



GAR VFD69383X1NJN

2-PORT VEHICULAR ANTENNA

698-960/1690-3800 MHz

The Gar VFD69383x1NJN multi-port/multi-band 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 low profile aerodynamic housing
- IP67 and IP69K rated for water ingress, dust, high pressure and high temperature water protection
- Multi-band/Multi-port operation LTE/GNSS navigation
- Operates well on a ground plane and without a ground plane

Applications

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

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
Avg. Peak Gain* (dBi) - Gnd. Plane [No Gnd. Plane]	0.9 [0.8]	1.7 [1.0]	1.9 [0.9]	3.9 [1.2]	3.5 [1.3]	2.9 [1.2]	3.9 [1.3]	5.2 [1.5]	5.3 [1.6]
Max Peak Gain* (dBi) - Gnd. Plane [No Gnd. Plane]	1.3 [2.3]	2.0 [2.0]	2.0 [1.7]	4.3 [1.6]	3.8 [2.2]	3.8 [2.2]	5.1 [2.8]	5.5 [3.0]	7.0 [3.4]
VSWR** - Avg, Gnd. Plane [No Gnd. Plane]	1.7 [1.7]	1.6 [1.8]	1.6 [1.8]	1.5 [1.7]	1.4 [1.5]	1.5 [1.5]	1.6 [1.6]	1.5 [1.5]	1.3 [1.3]
VSWR** - Max, Gnd. Plane [No Gnd. Plane]	2.5 [2.5]	2.0 [2.5]	2.0 [2.5]	2.0 [2.1]	2.0 [2.1]	2.1 [2.1]	2.0 [2.1]	2.0 [2.1]	2.0 [2.1]
Isolation**(dB) - LTE1 to GNSS Gnd. Plane [No Gnd. Plane]	-41 [-40]	-43 [-40]	-42 [-41]	-46 [-43]	-53 [-50]	-53 [-50]	-57 [-56]	-53 [-51]	-39 [-36]
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.)	0.54 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)	-40 to +85°C (-40 to +185°F)
Storage Temperature – °C (°F)	-40 to +85°C (-40 to +185°F)
Ingress Protection Rating	IP67, IP69K
Rail Compliance Standards	EN61373 (Shock & Vibration), EN50155 (Temperature)

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

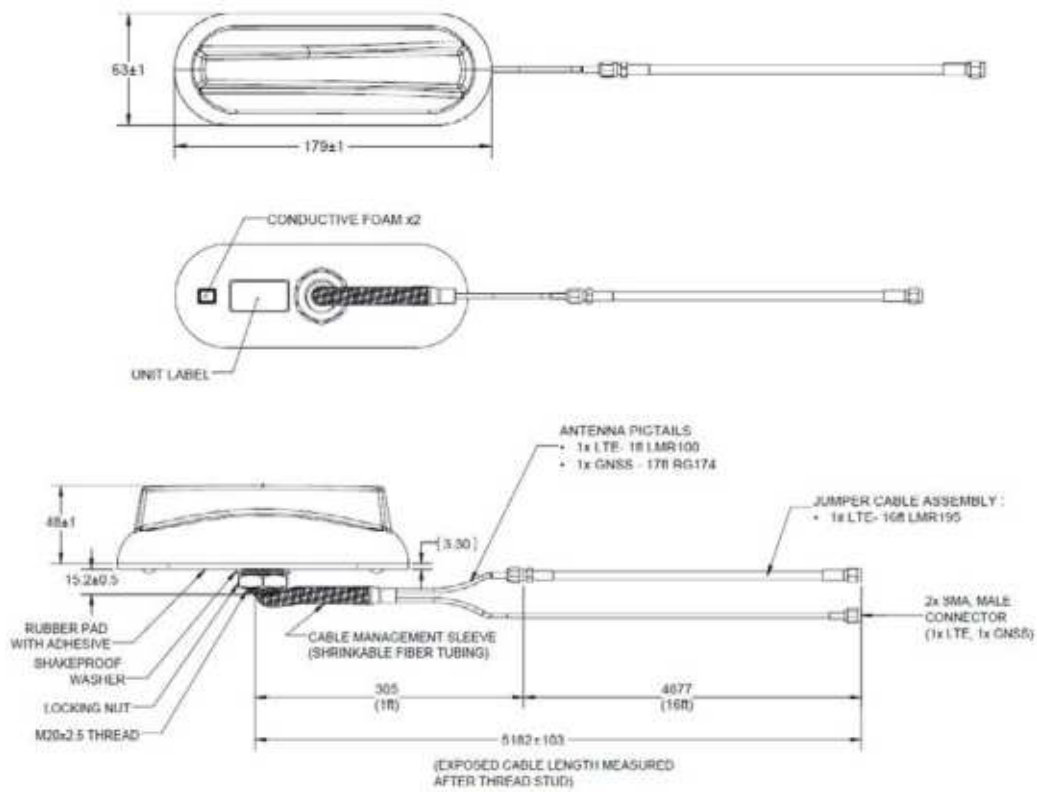
GNSS ANTENNA SPECIFICATIONS

Frequency of Operation (MHz)	1559 - 1606		
Band	BEIDOU	GPS	GLONASS
Frequency Band (MHz)	1561.098 ± 2.046	1575.42 ±1.023	1602 ±5
Absolute Gain (dBi) - Gnd. Plane [No Gnd. Plane]	3.7 [3.9]	4.7 [5.2]	5.6 [4.7]
LNA Gain, Typ. @ room temp. (dBi)	28 ±3		
Noise Figure @ room temp., Max (dB)	≤ 2.5 @ 1575 MHz		
Max VSWR @ room temp.	2.0:1		
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- 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.)	0.77 (1.7)	3.62 (7.98)	140 (309)	190 (419)

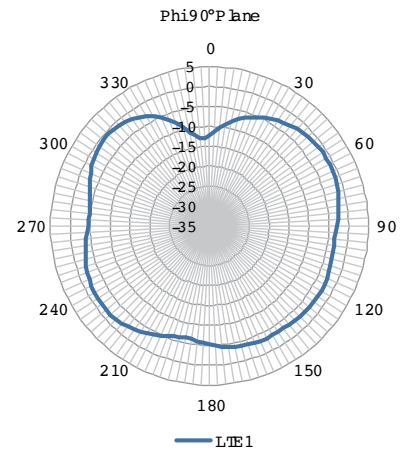
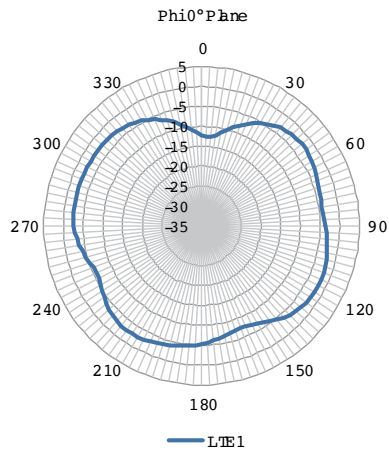
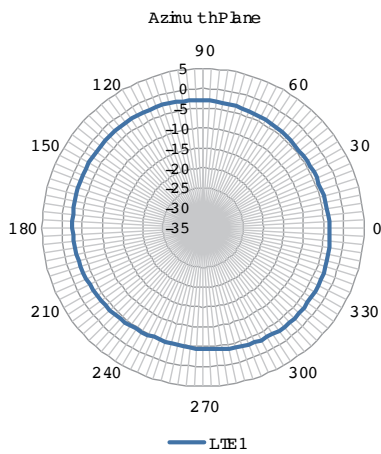
MECHANICAL DRAWINGS



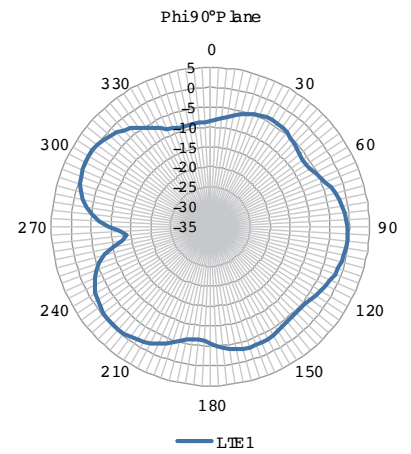
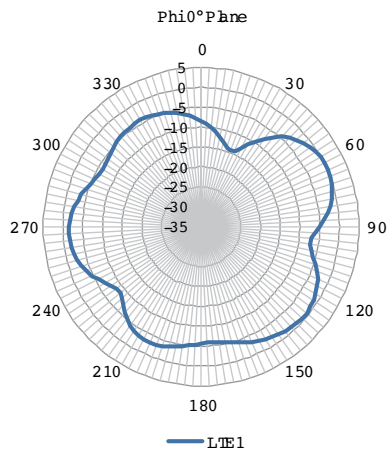
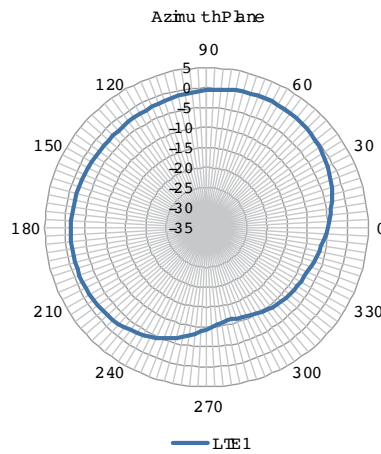
The Gar antenna can create an IP67 water-tight seal when installed on vehicles. Certain vehicles such as a Ford Explorer Interceptor have more narrow roof ridges that are tightly spaced together. For this type, vehicle special adapters are available. See parts BKIT-VFX69383-001 (between ridges installation)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

RADIATION PATTERNS WITH GROUND PLANE - LTE ANTENNAS

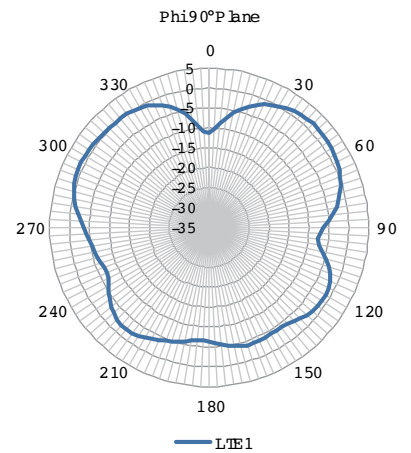
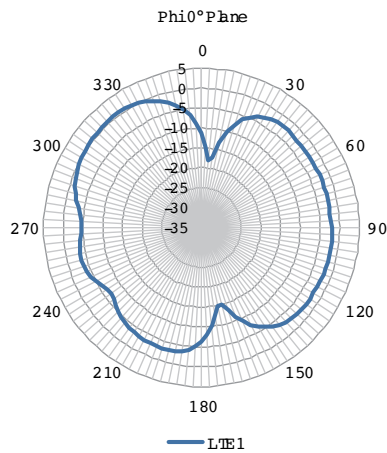
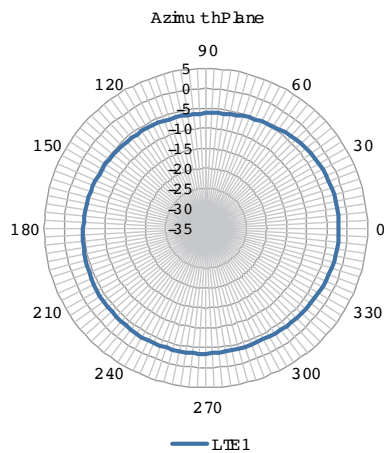
698 MHz



725 MHz

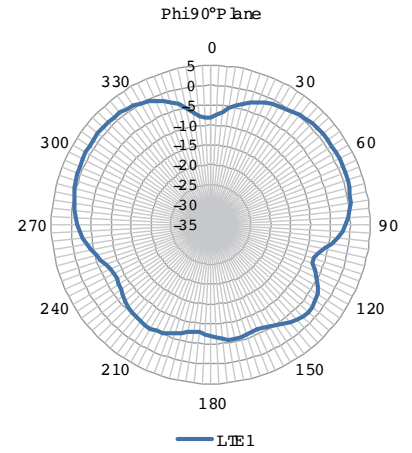
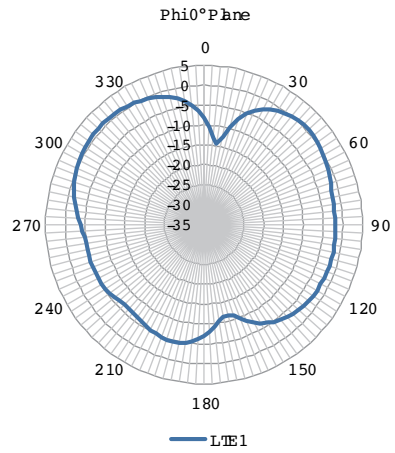
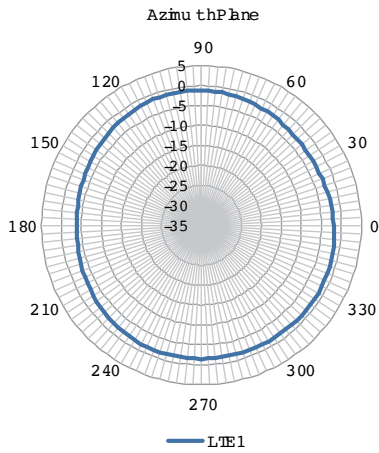


880 MHz

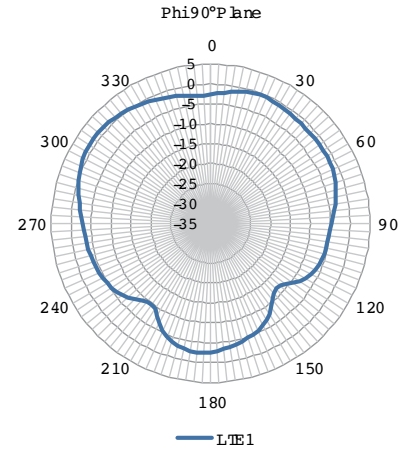
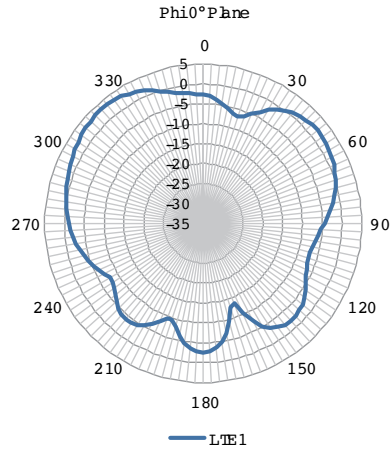
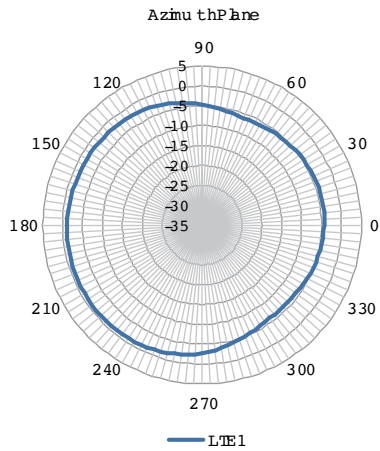


RADIATION PATTERNS WITH GROUND PLANE - LTE ANTENNAS

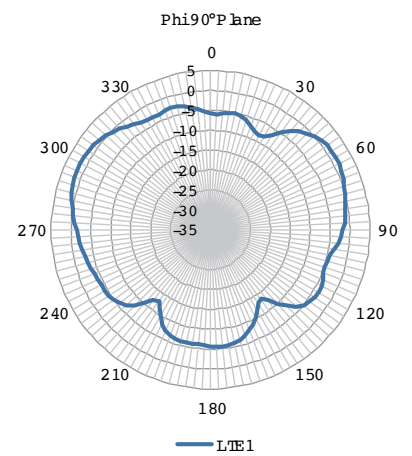
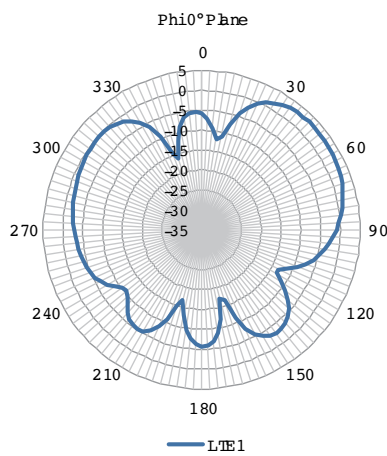
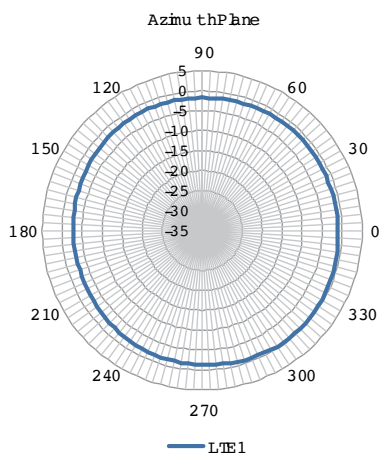
960 MHz



1690 MHz

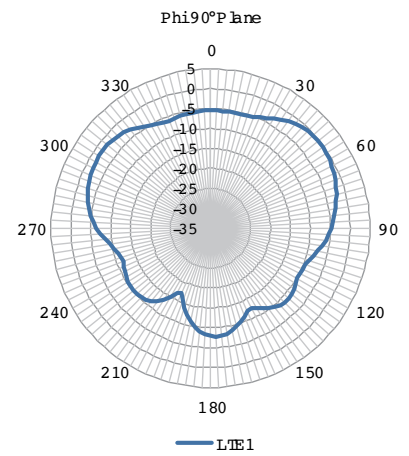
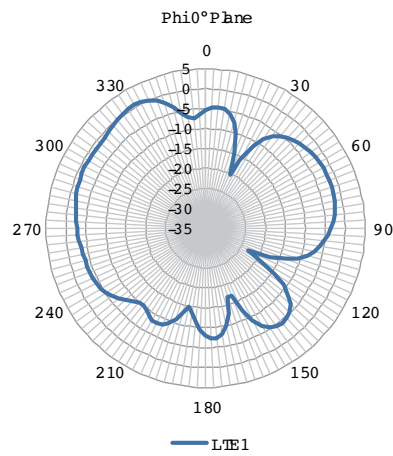
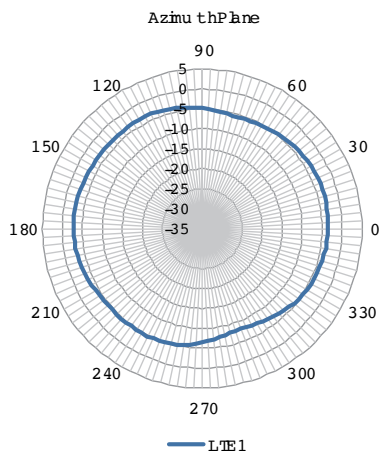


1920 MHz

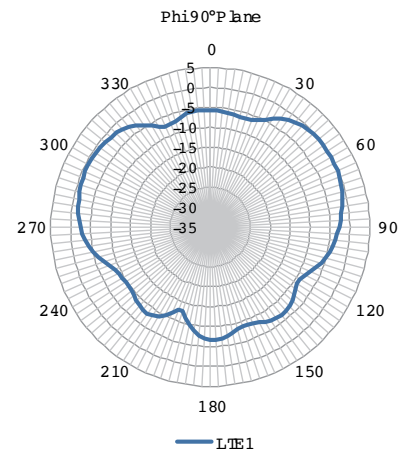
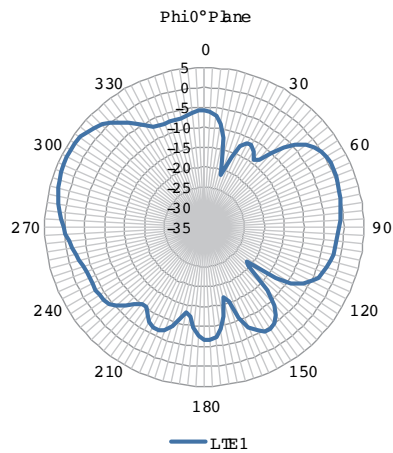
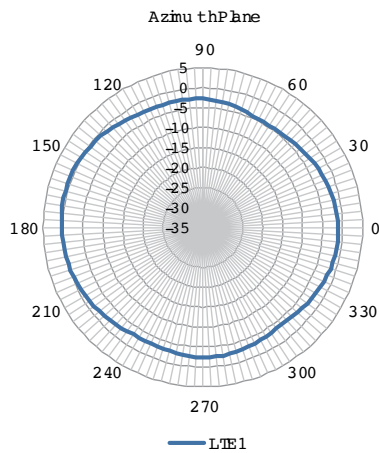


RADIATION PATTERNS WITH GROUND PLANE - LTE ANTENNAS

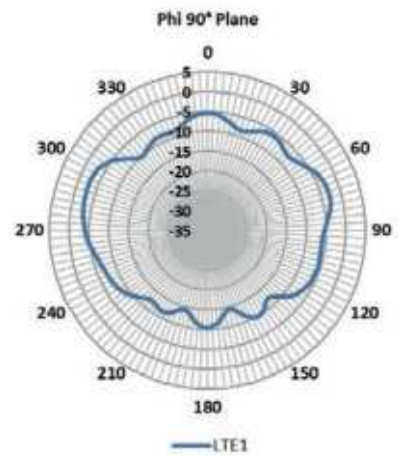
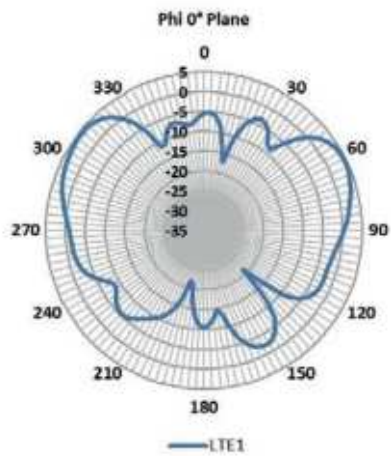
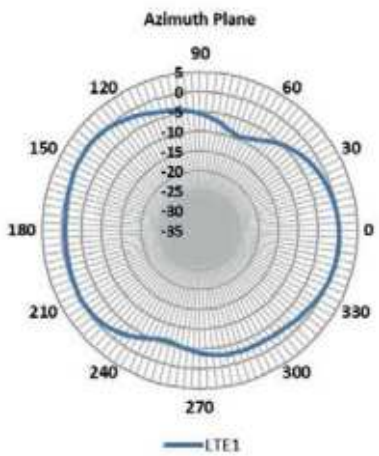
2110 MHz



2400 MHz

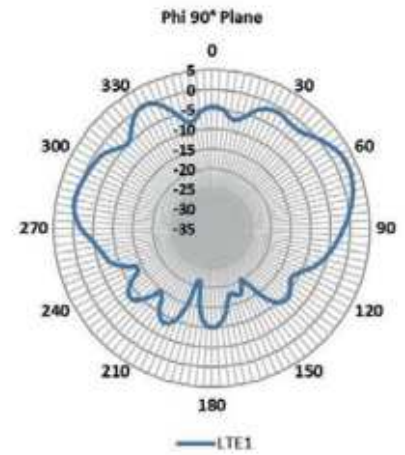
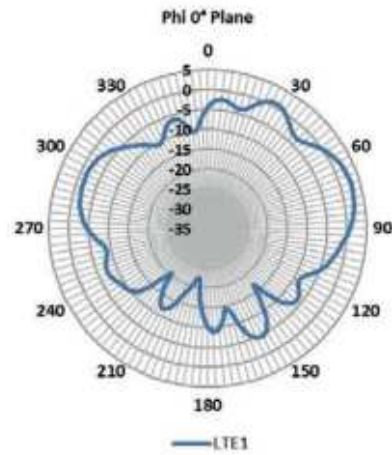
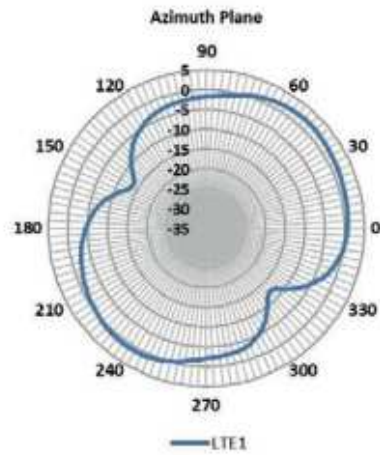


2700 MHz

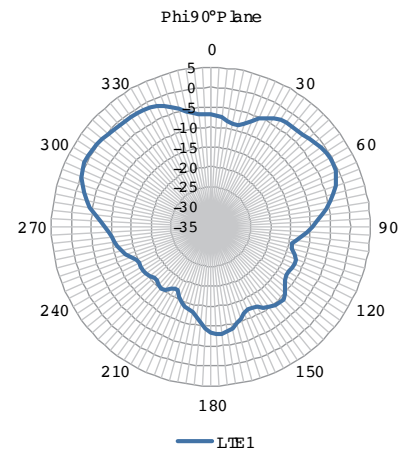
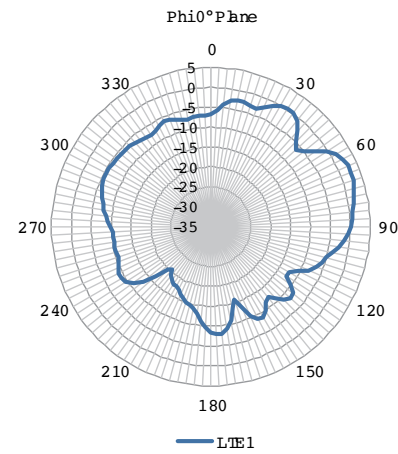
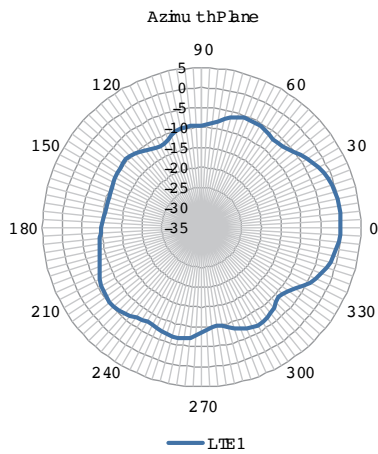


RADIATION PATTERNS WITH GROUND PLANE - LTE ANTENNAS

3400 MHz

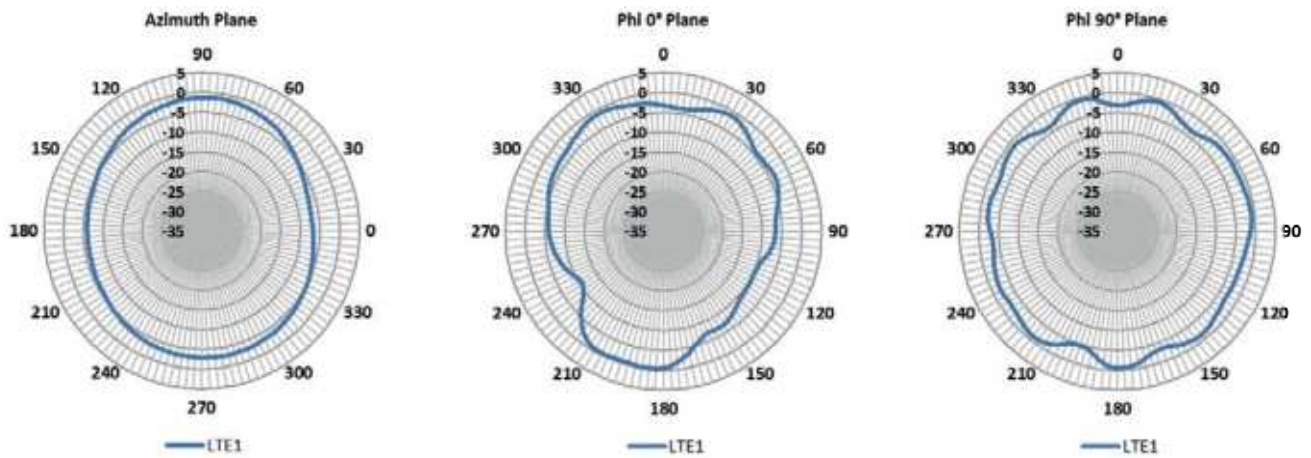


3800 MHz

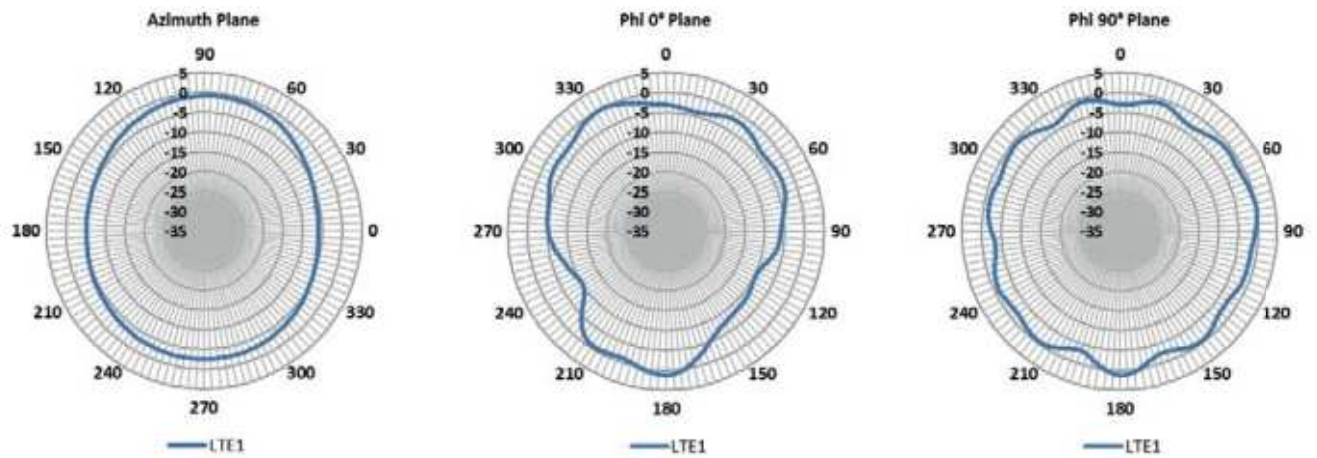


RADIATION PATTERNS WITHOUT GROUND PLANE - LTE ANTENNAS

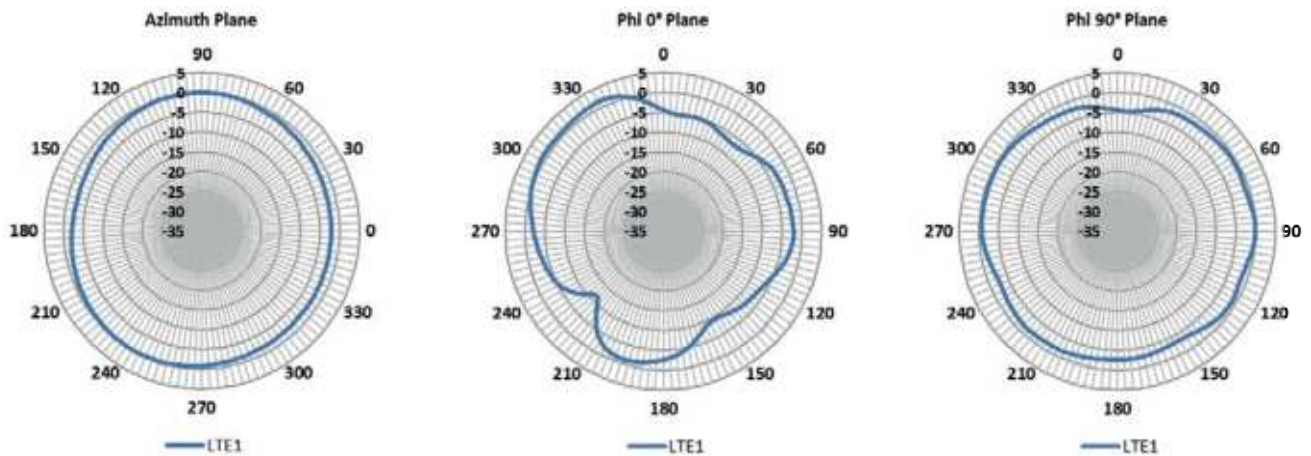
698 MHz



725 MHz

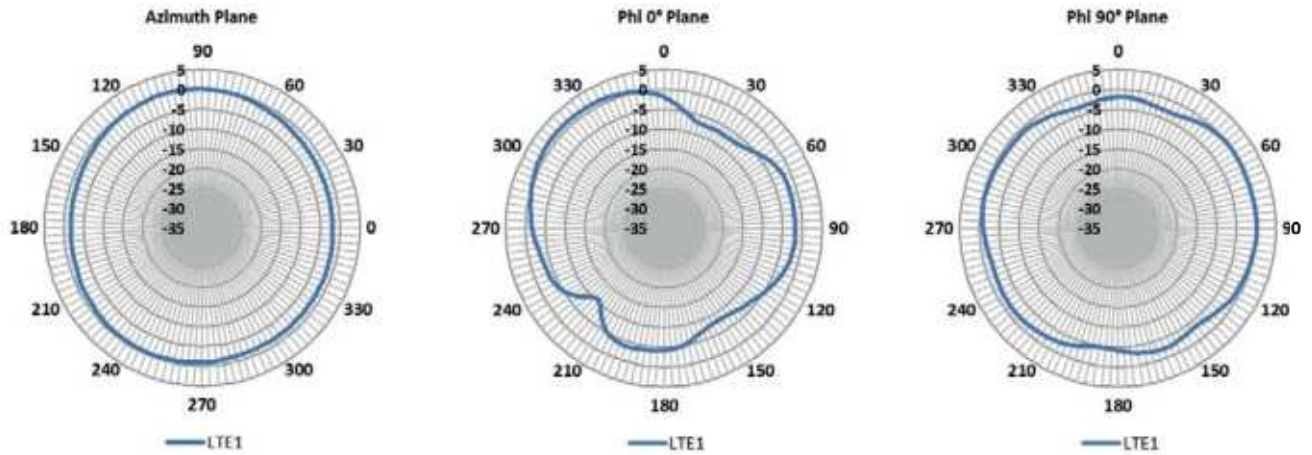


880 MHz

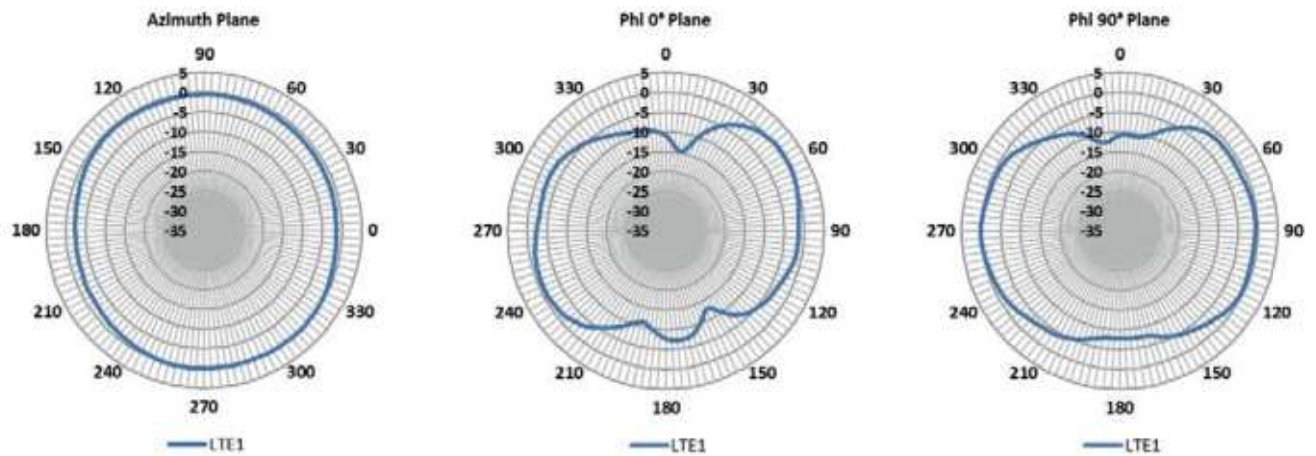


RADIATION PATTERNS WITHOUT GROUND PLANE - LTE ANTENNAS

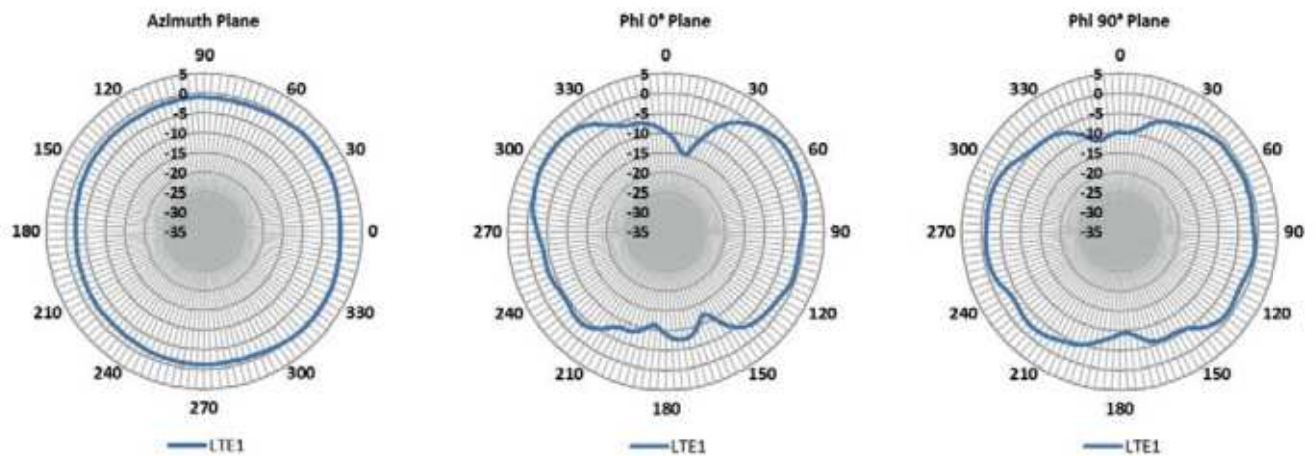
960 MHz



1690 MHz

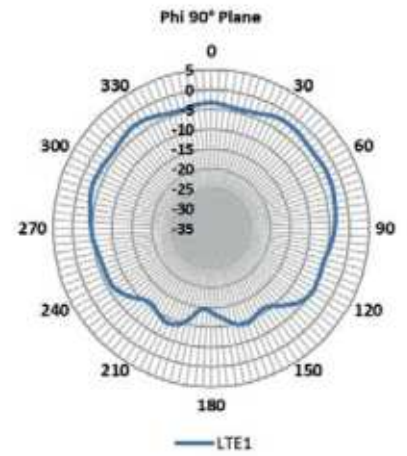
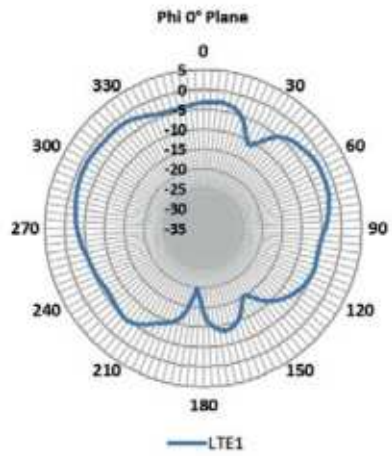
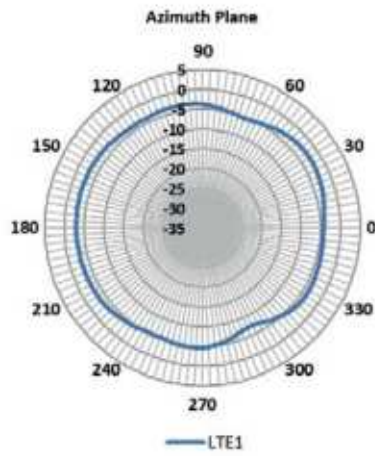


1920 MHz

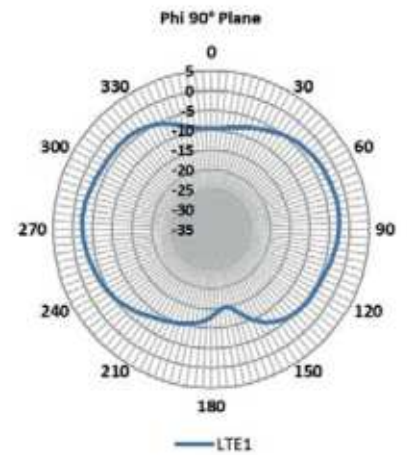
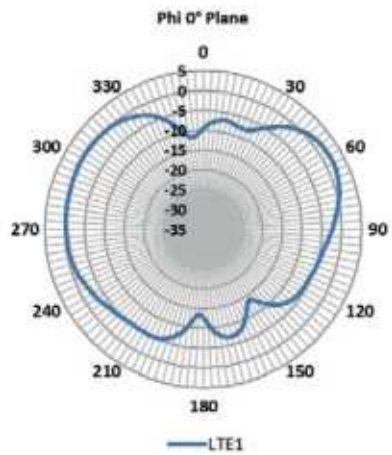
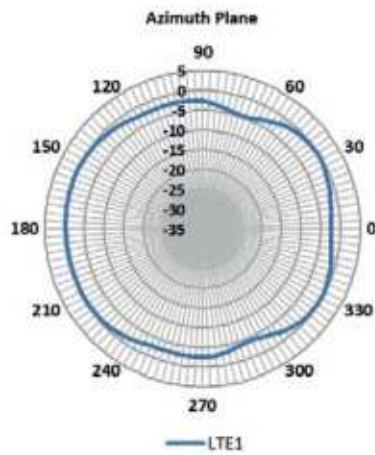


RADIATION PATTERNS WITHOUT GROUND PLANE - LTE ANTENNAS

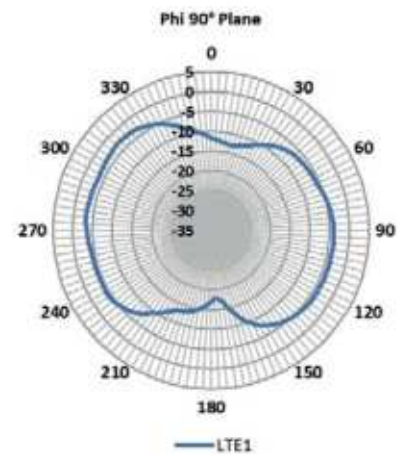
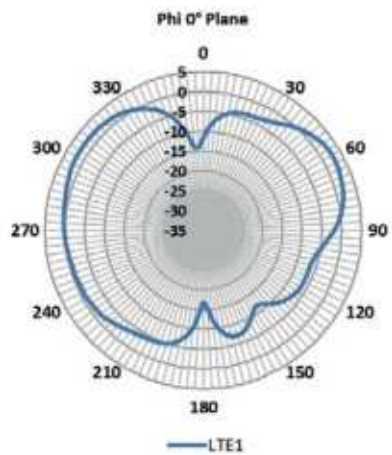
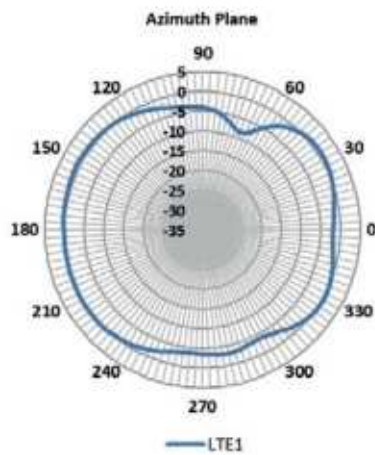
2110 MHz



2400 MHz

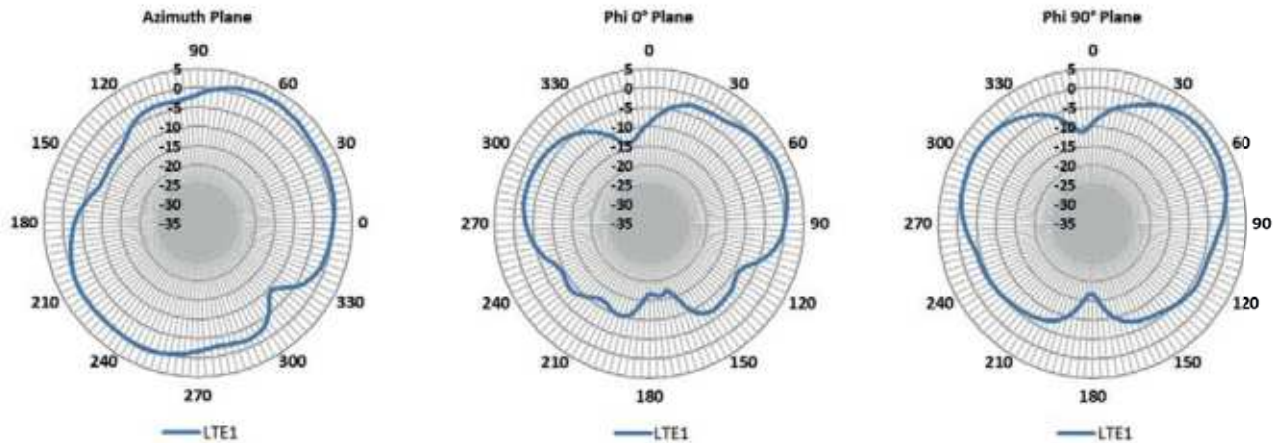


2700 MHz

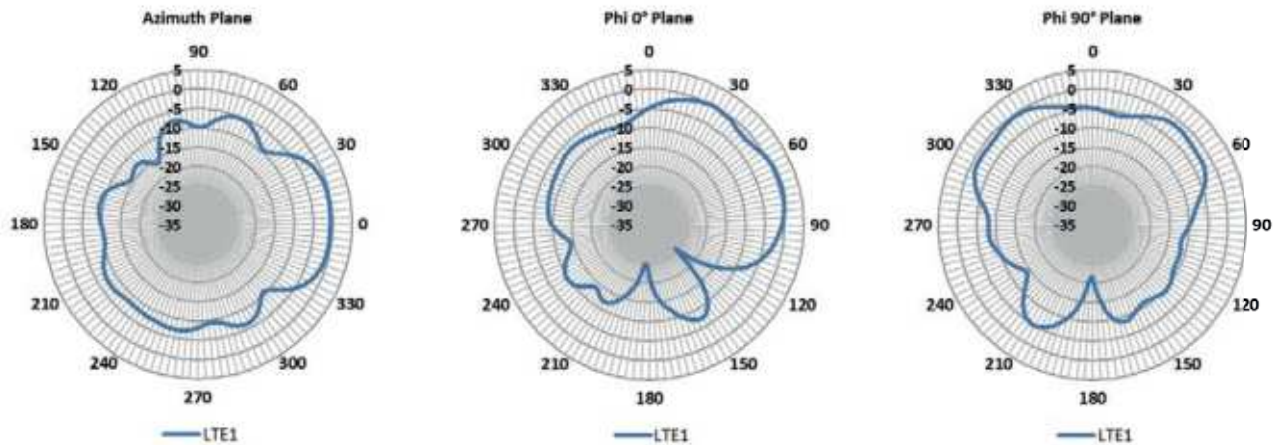


RADIATION PATTERNS WITHOUT GROUND PLANE - LTE ANTENNAS

3400 MHz



3800 MHz



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