

YRS01 York Reference Source



YRS01

York Reference Source

The YRS01 is a multi-mode reference source capable of producing a broadband noise or comb output up to 1GHz.

- Selectable noise or comb output
 - Flexibility across a range of applications
- Stable output
 - Repeatable measurements
- 5 kHz to 1 GHz 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



The YRS01 is a broadband noise and comb source that is capable of producing a continuous noise output from 9 kHz to 1 GHz, or a comb of frequencies within the 5 kHz to 1 GHz range, with step size being selected by the user. The noise generator enables observation of details over the full spectral range, while the comb generator allows for the reference signal output and noise floor to be viewed simultaneously.

Radiated Emissions

For radiated operation two monopole antennas, optimised for different frequency bands, are available which attach to the top of the unit. The YRS01 is an ideal source for carrying out checks on open area test sites (OATS) and anechoic chambers.

The YRS01 is compact and battery powered, allowing operation as an electrically small source, which minimises the effect of the YRS01 itself when characterising the electromagnetic environment. The YRS01 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.

Conducted Emissions

An N-type connector provides a direct 50Ω matched output, which can be used to carry out checks on conducted measurement systems. Two adaptors are available as optional accessories: The LSA03 provides a capacitive link from the output of the YRS01 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. The NIA01 provides an interface to RJ11, RJ14, RJ25 and RJ45 standard connectors for conducted measurements using an ISN.

The YRS01 is compatible with the BP01 battery pack, or alternatively can be powered using an external USB supply.

The YRS01 has been designed specifically to complement the CGE range of comb generators, and can be supplied as part of the CGE kits to provide a reference source solution covering 5 kHz to 18 GHz and over.

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
- **Measuring amplifier gain and bandwidth**
- **Spectrum analyser/receiver pre-check**

For further information please contact:

York EMC Services (2007) Ltd
Market Square, University of York
York, YO10 5DD, UK

Email: enquiry@yorkemc.co.uk
Website: www.yorkemc.co.uk
Tel: +44 (0) 1904 324440
Fax: +44 (0) 1904 324434

YRS01 Specifications

Noise mode

Frequency range	9 kHz to 1GHz direct connection into 50Ω system 30MHz to 1GHz radiated using TLM02 and MON03 monopole antennas
Temperature stability	15°C to 30°C < +/-1dB 9 kHz to 1 GHz 5°C to 40°C < +/-2.5dB 9 kHz to 1 GHz
Time stability	<1dB (typical over a 12 month period)
Operating time	7.5 hours (typical with fully charged battery pack)

Comb mode

Frequency range	5 kHz to 1GHz direct connection into 50Ω system 30MHz to 1GHz radiated using TLM02 and MON03 monopole antennas
Comb Signal Step size	Selectable between: 10 kHz (5 kHz, 15 kHz, 25 kHz ... 3.005 MHz min.) 100 kHz (50 kHz, 150 kHz, 250 kHz ... 30.05 MHz min.) 1 MHz (0.5 MHz, 1.5 MHz, 2.5 MHz ... 300.5 MHz min.) 5 MHz (2.5 MHz, 7.5 MHz, 12.5 MHz ... 1.0025 GHz min.)
Temperature stability	Amplitude: 15°C to 30°C < +/-0.5dB 5kHz to 1GHz 5°C to 40°C < +/-1dB 5kHz to 1GHz Frequency: 5°C to 40°C < +/- 0.5 ppm
Time stability	<1dB (typical over 12 month period) < +/-1 ppm (typical over a 12 month period)
Operating time	8.5 hours (typical with fully charged battery pack)

Other

Output connector	50 Ω N-type socket
Dimensions	76 mm diameter x 35 mm (56 mm including connector), without battery pack 76 mm diameter x 81 mm (102 mm including connector), with battery pack
Weight	0.6kg (including battery)
Power supply	5V 2Ahr battery pack (order code BP01). External input 5.00V ± 0.25V, 300mA (mini-USB type B connector)
Indicators	Active – green LED Battery low – red LED
Controls	Rotary switch for mode selection

For further information please contact:

York EMC Services (2007) Ltd
Market Square, University of York
York, YO10 5DD, UK

Email: enquiry@yorkemc.co.uk
Website: www.yorkemc.co.uk
Tel: +44 (0) 1904 324440
Fax: +44 (0) 1904 324434

YRS01

Standard order kits

Part No.	Description	Parts included
YRS01KIT01	Standard YRS01 reference source kit with antenna	<ul style="list-style-type: none">• YRS01 reference source• BP01 rechargeable battery pack• Universal input battery charger• 200 MHz to 1 GHz (optimum) 270 mm long monopole antenna – MON03• Hard case• Manual• Standard test CAL16
YRS01KIT02	Enhanced YRS01 reference source kit with multiple antennas and LISN adaptor	<ul style="list-style-type: none">• YRS01 reference source• BP01 rechargeable battery pack• Universal input battery charger• 30MHz to 300MHz (optimum) 270mm long top-loaded monopole - TLM02• 200 MHz to 1 GHz (optimum) 270 mm long monopole antenna – MON03• LISN adaptor with IEC-style connection – LSA03• Hard case• Manual• Standard test CAL16

Accessories

Antenna	TLM02	30MHz to 300MHz (optimum) 290mm long top-loaded monopole
	MON03	200 MHz to 1 GHz (optimum) 270 mm long monopole antenna
Direct coupler	LSA03	LISN adaptor with IEC socket
	NIA01	ISN adaptor with two data socket outputs 6 way RJ11/RJ14/RJ25 socket / 8 way RJ45 socket.

Output measurement results

Direct output	CAL16	0 to 1 GHz power measurement using spectrum analyzer, all modes
Radiated output	CAL17	30 MHz to 1 GHz horizontal and vertical polarisation electric field-strength on OATS using receiver, either 3 m or 10 m test distance. Results for noise, 1 MHz and 5 MHz comb modes.
	CAL18	30 MHz to 1 GHz horizontal and vertical polarisation electric field strength in FAR using a spectrum analyser at 3 m test distance. Results for noise, 1 MHz and 5 MHz comb modes.

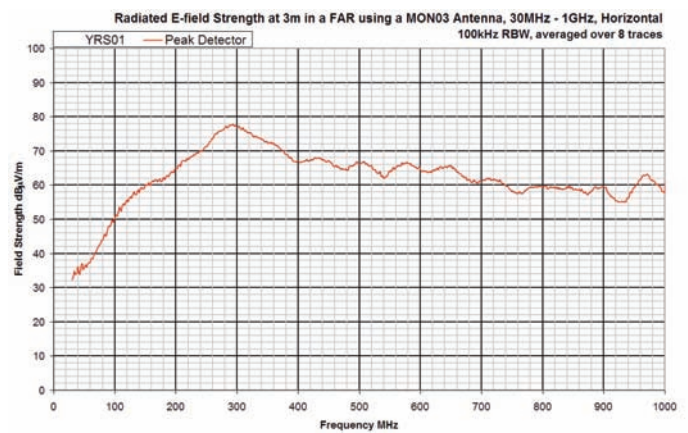
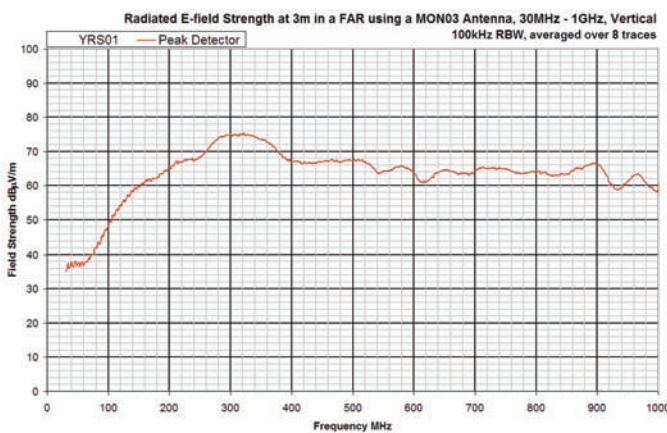
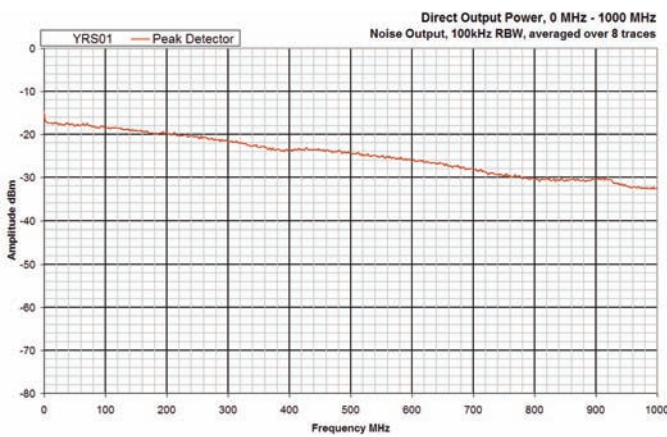
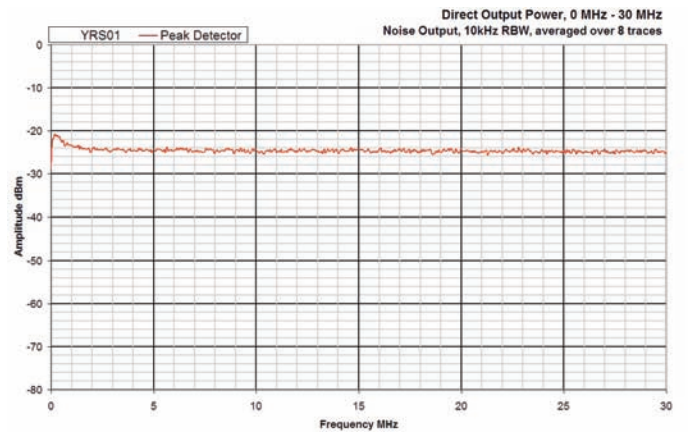
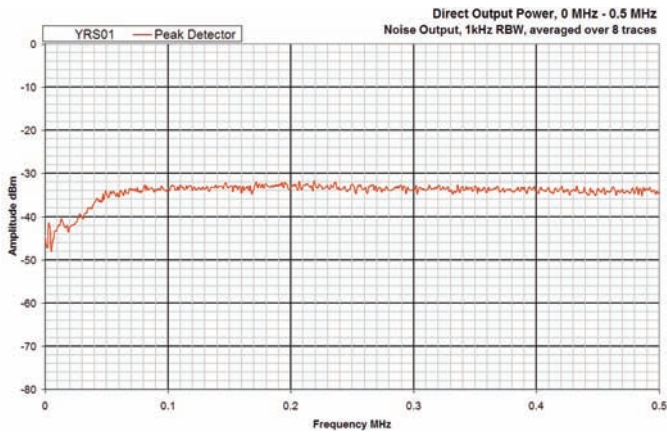
For further information please contact:

York EMC Services (2007) Ltd
Market Square, University of York
York, YO10 5DD, UK

Email: enquiry@yorkemc.co.uk
Website: www.yorkemc.co.uk
Tel: +44 (0) 1904 324440
Fax: +44 (0) 1904 324434

Typical output measurement results

Measured using a spectrum analyser – Noise output



For further information please contact:

York EMC Services (2007) Ltd
Market Square, University of York
York, YO10 5DD, UK

Email: enquiry@yorkemc.co.uk

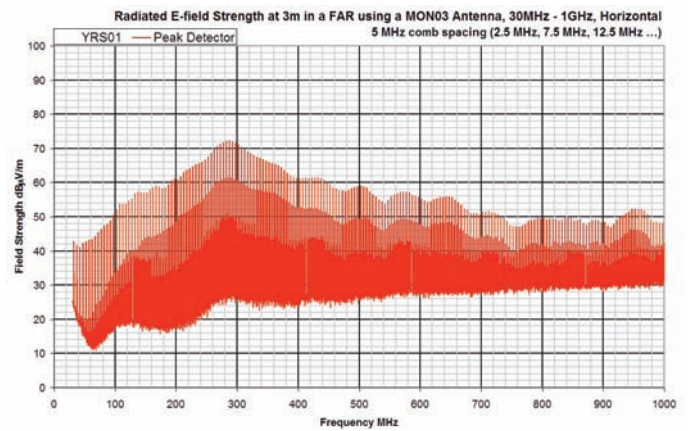
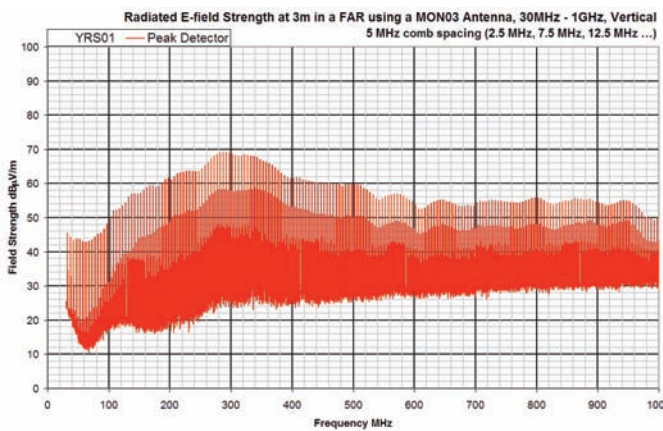
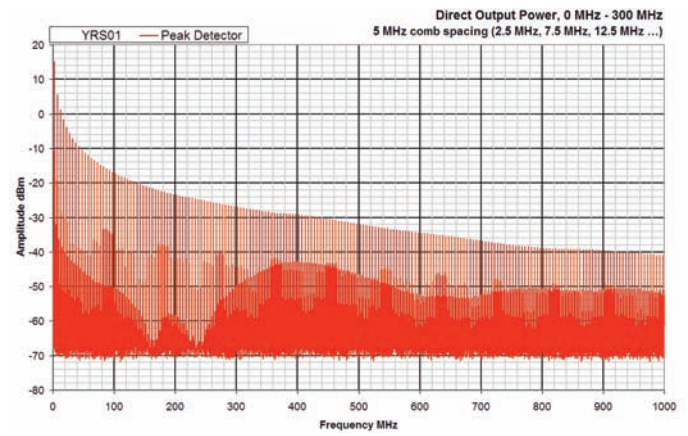
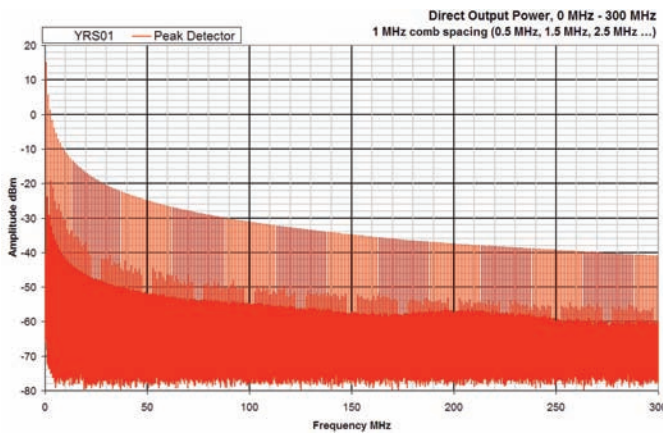
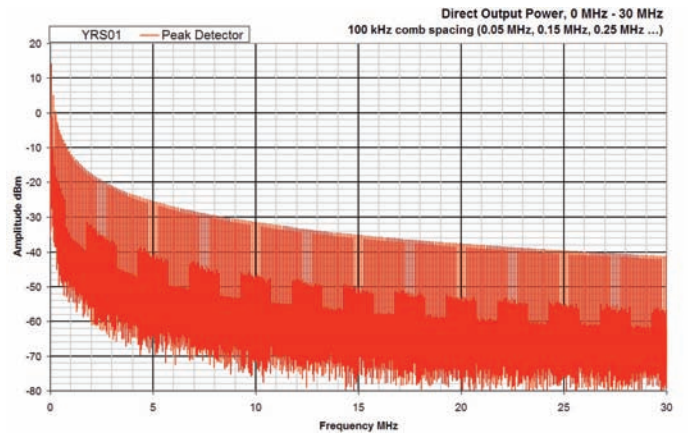
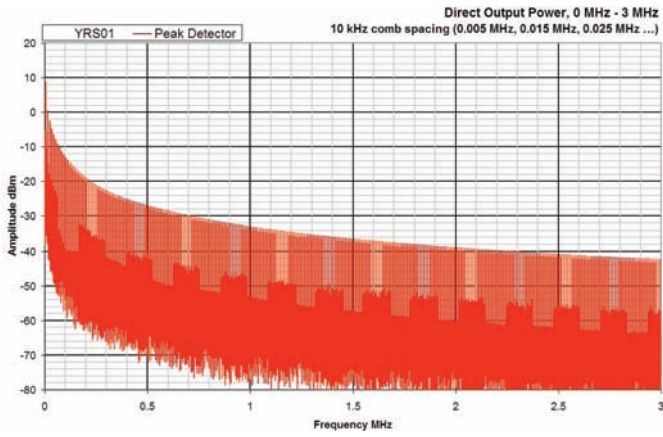
Website: www.yorkemc.co.uk

Tel: +44 (0) 1904 324440

Fax: +44 (0) 1904 324434

Typical output measurement results

Measured using a spectrum analyser – Comb output



For further information please contact:

York EMC Services (2007) Ltd
Market Square, University of York
York, YO10 5DD, UK

Email: enquiry@yorkemc.co.uk

Website: www.yorkemc.co.uk

Tel: +44 (0) 1904 324440

Fax: +44 (0) 1904 324434