

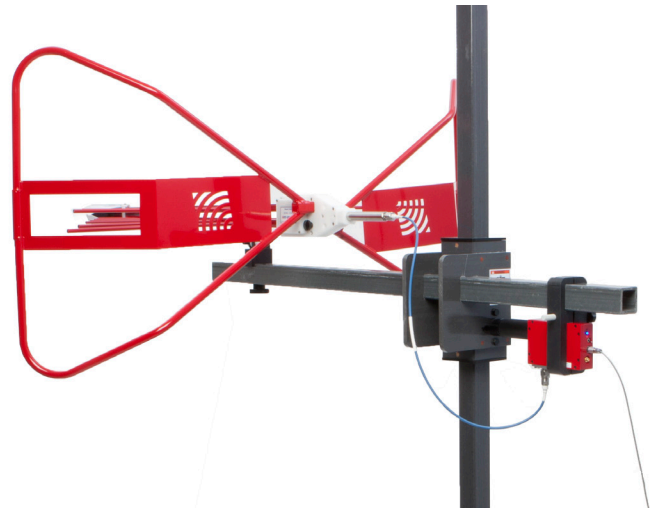


EMC Antennas BiConiLog with Pre-Amplifier

Model 3142E-PA

FEATURES:

- 30 MHz to 6 GHz Frequency Range
- Pre-Amplifier Module
- Designed for Emissions Testing
- Flexible Mounting
- Individually Calibrated



Model 3142E-PA BiConiLog with Pre-Amplifier

ETS-LINDGREN'S MODEL 3142E-PA BICONILOG is a hybrid antenna that combines innovative design, compact size, and excellent performance with a pre-amplifier module. This antenna enables users to measure a frequency range of 30 MHz to 6 GHz in one sweep, negating the need for multiple antennas and time-consuming equipment setup. The antenna and pre-amplifier module are calibrated together including the cable section that connects the module to the antenna port. Any possible mismatch between the pre-amplifier and the antenna is taken into account in the antenna factor.

FEATURES Frequency Range

The Model 3142E-PA covers the entire range of the 3142E antenna from 30 MHz to 6 GHz.

Pre-amplifier Module

The pre-amplifier attached to the antenna has a frequency range of 30 MHz to 6 GHz and a minimum typical gain of 55 dB. The gain flatness is ± 2.5 dB and the noise figure is 3 dB above 200 MHz and 5 dB typical below 200 MHz. The power output is +20 dBm minimum at the 1 dB point.

The input and output characteristics of the pre-amplifier are an input and output VSWR of 2.0:1 maximum. The operating temperature ranges from -20°C to $+75^{\circ}\text{C}$ (-4°F to $+167^{\circ}\text{F}$).

Emissions and Immunity Antenna

The 3142E-PA is an emissions only antenna, with the pre-amplifier increasing the signal level received by the antenna. By placing the pre-

amplifier close to the antenna the signal to noise ratio is preserved in the amplified signal.

Flexible Mounting

The Model 3142E-PA's mounting bracket accepts either a 1/4 20 thread screw or rear stinger mount. The pre-amplifier module attaches to the antenna via a flexible coaxial cable, so that the antenna can be supported by the stinger. The 3142E-PA includes two brackets to mount the pre-amplifier module to the carrier of any motorized mast. This allows the antenna to be scanned from 1m to 4m, as required by the standard.

Individually Calibrated

The 3142E is individually calibrated at 10 m per ANSI C63.5.

STANDARD CONFIGURATION

- Antenna and Pre-amplifier
- Antenna Mounting Bracket for 1/4 20 Threads
- Stinger Mount
- Pre-amplifier Box Mounting Brackets
 - 2171B/2170B Antenna Masts
 - 5 cm x 5 cm (2" x 2") Booms

- AC/DC Power Supply for the Pre-amplifier Module
- Connection Cable from the Antenna to the Pre-amplifier Box
- Individually Calibrated at 10m per ANSI C63.5
- Manual

OPTIONS

- ETS-Lindgren Offers Several Non-metallic, Non-reflective Tripods and Masts

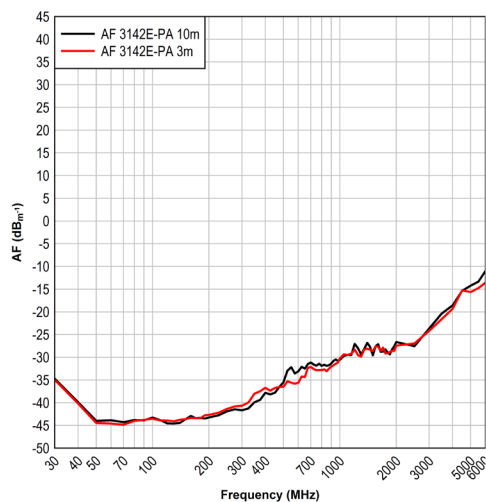
Electrical Specifications

| MODEL | FREQUENCY RANGE | VSWR (AVG) | MAXIMUM CONTINUOUS POWER | IMPEDANCE (NOMINAL) | CONNECTOR TYPE |
|----------|-----------------|---------------|--------------------------|---------------------|----------------|
| 3142E-PA | 30 MHz to 6 GHz | N/A (Rx Only) | N/A (Rx Only) | 50 Ω | SMA Female |

Physical Specifications

| MODEL | LENGTH | WIDTH | HEIGHT | WEIGHT (NOMINAL) |
|---------------------|---------------------|---------------------|--------------------|-------------------|
| 3142-PA (Antenna) | 139.2 cm 54.8 in | 133.9 cm 52.7 in | 76.2 cm 30.0 in | 5.7 kg 12.5 lb |
| Pre-Amplifier (Box) | 3.9 cm 3.5 in | 8.9 cm 5.5 in | 3.9 cm 1.5 in | .5 kg 1.0 lb |

Model 3142E-PA Typical Antenna Factor



The Model 3142E-PA pre-amplifier features a bright LED light, allowing for easy visual detection of pre-amplifier operation when unit is mounted onto an antenna tower.