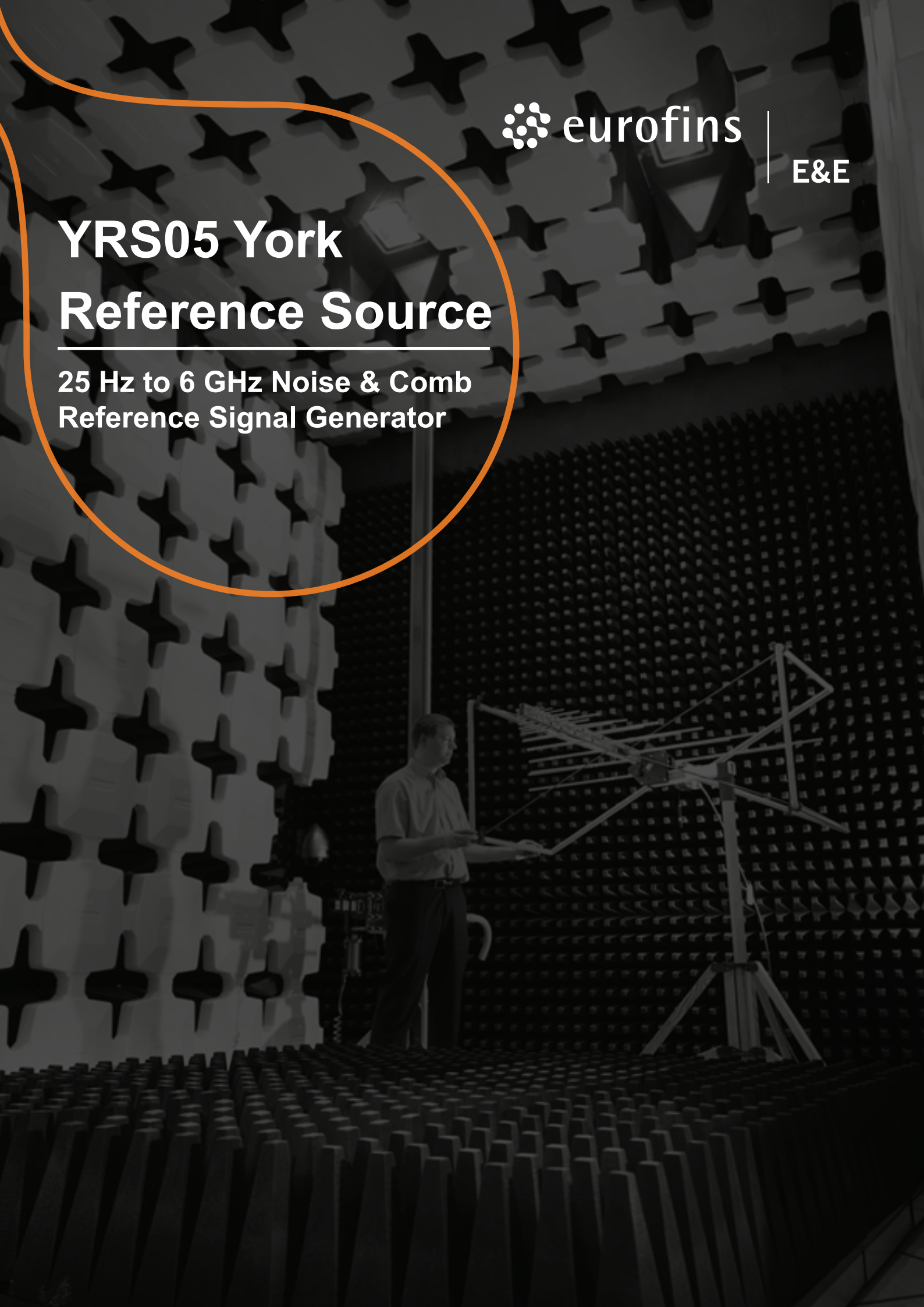




E&E

# YRS05 York Reference Source

25 Hz to 6 GHz Noise & Comb  
Reference Signal Generator



**The YRS05 is a Noise and Comb reference noise generator capable of outputting over a frequency range of 25 Hz to 6 GHz.**

**It is the ideal reference source for verifying and validating conducted and radiated measurement systems and in the investigation and characterisation of measurement environments such as Fully- or Semi-Anechoic chambers, and Open Area Test Sites.**



## Overview

The YRS05 is one of Eurofins E&E UK's latest line of noise and comb reference sources, building on more than 30 years of experience in producing quality signal reference sources for EMC test laboratories.

The YRS05 can generate output signals covering 25 Hz to 6 GHz and combines both noise and comb signal capabilities in a single device.

The YRS05 is battery-powered for standalone operation without additional power cables and features dual 50 Ω N-type output connectors for direct connection to conducted measurement systems.

For conducted emissions test systems, the optional NIA02 is a direct-coupling adapter providing an IEC 320 inlet for single-phase LISNs and a selection of 4 mm connections for general-purpose test applications.

A configurable monopole antenna and a monocone antenna are also available, allowing the YRS05 to be used as a standalone reference radiating source in an electromagnetic test environment or radiated emission test system such as a Fully- or Semi-Anechoic Room.

The YRS05 is compact, with its small size and shape designed to produce a uniform radiated field.

## Features

- 25 Hz to 6 GHz output
  - Applications across a broad spectrum of uses
- Stable output
  - Repeatable measurements
- Selectable noise or comb output
  - Flexibility across a range of applications
- Compact and portable
  - 85 x 85 x 85 mm, 0.8 kg
- Battery power supply
  - No power cable effects on measurements

## Applications

- Conducted and radiated measurement systems validation and verification
- Investigation and characterisation of different measurement environments such as Fully- or Semi-Anechoic chambers, Open Area Test Sites
- Reference source for:
  - Regular pre-test checks as required to satisfy accreditation authorities and standards such as ISO 17025, DEF STAN 59-411
  - Comparisons between test sites
  - Long-term performance monitoring
  - Investigation of screened room behaviour
  - Cable loss measurements
- Evaluating component assembly characteristics e.g. filter loss, amplifier gain and bandwidth
- Spectrum analyser, receiver, antenna, and cable pre-checks
- Inter-laboratory and Proficiency Test programs

## YRS05 Specifications

### General

<b>Frequency range</b>	25 Hz to 6 GHz direct connection into 50 Ω system 100 kHz to 6 GHz radiated using MON04 and MCN04 antennas
<b>Temperature Stability</b>	< +/- 1 dB, 25 Hz to 6 GHz, at an ambient of 15°C to 30°C < +/- 1.5 dB, 25 kHz to 6 GHz, at an ambient of 5°C to 40°C
<b>Time Stability</b>	< 1dB typical over 12 month period

### Noise Modes

<b>Output Level</b>	see Graphs
<b>Operating Time</b>	> 10 hours LF Noise mode typical with alkaline cells > 5 hours HF Noise mode typical with alkaline cells

### Comb Modes

<b>Comb Signal Step Size</b>	LF Comb mode 1	25 Hz comb	25 Hz, 50 Hz .....10 kHz
	LF Comb mode 2	100 Hz comb	100 Hz, 200 Hz .....50 kHz
	LF Comb mode 3	1 kHz comb	1 kHz, 2 kHz .....500 kHz
	LF Comb mode 4	10 kHz comb	10 kHz, 20 kHz .....5 MHz
	LF Comb mode 5	100 kHz comb	100 kHz, 200 kHz .....30 MHz
	HF Comb mode 1	1 MHz comb	1 MHz, 2 MHz .....300 MHz
	HF Comb mode 2	10 MHz comb	10 MHz, 20 MHz .....3 GHz
	HF Comb mode 3	50 MHz comb	50 MHz, 10 MHz .....6 GHz

**Output Level** 60 dBμV min. into 50 Ω system for ≥ 90% of combs in each range

**Frequency Stability** < +/- 30 ppm max, < +/- 10 ppm typ, at an ambient of 5°C to 40°C

**Operating Time** > 10 hours All modes, typical with alkaline cells

### Other

**Output Connectors** 2 x 50 Ω N-type, LF: 25 Hz to 30 MHz and HF: 30 MHz to 6 GHz

**Dimensions** 85 mm x 85 mm x 85 mm excluding connectors and switches

**Weight** 0.75 kg excluding cells

**Power Supply** 4 x cells AA or equivalent, alkaline or rechargeable NiMH

**Indicators** Power Mode Active, Cell Voltage Low, Replace cells  
Noise signal output, Comb signal output

**Controls** Rotary switch LF noise | LF comb modes | OFF | HF Comb modes | HF noise

## Standard Kits

Part Number	Description	Parts Included
YRS05KIT01	Standard YRS05 Kit	<ul style="list-style-type: none"> <li>YRS05 reference source</li> <li>MON04 monopole antenna</li> </ul>
YRS05KIT02	Enhanced YRS05 Kit	<ul style="list-style-type: none"> <li>YRS05 reference source</li> <li>MON04 monopole antenna</li> <li>MCN04 monocone antenna</li> <li>NIA02 coupling adapter</li> </ul>

### All kits are supplied with

- Alkaline batteries
- Hard case
- CD or USB memory stick containing manual and calibration data
- CAL24 manufacturer's test certificate showing output power from 25 Hz to 6 GHz measured using a spectrum analyser, all modes.

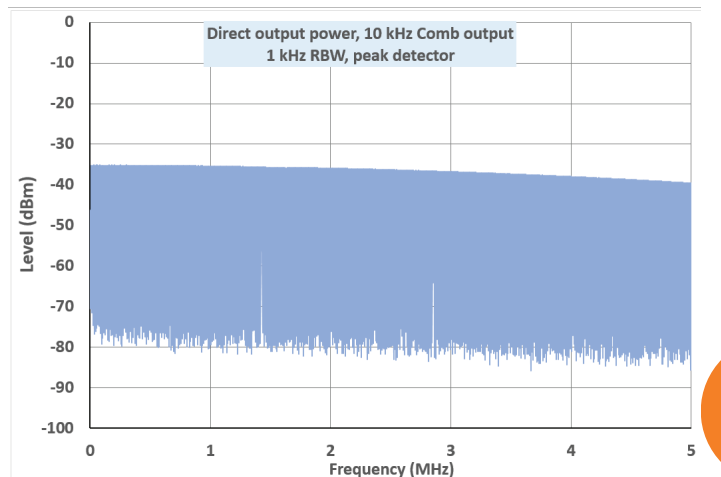
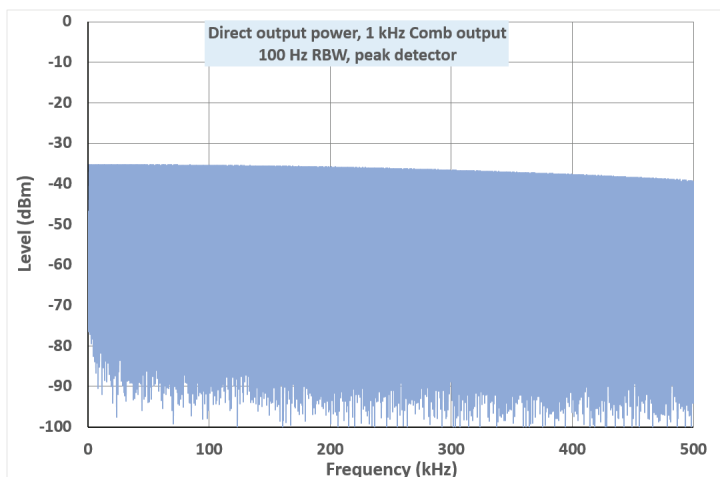
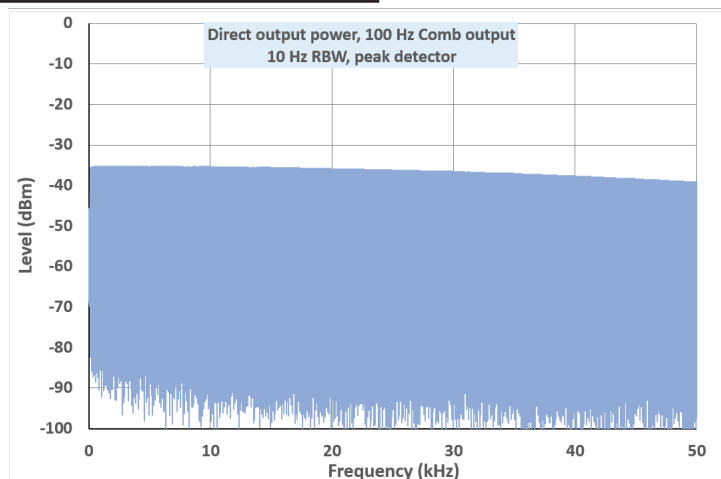
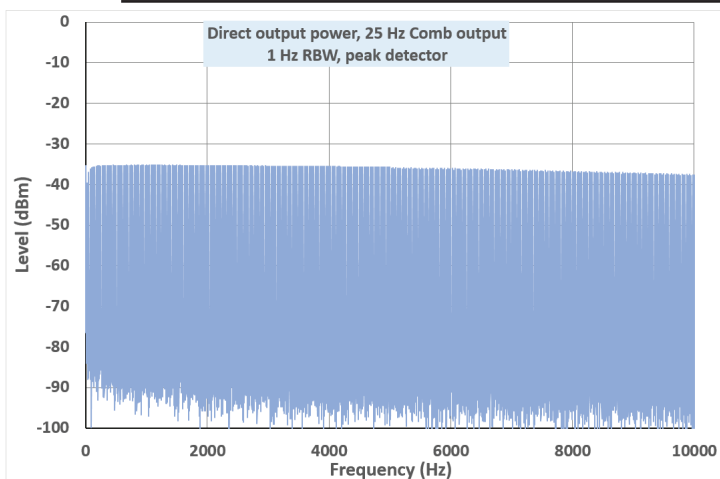
## Accessories

Part Number	Description
MON04	270 mm / 560 mm / 850 mm configurable monopole antenna
MCN04	Monocone antenna, 1 GHz to 6 GHz (optimum), 85 mm diameter
NIA02	LISN / ISN adapter with IEC 320 style connector and 4 mm socket connectors

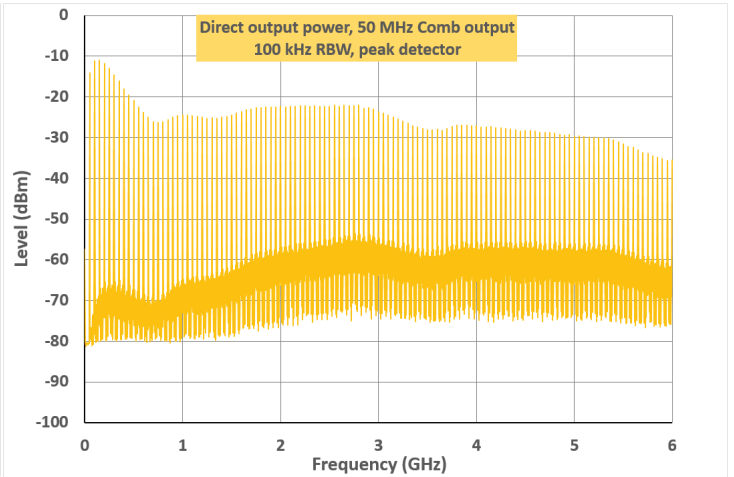
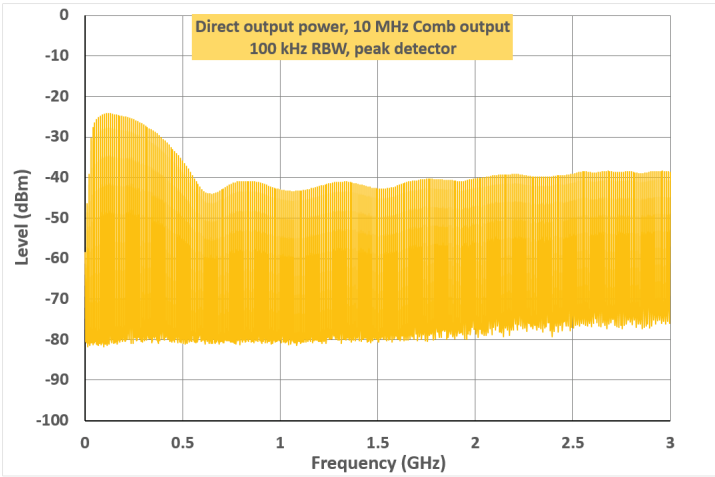
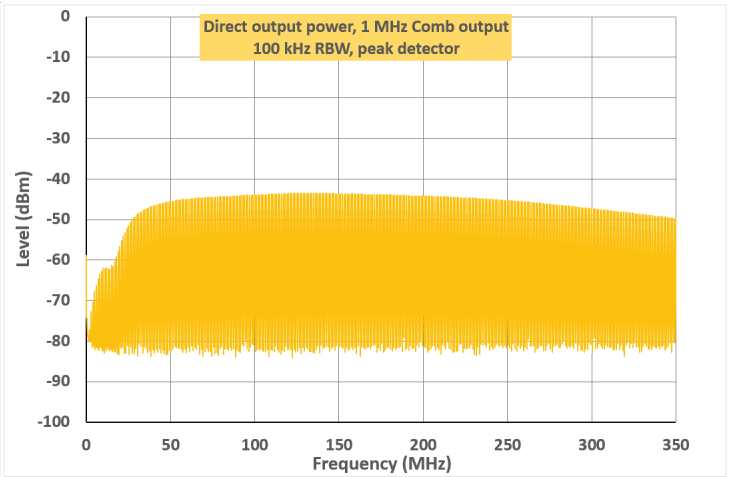
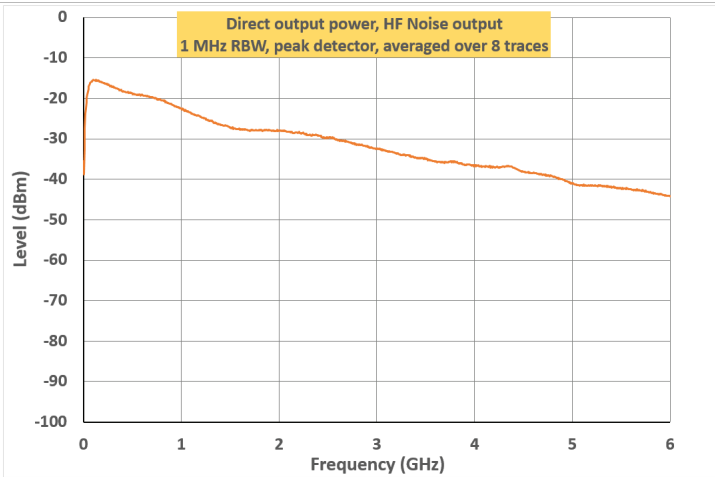
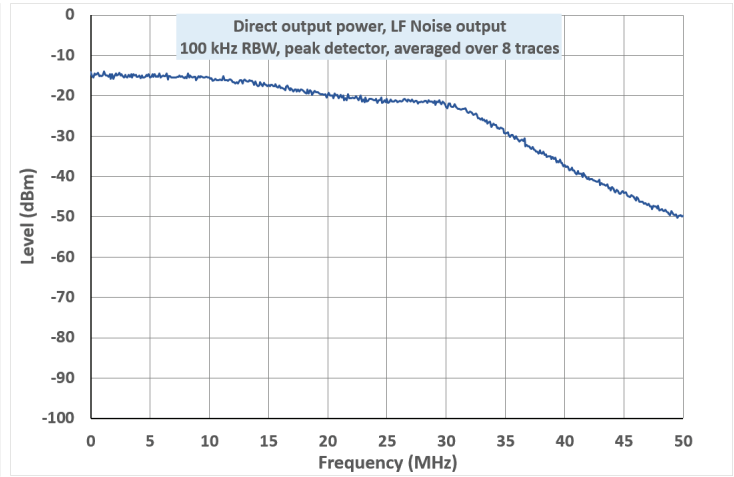
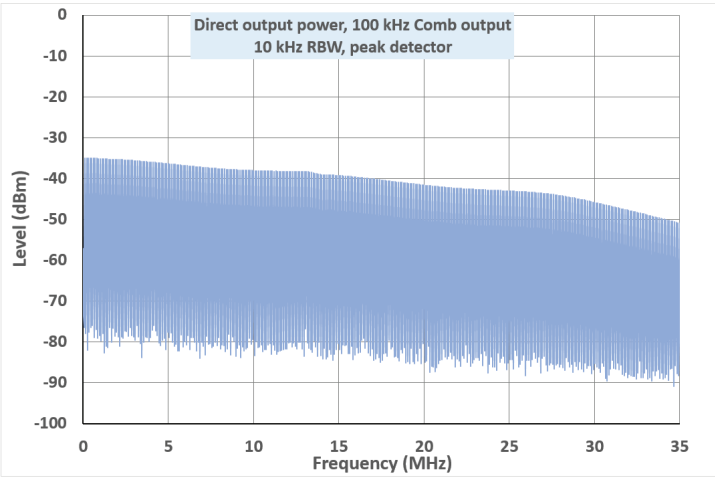


YRS05KIT02 - Shown without carrying case

### YRS05 Typical direct output measurement results



# YRS05 Typical direct output measurement results



YRS05 York Reference Noise Source Y4082FLY1  
Eurofins E&E UK consists of Eurofins Electrical and Electronic UK Ltd, Eurofins E&E OML Ltd and AQL EMC Ltd.



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