

Antennas Resonant Loop Antennas Model 3127

Features:

- Designed for CTIA Ripple Test
- Meet CTIA ± 0.1 dB Symmetry Requirement
- Range of Frequencies to Cover Wireless Device Bands

Model 3127-836* 736 MHz - 936 MHz **Model 3127-1880*** 1730 MHz - 2030 MHz **Model 3127-2450** 2300 MHz - 2600 MHz

* For Ripple Test Specified by CTIA



ETS-Lindgren Model 3127 Resonant Loop Antenna

ETS-Lindgren's Model 3127 Resonant Loops are designed to meet the Cellular Telecommunication and Internet Association's (CTIA) ± 0.1 dB symmetry requirement for ripple test measurements at the labeled center frequency. These omnidirectional antennas have a magnetic dipole pattern approaching that of a half-wave resonant electric dipole. The pattern produced has the same peak and null orientation as that of a sleeve dipole oriented along the same axis, but with the directions of the electric and magnetic fields reversed. That is, the electric field vector along the azimuth is perpendicular to the axis and the magnetic field vector is parallel to the axis. The loop design allows the antenna to be end-fed to avoid cable and feed-point interactions that interfere with the symmetry of the antenna. Integral quarter-wave chokes and/or ferrite loading (depending on frequency range) also help to reduce cable interaction. This design also provides exceptional symmetry to meet the CTIA criteria for ripple test antennas.

Features

All Model 3127 resonant loops are designed with better than ± 0.1 dB symmetry (0.2 dB peak-to-null) in at least a ± 5 MHz band around the labeled

center frequency. VSWR is less than 5:1 at the resonant frequency, which is slightly higher than the labeled symmetry frequency. For reference purposes, gain and symmetry values are provided for a 200-300 MHz band (depending on model) centered about the labeled frequency. The loops have a nominal 50Ω impedance, a maximum continuous transmit power of one watt, and are equipped with a female SMA connector.

The loops are calibrated using an A2LA accredited process with a typical measurement uncertainty on the order of ± 1.0 dB at the center frequency. During the calibration process, the dipoles are also certified to meet the ± 0.1 dB symmetry required for use in the ripple test specified in the CTIA's Over-The-Air Performance Test Plan, in a ± 5 MHz band around the labeled center frequency. Maximum ripple, VSWR, and approximate gain values are provided with each calibration. Note that the gain values provided with this calibration is for diagnostic reference purposes only. For accurate gain values to perform range calibration, the EMCO Model 3126 Precision Reference Sleeve Dipoles are recommended.

An optional CTIA Ripple Calibration Antenna Mount Kit is available to attach the loop to an ETS-Lindgren multi-axis positioning system (MAPS) in order to perform the CTIA ripple test site validation and to perform range calibrations. The mounting kit provides all adapters necessary to position both sleeve dipole and resonant loop antennas at each offset geometry required by the CTIA test plan.

Standard Configuration

- Resonant Loop Antenna
- Manual
- A2LA Accredited precision calibration and symmetry certification including signed Certificate of Calibration

Options

- CTIA Ripple Calibration Antenna Mount Kit for ETS-Lindgren MAPS systems
- CTIA Ripple Calibration Cable Kit
- Range Calibration Mount Kit
- ETS-Lindgren Model 3126 Precision Reference Sleeve Dipoles

Electrical Specifications

MODEL	FREQUENCY RANGE	± 0.1 dB SYMMETRY RANGE (MHZ)	VSWR RATIO (AVG)	MAXIMUM CONTINUOUS POWER	IMPEDANCE (NOMINAL)	CONNECTOR
3127-836	736 MHz - 936 MHz	831 MHz - 841 MHz	< 5:1 Typical	1 W	50 Ω	SMA Female
3127-1880	1730 MHz - 2030 MHz	1875 MHz -1885 MHz	< 5:1 Typical	1 W	50 Ω	SMA Female
3127-2450	2300 MHz - 2600 MHz	2445 MHz - 2455 MHz	< 5:1 Typical	1 W	50 Ω	SMA Female

Physical Specifications

MODEL	DIAMETER A	DIAMETER B	LENGTH
3127-836	1.90 cm 0.75 in	12.70 cm 5.00 in	21.59 cm 8.50 in
3127-1880	1.90 cm 0.75 in	12.70 cm 5.00 in	21.59 cm 8.50 in
3127-2450	1.90 cm 0.75 in	12.70 cm 5.00 in	21.59 cm 8.50 in

