

ER8000 EMI Receiver

SPECIFICATIONS

Preliminary 06 (05/11/19)

Frequency	9 kHz to 30 MHz (Opt. 00) 9 kHz to 3 GHz (Opt. 01)	
Range	1 Hz; 100Hz above 30 MHz	
Resolution	< 2.5 ppm	
Reference frequency	FFT, size up to 8192, minimum overlap 89%	
Spectrum method analysis	Z _{in} 50 Ω, N fem.	
RF input	VSWR 10 dB RF att. < 1.2; < 2 above 1 GHz 0 dB RF att. < 2 Attenuator 0 dB to 45 dB (5 dB steps) Preamplifier gain 20 dB; 10 dB above 30 MHz Low saturation preamplifier (after preselector) Pulse limiter Built in (selectable) below 30 MHz	
Max input level (without equipment damage)	Sinewave AC 137 dBuV (1 W); 140 dBuV (2 W) above 1 kHz; 137 dBuV (1 W) above 30 MHz Voltage pulse spectral density 97 dBuV/MHz; 100 dBuV/MHz above 1 kHz; 97 dBuV/MHz above 30 MHz Max DC voltage 25V; 50V above 1 kHz	
Preselector	(Ten BP filters)	
Frequency ranges	150 kHz to 7.5 MHz 7.5 MHz to 15 MHz 150 kHz to 15 MHz 15 MHz to 22.5 MHz 22.5 MHz to 30 MHz	15 MHz to 30 MHz 30 MHz to 96.6 MHz tracking 96.6 MHz to 311 MHz tracking 311 MHz to 1000 MHz tracking 1 GHz to 3 GHz
IF bandwidth	6dB 100Hz, 1 kHz, 20 kHz, 30 kHz, 50 kHz, 100 kHz 1 MHz, 2 MHz, 3 MHz CISPR 16-1-1 200 Hz, 9 kHz, 120kHz, 1 MHz	
Displayed Average Noise Level	Preselector OFF, preamplifiers OFF, Ht 1s 9 kHz to 150 kHz (200 Hz RBW) < -17 dBuV 0.15 MHz to 30 MHz (9 kHz RBW) < 0 dBuV 30 MHz to 300 MHz (120 kHz RBW) < 4 dBuV 300 MHz to 3 GHz (120 kHz RBW) < 10 dBuV Preselector ON, preamplifiers OFF, Ht 1s 9 kHz to 150 kHz (200 Hz RBW) < -14 dBuV 0.15 MHz to 30 MHz (9 kHz RBW) < 3 dBuV 30 MHz to 300 MHz (120 kHz RBW) < 1 dBuV 300 MHz to 3 GHz (120 kHz RBW) < 6 dBuV Preselector ON, low sat. preamplifier ON, Ht 1s 9 kHz to 150 kHz (200 Hz RBW) < -27 dBuV 0.15 MHz to 30 MHz (9 kHz RBW) < -14 dBuV 30 MHz to 300 MHz (120 kHz RBW) < -5 dBuV 300 MHz to 3 GHz (120 kHz RBW) < 0 dBuV	
Detectors	Peak, Quasi-Peak, Average, RMS, RMS-Average, C-Average. Smart Detector function above 30 MHz	
Scan time	SWEEP MODE (CISPR: preselector ON, QP detector) A band (9 kHz to 150 kHz) 200 Hz RBW < 2 s (Hold time 1 s) < 3 s (Hold time 2 s) B band (150 kHz to 30 MHz) 9 kHz RBW < 3 s (Hold time 1 s) < 5 s (Hold time 2 s) C band (30 MHz to 300 MHz) 120 kHz RBW < 20 s (Hold time 1 s) < 40 s (Hold time 2 s) D band (300 MHz to 1 GHz) 120 kHz RBW < 40 s (Hold time 1 s) < 80 s (Hold time 2 s) E band (1 GHz to 3 GHz) 1 MHz RBW < 160 s (Hold time 1 s) < 320 s (Hold time 2 s)	ANALYZER MODE (preselector OFF, Peak detector, Hold time lowest) < 50 ms (Ht 27 ms) < 10 ms (Ht 525 us) < 100 ms (Ht 32 us) < 500 ms (Hold time 32 us) < 400 ms (Hold time 4 us)
Level measuring time (Hold time)	CISPR 16-1-1 as default. 2 us to 120 s	

ER9000 EMI Receiver

SPECIFICATIONS

Preliminary 03 (05/11/19)

Frequency		
Range	10 Hz to 30 MHz (Opt. 00)	10 Hz to 3 GHz (Opt. 01)
Resolution	0.1 Hz; 10Hz above 30 MHz	
Reference frequency	< 1 ppm	
Spectrum method analysis	FFT, size up to 8192, minimum overlap 89%	
RF input	Z _{in} 50 Ω, N fem.	
VSWR		
10 dB RF att.	< 1.2; < 2 above 1 GHz	
0 dB RF att.	< 1.6; < 2 above 30 MHz	
Attenuator	0 dB to 55 dB (5 dB steps)	
Preamplifier gain	20 dB; 10 dB above 30 MHz Low saturation preamplifier (after preselector) 20 dB; 10 dB above 30 MHz Low noise preamplifier (before attenuator)	
Pulse limiter	Built in (selectable) below 30 MHz	
Max input level (without equipment damage)		
Sinewave AC	137 dBuV (1 W); 140 dBuV (2 W) above 1 kHz; 137 dBuV (1 W) above 30 MHz	
Voltage pulse spectral density	97 dBuV/MHz; 100 dBuV/MHz above 1 kHz; 97 dBuV/MHz above 30 MHz	
Max DC voltage		
Low noise preamplifier ON	10V	
Low noise preamplifier OFF	25V; 50V above 1 kHz	
Preselector	(Twelve BP filters)	
Frequency ranges	10 Hz to 9 kHz	22.5 MHz to 30 MHz
	1 kHz to 9 kHz	15 MHz to 30 MHz
	150 kHz to 7.5 MHz	30 MHz to 96.6 MHz tracking
	7.5 MHz to 15 MHz	96.6 MHz to 311 MHz tracking
	150 kHz to 15 MHz	311 MHz to 1000 MHz tracking
	15 MHz to 22.5 MHz	1 GHz to 3 GHz
IF bandwidth		
6dB	10 Hz, 20 Hz, 30 Hz, 50 Hz, 100 Hz 1 kHz, 20 kHz, 30 kHz, 50 kHz, 100 kHz 1 MHz, 2 MHz, 3 MHz	
CISPR 16-1-1	200 Hz, 9 kHz, 120kHz, 1 MHz	
Displayed Average Noise Level		
Preselector OFF, preamplifiers OFF, Ht 1s	9 kHz to 150 kHz (200 Hz RBW)	< -17 dBuV
	0.15 MHz to 30 MHz (9 kHz RBW)	< 0 dBuV
	30 MHz to 300 MHz (120 kHz RBW)	< 4 dBuV
	300 MHz to 3 GHz (120 kHz RBW)	< 10 dBuV
Preselector OFF, low noise preamplifier ON, Ht 1s	9 kHz to 150 kHz (200 Hz RBW)	< -32 dBuV
	0.15 MHz to 30 MHz (9 kHz RBW)	< -19 dBuV
	30 MHz to 300 MHz (120 kHz RBW)	< -9 dBuV
	300 MHz to 3 GHz (120 kHz RBW)	< -4 dBuV
Preselector ON, preamplifiers OFF, Ht 1s	9 kHz to 150 kHz (200 Hz RBW)	< -14 dBuV
	0.15 MHz to 30 MHz (9 kHz RBW)	< 3 dBuV
	30 MHz to 300 MHz (120 kHz RBW)	< 1 dBuV
	300 MHz to 3 GHz (120 kHz RBW)	< 6 dBuV
Preselector ON, low sat. preamplifier ON, Ht 1s	9 kHz to 150 kHz (200 Hz RBW)	< -27 dBuV
	0.15 MHz to 30 MHz (9 kHz RBW)	< -14 dBuV
	30 MHz to 300 MHz (120 kHz RBW)	< -5 dBuV
	300 MHz to 3 GHz (120 kHz RBW)	< 0 dBuV
Detectors	Peak, Quasi-Peak, Average, RMS, RMS-Average, C-Average. Smart Detector function above 30 MHz	
Scan time		
	SWEEP MODE (CISPR: preselector ON, QP detector)	ANALYZER MODE (preselector OFF, Peak detector, Hold time lowest)
A band (9 kHz to 150 kHz) 200 Hz RBW	< 2 s (Hold time 1 s) < 3 s (Hold time 2 s)	< 50 ms (Ht 27 ms)
B band (150 kHz to 30 MHz) 9 kHz RBW	< 3 s (Hold time 1 s) < 5 s (Hold time 2 s)	< 10 ms (Ht 525 us)
C band (30 MHz to 300 MHz) 120 kHz RBW	< 20 s (Hold time 1 s) < 40 s (Hold time 2 s)	< 100 ms (Ht 32 us)
D band (300 MHz to 1 GHz) 120 kHz RBW	< 40 s (Hold time 1 s) < 80 s (Hold time 2 s)	< 500 ms (Hold time 32 us)
E band (1 GHz to 3 GHz) 1 MHz RBW	< 160 s (Hold time 1 s) < 320 s (Hold time 2 s)	< 400 ms (Hold time 4 us)
Level measuring time (Hold time)	CISPR 16-1-1 as default. 2 us to 120 s	