



The Gar VFD69383x1NJN multiport/multiband antenna provides an excellent solution for public safety, transportation, and aftermarket fleet applications. Configured for one-port operation over the 3G/4G/5G/ISM/CBRS bands and a second 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

## APPLICATIONS

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

## ELECTRICAL SPECIFICATIONS

|                              |                                   |         |         |           |           |           |           |           |           |
|------------------------------|-----------------------------------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|
| Antenna Model                | VFD69383x1NJN                     |         |         |           |           |           |           |           |           |
| Number of Ports              | 2 (1x – LTE, 1x – GNSS)           |         |         |           |           |           |           |           |           |
| Port Configuration           | 1x – 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 |
| Peak Gain* – Avg. (dBi)      | 0.9                               | 1.7     | 1.9     | 3.9       | 3.5       | 2.9       | 3.9       | 5.2       | 5.3       |
| Peak Gain* – Max (dBi)       | 1.3                               | 2.0     | 2.0     | 4.3       | 3.8       | 3.8       | 5.1       | 5.5       | 7.0       |
| VSWR** – Avg.                | 1.7                               | 1.6     | 1.6     | 1.5       | 1.4       | 1.5       | 1.6       | 1.5       | 1.3       |
| VSWR** – Max                 | 2.5                               | 2.0     | 2.0     | 2.0       | 2.0       | 2.1       | 2.0       | 2.0       | 2.0       |
| Isolation LTE1 to GNSS (dB)  | -41                               | -43     | -42     | -46       | -53       | -53       | -57       | -53       | -39       |
| 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 and 30cm (1ft) ground plane.

(\*\*) – This parameter is based on a 518cm (17ft) cable length and 30cm (1ft) ground plane.

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.)                   | 0.54 kg (1.2 lbs.)                               |
| Mounting                             | P-Mount  |
| Cable Type                           | LMR 100- pigtails, LMR 195- jumper cables, Black |
| Color                                | Black or White                                   |
| Radome Material                      | PC, UL94-V0                                      |
| Baseplate Material                   | Aluminum   |

## ENVIRONMENTAL SPECIFICATIONS

|                                 |  |
|---------------------------------|--|
| Operating Environment           | Outdoor Vehicle                                    |
| Operating Temperature – °C (°F) | -30 to +70°C (-22 to +158°F)                       |
| Storage Temperature – °C (°F)   | -40 to +85°C (-40 to +185°F)                       |
| Ingress Protection Rating       | IP67   |
| Rail Compliance Standards       | EN61373 (Shock & Vibration), EN50155 (Temperature) |
| Material Substance Compliance   | RoHS   |

## CONFIGURATIONS

| PART NUMBER        | CABLE LENGTH  |               | CONNECTORS |          | COLOR |
|--------------------|---------------|---------------|------------|----------|-------|
|                    | PIGTAIL       | JUMPER        | LTE/CELL   | GNSS     |       |
| VFD69383B1NJN-518Q | 0.3 m (1 ft.) | 4.9 m (16 ft) | SMA-male   | SMA-male | Black |
| VFD69383W1NJN-518Q | 0.3 m (1 ft.) | 4.9 m (16 ft) | SMA-male   | SMA-male | White |

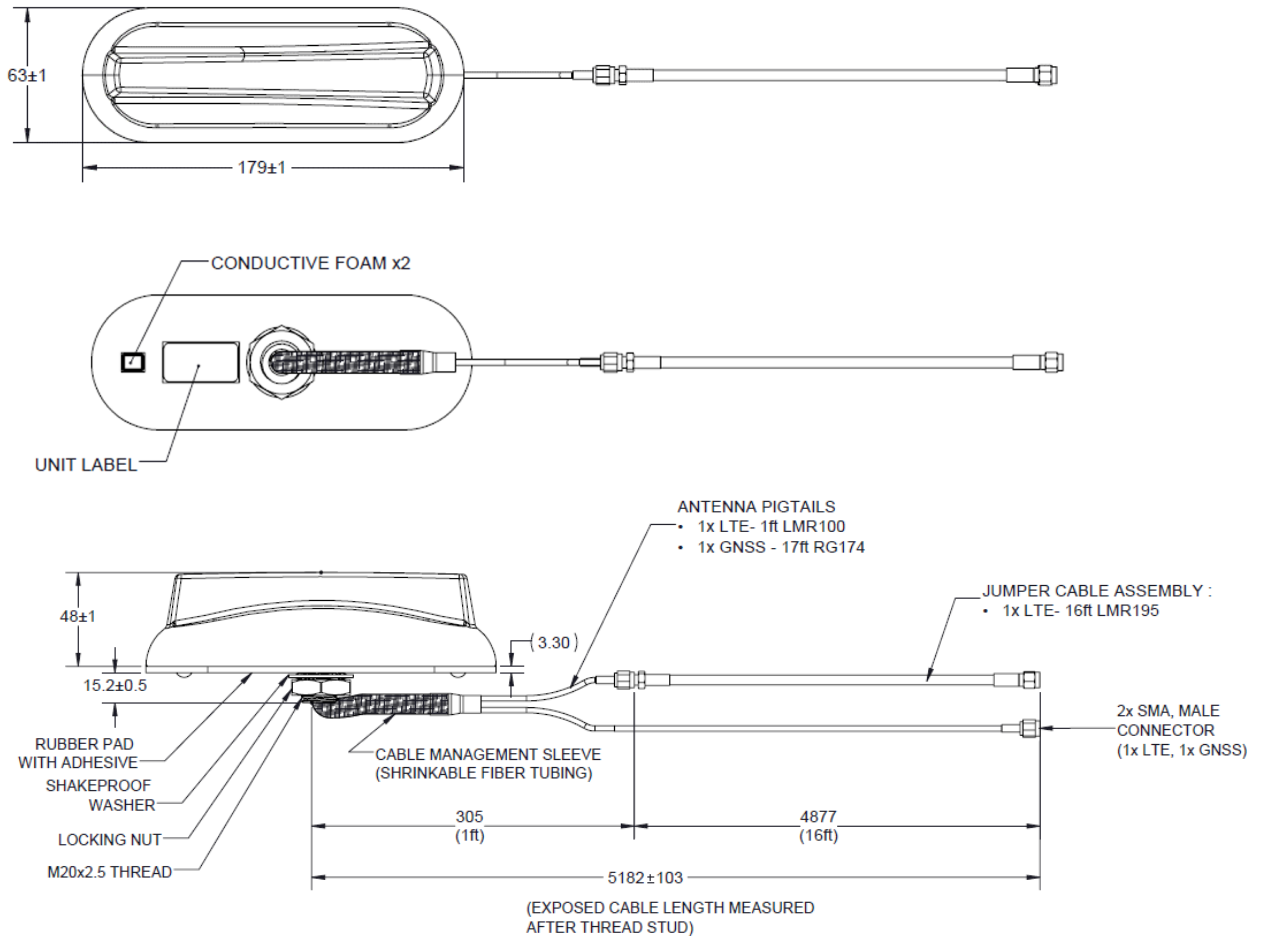
GNSS ANTENNA SPECIFICATIONS

|  |                   |                     |                     |
|--|-------------------|---------------------|---------------------|
| Frequency of Operation (MHz)                       | 1559 - 1606       |                     |                     |
| Band   | BEIDOU            | GPS                 | GLONASS             |
| Frequency Band (MHz)                               | 1561.098 ± 2.046  | 1575.42 ± 1.023     | 1602 ± 5            |
| Antenna Gain (dBi)                                 | 3.7               | 4.7                 | 5.6                 |
| LNA Gain, Typ. @ room temp. (dBi)                  | 28 ± 3            |                     |                     |
| Noise Figure @ room temp., Max (dB)                | ≤ 2.5 @ 1575 MHz  |                     |                     |
| Max VSWR @ room temp.                              | 2.0:1             |                     |                     |
| Polarization                                       | RHCP              |                     |                     |
| Nominal Impedance                                  | 50 Ω              |                     |                     |
| 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 (@1428-2700 MHz) | 70 (@4900-5800 MHz) |
| Input Max Power (dBm)                              | -10               |                     |                     |
| Cable Type   | RG174, Black      |                     |                     |

PACKAGING INFORMATION

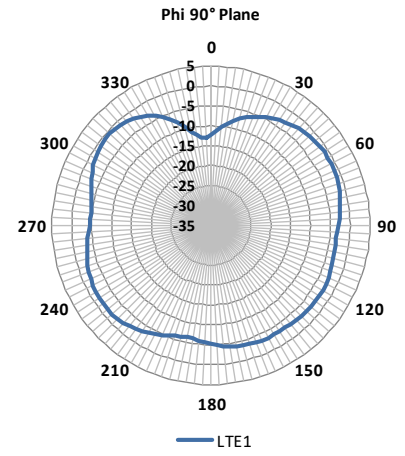
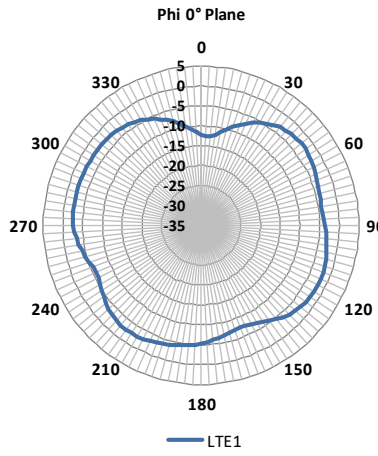
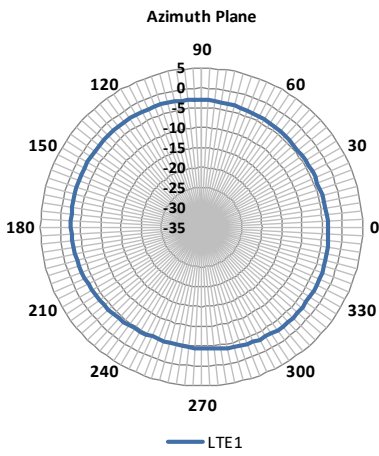
| PACKAGED DIMENSIONS        | CARTON     | MASTER CARTON | AIR PALLET   | OCEAN PALLET |
|----------------------------|------------|---------------|--------------|--------------|
| Number of Antennas         | 1          | 4             | 140          | 196          |
| Height – mm (in.)          | 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.) | 0.77 (1.7) | 3.62 (7.98)   | 140 (309)    | 190 (419)    |

MECHANICAL DRAWINGS

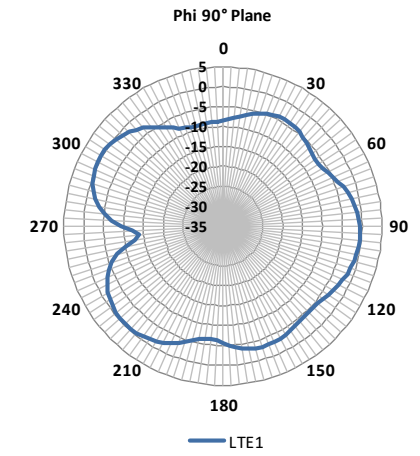
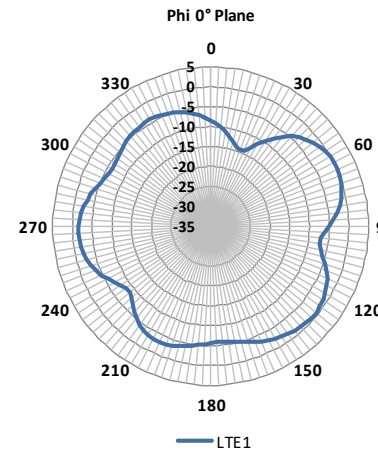
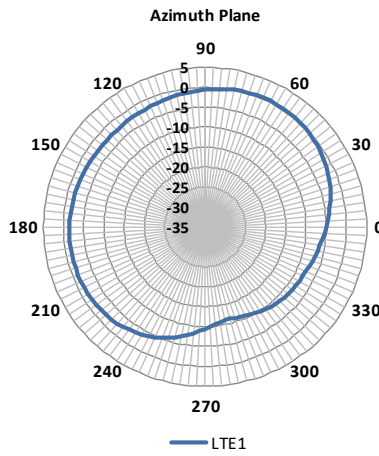


RADIATION PATTERNS - LTE ANTENNAS

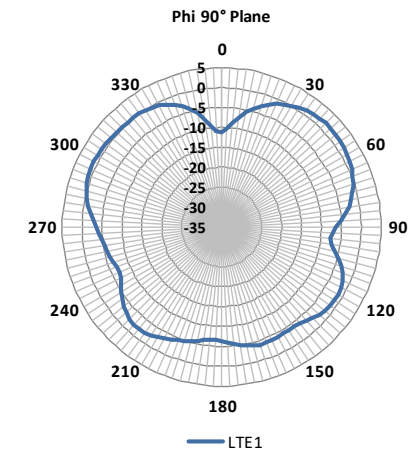
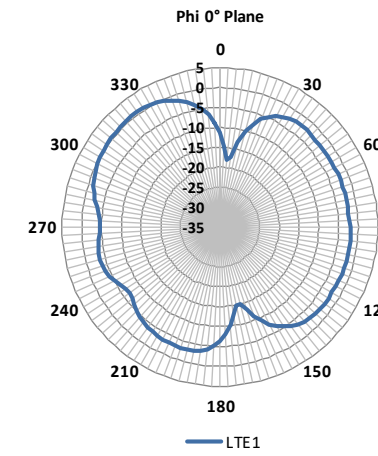
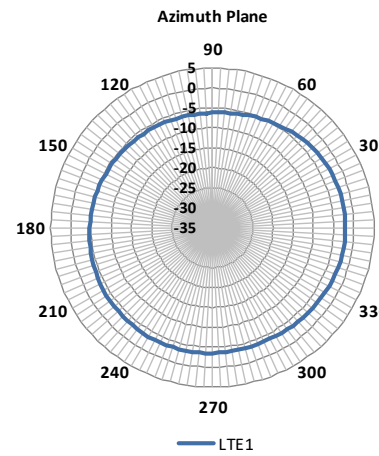
698 MHz



725 MHz

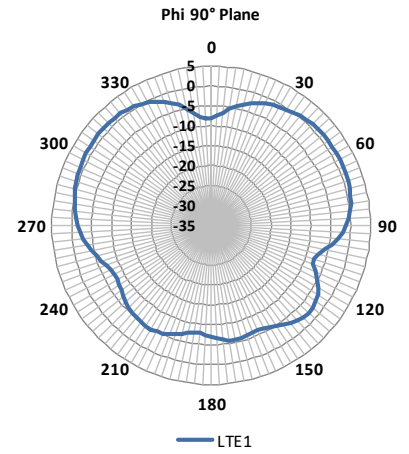
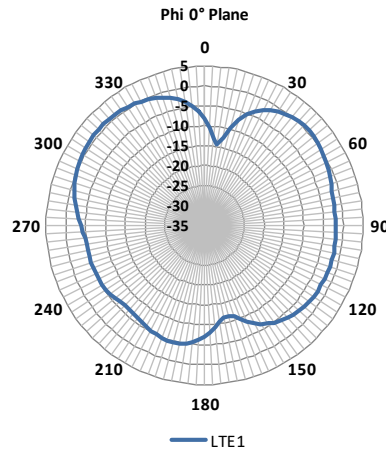
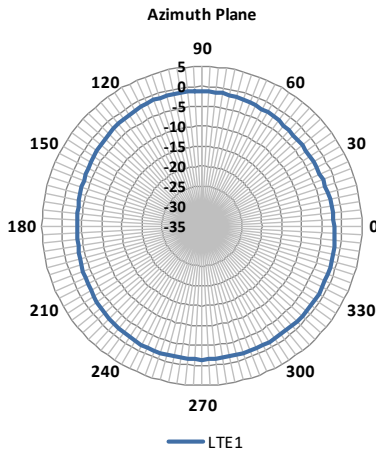


880 MHz

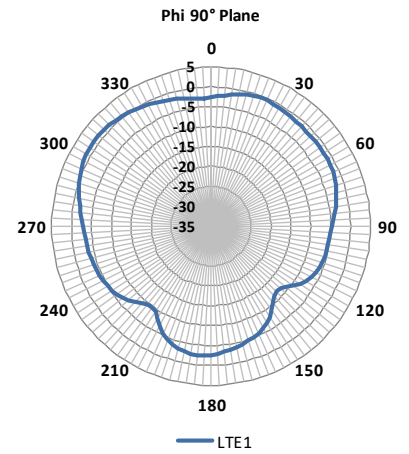
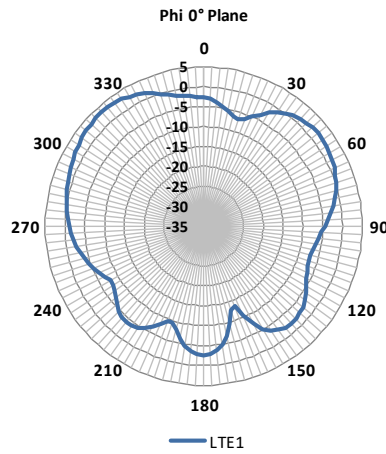
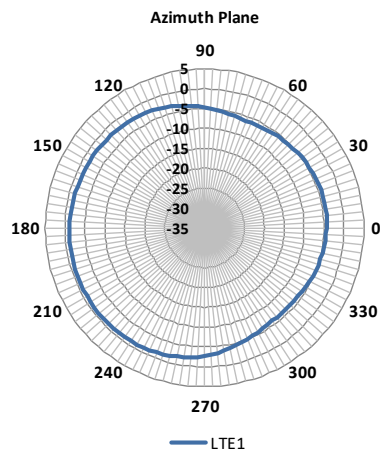


RADIATION PATTERNS - LTE ANTENNAS

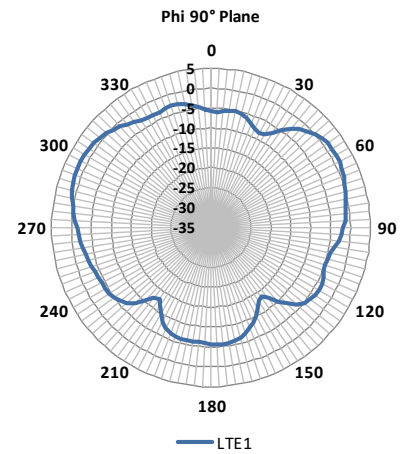
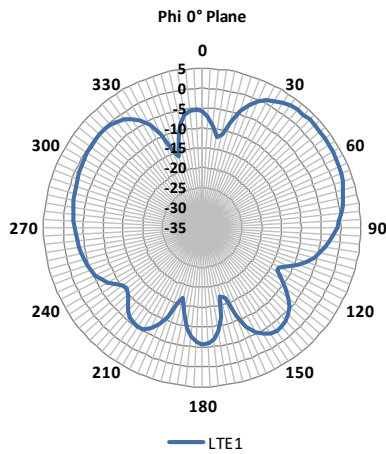
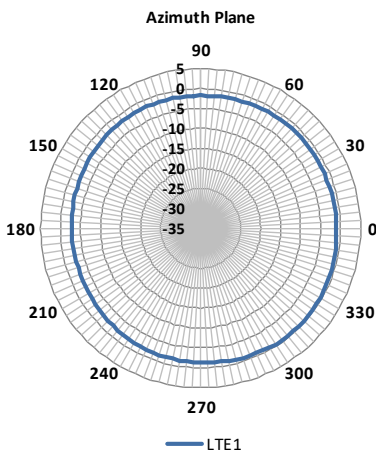
960 MHz



1690 MHz

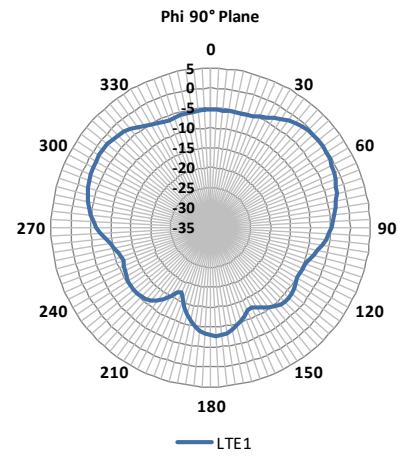
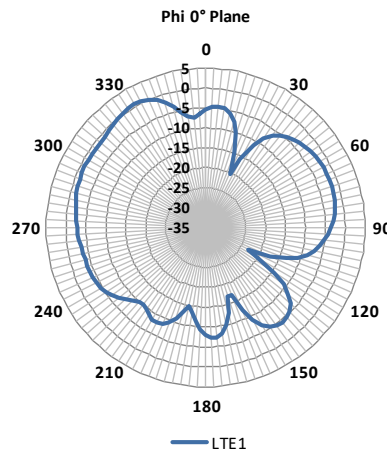
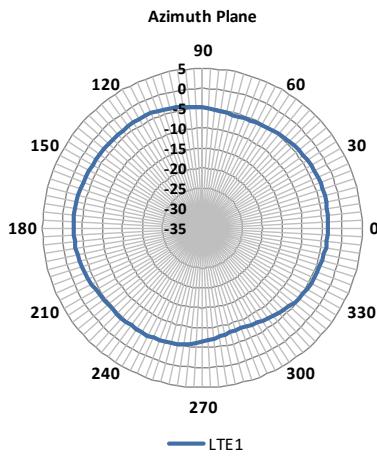


1920 MHz

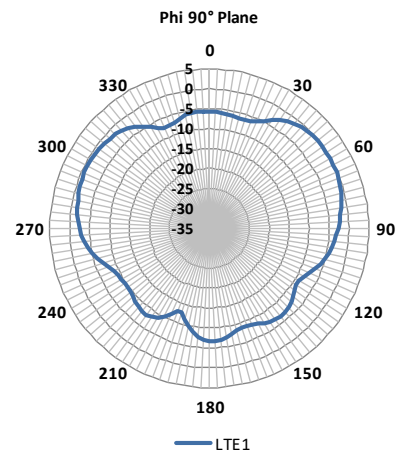
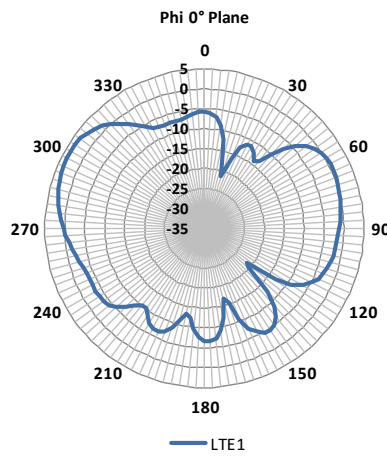
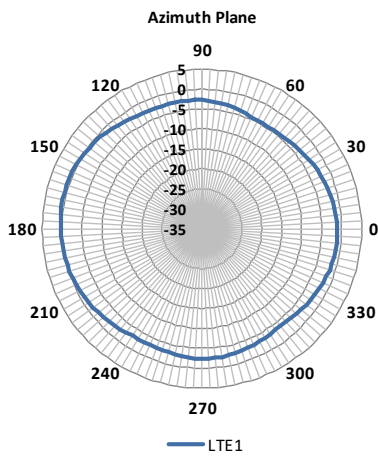


RADIATION PATTERNS - LTE ANTENNAS

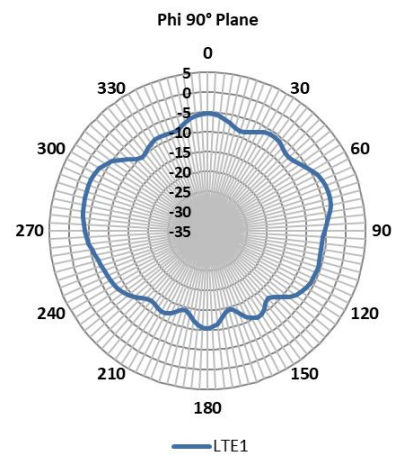
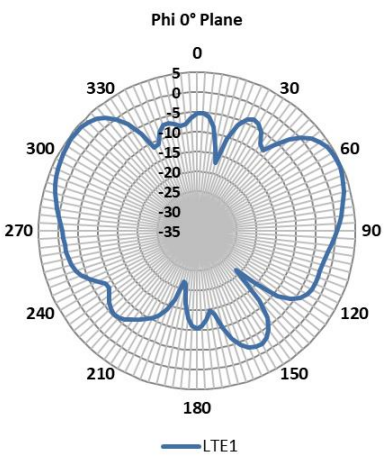
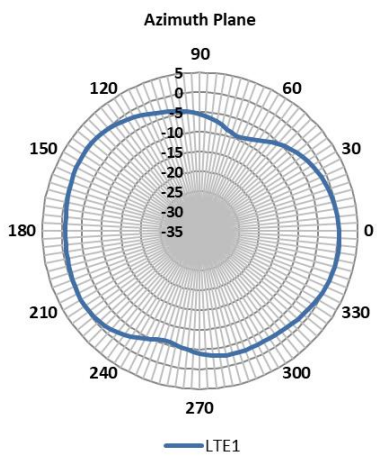
2110 MHz



2400 MHz

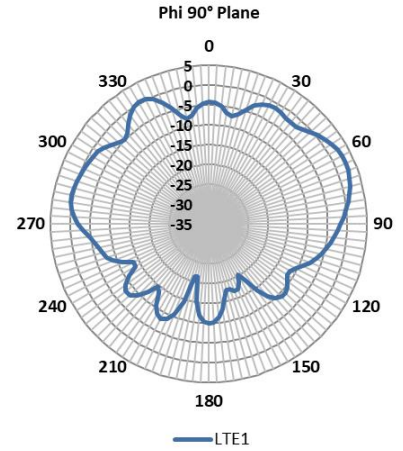
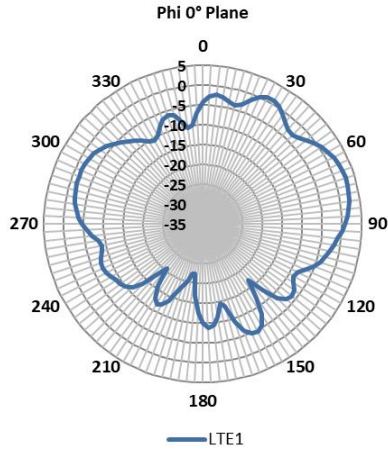
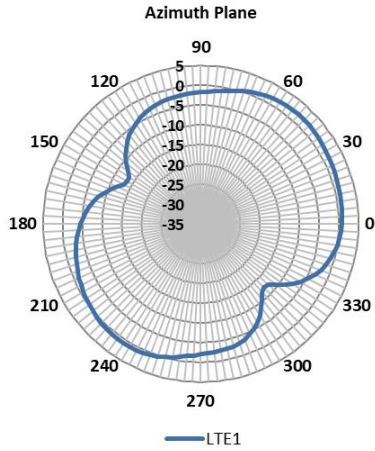


2700 MHz

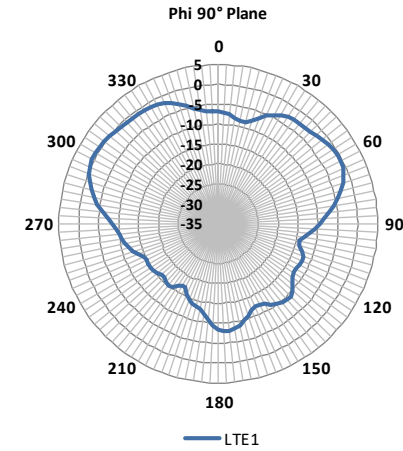
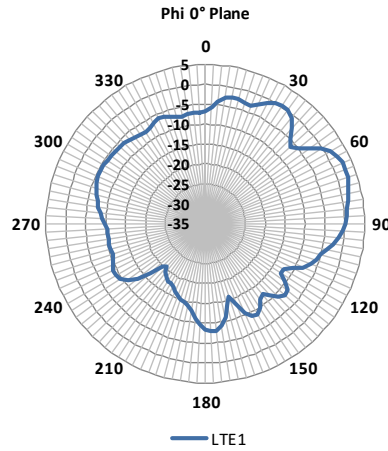
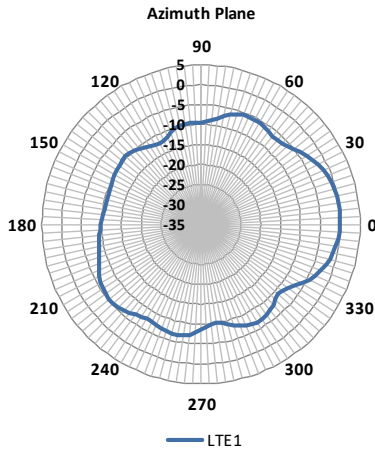


RADIATION PATTERNS - LTE ANTENNAS

3400 MHz



3800 MHz



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