

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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TECHNICAL DATA SHEET

Description: Vehicular Multiband Antenna with

Magnetic Mount

PART NUMBER: ARMXXXXXMM



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
 - Magnetic mount





Issue: 1804P

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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Description: Vehicular Multiband Antenna with

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PART NUMBER: ARMXXXXXMM

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
ARM62311MM	6	2	3	1	Black	
ARM62312MM	6	2	3	1	vviiite	Magnetic Mount;
ARM52211MM	5	2	2	1	Black	Pull force:
ARM52212MM	5	2	2	1	White	100N, 22lbf min. (Tested on 3mm thick steel plate.)
ARM42111MM	4	2	1	1	Black	
ARM42112MM	4	2	1	1	White	

Product Numbering

Vehicular Multiband Antenna with Direct Mount

(Part Number)













•	Product ID: ARMADILLO
	Total Number of Cable leads
0	Total Number of LTE Cable Leads
0	Total Number of WiFi Cable Leads
0	Total Number of GPS Cable Leads
•	The Color of the Plastic Housing 1=Black; 2= White
•	Mounting: Magnetic Mount

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

^{*} or equivalent

Issue: 100-11

RóHS



TECHNICAL DATA SHEET

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ELECTRICAL SPECIFICATIONS

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	<2.5	
5150-5925MHz	<2.5	
Isolation*		
698-960MHz, 1710-2690MHz	-8dB	
2400-2500MHz, 5150-5925MHz	-12dB	
Radiation Pattern	Omni	
Average Peak Gain**		
698-960MHz	4.6dBi	
1710-2690MHz	5dBi	
2400-2500MHz	4.1dBi	
5150-5925MHz	6.3dBi	
Polarization	Vertical	

Issue: 1804P

Preliminary ROHS

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

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



TECHNICAL DATA SHEET

Description: Vehicular Multiband Antenna with

Magnetic Mount

PART NUMBER: ARMXXXXXMM

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



TECHNICAL DATA SHEET

Description: Vehicular Multiband Antenna with

Magnetic Mount

PART NUMBER: ARMXXXXXMM

MECHANICAL SPECIFICATIONS

Overall Length 202.3mm X 88.5mm X 45mm

Weight 1.1 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





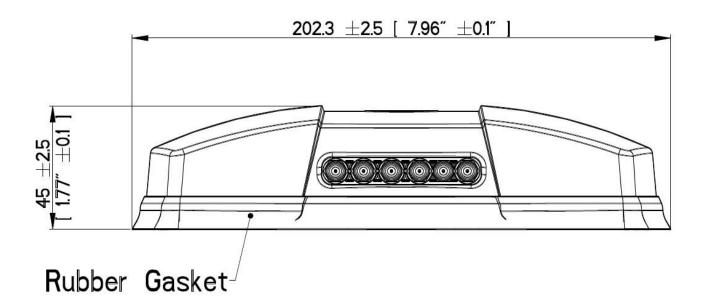
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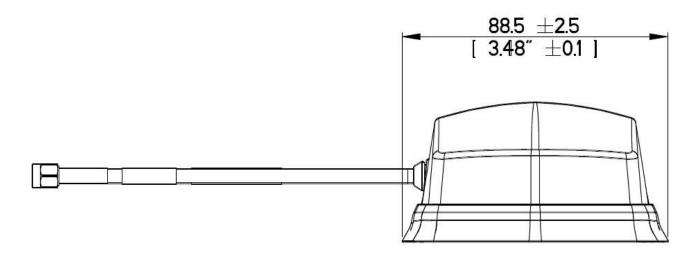
Description: Vehicular Multiband Antenna with

Magnetic Mount

PART NUMBER: ARMXXXXXMM

MECHANICAL DRAWING





Preliminary



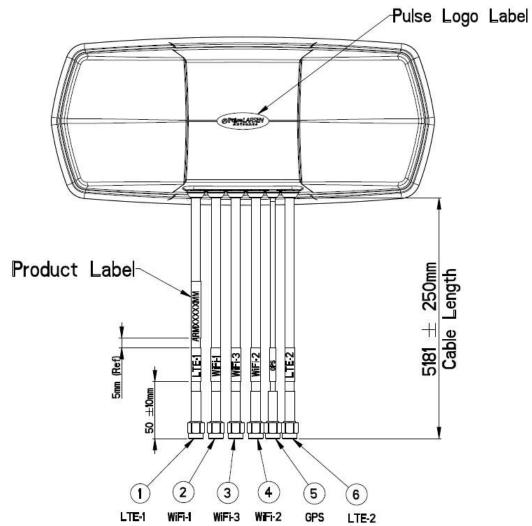
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Description: Vehicular Multiband Antenna with

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PART NUMBER: ARMXXXXXMM

MECHANICAL DRAWING



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

Issue: 18 * or equivalent

KOHS



TECHNICAL DATA SHEET

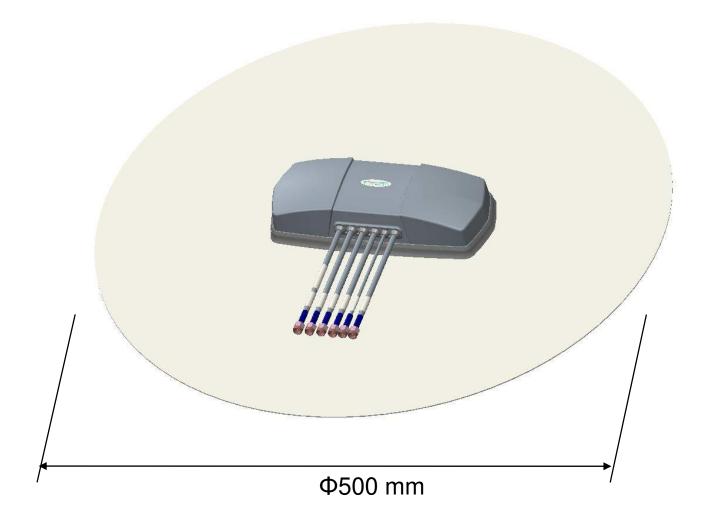
Description: Vehicular Multiband Antenna with

Magnetic Mount

PART NUMBER: ARMXXXXXMM

TEST SETUP

Antenna tested on a Φ500mm ground plane.







TECHNICAL DATA SHEET

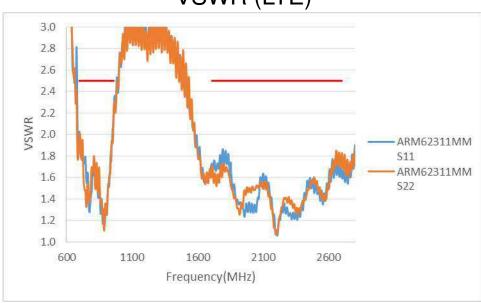
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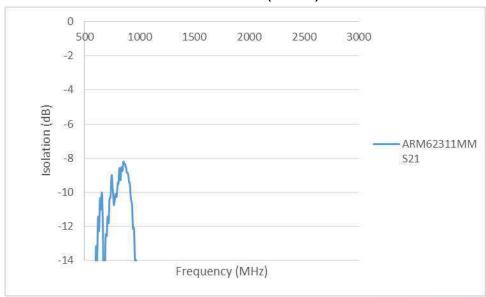
PART NUMBER: ARMXXXXXMM

CHARTS

VSWR (LTE)



Isolation (LTE)



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

Issue: 1804P





TECHNICAL DATA SHEET

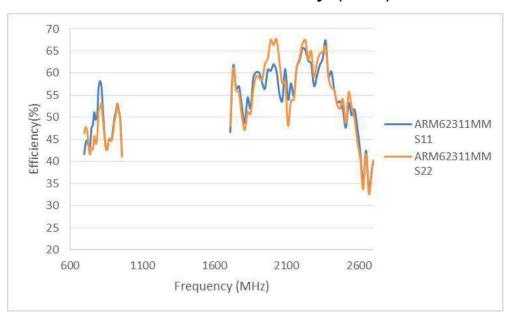
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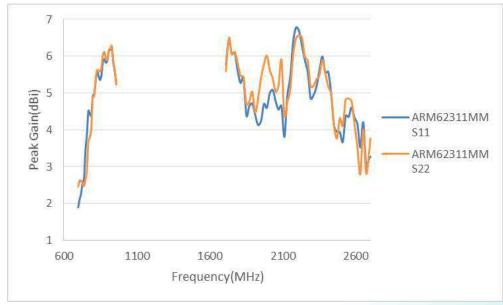
PART NUMBER: ARMXXXXXMM

CHARTS

Radiation Efficiency (LTE)



Peak Gain (LTE)



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

Issue: 1804P





TECHNICAL DATA SHEET

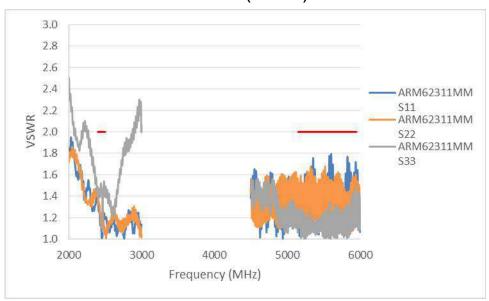
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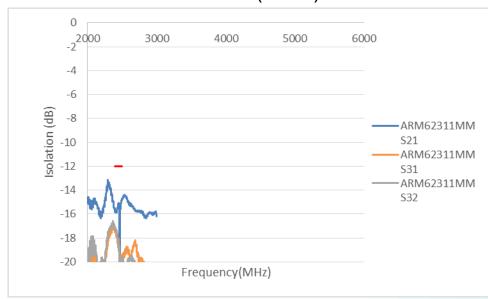
PART NUMBER: ARMXXXXXMM

CHARTS

VSWR (WIFI)



Isolation (WIFI)



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

Issue: 1804P





TECHNICAL DATA SHEET

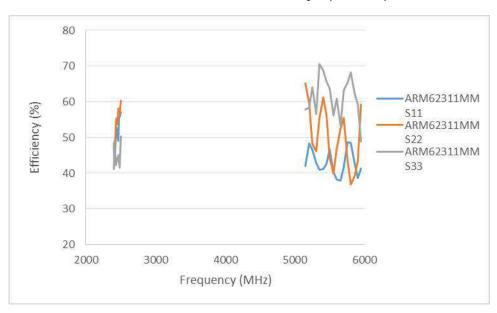
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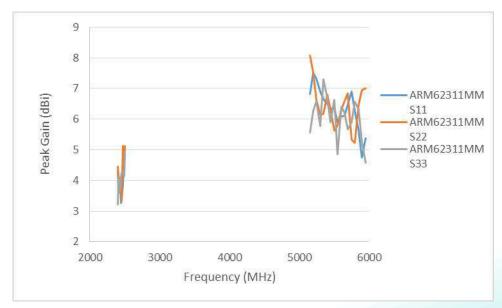
PART NUMBER: ARMXXXXXMM

CHARTS

Radiation Efficiency (WIFI)



Peak Gain (WIFI)



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

Issue: 1804P





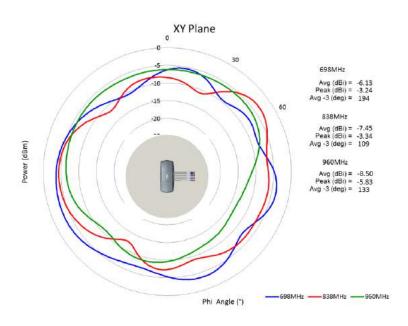
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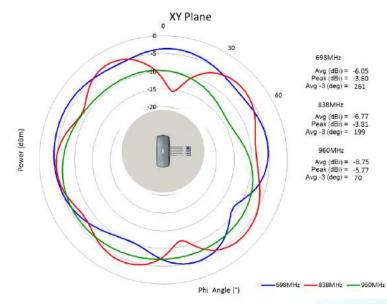
Magnetic Mount

PART NUMBER: ARMXXXXXMM

CHARTS



LTE1 XY plane radiation pattern



LTE2 XY plane radiation pattern

Issue: 1804P





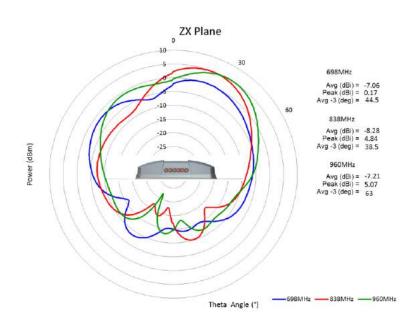
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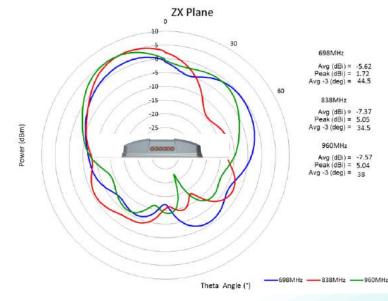
Magnetic Mount

PART NUMBER: ARMXXXXXMM

CHARTS



LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern

Issue: 1804P





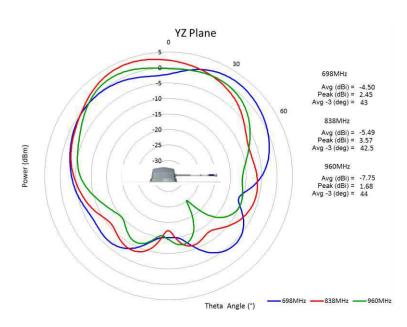
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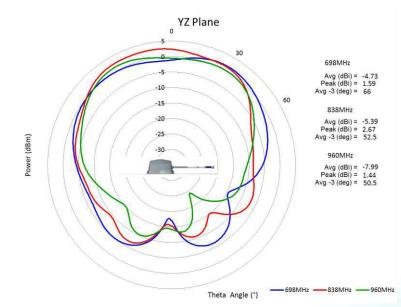
Magnetic Mount

PART NUMBER: ARMXXXXXMM

CHARTS



LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern

Issue: 1804P

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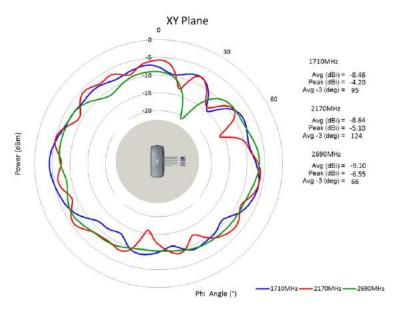
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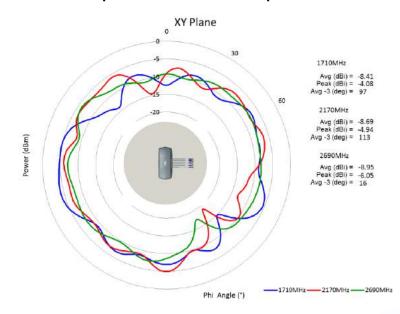
Magnetic Mount

PART NUMBER: ARMXXXXXMM

CHARTS



LTE1 XY plane radiation pattern



LTE2 XY plane radiation pattern

Issue: 1804P

Preliminary Réhis



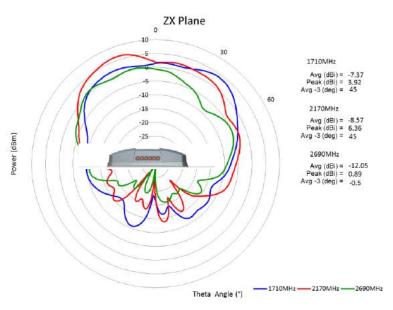
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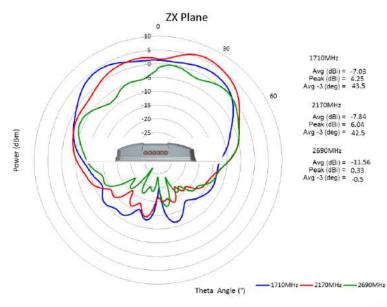
Magnetic Mount

PART NUMBER: ARMXXXXXMM

CHARTS



LTE1 ZX plane radiation pattern



LTE2 ZX plane radiation pattern

Issue: 1804P

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Preliminary



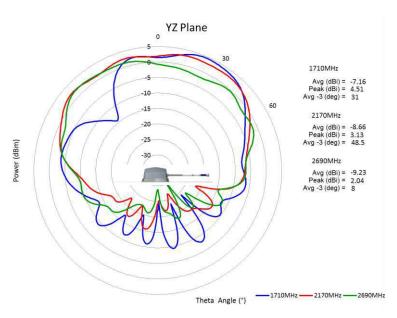
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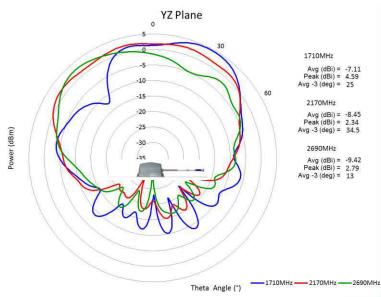
Magnetic Mount

PART NUMBER: ARMXXXXXMM

CHARTS



LTE1 YZ plane radiation pattern



LTE2 YZ plane radiation pattern

Issue: 1804P

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Preliminary

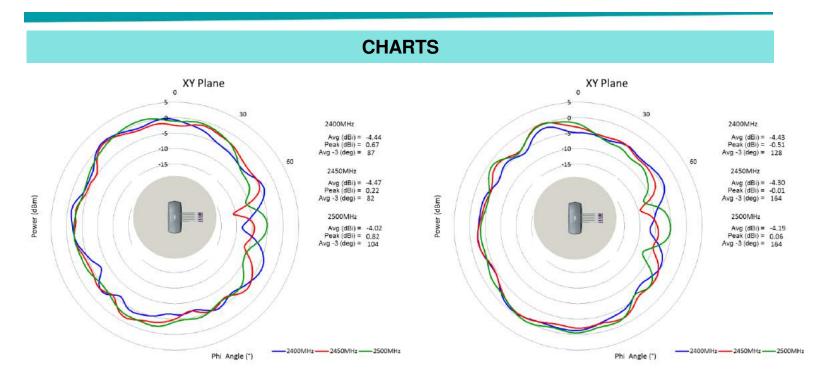


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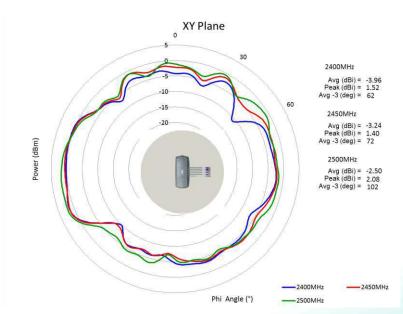
Magnetic Mount

PART NUMBER: ARMXXXXXMM



WiFi1 XY plane radiation pattern

WiFi2 XY plane radiation pattern



WiFi3 XY plane radiation patternminar

Issue: 1804P

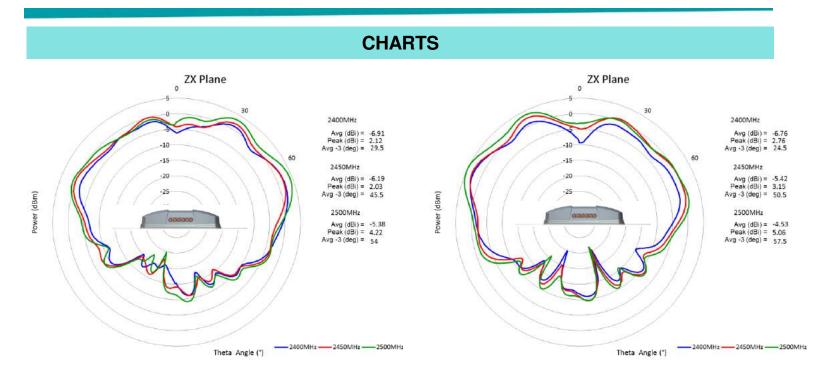


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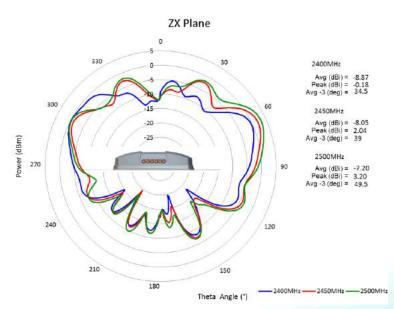
Magnetic Mount

PART NUMBER: ARMXXXXXMM



WiFi1 ZX plane radiation pattern

WiFi2 ZX plane radiation pattern



WiFi3 ZX plane radiation pattern minary

Issue: 1804P



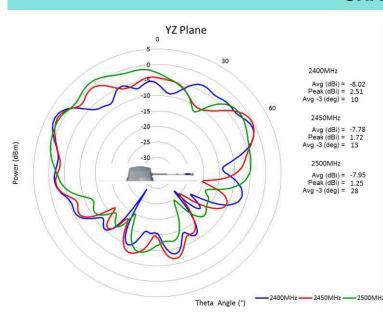
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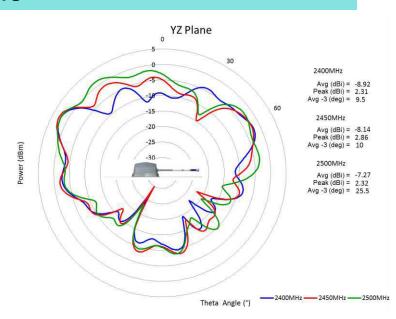
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PART NUMBER: ARMXXXXXMM

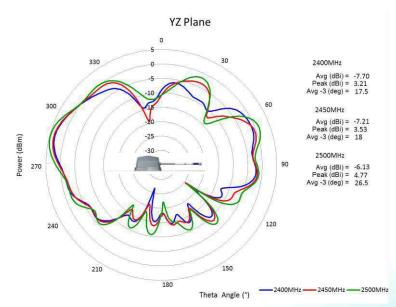
CHARTS





WiFi1 YZ plane radiation pattern

WiFi2 YZ plane radiation pattern



WiFi3 YZ plane radiation pattern minary

Issue: 1804P

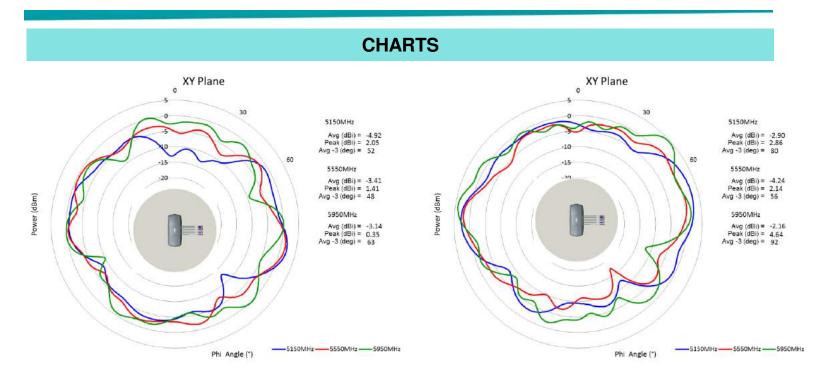


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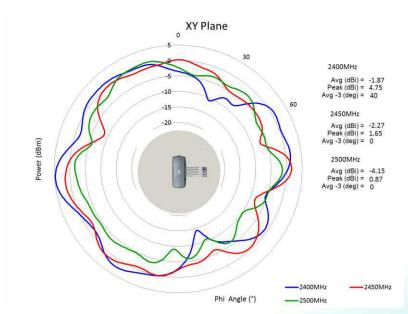
Magnetic Mount

PART NUMBER: ARMXXXXXMM



WiFi1 XY plane radiation pattern

WiFi2 XY plane radiation pattern



WiFi3 XY plane radiation patternminar

Issue: 1804P

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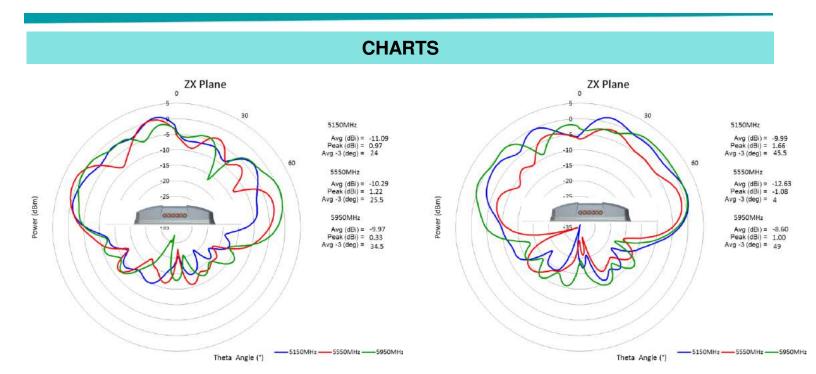


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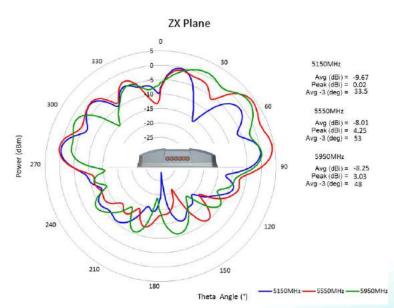
Magnetic Mount

PART NUMBER: ARMXXXXXMM



WiFi1 ZX plane radiation pattern

WiFi2 ZX plane radiation pattern



WiFi3 ZX plane radiation pattern minary

Issue: 1804P



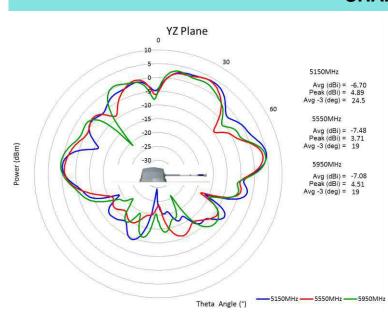
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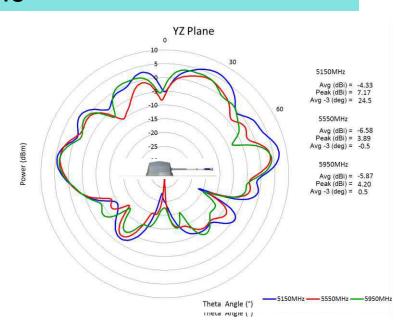
Description: Vehicular Multiband Antenna with

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PART NUMBER: ARMXXXXXMM

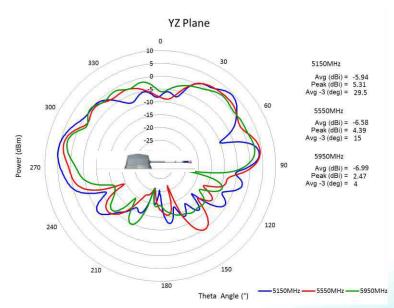
CHARTS





WiFi1 YZ plane radiation pattern

WiFi2 YZ plane radiation pattern



WiFi3 YZ plane radiation pattern minary

Issue: 1804P

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TECHNICAL DATA SHEET

Description: Vehicular Multiband Antenna with

Magnetic Mount

PART NUMBER: ARMXXXXXMM

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.

Preliminary