



GAR VFT69383X2NJV

3-Port Vehicular MIMO Antenna 698-960/1690-3800 MHz

The Gar VFT69383x2NJV multiport/multiband antenna provides an excellent solution for public safety, transportation, and aftermarket fleet applications. Configured for two-port operation over the 3G/4G/5G/ISM/CBRS bands and an additional port providing an active antenna for enabling GNSS global navigation services.

FEATURES AND BENEFITS

- One single-hole mount/fixing- reduces vehicle damage and the cost of installation
- Attractive IP67 low profile aerodynamic housing
- Multiband/Multiport operation LTE/GNSS navigation
- Operates well on a ground plane and without a ground plane

APPLICATIONS

- FirstNet/Public safety
- Transportation
- Aftermarket fleet
- 5G-ready
- Rugged LTE gateways
- Others

ELECTRICAL SPECIFICATIONS

| Antenna Model | VFT69383x2NJV | | | | | | | | |
|--|-----------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Number of Ports | 3 | | | | | | | | |
| Port Configuration | 2X - 3G/4G/5G/ISM/CBRS (LTE/CELL) | | | | | | | | |
| Operating Frequency (MHz) | 698-806 | 824-894 | 880-960 | 1690-1880 | 1850-1990 | 1910-2180 | 2300-2500 | 2500-2700 | 3300-3800 |
| Avg. Peak Gain* (dBi) - Gnd. Plane [No Gnd. Plane] | 0.7 [1.1] | 0.5 [1.6] | 0.2 [2.1] | 3.7 [1.2] | 3.0 [1.3] | 2.5 [1.2] | 3.7 [1.2] | 4.6 [1.5] | 5.5 [2.2] |
| Max Peak Gain* (dBi) - Gnd. Plane [No Gnd. Plane] | 2.0 [2.1] | 1.3 [3.2] | 2.2 [3.7] | 4.7 [1.1] | 3.6 [1.6] | 3.4 [1.6] | 5.1 [1.6] | 5.1 [2.4] | 7.5 [3.8] |
| VSWR** - Avg, Gnd. Plane [No Gnd. Plane] | 1.8 [1.9] | 1.8 [1.8] | 1.4 [1.7] | 1.6 [1.7] | 1.6 [1.5] | 1.5 [1.5] | 1.4 [1.6] | 1.4 [1.5] | 1.5 [1.3] |
| VSWR** - Max, Gnd. Plane [No Gnd. Plane] | 2.5 [2.5] | 2.2 [2.5] | 2.2 [2.5] | 2.0 [2.1] | 2.0 [2.1] | 2.2 [2.1] | 2.1 [2.1] | 2.0 [2.1] | 2.0 [2.1] |
| Isolation** (dB)- Gnd. Plane [No Gnd. Plane] | | | | | | | | | |
| LTE1 to LTE2 | -10 [-12] | -12 [-14] | -14 [-14] | -17 [-16] | -18 [-16] | -18 [-16] | -22 [-22] | -21 [-23] | -25 [-26] |
| LTE1 to GNSS | -41 [-40] | -45 [-42] | -45 [-42] | -41 [-39] | -49 [-45] | -50 [-48] | -60 [-55] | -56 [-53] | -47 [-45] |
| LTE2 to GNSS | -42 [-39] | -38 [-38] | -38 [-37] | -44 [-42] | -49 [-46] | -49 [-45] | -41 [-38] | -55 [-50] | -44 [-40] |

ELECTRICAL SPECIFICATIONS

| | |
|------------------------------|-----------------------|
| Azimuth Plane 3 dB Beamwidth | 360°, Omnidirectional |
| Nominal Impedance (Ohms) | 50 |
| Polarization | Linear Vertical |
| Max Power - Ambient 25°C (W) | 30 (LTE/CELL) |

Notes: (*) - This parameter is based on a 30cm (1ft) cable length. For the ground plane measurement, a 30cm (1ft) ground plane was used
 (**) - This parameter is based on a 518cm (17ft) cable length. For the ground plane measurement, a 30cm (1ft) ground plane was used. Antenna specifications are subject to change according to the ground plane size.

MECHANICAL SPECIFICATIONS

| | |
|--------------------------------------|---|
| Dimensions - L x W x H - mm (inches) | 179 x 63 x 48 (7.04 x 2.48 x 1.69) |
| Weight - kg (lbs.) | 0.74 kg (1.6 lbs) |
| Cable Type | LMR 100- pigtails, LMR 195- jumper cables |
| Mounting | P-Mount |
| Color | Black or White |
| Radome Material | PC, UL94-V0 |
| Baseplate Material | Aluminum |

ENVIRONMENTAL SPECIFICATIONS

| | |
|---------------------------------|--|
| Operating Environment | Outdoor Vehicle |
| Operating Temperature - °C (°F) | -40 to +85°C (-40 to +185°F) |
| Storage Temperature - °C (°F) | -40 to +85°C (-40 to +185°F) |
| Ingress Protection Rating | IP67 |
| Rail Compliance Standards | EN61373 (shock and vibration), EN50155 (temperature) |
| Material Substance Compliance | RoHS |

CONFIGURATION

| PART NUMBER | CABLE LENGTH | | CONNECTORS | | COLOR |
|---------------------|---------------|---------------|------------|----------|-------|
| | PIGTAIL | JUMPER | LTE/CELL | GNSS | |
| VFT69383B2NJJN-518Q | 0.3 m (1 ft.) | 4.9 m (16 ft) | SMA-male | SMA-male | Black |
| VFT69383W2NJJN-518Q | 0.3 m (1 ft.) | 4.9 m (16 ft) | SMA-male | SMA-male | White |

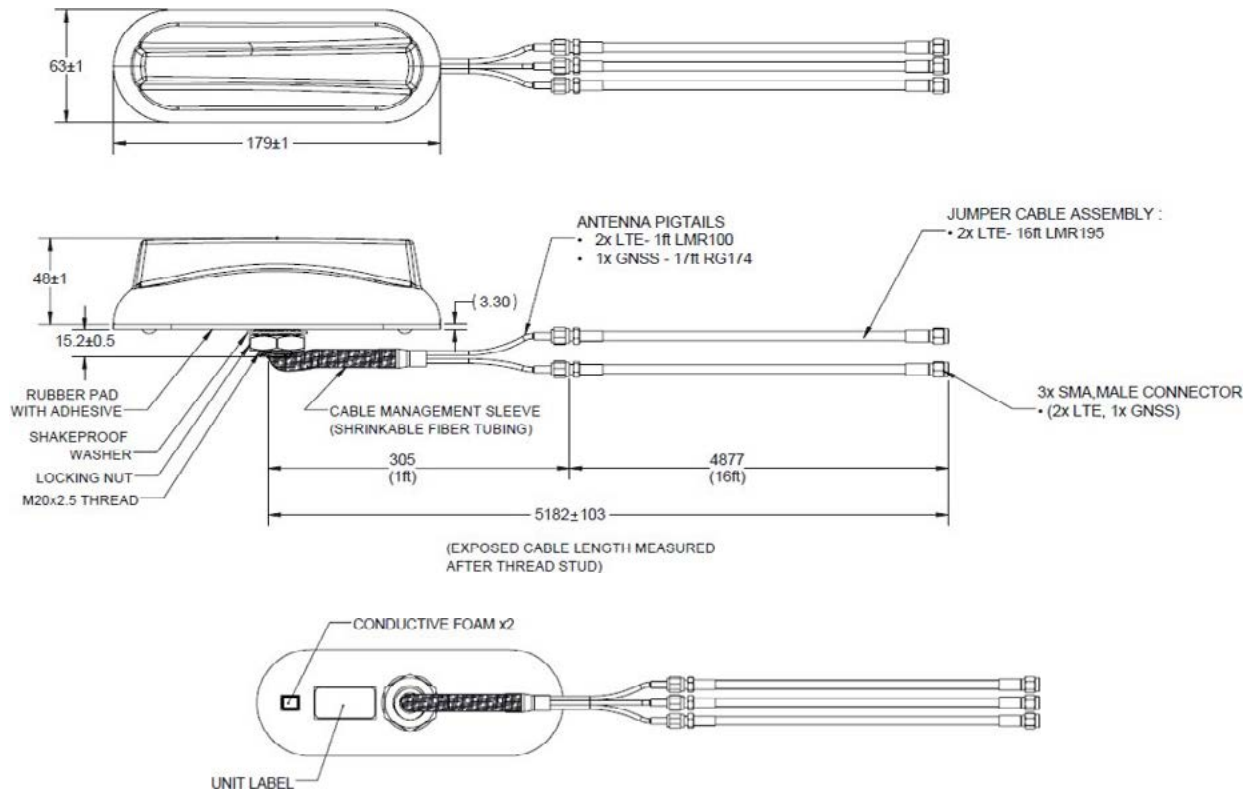
GNSS ANTENNA SPECIFICATIONS

| | | | | | |
|--|------------------------|--------------------------|--------------------------|--------------------------|-----------------------|
| Frequency of Operation (MHz) | 1559 - 1606 | | | | |
| Band | BEIDOU | GPS | GLONASS | | |
| Frequency Band (MHz) | 1561.098 ±2.046 | 1575.42 ±1.023 | 1602 ±5 | | |
| Absolute Gain (dBi) - Gnd. Plane [No Gnd. Plane] | 3.4 [3.5] | 4.9 [5.1] | 5.4 [4.7] | | |
| LNA Gain, Typ. @ room temp. (dBi) | 28 ±3 | | | | |
| Noise Figure @ room temp., Max (dB) | ≤ 2.5 @ 1575 MHz | | | | |
| Max VSWR @ room temp. | ≤ 2.0 | | | | |
| Polarization | RHCP | | | | |
| Nominal Impedance (Ohms) | 50 | | | | |
| DC Voltage (Vdc) | 3.3 | | | | |
| Operating Supply Voltage (Vdc) | 2.5 - 7.0 | | | | |
| Current Consumption, Max @ room temp mA) | 8.5 ± 3 @ 3.0V | | | | |
| Out-of-band Signal Rejection Min @ room temp (dBc) | 80 @ 698-960 MHz | 80 @ 1428-1511 MHz | 50 @ 1627-1638 MHz | 80 @ 1710-2700 MHz | 70 @4900- 5800 MHz |
| Input Max Power (dBm) | -10 | | | | |
| Cable Type | RG174, Black | | | | |

PACKAGING INFORMATION

| PACKAGED DIMENSIONS | CARTON | MASTER CARTON | AIR PALLET | OCEAN PALLET |
|----------------------------|------------|---------------|--------------|--------------|
| Number of Antennas | 1 | 4 | 140 | 196 |
| Height - mm (in.) | 130 (5.12) | 235 (9.25) | 1335 (52.56) | 1813 (71.38) |
| Length - mm (in.) | 222 (8.74) | 543 (21.38) | 1200 (47.24) | 1200 (47.24) |
| Width - mm (in.) | 222 (8.74) | 232 (9.13) | 800 (31.5) | 800 (31.5) |
| Shipping Weight - kg (lb.) | 0.97(2.1) | 4.41 (9.72) | 167 (368) | 229 (504) |

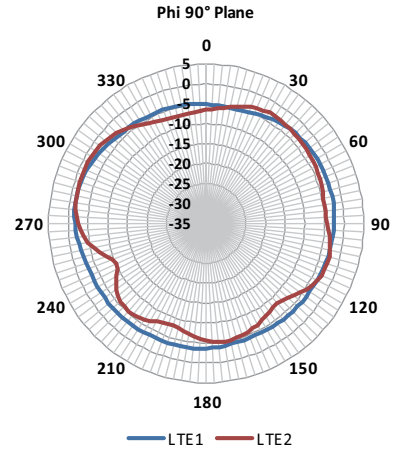
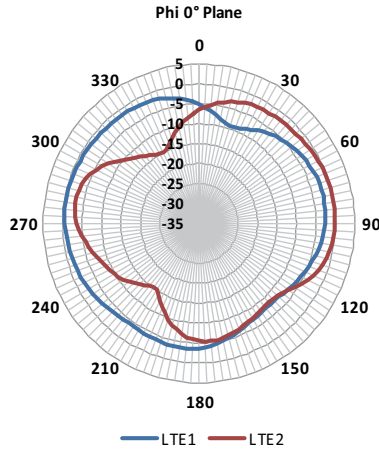
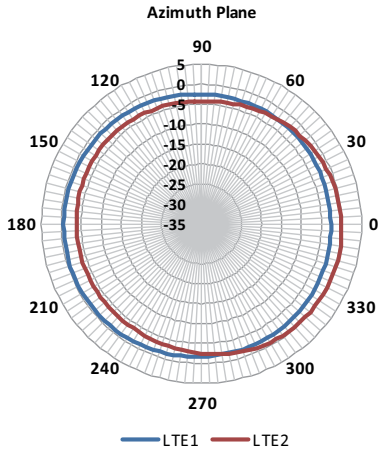
MECHANICAL DRAWINGS



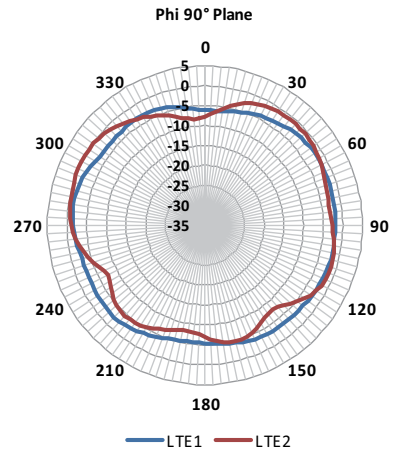
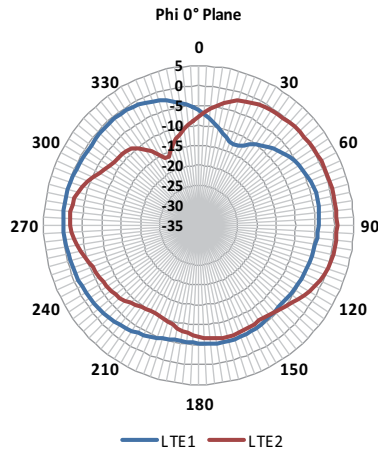
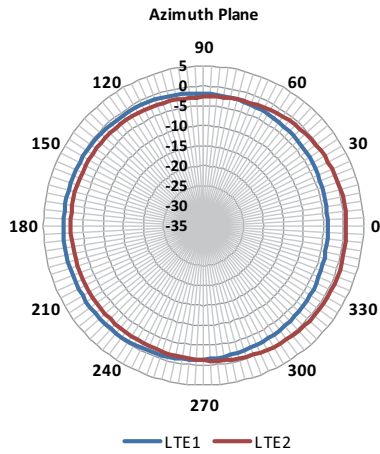
The Gar antenna can create an IP67 water-tight seal when installed on vehicles. Certain vehicles such as a Ford Explorer Interceptor have more narrow roof ridges that are tightly spaced together. For this type, vehicle special adapters are available. See parts BKIT-VFX69383-001 (between ridges installation) and BKIT-VFX69383-003 (atop ridge installation) for product details.

RADIATION PATTERNS WITH GROUND PLANE - LTE ANTENNAS

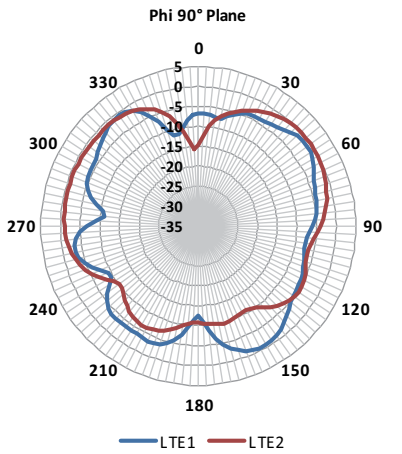
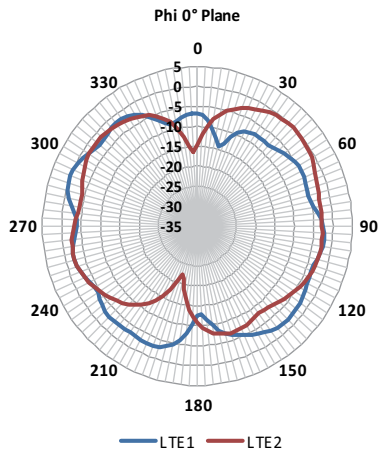
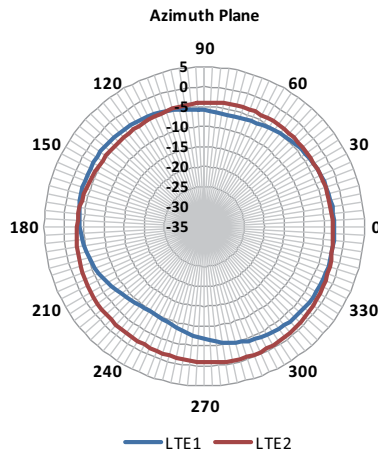
698 MHz



725 MHz

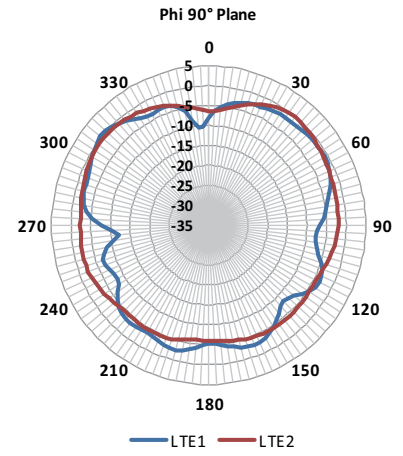
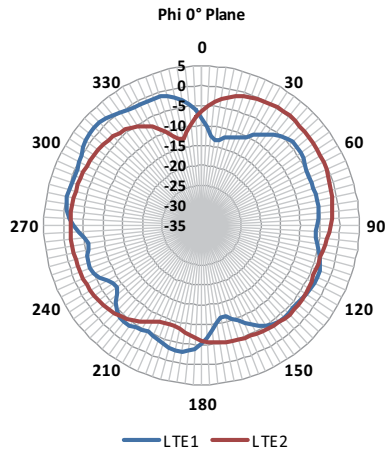
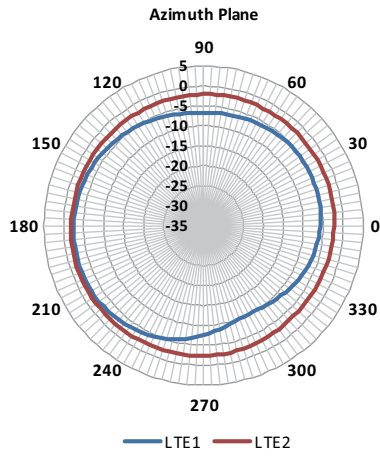


880 MHz

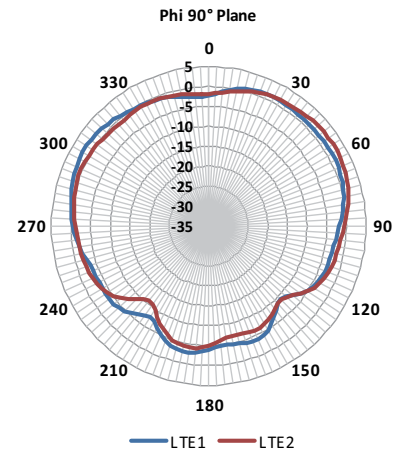
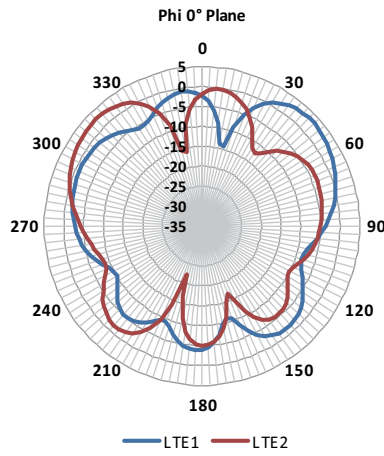
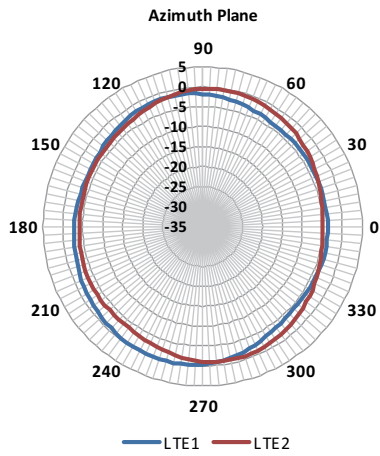


RADIATION PATTERNS WITH GROUND PLANE - LTE ANTENNAS

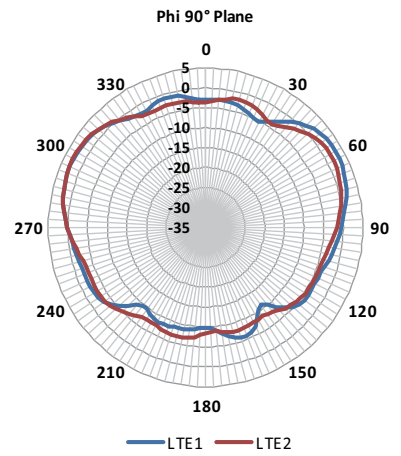
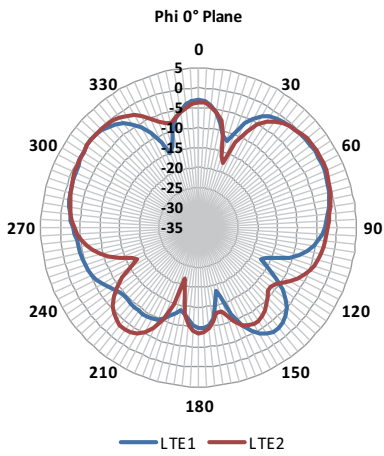
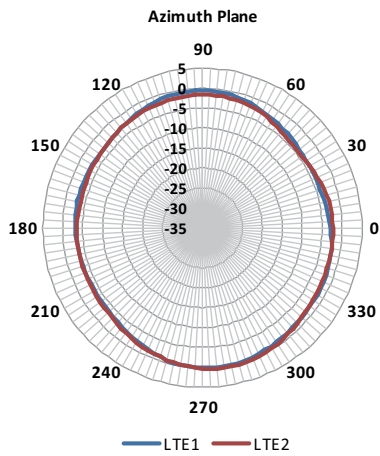
960 MHz



1690 MHz

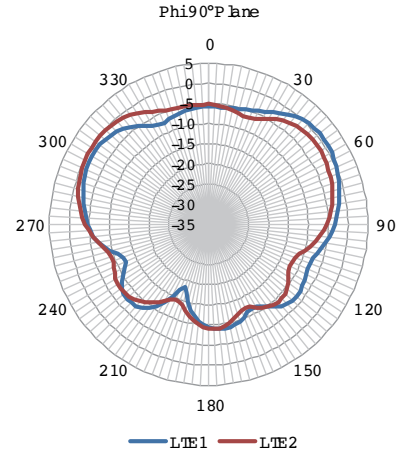
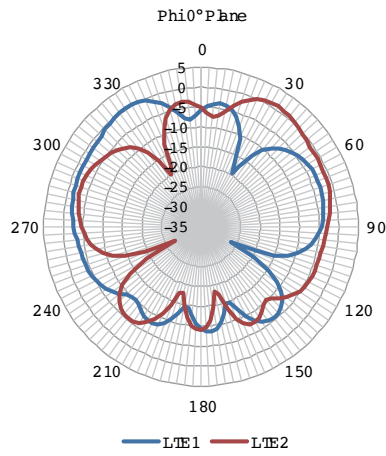
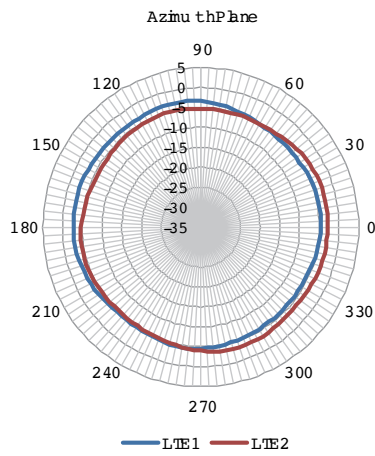


1920 MHz

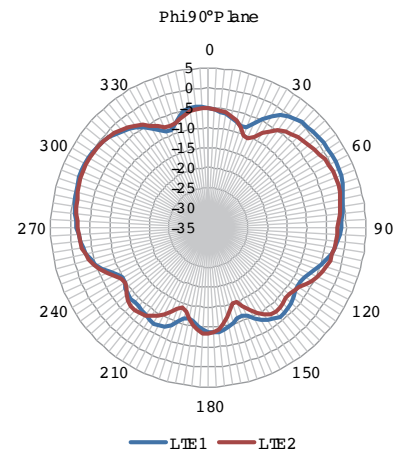
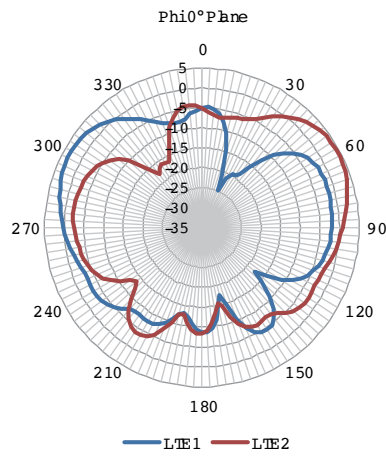
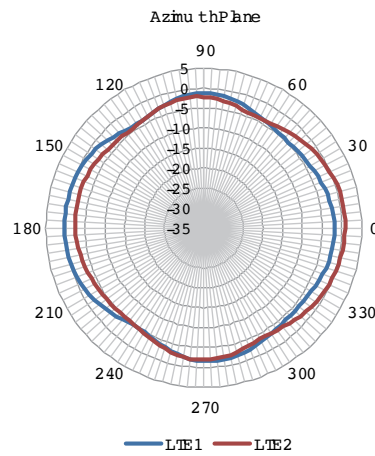


RADIATION PATTERNS WITH GROUND PLANE - LTE ANTENNAS

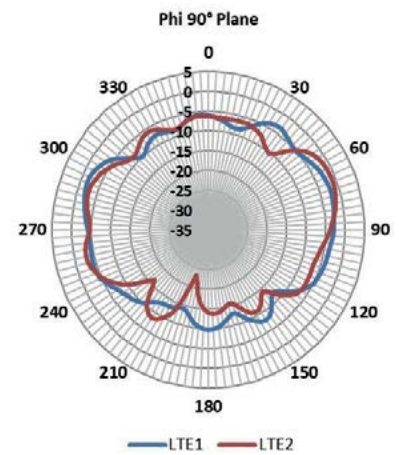
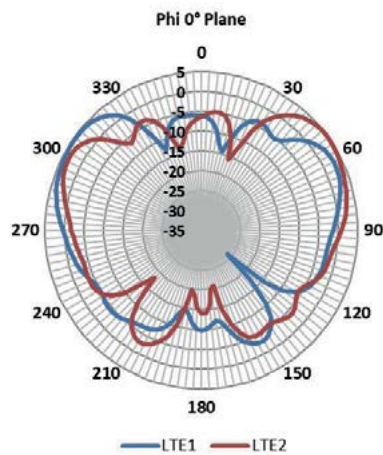
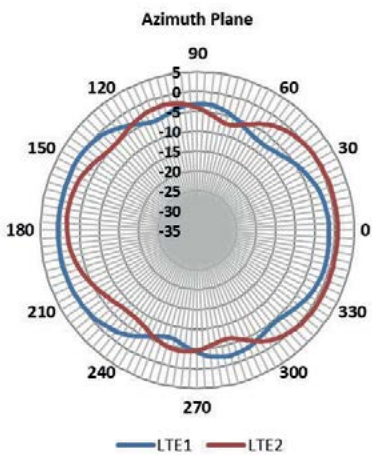
2110 MHz



2400 MHz

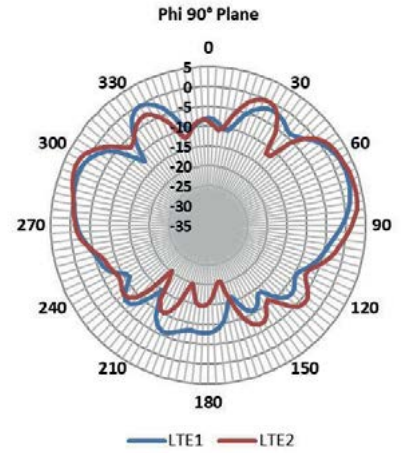
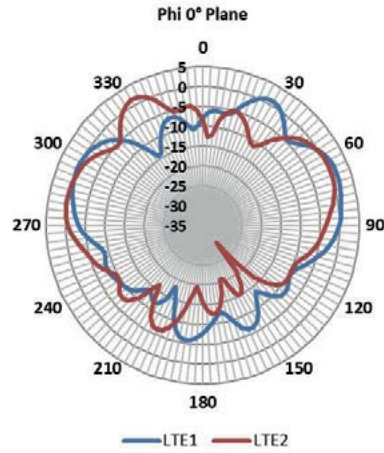
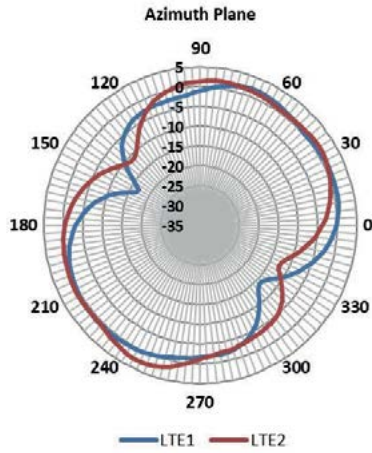


2700 MHz

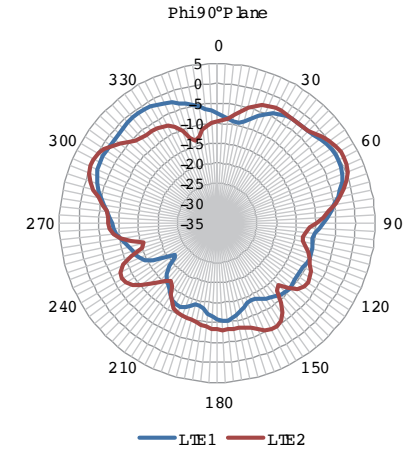
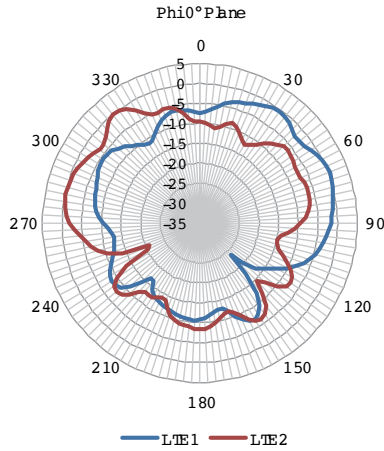
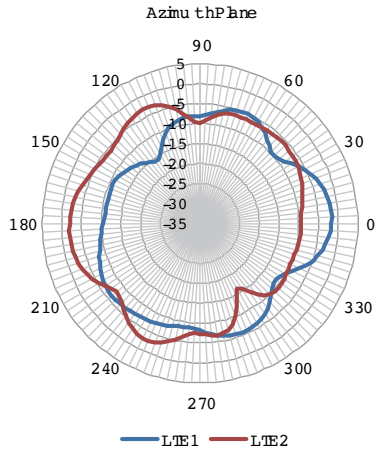


RADIATION PATTERNS WITH GROUND PLANE - LTE ANTENNAS

3400 MHz

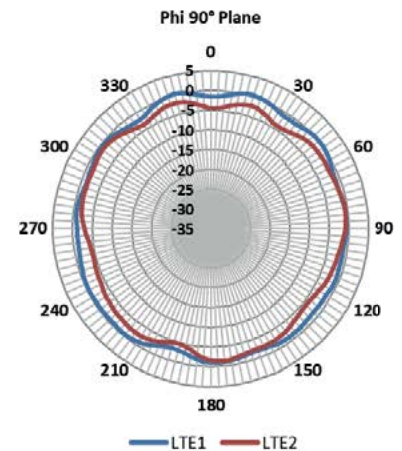
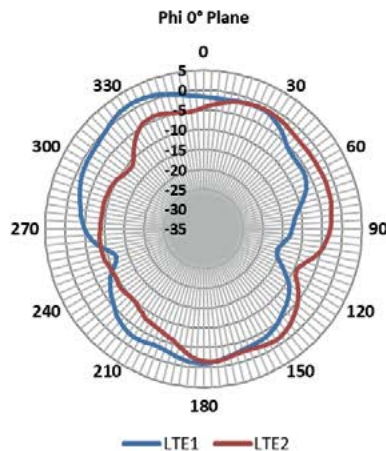
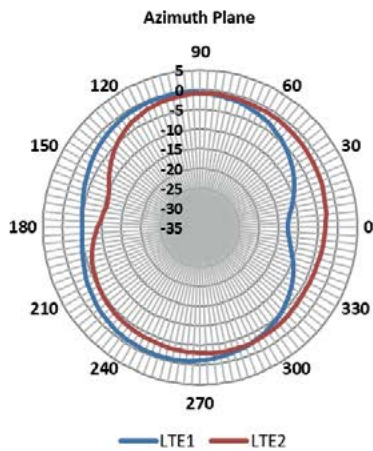


3800 MHz



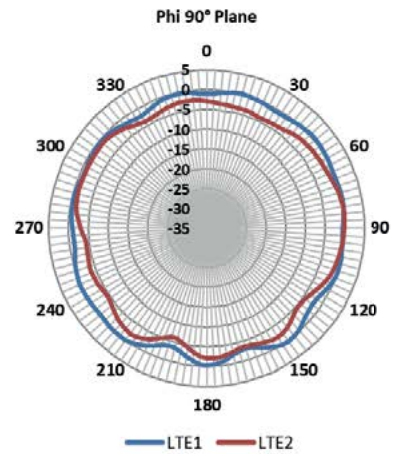
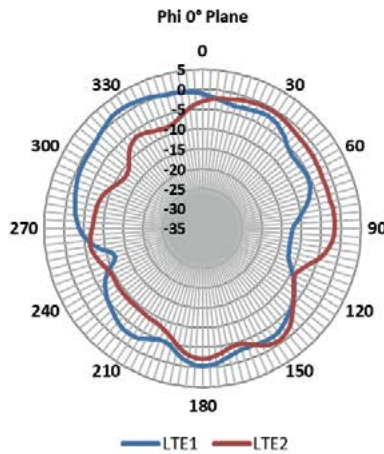
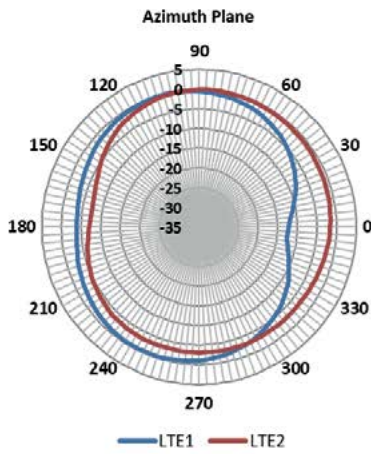
RADIATION PATTERNS WITHOUT GROUND PLANE - LTE ANTENNAS

698 MHz

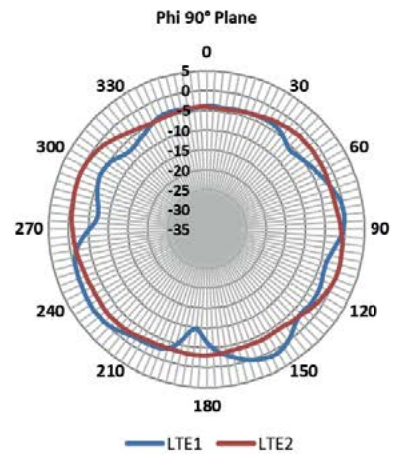
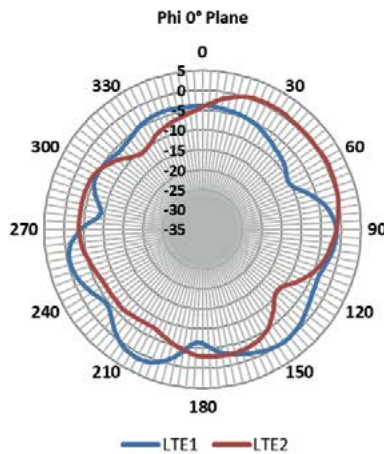
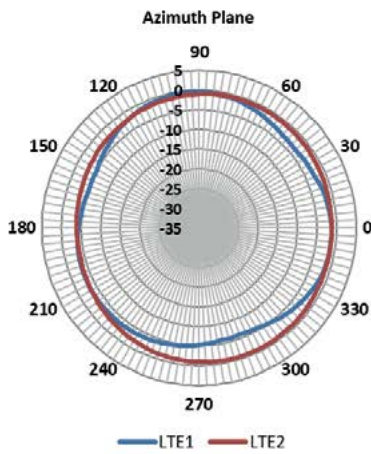


RADIATION PATTERNS WITHOUT GROUND PLANE - LTE ANTENNAS

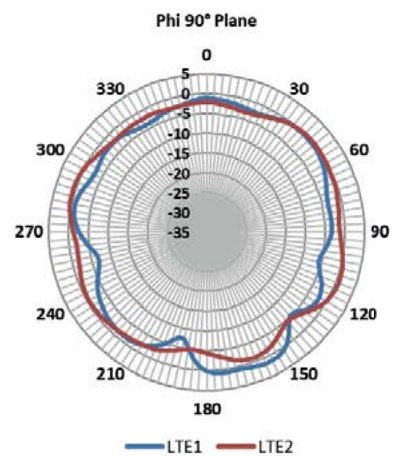
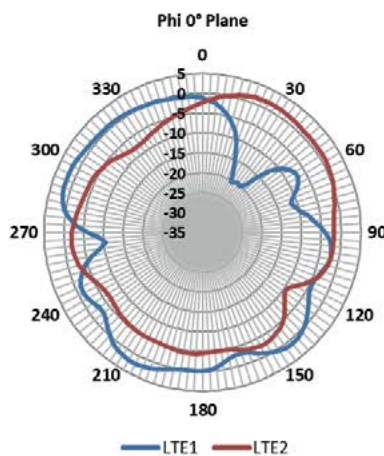
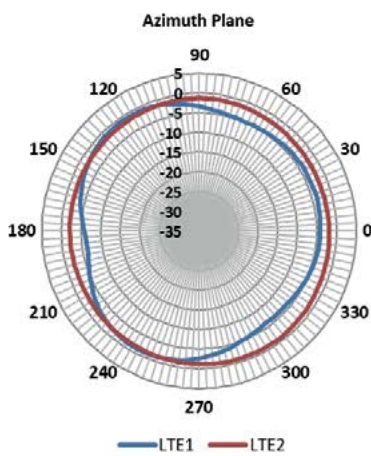
725 MHz



880 MHz

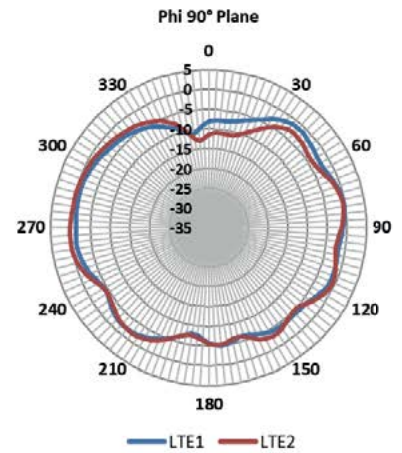
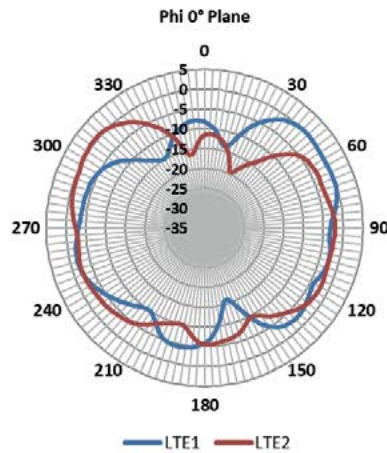
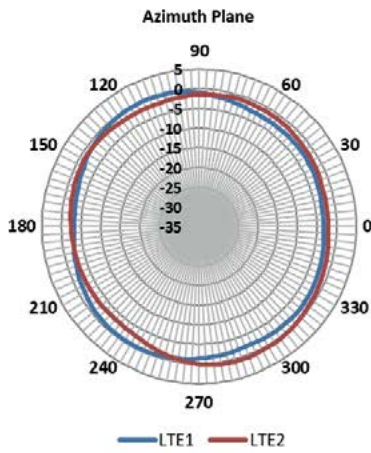


960 MHz

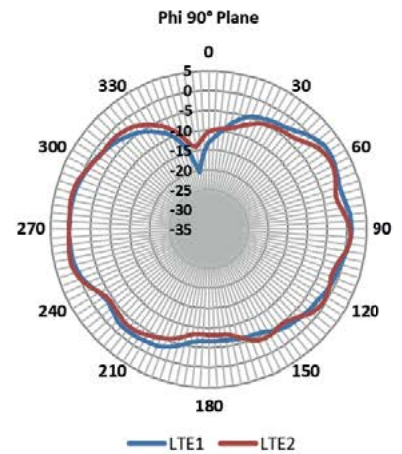
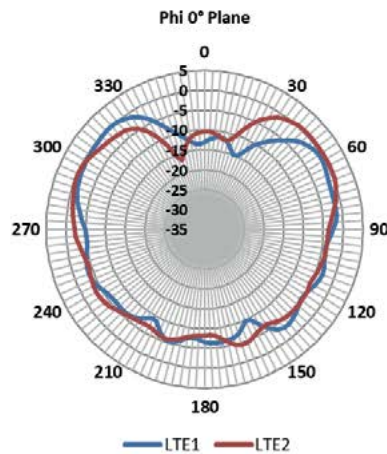
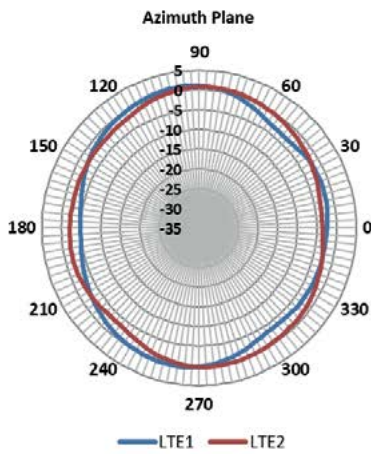


RADIATION PATTERNS WITHOUT GROUND PLANE - LTE ANTENNAS

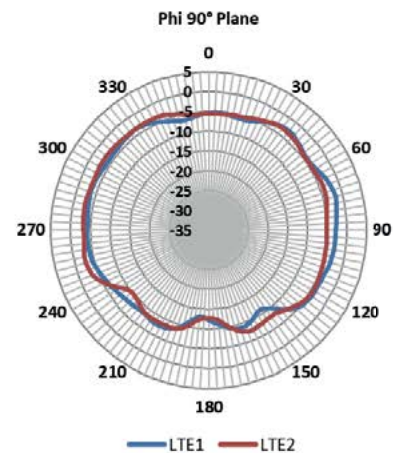
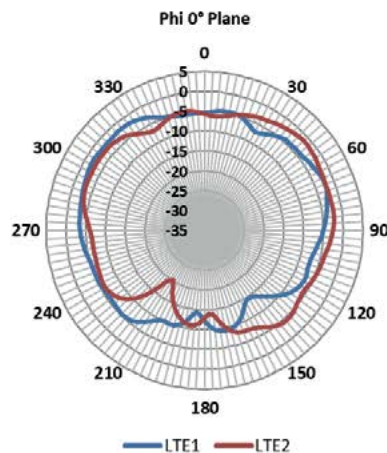
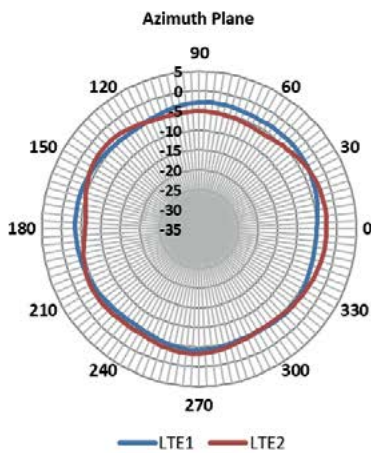
1690 MHz



1920 MHz

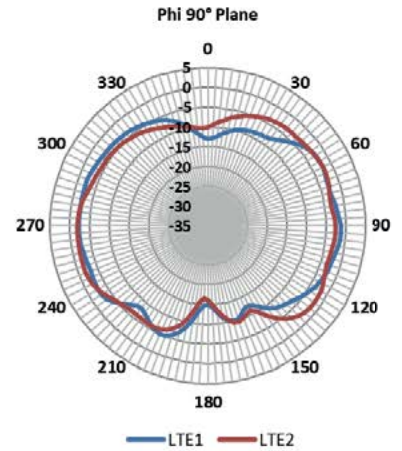
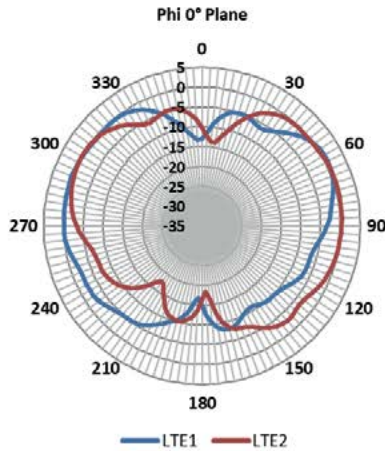
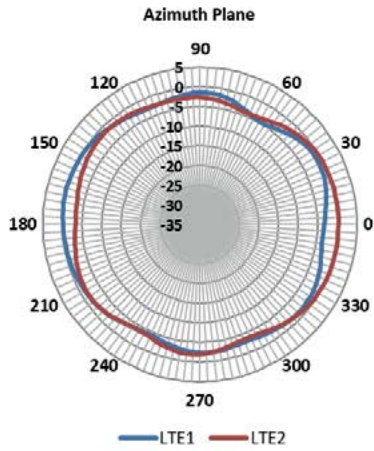


2110 MHz

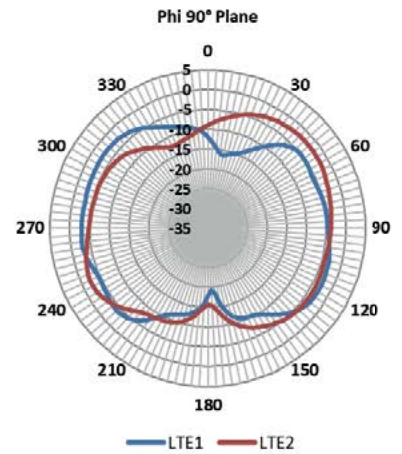
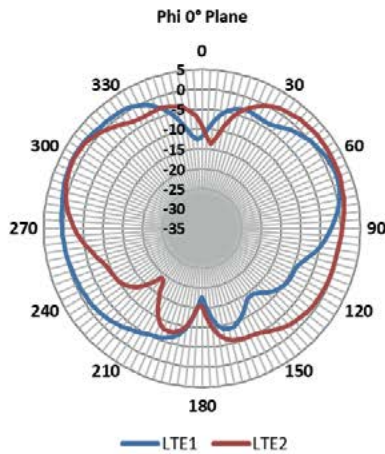
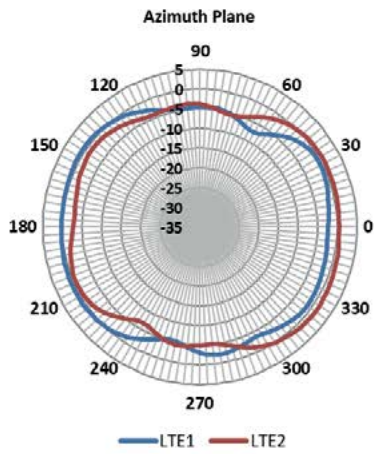


RADIATION PATTERNS WITHOUT GROUND PLANE - LTE ANTENNAS

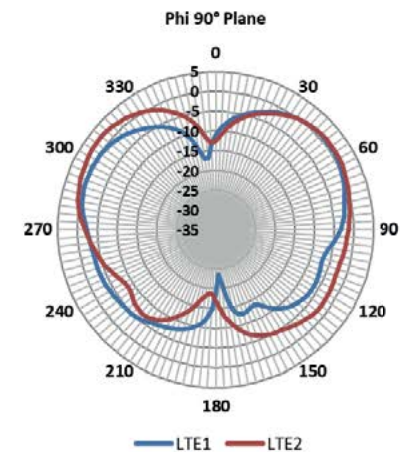
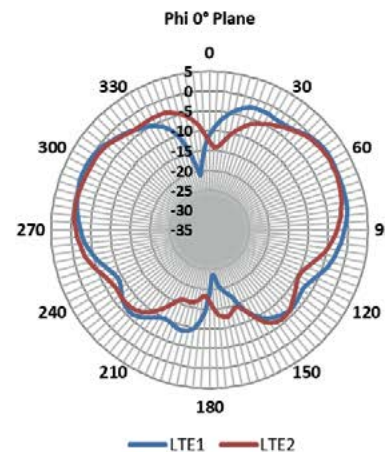
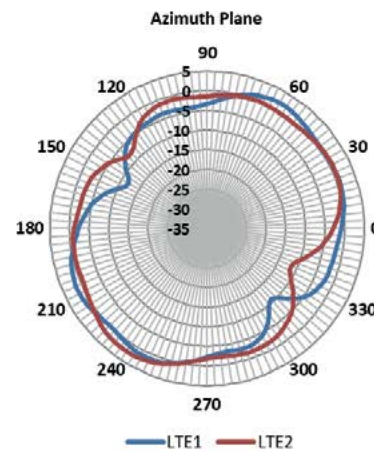
2400 MHz



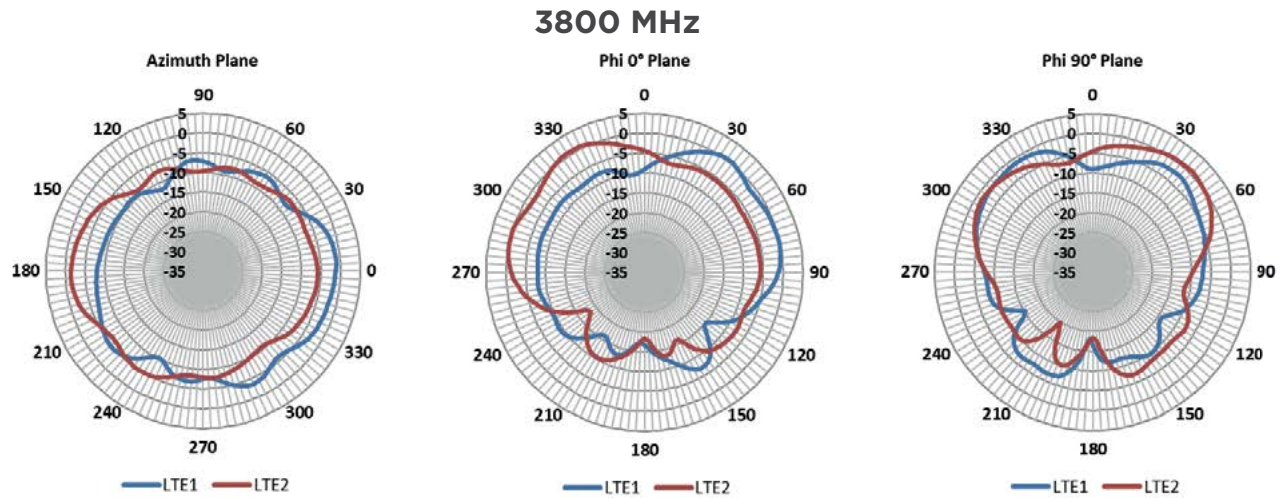
2700 MHz



3400 MHz



RADIATION PATTERNS WITHOUT GROUND PLANE - LTE ANTENNAS



TE TECHNICAL SUPPORT CENTER

| | |
|-------------------|-----------------------|
| USA: | +1 (800) 522-6752 |
| Canada: | +1 (905) 475-6222 |
| Mexico: | +52 (0) 55-1106-0800 |
| Latin/S. America: | +54 (0) 11-4733-2200 |
| Germany: | +49 (0) 6251-133-1999 |
| UK: | +44 (0) 800-267666 |
| France: | +33 (0) 1-3420-8686 |
| Netherlands: | +31 (0) 73-6246-999 |
| China: | +86 (0) 400-820-6015 |

te.com

TE, and TE connectivity (logo) are trademarks owned or licensed by the TE Connectivity Ltd. family of companies. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

TE Connectivity warrants to the original end user customer of its products that its products are free from defects in material and workmanship. Subject to conditions and limitations TE Connectivity will, at its option, either repair or replace any part of its products that prove defective because of improper workmanship or materials. This limited warranty is in force for the useful lifetime of the original end product into which the TE Connectivity product is installed. Useful lifetime of the original end product may vary but is not warranted to exceed one (1) year from the original date of the end product purchase.

©2022 TE Connectivity. All Rights Reserved.

08/22 Original