

Measurement Report (ISO 17025)

Agilent E4440A Performance Verification

Calibration Facility

RF Test Solutions Ltd
409 Cuba St, Alicetown
Lower Hutt, 5012
New Zealand

Report Number	7023-WU8K	Test Date: 18-Jan-2011
Order Number	7023	
Customer	RF Test Solutions Ltd	

Model Number	E4440A	
Serial Number	MY48250291	
Firmware Version	A.11.05	
Asset Number / Unique ID	RFT2638	
Options	111, 115, 123, 1DS, 226, 233, 23A, 23B, 266, B7J, BAB	
Test Manager	Agilent N7800A Test Management Environment (TME) Software	Version E.02.10
Calibration Application	Agilent N7810A PSA Series Calibration Application	Version E.07.01
Test Plan Name	E4440A - Performance Verification - Agilent Recommended	
Test Session	As Received	
Temperature	See Individual Test Data	
Humidity	See Individual Test Data	
Authorized by	N/A	

Results All measurement and test results guardbanded by the measurement uncertainties.

Measurement Uncertainty The expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%, unless otherwise stated.

Notes

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

<u>Test Name</u>	<u>Test Result</u>	<u>Test Date</u>
Internal Alignment	PASS	17-Jan-2011
Frequency Reference Accuracy	See attached report	
Power Bandwidth Accuracy	PASS	17-Jan-2011
Resolution Bandwidth Switching Uncertainty	PASS	17-Jan-2011
Residual Responses	PASS	17-Jan-2011
Displayed Average Noise Level	PASS	17-Jan-2011
Frequency Readout Accuracy	PASS	17-Jan-2011
Frequency Span Accuracy	PASS	17-Jan-2011
Count Accuracy	PASS	17-Jan-2011
IF Amplitude Ripple	PASS	17-Jan-2011
Spurious Responses	PASS	17-Jan-2011
Frequency Response Above 3 GHz	PASS	18-Jan-2011
Frequency Response (Option 123)	Indeterminate	18-Jan-2011
Third Order Intermodulation Distortion*	PASS	17-Jan-2011
Second Harmonic Distortion	PASS	17-Jan-2011
Absolute Amplitude Accuracy	PASS	17-Jan-2011
Input Attenuation Switching Uncertainty	PASS	17-Jan-2011
Display Scale Fidelity	PASS	17-Jan-2011
Noise Sidebands < 50 kHz Offsets	PASS	17-Jan-2011
Frequency Response (Option B7J)	PASS	18-Jan-2011
Frequency Response 300 kHz to 3 GHz	PASS	18-Jan-2011
Frequency Response Below 300 kHz	PASS	18-Jan-2011

* Third Order Intermodulation Distortion (TOI) and Two Tone Gain Compression performance are directly correlated. A TOI test result of "PASS" guarantees that Gain Compression also meets its published specifications. Therefore, Gain Compression is not directly tested.

Not Selected: The user has chosen not to include this test in the report.

PASS: All measured values are within the specification.

Indeterminate: All measured values are within the specification. However, one or more of the measured values plus its measurement uncertainty exceeds the specification.

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
E8267D	Synthesized Signal Generator	US49060145		23-Apr-2011
E4419B	Power Meter	GB43311632	RFT2108	22-Sep-2011
909A Opt 012	50 Ohm Terminator	accessory		
87300B	Directional Coupler	54910		
8663A	Synthesized Signal Generator	2748A01371	RFT2096	20-Jul-2011
86205A	Directional Bridge	3140A02873		
8496G	10 dB Step Attenuator	1722A00828	RFT4059	14-Jan-2012
8494G	1 dB Step Attenuator	CG00001641	RFT4058	14-Jan-2012
8493C Opt 010	10 dB Fixed Attenuator	52035	RFT6104	17-Jan-2013
8491A Opt 020	20dB Fixed Attenuator	01392	RFT6100	17-Jan-2013
8491A Opt 010	10 dB Fixed Attenuator	MY39264150	RFT2120	28-Aug-2011
8491A Opt 006	6dB Fixed Attenuator	22033	RFT6095	28-Aug-2011
8491A Opt 003	3 dB Fixed Attenuator	2948	RFT6092	06-May-2011
8485A	Power Sensor	2347A02560	RFT2089	17-Apr-2011
8482A	Power Sensor	2349A08664	RFT4054	22-Jun-2012
8482A	Power Sensor	3318A25957	RFT2087	11-Nov-2012
8481A	Power Sensor	US41031021	RFT4053	13-Aug-2012
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012
8120-4921	3.5(m) to 3.5(m) Cable	Accessory		
8120-2703	Step Attenuator Control Cable	Accessory		
360D	4.4 GHz Low Pass Filter	Accessory		
3458A	Digital Multimeter	2823A00681	RFT4046	12-May-2011
33250A	Function Generator	MY40018367	RFT2568	02-Sep-2011
1250-1750	N(f) to 3.5(m) Adapter	Accessory		
1250-1749	3.5(f) to 3.5(f) Adapter	Accessory		
1250-1748	3.5(m) to 3.5(m) Adapter	Accessory		
1250-1745	N(f) to 3.5(f) Adapter	Accessory		
1250-1744	N(m) to 3.5(f) Adapter	Accessory		
1250-1743	N(m) to 3.5(m) Adapter	Accessory		
1250-1472	N(f) to N(f) Adapter	Accessory		
11903B	N(f) to 2.4(f) Adapter	Accessory		
11901B	2.4(f) to 3.5(f) Adapter	Accessory		
11730A	Power Sensor Cable	Accessory		
11716A	Attenuator Interconnect Cable	Accessory		
11713A	Attenuator/Switch Driver	Accessory		
11667B	Two Resistor Splitter	06658		
11667A	Two Resistor Splitter	14174		
11667A	Two Resistor Splitter	21314	RFT6051	
11500C	N(m) to N(m) Cable	Accessory		
0955-0491	1.8 GHz Low Pass Filter	Accessory		
0955-0487	1 GHz Low Pass Filter	Accessory		
0955-0455	300 MHz Low Pass Filter	Accessory		
0955-0306	50 MHz Low Pass Filter	Accessory		
08485-60005	N(m) to 3.5(f) Adapter	Accessory		

Report Number
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Internal Alignment

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

No test standards or equipment required for this test.

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

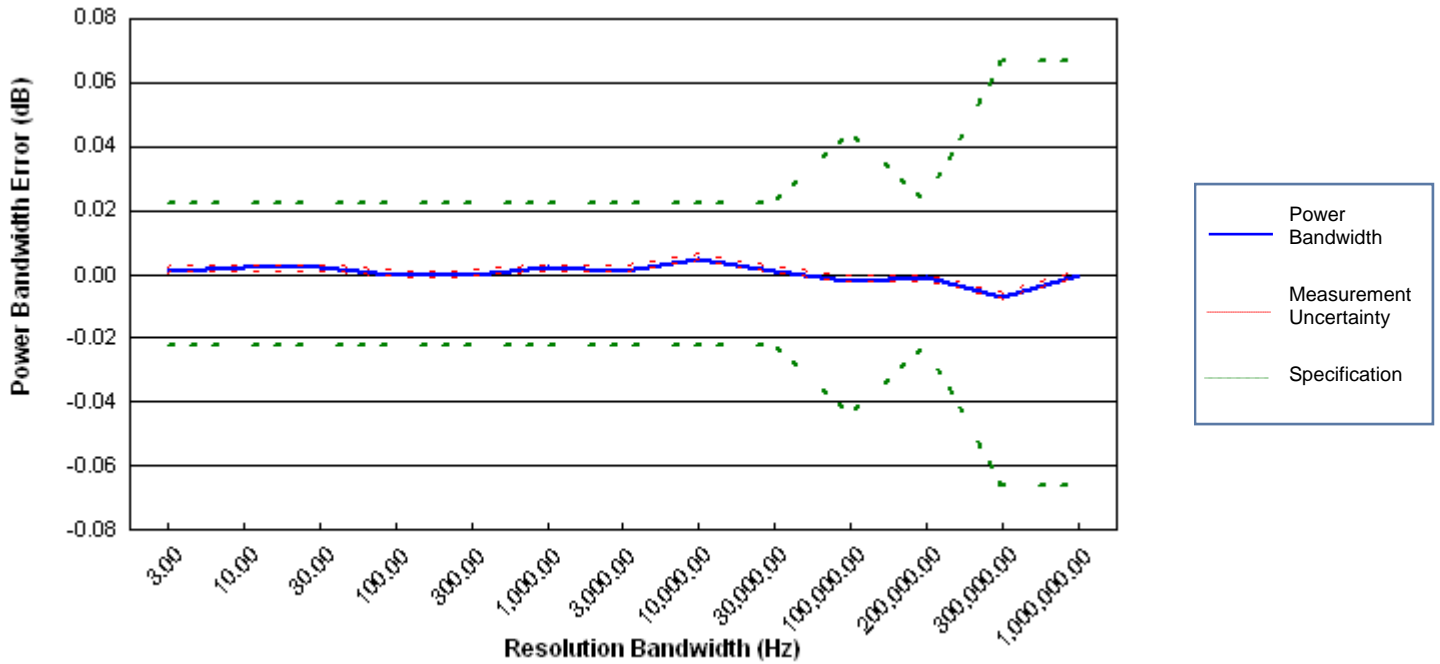
Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

No test standards or equipment required for this test.



Resolution Bandwidth (Hz)	Power Bandwidth Error (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
3.00	0.001	0.0009	0.022	PASS
10.00	0.002	0.0009	0.022	PASS
30.00	0.002	0.0009	0.022	PASS
100.00	0.000	0.0009	0.022	PASS
300.00	0.000	0.0009	0.022	PASS
1,000.00	0.002	0.0009	0.022	PASS
3,000.00	0.001	0.0009	0.022	PASS
10,000.00	0.005	0.0009	0.022	PASS
30,000.00	0.001	0.0009	0.022	PASS
100,000.00	-0.002	0.0009	0.044	PASS
200,000.00	-0.001	0.0009	0.022	PASS
300,000.00	-0.007	0.0009	0.066	PASS
1,000,000.00	0.000	0.0009	0.066	PASS

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

No test standards or equipment required for this test.

Relative to 30 kHz RBW

Resolution Bandwidth (kHz)	Measured Switching Uncertainty (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
0.30	0.00	0.003	0.03	PASS
0.51	0.01	0.003	0.03	PASS
1.00	0.00	0.003	0.03	PASS
3.00	0.01	0.003	0.03	PASS
10.00	0.00	0.002	0.03	PASS
100.00	0.00	0.002	0.03	PASS
300.00	0.00	0.002	0.03	PASS
1,000.00	0.01	0.002	0.03	PASS
1,500.00	0.00	0.002	0.05	PASS
2,000.00	0.01	0.002	0.05	PASS
3,000.00	0.00	0.002	0.05	PASS
4,000.00	0.01	0.002	1.00	PASS
5,000.00	0.05	0.002	1.00	PASS
6,000.00	0.27	0.002	1.00	PASS
8,000.00	0.38	0.002	1.00	PASS

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Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
909A Opt 012	50 Ohm Terminator	accessory		
1250-1745	N(f) to 3.5(f) Adapter	Accessory		

Span = 100.00 Hz

Center Frequency (MHz)	Measured Residual Response (dBm)	Measurement Uncertainty (+/- dB)	Specification (dBm)	Result
10.00	-133.10	0.44	-100.00	PASS
100.00	-143.26	0.44	-100.00	PASS
300.00	-141.93	0.44	-100.00	PASS
600.00	-139.65	0.44	-100.00	PASS
900.00	-140.74	0.44	-100.00	PASS
1,000.00	-141.44	0.44	-100.00	PASS
1,200.00	-141.81	0.44	-100.00	PASS
1,800.00	-141.08	0.44	-100.00	PASS
2,700.00	-137.31	0.44	-100.00	PASS
2,957.20	-120.09	0.44	-100.00	PASS
3,000.00	-137.80	0.44	-100.00	PASS
3,600.00	-123.41	1.40	-100.00	PASS

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Displayed Average Noise Level

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

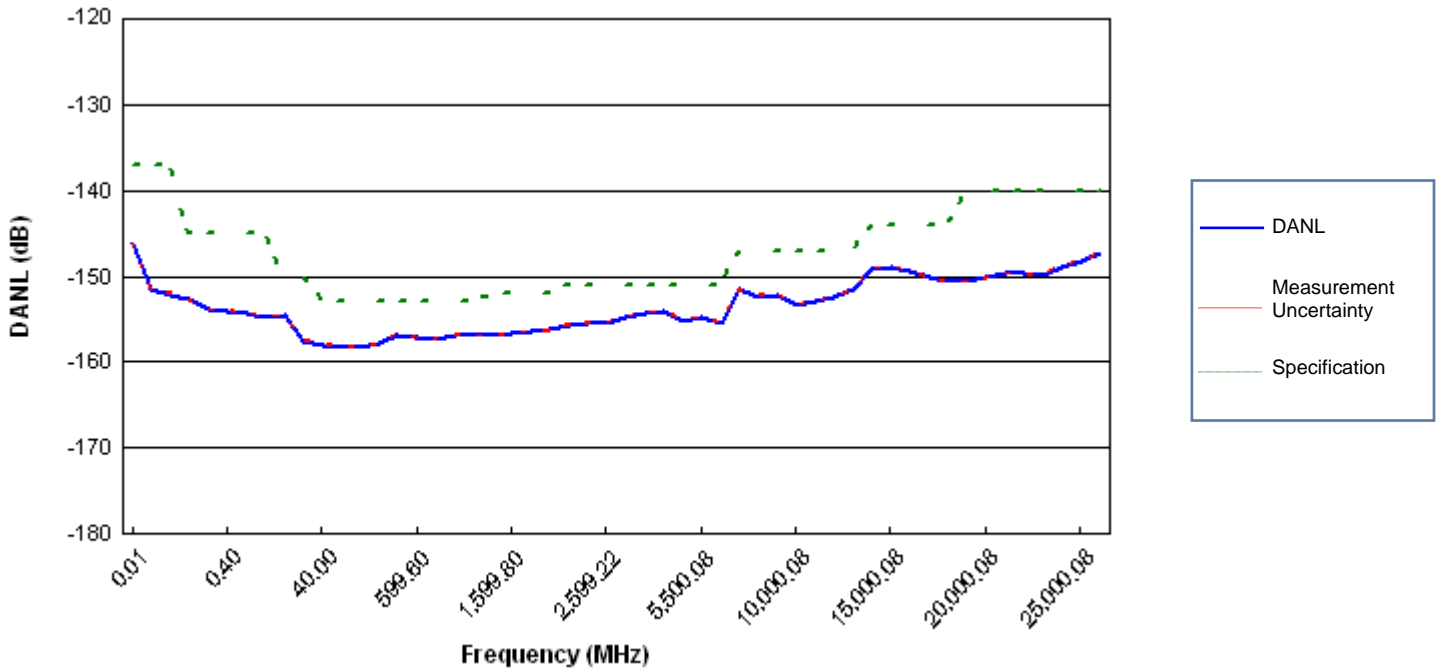
<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
909A Opt 012	50 Ohm Terminator	accessory		
1250-1745	N(f) to 3.5(f) Adapter	Accessory		

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**



Frequency (MHz)	DANL (dB)	Measurement Uncertainty (dB)	Specification (dB)	Result
0.01	-146.23	0.07	-137.00	PASS
0.05	-151.41	0.07	-137.00	PASS
0.07	-152.12	0.07	-137.00	PASS
0.10	-152.73	0.07	-145.00	PASS
0.20	-153.82	0.07	-145.00	PASS
0.40	-154.00	0.07	-145.00	PASS
0.60	-154.27	0.07	-145.00	PASS
0.80	-154.71	0.07	-145.00	PASS
1.00	-154.58	0.07	-150.00	PASS
9.90	-157.54	0.07	-150.00	PASS
40.00	-157.99	0.07	-153.00	PASS
70.00	-158.20	0.07	-153.00	PASS
102.00	-158.22	0.07	-153.00	PASS
202.00	-157.92	0.07	-153.00	PASS
399.80	-156.81	0.07	-153.00	PASS
599.60	-157.22	0.07	-153.00	PASS
799.40	-157.36	0.07	-153.00	PASS
999.20	-156.80	0.07	-153.00	PASS
1,199.00	-156.86	0.07	-153.00	PASS
1,399.91	-156.86	0.07	-152.00	PASS
1,599.80	-156.73	0.07	-152.00	PASS
1,799.68	-156.46	0.07	-152.00	PASS
1,999.57	-156.25	0.07	-152.00	PASS
2,199.45	-155.67	0.07	-151.00	PASS
2,399.34	-155.37	0.07	-151.00	PASS
2,599.22	-155.46	0.07	-151.00	PASS
2,799.11	-154.81	0.07	-151.00	PASS

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Test Result **PASS**

Frequency (MHz)	DANL (dB)	Measurement Uncertainty (dB)	Specification (dB)	Result
2,999.00	-154.33	0.07	-151.00	PASS
3,500.08	-154.08	0.07	-151.00	PASS
4,500.08	-155.16	0.07	-151.00	PASS
5,500.08	-154.76	0.07	-151.00	PASS
5,999.08	-155.53	0.07	-151.00	PASS
7,000.08	-151.62	0.07	-147.00	PASS
8,000.08	-152.34	0.07	-147.00	PASS
9,000.08	-152.15	0.07	-147.00	PASS
10,000.08	-153.35	0.07	-147.00	PASS
11,000.08	-152.93	0.07	-147.00	PASS
12,000.08	-152.41	0.07	-147.00	PASS
12,999.08	-151.58	0.07	-147.00	PASS
14,000.08	-149.20	0.07	-144.00	PASS
15,000.08	-148.95	0.07	-144.00	PASS
16,000.08	-149.42	0.07	-144.00	PASS
17,000.08	-150.18	0.07	-144.00	PASS
18,000.08	-150.69	0.07	-144.00	PASS
19,000.08	-150.61	0.07	-140.00	PASS
20,000.08	-150.20	0.07	-140.00	PASS
21,000.08	-149.64	0.07	-140.00	PASS
22,000.08	-149.72	0.07	-140.00	PASS
23,000.08	-149.78	0.07	-140.00	PASS
24,000.08	-148.95	0.07	-140.00	PASS
25,000.08	-148.22	0.07	-140.00	PASS
26,000.08	-147.41	0.07	-140.00	PASS

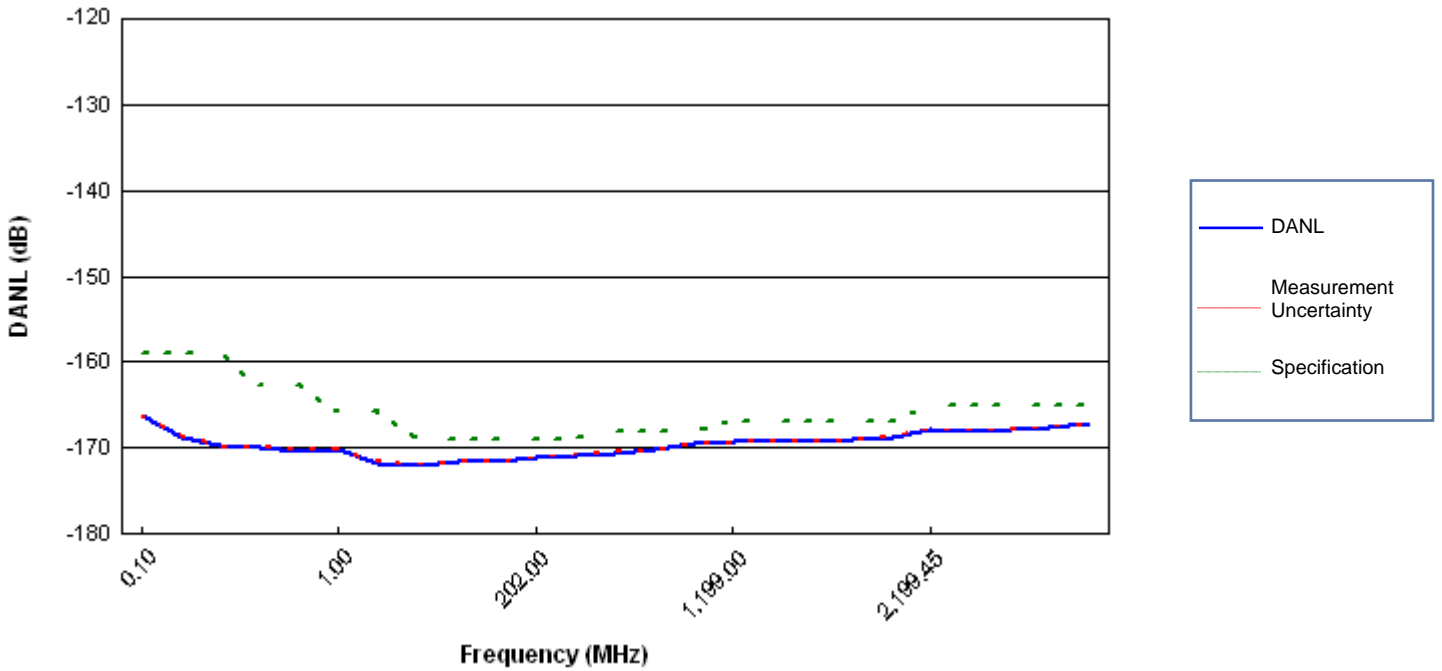
Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Preamp On (Option 1DS)



Frequency (MHz)	DANL (dB)	Measurement Uncertainty (dB)	Specification (dB)	Result
0.10	-166.27	0.07	-159.00	PASS
0.20	-168.73	0.07	-159.00	PASS
0.40	-169.77	0.07	-159.00	PASS
0.60	-169.90	0.07	-163.00	PASS
0.80	-170.31	0.07	-163.00	PASS
1.00	-170.30	0.07	-166.00	PASS
9.90	-171.75	0.07	-166.00	PASS
40.00	-172.02	0.07	-169.00	PASS
70.00	-171.69	0.07	-169.00	PASS
102.00	-171.65	0.07	-169.00	PASS
202.00	-171.17	0.07	-169.00	PASS
399.80	-170.89	0.07	-169.00	PASS
599.60	-170.56	0.07	-168.00	PASS
799.40	-170.28	0.07	-168.00	PASS
999.20	-169.58	0.07	-168.00	PASS
1,199.00	-169.33	0.07	-167.00	PASS
1,399.91	-169.37	0.07	-167.00	PASS
1,599.80	-169.32	0.07	-167.00	PASS
1,799.68	-169.13	0.07	-167.00	PASS
1,999.57	-168.69	0.07	-167.00	PASS
2,199.45	-167.86	0.07	-165.00	PASS
2,399.34	-168.08	0.07	-165.00	PASS
2,599.22	-167.91	0.07	-165.00	PASS
2,799.11	-167.61	0.07	-165.00	PASS
2,999.00	-167.24	0.07	-165.00	PASS

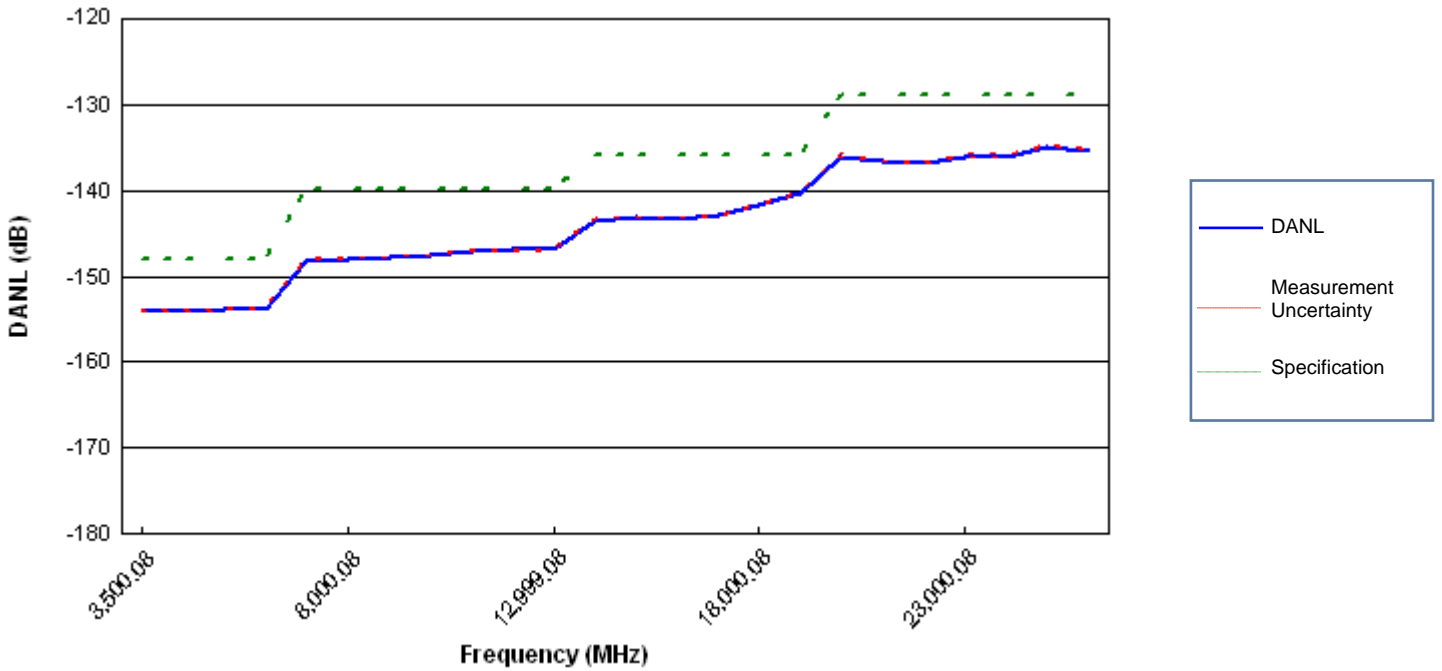
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Test Result **PASS**

Unpreselected Path (Option 123)



Frequency (MHz)	DANL (dB)	Measurement Uncertainty (dB)	Specification (dB)	Result
3,500.08	-154.02	0.07	-148.00	PASS
4,500.08	-154.09	0.07	-148.00	PASS
5,500.08	-153.92	0.07	-148.00	PASS
5,999.08	-153.80	0.07	-148.00	PASS
7,000.08	-148.14	0.07	-140.00	PASS
8,000.08	-147.93	0.07	-140.00	PASS
9,000.08	-147.80	0.07	-140.00	PASS
10,000.08	-147.56	0.07	-140.00	PASS
11,000.08	-146.98	0.07	-140.00	PASS
12,000.08	-146.95	0.07	-140.00	PASS
12,999.08	-146.93	0.07	-140.00	PASS
14,000.08	-143.47	0.07	-136.00	PASS
15,000.08	-143.09	0.07	-136.00	PASS
16,000.08	-143.31	0.07	-136.00	PASS
17,000.08	-142.94	0.07	-136.00	PASS
18,000.08	-141.77	0.07	-136.00	PASS
19,000.08	-140.30	0.07	-136.00	PASS
20,000.08	-136.01	0.07	-129.00	PASS
21,000.08	-136.59	0.07	-129.00	PASS
22,000.08	-136.90	0.07	-129.00	PASS
23,000.08	-136.02	0.07	-129.00	PASS
24,000.08	-136.00	0.07	-129.00	PASS
25,000.08	-134.84	0.07	-129.00	PASS
26,000.08	-135.32	0.07	-129.00	PASS

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012
8120-4921	3.5(m) to 3.5(m) Cable	Accessory		
1250-1749	3.5(f) to 3.5(f) Adapter	Accessory		
11901B	2.4(f) to 3.5(f) Adapter	Accessory		

Center Frequency (MHz)	Span (MHz)	Minimum Frequency (MHz)	Frequency Readout Accuracy (MHz)	Measurement Uncertainty (+/- Hz)	Maximum Frequency (MHz)	Result
517.59	1.980	517.58250	517.5900	0.001	517.59750	PASS
832.50	1.980	832.49250	832.5000	0.001	832.50750	PASS
1,505.00	0.106	1,504.99959	1,505.0000	0.001	1,505.00041	PASS
1,505.00	7.950	1,504.96975	1,505.0000	0.001	1,505.03025	PASS
1,505.00	54.100	1,504.79416	1,505.0000	0.001	1,505.20584	PASS
1,505.00	127.200	1,504.51600	1,505.0000	0.001	1,505.48400	PASS
1,505.00	2,000.000	1,496.51666	1,505.0000	0.001	1,513.48334	PASS

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012

Sweep Points = 4,001

Center Frequency (MHz)	Span (MHz)	Resolution Bandwidth (kHz)	Span Error (%)	Measurement Uncertainty (+/- %)	Specification (+/- %)	Result
517.59	1.00	1.00	-0.010	0.020	0.225	PASS
517.59	1.98	2.00	-0.081	0.020	0.225	PASS
628.60	1.98	2.00	-0.034	0.020	0.225	PASS
819.60	1.98	2.00	-0.061	0.020	0.225	PASS
832.50	1.00	1.00	-0.031	0.020	0.225	PASS
832.50	1.98	2.00	-0.090	0.020	0.225	PASS
832.50	2.00	2.00	0.000	0.020	0.225	PASS
832.50	100.00	100.00	0.000	0.020	0.225	PASS

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012
8120-4921	3.5(m) to 3.5(m) Cable	Accessory		
1250-1749	3.5(f) to 3.5(f) Adapter	Accessory		
11901B	2.4(f) to 3.5(f) Adapter	Accessory		

Frequency = 1.00 GHz

Frequency Count (Hz)	Count Accuracy (Hz)	Measurement Uncertainty (+/- Hz)	Specification (+/- Hz)	Result
1,000,000,000.001	0.001	0.001	0.10	PASS

Report Number
7023-WU8K

IF Amplitude Ripple

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Electronic Attenuator (Option B7J)

Span (kHz)	+/- IF Amplitude Ripple (dB)	Measurement Uncertainty (dB)	Test Limit (dB)	Result
1.00	0.03	0.01	0.15	PASS
1.00	0.02	0.01	0.15	PASS
1.00	0.02	0.01	0.15	PASS
1.00	0.01	0.01	0.15	PASS
1.00	0.01	0.01	0.15	PASS
1.00	0.01	0.01	0.15	PASS
1.00	0.01	0.01	0.15	PASS
1.00	0.01	0.01	0.15	PASS
1.00	0.01	0.01	0.15	PASS
1.00	0.01	0.01	0.15	PASS
1.00	0.00	0.01	0.15	PASS
1.00	0.01	0.01	0.15	PASS
10.00	0.00	0.01	0.15	PASS
10.00	0.00	0.01	0.15	PASS
10.00	-0.01	0.01	0.15	PASS
10.00	0.00	0.01	0.15	PASS
10.00	0.00	0.01	0.15	PASS
10.00	0.00	0.01	0.15	PASS
10.00	0.01	0.01	0.15	PASS
10.00	0.01	0.01	0.15	PASS
10.00	0.00	0.01	0.15	PASS
10.00	0.01	0.01	0.15	PASS
10.00	0.01	0.01	0.15	PASS
1,000.00	0.03	0.01	0.20	PASS
1,000.00	0.04	0.01	0.19	PASS
1,000.00	0.02	0.01	0.18	PASS
1,000.00	0.01	0.01	0.17	PASS
1,000.00	0.01	0.01	0.16	PASS
1,000.00	0.00	0.01	0.15	PASS
1,000.00	0.00	0.01	0.16	PASS
1,000.00	0.00	0.01	0.17	PASS
1,000.00	0.01	0.01	0.18	PASS
1,000.00	0.04	0.01	0.19	PASS
1,000.00	0.03	0.01	0.20	PASS
10,000.00	0.05	0.01	0.40	PASS
10,000.00	0.01	0.01	0.40	PASS
10,000.00	0.07	0.01	0.40	PASS
10,000.00	-0.03	0.01	0.35	PASS
10,000.00	0.05	0.01	0.25	PASS
10,000.00	0.00	0.01	0.15	PASS
10,000.00	0.02	0.01	0.25	PASS
10,000.00	0.04	0.01	0.35	PASS
10,000.00	0.02	0.01	0.40	PASS
10,000.00	-0.01	0.01	0.40	PASS
10,000.00	0.04	0.01	0.40	PASS

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
E4419B	Power Meter	GB43311632	RFT2108	22-Sep-2011
8485A	Power Sensor	2347A02560	RFT2089	17-Apr-2011
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012
8120-4921	3.5(m) to 3.5(m) Cable	Accessory		
1250-1749	3.5(f) to 3.5(f) Adapter	Accessory		
1250-1744	N(m) to 3.5(f) Adapter	Accessory		
11901B	2.4(f) to 3.5(f) Adapter	Accessory		
11730A	Power Sensor Cable	Accessory		
11667B	Two Resistor Splitter	06658		

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Span = 0.1 kHz

Spurious Frequency (MHz)	Source Frequency (MHz)	Spur Amplitude (dBc)	Measurement Uncertainty (dB)	Specification (dBc)	Result
1,000.00	1,010.70	-99.621	0.365	-80.00	PASS
1,000.00	1,160.70	-98.843	0.365	-80.00	PASS
1,000.00	2,960.70	-99.796	0.365	-80.00	PASS
5,000.00	5,160.70	-98.992	0.407	-80.00	PASS
25,000.00	25,160.70	-91.860	0.616	-67.96	PASS

Span = 20.0 kHz

Spurious Frequency (MHz)	Source Frequency (MHz)	Spur Amplitude (dBc)	Measurement Uncertainty (dB)	Specification (dBc)	Result
1,000.00	985.00	-99.082	0.508	-80.00	PASS
1,000.00	1,042.80	-99.584	0.508	-80.00	PASS
1,000.00	1,642.80	-102.173	0.508	-80.00	PASS
1,000.00	3,921.40	-111.073	0.485	-80.00	PASS
1,000.00	8,842.80	-111.528	0.485	-80.00	PASS
1,000.00	321.40	-101.253	0.508	-80.00	PASS
5,000.00	10,321.40	-109.582	0.461	-80.00	PASS
5,000.00	5,642.80	-103.699	0.461	-80.00	PASS
10,000.00	10,642.80	-100.737	0.461	-80.00	PASS
15,000.00	15,042.80	-102.096	0.461	-80.00	PASS
15,000.00	15,642.80	-100.746	0.461	-80.00	PASS
18,000.00	3,508.95	-104.932	0.461	-80.00	PASS
18,000.00	7,339.30	-104.941	0.461	-80.00	PASS
18,000.00	11,169.65	-105.184	0.461	-80.00	PASS
25,000.00	25,642.80	-96.802	0.627	-80.00	PASS
25,000.00	321.40	-102.411	0.571	-80.00	PASS
25,000.00	6,008.95	-102.003	0.551	-80.00	PASS
25,000.00	12,339.30	-102.498	0.551	-80.00	PASS
25,000.00	18,669.65	-103.138	0.627	-80.00	PASS

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
E4419B	Power Meter	GB43311632	RFT2108	22-Sep-2011
8485A	Power Sensor	2347A02560	RFT2089	17-Apr-2011
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012
8120-4921	3.5(m) to 3.5(m) Cable	Accessory		
1250-1749	3.5(f) to 3.5(f) Adapter	Accessory		
11901B	2.4(f) to 3.5(f) Adapter	Accessory		
11730A	Power Sensor Cable	Accessory		
11667B	Two Resistor Splitter	06658		
08485-60005	N(m) to 3.5(f) Adapter	Accessory		

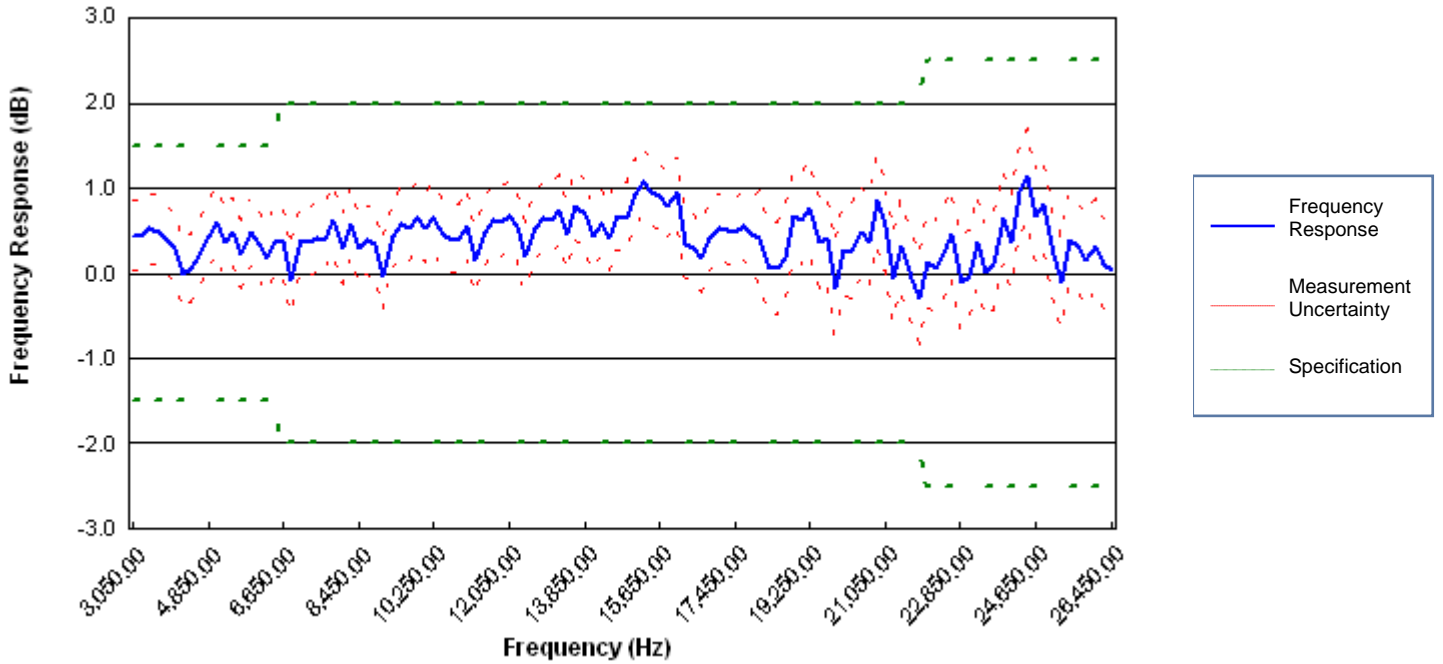
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm



Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
3,050.00	0.445	0.403	1.50	PASS
3,250.00	0.445	0.403	1.50	PASS
3,450.00	0.520	0.403	1.50	PASS
3,650.00	0.493	0.403	1.50	PASS
3,850.00	0.392	0.403	1.50	PASS
4,050.00	0.300	0.403	1.50	PASS
4,250.00	-0.017	0.403	1.50	PASS
4,450.00	0.054	0.403	1.50	PASS
4,650.00	0.204	0.403	1.50	PASS
4,850.00	0.442	0.403	1.50	PASS
5,050.00	0.601	0.403	1.50	PASS
5,250.00	0.362	0.403	1.50	PASS
5,450.00	0.481	0.403	1.50	PASS
5,650.00	0.228	0.403	1.50	PASS
5,850.00	0.475	0.403	1.50	PASS
6,050.00	0.340	0.403	1.50	PASS
6,250.00	0.178	0.403	1.50	PASS
6,450.00	0.358	0.403	1.50	PASS
6,650.00	0.390	0.403	2.00	PASS
6,850.00	-0.076	0.403	2.00	PASS
7,050.00	0.393	0.403	2.00	PASS
7,250.00	0.369	0.403	2.00	PASS
7,450.00	0.420	0.403	2.00	PASS
7,650.00	0.384	0.403	2.00	PASS
7,850.00	0.632	0.403	2.00	PASS
8,050.00	0.283	0.403	2.00	PASS
8,250.00	0.586	0.403	2.00	PASS

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
8,450.00	0.283	0.403	2.00	PASS
8,650.00	0.396	0.403	2.00	PASS
8,850.00	0.338	0.403	2.00	PASS
9,050.00	-0.026	0.403	2.00	PASS
9,250.00	0.437	0.403	2.00	PASS
9,450.00	0.569	0.403	2.00	PASS
9,650.00	0.529	0.403	2.00	PASS
9,850.00	0.646	0.403	2.00	PASS
10,050.00	0.534	0.403	2.00	PASS
10,250.00	0.642	0.403	2.00	PASS
10,450.00	0.460	0.403	2.00	PASS
10,650.00	0.397	0.403	2.00	PASS
10,850.00	0.404	0.403	2.00	PASS
11,050.00	0.565	0.403	2.00	PASS
11,250.00	0.155	0.403	2.00	PASS
11,450.00	0.490	0.403	2.00	PASS
11,650.00	0.628	0.403	2.00	PASS
11,850.00	0.590	0.403	2.00	PASS
12,050.00	0.662	0.403	2.00	PASS
12,250.00	0.554	0.403	2.00	PASS
12,450.00	0.202	0.403	2.00	PASS
12,650.00	0.539	0.403	2.00	PASS
12,850.00	0.655	0.403	2.00	PASS
13,050.00	0.620	0.403	2.00	PASS
13,250.00	0.747	0.403	2.00	PASS
13,450.00	0.447	0.403	2.00	PASS
13,650.00	0.792	0.403	2.00	PASS
13,850.00	0.697	0.403	2.00	PASS
14,050.00	0.429	0.403	2.00	PASS
14,250.00	0.575	0.403	2.00	PASS
14,450.00	0.421	0.403	2.00	PASS
14,650.00	0.679	0.403	2.00	PASS
14,850.00	0.658	0.403	2.00	PASS
15,050.00	0.921	0.403	2.00	PASS
15,250.00	1.066	0.403	2.00	PASS
15,450.00	0.945	0.403	2.00	PASS
15,650.00	0.914	0.403	2.00	PASS
15,850.00	0.787	0.403	2.00	PASS
16,050.00	0.945	0.403	2.00	PASS
16,250.00	0.348	0.403	2.00	PASS
16,450.00	0.295	0.403	2.00	PASS
16,650.00	0.168	0.403	2.00	PASS
16,850.00	0.417	0.403	2.00	PASS
17,050.00	0.537	0.403	2.00	PASS
17,250.00	0.511	0.403	2.00	PASS
17,450.00	0.472	0.403	2.00	PASS
17,650.00	0.556	0.403	2.00	PASS
17,850.00	0.468	0.403	2.00	PASS
18,050.00	0.420	0.537	2.00	PASS
18,250.00	0.063	0.537	2.00	PASS

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
18,450.00	0.063	0.537	2.00	PASS
18,650.00	0.182	0.537	2.00	PASS
18,850.00	0.662	0.537	2.00	PASS
19,050.00	0.617	0.537	2.00	PASS
19,250.00	0.759	0.537	2.00	PASS
19,450.00	0.363	0.537	2.00	PASS
19,650.00	0.424	0.537	2.00	PASS
19,850.00	-0.181	0.537	2.00	PASS
20,050.00	0.262	0.537	2.00	PASS
20,250.00	0.245	0.537	2.00	PASS
20,450.00	0.485	0.537	2.00	PASS
20,650.00	0.372	0.537	2.00	PASS
20,850.00	0.848	0.537	2.00	PASS
21,050.00	0.548	0.537	2.00	PASS
21,250.00	-0.049	0.537	2.00	PASS
21,450.00	0.308	0.537	2.00	PASS
21,650.00	-0.063	0.537	2.00	PASS
21,850.00	-0.305	0.537	2.00	PASS
22,050.00	0.123	0.537	2.50	PASS
22,250.00	0.069	0.537	2.50	PASS
22,450.00	0.231	0.537	2.50	PASS
22,650.00	0.448	0.537	2.50	PASS
22,850.00	-0.112	0.537	2.50	PASS
23,050.00	-0.029	0.537	2.50	PASS
23,250.00	0.360	0.537	2.50	PASS
23,450.00	0.023	0.537	2.50	PASS
23,650.00	0.106	0.537	2.50	PASS
23,850.00	0.641	0.537	2.50	PASS
24,050.00	0.366	0.537	2.50	PASS
24,250.00	0.945	0.537	2.50	PASS
24,450.00	1.143	0.537	2.50	PASS
24,650.00	0.679	0.537	2.50	PASS
24,850.00	0.807	0.537	2.50	PASS
25,050.00	0.214	0.537	2.50	PASS
25,250.00	-0.106	0.537	2.50	PASS
25,450.00	0.383	0.537	2.50	PASS
25,650.00	0.318	0.537	2.50	PASS
25,850.00	0.149	0.537	2.50	PASS
26,050.00	0.315	0.537	2.50	PASS
26,250.00	0.107	0.537	2.50	PASS
26,450.00	0.044	0.537	2.50	PASS

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **Indeterminate**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
E8267D	Synthesized Signal Generator	US49060145		23-Apr-2011
E4419B	Power Meter	GB43311632	RFT2108	22-Sep-2011
8485A	Power Sensor	2347A02560	RFT2089	17-Apr-2011
8120-4921	3.5(m) to 3.5(m) Cable	Accessory		
1250-1749	3.5(f) to 3.5(f) Adapter	Accessory		
11901B	2.4(f) to 3.5(f) Adapter	Accessory		
11730A	Power Sensor Cable	Accessory		
11667B	Two Resistor Splitter	06658		
08485-60005	N(m) to 3.5(f) Adapter	Accessory		

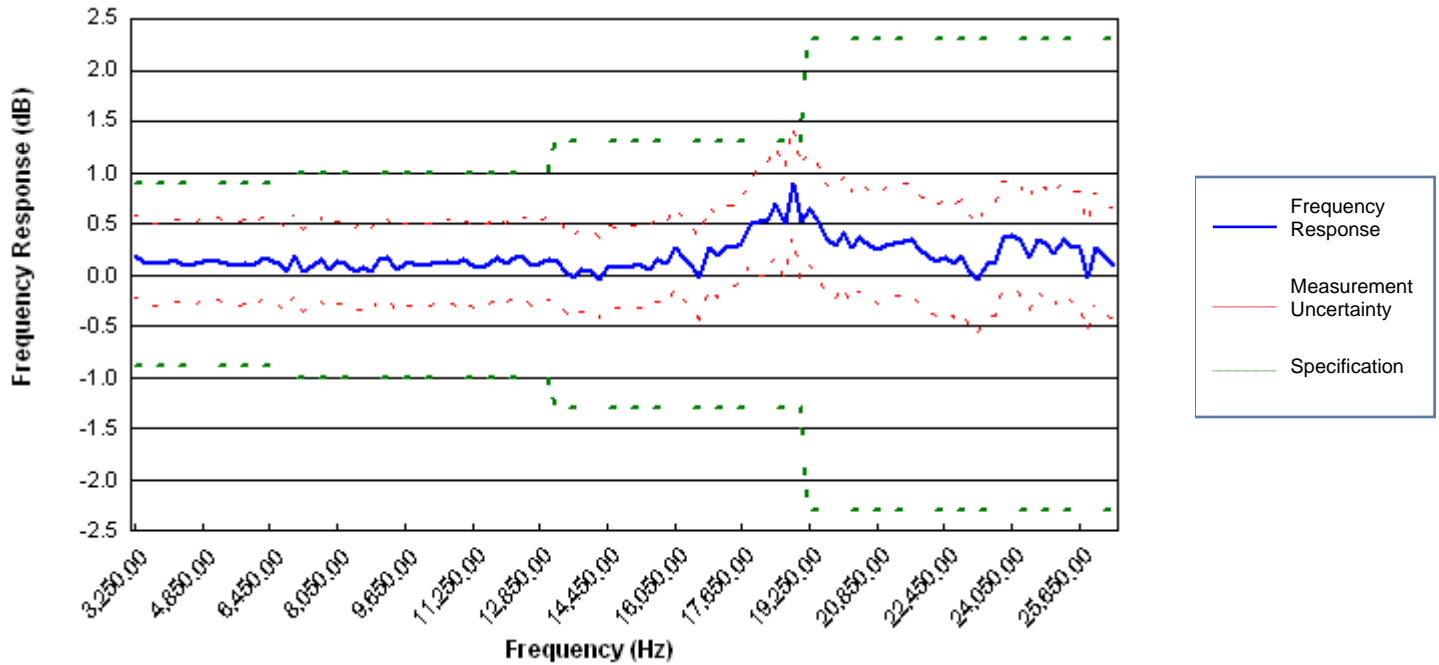
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result Indeterminate

Preselector Bypass (Option 123)
Power Level = -10 dBm



Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
3,250.00	0.183	0.403	0.90	PASS
3,450.00	0.119	0.403	0.90	PASS
3,650.00	0.107	0.403	0.90	PASS
3,850.00	0.105	0.403	0.90	PASS
4,050.00	0.124	0.403	0.90	PASS
4,250.00	0.133	0.403	0.90	PASS
4,450.00	0.091	0.403	0.90	PASS
4,650.00	0.103	0.403	0.90	PASS
4,850.00	0.136	0.403	0.90	PASS
5,050.00	0.137	0.403	0.90	PASS
5,250.00	0.130	0.403	0.90	PASS
5,450.00	0.100	0.403	0.90	PASS
5,650.00	0.089	0.403	0.90	PASS
5,850.00	0.109	0.403	0.90	PASS
6,050.00	0.087	0.403	0.90	PASS
6,250.00	0.143	0.403	0.90	PASS
6,450.00	0.138	0.403	0.90	PASS
6,650.00	0.108	0.403	1.00	PASS
6,850.00	0.036	0.403	1.00	PASS
7,050.00	0.188	0.403	1.00	PASS
7,250.00	0.031	0.403	1.00	PASS
7,450.00	0.093	0.403	1.00	PASS
7,650.00	0.146	0.403	1.00	PASS
7,850.00	0.053	0.403	1.00	PASS
8,050.00	0.118	0.403	1.00	PASS
8,250.00	0.109	0.403	1.00	PASS

Model E4440A Serial MY48250291 Test Date 18-Jan-2011 Test Result **Indeterminate**

Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
8,450.00	0.032	0.403	1.00	PASS
8,650.00	0.068	0.403	1.00	PASS
8,850.00	0.024	0.403	1.00	PASS
9,050.00	0.144	0.403	1.00	PASS
9,250.00	0.160	0.403	1.00	PASS
9,450.00	0.040	0.403	1.00	PASS
9,650.00	0.102	0.403	1.00	PASS
9,850.00	0.102	0.403	1.00	PASS
10,050.00	0.080	0.403	1.00	PASS
10,250.00	0.105	0.403	1.00	PASS
10,450.00	0.116	0.403	1.00	PASS
10,650.00	0.136	0.403	1.00	PASS
10,850.00	0.101	0.403	1.00	PASS
11,050.00	0.139	0.403	1.00	PASS
11,250.00	0.080	0.403	1.00	PASS
11,450.00	0.060	0.403	1.00	PASS
11,650.00	0.105	0.403	1.00	PASS
11,850.00	0.165	0.403	1.00	PASS
12,050.00	0.105	0.403	1.00	PASS
12,250.00	0.174	0.403	1.00	PASS
12,450.00	0.160	0.403	1.00	PASS
12,650.00	0.092	0.403	1.00	PASS
12,850.00	0.112	0.403	1.00	PASS
13,050.00	0.152	0.403	1.00	PASS
13,250.00	0.126	0.403	1.30	PASS
13,450.00	0.039	0.403	1.30	PASS
13,650.00	-0.035	0.403	1.30	PASS
13,850.00	0.041	0.403	1.30	PASS
14,050.00	0.026	0.403	1.30	PASS
14,250.00	-0.039	0.403	1.30	PASS
14,450.00	0.071	0.403	1.30	PASS
14,650.00	0.062	0.403	1.30	PASS
14,850.00	0.077	0.403	1.30	PASS
15,050.00	0.087	0.403	1.30	PASS
15,250.00	0.087	0.403	1.30	PASS
15,450.00	0.055	0.403	1.30	PASS
15,650.00	0.146	0.403	1.30	PASS
15,850.00	0.100	0.403	1.30	PASS
16,050.00	0.261	0.403	1.30	PASS
16,250.00	0.161	0.403	1.30	PASS
16,450.00	0.087	0.403	1.30	PASS
16,650.00	-0.032	0.403	1.30	PASS
16,850.00	0.261	0.403	1.30	PASS
17,050.00	0.179	0.403	1.30	PASS
17,250.00	0.266	0.403	1.30	PASS
17,450.00	0.270	0.403	1.30	PASS
17,650.00	0.310	0.403	1.30	PASS
17,850.00	0.491	0.403	1.30	PASS
18,050.00	0.514	0.537	1.30	PASS
18,250.00	0.521	0.537	1.30	PASS

Model E4440A Serial MY48250291 Test Date 18-Jan-2011 Test Result **Indeterminate**

Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
18,450.00	0.703	0.537	1.30	PASS
18,650.00	0.494	0.537	1.30	PASS
18,850.00	0.898	0.537	1.30	Indeterminate
19,050.00	0.510	0.537	1.30	PASS
19,250.00	0.646	0.537	2.30	PASS
19,450.00	0.546	0.537	2.30	PASS
19,650.00	0.336	0.537	2.30	PASS
19,850.00	0.291	0.537	2.30	PASS
20,050.00	0.408	0.537	2.30	PASS
20,250.00	0.258	0.537	2.30	PASS
20,450.00	0.371	0.537	2.30	PASS
20,650.00	0.280	0.537	2.30	PASS
20,850.00	0.246	0.537	2.30	PASS
21,050.00	0.288	0.537	2.30	PASS
21,250.00	0.307	0.537	2.30	PASS
21,450.00	0.331	0.537	2.30	PASS
21,650.00	0.338	0.537	2.30	PASS
21,850.00	0.243	0.537	2.30	PASS
22,050.00	0.186	0.537	2.30	PASS
22,250.00	0.126	0.537	2.30	PASS
22,450.00	0.170	0.537	2.30	PASS
22,650.00	0.117	0.537	2.30	PASS
22,850.00	0.182	0.537	2.30	PASS
23,050.00	0.035	0.537	2.30	PASS
23,250.00	-0.057	0.537	2.30	PASS
23,450.00	0.116	0.537	2.30	PASS
23,650.00	0.130	0.537	2.30	PASS
23,850.00	0.371	0.537	2.30	PASS
24,050.00	0.374	0.537	2.30	PASS
24,250.00	0.348	0.537	2.30	PASS
24,450.00	0.170	0.537	2.30	PASS
24,650.00	0.346	0.537	2.30	PASS
24,850.00	0.298	0.537	2.30	PASS
25,050.00	0.215	0.537	2.30	PASS
25,250.00	0.352	0.537	2.30	PASS
25,450.00	0.272	0.537	2.30	PASS
25,650.00	0.261	0.537	2.30	PASS
25,850.00	-0.029	0.537	2.30	PASS
26,050.00	0.262	0.537	2.30	PASS
26,250.00	0.159	0.537	2.30	PASS
26,450.00	0.095	0.537	2.30	PASS

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
E8267D	Synthesized Signal Generator	US49060145		23-Apr-2011
E4419B	Power Meter	GB43311632	RFT2108	22-Sep-2011
87300B	Directional Coupler	54910		
86205A	Directional Bridge	3140A02873		
8493C Opt 010	10 dB Fixed Attenuator	52035	RFT6104	17-Jan-2013
8485A	Power Sensor	2347A02560	RFT2089	17-Apr-2011
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012
11667B	Two Resistor Splitter	06658		
0955-0491	1.8 GHz Low Pass Filter	Accessory		
0955-0306	50 MHz Low Pass Filter	Accessory		

Frequency (MHz)	Measured TOI (dBm)	Measurement Uncertainty (dBm)	Specification (dBm)	Result
49.91	22.063	0.288	14.00	PASS
1,750.21	22.302	0.293	17.00	PASS
2,800.21	21.872	0.294	17.00	PASS
5,000.21	23.228	0.294	15.00	PASS
7,000.21	15.348	0.295	8.00	PASS
13,000.21	18.300	0.295	8.00	PASS
19,500.21	13.578	0.441	12.00	PASS

NOTE: Third Order Intermodulation Distortion (TOI) and Two Tone Gain Compression performance are directly correlated. A TOI test result of "PASS" guarantees that Gain Compression also meets its published specifications. Therefore, Gain Compression is not directly tested.

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
E4419B	Power Meter	GB43311632	RFT2108	22-Sep-2011
8481A	Power Sensor	US41031021	RFT4053	13-Aug-2012
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012
360D	4.4 GHz Low Pass Filter	Accessory		
1250-1750	N(f) to 3.5(m) Adapter	Accessory		
1250-1748	3.5(m) to 3.5(m) Adapter	Accessory		
1250-1745	N(f) to 3.5(f) Adapter	Accessory		
1250-1744	N(m) to 3.5(f) Adapter	Accessory		
1250-1743	N(m) to 3.5(m) Adapter	Accessory		
11903B	N(f) to 2.4(f) Adapter	Accessory		
11730A	Power Sensor Cable	Accessory		
11667A	Two Resistor Splitter	21314	RFT6051	
11500C	N(m) to N(m) Cable	Accessory		
0955-0491	1.8 GHz Low Pass Filter	Accessory		
0955-0487	1 GHz Low Pass Filter	Accessory		
0955-0455	300 MHz Low Pass Filter	Accessory		
0955-0306	50 MHz Low Pass Filter	Accessory		

Mixer Level = -11.00 dB

Frequency (MHz)	Second Harmonic Distortion (dBc)	Measurement Uncertainty (dB)	Specification (dBc)	Result
40.00	-65.723	0.274	-53.00	PASS
290.00	-77.367	0.274	-53.00	PASS
1,000.00	-75.307	0.274	-63.00	PASS
1,450.00	-68.123	0.274	-53.00	PASS
1,550.00	-111.463	0.297	-91.00	PASS
3,100.00	-120.254	0.352	-101.00	PASS

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
E4419B	Power Meter	GB43311632	RFT2108	22-Sep-2011
8496G	10 dB Step Attenuator	1722A00828	RFT4059	14-Jan-2012
8494G	1 dB Step Attenuator	CG00001641	RFT4058	14-Jan-2012
8491A Opt 010	10 dB Fixed Attenuator	MY39264150	RFT2120	28-Aug-2011
8491A Opt 006	6dB Fixed Attenuator	22033	RFT6095	28-Aug-2011
8482A	Power Sensor	2349A08664	RFT4054	22-Jun-2012
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012
8120-2703	Step Attenuator Control Cable	Accessory		
1250-1745	N(f) to 3.5(f) Adapter	Accessory		
1250-1472	N(f) to N(f) Adapter	Accessory		
11730A	Power Sensor Cable	Accessory		
11716A	Attenuator Interconnect Cable	Accessory		
11713A	Attenuator/Switch Driver	Accessory		
11500C	N(m) to N(m) Cable	Accessory		

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Nominal Input Level (dBm)	Resolution Bandwidth (kHz)	Span (kHz)	Measured Amplitude (dBm)	Amplitude Accuracy (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
-10.00	47.00	5,000.00	-9.873	0.139	0.062	0.24	PASS
-12.00	18.00	2,000.00	-11.859	0.091	0.062	0.24	PASS
-20.00	9.10	1,000.00	-19.915	0.090	0.066	0.24	PASS
-25.00	4.70	500.00	-24.961	0.098	0.064	0.24	PASS
-35.00	1.80	200.00	-34.951	0.101	0.067	0.24	PASS
-50.00	0.91	100.00	-49.667	0.098	0.074	0.24	PASS

Preamp On

Nominal Input Level (dBm)	Resolution Bandwidth (kHz)	Span (kHz)	Measured Amplitude (dBm)	Amplitude Accuracy (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
-40.00	1.00	106.00	-40.019	0.080	0.072	0.36	PASS
-60.00	1.00	106.00	-59.675	0.081	0.078	0.36	PASS
-80.00	1.00	106.00	-79.775	0.071	0.093	0.36	PASS

Electronic Attenuator On

Electronic Attenuator (dB)	Nominal Input Level (dBm)	Resolution Bandwidth (kHz)	Span (kHz)	Measured Amplitude (dBm)	Amplitude Accuracy (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
0.00	-10.00	2.00	100.00	-9.833	0.179	0.062	0.25	PASS
0.00	-12.00	0.10	1.00	-11.774	0.177	0.062	0.25	PASS
0.00	-20.00	0.10	1.00	-19.830	0.176	0.066	0.25	PASS
0.00	-25.00	100.00	5,000.00	-24.882	0.178	0.064	0.25	PASS
0.00	-35.00	2.00	100.00	-34.872	0.180	0.067	0.25	PASS
0.00	-40.00	100.00	5,000.00	-39.928	0.171	0.071	0.25	PASS
1.00	-10.00	100.00	5,000.00	-9.840	0.173	0.062	0.25	PASS
2.00	-10.00	2.00	100.00	-9.843	0.169	0.062	0.25	PASS
5.00	-10.00	2.00	100.00	-9.855	0.157	0.062	0.25	PASS
10.00	-25.00	30.00	1,500.00	-24.905	0.154	0.064	0.25	PASS
20.00	-10.00	2.00	100.00	-9.858	0.154	0.062	0.25	PASS
30.00	-10.00	2.00	100.00	-9.865	0.147	0.062	0.25	PASS
40.00	-10.00	2.00	100.00	-9.866	0.146	0.062	0.25	PASS

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

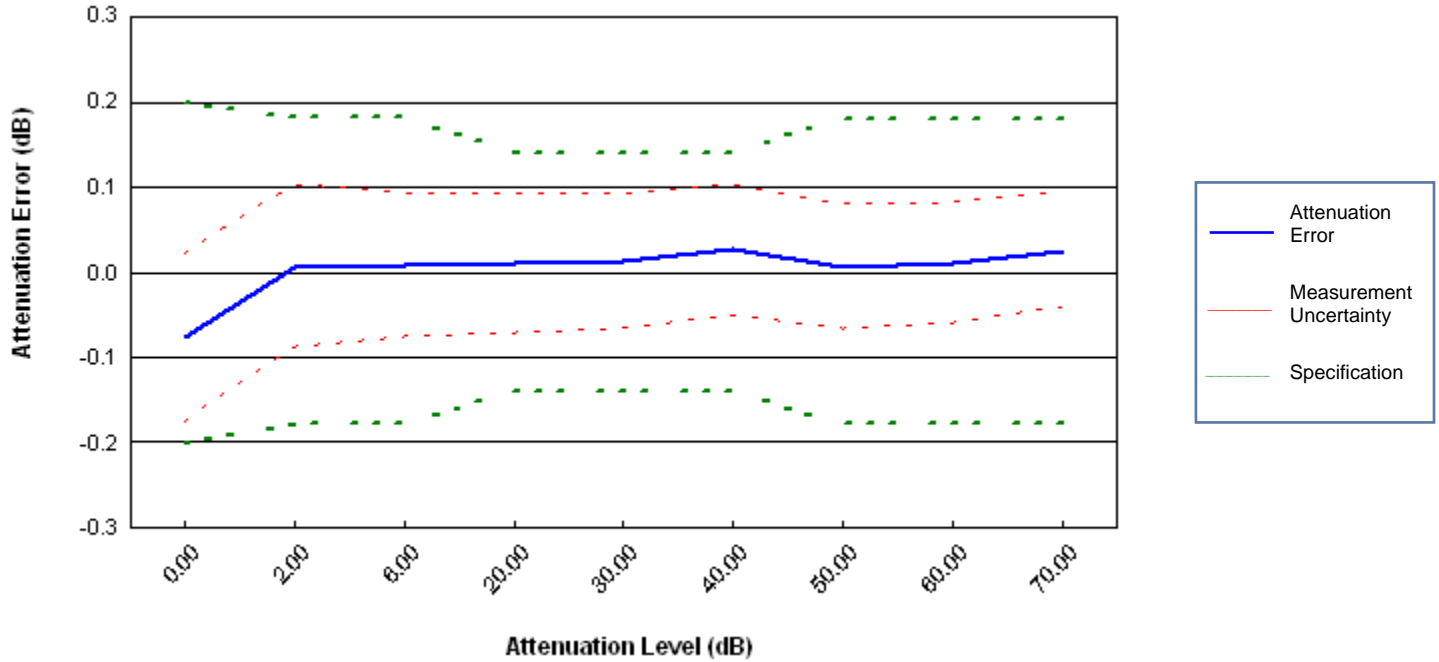
<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
8496G	10 dB Step Attenuator	1722A00828	RFT4059	14-Jan-2012
8494G	1 dB Step Attenuator	CG00001641	RFT4058	14-Jan-2012
8491A Opt 010	10 dB Fixed Attenuator	MY39264150	RFT2120	28-Aug-2011
8491A Opt 006	6dB Fixed Attenuator	22033	RFT6095	28-Aug-2011
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012
8120-2703	Step Attenuator Control Cable	Accessory		
1250-1745	N(f) to 3.5(f) Adapter	Accessory		
11716A	Attenuator Interconnect Cable	Accessory		
11713A	Attenuator/Switch Driver	Accessory		
11500C	N(m) to N(m) Cable	Accessory		

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**



Attenuation Level (dB)	Attenuation Error (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
0.00	-0.077	0.098	0.20	PASS
2.00	0.007	0.096	0.18	PASS
6.00	0.009	0.085	0.18	PASS
20.00	0.010	0.081	0.14	PASS
30.00	0.012	0.078	0.14	PASS
40.00	0.026	0.075	0.14	PASS
50.00	0.006	0.073	0.18	PASS
60.00	0.010	0.071	0.18	PASS
70.00	0.025	0.067	0.18	PASS

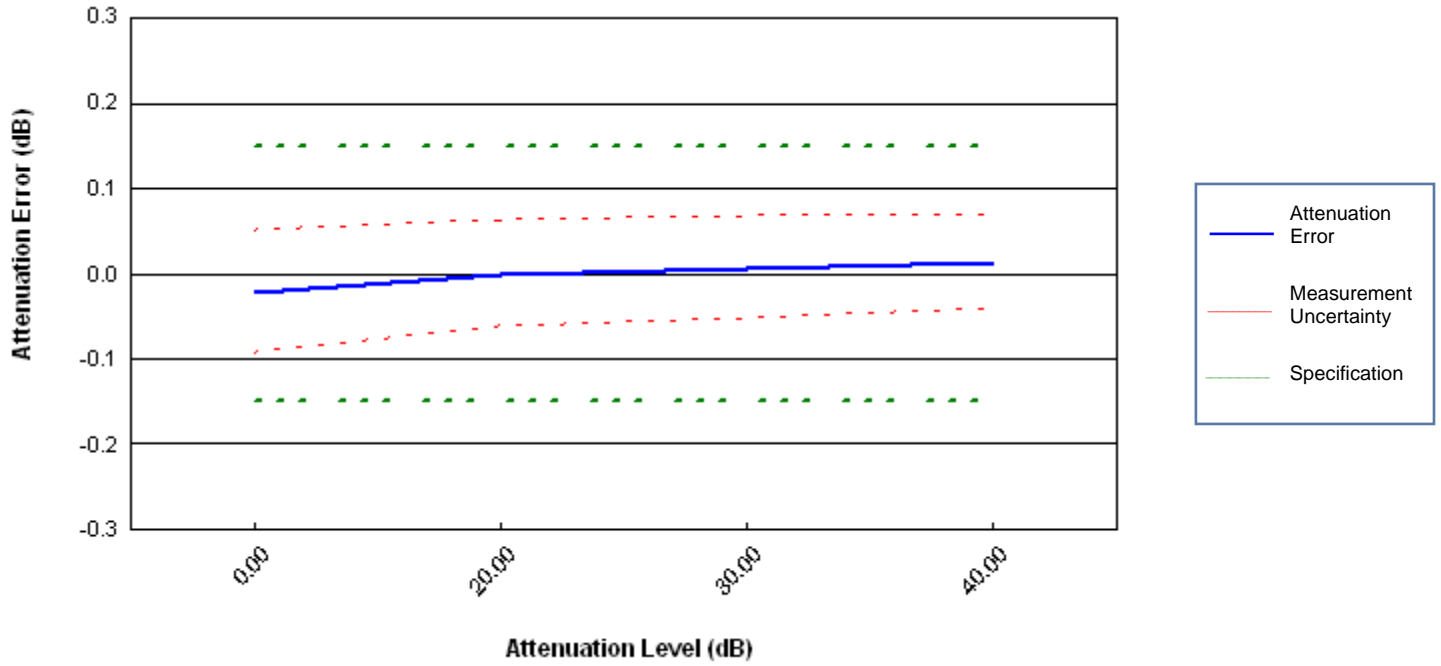
Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Electronic Attenuator



Attenuation Level (dB)	Attenuation Error (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
0.00	-0.022	0.072	0.15	PASS
20.00	-0.001	0.062	0.15	PASS
30.00	0.007	0.060	0.15	PASS
40.00	0.013	0.055	0.15	PASS

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

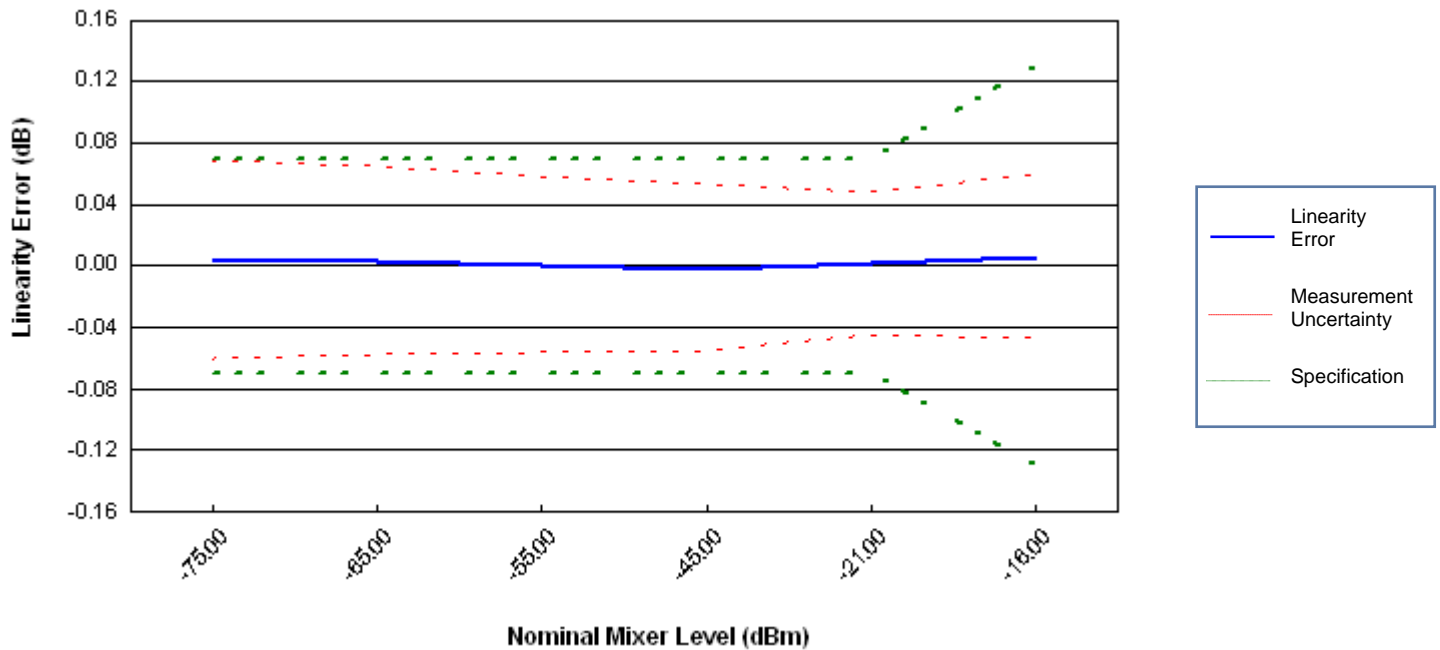
Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

Model	Description	Serial/Unique ID	Trace Number	Cal Due
8496G	10 dB Step Attenuator	1722A00828	RFT4059	14-Jan-2012
8494G	1 dB Step Attenuator	CG00001641	RFT4058	14-Jan-2012
8491A Opt 010	10 dB Fixed Attenuator	MY39264150	RFT2120	28-Aug-2011
8491A Opt 006	6dB Fixed Attenuator	22033	RFT6095	28-Aug-2011
8491A Opt 003	3 dB Fixed Attenuator	2948	RFT6092	06-May-2011
83630A	Synthesized Signal Generator	3420A00537	RFT2082	15-Jun-2012
8120-2703	Step Attenuator Control Cable	Accessory		
1250-1745	N(f) to 3.5(f) Adapter	Accessory		
11716A	Attenuator Interconnect Cable	Accessory		
11713A	Attenuator/Switch Driver	Accessory		
11500C	N(m) to N(m) Cable	Accessory		



Nominal Mixer Level (dBm)	Measured Input Level (dBm)	Linearity Error (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
-75.00	-65.01	0.004	0.065	0.07	PASS
-65.00	-55.01	0.003	0.061	0.07	PASS
-55.00	-45.01	0.000	0.058	0.07	PASS
-45.00	-35.01	-0.002	0.054	0.07	PASS
-21.00	-11.01	0.001	0.046	0.07	PASS
-16.00	-5.99	0.005	0.054	0.13	PASS

Model E4440A

Serial MY48250291

Test Date 17-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
8663A	Synthesized Signal Generator	2748A01371	RFT2096	20-Jul-2011
8120-4921	3.5(m) to 3.5(m) Cable	Accessory		
1250-1749	3.5(f) to 3.5(f) Adapter	Accessory		
1250-1744	N(m) to 3.5(f) Adapter	Accessory		

CW Frequency = 1.0000 GHz

Phase Noise Offset (kHz)	Measured Phase Noise (dBc/Hz)	Measurement Uncertainty (dB)	Specification (dBc/Hz)	Result
0.10	-107.95	0.36	-91.00	PASS
0.99	-111.07	0.36	-103.00	PASS
10.00	-118.67	0.58	-116.00	PASS
30.00	-117.15	0.57	-116.00	PASS

The reported value for phase noise represents both the phase noise of the PSA plus the phase noise of the signal source used for this measurement. For reported values near the specification limit, the phase noise contribution from the signal source is negligible. However, for reported values significantly better than the specification limit, the contribution from the signal source may be significant. For these cases, it can be assumed the PSA phase noise is better than the reported value.

The uncertainty of the measurements assumes measured values near the specification.

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
E8267D	Synthesized Signal Generator	US49060145		23-Apr-2011
E4419B	Power Meter	GB43311632	RFT2108	22-Sep-2011
8482A	Power Sensor	2349A08664	RFT4054	22-Jun-2012
8482A	Power Sensor	3318A25957	RFT2087	11-Nov-2012
1250-1744	N(m) to 3.5(f) Adapter	Accessory		
11730A	Power Sensor Cable	Accessory		
11667A	Two Resistor Splitter	14174		
11500C	N(m) to N(m) Cable	Accessory		

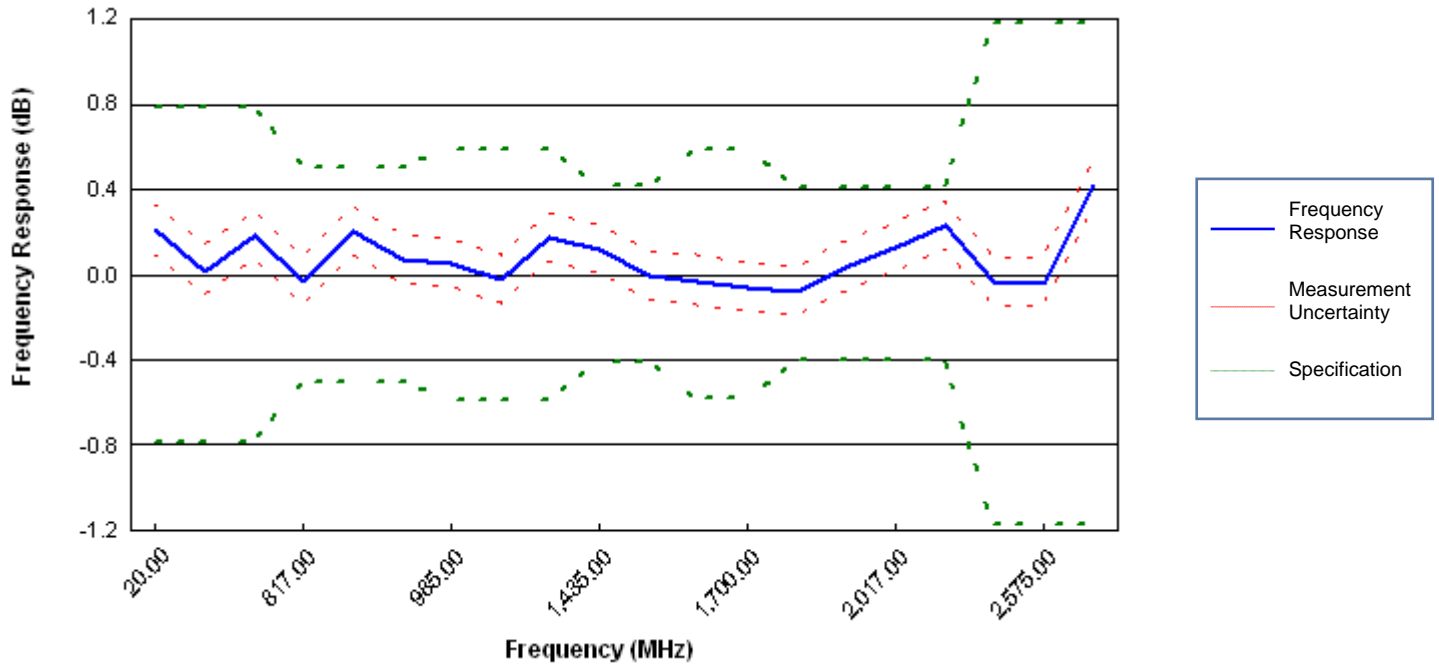
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Electronic Attenuation = 0 dB



Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
20.00	0.209	0.117	0.79	PASS
375.00	0.019	0.117	0.79	PASS
775.00	0.185	0.114	0.79	PASS
817.00	-0.033	0.114	0.50	PASS
892.00	0.204	0.114	0.50	PASS
952.00	0.069	0.114	0.50	PASS
985.00	0.054	0.114	0.59	PASS
1,185.00	-0.025	0.114	0.59	PASS
1,385.00	0.173	0.114	0.59	PASS
1,435.00	0.121	0.114	0.41	PASS
1,495.00	-0.004	0.114	0.41	PASS
1,550.00	-0.029	0.114	0.59	PASS
1,700.00	-0.060	0.114	0.59	PASS
1,732.00	-0.081	0.114	0.41	PASS
1,837.00	0.037	0.114	0.41	PASS
2,017.00	0.127	0.114	0.41	PASS
2,197.00	0.228	0.114	0.41	PASS
2,225.00	-0.031	0.114	1.17	PASS
2,575.00	-0.038	0.114	1.17	PASS
2,975.00	0.422	0.115	1.17	PASS

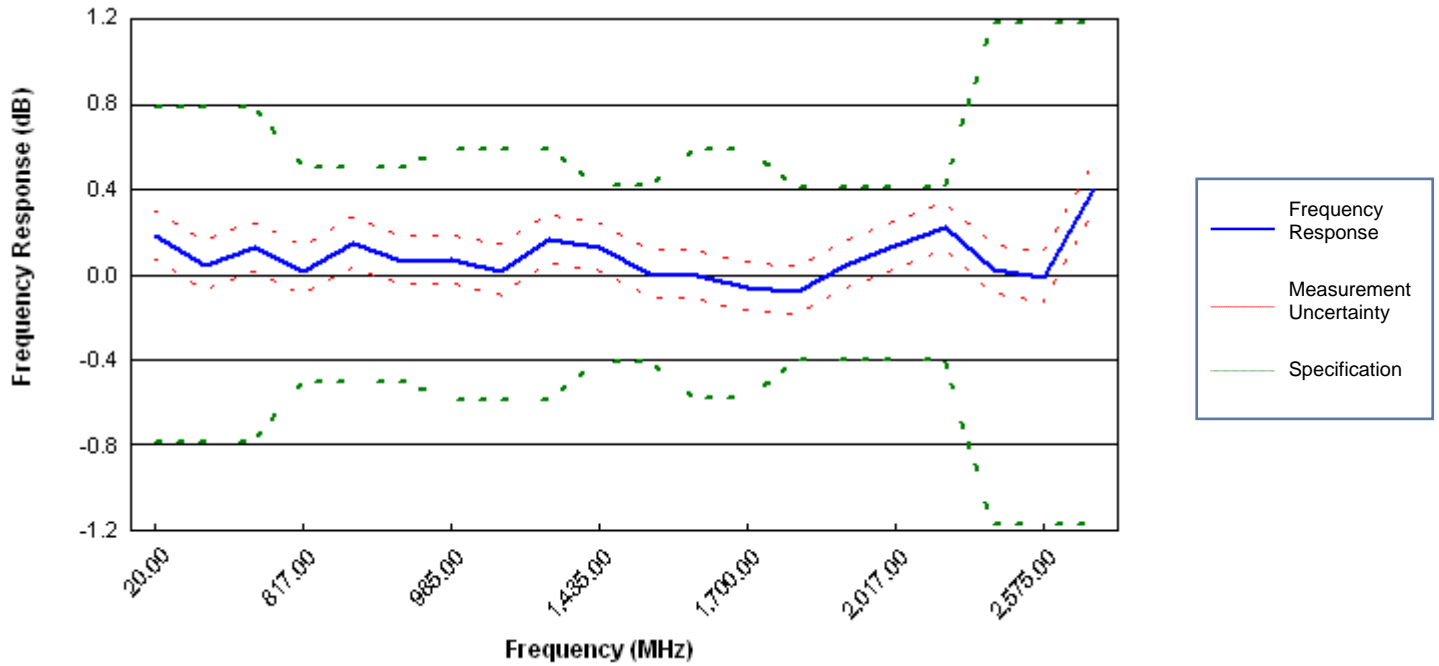
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Electronic Attenuation = 1 dB



Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
20.00	0.183	0.117	0.79	PASS
375.00	0.040	0.117	0.79	PASS
775.00	0.124	0.114	0.79	PASS
817.00	0.015	0.114	0.50	PASS
892.00	0.151	0.114	0.50	PASS
952.00	0.064	0.114	0.50	PASS
985.00	0.070	0.114	0.59	PASS
1,185.00	0.018	0.114	0.59	PASS
1,385.00	0.164	0.114	0.59	PASS
1,435.00	0.129	0.114	0.41	PASS
1,495.00	0.003	0.114	0.41	PASS
1,550.00	-0.005	0.114	0.59	PASS
1,700.00	-0.063	0.114	0.59	PASS
1,732.00	-0.081	0.114	0.41	PASS
1,837.00	0.043	0.114	0.41	PASS
2,017.00	0.136	0.114	0.41	PASS
2,197.00	0.220	0.114	0.41	PASS
2,225.00	0.022	0.114	1.17	PASS
2,575.00	-0.018	0.114	1.17	PASS
2,975.00	0.401	0.115	1.17	PASS

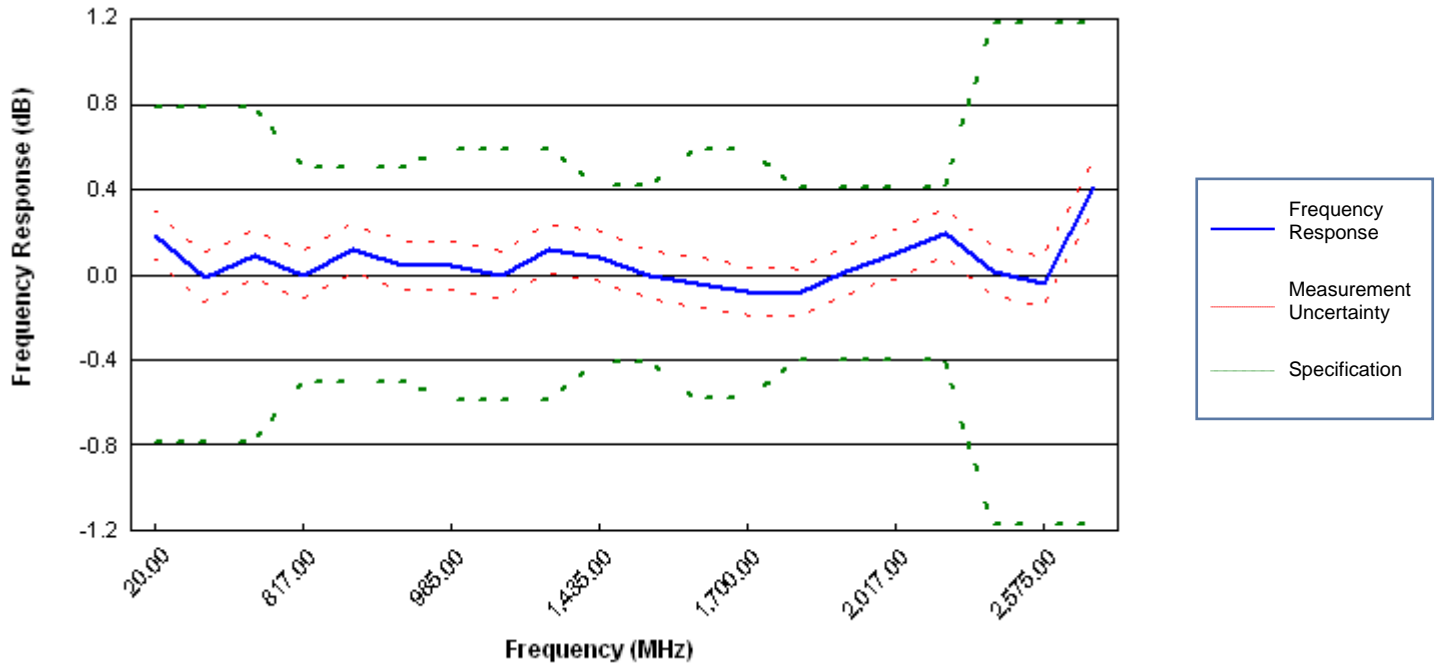
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Electronic Attenuation = 2 dB



Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
20.00	0.184	0.117	0.79	PASS
375.00	-0.015	0.117	0.79	PASS
775.00	0.093	0.114	0.79	PASS
817.00	-0.006	0.114	0.50	PASS
892.00	0.121	0.114	0.50	PASS
952.00	0.039	0.114	0.50	PASS
985.00	0.039	0.114	0.59	PASS
1,185.00	-0.003	0.114	0.59	PASS
1,385.00	0.116	0.114	0.59	PASS
1,435.00	0.084	0.114	0.41	PASS
1,495.00	-0.008	0.114	0.41	PASS
1,550.00	-0.038	0.114	0.59	PASS
1,700.00	-0.082	0.114	0.59	PASS
1,732.00	-0.090	0.114	0.41	PASS
1,837.00	0.012	0.114	0.41	PASS
2,017.00	0.095	0.114	0.41	PASS
2,197.00	0.196	0.114	0.41	PASS
2,225.00	0.012	0.114	1.17	PASS
2,575.00	-0.039	0.114	1.17	PASS
2,975.00	0.410	0.115	1.17	PASS

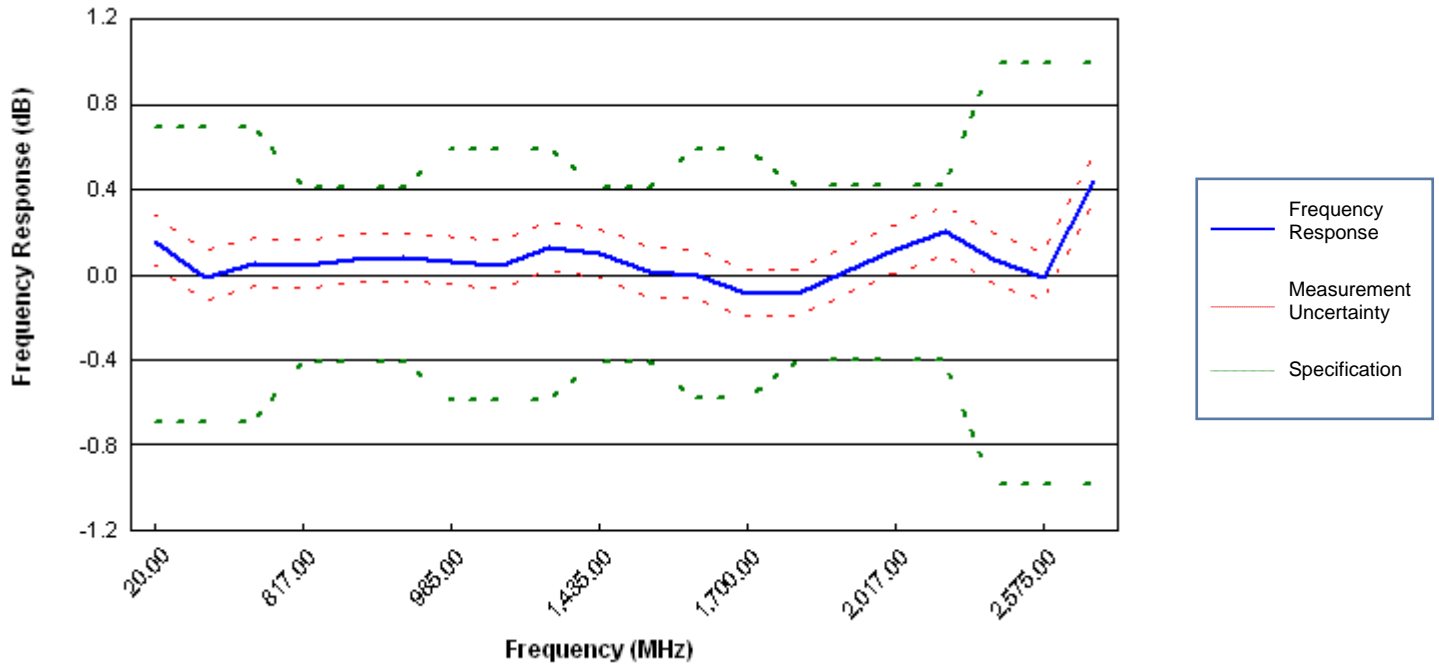
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Electronic Attenuation = 4 dB



Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
20.00	0.159	0.117	0.69	PASS
375.00	-0.010	0.117	0.69	PASS
775.00	0.049	0.114	0.69	PASS
817.00	0.045	0.114	0.41	PASS
892.00	0.074	0.114	0.41	PASS
952.00	0.081	0.114	0.41	PASS
985.00	0.058	0.114	0.59	PASS
1,185.00	0.045	0.114	0.59	PASS
1,385.00	0.129	0.114	0.59	PASS
1,435.00	0.097	0.114	0.41	PASS
1,495.00	0.010	0.114	0.41	PASS
1,550.00	-0.002	0.114	0.59	PASS
1,700.00	-0.091	0.114	0.59	PASS
1,732.00	-0.089	0.114	0.41	PASS
1,837.00	0.015	0.114	0.41	PASS
2,017.00	0.116	0.114	0.41	PASS
2,197.00	0.202	0.114	0.41	PASS
2,225.00	0.074	0.114	0.98	PASS
2,575.00	-0.012	0.114	0.98	PASS
2,975.00	0.435	0.115	0.98	PASS

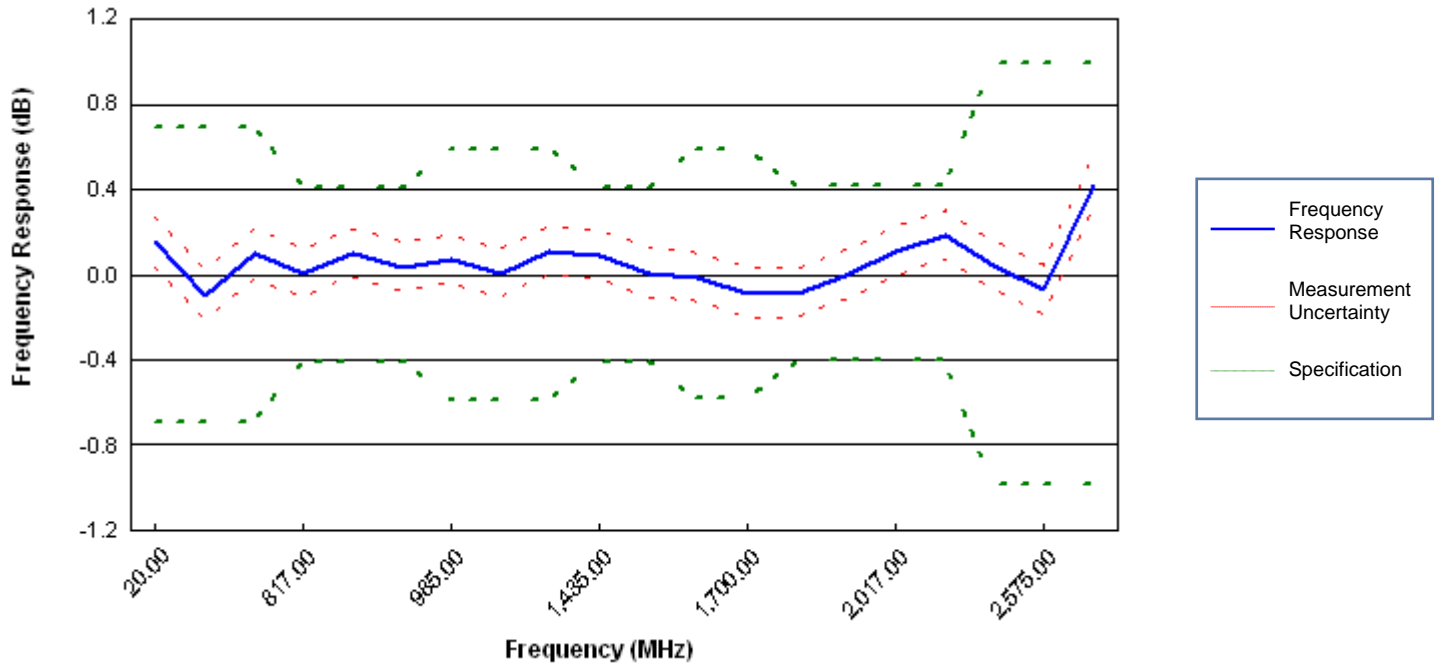
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Electronic Attenuation = 5 dB



Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
20.00	0.151	0.117	0.69	PASS
375.00	-0.096	0.117	0.69	PASS
775.00	0.095	0.114	0.69	PASS
817.00	0.008	0.114	0.41	PASS
892.00	0.100	0.114	0.41	PASS
952.00	0.033	0.114	0.41	PASS
985.00	0.069	0.114	0.59	PASS
1,185.00	0.004	0.114	0.59	PASS
1,385.00	0.105	0.114	0.59	PASS
1,435.00	0.091	0.114	0.41	PASS
1,495.00	0.009	0.114	0.41	PASS
1,550.00	-0.013	0.114	0.59	PASS
1,700.00	-0.085	0.114	0.59	PASS
1,732.00	-0.089	0.114	0.41	PASS
1,837.00	-0.003	0.114	0.41	PASS
2,017.00	0.105	0.114	0.41	PASS
2,197.00	0.183	0.114	0.41	PASS
2,225.00	0.039	0.114	0.98	PASS
2,575.00	-0.074	0.114	0.98	PASS
2,975.00	0.422	0.115	0.98	PASS

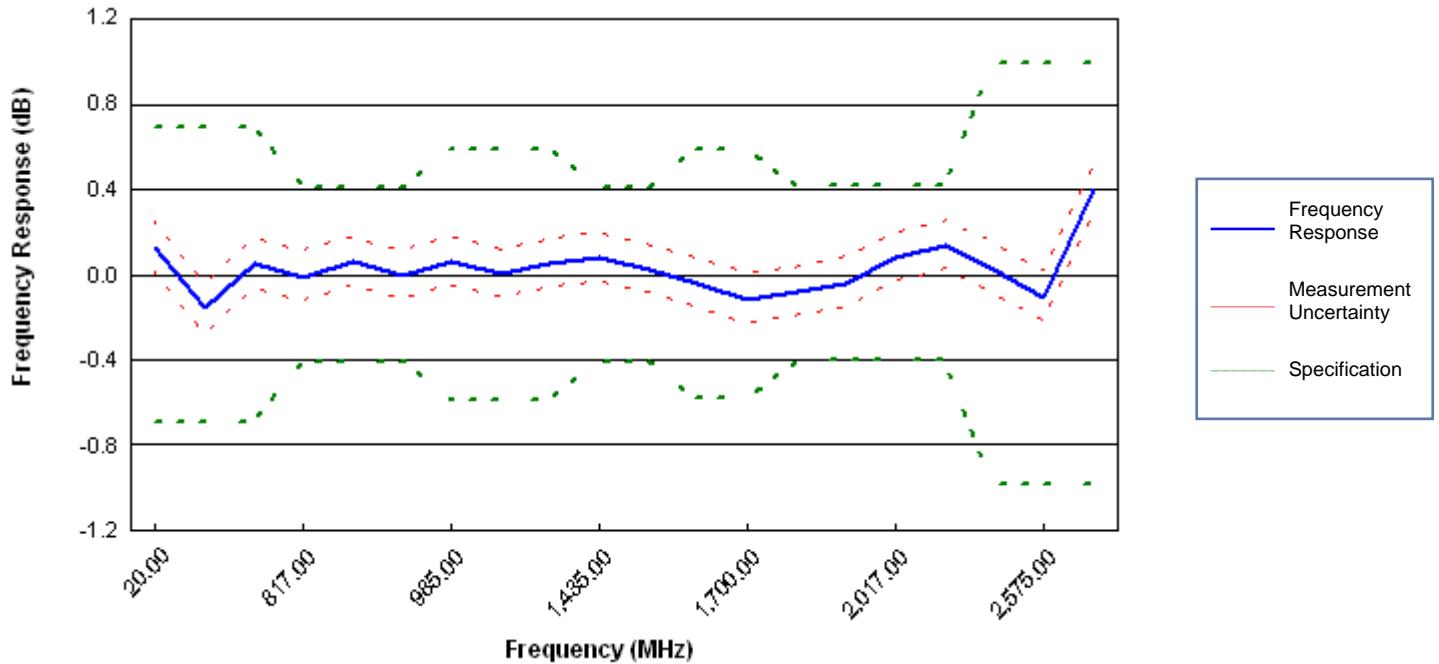
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Electronic Attenuation = 10 dB



Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
20.00	0.131	0.117	0.69	PASS
375.00	-0.157	0.117	0.69	PASS
775.00	0.048	0.114	0.69	PASS
817.00	-0.010	0.114	0.41	PASS
892.00	0.058	0.114	0.41	PASS
952.00	-0.002	0.114	0.41	PASS
985.00	0.060	0.114	0.59	PASS
1,185.00	0.006	0.114	0.59	PASS
1,385.00	0.050	0.114	0.59	PASS
1,435.00	0.083	0.114	0.41	PASS
1,495.00	0.024	0.114	0.41	PASS
1,550.00	-0.045	0.114	0.59	PASS
1,700.00	-0.113	0.114	0.59	PASS
1,732.00	-0.082	0.114	0.41	PASS
1,837.00	-0.038	0.114	0.41	PASS
2,017.00	0.080	0.114	0.41	PASS
2,197.00	0.135	0.114	0.41	PASS
2,225.00	0.027	0.114	0.98	PASS
2,575.00	-0.105	0.114	0.98	PASS
2,975.00	0.401	0.115	0.98	PASS

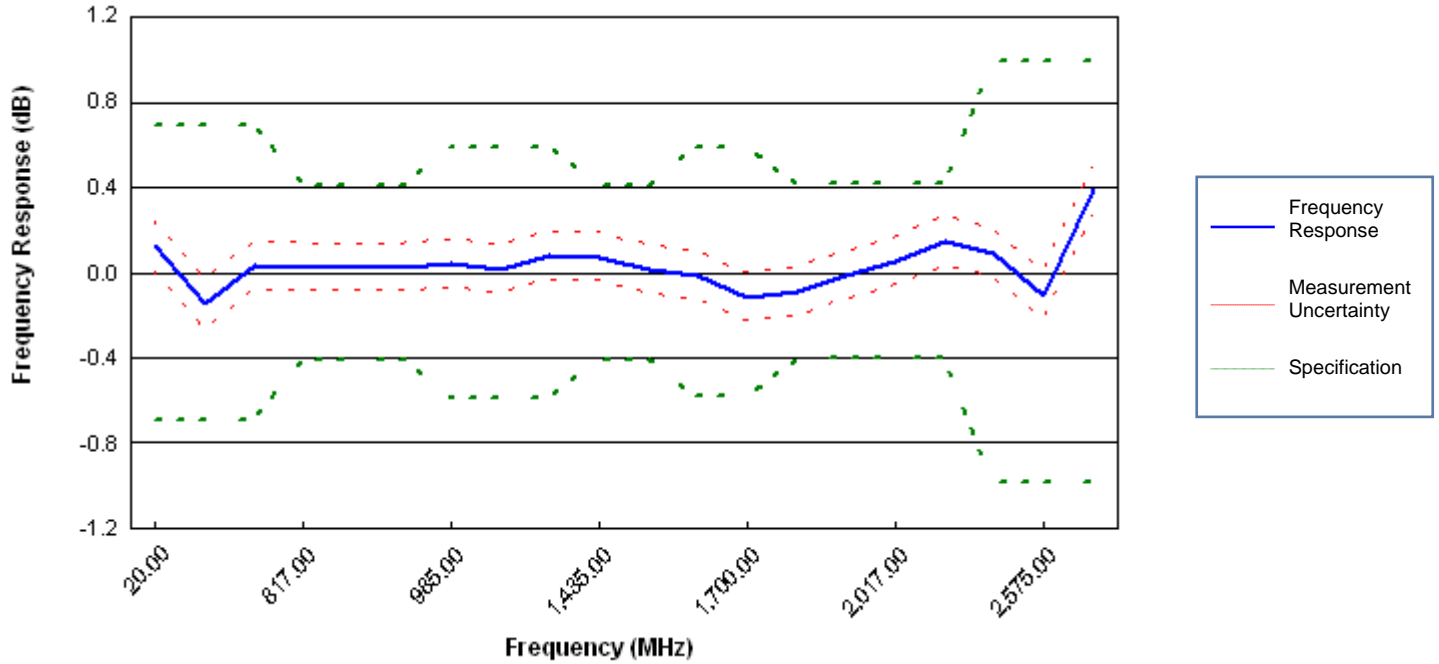
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Electronic Attenuation = 20 dB



Frequency (MHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
20.00	0.123	0.117	0.69	PASS
375.00	-0.146	0.117	0.69	PASS
775.00	0.033	0.114	0.69	PASS
817.00	0.025	0.114	0.41	PASS
892.00	0.020	0.114	0.41	PASS
952.00	0.021	0.114	0.41	PASS
985.00	0.041	0.114	0.59	PASS
1,185.00	0.015	0.114	0.59	PASS
1,385.00	0.080	0.114	0.59	PASS
1,435.00	0.068	0.114	0.41	PASS
1,495.00	0.017	0.114	0.41	PASS
1,550.00	-0.010	0.114	0.59	PASS
1,700.00	-0.119	0.114	0.59	PASS
1,732.00	-0.088	0.114	0.41	PASS
1,837.00	-0.015	0.114	0.41	PASS
2,017.00	0.051	0.114	0.41	PASS
2,197.00	0.150	0.114	0.41	PASS
2,225.00	0.092	0.114	0.98	PASS
2,575.00	-0.108	0.114	0.98	PASS
2,975.00	0.393	0.115	0.98	PASS

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
E8267D	Synthesized Signal Generator	US49060145		23-Apr-2011
E4419B	Power Meter	GB43311632	RFT2108	22-Sep-2011
8491A Opt 020	20dB Fixed Attenuator	01392	RFT6100	17-Jan-2013
8482A	Power Sensor	2349A08664	RFT4054	22-Jun-2012
8482A	Power Sensor	3318A25957	RFT2087	11-Nov-2012
1250-1744	N(m) to 3.5(f) Adapter	Accessory		
11730A	Power Sensor Cable	Accessory		
11667A	Two Resistor Splitter	14174		
11500C	N(m) to N(m) Cable	Accessory		

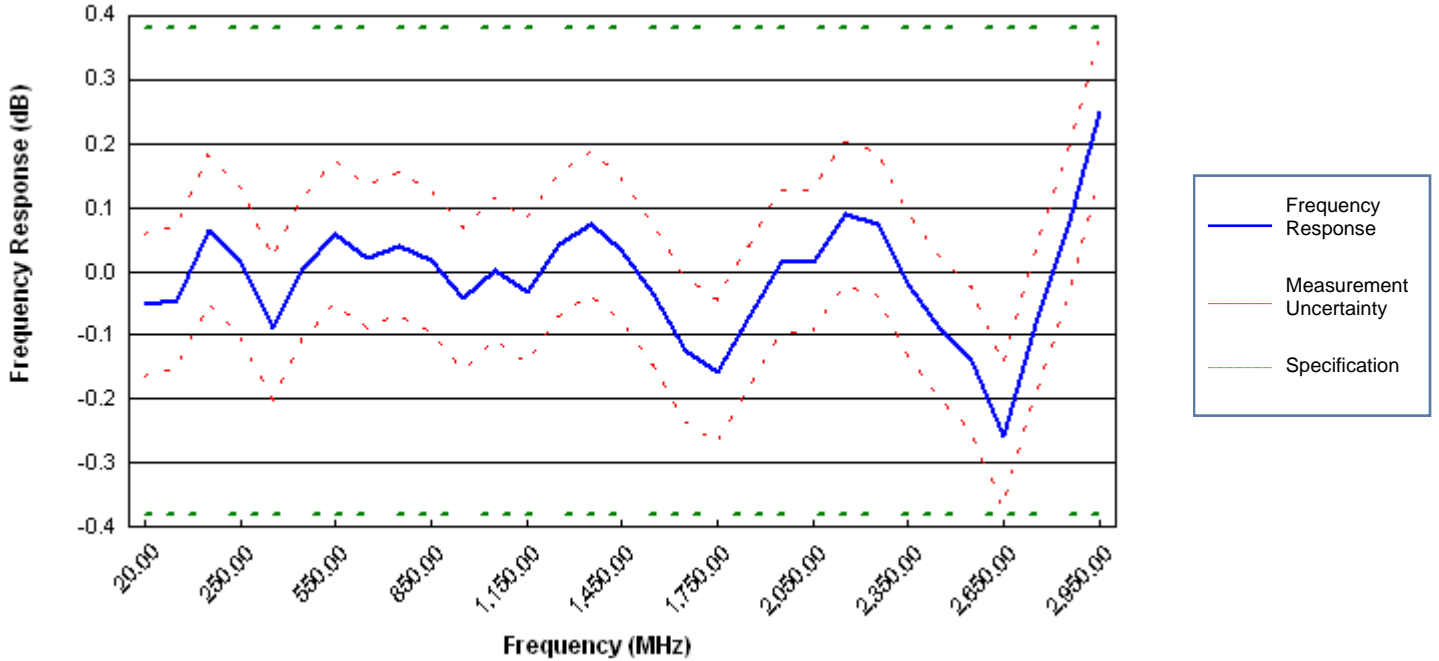
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Input Attenuation = 10 dB
Preamp OFF and AC Coupling



Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
20.00	2.00	-0.053	0.112	0.38	PASS
25.00	2.00	-0.045	0.112	0.38	PASS
150.00	50.00	0.064	0.116	0.38	PASS
250.00	50.00	0.014	0.116	0.38	PASS
350.00	50.00	-0.090	0.112	0.38	PASS
450.00	50.00	0.004	0.112	0.38	PASS
550.00	50.00	0.059	0.112	0.38	PASS
650.00	50.00	0.022	0.112	0.38	PASS
750.00	50.00	0.040	0.112	0.38	PASS
850.00	50.00	0.016	0.112	0.38	PASS
950.00	50.00	-0.044	0.112	0.38	PASS
1,050.00	50.00	0.002	0.112	0.38	PASS
1,150.00	50.00	-0.033	0.112	0.38	PASS
1,250.00	50.00	0.041	0.112	0.38	PASS
1,350.00	50.00	0.074	0.112	0.38	PASS
1,450.00	50.00	0.035	0.112	0.38	PASS
1,550.00	50.00	-0.037	0.112	0.38	PASS
1,650.00	50.00	-0.124	0.112	0.38	PASS
1,750.00	50.00	-0.159	0.112	0.38	PASS
1,850.00	50.00	-0.072	0.112	0.38	PASS
1,950.00	50.00	0.013	0.112	0.38	PASS
2,050.00	50.00	0.015	0.112	0.38	PASS
2,150.00	50.00	0.089	0.112	0.38	PASS
2,250.00	50.00	0.073	0.112	0.38	PASS
2,350.00	50.00	-0.024	0.112	0.38	PASS

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
2,450.00	50.00	-0.088	0.113	0.38	PASS
2,550.00	50.00	-0.139	0.113	0.38	PASS
2,650.00	50.00	-0.259	0.113	0.38	PASS
2,750.00	50.00	-0.082	0.113	0.38	PASS
2,850.00	50.00	0.067	0.113	0.38	PASS
2,950.00	50.00	0.248	0.113	0.38	PASS

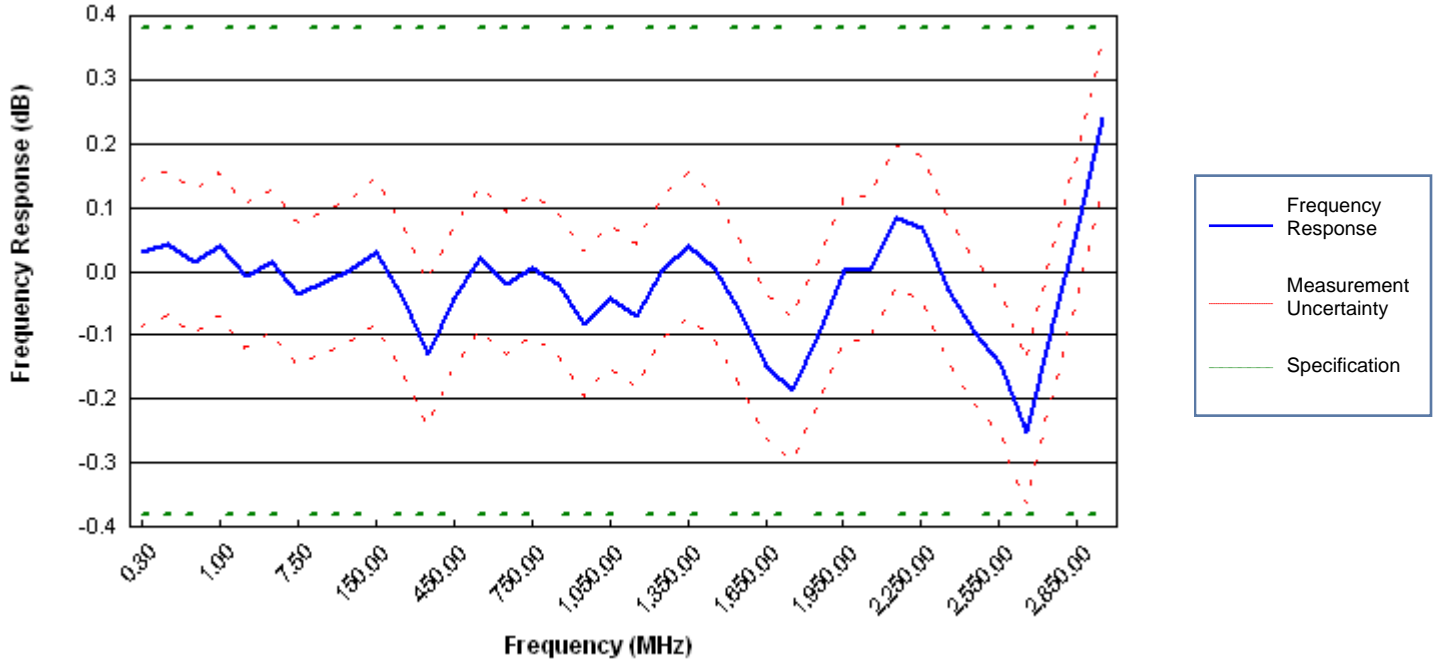
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Input Attenuation = 10 dB
Preamp OFF and DC Coupling



Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
0.30	2.00	0.029	0.114	0.38	PASS
0.50	2.00	0.044	0.113	0.38	PASS
0.75	2.00	0.015	0.112	0.38	PASS
1.00	2.00	0.040	0.112	0.38	PASS
2.50	2.00	-0.008	0.112	0.38	PASS
5.00	2.00	0.016	0.112	0.38	PASS
7.50	2.00	-0.036	0.112	0.38	PASS
10.00	2.00	-0.019	0.112	0.38	PASS
25.00	2.00	0.000	0.112	0.38	PASS
150.00	50.00	0.029	0.116	0.38	PASS
250.00	50.00	-0.041	0.116	0.38	PASS
350.00	50.00	-0.130	0.112	0.38	PASS
450.00	50.00	-0.043	0.112	0.38	PASS
550.00	50.00	0.019	0.112	0.38	PASS
650.00	50.00	-0.020	0.112	0.38	PASS
750.00	50.00	0.006	0.112	0.38	PASS
850.00	50.00	-0.019	0.112	0.38	PASS
950.00	50.00	-0.083	0.112	0.38	PASS
1,050.00	50.00	-0.041	0.112	0.38	PASS
1,150.00	50.00	-0.071	0.112	0.38	PASS
1,250.00	50.00	0.003	0.112	0.38	PASS
1,350.00	50.00	0.039	0.112	0.38	PASS
1,450.00	50.00	0.006	0.112	0.38	PASS
1,550.00	50.00	-0.065	0.112	0.38	PASS
1,650.00	50.00	-0.149	0.112	0.38	PASS

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
1,750.00	50.00	-0.186	0.112	0.38	PASS
1,850.00	50.00	-0.099	0.112	0.38	PASS
1,950.00	50.00	0.001	0.112	0.38	PASS
2,050.00	50.00	0.005	0.112	0.38	PASS
2,150.00	50.00	0.085	0.112	0.38	PASS
2,250.00	50.00	0.068	0.112	0.38	PASS
2,350.00	50.00	-0.030	0.112	0.38	PASS
2,450.00	50.00	-0.096	0.113	0.38	PASS
2,550.00	50.00	-0.145	0.113	0.38	PASS
2,650.00	50.00	-0.253	0.113	0.38	PASS
2,750.00	50.00	-0.084	0.113	0.38	PASS
2,850.00	50.00	0.061	0.113	0.38	PASS
2,950.00	50.00	0.240	0.113	0.38	PASS

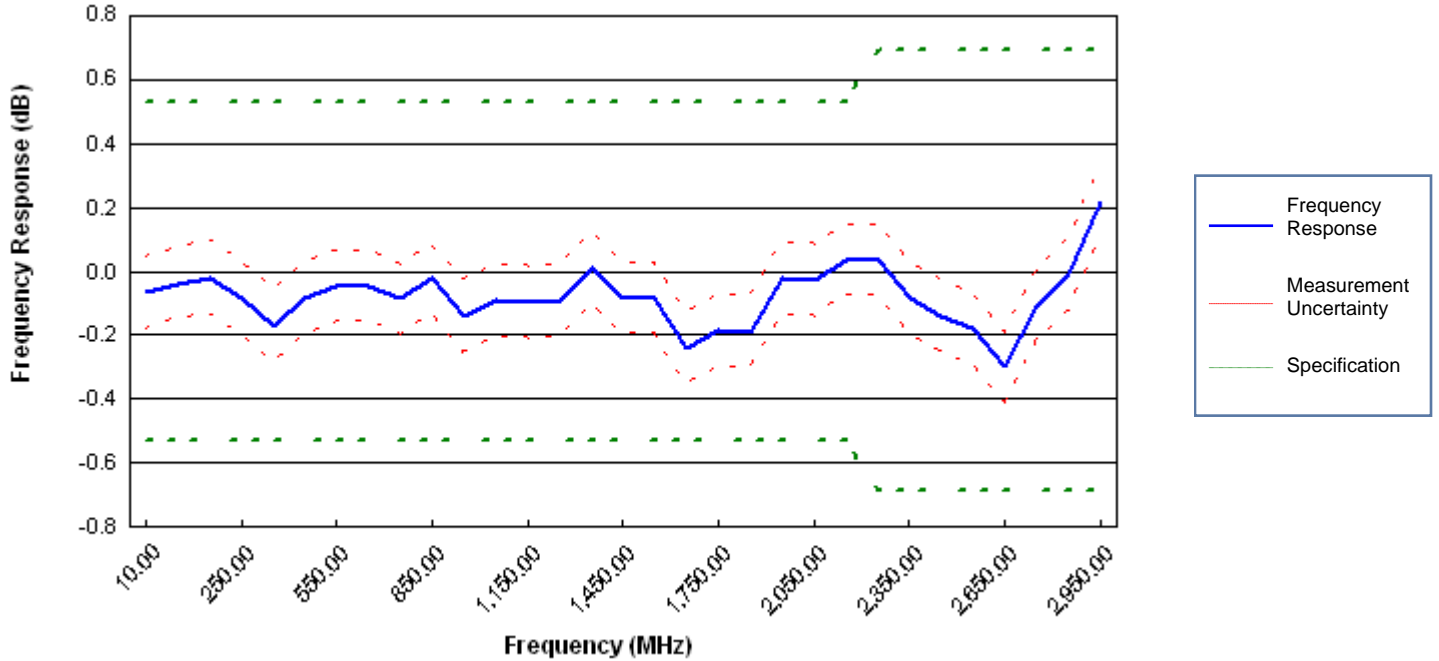
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Input Attenuation = 20 dB
Preamp OFF and DC Coupling



Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
10.00	2.00	-0.067	0.112	0.53	PASS
25.00	2.00	-0.038	0.112	0.53	PASS
150.00	50.00	-0.020	0.116	0.53	PASS
250.00	50.00	-0.086	0.116	0.53	PASS
350.00	50.00	-0.174	0.112	0.53	PASS
450.00	50.00	-0.086	0.112	0.53	PASS
550.00	50.00	-0.049	0.112	0.53	PASS
650.00	50.00	-0.046	0.112	0.53	PASS
750.00	50.00	-0.088	0.112	0.53	PASS
850.00	50.00	-0.024	0.112	0.53	PASS
950.00	50.00	-0.141	0.112	0.53	PASS
1,050.00	50.00	-0.090	0.112	0.53	PASS
1,150.00	50.00	-0.096	0.112	0.53	PASS
1,250.00	50.00	-0.091	0.112	0.53	PASS
1,350.00	50.00	0.011	0.112	0.53	PASS
1,450.00	50.00	-0.086	0.112	0.53	PASS
1,550.00	50.00	-0.083	0.112	0.53	PASS
1,650.00	50.00	-0.243	0.112	0.53	PASS
1,750.00	50.00	-0.187	0.112	0.53	PASS
1,850.00	50.00	-0.189	0.112	0.53	PASS
1,950.00	50.00	-0.021	0.112	0.53	PASS
2,050.00	50.00	-0.030	0.112	0.53	PASS
2,150.00	50.00	0.038	0.112	0.53	PASS
2,250.00	50.00	0.035	0.112	0.69	PASS
2,350.00	50.00	-0.084	0.112	0.69	PASS

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
2,450.00	50.00	-0.142	0.113	0.69	PASS
2,550.00	50.00	-0.178	0.113	0.69	PASS
2,650.00	50.00	-0.301	0.113	0.69	PASS
2,750.00	50.00	-0.107	0.113	0.69	PASS
2,850.00	50.00	-0.007	0.113	0.69	PASS
2,950.00	50.00	0.216	0.113	0.69	PASS

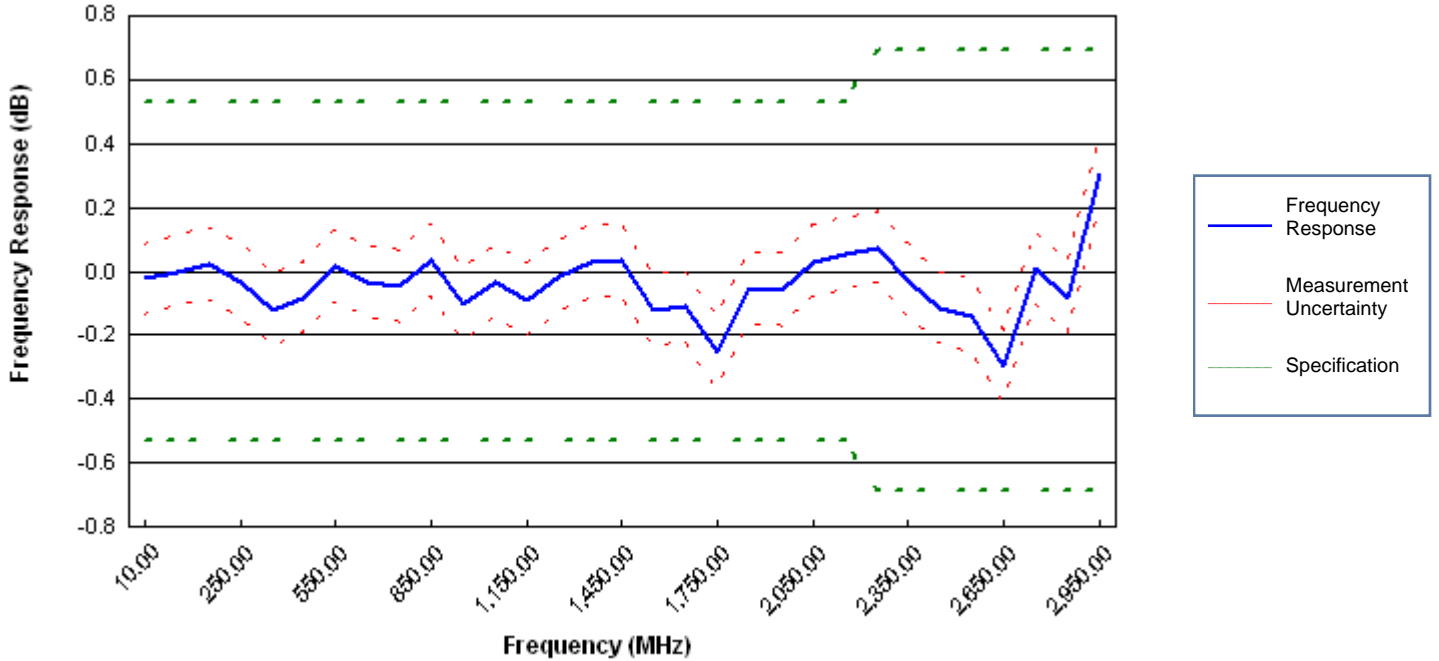
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Input Attenuation = 30 dB
Preamp OFF and DC Coupling



Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
10.00	2.00	-0.024	0.112	0.53	PASS
25.00	2.00	-0.001	0.112	0.53	PASS
150.00	50.00	0.021	0.116	0.53	PASS
250.00	50.00	-0.033	0.116	0.53	PASS
350.00	50.00	-0.124	0.112	0.53	PASS
450.00	50.00	-0.082	0.112	0.53	PASS
550.00	50.00	0.014	0.112	0.53	PASS
650.00	50.00	-0.034	0.112	0.53	PASS
750.00	50.00	-0.045	0.112	0.53	PASS
850.00	50.00	0.034	0.112	0.53	PASS
950.00	50.00	-0.103	0.112	0.53	PASS
1,050.00	50.00	-0.035	0.112	0.53	PASS
1,150.00	50.00	-0.093	0.112	0.53	PASS
1,250.00	50.00	-0.016	0.112	0.53	PASS
1,350.00	50.00	0.027	0.112	0.53	PASS
1,450.00	50.00	0.033	0.112	0.53	PASS
1,550.00	50.00	-0.122	0.112	0.53	PASS
1,650.00	50.00	-0.112	0.112	0.53	PASS
1,750.00	50.00	-0.252	0.112	0.53	PASS
1,850.00	50.00	-0.054	0.112	0.53	PASS
1,950.00	50.00	-0.061	0.112	0.53	PASS
2,050.00	50.00	0.031	0.112	0.53	PASS
2,150.00	50.00	0.053	0.112	0.53	PASS
2,250.00	50.00	0.075	0.112	0.69	PASS
2,350.00	50.00	-0.035	0.112	0.69	PASS

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
2,450.00	50.00	-0.115	0.113	0.69	PASS
2,550.00	50.00	-0.140	0.113	0.69	PASS
2,650.00	50.00	-0.299	0.113	0.69	PASS
2,750.00	50.00	0.007	0.113	0.69	PASS
2,850.00	50.00	-0.083	0.113	0.69	PASS
2,950.00	50.00	0.302	0.113	0.69	PASS

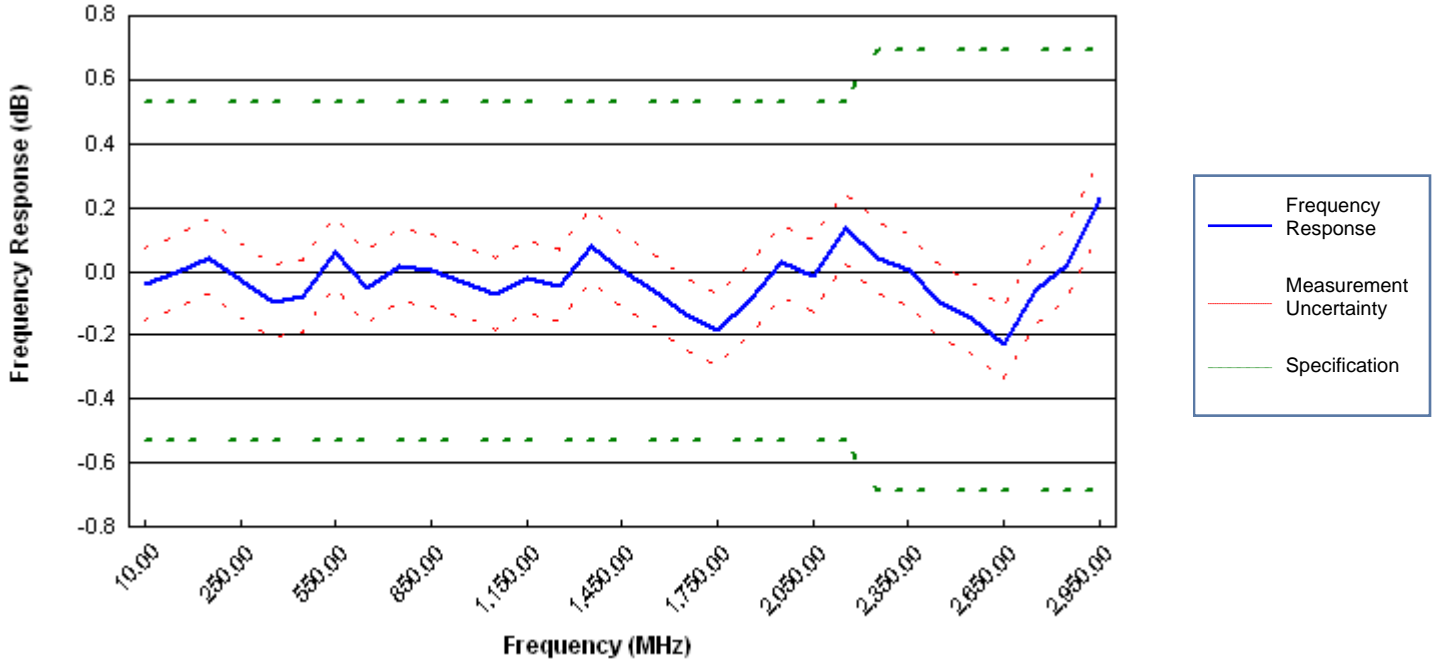
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm
Input Attenuation = 40 dB
Preamp OFF and DC Coupling



Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
10.00	2.00	-0.041	0.112	0.53	PASS
25.00	2.00	-0.004	0.112	0.53	PASS
150.00	50.00	0.043	0.116	0.53	PASS
250.00	50.00	-0.029	0.116	0.53	PASS
350.00	50.00	-0.095	0.112	0.53	PASS
450.00	50.00	-0.077	0.112	0.53	PASS
550.00	50.00	0.057	0.112	0.53	PASS
650.00	50.00	-0.053	0.112	0.53	PASS
750.00	50.00	0.014	0.112	0.53	PASS
850.00	50.00	0.005	0.112	0.53	PASS
950.00	50.00	-0.035	0.112	0.53	PASS
1,050.00	50.00	-0.073	0.112	0.53	PASS
1,150.00	50.00	-0.021	0.112	0.53	PASS
1,250.00	50.00	-0.048	0.112	0.53	PASS
1,350.00	50.00	0.080	0.112	0.53	PASS
1,450.00	50.00	0.005	0.112	0.53	PASS
1,550.00	50.00	-0.061	0.112	0.53	PASS
1,650.00	50.00	-0.135	0.112	0.53	PASS
1,750.00	50.00	-0.183	0.112	0.53	PASS
1,850.00	50.00	-0.093	0.112	0.53	PASS
1,950.00	50.00	0.030	0.112	0.53	PASS
2,050.00	50.00	-0.015	0.112	0.53	PASS
2,150.00	50.00	0.132	0.112	0.53	PASS
2,250.00	50.00	0.039	0.112	0.69	PASS
2,350.00	50.00	0.000	0.112	0.69	PASS

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
2,450.00	50.00	-0.095	0.113	0.69	PASS
2,550.00	50.00	-0.145	0.113	0.69	PASS
2,650.00	50.00	-0.228	0.113	0.69	PASS
2,750.00	50.00	-0.060	0.113	0.69	PASS
2,850.00	50.00	0.020	0.113	0.69	PASS
2,950.00	50.00	0.228	0.113	0.69	PASS

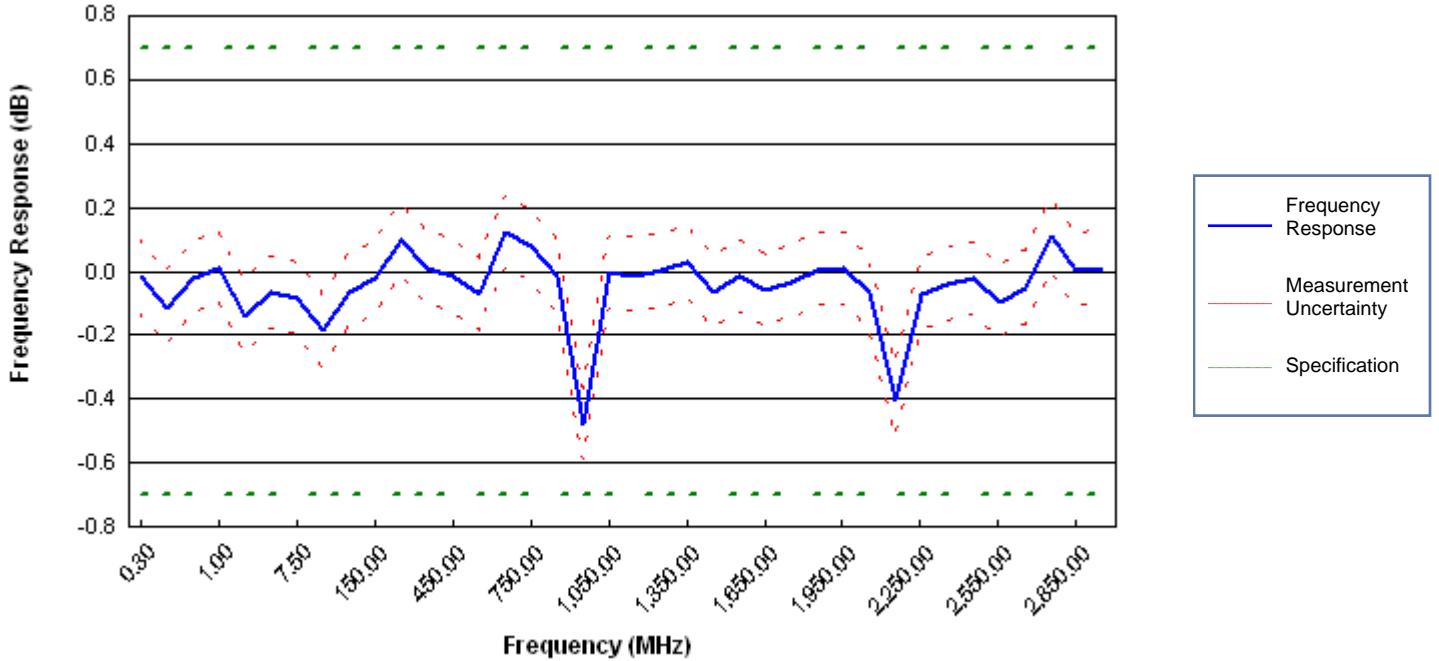
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -13 dBm
Input Attenuation = 0 dB
Preamp ON (Option 1DS) and DC Coupling



Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
0.30	2.00	-0.017	0.115	0.70	PASS
0.50	2.00	-0.115	0.114	0.70	PASS
0.75	2.00	-0.022	0.113	0.70	PASS
1.00	2.00	0.013	0.113	0.70	PASS
2.50	2.00	-0.142	0.113	0.70	PASS
5.00	2.00	-0.068	0.113	0.70	PASS
7.50	2.00	-0.085	0.113	0.70	PASS
10.00	2.00	-0.186	0.113	0.70	PASS
25.00	2.00	-0.068	0.113	0.70	PASS
150.00	50.00	-0.019	0.113	0.70	PASS
250.00	50.00	0.100	0.113	0.70	PASS
350.00	50.00	0.009	0.113	0.70	PASS
450.00	50.00	-0.014	0.113	0.70	PASS
550.00	50.00	-0.075	0.113	0.70	PASS
650.00	50.00	0.124	0.113	0.70	PASS
750.00	50.00	0.080	0.113	0.70	PASS
850.00	50.00	-0.014	0.113	0.70	PASS
950.00	50.00	-0.477	0.113	0.70	PASS
1,050.00	50.00	-0.001	0.113	0.70	PASS
1,150.00	50.00	-0.013	0.113	0.70	PASS
1,250.00	50.00	0.000	0.113	0.70	PASS
1,350.00	50.00	0.028	0.113	0.70	PASS
1,450.00	50.00	-0.067	0.113	0.70	PASS
1,550.00	50.00	-0.015	0.113	0.70	PASS
1,650.00	50.00	-0.061	0.114	0.70	PASS

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Frequency (MHz)	Span (kHz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
1,750.00	50.00	-0.035	0.114	0.70	PASS
1,850.00	50.00	0.006	0.114	0.70	PASS
1,950.00	50.00	0.009	0.113	0.70	PASS
2,050.00	50.00	-0.064	0.113	0.70	PASS
2,150.00	50.00	-0.405	0.113	0.70	PASS
2,250.00	50.00	-0.070	0.114	0.70	PASS
2,350.00	50.00	-0.043	0.114	0.70	PASS
2,450.00	50.00	-0.022	0.114	0.70	PASS
2,550.00	50.00	-0.096	0.114	0.70	PASS
2,650.00	50.00	-0.051	0.114	0.70	PASS
2,750.00	50.00	0.109	0.114	0.70	PASS
2,850.00	50.00	0.002	0.114	0.70	PASS
2,950.00	50.00	0.012	0.114	0.70	PASS

Report Number
7023-WU8K

Frequency Response Below 300 kHz

Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Environmental Conditions

Temperature 23.00 Celsius

Humidity 50.00 %

Line Frequency 50.00 Hz

Test Standards and Required Equipment

<u>Model</u>	<u>Description</u>	<u>Serial/Unique ID</u>	<u>Trace Number</u>	<u>Cal Due</u>
3458A	Digital Multimeter	2823A00681	RFT4046	12-May-2011
33250A	Function Generator	MY40018367	RFT2568	02-Sep-2011
1250-1745	N(f) to 3.5(f) Adapter	Accessory		

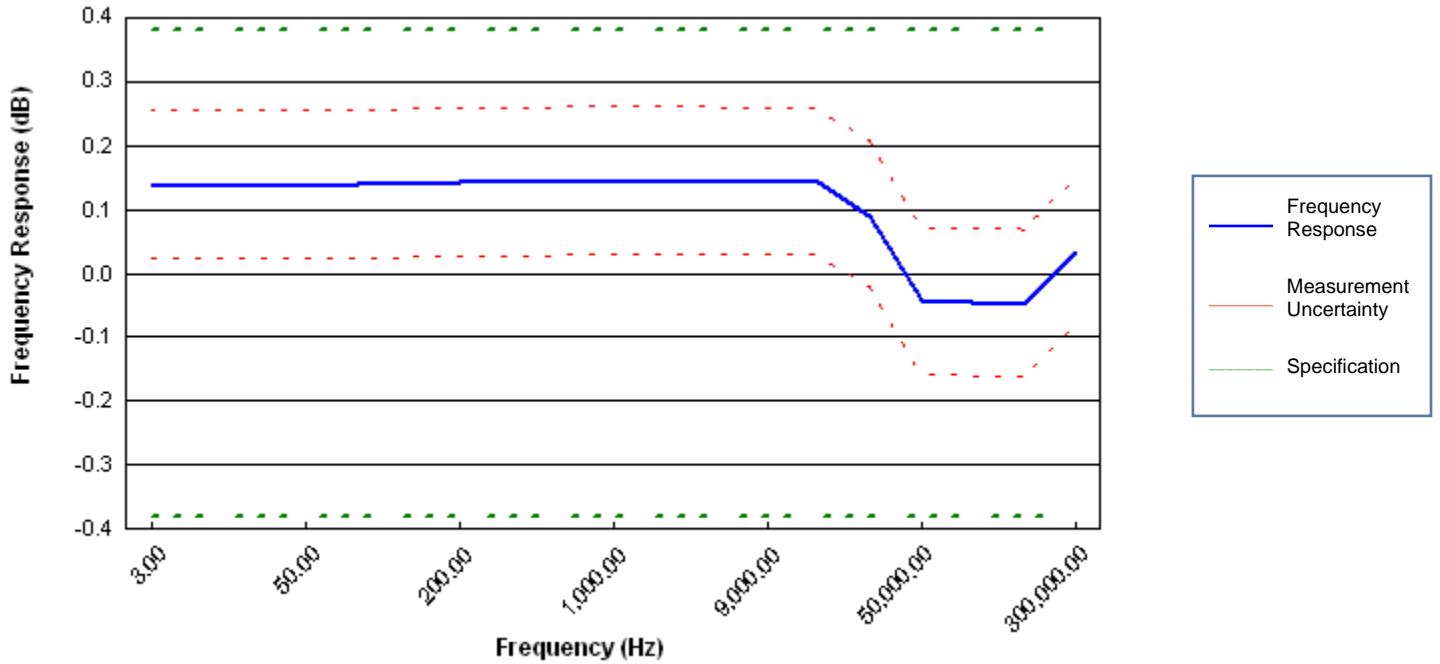
Model E4440A

Serial MY48250291

Test Date 18-Jan-2011

Test Result **PASS**

Power Level = -10 dBm



Frequency (Hz)	Frequency Response (dB)	Measurement Uncertainty (+/- dB)	Specification (+/- dB)	Result
3.00	0.140	0.115	0.38	PASS
10.00	0.138	0.115	0.38	PASS
20.00	0.138	0.115	0.38	PASS
50.00	0.138	0.115	0.38	PASS
80.00	0.139	0.115	0.38	PASS
100.00	0.139	0.115	0.38	PASS
200.00	0.141	0.115	0.38	PASS
500.00	0.141	0.115	0.38	PASS
800.00	0.143	0.115	0.38	PASS
1,000.00	0.143	0.115	0.38	PASS
2,000.00	0.143	0.115	0.38	PASS
5,000.00	0.144	0.115	0.38	PASS
9,000.00	0.141	0.115	0.38	PASS
10,000.00	0.141	0.115	0.38	PASS
20,000.00	0.090	0.115	0.38	PASS
50,000.00	-0.043	0.115	0.38	PASS
80,000.00	-0.046	0.115	0.38	PASS
100,000.00	-0.049	0.115	0.38	PASS
300,000.00	0.032	0.115	0.38	PASS

Measurement Report

RF Test Solutions Ltd
409 Cuba Street
Alicetown
Lower Hutt, New Zealand

Report Number: 7023

Manufacturer: Agilent Technologies

Model Number: E4440A

Options: 115,123,1DS,B7J,BAB

Test Date: 18 Jan 2011

Temperature: 23 +/- 5 °C

Customer: RF Test Solutions Ltd

Serial Number: MY48250291

ID Number: RFT2638

Tested By: R Smith

Humidity: 20-80 %

Part Number:

Version: A.00.00

Executive Version: A.02.49

Traceability Information is on the Certificate

Report Number :7023
Model Number :E4440A
Serial Number :MY48250291

Test Date :18 Jan 2011

PERFORMANCE TEST RESULTS SUMMARY

TEST NAME	STATUS
10 MHz Timebase Accuracy (As Received Results)	Passed
10 MHz Timebase Accuracy (As Completed Results, if applicable)	Not Applicable

Report Number :7023
 Model Number :E4440A
 Serial Number :MY48250291

Test Date :18 Jan 2011

10 MHz Timebase Accuracy (As Received Results)

Passed

Test Conditions	Lower Limit	Measured	Upper Limit	Uncertainty	
Air Crystal	9999940.0 Hz	N/A	10000060.0 Hz	0.2 Hz	
TCXO	9999990.0 Hz	N/A	10000010.0 Hz	0.2 Hz	
OCXO (Medium Performance)	9999999.0 Hz	N/A	10000001.0 Hz	0.2 Hz	
OCXO (High Performance)	9999999.5 Hz	10000000.1313 Hz	10000000.5 Hz	0.2 Hz	Pass

10 MHz Timebase Accuracy (As Completed Results, if applicable)

Not Applicable

Test Conditions	Lower Limit	Measured	Upper Limit	Uncertainty	
Air Crystal	9999940.0 Hz	N/A	10000060.0 Hz	0.2 Hz	
TCXO	9999990.0 Hz	N/A	10000010.0 Hz	0.2 Hz	
OCXO (Medium Performance)	9999999.0 Hz	N/A	10000001.0 Hz	0.2 Hz	
OCXO (High Performance)	9999999.5 Hz	N/A	10000000.5 Hz	0.2 Hz	