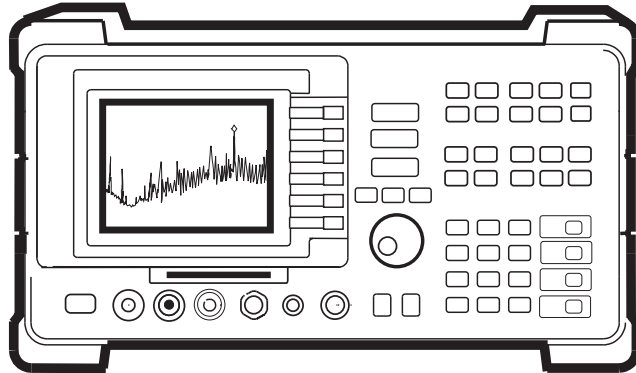


HP

8590EM

EMC Analyzers

HP 8590EM Series EMC Analyzers and Precompliance Systems



HP 8591EM, HP 8593EM,
HP 8594EM, HP 8595EM,
HP 8596EM, HP 84100EM,
and HP 84110EM

Frequency specifications

Frequency range

HP 8591EM	9 kHz to 1.8 GHz
HP 8593EM	9 kHz to 22 GHz
Option 026	9 kHz to 26.5 GHz (APC 3.5)
Option 027	9 kHz to 26.5 GHz (Type N)
HP 8594EM	9 kHz to 2.9 GHz
HP 8595EM	9 kHz to 6.5 GHz
HP 8596EM	9 kHz to 12.8 GHz

Frequency reference

	Standard	Option 004
Aging rate	$\pm 2 \times 10^{-6}/\text{year}$	$\pm 1 \times 10^{-7}/\text{year}$
Temperature stability	$\pm 5 \times 10^{-6}$	$\pm 1 \times 10^{-8}$
Initial achievable accuracy	$\pm 5 \times 10^{-6}$	$\pm 2.2 \times 10^{-8}$

Frequency readout accuracy

(start, stop, center, marker)	$\pm(\text{Frequency readout} \times \text{frequency reference error} + \text{span accuracy} + 1\% \text{ of span} + 20\% \text{ RBW} + 100 \text{ Hz} \times N^*)$
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Marker counter accuracy

Frequency span $\leq 10 \text{ MHz} \times N^*$	$\pm(\text{Marker frequency} \times \text{frequency reference error} + \text{counter resolution} + 100 \text{ Hz} \times N^*)$
Frequency span $> 10 \times N^*$	$\pm(\text{Marker frequency} \times \text{frequency reference error} + \text{counter resolution} + 1 \text{ kHz} \times N^*)$

Frequency sweep time

Span 0 Hz, $> 1 \text{ kHz}$	20 μs to 100 s
Span 0 Hz (Option 101)	20 μs to 100 s

Resolution bandwidths

	30 Hz to 3 MHz (1, 3, 10 sequence)
	200 Hz, 9 kHz, 120 kHz and 1 MHz (6dB) EMI bandwidths
Accuracy	$\pm 10\%$

Video bandwidth range

1 Hz to 1 MHz in 1, 3, 10 sequence

Comb generator

HP 8593EM, 8596EM	100 MHz fundamental frequency
Accuracy	$\pm .007\%$

Span accuracy

Span $\leq 10 \text{ MHz}$	$\pm 2\%$ of span
Span $> 10 \text{ MHz}$	$\pm 3\%$ of span

* N = the LO harmonic number

Amplitude Specifications

Amplitude range

Displayed average noise level to + 137 dB μ V

Maximum safe input level

(input attenuator set at ≥ 10 dB)

Average continuous power +30 dBm

Peak pulse power

HP 8591EM	+30 dBm
HP 8593EM, 8594EM, 8595EM and 8596EM	+50 dBm <10 μ s 1 % duty cycle ≥ 30 dB input attenuation

DC

HP 8591EM	25 Vdc
HP 8593EM	0 Vdc
HP 8594EM, 8595EM 8596EM	0 Vdc (dc coupled) 50 Vdc (ac coupled)

Displayed average noise level

400 kHz to 1 GHz	30 Hz RBW	1 kHz RBW
HP 8591EM	-23 dB μ V	-8 dB μ V
HP 8593EM	-20 dB μ V	-5 dB μ V
HP 8594EM		
400 kHz to 5 MHz	-15 dB μ V	0 dB μ V
5 MHz to 1 GHz	-20 dB μ V	-5 dB μ V
HP 8595EM	-18 dB μ V	-3 dB μ V
HP 8596EM	-18 dB μ V	-3 dB μ V

Frequency response

9 kHz to 1 GHz

HP 8591EM, 8593EM, 8594EM, 8595EM and 8596EM	± 1.5 dB
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Calibrator output

300 MHz	-20 dBm ± 4 dB
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Option specifications

Option 010 tracking generator

Frequency range

HP 8591EM	100 kHz to 1.8 GHz
HP 8593EM, 8594EM, 8595EM and 8596EM	9 kHz to 2.9 GHz

Output level

HP 8591EM	0 to -70 dBm
HP 8593EM, 8594EM, 8595EM and 8596EM	-1 to -66 dBm

Output flatness

HP 8591EM	± 1.75 dB
HP 8593EM, 8594EM, 8595EM and 8596EM	± 2.0 dB

Weight

HP 8591EM	14.5 kg (32 lbs)
HP 8593EM, 8594EM, 8595EM and 8596EM	16.4 kg (36 lbs)

Input/Output

Front panel connectors

Input	50 Ω type N
Option 026	APC 3.5 mm male
Option 027	50 Ω type N female
Cal output	50 Ω BNC -20 dBm 300 MHz
Comb out	100 MHz ± 0.007 %, SMA
Probe power	+15 Vdc, -12.6 Vdc and Gnd (150 mA max each)

Rear panel connectors

Earphone	1/8 inch monaural jack
Interface	HP-IB and parallel
Keyboard	5 pin DIN, HP C1405 Option ABA and Option 003 IBM AT keyboard compatible
High sweep in/out	BNC, high TTL = sweep
Aux video out	50 Ω BNC, 0-1 V
Aux IF output	50 Ω BNC, -10 to 60 DBM, 21.4 MHz
Ext. trigger input	BNC TTL levels, positive edge trigger
Ext. ref. in	50 Ω BNC, 10 MHz, -2 to + 10 dBm
10 MHz ref. output	50 Ω BNC, 10 MHz, 0 dBm
Aux interface	9 pin "D" subminiature
Monitor out	50 Ω BNC, NTSC, 15.75 kHz, 60 Hz or PAL, 15625 kHz, 50 Hz



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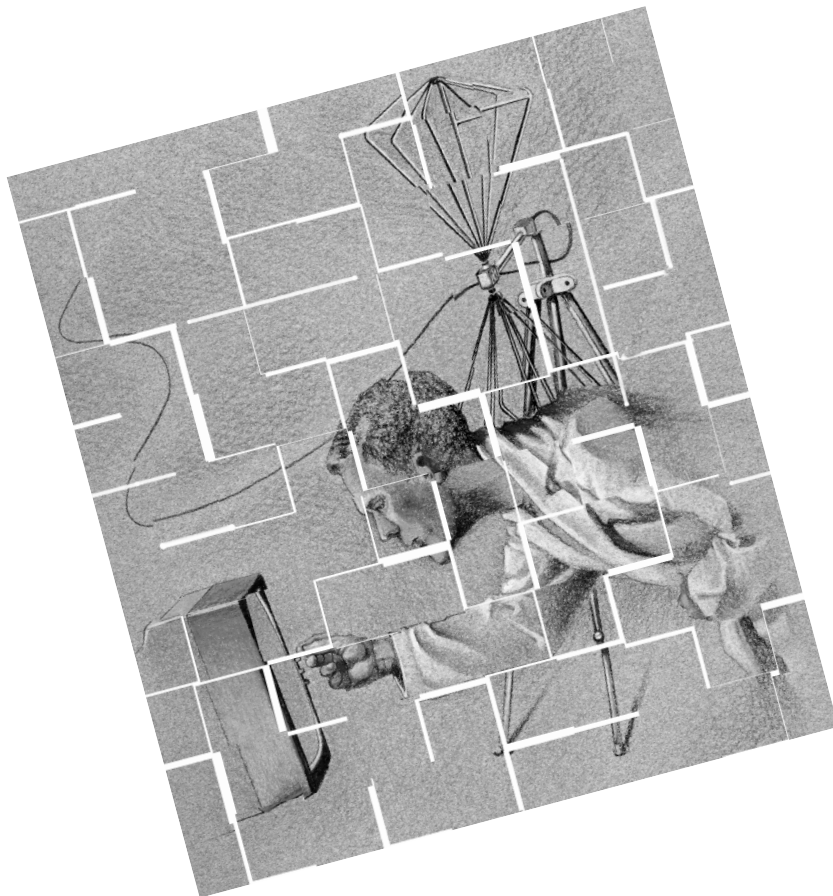
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