PulseLARSEN Antennas

TECHNICAL DATA SHEET

Series: ARMADILLO

Description: Vehicular Multiband Antenna with Adhesive Mount

PART NUMBER: ARMXXXXXAM





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: 1901

RoHS COMPLIANT

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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	Cable Length	Mounting
ARM62311AM	6	2 (with SMA Male)	3 (with RP-SMA Male)	1 (with SMA Male)	Black	17 FT or 5181mm	Adhesive Mount; 3M VHB4959 Thickness: 3mm
ARM62312AM	6	2 (with SMA Male)	3 (with RP-SMA Male)	1 (with SMA Male)	White		
ARM52211AM	5	2 (with SMA Male)	2 (with RP-SMA Male)	1 (with SMA Male)	Black		
ARM52212AM	5	2 (with SMA Male)	2 (with RP-SMA Male)	1 (with SMA Male)	White		
ARM42111AM	4	2 (with SMA Male)	1 (with RP-SMA Male)	1 (with SMA Male)	Black		
ARM42112AM	4	2 (with SMA Male)	1 (with RP-SMA Male)	1 (with SMA Male)	White		
ARM32011AM	3	2 (with SMA Male)	0	1 (with SMA Male)	Black		
ARM32012AM	3	2 (with SMA Male)	0	1 (with SMA Male)	White		
ARM21011AMTT	2	1 (with TNC Male)	0	1 (with TNC Male)	Black		

Product Numbering

Vehicular Multiband Antenna with Direct Mount

(Part Number) ARM X X X X X AM

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: Adhesive Mount

Issue: 1901

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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;	4.6dBi
1710-2690MHz	5.1dBi
2400-2500MHz	4.9dBi
5150-5925MHz	7.9dBi
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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TECHNICAL DATA SHEET

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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 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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PulseLARSEN Antennas

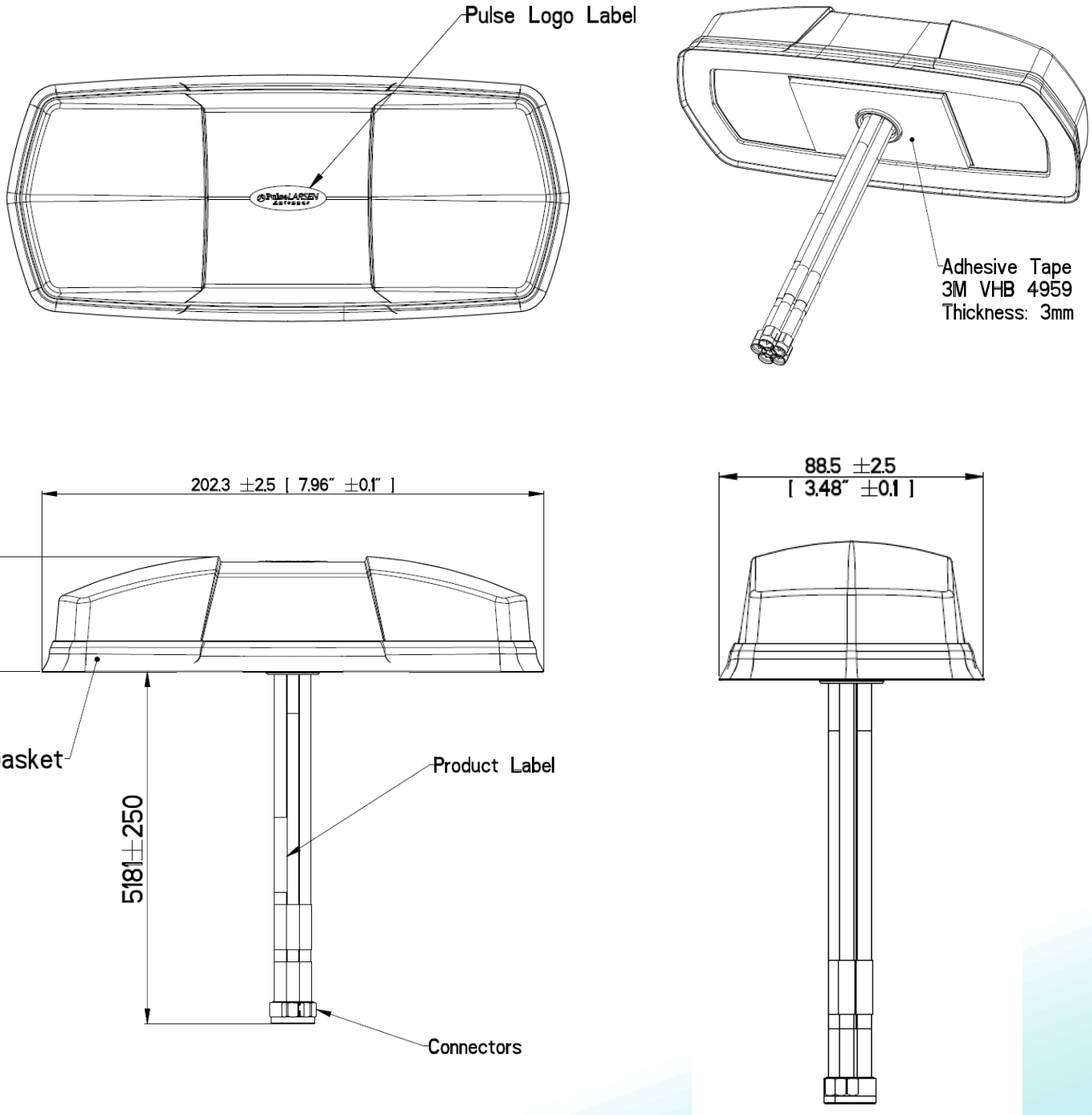
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Description: Vehicular Multiband Antenna with Adhesive Mount

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MECHANICAL DRAWING



Issue: 1901

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RoHS COMPLIANT

PulseLARSEN Antennas

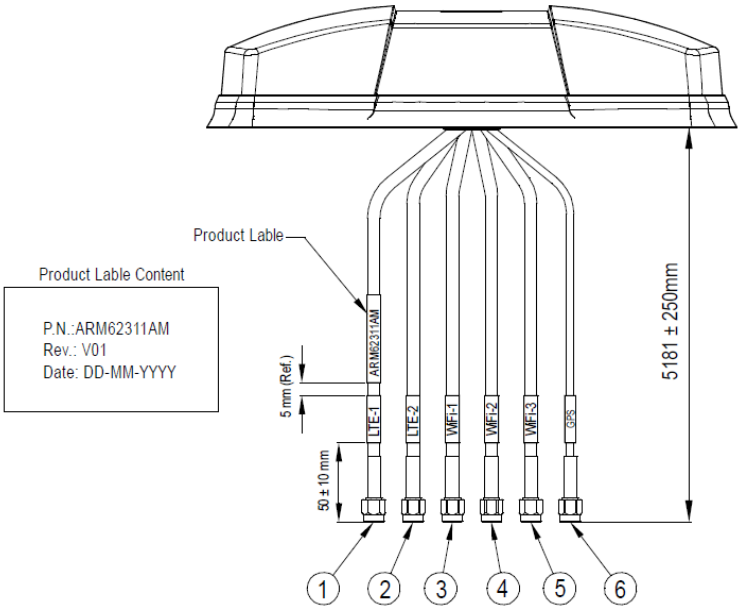
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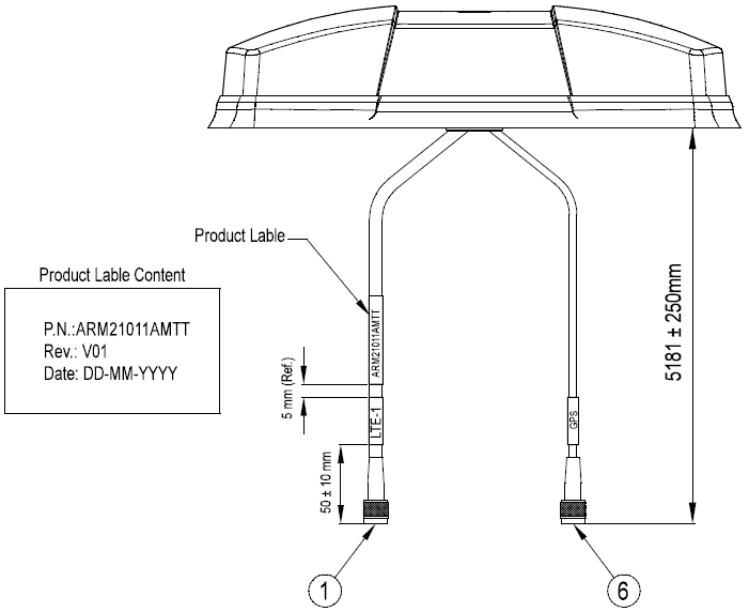
Series: ARMADILLO

Description: Vehicular Multiband Antenna with Adhesive Mount

PART NUMBER: ARMXXXXXAM

MECHANICAL DRAWING





	ARM62311AM	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

	ARM21011AMTT	CABLE	CABLE LENGTH	CONNECTOR
1	LTE-1 Cable Assy	LMR-195*	5181 mm / 204" / 17 FT	TNC Male
2				
6	GPS Cable Assy	LMR-100*		TNC Male

* or equivalent

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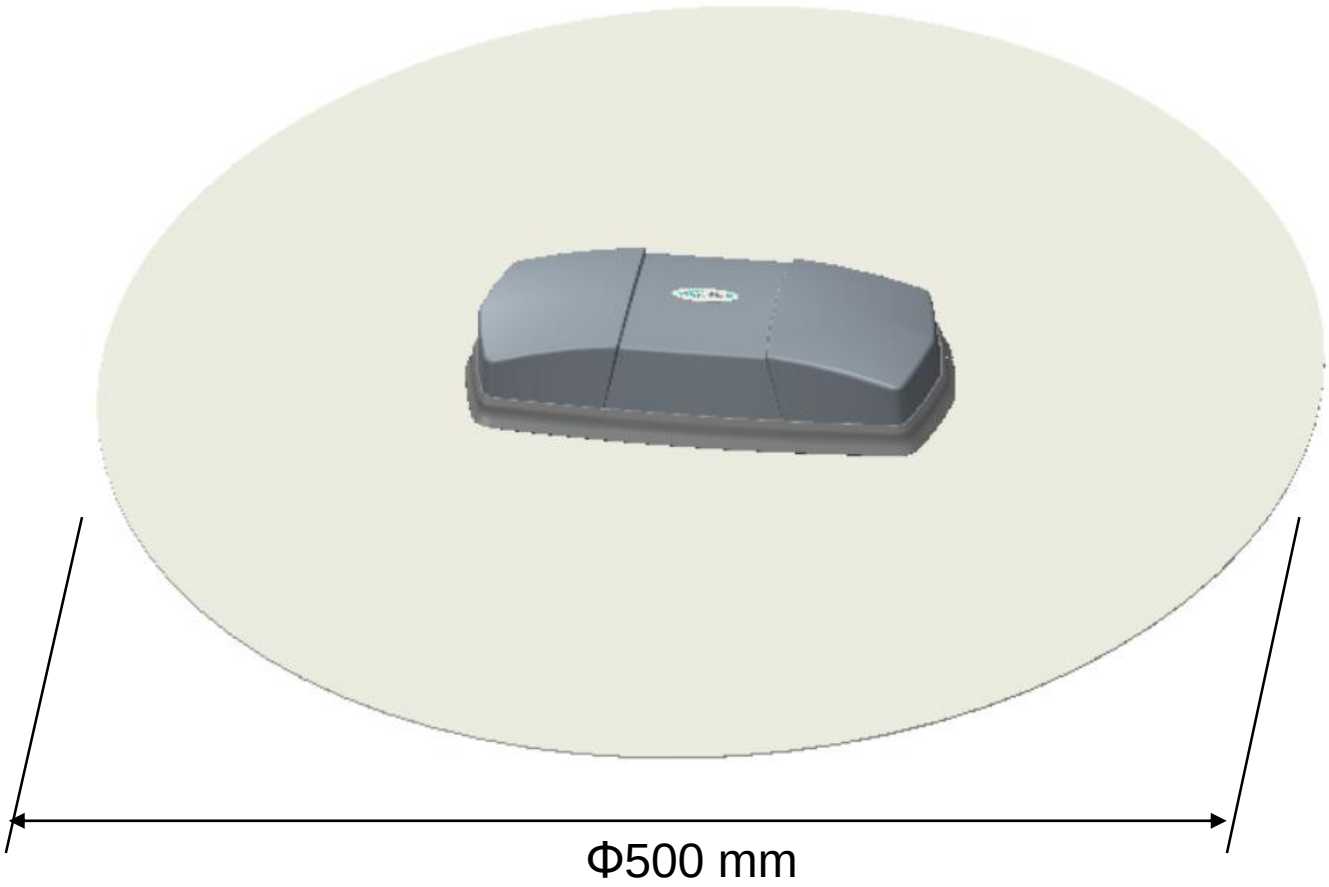
Series: ARMADILLO

Description: Vehicular Multiband Antenna with Adhesive Mount

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TEST SETUP

Antenna tested on a Φ500mm ground plane.



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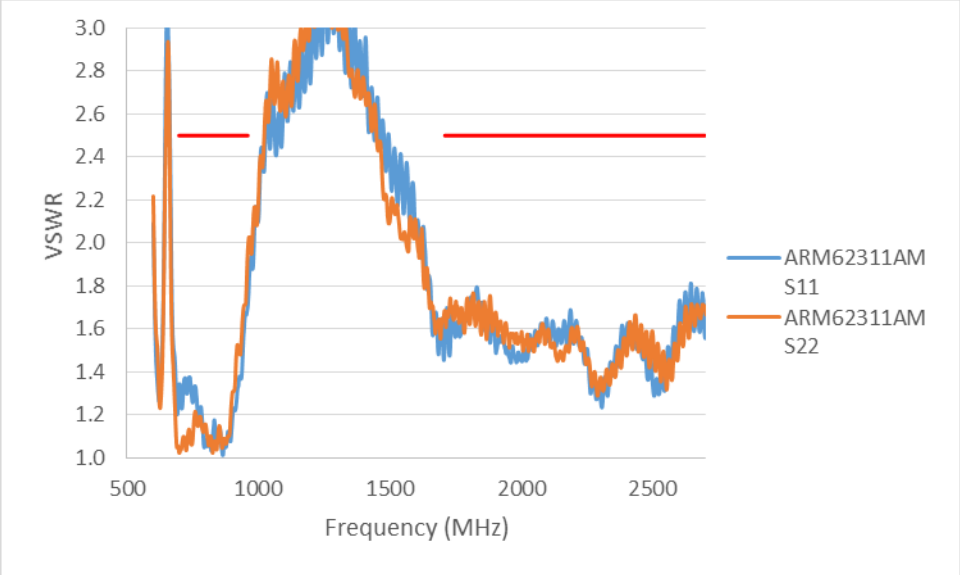
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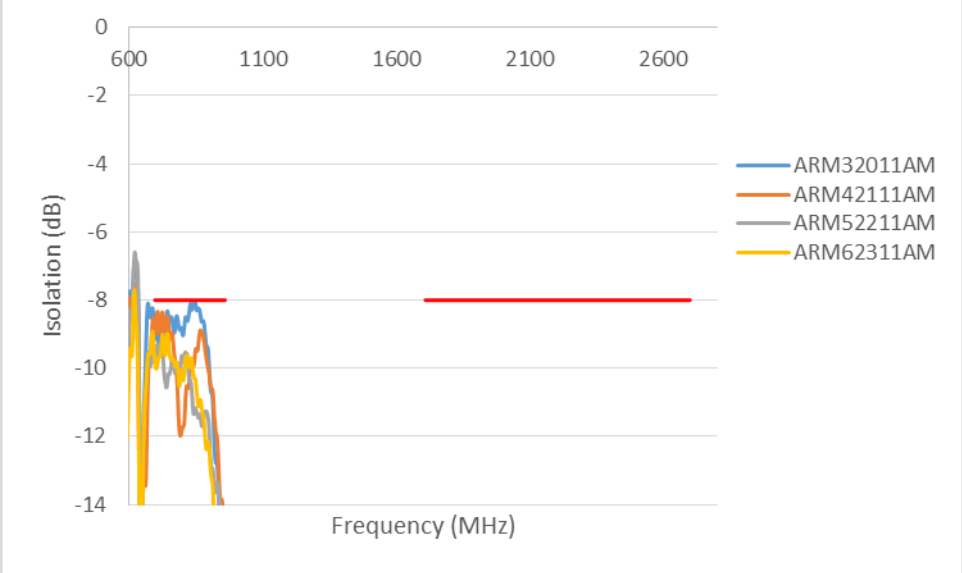
PART NUMBER: ARMXXXXXAM

CHARTS

VSWR (LTE)



Isolation (LTE)



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

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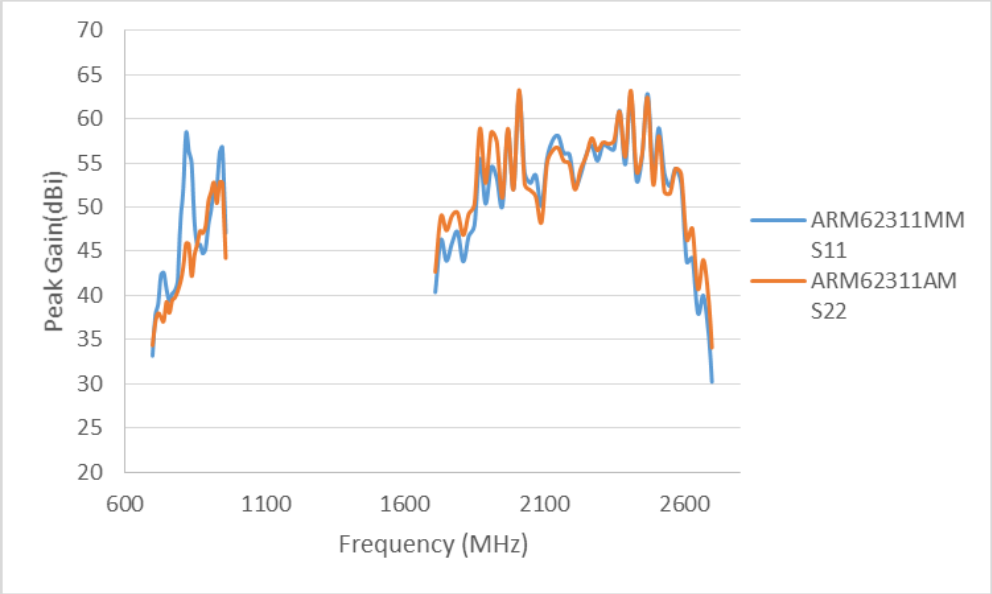
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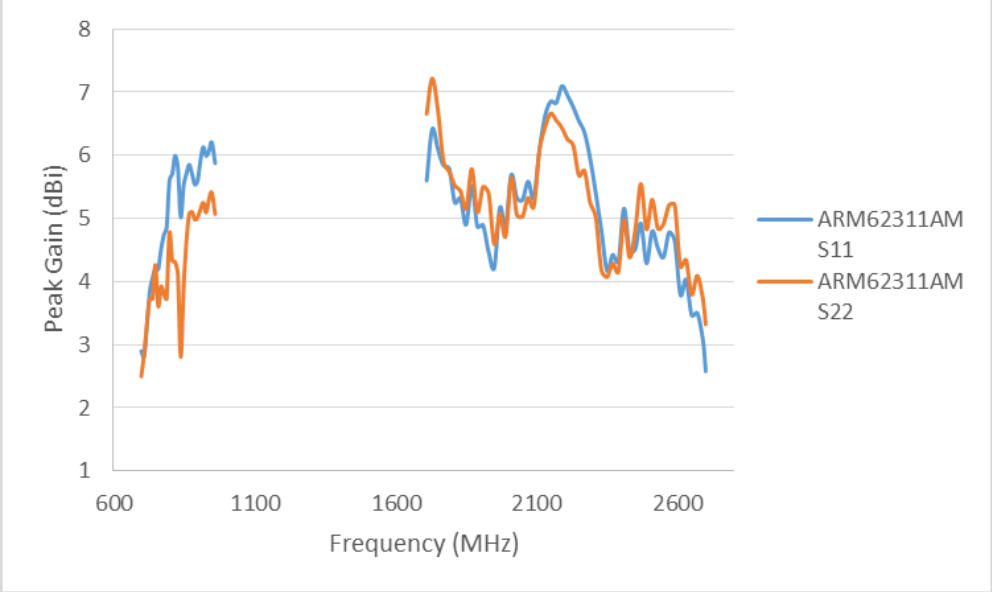
PART NUMBER: ARMXXXXXAM

CHARTS

Radiation Efficiency (LTE)



Peak Gain (LTE)



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

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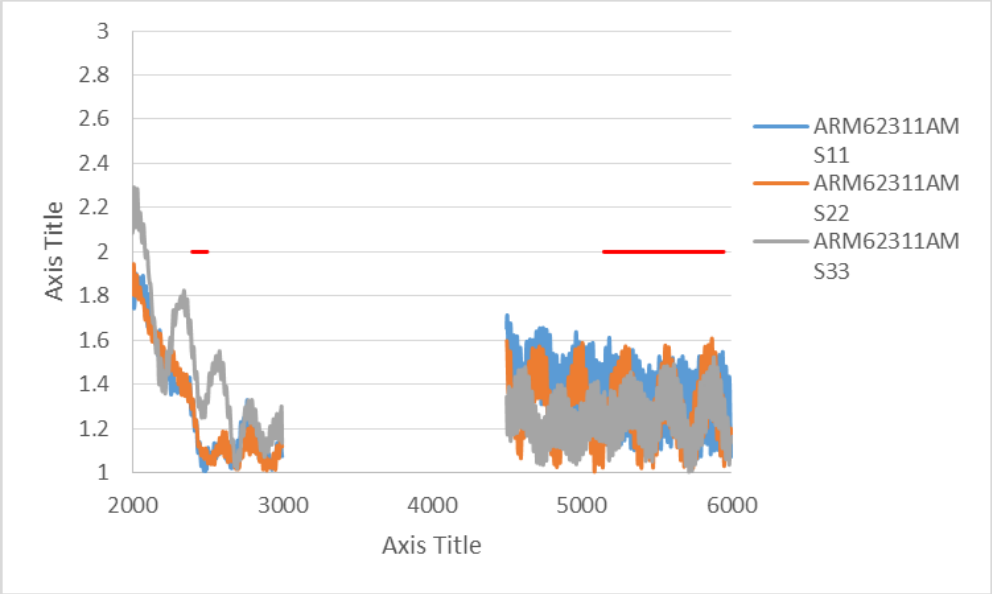
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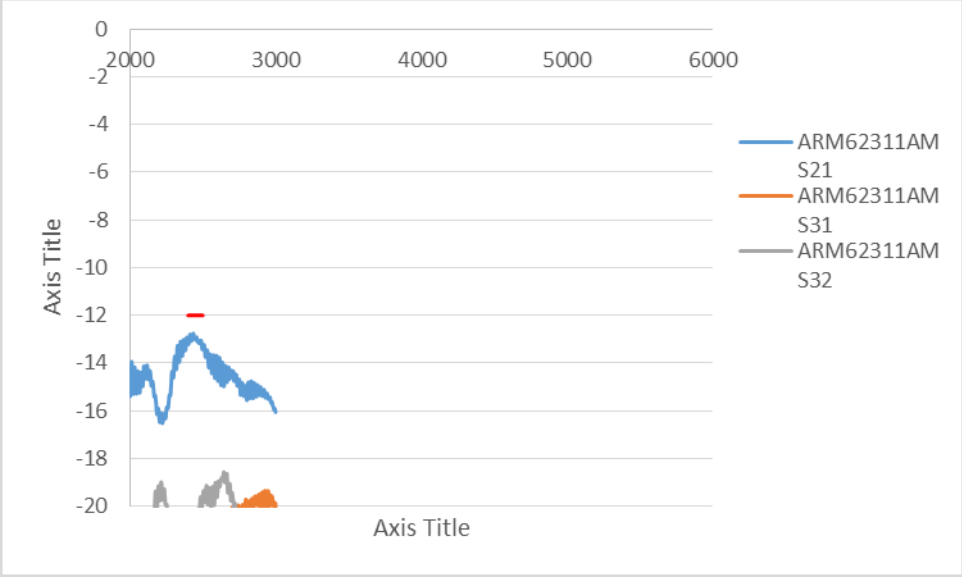
PART NUMBER: ARMXXXXXAM

CHARTS

VSWR (WIFI)



Isolation (WIFI)



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

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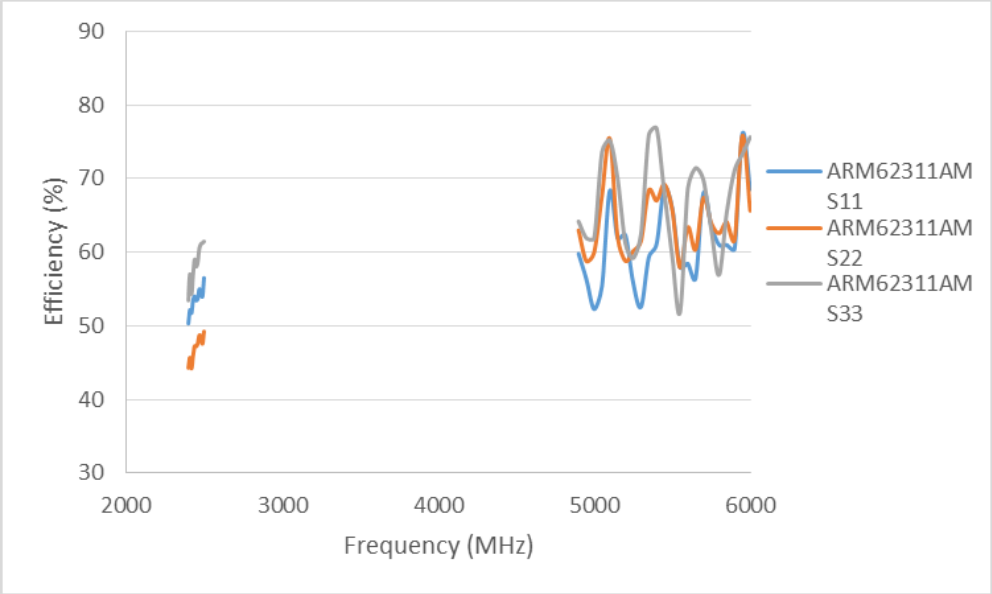
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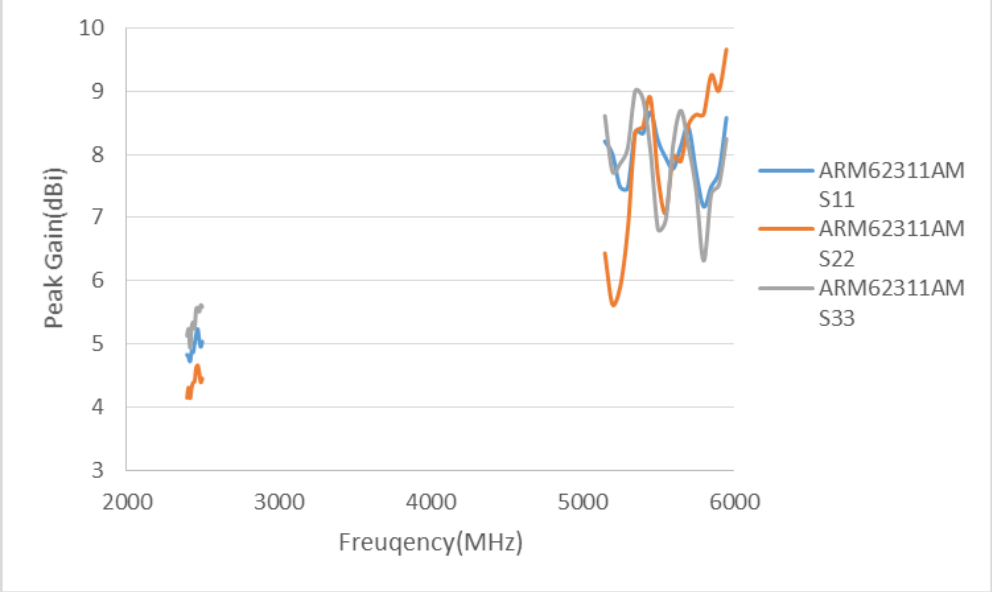
PART NUMBER: ARMXXXXXAM

CHARTS

Radiation Efficiency (WIFI)



Peak Gain (WIFI)



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

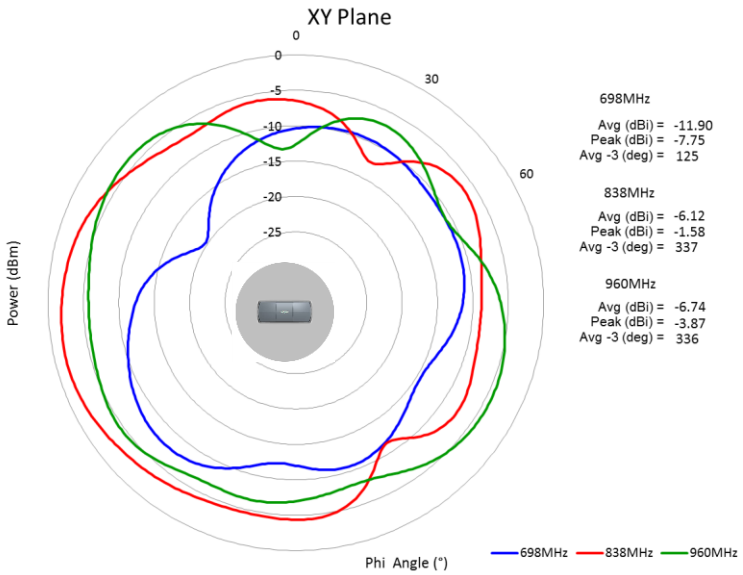
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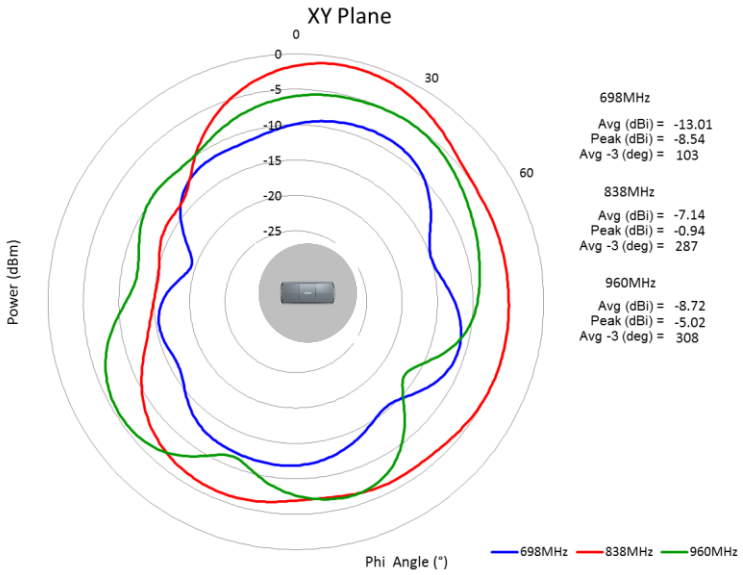
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CHARTS



LTE1 XY plane radiation pattern



LTE2 XY plane radiation pattern

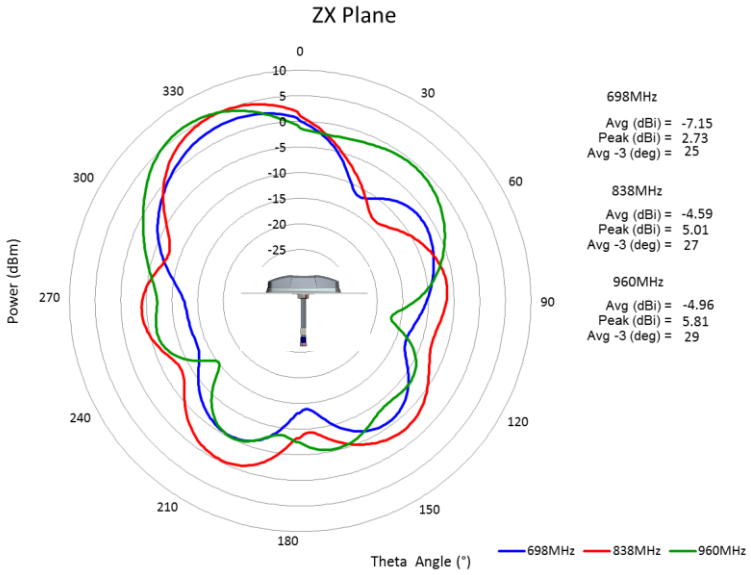
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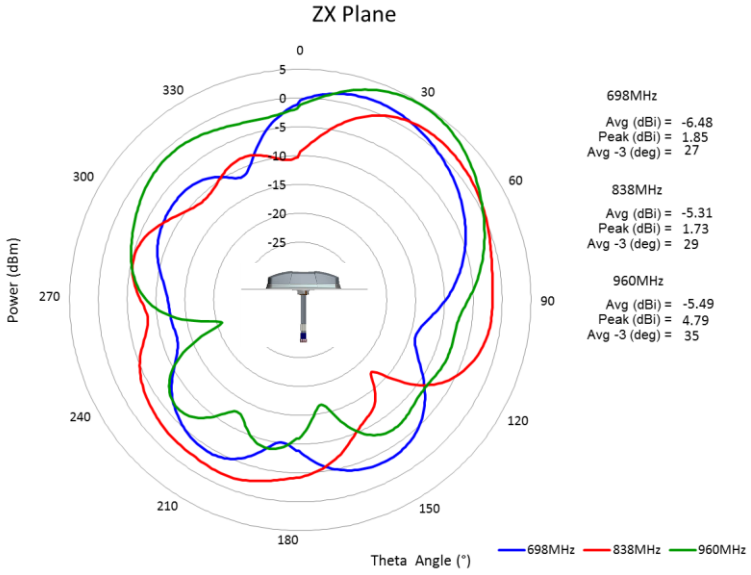
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CHARTS



LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern

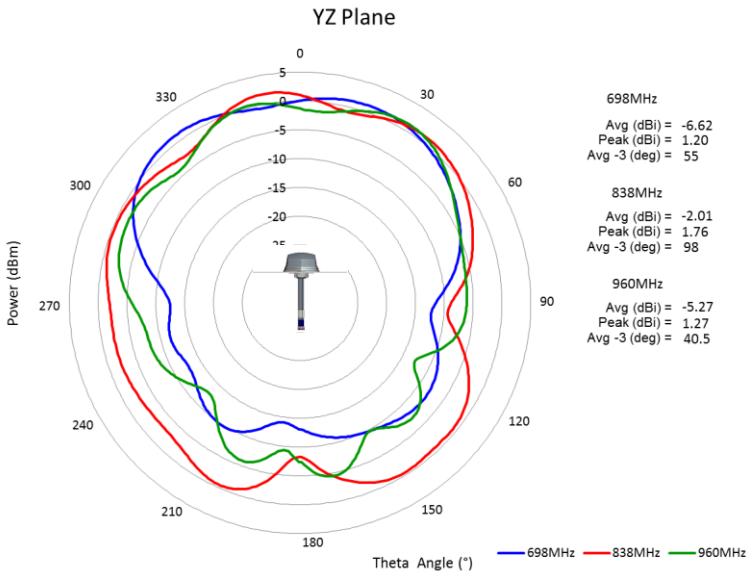
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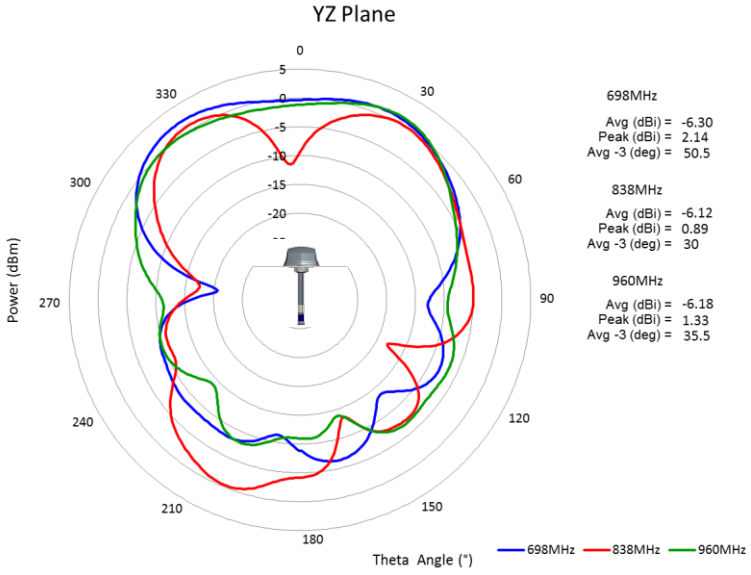
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CHARTS



LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern

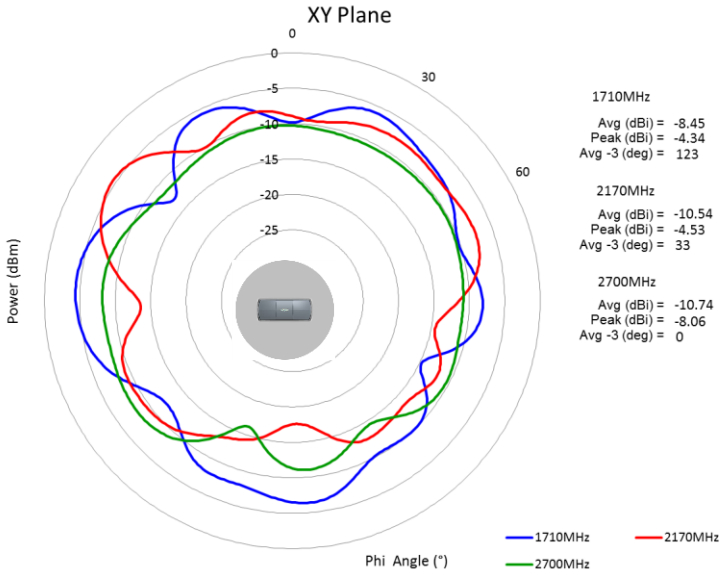
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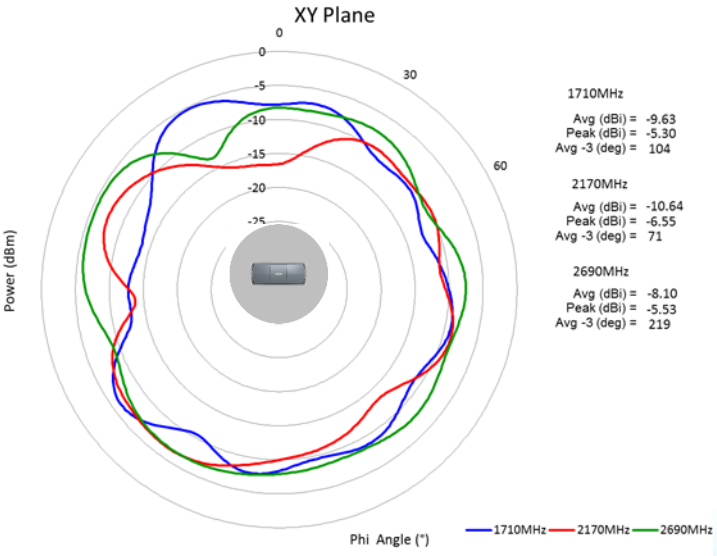
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LTE1 XY plane radiation pattern



LTE2 XY plane radiation pattern

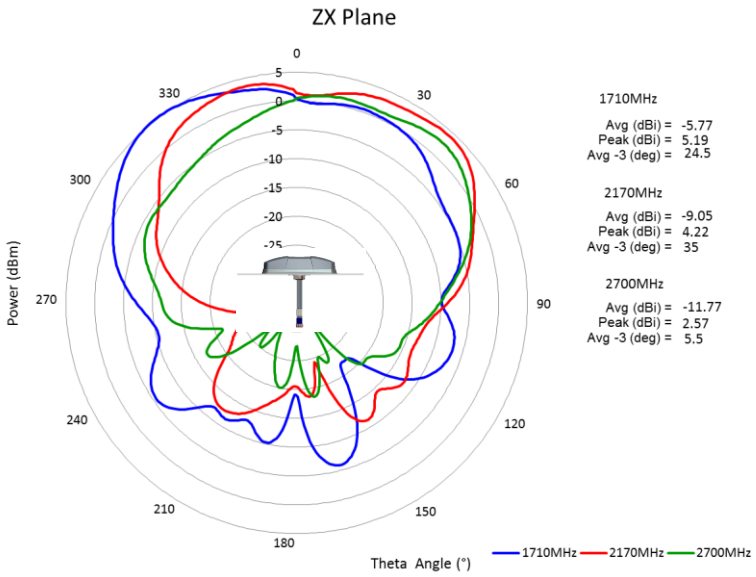
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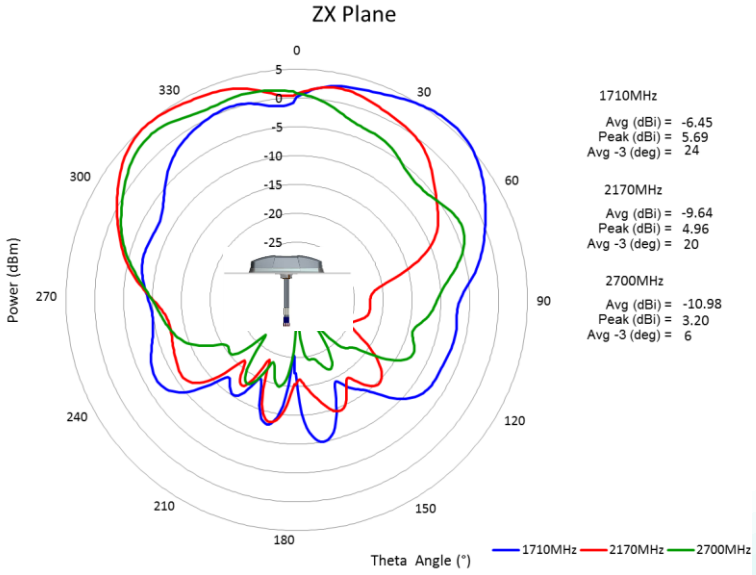
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CHARTS



LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern

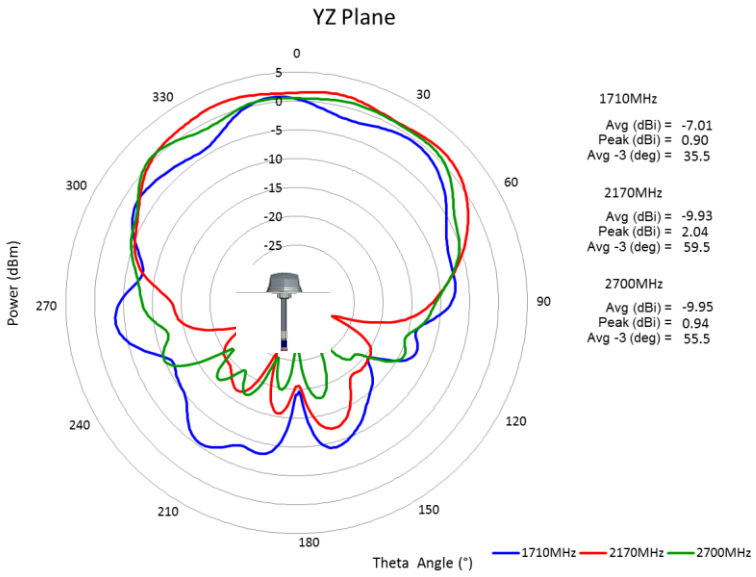
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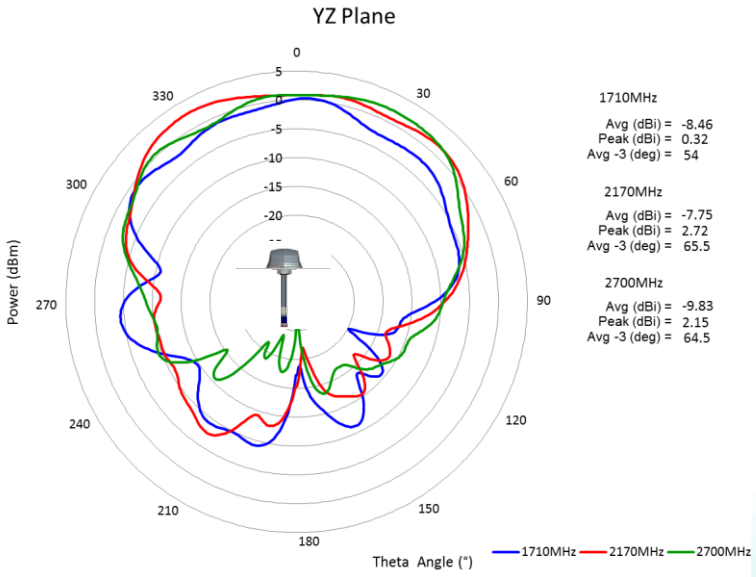
Description: Vehicular Multiband Antenna with Adhesive Mount

PART NUMBER: ARMXXXXXAM

CHARTS



LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern

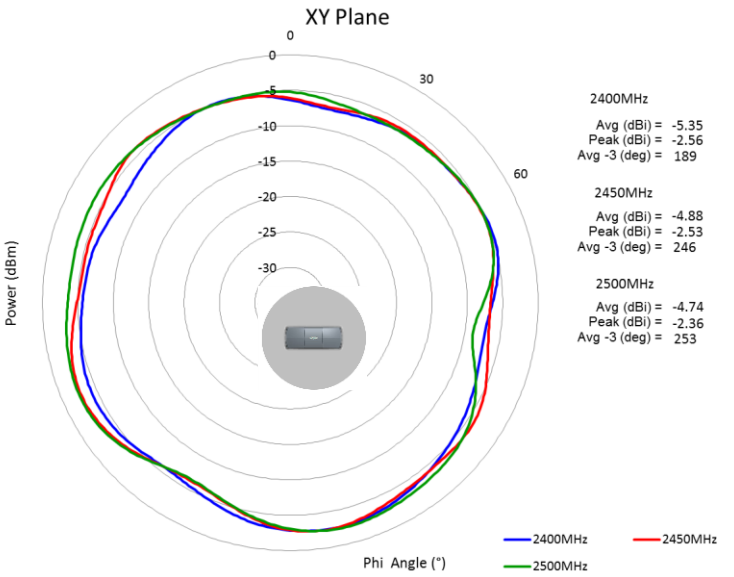
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Series: ARMADILLO

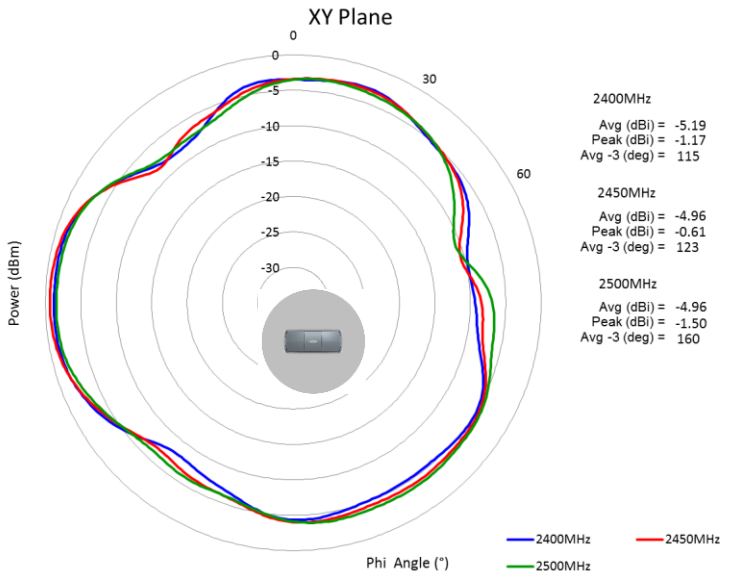
Description: Vehicular Multiband Antenna with Adhesive Mount

PART NUMBER: ARMXXXXXAM

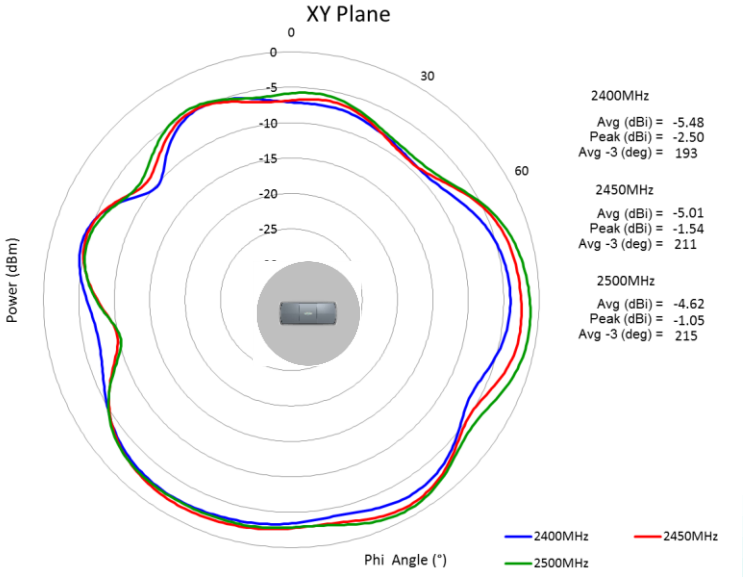
CHARTS



WiFi1 XY plane radiation pattern



WiFi2 XY plane radiation pattern



WiFi3 XY plane radiation pattern

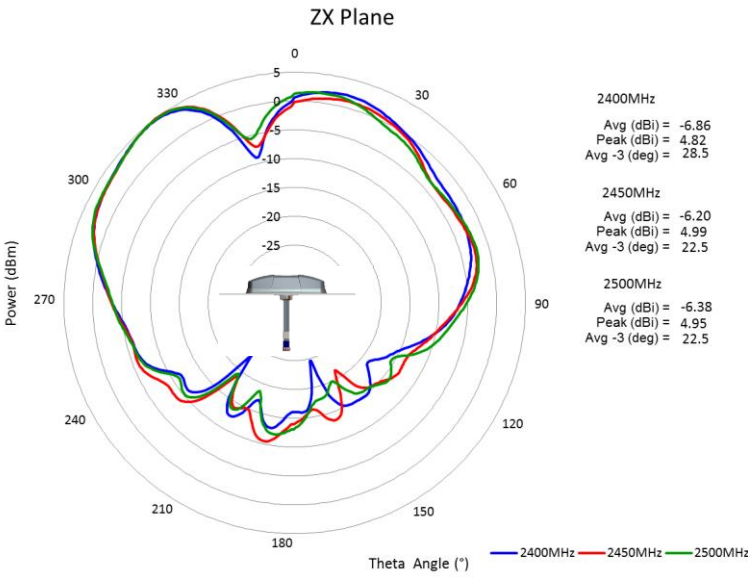
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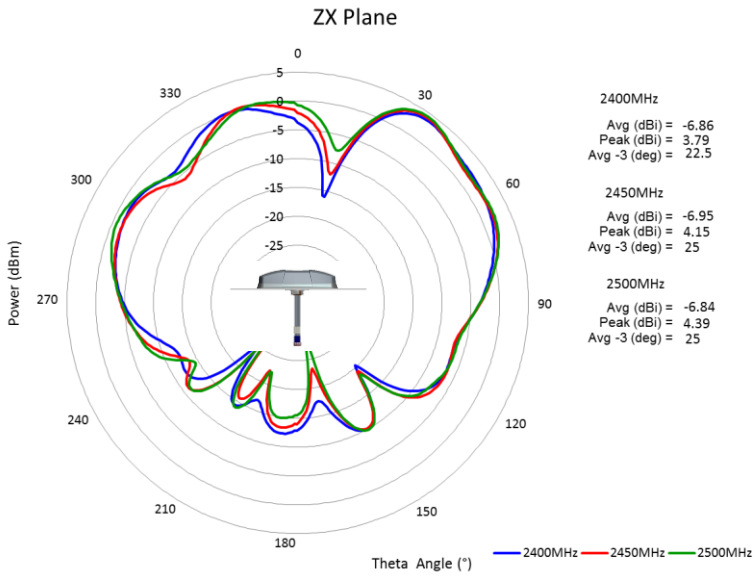
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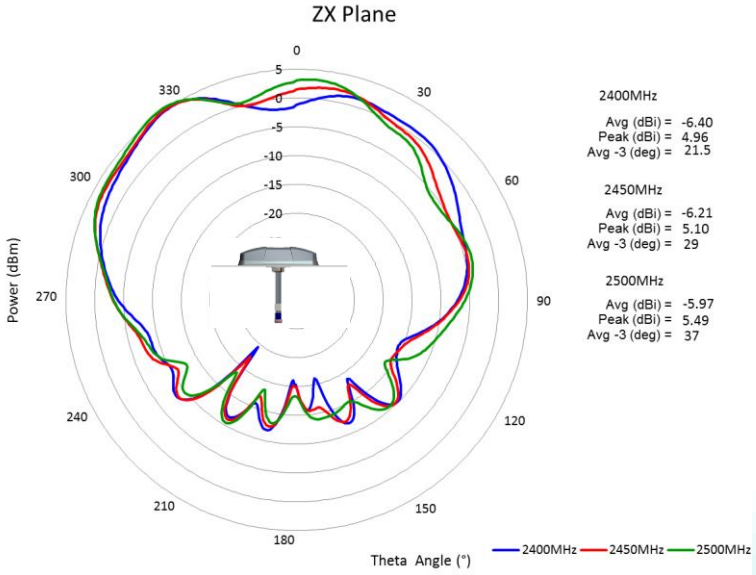
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WiFi1 ZX plane radiation pattern



WiFi2 ZX plane radiation pattern



WiFi3 ZX plane radiation pattern

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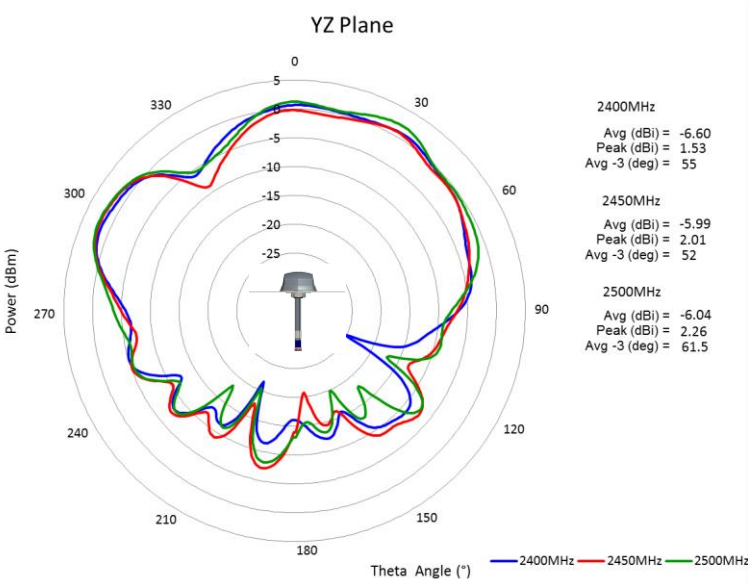
RoHS COMPLIANT

Series: ARMADILLO

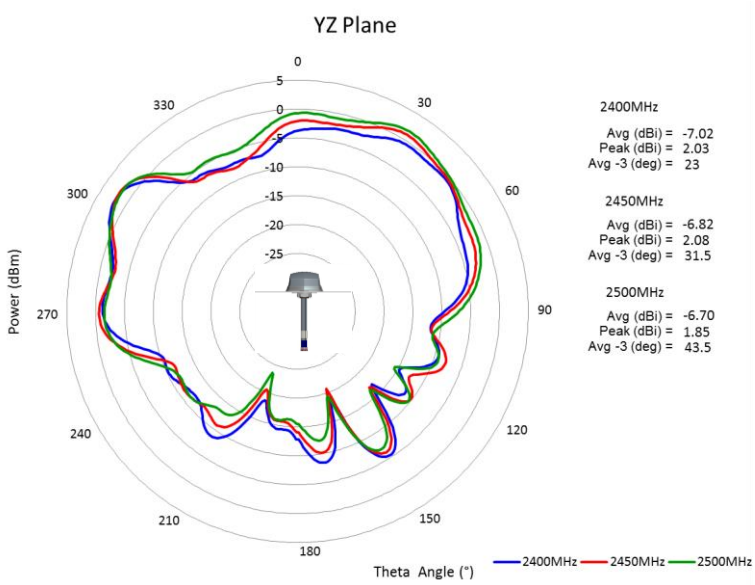
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PART NUMBER: ARMXXXXXAM

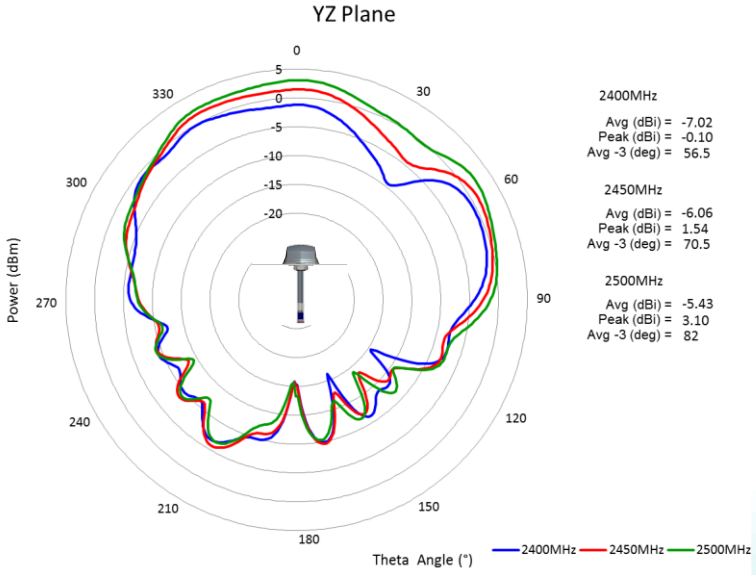
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WiFi1 YZ plane radiation pattern



WiFi2 YZ plane radiation pattern



WiFi3 YZ plane radiation pattern

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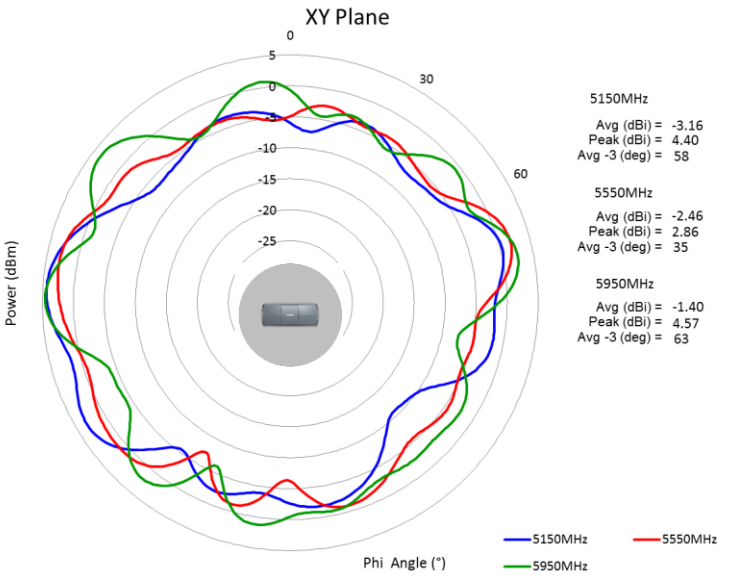
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Series: ARMADILLO

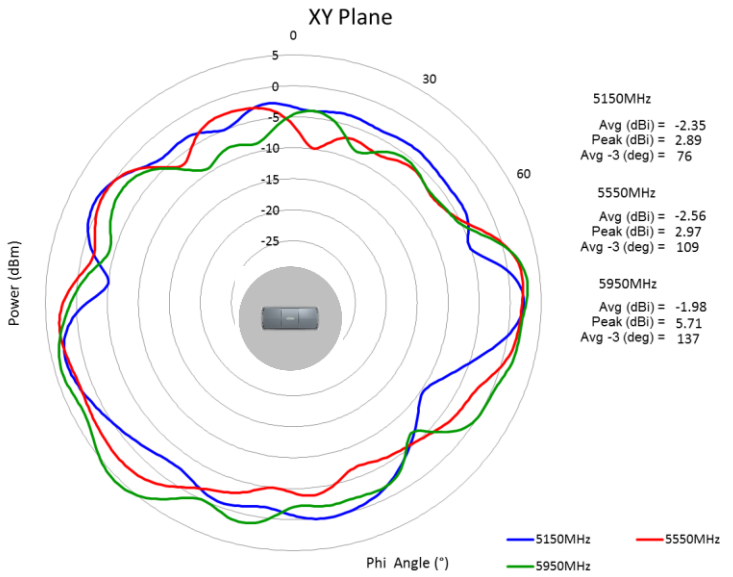
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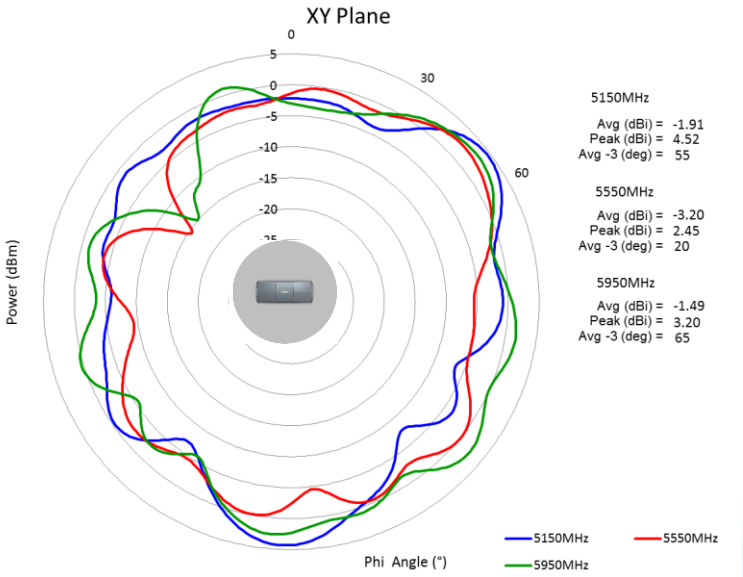
CHARTS



WiFi1 XY plane radiation pattern



WiFi2 XY plane radiation pattern



WiFi3 XY plane radiation pattern

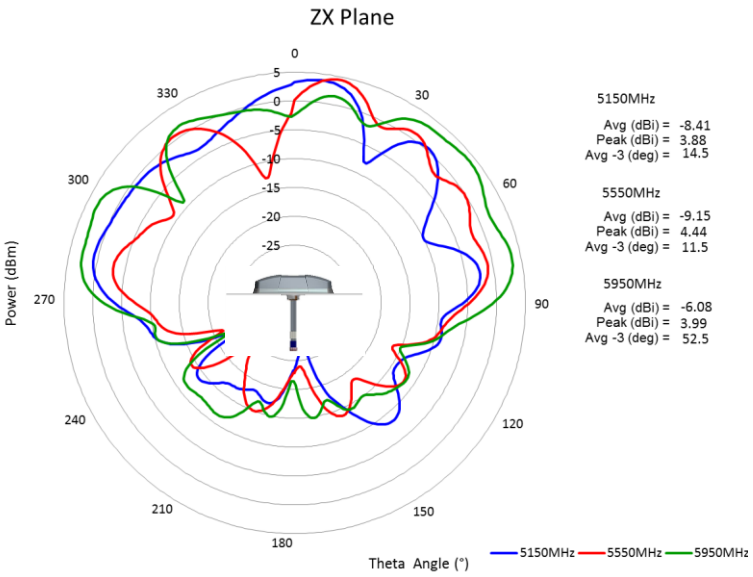
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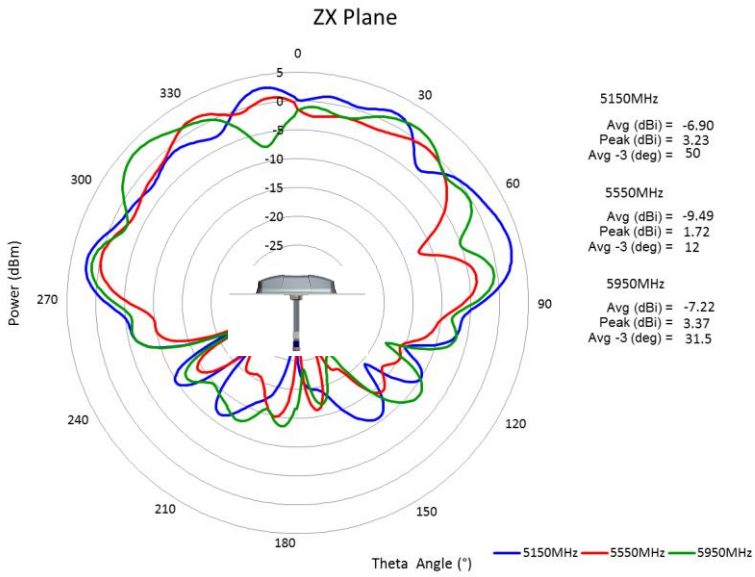
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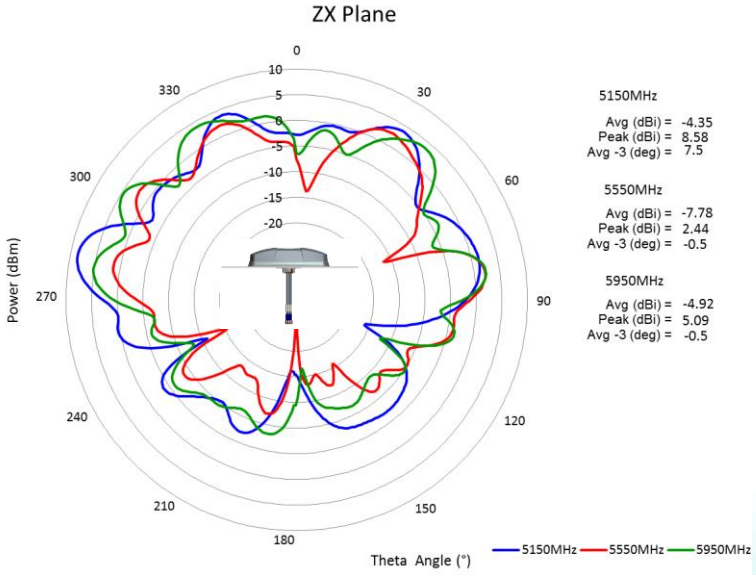
CHARTS



WiFi1 ZX plane radiation pattern



WiFi2 ZX plane radiation pattern



WiFi3 ZX plane radiation pattern

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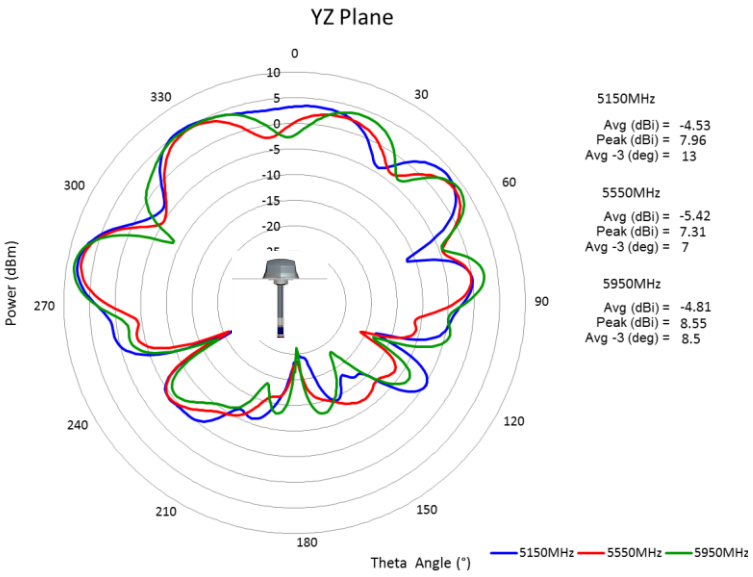
RoHS COMPLIANT

Series: ARMADILLO

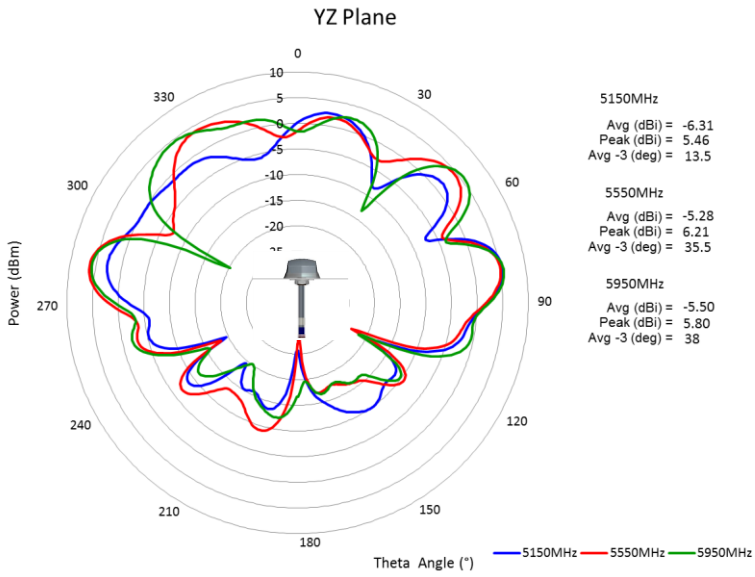
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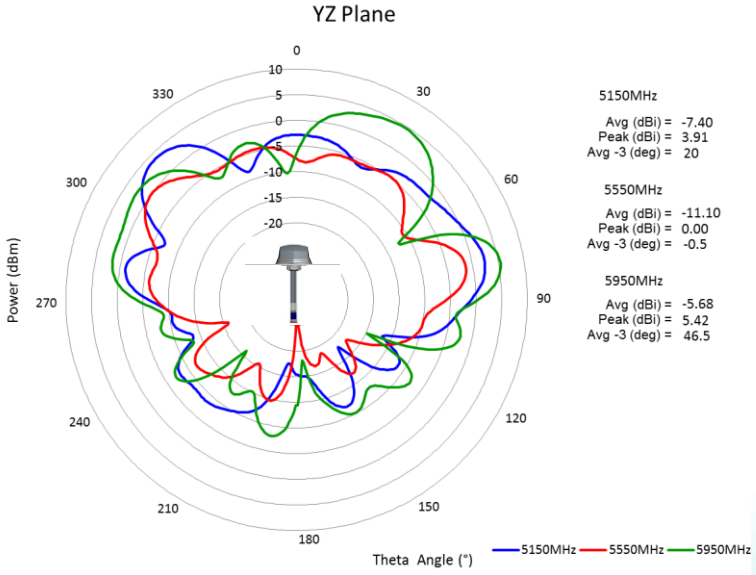
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WiFi1 YZ plane radiation pattern



WiFi2 YZ plane radiation pattern



WiFi3 YZ plane radiation pattern

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Series: ARMADILLO

Description: Vehicular Multiband Antenna with Adhesive Mount

PART NUMBER: ARMXXXXXAM

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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