PulseLARSEN Antennas

Series: Sharkfin Multiband

TECHNICAL DATA SHEET

Description: 4G 698-2700MHz / WiFi / GNSS Roof mount antenna

PART NUMBER: GNSSDM700/2500FFS

Features:

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

Applications:

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

All dimensions are in mm / inches

Issue: 1713

RoHS COMPLIANT

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ELECTRICAL SPECIFICATIONS

Frequency(LTE Cable)	698-960/1710-2170/2300-2700	MHz
Frequency(WiFi cable)	2400-2485	MHz
Frequency(GNSS cable)	1561.098±2.046/ 1575.42±1.023/ 1602.5625±4	MHz
Nominal Impedance	50	Ω
VSWR (LTE/WiFi)*	2.5:1	Max
VSWR (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
Efficiency (LTE,698-960MHz,Typical)**	83	%
Efficiency (LTE,1710-2700MHz,Typical)**	82	%
Efficiency (WiFi,2400-2500MHz,Typical)**	82	%
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°	
Polarization (LTE/WiFi)	Vertical	
Polarization (GNSS)	RHCP	
Power Withstanding (LTE, 698-960MHz)	100	W
Power Withstanding (LTE, 1710-2700MHz)	20	W
Power Withstanding (WiFi, 2400-2485MHz)	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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MECHANICAL SPECIFICATIONS

Overall Length	3.5 H x Ø4.26 /88.3 x Ø108[in/mm]
Weight	470g
Antenna Color / Material	Black
Connector type	LTE/WLAN :FME female GNSS :SMA male
Cable type	LTE/WLAN :RG58 GNSS :RG174
Cable length	17' / 5.18m

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40/+58 ° C
Storage Temperature	-40/+58 ° C
Ingress Protection	IP65
Wind-loading	100mph
RoHS Compliant	Yes

OTHER SPECIFICATIONS

Mounting Hole [in/mm]	Ø.76 / 19.3

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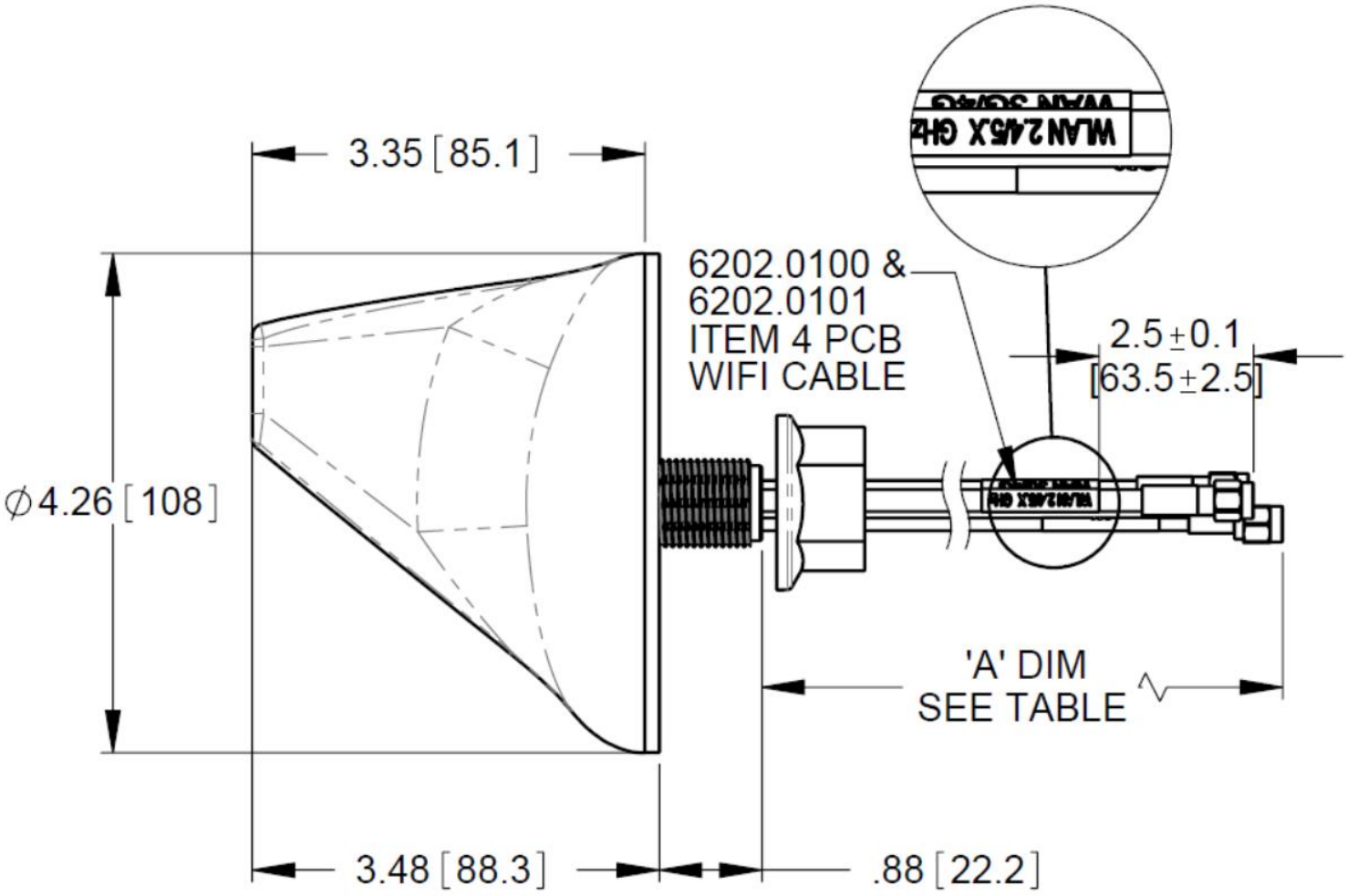
PART NUMBER: GNSSDM700/2500FFS

MECHANICAL DRAWING



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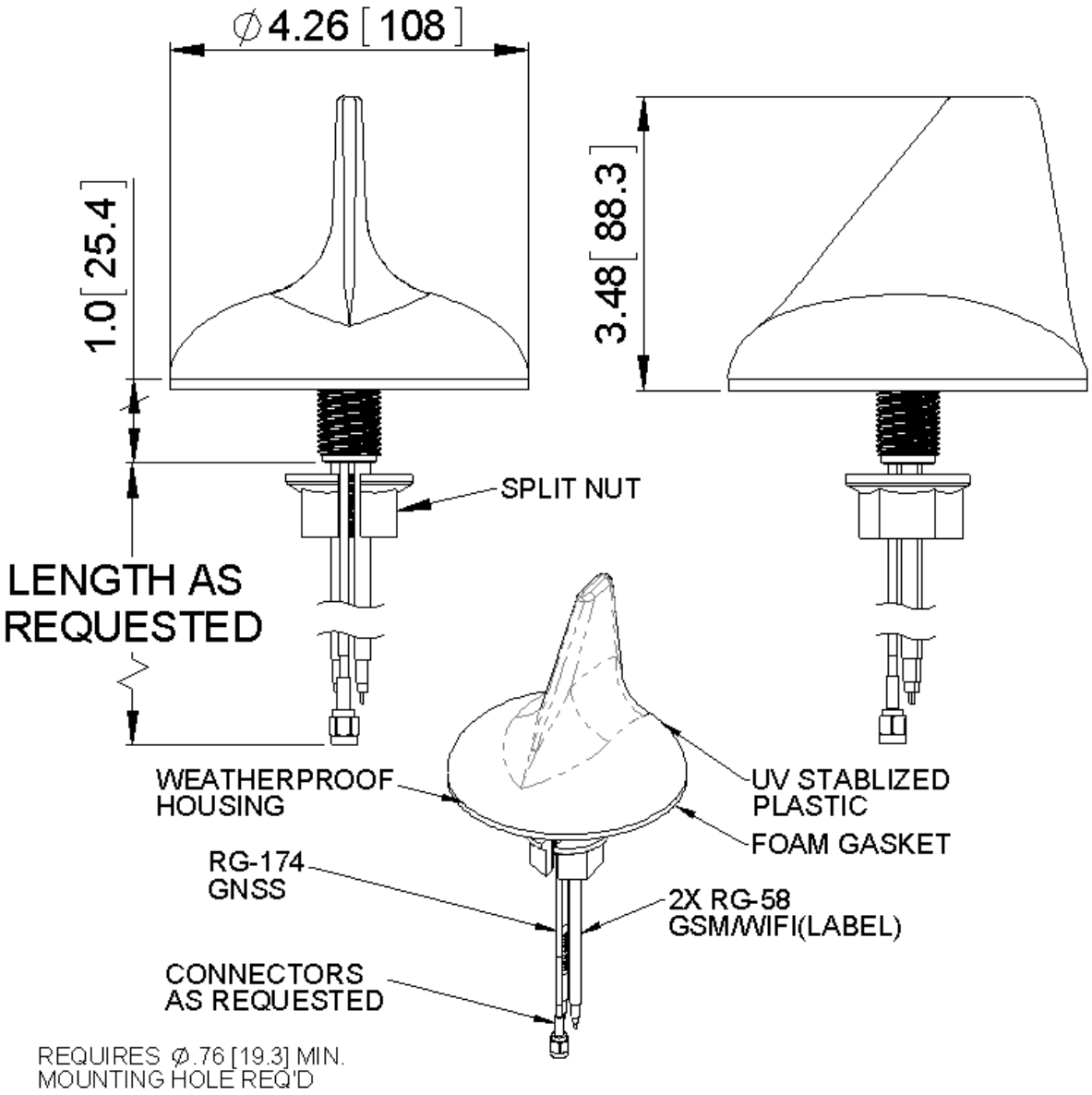

PART NO.	CABLE LENGTH	GNSS CABLE	GSM CABLE	WIFI CABLE
GNSSDM700/2500FFS	17.0 FT	SMA	FME	FME

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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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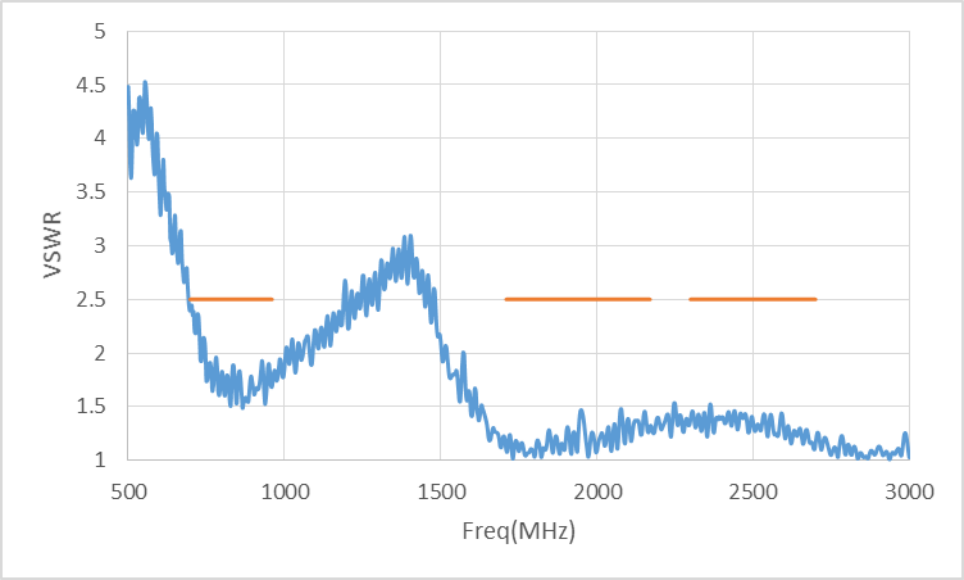
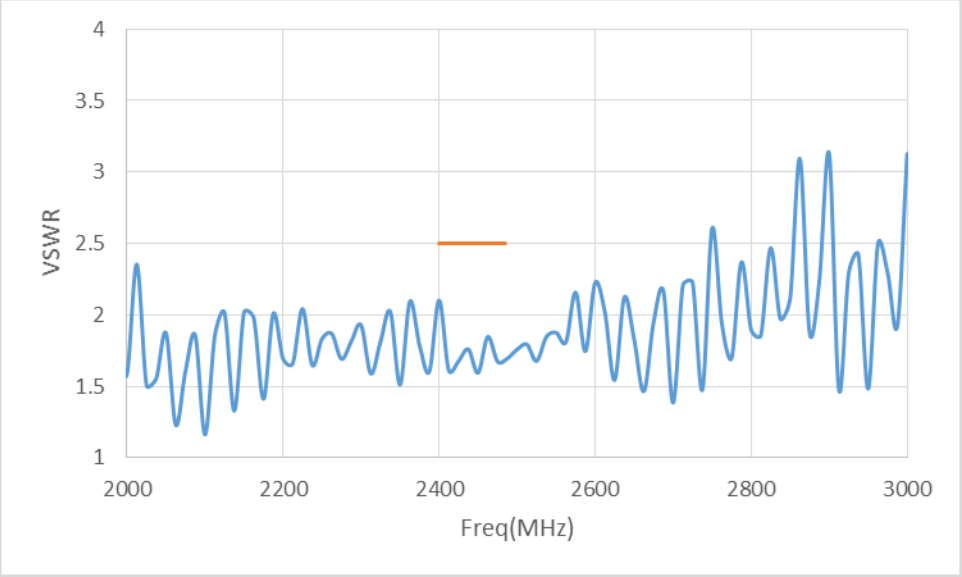
CHARTS

VSWR of LTE



VSWR of WiFi



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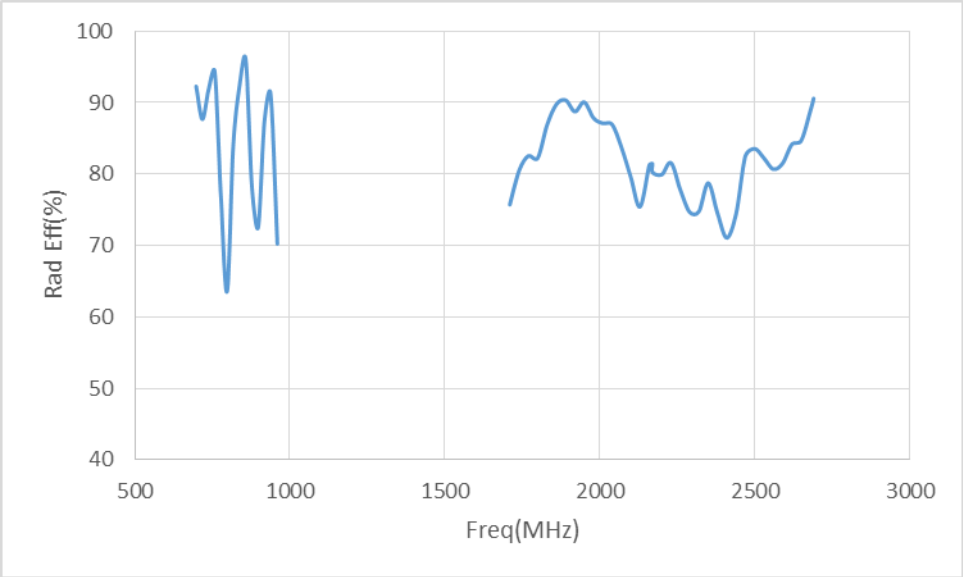
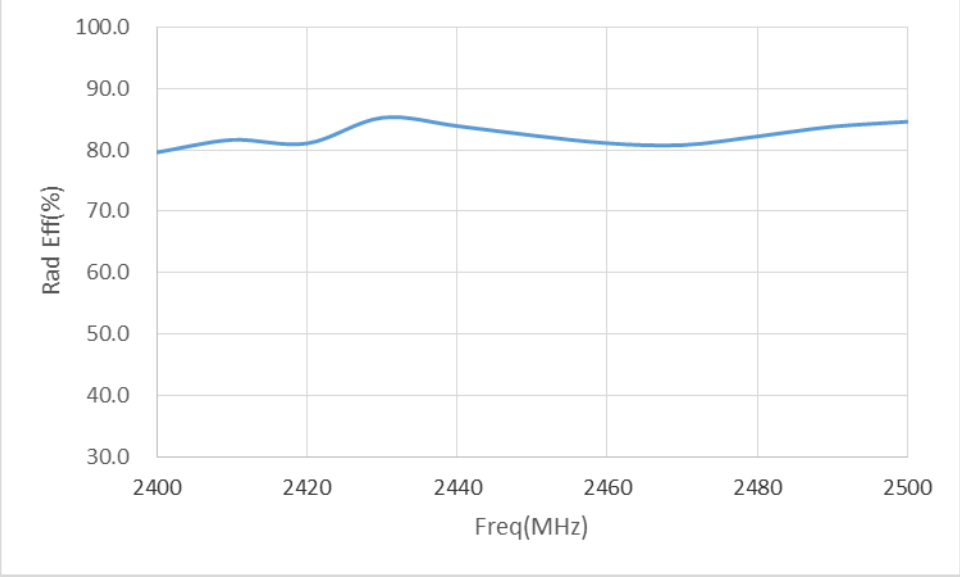
CHARTS

Radiation Efficiency of LTE



Radiation Efficiency of WiFi



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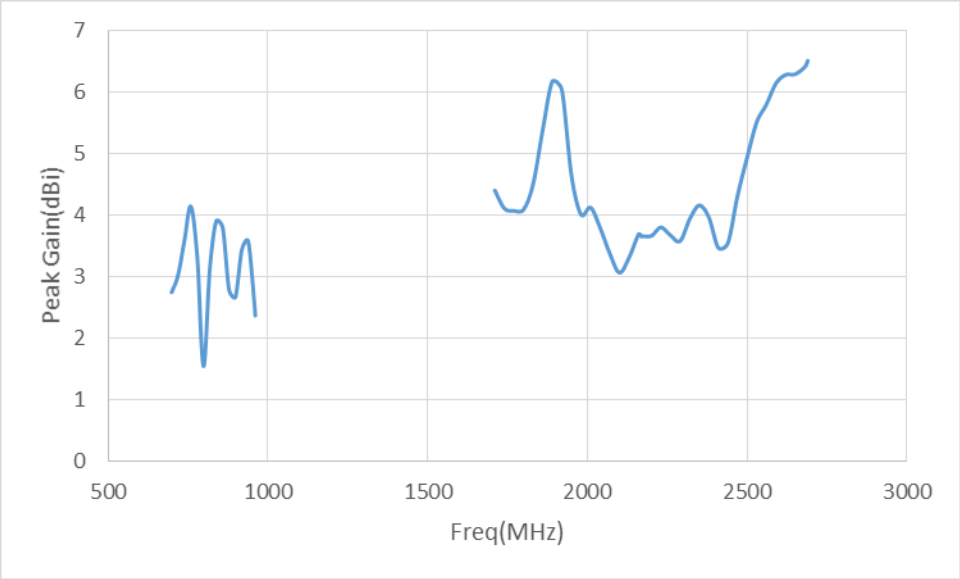
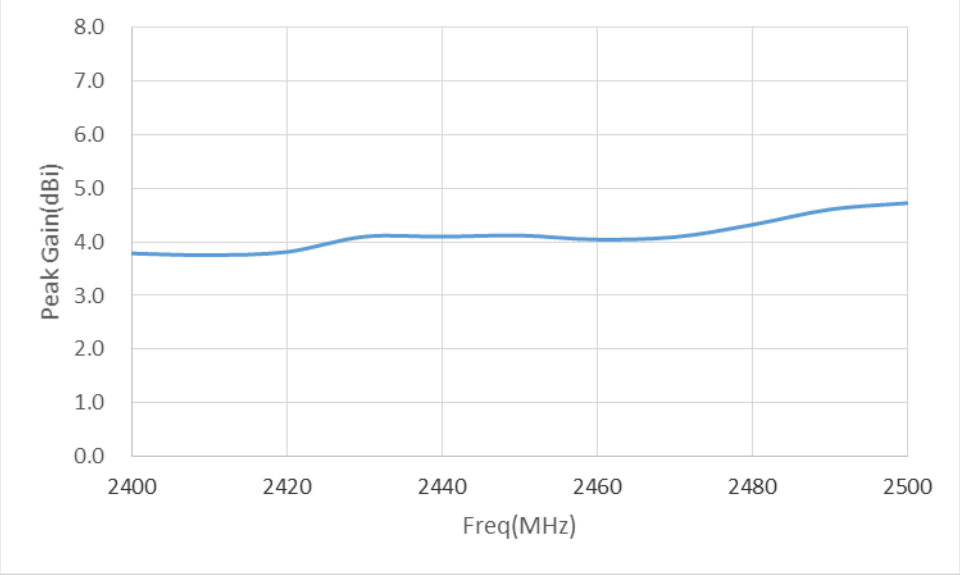
CHARTS

Peak Gain of LTE



Peak Gain of WiFi



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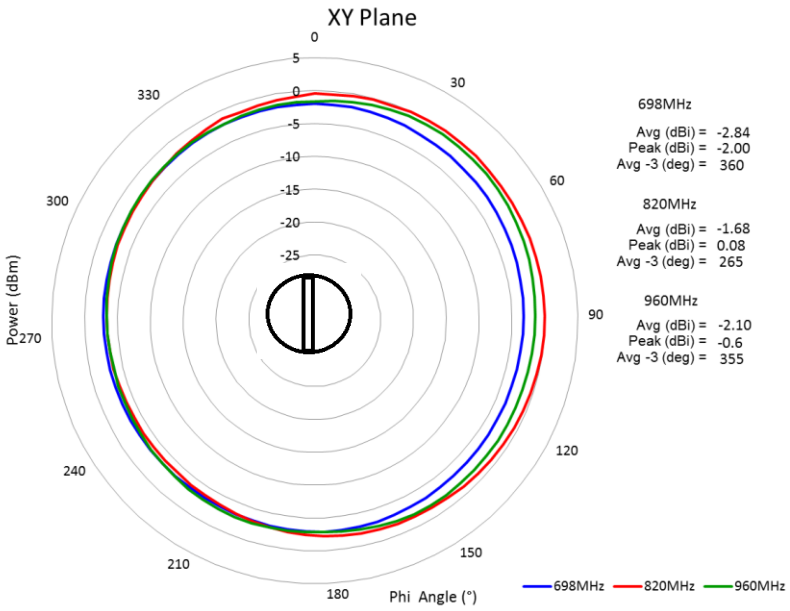
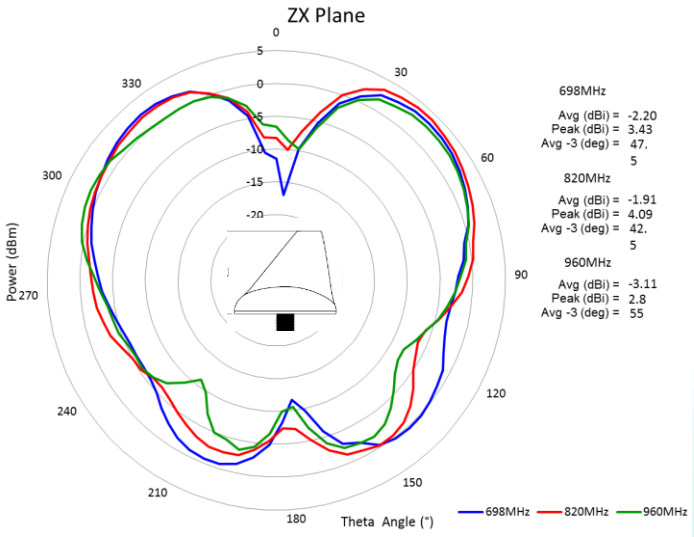
CHARTS

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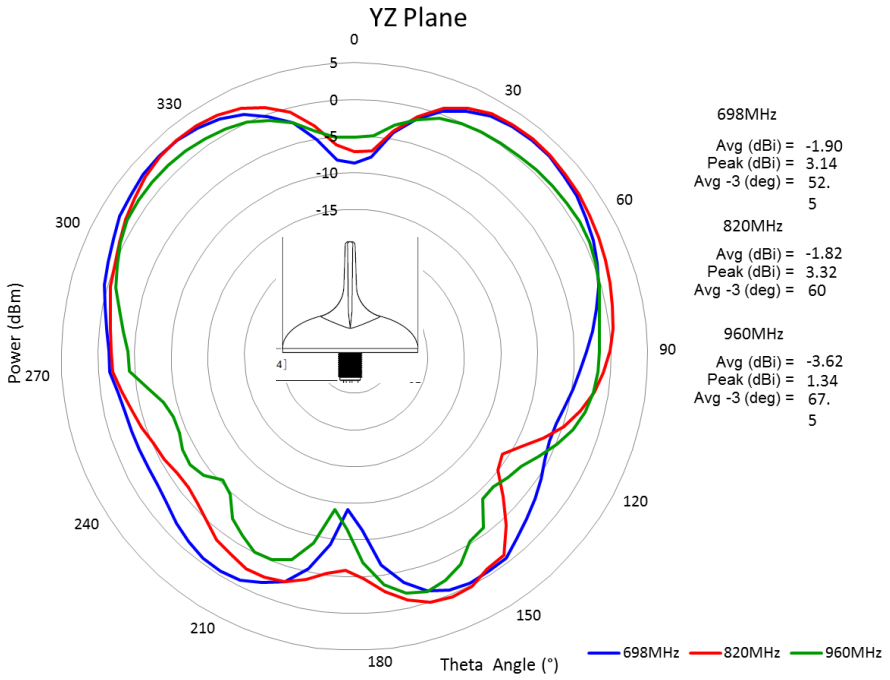
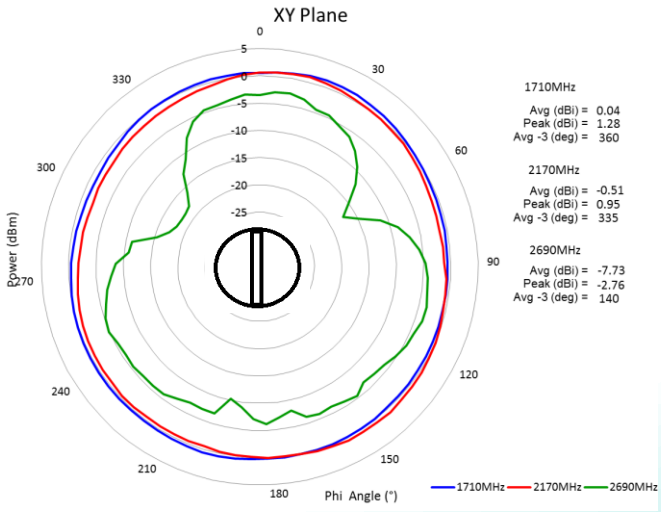
LTE antenna Y-Z plane radiation pattern at LTE low band



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



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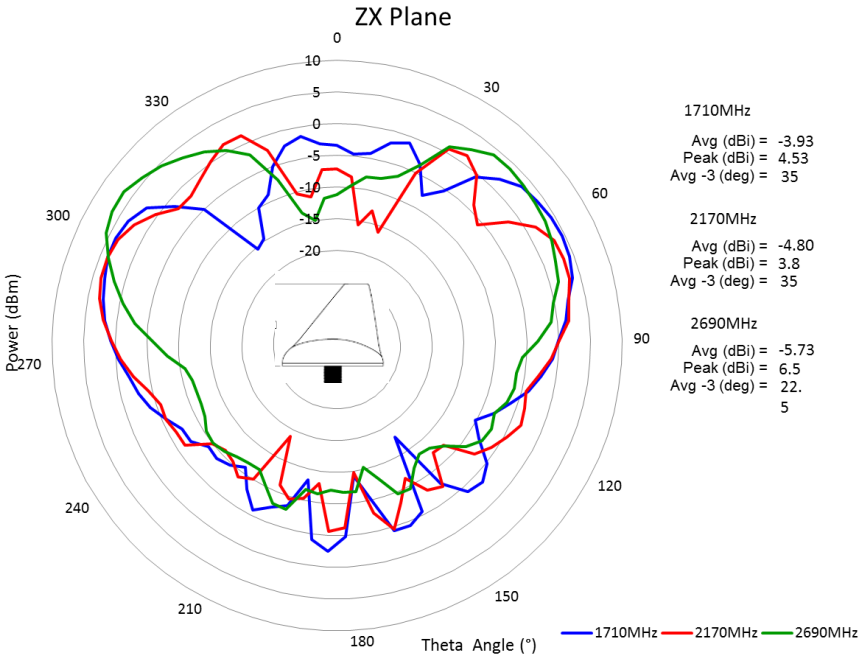
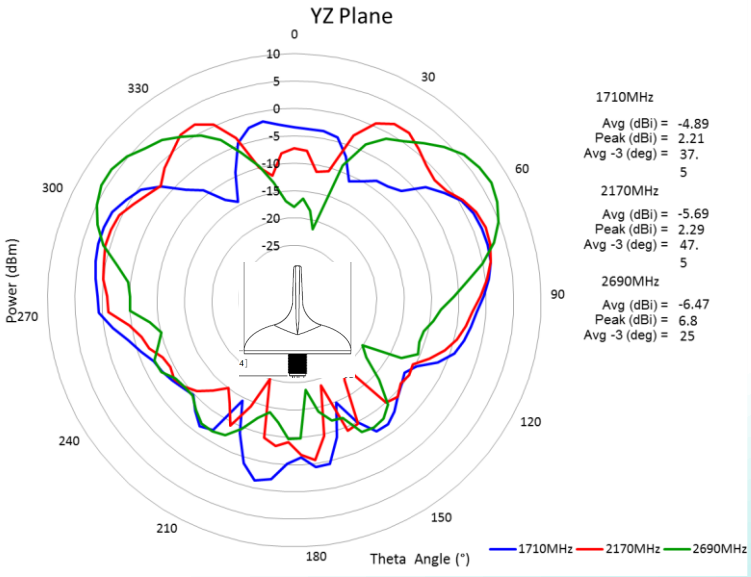
LTE antenna Z-X plane radiation pattern at LTE high band



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



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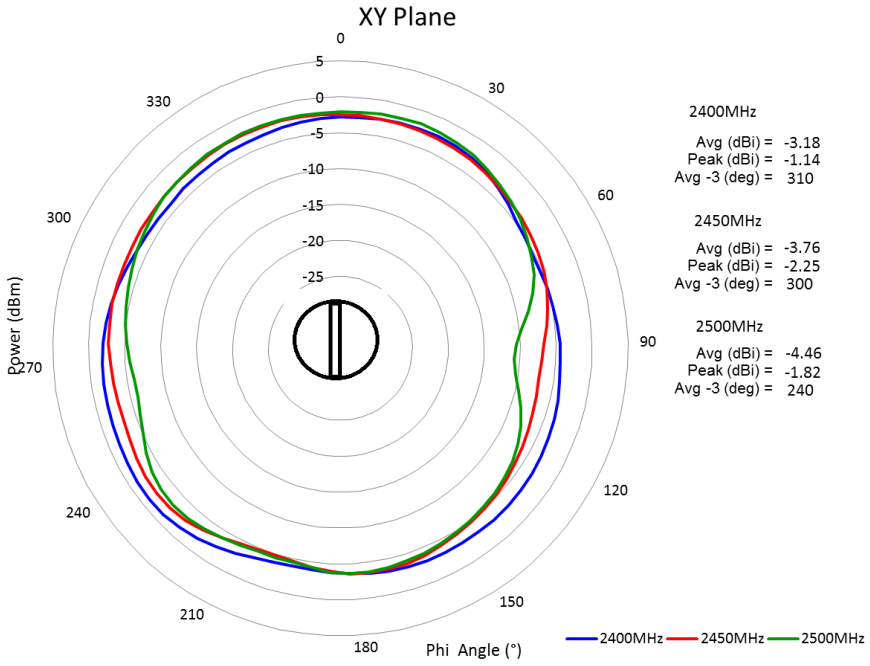
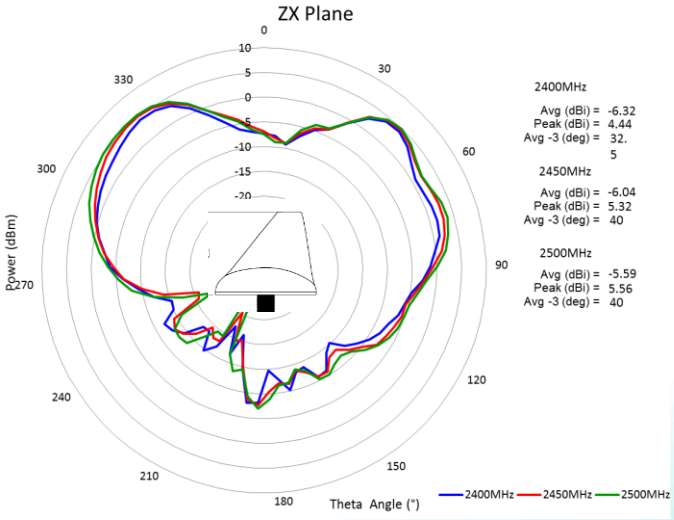
CHARTS

WiFi antenna X-Y plane radiation pattern at WiFi band



WiFi antenna Z-X plane radiation pattern at WiFi band



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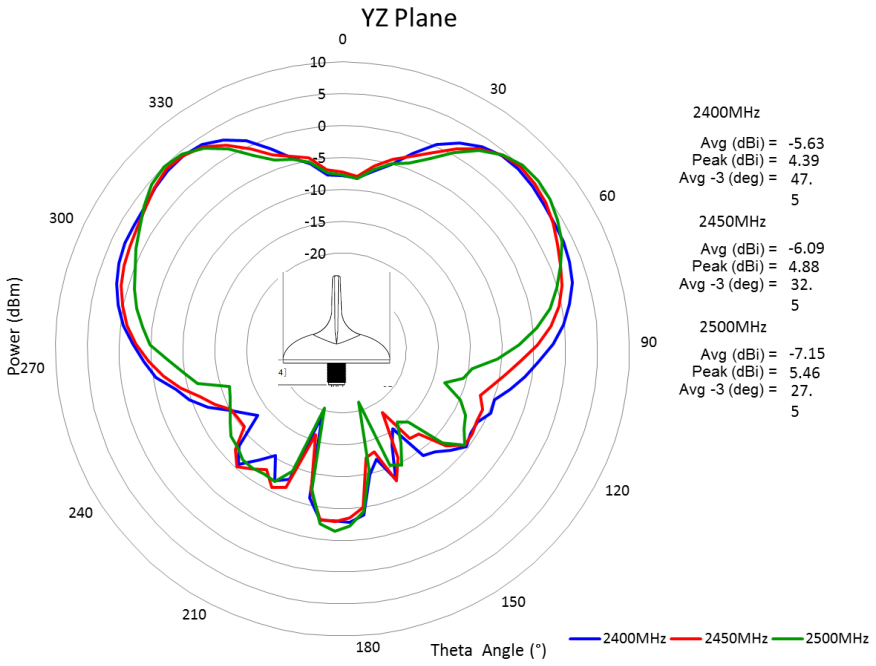
WiFi antenna Y-Z plane radiation pattern at WiFi low band



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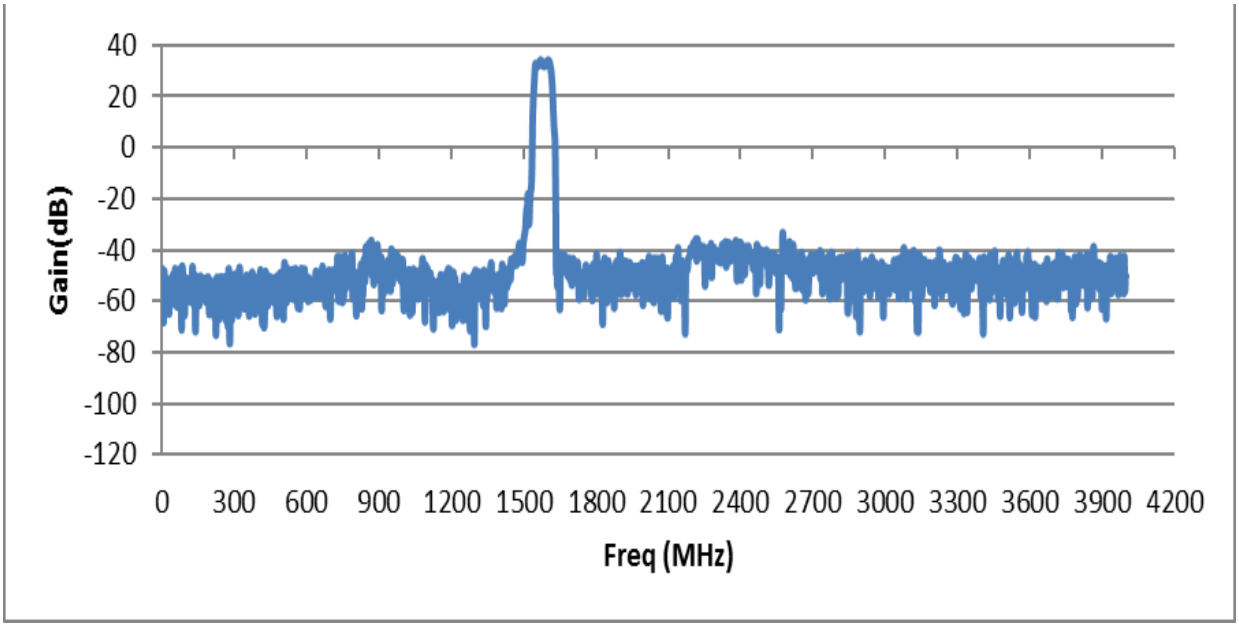
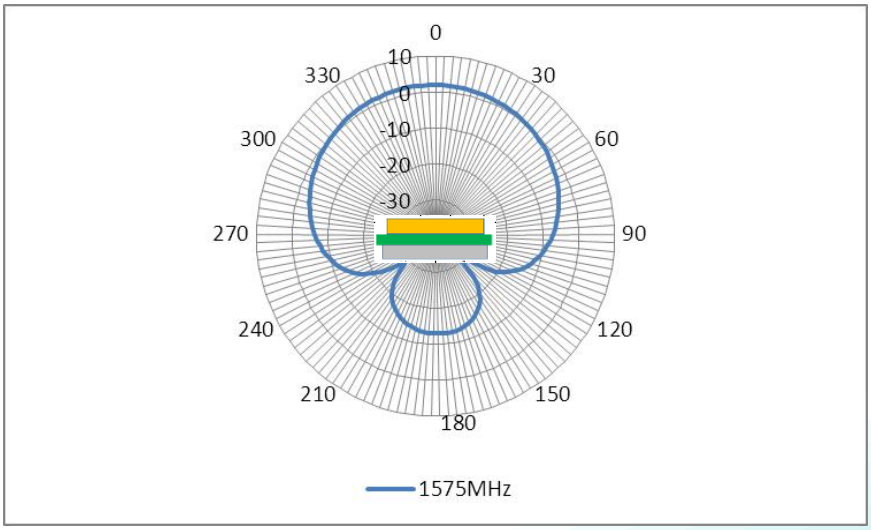
LNA Gain and out-of-band rejection



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



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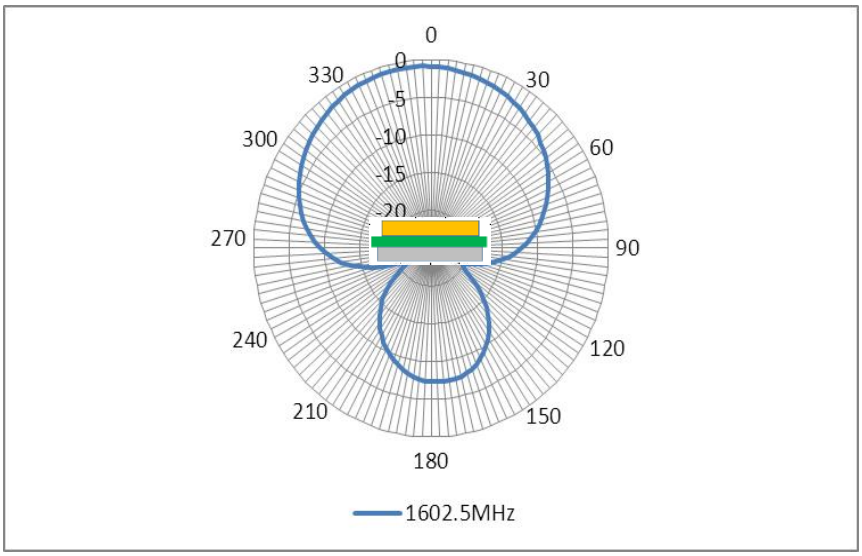
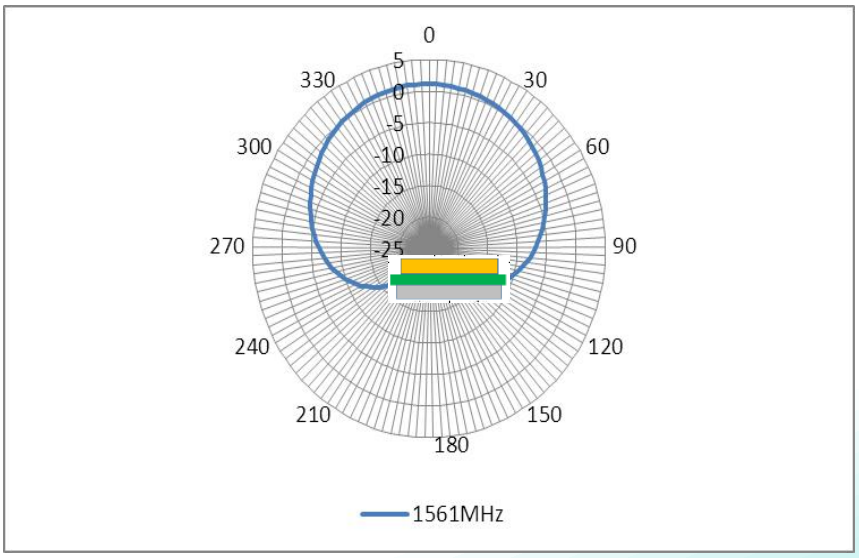
RoHS COMPLIANT

CHARTS

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



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



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PACKAGING

12pcs antennas per package box

12pcs foam bags per package box

4pcs cardboards per package box

3pcs width dividers per package box

6pcs length dividers per package box

Package box: 400mm*300mm*30mm

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