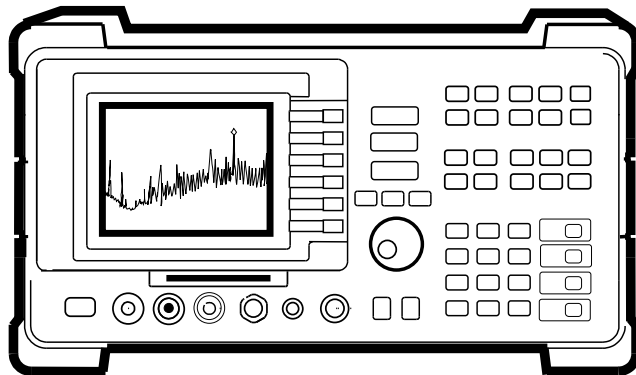


HP 8590EM Series EMC Analyzers and Precompliance Systems

Technical Specifications



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

HP 8590EM Specifications

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	$\pm 2 \times 10^{-6}$ /year	$\pm 1 \times 10^{-7}$ /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	$\pm 20\%$

Video Bandwidth Range

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

HP 8590EM Specifications

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 tp 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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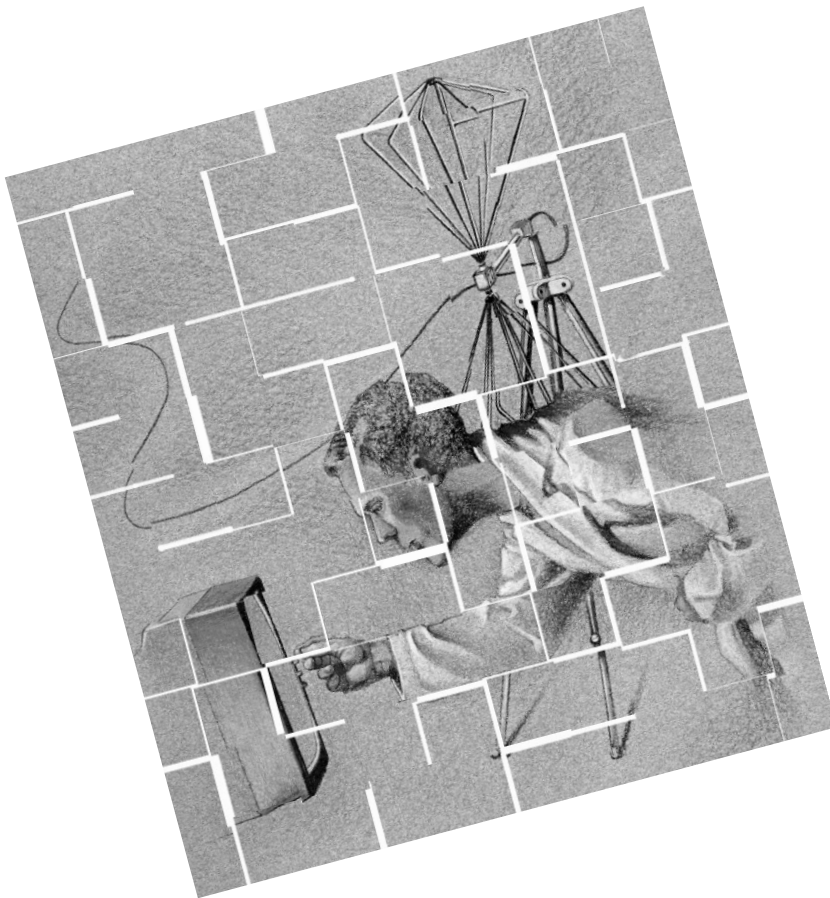
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