

CGE 03 Comb Generator Emitter



Product Technical Information

Comb Generator Emitter: CGE03

The Comb Generator Emitter 03 (CGE03) is a compact, battery powered, reference signal source that generates a broadband **conducted** output up to 40 GHz. When used as a verification reference source, the known output allows unknowns within systems or components to be measured or calculated.

The CGE03 is supplied with a 50 Ω 2.9 mm output connector for direct connection to conducted test systems, or to an external antenna in order to generate test fields for evaluating radiated emission test systems.

The CGE03 harmonic steps can be switched between 900 MHz and 1 GHz as standard, allowing more frequency points to be measured than is possible with a fixed frequency source.



CGE03 with BP01 battery pack

Features

- **Stable output**
 - Repeatable measurements
- **900 MHz to 40 GHz output**
 - Applications across a broad frequency spectrum
 - Applicable to harmonics of high frequency systems
- **Compact and portable**
 - Comparisons between sites and environments
- **Battery powered**
 - No power or interconnecting cables affecting measurements

Applications

- **Reference source for:**
 - Daily pre-test verification checks if required by the accreditation authorities
 - Long term performance monitoring
 - Spectrum analyser / receiver pre-checks
- **Characterisation of filter performance**
- **Cable loss measurements**
- **Measuring amplifier gain and bandwidth**
- **Radiated measurement system validation and verification (requires an additional antenna)**
- **Inter-laboratory test programs**
- **Proficiency test programs**

Specifications

| | |
|------------------------------|--|
| Frequency range | 900 MHz to 40 GHz direct connection into a 50 Ω system 1 GHz to 26 GHz radiated using the optional MCN02 antenna |
| Step size | 900 MHz or 1 GHz switchable |
| Output connector | 50 Ω 2.9 mm socket |
| Temperature stability | <2 dB, at an ambient temperature of 15 °C to 35 °C |
| Time stability | Typically <1 dB over a 12 month period |
| Dimensions | CGE03C with battery pack – 76 mm diameter × 96 mm (102 mm incl. connector) CGE03C without battery pack – 76 mm diameter × 50 mm (56 mm incl. connector) |
| Weight | Approx 750 g (including battery) |
| Power supply | 5 V 2 AHr battery pack External input 5.00 V ± 0.25 V, 500 mA |
| Operating time | 4 hours typical with a fully charged battery pack |
| Indicators | Mode 1; 900 MHz steps. Mode 2; 1 GHz steps, incorrect power supply voltage |

Manufacturer's calibrations

- CAL15** **Conducted** output power, 0 GHz to 40 GHz, measured using a spectrum analyser
- CAL10** **Radiated** field strength, 1 GHz to 26 GHz, measured at 3 m in a FAR using a spectrum analyser
(CGE03C with monocone antenna only)

Standard kits: 900 MHz & 1 GHz switchable comb step size

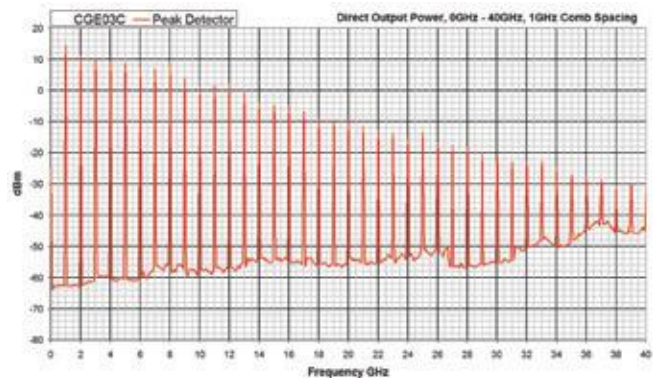
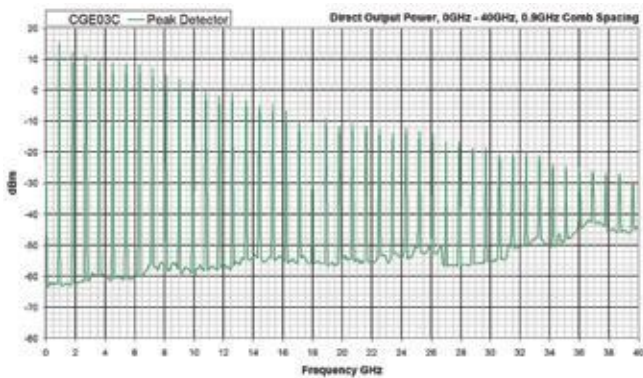
| Part Number | Description | Parts included |
|-------------------|---|---|
| CGE03KIT01 | Standard CGE03C comb generator emitter (conducted output) kit | <ul style="list-style-type: none"> CGE03C comb generator emitter with 2.9 mm socket output connector CAL15 – Standard conducted output power measurement, 0 GHz to 40 GHz |
| CGE03KIT02 | Standard CGE03C comb generator emitter (conducted and radiated output) kit | <ul style="list-style-type: none"> CGE03C comb generator emitter with 2.9 mm socket output connector MCN02 – detachable monocone antenna CAL15 – conducted output power measurement, 0 GHz to 40 GHz |

All kits are supplied with: BP01 5 V 2 AHr rechargeable battery pack, BCH04 universal input battery charger, hard case, manual.

Accessories

- MCN02** Detachable monocone antenna (1 GHz to 26 GHz optimum when used with CGE03)
- BP01** 5 V 2 AHr detachable battery pack

Comb Generator Emitter: CGE03 Typical output measurement results



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one of our offices, or visit us online

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www.yorkemc.co.uk

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Market Square
University of York
Heslington, York
YO10 5DD

Tel: +44 (0) 1904 324440
Fax: +44 (0) 1904 324434

Three Lane Ends
Business Centre
Methley Road, Castleford
WF10 1PN

Tel: +44 (0) 1977 731173
Fax: +44 (0) 1977 603181

46 Waverley Road
Beeches Industrial Estate
Yate
BS37 5QT

Tel: +44 (0) 1454 326998
Fax: +44 (0) 1454 326930

Unit 1
Grangemouth Technology Park
Earls Road, Grangemouth
FK3 8UZ

Tel: +44 (0) 1324 469000
Fax: +44 (0) 1904 324434