

CNE V – Comparison Noise Emitter



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A low cost solution for those needing a high quality noise source. The CNE V offers continuous radiated and conducted outputs up to 1GHz in a physically small package.

- Continuous, broadband output
 - ✓ Full spectrum measurements and analysis
- Stable output
 - ✓ Repeatable measurements
- Conducted and radiated output options
 - ✓ Evaluation of both conducted and radiated systems
- 9kHz to 1GHz output
 - ✓ Applications across a broad frequency spectrum
- Compact and portable
 - ✓ Comparisons between sites and environments
- Battery powered
 - ✓ No power or interconnecting cable effects on measurements
- Low cost
 - ✓ Affordable confidence in measurement system results

Radiated Emissions

The CNE V is a broadband noise source which provides continuous output power from 9kHz to 1GHz. The broadband nature of the output enables the observation of details within the spectrum which would be missed with a comb generator. For radiated operation two monopole antennas, optimised for different bands of the spectrum, are available which attach to the top of the unit. The CNE V is an ideal source for carrying out checks on open area test sites (OATS) and anechoic chambers.

The CNE V is battery powered to allow operation as an electrically small source which minimises the effect of the structure of the CNE V itself when characterising the electromagnetic environment. The CNE V is housed in a metal box so that it can be mounted in direct contact with a metal ground plane as may be required by some tests. The power output level of the unit avoids the overloads possible with impulsive noise sources which may cause damage to the sensitive input circuits of receiving equipment.

Conducted emissions

In the same way that using the CNE V with an antenna can be used to check radiated measurement systems, a BNC connector provides a direct 50Ω matched output which can be used to carry out checks on conducted measurement systems. An adaptor is available (LSA02) which provides a capacitive link from the output of the CNE to a standard IEC 320 mains power connector. This allows checks and investigations on conducted measurement systems to be made, for example using a LISN or an absorbing clamp.



Applications

- Comparison between different measurement environments such as OATS or anechoic chambers
- Radiated and conducted measurement systems validation and verification. Reference source for:
 - Daily pre-test checks as required by the accreditation authorities e.g. ISO17025
 - Long-term performance monitoring
 - Cable position investigation
- Investigation of screened room behaviour
- Characterisation of filter performance
- Cable loss measurements
- Spectrum analyser/receiver pre-check

Specifications

Frequency Range	9kHz to 1GHz direct connection into 50Ω system 30MHz to 1GHz radiated using TLM01 and TLM02 antennas
Output connector	50Ω BNC socket
Temperature stability	15°C to 30°C <+/-1dB 9kHz to 1GHz, 5°C to 40°C <+/-2dB 9kHz to 1GHz
Time stability	Typically <1dB over a 12 month period
Dimensions	120mm x 120mm x 41mm not including antenna
Weight	0.53kg (excluding battery)
Power supply:	1 x 9V battery (PP3 or equivalent). Alkaline or rechargeable
Operating time	5 hours typical with alkaline cells
Indicators	Power on – green LED Battery low – red LED

Standard Order Kits

Part Number	Description	Parts Included
CNEVKIT01	Standard CNE V comparison continuous noise emitter kit with antenna	<ul style="list-style-type: none"> ● CNE V noise source ● 200MHz to 1GHz (optimum) 100mm long top-loaded monopole antenna – TLM01 ● Alkaline battery ● Hard case ● Standard test CAL03
CNEVKIT02	Enhanced CNE V comparison continuous noise emitter kit with multiple antennas and LISN adaptor	<ul style="list-style-type: none"> ● CNE V noise source ● 200MHz to 1GHz (optimum) 100mm long top-loaded monopole antenna – TLM01 ● 30MHz to 300MHz (optimum) 290mm long top-loaded monopole antenna – TLM02 ● LISN adapter with IEC-style connection – LSA02 ● Alkaline battery ● Hard case ● Standard test CAL03

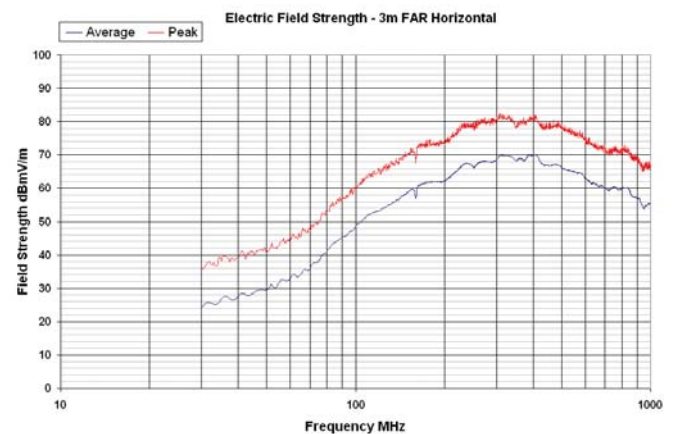
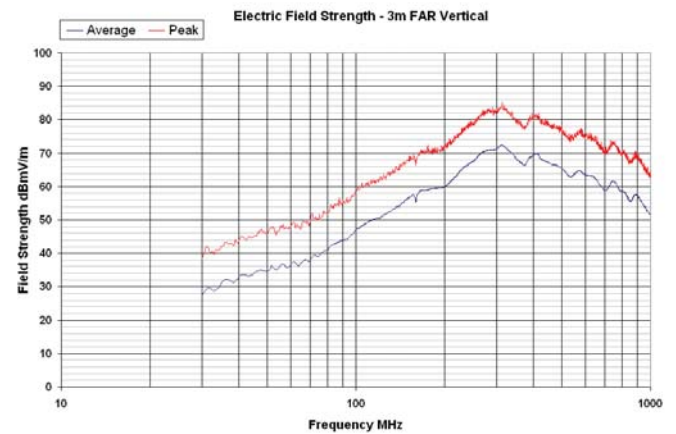
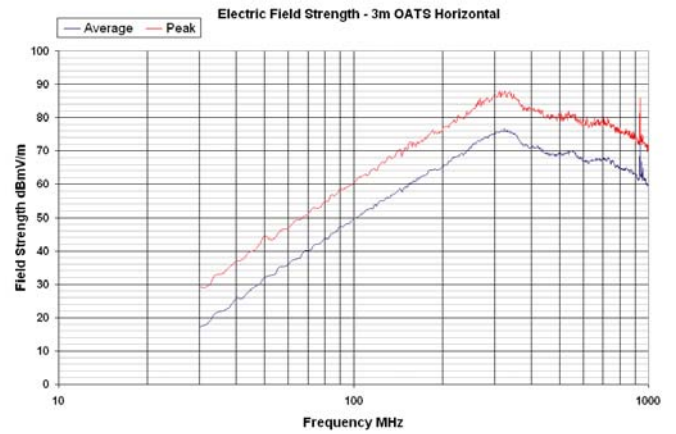
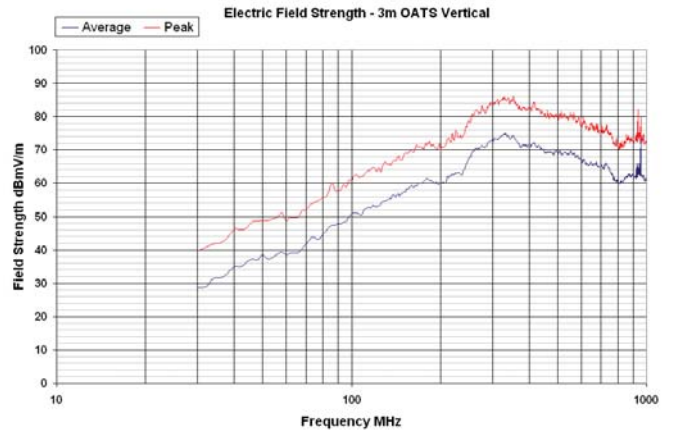
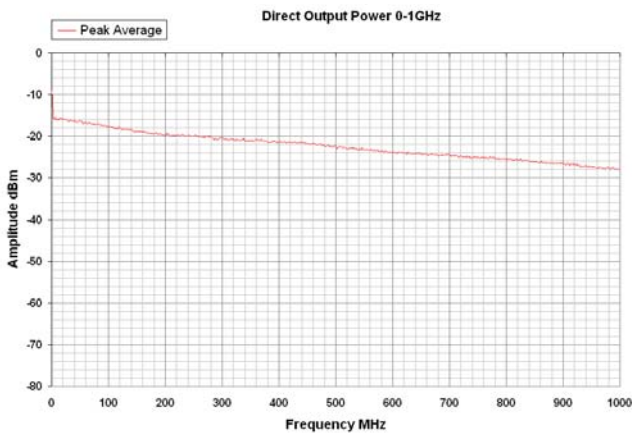
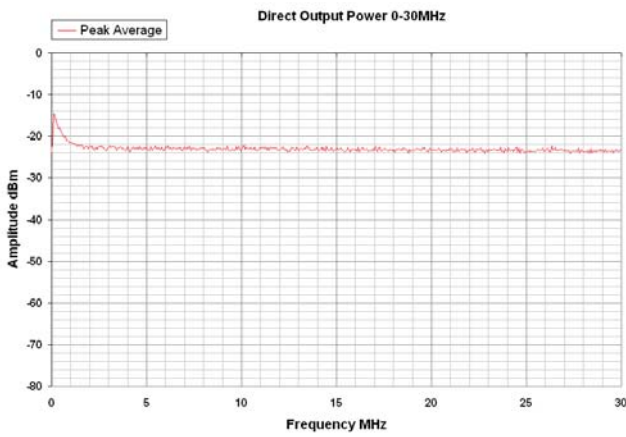
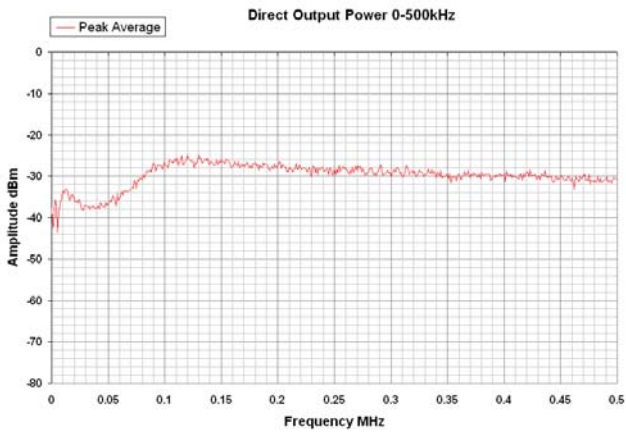
Accessories

Antenna	TLM01	200MHz to 1GHz (optimum) 100mm long top-loaded monopole
	TLM02	30MHz to 300MHz (optimum) 290mm long top-loaded monopole
Direct coupler	LSA02	LISN adapter with IEC-style connection

Output Measurement Results

Direct output:	CAL03	0-1GHz power measurement using spectrum analyser
Radiated output	CAL02	30MHz to 1GHz horizontal and vertical polarisation electric field-strength on OATS using receiver, either 3m or 10m
	CAL06	30MHz to 1GHz horizontal and vertical polarisation electric field strength in FAR using a spectrum analyser at 3m

Typical Output Measurement Results



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