

TECHNICAL DATA SHEET Description: 2X LTE, 2XWiFi Vehicular Antenna

Series: Low Profile MB

PART NUMBER: LPMB40X





All dimensions are in mm / inches

Issue: 1922

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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



Applications:

- Vehicle mount multiband antenna
- High Speed LTE data and WiFi
- Fleet management
- Utility Vans (Gas, Water, Electricity)

Features:

- 2xMiMo 698-960/1710-2690MHz
- WiFi 2400-2500/4900-5900MHz
- Size 145x135x25mm
- Adhesive mount on plastic and glass fiber surfaces
- Mounting accessory for metallic surfaces



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ELECTRICAL SPECIFICATIONS

LTE Antenna	
Frequency	698-960/1710-2690 MHz
Nominal Impedance	50 Ω
VSWR(*)	2.5 Max
Average Efficiency(698-960MHz)(**)	64 %
Average Efficiency(1710-2690MHz) (**)	57 %
Peak Gain(698-960MHz) (**)	2.0 dBi
Peak Gain(1710-2690MHz) (**)	4.4 dBi
WIFI Antenna	
Frequency	2400-2500/4900-5900 MHz
Nominal Impedance	50 Ω
VSWR (*)	2 Max
Average Efficiency(2400-2500MHz) (**)	63 %
Average Efficiency(4900-5900MHz) (**)	73 %
Peak Gain(2400-2500MHz) (**)	3.5 dBi
$1 \text{ Car Call (2+00-2500 \text{ Will (2) ()})}$	
Peak Gain(4900-5900MHz) (**)	4.7 dBi

* Measured on 500mm ground plane with LMR195 3m cable ** Measured on 500mm ground plane with LMR195 320mm cable

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Description: 2X LTE, 2XWiFi Vehicular

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MECHANICAL SPECIFICATIONS

Antenna P/N	Antenna Color / Material	Weight	Cable	and Connector type	Cable length	Mounting System	
			LTE-1	LMR195* SMA Male			
		607-	LTE-2	LMR195* SMA Male	3Meters /		
LPMB401		WiFi-1	LMR195* RP-SMA Male	118.11Inchs			
				WiFi-2	LMR195* RP-SMA Male		Adhesive Tape 3mmThick 3M VHB
	— SABIC PC943, Black		LTE-1	LMR195* SMA Male		4959	
LPMB405 492g W	LTE-2	LMR195* SMA Male	2Meters /				
		492g	WiFi-1	LMR195* RP-SMA Male	78.74Inchs		
			WiFi-2	LMR195* RP-SMA Male			

* Or Equivalent

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Ingress Protection RoHS Compliant -40 ~ +85° C IP67 Yes

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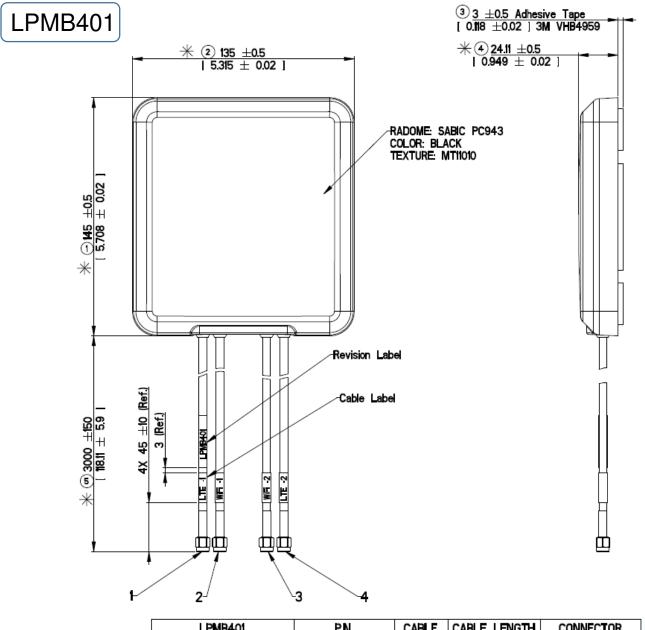
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MECHANICAL DRAWING



LPMB401	PN	CABLE	CABLE LENGTH	CONNECTOR
1 LTE-1 Cable Assy	125-01188.001			SMA Male
2. WiFi-1 Cable Assy	125-01190.001	LMR-195+	3 Meters	RP-SMA Male
3. WiFi-2 Cable Assy	125-01191.001		9.84FT/118.11″	RP-SMA Male
4. LTE-2 Cable Assy	125-01189.001]		SMA Male

OR EQUIVALENT

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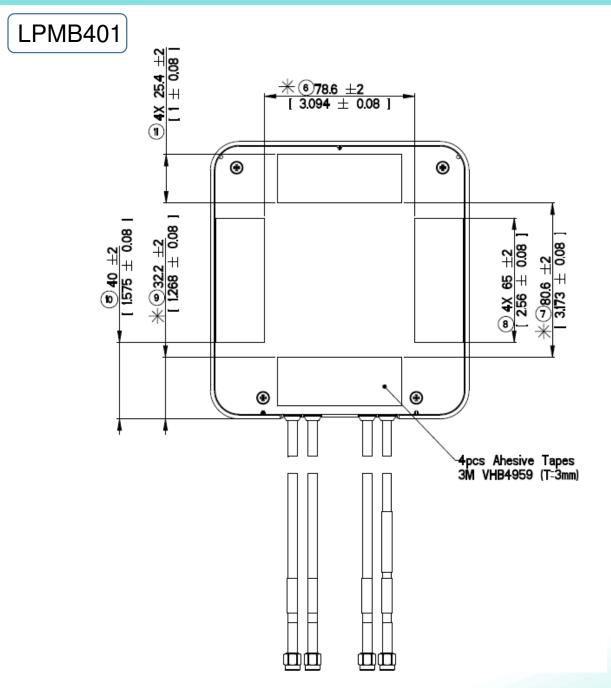


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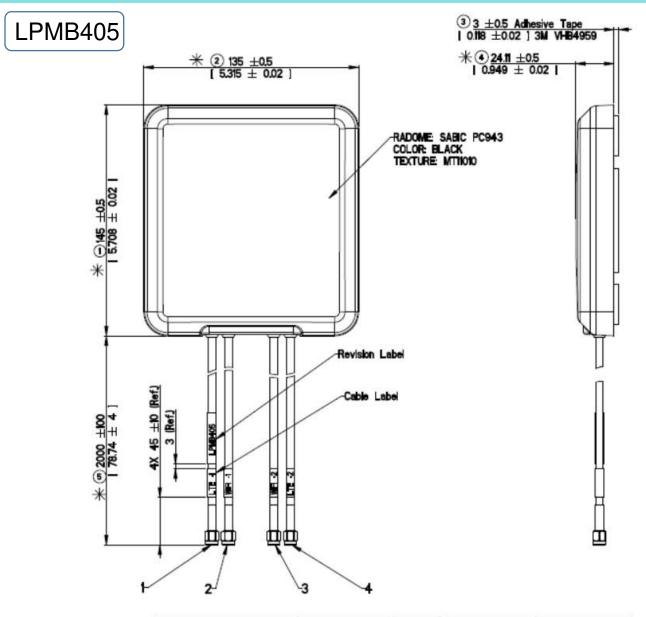
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Antenna

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MECHANICAL DRAWING



LPMB405	P.N.	CABLE	CABLE LENGTH	CONNECTOR	
L LTE-1 Cable Assy	125-00436.001	- LMR-195*	2 Meters [78,747]	SMA Male	
2. WFi-1 Cable Assy	125-00438.001			RP-SMA Male	
3. WIFI-2 Cable Assy	125-00439.001			RP-SMA Male	
4. LTE-2 Cable Assy	125-00437.001			SMA Male	

· OR EQUIVALENT

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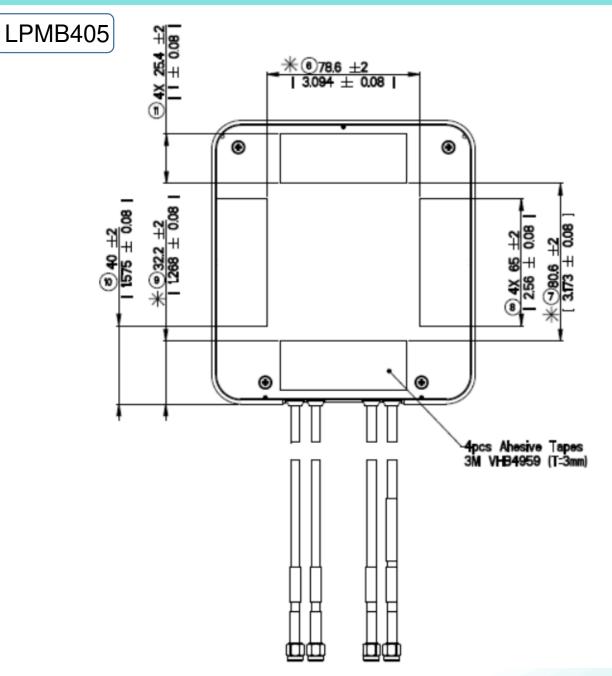
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TEST SETUP

Below performance test in two situation

Situation 1 . Test in free space .

Situation 2. Test on 1 inch bracket with \$\$00mm (19.7inch) ground.

Situation 1



Free space

Ground plane ϕ =500mm(19.7inch) Bracket height=1inch

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Situation 2



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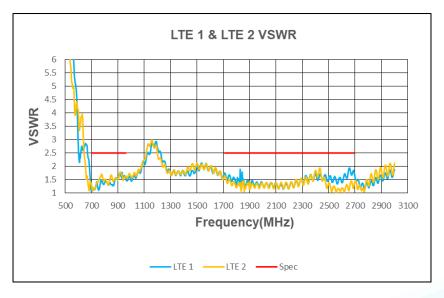
PART NUMBER: LPMB40X

CHARTS

Situation 1: Performance in free space



LTE 1 & LTE 2 VSWR



Note : Measured with 3m cable

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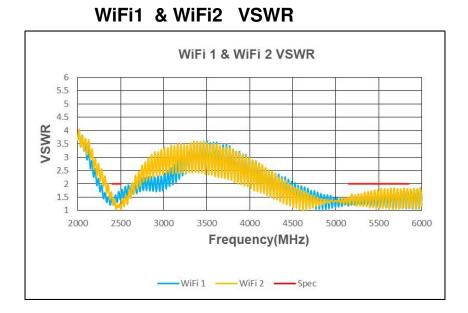


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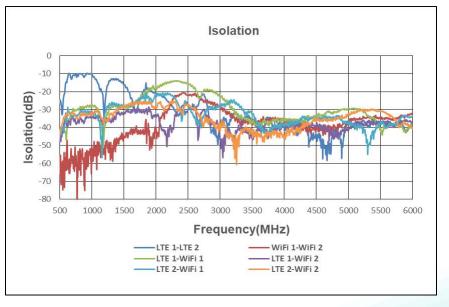
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Isolation



Note : Measured with 3m cable

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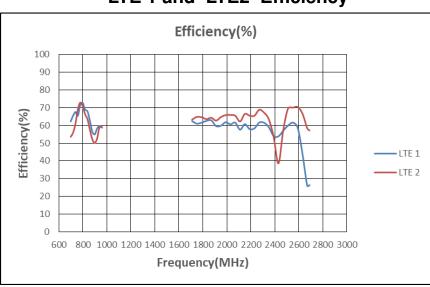
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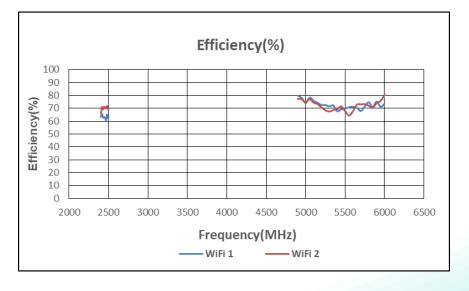
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CHARTS



LTE 1 and LTE2 Efficiency

WiFi 1 and WiFi 2 Efficiency



Note : Measured with 320mm cable

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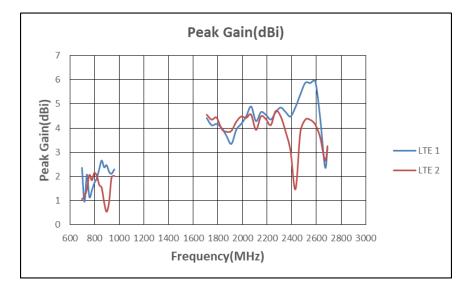
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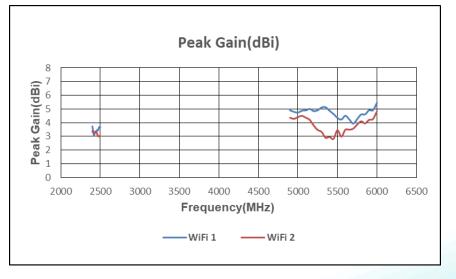
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LTE 1 and LTE2 Peak Gain



WiFi 1 and WiFi 2 Peak Gain



Note : Measured with 320mm cable

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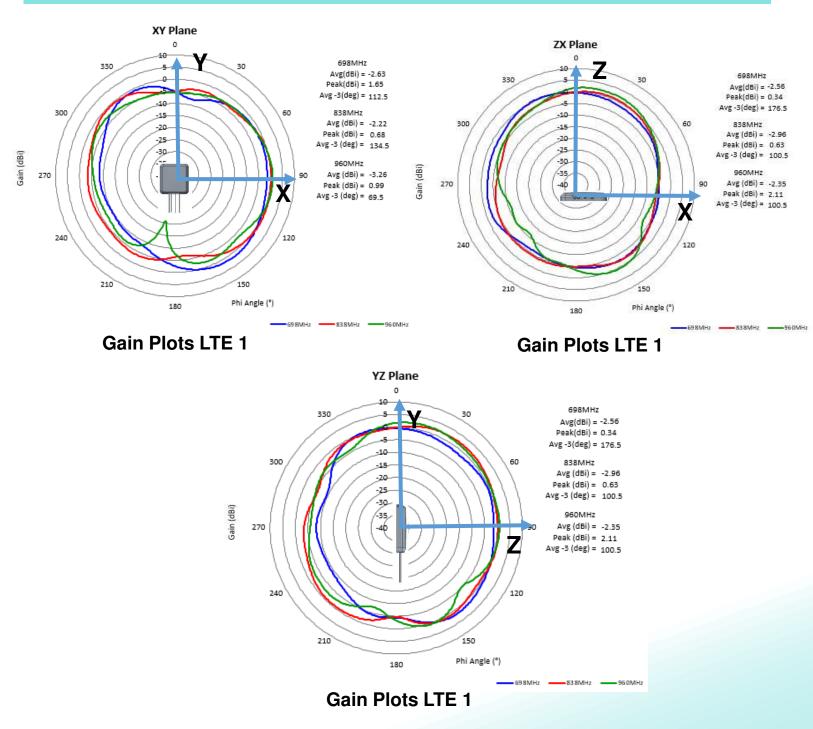
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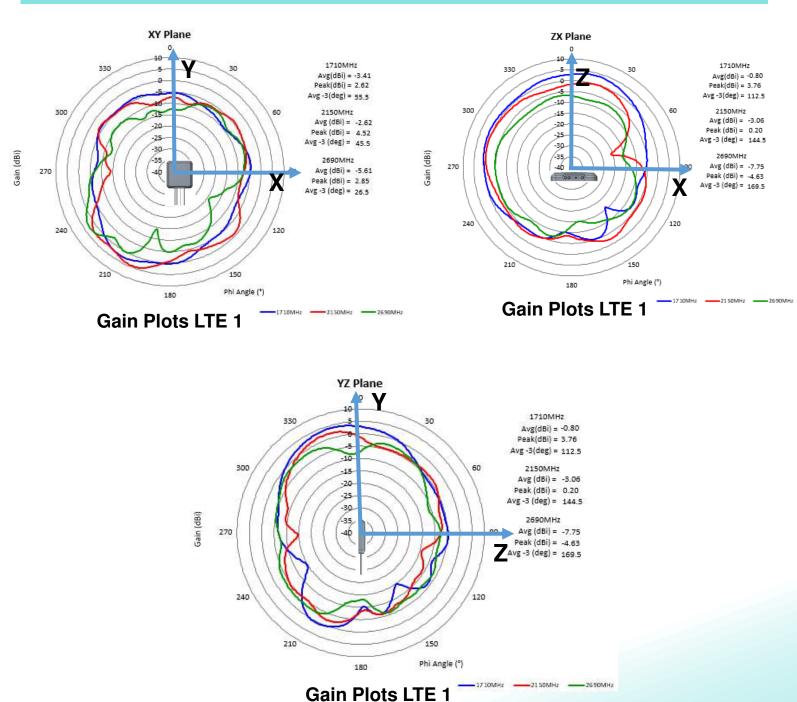


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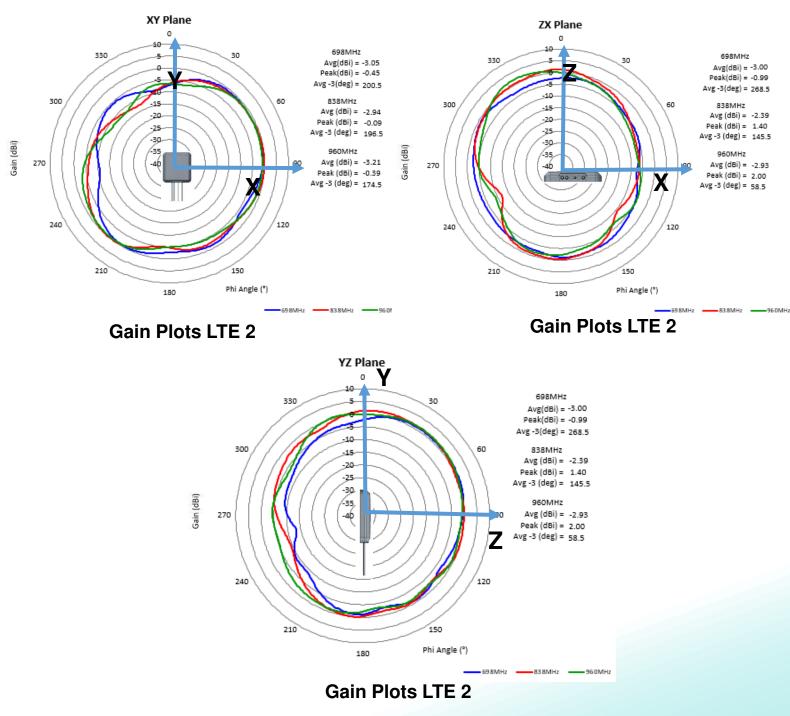
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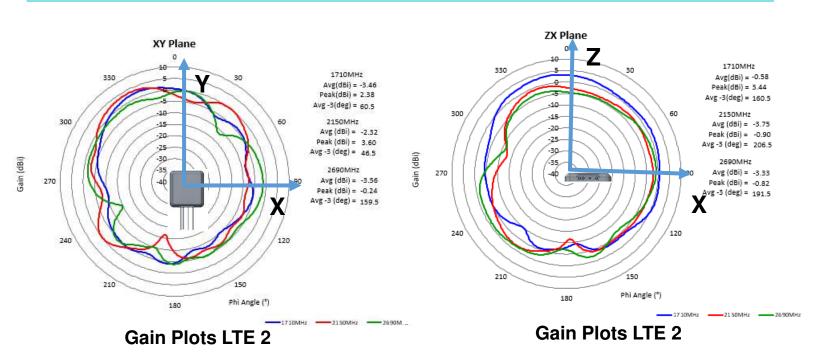


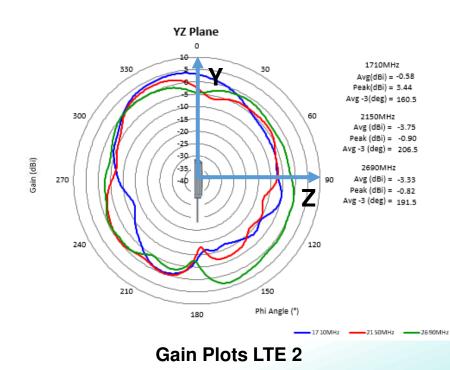
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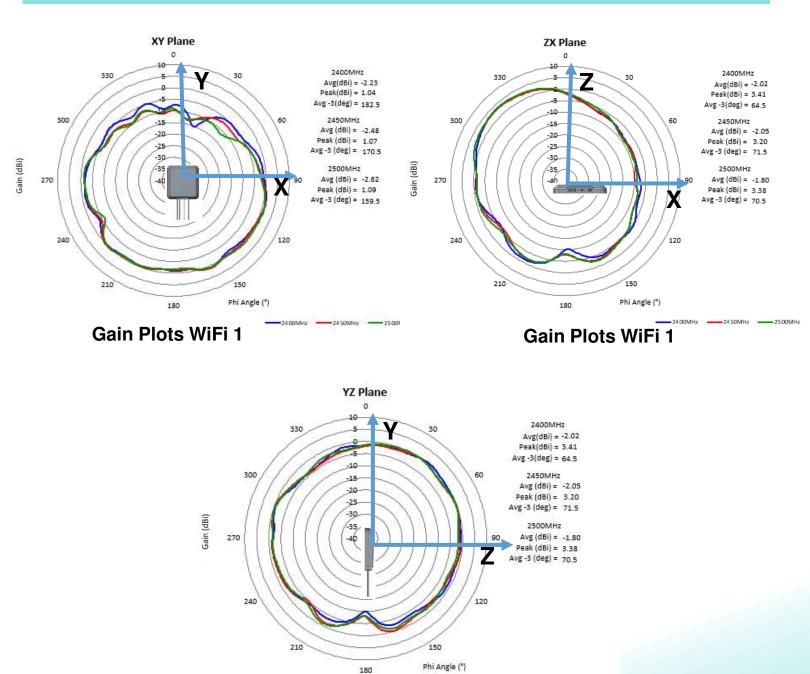


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CHARTS



Gain Plots WiFi 1

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-24 00 MHz -

-24 50MHz -

-25 00MHz



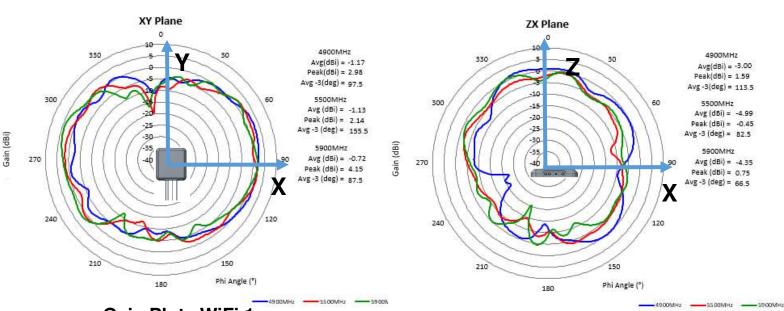
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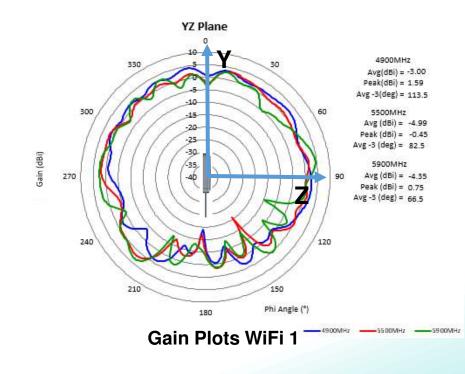
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Gain Plots WiFi 1

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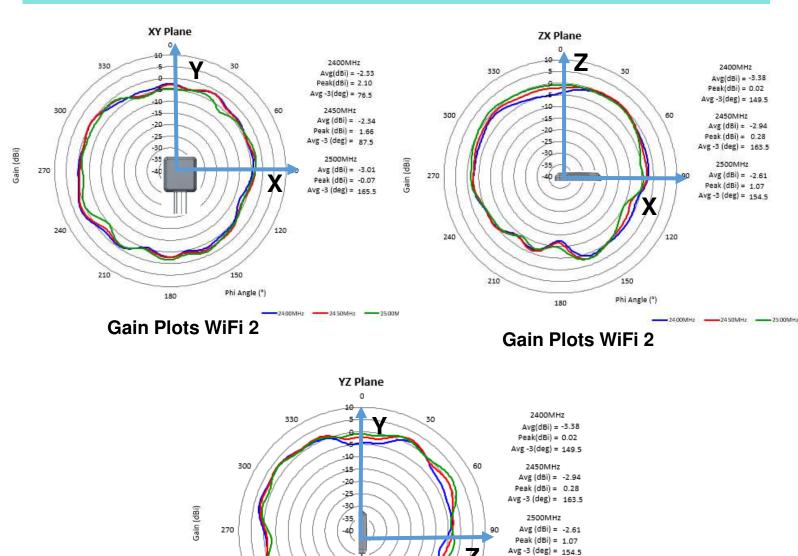


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180

Gain Plots WiFi 2

120

2400MHz -

2450MHz _____2500MHz

150 Phi Angle (°)

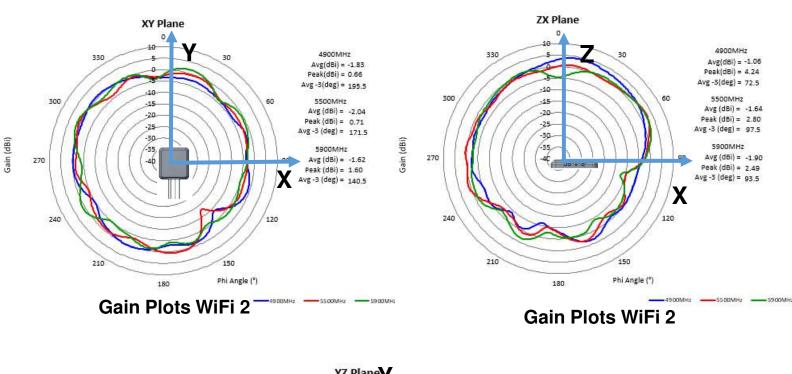


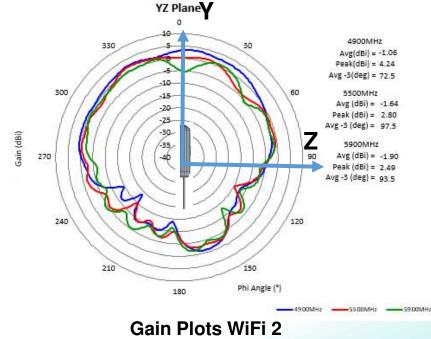
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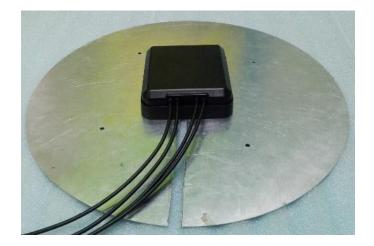


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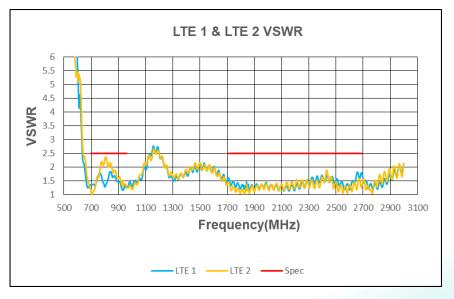
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CHARTS

Situation 2: Performance on 1 inch bracket with φ500mm(19.7inch) ground



LTE 1& LTE 2 VSWR



Note : Measured on 500mm ground plane with 3m cable

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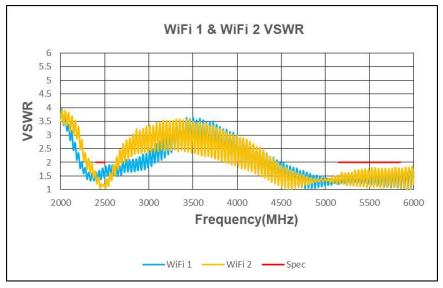
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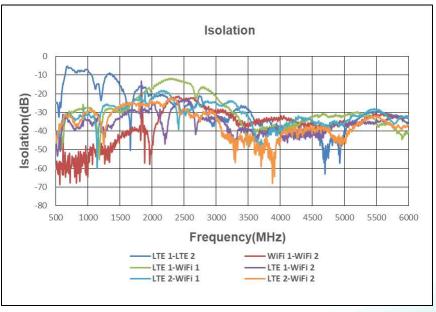
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WiFi 1& WiFi 2 VSWR



Isolation



Note : Measured on 500mm ground plane with 3m cable

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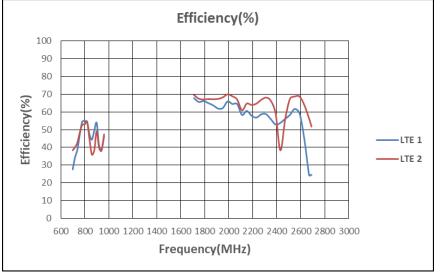
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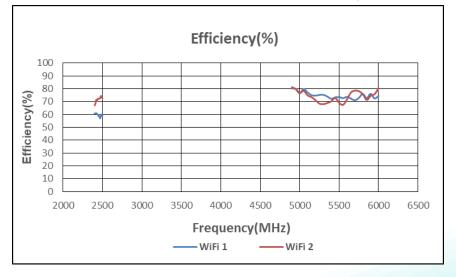
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CHARTS

LTE 1 and LTE2 Efficiency



WiFi 1 and WiFi 2 Efficiency



Note :Measured on 500mm ground plane with 322mm cable

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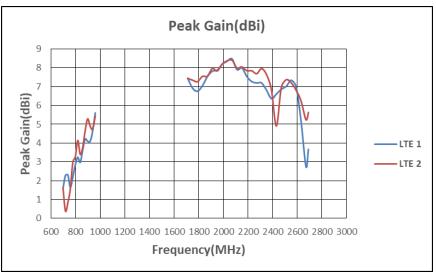


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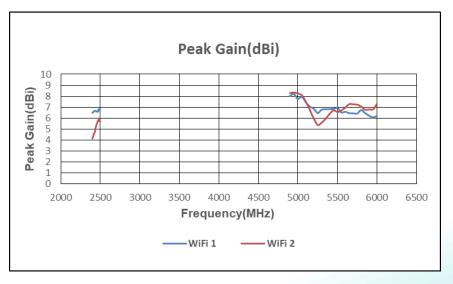
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CHARTS



LTE 1 and LTE2 Peak Gain

WiFi 1 and WiFi 2 Peak Gain



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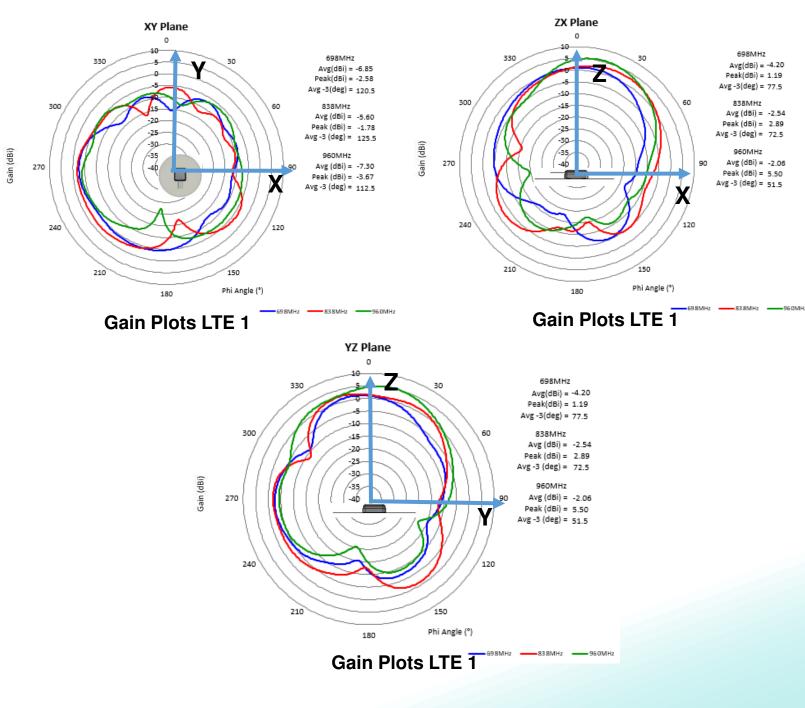


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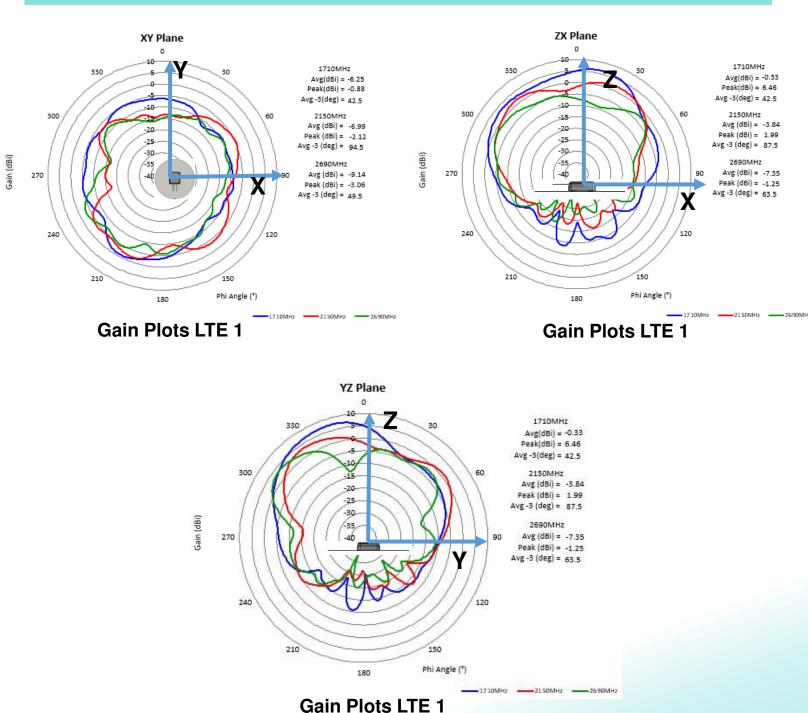


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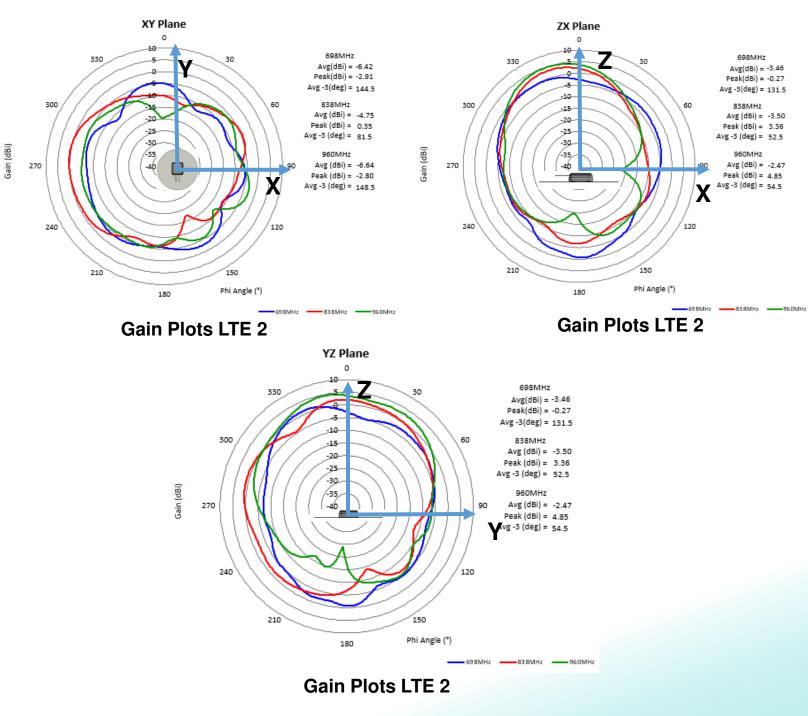


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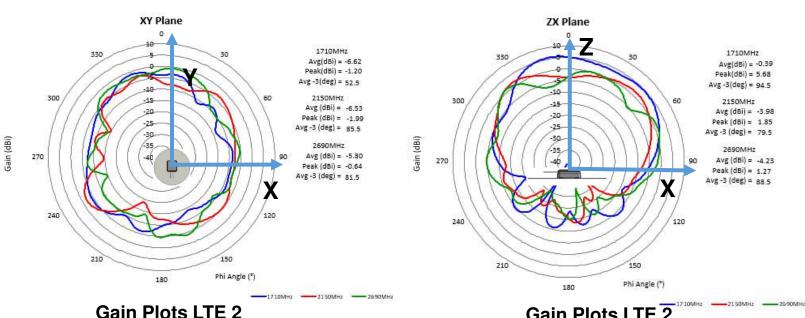


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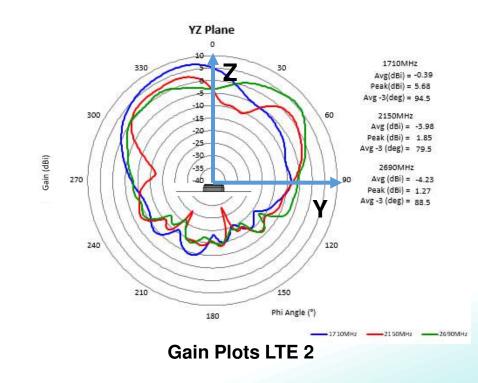
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CHARTS



Gain Plots LTE 2



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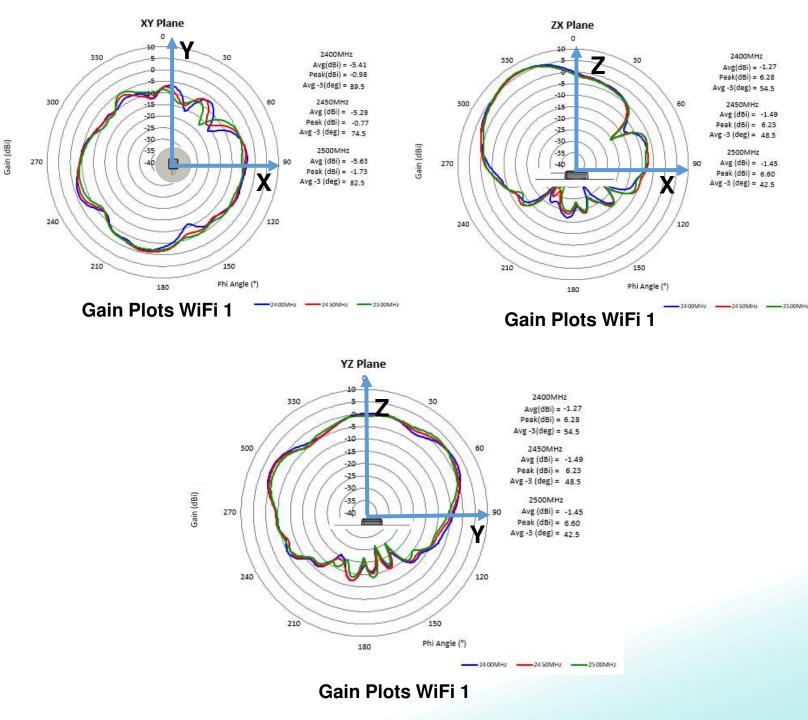


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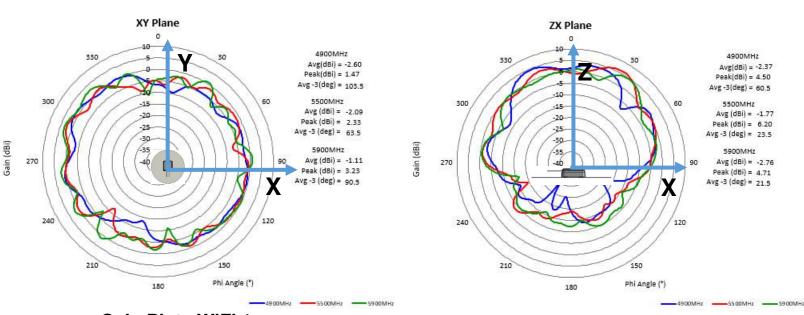


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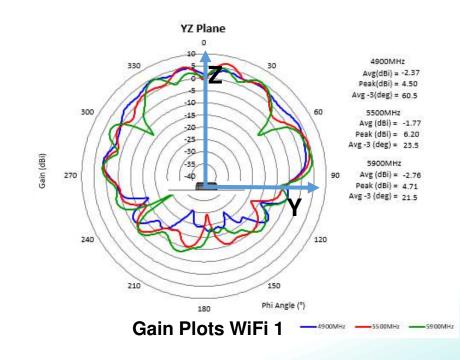
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Gain Plots WiFi 1

Gain Plots WiFi 1



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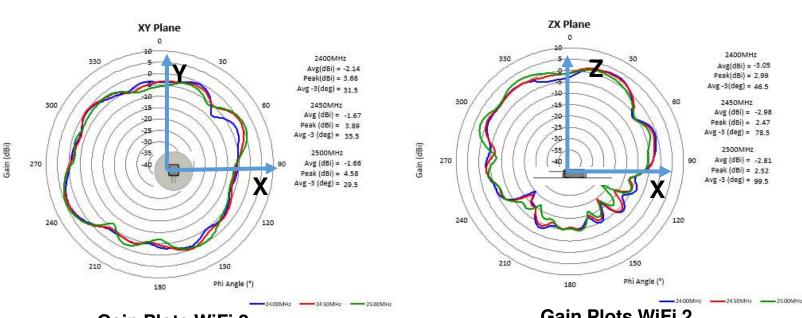


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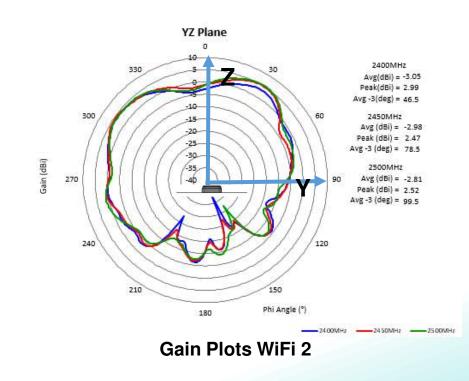
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Gain Plots WiFi 2

Gain Plots WiFi 2



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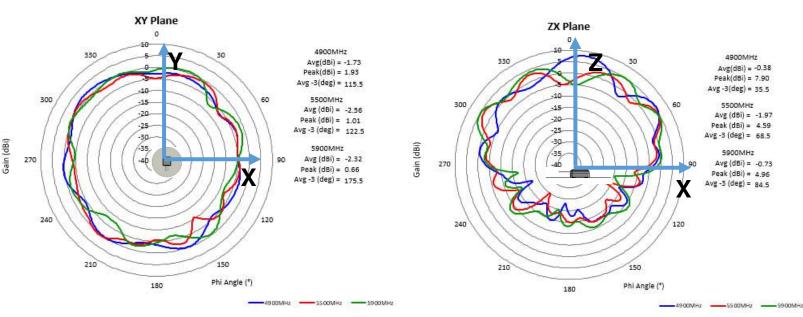


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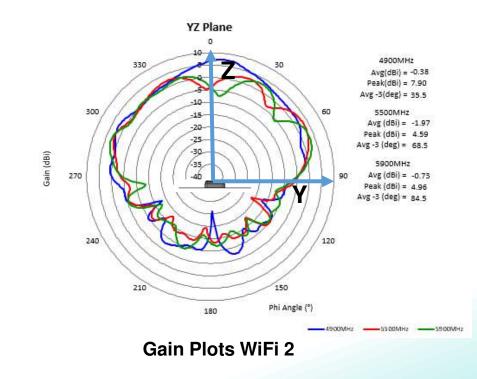
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Gain Plots WiFi 2

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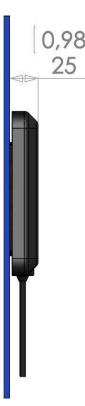
PACKAGING

- Each antenna packed in a plastic bag
- 18 bags(TBD) of antennas packed in a cardboard box.
- 1 label on each box with qty, part number, date code.

ASSEMBLY

Option 1, Apply to the surface of the glass fiber or plastic material, the antenna could

be adhered on the surface directly.



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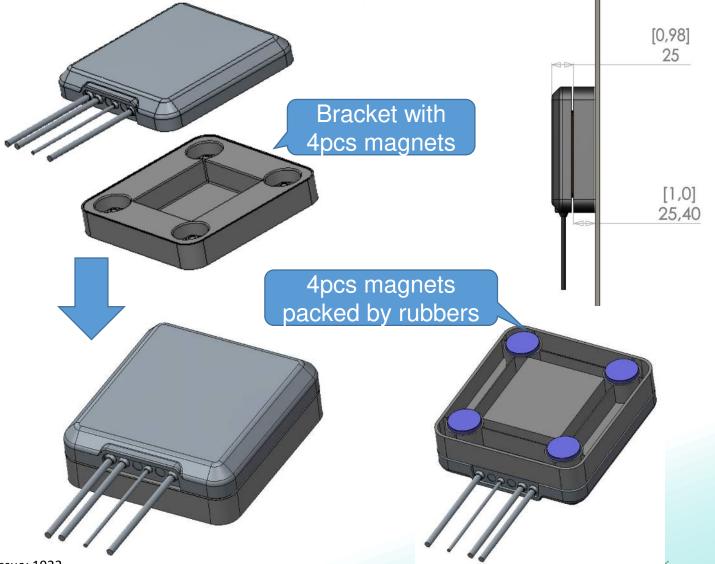
ASSEMBLY

Option 2, Apply to the surface of the Iron metals like normal steel/iron,

a bracket(GPSLPMM) is needed to elevate the antenna 1" for the optimum RF performance

Firstly, The antenna adhered on a magnetic bracket by the adhesive tape,

then the whole assemble could "stick" on the magnetic metals by magnets, and also could be removed from the metals easily.



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HS 3



TECHNICAL DATA SHEET Description: 2X LTE, 2XWiFi Vehicular Antenna

PART NUMBER: LPMB40X

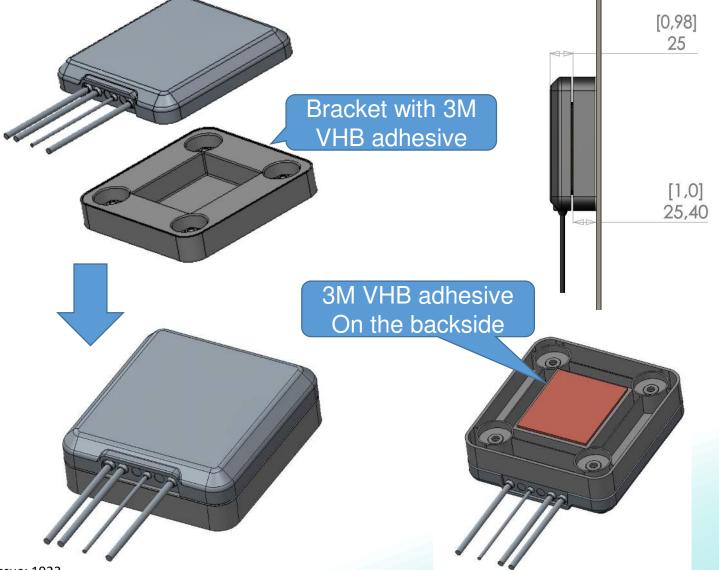
ASSEMBLY

Option 3, Apply to the surface of the non-iron metals like aluminum,

a bracket(GPSLPAM) is needed to elevate the antenna 1" for the optimum RF performance

Firstly, the antenna adhered on a bracket by the adhesive tape,

then the whole assemble could adhere on the aluminum by the 3MVHB adhesive tape on the bracket.



Issue: 1922

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