Test Report

Product Name	ROS Home Center
Model No	005-02004
FCC ID	BJM-ROS2000A

Applicant	TATUNG CO.
Address	22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C.

Date of Receipt	Apr. 01, 2010
Issued Date	May, 10, 2010
Report No.	104248R-RFUSP32V01
Report Version	V1.0

Test Report Certification

Issued Date: May, 10, 2010
Report No.: 104248R-RFUSP32V01

Product Name	ROS Home Center
Applicant	TATUNG CO.
Address	22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C.
Manufacturer	TATUNG CO.
Model No.	005-02004
FCC ID.	BJM-ROS2000A
EUT Rated Voltage	AC 100-240V/50-60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	Prodea Systems
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2009 ANSI C63.4: 2003
Test Result	Complied

NVLAP Lab Code: 200533-0

The Test Results relate only to the samples tested.
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This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

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(Adm. Specialist / Joanne Lin)

Tested By : Joe Guo
(Engineer / Joe Guo)

Approved By :
(Manager / Vincent Lin)

Testing Laboratory
0914

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	ROS Home Center
Trade Name	Prodea Systems
FCC ID.	BJM-ROS2000A
Model No.	005-02004
Frequency Range	5250-5320MHz, 5500-5580MHz, 5660-5700MHz
Number of Channels	802.11a/n-20MHz: 11; 802.11n-40MHz: 5
Data Rate	802.11a: 6 - 54Mbps , 802.11n: up to 300Mbps
Channel Control	Auto
Type of Modulation	802.11a/n:OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna type	PIFA
Antenna Gain	Refer to the table “Antenna List”
Power Adapter	MFR: HIPRO, M/N: HP-O2040D43 Input: AC 100-240V, 50-60Hz, 1.5A Output: DC 12V, 3.33A Cable Out: Non-Shielded, 1.6m, with one ferrite core bonded.

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	FAVORTRON	E773700186 (main) E773700186 (aux) E773700185 (mimo)	6.01dBi in 2.4 GHz
2	FAVORTRON	E773700180 (main) E773700180 (aux) E773700185 (mimo)	4.68dBi in 5GHz

Note: The antenna of EUT is conform to FCC 15.203

802.11a/n-20MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 52:	5260 MHz	Channel 56:	5280 MHz	Channel 60:	5300 MHz	Channel 64:	5320 MHz
Channel 100:	5500 MHz	Channel 104:	5520 MHz	Channel 108:	5540 MHz	Channel 112:	5560 MHz
Channel 116:	5580 MHz	Channel 132:	5660 MHz	Channel 136:	5680 MHz	Channel 140:	5700 MHz

802.11n-40MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 54:	5270 MHz	Channel 62:	5310 MHz	Channel 102:	5510 MHz	Channel 110:	5550 MHz
Channel 134:	5670 MHz						

Note:

1. This device is a ROS Home Center with a built-in WLAN transceiver.
2. This device is Master equipment, the transmission is disabled in the 5600-5650MHz band.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11a is 6Mbps, 802.11n-20BW is 13.5Mbps and 802.11n-40BW are 27Mbps)
4. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.

1.2. Operational Description

The EUT is a ROS Home Center with a built-in 2.4GHz and 5GHz WLAN card. This device provided four kinds of transmitting speed 1, 2, 5.5 and 11Mbps and the device of RF carrier is DBPSK, DQPSK and CCK (IEEE 802.11b). The device provided of eight kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11a/g).

The device provided of eight kinds of transmitting speed 13,26,39,52,78,104,117 and 130Mbps in 802.11n(20BW) mode and 27,54,81,108,162,216,243 and 270Mbps(40BW) the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11n), the IEEE 802.11n is Multiple In, Multiple Out" (MIMO) technology.

The device adapts direct sequence spread spectrum modulation. The antenna provides diversity function to improve the receiving function and the antennas to support 2(Transmit) × 3(Receive) MIMO technology.

This ROS Home Center, compliant with IEEE 802.11b and IEEE 802.11a/g/n, is a high-efficiency Wireless LAN adapter. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operation in 2.4GHz Direst Sequence Spread Spectrum (DSSS) radio transmission, the ROS Home Center Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any IEEE 802.11b and IEEE 802.11a/g/n network.

This device is Master equipment, the transmission is disabled in the 5600-5650MHz band.

Test Mode	Mode 1: Transmit (802.11a-6Mbps)
	Mode 2: Transmit (802.11n-20BW 13Mbps)
	Mode 3: Transmit (802.11n-40BW 27Mbps)

NOTE: In n-20 and n-40 mode the power combiner is used, the factor of combiner is 10dB and offset it in test instrument.

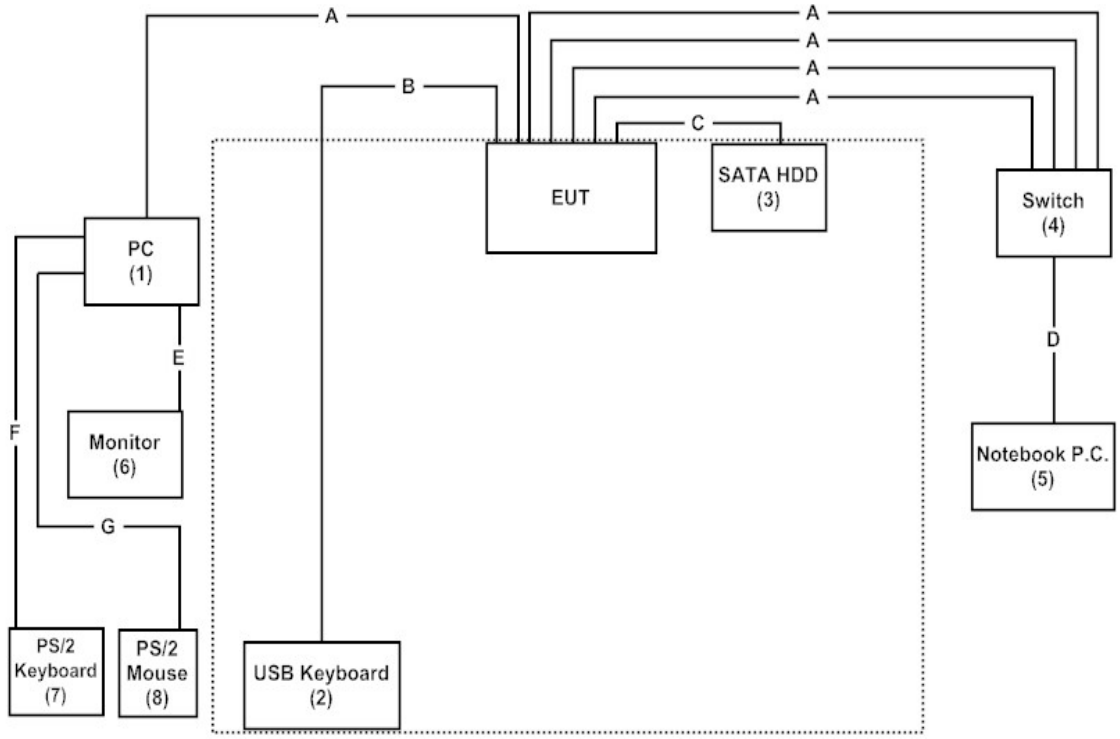
1.3. Tested System Datails

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	PC	ASUS	CT5430	N/A	Non-Shielded, 1.8m
2	USB Keyboard (for Conduction test)	BTC	5200U	N/A	N/A
	USB Keyboard (for Spurious emission test)	DELL	SK-8115	MY-0DJ325-71619-7 A2-0327	N/A
3	SATA HDD	Onnto	ST-M10	A03521-H3-0004	Non-Shielded, 1.8m,With Core*1
4	Switch	D-Link	DGS-1008D	F37S279000038	N/A
5	Notebook P.C.	DELL	D630	00144-023-351-283	Non-Shielded, 0.8m
6	Monitor	LG	W2261VT	907YHPB07296	Non-Shielded, 1.8m
7	PS/2 Keyboard	Logitech	Y-SAL85	SY917UK	N/A
8	PS/2 Mouse	Logitech	M-SBM96B	810-000440	N/A

Signal Cable Type		Signal cable Description
A	LAN Cable	Non-shielded, 5m,five PCS.
B	USB Keyboard Cable	Shielded, 1.8m, with one ferrite core bonded.
C	E-SATA Cable	Shielded, 1m
D	LAN Cable	Non-Shielded, 3m
E	D-SUB Cable	Shielded, 1.8m, with two ferrite cores bonded.
F	PS/2 Keyboard Cable	Shielded, 1.8m
G	PS/2 Mouse Cable	Shielded, 1.8m

1.4. Configuration of tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown in Section 1.4.

(2) Execute Test Software (DUT GUI ver4.4) on the EUT.

(3) Configure the test mode, the test channel, and the data rate.

(4) Press “OK” to start the continuous transmission.

(5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : http://tw.quietek.com/modules/myalbum/

The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Accreditation on NVLAP
NVLAP Lab Code: 200533-0

Site Name: Quietek Corporation
Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
Lin-Kou Shiang, Taipei,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

Testing Laboratory
0914

2. Conducted Emission

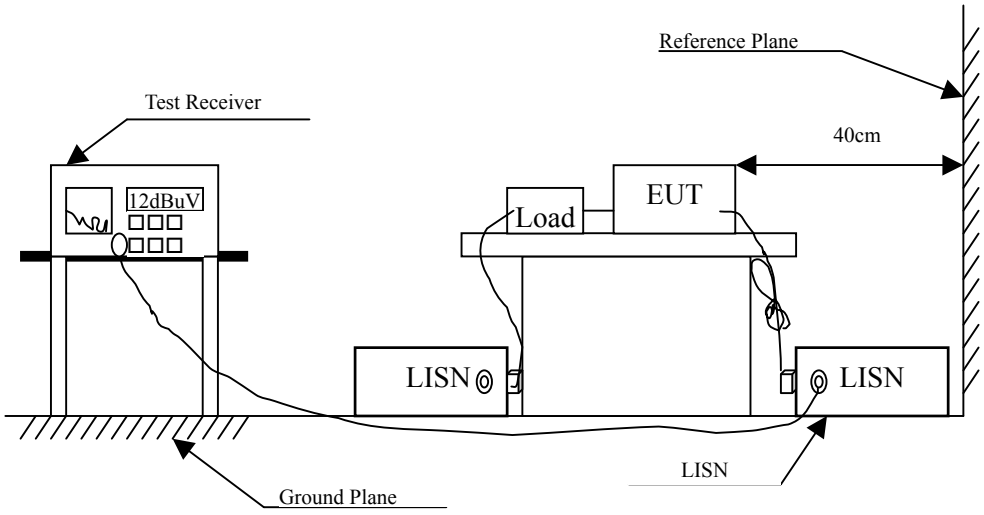
2.1. Test Equipment

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2010	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2010	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2010	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2010	
5	No.1 Shielded Room			N/A	

Note: All equipments are calibrated every one year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks : In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.
The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Aug 2002 DA 02-2138 for compliance to FCC 47CFR Subpart E requirements.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : ROS Home Center
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5270MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.173	9.734	19.820	29.555	-35.788	65.343
0.201	9.706	31.550	41.256	-23.287	64.543
0.306	9.650	28.990	38.640	-22.903	61.543
2.681	9.690	21.060	30.750	-25.250	56.000
3.513	9.698	32.180	41.878	-14.122	56.000
22.127	9.880	24.570	34.450	-25.550	60.000
Average					
0.173	9.734	3.390	13.125	-42.218	55.343
0.201	9.706	24.070	33.776	-20.767	54.543
0.306	9.650	27.090	36.740	-14.803	51.543
2.681	9.690	8.070	17.760	-28.240	46.000
3.513	9.698	19.130	28.828	-17.172	46.000
22.127	9.880	23.520	33.400	-16.600	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : ROS Home Center
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5270MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.209	9.711	39.180	48.891	-15.423	64.314
0.310	9.660	31.180	40.840	-20.589	61.429
0.517	9.640	26.630	36.270	-19.730	56.000
0.724	9.652	27.170	36.822	-19.178	56.000
1.654	9.680	27.120	36.800	-19.200	56.000
3.099	9.690	28.370	38.060	-17.940	56.000
Average					
0.209	9.711	35.880	45.591	-8.723	54.314
0.310	9.660	29.510	39.170	-12.259	51.429
0.517	9.640	26.620	36.260	-9.740	46.000
0.724	9.652	27.020	36.672	-9.328	46.000
1.654	9.680	26.910	36.590	-9.410	46.000
3.099	9.690	21.100	30.790	-15.210	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : ROS Home Center
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5550MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.158	9.756	22.380	32.136	-33.635	65.771
0.209	9.701	39.760	49.461	-14.853	64.314
0.306	9.650	28.970	38.620	-22.923	61.543
0.412	9.646	25.880	35.526	-22.988	58.514
2.994	9.690	29.660	39.350	-16.650	56.000
22.646	9.930	25.130	35.060	-24.940	60.000
Average					
0.158	9.756	1.280	11.036	-44.735	55.771
0.209	9.701	35.140	44.841	-9.473	54.314
0.306	9.650	28.350	38.000	-13.543	51.543
0.412	9.646	25.120	34.766	-13.748	48.514
2.994	9.690	20.380	30.070	-15.930	46.000
22.646	9.930	20.880	30.810	-19.190	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : ROS Home Center
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5550MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.162	9.751	22.280	32.031	-33.626	65.657
0.209	9.711	39.080	48.791	-15.523	64.314
0.310	9.660	31.000	40.660	-20.769	61.429
0.724	9.652	27.230	36.882	-19.118	56.000
3.002	9.690	28.050	37.740	-18.260	56.000
22.642	9.940	24.890	34.830	-25.170	60.000
Average					
0.162	9.751	1.690	11.441	-44.216	55.657
0.209	9.711	38.060	47.771	-6.543	54.314
0.310	9.660	30.700	40.360	-11.069	51.429
0.724	9.652	27.220	36.872	-9.128	46.000
3.002	9.690	23.120	32.810	-13.190	46.000
22.642	9.940	24.000	33.940	-16.060	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Peak Transmit Power

3.1. Test Equipment

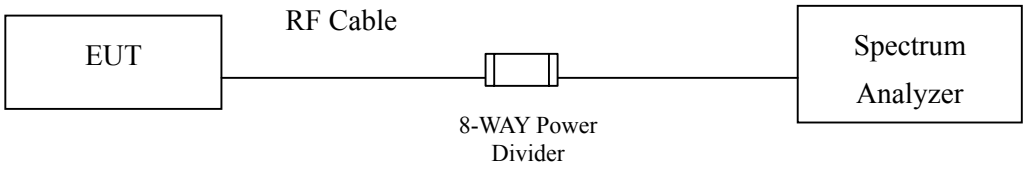
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2010
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2009
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2010
X	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2010

Note:

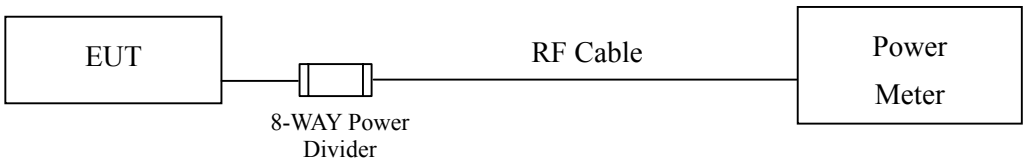
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

3.2. Test Setup

26dBc Occupied Bandwidth



Conduction Power Measurement



3.3. Limits

(1) For the band 5.15-5.25 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(2) For the band 5.25-5.35 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.825 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 1W or 17 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

3.4. Test Procedur

As an alternative to DA 02-2138, the EUT peak power was measured with a peak power meter employing a video bandwidth greater than 6dB BW of the emission under test. Peak output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT was transmitting in continuous mode. This method exceeds the limitations of DA 02-2138, and provides more accurate measurements.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Peak Transmit Power

Product : ROS Home Center
Test Item : Peak Transmit Power
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	15.75	--	--	--	--	--	--	--	<17dBm
44	5220	15.93	15.89	15.85	15.81	15.79	15.77	15.75	15.73	<17dBm
48	5240	15.75	--	--	--	--	--	--	--	<17dBm
52	5260	15.90	--	--	--	--	--	--	--	<24dBm
60	5300	15.76	15.72	15.70	15.68	15.64	15.63	15.60	15.58	<24dBm
64	5320	15.92	--	--	--	--	--	--	--	<24dBm
100	5500	15.72	--	--	--	--	--	--	--	<24dBm
116	5580	15.88	15.85	15.82	15.80	15.77	15.74	15.71	15.70	<24dBm
140	5700	15.98	--	--	--	--	--	--	--	<24dBm

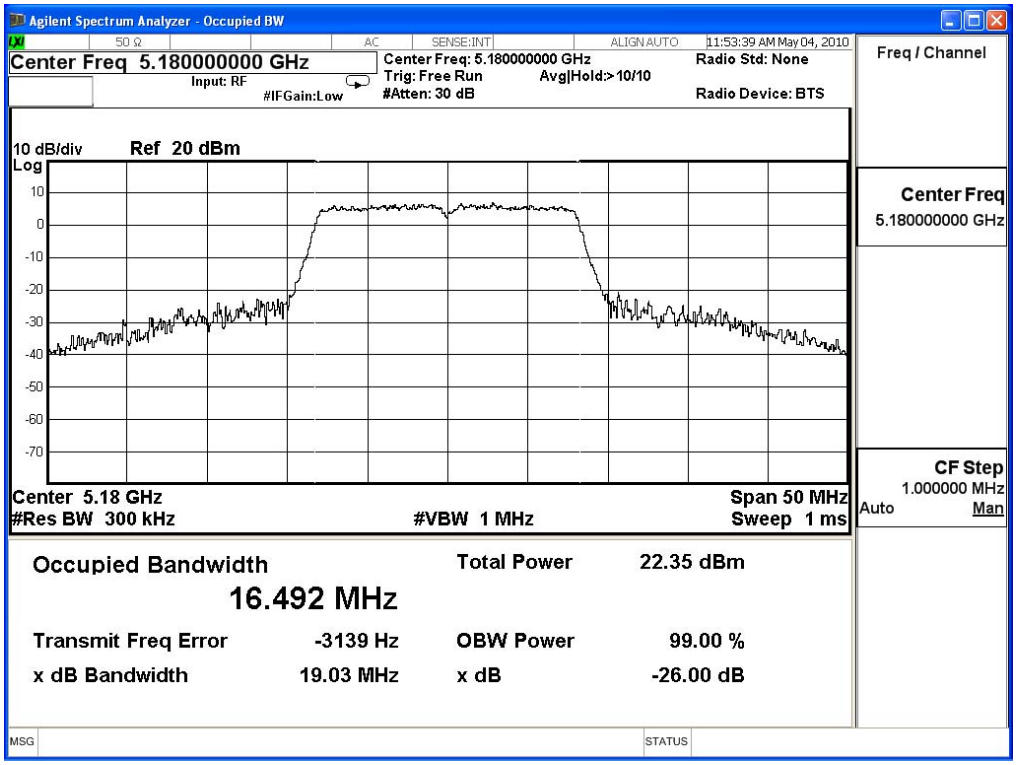
Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36	5180	19.03	15.75	17	16.79	Pass

26dBc Occupied Bandwidth:

Channel 36

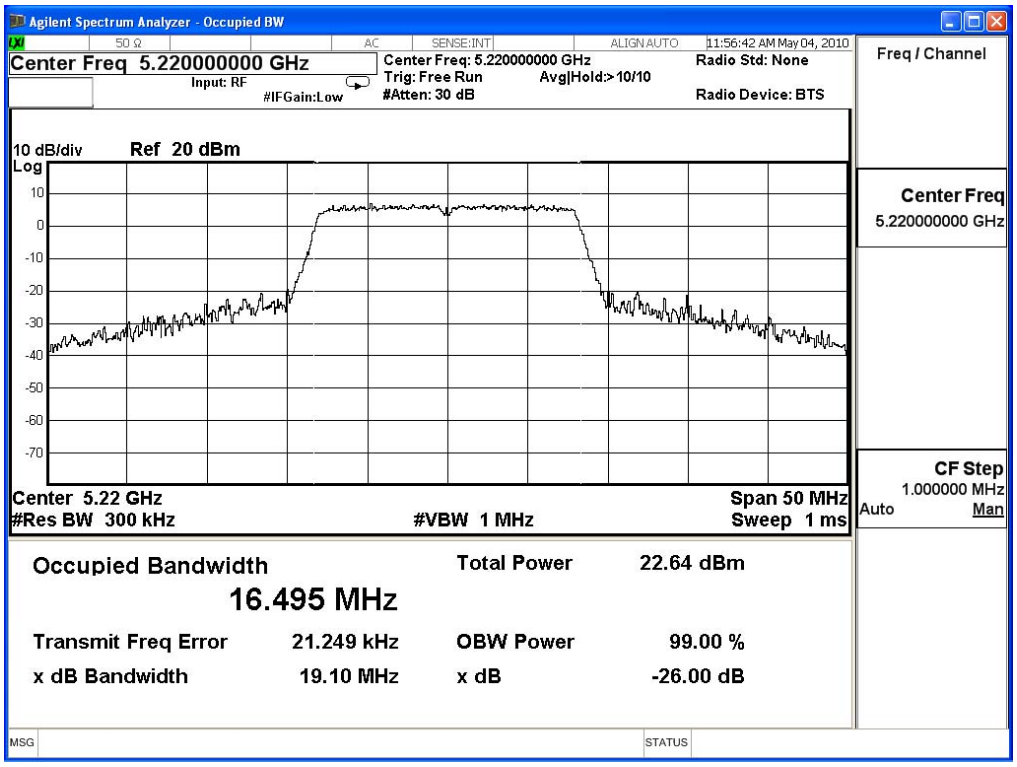


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
44	5220	19.1	15.93	17	16.81	Pass

26dBc Occupied Bandwidth:

Channel 40

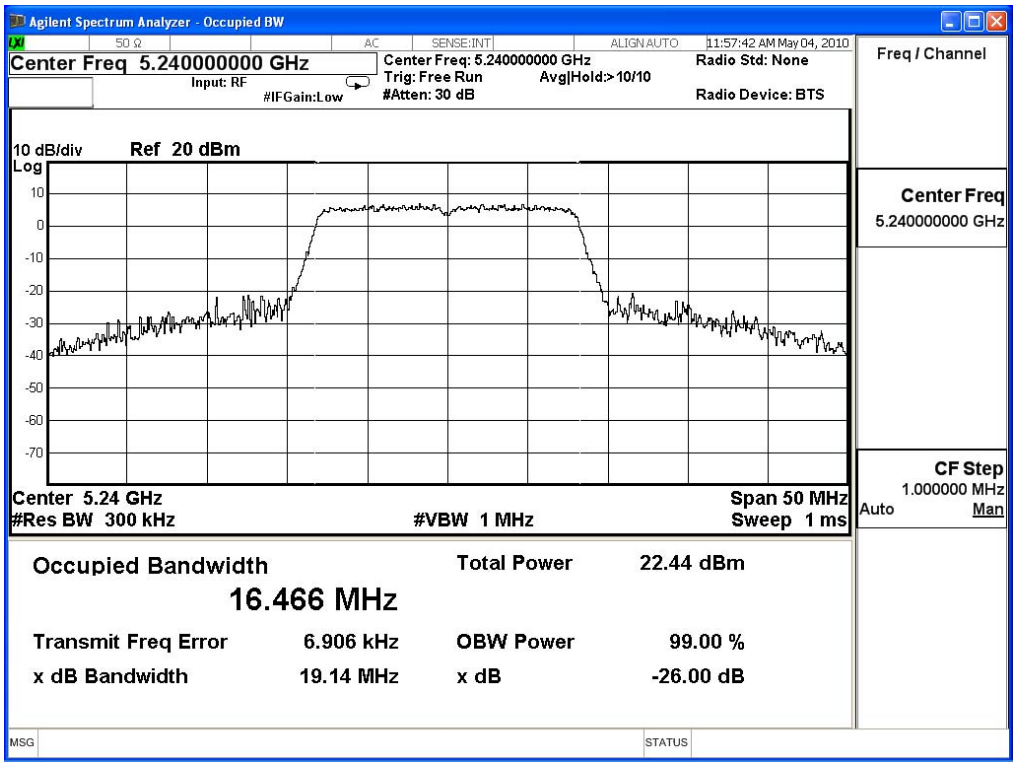


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
48	5240	19.14	15.75	17	16.82	Pass

26dBc Occupied Bandwidth:

Channel 48

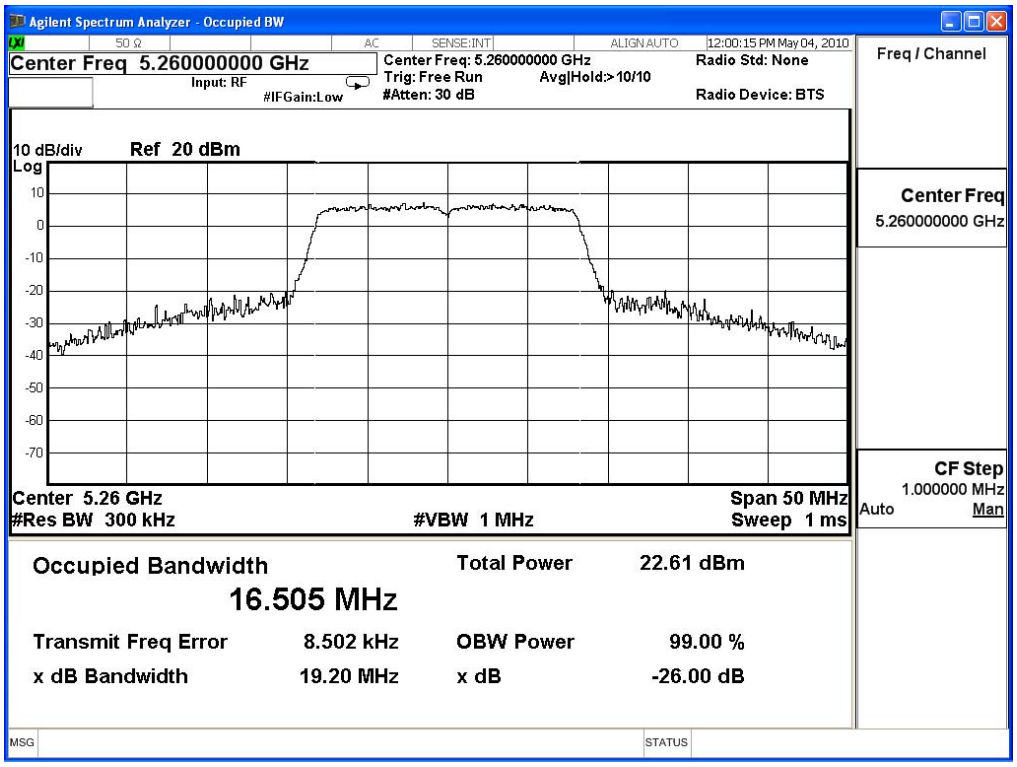


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
52	5260	19.2	15.9	24	23.83	Pass

26dBc Occupied Bandwidth:

Channel 52

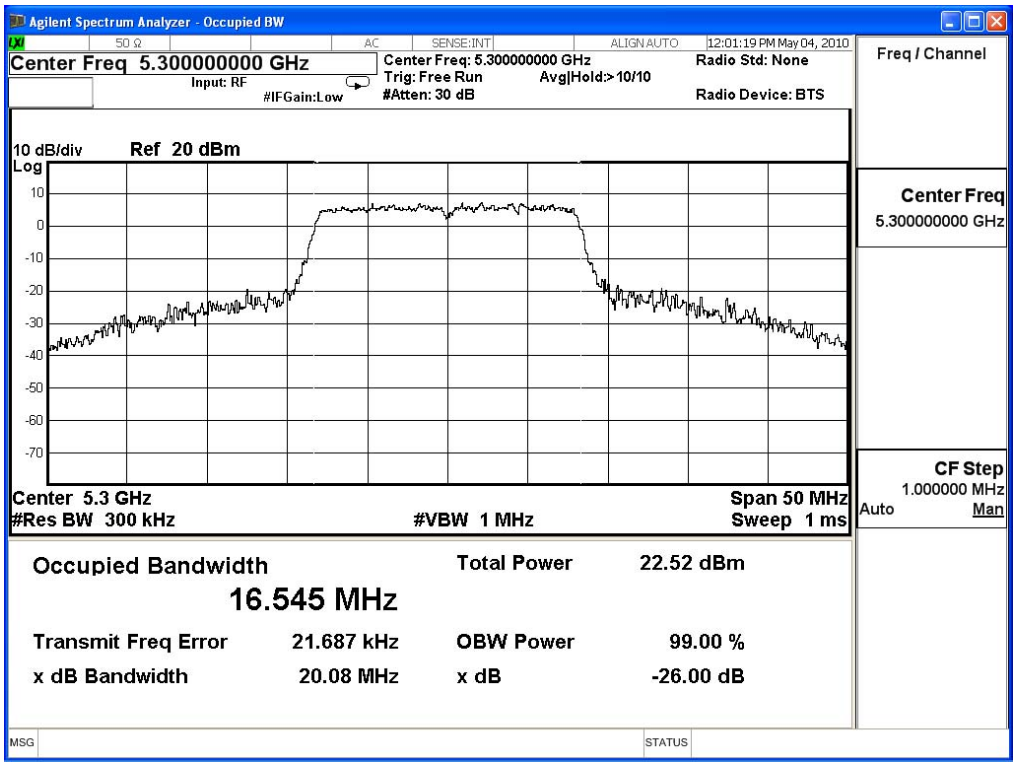


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
60	5300	20.08	15.76	24	24.03	Pass

26dBc Occupied Bandwidth:

Channel 60

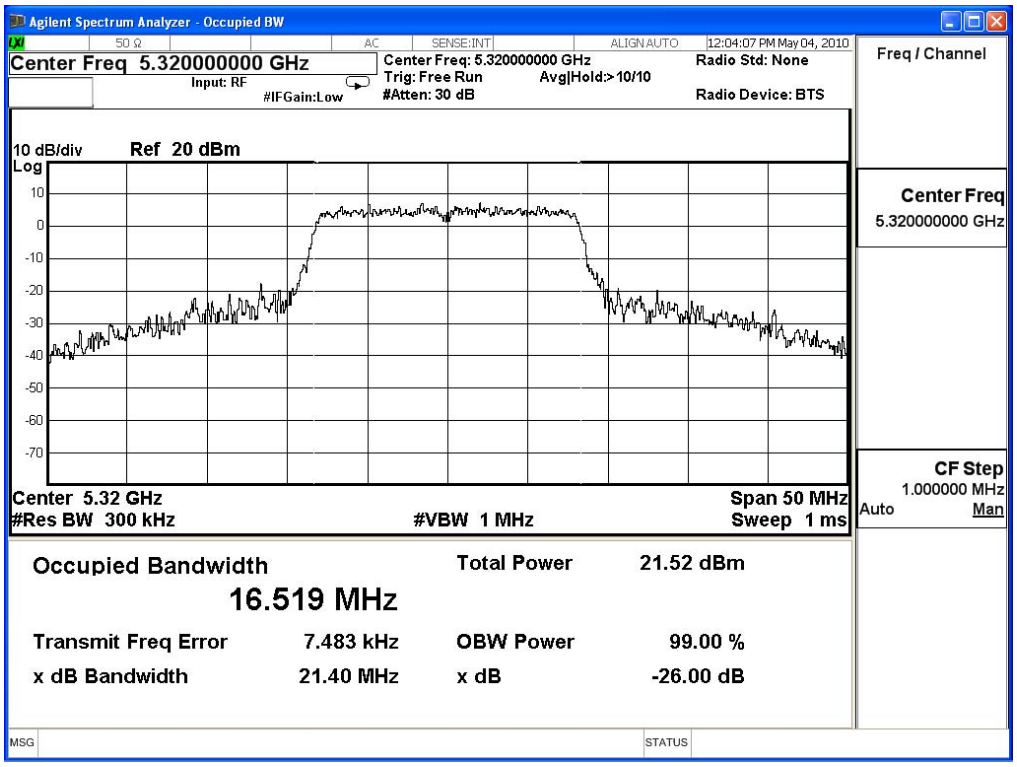


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
64	5320	21.4	15.92	24	24.30	Pass

26dBc Occupied Bandwidth:

Channel 64

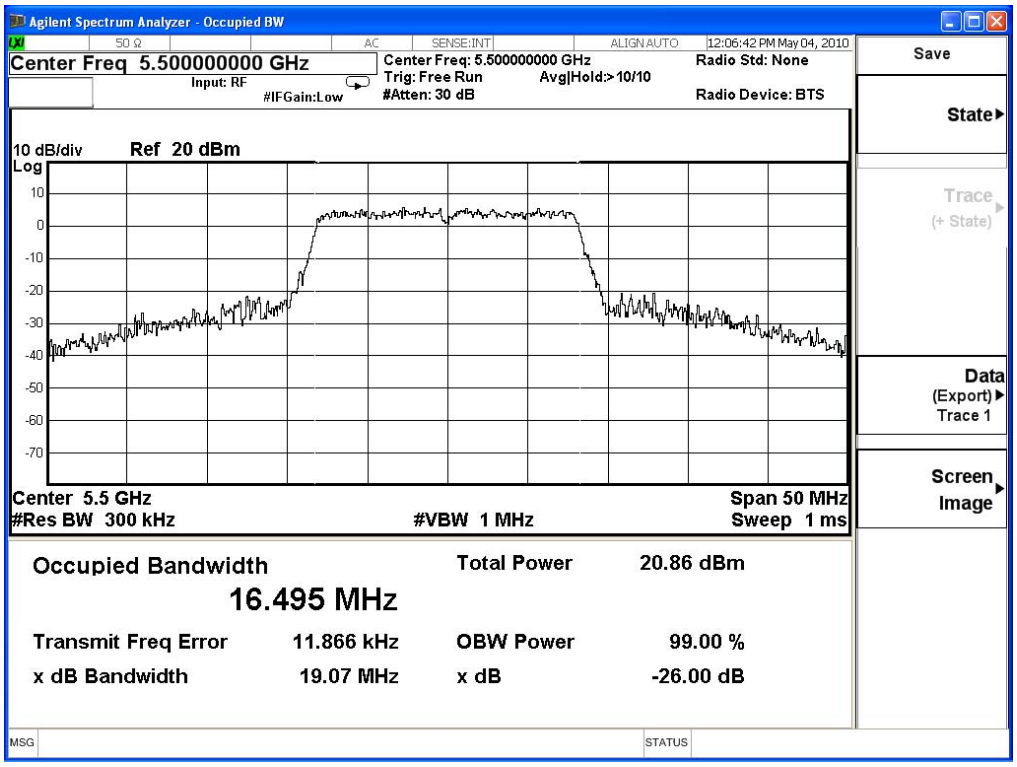


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
100	5500	19.07	15.72	24	23.80	Pass

26dBc Occupied Bandwidth:

Channel 100

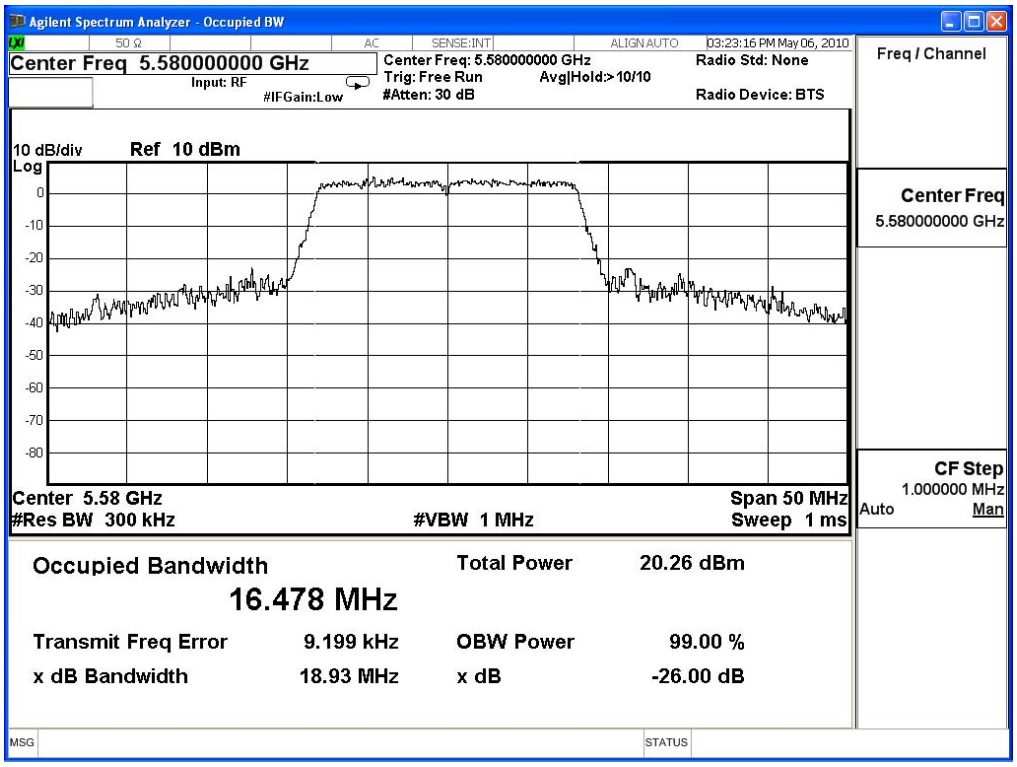


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
116	5580	18.93	15.88	24	23.77	Pass

26dBc Occupied Bandwidth:

Channel 116

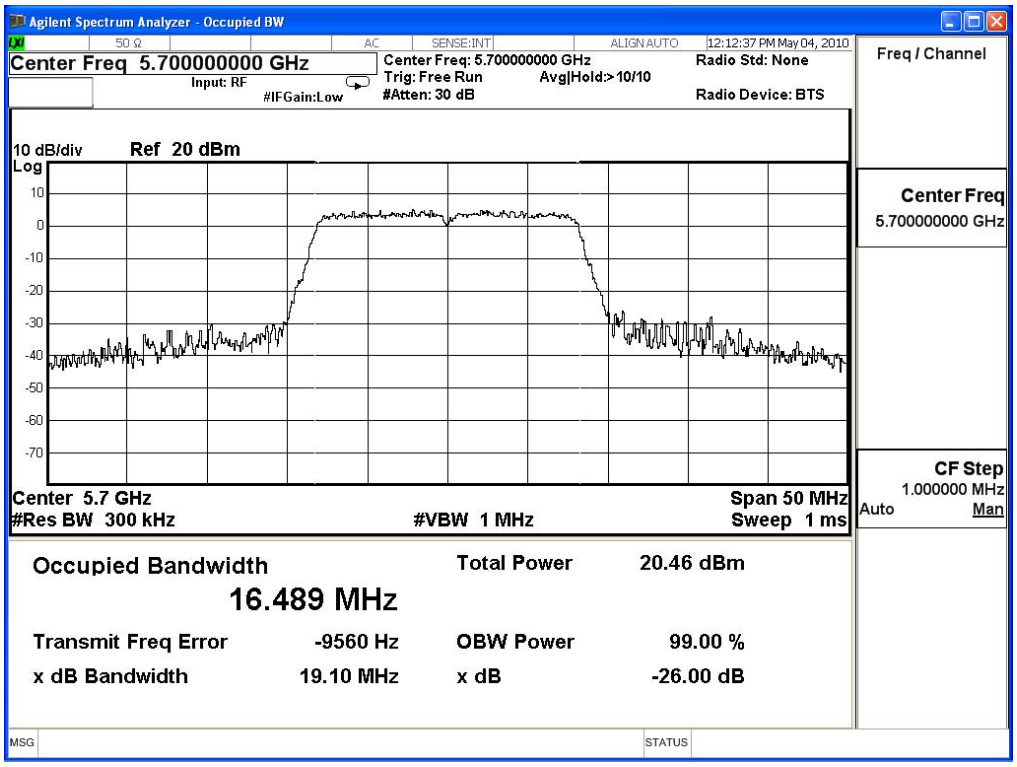


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
140	5700	19.1	15.98	24	23.81	Pass

26dBc Occupied Bandwidth:

Channel 140



Product : ROS Home Center
Test Item : Peak Transmit Power
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps)

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		13	26	39	52	78	104	117	130	
		Measurement Level (dBm)								
36	5180	15.75	--	--	--	--	--	--	--	<17dBm
44	5220	15.90	15.86	15.85	15.82	15.78	15.75	15.73	15.72	<17dBm
48	5240	15.85	--	--	--	--	--	--	--	<17dBm
52	5260	15.7	--	--	--	--	--	--	--	<24dBm
60	5300	15.69	15.66	15.63	15.62	15.59	15.57	15.54	15.51	<24dBm
64	5320	15.93	--	--	--	--	--	--	--	<24dBm
100	5500	15.8	--	--	--	--	--	--	--	<24dBm
116	5580	15.7	15.66	15.64	15.60	15.57	15.52	15.53	15.50	<24dBm
140	5700	15.85	--	--	--	--	--	--	--	<24dBm

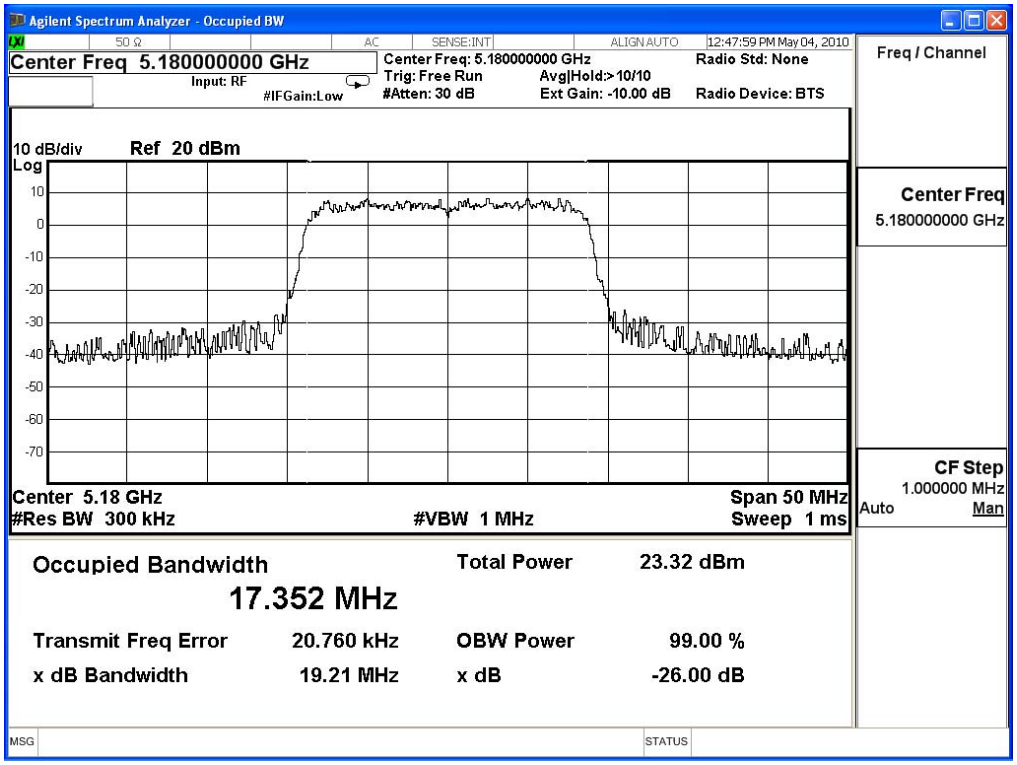
Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36	5180	19.21	15.75	17	16.84	Pass

26dBc Occupied Bandwidth:

Channel 36

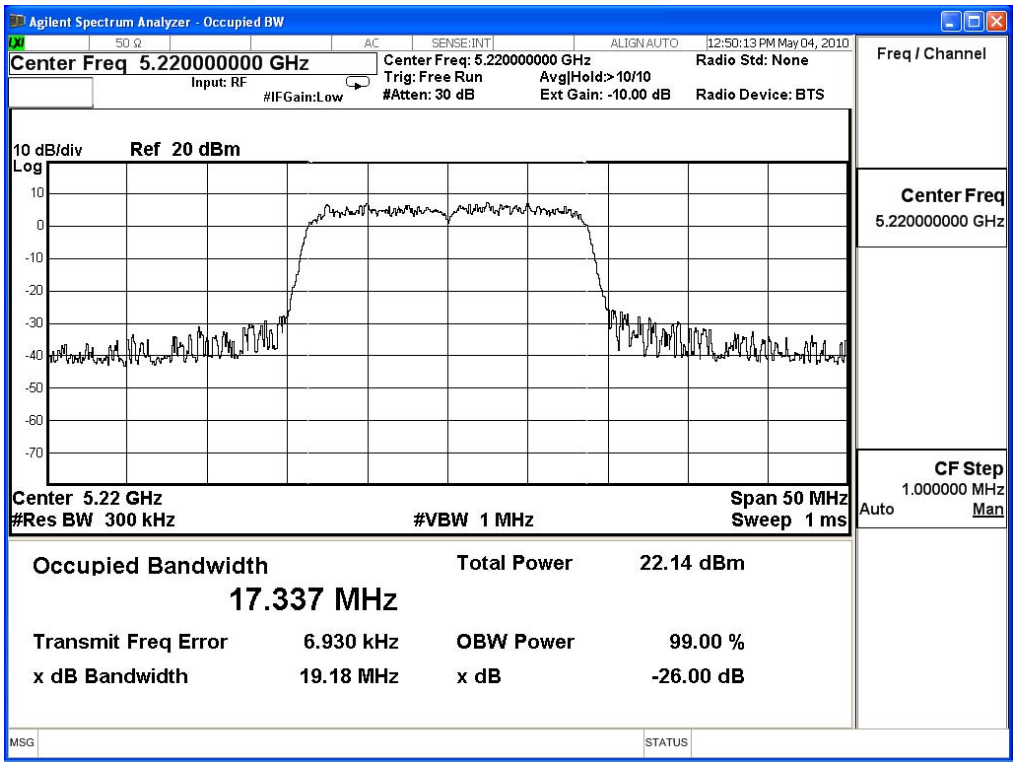


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
44	5220	19.18	15.9	17	16.83	Pass

26dBc Occupied Bandwidth:

Channel 44

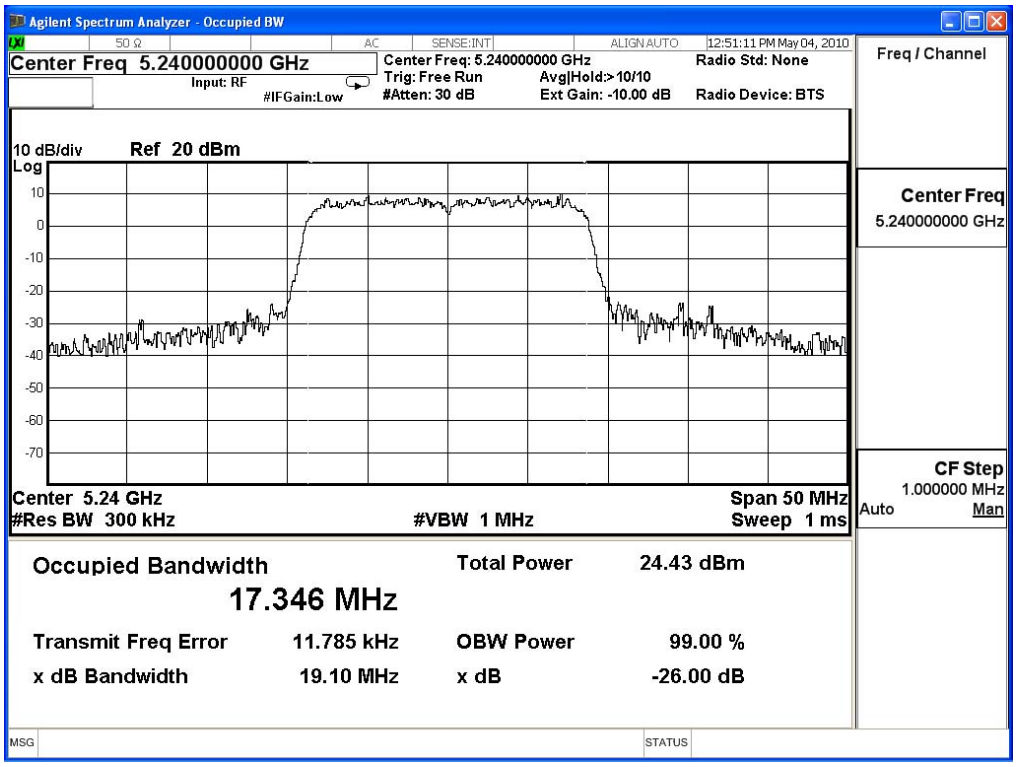


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
48	5240	19.1	15.85	17	16.81	Pass

26dBc Occupied Bandwidth:

Channel 48

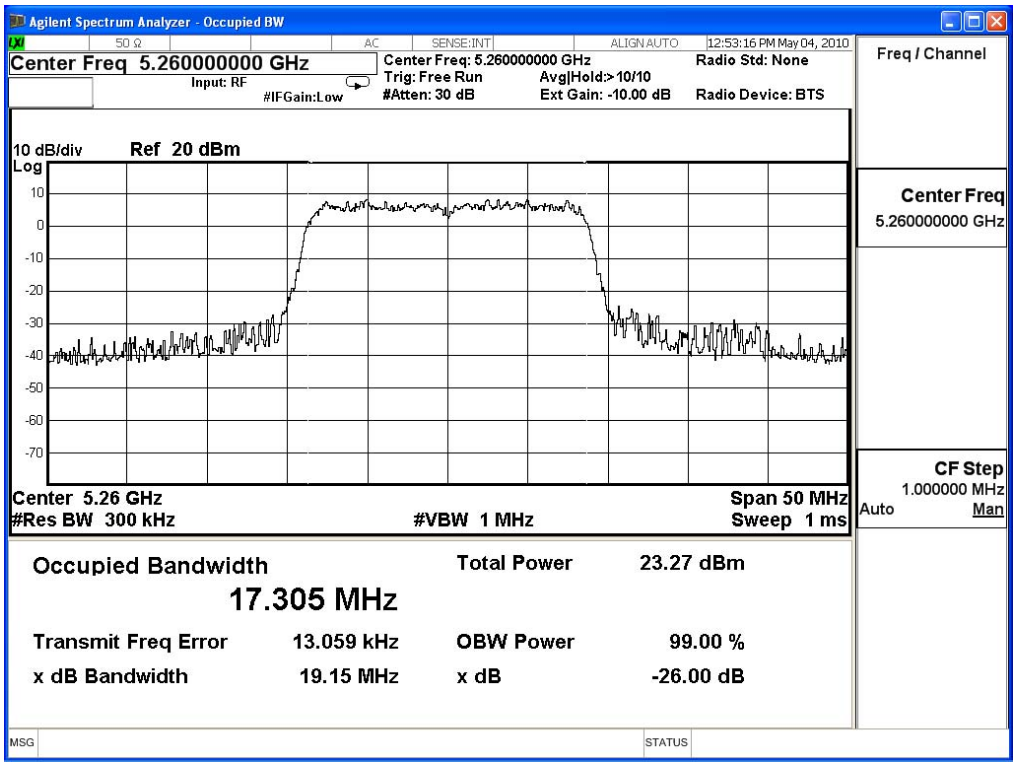


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
52	5260	19.15	15.7	24	23.82	Pass

26dBc Occupied Bandwidth:

Channel 52

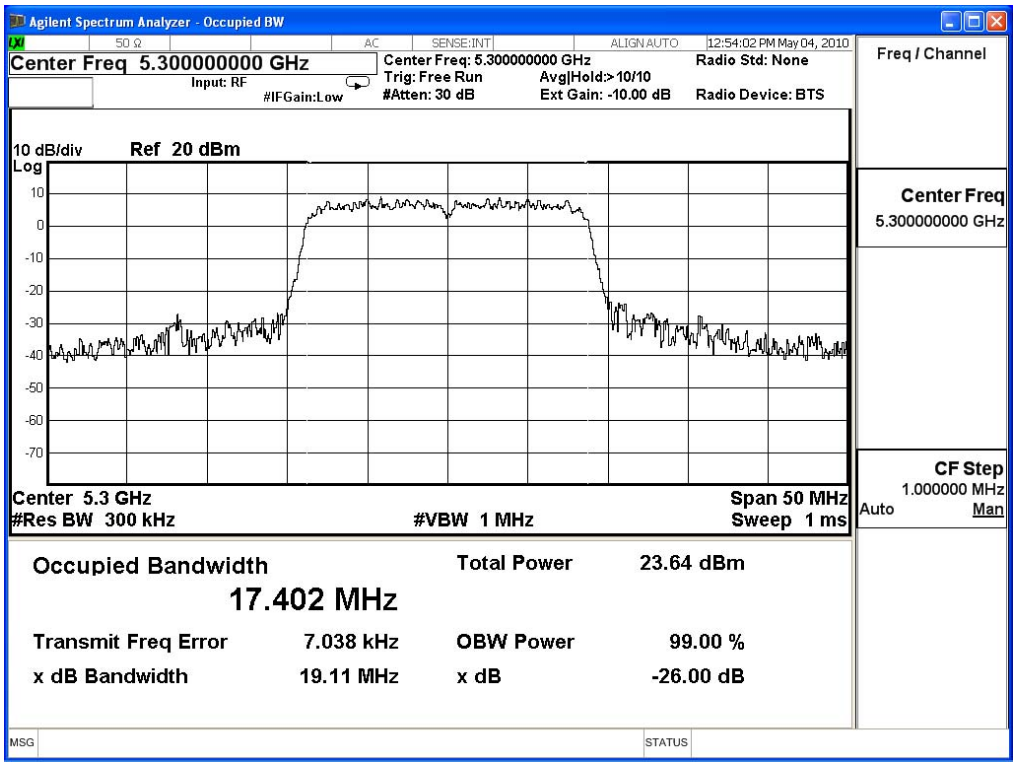


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
60	5300	19.11	15.69	24	23.81	Pass

26dBc Occupied Bandwidth:

Channel 60

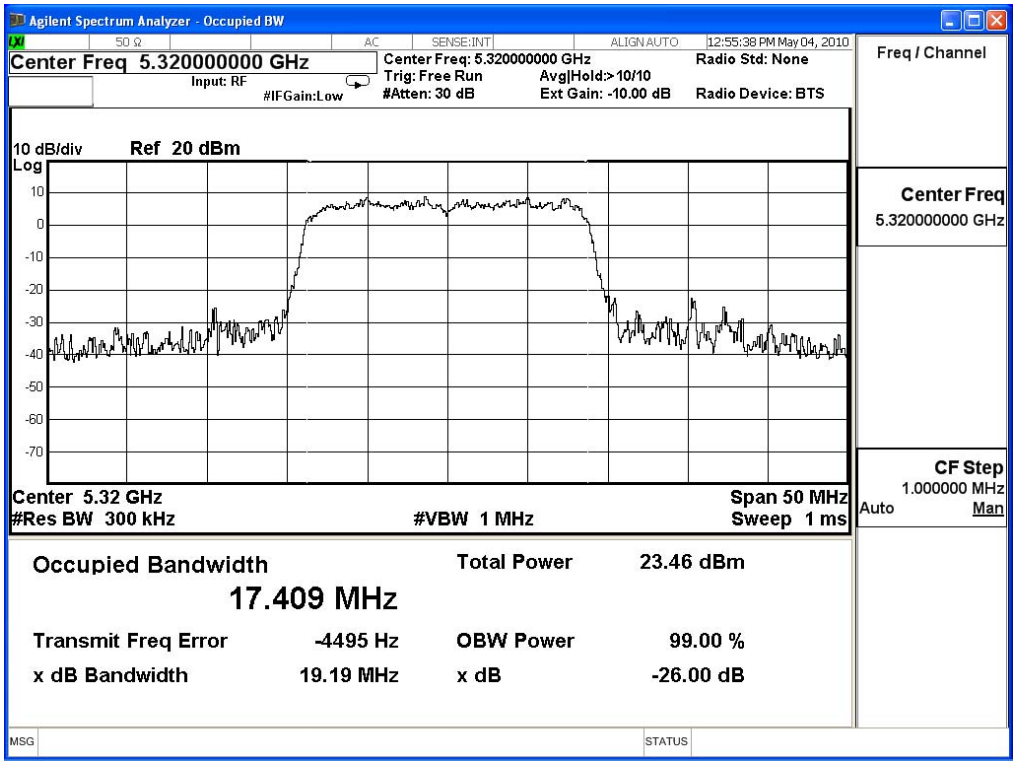


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
64	5320	19.19	15.93	24	23.83	Pass

26dBc Occupied Bandwidth:

Channel 64

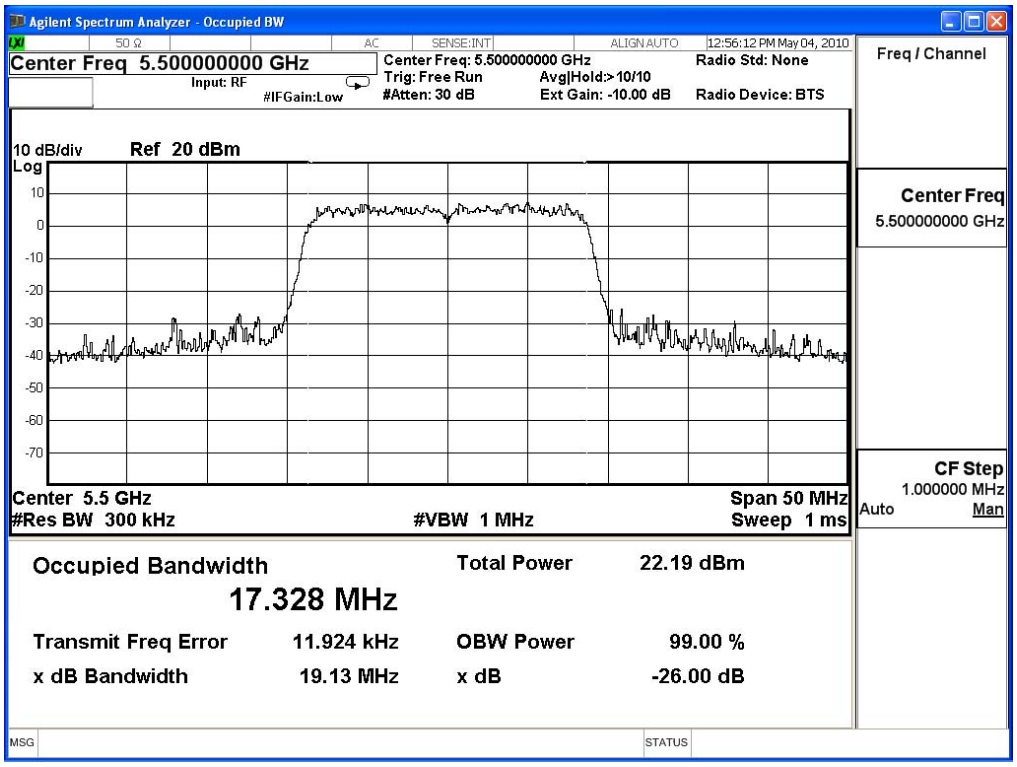


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
100	5500	19.13	15.8	24	23.82	Pass

26dBc Occupied Bandwidth:

Channel 100

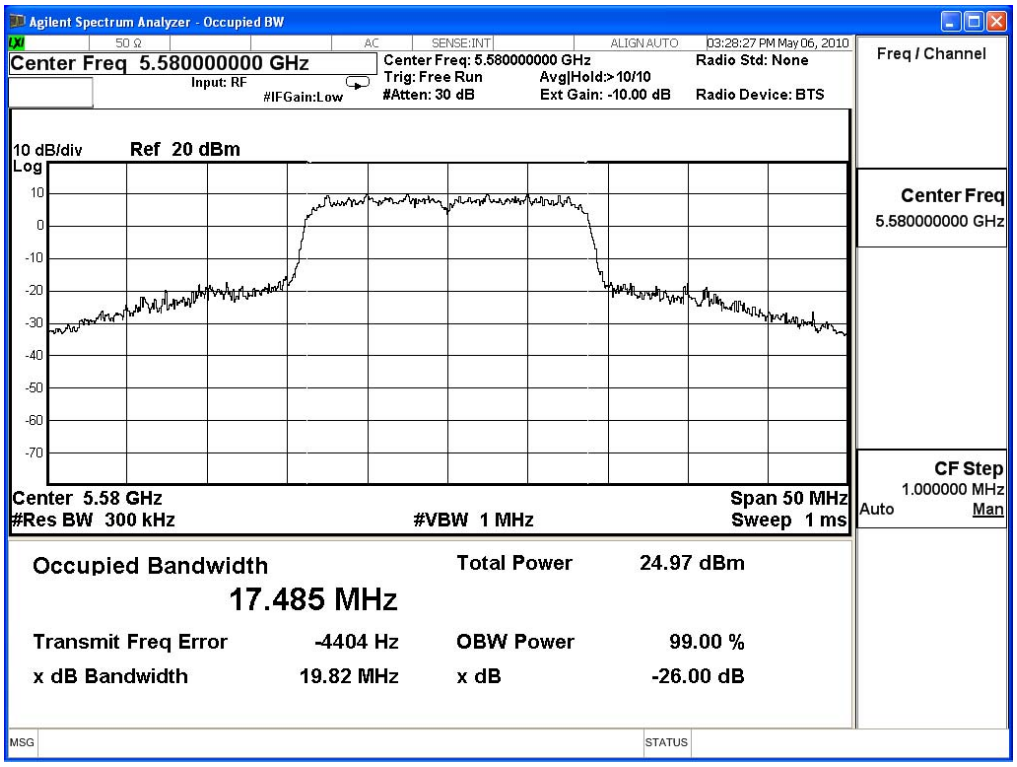


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
116	5580	19.82	15.7	24	23.97	Pass

26dBc Occupied Bandwidth:

Channel 116

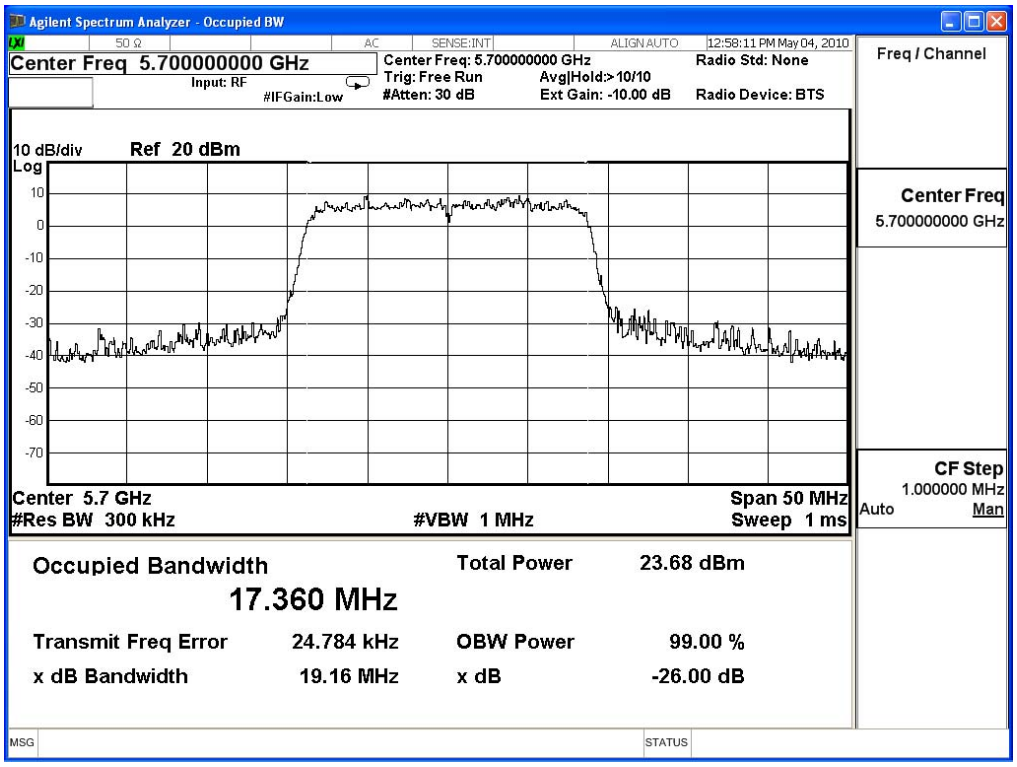


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
140	5700	19.16	15.85	24	23.82	Pass

26dBc Occupied Bandwidth:

Channel 140



Product : ROS Home Center
Test Item : Peak Transmit Power
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps)

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		27	54	81	108	162	216	243	270	
		Measurement Level (dBm)								
38	5190	15.9	--	--	--	--	--	--	--	<17dBm
46	5230	15.95	15.9	15.87	15.85	15.82	15.8	15.77	15.72	<17dBm
54	5270	15.75	--	--	--	--	--	--	--	<24dBm
62	5310	15.91	15.88	15.85	15.82	15.80	15.77	15.74	15.71	<24dBm
102	5510	15.78	--	--	--	--	--	--	--	<24dBm
110	5550	15.88	15.86	15.87	15.85	15.82	15.8	15.78	15.75	<24dBm
134	5670	15.93	--	--	--	--	--	--	--	<24dBm

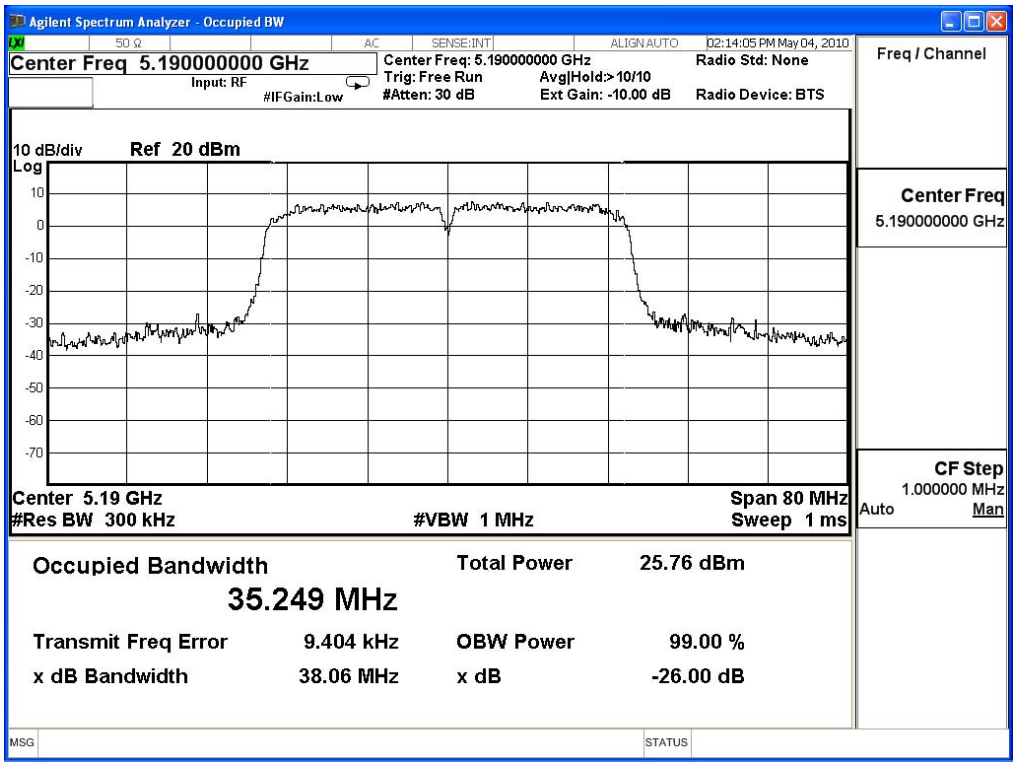
Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
38	5190	38.06	15.9	17	19.80	Pass

26dBc Occupied Bandwidth:

Channel 38

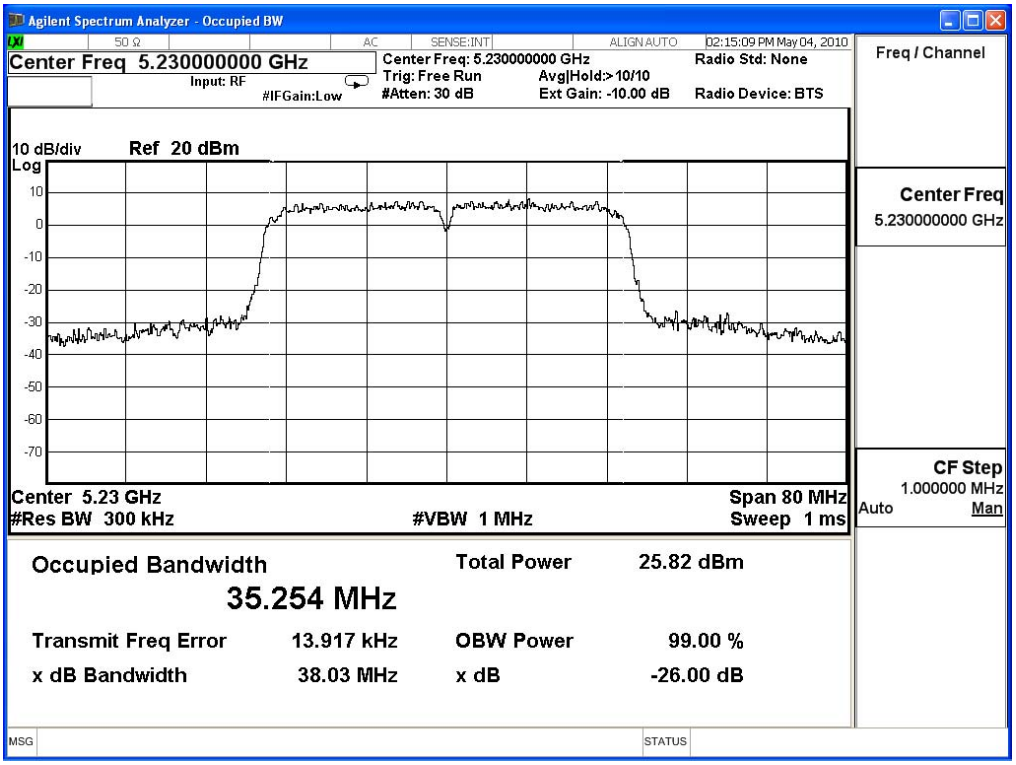


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
46	5230	38.03	15.95	17	19.80	Pass

26dBc Occupied Bandwidth:

Channel 46

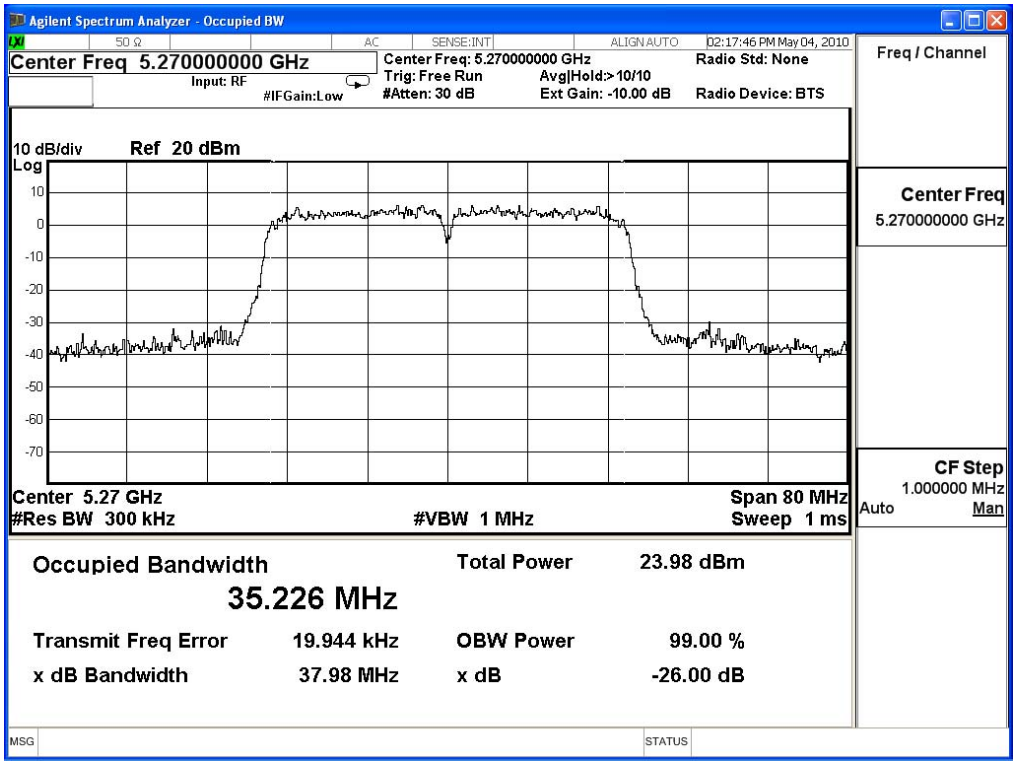


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
54	5270	37.98	15.75	24	26.80	Pass

26dBc Occupied Bandwidth:

Channel 54

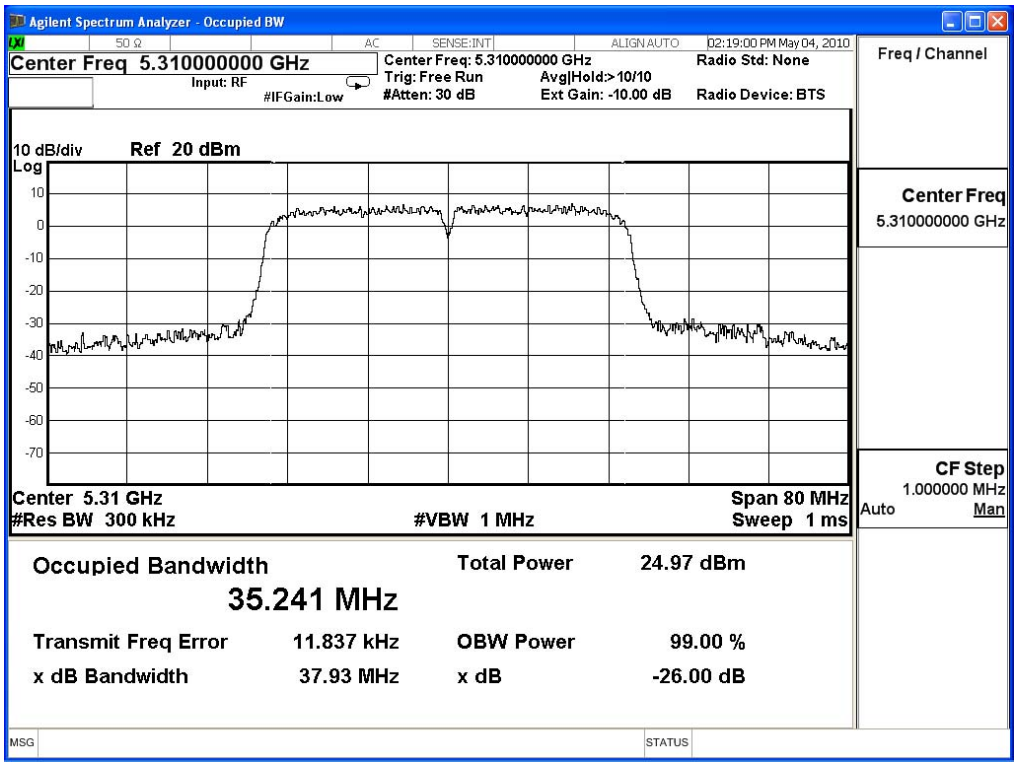


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
62	5310	37.93	15.91	24	26.79	Pass

26dBc Occupied Bandwidth:

Channel 62

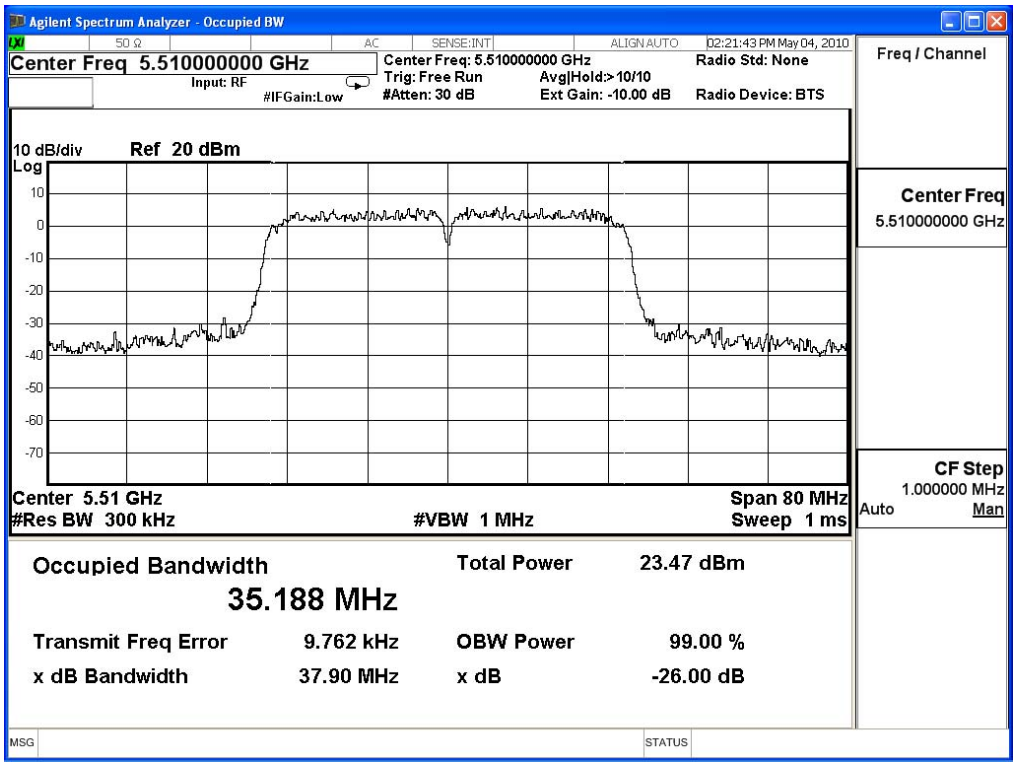


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
102	5510	37.9	15.78	24	26.79	Pass

26dBc Occupied Bandwidth:

Channel 102

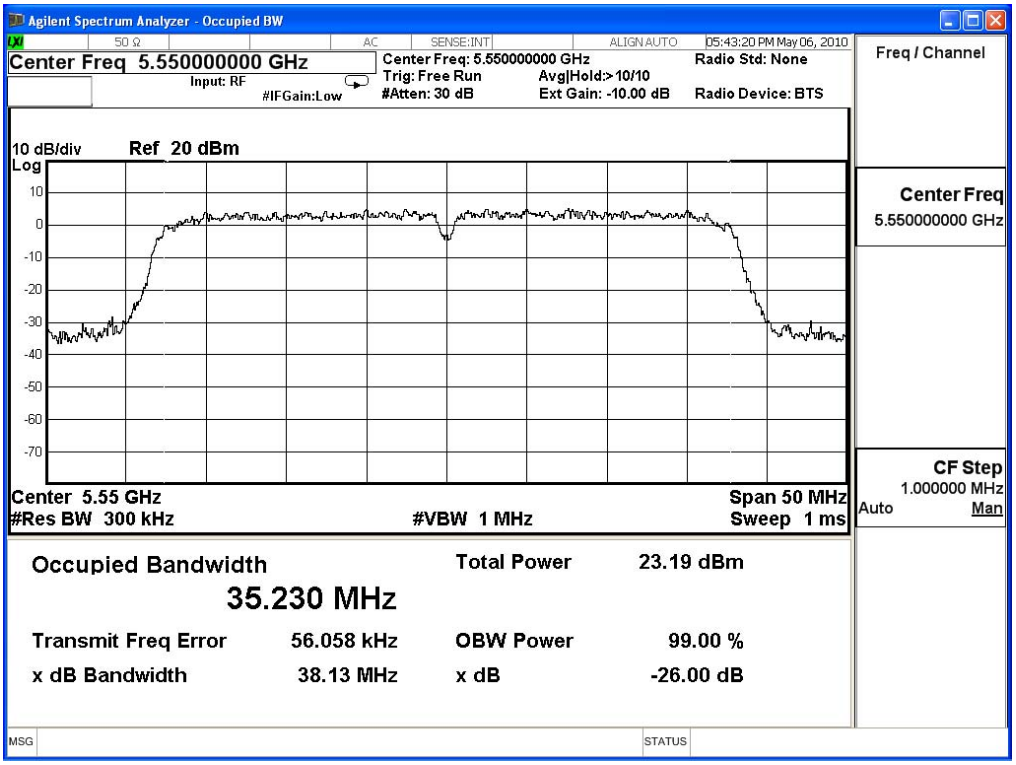


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
110	5550	38.13	15.88	24	26.81	Pass

26dBc Occupied Bandwidth:

Channel 110

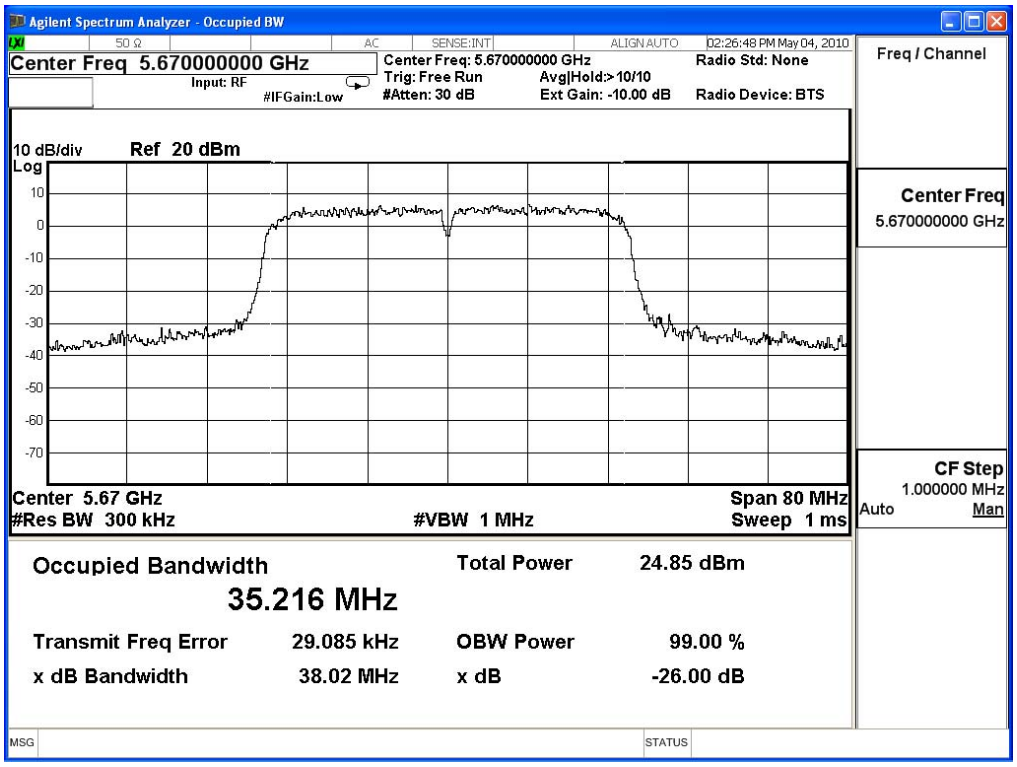


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
134	5670	38.02	15.93	24	26.80	Pass

26dBc Occupied Bandwidth:

Channel 134



4. Peak Power Spectral Density

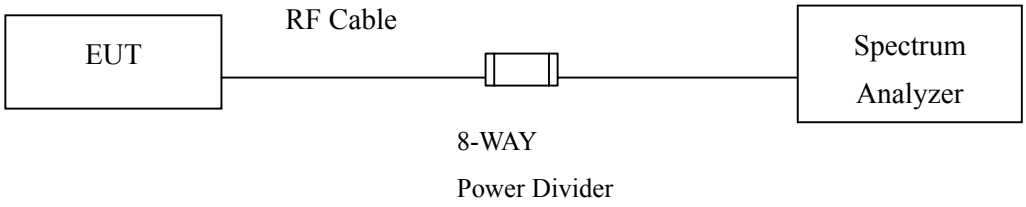
4.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2009
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2009
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2010
X	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2010

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.
3. The power combiner is used for measure 11n mode.

4.2. Test Setup



4.3. Limits

(4) For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(5) For the band 5.25-5.35 GHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

(6) For the band 5.725-5.825 GHz, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

4.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Aug 2002 DA 02-2138 for compliance to FCC 47CFR Subpart E requirements.

4.5. Uncertainty

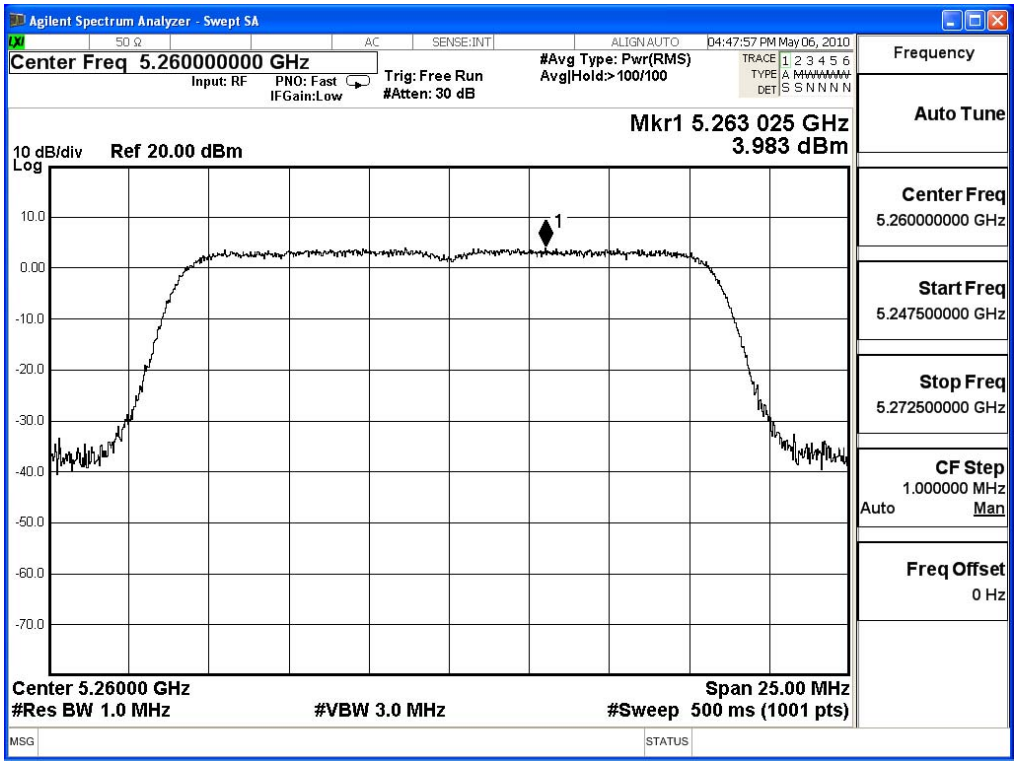
± 1.27 dB

4.6. Test Result of Peak Power Spectral Density

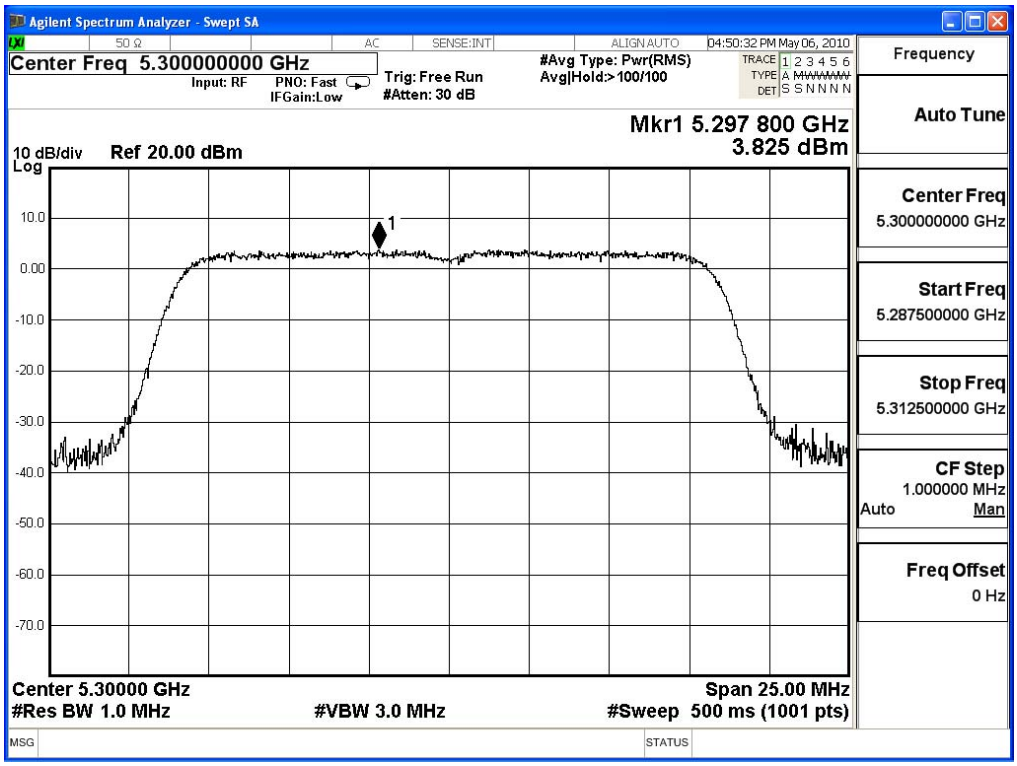
Product : ROS Home Center
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
52	5260	3.983	<11	Pass
60	5300	3.825	<11	Pass
64	5320	4.101	<11	Pass
100	5500	0.623	<11	Pass
116	5580	1.670	<11	Pass
140	5700	1.729	<11	Pass

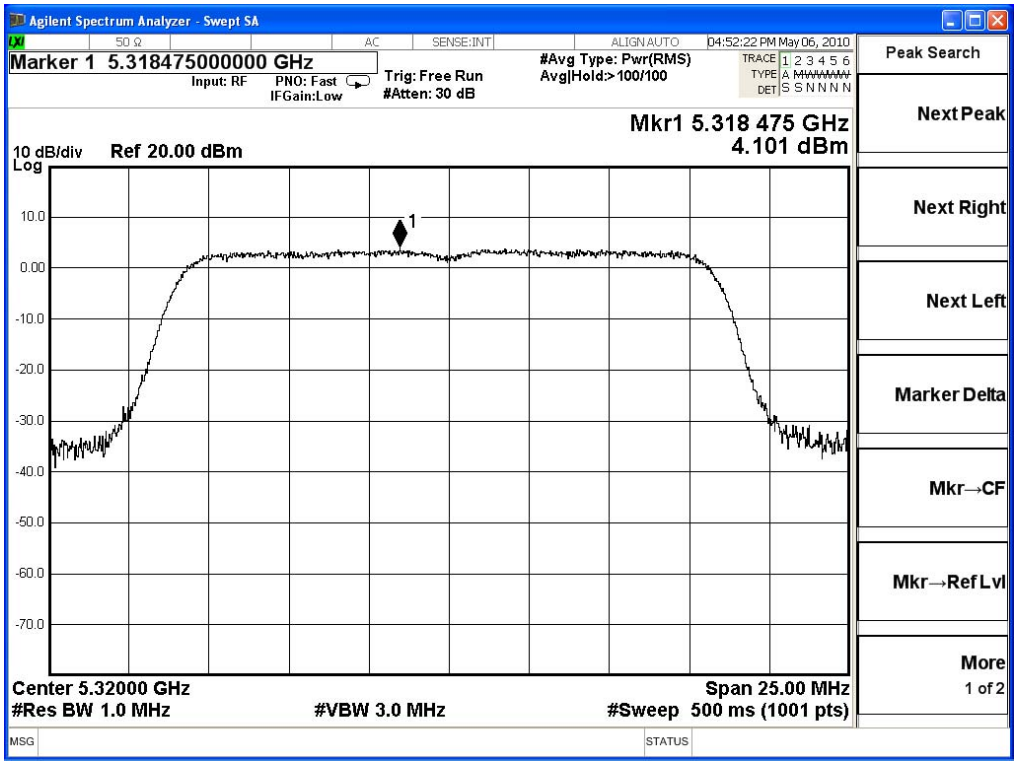
Channel 52:



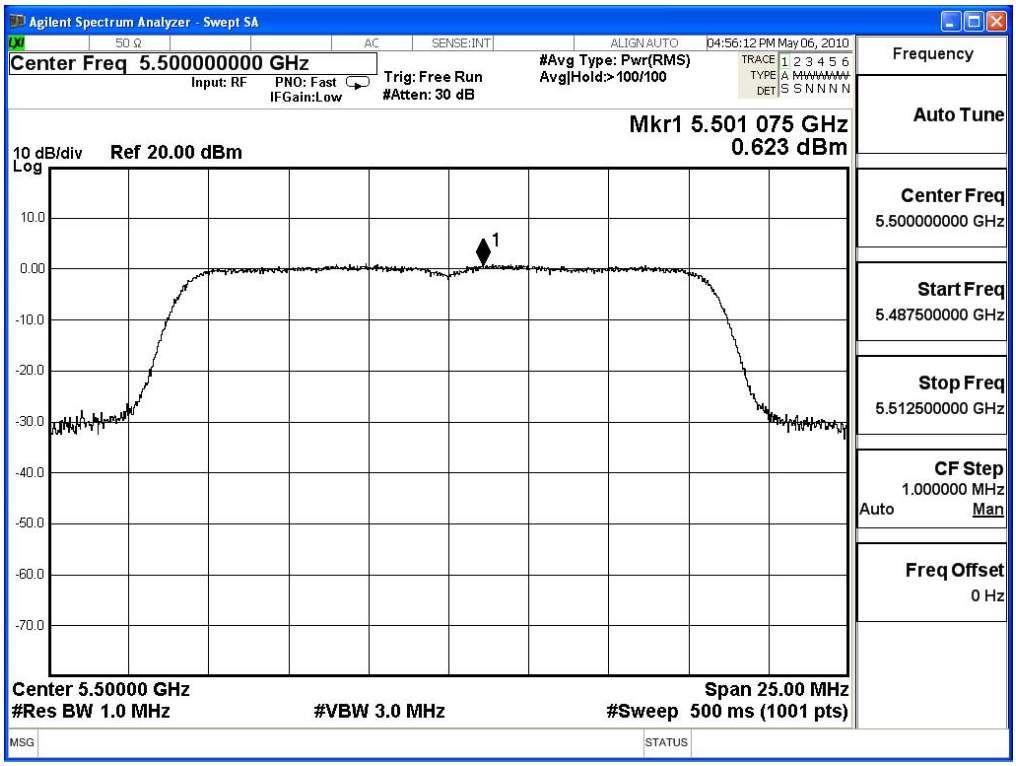
Channel 60:



Channel 64:



Channel 100:



Channel 116: