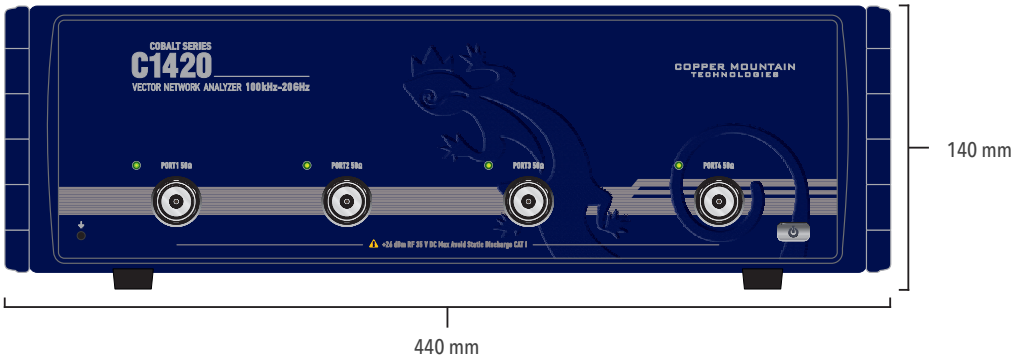
C1420 Specifications[1]



Primary Specifications

Impedance	50 Ohm
Test port connector	NMD 3.5 mm Male
Number of test ports	4
Frequency range	100 kHz to 20 GHz
Full CW Frequency	$\pm 2 \times 10^{-6}$
Frequency setting resolution	1 Hz
Number of measurement points	2 to 500,001
Measurement bandwidths with 1/1.5/2/3/5/7 steps	1 Hz to 2 MHz
Dynamic range	
100 kHz to 1 MHz; 1 Hz IF BW	120 dB
1 MHz to 20 GHz; 1 Hz IF BW	143 dB
Dynamic range	
1 MHz to 20 GHz; 1 Hz IF BW	130 dB
Time per point (Typ.)	12 µsec
Port switchover time (Typ.)	0.2 msec

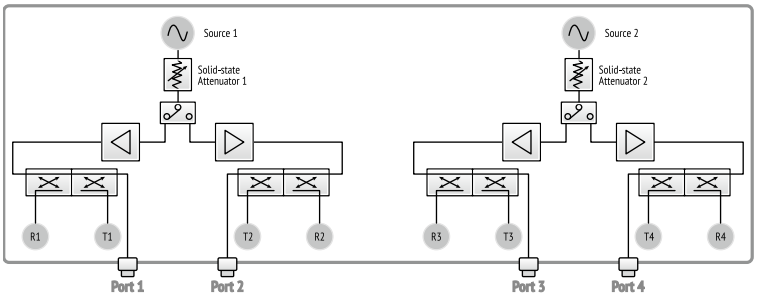
Effective System Data

Effective directivity	
100 kHz to 10 GHz	46 dB
10 GHz to 20 GHz	42 dB
Effective source match	
100 kHz to 10 GHz	40 dB
10 GHz to 20 GHz	38 dB
Effective load match	
100 kHz to 10 GHz	46 dB
10 GHz to 20 GHz	42 dB
Effective reflection tracking	
100 kHz to 10 GHz	0.05 dB
10 GHz to 20 GHz	0.10 dB
Effective transmission tracking	
100 kHz to 10 GHz	0.20 dB
10 GHz to 20 GHz	0.05 dB

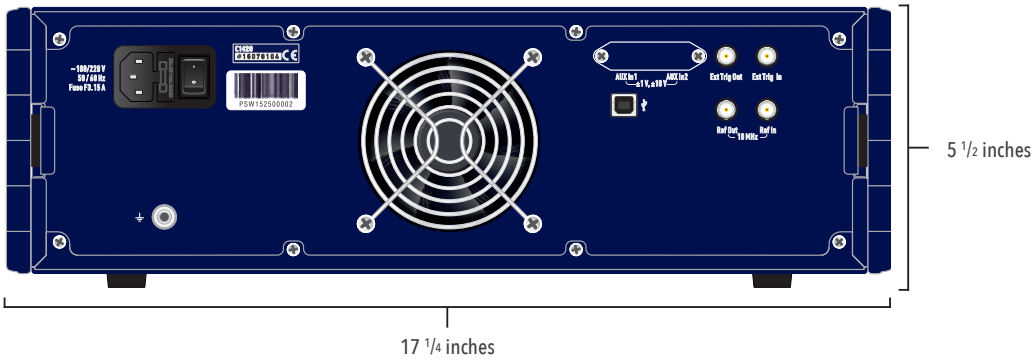
Measurement Accuracy

Transmission[2]	**(Magnitude/Phase)**
100 kHz to 1 MHz	
-40 dB to 0 dB	0.2 dB/2°
-60 dB to -40 dB	0.3 dB/3°
-80 dB to -60 dB	1.1 dB/7°
1 MHz to 20 GHz	
0 dB to 10 dB	0.2 dB/2°
-60 dB to 0 dB	0.1 dB/1°
-80 dB to -60 dB	0.2 dB/2°
-100 dB to '80 dB	1.0 dB/6°
Reflection[2]	**(Magnitude/Phase)**
100 kHz to 10 GHz	
-15 dB to 0 dB	0.4 dB/3°
-25 dB to -15 dB	1.0 dB/6°
-35 dB to -25 dB	3.0 dB/20°
10 GHz to 20 GHz	
-15 dB to 0 dB	0.5 dB/4°
-25 dB to -15 dB	1.5 dB/10°
-35 dB to -25 dB	5.5 dB/30°
Trace noise magnitude (3 kHz IF BW)	
100 kHz to 1 MHz	0.02 dB RMS
1 MHz to 9 GHz	0.001 dB RMS
Temperature dependence	0.020 dB/°C, 0.010 dB/°C typ.

Schematic Diagram of Cobalt C1420



[1] All specifications subject to change without notice.
[2] At 23 ° C +/- 5 °C after 40 minutes warmup time, with +/- 1°C ambient deviation from calibration temperature, at 0 dBm output power



Test Port

Directivity (without system error correction)	
100 kHz to 1 MHz	10 dB
1 MHz to 10 GHz	20 dB
10 GHz to 20 GHz	15 dB

Test Port Output

Match (without system error correction)	
100 kHz to 1 MHz	10 dB
1 MHz to 20 GHz	15 dB
Power Range	-60 dBm to +10 dBm
Power Accuracy	±1.5 dB
Power Resolution	0.050 dB
Harmonic distortion (Power out 0 dBm)	-25 dBc
Non-harmonic spurious (Power out 0 dBm)	-30 dBc

Test Port Input

Match (without system error correction)	
100 kHz to 1 MHz	10 dB
1 MHz to 20 GHz	15 dB
Damage Level	+26 dBm
Damage DC Voltage	35 V
Noise Floor	
100 kHz to 1 MHz	-110 dBm/Hz
1 MHz to 20 GHz	-133 dBm/Hz

Measurement Speed

Number of points (IF bandwidth 1 MHz)	Uncorrected	2-Port Calibration
51	7.3 ms	4.4 ms
201	4.2 ms	8.2 ms
401	6.5 ms	12.8 ms
1601	20.5 ms	40.8 ms

External Reference Input

Connector type	BNC Female
External reference frequency	10 MHz
Input level	-2 dBm to 4 dBm
Input impedance at <<Ref IN 10 MHz>>	50 Ohm

External Reference Output

<<OUT 10 MHz>> connector type	BNC Female
Output reference signal level at 50 Ohm impedance	0 dBm to 2 dBm

External Trigger Input

Type	BNC, Female
Input level low threshold voltage	0.8 V
Input level high threshold voltage	2.7 V
Input level range	0 to 5 V
Pulse width	2 µsec
Polarity	Positive or Negative

External Trigger Output

Type	BNC, Female
Maximum output current	20 mA
Output level low threshold voltage	0.4 V
Output level high threshold voltage	3.0 V
Polarity	Positive or Negative

System & Power

Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	-50°C to 70°C (-58°F to 158°F)
Humidity	90% at 25°C (77°F)
Atmospheric pressure	84.0 kPa to 106.7 kPa
Power Supply	110-240 V, 50-60 Hz
Power Consumption	200.0 W
Weight	22.0 kg/776 oz

Factory Adjustment

Recommended Factory Adjustment Interval	3 Years