

Series: SharkFin

TECHNICAL DATA SHEET

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

PART NUMBER: GNSSDM700/5800SSS



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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For more information:

Pulse Worldwide Headquarters

15255 Innovation Drive #100

San Diego, CA 92128

USA

Tel: 1-858-674-8100

Pulse/Larsen Antennas

18110 SE 34th St Bldg 2 Suite 250

Vancouver, WA 98683

USA

Tel: 1-360-944-7551

Europe Headquarters

Pulse GmbH & Do, KG

Zeppelinstrasse 15

Herrenberg, Germany

Tel: 49 7032 7806 0

Pulse (Suzhou) Wireless Products Co, Inc.

99 Huo Ju Road(#29 Bldg,4th Phase

Suzhou New District

Jiangsu Province, Suzhou 215009 PR China

Tel: 86 512 6807 9998



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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/ 1575.42±1.023/ 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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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

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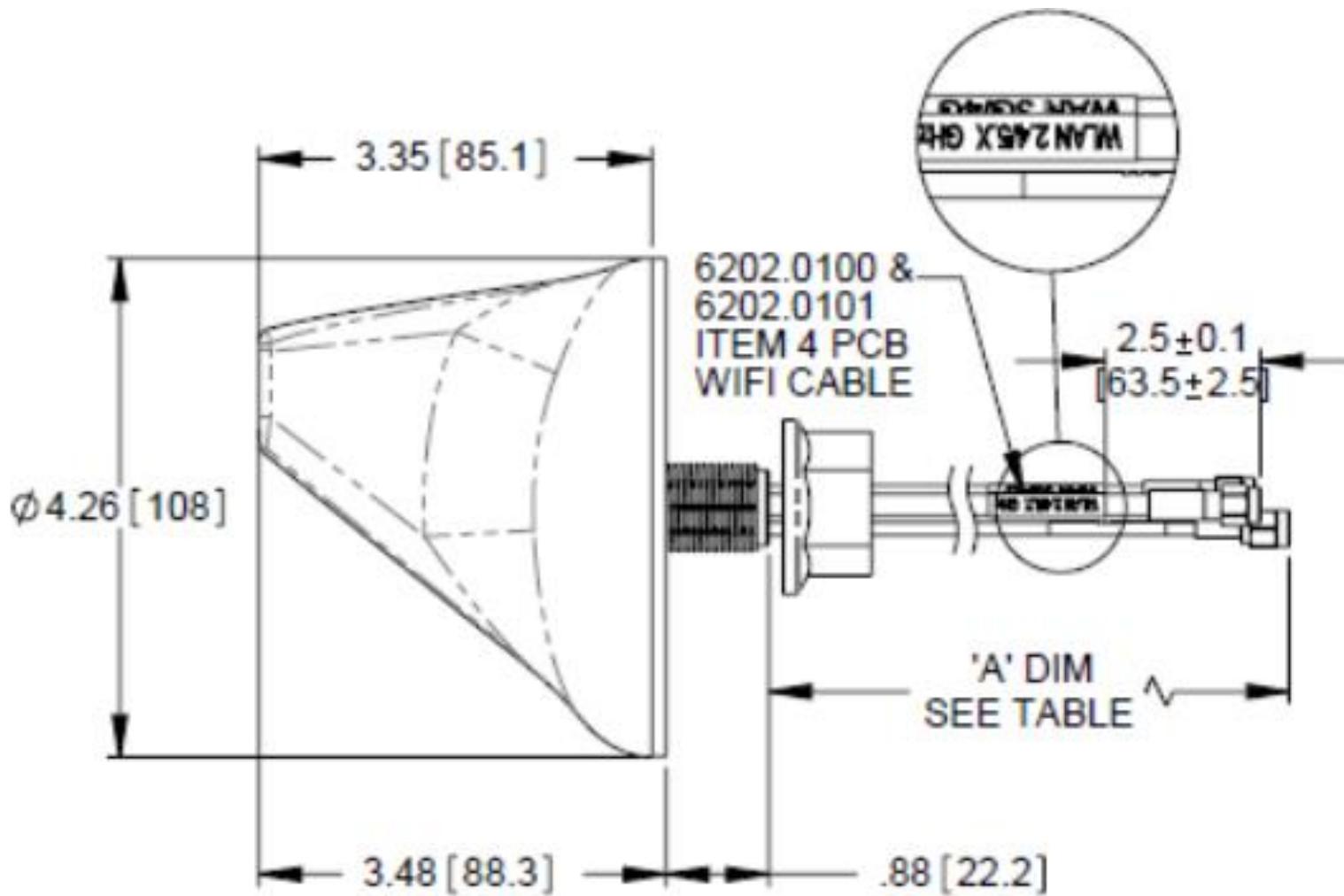
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Description: 4G/WiFi/Active GNSS Direct Mount Antenna

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MECHANICAL DRAWING



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

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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

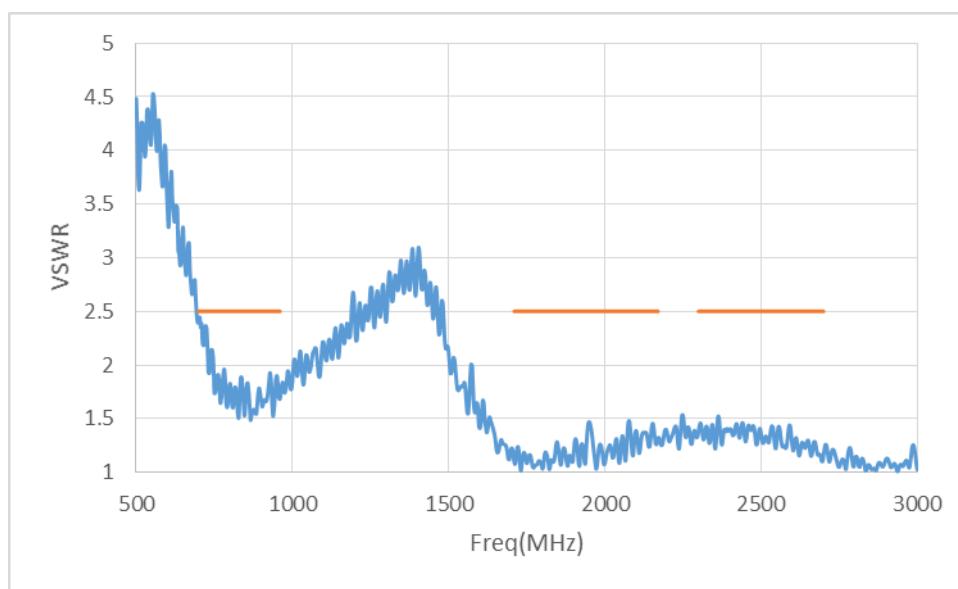
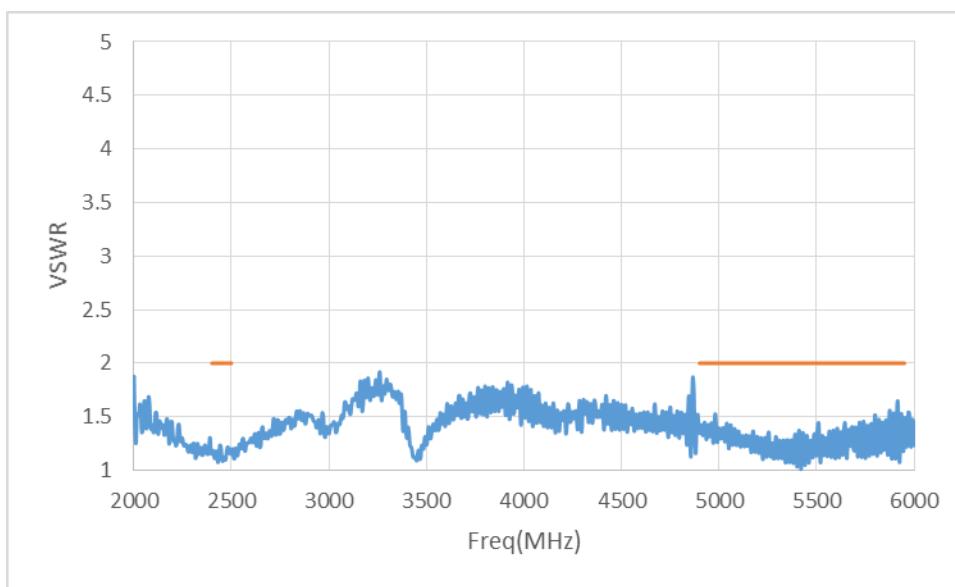
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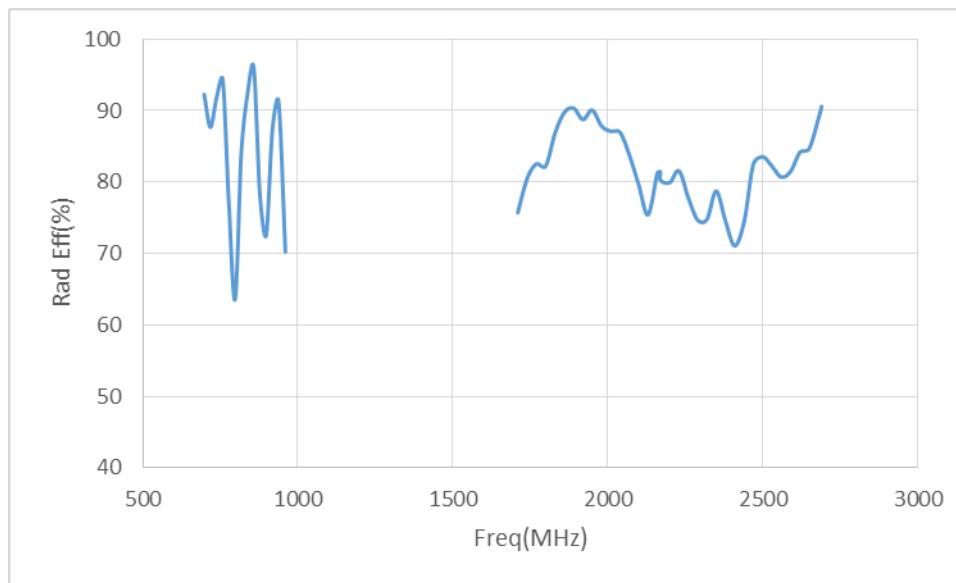
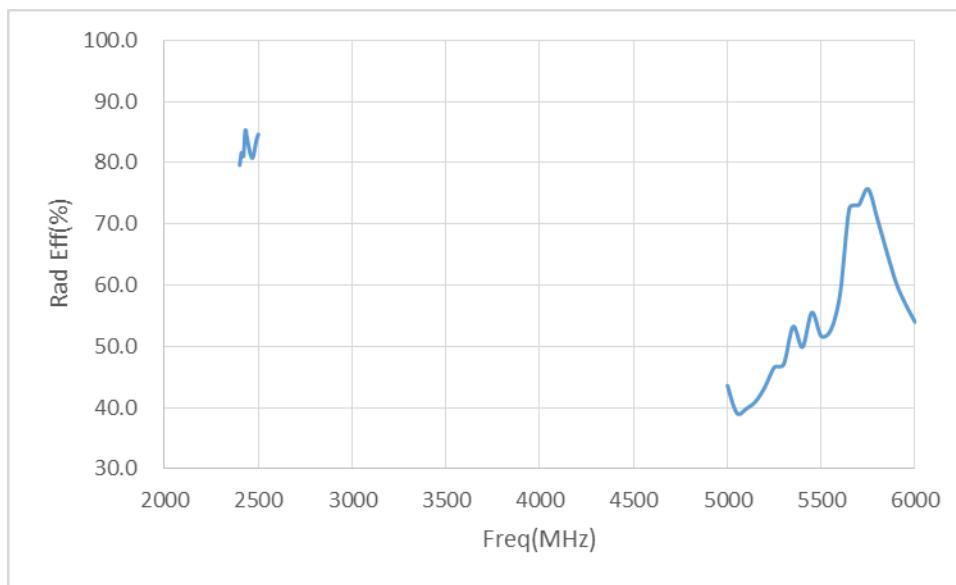


Series: SharkFin**Description: 4G/WiFi/Active GNSS Direct Mount Antenna****PART NUMBER: GNSSDM700/5800SSS****CHARTS****VSWR of LTE****VSWR of WiFi****Issue: 1709**

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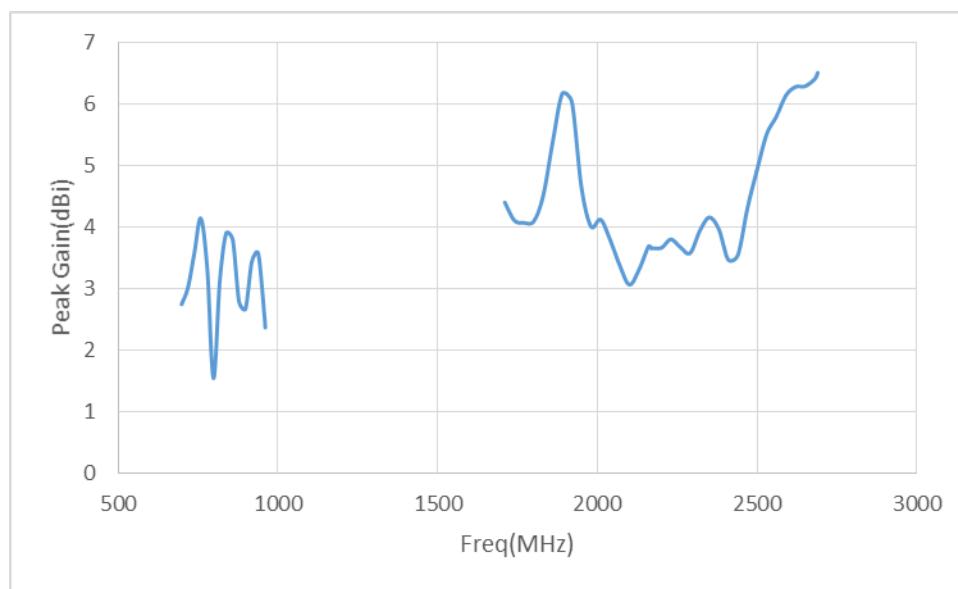
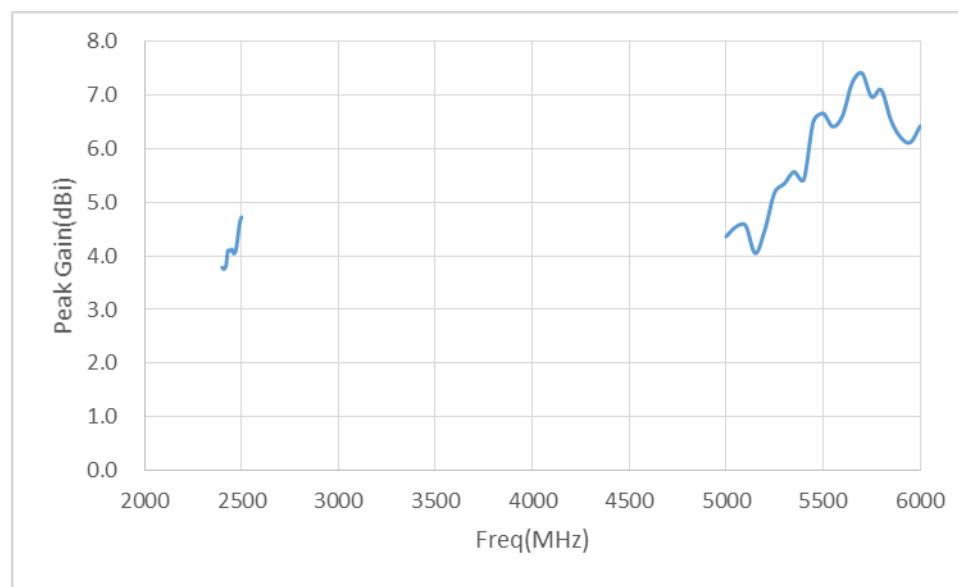
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Description: 4G/WiFi/Active GNSS Direct Mount Antenna**PART NUMBER:** GNSSDM700/5800SSS**CHARTS****Radiation Efficiency of LTE****Radiation Efficiency of WiFi****Issue:** 1709

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Description: 4G/WiFi/Active GNSS Direct Mount Antenna**PART NUMBER:** GNSSDM700/5800SSS**CHARTS****Peak Gain of LTE****Peak Gain of WiFi****Issue: 1709**

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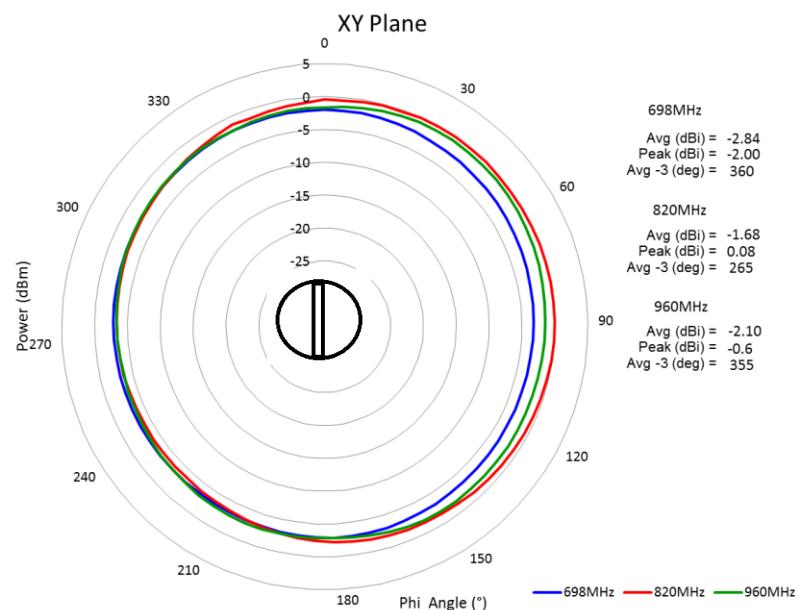
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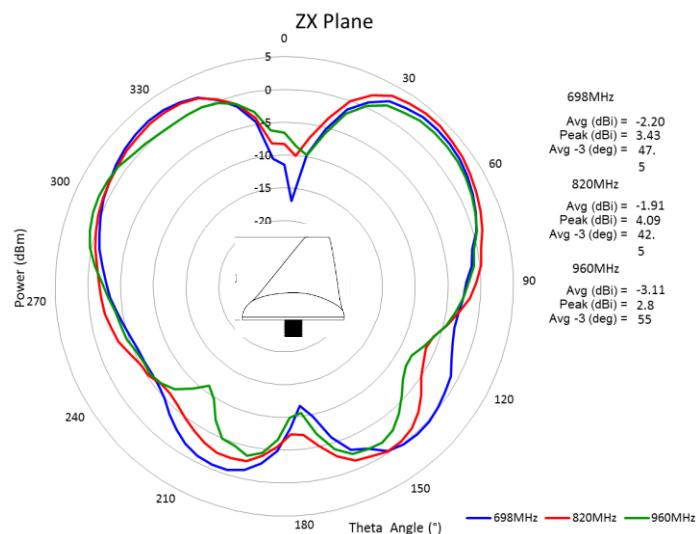
PART NUMBER: GNSSDM700/5800SSS

CHARTS

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



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



Issue: 1709

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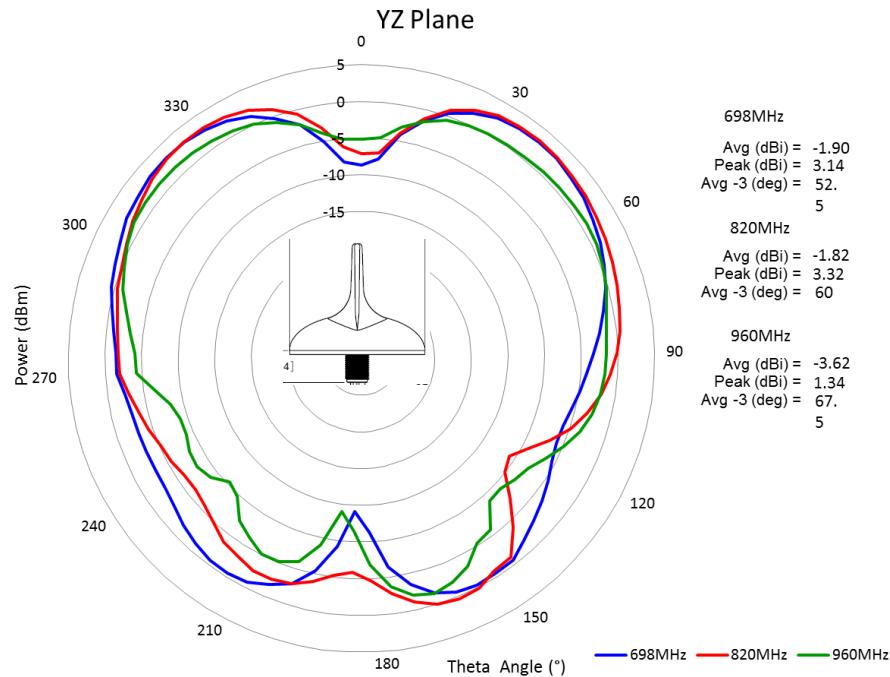
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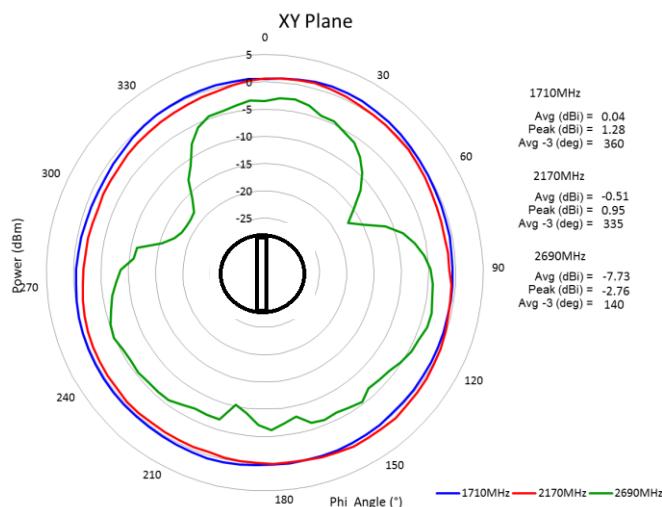
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CHARTS

LTE antenna Y-Z plane radiation pattern at LTE low band



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



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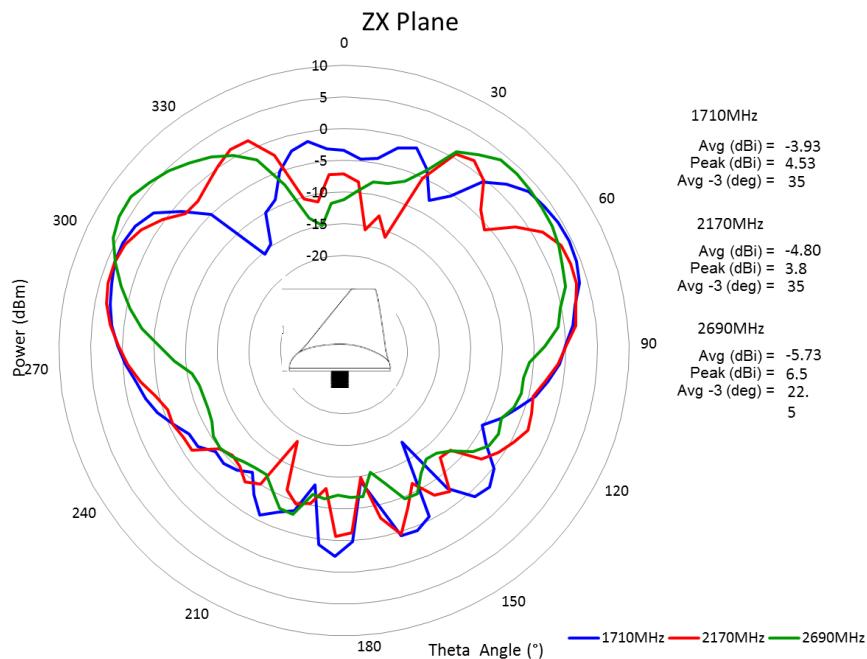
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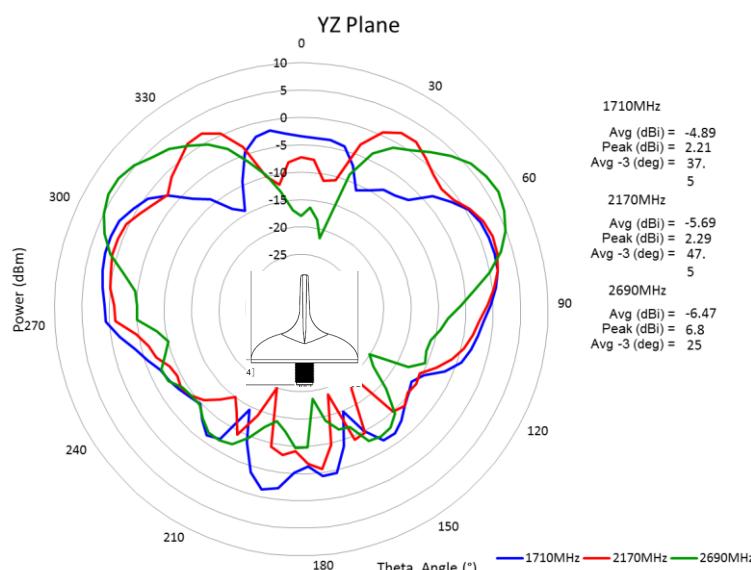
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CHARTS

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



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



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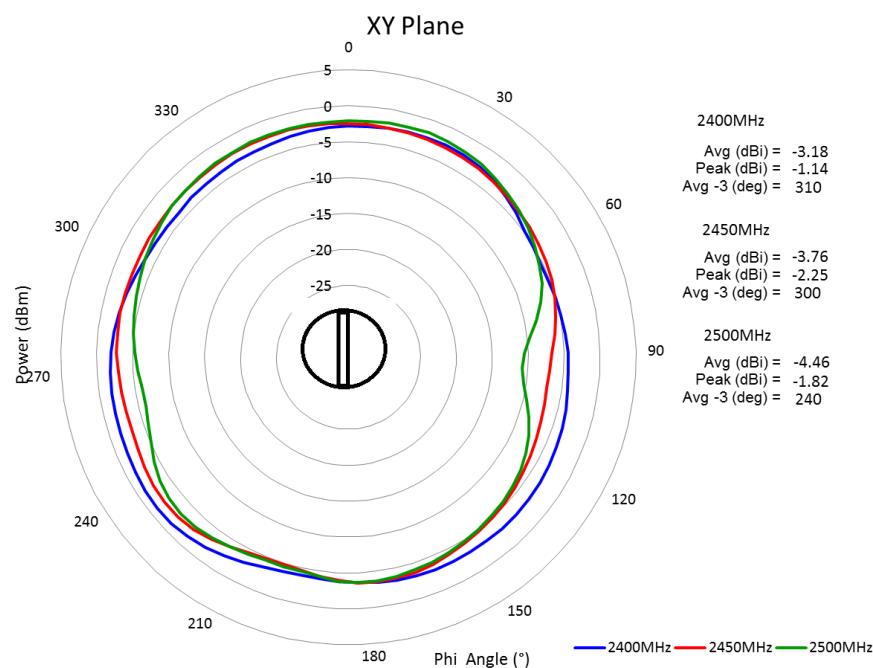


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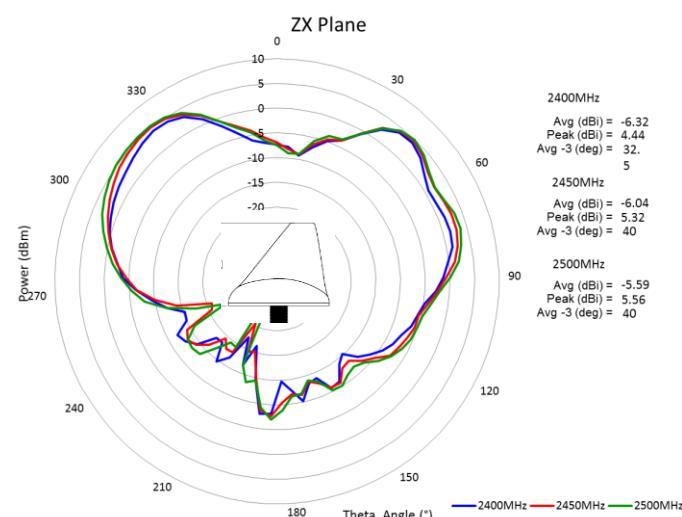
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CHARTS

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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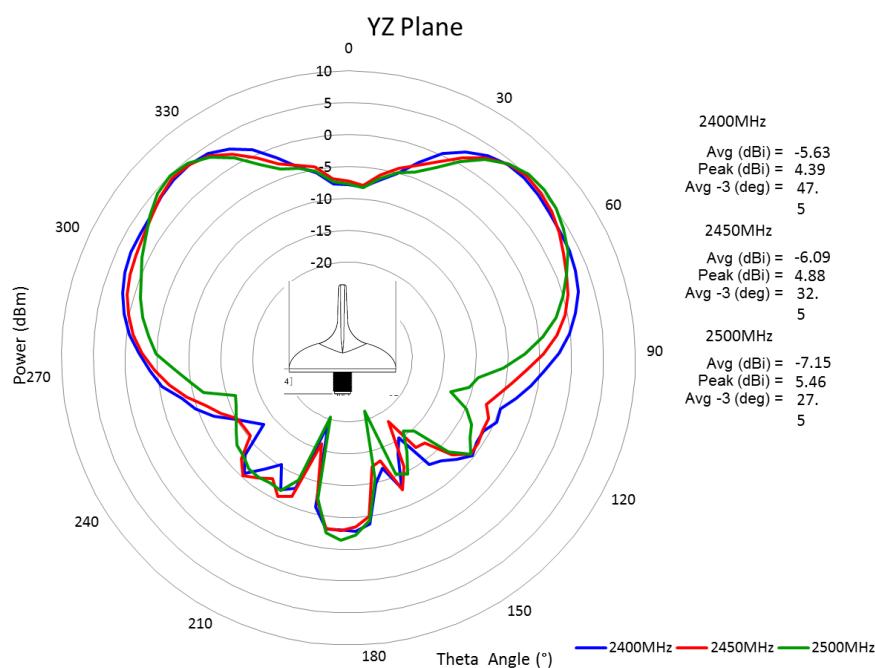
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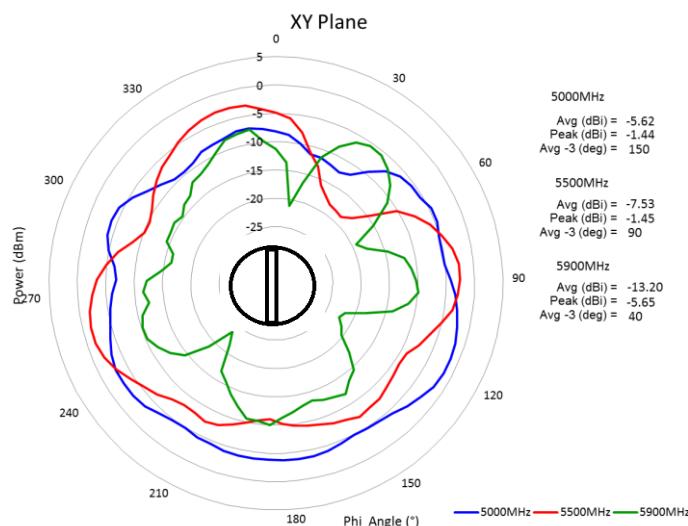
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WiFi antenna Y-Z plane radiation pattern at WiFi low band



WiFi antenna X-Y plane radiation pattern at WiFi high band



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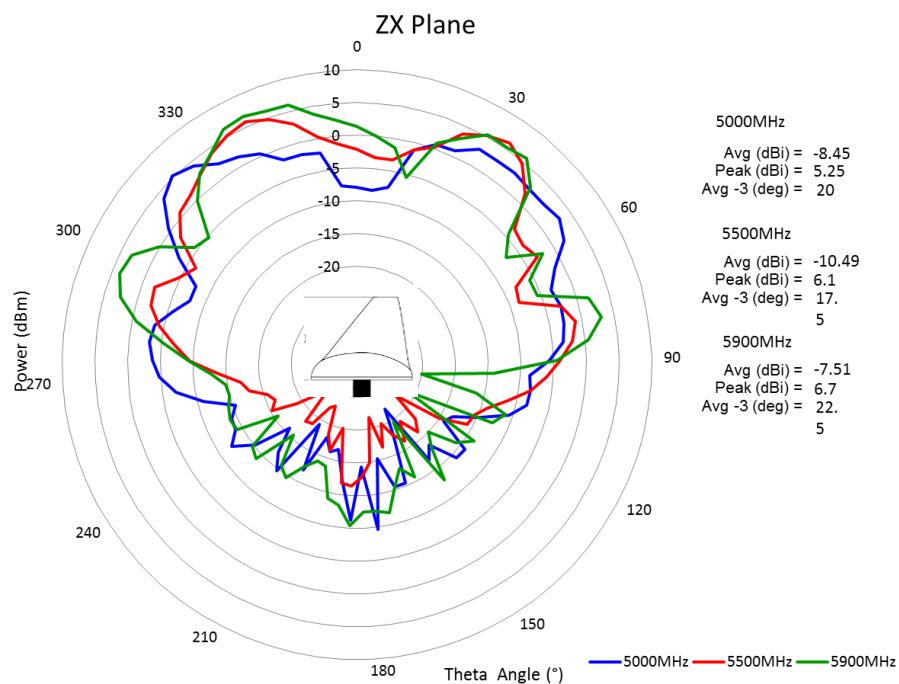


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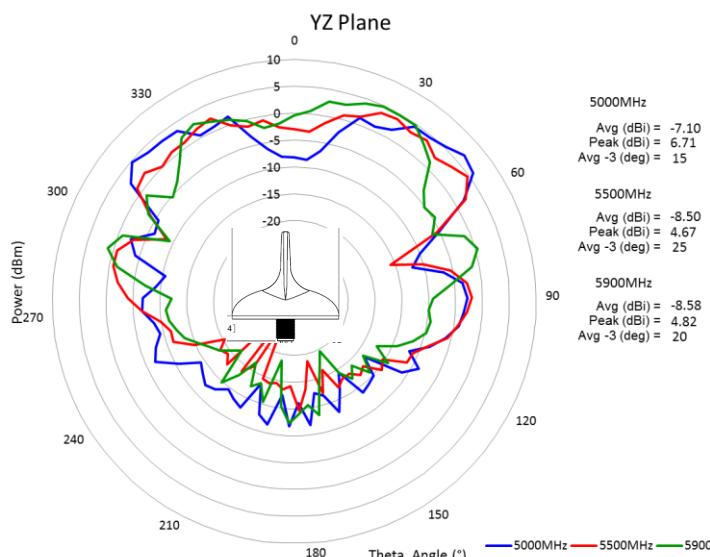
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WiFi antenna Y-Z plane radiation pattern at WiFi high band



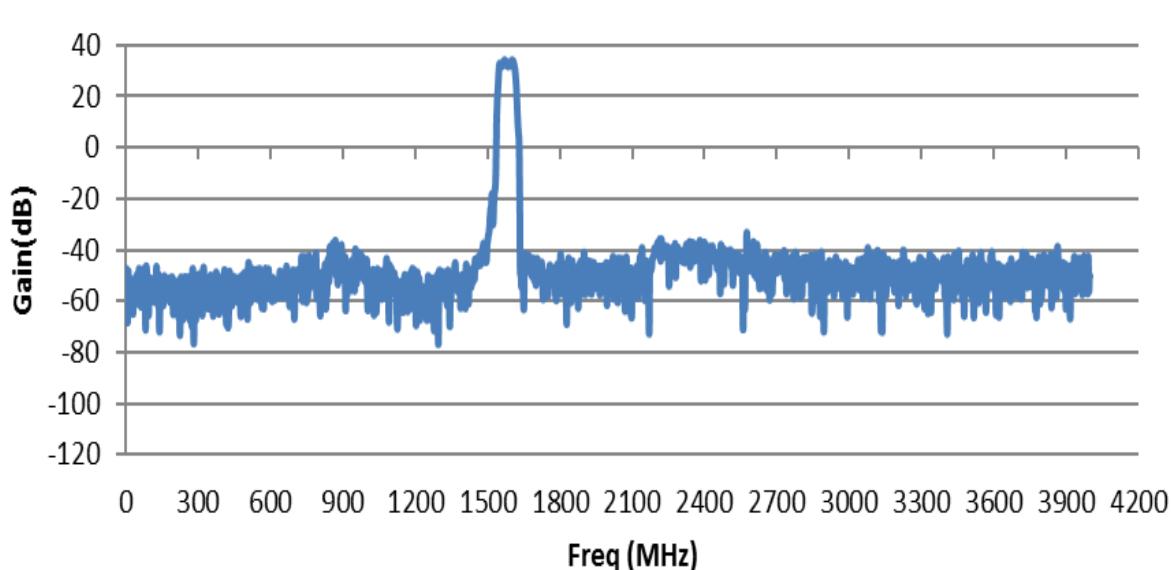
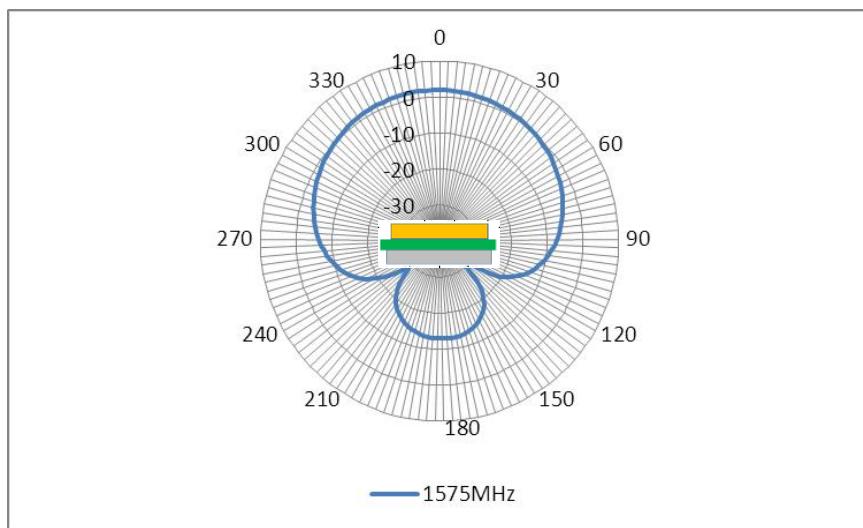
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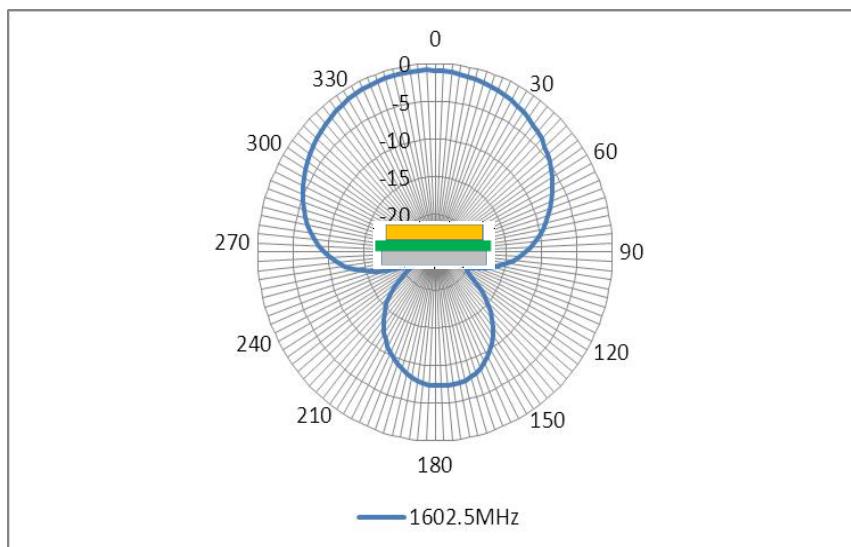
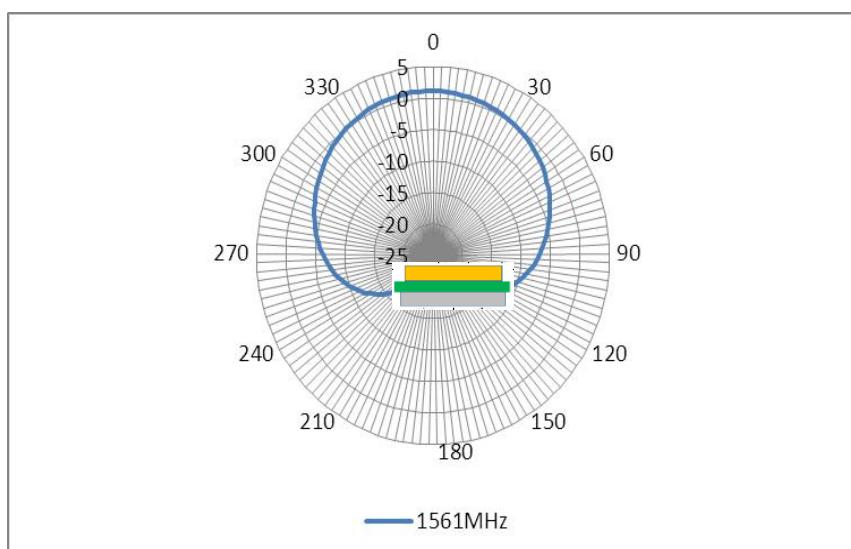
Description: 4G/WiFi/Active GNSS Direct Mount Antenna**PART NUMBER:** GNSSDM700/5800SSS**CHARTS****LNA Gain and out-of-band rejection****Radiation Pattern (70mm x 70mm ground plane) GPS & Galileo****Issue:** 1709

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Description: 4G/WiFi/Active GNSS Direct Mount Antenna**PART NUMBER:** GNSSDM700/5800SSS**CHARTS****Radiation Pattern (70mm x 70mm ground plane) GLONASS****Radiation Pattern (70mm x 70mm ground plane) BD2****Issue:** 1709

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

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PACKAGING

1pcs antennas per PE bag

12pcs antenna per package box

Package box: 400mm*300mm*30mm

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Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А