Analogue Signal Generator	
Frequency range	9 kHz to 1 GHz
Resolution	0.001 Hz
Phase offset	Adjustable in nominal 0.1 ° increments
Initial achievable calibration accuracy	± 4 x 10-8 or ± 40 ppb
Adjustment resolution	< 1 x 10^{-10}
Temperature effects	± 1 ppm (0 to 55 °C), nominal
Line voltage effects	± 0.1 ppm, nominal; 5% to –10%, nominal
External reference input	YES
Input frequency	1 to 50 MHz (in multiples of 0.1 Hz)
Lock range	± 1 ppm
Amplitude	> –3.0 to 20 dBm, nominal
Waveform	Sine or square
Sweep	YES
Operating modes	Step sweep, List sweep
Dwell time	100 μs to 100 s
Number of points	2 to 65535 : step sweep 1 to 3201 : list sweep
Step change	Linear or logarithmic
Triggering	Free run, trigger key, external, timer, bus (GPIB, LAN, USB)
Amplitude Output	YES

Settable range	+19 to –144 dBm
Resolution	0.01 dB
Step attenuator	0 to 130 dB in 5 dB steps electronic type
Connector	Type N 50 Ω, nominal
Max output power	
9 kHz to 10 MHz	+13 dBm
> 10 MHz to 1 GHz	+18 dBm
Absolute level accuracy in CW mode (ALC on)	YES
100 kHz to 1 GHz, typical values	± 0.3 dB
> 5 MHz to 1 GHz, specified values	± 0.6 dB
SWR (CW mode)	
30KHz to 1.0 GHz, no attenuation	< 1.3:1
30KHz to 1.0 GHz, 0 to 10 dB attenuation	< 1.35:1
30KHz to 1.0 GHz, >15 dB attenuation	< 1.2:1
Absolute SSB phase noise (CW at 20 kHz offset, typical)	YES
5 MHz to < 250 MHz	–119 dBc/Hz
250 MHz	–133 dBc/Hz
500 MHz	–128 dBc/Hz
1 GHz	–122 dBc/Hz
Harmonics (CW mode), 9 kHz to 1 GHz (Range < +4 dBm)	< –35 dBc
Nonharmonics (CW mode) > 10 KHz offset	YES
9 kHz to < 5 MHz	–65 dBc
5 to < 750 MHz	–75 dBc
750 MHz to 1 GHz	–72 dBc

Subharmonics (CW mode)	**None**
Analog Modulation	**AM, FM, phase modulation**
Frequency Modulation frequency response at 100 KHz rate	DC/5 Hz to 3 MHz nominal at 1 dB bandwidth DC/1 Hz to 7 MHz nominal at3 dB bandwidth
Phase Modulation frequency response at Normal bandwidth (3 dB)	DC to 1 MHz, nominal
Phase Modulation frequency response at Normal High-bandwidth mode (3 dB	DC to 4 MHz, nominal
Phase Modulation Resolution	0.1% of deviation
Phase Modulation Deviation accuracy	< + 0.5% + 0.01 rad, typical [1 kHz rate, normal bandwidth mode]
Phase Modulation Distortion	< 0.2% (typ) [1 kHz rate, deviation normal bandwidth mode]
Amplitude modulation	YES
AM depth type	Linear or exponential
Maximum depth	100%
Depth resolution	0.1% of depth (nom)
Frequency response (30% depth, 3 dB BW)	DC/10 Hz to 50 KHz
Simultaneous modulation	FM, AM and pulse modulation AM, FM and pulse modulation
External modulation inputs	YES
Input 1	AM, FM, PM
Input 2	AM, FM, PM
Input 3	Pulse (50 Ω)
Input impedance	50 Ω, 1 MΩ, 600 Ω, DC and AC coupled
Internal analog modulation source	YES
Waveform	Sine, square, triangle, positive ramp, negative ramp
Rate range	0.1 Hz to 2 MHz
Resolution 0.1 Hz	0.1 Hz
LF audio output	0 to 5 V peak into 50 Ω, –5 V to 5 V offset, nominal

Multifunction generator Waveforms	YES
Function generator 1	Sine, triangle, square, positive ramp, negative ramp, pulse
Function generator 2	Sine, triangle, square, positive ramp, negative ramp, pulse
Dual function generator	Sine, triangle, square, positive ramp, negative ramp, phase offset, and amplitude ratio for Tone 2 relative to Tone 1
Swept function generator	Sine, triangle, square, positive ramp, negative ramp Trigger: free run, trigger key, bus, external, internal, timer trigger
Noise generator 1	Uniform, Gaussian
Noise generator 2	Uniform, Gaussian
Multifunction generator Frequency parameters	
Sine wave	0.1 Hz to 10 MHz, nominal
Triangle, square, ramp, pulse	0.1 Hz to 1 MHz, nominal
Noise bandwidth	10 MHz, nominal
Resolution	0.1 Hz
Pulse modulation	YES
Rise/fall times (Tr, Tf) (Specified value, not typical)	< 10 ns
Minimum pulse width ALC on/off ≥ 2 us/≥ 20 ns (Specified value, not typical)	≥ 2 us/≥ 20 ns
Repetition frequency ALC on/off (Specified value, not typical)	10 Hz to 500 kHz/DC to 10 MHz
Internal pulse generator	YES
Modes	Free-run, square, triggered, adjustable doublet, trigger doublet, gated, and external pulse
Square wave rate	0.1 Hz to 10 MHz, 0.1 Hz resolution, nominal
Pulse period	30 ns to 42 seconds, nominal
Pulse width	20 ns to pulse period –10 ns, nominal
Resolution	10 ns