1.2 SPECIFICATIONS

1.2.1 RF FREQUENCY

Range	1 to 2080 MHz
Readout	Alphanumeric vacuum-fluorescent display
Resolution	100 Hz (1-1039.9999 MHz) 200 Hz (1040-2080 MHz)
Accuracy	±0.001% in all modes with ALC on; ±(0.001% +10 kHz) in all modes with ALC off
Stability (after 1 hr warmup)	0 to 520.9999 MHz: 0.2 ppm/hr with ALC on; 500 Hz/10 min with ALC off 521 to 1039.9999 MHz: 0.2 ppm/hr with ALC on; 1000 Hz/10 min with ALC off 1040 to 2080 MHz: 0.2 ppm/hr with ALC on; 2000 Hz/10 min with ALC off
Switching Speed	Typically <275 msec (<115 msec for steps >1 MHz)

1.2.2 RF OUTPUT

Impedance	50 ohms (SWR <1.3 at RF levels below 0.1 VRMS).
Power Level Range	+10 to -137 dBm (1 V to 0.0316 µVRMS)
Readout	Alphanumeric vacuum-fluorescent display
RF Level Control	Adjustable in 0.1 dB steps in dBm mode, or to three significant digits in voltage mode
Total Level Accuracy	+10 to -36.9 dBm ±2.0 dB -37 to -46.9 dBm ±2.2 dB -47 to -56.9 dBm ±2.4 dB -57 to -66.9 dBm ±2.6 dB -67 to -76.9 dBm ±2.8 dB -77 to -86.9 dBm ±3.0 dB -87 to -96.9 dBm ±3.2 dB -97 to -106.9 dBm ±3.4 dB -107 to -116.9 dBm ±3.6 dB -117 to -126.9 dBm ±3.8 dB -127 to -137 dBm ±4.0 dB
Accuracy Traits	Flatness: (+10 to -6.9 dBm) ±1.5 dB Step Attenuator: ±0.6 dB or 2% of attenuation, whichever is greater
Leakage	< 1 µV into a two-turn, 1 inch diameter loop held 1 inch from any surface at 500 MHz.
Output Connector	Type N

1.2.3 SPECTRAL PURITY

Harmonic Output

1 to 10 MHz	<-26 dBc
10 to 1040 MHz	<-30 dBc
1041 to 2080 MHz	<-25 dBc

Nonharmonics

Fundamental	Spurious Level
1 to 3 MHz	<-60 dBc in 1 to 3 MHz band
3.0001 to 250 MHz	<-65 dBc in 3 to 250 MHz band
3.0001 to 350 MHz	<-55 dBc in 3 to 350 MHz band
3.0001 to 1040 MHz	<-35 dBc in 3 to 1040 MHz band
3.0001 to 2000 MHz	<-30 dBc in 3 to 4160 MHz band
3.0001 to 2080 MHz	<-25 dBc in 3 to 4160 MHz band

Subharmonics

1 to 520.9999 MHz: none detectable
521 to 2080 MHz: <-30 dBc

Residual FM

1 to 520.9999 MHz: <200 Hz in a 50 Hz to 15 kHz post-detection bandwidth (typically <100 Hz)
521 to 1040.9999 MHz: <400 Hz in a 50 Hz to 15 kHz post-detection bandwidth (typically <200 Hz)
1041 to 2080 MHz: <800 Hz in a 50 Hz to 15 kHz post-detection bandwidth (typically <400 Hz)

Residual AM

<-60 dBc in a 50 Hz to 15 kHz post-detection bandwidth.

Phase Noise

1 to 520.9999 MHz: <-93 dBc typical (offset 20 kHz from carrier with 1 Hz bandwidth)
1 to 520.9999 MHz: <-120 dBc typical (offset 500 kHz from carrier with 1 Hz bandwidth)
521 to 1040.9999 MHz: <-87 dBc typical (offset 20 kHz from carrier with 1 Hz bandwidth)
521 to 1040.9999 MHz: <-114 dBc typical (offset 500 kHz from carrier with 1 Hz bandwidth)
1041 to 2080 MHz: <-81 dBc typical (offset 20 kHz from carrier with 1 Hz bandwidth)
1041 to 2080 MHz: <-108 dBc typical (offset 500 kHz from carrier with 1 Hz bandwidth)

1.2.4 AMPLITUDE MODULATION

NOTE: These specifications apply for a carrier level ≤+2 dBm. AM is possible above +2 dBm if the peak output does not exceed +10 dBm.

Internal Frequency Source

80 Hz to 999 kHz in 1 Hz steps
1 kHz to 10 kHz in 10 Hz steps

Internal Frequency Accuracy

±(2% + 6 Hz) of Reading

External Frequency Input

DC to 30 kHz (3 dB bandwidth) with ALC off.
100 Hz to 30 kHz (3 dB bandwidth) with ALC on.
Input level required for calibrated display: 10 Vp-p into 600 ohms with ALC off; 0.25 to 1 Vp-p into 600 ohms with ALC on.

Depth Resolution	0.1%
Depth Indicator Accuracy	0 to 90%: ±6% of reading
Readout	Alphanumeric vacuum-fluorescent display
Range	0 to 100%
Distortion (measured at 1 kHz)	0 to 30% AM: <1.5% 0 to 70% AM: <3% 0 to 90% AM: <5%

1.2.5 FREQUENCY MODULATION

Internal Frequency Source	80 Hz to 999 kHz in 1 Hz steps 1 kHz to 10 kHz in 10 Hz steps
Internal Frequency Accuracy	±(2% + 6 Hz) of Reading
External Frequency Input	DC to 60 kHz (1 dB bandwidth) with ALC off. 100 Hz to 60 kHz (1 dB bandwidth) with ALC on. Input level required for calibrated display: 10 Vp-p into 600 ohms with ALC off; 0.25 to 1 Vp-p into 600 ohms with ALC on.
Deviation Resolution	100 Hz for deviations <10 kHz 1 kHz for deviations ≥10 kHz
Deviation Indicator Accuracy	±5% of reading
Readout	Alphanumeric vacuum-fluorescent display
Range	0 to 100 kHz deviation
Distortion (measured at 1 kHz)	10 to 100 kHz deviation: <2% 3 to 10 kHz deviation: <4%

1.2.6 REVERSE POWER PROTECTION

Trip Time	<2 msec
RF Trip Level	approximately 0.7 W
Maximum RF Input	50 W
DC Blocking Voltage	50 Volts