PulseLARSEN Antennas

TECHNICAL DATA SHEET

Series: SharkFin

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

RoHS COMPLIANT

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Jiangsu Province, Suzhou 215009 PR China
Tel: 86 512 6807 9998

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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/ 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 ± 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±0.5V
Current Consumption	9	mA± 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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TECHNICAL DATA SHEET

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

PART NUMBER: GNSSDM700/5800SSS

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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TECHNICAL DATA SHEET

Series: SharkFin

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

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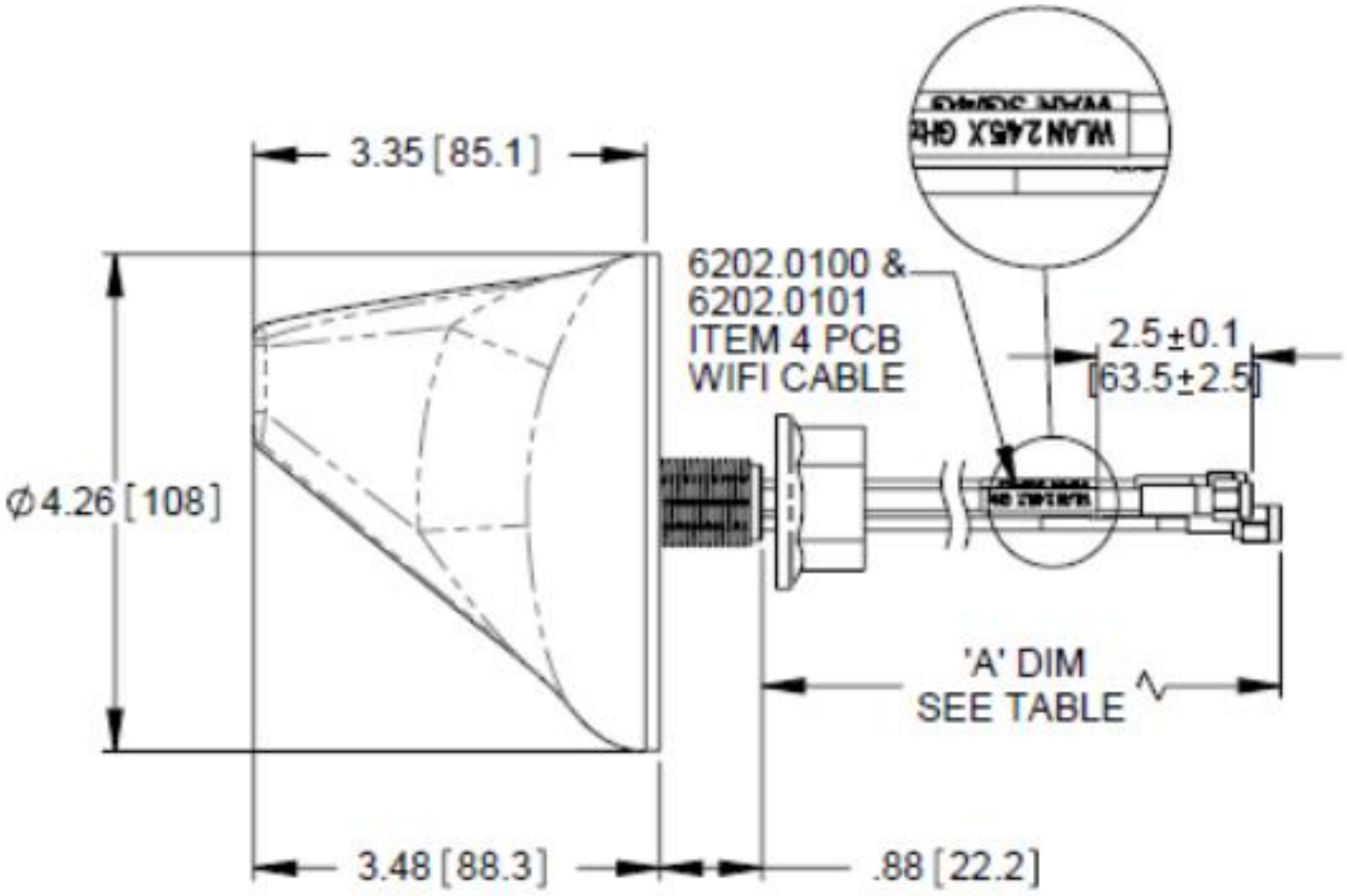
MECHANICAL DRAWING



Issue: 1709

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RoHS COMPLIANT

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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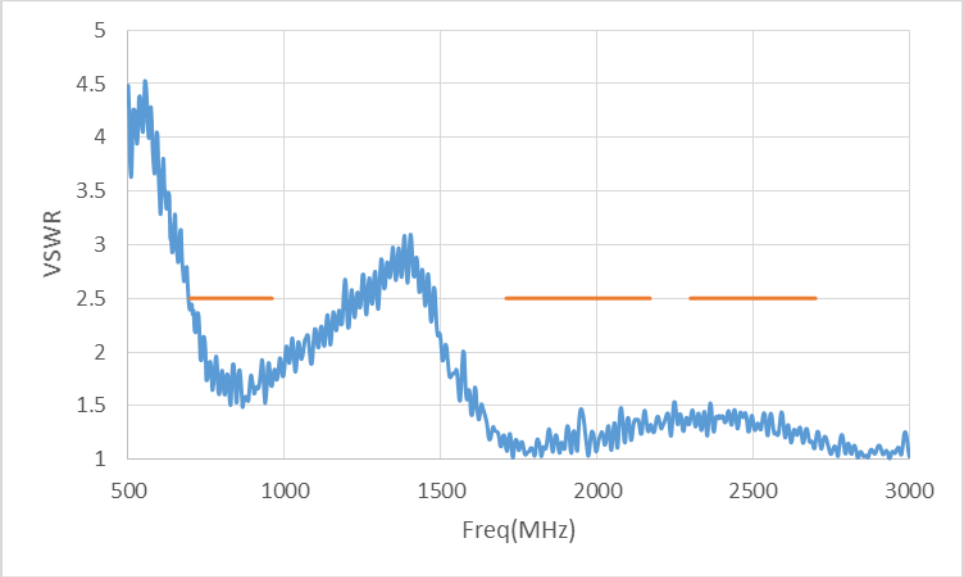
Series: SharkFin

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

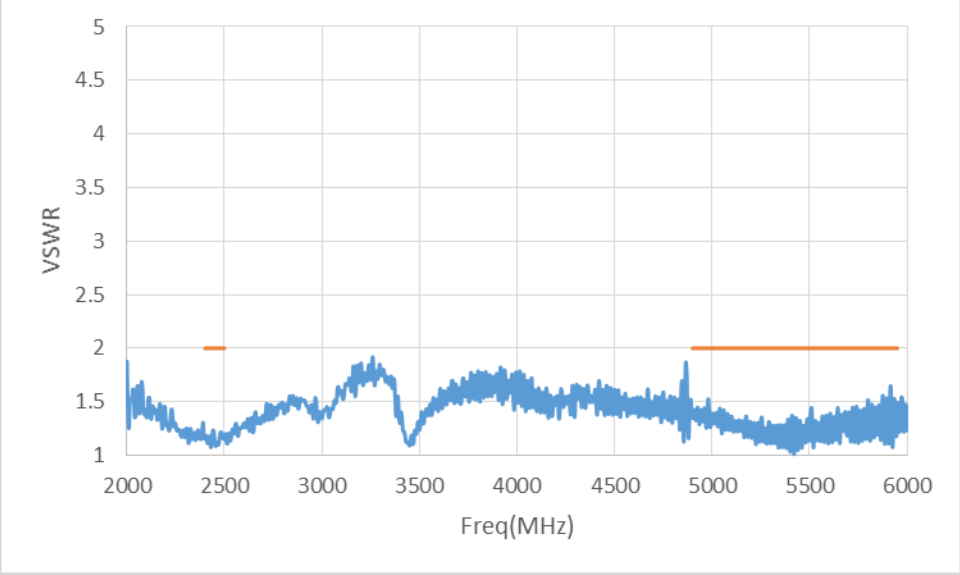
PART NUMBER: GNSSDM700/5800SSS

CHARTS

VSWR of LTE



VSWR of WiFi



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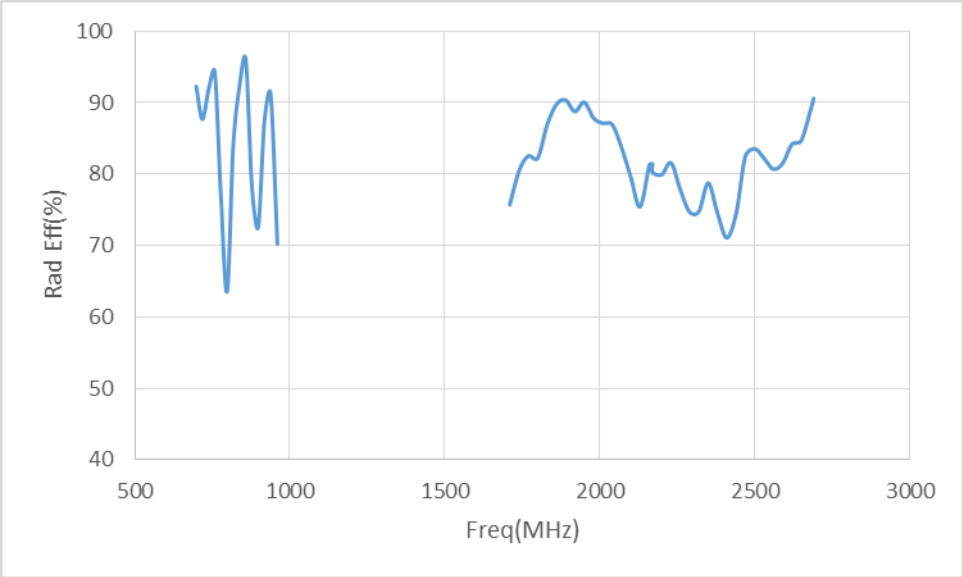
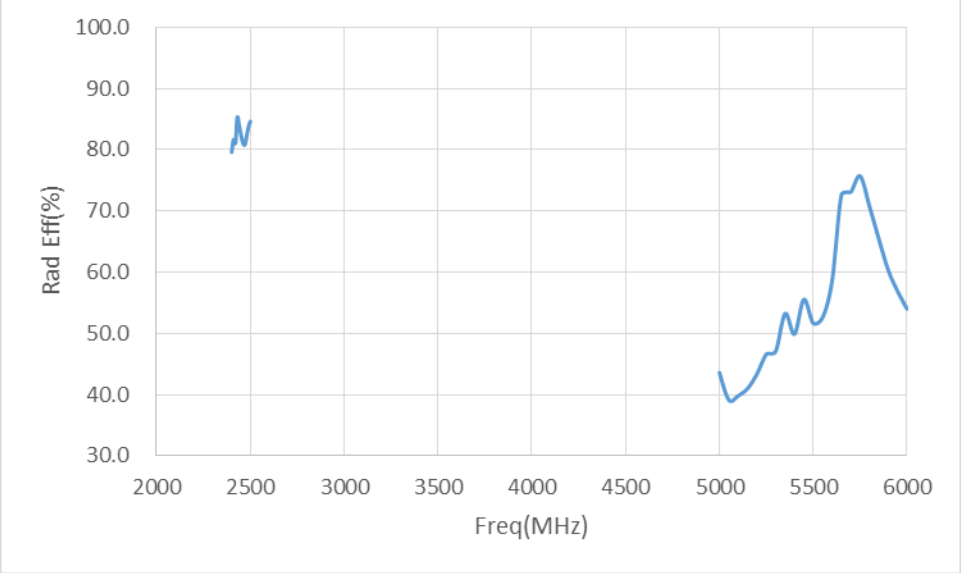
CHARTS

Radiation Efficiency of LTE



Radiation Efficiency of WiFi



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RoHS COMPLIANT

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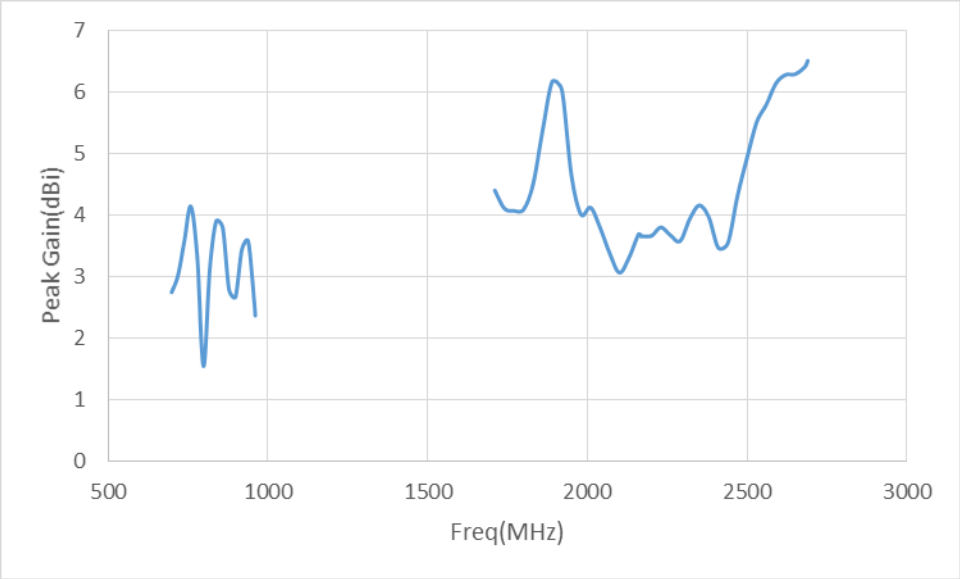
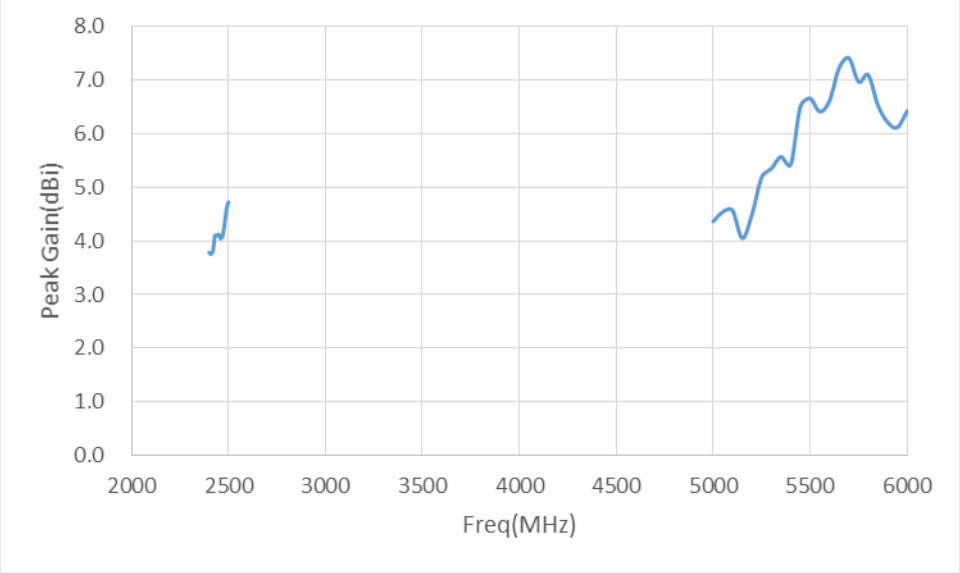
PART NUMBER: GNSSDM700/5800SSS

CHARTS

Peak Gain of LTE



Peak Gain of WiFi



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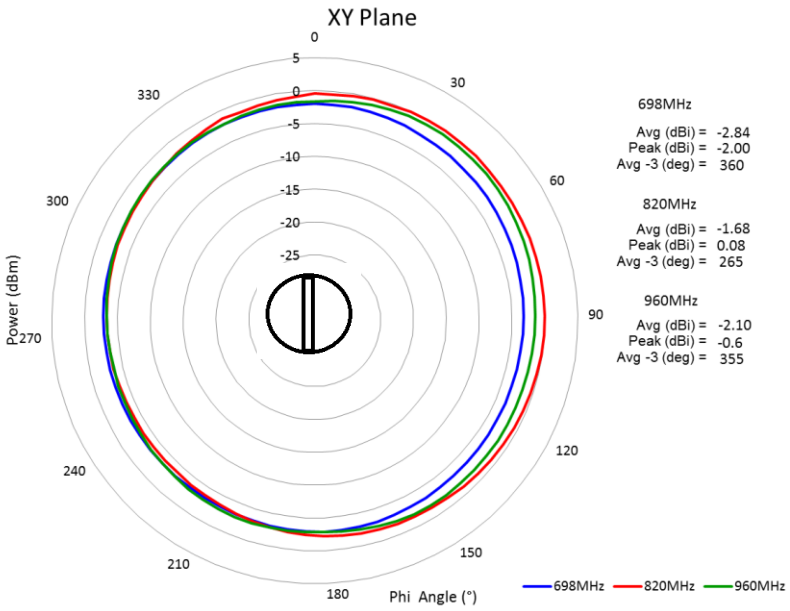
Description: 4G/WiFi/Active GNSS Direct Mount Antenna

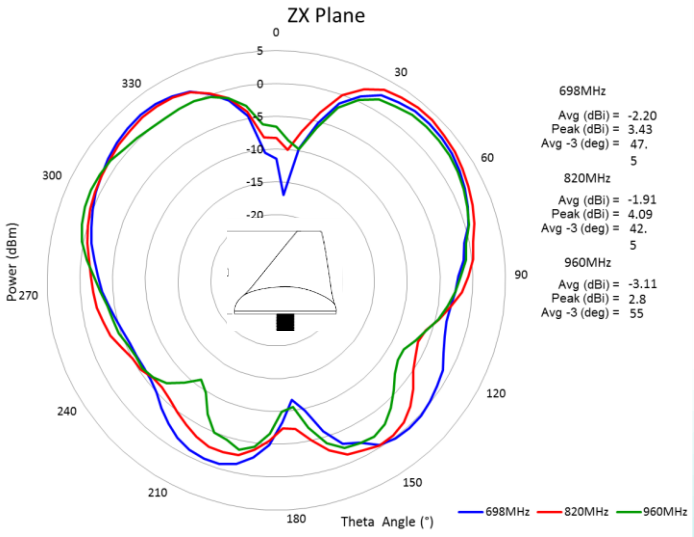
PART NUMBER: GNSSDM700/5800SSS

CHARTS

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



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



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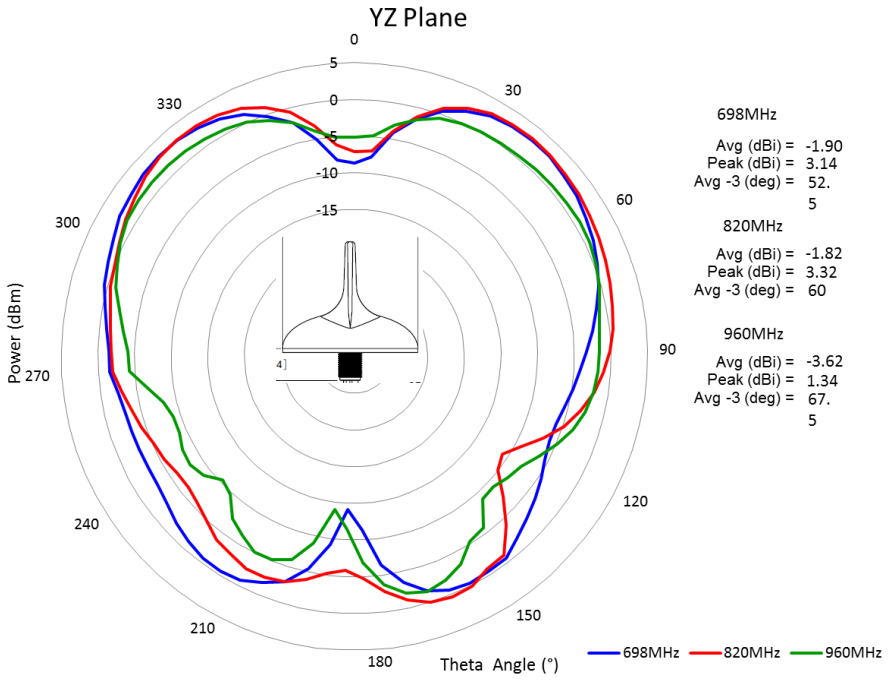
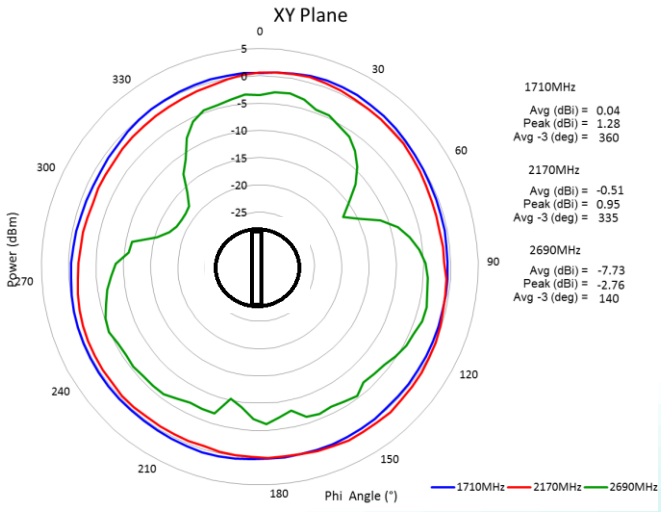


LTE antenna X-Y plane radiation pattern at LTE high band



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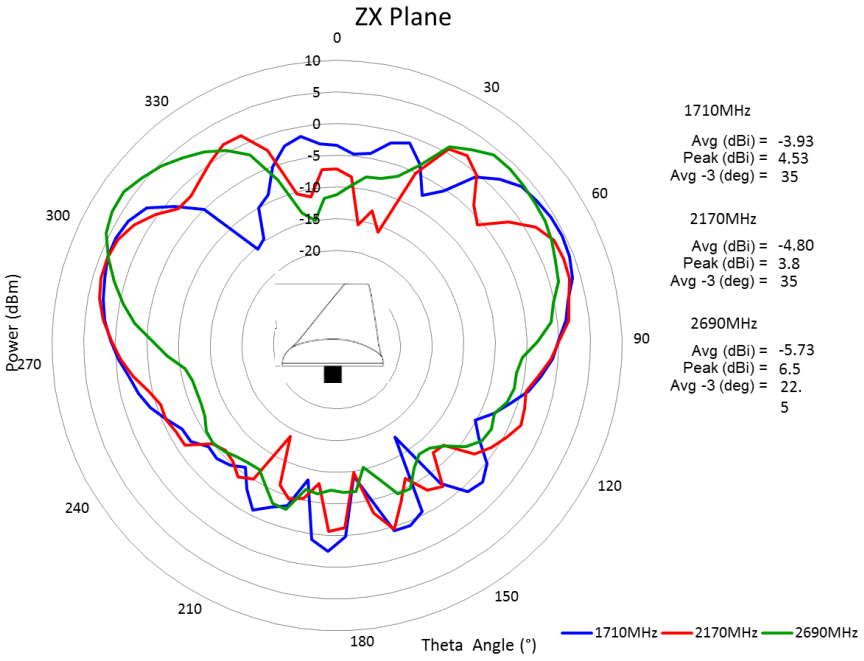
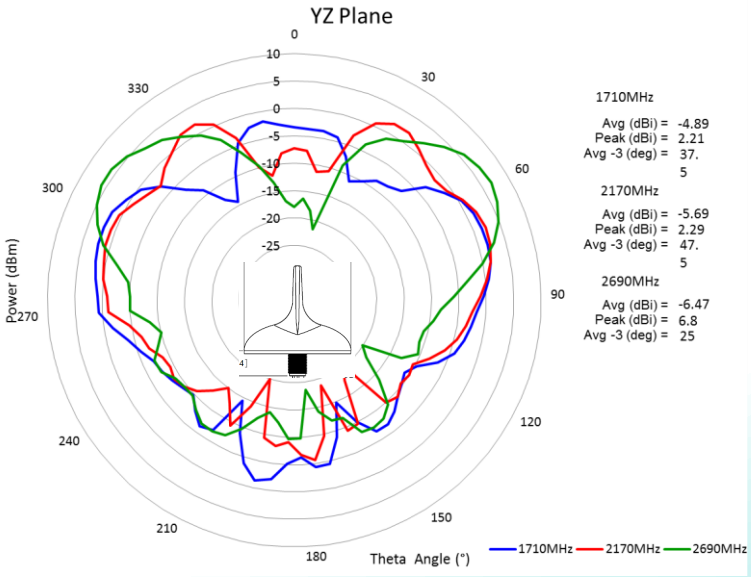


LTE antenna Y-Z plane radiation pattern at LTE high band



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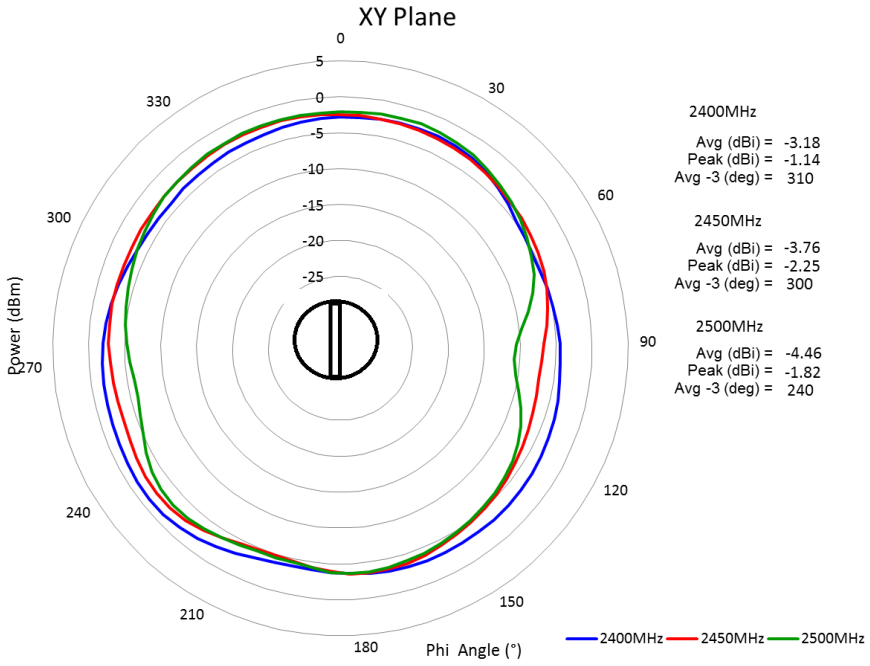
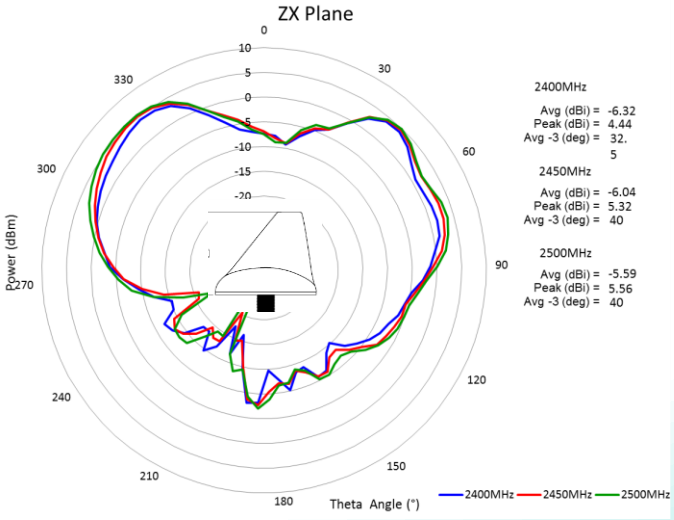
WiFi antenna X-Y plane radiation pattern at WiFi low band



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



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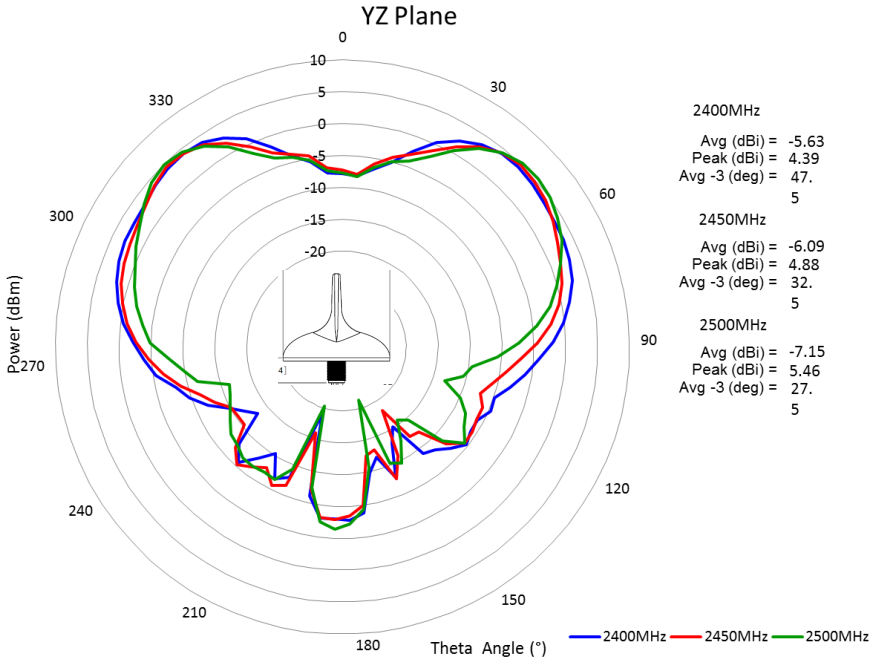
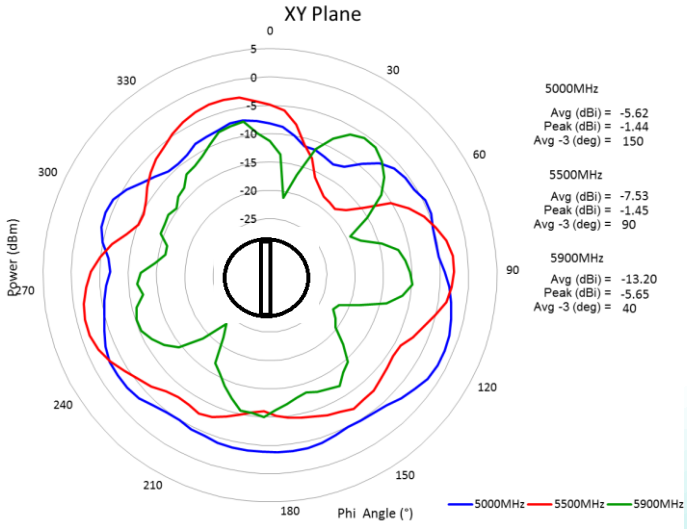
WiFi antenna Y-Z plane radiation pattern at WiFi low band



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



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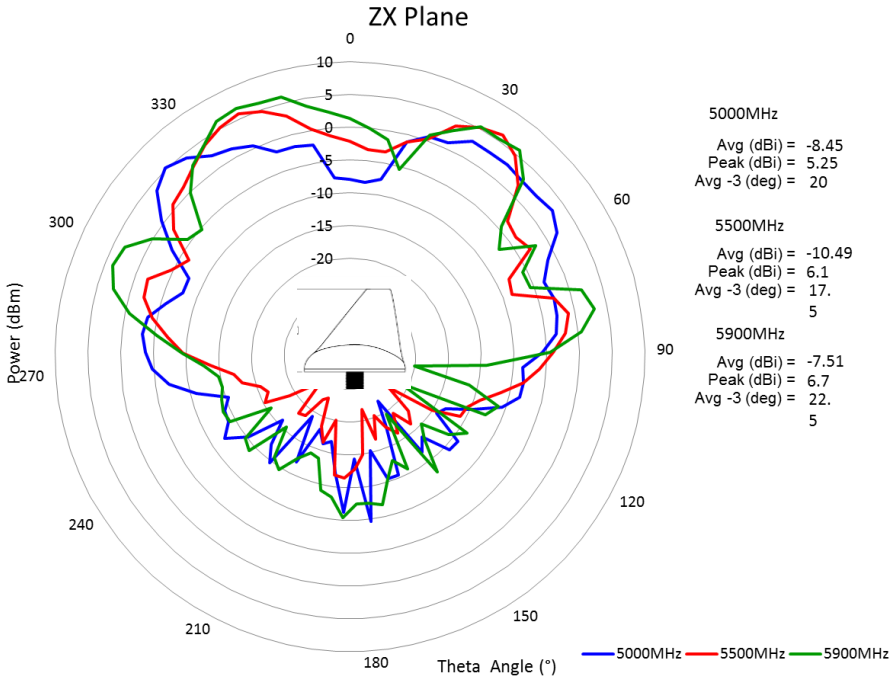
WiFi antenna Z-X plane radiation pattern at WiFi high band



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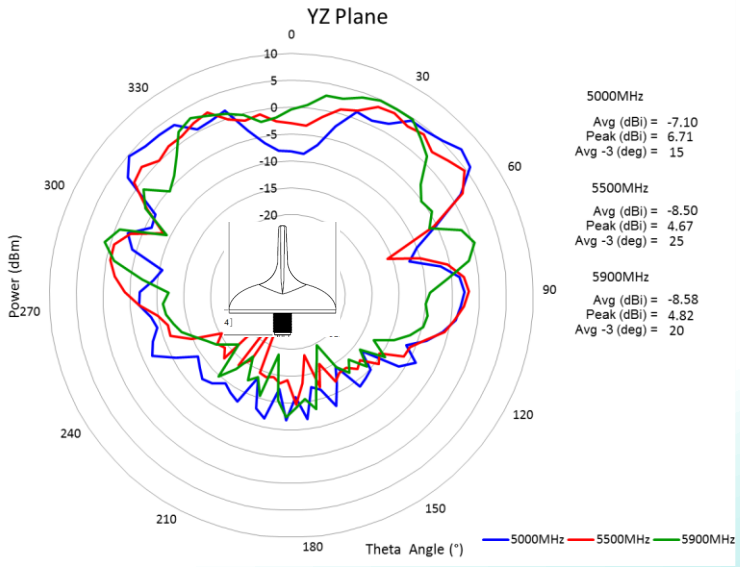

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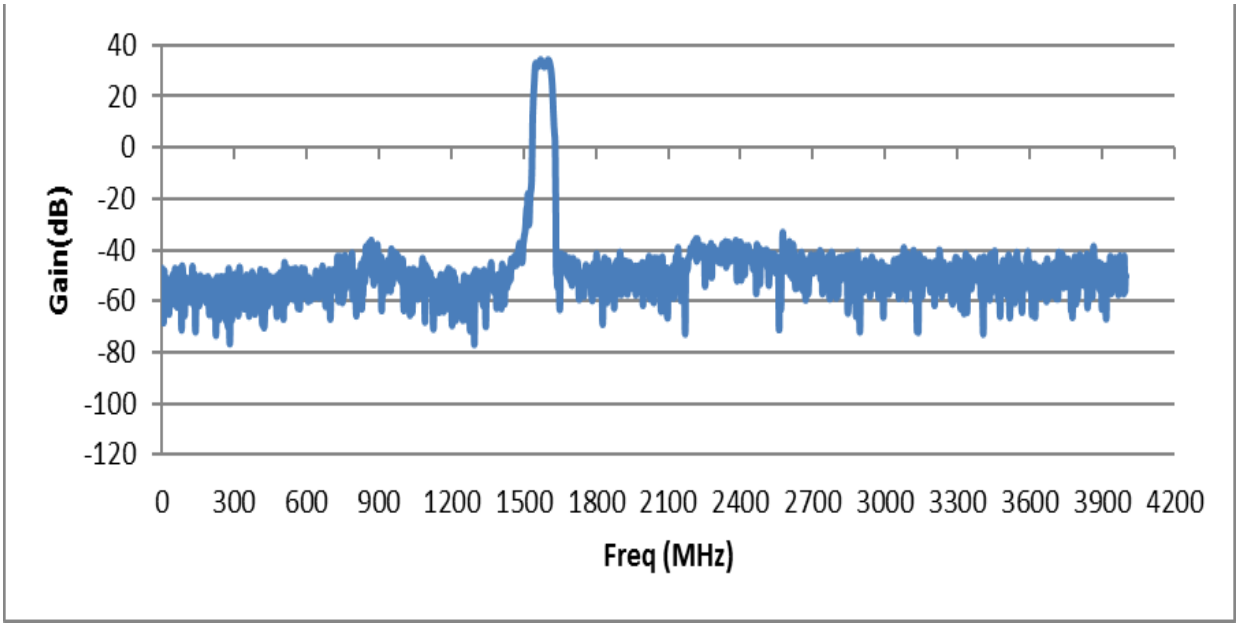
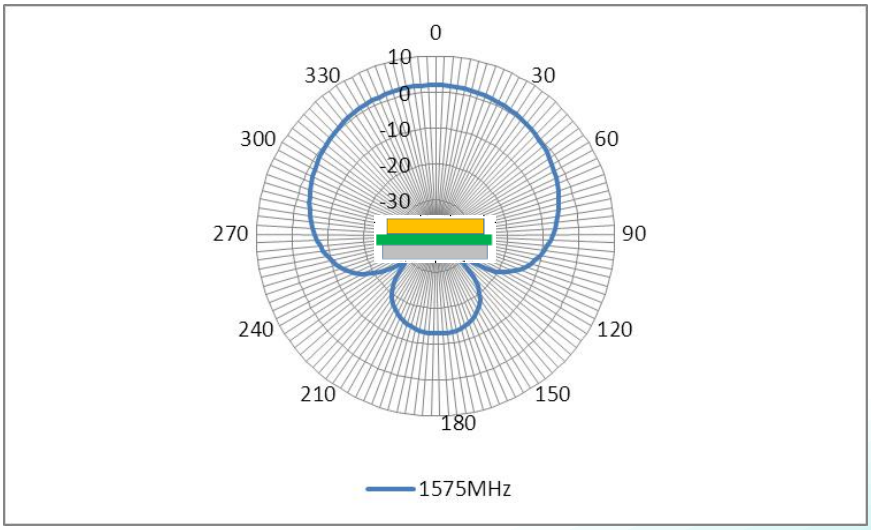
LNA Gain and out-of-band rejection



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



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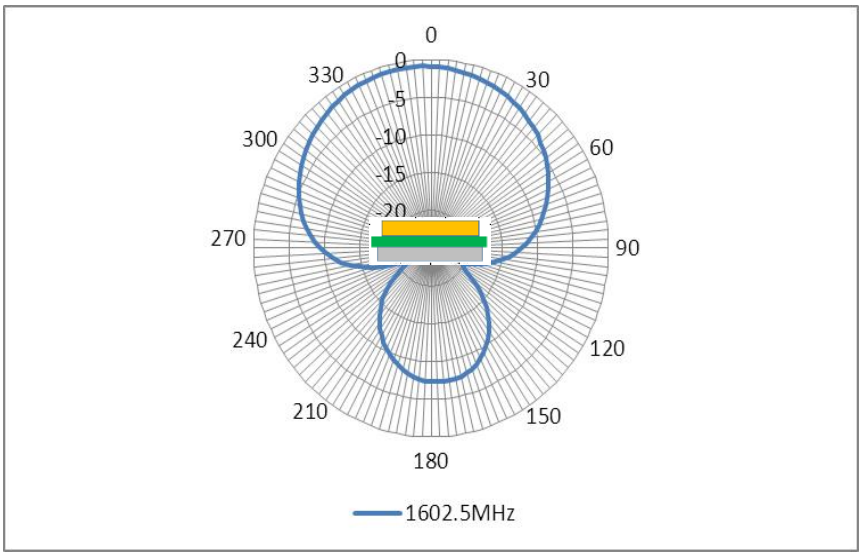
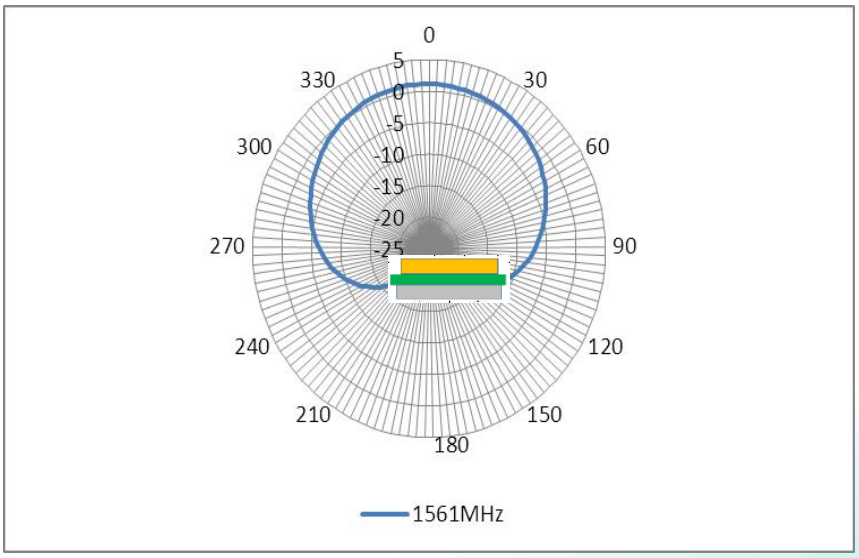
RoHS COMPLIANT

CHARTS

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



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



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PACKAGING

1pcs antennas per PE bag

12pcs antenna per package box

Package box: 400mm*300mm*30mm

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