

Series: ARMADILLO

Description: Vehicular Multiband Antenna with Direct Mount

PART NUMBER: ARMXXXXXDM





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: 2034

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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



Description: Vehicular Multiband Antenna with Direct Mount

Series: ARMADILLO

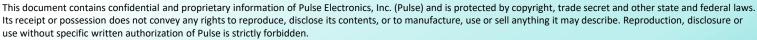
PART NUMBER: ARMXXXXXDM

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
ARM62311DM	6	2 (with SMA Male)	3 (with RP-SMA Male)	1 (with SMA Male)	Black	17 FT	 Direct Mount; 7/8" Hole Required Mounting Surface thickness < 0.25"
ARM62312DM	6	2 (with SMA Male)	3 (with RP-SMA Male)	1 (with SMA Male)	White		
ARM52211DM	5	2 (with SMA Male)	2 (with RP-SMA Male)	1 (with SMA Male)	Black		
ARM52212DM	5	2 (with SMA Male)	2 (with RP-SMA Male)	1 (with SMA Male)	White		
ARM42111DM	4	2 (with SMA Male)	1 (with RP-SMA Male)	1 (with SMA Male)	Black		
ARM42112DM	4	2 (with SMA Male)	1 (with RP-SMA Male)	1 (with SMA Male)	White		
ARM32011DM	3	2 (with SMA Male)	0	1 (with SMA Male)	Black		
ARM32012DM	3	2 (with SMA Male)	0	1 (with SMA Male)	White		
ARM21011DM	2	1 (with SMA Male)	0	1 (with SMA Male)	Black		
ARM21012DM	2	1 (with SMA Male)	0	1 (with SMA Male)	White		
ARM21011DMTT	2	1 (with TNC Male)	0	1 (with TNC Male)	Black		
ARM22001DM	2	2 (with SMA Male)	0	0	Black		

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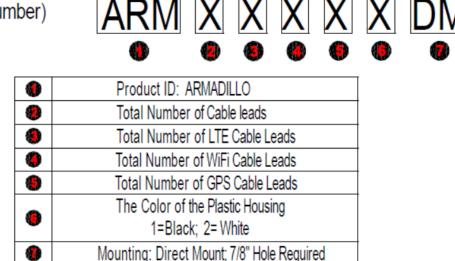
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Product Numbering

Vehicular Multiband Antenna with Direct Mount

(Part Number)



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

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Storage Temperature Ingress Protection RoHS Compliant

-40 ~ +85° C -40 ~ +85° C IP67 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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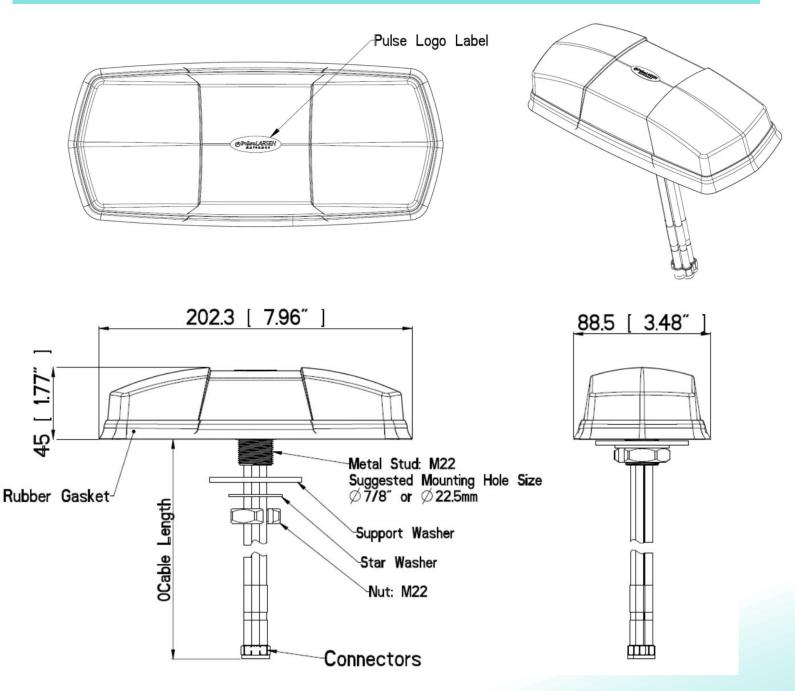


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MECHANICAL DRAWING



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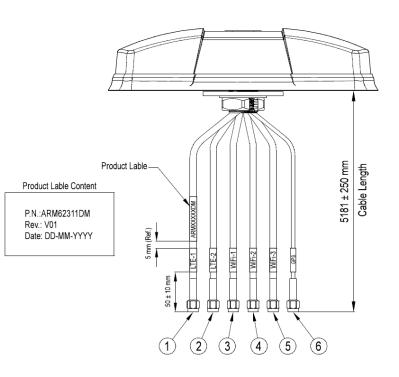


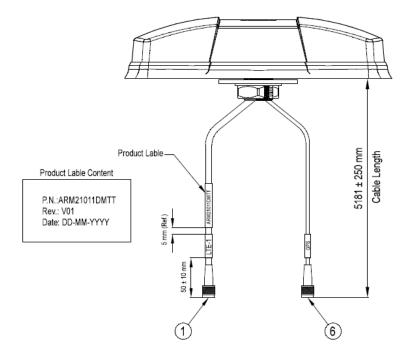
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MECHANICAL DRAWING





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

* or equivalent

	ARM21011DMTT	CABLE	CABLE LENGTH	CONNECTOR
1	LTE-1 Cable Assy	LMD 105 *		TNC Mala
2		LMR-195 *		TNC Male
3			5181 mm /	
4			204" /	
5			17 FT	
6	GPS Cable Assy	LMR-100*		TNC Male

* or equivalent



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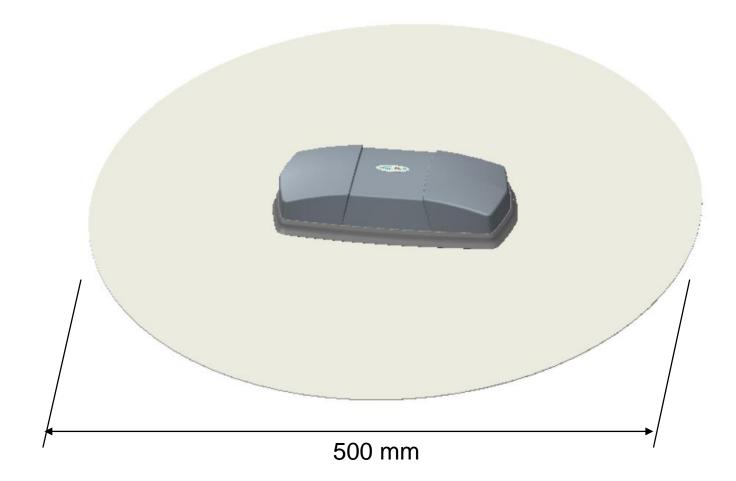


Series: ARMADILLO

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TEST SETUP

Antenna tested on a Ø500mm ground plane.



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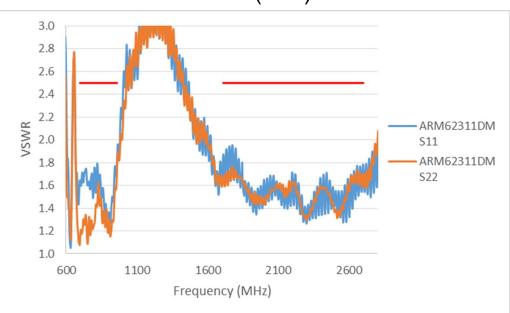


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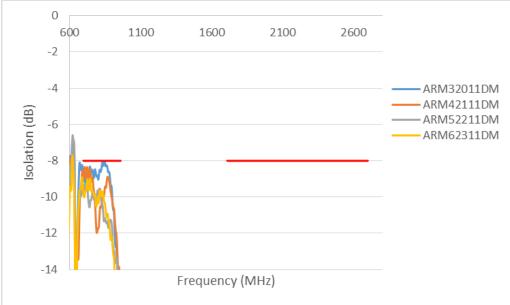
Description: Vehicular Multiband Antenna with Direct Mount

PART NUMBER: ARMXXXXDM

<mark>CHARTS</mark> VSWR (LTE)



Isolation (LTE)



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

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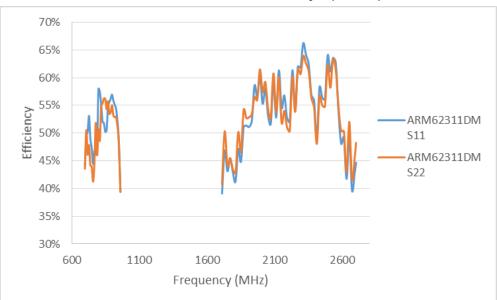


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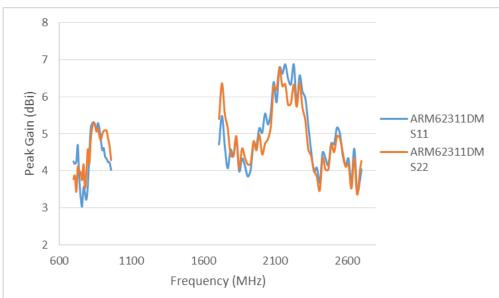
Description: Vehicular Multiband Antenna with Direct Mount

PART NUMBER: ARMXXXXXDM

CHARTS Radiation Efficiency (LTE)



Peak Gain (LTE)



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

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ROHS 11

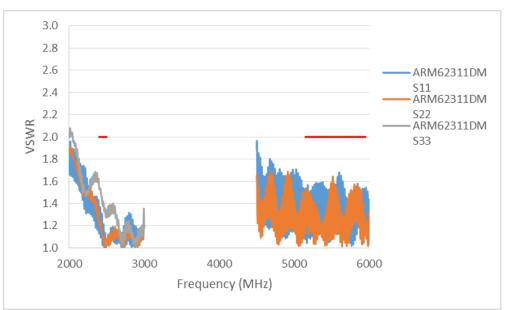


Series: ARMADILLO

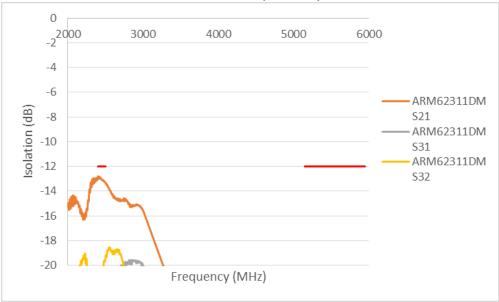
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CHARTS VSWR (WIFI)



Isolation (WIFI)



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

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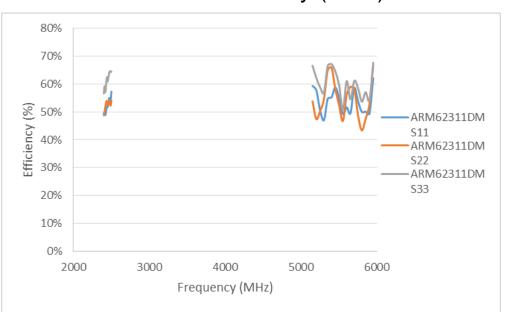


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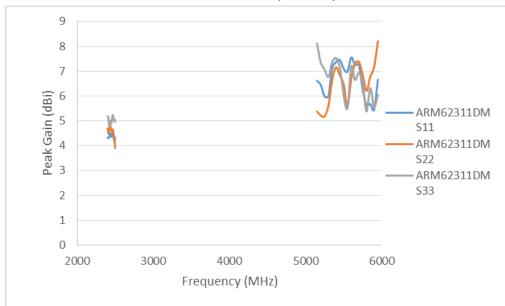
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PART NUMBER: ARMXXXXDM

CHARTS Radiation Efficiency (WIFI)



Peak Gain (WIFI)



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

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ROHS 13

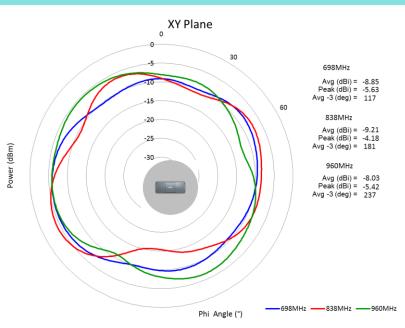


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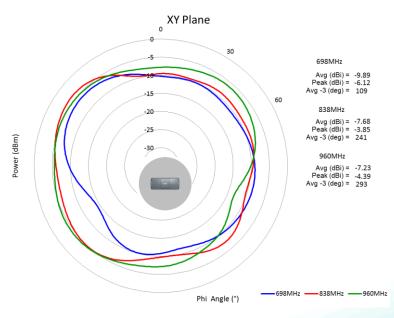
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CHARTS



LTE1 XY plane radiation pattern



LTE2 XY plane radiation pattern

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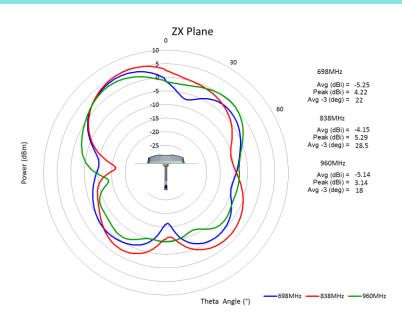


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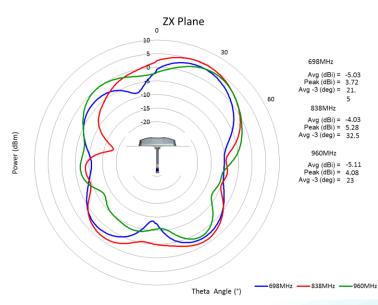
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CHARTS



LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern

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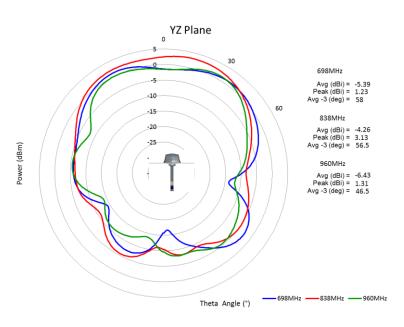


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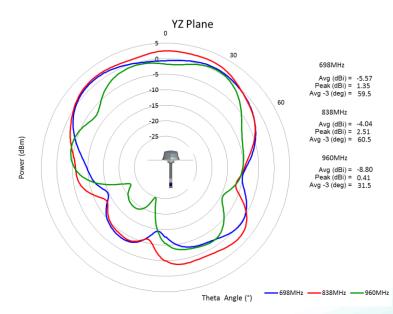
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LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern

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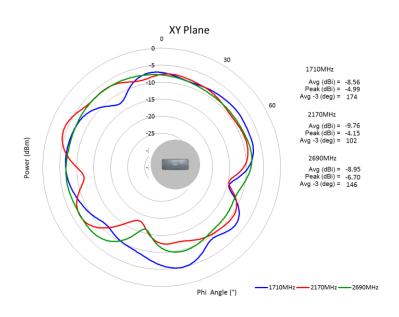


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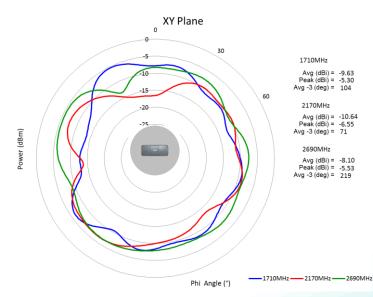
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LTE2 XY plane radiation pattern

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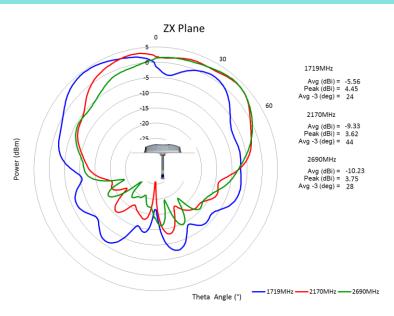


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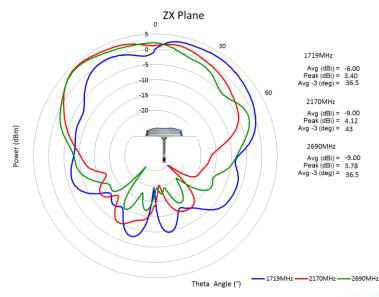
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LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern

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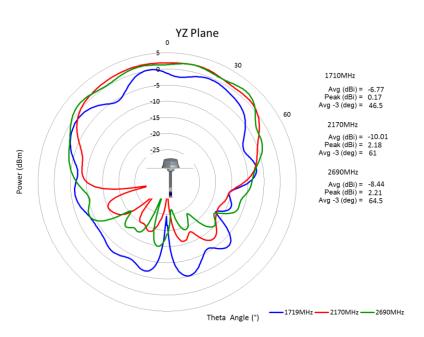


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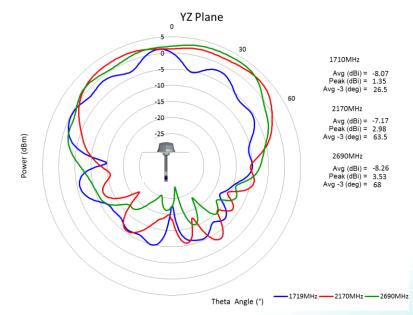
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CHARTS



LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern

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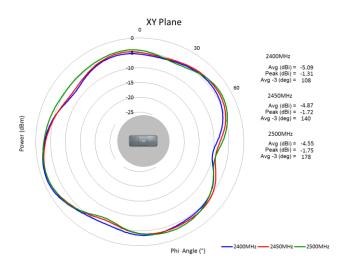


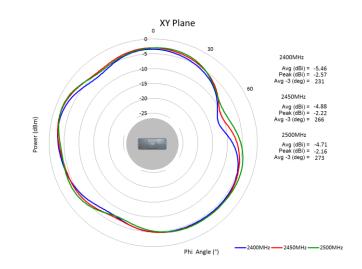
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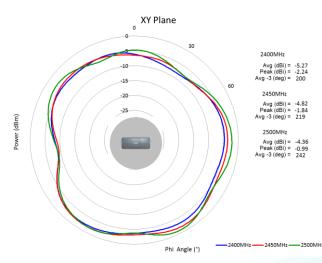
CHARTS





WiFi1 XY plane radiation pattern

WiFi2 XY plane radiation pattern



WiFi3 XY plane radiation pattern

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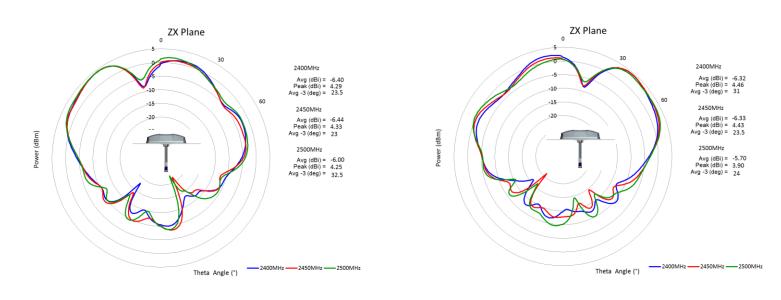


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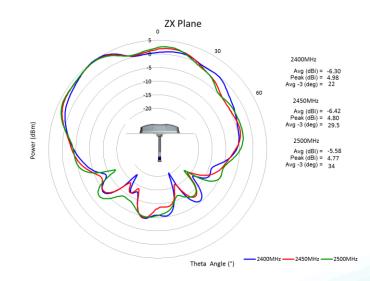
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CHARTS



WiFi1 ZX plane radiation pattern

WiFi2 ZX plane radiation pattern



WiFi3 ZX plane radiation pattern

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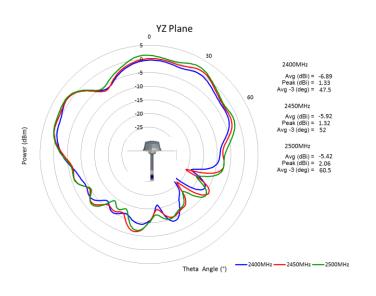


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CHARTS



 VZ Plane
 Z400MHz

 4000 Hz
 2,66

 4,07
 2,66

 4,07
 2,66

 4,07
 2,66

 4,09
 46,51

 2,25
 2,72

 4,09
 46,51

 2,25
 2,50

 4,09
 46,51

 2,72
 2,73

 Arg -3 (deg) = 4,85
 2500MHz

 2500MHz
 3,00

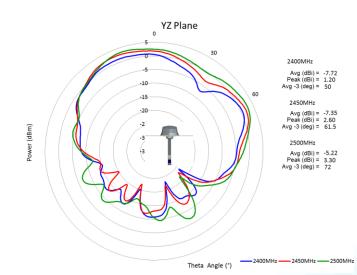
 4,09
 5,45

 Peak (dB) = 2,42
 2,42

 Arg -3 (deg) = 5,2.5
 2450MHz

WiFi1 YZ plane radiation pattern

WiFi2 YZ plane radiation pattern



WiFi3 YZ plane radiation pattern

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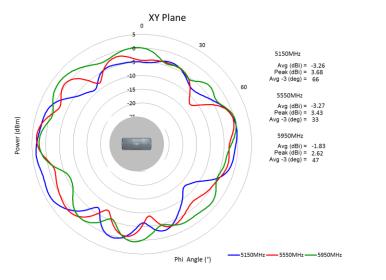


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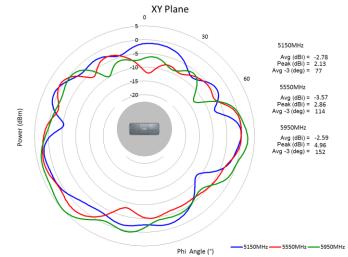
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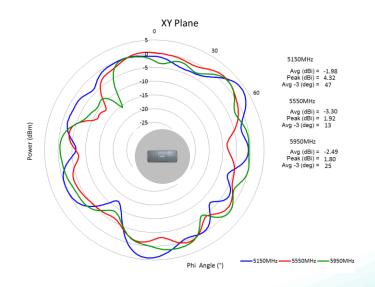
CHARTS



WiFi1 XY plane radiation pattern



WiFi2 XY plane radiation pattern



WiFi3 XY plane radiation pattern

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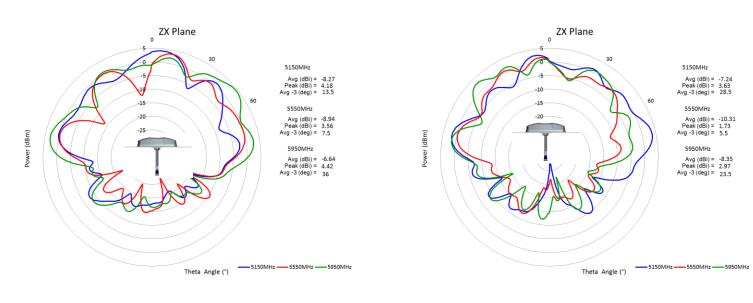


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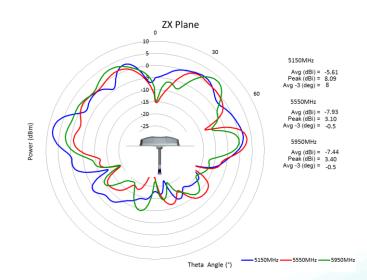
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CHARTS



WiFi1 ZX plane radiation pattern

WiFi2 ZX plane radiation pattern



WiFi3 ZX plane radiation pattern

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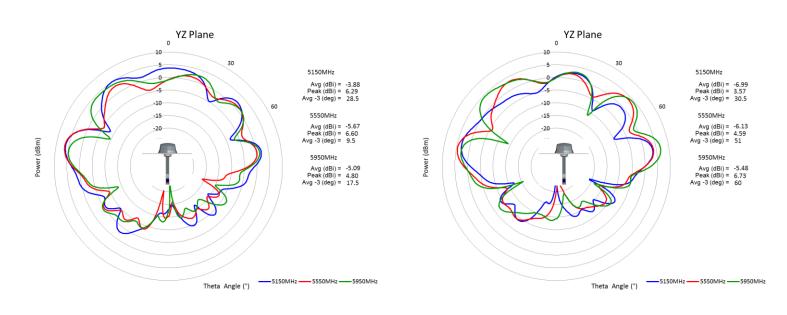


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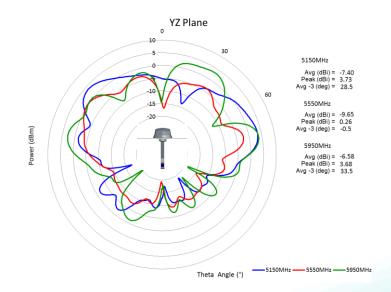
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WiFi1 YZ plane radiation pattern

WiFi2 YZ plane radiation pattern



WiFi3 YZ plane radiation pattern

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