Test Report

Product Name	Push2TV
Model No	PTV2000
FCC ID	PY310400146

Applicant	NETGEAR, Inc.
Address	350 East Plumeria Drive, San Jose, CA 95134, USA

Date of Receipt	Oct. 20, 2010
Issued Date	Nov. 25, 2010
Report No.	10A309R-RFUS46V01
Report Version	V1.0

Test Report Certification

Issued Date: Nov. 25, 2010
Report No.: 10A309R-RFUS46V01

Product Name	Push2TV
Applicant	NETGEAR, Inc.
Address	350 East Plumeria Drive, San Jose, CA 95134, USA
Manufacturer	Maintek Computer (Suzhou) Co., Ltd.
Model No.	PTV2000
FCC ID.	PY310400146
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	NETGEAR
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2009 ANSI C63.4: 2003 NVLAP Lab Code: 200533-0
Test Result	Complied

The Test Results relate only to the samples tested.
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

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(Senior Adm. Specialist / Rita Huang)

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(Engineer / Joe Guo)

Approved By :
(Manager / Vincent Lin)

Testing Laboratory
0914

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Push2TV
Trade Name	NETGEAR
FCC ID.	PY310400146
Model No.	PTV2000
Frequency Range	802.11a/n-20MHz: 5180-5240MHz; 802.11n-40MHz: 5190-5230MHz
Number of Channels	802.11a/n-20MHz: 4; 802.11n-40MHz: 2
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	Dipole
Antenna Gain	Refer to the table “Antenna List”
Power Adapter (1)	MFR：LEADER, M/N：MT12-Y120100-A1 Input：AC 100-120V, 60Hz, 0.3A Output：DC 12V, 1A Cable out：Non-Shielded, 1.8m
Power Adapter (2)	MFR：PIE, M/N：T012LF1209 Input：AC 100-120V, 50/60Hz, 0.5A Output：DC 12V, 1A Cable out: Non-Shielded, 1.8m
Contain Module	Ralink / RT3572

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	WHA YU	C1336S510041-A (Main) C1336S510042-A (Aux)	5.88 dBi 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 36:	5180 MHz	Channel 40:	5200 MHz	Channel 44:	5220 MHz	Channel 48:	5240 MHz

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

Channel	Frequency	Channel	Frequency
Channel 38:	5190 MHz	Channel 46:	5230 MHz

Note:

1. This device is a Push2TV with a built-in 2.4GHz and 5GHz WLAN transceiver, this report for 5GHz.
2. 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 13Mbps and 802.11n-40BW are 27Mbps)
3. 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 Push2TV with a built-in 2.4GHz and 5GHz WLAN transceiver. 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) × 2(Receive) MIMO technology.

Intel Wireless Display allows consumers to use their HDTV as a huge, remote screen for their laptop. With Intel Wireless Display, consumers can connect their laptop to their TV and enjoy and share their personal media collections, latest YouTube videos, downloaded or streamed movies, music, or a variety of other Internet content from the comfort of their couch.

Intel Wireless Display requires the following key elements:

- Push 2 TV adapter. The adapter receives Wi-Fi signals from the laptop, translates the signals into an image, and sends the image to the TV.
- A laptop computer with Intel Wireless Display installed. This will be used to manage the connection to the TV through the adapter.

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.

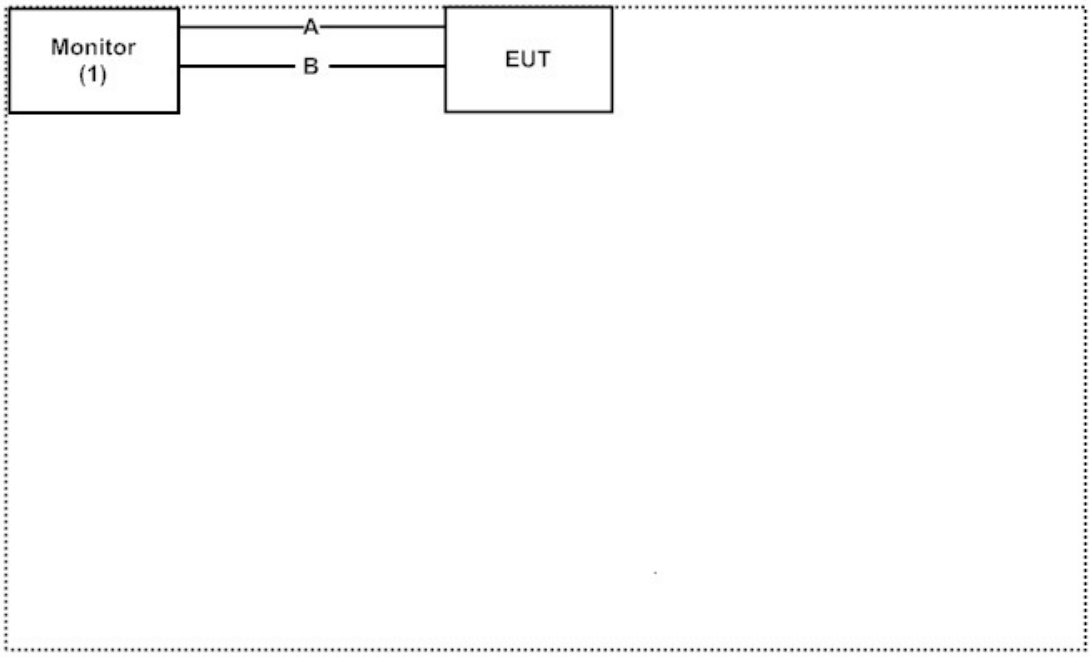
1.3. Tested System Datails

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)	Monitor	SONY	PVM-14M2U	2105742	Non-Shielded, 1.8m

Signal Cable Type		Signal cable Description
A	RCA Cable	Non-Shielded, 1.5m
B	HDMI Cable	Shielded, 1.0m

1.4. Configuration of tested System



1.5. EUT Exercise Software

(1) Connect EUT and Notebook via RS-232 Cable.
(2) Execute Telnet program on the Notebook.
(3) Configure the test mode, the test channel, and the data rate.
(4) Press “OK” to start the continuous transmission.
(5) Remove notebook and RS232 cable, Setup the EUT as shown in Section 1.4.
(6) 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://www.quietek.com/tw/ctg/cts/accreditations.htm
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

2. Conducted Emission

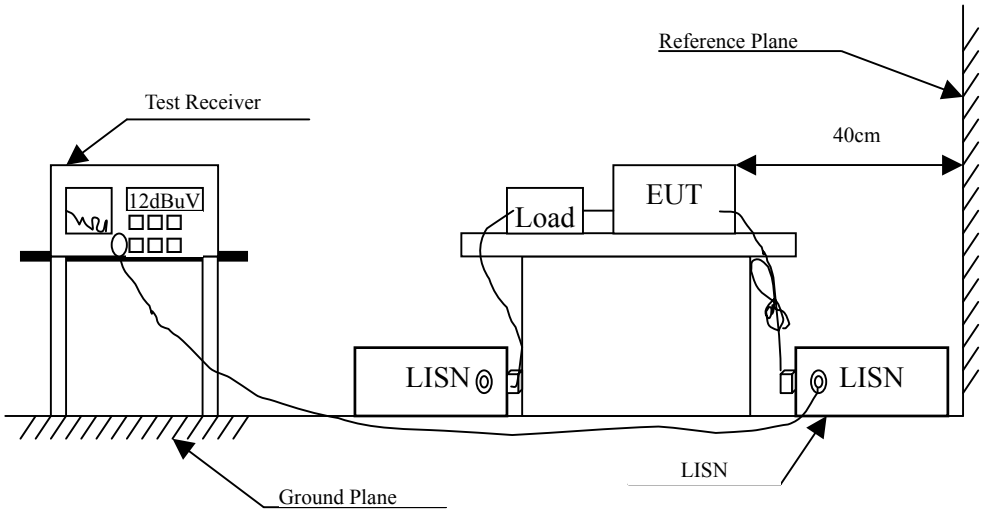
2.1. Test Equipment

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 : Push2TV
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5190MHz)
-(Adapter: MT12-Y120100-A1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.166	9.746	46.420	56.165	-9.378	65.543
0.248	9.677	38.190	47.867	-15.333	63.200
0.275	9.659	40.490	50.149	-12.280	62.429
0.627	9.630	39.250	48.880	-7.120	56.000
0.970	9.670	37.330	47.000	-9.000	56.000
4.345	9.700	31.800	41.500	-14.500	56.000
Average					
0.166	9.746	33.960	43.705	-11.838	55.543
0.248	9.677	22.830	32.507	-20.693	53.200
0.275	9.659	28.130	37.789	-14.640	52.429
0.627	9.630	26.110	35.740	-10.260	46.000
0.970	9.670	22.960	32.630	-13.370	46.000
4.345	9.700	18.190	27.890	-18.110	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 : Push2TV
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5190MHz)
-(Adapter: MT12-Y120100-A1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.170	9.743	46.560	56.303	-9.126	65.429
0.295	9.662	38.650	48.312	-13.545	61.857
0.396	9.650	40.030	49.680	-9.291	58.971
0.513	9.640	40.540	50.180	-5.820	56.000
0.630	9.650	40.300	49.950	-6.050	56.000
0.978	9.670	37.170	46.840	-9.160	56.000
Average					
0.170	9.743	34.310	44.053	-11.376	55.429
0.295	9.662	25.170	34.832	-17.025	51.857
0.396	9.650	29.100	38.750	-10.221	48.971
0.513	9.640	25.820	35.460	-10.540	46.000
0.630	9.650	23.180	32.830	-13.170	46.000
0.978	9.670	20.070	29.740	-16.260	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 : Push2TV
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5190MHz)
-(Adapter: T012LF1209)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.150	9.766	33.860	43.626	-22.374	66.000
0.181	9.724	43.030	52.754	-12.360	65.114
0.275	9.659	32.770	42.429	-20.000	62.429
0.334	9.650	28.400	38.050	-22.693	60.743
0.373	9.650	31.730	41.380	-18.249	59.629
0.548	9.640	23.500	33.140	-22.860	56.000
Average					
0.150	9.766	19.840	29.606	-26.394	56.000
0.181	9.724	28.140	37.864	-17.250	55.114
0.275	9.659	18.240	27.899	-24.530	52.429
0.334	9.650	9.580	19.230	-31.513	50.743
0.373	9.650	11.790	21.440	-28.189	49.629
0.548	9.640	6.680	16.320	-29.680	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 : Push2TV
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5190MHz)
-(Adapter: T012LF1209)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.185	9.727	46.640	56.368	-8.632	65.000
0.232	9.695	34.760	44.455	-19.202	63.657
0.283	9.666	31.370	41.036	-21.164	62.200
0.326	9.660	32.190	41.850	-19.121	60.971
0.599	9.647	19.830	29.477	-26.523	56.000
0.888	9.670	21.830	31.500	-24.500	56.000
Average					
0.185	9.727	29.680	39.408	-15.592	55.000
0.232	9.695	15.250	24.945	-28.712	53.657
0.283	9.666	15.660	25.326	-26.874	52.200
0.326	9.660	10.740	20.400	-30.571	50.971
0.599	9.647	3.590	13.237	-32.763	46.000
0.888	9.670	12.410	22.080	-23.920	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

3. Peak Transmit Power

3.1. Test Equipment

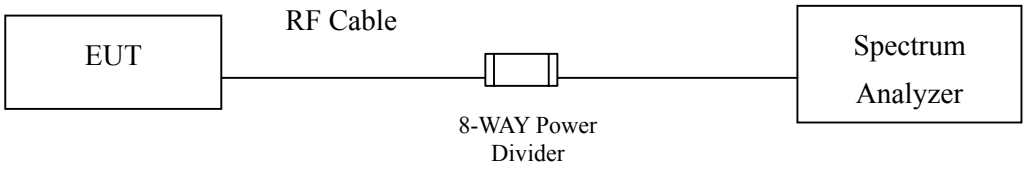
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2010
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2010
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2010
X	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2010

Note:

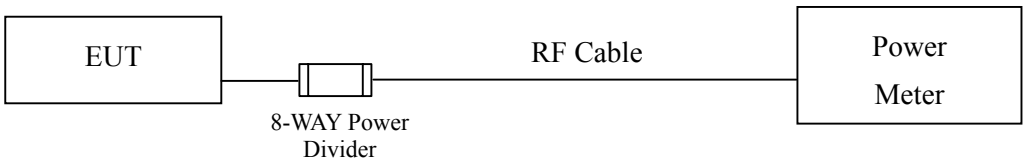
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

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 : Push2TV
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	12.52	--	--	--	--	--	--	--	<17dBm
44	5220	12.05	12.01	12	11.95	11.9	11.84	11.83	11.7	<17dBm
48	5240	12.8	--	--	--	--	--	--	--	<17dBm

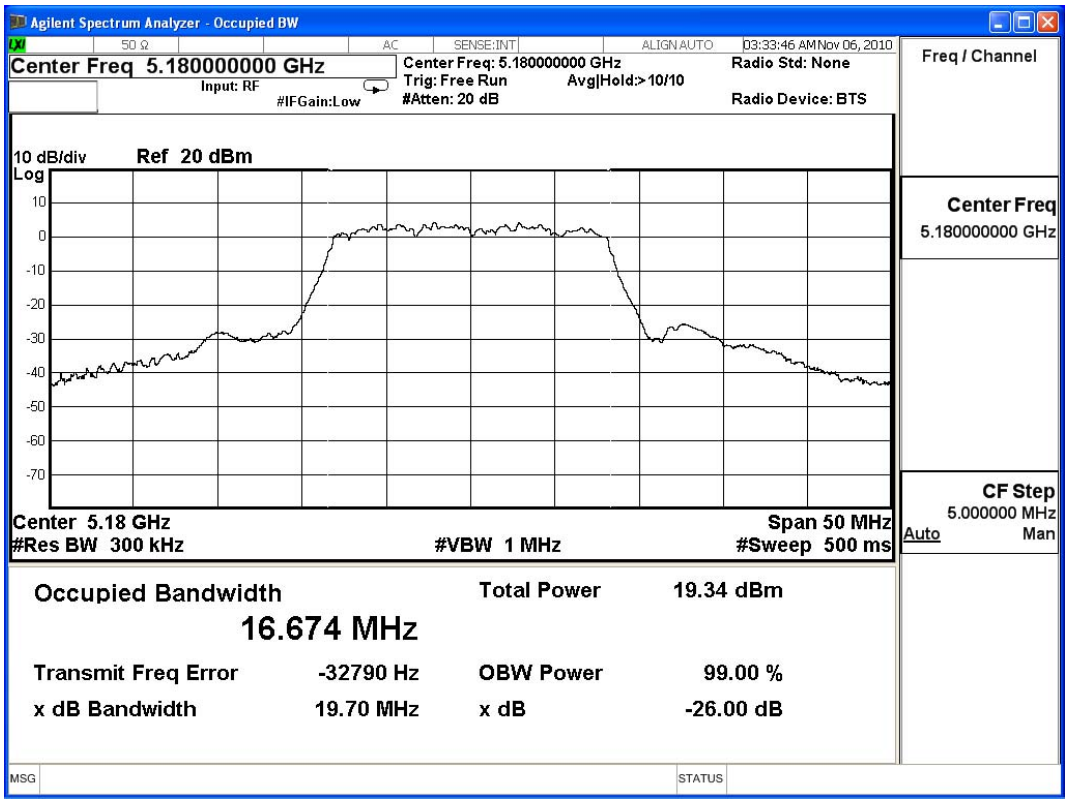
Note: Peak Power Output Value =Reading value on peak power meter + cable loss

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	19.7	12.52	17	16.94	Pass

26dBc Occupied Bandwidth:

Channel 36

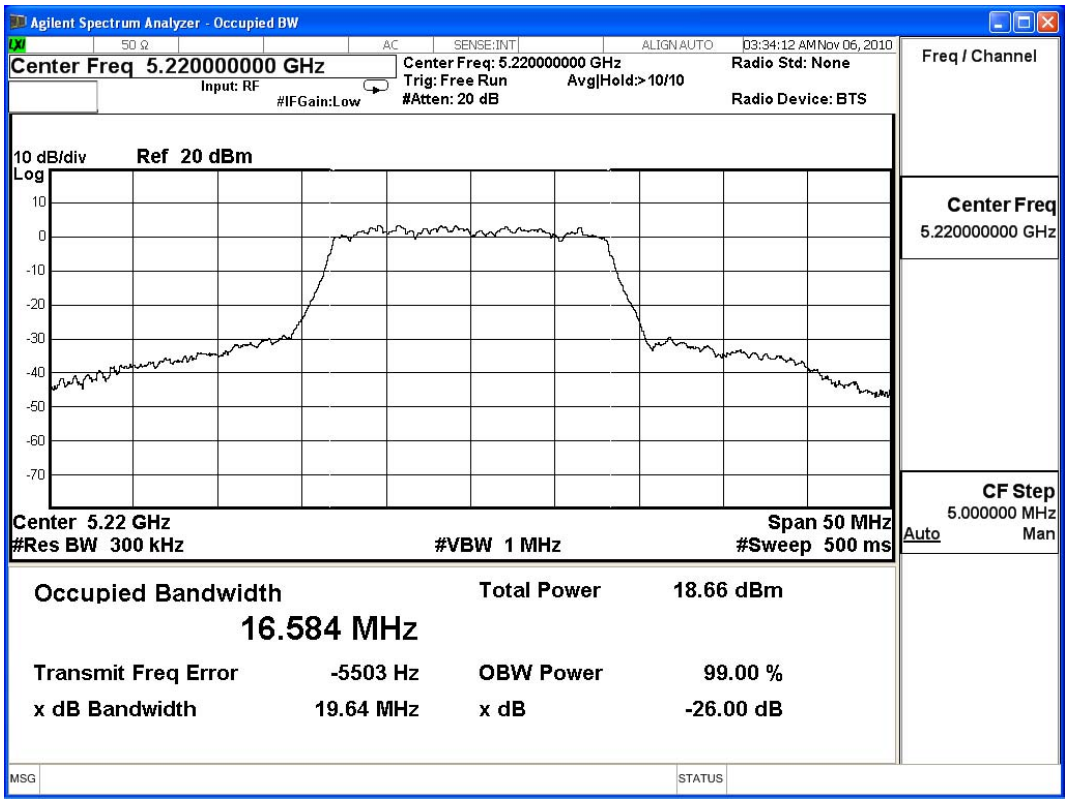


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
44	5220	19.64	12.05	17	16.93	Pass

26dBc Occupied Bandwidth:

Channel 40

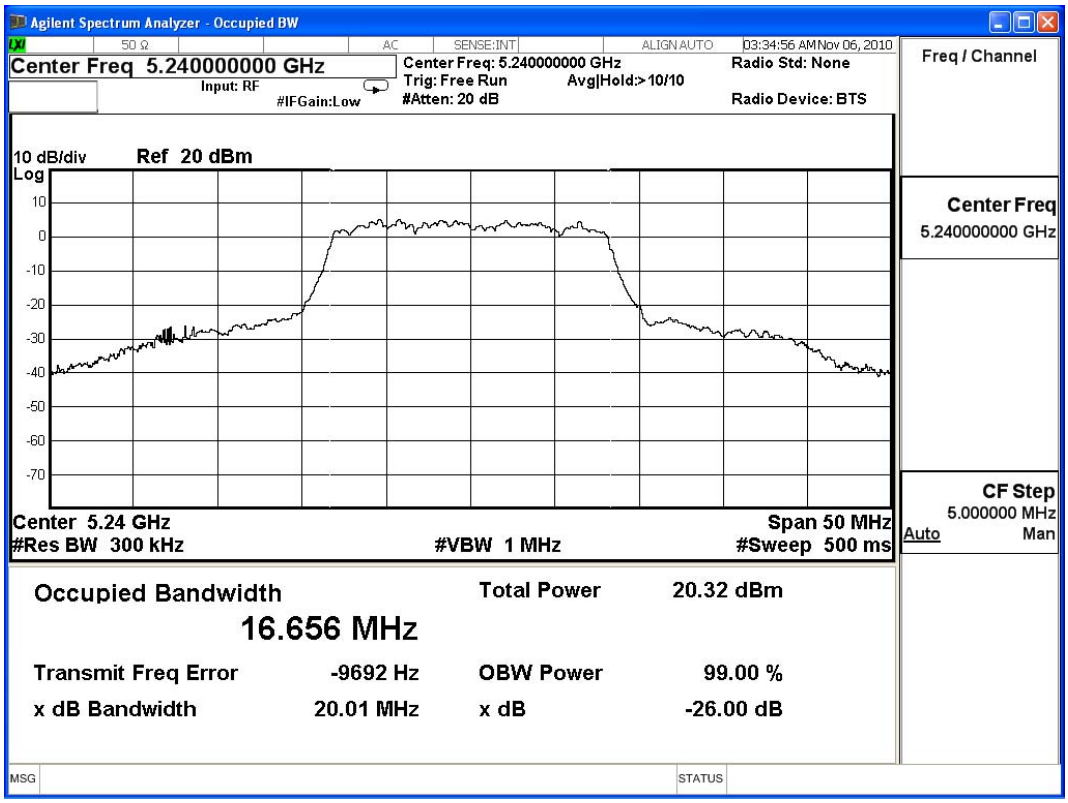


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
48	5240	20.01	12.8	17	17.01	Pass

26dBc Occupied Bandwidth:

Channel 48



Product : Push2TV
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	12.85	--	--	--	--	--	--	--	<17dBm
44	5220	12.77	12.75	12.72	12.71	12.69	12.65	12.62	12.54	<17dBm
48	5240	12.61	--	--	--	--	--	--	--	<17dBm

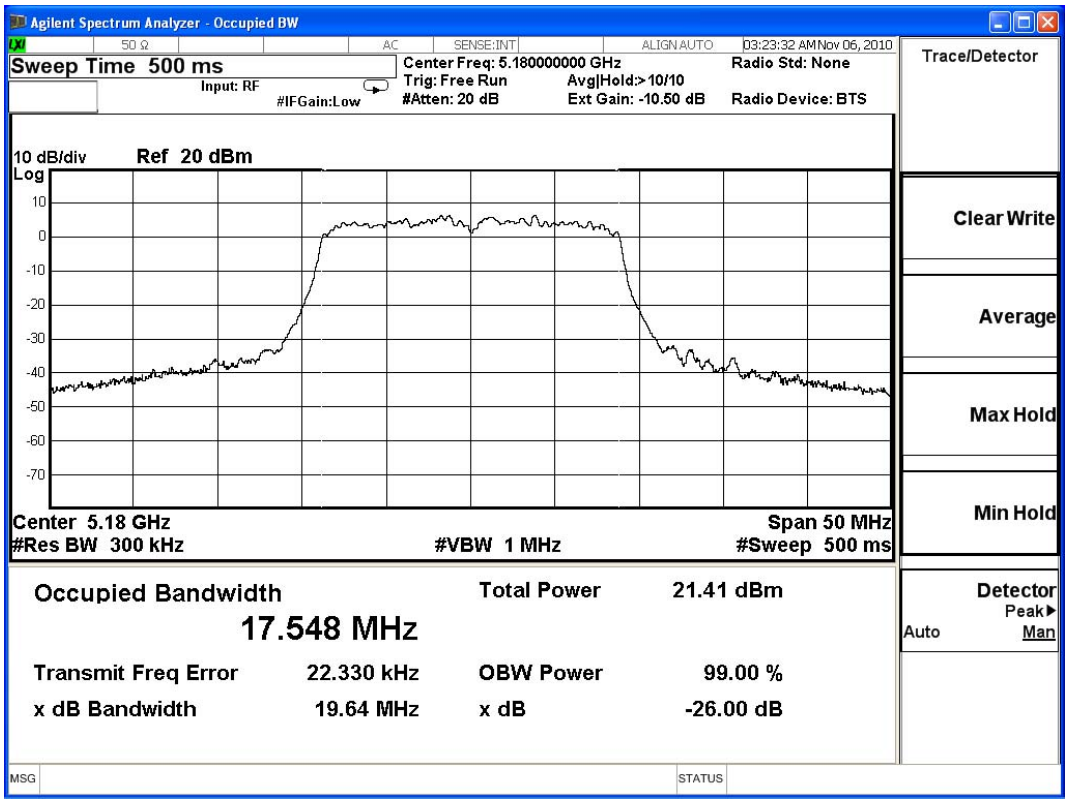
Note: Peak Power Output Value =Reading value on peak power meter + cable loss

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	19.64	12.85	17	16.93	Pass

26dBc Occupied Bandwidth:

Channel 36

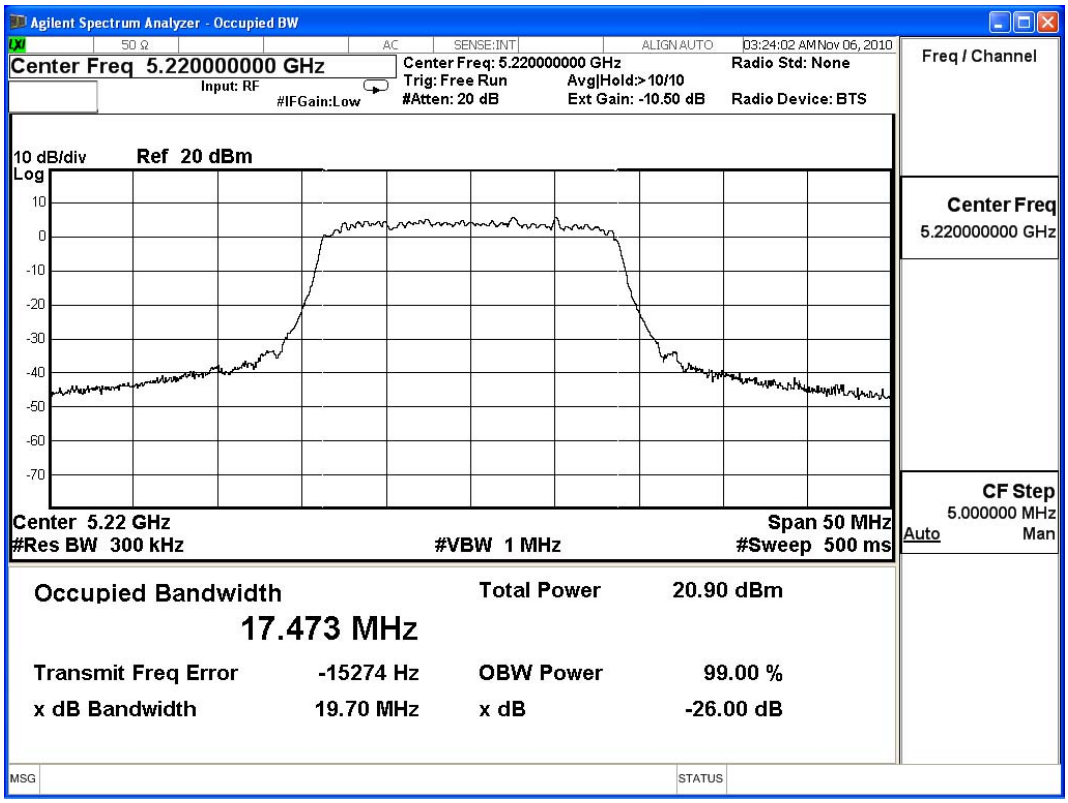


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
44	5220	19.7	12.77	17	16.94	Pass

26dBc Occupied Bandwidth:

Channel 44

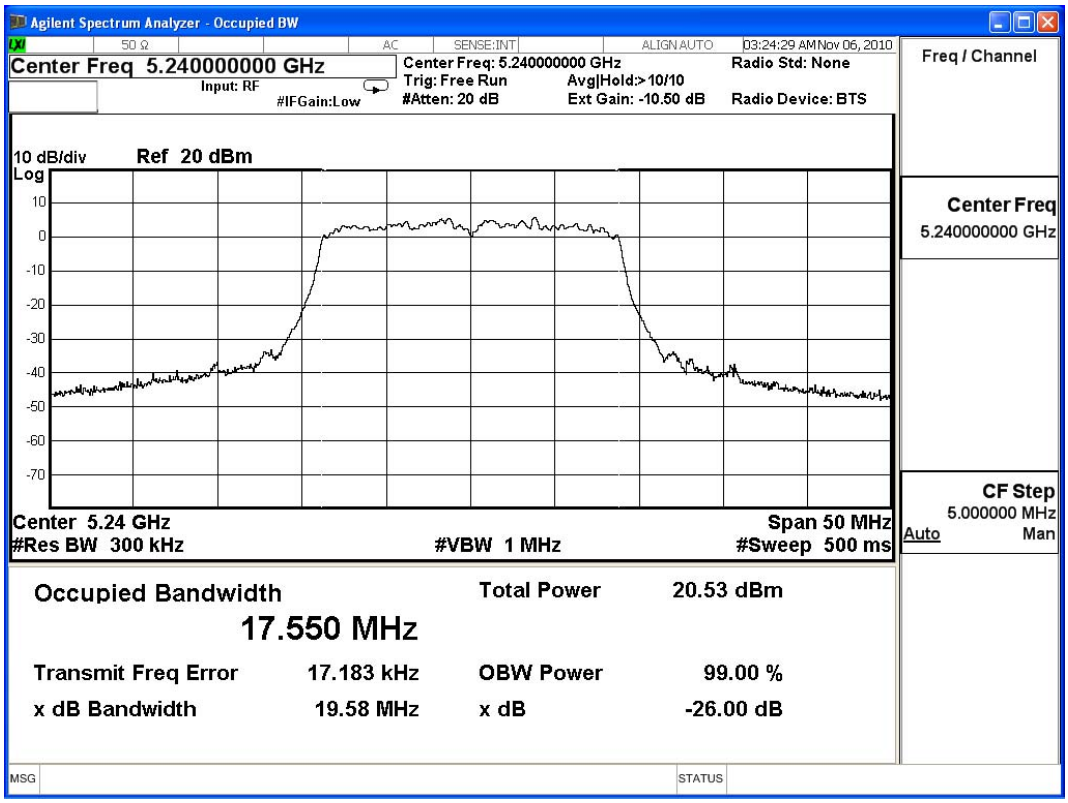


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
48	5240	19.58	12.61	17	16.92	Pass

26dBc Occupied Bandwidth:

Channel 48



Product : Push2TV
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	12.5	--	--	--	--	--	--	--	<17dBm
46	5230	12.8	12.78	12.76	12.71	12.68	12.65	12.63	12.54	<17dBm

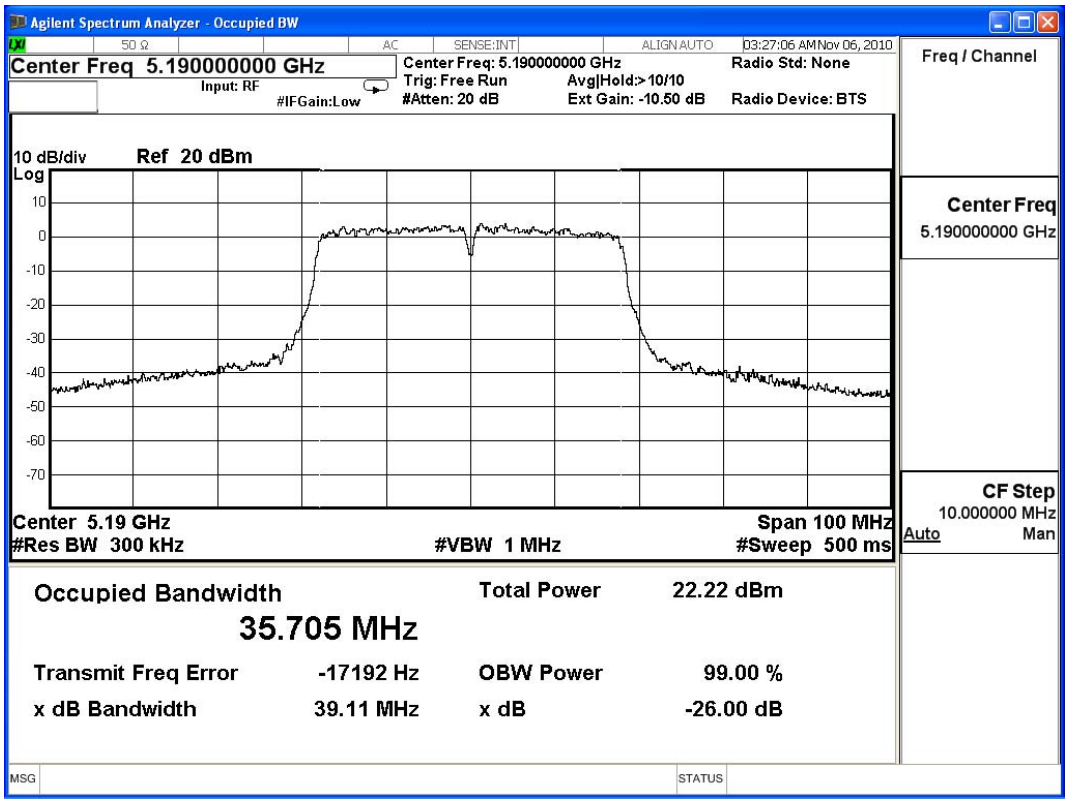
Note: Peak Power Output Value =Reading value on peak power meter + cable loss

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	39.11	12.5	17	19.92	Pass

26dBc Occupied Bandwidth:

Channel 38

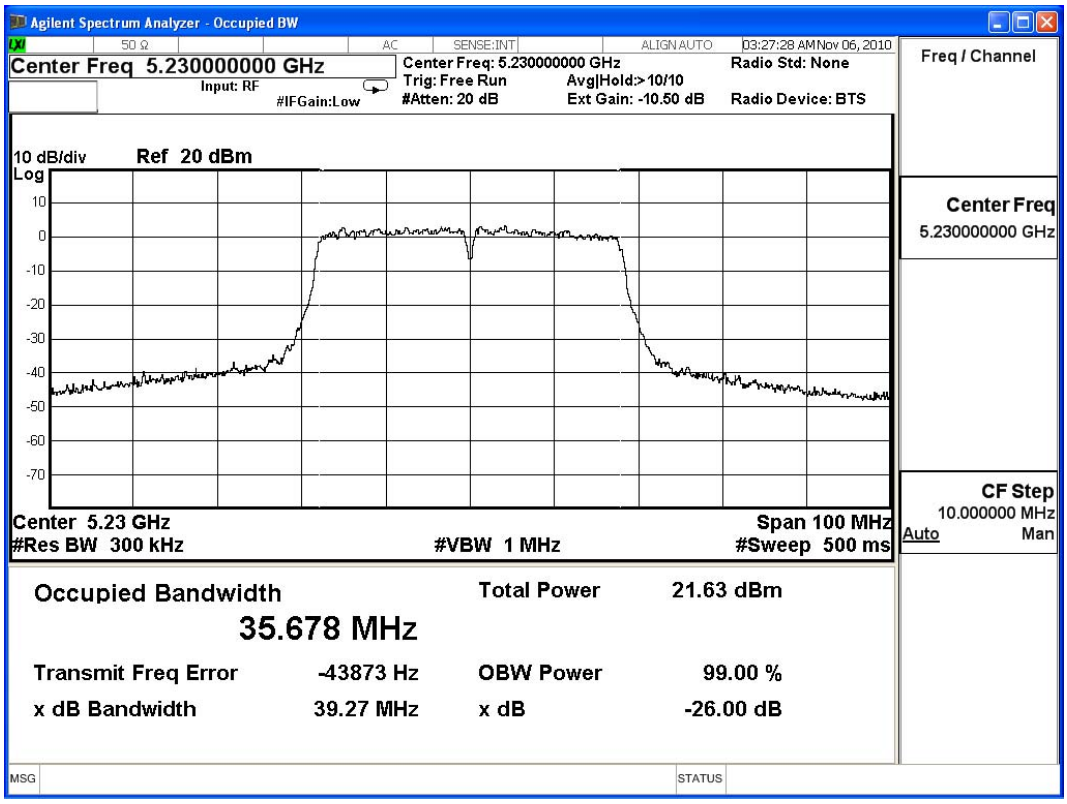


Peak Transmit Power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
46	5230	39.27	12.8	17	19.94	Pass

26dBc Occupied Bandwidth:

Channel 46



4. Peak Power Spectral Density

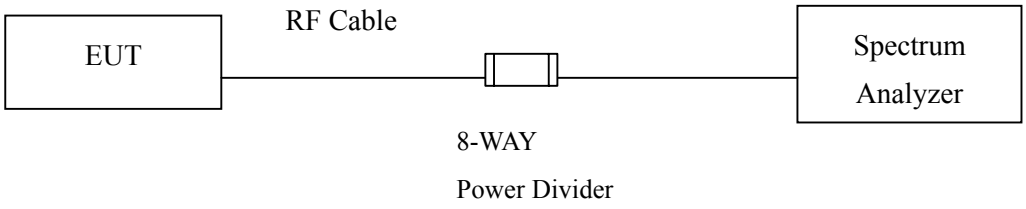
4.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2010
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2010
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

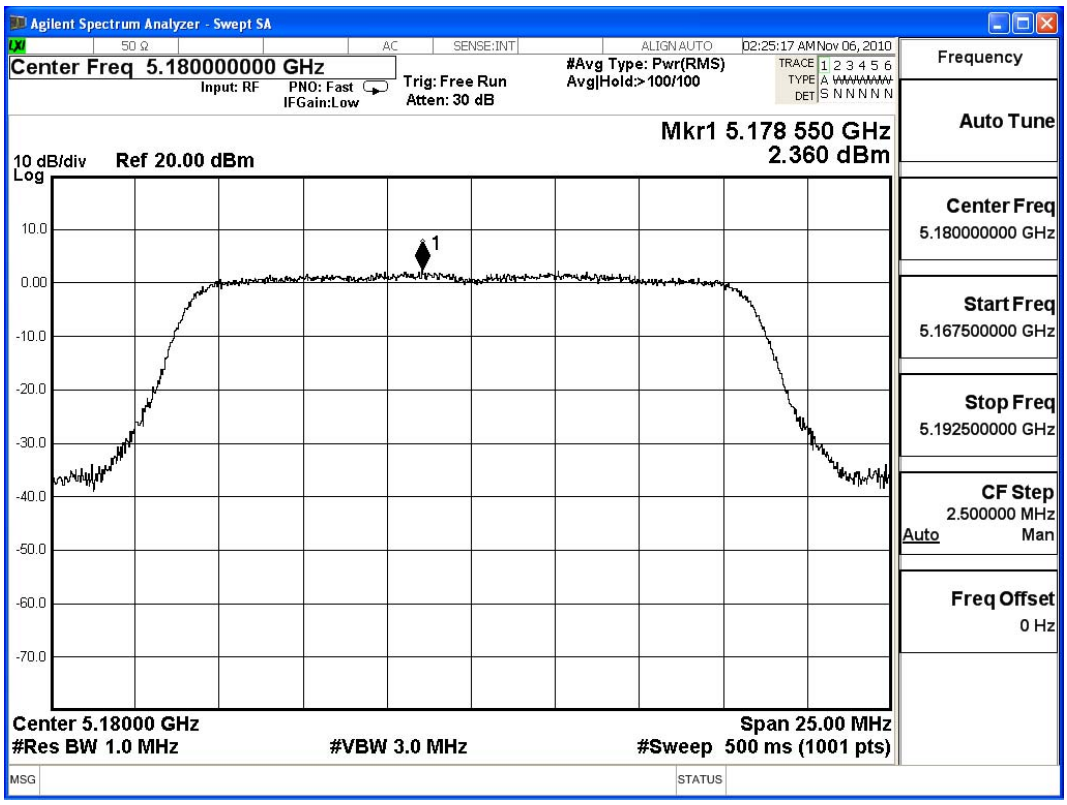
± 1.27 dB

4.6. Test Result of Peak Power Spectral Density

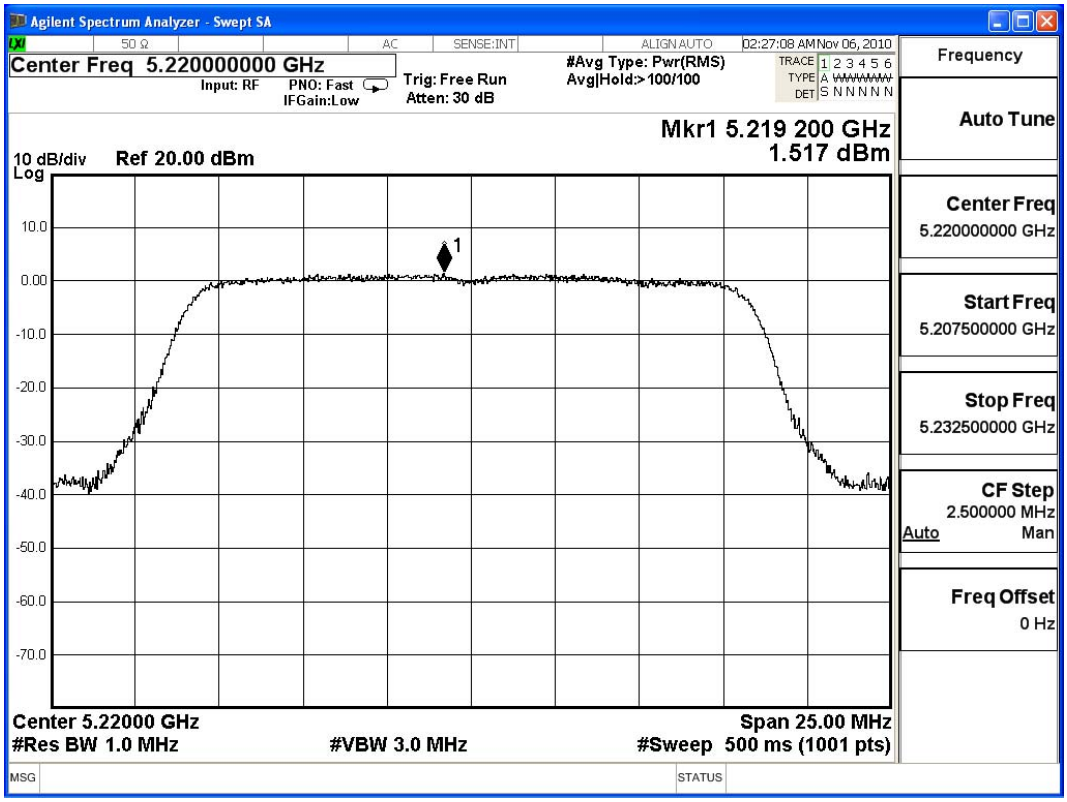
Product : Push2TV
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	2.360	<4	Pass
44	5220	1.517	<4	Pass
48	5240	2.746	<4	Pass

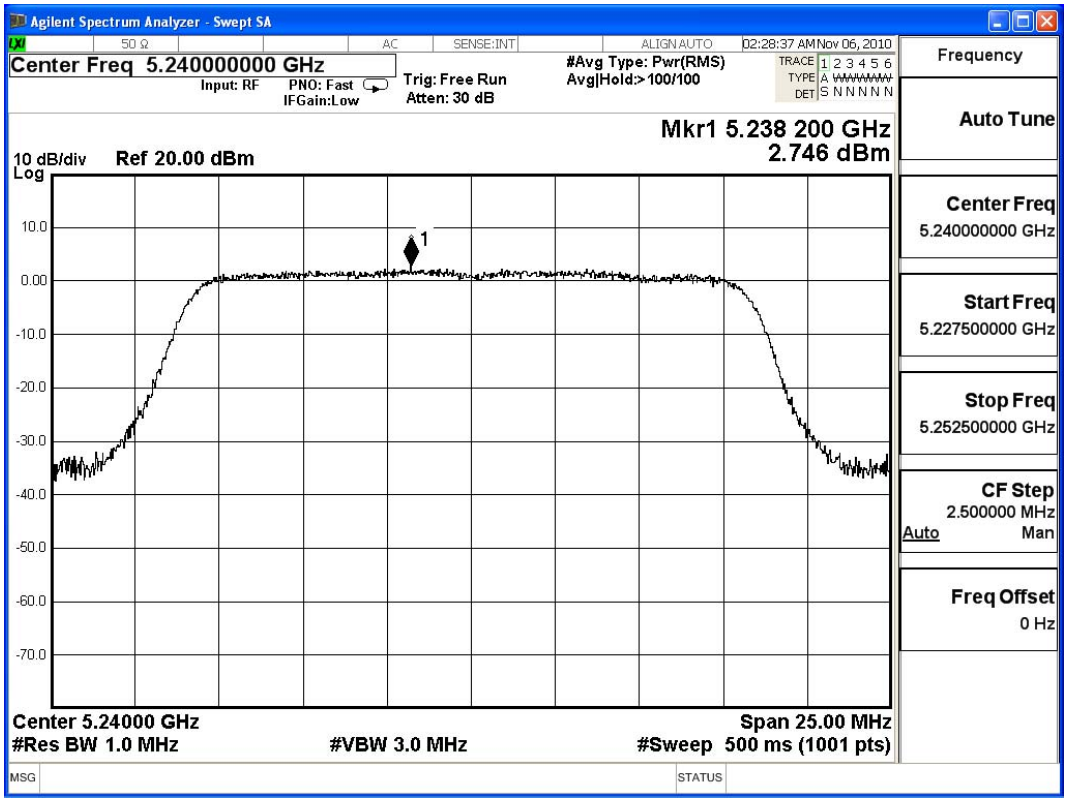
Channel 36:



Channel 44:



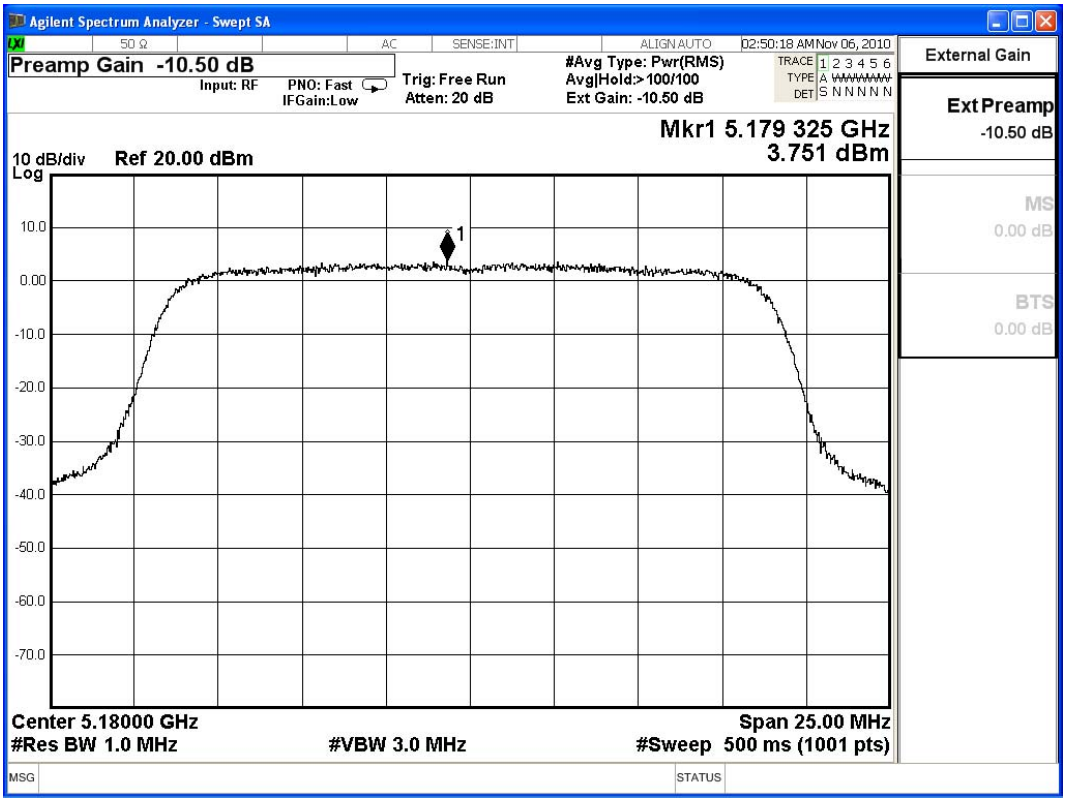
Channel 48:



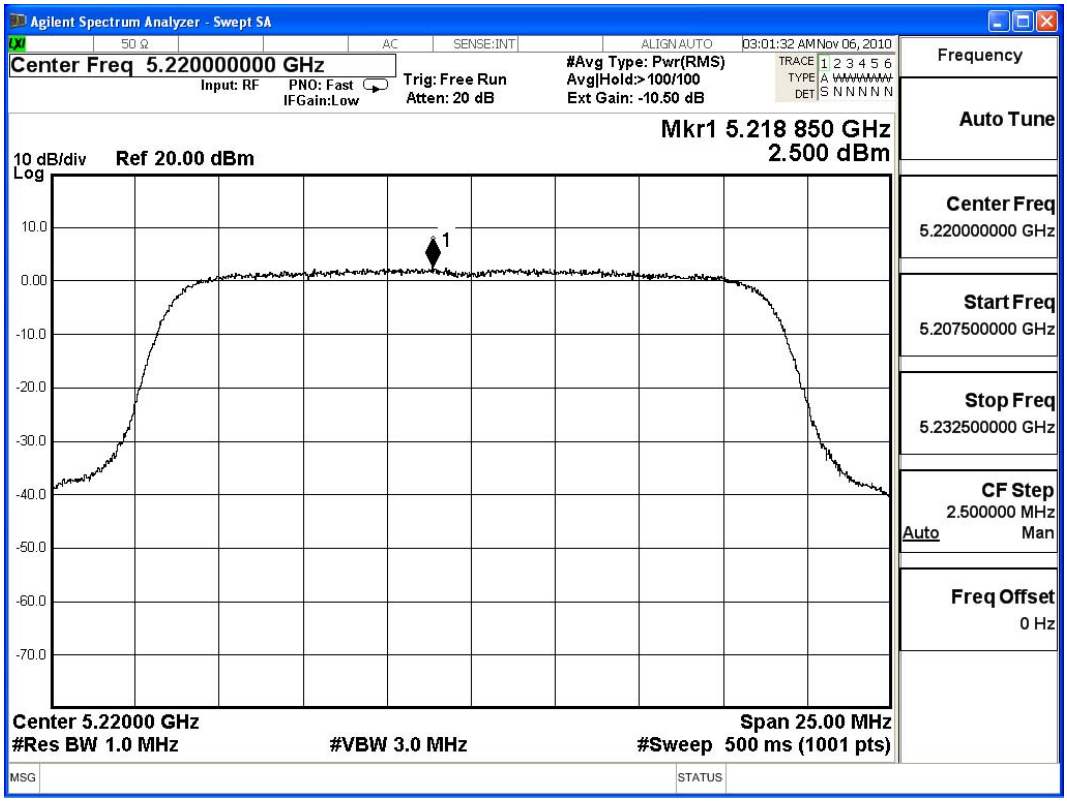
Product : Push2TV
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	3.751	<4	Pass
44	5220	2.500	<4	Pass
48	5240	2.422	<4	Pass

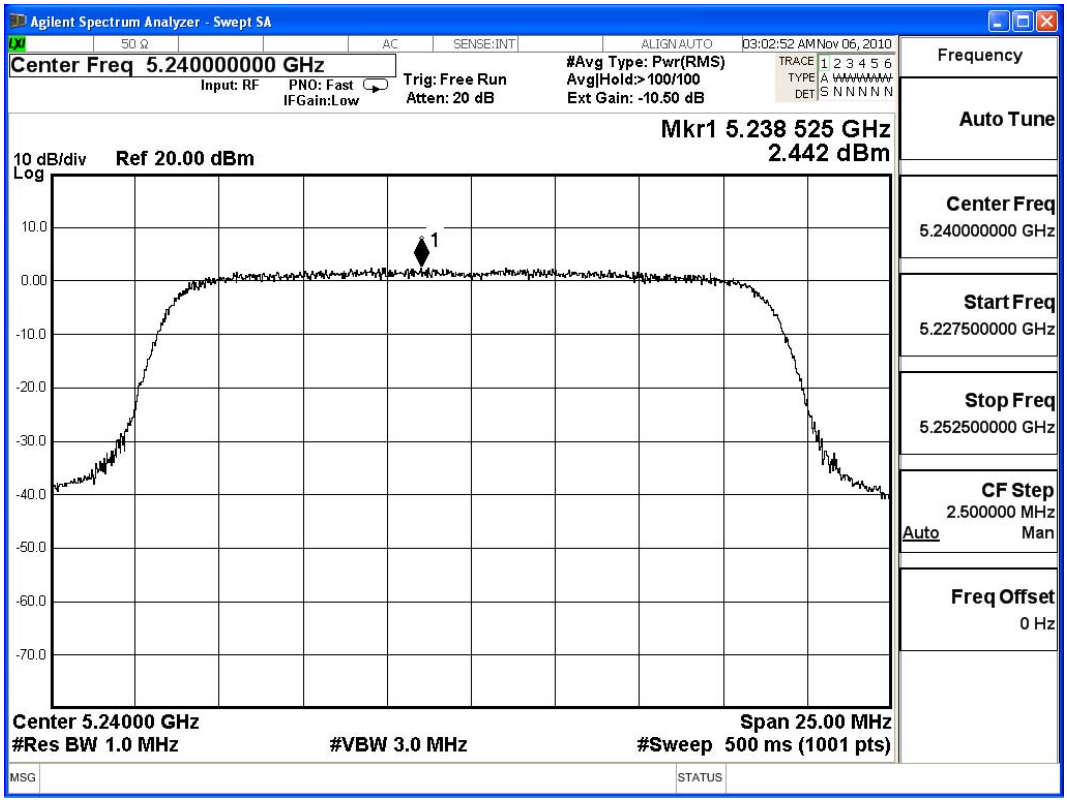
Channel 36:



Channel 44:



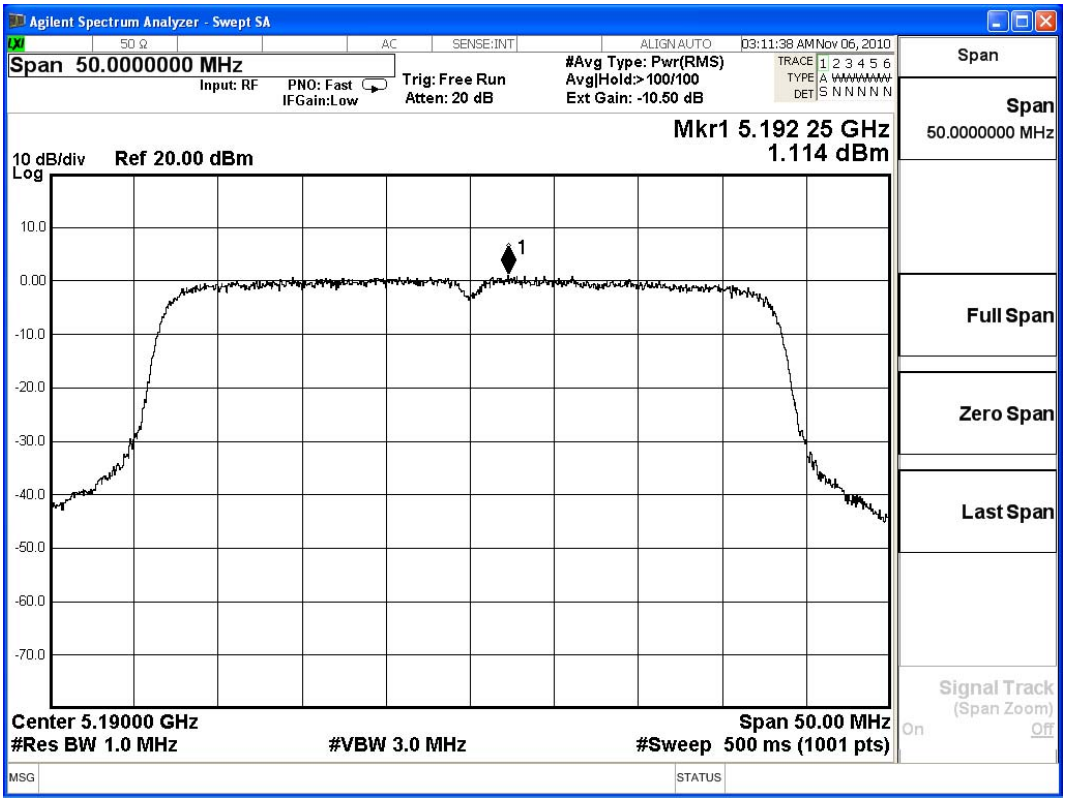
Channel 48:



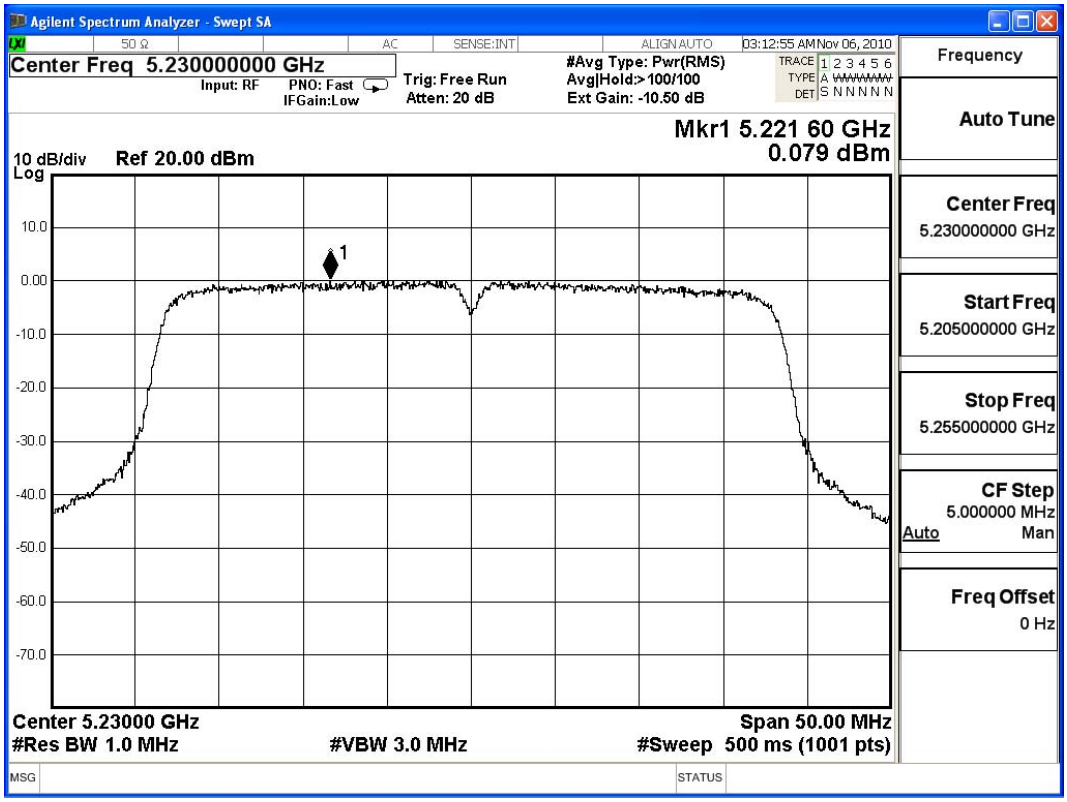
Product : Push2TV
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
38	5190	1.114	<4	Pass
46	5230	0.079	<4	Pass

Channel 38:



Channel 46:


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
03:12:55 AM Nov 06, 2010
Center Freq 5.230000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 20 dB
#Avg Type: Pwr(RMS)
Avg|Hold:>100/100
Ext Gain: -10.50 dB
TRACE 1 2 3 4 5 6
TYPE A WWWWW
DET S N N N N N
Mkr1 5.221 60 GHz
0.079 dBm
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
1
Center 5.23000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 50.00 MHz
#Sweep 500 ms (1001 pts)
MSG
STATUS
Frequency
Auto Tune
Center Freq
5.230000000 GHz
Start Freq
5.205000000 GHz
Stop Freq
5.255000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

5. Peak Excursion

5.1. Test Equipment

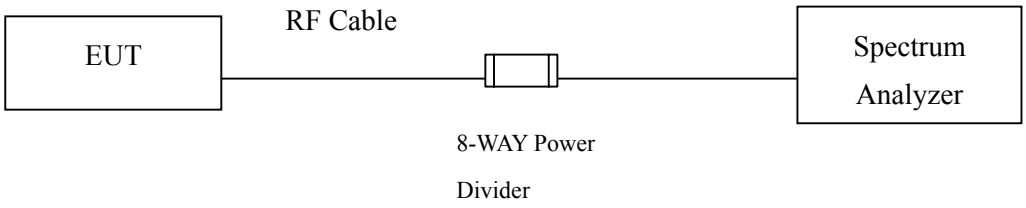
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2010
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2010
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2010
X	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2010

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.

5.2. Test Setup

Conduction Power Measurement



5.3. Limits

The ratio of the peak excursion of the modulation envelope (measured suing a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

5.4. 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.

5.5. Uncertainty

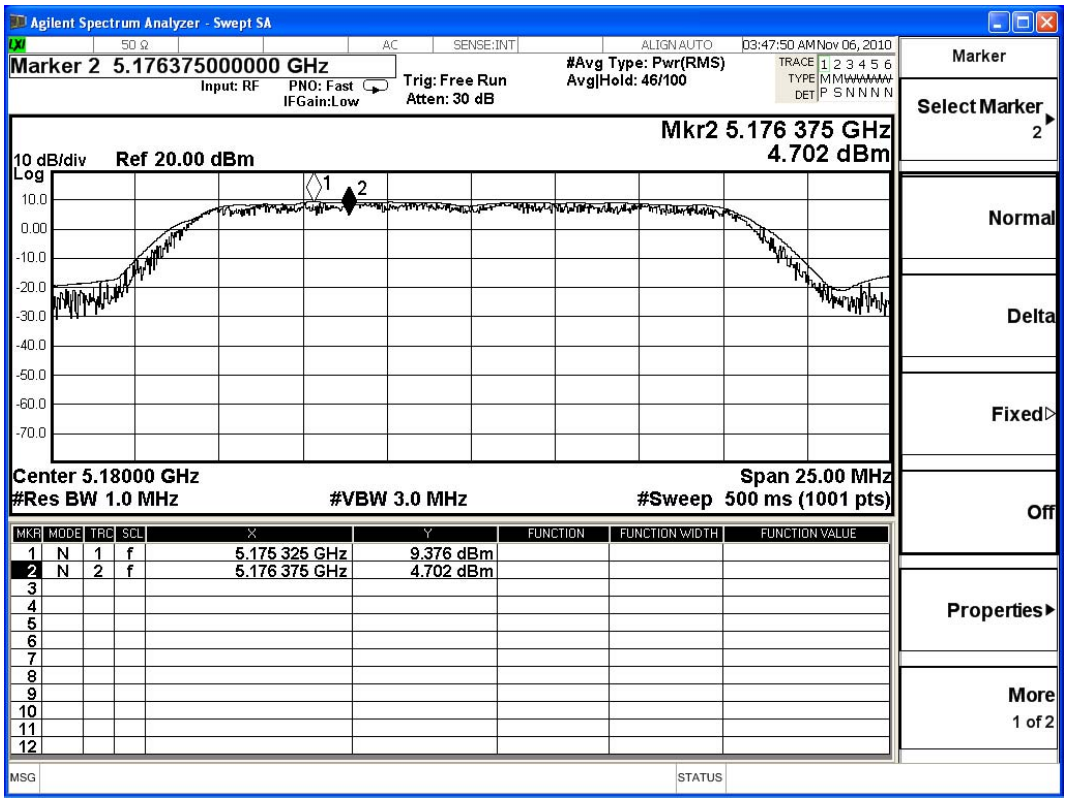
± 1.27 dB

5.6. Test Result of Peak Excursion

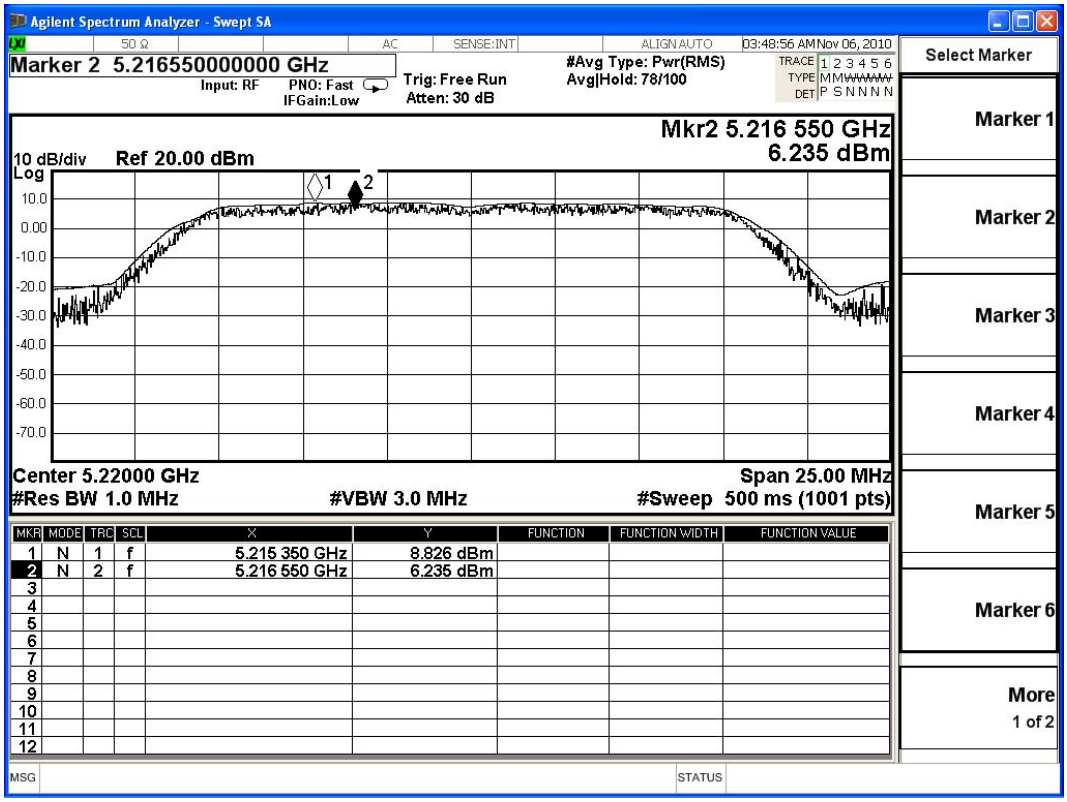
Product : Push2TV
Test Item : Peak Excursion
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
36	5180	4.67	<13	Pass
44	5220	2.59	<13	Pass
48	5240	6.74	<13	Pass

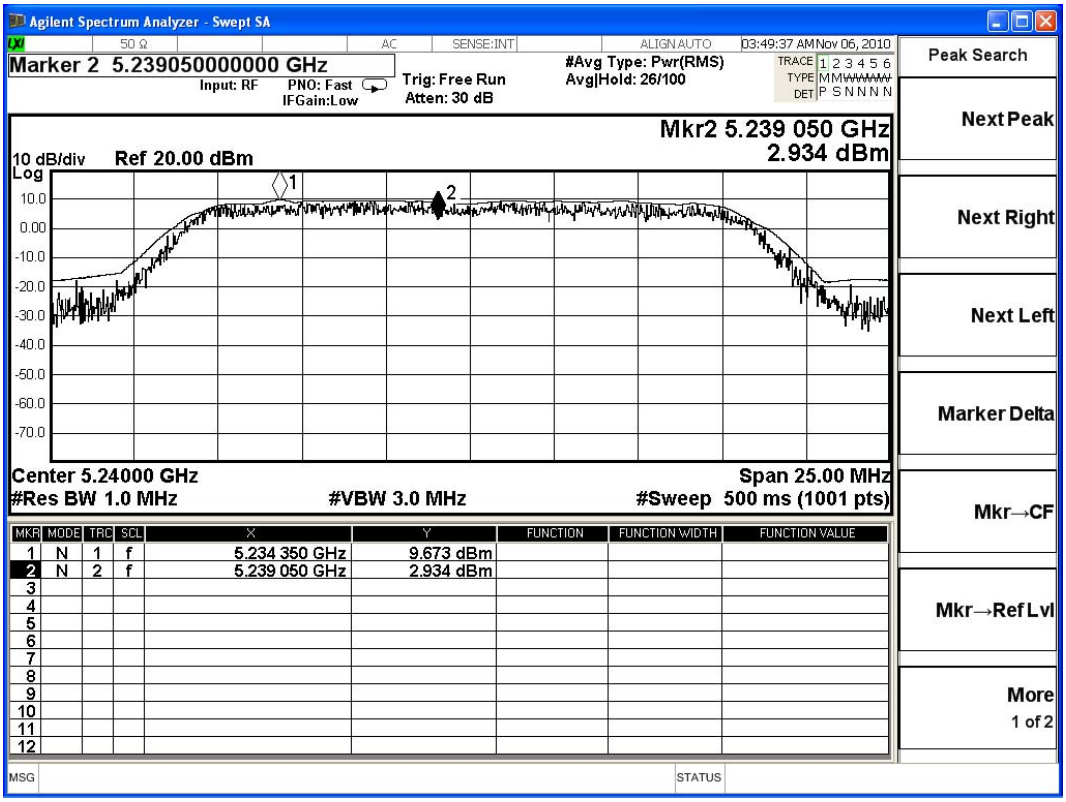
Channel 36:



Channel 44:



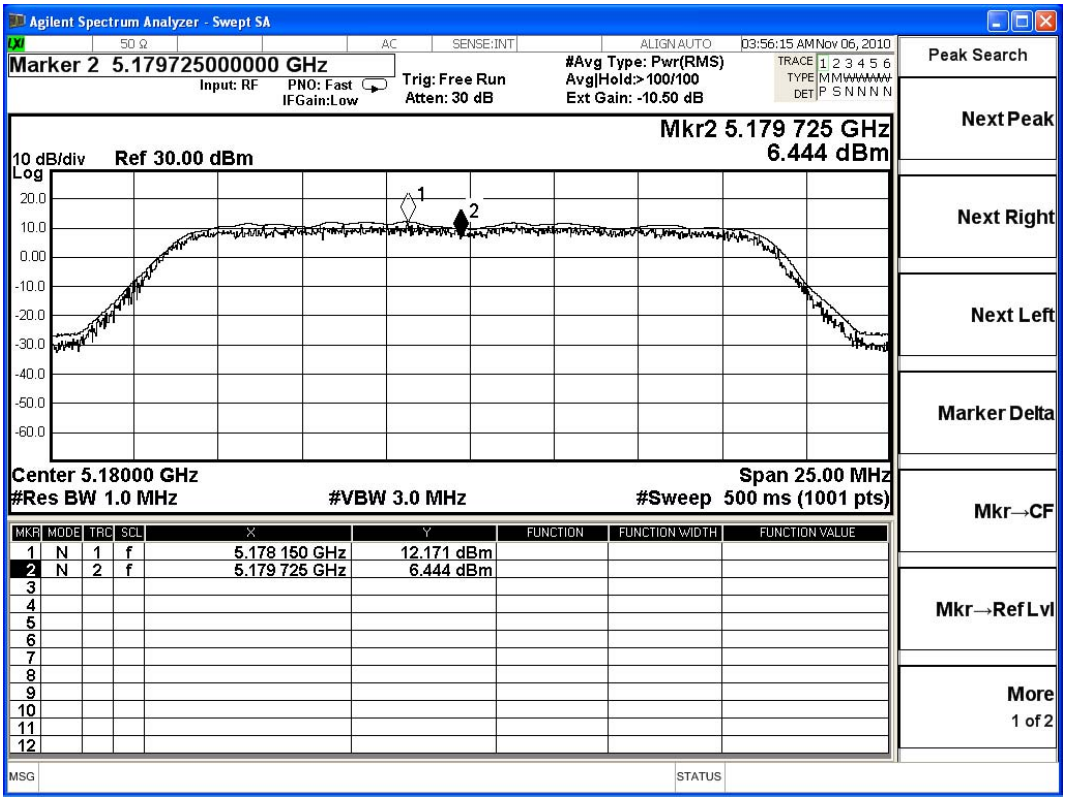
Channel 48:



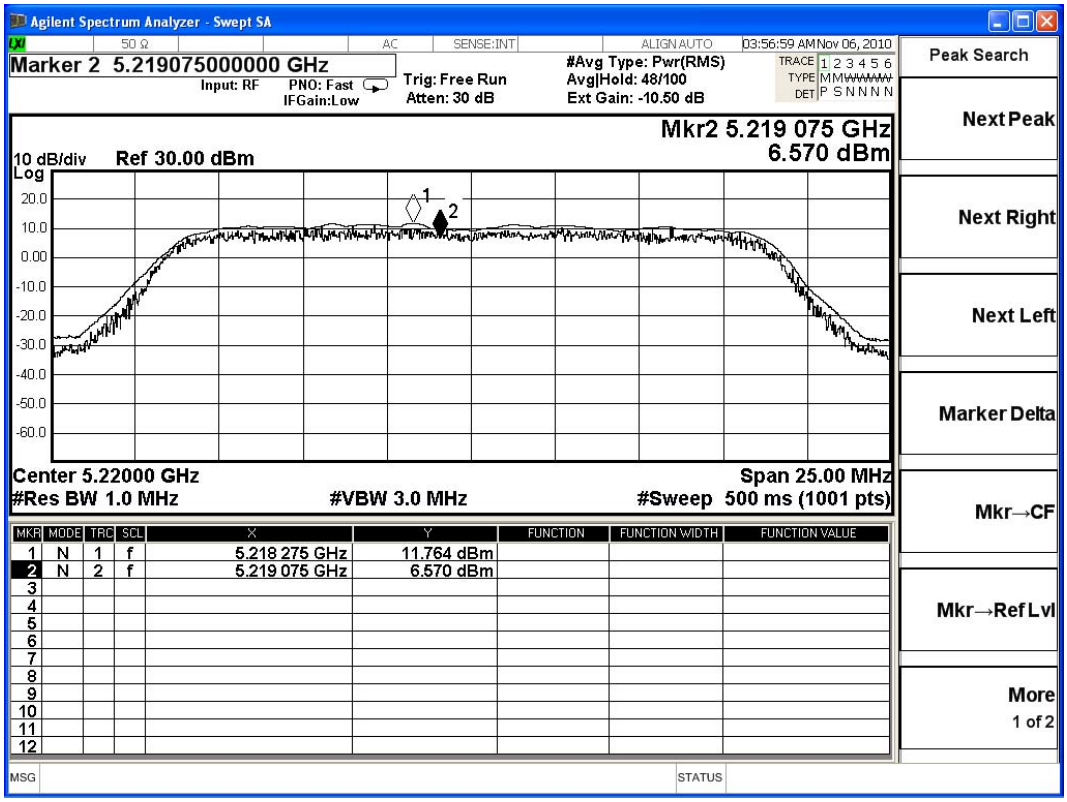
Product : Push2TV
Test Item : Peak Excursion
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps)

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
36	5180	5.73	<13	Pass
44	5220	5.19	<13	Pass
48	5240	7.77	<13	Pass

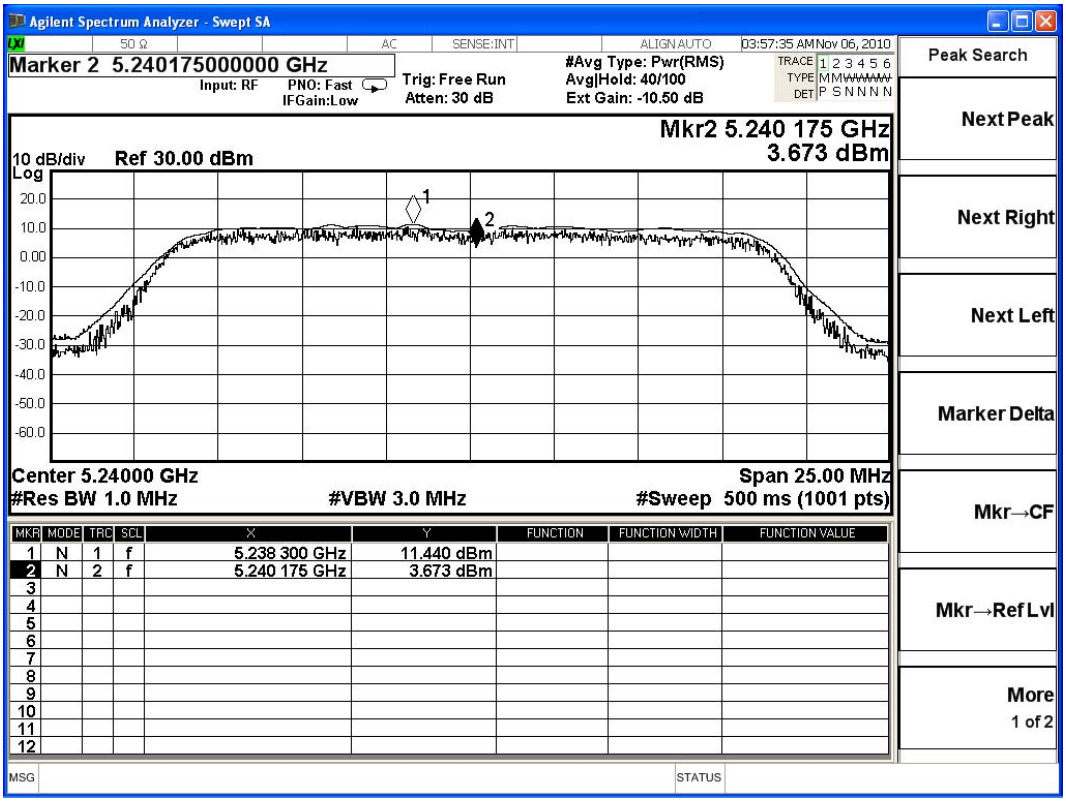
Channel 36:



Channel 44:



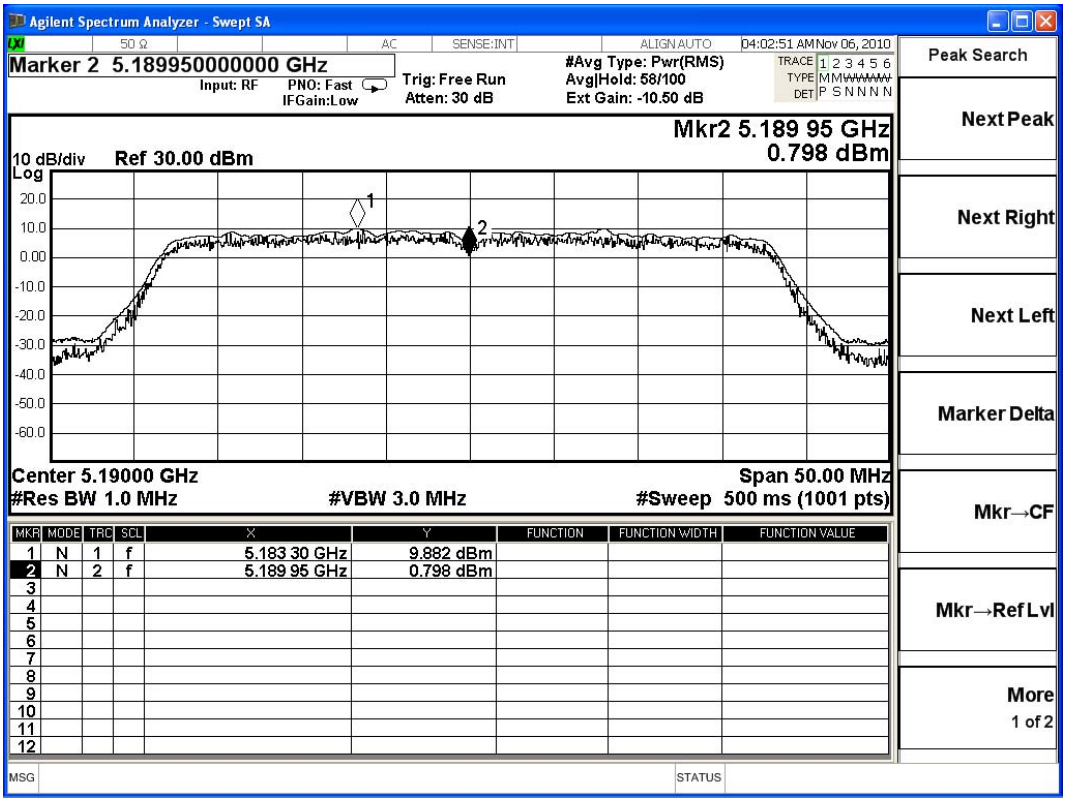
Channel 48:



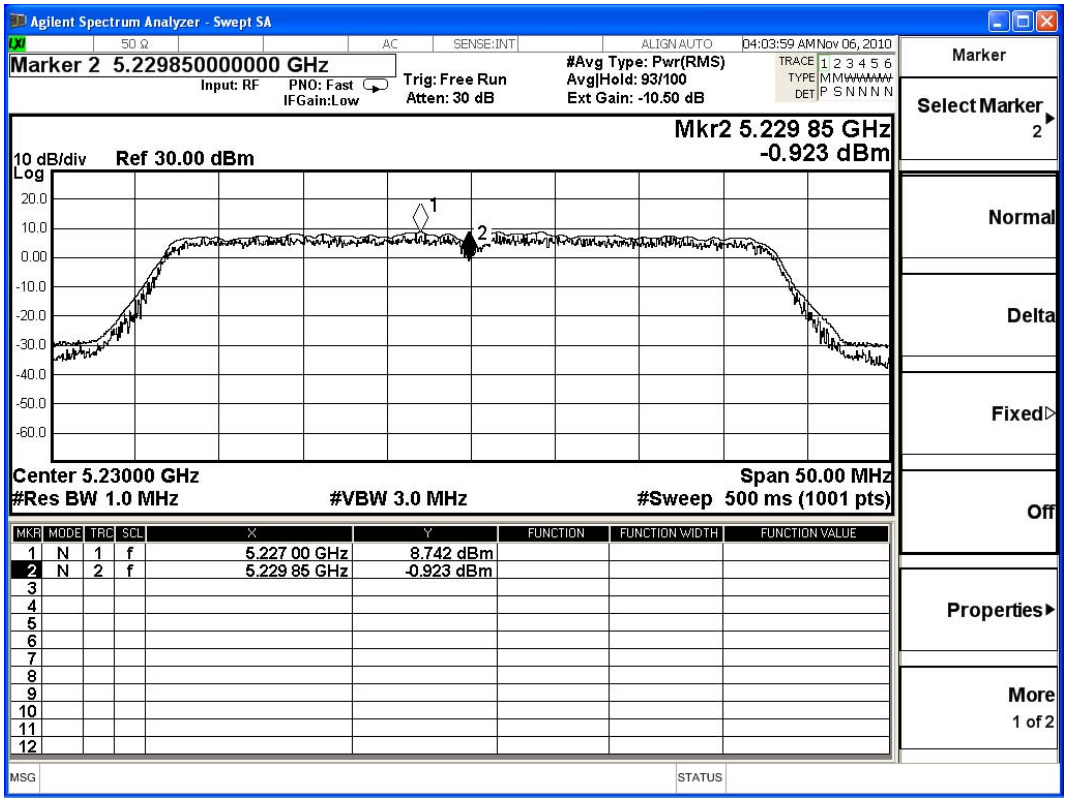
Product : Push2TV
Test Item : Peak Excursion
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps)

Channel No.	Frequency (MHz)	Measurement Level (dB)	Required Limit (dB)	Result
38	5190	9.08	<13	Pass
46	5230	9.67	<13	Pass

Channel 38:



Channel 46:


Agilent Spectrum Analyzer - Swept SA
50 Ω
AC
SENSE:INT
ALIGN AUTO
04:03:59 AM Nov 06, 2010
Marker 2 5.229850000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
#Avg Type: Pwr(RMS)
Avg|Hold: 93/100
Ext Gain: -10.50 dB
TRACE 1 2 3 4 5 6
TYPE M M W W W W W
DET P S N N N N
Mkr2 5.229 85 GHz
-0.923 dBm
10 dB/div
Log
Ref 30.00 dBm
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
Center 5.23000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 50.00 MHz
#Sweep 500 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 5.227 00 GHz 8.742 dBm
2 N 2 f 5.229 85 GHz -0.923 dBm
3
4
5
6
7
8
9
10
11
12
MSG
STATUS
Marker
Select Marker 2
Normal
Delta
Fixed
Off
Properties
More 1 of 2

6. Radiated Emission

6.1. Test Equipment

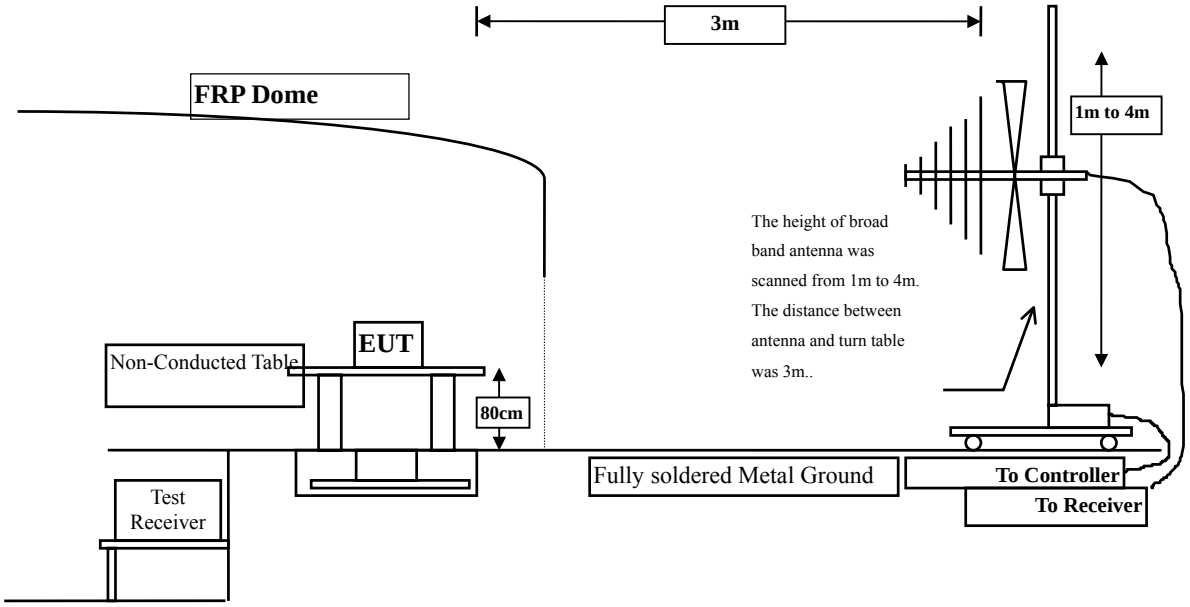
The following test equipments are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2010
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2010
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2010
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2010
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2010
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

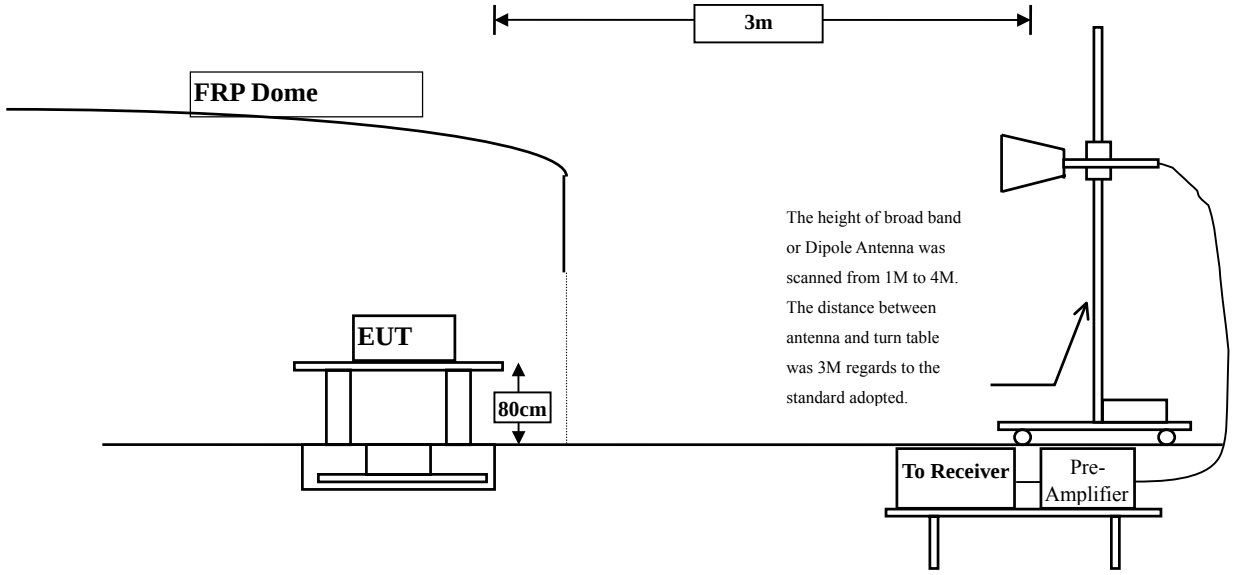
Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

6.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

6.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to FCC Public Notice DA 02-2138 test procedure for compliance to FCC 47CFR 15. 407 requirements.
The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.
The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.
Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.
The measurement is divided into the Preliminary Measurement and the Final Measurement.
The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.
The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.
The measurement frequency range form 30MHz - 10th Harmonic of fundamental was investigated.

6.5. Uncertainty

± 3.8 dB below 1GHz
± 3.9 dB above 1GHz

6.6. Test Result of Radiated Emission

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5180MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
10360.000	12.930	36.630	49.560	-24.440	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average					
Detector:					
10360.000	*	*	*	*	54.000
15540.000	*	*	*	*	54.000
20720.000	*	*	*	*	54.000
25900.000	*	*	*	*	54.000
31080.000	*	*	*	*	54.000
36260.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5180MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
10360.000	13.724	36.820	50.544	-23.456	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average					
Detector:					
10360.000	*	*	*	*	54.000
15540.000	*	*	*	*	54.000
20720.000	*	*	*	*	54.000
25900.000	*	*	*	*	54.000
31080.000	*	*	*	*	54.000
36260.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
10440.000	13.322	36.660	49.982	-24.018	74.000
15600.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
Average					
Detector:					
10440.000	*	*	*	*	54.000
15600.000	*	*	*	*	54.000
20800.000	*	*	*	*	54.000
26000.000	*	*	*	*	54.000
31200.000	*	*	*	*	54.000
36400.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
10440.000	14.245	36.860	51.105	-22.895	74.000
15600.000	*	*	*	*	74.000
20800.000	*	*	*	*	74.000
26000.000	*	*	*	*	74.000
31200.000	*	*	*	*	74.000
36400.000	*	*	*	*	74.000
Average Detector:					
10440.000	*	*	*	*	54.000
15600.000	*	*	*	*	54.000
20800.000	*	*	*	*	54.000
26000.000	*	*	*	*	54.000
31200.000	*	*	*	*	54.000
36400.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5240MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
10480.000	13.693	36.570	50.264	-23.736	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average					
Detector:					
10480.000	*	*	*	*	54.000
15720.000	*	*	*	*	54.000
20960.000	*	*	*	*	54.000
26200.000	*	*	*	*	54.000
31440000	*	*	*	*	54.000
36680.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5240MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
10480.000	14.620	36.110	50.731	-23.269	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
10480.000	*	*	*	*	54.000
15720.000	*	*	*	*	54.000
20960.000	*	*	*	*	54.000
26200.000	*	*	*	*	54.000
31440000	*	*	*	*	54.000
36680.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps) (5180MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
10360.000	12.930	36.770	49.700	-24.300	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average					
Detector:					
10360.000	*	*	*	*	54.000
15540.000	*	*	*	*	54.000
20720.000	*	*	*	*	54.000
25900.000	*	*	*	*	54.000
31080.000	*	*	*	*	54.000
36260.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps) (5180MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
10360.000	13.724	37.450	51.174	-22.826	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
10360.000	*	*	*	*	54.000
15540.000	*	*	*	*	54.000
20720.000	*	*	*	*	54.000
25900.000	*	*	*	*	54.000
31080.000	*	*	*	*	54.000
36260.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
10440.000	13.322	36.580	49.902	-24.098	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
Average					
Detector:					
10440.000	*	*	*	*	54.000
15660.000	*	*	*	*	54.000
20880.000	*	*	*	*	54.000
26100.000	*	*	*	*	54.000
31320.000	*	*	*	*	54.000
36540.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
10440.000	14.245	36.960	51.205	-22.795	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
31320.000	*	*	*	*	74.000
36540.000	*	*	*	*	74.000
Average Detector:					
10440.000	*	*	*	*	54.000
15660.000	*	*	*	*	54.000
20880.000	*	*	*	*	54.000
26100.000	*	*	*	*	54.000
31320.000	*	*	*	*	54.000
36540.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps) (5240MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
10480.000	13.693	36.710	50.404	-23.596	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average					
Detector:					
10480.000	*	*	*	*	54.000
15720.000	*	*	*	*	54.000
20960.000	*	*	*	*	54.000
26200.000	*	*	*	*	54.000
31440.000	*	*	*	*	54.000
36680.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps) (5240MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
10480.000	14.620	36.970	51.591	-22.409	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
31440.000	*	*	*	*	74.000
36680.000	*	*	*	*	74.000
Average Detector:					
10480.000	*	*	*	*	54.000
15720.000	*	*	*	*	54.000
20960.000	*	*	*	*	54.000
26200.000	*	*	*	*	54.000
31440.000	*	*	*	*	54.000
36680.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5190MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
10380.000	12.939	36.960	49.899	-24.101	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
Average					
Detector:					
10380.000	*	*	*	*	54.000
15570.000	*	*	*	*	54.000
20760.000	*	*	*	*	54.000
25950.000	*	*	*	*	54.000
31140.000	*	*	*	*	54.000
36330.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5190MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
10380.000	13.796	36.420	50.216	-23.784	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000
31140.000	*	*	*	*	74.000
36330.000	*	*	*	*	74.000
Average Detector:					
10380.000	*	*	*	*	54.000
15570.000	*	*	*	*	54.000
20760.000	*	*	*	*	54.000
25950.000	*	*	*	*	54.000
31140.000	*	*	*	*	54.000
36330.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5230MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
10460.000	13.508	36.650	50.158	-23.842	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
Average					
Detector:					
10460.000	*	*	*	*	54.000
15690.000	*	*	*	*	54.000
20920.000	*	*	*	*	54.000
26150.000	*	*	*	*	54.000
31380.000	*	*	*	*	54.000
36610.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5230MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
10460.000	14.433	36.310	50.743	-23.257	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
31380.000	*	*	*	*	74.000
36610.000	*	*	*	*	74.000
Average Detector:					
10460.000	*	*	*	*	54.000
15690.000	*	*	*	*	54.000
20920.000	*	*	*	*	54.000
26150.000	*	*	*	*	54.000
31380.000	*	*	*	*	54.000
36610.000	*	*	*	*	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)
-(Adapter: MT12-Y120100-A1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
101.780	-7.141	28.533	21.392	-22.108	43.500
326.820	-4.548	41.569	37.022	-8.978	46.000
544.100	3.512	24.334	27.846	-18.154	46.000
604.240	4.770	25.197	29.967	-16.033	46.000
674.080	2.799	31.502	34.301	-11.699	46.000
928.220	6.893	24.512	31.405	-14.595	46.000
Vertical					
Peak Detector					
101.780	-0.021	30.093	30.071	-13.429	43.500
165.800	-7.719	34.814	27.095	-16.405	43.500
332.640	-4.914	40.467	35.553	-10.447	46.000
685.720	2.319	24.780	27.098	-18.902	46.000
829.280	2.864	26.185	29.049	-16.951	46.000
961.200	7.260	30.260	37.520	-16.480	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps) (5220MHz)
-(Adapter: MT12-Y120100-A1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
165.800	-11.079	32.524	21.445	-22.055	43.500
328.760	-4.609	42.065	37.456	-8.544	46.000
606.180	4.666	24.547	29.213	-16.787	46.000
676.020	2.911	28.170	31.081	-14.919	46.000
833.160	5.643	25.660	31.302	-14.698	46.000
961.200	6.450	32.019	38.469	-15.531	54.000
Vertical					
Peak Detector					
101.780	-0.021	28.852	28.830	-14.670	43.500
332.640	-4.914	40.427	35.513	-10.487	46.000
540.220	0.121	24.052	24.173	-21.827	46.000
689.600	2.538	23.631	26.169	-19.831	46.000
823.460	3.462	24.512	27.975	-18.025	46.000
961.200	7.260	30.137	37.397	-16.603	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5190MHz)
-(Adapter: MT12-Y120100-A1)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
136.700	-10.363	38.246	27.883	-15.617	43.500
233.700	-8.619	37.475	28.856	-17.144	46.000
307.420	-3.301	44.495	41.194	-4.806	46.000
398.600	-2.268	44.196	41.928	-4.072	46.000
480.080	-0.329	32.805	32.476	-13.524	46.000
961.200	6.450	31.841	38.291	-15.709	54.000
Vertical					
Peak Detector					
136.700	-5.143	39.322	34.179	-9.321	43.500
229.820	-8.512	37.398	28.886	-17.114	46.000
303.540	-6.794	46.772	39.978	-6.022	46.000
480.080	-4.359	35.233	30.874	-15.126	46.000
755.560	3.281	21.973	25.254	-20.746	46.000
961.200	7.260	29.379	36.639	-17.361	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)
-(Adapter: T012LF1209)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
130.880	-10.159	35.922	25.763	-17.737	43.500
305.480	-2.929	47.100	44.171	-1.829	46.000
398.600	-2.268	41.938	39.670	-6.330	46.000
480.080	-0.329	34.019	33.690	-12.310	46.000
606.180	4.666	23.647	28.313	-17.687	46.000
961.200	6.450	35.971	42.421	-11.579	54.000
Vertical					
Peak Detector					
57.160	-4.403	33.758	29.355	-10.645	40.000
130.880	-4.239	41.360	37.121	-6.379	43.500
220.120	-8.840	36.424	27.584	-18.416	46.000
305.480	-6.809	50.579	43.770	-2.230	46.000
359.800	-3.810	33.854	30.044	-15.956	46.000
480.080	-4.359	34.879	30.520	-15.480	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps) (5220MHz)
-(Adapter: T012LF1209)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
130.880	-10.159	35.966	25.807	-17.693	43.500
303.540	-3.074	47.389	44.315	-1.685	46.000
400.540	-2.276	41.448	39.172	-6.828	46.000
470.380	1.226	31.696	32.922	-13.078	46.000
544.100	3.512	25.991	29.503	-16.497	46.000
961.200	6.450	36.495	42.945	-11.055	54.000
Vertical					
Peak Detector					
57.160	-4.403	33.520	29.117	-10.883	40.000
128.940	-4.128	42.435	38.307	-5.193	43.500
216.240	-8.317	36.130	27.813	-18.187	46.000
303.540	-6.794	50.260	43.466	-2.534	46.000
468.440	-4.725	40.694	35.969	-10.031	46.000
961.200	7.260	34.577	41.837	-12.163	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Push2TV
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) (5190MHz)
-(Adapter: T012LF1209)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
130.880	-10.159	35.629	25.470	-18.030	43.500
218.180	-10.619	33.996	23.376	-22.624	46.000
299.660	-3.585	47.203	43.618	-2.382	46.000
400.540	-2.276	41.600	39.324	-6.676	46.000
458.740	0.833	30.768	31.601	-14.399	46.000
961.200	6.450	37.159	43.609	-10.391	54.000
Vertical					
Peak Detector					
61.040	-4.316	33.287	28.971	-11.029	40.000
130.880	-4.239	41.347	37.108	-6.392	43.500
307.420	-6.821	49.506	42.685	-3.315	46.000
396.660	-4.356	33.986	29.630	-16.370	46.000
480.080	-4.359	34.553	30.194	-15.806	46.000
961.200	7.260	34.378	41.638	-12.362	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

7. Band Edge

7.1. Test Equipment

RF Conducted Measurement

The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2010
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2010
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.

RF Radiated Measurement:

The following test equipments are used during the band edge tests:

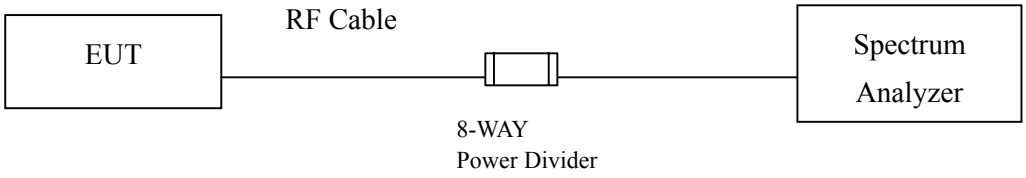
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2010
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2010
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2010
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2010
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2010
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2010
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All instruments are calibrated every one year.

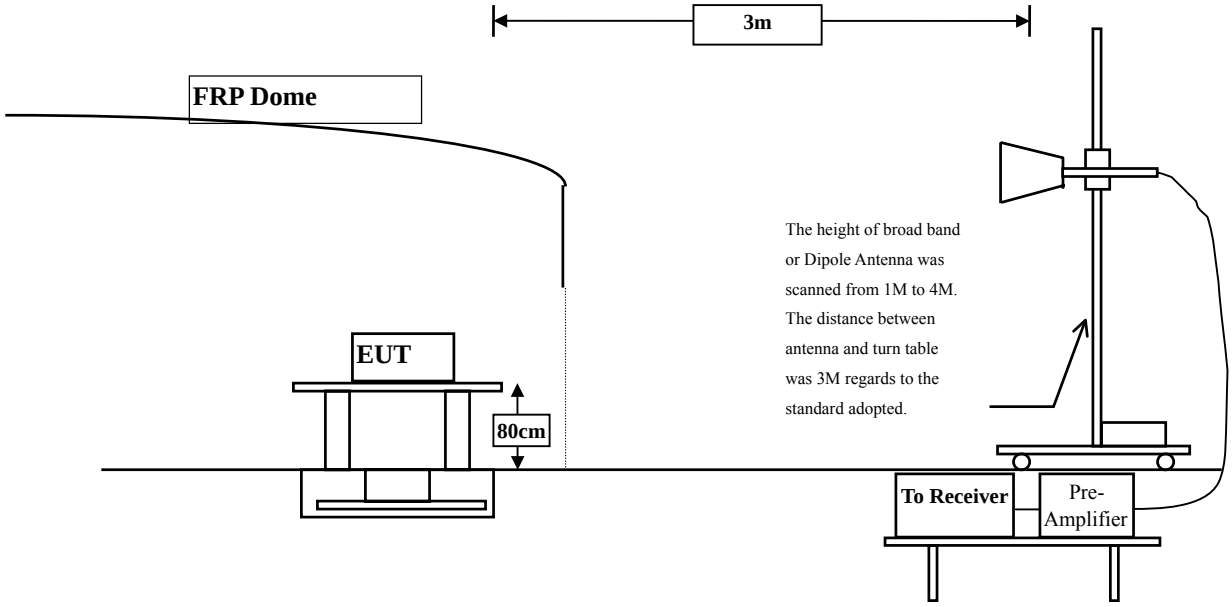
2. The test instruments marked by "X" are used to measure the final test results.

7.2. Test Setup

RF Conducted Measurement



RF Radiated Measurement:



7.3. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks : 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

7.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz.

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.

7.5. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

7.6. Test Result of Band Edge

Product : Push2TV
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Reading Level [dBuV]	Correction Factor [dB/m]	Emission Level [dBuV/m]	Detector
Horizontal	5180	33.382	68.72	102.102	Peak
Horizontal	5180	33.382	58.91	92.292	Average
Vertical	5180	35.489	58.46	93.949	Peak
Vertical	5180	35.489	48.19	83.679	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=30Hz

Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	5149.5	102.102	47.523	54.579	Peak
Horizontal	5127.8	92.292	51.03	41.262	Average
Vertical	5149.5	93.949	47.523	46.426	Peak
Vertical	5127.8	83.679	51.03	32.649	Average

Note:

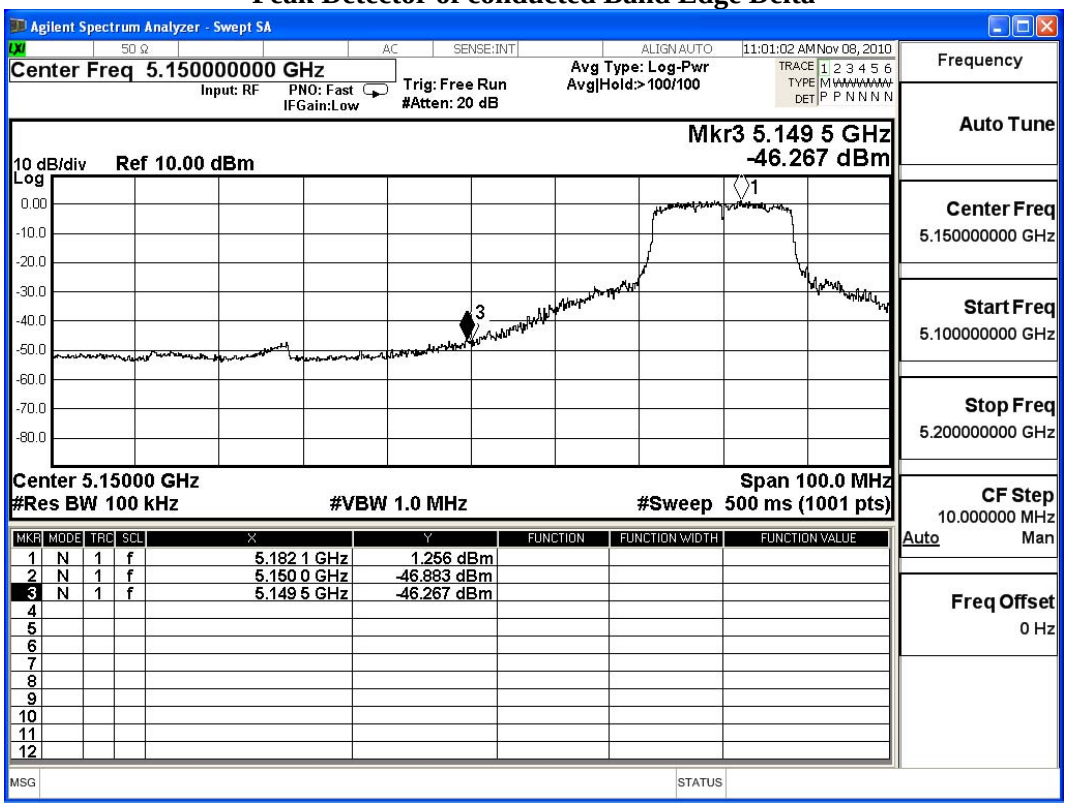
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength = F - Δ

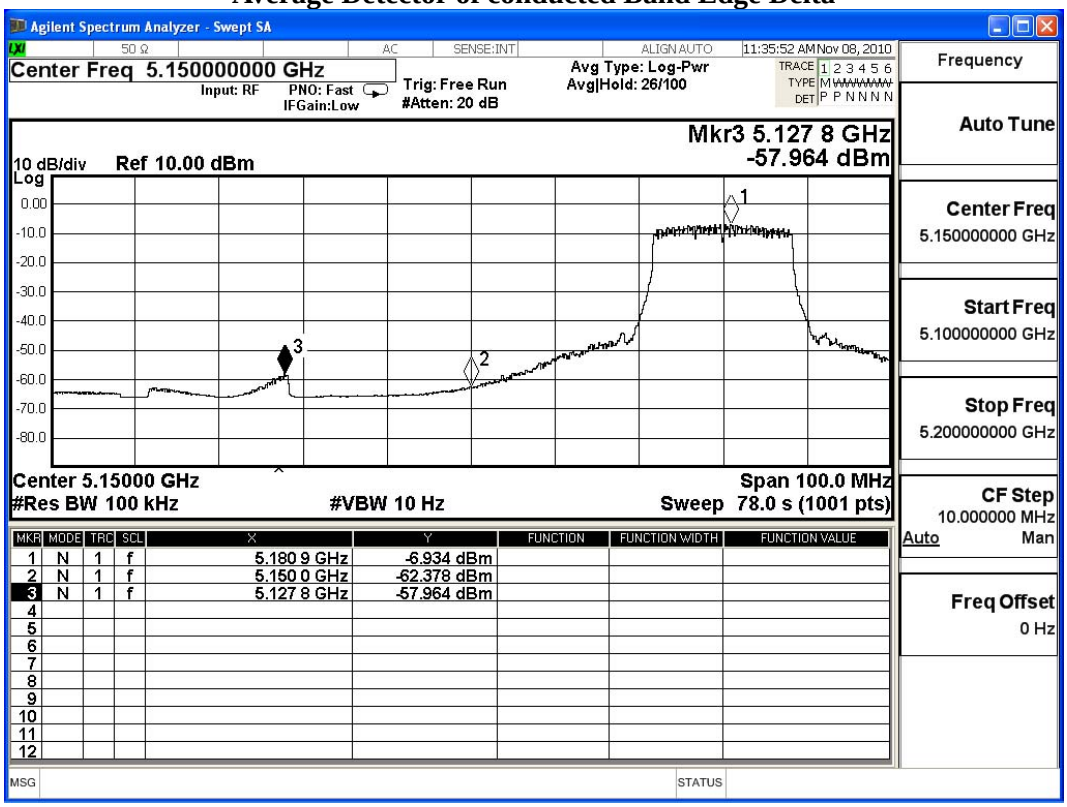
F = Fundamental field Strength (Peak or Average)

Δ = Conducted Band Edge Delta (Peak or Average)

Peak Detector of conducted Band Edge Delta



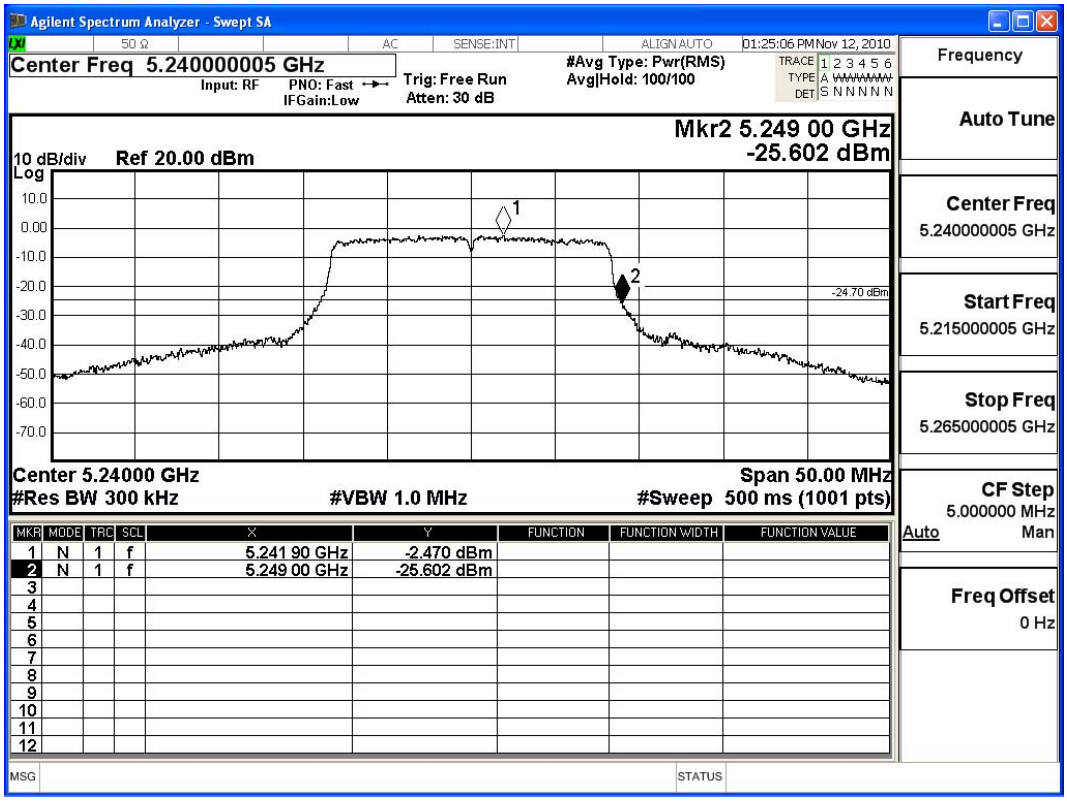
Average Detector of conducted Band Edge Delta



Product : Push2TV
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 48

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.00	<5250	PASS

NOTE: Accordance with 15.215 requirement.



Product : Push2TV
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps) -Channel 36

Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Reading Level [dBuV]	Correction Factor [dB/m]	Emission Level [dBuV/m]	Detector
Horizontal	5180	33.382	69.51	102.892	Peak
Horizontal	5180	33.382	58.03	91.412	Average
Vertical	5180	35.489	60.78	96.269	Peak
Vertical	5180	35.489	49.53	85.019	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=30Hz

Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	5147.5	102.892	40.5	62.392	Peak
Horizontal	5128	91.412	48.61	42.802	Average
Vertical	5147.5	96.269	40.5	55.769	Peak
Vertical	5128	85.019	48.61	36.409	Average

Note:

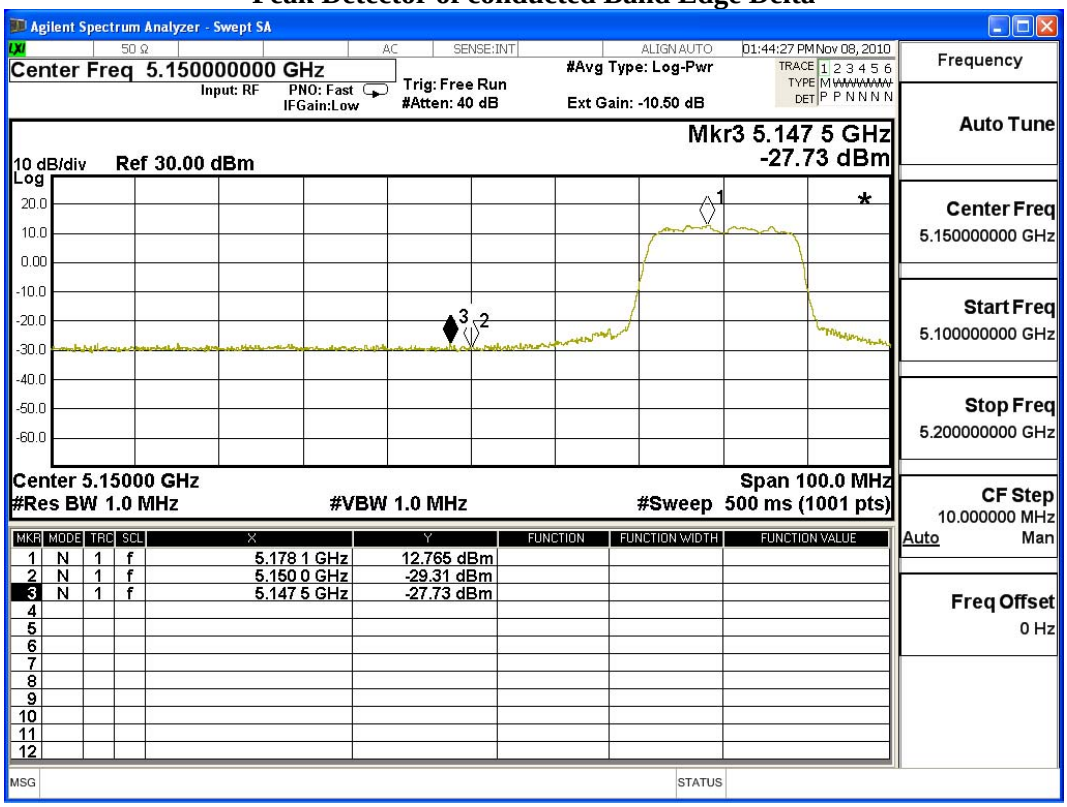
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength = F - Δ

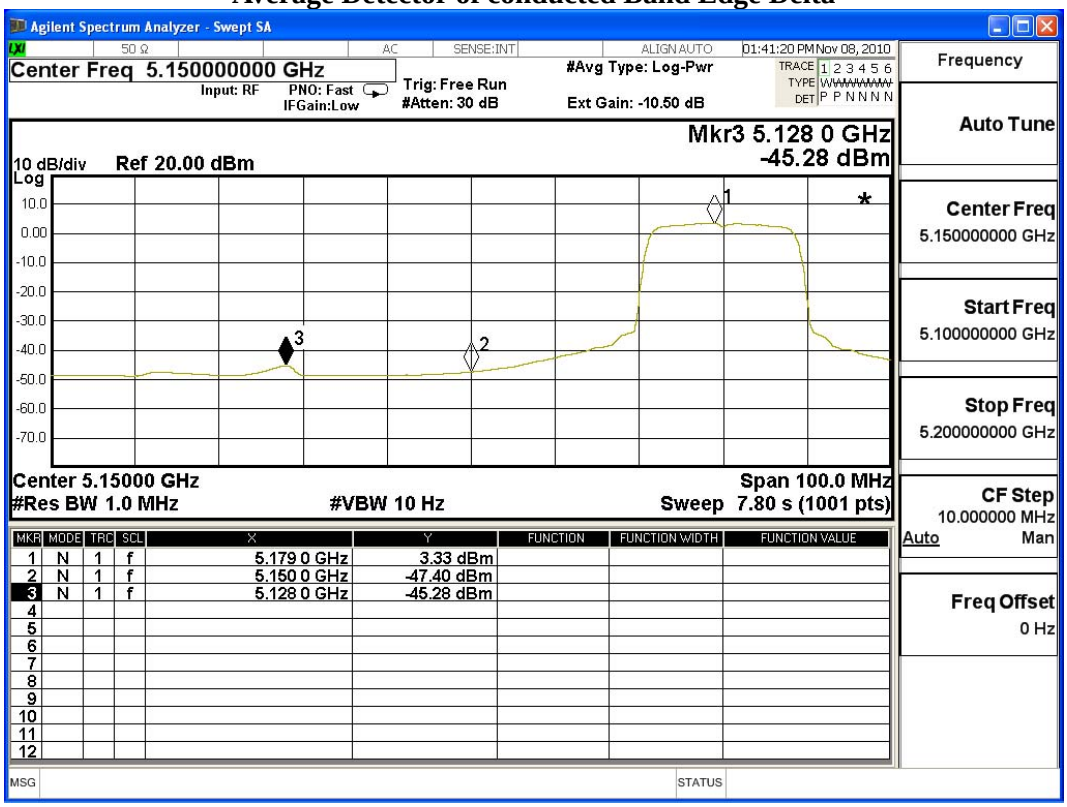
F = Fundamental field Strength (Peak or Average)

Δ = Conducted Band Edge Delta (Peak or Average)

Peak Detector of conducted Band Edge Delta



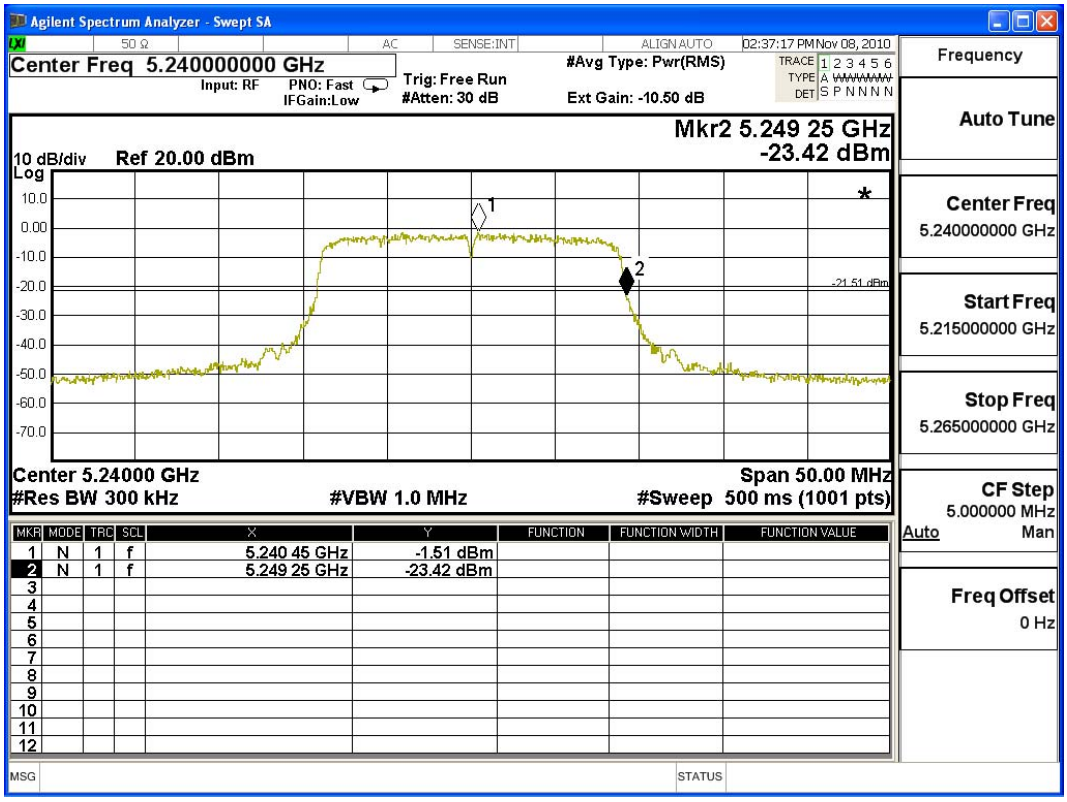
Average Detector of conducted Band Edge Delta



Product : Push2TV
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps)-Channel 48

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5240	5249.25	<5250	PASS

NOTE: Accordance with 15.215 requirement.



Product : Push2TV
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 27Mbps) -Channel 38

Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Reading Level [dBuV]	Correction Factor [dB/m]	Emission Level [dBuV/m]	Detector
Horizontal	5190	33.345	67.21	100.555	Peak
Horizontal	5190	33.345	56.08	89.425	Average
Vertical	5190	35.515	58.61	94.126	Peak
Vertical	5190	35.515	47.34	82.856	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=30Hz

Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	5134.4	100.555	37.28	63.275	Peak
Horizontal	5150	89.425	39.07	50.355	Average
Vertical	5134.4	94.126	37.28	56.846	Peak
Vertical	5150	82.856	39.07	43.786	Average

Note:

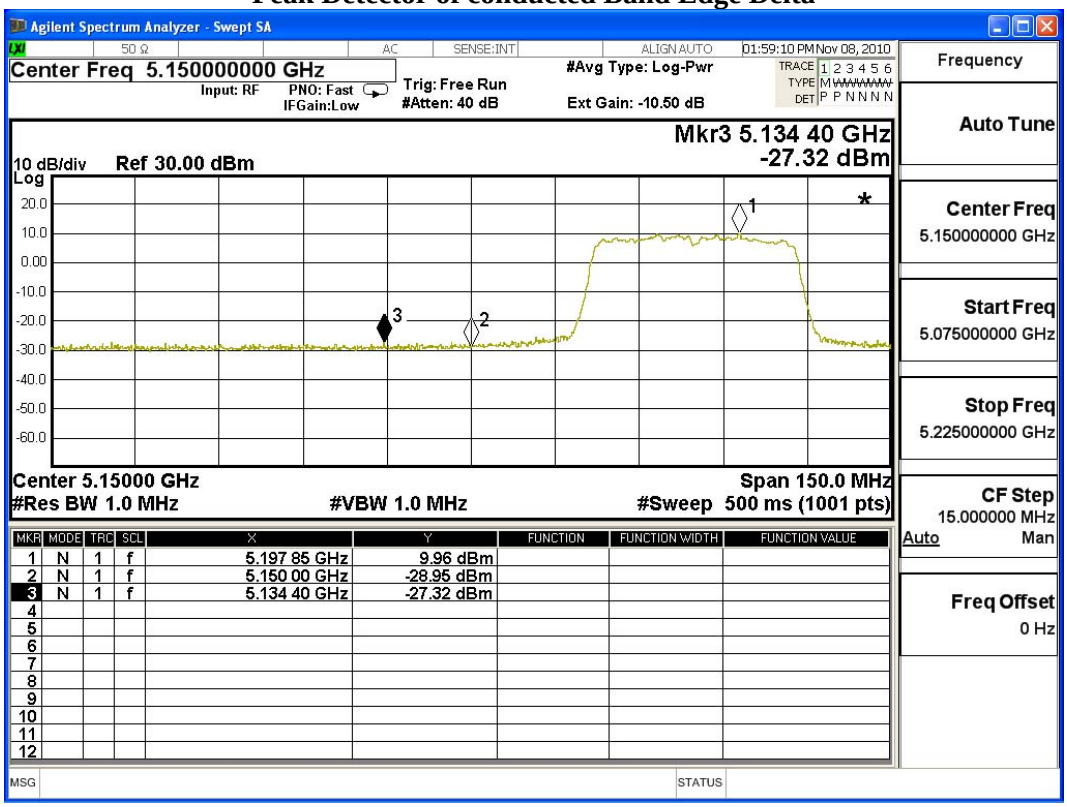
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength = F - Δ

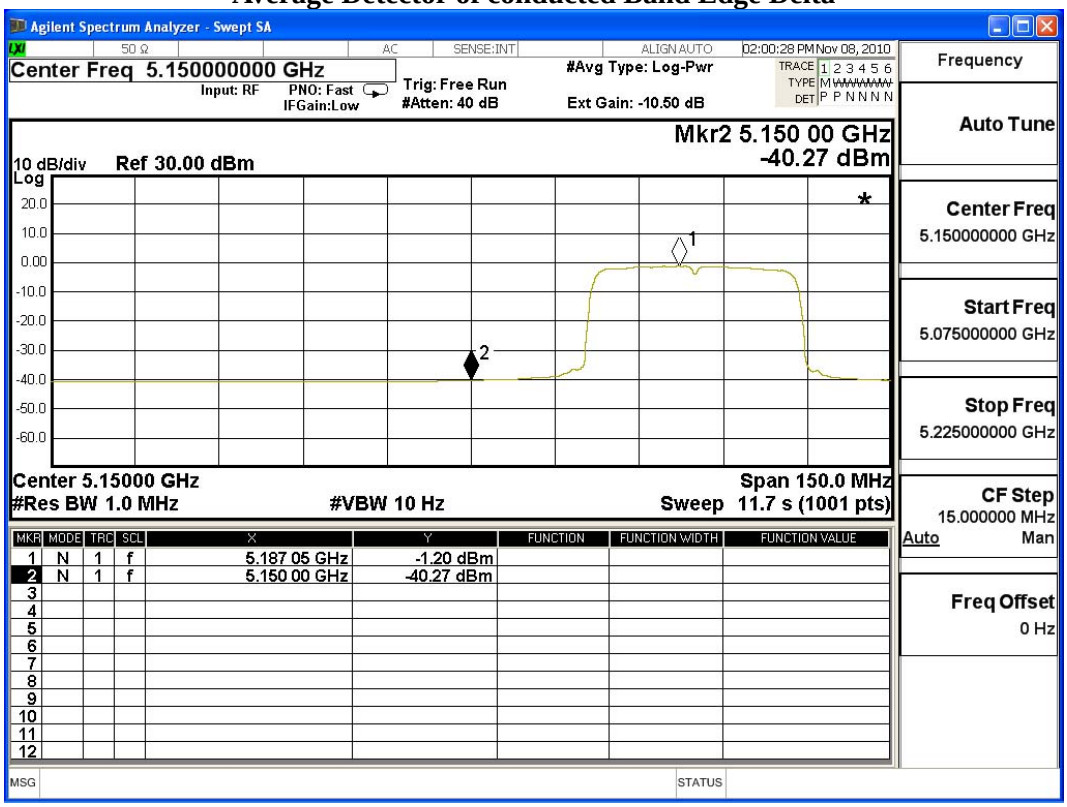
F = Fundamental field Strength (Peak or Average)

Δ = Conducted Band Edge Delta (Peak or Average)

Peak Detector of conducted Band Edge Delta



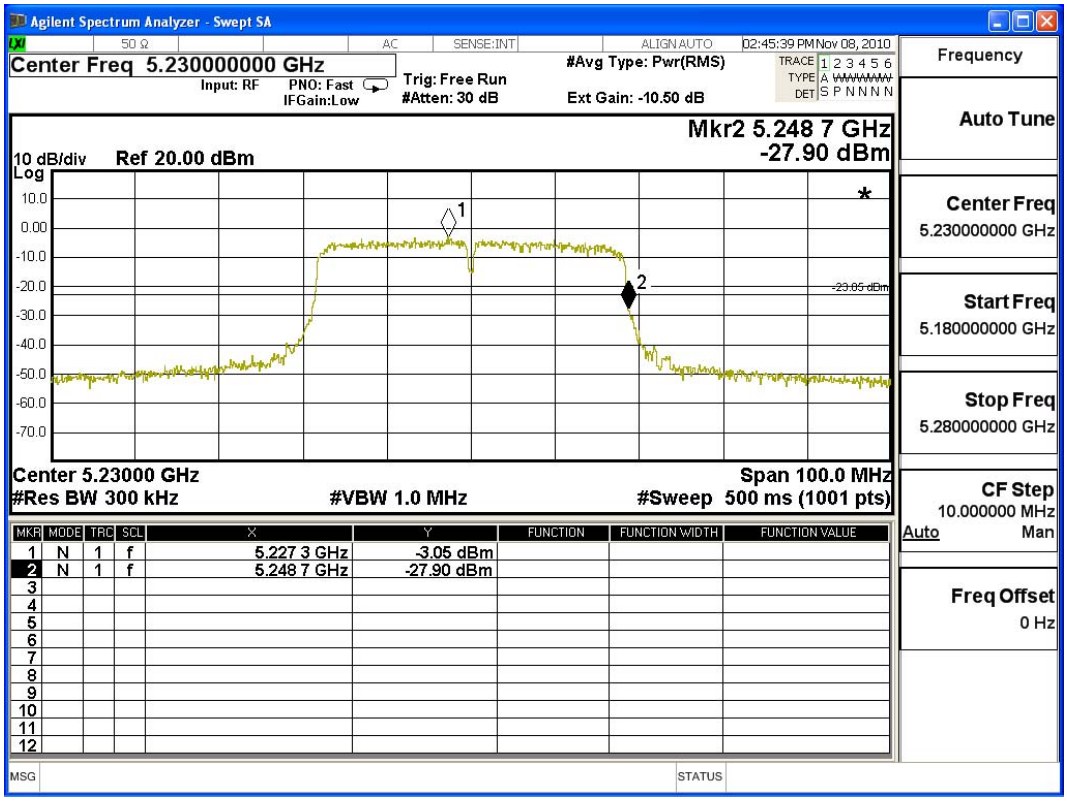
Average Detector of conducted Band Edge Delta



Product : Push2TV
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 13Mbps)-Channel 48

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5230	5248.70	<5250	PASS

NOTE: Accordance with 15.215 requirement.



8. Frequency Stability

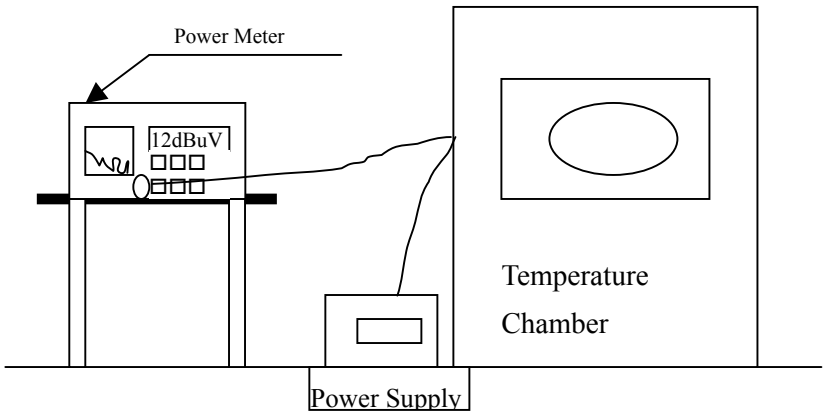
8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2010
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2010
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	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.

8.2. Test Setup



8.3. Limits

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified

8.4. 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.

8.5. Uncertainty

± 150 Hz

8.6. Test Result of Frequency Stability

Product : Push2TV
Test Item : Frequency Stability
Test Site : Temperature Chamber
Test Mode : Carrier Wave (for 802.11a/n-20MHz/40MHz Channel) - Begining

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (120)V	36	5180.00	5180.0010	-0.0010
		38	5190.00	5190.0075	-0.0075
		40	5200.00	5200.0085	-0.0085
		46	5230.00	5230.0015	-0.0015
		48	5240.00	5240.0085	-0.0085
Tnom (40) °C	Vnom (120)V	36	5180.00	5180.0125	-0.0125
		38	5190.00	5190.0089	-0.0089
		40	5200.00	5200.0097	-0.0097
		46	5230.00	5230.0150	-0.0150
		48	5240.00	5240.0150	-0.0150
Tnom (0) °C	Vnom (120)V	36	5180.00	5180.0120	-0.0120
		38	5190.00	5190.0095	-0.0095
		40	5200.00	5200.0070	-0.0070
		46	5230.00	5230.0100	-0.0100
		48	5240.00	5240.0085	-0.0085

Product : Push2TV
Test Item : Frequency Stability
Test Site : Temperature Chamber
Test Mode : Carrier Wave (for 802.11a/n-20MHz/40MHz Channel) - AFTER 2Min

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (120)V	36	5180.00	5180.0085	-0.0085
		38	5190.00	5190.0014	-0.0014
		40	5200.00	5220.0095	-0.0095
		46	5230.00	5230.0100	-0.0100
		48	5240.00	5240.0018	-0.0018
Tnom (40) °C	Vnom (120)V	36	5180.00	5180.0103	-0.0103
		38	5190.00	5190.0106	-0.0106
		40	5200.00	5220.0092	-0.0092
		46	5230.00	5230.0100	-0.0100
		48	5240.00	5240.0085	-0.0085
Tnom (0) °C	Vnom (120)V	36	5180.00	5180.0100	-0.0100
		38	5190.00	5190.0092	-0.0092
		40	5200.00	5220.0036	-0.0036
		46	5230.00	5230.0041	-0.0041
		48	5240.00	5240.0001	-0.0001

Product : Push2TV
Test Item : Frequency Stability
Test Site : Temperature Chamber
Test Mode : Carrier Wave (for 802.11a/n-20MHz/40MHz Channel) - AFTER 5Min

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (120)V	36	5180.00	5180.0100	-0.0100
		38	5190.00	5190.0105	-0.0105
		40	5200.00	5220.0095	-0.0095
		46	5230.00	5230.0100	-0.0100
		48	5240.00	5240.0101	-0.0101
Tnom (40) °C	Vnom (120)V	36	5180.00	5180.0100	-0.0100
		38	5190.00	5190.0089	-0.0089
		40	5200.00	5220.0062	-0.0062
		46	5230.00	5230.0100	-0.0100
		48	5240.00	5240.0041	-0.0041
Tnom (0) °C	Vnom (120)V	36	5180.00	5180.0100	-0.0100
		38	5190.00	5190.0089	-0.0089
		40	5200.00	5220.0095	-0.0095
		46	5230.00	5230.0028	-0.0028
		48	5240.00	5240.0310	-0.0310

Product : Push2TV
Test Item : Frequency Stability
Test Site : Temperature Chamber
Test Mode : Carrier Wave (for 802.11a/n-20MHz/40MHz Channel) - AFTER 10Min

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (120)V	36	5180.00	5180.0100	-0.0100
		38	5190.00	5190.0089	-0.0089
		40	5200.00	5220.0019	-0.0019
		46	5230.00	5230.0100	-0.0100
		48	5240.00	5240.0102	-0.0102
Tnom (40) °C	Vnom (120)V	36	5180.00	5180.0100	-0.0100
		38	5190.00	5190.0100	-0.0100
		40	5200.00	5220.0095	-0.0095
		46	5230.00	5230.0101	-0.0101
		48	5240.00	5240.0103	-0.0103
Tnom (0) °C	Vnom (120)V	36	5180.00	5180.0100	-0.0100
		38	5190.00	5190.0104	-0.0104
		40	5200.00	5220.0094	-0.0094
		46	5230.00	5230.0102	-0.0102
		48	5240.00	5240.0103	-0.0103

9. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs