

Description: Vehicular Multiband Antenna with Direct Mount

PART NUMBER: ARMXXXXDM



Features:

- Low profile, only 1.8" tall
- Up to 6-lead Configuration
 - LTE(2x) MIMO
 - WiFi(3x) MIMO-|2.4/5.x GHz
 - GPS/GNSS (1x)
- Frequency of Operation:
 - 698-960MHz,1710-2690MHz
 - 2400-2500MHz,5150-5925MHz
 - 1559-1606MHz

Applications:

- Telematics, Navigation
- First Responders(Police, Fire, Ambulance/EMS)
- Energy, Utility, Construction
- Fleet Management
- DSRC(Dedicated Short Range Communications)
- Available Configurations:
 - Black, White
 - Direct, Magnetic, Adhes.Mount

Issue: 1804P

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

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For more information:

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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

Preliminary



Series: ARMADILLO

Description: Vehicular Multiband Antenna with Direct Mount

PART NUMBER: ARMXXXXDM

This document covers all product variants of the following product family

| Product | Total Cable Leads | LTE Cable Leads | WiFi Cable Leads | GPS Cable Leads | Housing Color | Mounting |
|------------|-------------------|-----------------|------------------|-----------------|---------------|-------------------------------------|
| ARM62311DM | 6 | 2 | 3 | 1 | Black | Direct Mount; 7/8" Hole Required |
| ARM62312DM | 6 | 2 | 3 | 1 | White | |
| ARM52211DM | 5 | 2 | 2 | 1 | Black | |
| ARM52212DM | 5 | 2 | 2 | 1 | White | |
| ARM42111DM | 4 | 2 | 1 | 1 | Black | |
| ARM42112DM | 4 | 2 | 1 | 1 | White | |
| ARM32011DM | 3 | 2 | 0 | 1 | Black | |
| ARM32012DM | 3 | 2 | 0 | 1 | White | |
| ARM21011DM | 2 | 1 | 0 | 1 | Black | |
| ARM21012DM | 2 | 1 | 0 | 1 | White | |

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This document covers all product variants of the following product family

Product Numbering

Vehicular Multiband Antenna with Direct Mount



| | |
|---|---|
| 1 | Product ID: ARMADILLO |
| 2 | Total Number of Cable leads |
| 3 | Total Number of LTE Cable Leads |
| 4 | Total Number of WiFi Cable Leads |
| 5 | Total Number of GPS Cable Leads |
| 6 | The Color of the Plastic Housing 1=Black; 2= White |
| 7 | Mounting: Direct Mount, 7/8" Hole Required |

| ARM62311DM | | CABLE | CABLE LENGTH | CONNECTOR |
|------------|-------------------|----------|------------------------------|-------------|
| 1 | LTE-1 Cable Assy | LMR-195* | 5181 mm / 204" / 17 FT | SMA Male |
| 2 | LTE-2 Cable Assy | | | |
| 3 | WiFi-1 Cable Assy | LMR-195* | | RP-SMA Male |
| 4 | WiFi-2 Cable Assy | | | |
| 5 | WiFi-3 Cable Assy | | | |
| 6 | GPS Cable Assy | LMR-100* | | SMA Male |

* or equivalent

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Description: Vehicular Multiband Antenna with Direct Mount

Series: ARMADILLO

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ELECTRICAL SPECIFICATIONS

| | |
|----------------------------|--|
| Frequency | 698-960MHz, 1710-2690MHz 2400-2500MHz, 5150-5925MHz |
| Nominal Impedance | 50 Ω |
| VSWR* | |
| 698-960MHz | <2.5 |
| 1710-2690MHz | <2.5 |
| 2400-2500MHz | <2 |
| 5150-5925MHz | <2 |
| Isolation* | |
| 698-960MHz, 1710-2690MHz | -8dB |
| 2400-2500MHz, 5150-5925MHz | -12dB |
| Average Peak Gain** | |
| 698-960MHz; | 4.9dBi |
| 1710-2690MHz | 5.3dBi |
| 2400-2500MHz | 4.6dBi |
| 5150-5925MHz | 6.6dBi |
| Polarization | Vertical |

*Test on 500mm ground plane with 17ft(5.2m) LMR195 cable

**Test on 500mm ground plane with 1ft(304.8) LMR195 cable

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ELECTRICAL SPECIFICATIONS

| | |
|--------------------------|---|
| GPS Antenna | |
| Frequency | 1561.098±2.046MHz/ 1575.42±1.023MHz/ 1602.5625±4MHz |
| Nominal Impedance | 50 Ω |
| VSWR | <2 |
| Gain (Radiating Element) | 1 dBic±1 dB |
| Gain (LNA Gain) | 30 dB± 2 dB |
| Polarization | RHCP |
| Out of Band Rejection | |
| 698 MHz | >70 dB |
| 960 MHz | >65 dB |
| 1710 MHz | >60 dB |
| 2170 MHz | >65 dB |
| 2400 MHz | >65 dB |
| 2700 MHz | >65 dB |
| Noise Figure | <2.4 dB |
| Operating Voltage | 3.3 – 5 Vdc |
| Current Consumption | <15mA |

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MECHANICAL SPECIFICATIONS

| | |
|--------------------------|-------------------------|
| Overall Length | 202.3mm X 88.5mm X 45mm |
| Weight | 1.15 Kg |
| Antenna Color / Material | Black or White |
| Connector type | Refer to Page 2 |
| Cable type | Refer to Page 2 |
| Cable length | Refer to Page 2 |

ENVIRONMENTAL SPECIFICATIONS

| | |
|-----------------------|--------------|
| Operating Temperature | -40 ~ +85° C |
| Storage Temperature | -40 ~ +85° C |
| Ingress Protection | IP67 |
| RoHS Compliant | Yes |

OTHER SPECIFICATIONS

| | |
|---|-------|
| Total cable assembly loss for 5.2m (17') LMR-195 @850MHz | 2.1dB |
| Total cable assembly loss for 5.2m (17') LMR-100 @1575MHz | 5.9dB |
| Total cable assembly loss for 5.2m (17') LMR-195 @1930MHz | 3.2dB |
| Total cable assembly loss for 5.2m (17') LMR-195 @2450MHz | 3.6dB |
| Total cable assembly loss for 5.2m (17') LMR-195 @2500MHz | 3.7dB |
| Total cable assembly loss for 5.2m (17') LMR-195 @5350MHz | 5.5dB |

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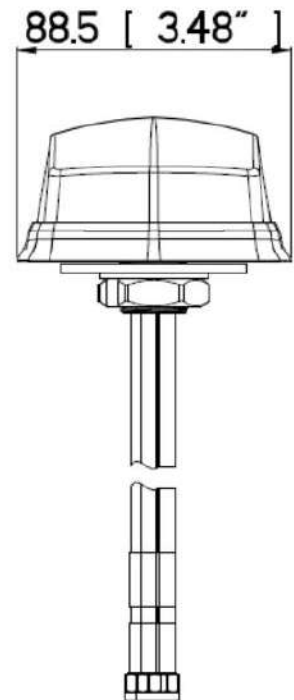
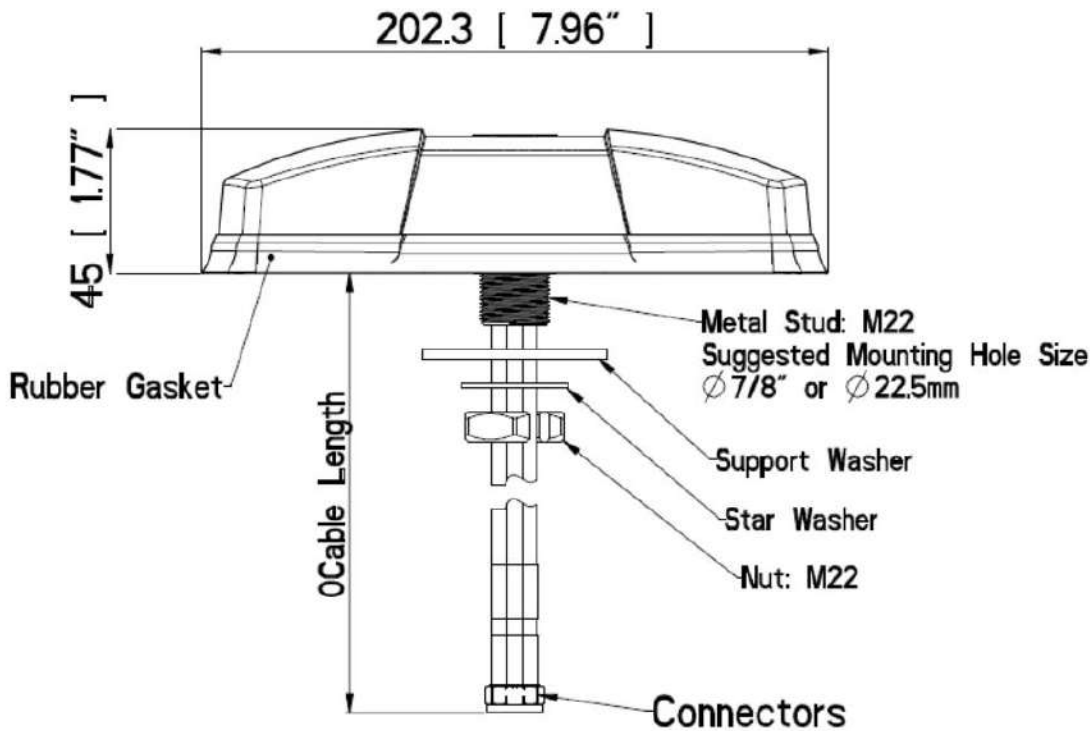
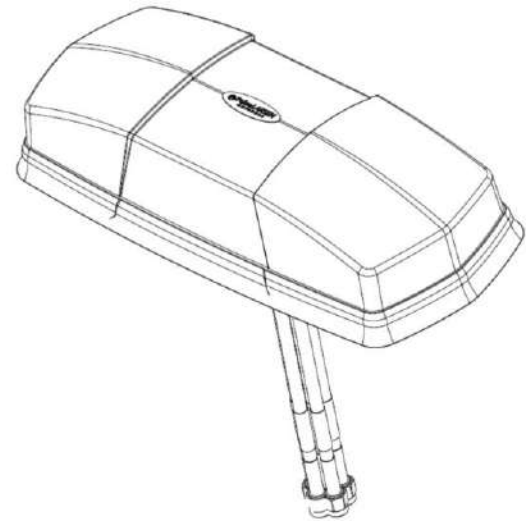
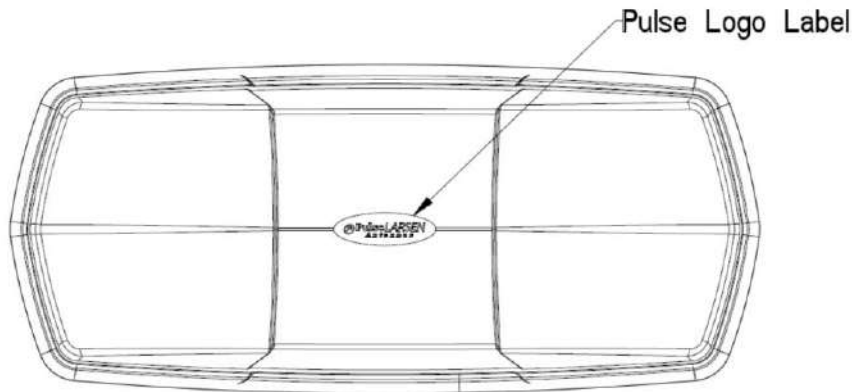


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MECHANICAL DRAWING



Preliminary

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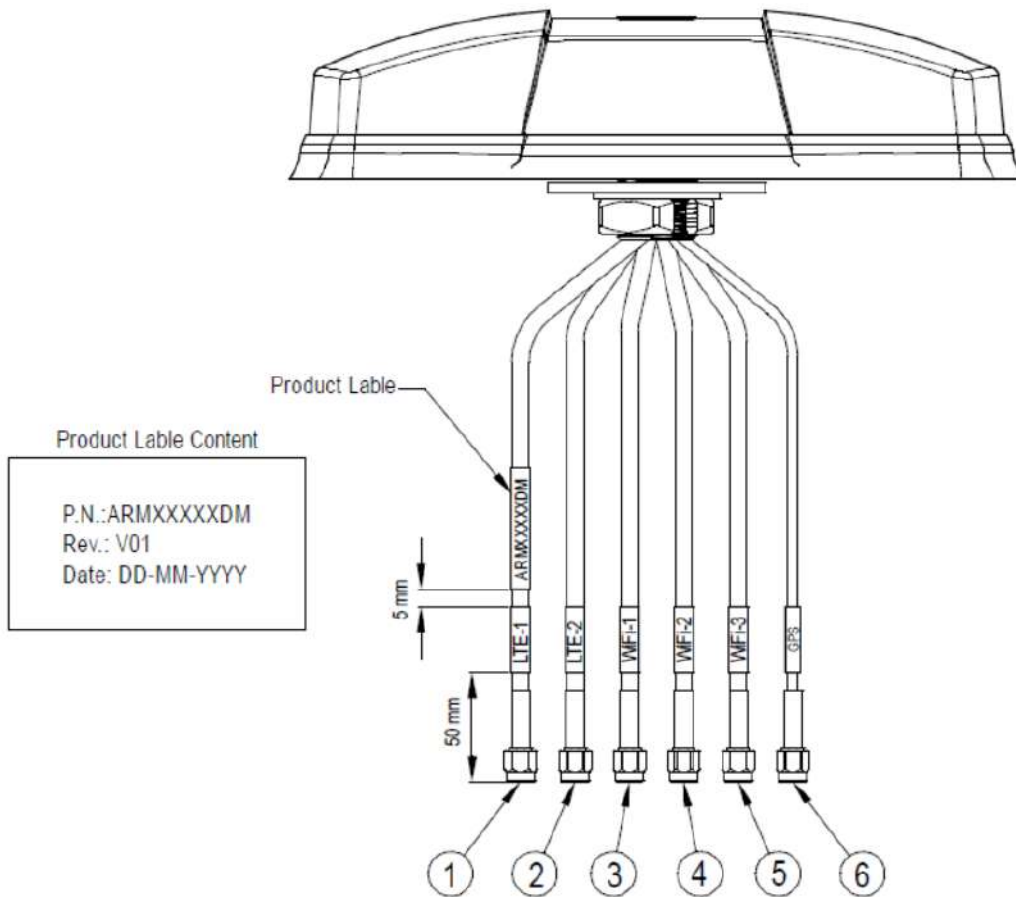
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MECHANICAL DRAWING



| | ARM62311DM | CABLE | CABLE LENGTH | CONNECTOR |
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| 6 | GPS Cable Assy | LMR-100* | | SMA Male |

* or equivalent

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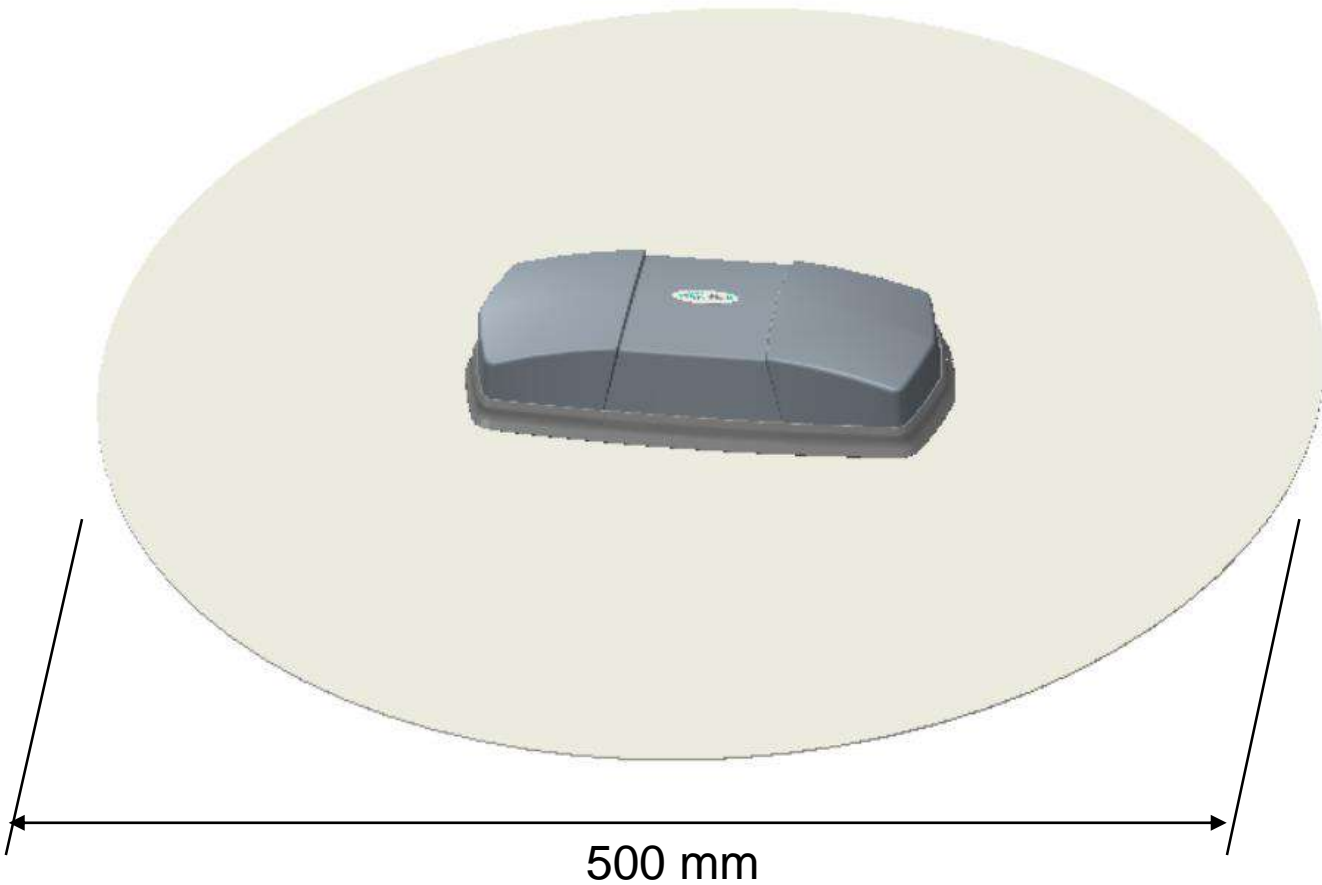
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TEST SETUP

Antenna tested on a 500mm (dia) ground plane.



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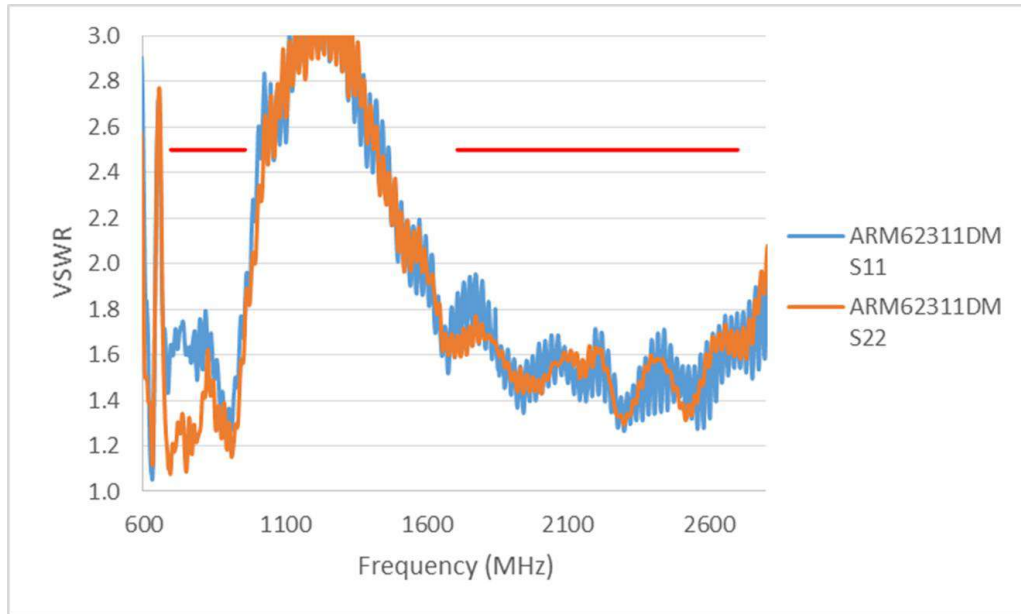
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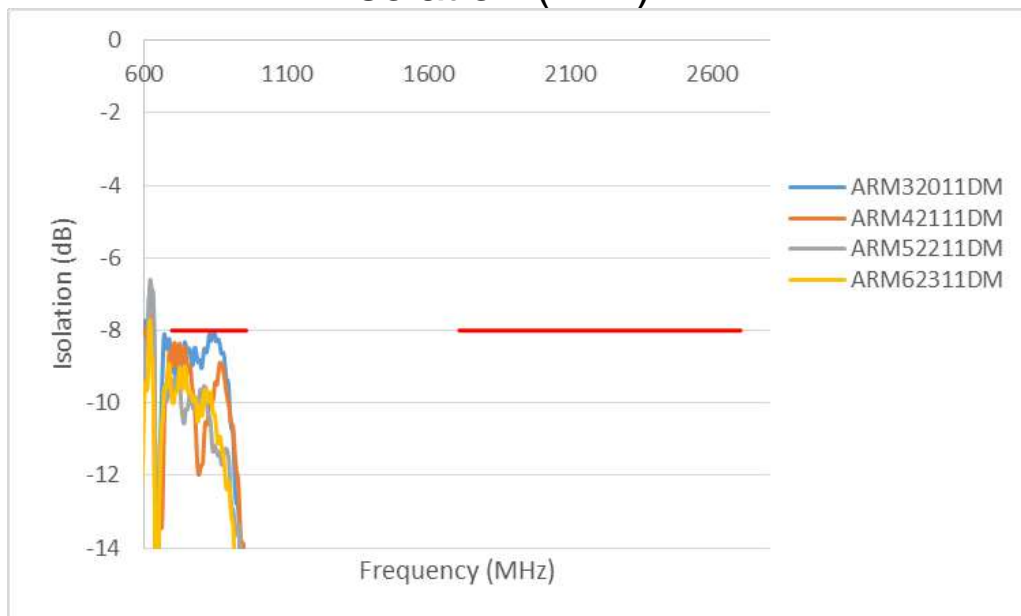
PART NUMBER: ARMXXXXDM

CHARTS

VSWR (LTE)



Isolation (LTE)



Note : Antenna tested with 5m cable on 500mm (dia) ground plane

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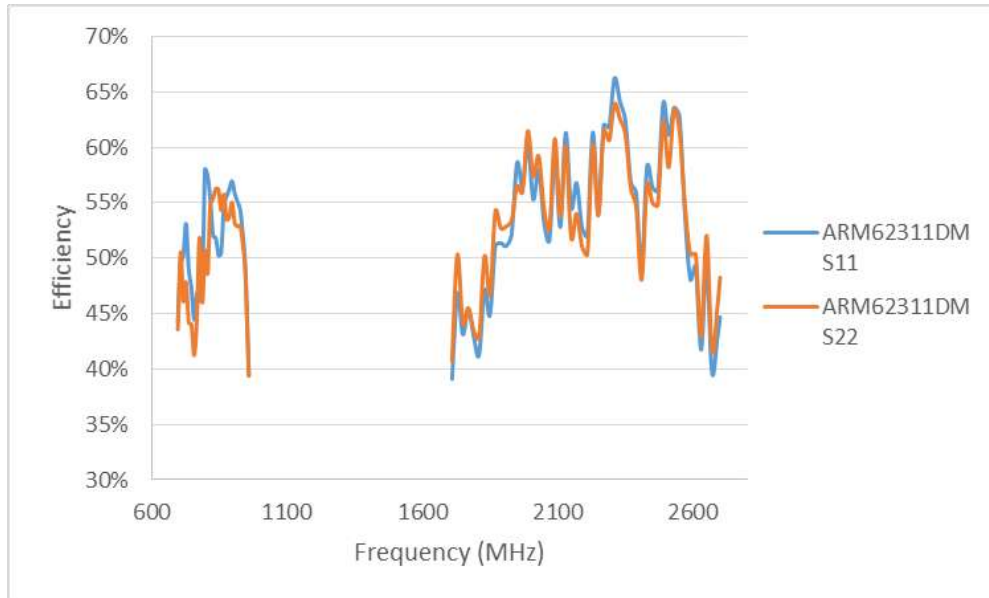
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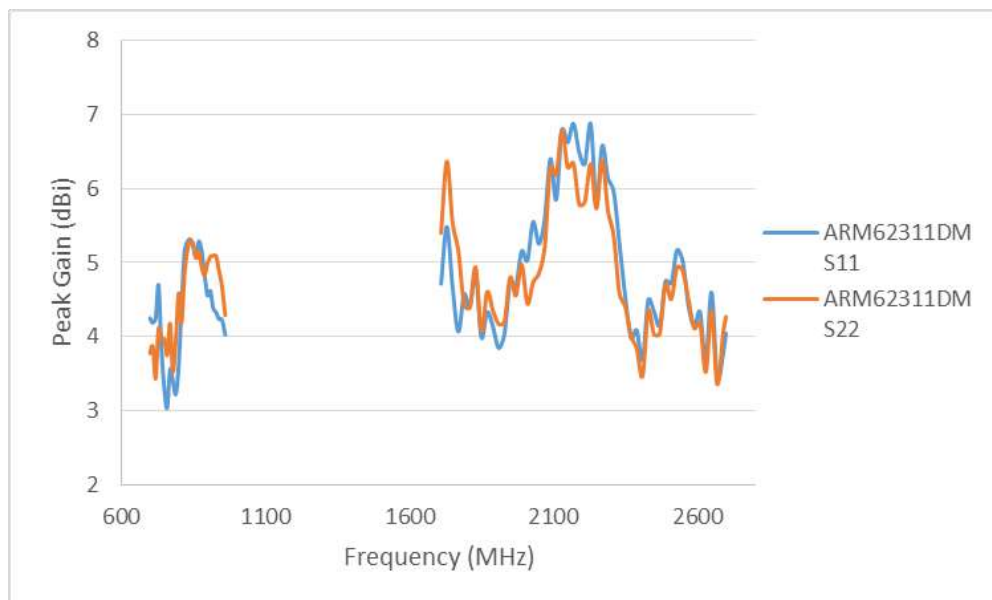
PART NUMBER: ARMXXXXDM

CHARTS

Radiation Efficiency (LTE)



Peak Gain (LTE)



Note : Antenna tested with 1ft(304.8mm) cable on 500mm (dia) ground plane

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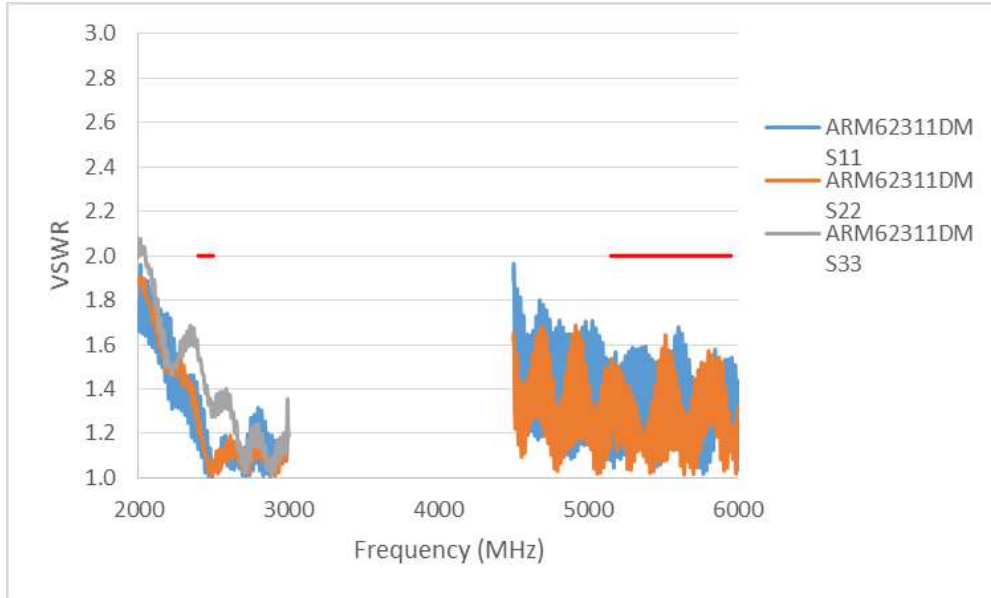
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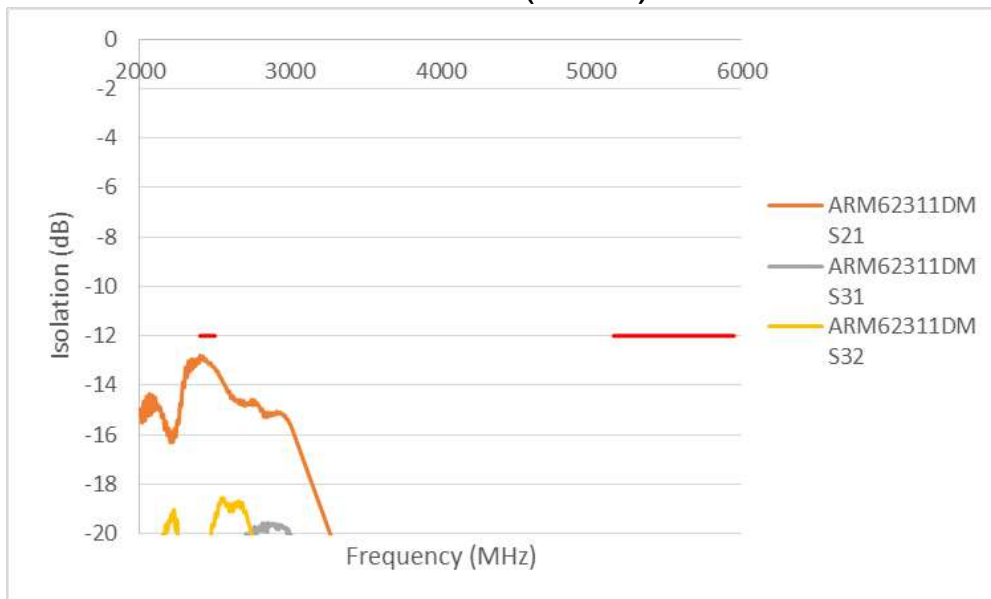
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CHARTS

VSWR (WIFI)



Isolation (WIFI)



Note : Antenna tested with 5m cable on 500mm (dia) ground plane

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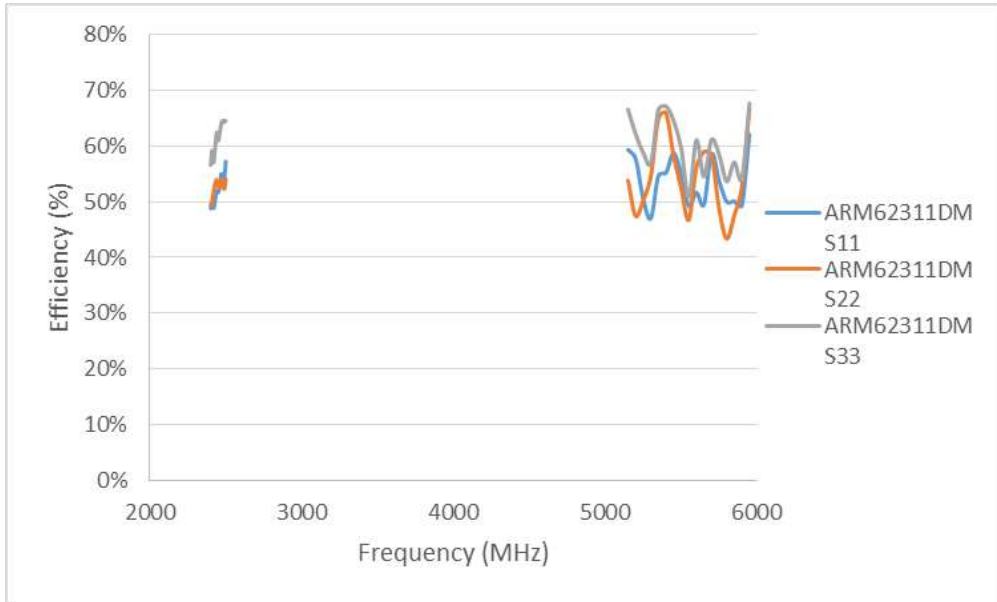
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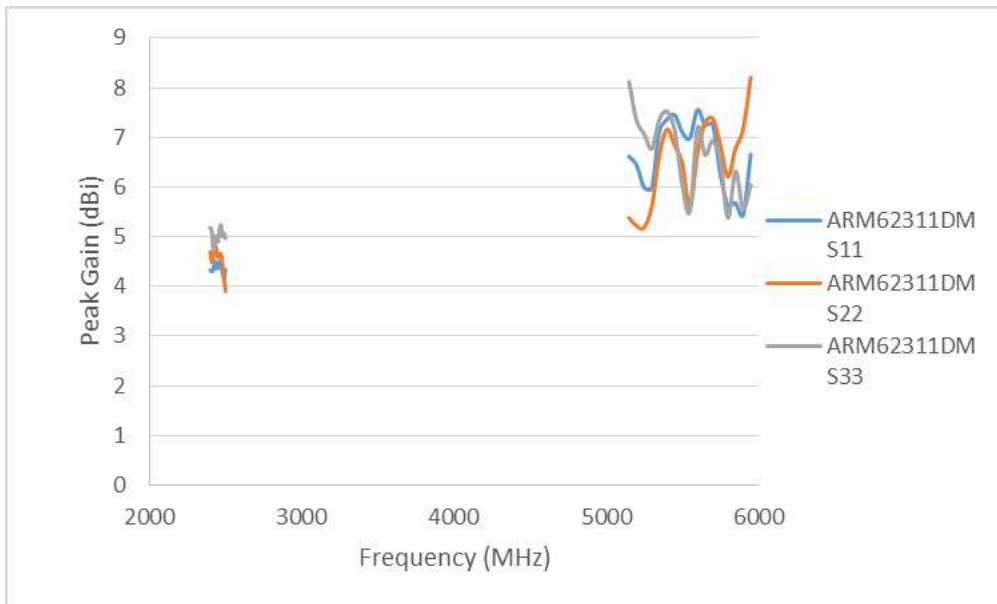
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CHARTS

Radiation Efficiency (WIFI)



Peak Gain (WIFI)



Note : Antenna tested with 1ft(304.8mm) cable on 500mm (dia) ground plane

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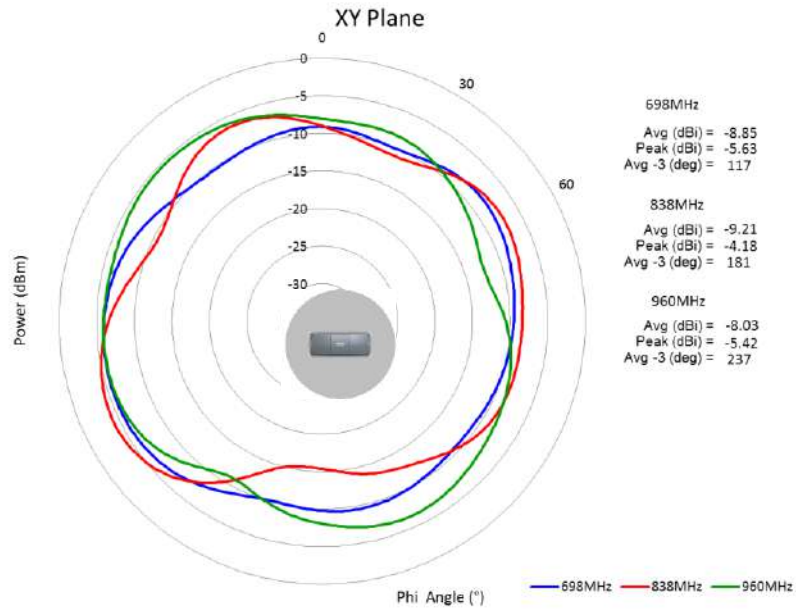


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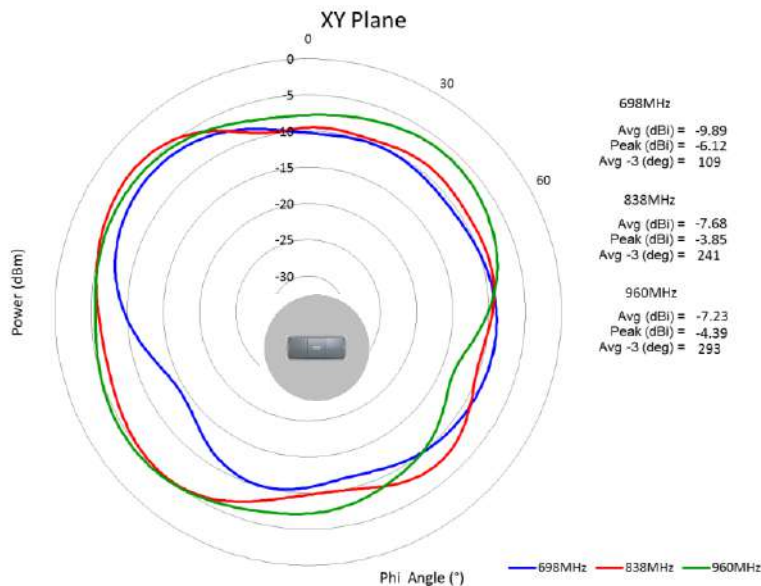
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CHARTS



LTE1 XY plane radiation pattern



LTE2 XY plane radiation pattern

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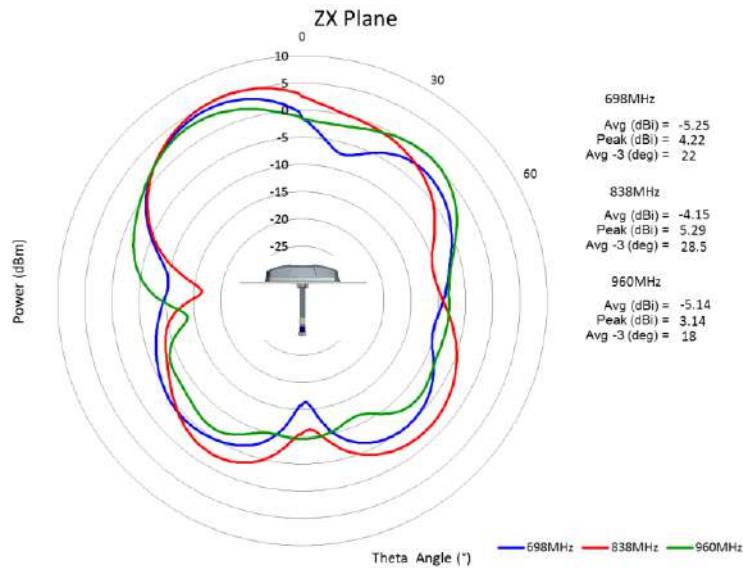
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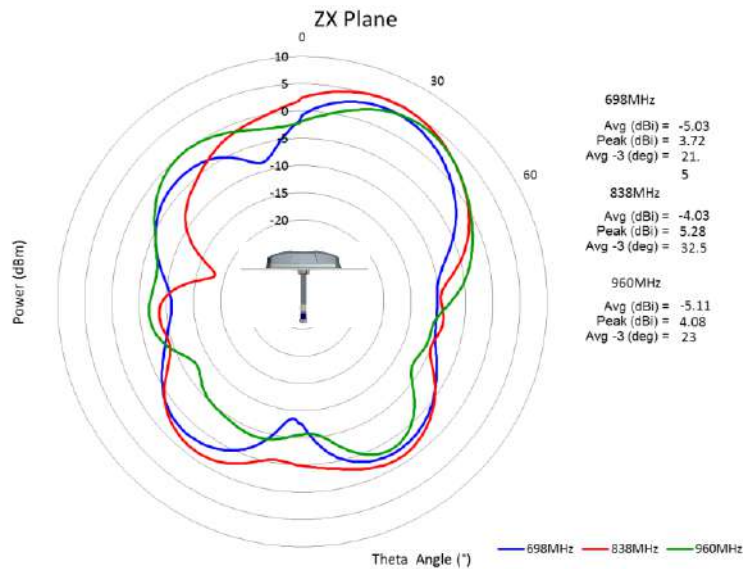
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LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern

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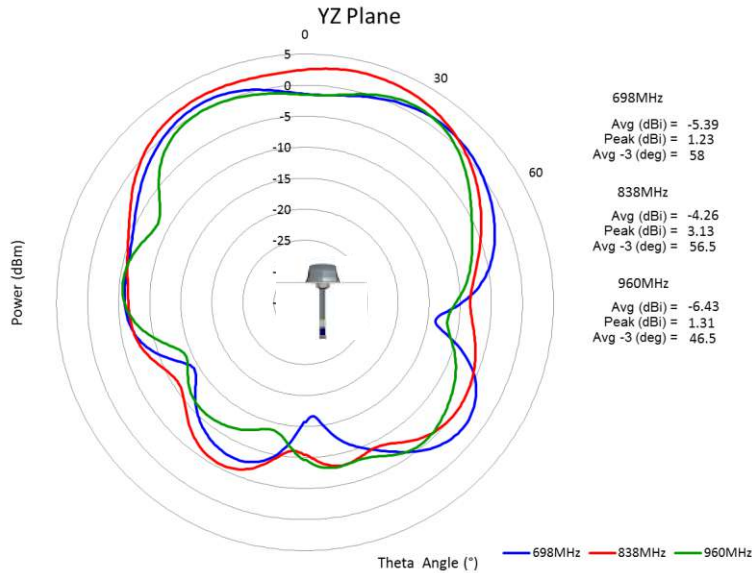
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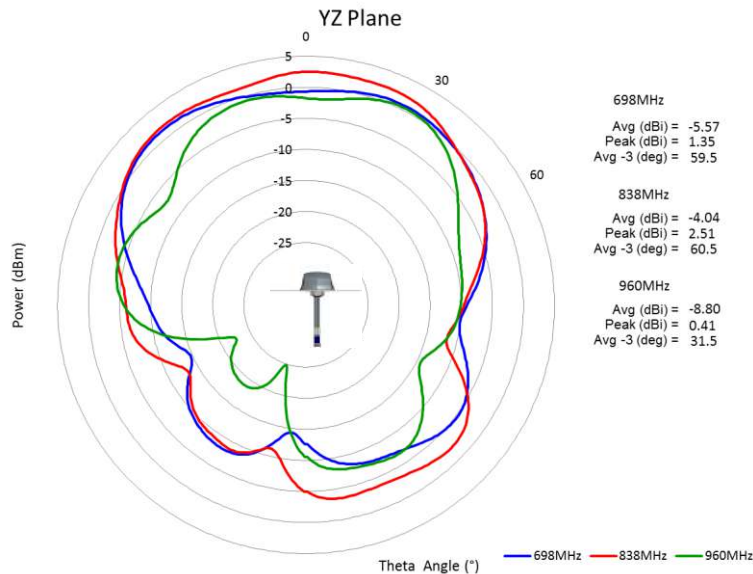
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LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern

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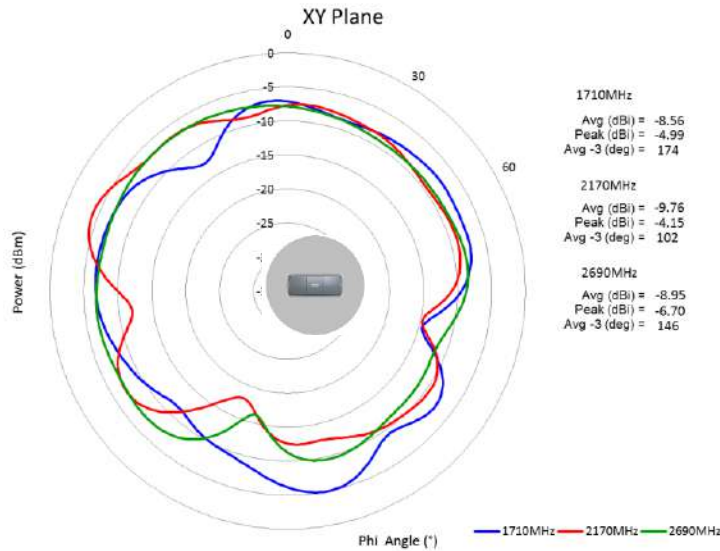
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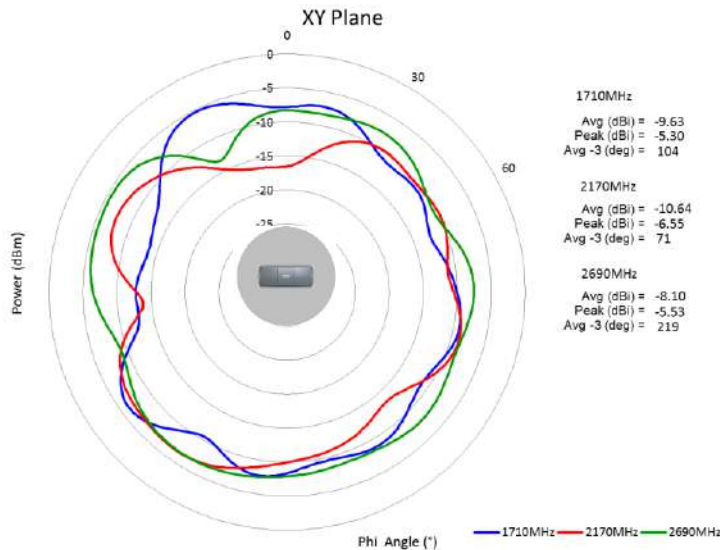
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LTE1 XY plane radiation pattern



LTE2 XY plane radiation pattern

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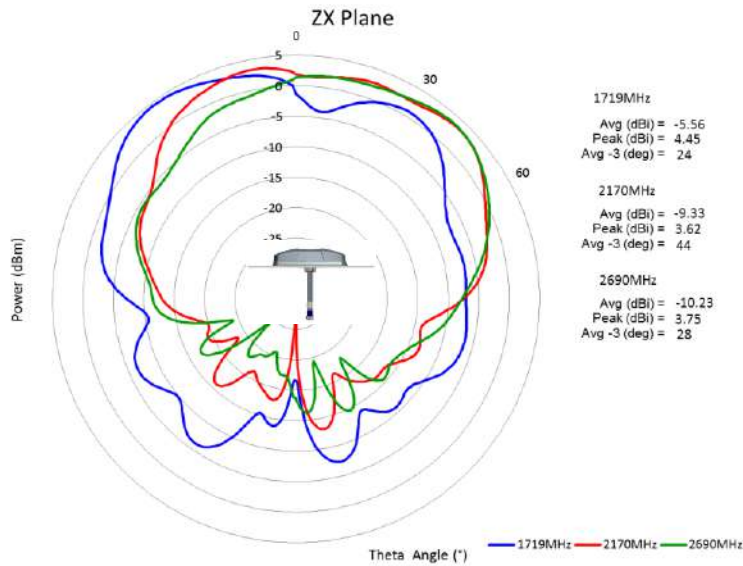
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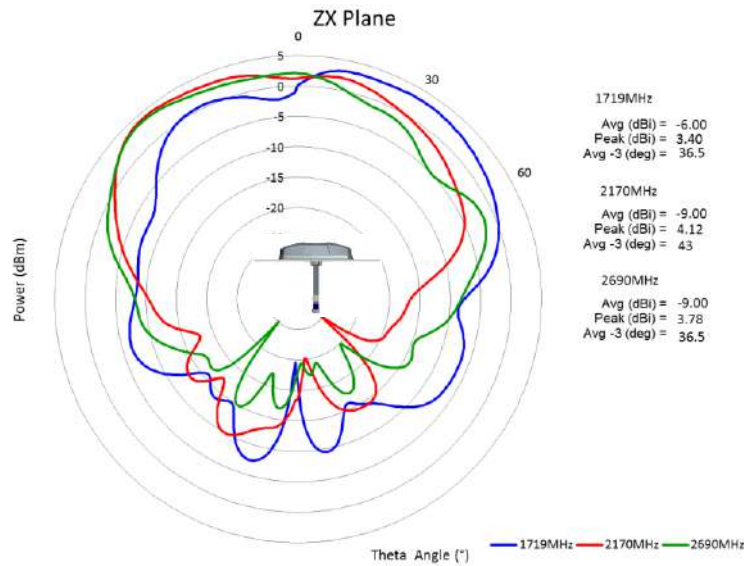
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LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern

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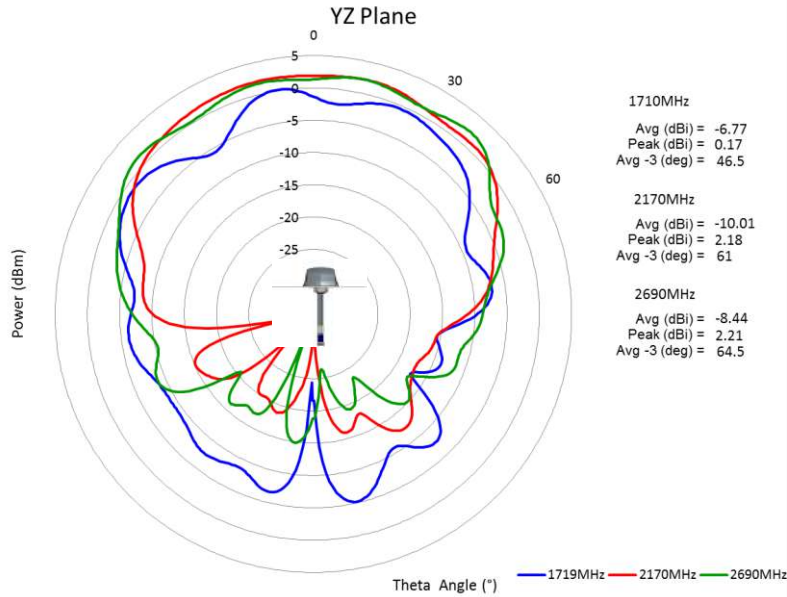
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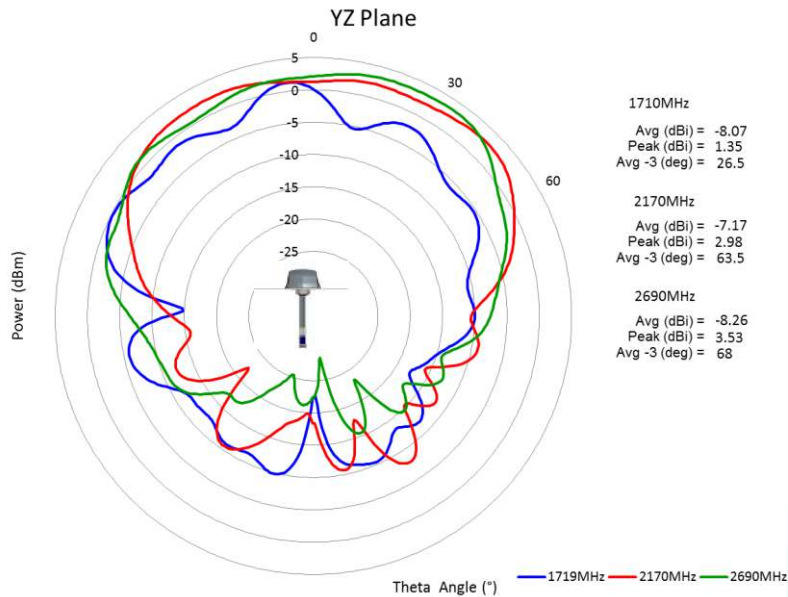
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LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern

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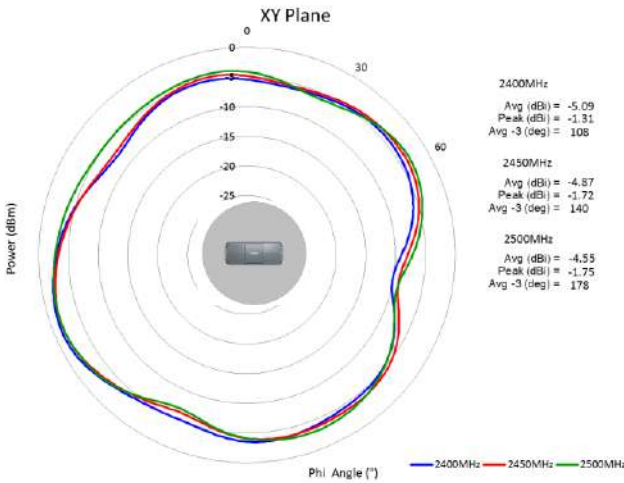
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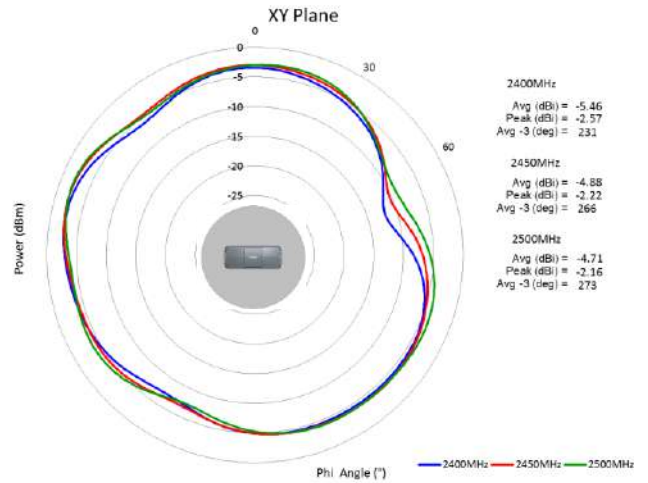
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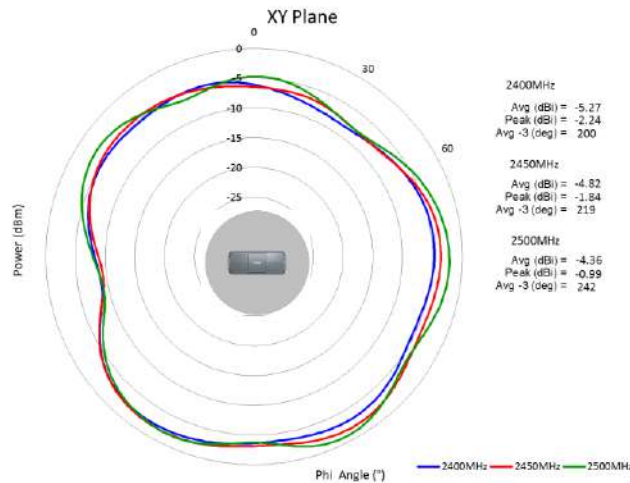
CHARTS



WiFi1 XY plane radiation pattern



WiFi2 XY plane radiation pattern



WiFi3 XY plane radiation pattern

Preliminary

Issue: 1804P

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

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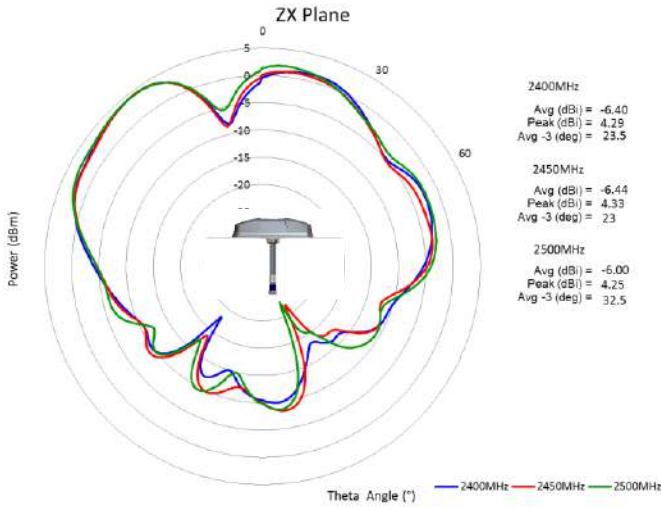
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Series: ARMADILLO

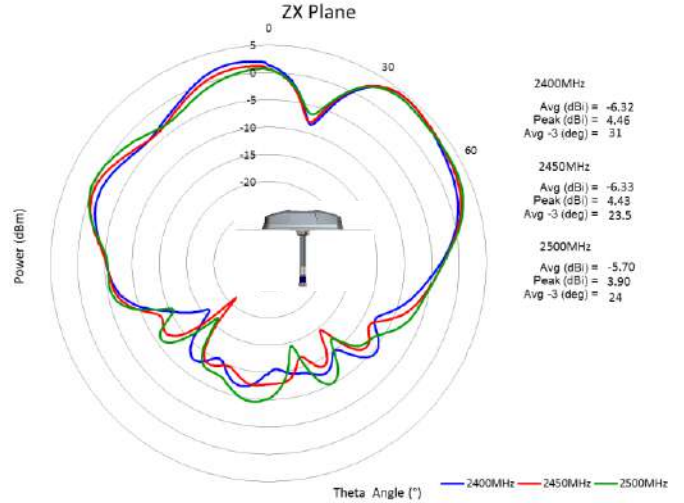
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PART NUMBER: ARMXXXXDM

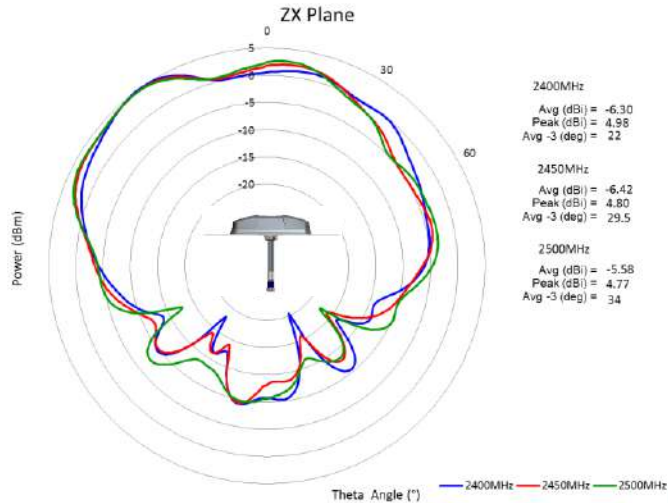
CHARTS



WiFi1 ZX plane radiation pattern



WiFi2 ZX plane radiation pattern



WiFi3 ZX plane radiation pattern

Preliminary

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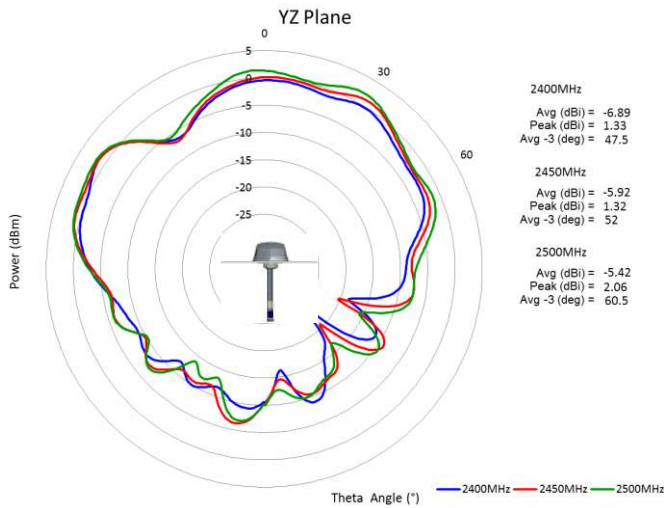
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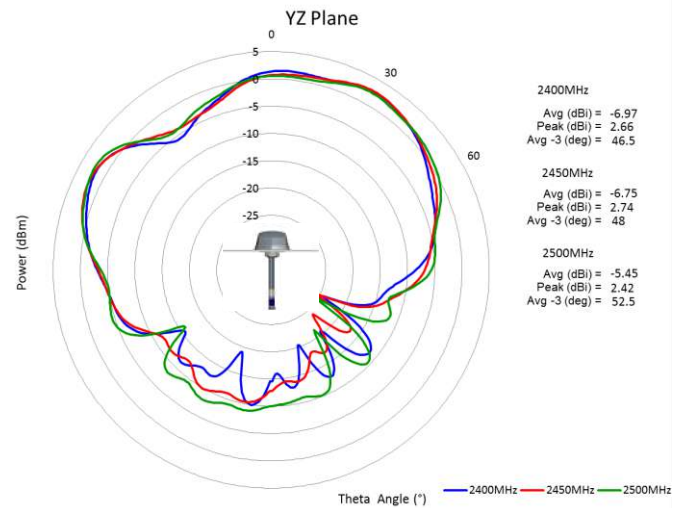
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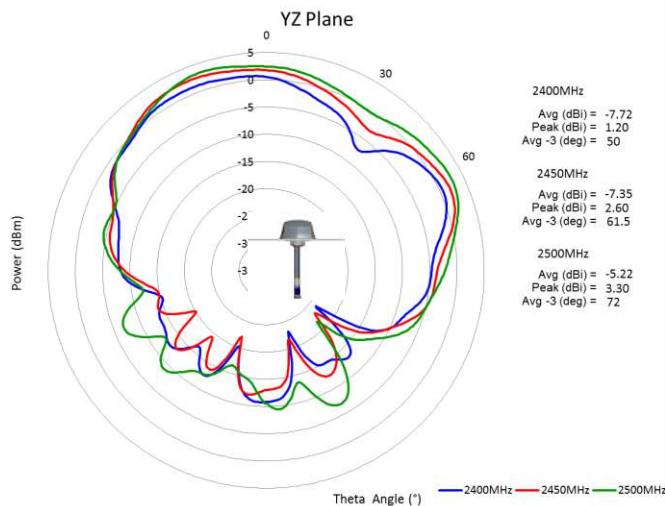
CHARTS



WiFi1 YZ plane radiation pattern



WiFi2 YZ plane radiation pattern



WiFi3 YZ plane radiation pattern

Preliminary

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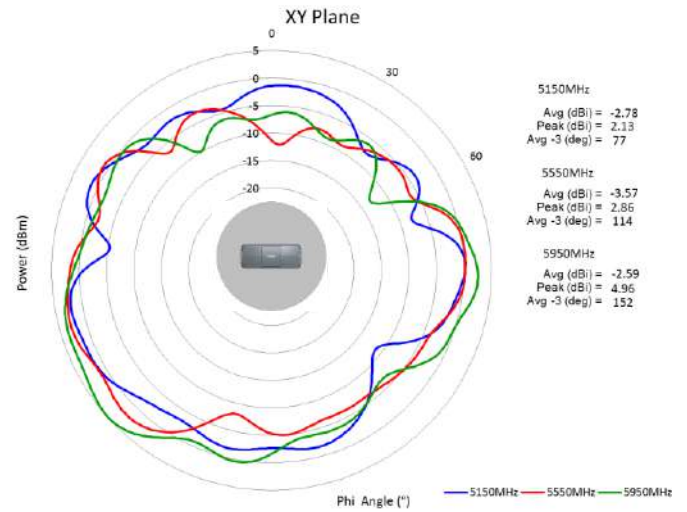
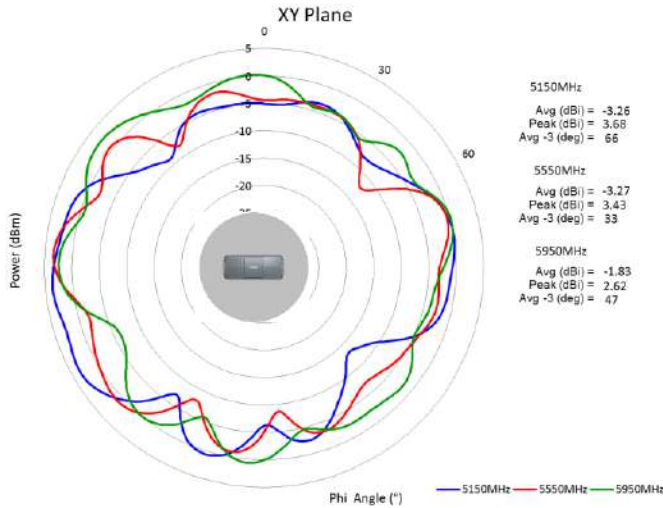
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Series: ARMADILLO

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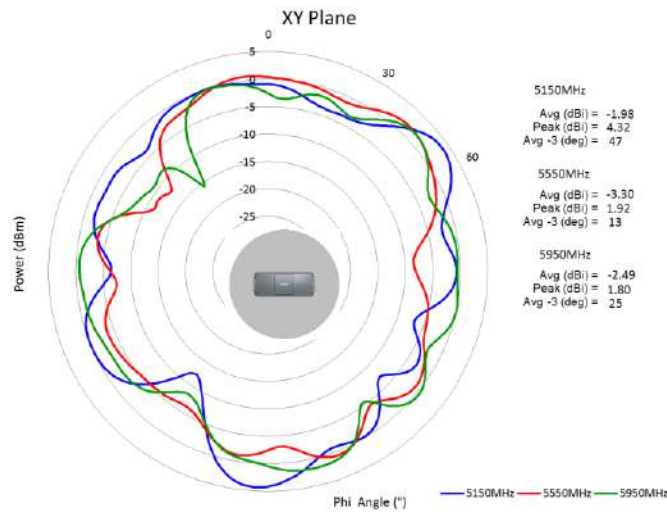
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CHARTS



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WiFi3 XY plane radiation pattern

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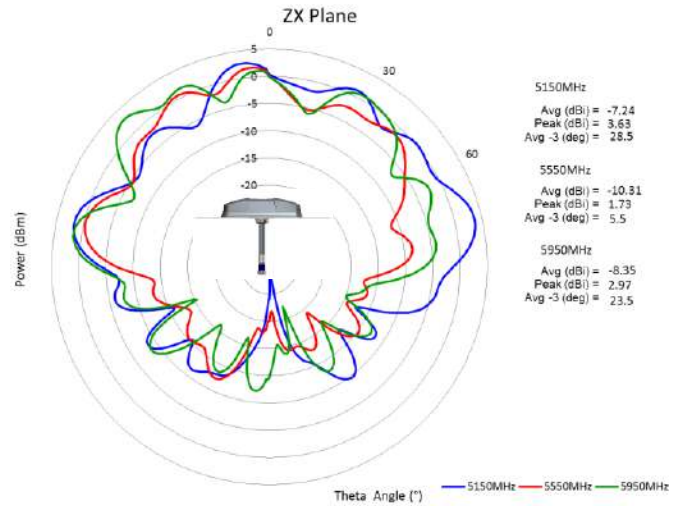
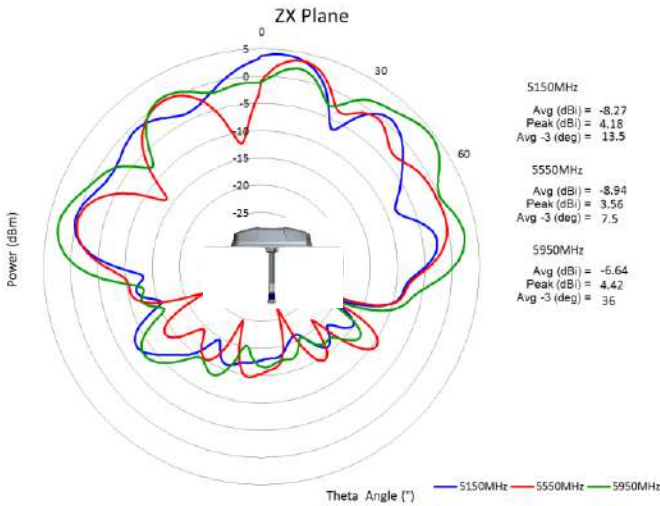
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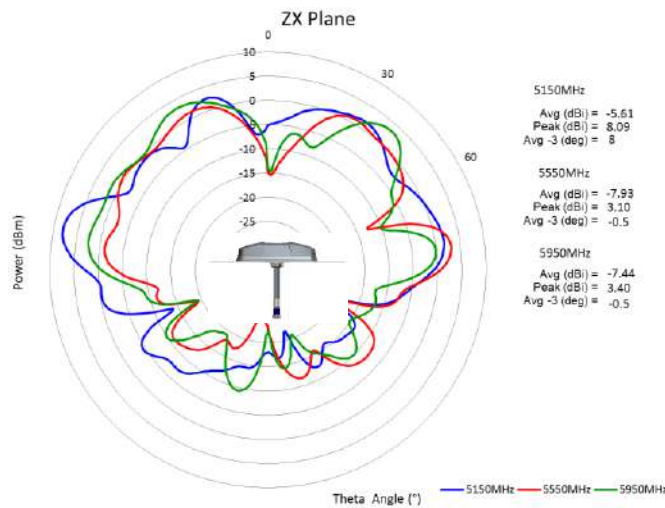
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CHARTS



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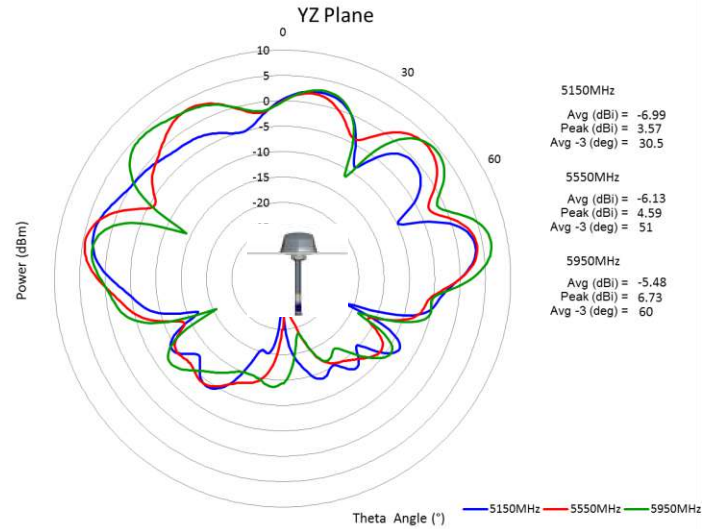
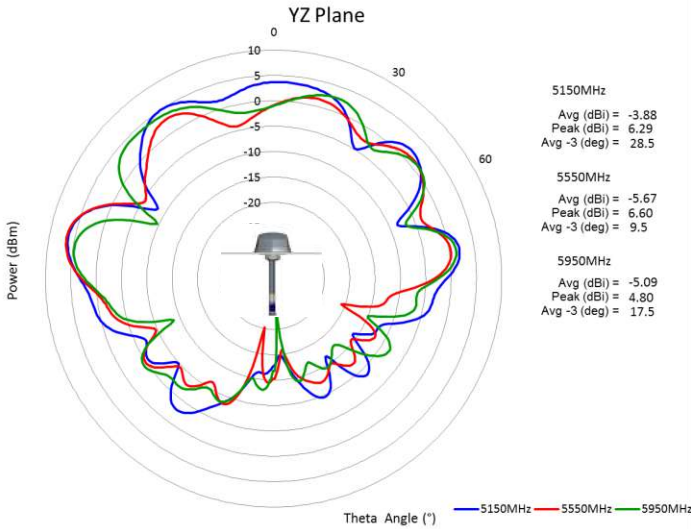
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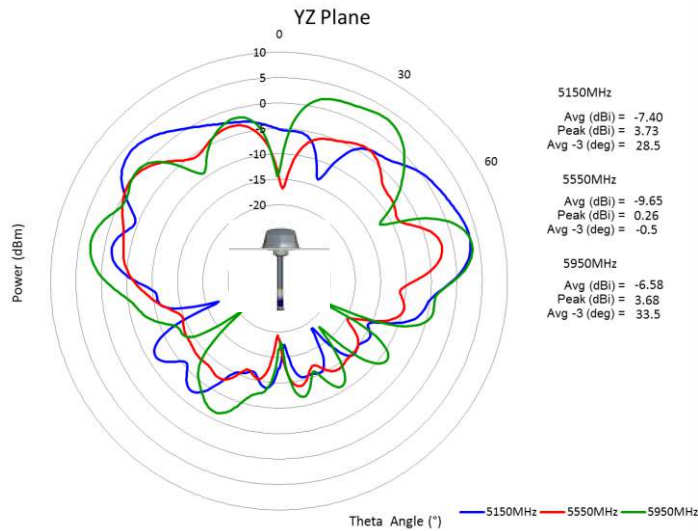
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Description: Vehicular Multiband Antenna with Direct Mount

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PACKAGING

Each antennas packed in Bubble Bag

6 bags of antennas (Total 6pcs) packed in a cardboard box

1 label on each box with quantity, part number, date code.

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Preliminary

