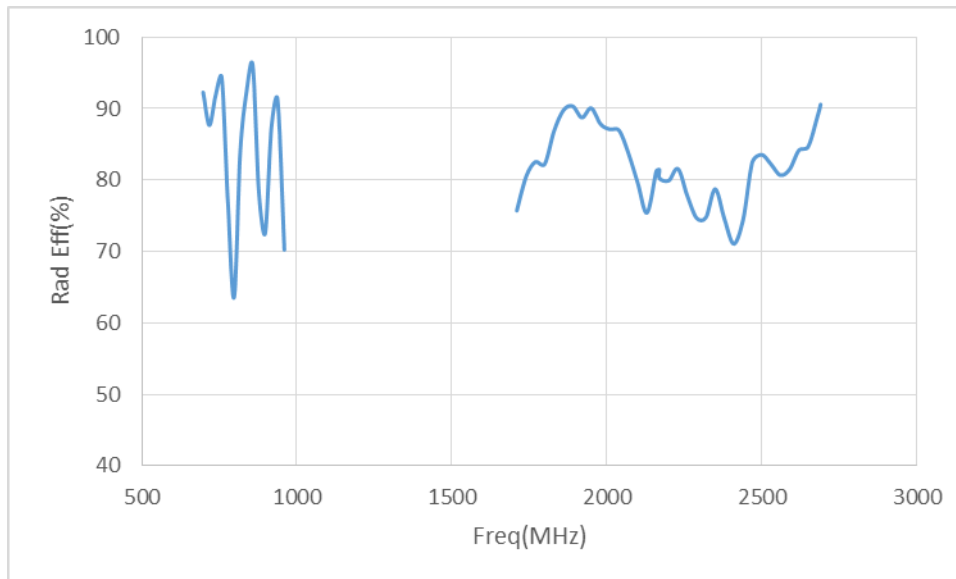
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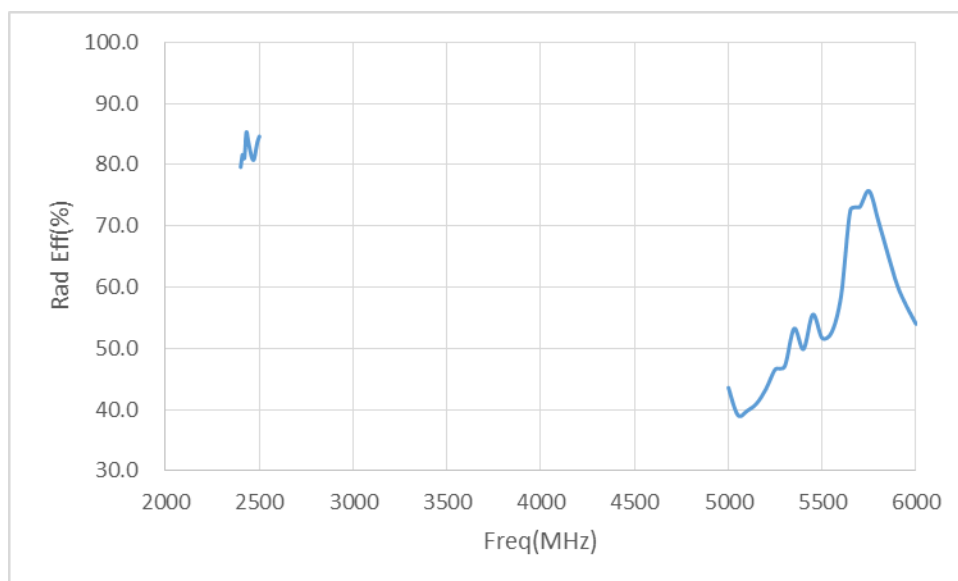
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## CHARTS

### Radiation Efficiency of LTE



### Radiation Efficiency of WiFi



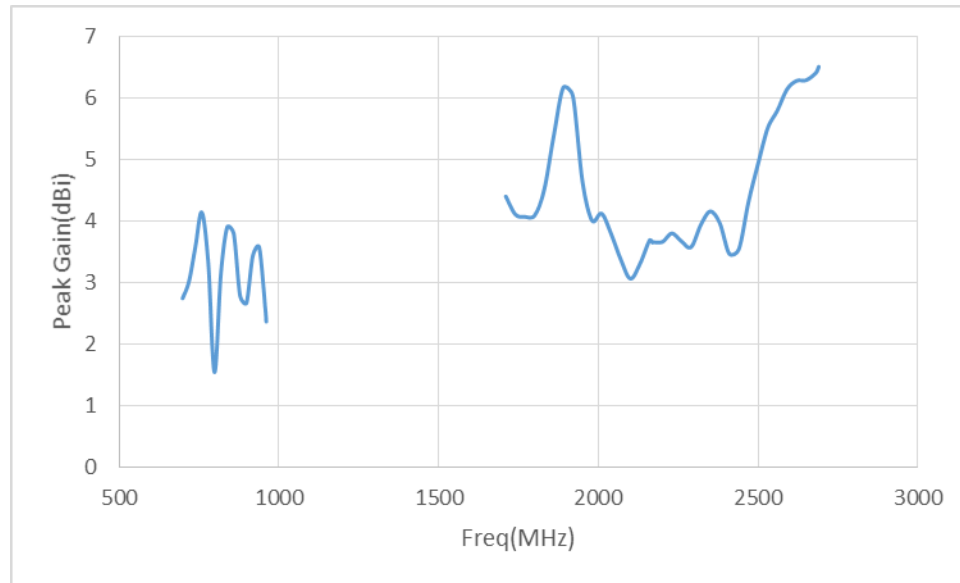
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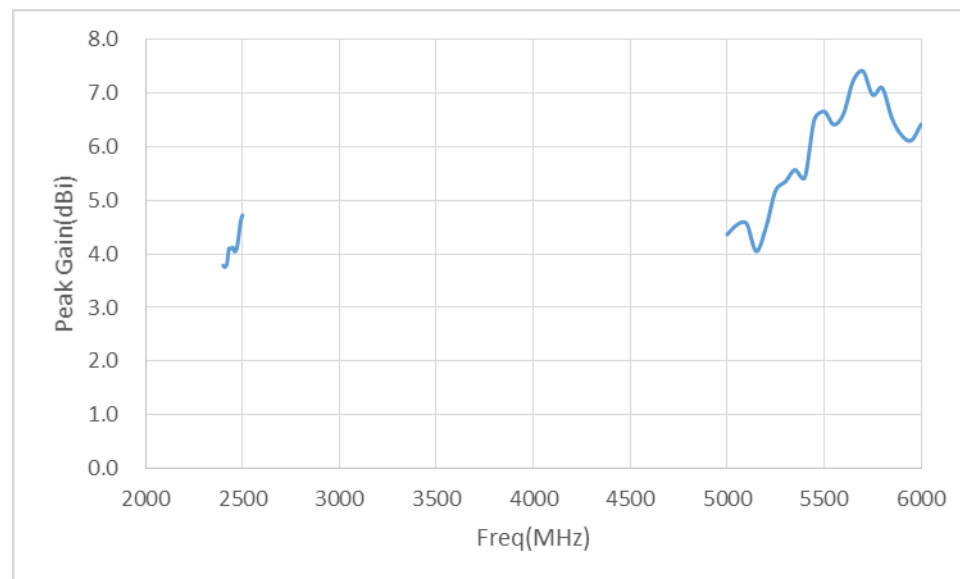
**PART NUMBER:** GNSSDM700/5800SSS

## CHARTS

### Peak Gain of LTE



### Peak Gain of WiFi



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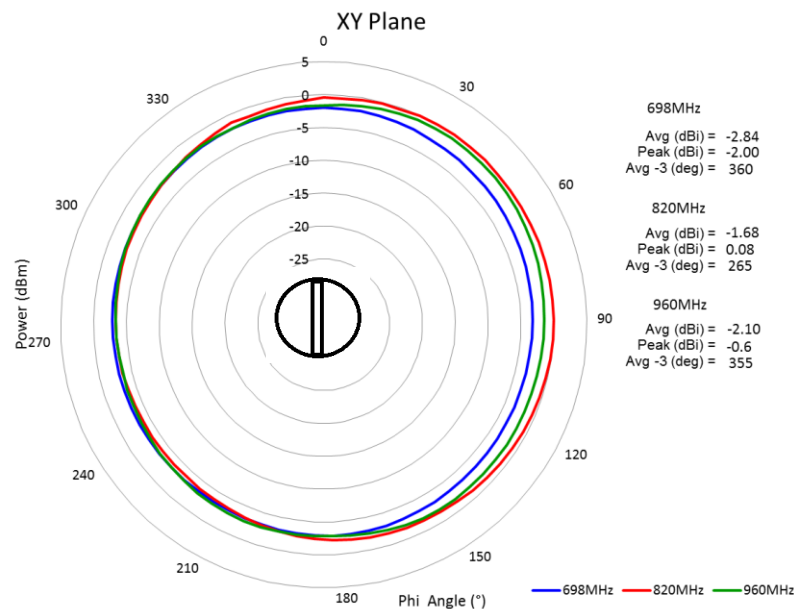
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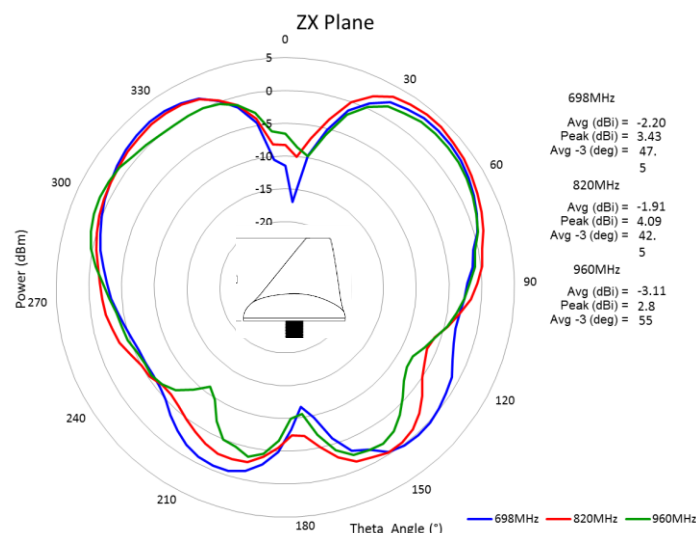
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## CHARTS

### LTE antenna X-Y plane radiation pattern at LTE low band



### LTE antenna Z-X plane radiation pattern at LTE low band



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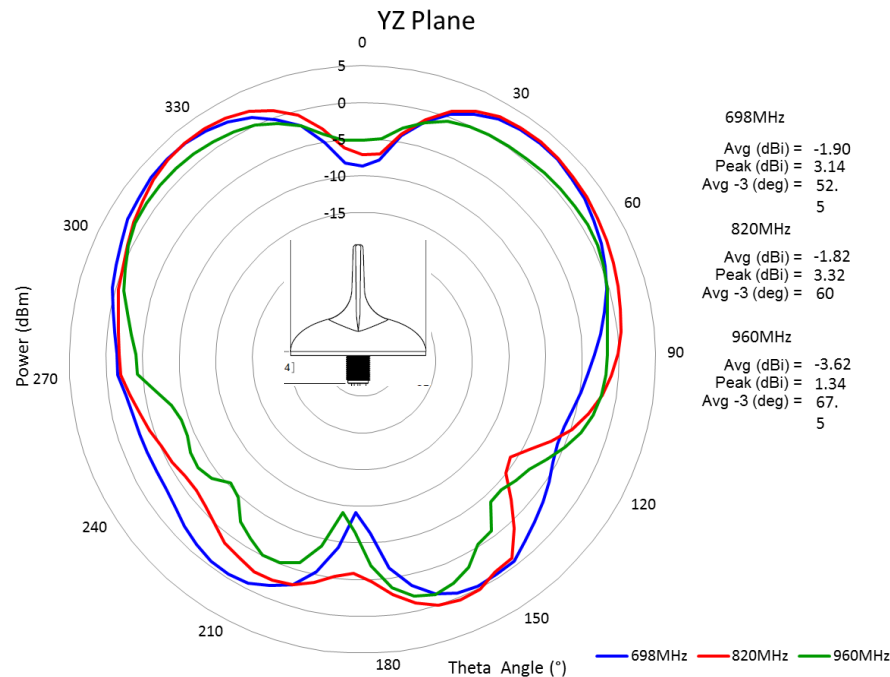
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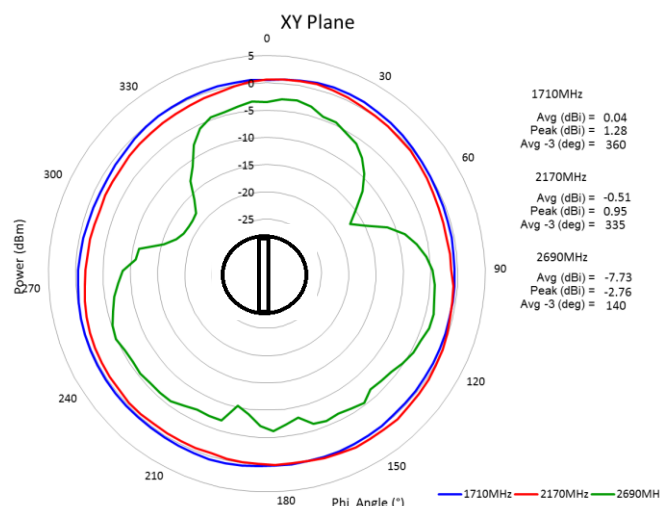
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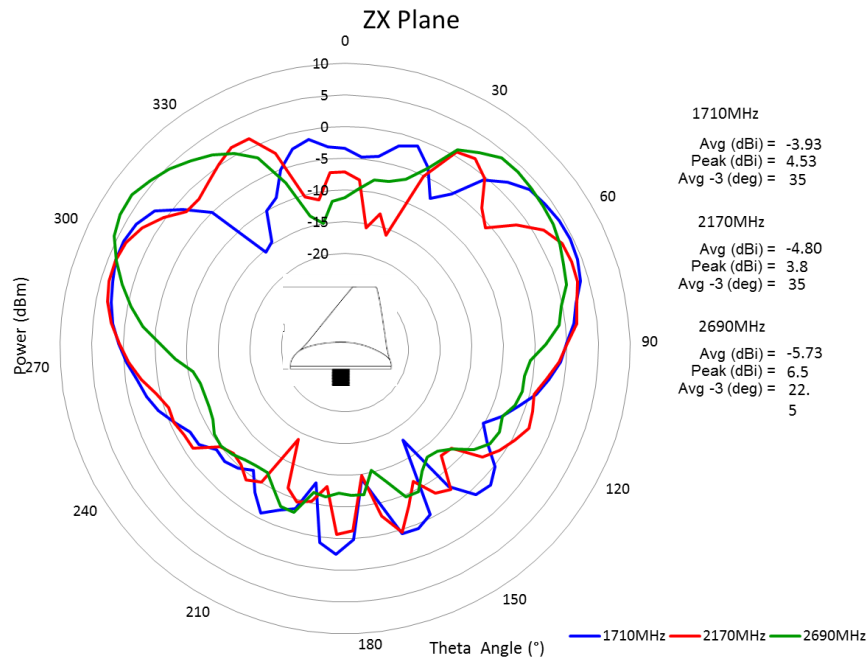


### LTE antenna X-Y plane radiation pattern at LTE high band

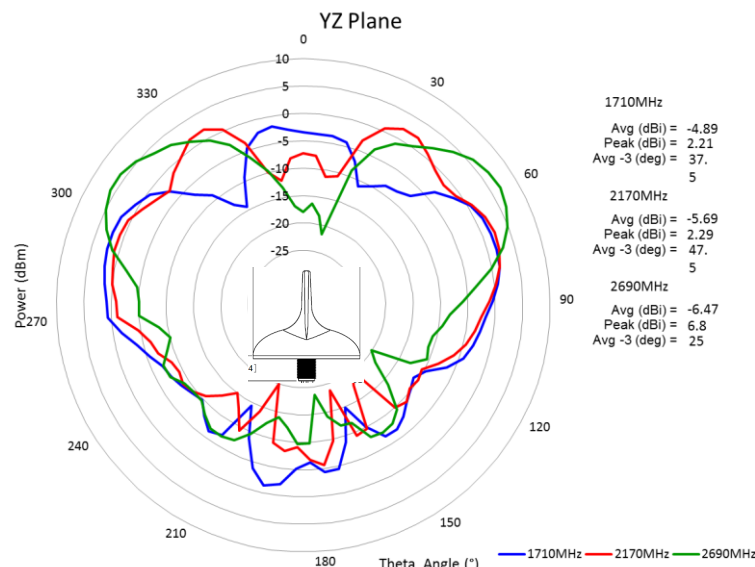


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### LTE antenna Z-X plane radiation pattern at LTE high band



### LTE antenna Y-Z plane radiation pattern at LTE high band



Issue: 1709

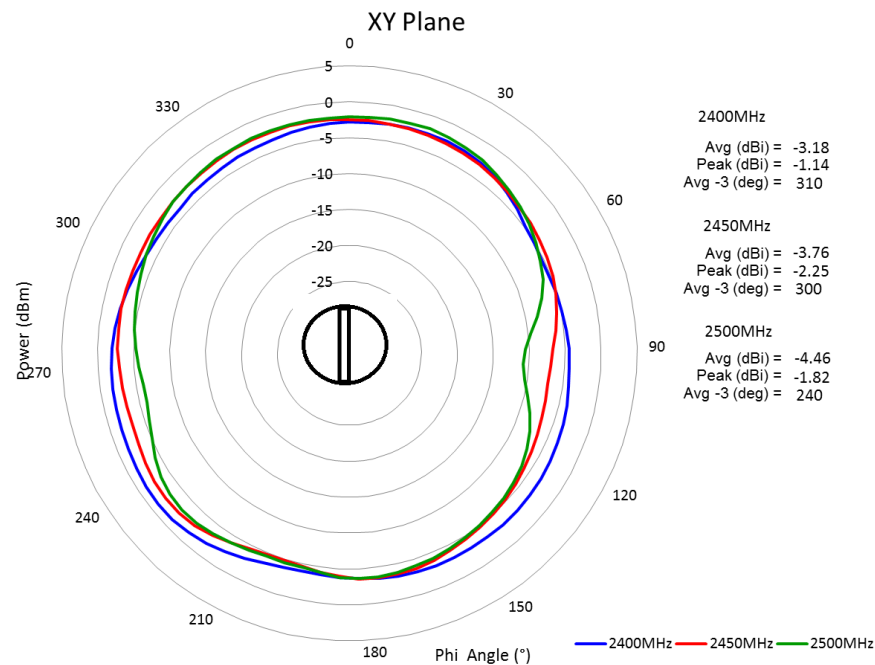
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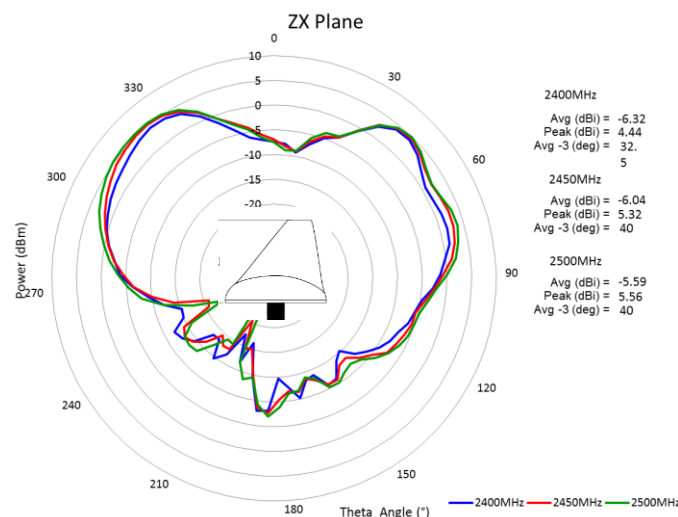
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## CHARTS

### WiFi antenna X-Y plane radiation pattern at WiFi low band



### WiFi antenna Z-X plane radiation pattern at WiFi low band



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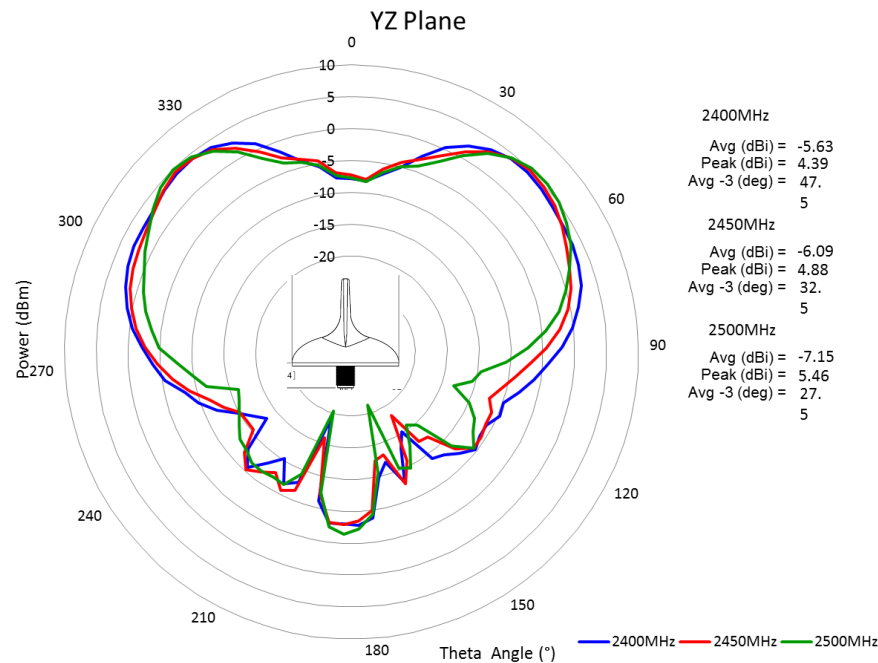
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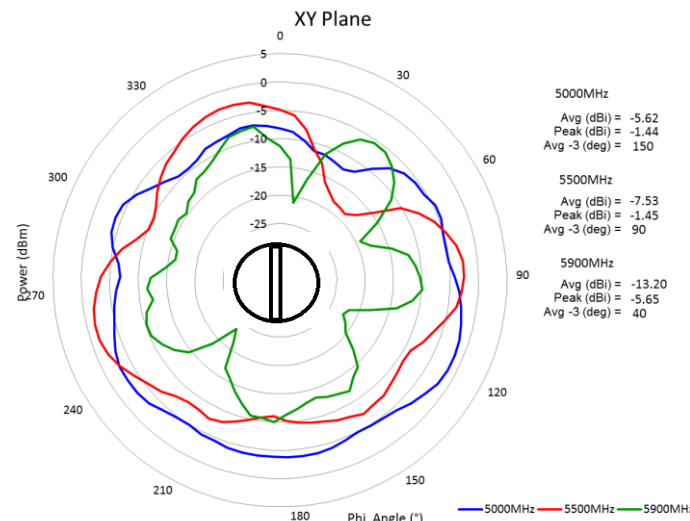
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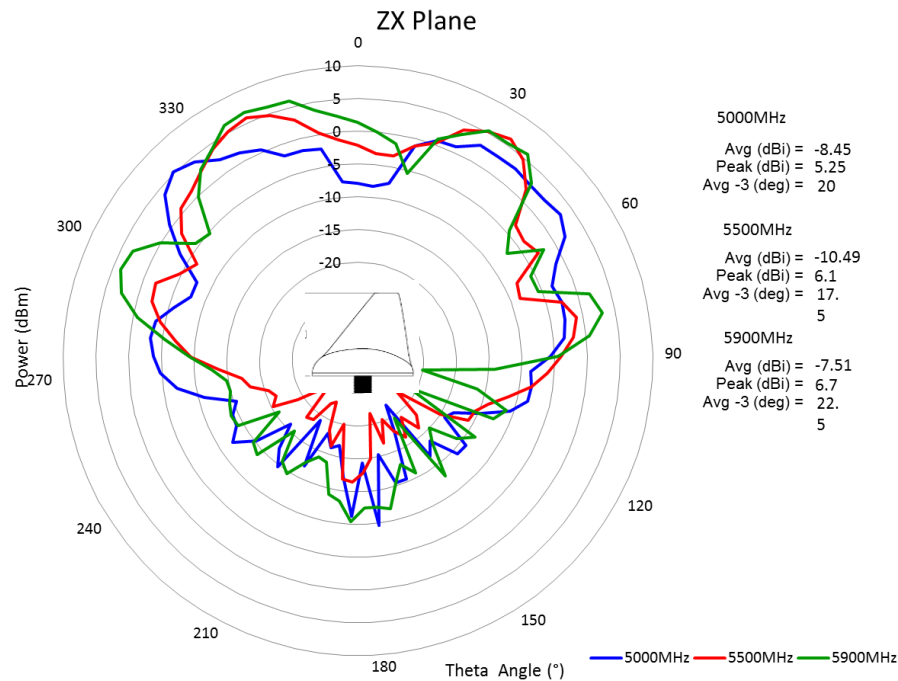
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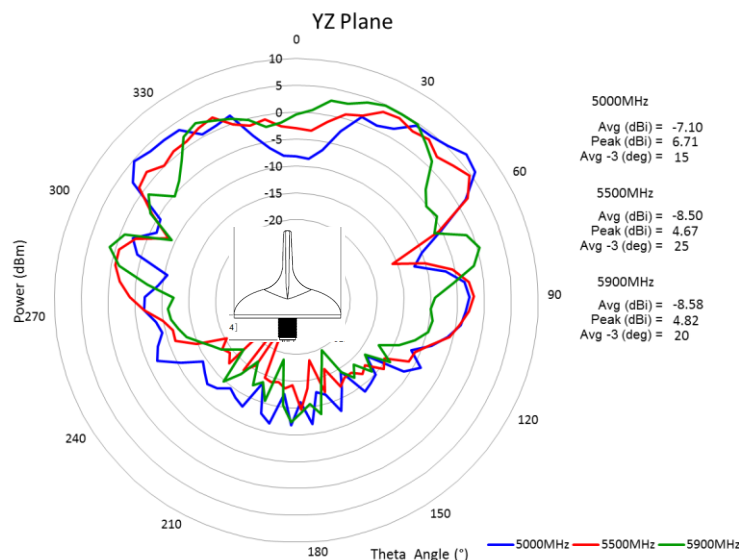
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### WiFi antenna Y-Z plane radiation pattern at WiFi high band



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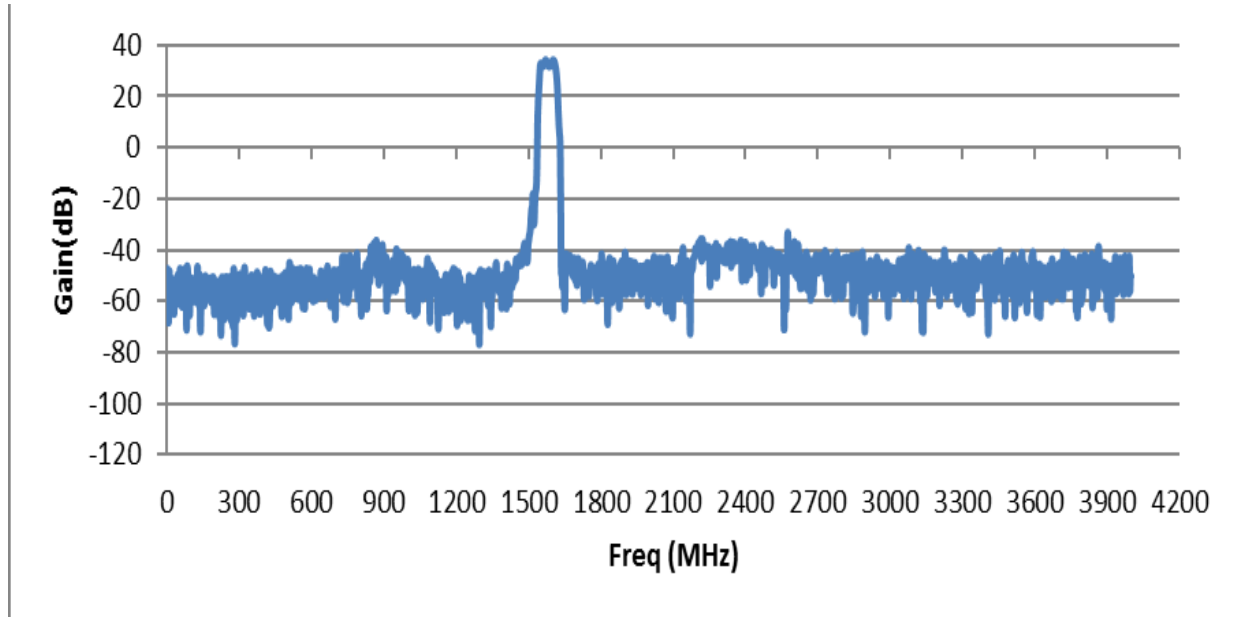
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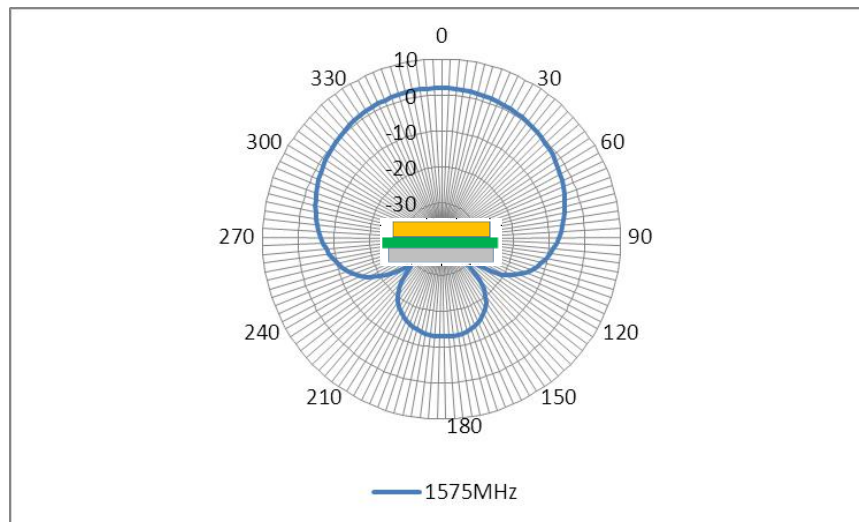
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## CHARTS

LNA Gain and out-of-band rejection



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



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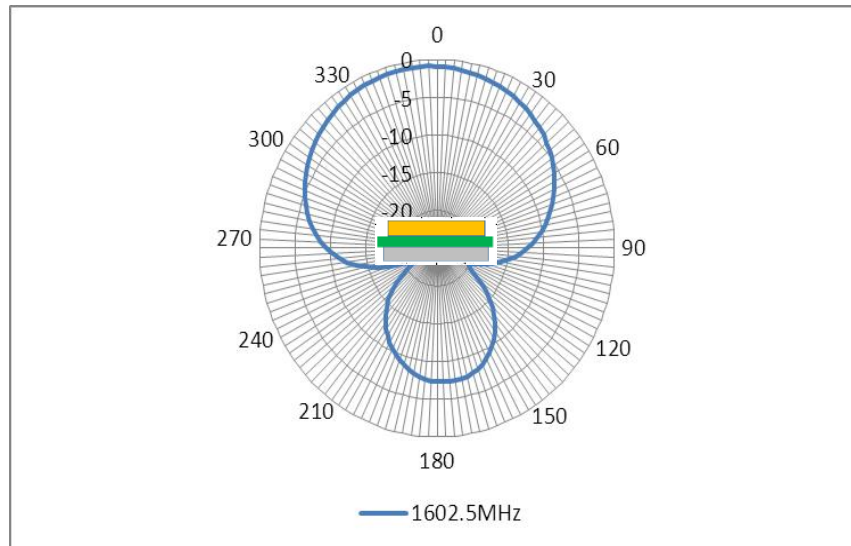
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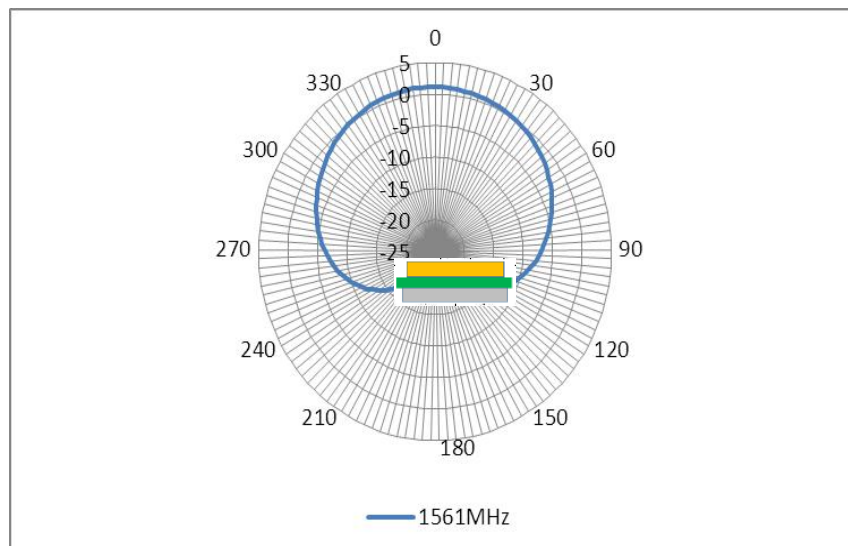
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## CHARTS

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



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



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**Description:** 4G/WiFi/Active GNSS Direct  
Mount Antenna

**PART NUMBER:** GNSSDM700/5800SSS

## PACKAGING

1pcs antennas per PE bag

12pcs antenna per package box

Package box: 400mm\*300mm\*30mm