

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

Tel:1-858-674-8100 Downloaded from Arrow.com. 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: 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	Cable Length	Mounting
ARM62311DM	6	2 (with SMA Male)	3 (with RP-SMA Male)	1 (with SMA Male)	Black	17 FT or 5181mm	 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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Series: ARMADILLO

Description: Vehicular Multiband Antenna with Direct Mount

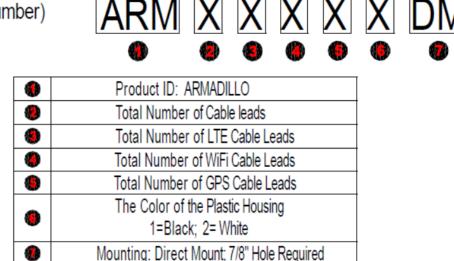
PART NUMBER: ARMXXXXXDM

This document covers all product variants of the following product family

Product Numbering

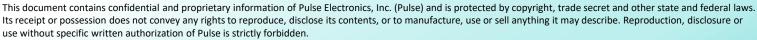
Vehicular Multiband Antenna with Direct Mount

(Part Number)



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PART NUMBER: ARMXXXXXDM

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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Series: ARMADILLO

Description: Vehicular Multiband Antenna with Direct Mount

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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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Series: ARMADILLO

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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

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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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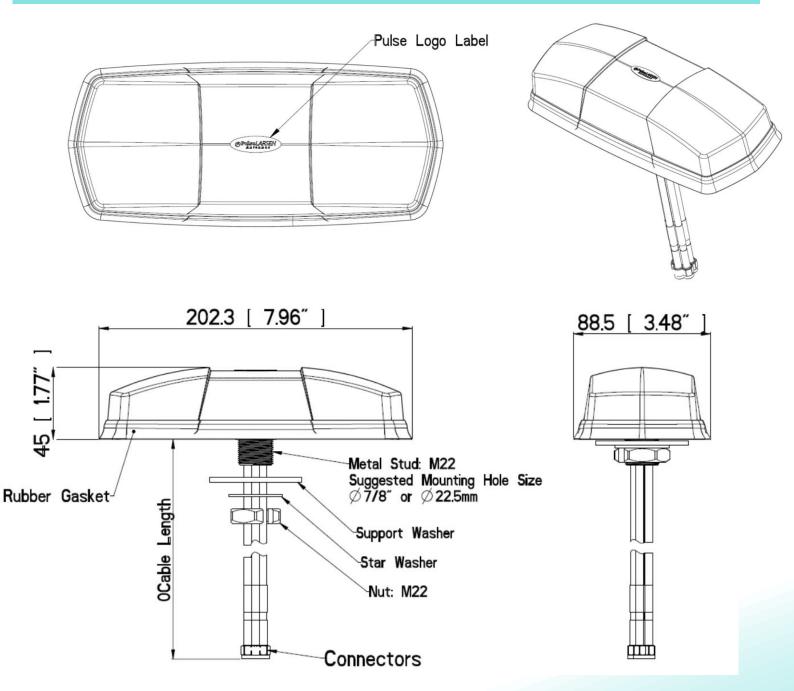


Description: Vehicular Multiband Antenna with Direct Mount

Series: ARMADILLO

PART NUMBER: ARMXXXXDM

MECHANICAL DRAWING



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Series: ARMADILLO

Description: Vehicular Multiband Antenna with Direct Mount

Product Lable

mm (Ref.)

S0 ± 10

PART NUMBER: ARMXXXXDM

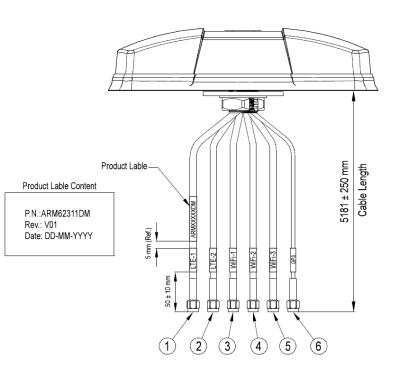
Product Lable Content

P.N.:ARM21011DMTT

Date: DD-MM-YYYY

Rev.: V01

MECHANICAL DRAWING



ARM62311DM		CABLE	CABLE LENGTH	CONNECTOR	
1	LTE-1 Cable Assy	LND 105 t		SMA Male	
2	LTE-2 Cable Assy	LMR-195 *	5181 mm / 204" / 17 FT		
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	LMR-195 *		TNC Mala
2		LIVIR-190		TNC Male
3			5181 mm /	
4			204" /	
5			17 FT	
6	GPS Cable Assy	LMR-100*		TNC Male

ΙD

5181 ± 250 mm

(6)

Cable Length

* or equivalent



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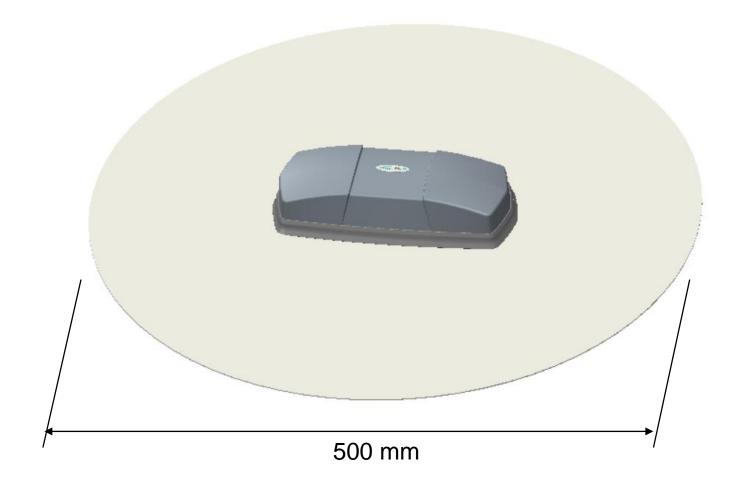


Series: ARMADILLO

Description: Vehicular Multiband Antenna with Direct Mount PART NUMBER: ARMXXXXDM

TEST SETUP

Antenna tested on a Ø500mm ground plane.



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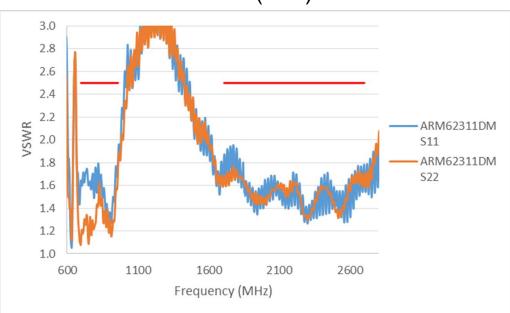


Series: ARMADILLO

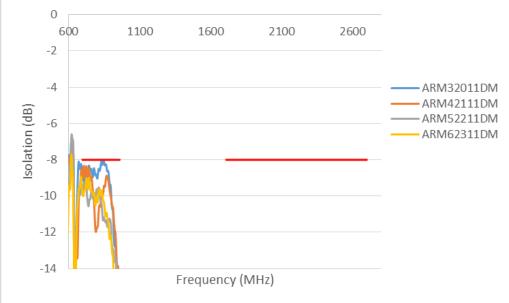
Description: Vehicular Multiband Antenna with Direct Mount

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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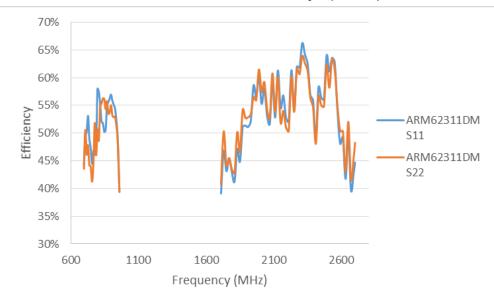


Series: ARMADILLO

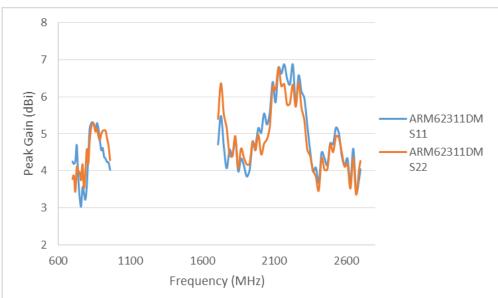
Description: Vehicular Multiband Antenna with Direct Mount

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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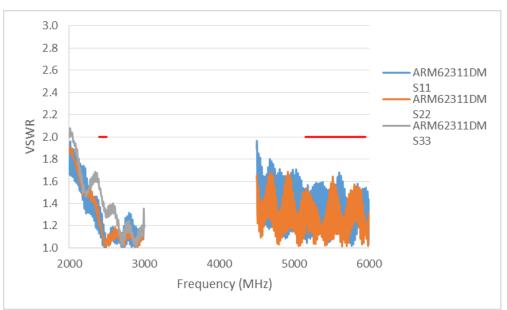


Series: ARMADILLO

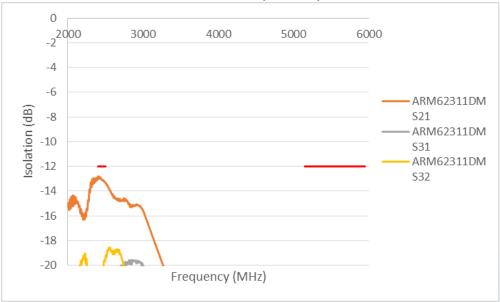
Description: Vehicular Multiband Antenna with Direct Mount

PART NUMBER: ARMXXXXDM

CHARTS VSWR (WIFI)



Isolation (WIFI)



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

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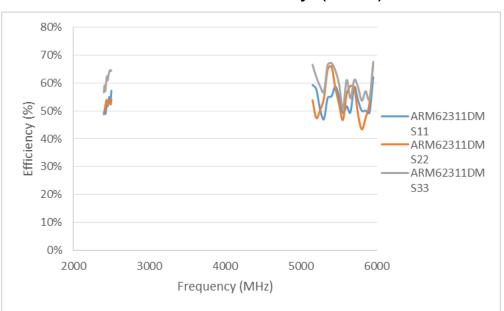


Series: ARMADILLO

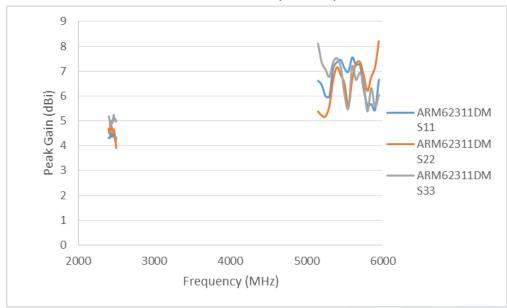
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PART NUMBER: ARMXXXXDM

CHARTS Radiation Efficiency (WIFI)



Peak Gain (WIFI)



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

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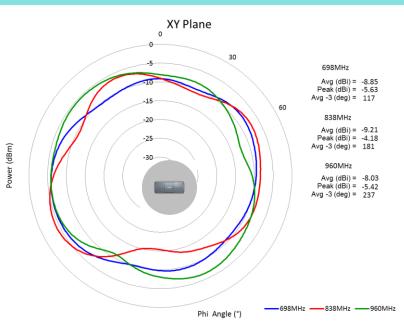


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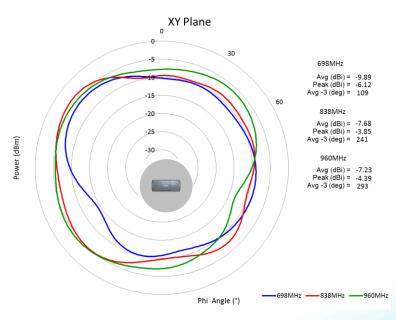
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PART NUMBER: ARMXXXXXDM

CHARTS



LTE1 XY plane radiation pattern



LTE2 XY plane radiation pattern

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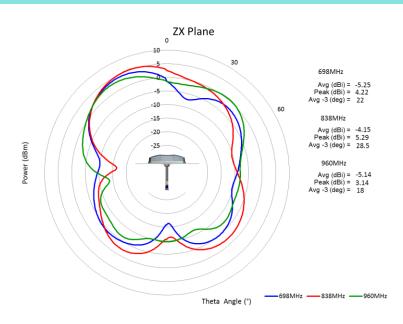


Series: ARMADILLO

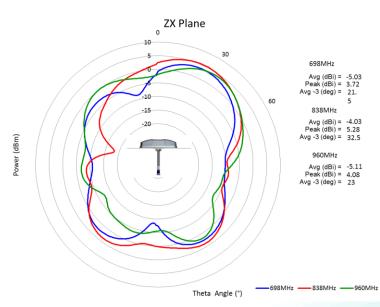
Description: Vehicular Multiband Antenna with Direct Mount

PART NUMBER: ARMXXXXXDM

CHARTS



LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern

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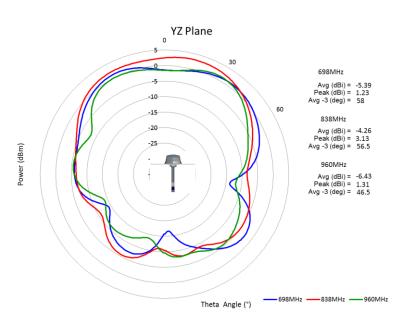


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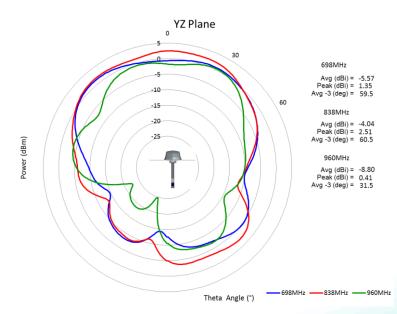
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CHARTS



LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern

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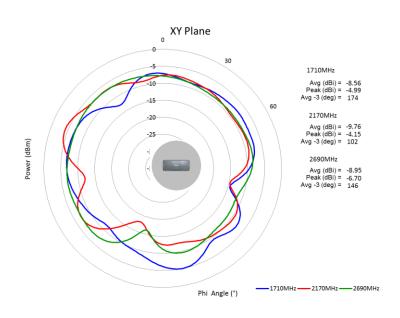


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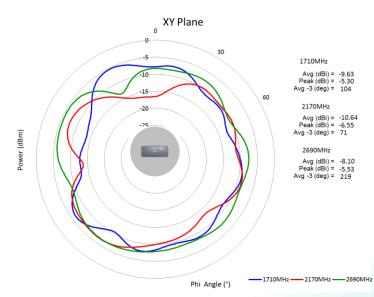
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CHARTS



LTE1 XY plane radiation pattern



LTE2 XY plane radiation pattern

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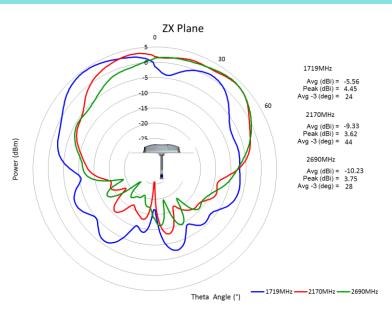


Series: ARMADILLO

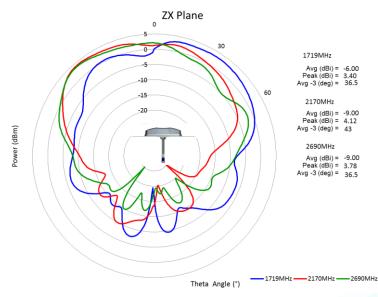
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PART NUMBER: ARMXXXXXDM

CHARTS



LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern

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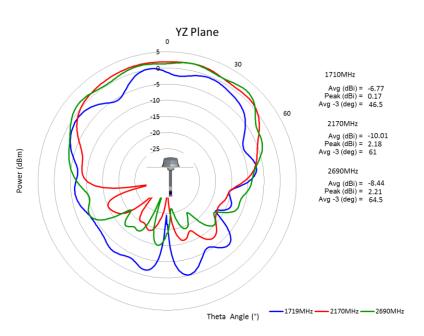


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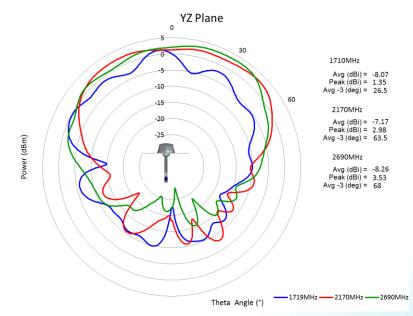
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PART NUMBER: ARMXXXXXDM

CHARTS



LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern

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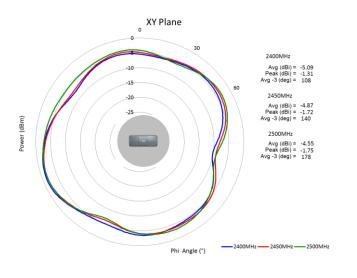


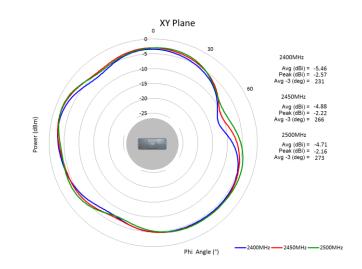
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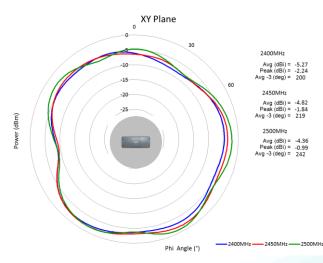
CHARTS





WiFi1 XY plane radiation pattern

WiFi2 XY plane radiation pattern



WiFi3 XY plane radiation pattern

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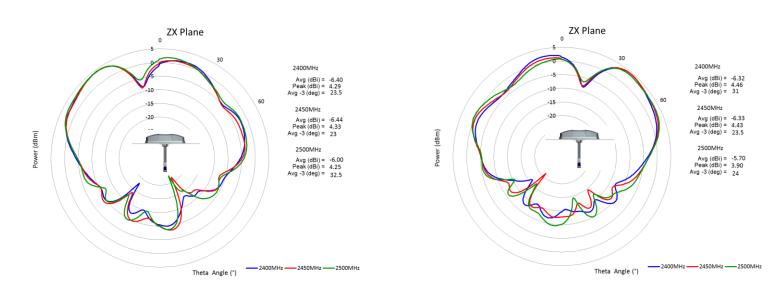


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Description: Vehicular Multiband Antenna with Direct Mount

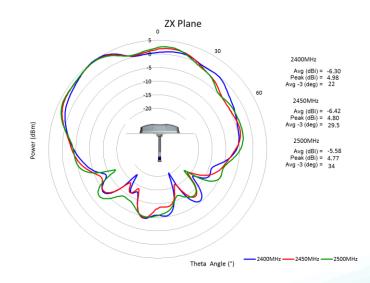
PART NUMBER: ARMXXXXXDM

CHARTS



WiFi1 ZX plane radiation pattern

WiFi2 ZX plane radiation pattern



WiFi3 ZX plane radiation pattern

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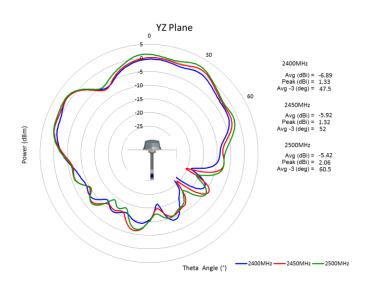


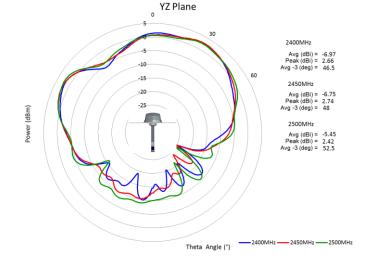
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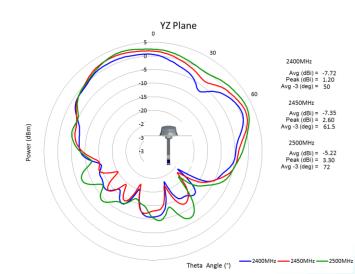
CHARTS





WiFi1 YZ plane radiation pattern

WiFi2 YZ plane radiation pattern



WiFi3 YZ plane radiation pattern

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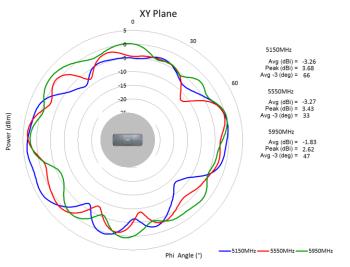
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Power (dBm)

CHARTS

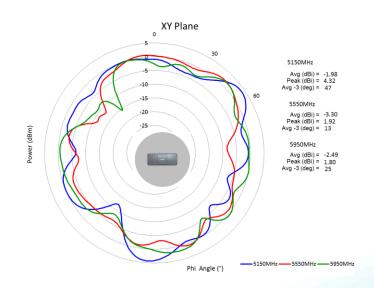


WiFi1 XY plane radiation pattern

XY Plane 0 5150MHz Avg (dBi) = -2.78 Peak (dBi) = 2.13 Avg -3 (deg) = 77

WiFi2 XY plane radiation pattern

Phi Angle (°)



WiFi3 XY plane radiation pattern

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5550MH;

5950MHz

-5150MHz -

Avg (dBi) = -3.57 Peak (dBi) = 2.86 vg -3 (deg) = 114

Avg (dBi) = -2.59 Peak (dBi) = 4.96 Avg -3 (deg) = 152

- 5550MHz - 5950MHz

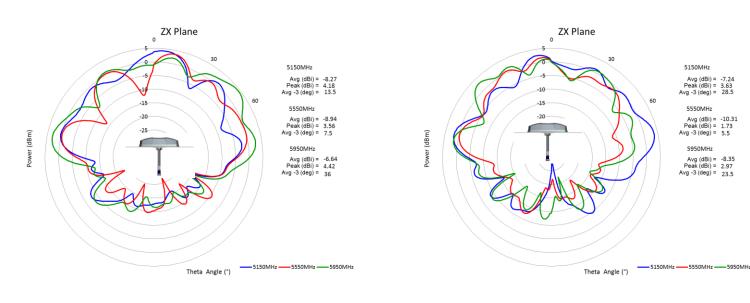


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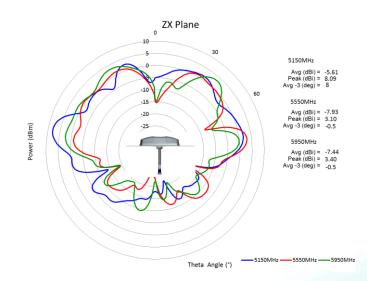
PART NUMBER: ARMXXXXXDM

CHARTS



WiFi1 ZX plane radiation pattern

WiFi2 ZX plane radiation pattern



WiFi3 ZX plane radiation pattern

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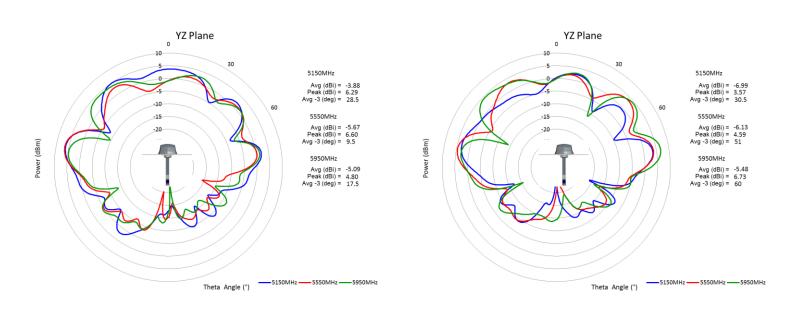


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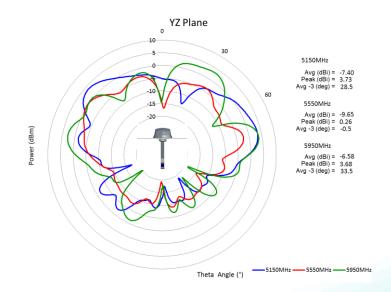
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CHARTS



WiFi1 YZ plane radiation pattern

WiFi2 YZ plane radiation pattern



WiFi3 YZ plane radiation pattern

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Series: ARMADILLO

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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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