

7010

EMI Receiver with built-in LISN



Main Features

- 7010 Opt.00: 150 kHz to 1 GHz frequency range
- 7010 Opt.01: 9 kHz to 1 GHz frequency range
- 7010 Opt.02: 9 kHz to 30 MHz frequency range
- 7010 Opt.03: 9 kHz to 3 GHz frequency range
- Built to CISPR 16-1-1 and to CISPR 16-1-2 Standards
- Conducted and radiated emission tests
- Built-in 16 A two Lines Impedance Stabilization Network (LISN)
- User Port for driving external LISNs
- Free PES PMM Emission Suite Software with Smart Detector function (*)
- Combination of EMI test receiver and spectrum analyzer
- Direct Analog to Digital conversion up to 30 MHz
- Robust, compact construction
- 140 dB μ V (2 W) maximum input level without damage

7010 EMI Receiver is an easy-to-use, very flexible equipment suitable for conducted and radiated measurements from 9 kHz up to 3 GHz. Thanks to its built-in 16 A Line Impedance Stabilization Network (LISN), 7010 allows complete conducted emission measurements and characterization of EUTs with no external or additional equipment. The compact and rugged construction makes the 7010 a perfect companion on the workbench of products designers, for in-site testing, and for laboratory prequalification EMI emission measurements.

Based on innovative design, the 7010 EMI Receiver combines state of art digital technology with a RF front-end as required by CISPR standards, thus matching excellent accuracy with high flexibility.

The PMM Emission Suite software features a full set of user-friendly functions for all EMI applications.

The receiver can be ordered with four different frequency ranges: 150 kHz to 1 GHz (7010 opt.00), 9 kHz to 1 GHz (7010 opt.01), 9 kHz to 30 MHz (7010 opt.02) and 9 kHz to 3 GHz (7010 opt.03). The upgrade from one version to another can be done at any time.

(*) The Smart Detector is an innovative special function implemented in the PMM receivers with the purpose of reducing the test time and increasing the productivity of the lab.

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SPECIFICATIONS

Frequency range	150 kHz to 1 GHz (Opt.00) 9 kHz to 1 GHz (Opt.01) 9 kHz to 30 MHz (Opt.02) 9 kHz to 3 GHz (Opt.03)	
Resolution	10 Hz	
Frequency accuracy	< 3 ppm	
RF Input	Zin 50 Ω, N fem.	
VSWR	< 1,2; < 2 over 1 GHz	
Attenuator	< 1,2; < 1,4 over 30 MHz; < 2 over 1 GHz 0 dB to 35 dB (5dB steps) 0 dB to 50 dB (2dB steps) over 30 MHz Built-in up to 30 MHz	
Pulse Limiter		
Max input level (without equipment damage)	140 dBμV (2 W)	
Sinewave AC Voltage	100 dBμV/MHz	
Preselector (Permanent built-in)	9 kHz to 30 MHz 30 MHz to 1 GHz 1 GHz to 3 GHz	
IF bandwidth		
6dB bandwidth	1 (Opt.01, 02 & 03), 3, 10, 30, 100, 300 kHz, 1 MHz (Opt.03)	
CISPR 16-1-1	200 Hz (Opt.01, 02 & 03), 9 kHz and 120 kHz	
Noise level (Att 0 dB, 50 Ω term, Hold time 1 s)	0,009 to 0,15 MHz (200 Hz RBW)	< 0 dBμV (QP) (-130 dBm/Hz); < -3 dBμV (AV) (-133 dBm/Hz)
	0,15 to 30 MHz (9 kHz RBW)	< 14 dBμV (QP) (-128 dBm/Hz); < 7 dBμV (AV) (-135 dBm/Hz)
	30 to 1000 MHz (120 kHz RBW)	< 14 dBμV (QP) (-144 dBm/Hz); < 7 dBμV (AV) (-151 dBm/Hz)
	1000 to 2700 MHz (1 MHz RBW)	< 16 dBμV (AV) (-151 dBm/Hz)
	2700 to 3000 MHz (1 MHz RBW)	< 19 dBμV (AV) (-148 dBm/Hz)
Spurious response (Att 0 dB, 50 Ω term, det. PK, Hold time 10 ms)	< 20 dBμV; < 23 dBμV over 2700 MHz	
Detectors	Peak, Quasi-Peak, Average, RMS, RMS-Avg (optional), C-Avg, Smart Detector function	
Level measuring time (hold time)	0,2 ms to 120 s (CISPR 16-1-1 as default)	
Measurement accuracy S/N > 20 dB	9 kHz to 1 GHz ± 1,0 dB 1 GHz to 3 GHz ± 1,5 dB	
Main measuring functions (With included PMM Emission Suite SW)	<ul style="list-style-type: none"> • Marker, marker peak, marker to centre, highest peaks, move peak to Analyzer or Manual modes, automatic test report. • 80 to 200 dB selectable dynamic range. • Display unit: dBm, dBμV, dBμA, dBμV/m, dBpT, dBμA/m, dBpW. • Store-Load: traces, panels, conversion factors, limits. 	
CISPR 16-1-1 conformity	Standard compliant detectors down to 20 Hz PRF	
Demodulation	Built-in AM and FM demodulators (internal loudspeaker)	
I/O Interface (protocol available for software developers)	USB 2.0; RS-232; User Port (drives LISNs and accessories)	
Operating temperature	-5° to 45°C	
Power Supply	12 Volt DC, 0.8A (AC universal adapter)	
Built-in LISN (compliant to CISPR 16-1-2)		
Frequency range	9 kHz to 30 MHz	
Continuous rated output current	16A	
Max permissible operating voltage	250 Vac – 350 Vdc	
EUT Supply frequency range	DC to 60 Hz	
CISPR equivalent circuit	50 Ω // (5 Ω + 50 μH)	
EUT Power connector	Schuko 2P+E	
Artificial Hand	4 mm socket	
Dimensions (W x H x D)	235 x 105 x 335 mm	
Weight	5,0 kg	



Ordering Information:

- 7010 Option 00 (150 kHz to 1 GHz)
- 7010 Option 01 (9 kHz to 1 GHz)
- 7010 Option 02 (9 kHz to 30 MHz)
- 7010 Option 03 (9 kHz to 3 GHz)

Includes: LISN mains cable, RS232 cable, USB-RS232 serial converter, USB cable, N-m to BNC-f adapter, AC/DC power adapter, PES PMM Emission Suite Software, soft carrying case, operating manual, standard calibration certificate.

Related Products

Receivers

- 9010: EMI Receiver 10 Hz to 30 MHz
- 9010F: EMI Receiver 10 Hz to 30 MHz
- 9010/03P: EMI Receiver 10 Hz to 300 MHz
- 9010/30P: EMI Receiver 10 Hz to 3 GHz
- 9010/60P: EMI Receiver 10 Hz to 6 GHz
- 9030: EMI Receiver 30 MHz to 3 GHz
- 9060: EMI Receiver 30 MHz to 6 GHz
- 9180: EMI Receiver 6 GHz to 18 GHz

Antennas

- BC-01: Biconical Antenna 30 to 200 MHz
- DR-01: Double-ridged horn antenna 6 to 18 GHz
- LP-02: Log Periodic Antenna 200 MHz to 3 GHz
- LP-03: Log Periodic Antenna 800 MHz to 6 GHz
- VDH-01: Van der Hoofden test-head 20 kHz to 10 MHz
- TR-01: Antenna Tripod
- Antenna Set AS-02 (BC01+LP02+TR01)
- Antenna Set AS-03 (BC01+LP02+LP03+TR01)
- RA01: Rod Antenna 9 kHz to 30 MHz
- RA01-HV: Rod Antenna 150 kHz to 30 MHz
- RA01-MIL: Rod Antenna 9 kHz to 30 MHz

LISN&Probes

- L2-16B: single phase AMN, 16 A
- L3-32: 4 lines, 3-phase AMN, 32 A
- L3-64: 4 lines, 3-phase AMN, 63 A
- L3-64/690V: 4 lines, 3-phase AMN, 63 A
- L3-100: 4 lines, 3-phase AMN, 100 A
- L1-150M: single-path, 50 Ohm AMN, 150 A
- L1-150M1: single-path, 50 Ohm AMN, 150 A
- L1-500: single phase AMN, 500 A
- L3-500: 4 lines, 3-phase AMN, 500 A
- L2-D: Delta LISN for telecom, 2 A, 150 Ω
- SBRF4: RF Switching Box
- SHC-1/1000: Voltage probe, 1000 Vac, 35 dB
- SHC-2/1000: Voltage probe, 1000 Vac, 30 dB

Optional accessories:

Options: 9010/RAV RMS-Avg detector, 9010-RMA Rack Mount Adapter for Rack 19"

Upgrades:

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|----------------|--|
| 7010/UP/01: | from 7010 to 7010 Opt. 01 (9 kHz to 1 GHz) |
| 7010/00/UP/01: | from 7010 Opt. 00 to 7010 Opt. 01 (9 kHz to 1 GHz) |
| 7010/02/UP/01: | from 7010 Opt. 02 to 7010 Opt. 01 (9 kHz to 1 GHz) |
| 7010/UP/03: | from 7010 to 7010 Opt. 03 (9 kHz to 3 GHz) |
| 7010/00/UP/03: | from 7010 Opt. 00 to 7010 Opt. 03 (9 kHz to 3 GHz) |
| 7010/01/UP/03: | from 7010 Opt. 01 to 7010 Opt. 03 (9 kHz to 3 GHz) |
| 7010/02/UP/03: | from 7010 Opt. 02 to 7010 Opt. 03 (9 kHz to 3 GHz) |



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