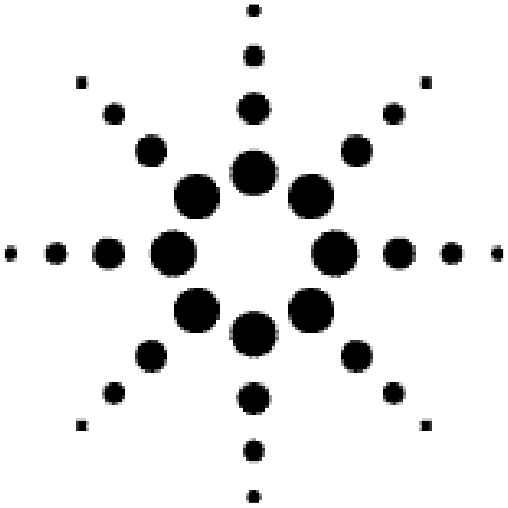

Agilent 84100EM EMC Design Development System, 9 kHz to 1.8 GHz

Product Specification

Frequency Range 50 Ohms: 9 kHz to 1.8 GHz

Frequency Reference
Aging: ±2 x 10^{-6}/year
Temperature Stability: ±5 x 10^{-6}
Initial Achievable Accuracy: ±0.5 x 10^{-6}

Marker Count Accuracy Frequency Span
<=10 MHz * N: ±(marker frequency readout x frequency reference error + counter resolution + 100 Hz x N)

Frequency Span
>10 MHz * N: ±(marker frequency x frequency reference error + counter resolution + 1 kHz x N)

Counter Resolution Frequency Span
<=10 MHz * N: Selectable from 10 Hz to 100 kHz Frequency Span
>10 MHz * N: Selectable from 100 Hz to 100 kHz (N = LO harmonic, N=1 for 91E, 94E, 95E) (Frequency reference error = aging rate x period of time since adjustment + initial achievable accuracy + temperature stability)

Frequency Sweep Time Range:
Span = 0 Hz, >1 kHz: 20 ms to 100 s
Span = 0 Hz (Opt. 101): 20 µs to 100 s

Accuracy 20 ms to 100 s: ±3% 20 us to >20 ms (Opt. 101): ±2%

Sweep Trigger: Free Run, Single, Line, Video, External

Resolution Bandwidth: 30 Hz to 3 MHz (3 dB) in 1-3-10 sequence. 200 Hz, 9 kHz and 120 kHz (6 dB) EMI bandwidths.

Accuracy: ±20%

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Selectivity (Characteristic) -60 dB/-3 dB
3 kHz to 10 kHz: 15:1
100 kHz to 3 MHz: 15:1 1 kHz,
30 kHz: 16:1 -40 dB/-3 dB
30 Hz to 300 Hz: 10:1

Video Bandwidth Range: 1 Hz to 1 MHz in 1, 3 Sequence

Stability Noise Sidebands (1 kHz RBW, 30 Hz VBW and sample detector) >10 kHz offset from CW signal <=-90 dBc/Hz + 20 Log N >20 kHz offset from CW signal <=-100 dBc/Hz + 20 Log N >30 kHz offset from CW signal <=-105 dBc/Hz + 20 Log N

Residual FM
1 kHz RBW, 1 kHz VBW <=250 Hz pk-pk in 100 ms 30 Hz RBW, 30 Hz VBW <=(30 Hz pk-pk in 300 ms

System-Related Sidebands
>30 kHz offset from CW signal <=-65 dBc + 20 Log N (N=LO harmonic) Amplitude Specifications

Amplitude Range: Displayed Average Noise Level to +30 dBm

Maximum Safe Input Level (Input attenuator >=10 dB)
Average Continuous Power: +30 dBm (1 W)
Peak Pulse Power: +30 dBm (1 W)
dc: 25 Vdc

Gain Compression
>10 MHz: >=0.5 dB (total power at input mixer = -10 dBm)
(Mixer Power Level (dBm) = Input Power (dBm) - Input Atten. (dB).)

Displayed Average Noise Level
(Input terminated, 0 dB attenuation, 1 Hz VBW, sample detector)

	30 Hz RBW	1 kHz RBW
400 kHz to 1 MHz	<=-130 dBm	<=-115 dBm
1 MHz to 1.5 GHz	<=-130 dBm	<=-115 dBm
1.5 GHz to 1.8 GHz	<=-128 dBm	<=-113 dBm

Spurious Responses
Second Harmonic Distortion
5 MHz to 1.8 GHz (91E): <-70 dBc for -45 dBm tone at input mixer.

Third Order Intermodulation
Distortion
5 MHz to 1.8 GHz: <-70 dBc for two -30 dBm tones at input mixer
and >50 kHz separation.

Other Input Related Spurious
<=1.8 GHz: <-65 dBc at <=30 kHz offset, for -20 dBm tone at input mixer
(Mixer Power Level (dBm)= Input Power (dBm) - Input Atten. (dB).)

Residual Responses (Input terminated and 0 dB attenuation)
150 kHz to 1.8 GHz: <-90 dBm

Frequency Response (10 dB attenuation)
Absolute Relative Flatness
9 kHz to 1.8 GHz: ±1.5 dB ±1.0 dB
(Absolute referenced to 300 MHz CAL OUT.)
(Relative Flatness ref. to midpoint between highest and lowest freq. response deviations.)

Option 010 Tracking Generator Specifications

Frequency Range: 100 kHz to 1.8 GHz

Output Level
Range: 0 to -70 dBm
Resolution: 0.1 dB
Absolute Accuracy
(@ 300 MHz, - 20 dBm, +28.8 dBmV)
±1.0 dB

Vernier
Range: 10 dB
Accuracy: ±0.75 dB

Output Attenuator
Range: 0 to 60 dB, 10 dB steps

Output Flatness: +1.75 dB

Effective Source Match (Characteristic) 1.6:1 (10 dB attenuation)
Linear Scale: 0.4% of reference level

Spurious Output
Harmonic Spurs
(0 dBm +42.8 dBmV Output): <-25 dBc
Nonharmonic Spurs: <-30 dBc

Dynamic Range
(Characteristic)
Dynamic Range TG Feedthrough
(Maximum output level
minus TG feedthrough)
106 dB <=-106 dBm

Power Sweep
Range: 0 dBm to -75 dBm; 42.8 dBmVto -32.2 dBmV -1 dBm to -66 dBm
in 8 dB increments.
Resolution: 0.1 dB

General Specifications

Temperature Range
Operating: 0 °C to +55 °C
Storage: -40 °C to +75 °C

EMI Compatibility: Conducted and radiated interference CISPR Pub. 11 and Messempfaenger Postverfuegung 526/527/79.

Audible Noise: <37.5 dBa pressure and <5.0 Bels power (ISODP7779)

Power Requirements
ON(Line 1): 86 to 127, or 195 to 250 Vrms, 47 to 66 Hz, 103 to 126 Vrms , 400 Hz ±10%. Power consumption <300 VA; <100W.
Standby (Line 0): Power consumption <7 W

User Memory (nominal): 32 Kbytes non-volatile RAM

Data Storage (nominal): 50 states and traces, internal memory and 8 internal state registers; 24 states and traces, memory card (85700A)