

Product Technical Information

Active Receive Antenna: ARA 01

The Active Receive Antenna (ARA01) is a compact emissions antenna with an antenna factor comparable to a conventional wideband passive antenna such as the Bilog™.

The small size makes the ARA 01 particularly suitable for use in anechoic chambers; however it can also be used on an Open Area Test Site (OATS) or at on-site locations.

The ARA 01 features two sets of interchangeable Dipole Antenna Elements (DAE). The standard set (DAE01) is optimized for 200 MHz to 1 GHz, with usable sensitivity down to 30 MHz. For improved sensitivity between 30 MHz to 300 MHz, the optional DAE02 set is available.



ARA01 with two DAE01 Antennas

Features

- **Stable**
 - Repeatable measurements
- **Bilog™ equivalent antenna factor**
 - See output measurement graphs
- **30 MHz to 1 GHz range**
 - Most commonly used EMC measurement range
- **Compact and portable**
 - Measurements in confined spaces
 - Measurements where equipment must be hand carried
 - Field testing
- **Low cost**
 - Affordable measurement systems

Applications

- Radiated emissions measurements in a confined area
- Low cost alternative to passive wideband antenna
- Portable measurement systems

Specifications

Frequency range	30 MHz to 1 GHz (200 MHz to 1 GHz optimum) using DAE01 antenna elements 30 MHz to 300 MHz (optimum) using DAE02 antenna elements
Output connector	50 Ω BNC jack
Dynamic range	90 dB
1 dB compression	15.4 dBm / 35.5 mW / 1.33 V (in a 50 Ω system)
Antenna factor	See graph below
Temperature stability	<1 dB, at an ambient temperature of 5 °C to 45 °C
Time stability	Typically <1 dB over a 12 month period
Dimensions	34 mm × 34 mm × 150 mm (168 mm including connector) excluding dipole elements
Weight	0.39 kg (including battery)
Power supply	Single 9 V battery (PP3 or equivalent)
Operating time	6.5 hours typical with alkaline cells
Indicators	Power on, low battery

Manufacturer's calibrations

CAL08 **Antenna factor**, 30 MHz to 1 GHz, derived from a calibrated standard.

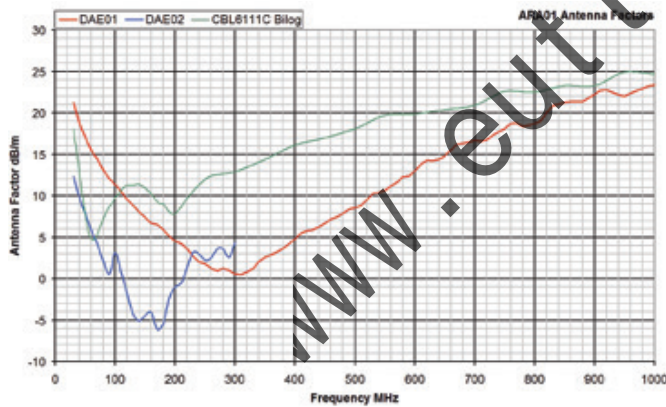
Standard kits

Part Number	Description	Parts included
ARA01KIT01	Standard ARA 01 active receive antenna kit with pair of 200 MHz to 1 GHz antennas	<ul style="list-style-type: none">• ARA 01 Active receive antenna• 2×DAE01 – 100 mm long antenna elements• CAL08 – antenna factors, 30 MHz to 1 GHz• Alkaline battery• Case

Accessories

DAE01	200 MHz to 1 GHz (optimum) set of 100 mm long antenna elements
DAE02	30 MHz to 300 MHz (optimum) set of 270 mm long antenna elements

Active Receive Antenna: ARA 01 Typical characteristics



Active Receive Antenna
Radiation Pattern, DAE01 fitted

Scale in dB

