Product Brief

ANT-LTE-CER
Embedded Ceramic Chip LTE Antenna

The LTE-CER ceramic chip antenna is a compact, high efficiency antenna designed to be easily integrated into cellular wireless telecommunication devices. Operating in all common LTE/4G/3G/2G bands, it has high efficiency and high gain, providing excellent performance for LTE-M (Cat-M1) and NB-IoT bands as well as low-power, wide-area (LPWA) networking applications.

The compact size of the CER antenna saves valuable board space while reducing costs compared to an external antenna solution.

The CER is designed for reflow-solder mounting directly to a printed circuit board for high-volume applications.

Features

- Performance at 791 MHz to 960 MHz
  - VSWR: ≤ 3.6
  - Peak Gain: 4.5 dBi
  - Efficiency: 56%
- Performance at 1710 MHz to 2200 MHz
  - VSWR: ≤ 3.5
  - Peak Gain: 4.9 dBi
  - Efficiency: 79%
- High efficiency and gain for LTE-M (Cat-M1) and NB-IoT applications
- Compact size
  - 37.0 mm x 5.0 mm x 5.0 mm
- Omnidirectional radiation pattern
- Direct surface-mount PCB attachment
- Reflow- or hand-solder assembly

Applications

- Worldwide LTE, UMTS and GSM
- Cellular IoT: LTE-M (Cat-M1) and NB-IoT
- LTE frequency bands
  - AT&T: bands 12, 14, 17
  - Verizon: band 13
  - Europe: bands 8, 20
  - Latin America: bands 5, 28
  - Asia Pacific: bands 5, 8, 20, 28
- Low-power, wide-area (LPWA) applications
  - LoRaWAN®
  - Sigfox®
  - WiFi HaLow™
- FirstNet® Public Safety
- Internet of Things (IoT) devices
- ISM: Bluetooth® and ZigBee®

Ordering Information

Part Number	Description
ANT-LTE-CER	Antenna supplied on tape and reel (450 pcs per reel))
AEK-LTE-CER	Antenna evaluation kit

Available from Linx Technologies and select distributors and representatives.

Electrical Specifications

ANT-LTE-CER	Frequency Range	VSWR (max.)	Peak Gain (dBi)	Avg. Gain (dBi)	Efficiency (%)
LTE 12, 13, 14, 17, 26, 28, 29	698 MHz to 803 MHz	5.5	4.4	-3.1	56
LTE 5, 8, 20	791 MHz to 960 MHz	3.6	4.5	-2.4	56
LTE 1, 2, 3, 4, 25, 66	1710 MHz to 2200 MHz	3.5	4.9	-1.5	79
LTE 30, 40	2300 MHz to 2400 MHz	3.1	3.9	-1.2	77
LTE 7, 41	2496 MHz to 2690 MHz	1.8	3.0	-2.1	64
GPS/GNSS	1553 MHz to 1609 MHz	3.5	6.1	-2.7	56
ISM	2400 MHz to 2485 MHz	2.8	3.6	-1.8	69

Polarization	Linear	**Impedance**	50 Ω
Radiation	Omnidirectional	**Connection**	Surface-mount
Max Power	5 W	**Weight**	3.0 g (0.11 oz)
Wavelength	1/4-wave	**Electrical Type**	Monopole
Operating Temp. Range	-40 °C to +85 °C		
Dimensions	37.0 mm x 5.0 mm x 5.0 mm (1.46 in x 0.2 in x 0.2 in)		
ESD Sensitivity	NOT ESD sensitive. As a best practice, Linx may use ESD packaging.		

Electrical specifications and plots measured with a 45.0 mm x 120.0 mm (1.77 in x 4.72 in) reference ground plane.

VSWR

Figure 1 provides the voltage standing wave ratio (VSWR) across the antenna bandwidth. VSWR describes the power reflected from the antenna back to the radio. A lower VSWR value indicates better antenna performance at a given frequency. Reflected power is also shown on the right-side vertical axis as a gauge of the percentage of transmitter power reflected back from the antenna.

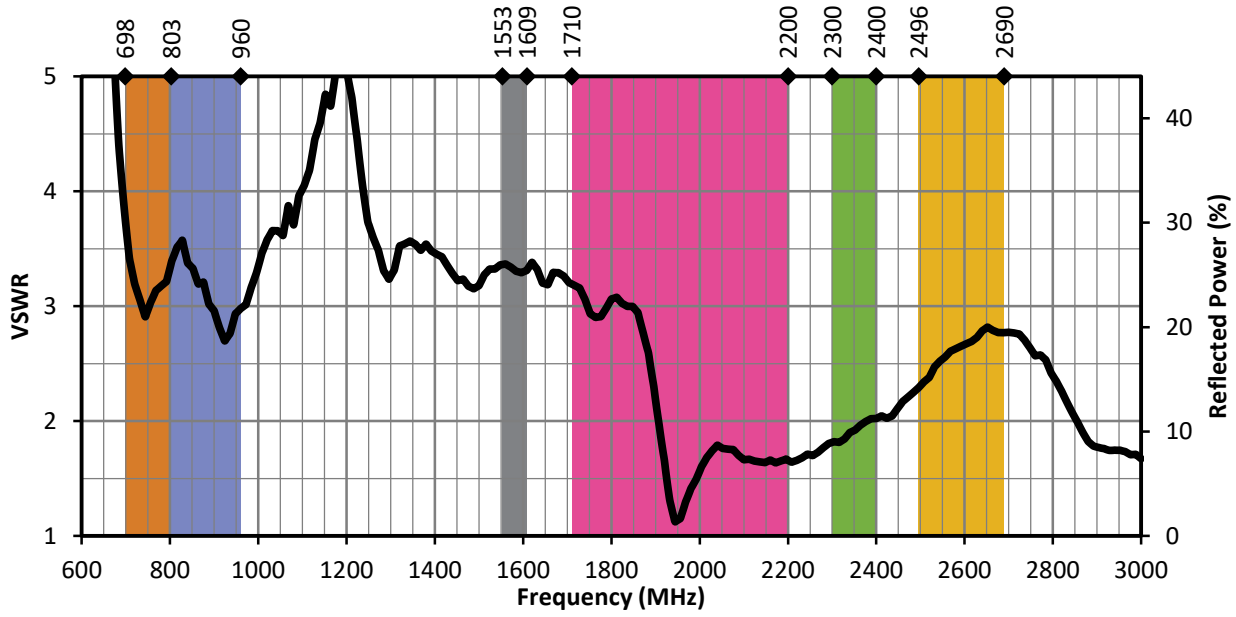

Figure 1. ANT-LTE-CER VSWR, with Frequency Band Highlights

Website: http://linxtechnologies.com • Phone: +1 (541) 471-6256 • E-MAIL: info@linxtechnologies.com • Linx Offices: 159 Ort Lane, Merlin, OR, US 97532