

Series: ARMADILLO

TECHNICAL DATA SHEET

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

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

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For more information:

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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



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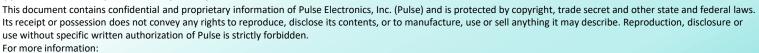
PART NUMBER: ARMXXXXXDM

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		1. Direct Mount; 7/8" Hole Required 2. 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	1	
ARM42112DM	4	2 (with SMA Male)	1 (with RP-SMA Male)	1 (with SMA Male)	White	17 FT	
ARM32011DM	3	2 (with SMA Male)	0	1 (with SMA Male)	Black	or 5181mm	
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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Product Numbering

Vehicular Multiband Antenna with Direct Mount

(Part Number)

























•	Product ID: ARMADILLO
@	Total Number of Cable leads
(2)	Total Number of LTE Cable Leads
	Total Number of WiFi Cable Leads
	Total Number of GPS Cable Leads
	The Color of the Plastic Housing
•	1=Black; 2= White
•	Mounting: Direct Mount; 7/8" Hole Required

Issue: 2034

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Series: ARMADILLO

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 1ft(304.8) LMR195 cable





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



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ELECTRICAL SPECIFICATIONS

G	PS	Αı	nte	nn	а

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





Description: Vehicular Multiband Antenna with

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MECHANICAL SPECIFICATIONS

Overall Length 202.3mm X 88.5mm X 45mm

Weight 1.15 Kg

Antenna Color / Material

Connector type

Cable type

Cable length

Black or White
Refer to Page 2
Refer to Page 2
Refer to Page 2

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature $-40 \sim +85^{\circ}$ C Storage Temperature $-40 \sim +85^{\circ}$ 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



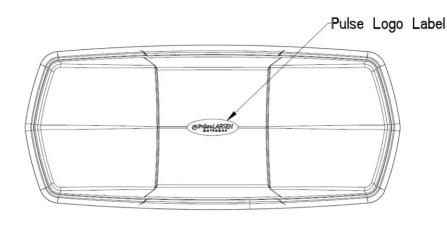
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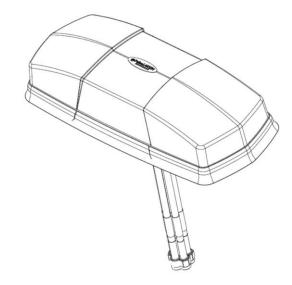
Direct Mount

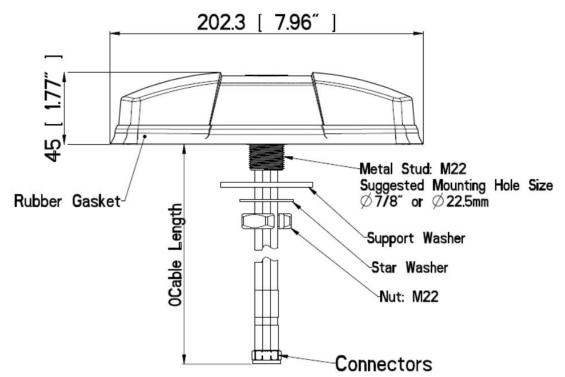
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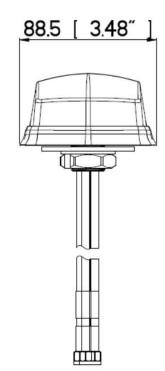
Series: ARMADILLO

MECHANICAL DRAWING











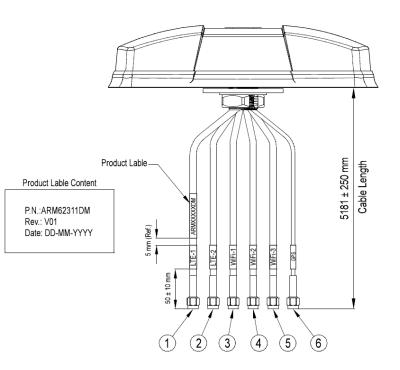
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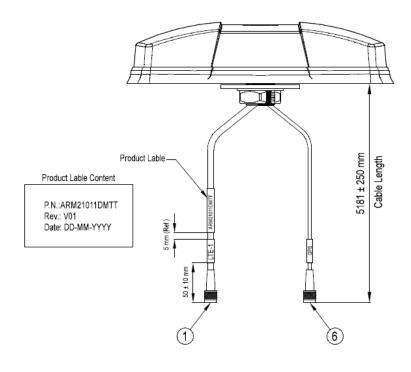
Direct Mount

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MECHANICAL DRAWING





ARM62311DM		CABLE	CABLE LENGTH	CONNECTOR
1	LTE-1 Cable Assy	LMD 405 *		OMA Mele
2	LTE-2 Cable Assy	LMR-195 *		SMA Male
3	WiFi-1 Cable Assy		5181 mm /	
4	WiFi-2 Cable Assy	LMR-195*	204" /	RP-SMA Male
5	WiFi-3 Cable Assy		17 FT	
6	GPS Cable Assy	LMR-100*		SMA Male

ARMZTUTTDMTT		CABLE	CABLE LENGTH	CONNECTOR
1	LTE-1 Cable Assy	LMD 105 *		TNC Mala
2		LIVIR-195		TNC Male
3				
4				
5			1/ F1	
6	GPS Cable Assy	LMR-100*		TNC Male
	1 2 3 4 5 6	1 LTE-1 Cable Assy 2 3 4 5	1 LTE-1 Cable Assy 2 LMR-195 * 3 4 5	1 LTE-1 Cable Assy 2 STATE TO THE PROOF OF T

CADLETENOTH

* or equivalent

A DMACA CAA DMATT

^{*} or equivalent



Description: Vehicular Multiband Antenna with

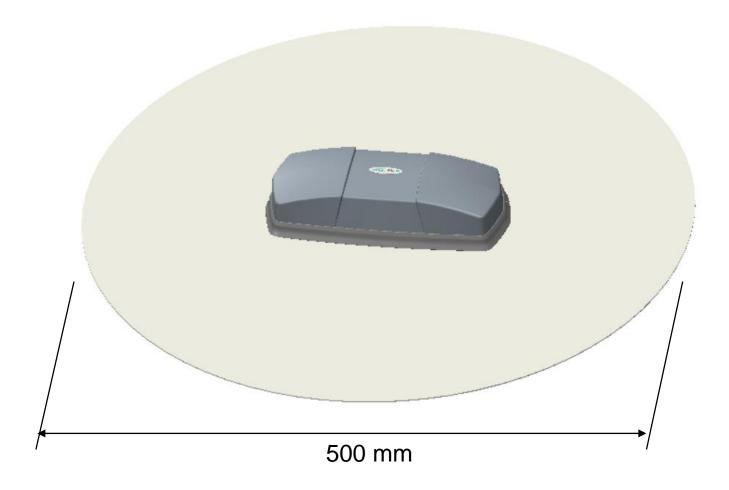
Direct Mount

PART NUMBER: ARMXXXXXDM

Series: ARMADILLO

TEST SETUP

Antenna tested on a Ø500mm ground plane.





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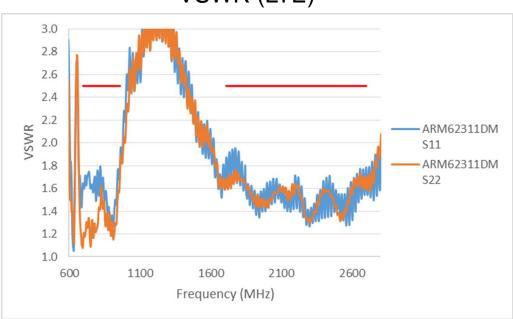
Direct Mount

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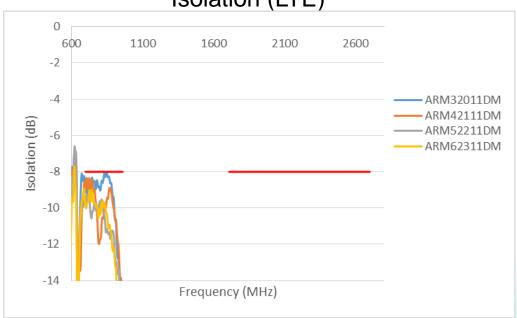
Series: ARMADILLO

CHARTS

VSWR (LTE)



Isolation (LTE)



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

Issue: 2034





Description: Vehicular Multiband Antenna with

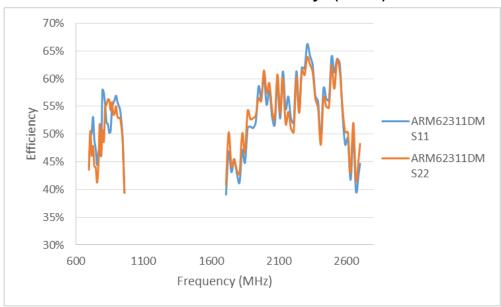
Direct Mount

PART NUMBER: ARMXXXXXDM

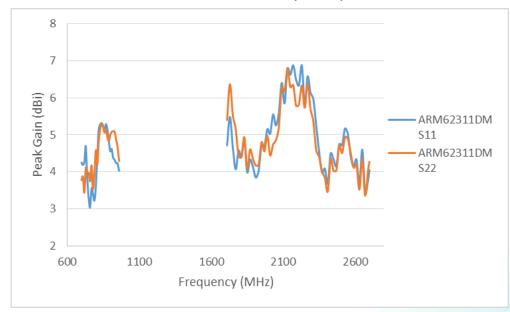
Series: ARMADILLO

CHARTS

Radiation Efficiency (LTE)



Peak Gain (LTE)



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

Issue: 2034

ROHS



Description: Vehicular Multiband Antenna with

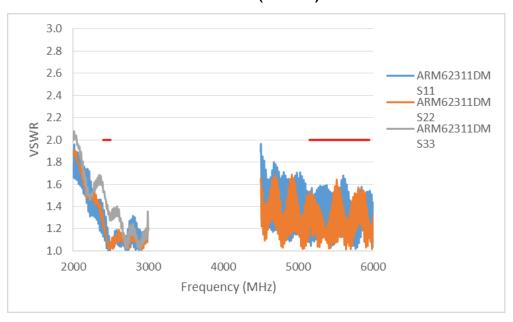
Direct Mount

PART NUMBER: ARMXXXXXDM

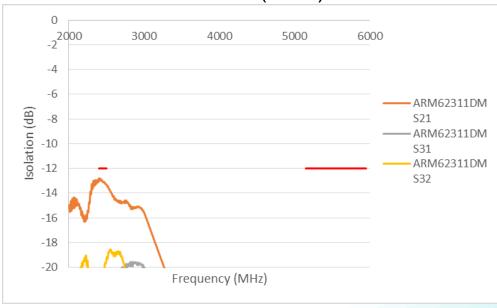
Series: ARMADILLO

CHARTS

VSWR (WIFI)



Isolation (WIFI)



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

Issue: 2034



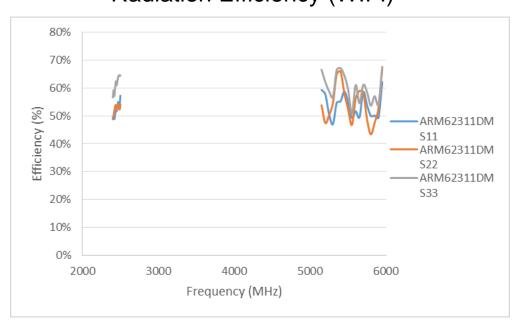
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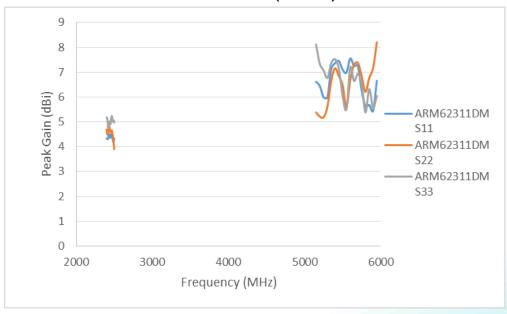
PART NUMBER: ARMXXXXXDM

Series: ARMADILLO

CHARTS Radiation Efficiency (WIFI)



Peak Gain (WIFI)



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



ROHS



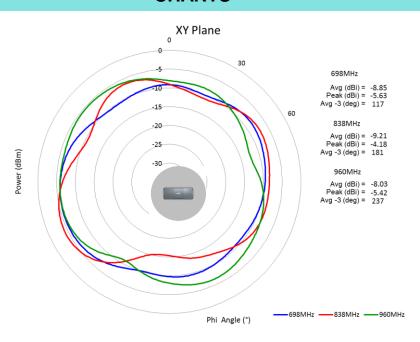
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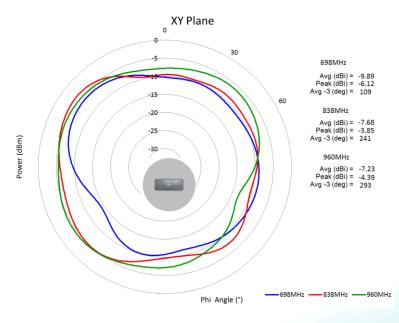
PART NUMBER: ARMXXXXXDM

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CHARTS



LTE1 XY plane radiation pattern



LTE2 XY plane radiation pattern



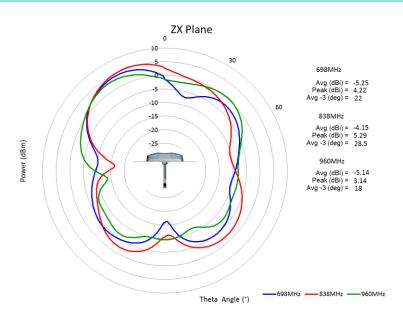
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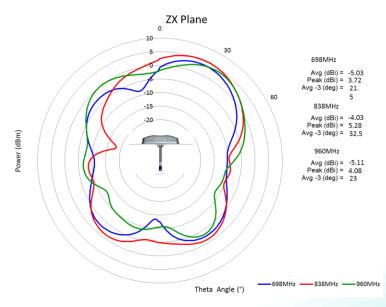
PART NUMBER: ARMXXXXXDM

Series: ARMADILLO

CHARTS



LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern



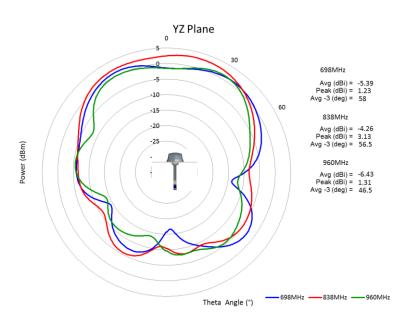
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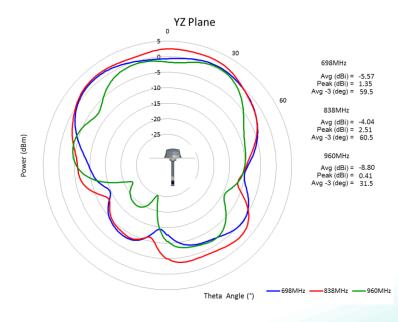
PART NUMBER: ARMXXXXXDM

Series: ARMADILLO

CHARTS



LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern



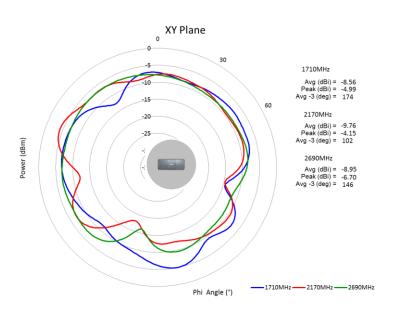
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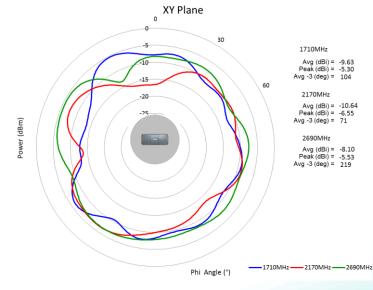
PART NUMBER: ARMXXXXXDM

Series: ARMADILLO

CHARTS



LTE1 XY plane radiation pattern



LTE2 XY plane radiation pattern



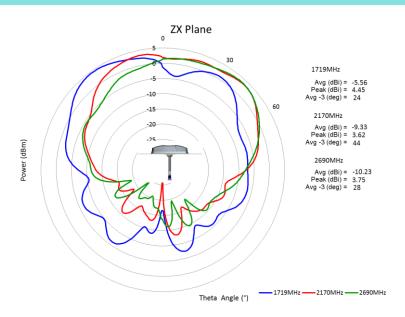
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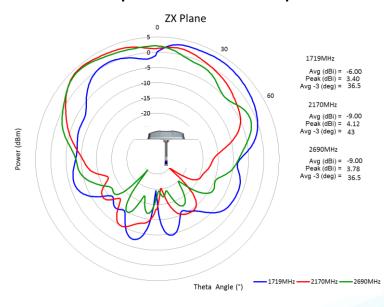
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CHARTS



LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern



Series: ARMADILLO

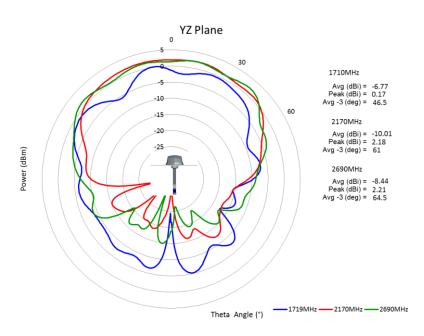
TECHNICAL DATA SHEET

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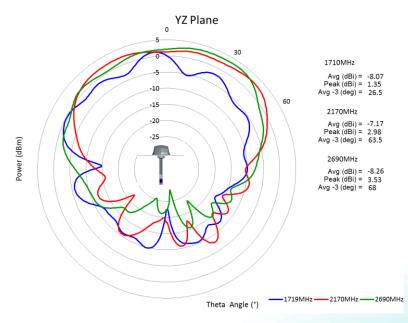
Direct Mount

PART NUMBER: ARMXXXXXDM

CHARTS



LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern







Series: ARMADILLO

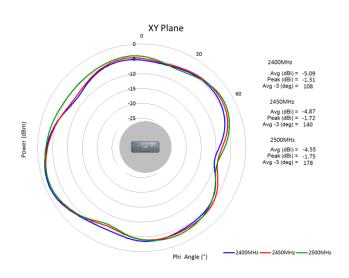
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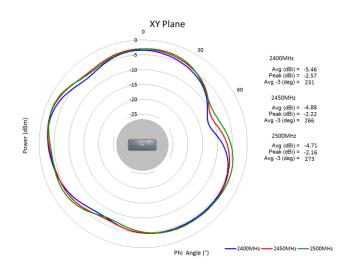
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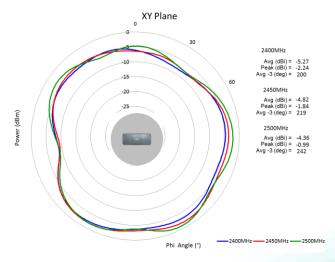
CHARTS





WiFi1 XY plane radiation pattern

WiFi2 XY plane radiation pattern



WiFi3 XY plane radiation pattern







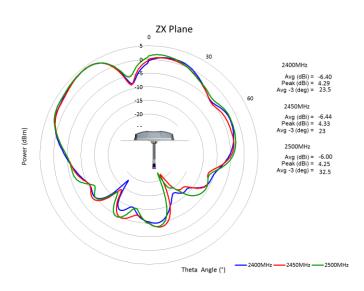
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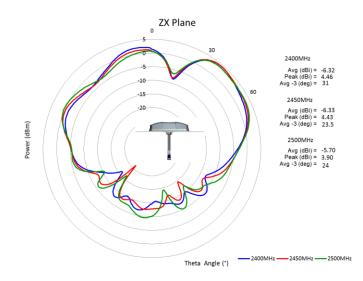
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Series: ARMADILLO

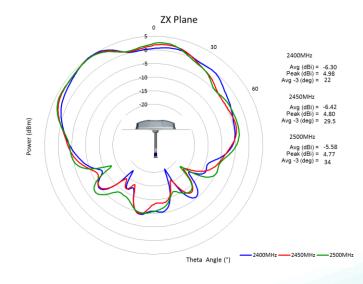
CHARTS





WiFi1 ZX plane radiation pattern

WiFi2 ZX plane radiation pattern



WiFi3 ZX plane radiation pattern



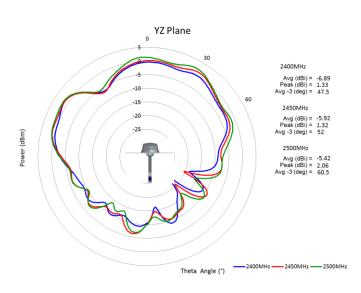
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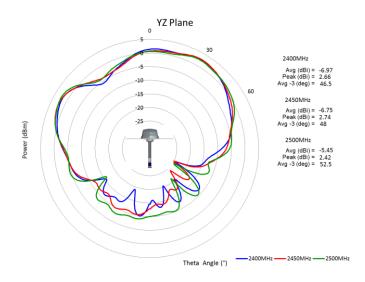
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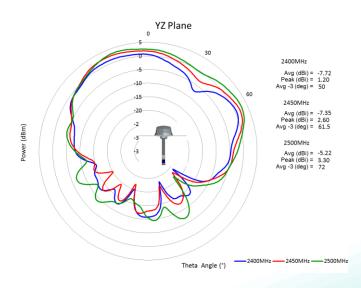
CHARTS





WiFi1 YZ plane radiation pattern

WiFi2 YZ plane radiation pattern



WiFi3 YZ plane radiation pattern



ROHS



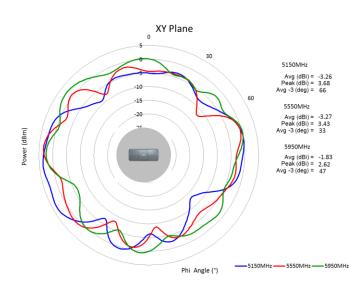
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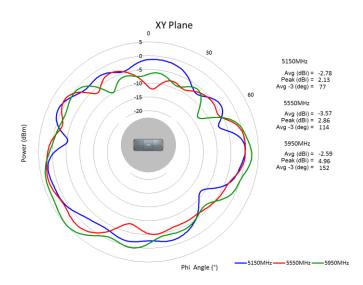
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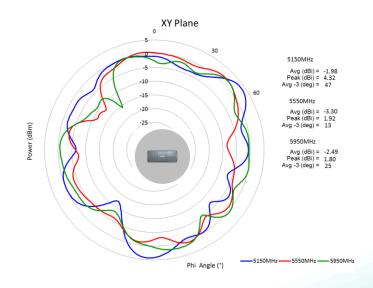
CHARTS





WiFi1 XY plane radiation pattern

WiFi2 XY plane radiation pattern



WiFi3 XY plane radiation pattern

Issue: 2034





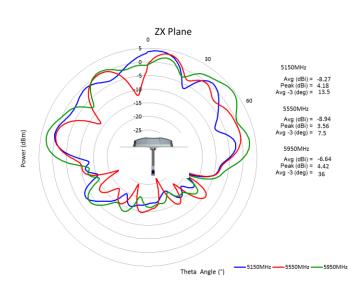
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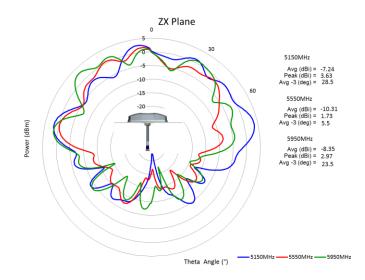
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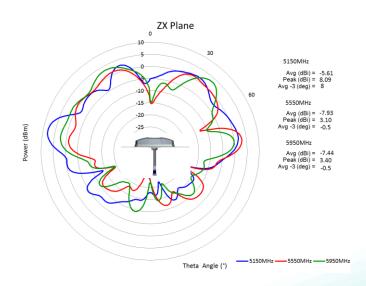
CHARTS





WiFi1 ZX plane radiation pattern

WiFi2 ZX plane radiation pattern



WiFi3 ZX plane radiation pattern



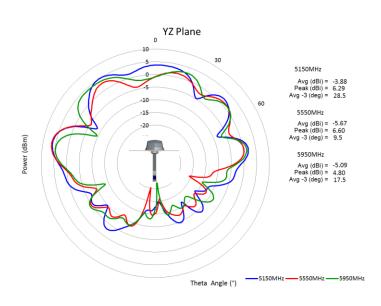
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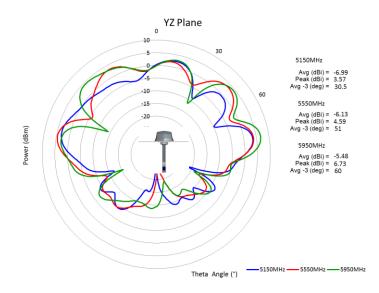
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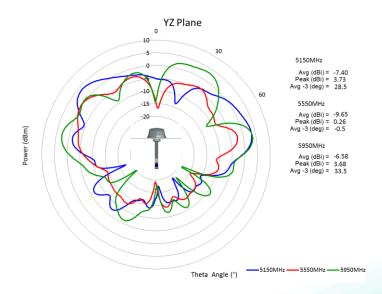
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WiFi1 YZ plane radiation pattern

WiFi2 YZ plane radiation pattern



WiFi3 YZ plane radiation pattern



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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.