

CNE VI Comparison Noise Emitter



Product Technical Information

Comparison Noise Emitter: CNE VI

The **CNE VI** is the latest generation broadband noise source, capable of providing a continuous output from **30 Hz to 6 GHz**. The stable output allows the CNE VI to be used as a general-purpose reference source for characterising and verifying both **conducted and radiated test environments**.

The CNE VI is a broadband noise source that is capable of producing a continuous noise output within the 30 Hz to 6 GHz frequency range. The broadband nature of the output enables the observation of details within the spectrum that would be missed using a comb generator.

The CNE VI features two separate outputs; a 50 Ω BNC connector for the 30 Hz to 30 MHz signal and a 50 Ω N-type output connector for the 30 MHz to 6 GHz signal. For radiated operation, either output can be attached to a selection of antennas available in a range of frequency coverage and types. An IEC 320 adapter is also available to provide a connection to LISN equipment, as well as an RJ11/RJ14/RJ25/RJ45 adapter for connection to telecoms ISNs.



CNE VI with MCN03 antenna and LSA03 LISN adapter

The CNE VI is an ideal source for carrying out checks on Open Area Test Sites (OATS) and fully- or semi-anechoic chambers. The CNE VI is compact and battery powered, allowing operation as an electrically small source, which minimises the effect of the CNE VI itself when characterising the electromagnetic environment. The CNE VI is housed in a metal enclosure so that it can be mounted in direct contact with a metal ground plane as may be required by some tests.

Features

- **Continuous, broadband output**
 - Full spectrum measurements and analysis
- **Stable output**
 - Repeatable measurements
- **Conducted and radiated options**
 - Evaluation of both conducted and radiated systems
- **30 Hz to 6 GHz output**
 - Applications across a broad range of frequencies
- **Compact and portable**
 - Comparisons between sites and environments
- **Battery powered**
 - No power or interconnecting cable effects on measurements

Applications

- **Validation and verification of radiated and conducted measurement systems, such as:**
 - Open Area Test Sites (OATS)
 - Fully Anechoic Rooms (FAR)
 - Semi-Anechoic Chambers (SAC)
 - Gigahertz Transverse ElectroMagnetic (GTEM) cells
 - Line Impedance Stabilisation Network (LISN)
 - Impedance Stabilisation Network (ISN)
- **Reference source for:**
 - Daily pre-test checks as required by the accreditation authorities e.g. ISO 17025, DEF STAN 59-411
 - Long-term performance monitoring
 - Cable position investigation
 - Investigation of screened room behaviour
 - Characterisation of filter performance
 - Cable loss measurements
- **Measuring amplifier gain and bandwidth**
- **Spectrum analyser/receiver pre-check**
- **Investigation, characterisation and comparison of different measurement environments such as OATS, FAR or SAC.**
- **Inter-laboratory test programs**
- **Proficiency test programs**

Manufacturer's calibrations

CAL02	Radiated field strength, 30 MHz to 1 GHz, measured at 3 m OR 10 m on an OATS using a spectrum analyser or receiver
CAL04	Radiated field strength, 30 MHz to 1 GHz, measured at 3 m AND 10 m on an OATS using a spectrum analyser or receiver
CAL06	Radiated field strength, 30 MHz to 1 GHz, measured at 3 m in a FAR using a spectrum analyser or receiver
CAL07	Radiated field strength, 1 to 7 GHz, measured at 3 m in a FAR using a spectrum analyser or receiver
CAL20	Conducted output power, 30 Hz to 6 GHz, measured using a spectrum analyser

Specifications: Noise Mode 1

Frequency range	30 Hz to 30 MHz direct connection into 50 Ω system Up to 30 MHz radiated using a 1 m monopole Up to 30 MHz radiated using loop antennas
Output connector	50 Ω BNC-type socket
Temperature stability	< +/-0.5 dB between 30 Hz and 30 MHz, from 5 °C to 40 °C
Time stability	<1 dB typical over a 12 month period
Operating time	14 hours typical with alkaline cells

Specifications: Noise Mode 2

Frequency range	30 MHz to 6 GHz direct connection into 50 Ω system 30 MHz to 6 GHz radiated using MON03 monopole and MCN03 monocone antennas
Output connector	50 Ω N-type socket
Temperature stability	< +/-1 dB between 30 MHz and 6 GHz, from 15 °C to 30 °C < +/-1.5 dB between 30 MHz and 6 GHz, from 5 °C to 40 °C
Time stability	<1 dB typical over a 12 month period
Operating time	6.5 hours typical with alkaline cells

Other

Dimensions	120 mm x 120 mm x 60 mm (140 mm x 140 mm x 79 mm including connectors, switches)
Weight	1 kg (including cells)
Power supply	4 x 1.5 V cells (AA or equivalent). Alkaline or rechargeable NiMH.
Indicators	Active, low battery
Controls	Rotary switch for mode selection including OFF

Standard kits

Part Number	Description	Parts included
CNEVIKIT01	Standard CNE VI comparison noise emitter kit	<ul style="list-style-type: none">• CNE VI noise source• MON03 – 200 MHz to 1 GHz (optimum) 270 mm long monopole antenna• LSA03 – LISN adapter with IEC 320 style connector
CNEVIKIT02	Enhanced CNE VI comparison noise emitter kit	<ul style="list-style-type: none">• CNE VI noise source• MON03 – 200 MHz to 1 GHz (optimum) 270 mm long monopole antenna• LSA03 – LISN adapter with IEC 320 style connector• TLM02 – 30 MHz to 300 MHz (optimum) 270 mm long top-loaded monopole antenna• MCN03 – 1 GHz to 6 GHz (optimum) monocone antenna

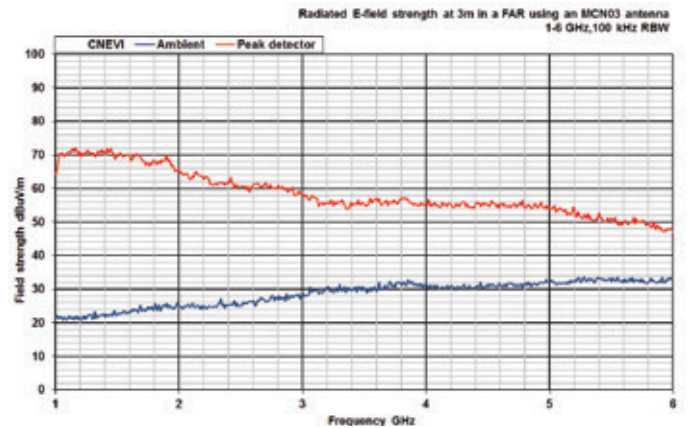
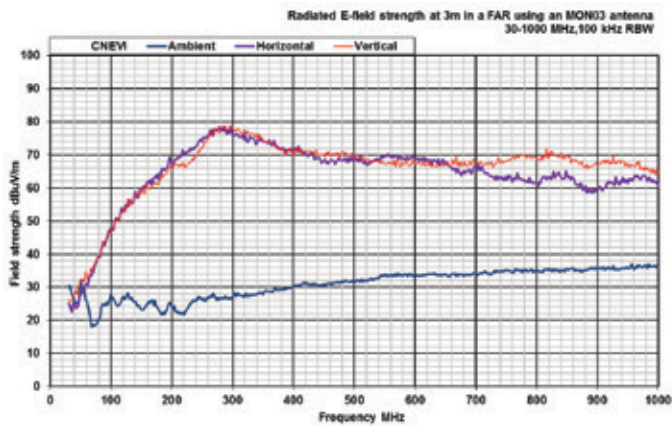
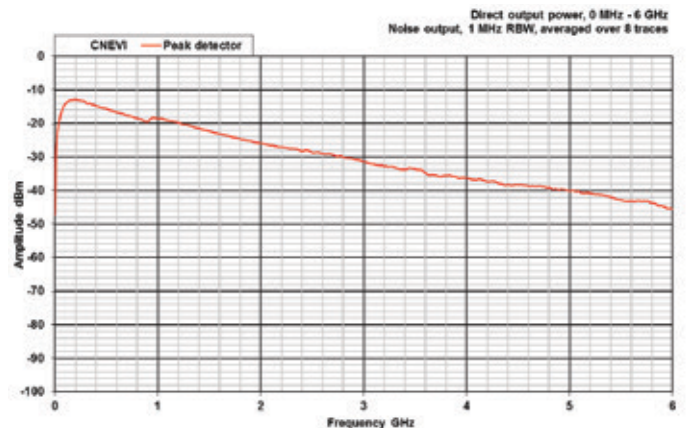
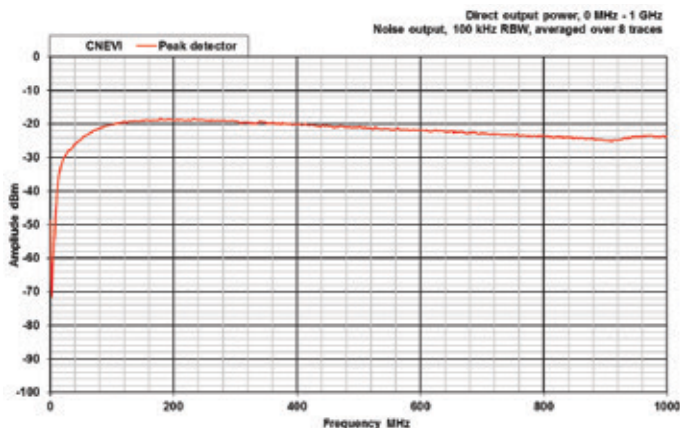
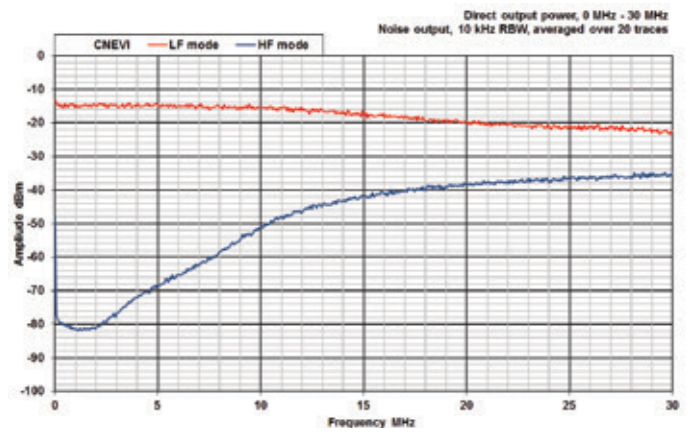
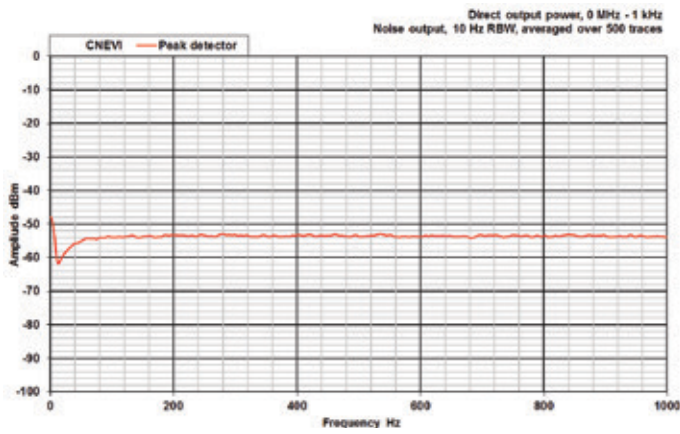
All kits are supplied with: Alkaline batteries; hard case; manual; CAL20 – 0 GHz to 6 GHz output power measurements in all modes using a spectrum analyser or receiver.

Accessories

TLM01	200 MHz to 1 GHz (optimum) 100 mm long top-loaded monopole antenna
TLM02	30 MHz to 300 MHz (optimum) 270 mm long top-loaded monopole antenna
MCN03	1 GHz to 6 GHz (optimum) 120 mm diameter monocone antenna
MON02	Telescopic rod antenna
MON03	200 MHz to 1 GHz (optimum) 270 mm long monopole antenna
LSA03	LISN adapter with IEC 320 style connector
NIA01	ISN adapter with RJ11/RJ14/RJ25/RJ45 connector

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Typical output measurement results



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