



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

| | | | |
|-------------------|-----------------------|------------------------|------------------------------|
| 8.2 dBi | ↑↓ LTE | Wi-Fi | GPS |
| IP 68 | B71 Support | Built for 5G | C- Band Support |



Specification

Cellular

| | |
|-----------------------|--|
| Antenna elements | 4 elements |
| Cellular frequencies# | 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 |

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

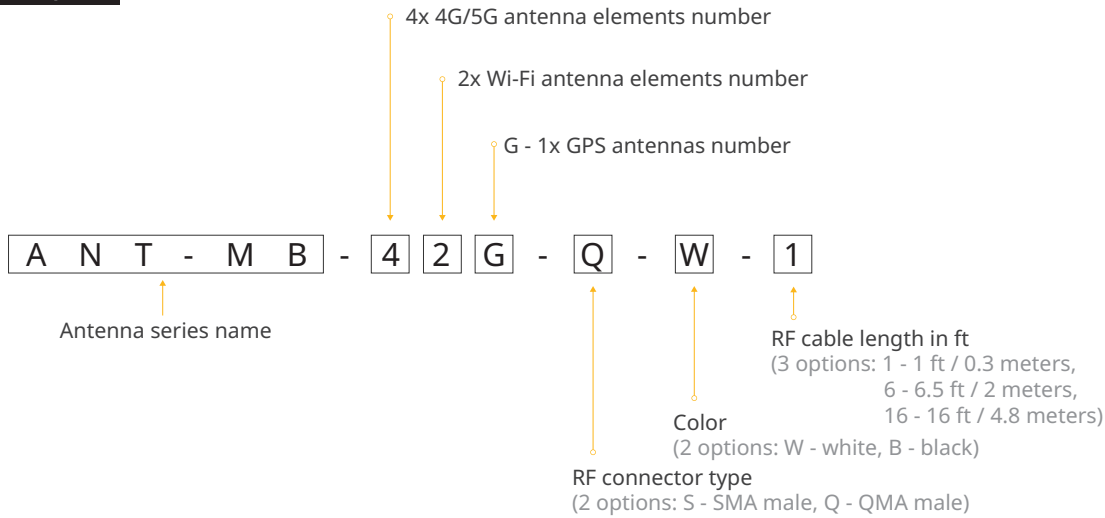
| | |
|-------------|--|
| Antenna | Mobility 42G |
| Accessories | Wall/pole mount Double sided 3M adhesive pad (Diameter: 8.19" / 208 mm Thickness: 0.08" / 2 mm) |

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 | 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 |

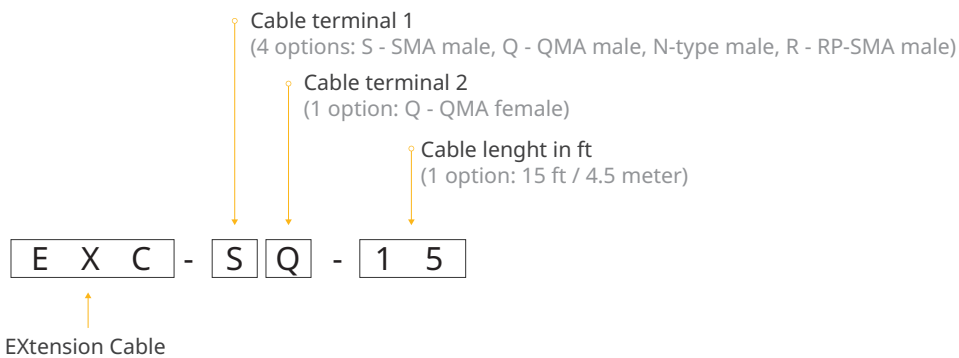
Ordering Information

Mobility 42G

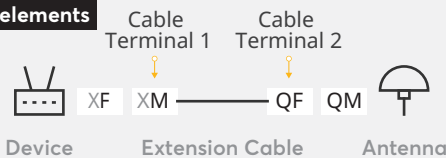


| Product Code | Description |
|-------------------|---|
| ANT-MB-42G-S-W-1 | 4xLTE/5G, 2x Wi-Fi, 1xGPS 600-6000MHz, IP68, SMA male (Cellular, GPS), RP-SMA male (Wi-Fi), White, 1 ft / 0.3m |
| ANT-MB-42G-S-B-1 | 4xLTE/5G, 2x Wi-Fi, 1xGPS 600-6000MHz, IP68, SMA male (Cellular, GPS), RP-SMA male (Wi-Fi),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

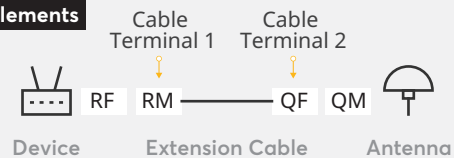
Extension cable



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

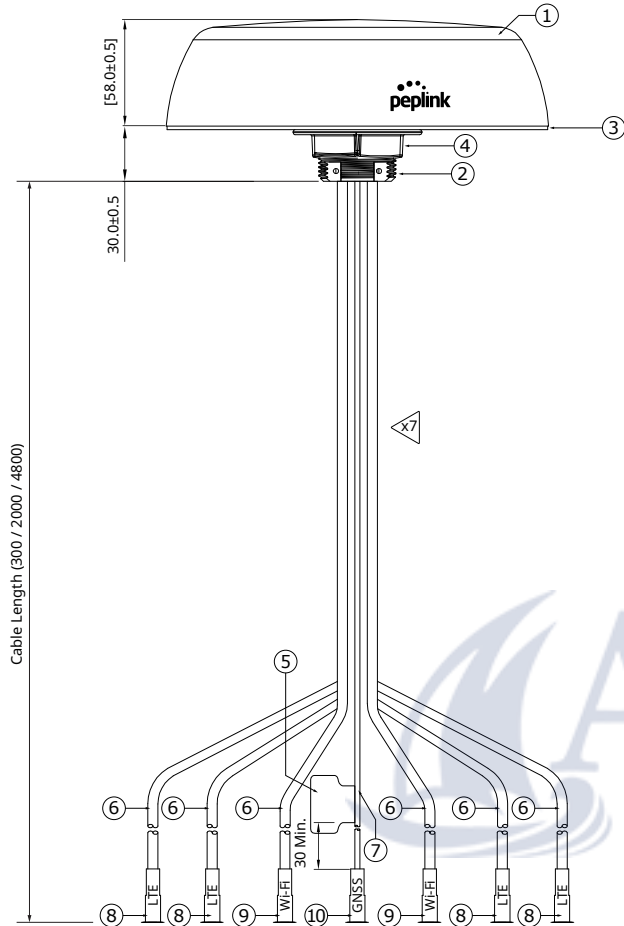
| Product Code | Description |
|--------------|---|
| ACW-661 | 3M Double-sided Adhesive Antenna Mounting Gasket |
| ACW-881 | Wall/pole L-mount Antenna mounting kit (white) |
| ACW-884 | Wall/pole L-mount Antenna mounting kit (black) |
| ACW-651 | Maritime 1" 14TPI Female to Mobility Antenna thread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



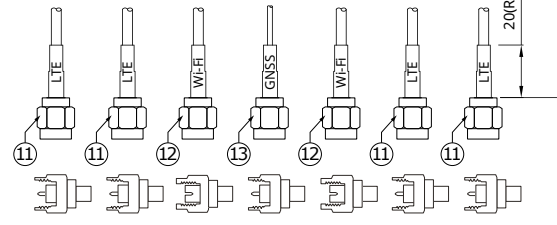
Technical drawing

(unit: mm)

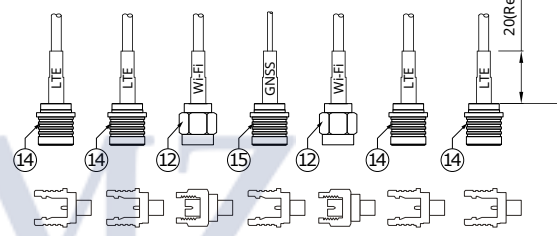
Antenna



SMA Male

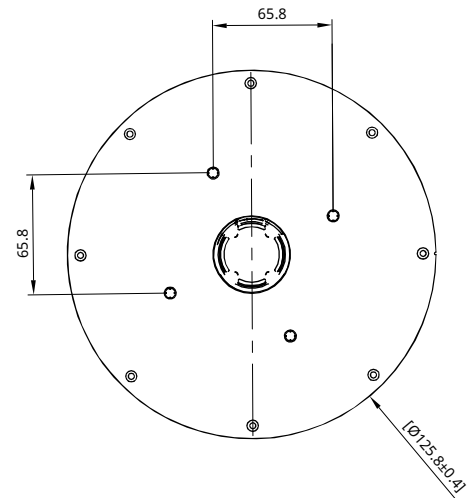


QMA Male



Index

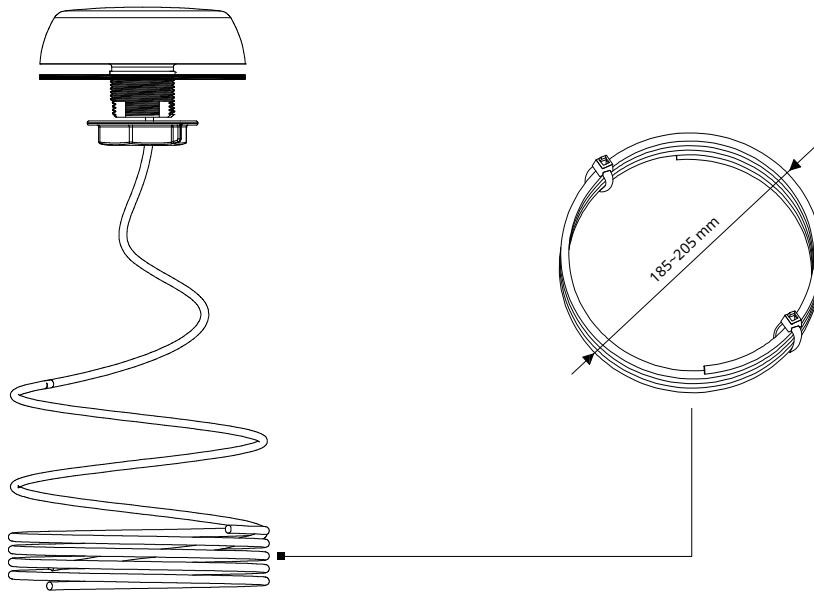
| No. | Description | Qty |
|-----|---------------------------------------|-----|
| 1 | Antenna top cover (PC) | 1 |
| 2 | Antenna bottom cover (PC) | 1 |
| 3 | Double sided 3M adhesive pad | 1 |
| 4 | Hexagon NUT (PC) | 1 |
| 5 | Label | 1 |
| 6 | Cable CFD-200 (4G/5G, Wi-Fi) | 6 |
| 7 | Cable RG-174 (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 |



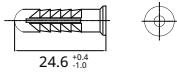
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Technical drawing

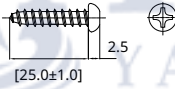
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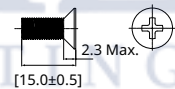
Mounting Set



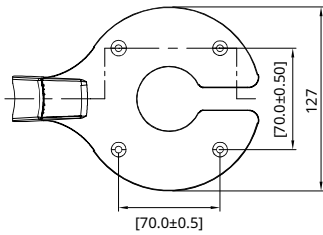
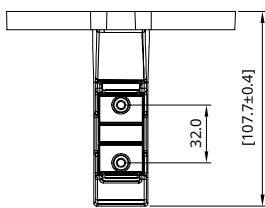
Plastic fixing for M3.5 screw
(2 pcs)



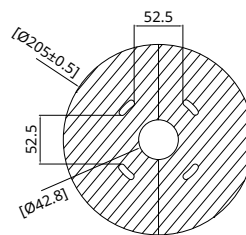
Tapping screws
(2 pcs, M3.5*24L)



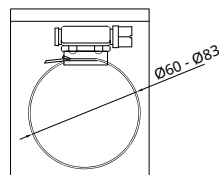
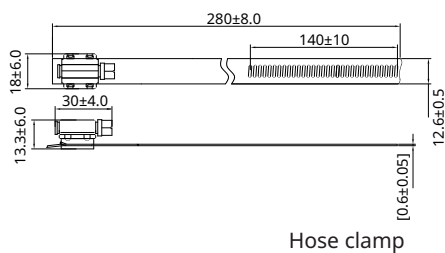
Screws
(4 pcs, M4*P0.7*15L)



Mounting bracket

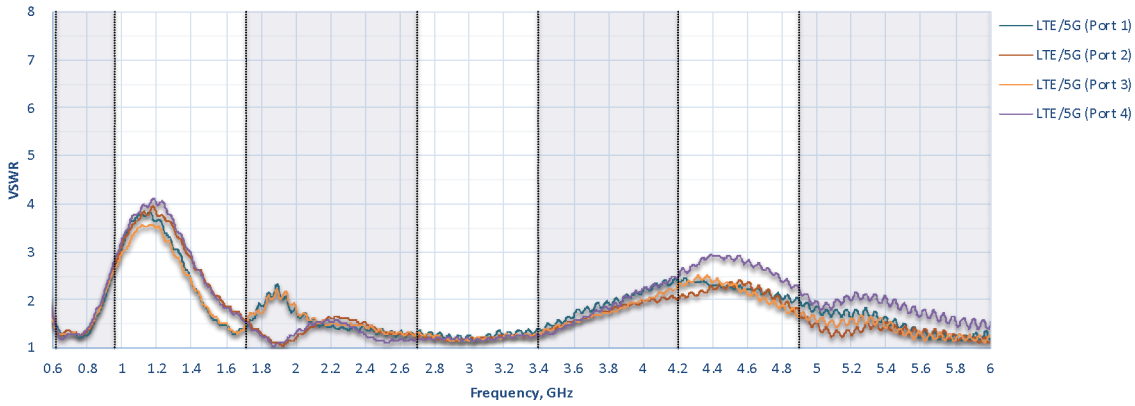


Double sided 3M adhesive pad

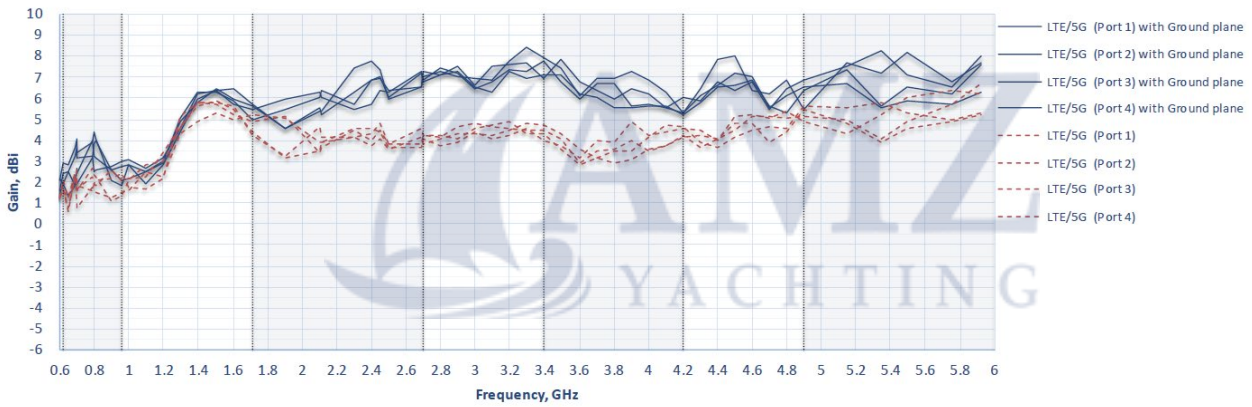


Hose clamp

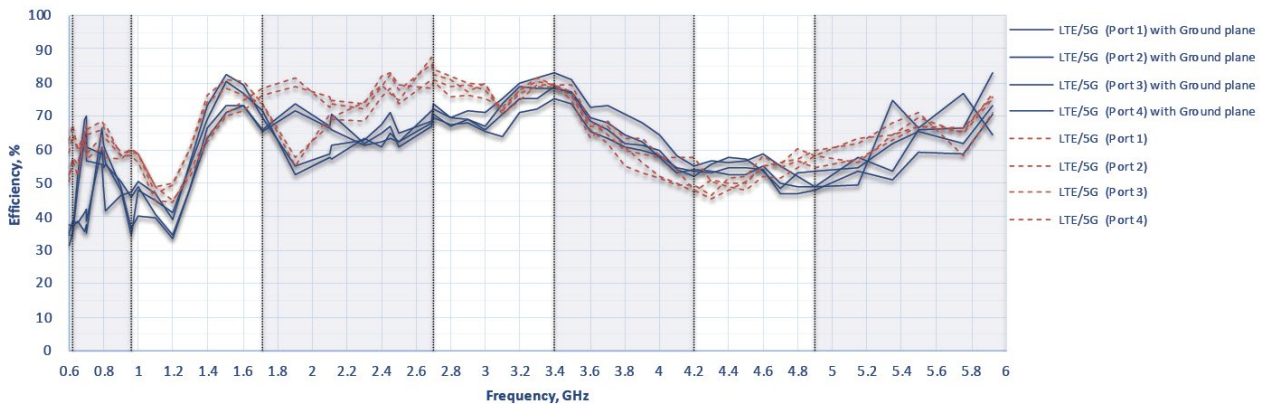
Cellular Antenna VSWR



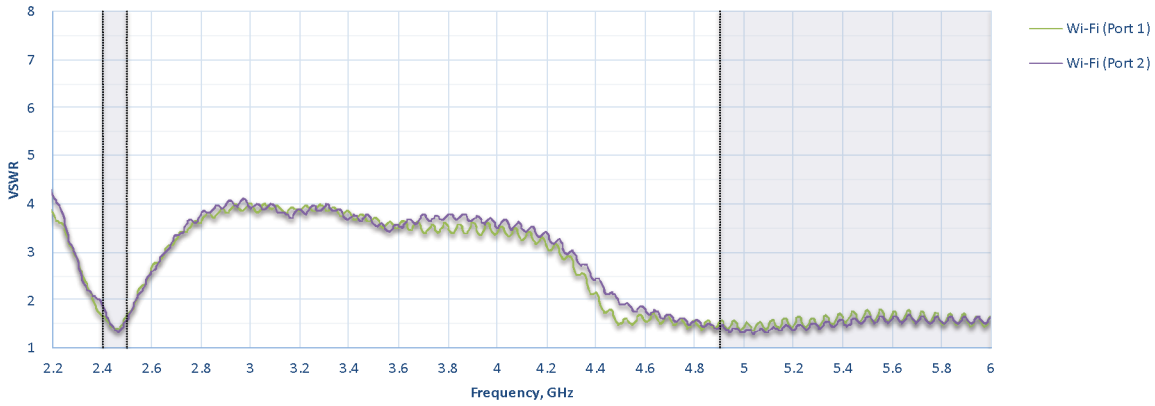
Cellular Antenna Gain



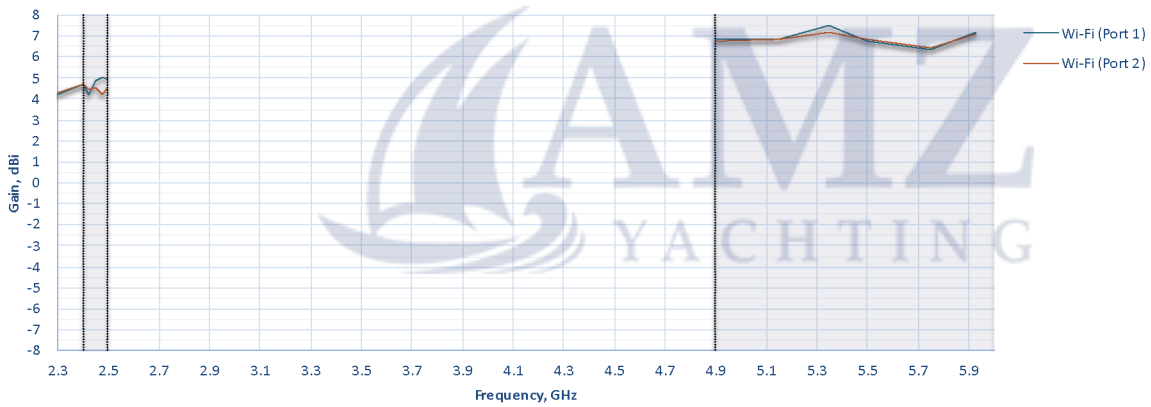
Cellular Antenna Efficiency



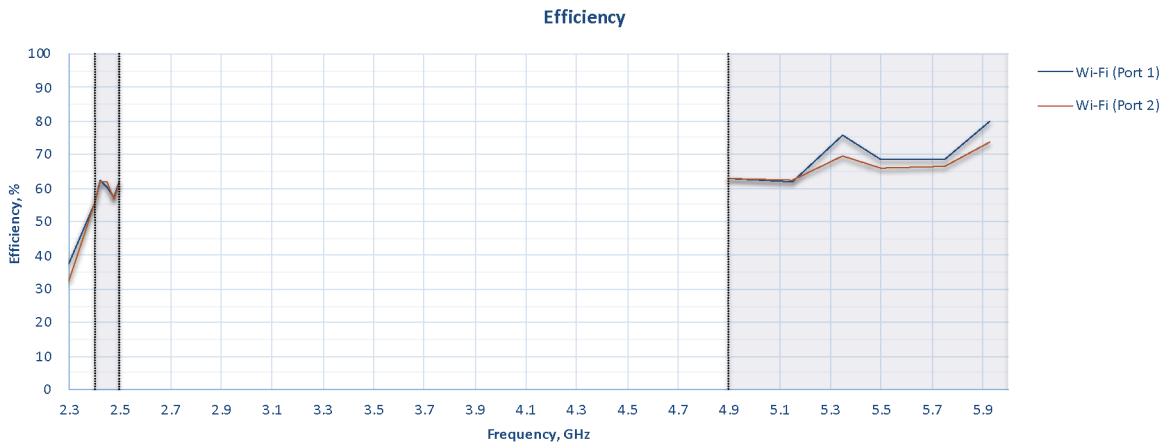
Wi-Fi Antenna VSWR



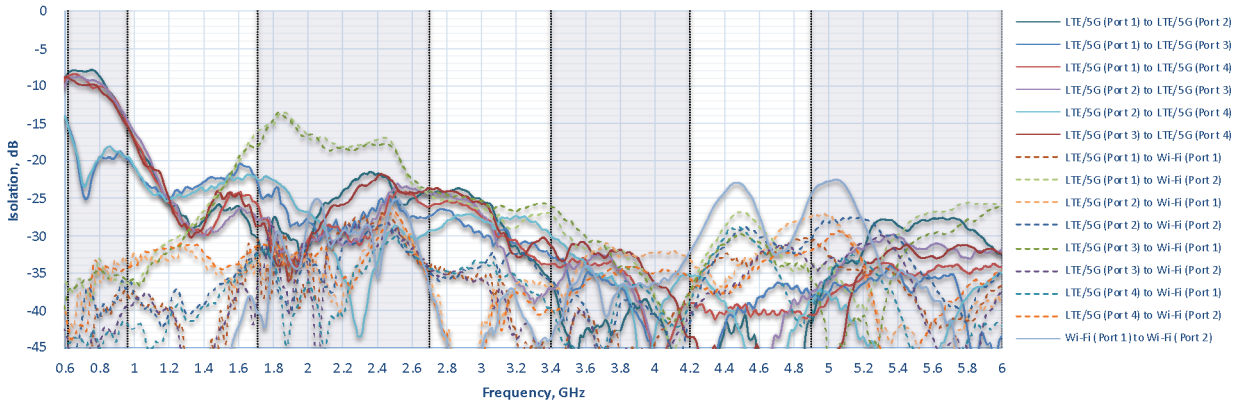
Wi-Fi Antenna Gain



Wi-Fi Antenna Efficiency

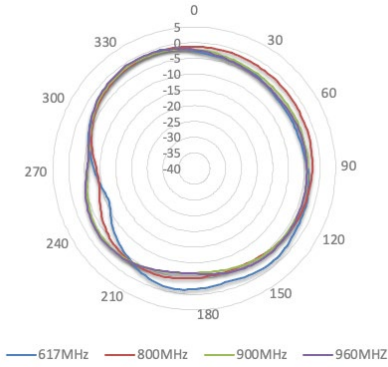


Antenna Isolation

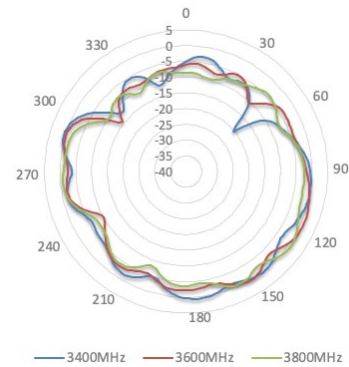


LTE Radiation Patterns (Azimuth)

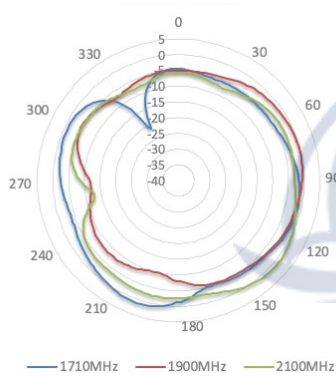
617-960 MHz



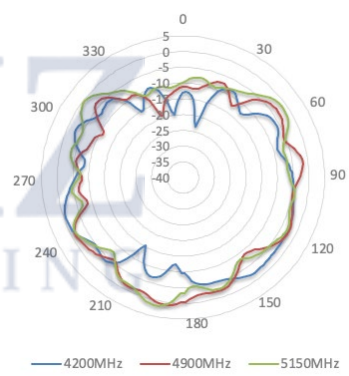
3400-3800 MHz



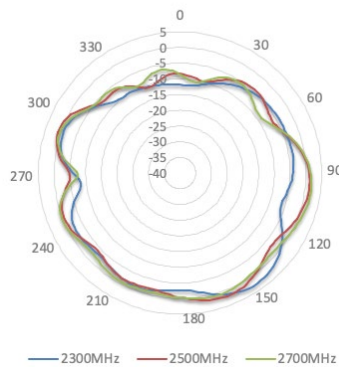
1710-2100MHz



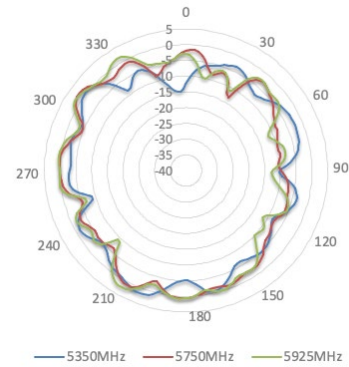
4200-5150 MHz



2300-2700 MHz



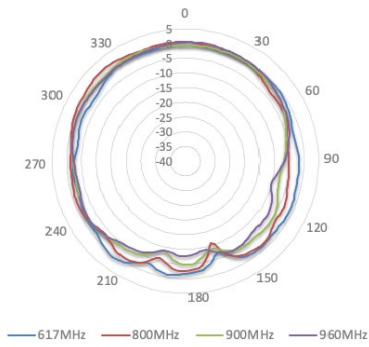
5350-5925 MHz



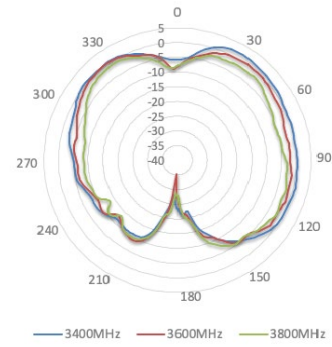
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LTE Radiation Patterns (Elevation 1)

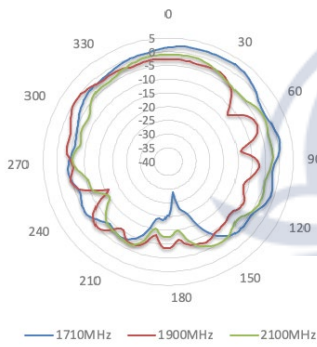
617-960 MHz



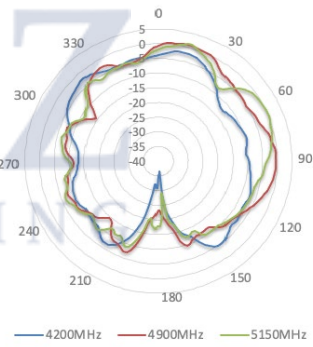
3400-3800 MHz



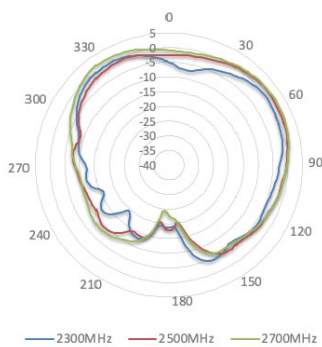
1710-2100MHz



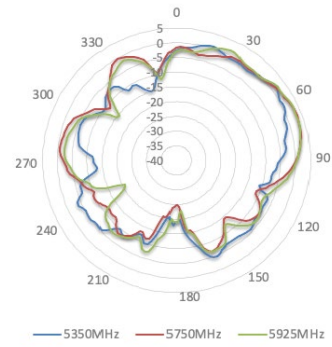
4200-5150 MHz



2300-2700 MHz



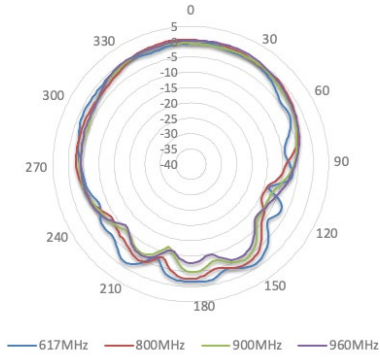
5350-5925 MHz



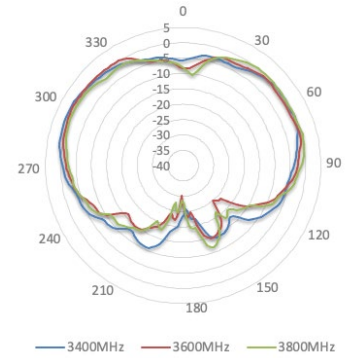
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LTE Radiation Patterns (Elevation 2)

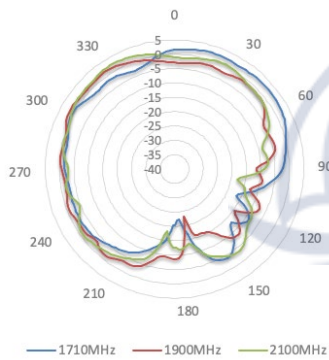
617-960 MHz



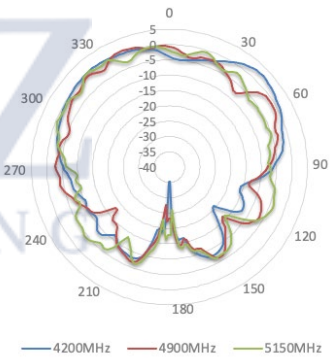
3400-3800 MHz



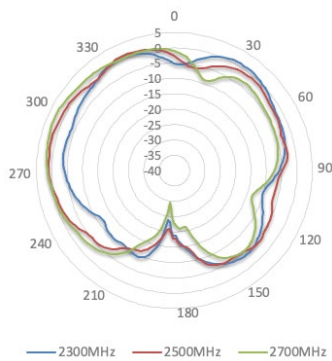
1710-2100MHz



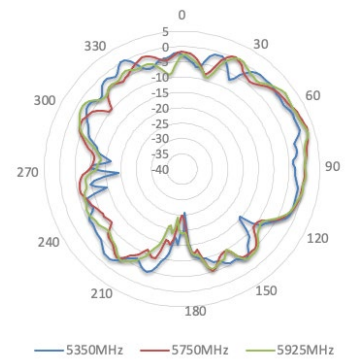
4200-5150 MHz



2300-2700 MHz



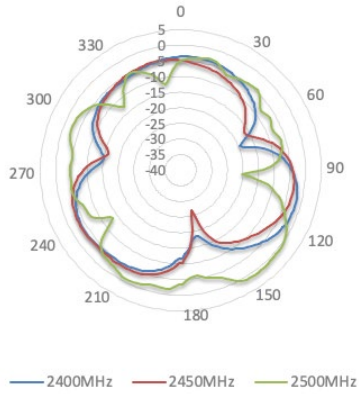
5350-5925 MHz



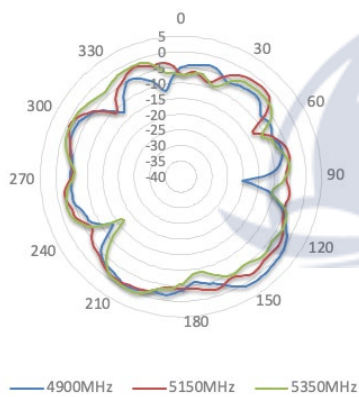
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Wi-Fi Radiation Patterns (Azimuth)

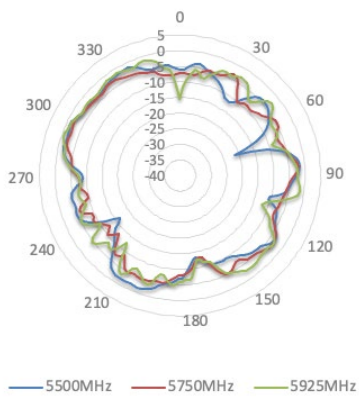
2400-2500 MHz



4900-5350 MHz

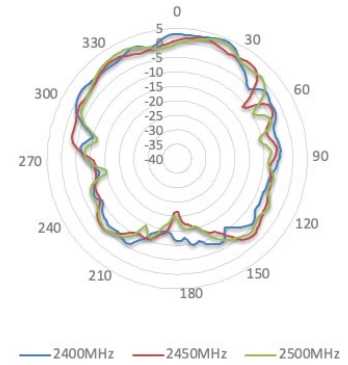


5550-5950 MHz

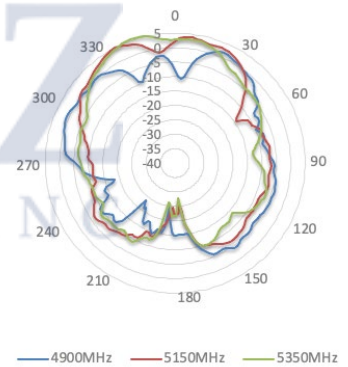


Wi-Fi Radiation Patterns (Elevation 1)

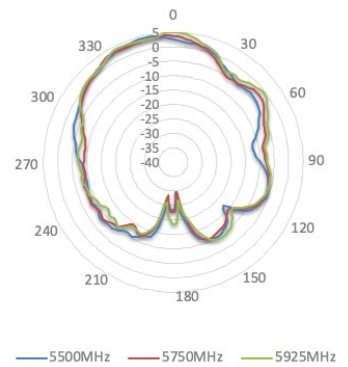
2400-2500 MHz



4900-5350MHz



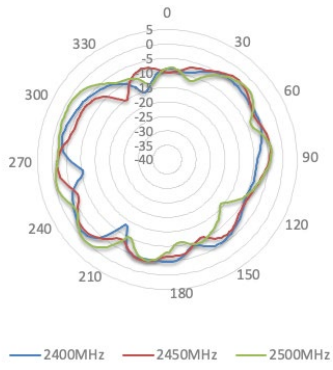
5550-5950 MHz



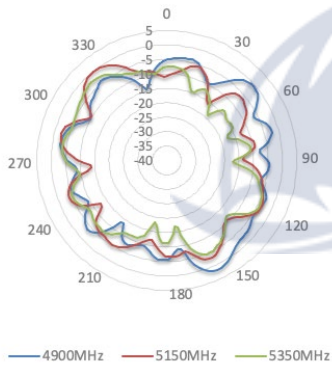
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Wi-Fi Radiation Patterns (Elevation 2)

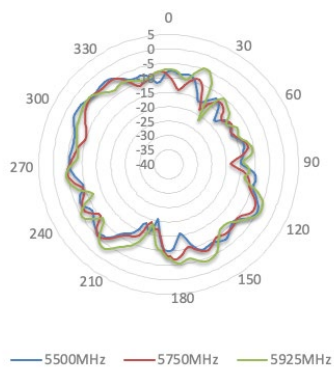
2400-2500 MHz



4900-5350 MHz



5550-5950 MHz



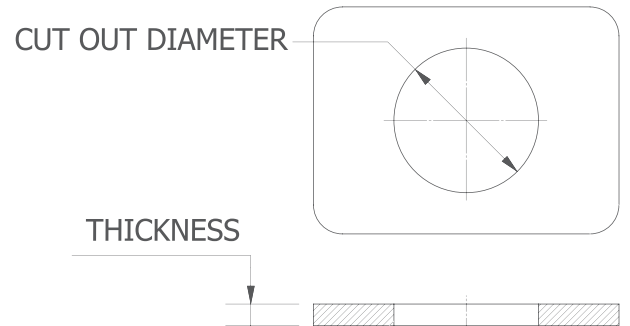
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Installation Recommendation

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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