

## Features

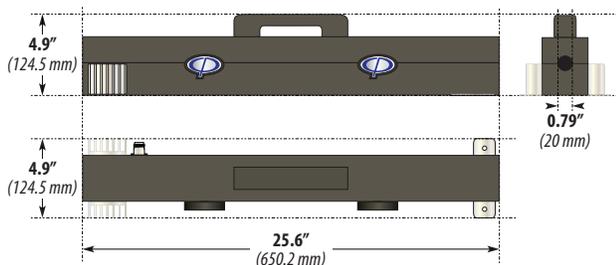
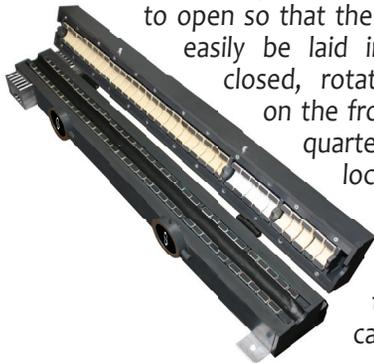
- Frequency Range: 150 kHz to 230 MHz (extended range: 10 kHz to 1 GHz)
- Designed for IEC/EN 61000-4-6
- Extremely Efficient Coupling
- Establishes both Capacitive and Inductive Coupling to the EUT Cable.
- Three-Year Warranty

## Description

The **CLEM-6146** Electromagnetic, or ‘EM’ Clamp is designed for use as a clamp injection device for conducted immunity tests in the frequency range of 150 kHz to 230 MHz according to IEC/EN 61000-4-6. The clamp can also be used for tests over its extended frequency range of 10 kHz to 1 GHz.

The cable connected between the Equipment Under Test (EUT) port to be tested and its Auxiliary Equipment (AE) is placed into the EM Clamp. The EM Clamp provides a means by which RF energy is coupled onto the cable and decoupled from the AE path, so that the energy is directed toward the EUT.

The **CLEM-6146** incorporates split-core ferrites which allows the top half of the hinged enclosure to open so that the cable under test can easily be laid into position. Once closed, rotating the two knobs on the front of the clamp one-quarter turn engages the locking mechanism which compresses the top and bottom halves of the ferrites together around the cable.



## Application

The EM Clamp or a Bulk Current Injection Probe (BCIP) can be used for IEC/EN 61000-4-6 tests on ports/cables for which no Coupling/Decoupling Network (CDN) is available.

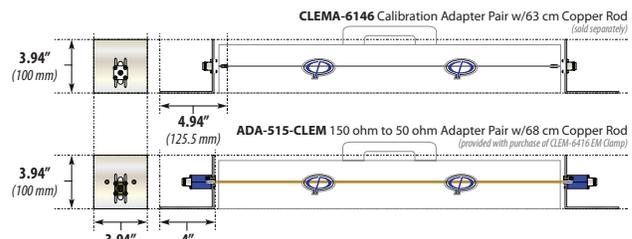
The key advantages to utilizing an EM Clamp, rather than a BCIP, are its power efficiency and decoupling properties. Com-Power’s EM Clamp is very efficient compared to other Injection Probes. To achieve a given test level, the **CLEM-6146** requires only about 15% of the power needed to drive a typical Bulk Current Injection Probe. See ‘Typical Power Requirements’ graph.

Additionally, while BCIPs provide virtually no decoupling of the Auxiliary Equipment (AE), the EM Clamp does provide AE decoupling, especially at higher frequencies. See ‘Typical Decoupling Factor’ graph.

## Accessories

The **CLEM-6146** is provided with a pair of **ADA-515-CLEM** 150 ohm to 50 ohm adapters and a 4 mm diameter copper rod. These items connect together as shown below to form the ‘test jig’ used for the calibration of test levels, as well as for the measurement of the clamp’s coupling factor.

In order to measure the impedance and decoupling factor of the EM Clamp, an additional test jig comprised of a pair of **CLEMA-6146** adapters and 4 mm copper rod is required. These items are available separately.



### Specifications

All values are typical, unless specified.  
All specifications are subject to change without notice.

Product	<b>EM Clamp</b>
Frequency Range	<b>150 kHz to 230 MHz</b>
Extended Frequency Range	<b>10 kHz to 1 GHz</b>
Nominal Impedance	<b>50Ω</b>
Input Connector	<b>Type-N (female)</b>
Clamp Opening Diameter	<b>0.79" (20 mm)</b>
Maximum Cable Diameter	<b>0.75" (19 mm)</b>
Height of Center of Cable Opening	<b>2" (50.3 mm)</b>
Distance from either end of Clamp to Ref. Point	<b>0.87" (22 mm)</b>
Maximum Input Power	<b>100 Watts for 15 minutes</b> <b>100 Watts for 3 minutes</b> <b>50 Watts for 3 minutes</b>
Dimensions (L) x (W) x (H)	<b>25.6" x 4.9" x 4.9"</b> (650.2 mm x 124.5 mm x 124.5 mm)
Weight	<b>13 lbs (5.9 kg)</b>
Accessories Available from Com-Power	<b>CLEMA-6146 Calibration Adapters</b> <b>ATTN-x-100W Power Attenuators</b> <b>ACS-series Power Amplifiers</b>

### Related Items Available from Com-Power:



ACS-Series Power Amplifiers



M-Series Coupling/Decoupling Networks

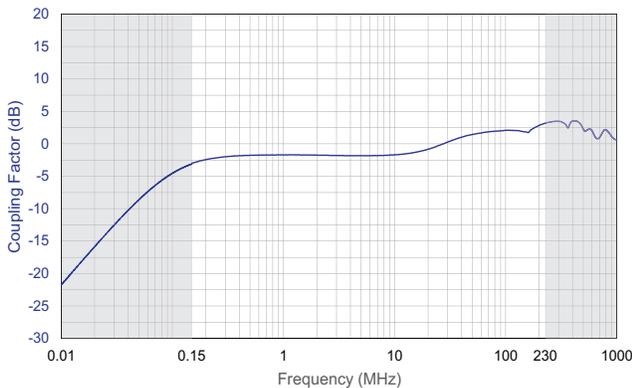


SPA-900TG Series Spectrum Analyzers

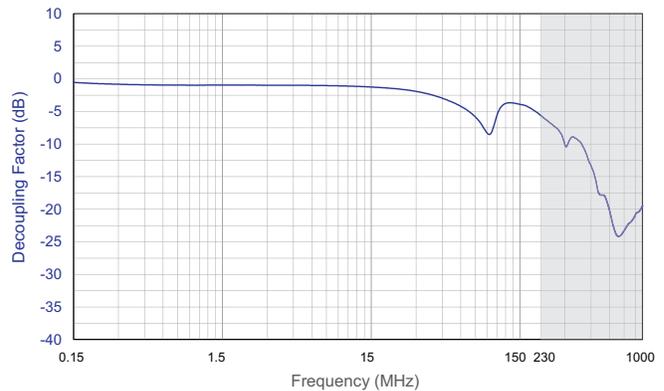
#### Also Available:

- CLCI-400 Bulk Current Injection Probe
- TERM-50-100W Power Termination
- DCD-1000-100W Dual Directional Coupler

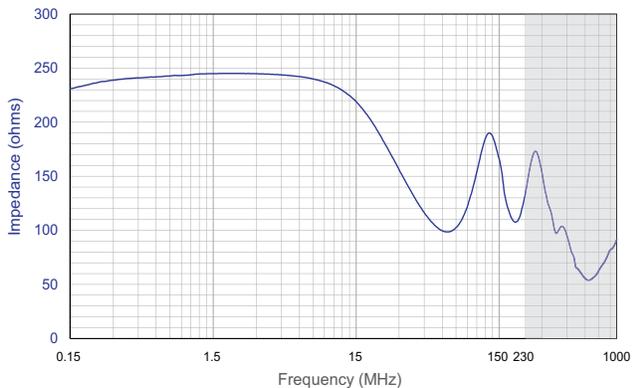
### Typical Coupling Factor



### Typical Decoupling Factor



### Typical Impedance



### Typical Power Requirements

