

A grayscale photograph of an anechoic chamber. The walls, floor, and ceiling are covered with dark, star-shaped electromagnetic absorbers. In the center, a person in a light-colored shirt and dark trousers stands next to a large, complex antenna structure mounted on a tripod. The scene is dimly lit, with some light reflecting off the absorbers.

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**CGE05  
28 GHz  
Comb Emitter  
Generator**

The CGE05 is a broadband reference comb source producing frequencies within the 434 MHz to 26 GHz range, with two step sizes selectable by the user.

It is the ideal reference source for carrying out checks on fully- or semi-anechoic chambers and other E-field test environments.

## Overview

The CGE05 is compact and can be run from a mains power adapter (supplied) or independently from the PPU01 battery pack to minimise the effect of cabling when characterising an electromagnetic environment.

The generator unit is housed in a metal enclosure so that it can be mounted in direct electrical contact with a ground plane, as may be required by some tests.

The comb signal allows both the reference and noise floor signal levels to be viewed simultaneously, aiding dynamic range measurements.

The CGE05 is equipped with a precision SMA output connector to which an antenna can be fitted for generating radiating E-fields.

## Features

- 434 MHz to 26 GHz output
  - Applications across a broad spectrum
- Stable output
  - Repeatable measurements
- Selectable comb output frequency
  - Flexibility across a range of applications
- Compact and portable
  - 56 x 17.5 x 72 mm
- PPU01 battery or external power supply
  - No power cable effects using the PPU01
  - Continuous operation using an external power adapter



CGE05 with PPU01

## Applications

- Conducted and radiated measurement systems validation and verification
- Investigation and characterisation of different measurement environments such as fully- or semi-anechoic chambers
- Reference source for:
  - Daily pre-test checks as required by accreditation authorities e.g. ISO 17025, DEFSTAN 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 or receiver pre-checks
- Shielding evaluation

## CGE05 Specifications

### General

<b>Frequency range</b>	Conducted Radiated	434 GHz to 26 GHz direct connection into 50Ω system 1 GHz to 26 GHz radiated using MCN02 monocone antenna
<b>Output level</b>	Conducted	60 dBμV min. into 50 Ω system for 90% of combs up to 26 GHz
<b>Comb signal step size</b>	Comb Mode 1 Comb Mode 2	434 MHz base frequency    434 MHz, 868 MHz, ... 25.606 GHz 0.5 GHz base frequency    0.5 GHz, 1 GHz, ... 26 GHz
<b>Stability</b>	Amplitude Frequency Time	15°C to 30°C    <+/-1 dB, 0.5 GHz to 26 GHz 5°C to 40°C    <+/-1.5 dB, 0.5 GHz to 26 GHz 5°C to 40°C    <+/- 30 ppm max, <+/- 10 ppm typ <1 dB (typical over 12 month period)
<b>Operating Time</b>	Battery powered	10 hours typical with fully charged PPU01
<b>Output Connector</b>	50 Ω precision SMA jack	
<b>Dimensions</b>	CGE05 With PPU01	56 mm x 17.5 mm x 65 mm (72 mm including connector) 80 mm diameter x 65 mm (72 mm including connector)
<b>Weight</b>	CGE05 With PPU01	0.1kg 0.65kg
<b>Power Supply</b>	9 – 18 Vdc, 0.5 A max	
<b>Indicators</b>	Blue Green Red	Active, Comb mode 1 Active, Comb mode 2 Low battery / supply error
<b>Controls</b>	3-way switch	Comb mode 1   OFF   Comb mode 2

### Standard Kits

Part Number	Description	Parts Included
CGE05KIT01	Standard CGE05 reference source kit	<ul style="list-style-type: none"> <li>CGE05 reference comb generator</li> <li>PPU01 Portable Power Unit</li> <li>PSU01 18 V mains power adapter</li> <li>Hard case</li> <li>Manufacturer's test certificate</li> </ul>
CGE05KIT02	CGE05 kit plus antenna	<ul style="list-style-type: none"> <li>CGE05 reference comb generator</li> <li>PPU01 Portable Power Unit</li> <li>PSU01 18 V mains power adapter</li> <li>Hard case</li> <li>Manufacturer's test certificate</li> <li>MCN02-P 1 GHz to 26 GHz monocone antenna</li> </ul>

### Also available: CGE06 40 GHz Comb Emitter Generator

The CGE06 is also available, providing an output frequency range of 915 MHz to 40 GHz with comb signal step sizes of 915 MHz and 1 GHz.

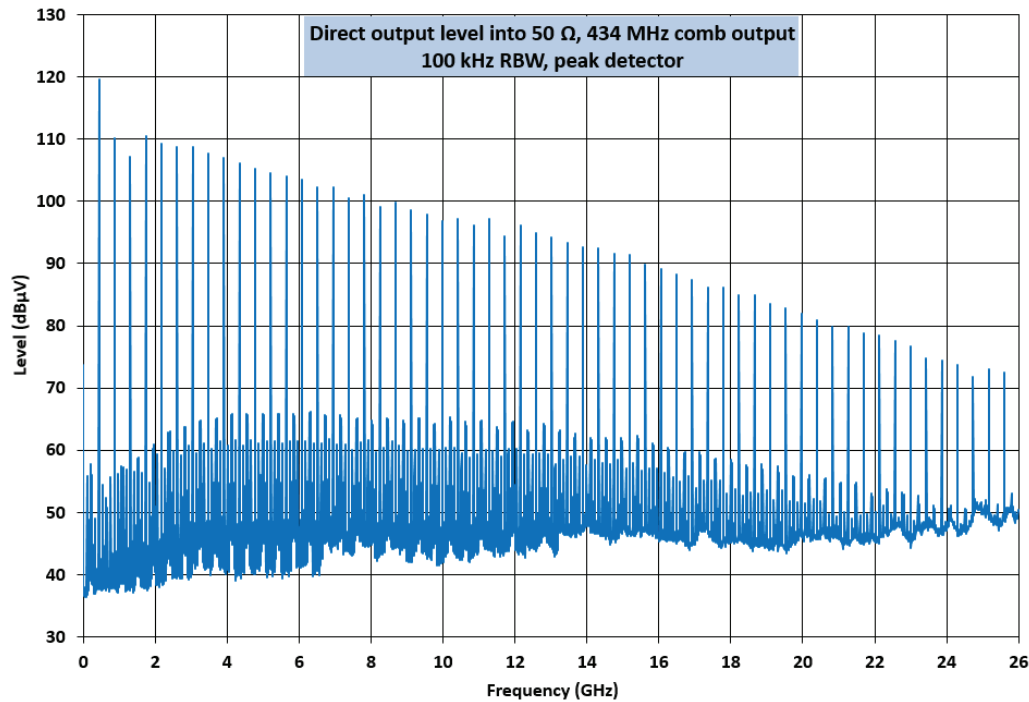
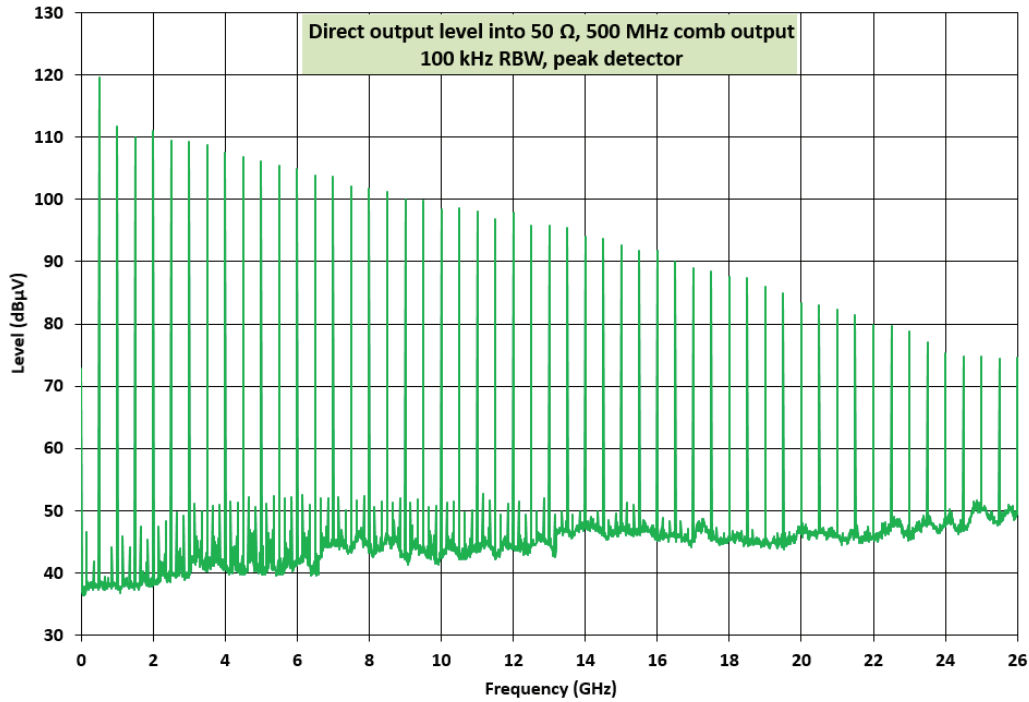
For more details of the CGE05, please contact your local distributor or Eurofins E&E UK.

### Accessories

Part Number	Description
MCN02-P	Monocone antenna, 1 GHz to 26 GHz (optimum), 75 mm diameter
PPU01	Rechargeable NiMH portable power unit
PSU01	18v mains power adapter

# Comb Emitter Generator: CGE05

Typical output measurement results



## Contact us

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