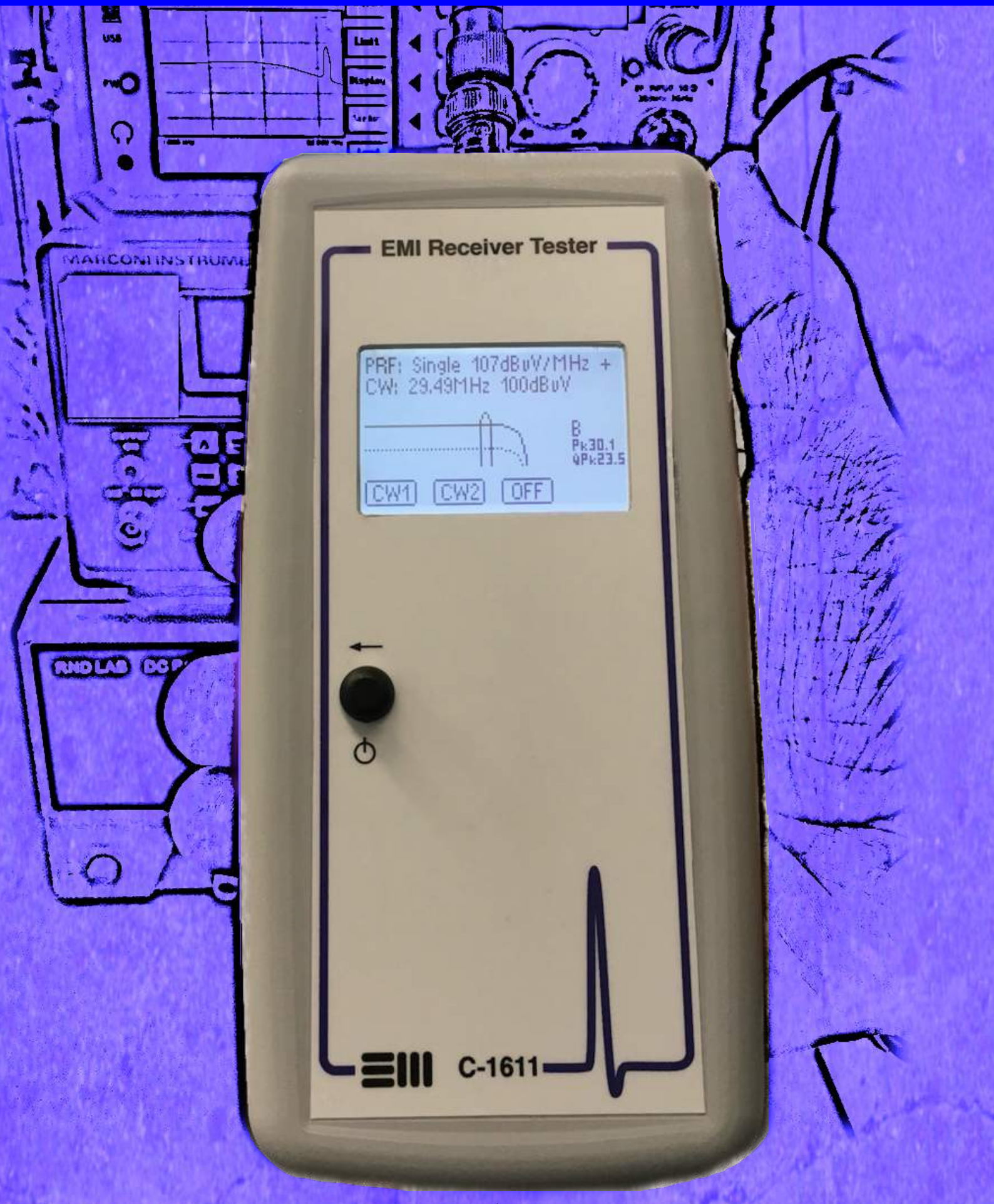
C-1611: EMI Receiver Tester



A handy, easy-to-use instrument that generates all relevant EMI bench-test signals

Key features

- ✓ Built-in impulse generator capable of fully testing CISPR 16-1-1 requirements
- ✓ Built-in ready-to-perform "intermittent, unsteady and drifting narrowband disturbances tests" for both CISPR 16-1-1 average and rms-average
- ✓ Ready to use PRFs according to CISPR 16-1-1 requirements
- ✓ Hand-held, compact instrument
- ✓ Battery powered (rechargeable option)
- ✓ Touch screen navigation
- ✓ Immediate turn-on time: the C-1611 is ready to operate in less than one second
- ✓ Reference tables for all weighting curves (quasi-peak and rms-average) ready for a quick look up

Check whether your EMI receiver complies with current civilian standards!

Product description

The C-1611 EMI receiver tester is a signal generator designed to test EMI receivers' compliance with civilian standards. It specifically generates signals in accordance with CISPR 16-1-1 requirements to test a receiver's quasi-peak, average and rms-average pulse response as well as the response to "intermittent, unsteady and drifting narrowband disturbances". These tests can be performed in a quick and simple way with no need for any further equipment other than the C-1611.

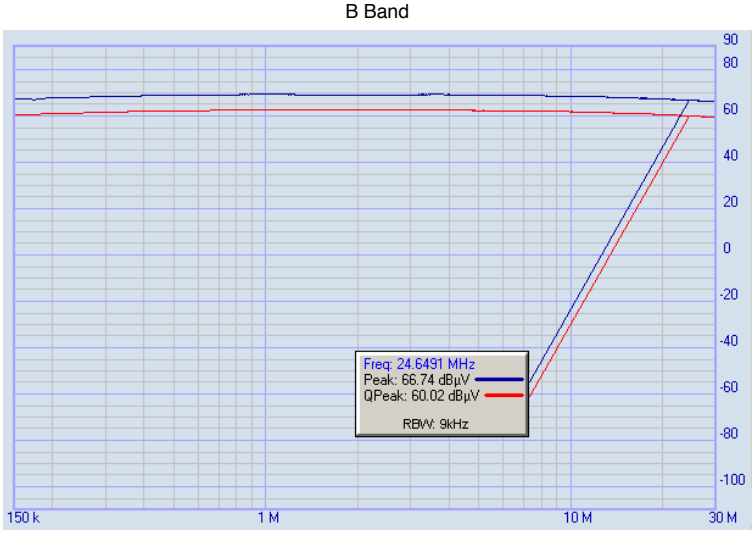
All pulse rate frequencies (PRFs) as indicated in the CISPR 16-1-1 standard, are available and can quickly be accessed with a simple touch on the display. Isolated impulses are also available. Thus, the entire pulse repetition range can easily be checked. Moreover, the C-1611 shows the theoretical weighting (as defined in CISPR 16-1-1); the user has all theoretical values ready at hand for immediate comparisons without the need to look up elsewhere.

To test a receiver's response to "intermittent, unsteady and drifting narrowband disturbances" (IUD) normally two generators and a modulator are required. Instead, with the C-1611 this test can be done in a few seconds using only this device as everything that is needed is built-in and the waveform is specifically designed for the purpose.

Besides pulse generation, the C-1611 also includes the generation of two fixed sine-wave tones, one in-band and one out-of-band, in order to check the real instantaneous dynamic range. By activating a tone in addition to pulses, the user can see whether the receiver is really capable of simultaneously handling signals of very different amplitude. In practice, the user can verify that the EMI measurement at a certain frequency, or over a certain span, is not affected by other signals out of the span of interest.

The C-1611 has two built-in attenuators: (i) a 6 dB attenuator that works on all signals and helps checking overload / linearity of the receiver, and (ii) a 20 dB attenuator that works only on the continuous wave signals and allows checking the influence of a single tone signal on the pulse reading.

Two additional accessories are provided in the kit: (i) a 20 dB external attenuator helps resolving potential overload phenomena of a receiver and (ii) a 10 MHz low-pass filter behaving as a preselector helps checking whether the input band is sufficiently limited in the receiver.



Product specifications

Continuous Wave Signal Specifications				
Signal 1	Level	100 dBµV ±1 dB		
	Frequency	29.4912 MHz (<50 ppm)		
Signal 2	Level	100 dBµV ±1 dB		
	Frequency	32 MHz (<50 ppm)		
Pulse Specifications		**Band A**	**Band B**	**Band B+**
Frequency		9 kHz - 150 kHz	150 kHz - 30 MHz	150 kHz - 50 MHz
Spectral density		140 dBµV/MHz ±1 dB@150 kHz	107 dBµV/MHz ±1 dB@ 30MHz	102 dBµV/MHz ±1 dB@ 30MHz
Spectrum flatness		within 2 dB	within 2 dB	within 2 dB
Peak Voltage		3.1±0.2 V	17.8±0.9 V	15.5±0.8 V
Width		2.55±0.12 µs	11.5±0.6 ns	6.8±0.4 ns
Pulse Repetition Frequency (PRF)		standard PRFs for CISPR 16-1-1 quasi-peak and rms-average bench-tests isolated impulse capability		
Polarity		selectable +/-		
PRF Accuracy		better than 1 %		
IUD Specifications			**Band B**	**Band C**
Frequency			29.4912 MHz (<50ppm)	32 MHz (<50ppm)
Time Accuracy			better than 0.5 %	better than 0.5 %
General				
Dimensions (W x L x H)		93 x 70 x 32 mm		
Weight		<200 g (without batteries)		
Case Dimensions (W x L x H)		258 x 243 x 167.5 mm		

Available models

- **Non-rechargeable model:**
  four Alkaline AA-batteries
  Battery operating time: more than 8 hours

- **Rechargeable model:**
  one Li-Polymer 9V-battery
  (one spare battery included)
  Charging via USB cable
  Battery operating time: more than 2 hours

Kit includes

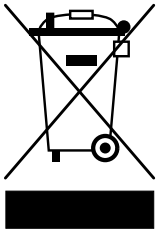
- 10 MHz LP Filter
- 20 dB External attenuator
- BNC Male plug to BNC Male Plug RF Cable 50 Ω (1 m)
- Rugged Hermetic case
- 4 alkaline AA-batteries (Non-rechargeable model)
- 1 rechargeable Li-Polymer 9V-battery plus one spare battery (Rechargeable model)
- B Micro USB / A Male USB Cable (Rechargeable model)

Related scientific publications

- M. Monti, E. Puri, and M. Monti, "Do Bench-Tests Keep Up With Current Technology in EMI Receivers?," in International Symposium on Electromagnetic Compatibility - EMC EUROPE, Sep 2017, pp.1–6
- M. Monti, E. Puri, and M. Monti, "The Importance of Overload Revealing in EMI Receivers," in International Symposium on Electromagnetic Compatibility - EMC EUROPE, Sep 2017, pp.1–6
- M. Monti, E. Puri, and M. Monti, "Hidden Aspects in CISPR 16-1-1 Full Compliant Fast Fourier Transform EMIR Receivers," in International Symposium on Electromagnetic Compatibility - EMC EUROPE, Sep 2016, pp. 34–39.

Product Disposal

This symbol means that the product cannot be disposed of with municipal waste. It is the user's responsibility to protect human health and the environment by disposing of discarded equipment by delivering it to the recycling station of electrical or electronic waste. For more information, contact the urban waste disposal service.



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