Report of Calibration

<Your Company Name Goes Here>
<report substitution mt_user1>
<report substitution mt_user2>

UNIT UNDER TEST:	Agilent Technologies E4440A PSA Series Spectrum	TEST RESULT:	PASS
SERIAL NUMBER:	US40420208	PERFORMED ON:	29 October 2010
ASSET NUMBER:	Sample-AT E4440A	DATA TYPE:	FOUND-LEFT
PROCEDURE NAME:	AT E4440A: (1 yr) VER /9640-LPN,4419,LFCTR,SWPG,UWSG	TEMPERATURE:	23.00 °C
PROCEDURE REV.:	$Revision: $	HUMIDITY:	40 %
CALIBRATED BY:	Fluke Calibration		
P.O. NUMBER:			
CUSTOMER:			

<Your Company Name Goes Here> certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure unless otherwise noted). It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology (NIST), or to NIST accepted intrinsic standards of measurement, or derived by the ratio type of self-calibration techniques. This calibration complies with MIL-STD-45662A and ANSI/NCSL Z540.1-1999 (R2002).

Note: Any Test Uncertainty Ratio (TUR) that is less than four to one will appear under the "TUR" heading on the data record. If the TUR meets or exceeds four to one, the field is left blank.

REMARKS: Test Time: 2 hrs. 26 min.

Standards Used

Asset #	Description	Cal Date	Due Date
Sample-Anritsu MG3694B	Anritsu MG3694B Signal Generator	12/9/2009	12/9/2010
Sample-Fluke 9640A-50-LPN	Fluke 9640A-50 Leveling Head	12/3/2009	12/3/2010
Sample-Fluke 9640A-LPN	Fluke 9640A-LPN RF Reference Source	12/3/2009	12/3/2010
Sample-Fluke PM 6690	Fluke PM 6690 Frequency Counter/Timer/Analyzer	12/9/2009	12/9/2010
Sample-HP 11667B	Hewlett Packard 11667B Power Splitter	12/9/2009	12/9/2010
Sample-HP 83630B	Hewlett Packard 83630B 8360B Series Swept Signal Generator	12/9/2009	12/9/2010
Sample-HP 8485A	Hewlett Packard 8485A Power Sensor	12/9/2009	12/9/2010
Sample-HP 8485A-2	Hewlett Packard 8485A Power Sensor	10/14/2010	10/14/2011
Sample-HP 86205A	Hewlett Packard 86205A 50 Ohm Directional Bridge	12/9/2009	12/9/2010
Sample-HP 87300B	Hewlett Packard 87300B Directional Coupler	12/9/2009	12/9/2010
Sample-HP E4419A	Hewlett Packard E4419A Power Meter	12/9/2009	12/9/2010
Sample-Wavetek 909	Wavetek 909 Rubidium Atomic Frequency Standard	12/9/2009	12/9/2010

Test Results

Test Description	True Value	Test Result	Lower limit	Upper limit	Units	TUR

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IDENTIFICATION

 Serial Number:   US40420208
 Firmware Level:  A.11.16

INSTALLED OPTIONS
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Test Results

Test Description	True Value	Test Result	Lower limit	Upper limit	Units	TUR
1DS (RF Internal Preamplifier)						
226 (Phase Noise Measurement Personality)						
233 (N5531S Measuring Receiver Personality)						
INTERNAL ALIGNMENT						Pass
FREQUENCY REFERENCE ACCURACY						
10 MHz		10.00000006	9.99999820	10.00000180	MHz	Pass
POWER BANDWIDTH ACCURACY						
RBW Setting						
1 Hz		0.012	-0.022	0.022	dB	Pass
3 Hz		-0.002	-0.022	0.022	dB	Pass
10 Hz		-0.002	-0.022	0.022	dB	Pass
30 Hz		0.006	-0.022	0.022	dB	Pass
100 Hz		-0.001	-0.022	0.022	dB	Pass
300 Hz		0.001	-0.022	0.022	dB	Pass
1 kHz		-0.002	-0.022	0.022	dB	Pass
3 kHz		-0.010	-0.022	0.022	dB	Pass
10 kHz		-0.008	-0.022	0.022	dB	Pass
30 kHz		-0.003	-0.022	0.022	dB	Pass
100 kHz		-0.007	-0.044	0.044	dB	Pass
200 kHz		-0.006	-0.022	0.022	dB	Pass
300 kHz		-0.005	-0.066	0.066	dB	Pass
1 MHz		0.006	-0.066	0.066	dB	Pass
RESOLUTION BANDWIDTH SWITCHING UNCERTAINTY						
RBW Setting (Relative to 30 kHz RBW)						
300 Hz		-0.01	-0.03	0.03	dB	Pass
510 Hz		-0.01	-0.03	0.03	dB	Pass
1 kHz		-0.01	-0.03	0.03	dB	Pass
3 kHz		-0.00	-0.03	0.03	dB	Pass
10 kHz		-0.00	-0.03	0.03	dB	Pass
100 kHz		0.00	-0.03	0.03	dB	Pass
300 kHz		0.01	-0.03	0.03	dB	Pass
1 MHz		0.01	-0.03	0.03	dB	Pass
1.5 MHz		0.02	-0.05	0.05	dB	Pass
2 MHz		0.02	-0.05	0.05	dB	Pass
3 MHz		0.04	-0.05	0.05	dB	Pass
4 MHz		0.04	-1.00	1.00	dB	Pass
5 MHz		0.12	-1.00	1.00	dB	Pass
6 MHz		0.41	-1.00	1.00	dB	Pass
8 MHz		0.55	-1.00	1.00	dB	Pass
RESIDUAL RESPONSES (100 Hz Span)						
10 MHz		-137.1	-160.0	-100.0	dBm	Pass
100 MHz		-151.1	-160.0	-100.0	dBm	Pass
300 MHz		-132.7	-160.0	-100.0	dBm	Pass
600 MHz		-134.0	-160.0	-100.0	dBm	Pass
900 MHz		-144.1	-160.0	-100.0	dBm	Pass
1000 MHz		-150.1	-160.0	-100.0	dBm	Pass
1200 MHz		-132.8	-160.0	-100.0	dBm	Pass
1800 MHz		-141.3	-160.0	-100.0	dBm	Pass
2700 MHz		-132.4	-160.0	-100.0	dBm	Pass
2957.2 MHz		-111.8	-160.0	-100.0	dBm	Pass
3000 MHz		-147.1	-160.0	-100.0	dBm	Pass
3600 MHz		-139.3	-160.0	-100.0	dBm	Pass
DISPLAYED AVERAGE NOISE LEVEL						
Preamp Off						

Test Results

Test Description	True Value	Test Result	Lower limit	Upper limit	Units		TUR
0.01 MHz		-152.54	-180.00	-135.00	dBm	Pass	
0.05 MHz		-157.87	-180.00	-135.00	dBm	Pass	
0.07 MHz		-158.54	-180.00	-135.00	dBm	Pass	
0.10 MHz		-159.61	-170.00	-145.00	dBm	Pass	
0.20 MHz		-161.26	-170.00	-145.00	dBm	Pass	
0.40 MHz		-162.39	-170.00	-145.00	dBm	Pass	
0.60 MHz		-162.76	-170.00	-145.00	dBm	Pass	
0.80 MHz		-163.20	-170.00	-145.00	dBm	Pass	
1.00 MHz		-163.28	-170.00	-150.00	dBm	Pass	
9.90 MHz		-165.52	-170.00	-150.00	dBm	Pass	
40.00 MHz		-166.15	-170.00	-154.00	dBm	Pass	
70.00 MHz		-166.28	-170.00	-154.00	dBm	Pass	
102.00 MHz		-166.13	-170.00	-154.00	dBm	Pass	
202.00 MHz		-166.05	-170.00	-154.00	dBm	Pass	
399.80 MHz		-165.71	-170.00	-154.00	dBm	Pass	
599.60 MHz		-165.90	-170.00	-154.00	dBm	Pass	
799.40 MHz		-165.69	-170.00	-154.00	dBm	Pass	
1,199.00 MHz		-165.34	-170.00	-154.00	dBm	Pass	
1,399.91 MHz		-165.38	-170.00	-153.00	dBm	Pass	
1,599.80 MHz		-164.94	-170.00	-153.00	dBm	Pass	
1,799.68 MHz		-164.91	-170.00	-153.00	dBm	Pass	
1,999.57 MHz		-164.89	-170.00	-153.00	dBm	Pass	
2,199.45 MHz		-164.64	-169.00	-152.00	dBm	Pass	
2,399.34 MHz		-164.56	-169.00	-152.00	dBm	Pass	
2,599.22 MHz		-164.42	-169.00	-152.00	dBm	Pass	
2,799.11 MHz		-163.86	-169.00	-152.00	dBm	Pass	
2,999.00 MHz		-163.88	-169.00	-152.00	dBm	Pass	
3,500.08 MHz		-162.37	-169.00	-152.00	dBm	Pass	
4,500.08 MHz		-162.69	-169.00	-152.00	dBm	Pass	
5,500.08 MHz		-162.64	-169.00	-152.00	dBm	Pass	
5,999.08 MHz		-163.25	-169.00	-152.00	dBm	Pass	
7,000.08 MHz		-161.58	-170.00	-150.00	dBm	Pass	
8,000.08 MHz		-162.04	-170.00	-150.00	dBm	Pass	
9,000.08 MHz		-162.71	-170.00	-150.00	dBm	Pass	
10,000.08 MHz		-163.23	-170.00	-150.00	dBm	Pass	
11,000.08 MHz		-162.79	-170.00	-150.00	dBm	Pass	
12,000.08 MHz		-162.53	-170.00	-150.00	dBm	Pass	
12,999.08 MHz		-162.32	-170.00	-150.00	dBm	Pass	
14,000.08 MHz		-159.56	-170.00	-147.00	dBm	Pass	
15,000.08 MHz		-159.37	-170.00	-147.00	dBm	Pass	
16,000.08 MHz		-160.08	-170.00	-147.00	dBm	Pass	
17,000.08 MHz		-159.60	-170.00	-147.00	dBm	Pass	
18,000.08 MHz		-160.04	-170.00	-147.00	dBm	Pass	
19,000.08 MHz		-160.18	-170.00	-147.00	dBm	Pass	
20,000.08 MHz		-159.10	-170.00	-143.00	dBm	Pass	
21,000.08 MHz		-158.82	-170.00	-143.00	dBm	Pass	
22,000.08 MHz		-158.03	-170.00	-143.00	dBm	Pass	
23,000.08 MHz		-157.45	-170.00	-143.00	dBm	Pass	
24,000.08 MHz		-157.06	-170.00	-143.00	dBm	Pass	
25,000.08 MHz		-155.16	-170.00	-143.00	dBm	Pass	
26,000.08 MHz		-156.12	-170.00	-143.00	dBm	Pass	
Preamp On (Option 1DS)							
0.10 MHz		-174.34	-200.00	-159.00	dBm	Pass	
0.20 MHz		-177.03	-200.00	-159.00	dBm	Pass	
0.40 MHz		-178.29	-200.00	-159.00	dBm	Pass	
0.60 MHz		-178.69	-200.00	-163.00	dBm	Pass	
0.80 MHz		-178.80	-200.00	-163.00	dBm	Pass	
1.00 MHz		-178.84	-200.00	-166.00	dBm	Pass	
9.90 MHz		-180.45	-200.00	-166.00	dBm	Pass	
40.00 MHz		-180.79	-200.00	-169.00	dBm	Pass	
70.00 MHz		-181.02	-200.00	-169.00	dBm	Pass	

Test Results

Test Description	True Value	Test Result	Lower limit	Upper limit	Units		TUR
102.00 MHz		-180.83	-200.00	-169.00	dBm	Pass	
202.00 MHz		-181.01	-200.00	-169.00	dBm	Pass	
399.80 MHz		-180.59	-200.00	-169.00	dBm	Pass	
599.60 MHz		-180.87	-200.00	-168.00	dBm	Pass	
799.40 MHz		-180.83	-200.00	-168.00	dBm	Pass	
1,199.00 MHz		-179.46	-200.00	-167.00	dBm	Pass	
1,399.91 MHz		-179.76	-200.00	-167.00	dBm	Pass	
1,599.80 MHz		-179.27	-200.00	-167.00	dBm	Pass	
1,799.68 MHz		-179.29	-200.00	-167.00	dBm	Pass	
1,999.57 MHz		-178.36	-200.00	-167.00	dBm	Pass	
2,199.45 MHz		-178.59	-200.00	-165.00	dBm	Pass	
2,399.34 MHz		-178.01	-200.00	-165.00	dBm	Pass	
2,599.22 MHz		-178.55	-200.00	-165.00	dBm	Pass	
2,799.11 MHz		-178.56	-200.00	-165.00	dBm	Pass	
2,999.00 MHz		-177.30	-200.00	-165.00	dBm	Pass	
FREQUENCY READOUT ACCURACY							
Center Frequency (Span)							
517.59 MHz (1.98 MHz)		517.59000	517.58250	517.59750	MHz	Pass	
832.50 MHz (1.98 MHz)		832.50000	832.49250	832.50750	MHz	Pass	
1.505 GHz (106 kHz)		1505.00000	1504.99959	1505.00041	MHz	Pass	
1.505 GHz (7.95 MHz)		1505.00000	1504.96975	1505.03025	MHz	Pass	
1.505 GHz (54.1 MHz)		1505.00000	1504.79416	1505.20584	MHz	Pass	
1.505 GHz (127.2 MHz)		1505.00000	1504.51600	1505.48400	MHz	Pass	
1.505 GHz (2 GHz)		1505.00000	1496.51666	1513.48334	MHz	Pass	
FREQUENCY SPAN ACCURACY (4,001 Sweep Points)							
Span (Center Frequency)							
1.98 MHz (517.59 MHz)		-0.081	-0.225	0.225	%	Pass	
1.00 MHz (517.59 MHz)		-0.010	-0.225	0.225	%	Pass	
1.98 MHz (628.60 MHz)		-0.034	-0.225	0.225	%	Pass	
1.98 MHz (819.60 MHz)		-0.061	-0.225	0.225	%	Pass	
100 MHz (832.50 MHz)		0.000	-0.225	0.225	%	Pass	
2.00 MHz (832.50 MHz)		0.000	-0.225	0.225	%	Pass	
1.98 MHz (832.50 MHz)		-0.090	-0.225	0.225	%	Pass	
1.00 MHz (832.50 MHz)		-0.030	-0.225	0.225	%	Pass	
COUNT ACCURACY							
1 GHz		1.000000000010	0.999999999900	1.000000000100	GHz	Pass	
SPURIOUS RESPONSES							
(Spur/Source Frequency)							
Span: 100 Hz							
1 GHz/2.9607 GHz		-97.24	-120.00	-80.00	dBc	Pass	
1 GHz/1.1607 GHz		-99.59	-120.00	-80.00	dBc	Pass	
1 GHz/1.0107 GHz		-92.19	-120.00	-80.00	dBc	Pass	
5 GHz/5.1607 GHz		-101.42	-120.00	-80.00	dBc	Pass	
25 GHz/25.1607 GHz		-91.00	-120.00	-67.96	dBc	Pass	
Span: 20 kHz							
1 GHz/1.0428 GHz		-90.41	-130.00	-80.00	dBc	Pass	
1 GHz/1.6428 GHz		-102.96	-130.00	-80.00	dBc	Pass	
1 GHz/3.9214 GHz		-111.42	-130.00	-80.00	dBc	Pass	
1 GHz/8.8428 GHz		-111.90	-130.00	-80.00	dBc	Pass	
1 GHz/321.4 MHz		-102.95	-130.00	-80.00	dBc	Pass	
5 GHz/5.6428 GHz		-101.09	-130.00	-80.00	dBc	Pass	
5 GHz/10.3214 GHz		-109.76	-130.00	-80.00	dBc	Pass	
10 GHz/10.6428 GHz		-101.11	-130.00	-80.00	dBc	Pass	
15 GHz/15.0428 GHz		-105.19	-130.00	-80.00	dBc	Pass	
15 GHz/15.6428 GHz		-98.28	-130.00	-80.00	dBc	Pass	
18 GHz/7.3393 GHz		-105.94	-130.00	-80.00	dBc	Pass	

Test Description	True Value	Test Result	Lower limit	Upper limit	Units		TUR
18 GHz/3.50895 GHz		-106.55	-130.00	-80.00	dBc	Pass	
18 GHz/11.16965 GHz		-106.69	-130.00	-80.00	dBc	Pass	
25 GHz/321.4 MHz		-100.85	-130.00	-80.00	dBc	Pass	
25 GHz/6.00895 GHz		-100.67	-130.00	-80.00	dBc	Pass	
25 GHz/12.3393 GHz		-101.30	-130.00	-80.00	dBc	Pass	
25 GHz/18.66965 GHz		-101.51	-130.00	-80.00	dBc	Pass	
25 GHz/25.6428 GHz		-88.77	-130.00	-80.00	dBc	Pass	
FREQUENCY RESPONSE BELOW 300 kHz							
-10 dBm, 10 dB Input Attenuation							
10 Hz		0.01	-0.38	0.38	dB	Pass	
20 Hz		-0.01	-0.38	0.38	dB	Pass	
50 Hz		-0.01	-0.38	0.38	dB	Pass	
80 Hz		-0.03	-0.38	0.38	dB	Pass	
100 Hz		-0.04	-0.38	0.38	dB	Pass	
200 Hz		-0.04	-0.38	0.38	dB	Pass	
500 Hz		-0.03	-0.38	0.38	dB	Pass	
800 Hz		-0.03	-0.38	0.38	dB	Pass	
1 kHz		-0.02	-0.38	0.38	dB	Pass	
2 kHz		-0.02	-0.38	0.38	dB	Pass	
5 kHz		-0.02	-0.38	0.38	dB	Pass	
9 kHz		-0.02	-0.38	0.38	dB	Pass	
10 kHz		-0.02	-0.38	0.38	dB	Pass	
20 kHz		-0.02	-0.38	0.38	dB	Pass	
50 kHz		-0.02	-0.38	0.38	dB	Pass	
80 kHz		-0.02	-0.38	0.38	dB	Pass	
100 kHz		-0.01	-0.38	0.38	dB	Pass	
300 kHz		-0.04	-0.38	0.38	dB	Pass	
FREQUENCY RESPONSE 300 kHz to 3 GHz							
-10 dBm, 10 dB Attenuation, AC Coupling (Preamp Off)							
20.00 MHz		-0.01	-0.38	0.38	dB	Pass	
25.00 MHz		0.02	-0.38	0.38	dB	Pass	
150.00 MHz		0.05	-0.38	0.38	dB	Pass	3.55
250.00 MHz		0.02	-0.38	0.38	dB	Pass	3.52
350.00 MHz		0.05	-0.38	0.38	dB	Pass	1.91
450.00 MHz		-0.00	-0.38	0.38	dB	Pass	2.06
550.00 MHz		0.04	-0.38	0.38	dB	Pass	1.91
650.00 MHz		0.04	-0.38	0.38	dB	Pass	1.91
750.00 MHz		-0.01	-0.38	0.38	dB	Pass	2.06
850.00 MHz		0.04	-0.38	0.38	dB	Pass	1.91
950.00 MHz		0.02	-0.38	0.38	dB	Pass	1.90
1050.00 MHz		-0.03	-0.38	0.38	dB	Pass	2.05
1150.00 MHz		0.03	-0.38	0.38	dB	Pass	1.90
1250.00 MHz		0.01	-0.38	0.38	dB	Pass	1.89
1350.00 MHz		-0.00	-0.38	0.38	dB	Pass	2.06
1450.00 MHz		0.02	-0.38	0.38	dB	Pass	1.90
1550.00 MHz		-0.06	-0.38	0.38	dB	Pass	2.03
1650.00 MHz		0.00	-0.38	0.38	dB	Pass	1.89
1750.00 MHz		0.04	-0.38	0.38	dB	Pass	1.90
1850.00 MHz		0.04	-0.38	0.38	dB	Pass	1.91
1950.00 MHz		-0.02	-0.38	0.38	dB	Pass	2.05
2050.00 MHz		0.00	-0.38	0.38	dB	Pass	1.80
2150.00 MHz		-0.02	-0.38	0.38	dB	Pass	1.95
2250.00 MHz		0.04	-0.38	0.38	dB	Pass	1.82
2350.00 MHz		-0.05	-0.38	0.38	dB	Pass	1.94
2450.00 MHz		-0.03	-0.38	0.38	dB	Pass	1.95
2550.00 MHz		-0.03	-0.38	0.38	dB	Pass	1.95
2650.00 MHz		-0.04	-0.38	0.38	dB	Pass	1.94
2750.00 MHz		-0.07	-0.38	0.38	dB	Pass	1.93
2850.00 MHz		-0.06	-0.38	0.38	dB	Pass	1.94

Test Results

Test Description	True Value	Test Result	Lower limit	Upper limit	Units		TUR
2950.00 MHz		-0.04	-0.38	0.38	dB	Pass	1.94
-10 dBm, 10 dB Attenuation, DC Coupling (Preamp Off)							
0.30 MHz		-0.03	-0.38	0.38	dB	Pass	
0.50 MHz		0.01	-0.38	0.38	dB	Pass	
0.75 MHz		0.00	-0.38	0.38	dB	Pass	4.00
1.00 MHz		0.02	-0.38	0.38	dB	Pass	
2.50 MHz		0.04	-0.38	0.38	dB	Pass	
5.00 MHz		0.06	-0.38	0.38	dB	Pass	
10.00 MHz		0.02	-0.38	0.38	dB	Pass	
25.00 MHz		0.05	-0.38	0.38	dB	Pass	
150.00 MHz		0.03	-0.38	0.38	dB	Pass	3.53
250.00 MHz		-0.01	-0.38	0.38	dB	Pass	3.82
350.00 MHz		-0.08	-0.38	0.38	dB	Pass	2.03
450.00 MHz		-0.12	-0.38	0.38	dB	Pass	2.00
550.00 MHz		-0.08	-0.38	0.38	dB	Pass	2.02
650.00 MHz		-0.08	-0.38	0.38	dB	Pass	2.02
750.00 MHz		-0.14	-0.38	0.38	dB	Pass	2.00
850.00 MHz		-0.10	-0.38	0.38	dB	Pass	2.02
950.00 MHz		-0.13	-0.38	0.38	dB	Pass	2.00
1050.00 MHz		-0.15	-0.38	0.38	dB	Pass	1.99
1150.00 MHz		-0.13	-0.38	0.38	dB	Pass	2.01
1250.00 MHz		-0.11	-0.38	0.38	dB	Pass	2.01
1350.00 MHz		-0.12	-0.38	0.38	dB	Pass	2.01
1450.00 MHz		-0.10	-0.38	0.38	dB	Pass	2.02
1550.00 MHz		-0.18	-0.38	0.38	dB	Pass	1.98
1650.00 MHz		-0.13	-0.38	0.38	dB	Pass	2.00
1750.00 MHz		-0.10	-0.38	0.38	dB	Pass	2.01
1850.00 MHz		-0.11	-0.38	0.38	dB	Pass	2.01
1950.00 MHz		-0.16	-0.38	0.38	dB	Pass	1.99
2050.00 MHz		-0.09	-0.38	0.38	dB	Pass	1.92
2150.00 MHz		-0.16	-0.38	0.38	dB	Pass	1.89
2250.00 MHz		-0.07	-0.38	0.38	dB	Pass	1.93
2350.00 MHz		-0.14	-0.38	0.38	dB	Pass	1.90
2450.00 MHz		-0.17	-0.38	0.38	dB	Pass	1.89
2550.00 MHz		-0.15	-0.38	0.38	dB	Pass	1.89
2650.00 MHz		-0.15	-0.38	0.38	dB	Pass	1.90
2750.00 MHz		-0.19	-0.38	0.38	dB	Pass	1.88
2850.00 MHz		-0.19	-0.38	0.38	dB	Pass	1.88
2950.00 MHz		-0.15	-0.38	0.38	dB	Pass	1.89
-13 dBm, 0 dB Attenuation, DC Coupling (Preamp On)							
0.30 MHz		0.00	-0.70	0.70	dB	Pass	
0.50 MHz		0.03	-0.70	0.70	dB	Pass	
0.75 MHz		0.02	-0.70	0.70	dB	Pass	
1.00 MHz		0.03	-0.70	0.70	dB	Pass	
2.50 MHz		0.05	-0.70	0.70	dB	Pass	
5.00 MHz		0.07	-0.70	0.70	dB	Pass	
10.00 MHz		0.04	-0.70	0.70	dB	Pass	
25.00 MHz		0.07	-0.70	0.70	dB	Pass	
150.00 MHz		-0.04	-0.70	0.70	dB	Pass	
250.00 MHz		-0.06	-0.70	0.70	dB	Pass	
350.00 MHz		0.06	-0.70	0.70	dB	Pass	2.25
450.00 MHz		0.01	-0.70	0.70	dB	Pass	2.22
550.00 MHz		-0.04	-0.70	0.70	dB	Pass	2.59
650.00 MHz		0.02	-0.70	0.70	dB	Pass	2.23
750.00 MHz		0.03	-0.70	0.70	dB	Pass	2.23
850.00 MHz		-0.07	-0.70	0.70	dB	Pass	2.56
950.00 MHz		0.03	-0.70	0.70	dB	Pass	2.23
1050.00 MHz		-0.04	-0.70	0.70	dB	Pass	2.58
1150.00 MHz		-0.01	-0.70	0.70	dB	Pass	2.59
1250.00 MHz		0.05	-0.70	0.70	dB	Pass	2.24

Test Description	True Value	Test Result	Lower limit	Upper limit	Units		TUR
1350.00 MHz		-0.01	-0.70	0.70	dB	Pass	2.60
1450.00 MHz		-0.04	-0.70	0.70	dB	Pass	2.58
1550.00 MHz		-0.05	-0.70	0.70	dB	Pass	2.57
1650.00 MHz		-0.03	-0.70	0.70	dB	Pass	2.58
1750.00 MHz		-0.03	-0.70	0.70	dB	Pass	2.59
1850.00 MHz		0.01	-0.70	0.70	dB	Pass	2.22
1950.00 MHz		-0.05	-0.70	0.70	dB	Pass	2.58
2050.00 MHz		0.00	-0.70	0.70	dB	Pass	2.17
2150.00 MHz		-0.07	-0.70	0.70	dB	Pass	2.50
2250.00 MHz		0.10	-0.70	0.70	dB	Pass	2.22
2350.00 MHz		-0.08	-0.70	0.70	dB	Pass	2.50
2450.00 MHz		-0.01	-0.70	0.70	dB	Pass	2.54
2550.00 MHz		-0.03	-0.70	0.70	dB	Pass	2.53
2650.00 MHz		-0.02	-0.70	0.70	dB	Pass	2.53
2750.00 MHz		-0.07	-0.70	0.70	dB	Pass	2.50
2850.00 MHz		-0.07	-0.70	0.70	dB	Pass	2.50
2950.00 MHz		-0.10	-0.70	0.70	dB	Pass	2.49
FREQUENCY RESPONSE ABOVE 3 GHz							
-10 dBm input level							
3.050 GHz		-0.84	-1.50	1.50	dB	Pass	2.81
3.250 GHz		-0.50	-1.50	1.50	dB	Pass	3.04
3.450 GHz		-0.48	-1.50	1.50	dB	Pass	3.06
3.650 GHz		-0.52	-1.50	1.50	dB	Pass	3.05
3.850 GHz		0.14	-1.50	1.50	dB	Pass	2.50
4.050 GHz		-0.47	-1.50	1.50	dB	Pass	3.07
4.250 GHz		-0.28	-1.50	1.50	dB	Pass	3.20
4.450 GHz		-0.27	-1.50	1.50	dB	Pass	3.21
4.650 GHz		-0.26	-1.50	1.50	dB	Pass	3.21
4.850 GHz		-0.29	-1.50	1.50	dB	Pass	3.19
5.050 GHz		0.05	-1.50	1.50	dB	Pass	2.45
5.250 GHz		-0.25	-1.50	1.50	dB	Pass	3.22
5.450 GHz		-0.40	-1.50	1.50	dB	Pass	3.11
5.650 GHz		-0.01	-1.50	1.50	dB	Pass	3.41
5.850 GHz		-0.19	-1.50	1.50	dB	Pass	3.26
6.050 GHz		-0.21	-1.50	1.50	dB	Pass	3.26
6.250 GHz		-0.35	-1.50	1.50	dB	Pass	3.15
6.450 GHz		-0.15	-1.50	1.50	dB	Pass	3.30
6.650 GHz		-0.14	-2.00	2.00	dB	Pass	
6.850 GHz		0.18	-2.00	2.00	dB	Pass	3.18
7.050 GHz		0.05	-2.00	2.00	dB	Pass	3.09
7.250 GHz		0.04	-2.00	2.00	dB	Pass	3.09
7.450 GHz		0.12	-2.00	2.00	dB	Pass	3.15
7.650 GHz		0.22	-2.00	2.00	dB	Pass	3.21
7.850 GHz		0.06	-2.00	2.00	dB	Pass	3.10
8.050 GHz		-0.13	-2.00	2.00	dB	Pass	
8.250 GHz		-0.04	-2.00	2.00	dB	Pass	
8.450 GHz		0.23	-2.00	2.00	dB	Pass	3.22
8.650 GHz		-0.15	-2.00	2.00	dB	Pass	
8.850 GHz		0.33	-2.00	2.00	dB	Pass	3.30
9.050 GHz		0.03	-2.00	2.00	dB	Pass	3.08
9.250 GHz		0.45	-2.00	2.00	dB	Pass	3.38
9.450 GHz		0.08	-2.00	2.00	dB	Pass	3.11
9.650 GHz		-0.12	-2.00	2.00	dB	Pass	
9.850 GHz		0.26	-2.00	2.00	dB	Pass	3.24
10.050 GHz		0.73	-2.00	2.00	dB	Pass	3.62
10.250 GHz		0.16	-2.00	2.00	dB	Pass	3.15
10.450 GHz		0.09	-2.00	2.00	dB	Pass	3.12
10.650 GHz		0.46	-2.00	2.00	dB	Pass	3.38
10.850 GHz		0.09	-2.00	2.00	dB	Pass	3.12
11.050 GHz		0.13	-2.00	2.00	dB	Pass	3.15
11.250 GHz		-0.19	-2.00	2.00	dB	Pass	

Test Results

Test Description	True Value	Test Result	Lower limit	Upper limit	Units		TUR
11.450 GHz		0.71	-2.00	2.00	dB	Pass	3.60
11.650 GHz		0.38	-2.00	2.00	dB	Pass	3.34
11.850 GHz		0.12	-2.00	2.00	dB	Pass	3.14
12.050 GHz		-0.03	-2.00	2.00	dB	Pass	
12.250 GHz		-0.57	-2.00	2.00	dB	Pass	
12.450 GHz		-0.67	-2.00	2.00	dB	Pass	
12.650 GHz		-0.23	-2.00	2.00	dB	Pass	
12.850 GHz		0.03	-2.00	2.00	dB	Pass	3.03
13.050 GHz		-0.18	-2.00	2.00	dB	Pass	
13.250 GHz		0.68	-2.00	2.00	dB	Pass	3.55
13.450 GHz		0.27	-2.00	2.00	dB	Pass	3.23
13.650 GHz		-0.08	-2.00	2.00	dB	Pass	
13.850 GHz		0.00	-2.00	2.00	dB	Pass	3.03
14.050 GHz		0.19	-2.00	2.00	dB	Pass	3.17
14.250 GHz		0.04	-2.00	2.00	dB	Pass	3.06
14.450 GHz		0.12	-2.00	2.00	dB	Pass	3.11
14.650 GHz		-0.09	-2.00	2.00	dB	Pass	
14.850 GHz		0.13	-2.00	2.00	dB	Pass	3.12
15.050 GHz		0.13	-2.00	2.00	dB	Pass	3.13
15.250 GHz		0.15	-2.00	2.00	dB	Pass	3.13
15.450 GHz		-0.01	-2.00	2.00	dB	Pass	
15.650 GHz		0.40	-2.00	2.00	dB	Pass	3.32
15.850 GHz		0.45	-2.00	2.00	dB	Pass	3.38
16.050 GHz		0.17	-2.00	2.00	dB	Pass	3.15
16.250 GHz		0.16	-2.00	2.00	dB	Pass	3.15
16.450 GHz		-0.07	-2.00	2.00	dB	Pass	
16.650 GHz		-0.36	-2.00	2.00	dB	Pass	
16.850 GHz		0.18	-2.00	2.00	dB	Pass	3.16
17.050 GHz		0.15	-2.00	2.00	dB	Pass	3.17
17.250 GHz		-0.07	-2.00	2.00	dB	Pass	
17.450 GHz		-0.05	-2.00	2.00	dB	Pass	
17.650 GHz		-0.35	-2.00	2.00	dB	Pass	
17.850 GHz		0.30	-2.00	2.00	dB	Pass	3.25
18.050 GHz		-0.06	-2.00	2.00	dB	Pass	3.55
18.250 GHz		0.08	-2.00	2.00	dB	Pass	2.31
18.450 GHz		0.12	-2.00	2.00	dB	Pass	2.33
18.650 GHz		0.11	-2.00	2.00	dB	Pass	2.32
18.850 GHz		-0.13	-2.00	2.00	dB	Pass	3.51
19.050 GHz		-0.16	-2.00	2.00	dB	Pass	3.50
19.250 GHz		0.06	-2.00	2.00	dB	Pass	2.31
19.450 GHz		-0.07	-2.00	2.00	dB	Pass	3.54
19.650 GHz		-0.46	-2.00	2.00	dB	Pass	3.23
19.850 GHz		0.04	-2.00	2.00	dB	Pass	2.29
20.050 GHz		0.23	-2.00	2.00	dB	Pass	2.40
20.250 GHz		0.33	-2.00	2.00	dB	Pass	2.47
20.450 GHz		-0.34	-2.00	2.00	dB	Pass	3.34
20.650 GHz		-0.09	-2.00	2.00	dB	Pass	3.52
20.850 GHz		0.28	-2.00	2.00	dB	Pass	2.45
21.050 GHz		-0.33	-2.00	2.00	dB	Pass	3.35
21.250 GHz		-0.07	-2.00	2.00	dB	Pass	3.54
21.450 GHz		0.01	-2.00	2.00	dB	Pass	2.28
21.650 GHz		-0.15	-2.00	2.00	dB	Pass	3.50
21.850 GHz		-0.64	-2.00	2.00	dB	Pass	3.12
22.050 GHz		0.11	-2.50	2.50	dB	Pass	2.77
22.250 GHz		0.11	-2.50	2.50	dB	Pass	2.78
22.450 GHz		-0.15	-2.50	2.50	dB	Pass	
22.650 GHz		-0.39	-2.50	2.50	dB	Pass	
22.850 GHz		-0.46	-2.50	2.50	dB	Pass	
23.050 GHz		0.11	-2.50	2.50	dB	Pass	2.75
23.250 GHz		-0.19	-2.50	2.50	dB	Pass	
23.450 GHz		-0.50	-2.50	2.50	dB	Pass	
23.650 GHz		-0.30	-2.50	2.50	dB	Pass	

Test Description	True Value	Test Result	Lower limit	Upper limit	Units		TUR
23.850 GHz		-0.31	-2.50	2.50	dB	Pass	
24.050 GHz		-0.46	-2.50	2.50	dB	Pass	
24.250 GHz		-1.07	-2.50	2.50	dB	Pass	3.73
24.450 GHz		-0.69	-2.50	2.50	dB	Pass	
24.650 GHz		-0.68	-2.50	2.50	dB	Pass	
24.850 GHz		-1.19	-2.50	2.50	dB	Pass	3.68
25.050 GHz		-0.35	-2.50	2.50	dB	Pass	
25.250 GHz		-1.08	-2.50	2.50	dB	Pass	3.73
25.450 GHz		-0.47	-2.50	2.50	dB	Pass	
25.650 GHz		-1.04	-2.50	2.50	dB	Pass	3.79
25.850 GHz		-0.26	-2.50	2.50	dB	Pass	
26.050 GHz		-0.58	-2.50	2.50	dB	Pass	
26.250 GHz		-0.49	-2.50	2.50	dB	Pass	
26.450 GHz		-1.25	-2.50	2.50	dB	Pass	3.60
THIRD ORDER INTERMODULATION DISTORTION							
49.91 MHz		18.050	14.000	40.000	dBm	Pass	
1750.21 MHz		19.717	17.000	40.000	dBm	Pass	
2800.21 MHz		21.364	17.000	40.000	dBm	Pass	
5000.21 MHz		17.915	15.000	40.000	dBm	Pass	
7000.21 MHz		11.993	8.000	40.000	dBm	Pass	
13000.21 MHz		16.291	8.000	40.000	dBm	Pass	
19500.21 MHz		17.242	12.000	40.000	dBm	Pass	
SECOND HARMONIC DISTORTION (-11 dBm Mixer Level)							
Fundamental Frequency							
53 MHz		-67.0	-150.0	-53.0	dBc	Pass	
290 MHz		-67.3	-150.0	-53.0	dBc	Pass	
1000 MHz		-69.7	-150.0	-63.0	dBc	Pass	
1450 MHz		-58.6	-150.0	-53.0	dBc	Pass	
1550 MHz		-106.5	-150.0	-91.0	dBc	Pass	
ABSOLUTE AMPLITUDE ACCURACY							
Input Level (RBW)							
Preamp Off							
-10 dBm (47 kHz)		-9.86	-10.24	-9.76	dBm	Pass	
-12 dBm (18 kHz)		-11.89	-12.24	-11.76	dBm	Pass	
-20 dBm (9.1 kHz)		-19.90	-20.24	-19.76	dBm	Pass	
-25 dBm (4.7 kHz)		-24.89	-25.24	-24.76	dBm	Pass	
-35 dBm (1.8 kHz)		-34.90	-35.24	-34.76	dBm	Pass	
-50 dBm (910 Hz)		-49.89	-50.24	-49.76	dBm	Pass	
Preamp On							
-40 dBm (1 kHz)		-39.86	-40.36	-39.64	dBm	Pass	
-60 dBm (1 kHz)		-59.87	-60.36	-59.64	dBm	Pass	
-80 dBm (1 kHz)		-79.85	-80.36	-79.64	dBm	Pass	
INPUT ATTENUATION SWITCHING UNCERTAINTY							
Input Attenuation Setting (10 dB Reference)							
0 dB		-0.02	-0.20	0.20	dB	Pass	2.34
2 dB		-0.04	-0.18	0.18	dB	Pass	2.09
6 dB		-0.03	-0.18	0.18	dB	Pass	2.56
20 dB		0.01	-0.14	0.14	dB	Pass	2.42
30 dB		0.02	-0.14	0.14	dB	Pass	2.55
40 dB		0.04	-0.14	0.14	dB	Pass	2.56
50 dB		0.04	-0.18	0.18	dB	Pass	3.28
60 dB		0.07	-0.18	0.18	dB	Pass	3.30
70 dB		0.06	-0.18	0.18	dB	Pass	3.29
DISPLAY SCALE FIDELITY							
Input Mixer Level							

Test Results

Test Description	True Value	Test Result	Lower limit	Upper limit	Units		TUR
-6 dBm		-6.010	-6.130	-5.870	dBm	Pass	2.67
-21 dBm		-11.009	-11.070	-10.930	dBm	Pass	1.43
-45 dBm		-35.003	-35.070	-34.930	dBm	Pass	1.43
-55 dBm		-44.993	-45.070	-44.930	dBm	Pass	1.30
-65 dBm		-54.983	-55.070	-54.930	dBm	Pass	1.31
-75 dBm		-64.989	-65.070	-64.930	dBm	Pass	1.30
NOISE SIDEBANDS (Offset from 1 GHz)							
< 50 kHz Offsets							
100 Hz		-104.57	-128.00	-91.00	dBc/H	Pass	
990 Hz		-114.90	-140.00	-103.00	dBc/H	Pass	
10 kHz		-124.29	-171.00	-114.00	dBc/H	Pass	
30 kHz		-122.74	-171.00	-114.00	dBc/H	Pass	
> 50 kHz Offsets							
100 kHz		-127.93	-177.00	-120.00	dBc/H	Pass	
1 MHz		-153.23	-201.00	-144.00	dBc/H	Pass	
6 MHz		-152.41	-208.00	-151.00	dBc/H	Pass	
9.9 MHz		-169.25	-208.00	-151.00	dBc/H	Pass	

***** End of Certificate *****