



# MOBILITY 42G

7-in-1 Cellular & Wi-Fi Antenna System with GPS Receiver

## Overview

- **Built for 5G**  
 Omni-directional 4x4 MIMO mobile antenna for the best performance.
- **C-Band support**  
 Exceptional performance in 3.3 and 4.2 GHz frequency range allowing to get a massive throughput speed boost.
- **Ultra wide bandwidth**  
 Wide frequency range (600-6000MHz) supporting LTE and 5G
- **Wi-Fi**  
 2x2 MIMO dual band (2.4GHz & 5GHz) high gain omnidirectional antennas
- **Robust design**  
 IP68 rated, low profile and durable housing in Black or White color options.

## Applications

- Public Safety and mission critical connectivity
- Mobile Healthcare
- Transportation Connectivity

<b>8.2</b> dBi	↑↓ <b>LTE</b>	Wi-Fi	GPS
IP <b>68</b>	<b>B71</b> Support	Built for <b>5G</b>	<b>C-</b> Band Support



**TAA** **COMPLIANT**

## Specification

### Cellular

Antenna elements	4 elements
Cellular frequencies <sup>#</sup>	4.4dBi@617-960MHz 7.8dBi@1710-2700MHz 7.9dBi@3400-4200MHz 8.2dBi@5000-6000MHz
Cellular bands	LTE bands B1 to B86 (except B31, B72, B73, B87, B88), 5G bands n1 to n99
VSWR	< 2.5 over 95% of the band
Feed power handling	10W
Input impedance	50 Ω
Polarisation	Linear
Ground plane	Not required

### Wi-Fi

Antenna elements	2 elements
Peak Gain & Frequencies	5.0dBi: 2400-2500MHz 7.5dBi: 5000-6000MHz
VSWR	< 2.5
Feed power handling	10W
Input impedance	50 Ω
Polarisation	Linear

### GPS

Frequency range	1561-1602 MHz
Peak Gain & Frequencies	0.5dBi@1575MHz 1.6dBi@1602MHz
VSWR	< 2 dB
Output return loss	10dB max
LNA Gain	28 ±3dB
Noise figure	1.5dB max at 3.3V
Operating Voltage	3.3V
Power consumption	8.5 ±2.5mA at 3.3V

### Cable (LTE / 5G, Wi-Fi)

Type	CFD-200
Loss	0.33 dB/m @ 900 MHz 0.49 dB/m @ 2000 MHz 0.55 dB/m @ 2500 MHz 0.87 dB/m @ 5800 MHz
Diameter	0.2" / 5.0mm
Jacket	Half matt PVC, UV resistant
Cellular Termination	QMA male, SMA male
Wi-Fi Termination	QMA male, RP-SMA male

<sup>#</sup> Measured peak Gain on 600x600mm (23.6"x23.6") ground plane excluding cable loss.

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### Cable (GPS)

Type	RG-174
Loss	3.4 dB/m @ 1000 MHz 4.9 dB/m @ 1800 MHz
Diameter	0.1" / 2.7mm
Jacket	Half matt PVC, UV resistant
Termination	QMA male, SMA male

### Mounting

Supported types	Panel, wall, pole
Mounting hole	1 11/16" / 43mm
Max panel thickness	19/32" / 15mm

### Mechanical

Product dimensions (Height) (Diameter)	2.28" / 58mm (spigot not included) 8.19" / 208mm
Packaged dimensions	9.09" x 8.50" x 6.14" 231 x 216 x 156 mm
Radome material	UV stable PC

### Package contents

Antenna	Mobility 42G
Accessories	Wall/pole mount Double sided 3M adhesive pad (Diameter: 8.19" / 208 mm Thickness: 0.08" / 2 mm)

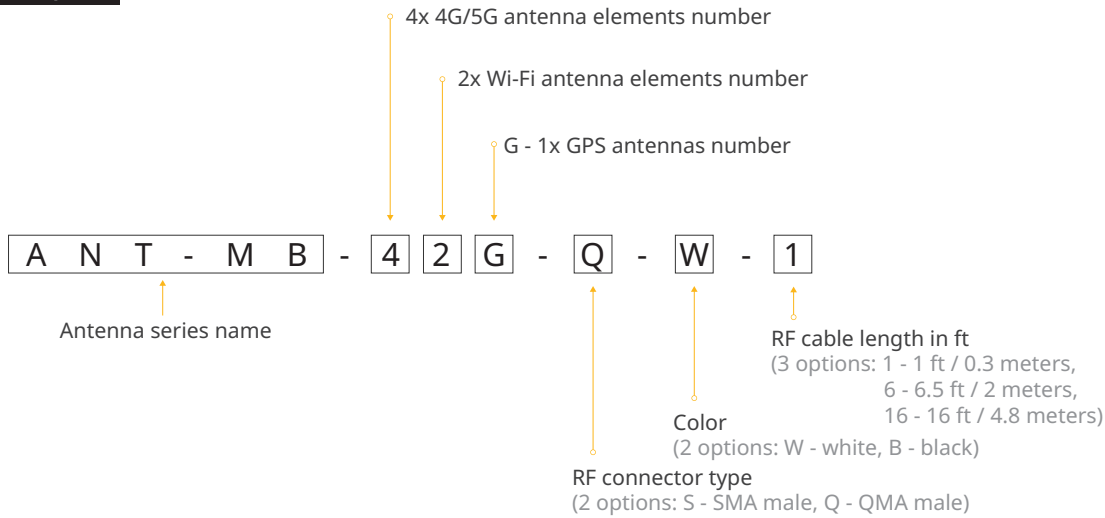
### Environmental, compliance

IP rating	IP68
Operating temperature	-40° - 176°F / -40° - 80°C
Storage temperature	-40° - 176°F / -40° - 80°C
Compliance	RoHS, REACH, WHEE
Wind Survivability <sup>^</sup>	167mph, 268 km/h
Enclosure flammability	UL 94 HB
Cable flammability	UL 758 (VW-1)
UV resistance	UL 746C (F1 long-term UV exposure)
Salt Spray	MIL-STD 810F/ASTM B117

<sup>^</sup> The plastic mounting bracket included in the package is not designed to withstand wind loads. For high wind areas, use of the Stainless Steel L-mount (ACW-882) is recommended.

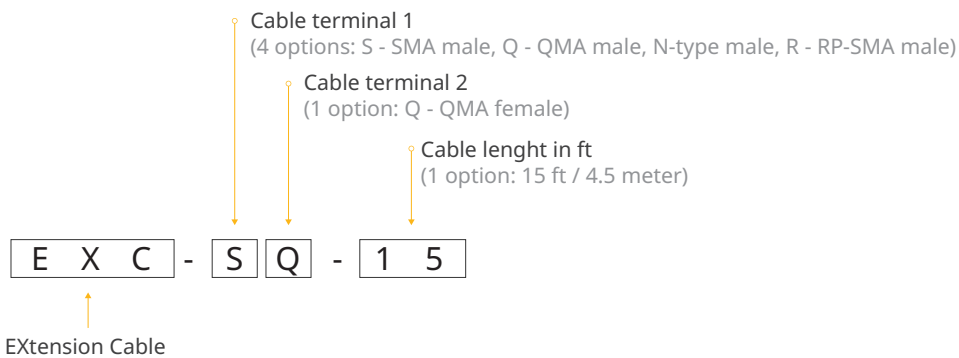
## Ordering Information

### Mobility 42G

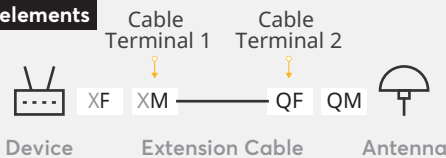


Product Code	Description
ANT-MB-42G-S-W-1	4xLTE/5G, 2x Wi-Fi, 1xGPS 600-6000MHz, IP68, SMA male (Cellular, GPS), RP-SMA male (Wi-Fi), White, 1 ft / 0.3m
ANT-MB-42G-S-B-1	4xLTE/5G, 2x Wi-Fi, 1xGPS 600-6000MHz, IP68, SMA male (Cellular, GPS), RP-SMA male (Wi-Fi), Black, 1 ft / 0.3m
ANT-MB-42G-S-W-6	4xLTE/5G, 2x Wi-Fi, 1xGPS 600-6000MHz, IP68, SMA male (Cellular, GPS), RP-SMA male (Wi-Fi), White, 6.5 ft / 2m
ANT-MB-42G-S-B-6	4xLTE/5G, 2x Wi-Fi, 1xGPS 600-6000MHz, IP68, SMA male (Cellular, GPS), RP-SMA male (Wi-Fi), Black, 6.5 ft / 2m
ANT-MB-42G-S-W-16	4xLTE/5G, 2x Wi-Fi, 1xGPS 600-6000MHz, IP68, SMA male (Cellular, GPS), RP-SMA male (Wi-Fi), White, 16 ft / 4.8m
ANT-MB-42G-Q-W-1	4xLTE/5G, 2x Wi-Fi, 1xGPS 600-6000MHz, IP68, QMA male, White, 1 ft / 0.3m
ANT-MB-42G-Q-W-6	4xLTE/5G, 2x Wi-Fi, 1xGPS 600-6000MHz, IP68, QMA male (Cellular, GPS), RP-SMA male (Wi-Fi), White, 6.5 ft / 2m
ANT-MB-42G-Q-B-1	4xLTE/5G, 2x Wi-Fi, 1xGPS 600-6000MHz, IP68, QMA male, Black, 1 ft / 0.3m
ANT-MB-42G-Q-B-6	4xLTE/5G, 2x Wi-Fi, 1xGPS 600-6000MHz, IP68, QMA male (Cellular, GPS), RP-SMA male (Wi-Fi), Black, 6.5 ft / 2m

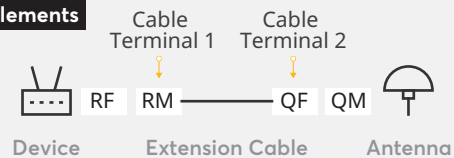
### Extension cable



#### LTE/GPS elements



#### Wi-Fi elements



Product Code	Element type	Description
EXC-SQ-15	LTE/GPS elements	Extension coax cable, SMA male to QMA female connector, 15ft / 4.5m
EXC-QQ-15	LTE/GPS elements	Extension coax cable, QMA male to QMA female connector, 15ft / 4.5m
EXC-NQ-15	LTE/GPS elements	Extension coax cable, N-type male to QMA female connector, 15ft / 4.5m
EXC-RQ-15	Wi-Fi elements	Extension coax cable, RP-SMA male to QMA female connector, 15 ft / 4.5m

## Featured Add-on

Product Code	Description
ACW-661	3M Double-sided Adhesive Antenna Mounting Gasket
ACW-881	Wall/pole L-mount Antenna mounting kit (white)
ACW-884	Wall/pole L-mount Antenna mounting kit (black)
ACW-651	Maritime 1" 14TPI Female to Mobility Antenna thread
ACW-653	Maritime 1 1/4" 11TPI male adapter
ACW-882	Stainless Steel L-Mount Kit for Mobility 42G

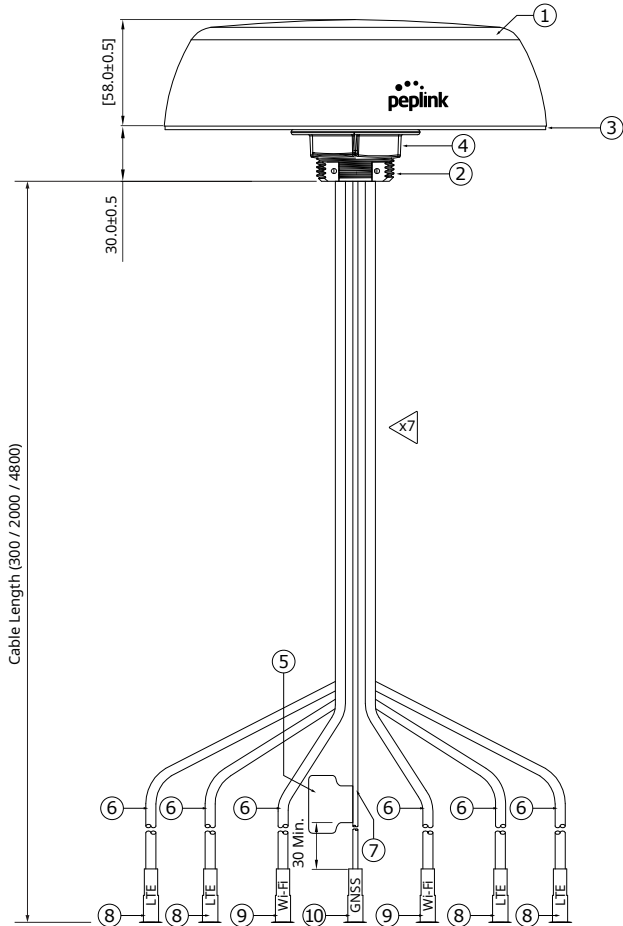


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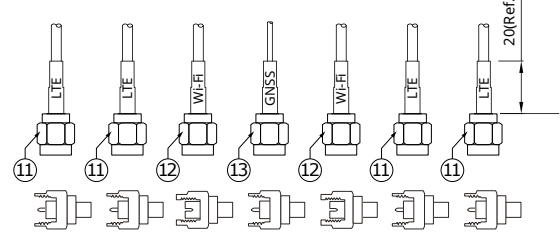
# Technical drawing

(unit: mm)

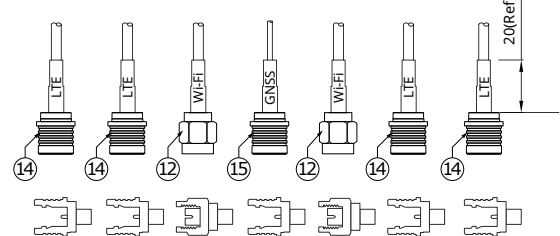
## Antenna



### SMA Male

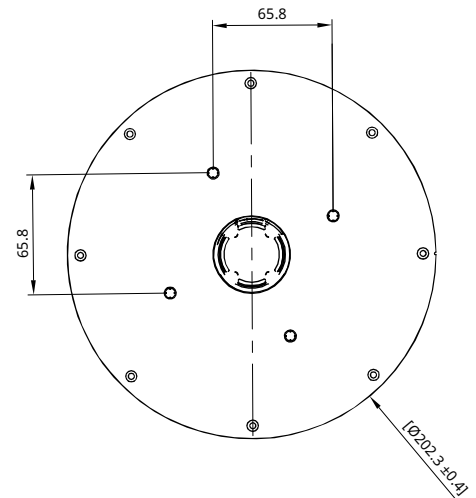


### QMA Male



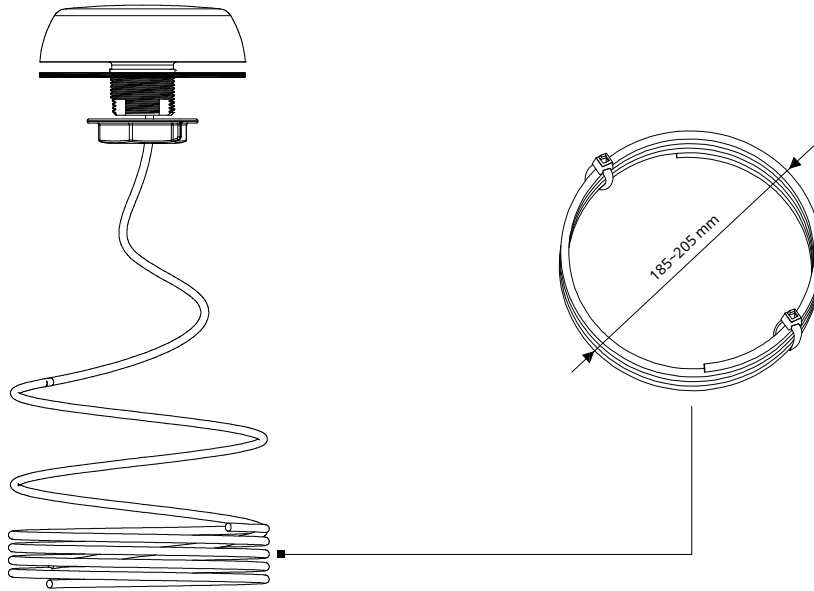
## Index

No.	Description	Qty
1	Antenna top cover (PC)	1
2	Antenna bottom cover (PC)	1
3	Double sided 3M adhesive pad	1
4	Hexagon NUT (PC)	1
5	Label	1
6	Cable CFD-200 (4G/5G, Wi-Fi)	6
7	Cable RG-174 (GPS)	1
8	LTE/5G H.S. tube	4
9	Wi-Fi H.S. tube	2
10	GPS H.S. tube	1
11	LTE/5G antenna connector (SMA male)	4
12	Wi-Fi antenna connector (RP-SMA male)	2
13	GPS antenna connector (SMA male)	1
14	LTE/5G antenna connector (QMA male)	4
15	GPS antenna connector (QMA male)	1

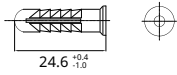


# Technical drawing

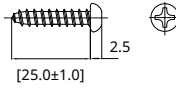
(unit: mm)



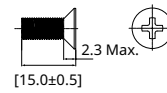
## Mounting Set



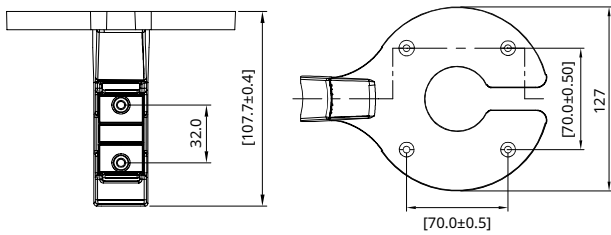
Plastic fixing for M3.5 screw  
(2 pcs)



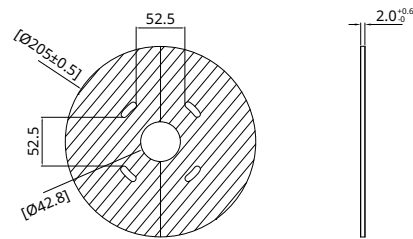
Tapping screws  
(2 pcs, M3.5\*24L)



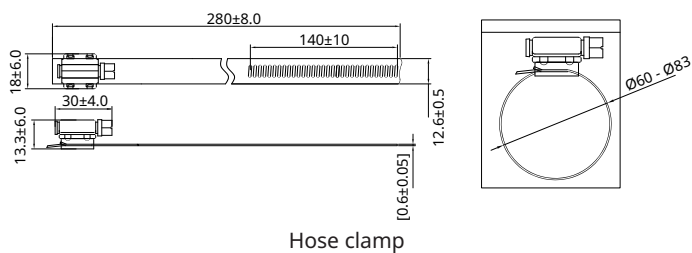
Screws  
(4 pcs, M4\*P0.7\*15L)



Mounting bracket

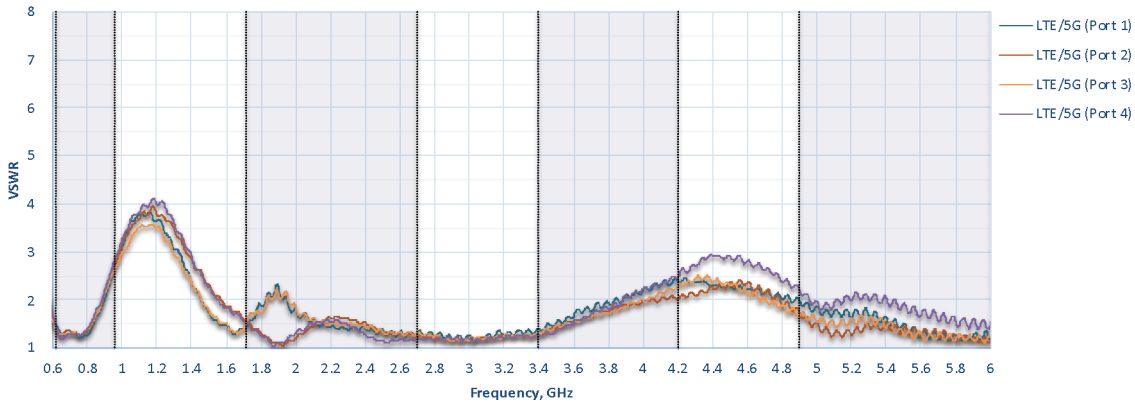


Double sided 3M adhesive pad

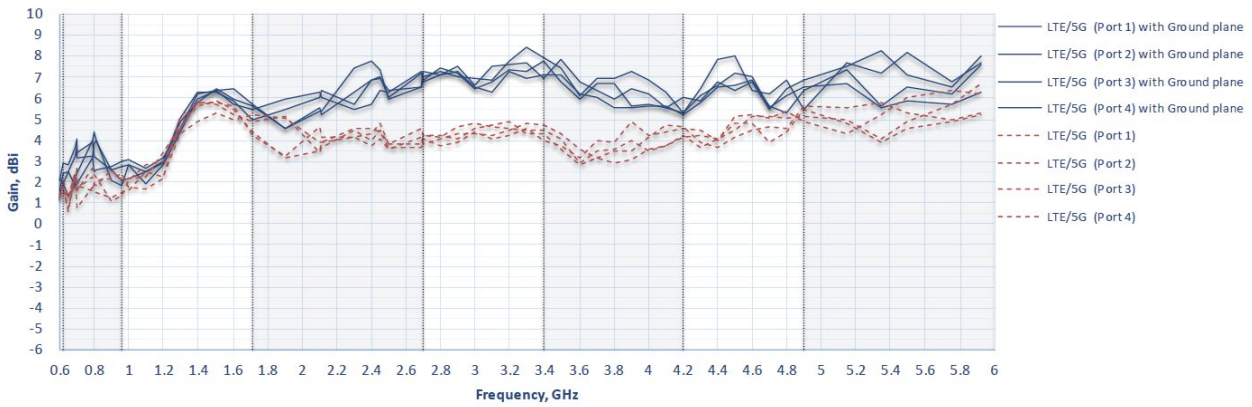


Hose clamp

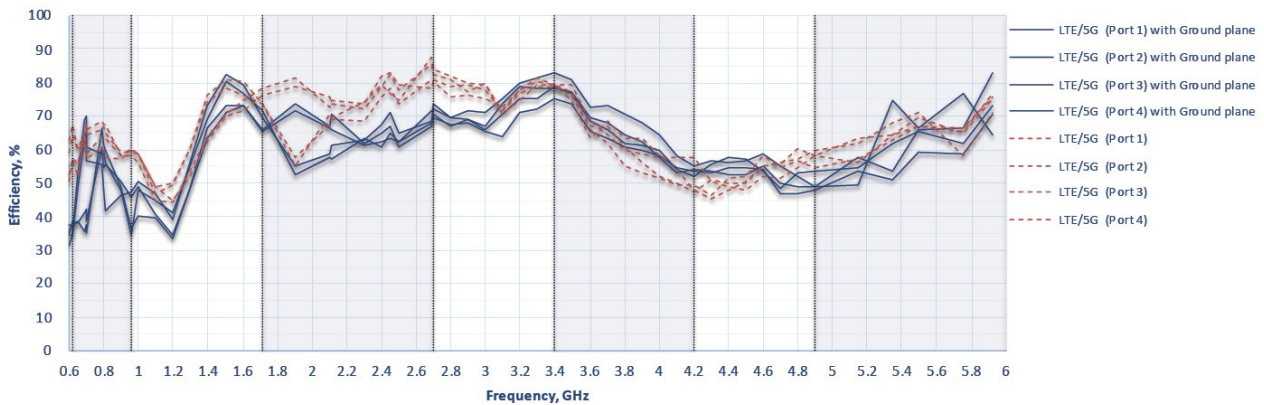
## Cellular Antenna VSWR



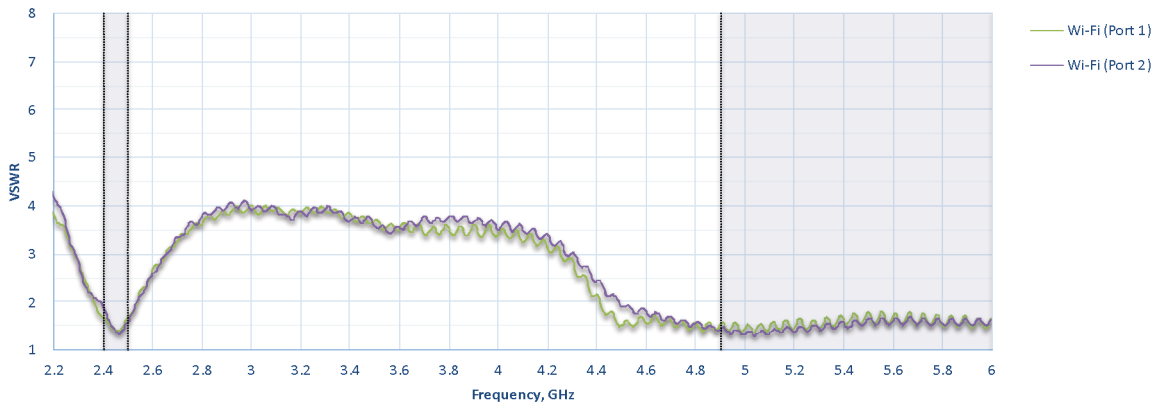
## Cellular Antenna Gain



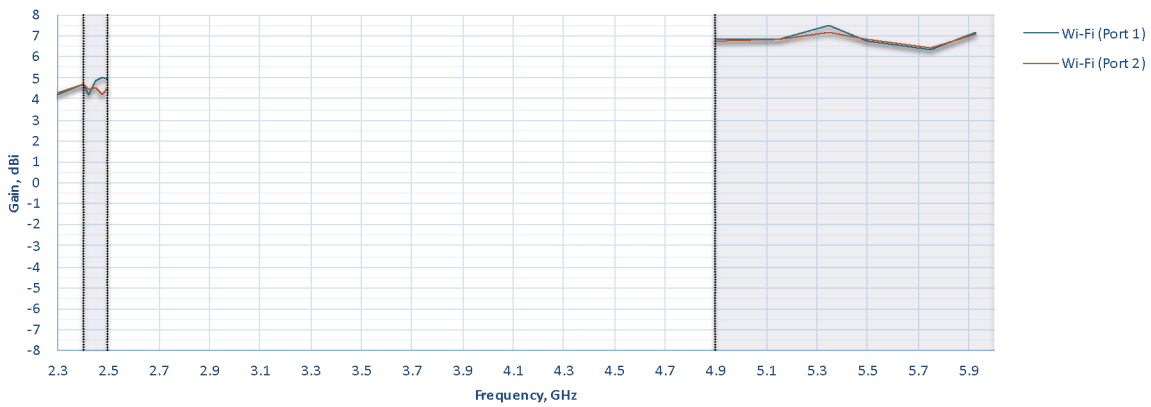
## Cellular Antenna Efficiency



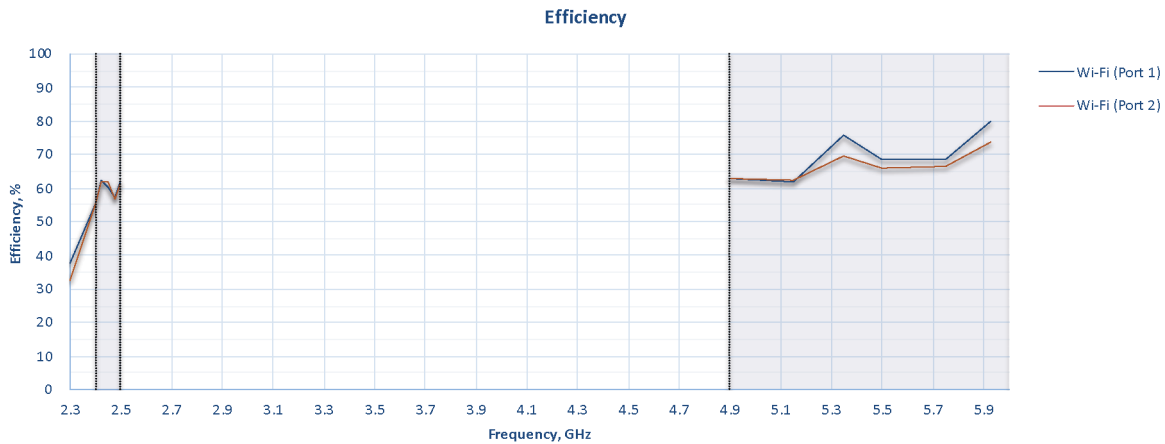
## Wi-Fi Antenna VSWR



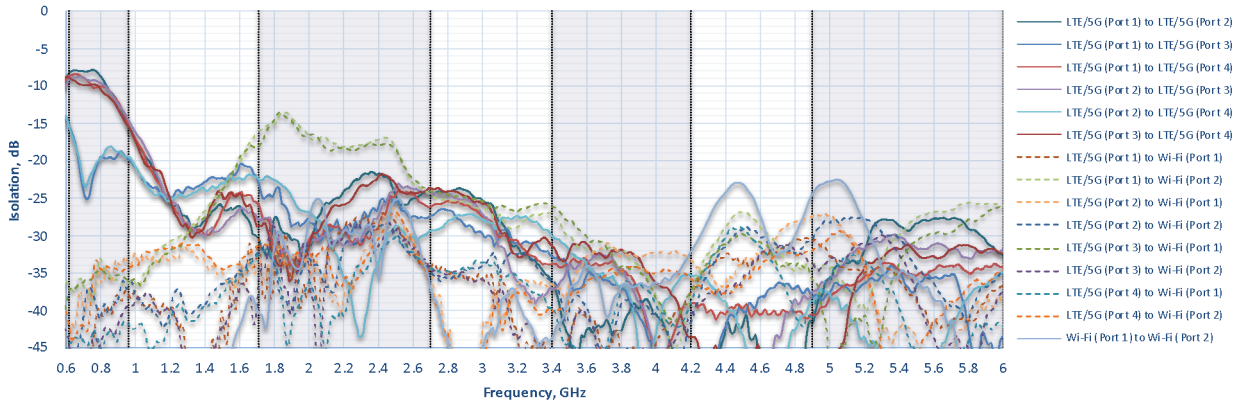
## Wi-Fi Antenna Gain



## Wi-Fi Antenna Efficiency

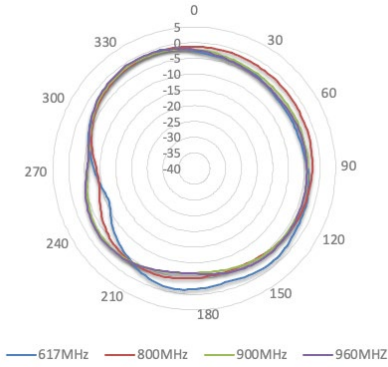


## Antenna Isolation

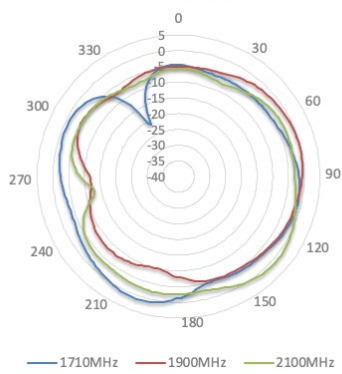


## LTE Radiation Patterns (Azimuth)

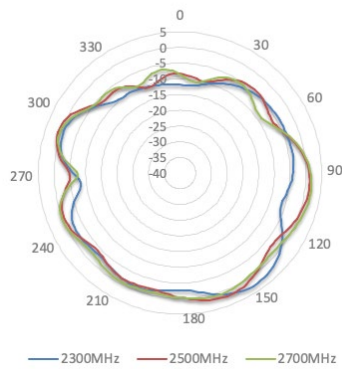
617-960 MHz



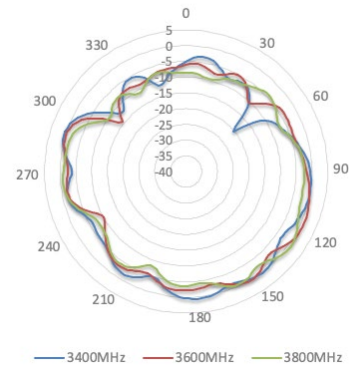
1710-2100MHz



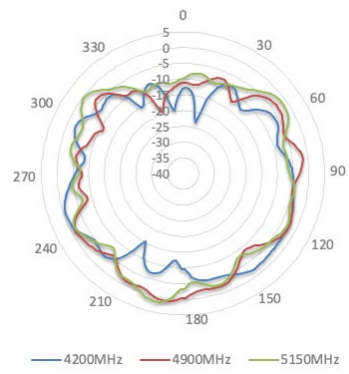
2300-2700 MHz



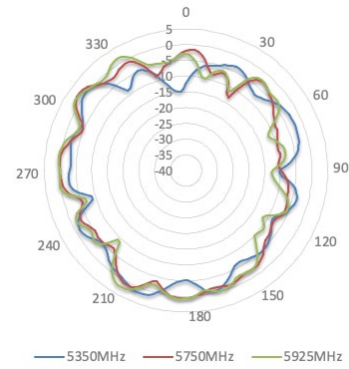
3400-3800 MHz



4200-5150 MHz



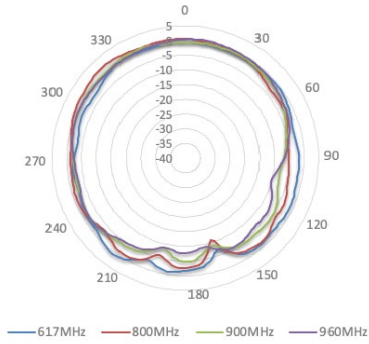
5350-5925 MHz



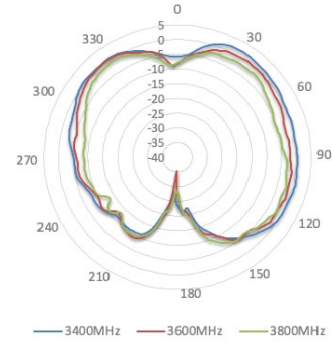
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# LTE Radiation Patterns (Elevation 1)

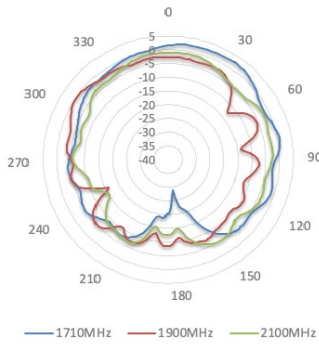
617-960 MHz



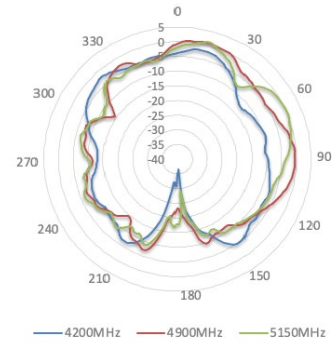
3400-3800 MHz



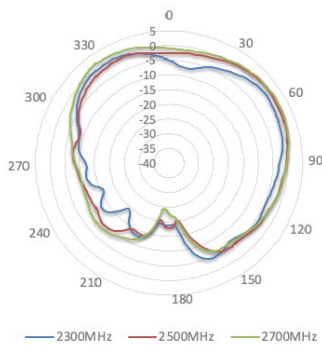
1710-2100MHz



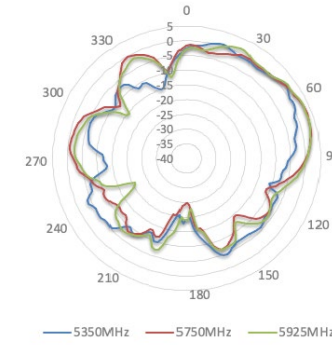
4200-5150 MHz



2300-2700 MHz



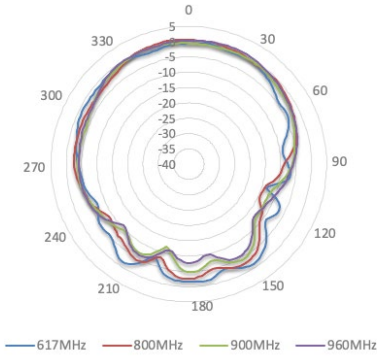
5350-5925 MHz



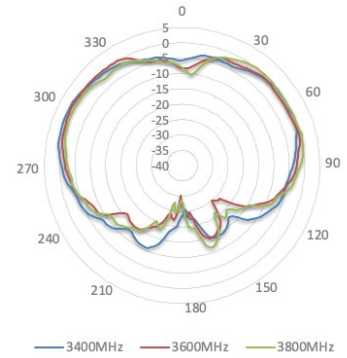
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# LTE Radiation Patterns (Elevation 2)

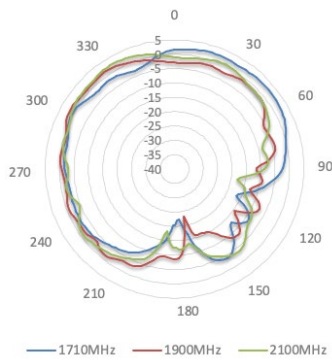
617-960 MHz



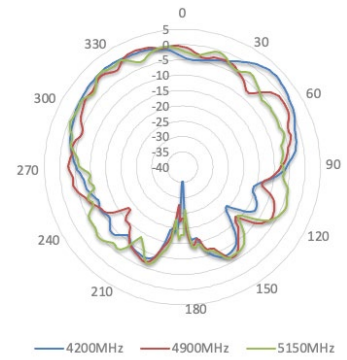
3400-3800 MHz



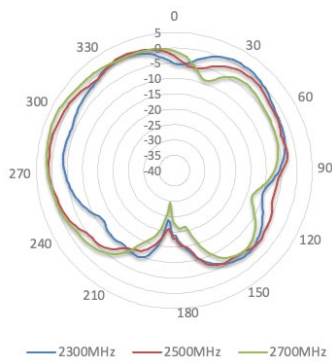
1710-2100MHz



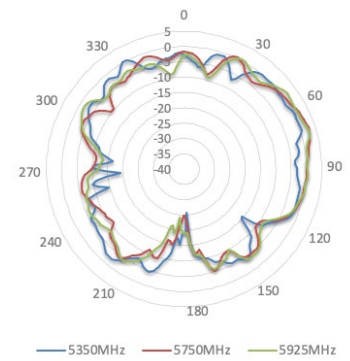
4200-5150 MHz



2300-2700 MHz



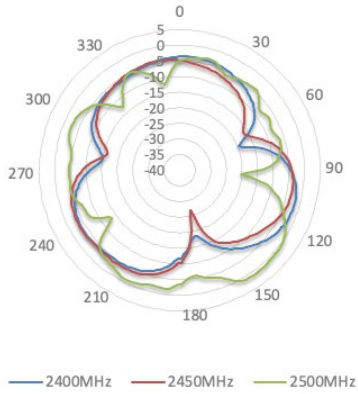
5350-5925 MHz



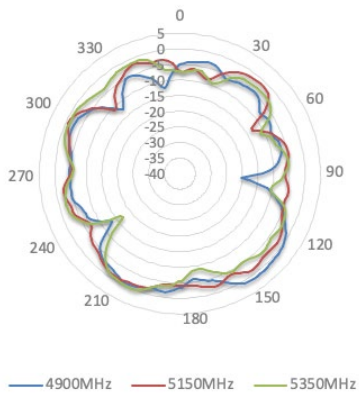
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## Wi-Fi Radiation Patterns (Azimuth)

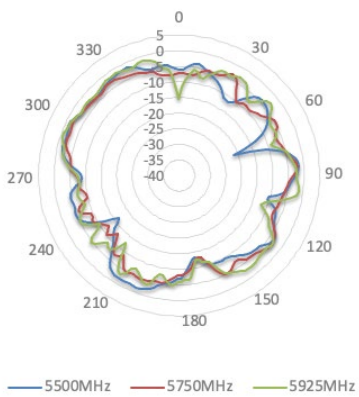
2400-2500 MHz



4900-5350 MHz

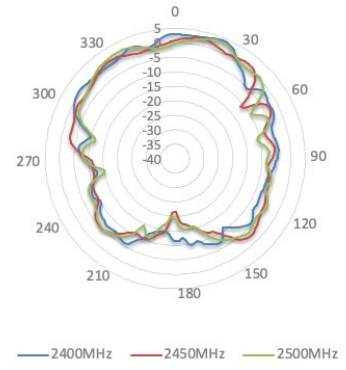


5550-5950 MHz

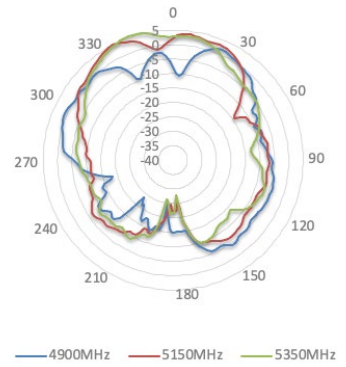


## Wi-Fi Radiation Patterns (Elevation 1)

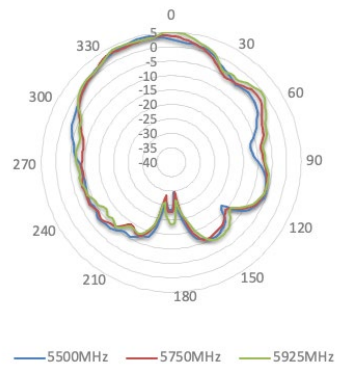
2400-2500 MHz



4900-5350MHz



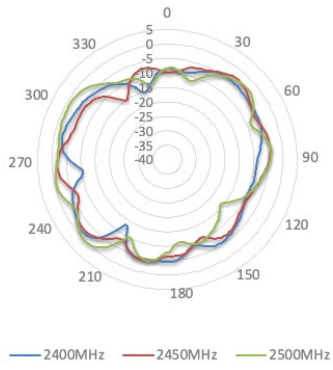
5550-5950 MHz



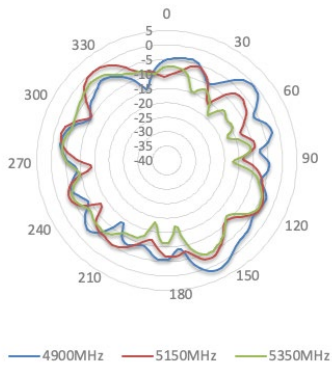
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## Wi-Fi Radiation Patterns (Elevation 2)

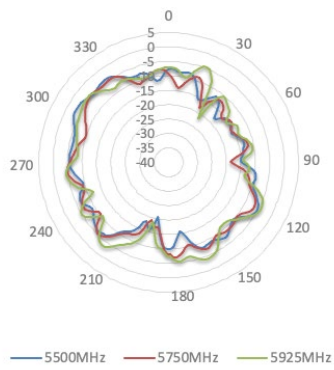
### 2400-2500 MHz



### 4900-5350 MHz



### 5550-5950 MHz



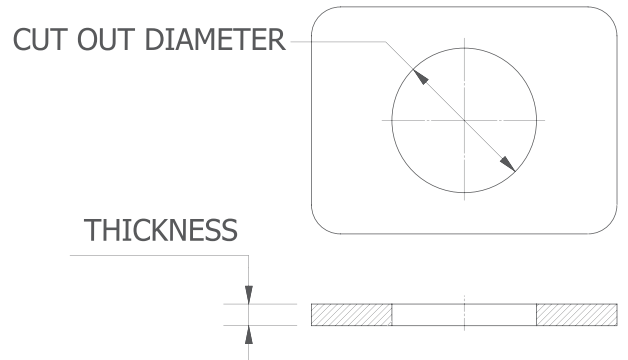
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## Installation Recommendation

Panel Mount



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### Notes

- Cover panel surface to protect the paint work. When drilling a hole, start with a small one, then increase it.
- Cut out diameter should be 1 11/16" / 43mm. Maximum allowed panel thickness - 19/ 32" / 15mm.
- After drilling, clean up the surface and apply some paint around the hole to prevent corrosion. Attach the antenna.

## Installation Recommendation

Pole Mount



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## Installation Recommendation

Horizontal Pole Mount



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## Installation Recommendation

Wall Mount



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