

Test Report

**Industry Canada RSS-Gen Issue 2/RSS-210 Issue 7
FCC Part15 Subpart E**

Product Name : Flip Share TV (Set Top Box)

Model No. : CTV1-SB

FCC ID : Q87CTV1SB

IC ID : 3839A-CTV1SB

Applicant : CISCO-LINKSYS LLC

Address : 121 THEORY DR IRVINE, CA 92617 USA

Date of Receipt : 2009/08/27

Issued Date : 2009/09/17

Report No. : 098S096R-RF-US-P09V01

Report Version : V1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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Test Report Certification

Issued Date: 2009/09/17

Report No.: 098S096R-RF-US-P09V01



Product Name : Flip Share TV (Set Top Box)
 Applicant : CISCO-LINKSYS LLC
 Address : 121 THEORY DR IRVINE, CA 92617 USA
 Manufacturer : AmbitMicrosystems(shanghai)
 Address : No1925, Nanle road Songjiang Export Processing Zone
 Shanghai China
 Model No. : CTV1-SB
 FCC ID : Q87CTV1SB
 IC ID : 3839A-CTV1SB
 EUT Voltage : 5Vdc, 1.5A
 Trade Name : Cisco
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart E: 2008, ANSI C63.4: 2003
 Industry Canada RSS-Gen Issue 2/RSS-210 Issue 7
 Test Result : Complied
 Performed Location : SuZhou EMC laboratory
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 FCC Registration Number: 800392, IC Lab Code: 4075B

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Laboratory Information

We , **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	: BSMI, DGT, CNLA
Germany	: TUV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

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1. General Information

1.1. EUT Description

Product Name	Flip Share TV (Set Top Box)
Trade Name	Cisco
Model No.	CTV1-SB
FCC ID	Q87CTV1SB
IC ID	3839A-CTV1SB
Working Voltage	5Vdc, 1.5A
Frequency Range	For 2.4GHz Band 802.11b/g/n(20MHz): 2412 - 2462 MHz 802.11n(40MHz): 2422 - 2452 MHz For 5.0GHz Band 802.11a/n(20MHz): 5180 - 5240 MHz, 5745 - 5825MHz 802.11n(40MHz): 5190 - 5230 MHz, 5755 - 5795 MHz
Channel Number	For 2.4GHz Band 802.11b/g/n(20MHz): 11 802.11n(40MHz): 7 For 5.0GHz Band 802.11a/n(20MHz): 9 802.11n(40MHz): 4
Type of Modulation	802.11b: DSSS 802.11a/g/n: OFDM
Data Rate	802.11a/g: 6/9/12/18/24/36/48/54 Mbps 802.11b: 1/2/5.5/11 Mbps 802.11n: up to 300 Mbps
Channel Control	Auto
Antenna Type	PIFA Antenna
Antenna Gain	Reference for list

Component	
AC Adapter	Manufacturer: FoxLink M/N: FA-501500SA Input: 100-240V~, 0.25A, 50-60Hz Output: 5V, 1.5A

For 2.4GHz Band

802.11b/g/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz	04	2427 MHz
05	2432 MHz	06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	10	2457 MHz	11	2462 MHz	N/A	N/A
802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz	N/A	N/A

For 5.0GHz Band

802.11a/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz	48	5240 MHz
149	5745 MHz	153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825 MHz	---	---	---	---	---	---
802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	151	5755 MHz	159	5795 MHz

802.11a/b/g/n Antenna List

Antenna	Manufacturer	Model No.	Antenna Gain(dBi)
Left Antenna(For 2.4G)	Galtronics	02102140-04232	2.2
Right Antenna(For 2.4G)	Galtronics	02102140-03936-1	2.5
Left Antenna(For 5.2G)	Galtronics	02102140-04232	2.9
Right Antenna(For 5.2G)	Galtronics	02102140-03936-1	4.4
Left Antenna(For 5.8G)	Galtronics	02102140-04232	3.5
Right Antenna(For 5.8G)	Galtronics	02102140-03936-1	4.4

1.2. Mode of Operation

Quietek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit by 802.11a
Mode 2: Transmit by 802.11n (20MHz Bandwidth)
Mode 3: Transmit by 802.11n (40MHz Bandwidth)

Note:

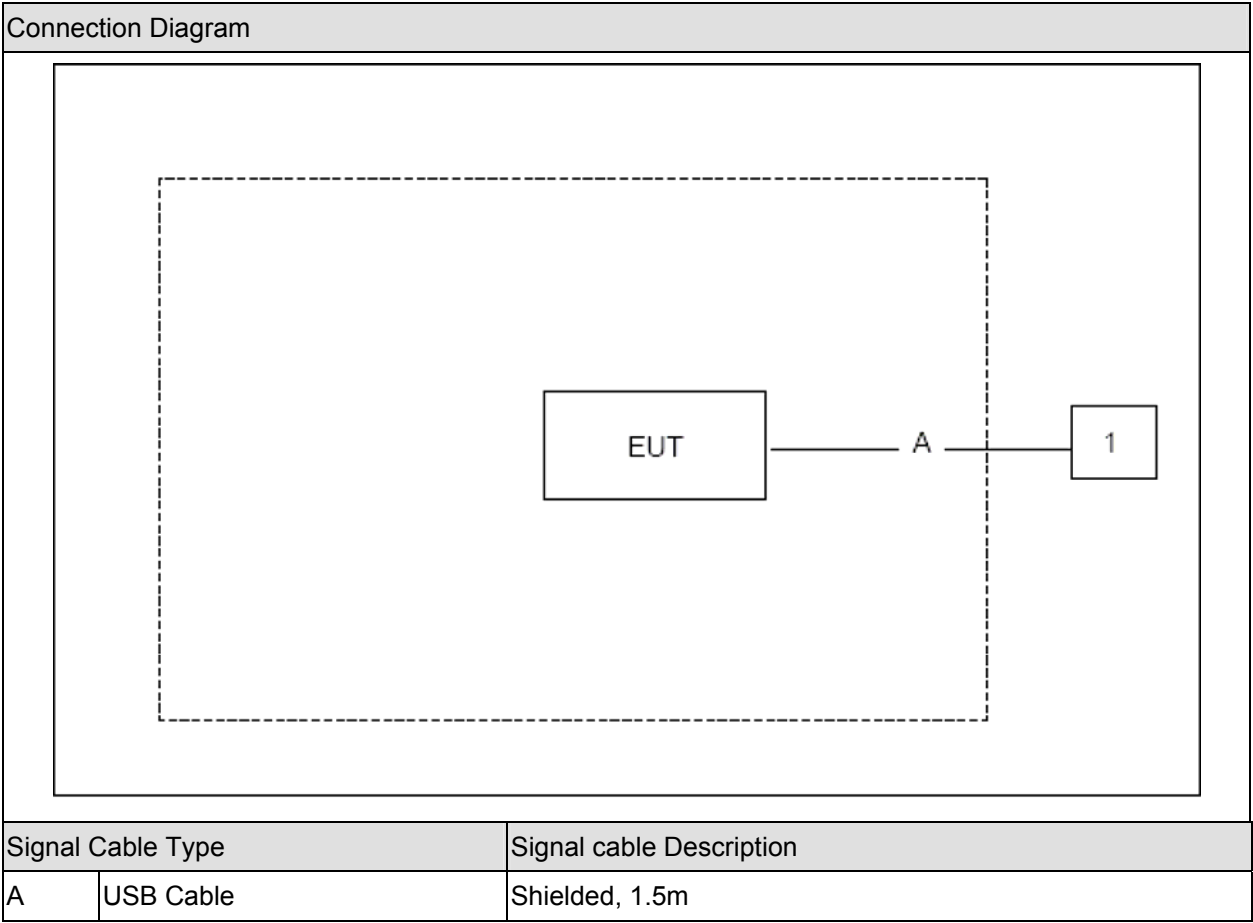
1. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. This device is a composite device in accordance with Part 15 Subpart B regulations. The function for the receiver was measured and made a test report that the report number is 098S096-ITUSP01V02.

1.3. Tested System Details

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	PC	DELL	DCMF	11DMF2X	Non-Shielded, 1.8m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Open the software "RT3XTXQA.exe", select the channel and start test.

2. Technical Test

2.1. Summary of Test Result

- ☒ No deviations from the test standards
☐ Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.209	Yes	No
Operation Frequency Range of 20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2008 15.215(c)	Yes	No
26dB Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)	Yes	No
Power Output	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)	Yes	No
Peak Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)	Yes	No
Peak Excursion	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(a)(6)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.205, 15.407(b)	Yes	No
Frequency Stability	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.407(g)	Yes	No

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	RSS-Gen Issue 2 June 2007 Table 2	Yes	No
Radiated Emission	RSS-210 Issue 2 June 2007 Section 2.7 Table 2 and Table 3	Yes	No
99% Occupied Bandwidth	RSS-Gen Issue 2 June 2007 Section 4.6.1 and 4.6.2	Yes	No
Power Output	RSS-210 Issue 2 June 2007 A9.2	Yes	No
Peak Power Spectral Density	RSS-210 Issue 2 June 2007 A9.2/A9.5	Yes	No
Radiated Emission Band Edge	RSS-210 Issue 2 June 2007 A9.3	Yes	No
Frequency Stability	RSS-210 Issue 2 June 2007 A9.5(5)	Yes	No

2.2. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

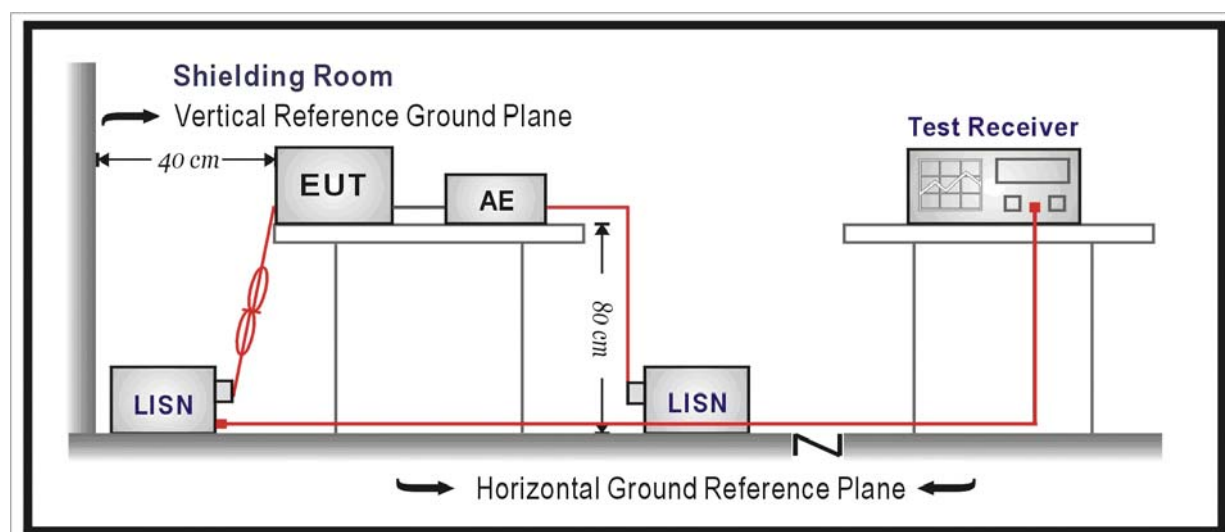
3.1. Test Equipment

Conducted Emission / SR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
EMI Test Receiver	R&S	ESCI	100726	2009/06/28
Two-Line V-Network	R&S	ENV216	100013	2009/06/28
Two-Line V-Network	R&S	ENV216	100014	2009/06/28
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2008/11/25
50ohm Termination	SHX	TF2	07081401	2008/10/19
Coaxial Cable	Luthi	RG214	519358	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2009/03/31

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup



3.3. Limit

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

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003.

The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

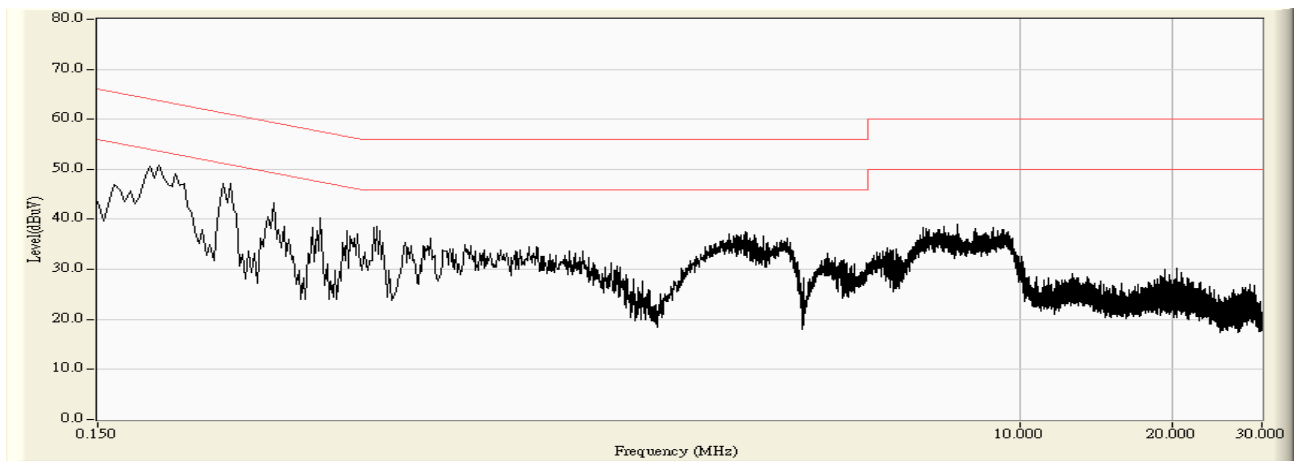
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Uncertainty

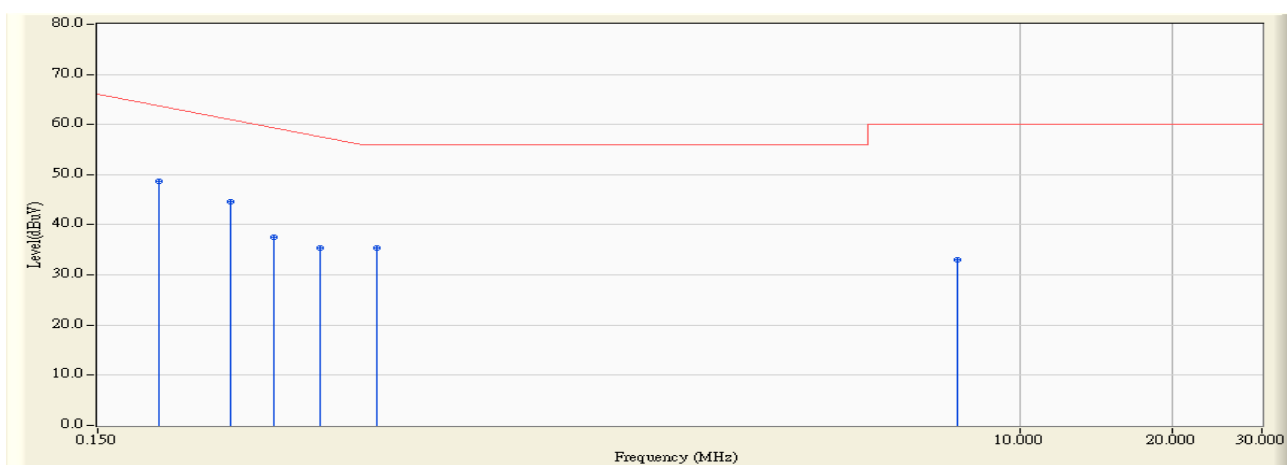
The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/09/11 - 10:15
Limit : FCC_Part15.207_00M_QP	Margin : 10
Probe : ENV216_100014(0.009-30MHz) - Line1	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3

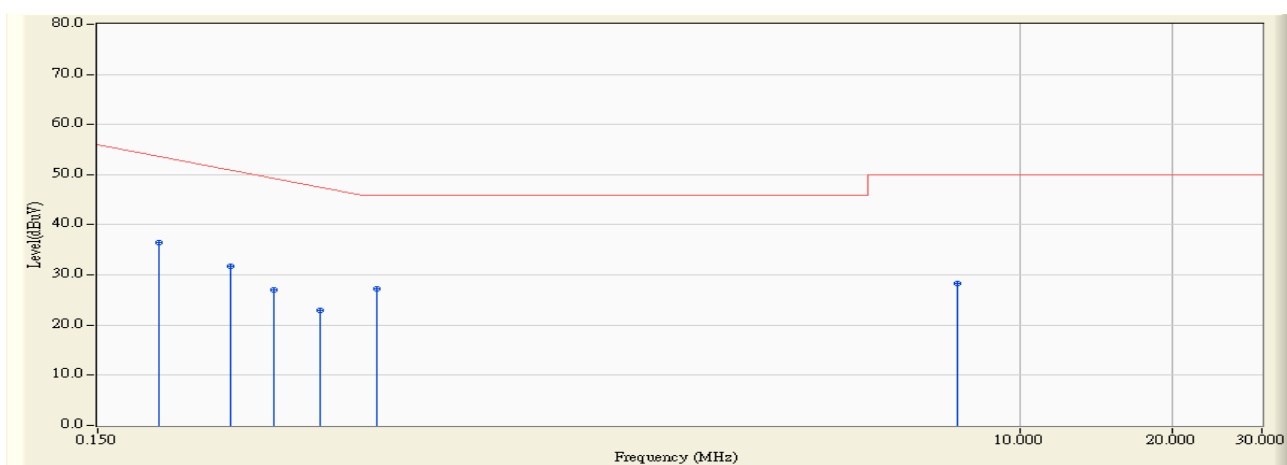


Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/09/11 - 10:17
Limit : FCC_Part15.207_00M_QP	Margin : 0
Probe : ENV216_100014(0.009-30MHz) - Line1	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3



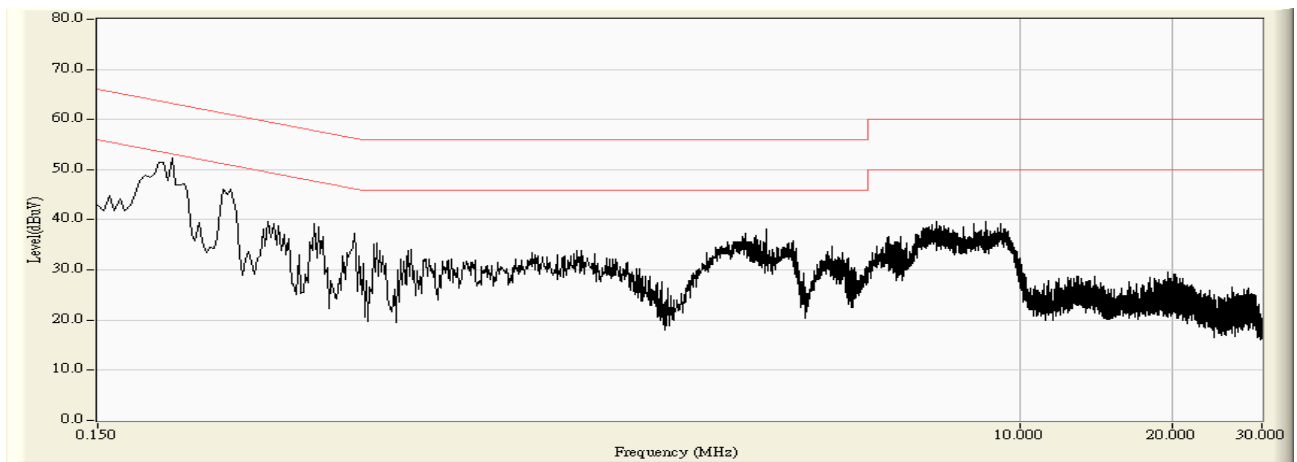
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.198	9.580	39.100	48.680	-15.014	63.694	QUASIPeAK
2		0.274	9.479	35.100	44.578	-16.418	60.996	QUASIPeAK
3		0.334	9.527	28.100	37.627	-21.724	59.351	QUASIPeAK
4		0.414	9.575	25.900	35.475	-22.093	57.568	QUASIPeAK
5		0.534	9.635	25.700	35.335	-20.665	56.000	QUASIPeAK
6		7.498	9.875	23.100	32.975	-27.025	60.000	QUASIPeAK

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/09/11 - 10:17
Limit : FCC_Part15.207_00M_AV	Margin : 0
Probe : ENV216_100014(0.009-30MHz) - Line1	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3

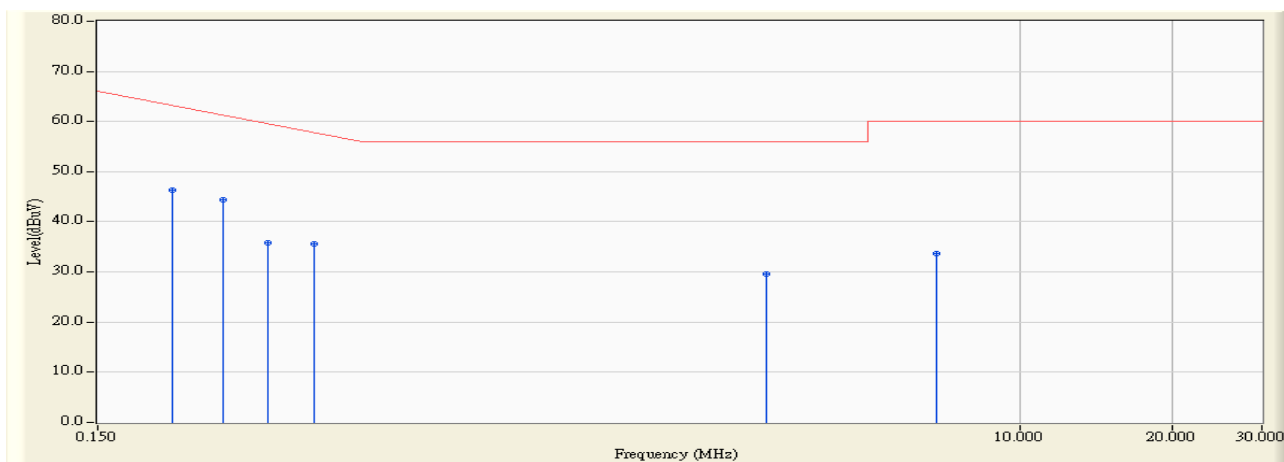


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.198	9.580	26.900	36.480	-17.214	53.694	AVERAGE
2		0.274	9.479	22.300	31.778	-19.218	50.996	AVERAGE
3		0.334	9.527	17.500	27.027	-22.324	49.351	AVERAGE
4		0.414	9.575	13.400	22.975	-24.593	47.568	AVERAGE
5		0.534	9.635	17.500	27.135	-18.865	46.000	AVERAGE
6		7.498	9.875	18.500	28.375	-21.625	50.000	AVERAGE

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/09/11 - 10:18
Limit : FCC_Part15.207_00M_QP	Margin : 10
Probe : ENV216_100014(0.009-30MHz) - Line2	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3

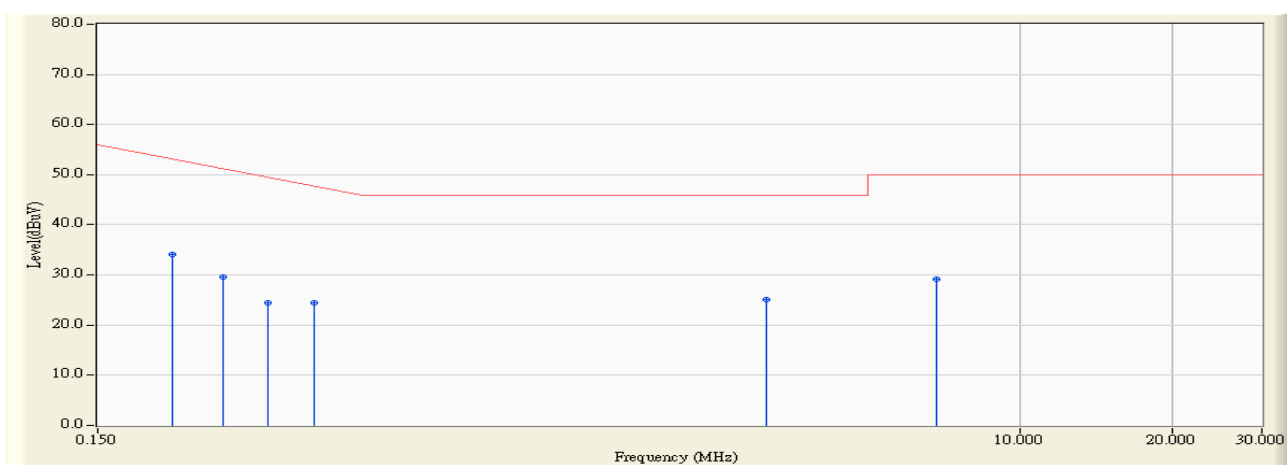


Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/09/11 - 10:20
Limit : FCC_Part15.207_00M_QP	Margin : 0
Probe : ENV216_100014(0.009-30MHz) - Line2	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.210	9.616	36.800	46.416	-16.789	63.205	QUASIPeAK
2		0.266	9.586	34.800	44.386	-16.856	61.242	QUASIPeAK
3		0.326	9.600	26.200	35.800	-23.752	59.552	QUASIPeAK
4		0.402	9.610	26.100	35.710	-22.102	57.812	QUASIPeAK
5		3.142	9.690	20.000	29.690	-26.310	56.000	QUASIPeAK
6		6.814	9.850	23.800	33.650	-26.350	60.000	QUASIPeAK

Engineer : Jame	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/09/11 - 10:20
Limit : FCC_Part15.207_00M_AV	Margin : 0
Probe : ENV216_100014(0.009-30MHz) - Line2	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.210	9.616	24.400	34.016	-19.189	53.205	AVERAGE
2		0.266	9.586	20.000	29.586	-21.656	51.242	AVERAGE
3		0.326	9.600	14.800	24.400	-25.152	49.552	AVERAGE
4		0.402	9.610	14.800	24.410	-23.402	47.812	AVERAGE
5		3.142	9.690	15.500	25.190	-20.810	46.000	AVERAGE
6		6.814	9.850	19.300	29.150	-20.850	50.000	AVERAGE

4. Radiated Emission

4.1. Test Equipment

☒ Radiated Emission / AC-2

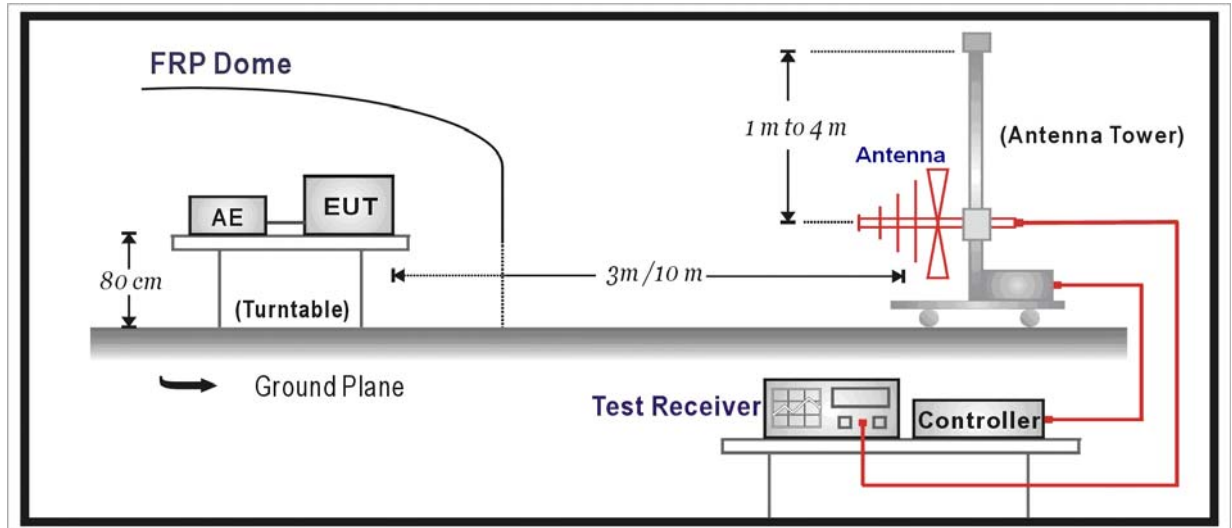
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
EMI Test Receiver	R&S	ESCI	100573	2009/05/10
Preamplifier	Quietek	AP-025C	QT-AP003	2008/11/25
Preamplifier	Quietek	AP-180C	CHM-0602012	2008/11/25
Bilog Type Antenna	Schaffner	CBL6112B	2932	2008/11/22
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/11/25
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2008/11/25
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2009/03/03
Low-Pass Filter	Wainwright	WLKS4500-9SS	SN2	2009/03/03
50ohm Coaxial Switch	Anritsu	MP59B	6200447304	2008/11/25
Coaxial Cable	Huber+Suhner	AC2-C	04	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2009/03/31

Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

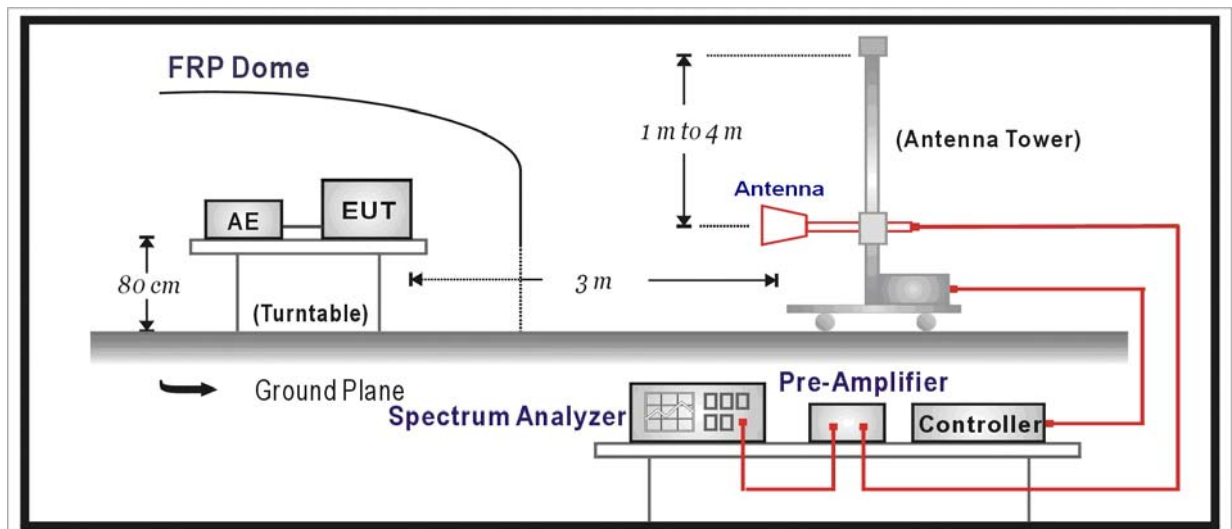
Note 2: The test instruments marked with "X" are used to measure the final test results.

4.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Distance (m)	Level (dBuV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003.

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.

The frequency range from 30MHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn antenna will be bended down a little (as horn antenna has the narrow beamwidth) in order to keeping the antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 60 degrees for H-plane and 90 degrees for E-plane.

4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB
below 1G is defined as ± 3.8 dB

4.6. Test Result

All of the test result shown indicates the worst case, and spectrum analyzer parameters setting as shown below:

Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;

Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

802.11a

Chain	CH	Antenna	Frequency (MHz)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
0	36	V	5178.533	102.87	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	40	V	5204.725	102.76	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	48	V	5239.520	102.84	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
1	36	V	5180.667	95.12	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK

	40	V	24000.000	50.22	54	-3.78	PK
		V	5204.115	93.27	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	48	V	5243.950	94.73	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK

802.11n(20MHz)

Chain	CH	Antenna	Frequency (MHz)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
0	36	V	5181.733	101.84	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	40	V	5206.351	101.84	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	48	V	5246.842	101.29	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP

		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
1	36	V	5180.533	94.85	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	40	V	5206.384	94.84	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	48	V	5247.569	93.66	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
0+1	36	V	5183.467	105.18	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	40	V	5207.533	104.94	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK

		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	48	V	5244.634	104.82	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK

802.11n(40MHz)

Chain	CH	Antenna	Frequency (MHz)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
0	38	V	5185.333	100.41	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	46	V	5237.452	99.73	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
1	38	V	5186.000	92.31	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	46	V	5223.573	94.46	Fundamental	/	PK

		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
0+1	38	V	5188.667	99.19	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK
	46	V	5236.291	98.48	Fundamental	/	PK
		H	120.533	38.22	Spurious	/	QP
		H	600.683	40.37	Spurious	/	QP
		V	7471.736	50.73	Spurious	/	PK
		V	5235.118	48.85	54	-5.15	PK
		V	14470.735	46.14	54	-7.86	PK
		V	24000.000	50.22	54	-3.78	PK

5. Operation Frequency Range of 20dB Bandwidth

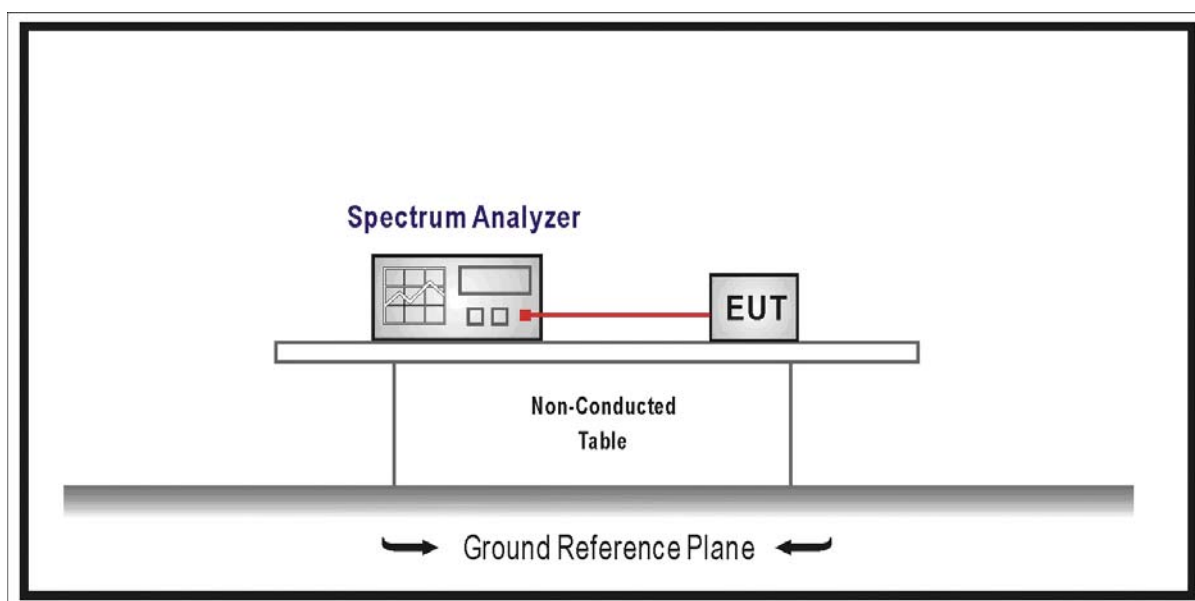
5.1. Test Equipment

Operation Frequency Range of 20dB Bandwidth / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/30

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

5.2. Test Setup



5.3. Limit

20 dB bandwidth of the emission is contained within the operation frequency band. FCC Part15.215(c).

5.4. Test Procedure

The EUT was tested according to UNII test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.407 requirements.

Set RBW = 100 kHz, Span greater than RBW.

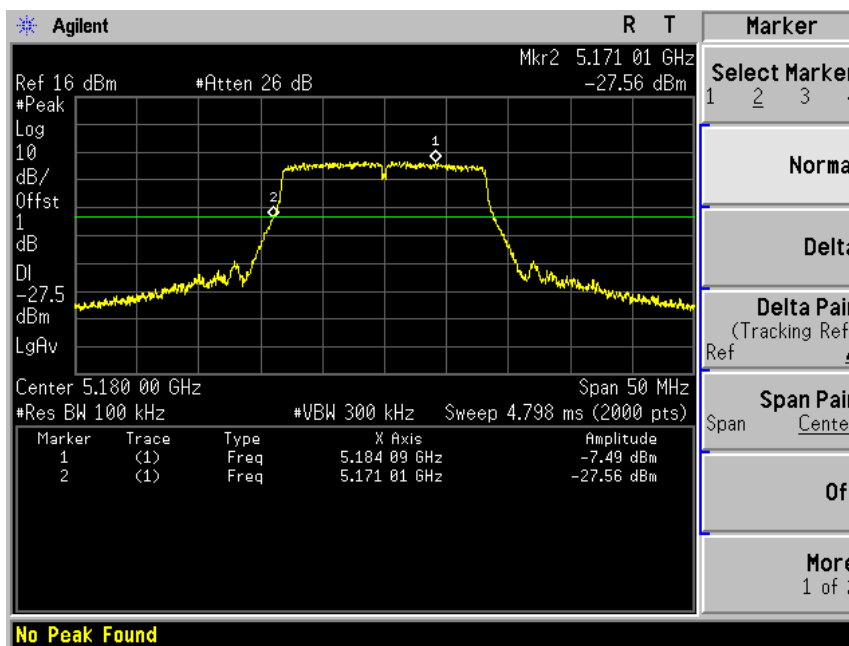
5.5. Uncertainty

The measurement uncertainty is defined as ± 1 kHz

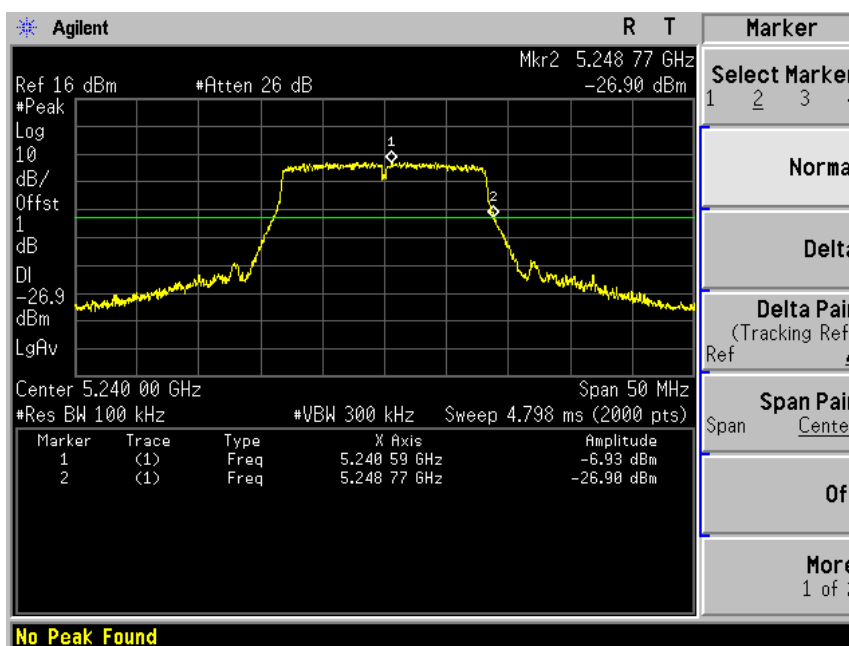
5.6. Test Result

Product	:	Flip Share TV (Set Top Box)
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

Channel 36 (5180MHz)

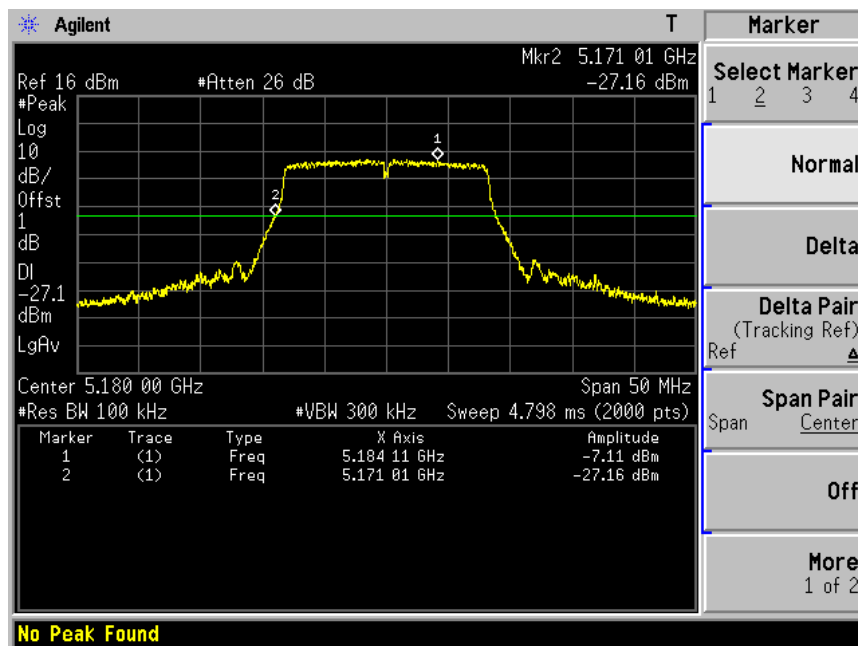


Channel 48 (5240MHz)

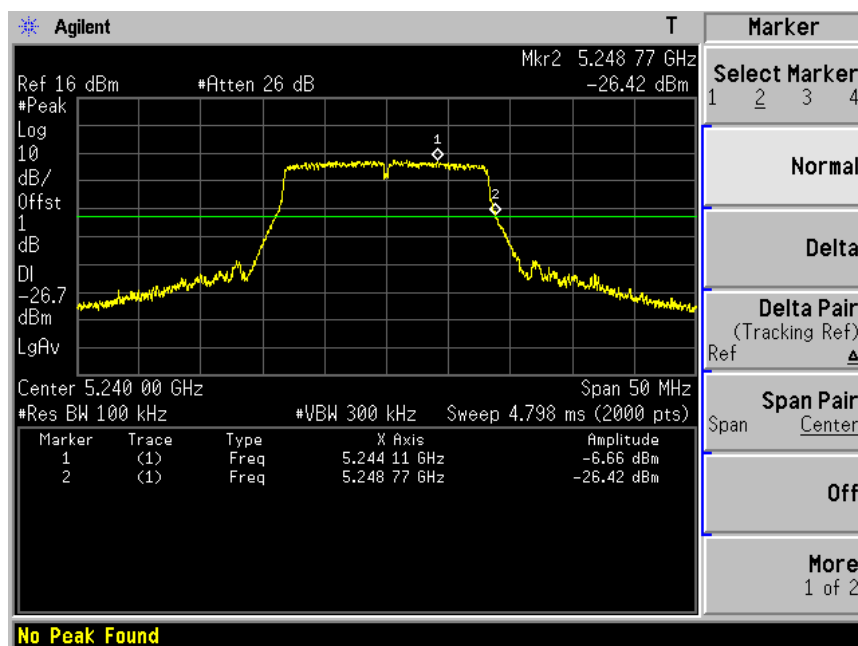


Product	:	Flip Share TV (Set Top Box)
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit by 802.11n (20MHz) (Chain 0)

Channel 36 (5180MHz)

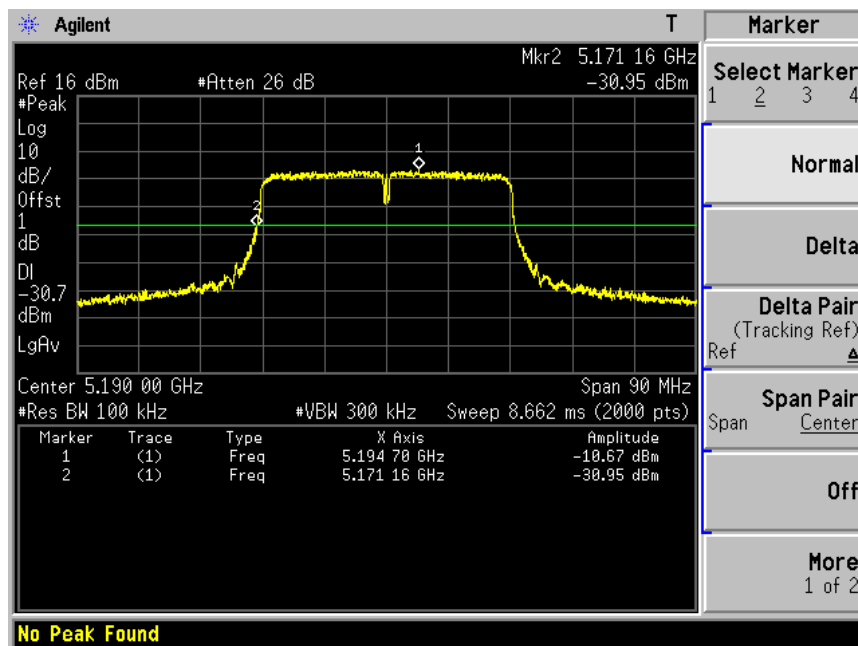


Channel 48 (5240MHz)

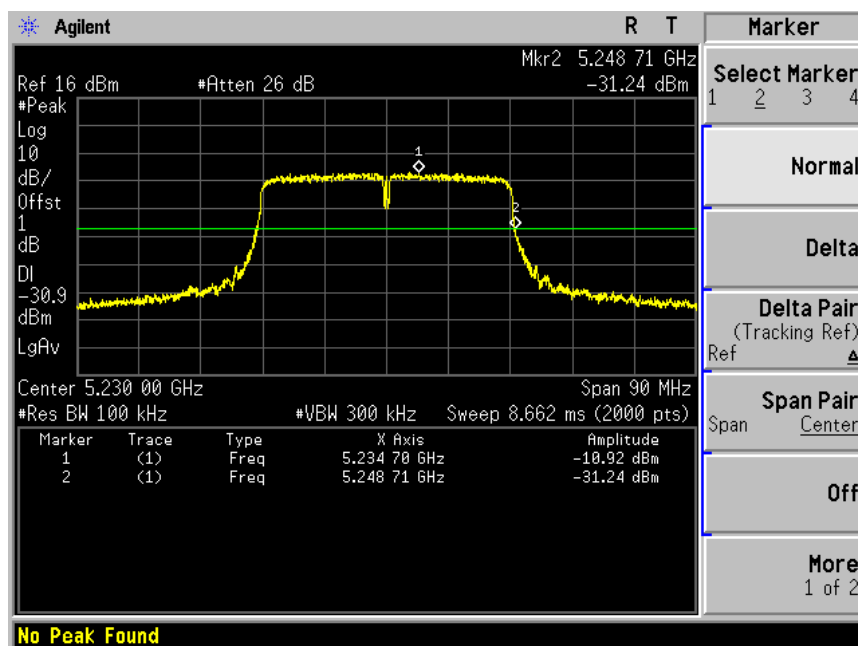


Product	:	Flip Share TV (Set Top Box)
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 5: Transmit by 802.11n (40MHz) (Chain 0)

Channel 38 (5190MHz)

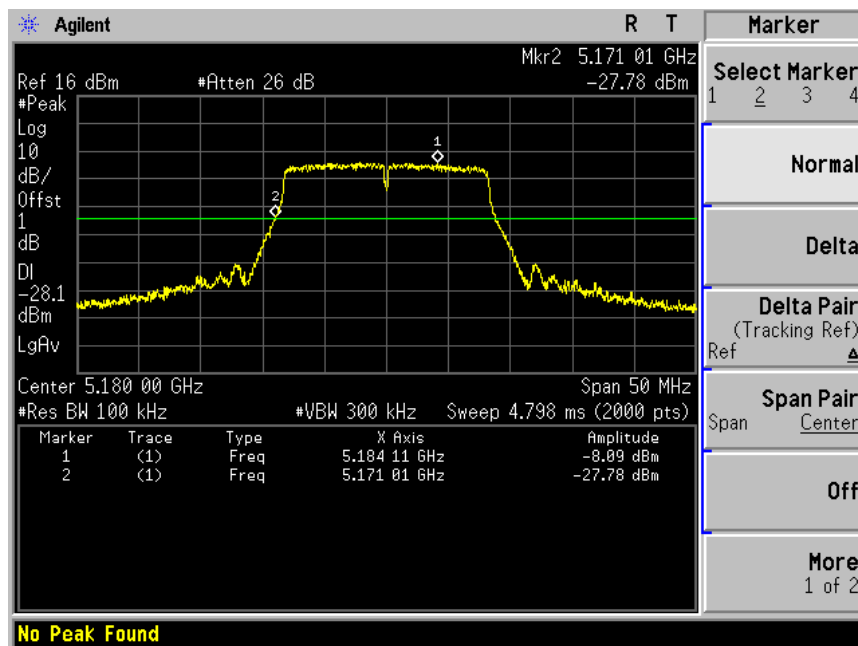


Channel 46 (5230MHz)

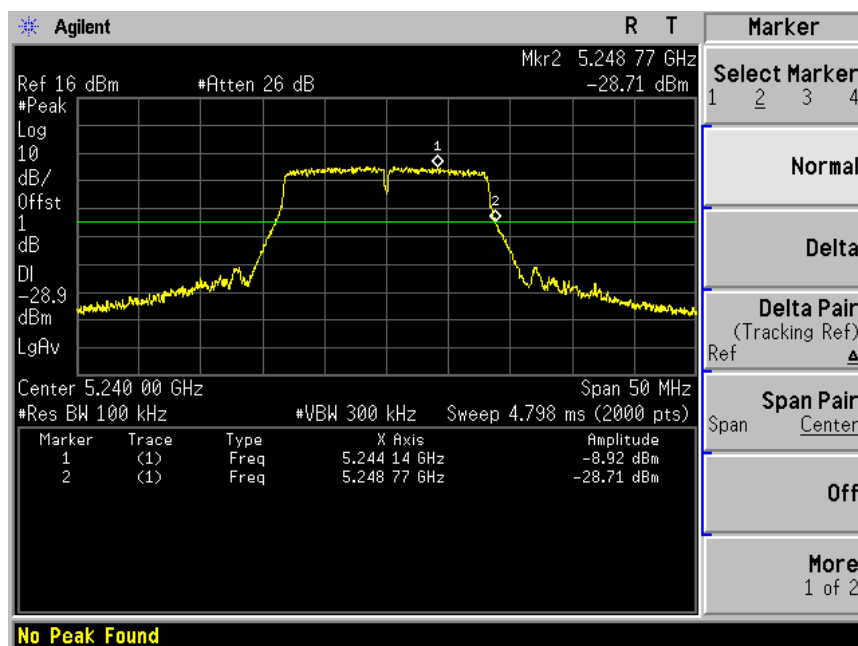


Product	:	Flip Share TV (Set Top Box)
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

Channel 36 (5180MHz)

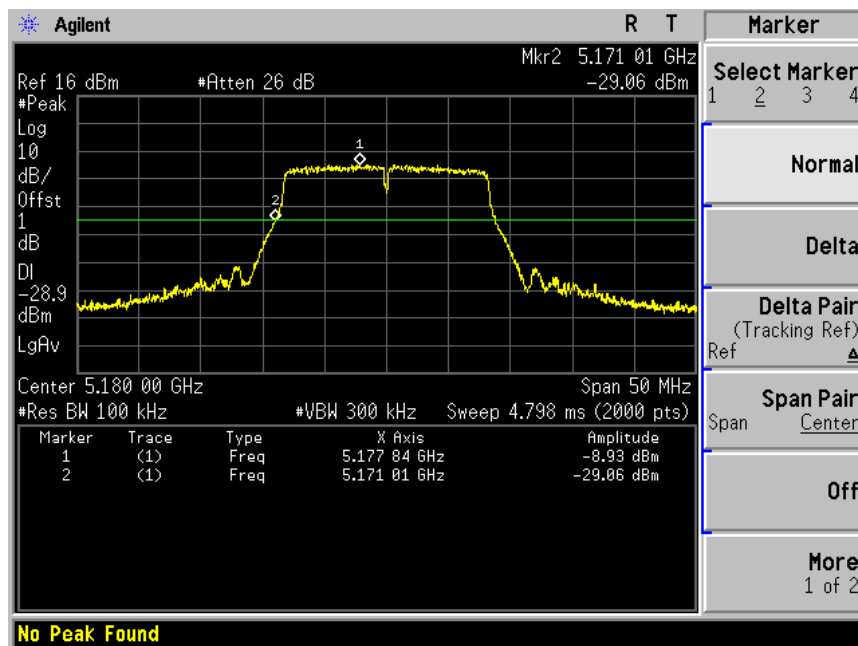


Channel 48 (5240MHz)

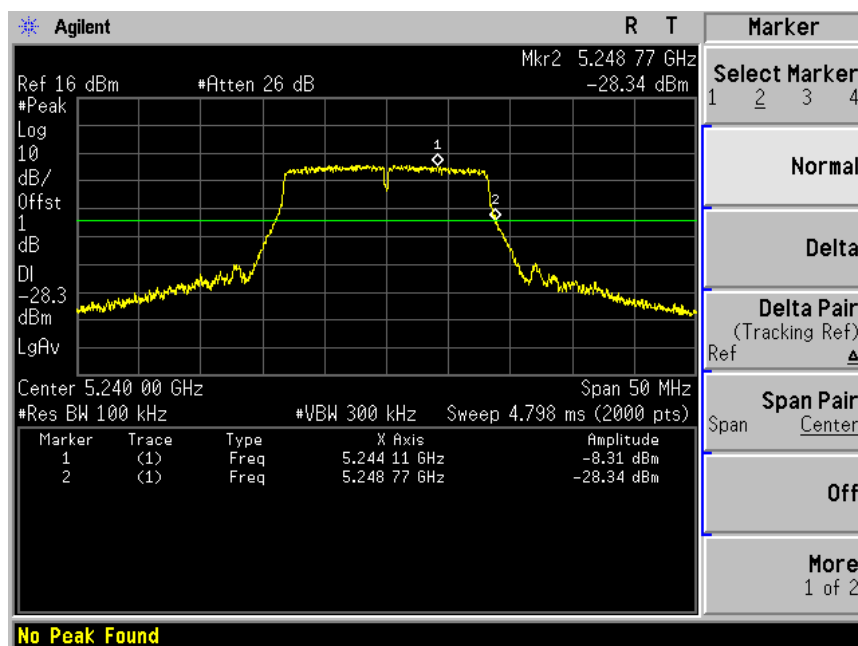


Product	:	Flip Share TV (Set Top Box)
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 4: Transmit by 802.11n (20MHz) (Chain 1)

Channel 36 (5180MHz)

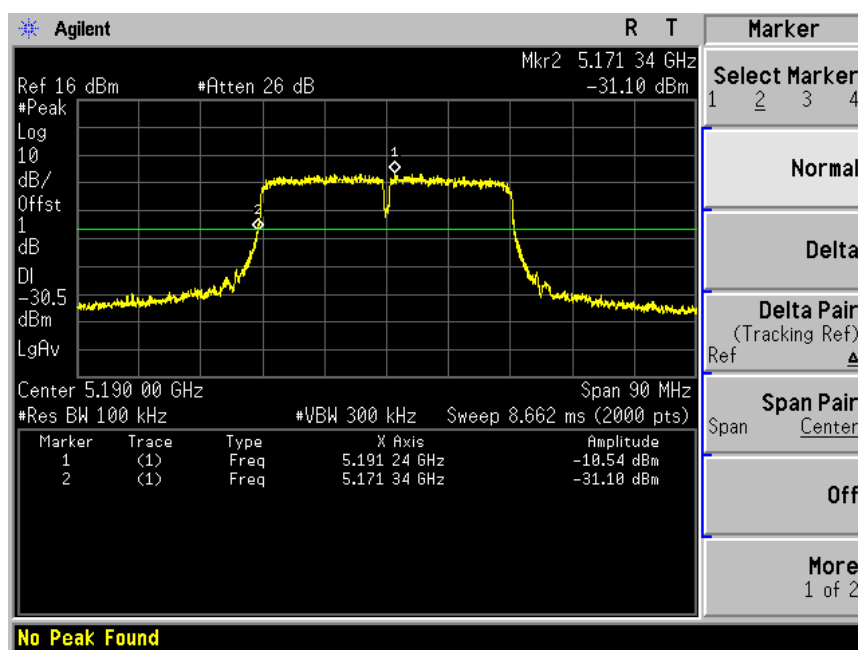


Channel 48 (5240MHz)

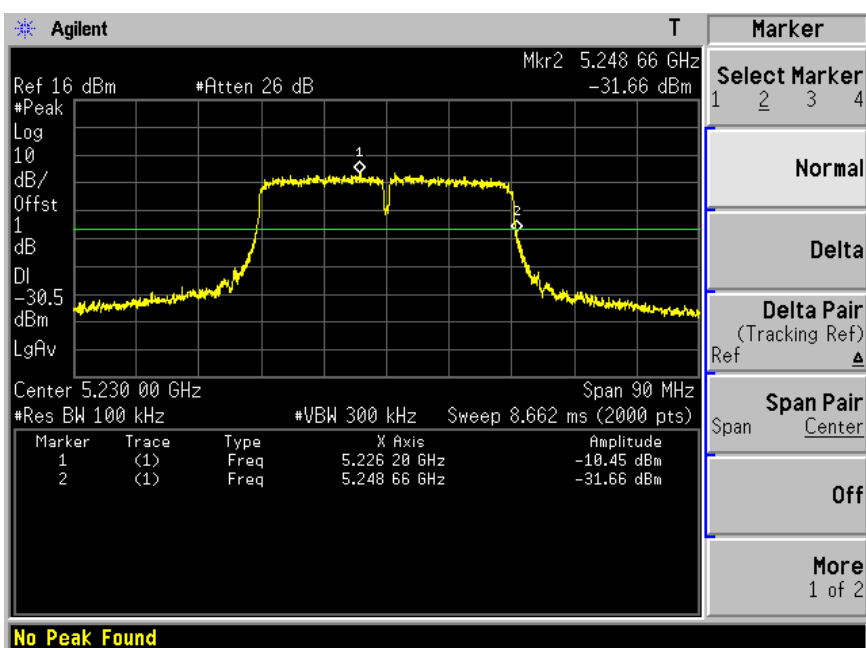


Product	:	Flip Share TV (Set Top Box)
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 5: Transmit by 802.11n (40MHz) (Chain 1)

Channel 38 (5190MHz)



Channel 46 (5230MHz)



6. 26dB Occupied Bandwidth

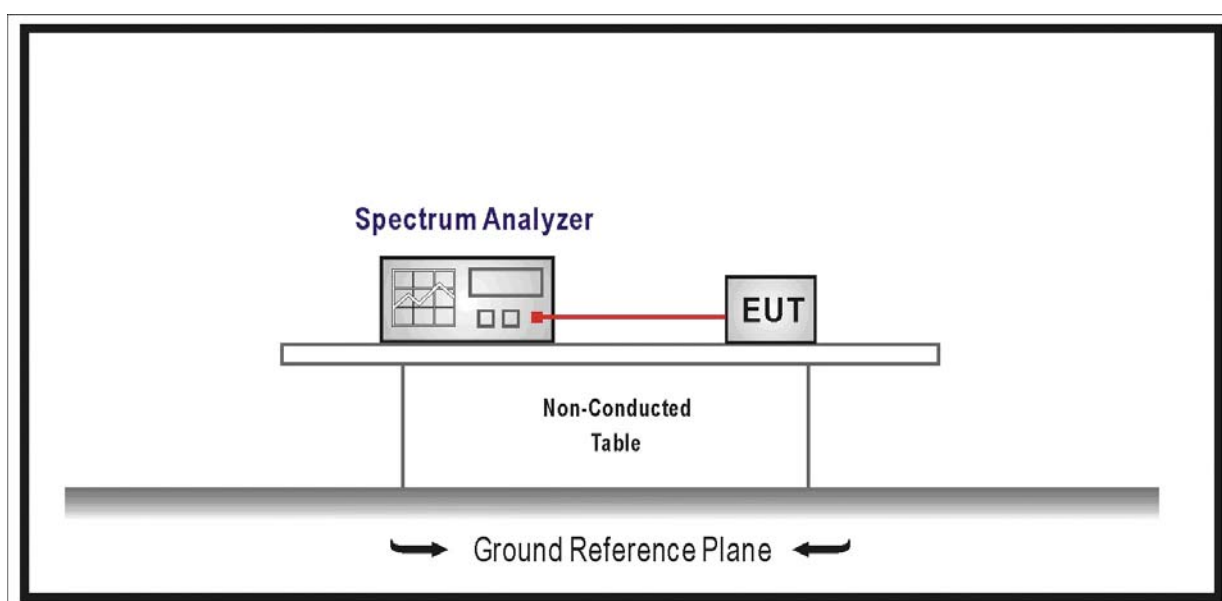
6.1. Test Equipment

26dB Occupied Bandwidth / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/30

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

6.2. Test Setup



6.3. Limit

N/A

6.4. Test Procedure

The EUT was tested according to FCC Public Notice DA 02-2138, August 30, 2002 for compliance to FCC 47CFR 15.407 requirements.

Emission bandwidth "B" MHz.

- Use a RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW
- Use a peak detector.
- Do not use the Max Hold function. Rather, use the view button to capture the emission.
- Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

6.5. Uncertainty

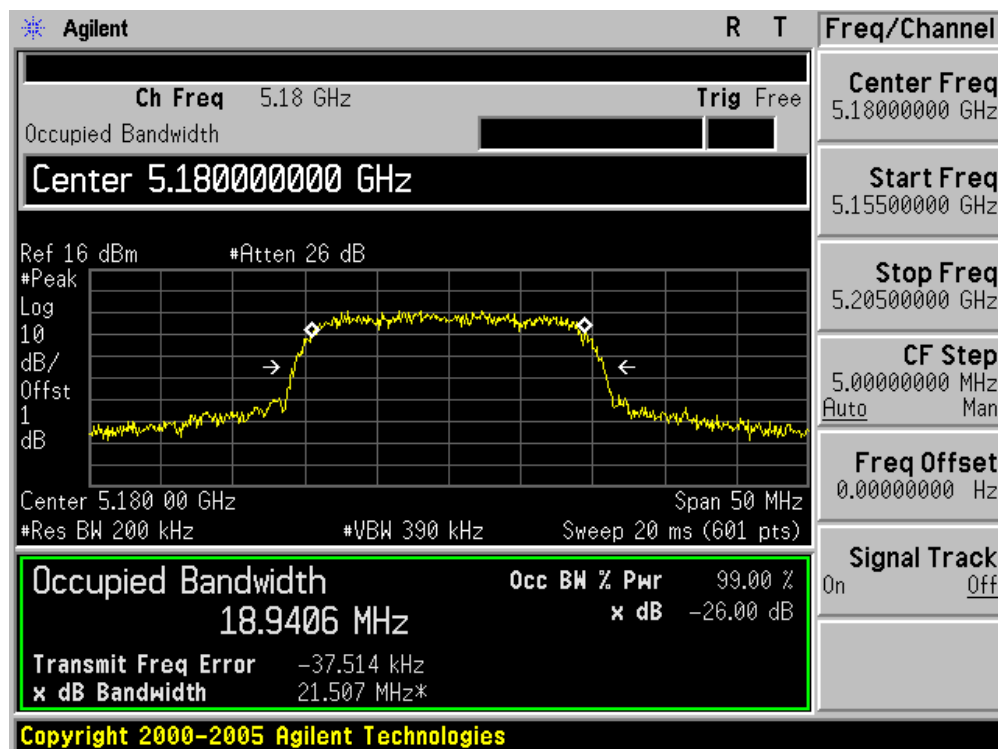
The measurement uncertainty is defined as ± 1 kHz

6.6. Test Result

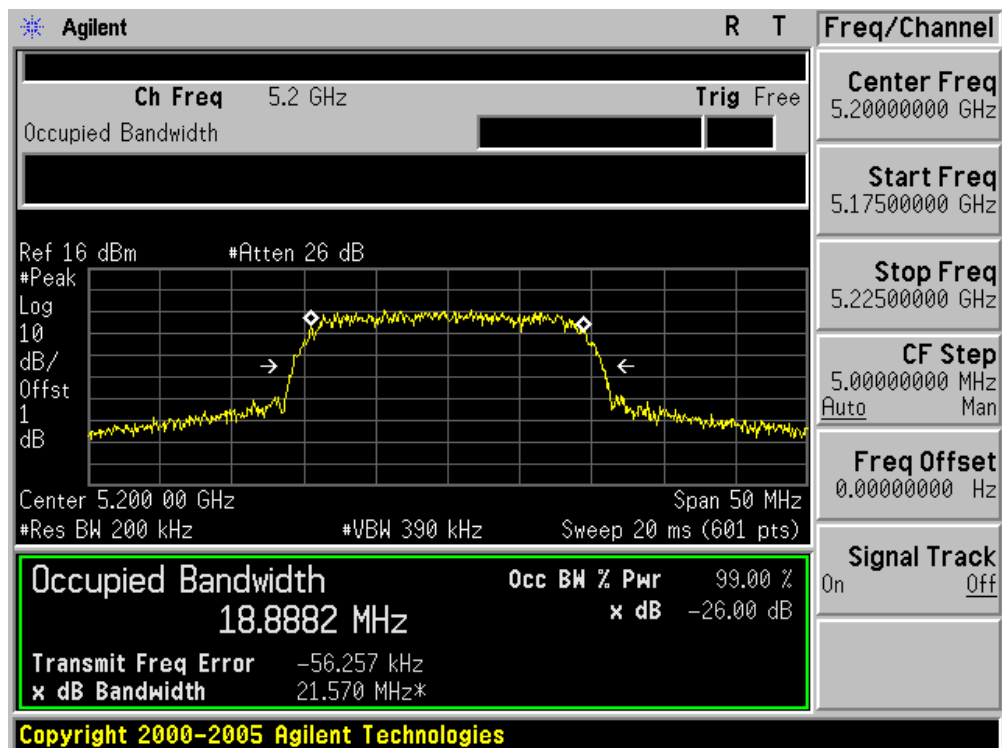
Product	:	Flip Share TV (Set Top Box)
Test Item	:	26dB Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180	18.940	18.9406
40	5200	18.888	18.8882
48	5240	18.963	18.9631

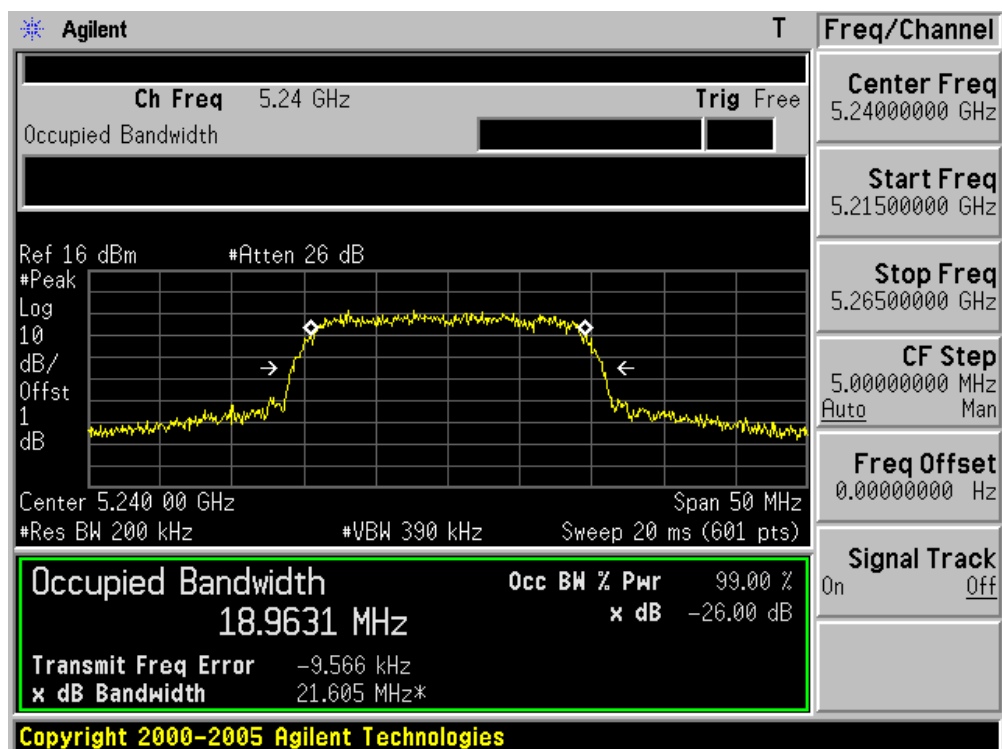
Channel 36 (5180MHz)



Channel 40 (5200MHz)



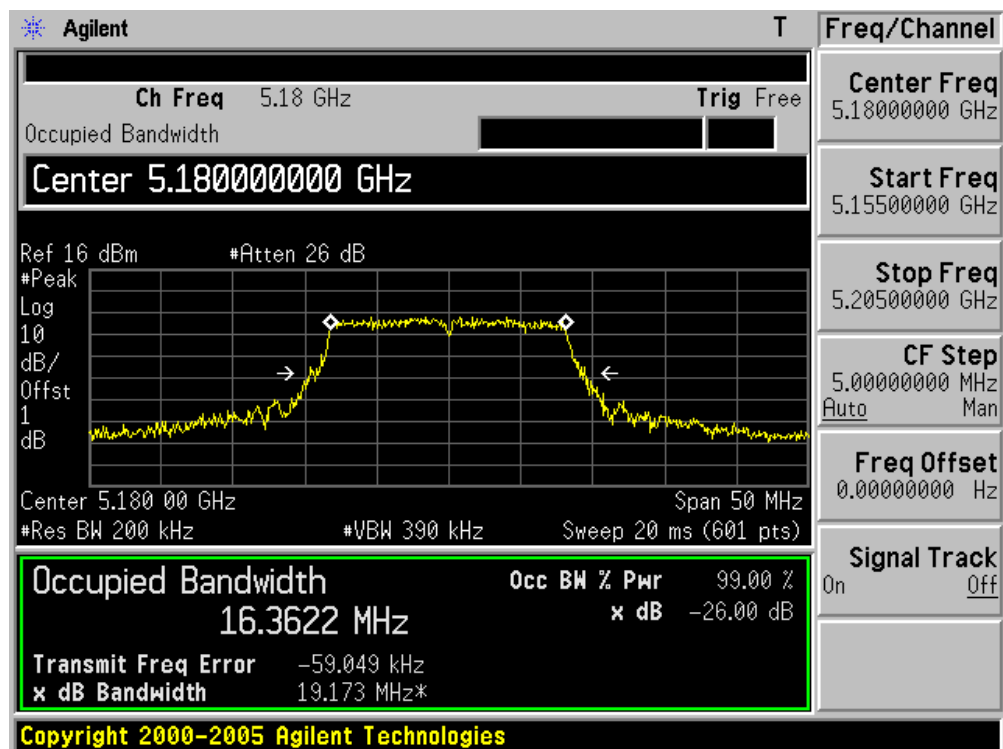
Channel 48 (5240MHz)



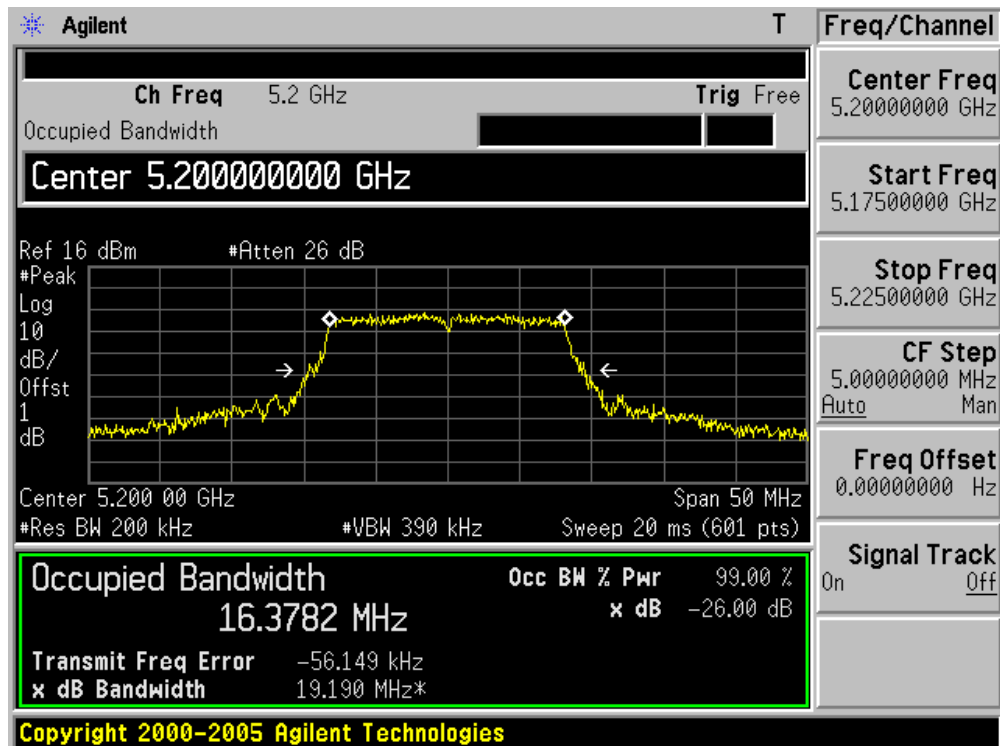
Product	:	Flip Share TV (Set Top Box)
Test Item	:	26dB Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180	16.362	16.3622
40	5200	16.378	16.3782
48	5240	16.357	16.3579

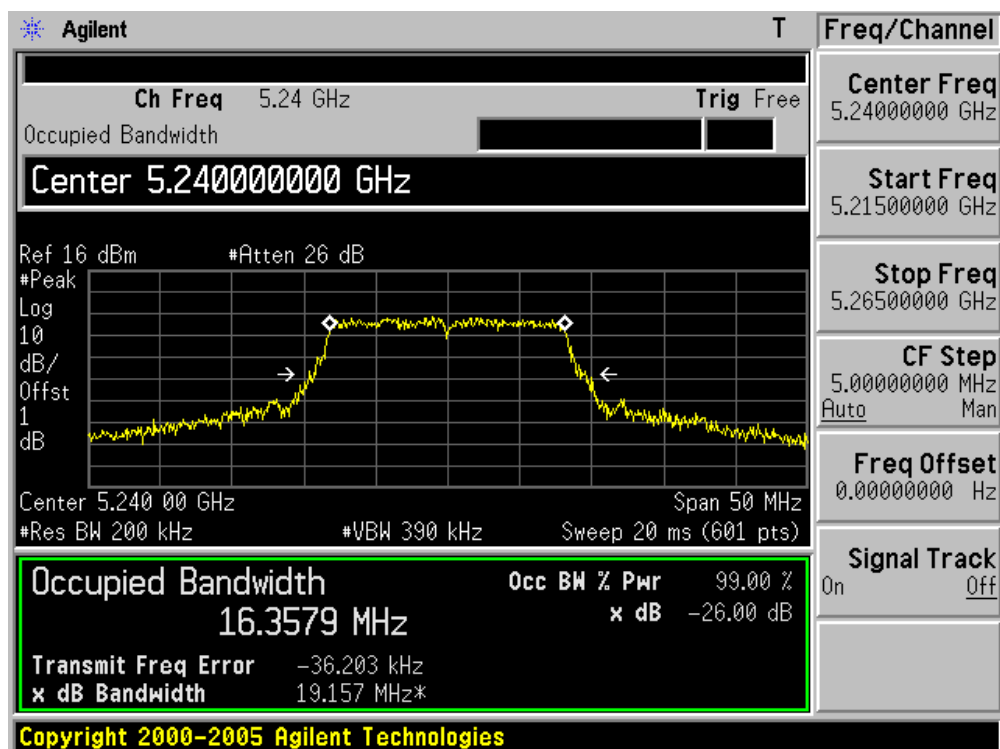
Channel 36 (5180MHz)



Channel 40 (5200MHz)



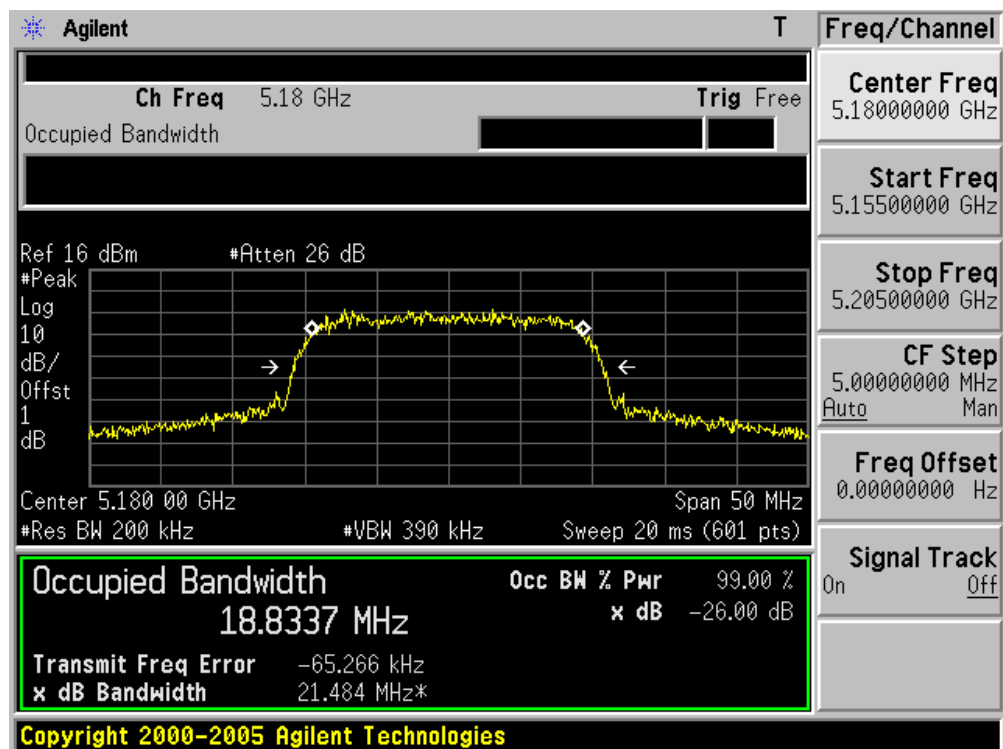
Channel 48 (5240MHz)



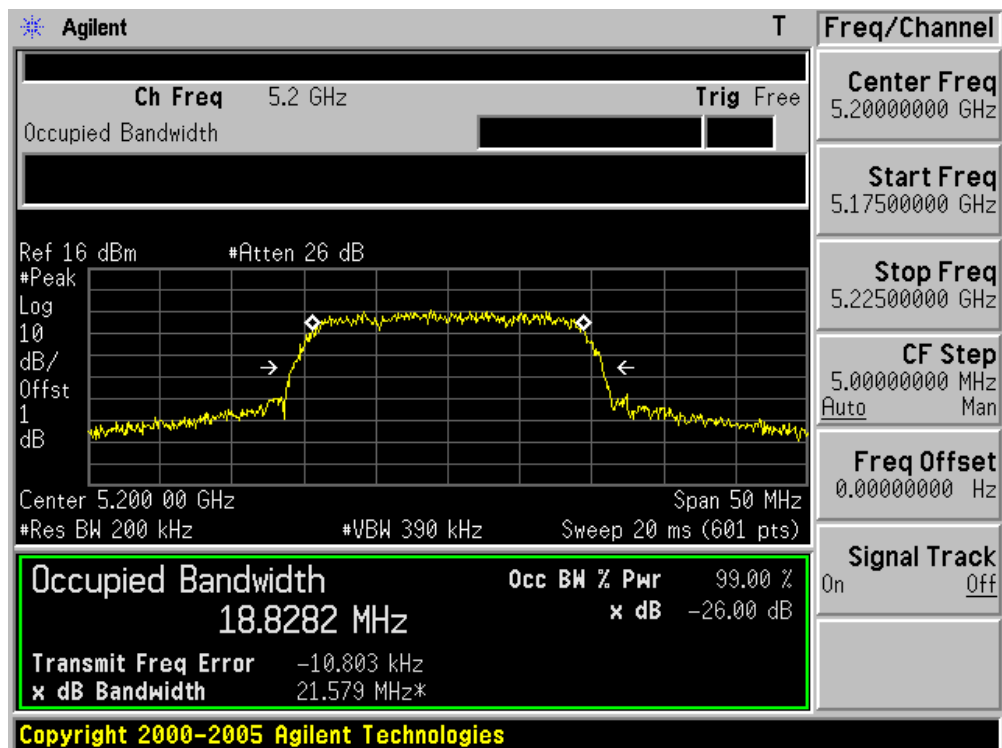
Product	:	Flip Share TV (Set Top Box)
Test Item	:	26dB Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 0)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180	18.833	18.8337
40	5200	18.828	18.8282
48	5240	18.925	18.9251

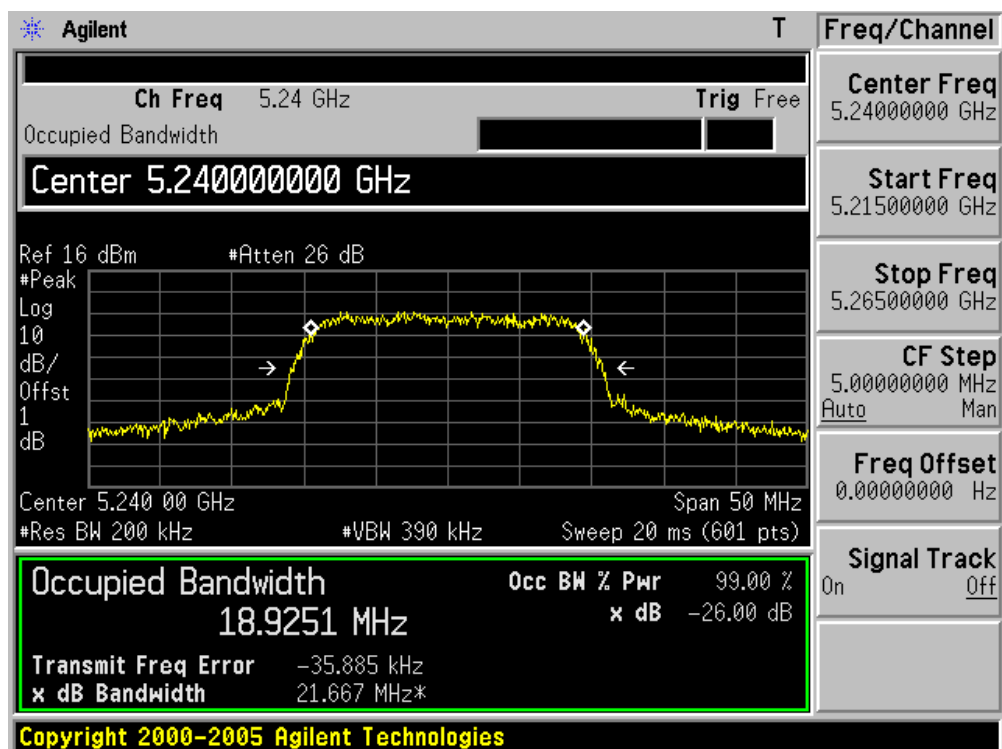
Channel 36 (5180MHz)



Channel 40 (5200MHz)



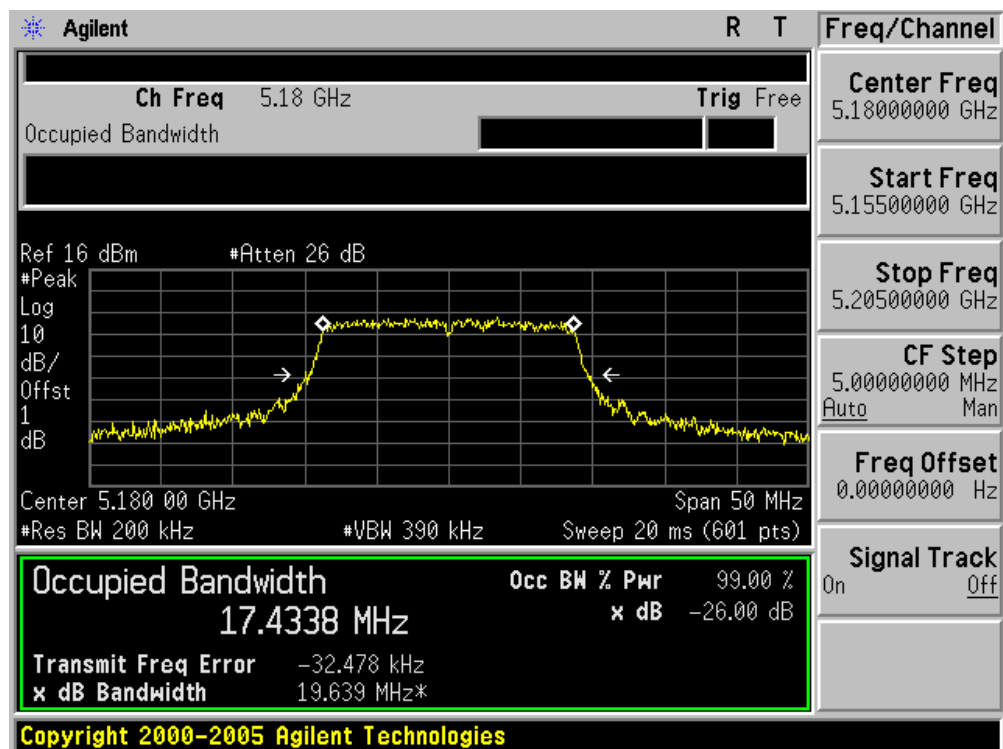
Channel 48 (5240MHz)



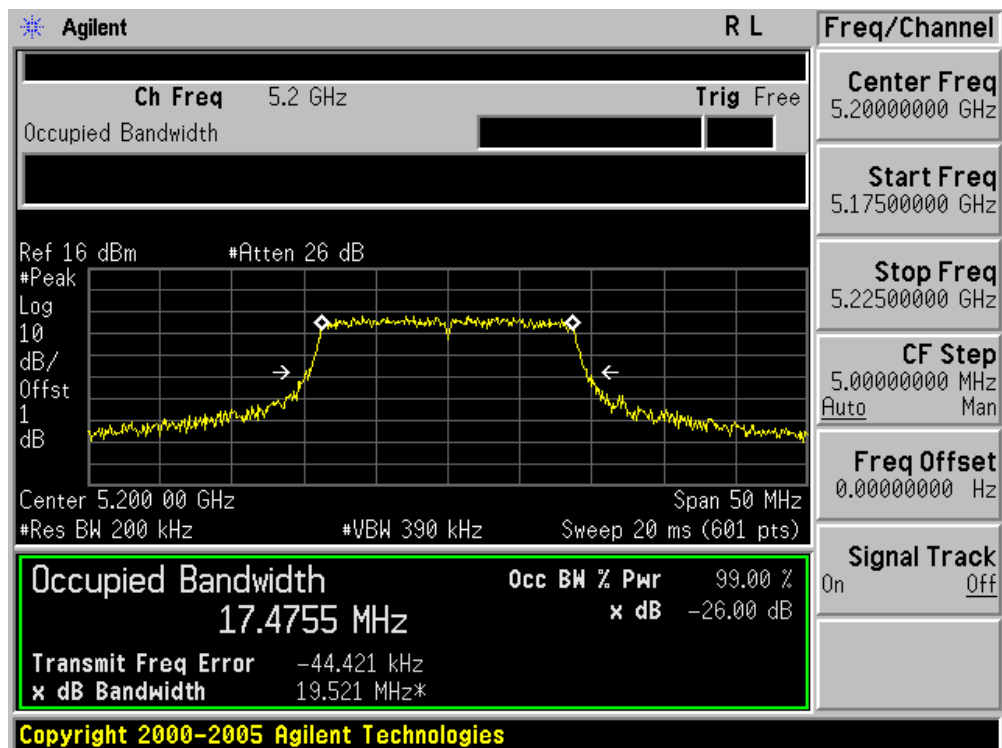
Product	:	Flip Share TV (Set Top Box)
Test Item	:	26dB Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 1)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180	17.433	17.4338
40	5200	17.475	17.4755
48	5240	17.390	17.3905

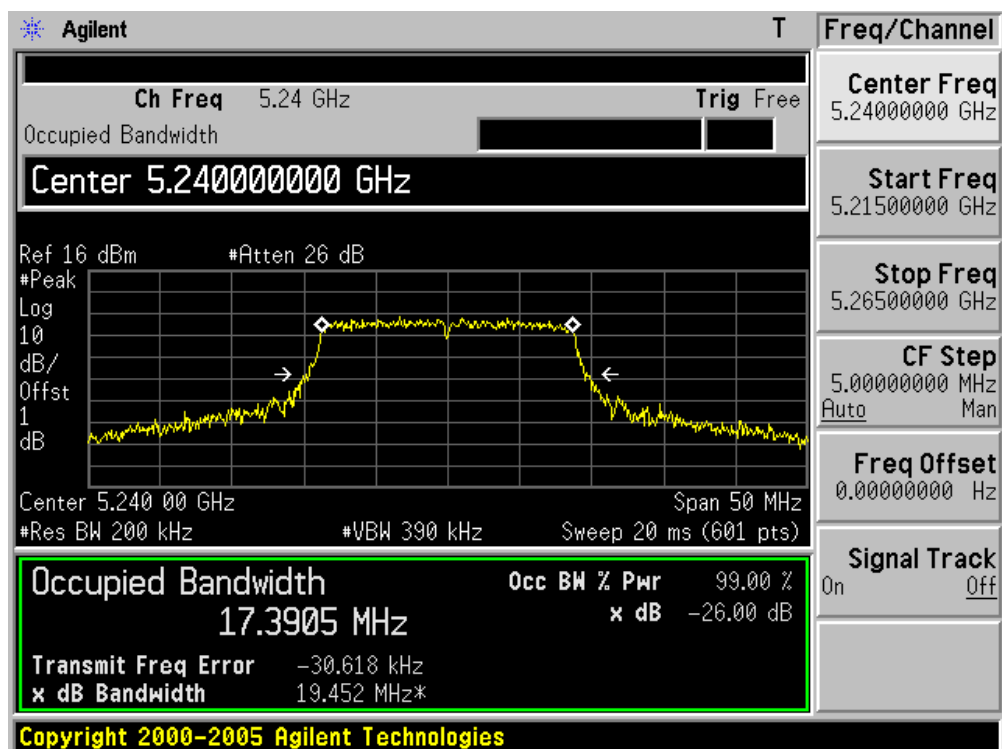
Channel 36 (5180MHz)



Channel 40 (5200MHz)



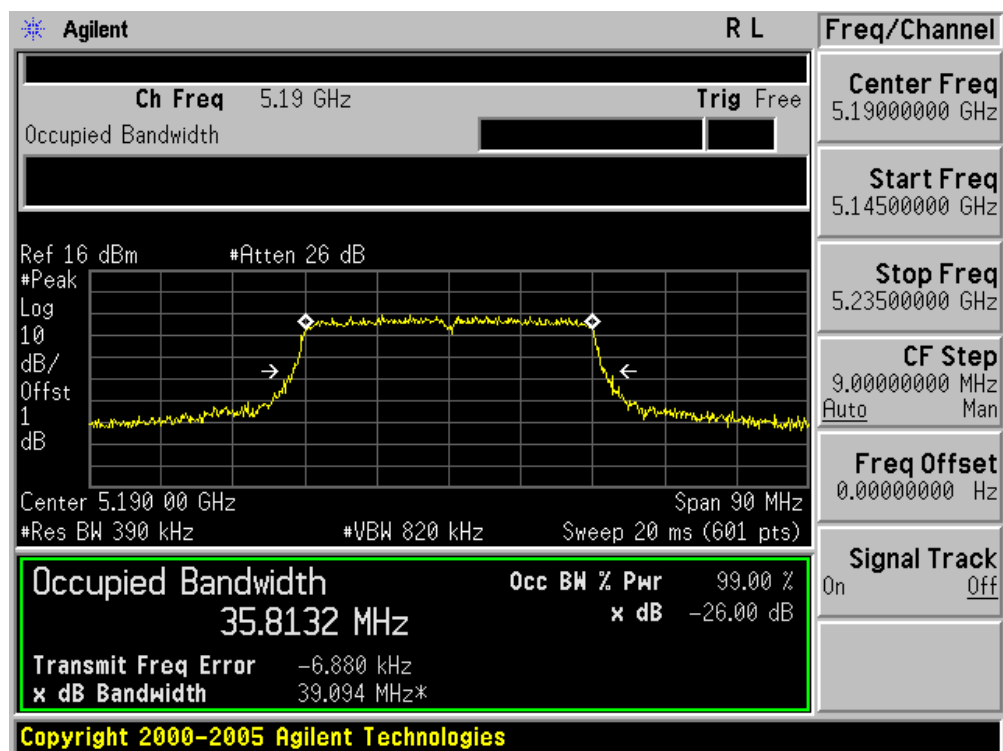
Channel 48 (5240MHz)



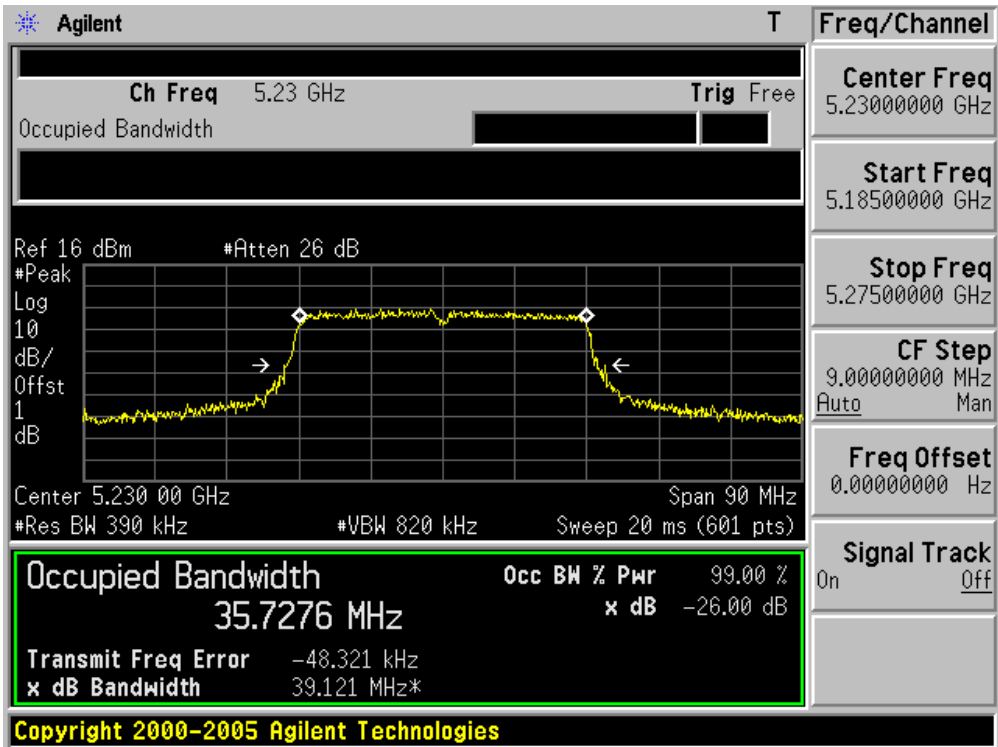
Product	:	Flip Share TV (Set Top Box)
Test Item	:	26dB Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 0)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	5190	35.813	35.8132
46	5230	35.727	35.7276

Channel 38 (5190MHz)



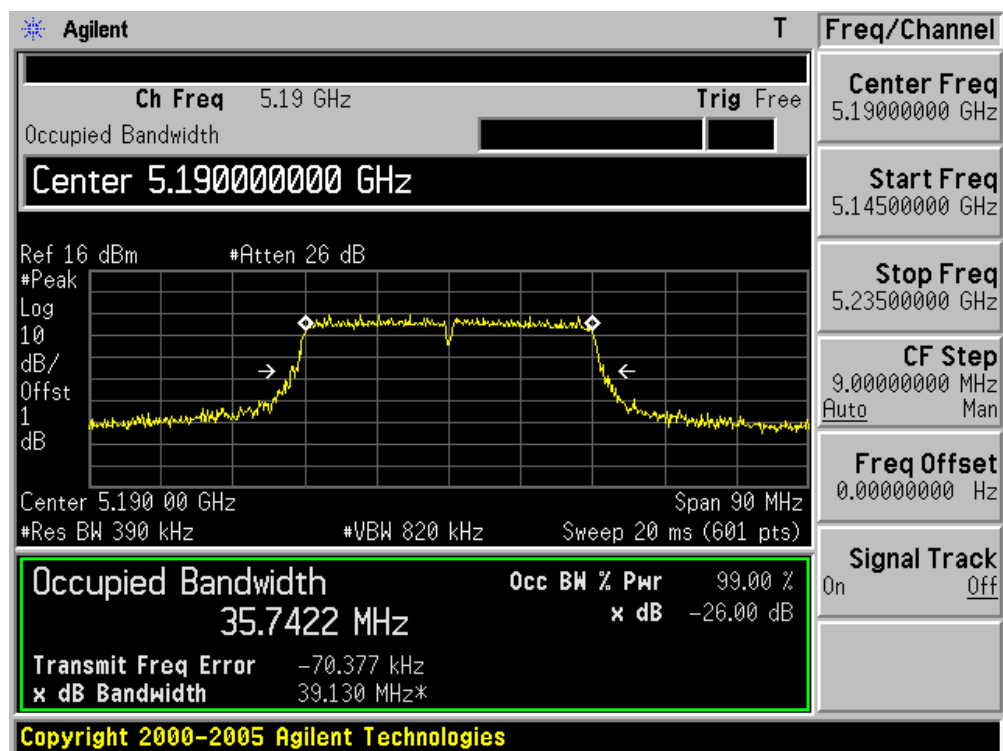
Channel 46 (5230MHz)



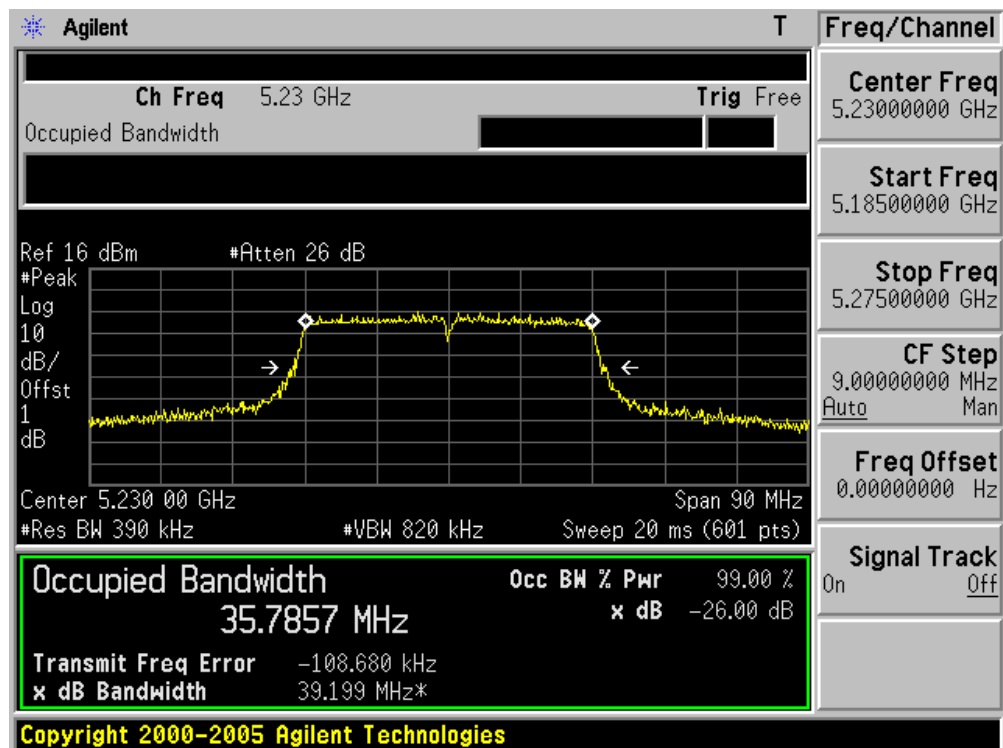
Product	:	Flip Share TV (Set Top Box)
Test Item	:	26dB Occupied Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 1)

Channel No.	Frequency (MHz)	26dB Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	5190	35.742	35.7422
46	5230	35.785	35.7857

Channel 38 (5190MHz)



Channel 46 (5230MHz)



7. Power Output

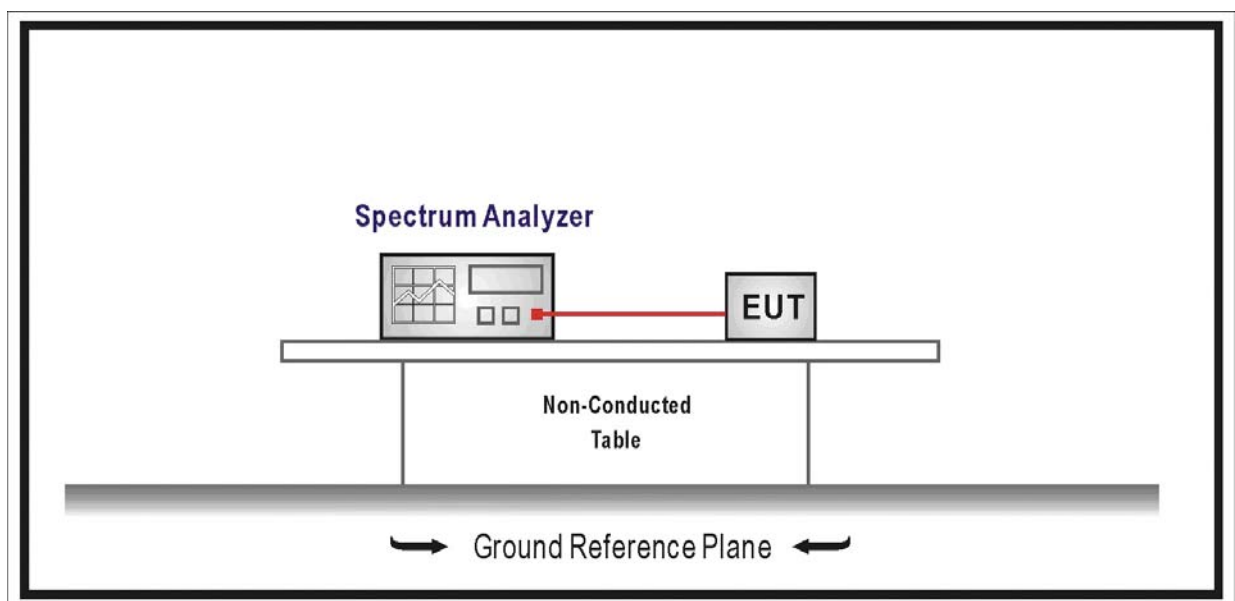
7.1. Test Equipment

Power Output / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2009/02/12
Power Sensor	Anritsu	MA2411B	0846014	2009/01/12
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

7.2. Test Setup



7.3. Limit

- For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10\log B$, where B is the 26 dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- For the band 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10\log B$, where B is the 26 dB emission bandwidth in megahertz. If transmitting

antenna of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

- For the band 5.725-5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W or $17 \text{ dBm} + 10\log B$, where B is the 26 dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain up to 23 dBi without any corresponding reduction in the transmitter peak output power. For fixed, point-to-point U-NII transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in peak transmitter power for each 1 dB of antenna gain in excess of 23 dBi would be required.

7.4. Test Procedure

The EUT was tested according to FCC Public Notice DA 02-2138, August 30, 2002 for compliance to FCC 47CFR 15.407 requirements.

Use the wideband power meter to test peak power and record the result.

7.5. Uncertainty

The measurement uncertainty is defined as $\pm 1.27 \text{ dB}$

7.6. Test Result

Power output test was verified over all data rates of each mode shown as below, and then choose the maximum power output (blue marker) for final test of each channel.

MCS Index for 802.11n	Spatial Streams	Data Rate (Mbps)				
		802.11a	20MHz Bandwidth		40MHz Bandwidth	
			800ns GI	400ns GI	800ns GI	400ns GI
0	1	6	6.5	7.2	13.5	15.0
1	1	9	13.0	14.4	27.0	30.0
2	1	12	19.5	21.7	40.5	45.0
3	1	18	26.0	28.9	54.0	60.0
4	1	24	39.0	43.3	81.0	90.0
5	1	36	52.0	57.8	108.0	120.0
6	1	48	58.5	65.0	121.5	135.0
7	1	54	65.0	72.2	135.0	150.0
8	2	---	13.0	14.4	27.0	30.0
9	2	---	26.0	28.9	54.0	60.0
10	2	---	39.0	43.3	81.0	90.0
11	2	---	52.0	57.8	108.0	120.0
12	2	---	78.0	86.7	162.0	180.0
13	2	---	104.0	115.6	216.0	240.0
14	2	---	117.0	130.0	243.0	270.0
15	2	---	130.0	144.0	270.0	300.0

Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1			
36	5180	16.58	N/A	16.58	17.00	Pass
40	5200	16.55	N/A	16.55	17.00	Pass
48	5240	16.33	N/A	16.33	17.00	Pass

Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1			
36	5180	16.60	N/A	16.60	17.00	Pass
40	5200	16.62	N/A	16.62	17.00	Pass
48	5240	16.44	N/A	16.44	17.00	Pass

Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 0)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1			
38	5190	15.84	N/A	15.84	17.00	Pass
46	5230	15.77	N/A	15.77	17.00	Pass

Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1			
36	5180	N/A	16.02	16.02	17.00	Pass
40	5200	N/A	16.24	16.24	17.00	Pass
48	5240	N/A	16.03	16.03	17.00	Pass

Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1			
36	5180	N/A	16.20	16.20	17.00	Pass
40	5200	N/A	16.53	16.53	17.00	Pass
48	5240	N/A	16.02	16.02	17.00	Pass

Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1			
38	5190	N/A	16.04	16.04	17.00	Pass
46	5230	N/A	16.33	16.33	17.00	Pass

Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 0+1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1			
36	5180	13.14	14.22	16.72	17.00	Pass
40	5200	13.24	13.66	16.47	17.00	Pass
48	5240	13.13	13.62	16.39	17.00	Pass

Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 0+1)

Channel No.	Frequency (MHz)	Measurement Power Output (dBm)		Total Power (dBm)	Limit (dBm)	Result
		Chain 0	Chain 1			
38	5190	13.13	13.84	16.51	17.00	Pass
46	5230	12.72	13.71	16.25	17.00	Pass

8. Peak Power Spectral Density

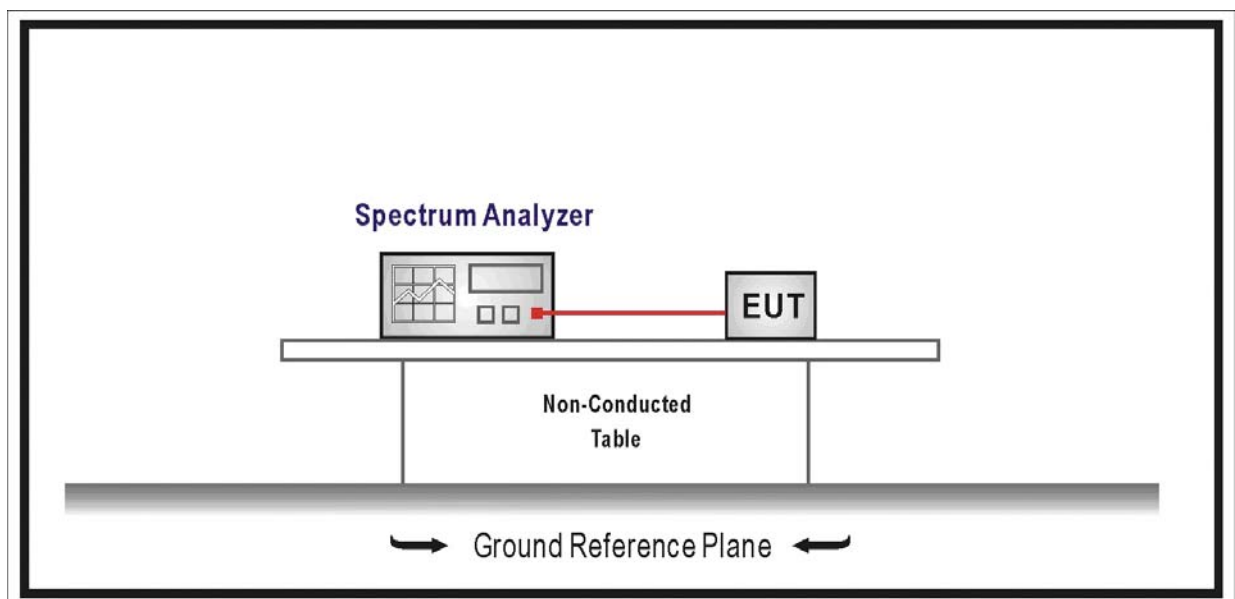
8.1. Test Equipment

Peak Power Spectral Density / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup



8.3. Limit

- For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10\log B$, where B is the 26 dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- For the band 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10\log B$, where B is the 26 dB emission bandwidth in megahertz. If transmitting

antenna of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

- For the band 5.725-5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W or $17 \text{ dBm} + 10\log B$, where B is the 26 dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain up to 23 dBi without any corresponding reduction in the transmitter peak output power. For fixed, point-to-point U-NII transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in peak transmitter power for each 1 dB of antenna gain in excess of 23 dBi would be required.

8.4. Test Procedure

The EUT was tested according to FCC Public Notice DA 02-2138, August 30, 2002 for compliance to FCC 47CFR 15.407 requirements.

Use sample detector and power averaging (not video averaging) mode. Set RBW= 1 MHz*, VBW > 1 MHz. The PPSD is the highest level found across the emission in any 1-MHz band after 100 sweeps of averaging. This method is permitted only if the transmission pulse or sequence of pulses remains at maximum transmit power throughout each of the 100 sweeps of averaging and that the interval between pulses is not included in any of the sweeps (e.g., 100 sweeps should occur during one transmission, or each sweep gated to occur during a transmission).

8.5. Uncertainty

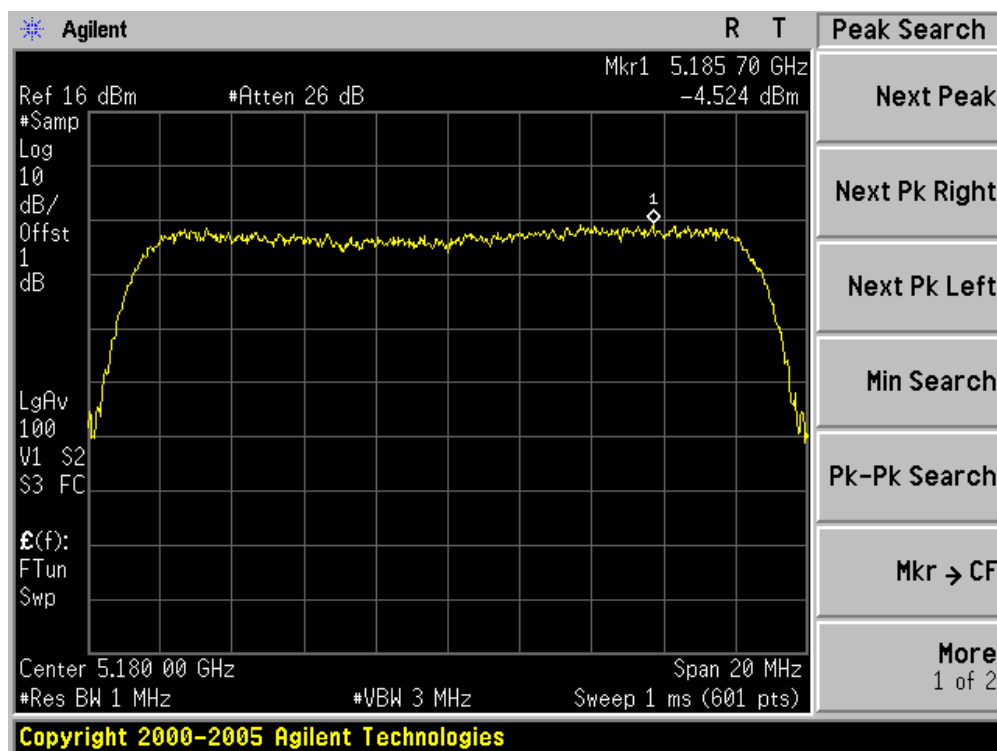
The measurement uncertainty is defined as $\pm 1.27 \text{ dB}$

8.6. Test Result

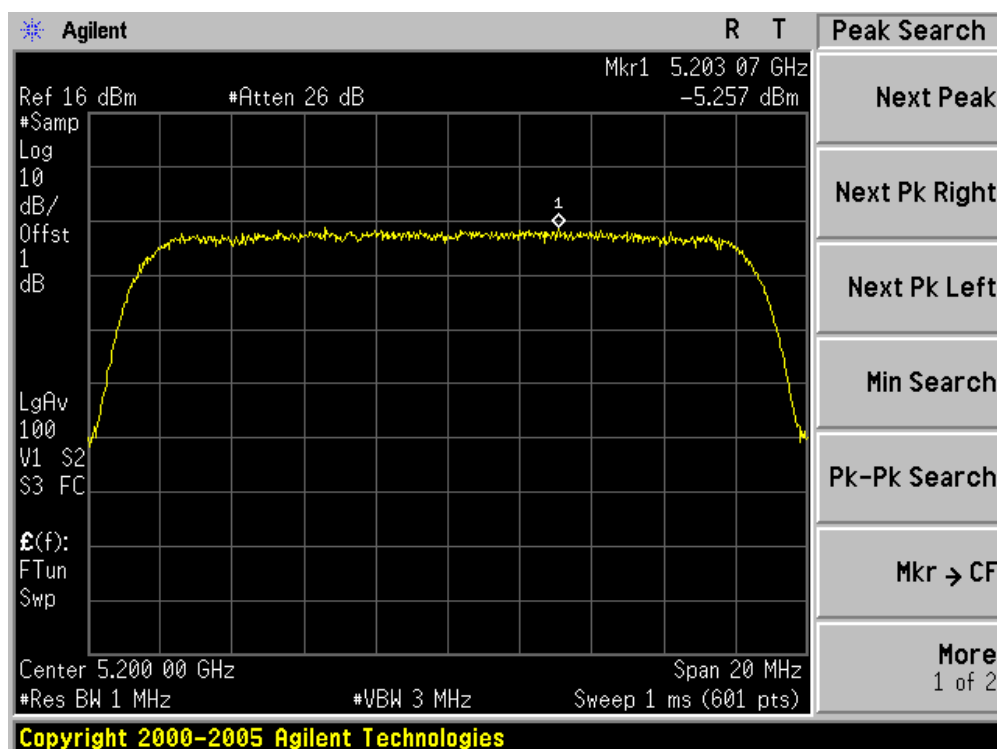
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Peak Power Spectral Density
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

Channel No.	Frequency (MHz)	Measurement PPSP (dBm/MHz)		Total PPSP (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
36	5180	-4.52	N/A	-5.87	4	Pass
40	5200	-5.25	N/A	-5.86	4	Pass
48	5240	-5.25	N/A	-5.66	4	Pass

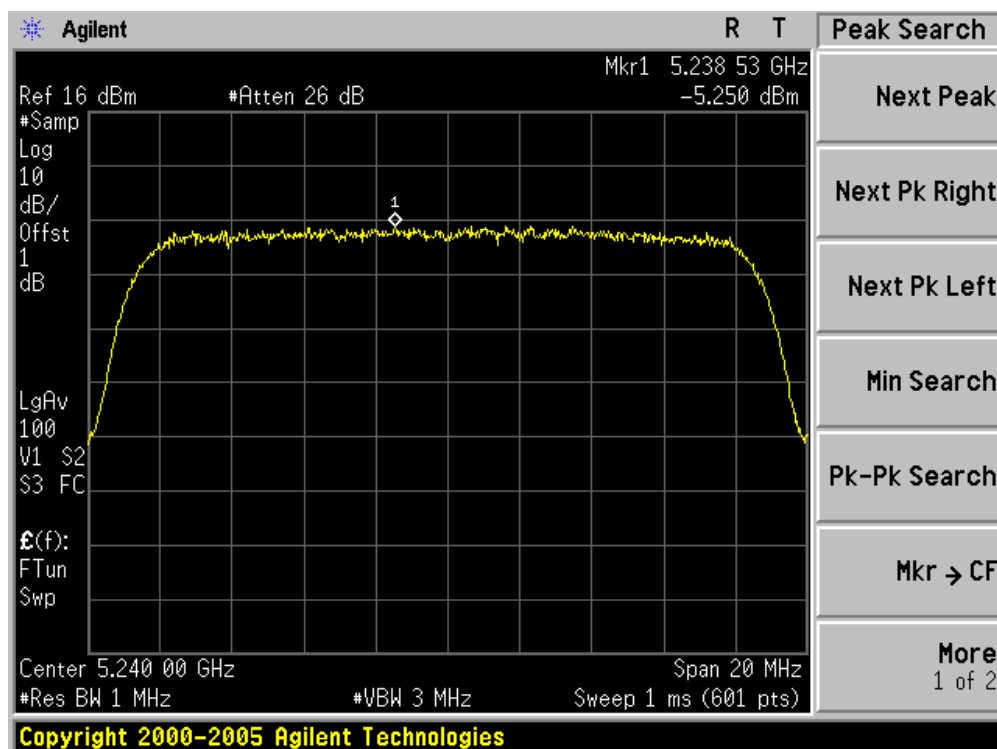
Channel 36 (5180MHz)



Channel 40 (5200MHz)



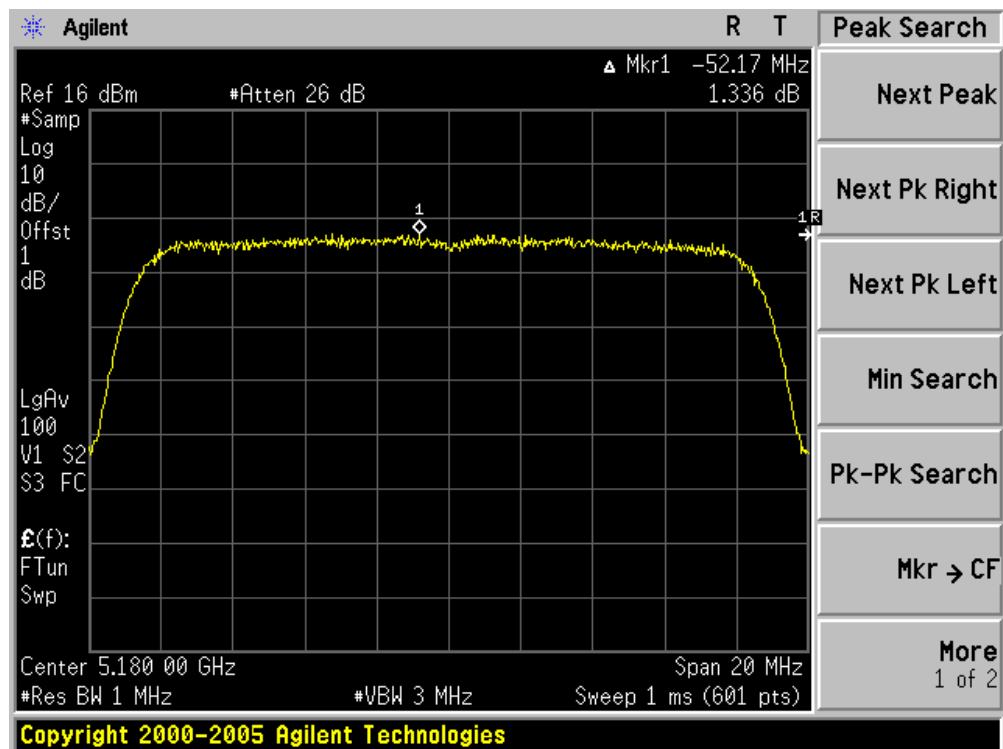
Channel 48 (5240MHz)



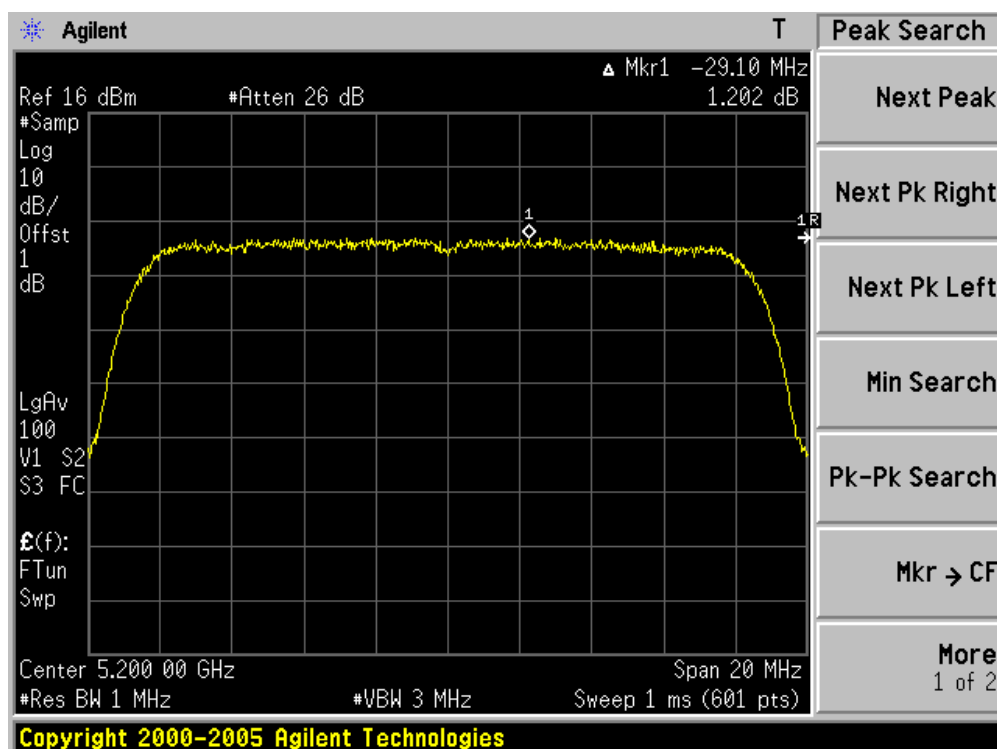
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
36	5180	N/A	1.33	-6.75	4	Pass
40	5200	N/A	1.20	-6.73	4	Pass
48	5240	N/A	1.14	-6.50	4	Pass

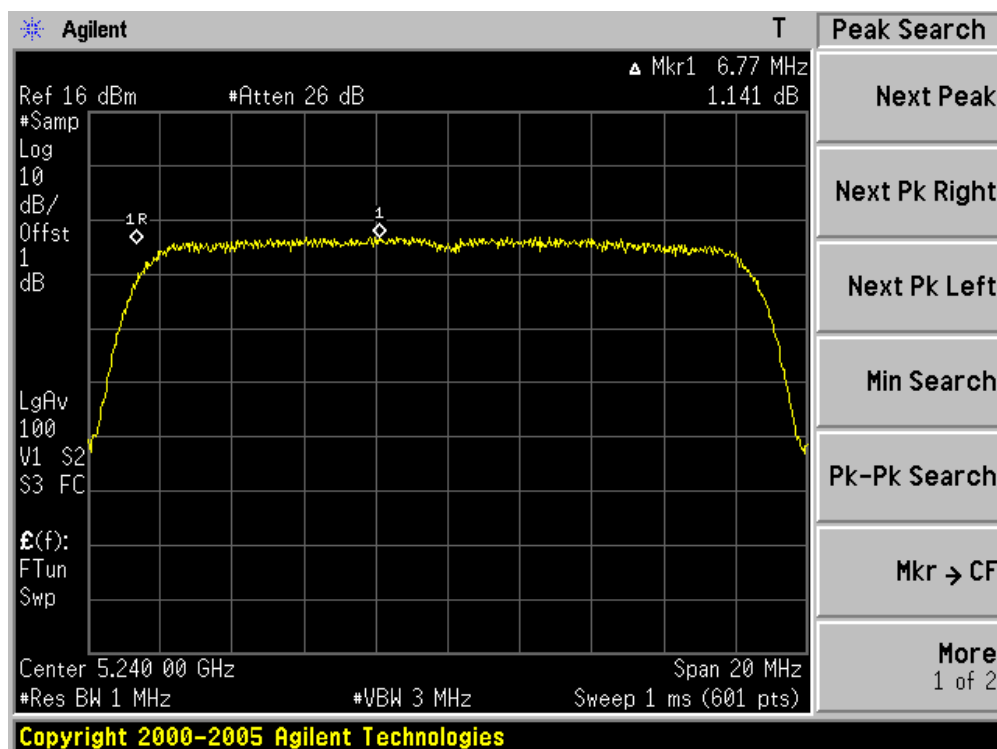
Channel 36 (5180MHz)



Channel 40 (5200MHz)



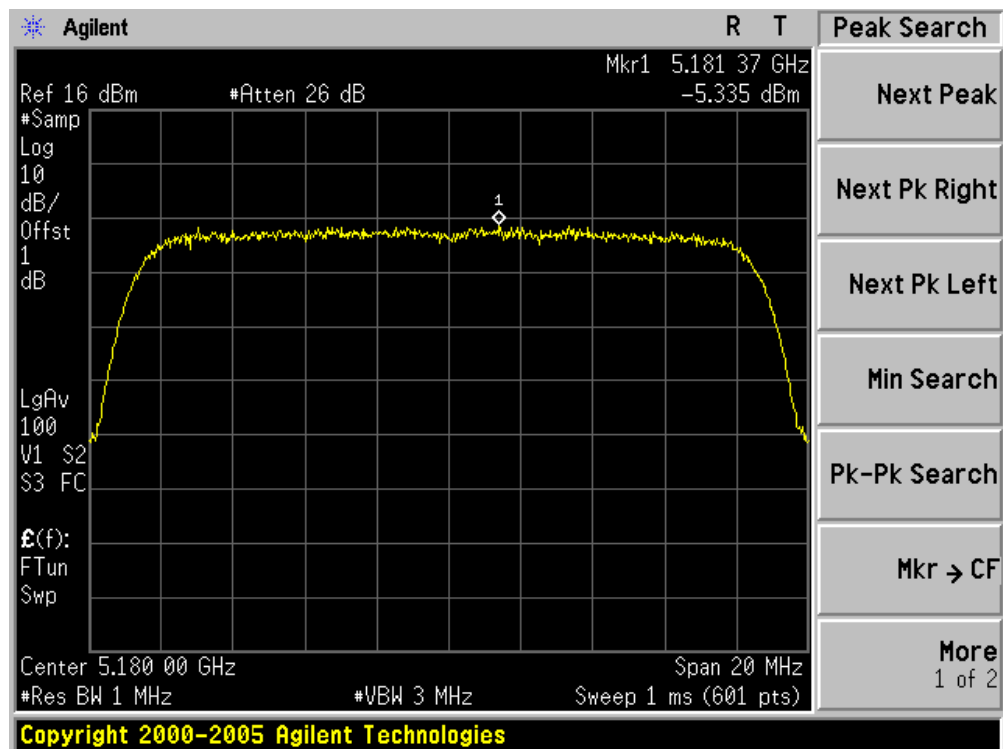
Channel 48 (5240MHz)



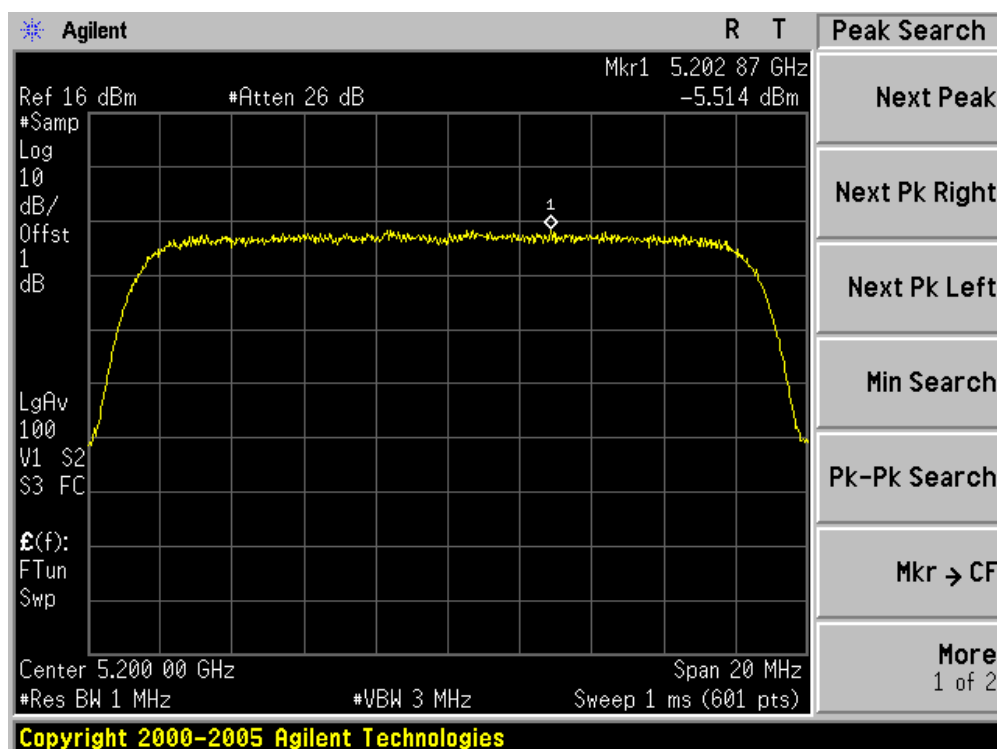
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 0)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
36	5180	-5.33	N/A	-6.31	4	Pass
40	5200	-5.51	N/A	-6.41	4	Pass
48	5240	-5.95	N/A	-6.63	4	Pass

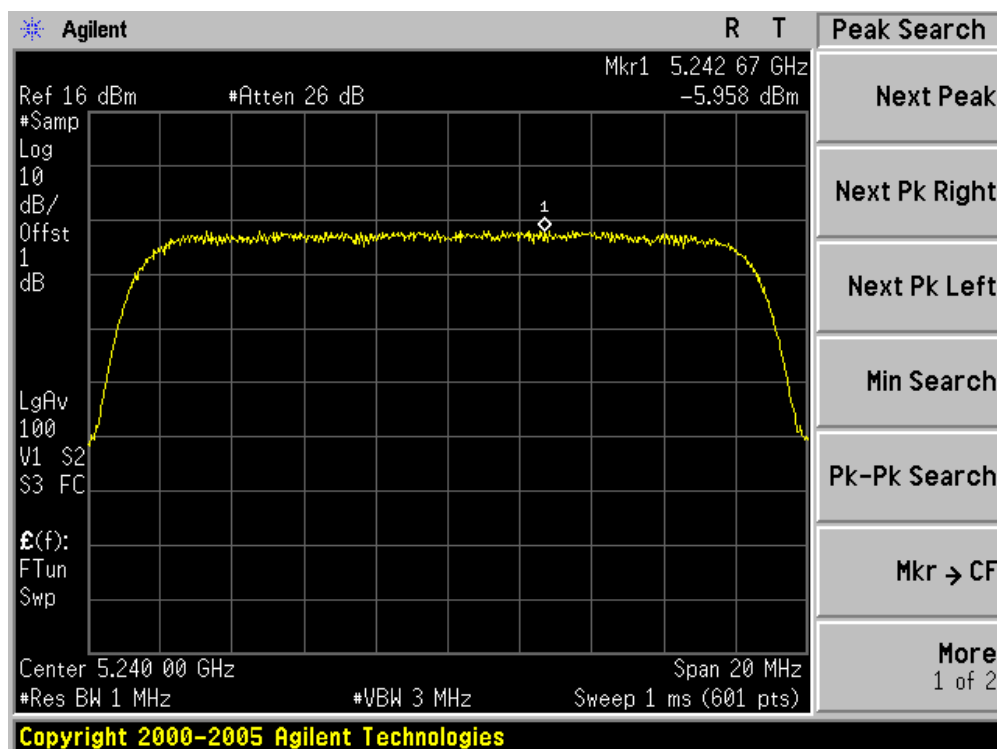
Channel 36 (5180MHz)



Channel 40 (5200MHz)



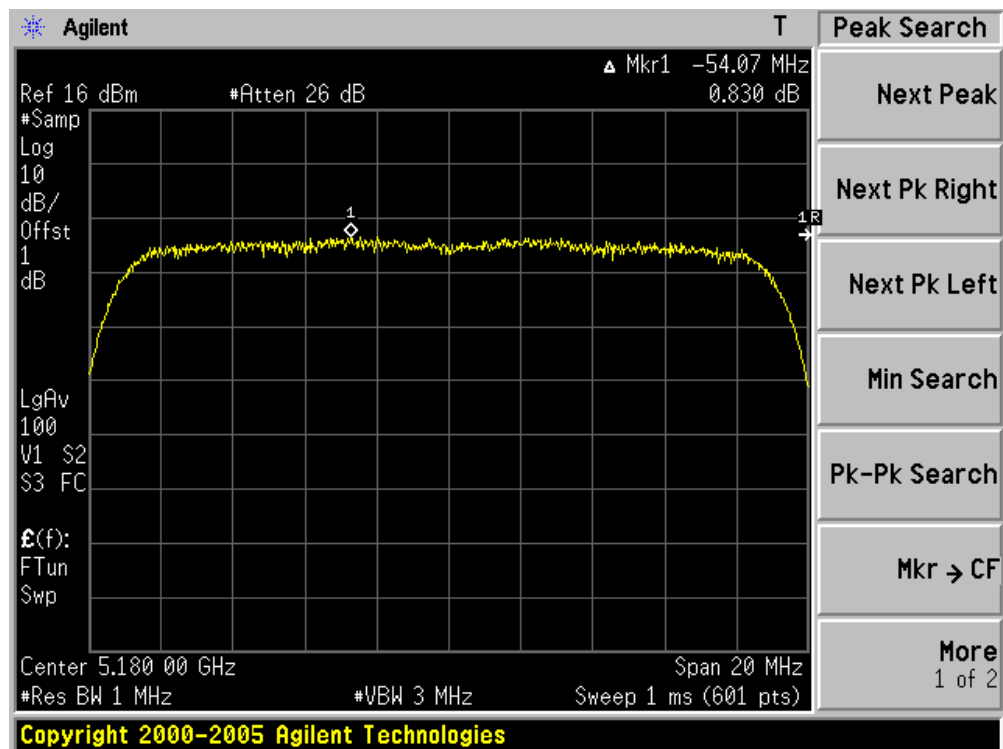
Channel 48 (5240MHz)



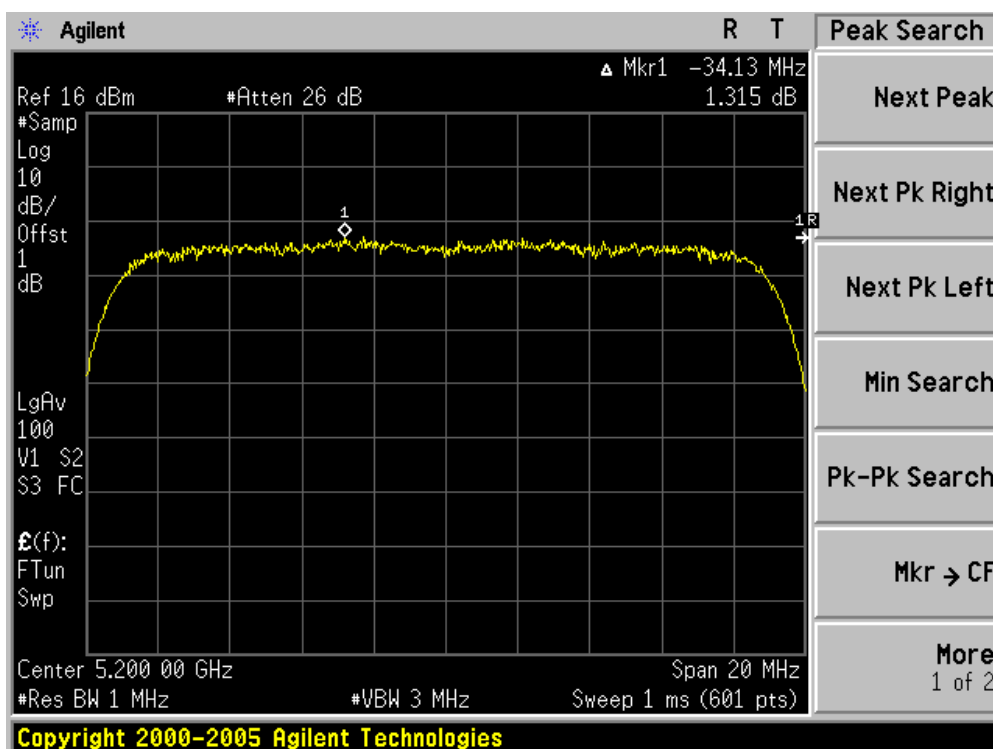
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
36	5180	N/A	0.83	-6.44	4	Pass
40	5200	N/A	1.31	-6.00	4	Pass
48	5240	N/A	1.07	-6.64	4	Pass

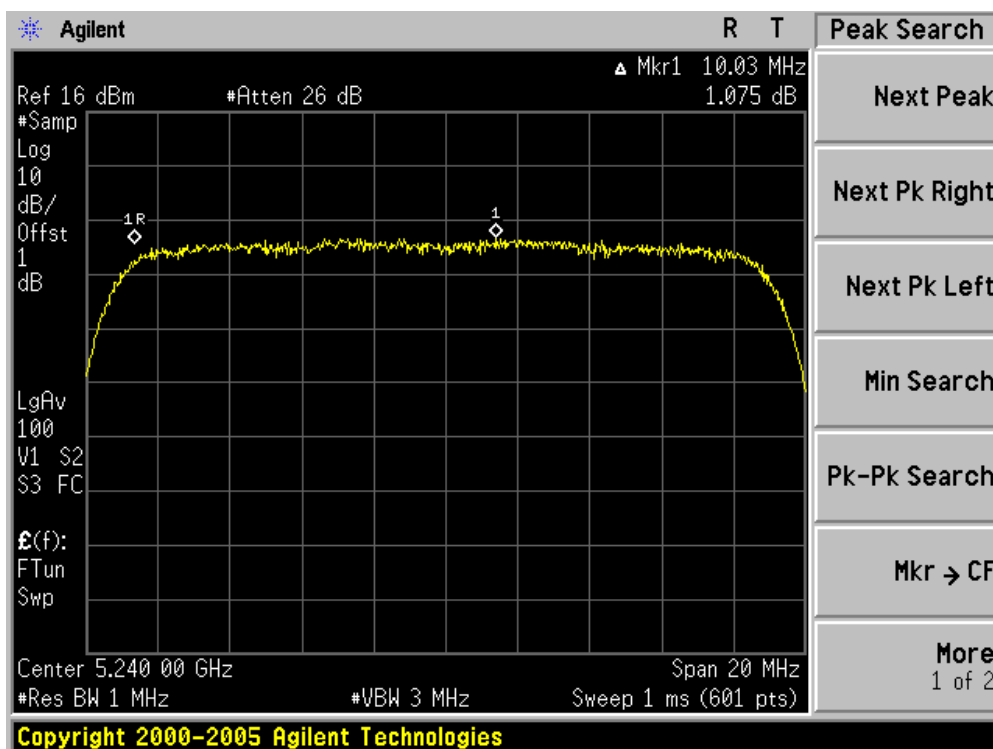
Channel 36 (5180MHz)



Channel 40 (5200MHz)



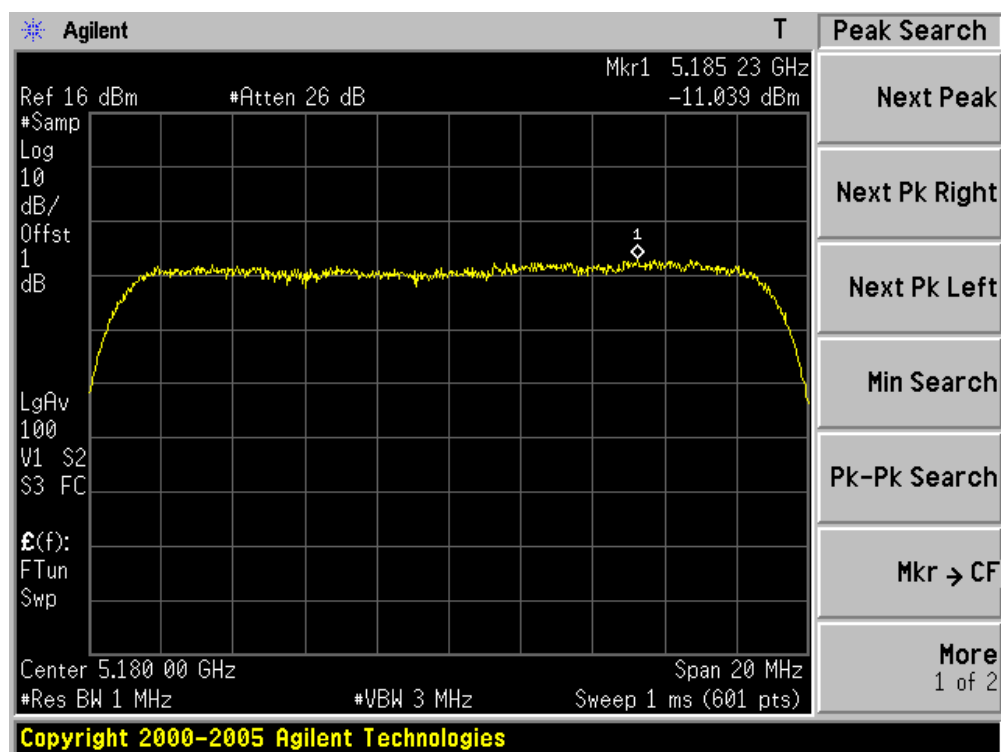
Channel 48 (5240MHz)



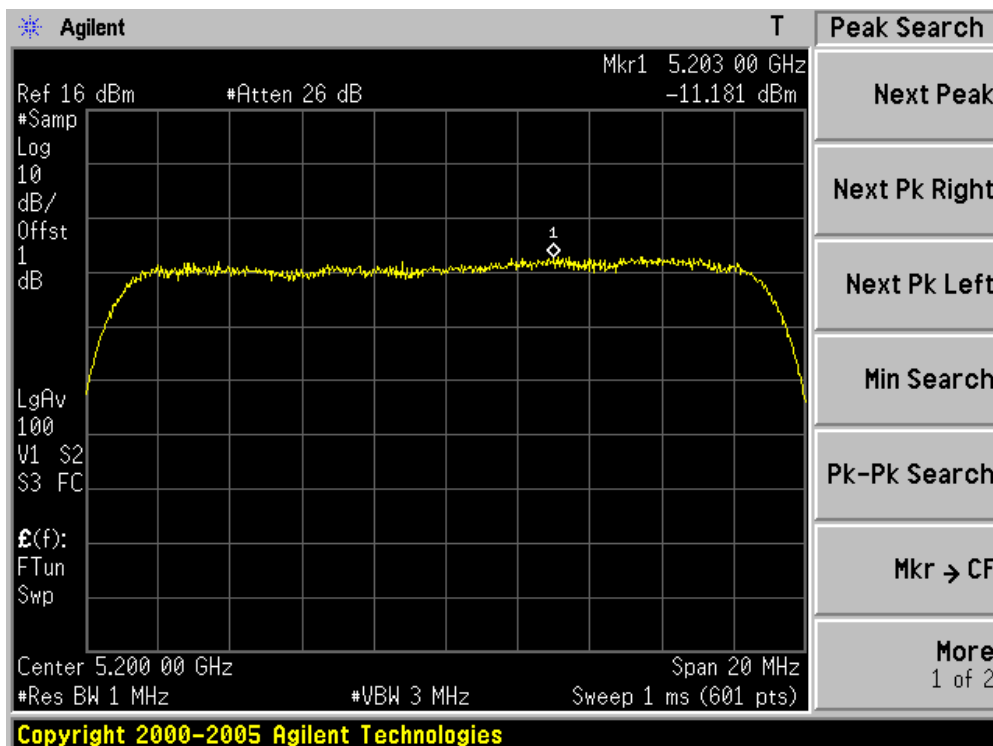
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 0+1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
36	5180	-11.03	-8.92	-7.20	4	Pass
40	5200	-11.18	-9.20	-6.88	4	Pass
48	5240	-10.52	-10.08	-6.97	4	Pass

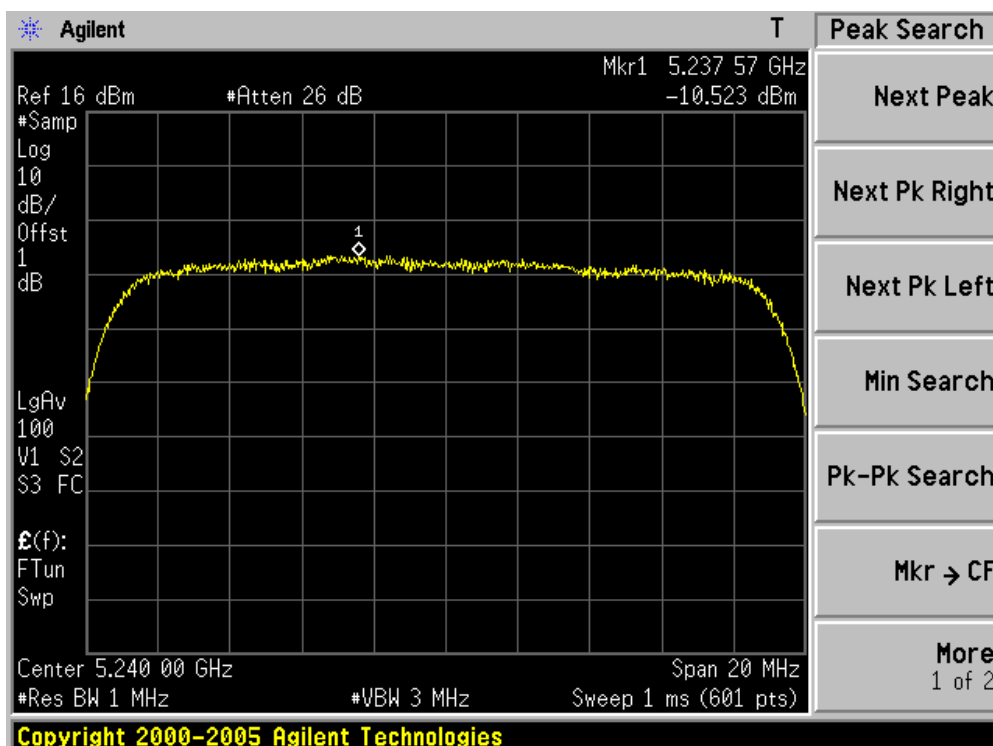
Channel 36 (5180MHz) - Chain 0



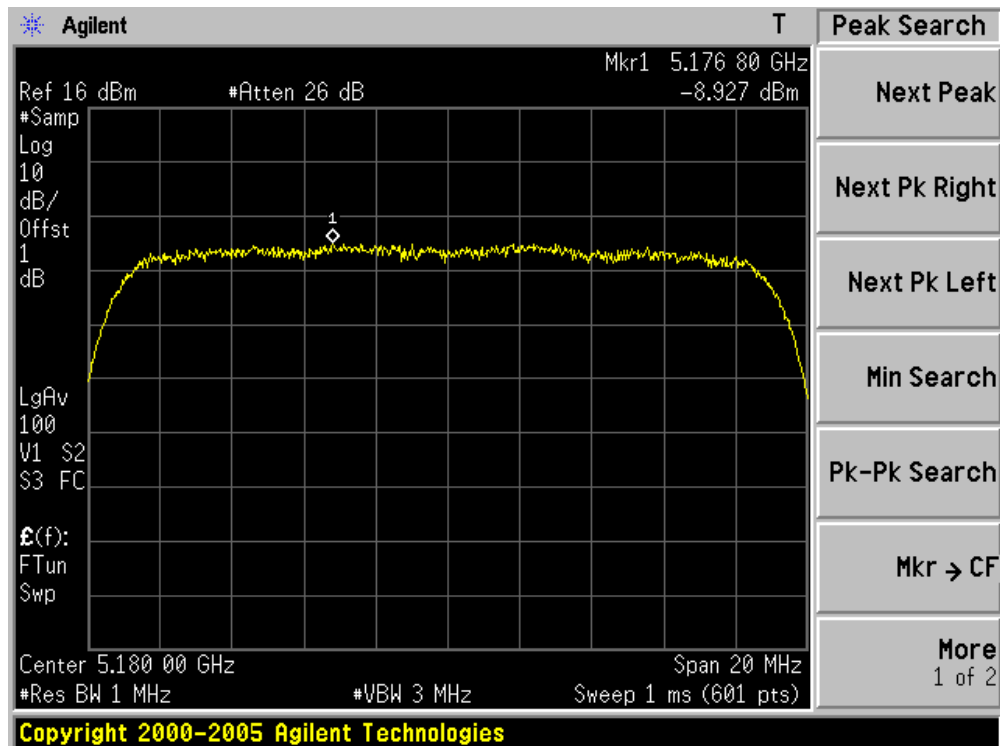
Channel 40 (5200MHz) - Chain 0



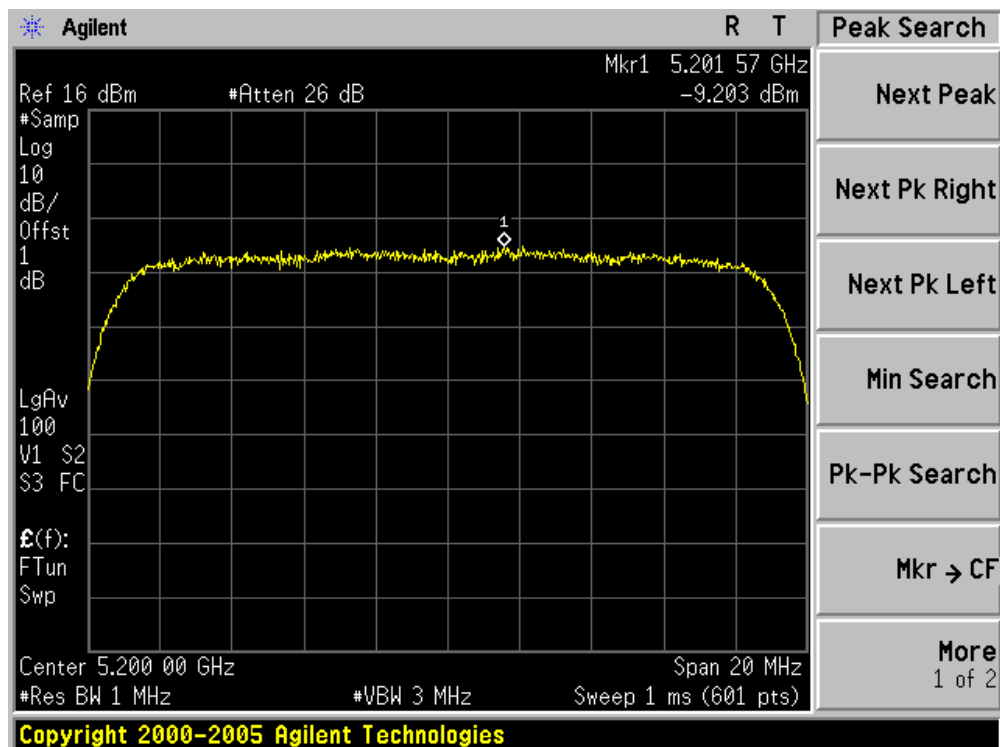
Channel 48 (5240MHz) - Chain 0



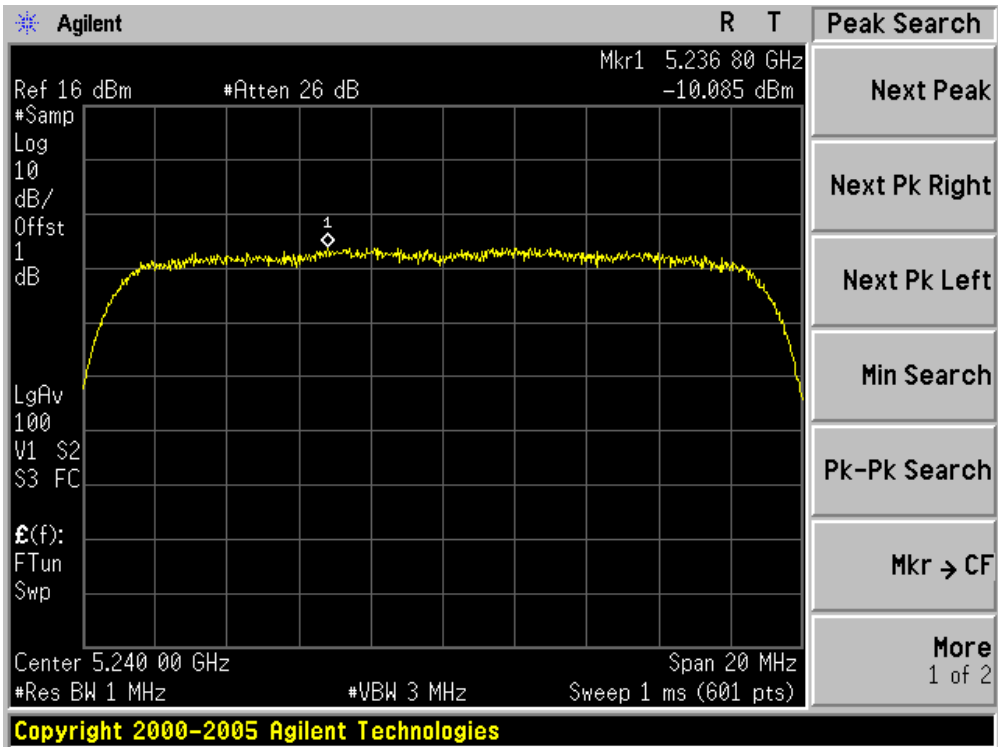
Channel 36 (5180MHz) - Chain 1



Channel 40 (5200MHz) - Chain 1



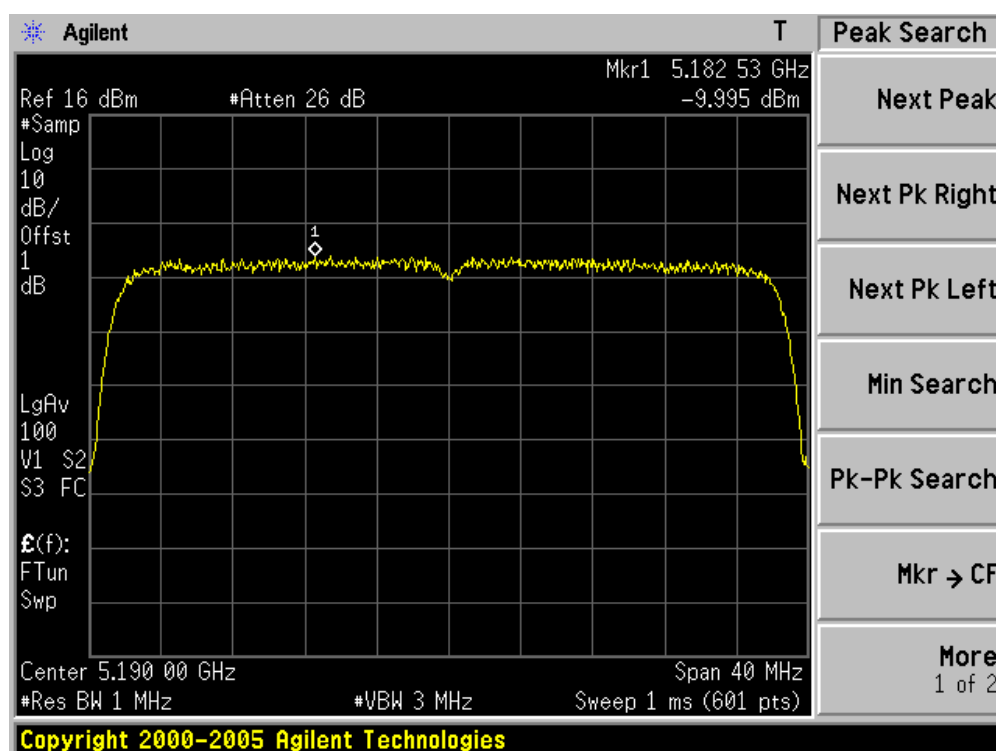
Channel 48 (5240MHz) - Chain 1



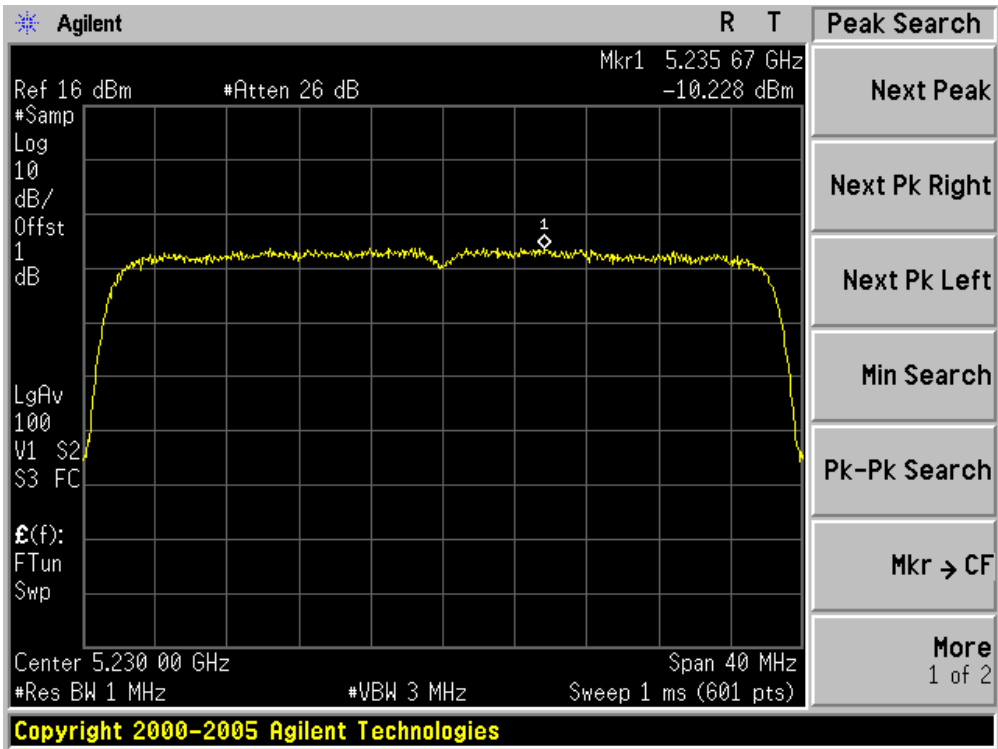
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 0)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
38	5190	-9.99	N/A	-12.10	4	Pass
46	5230	-10.22	N/A	-11.83	4	Pass

Channel 38 (5190MHz)



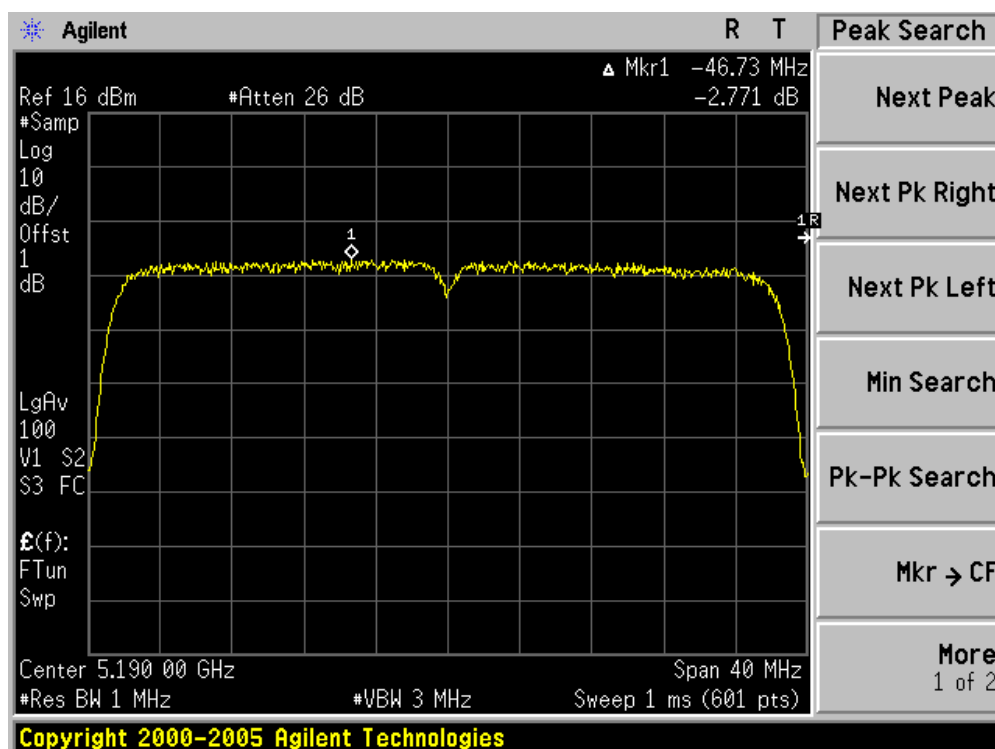
Channel 46 (5230MHz)



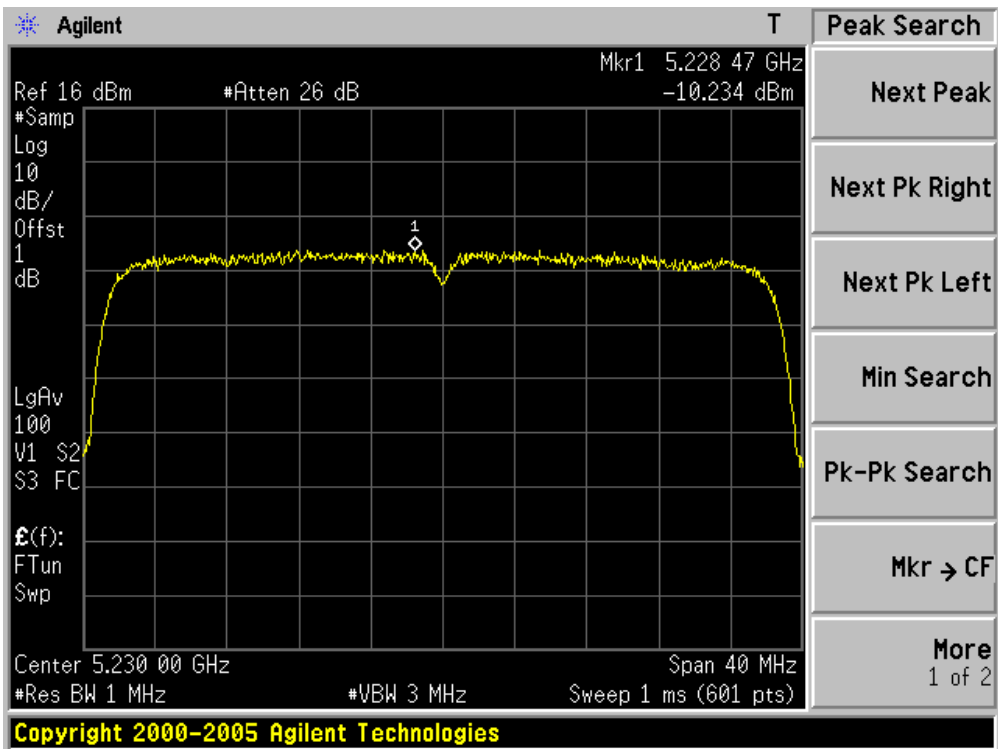
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
38	5190	N/A	-2.77	-11.89	4	Pass
46	5230	N/A	-10.23	-12.63	4	Pass

Channel 38 (5190MHz)



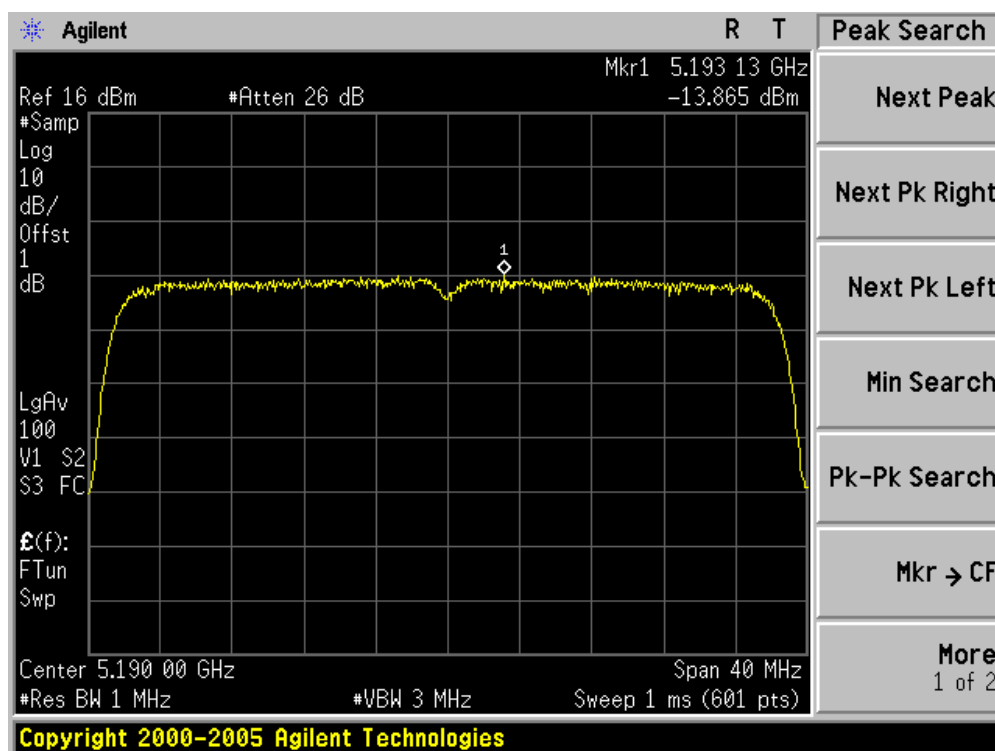
Channel 46 (5230MHz)



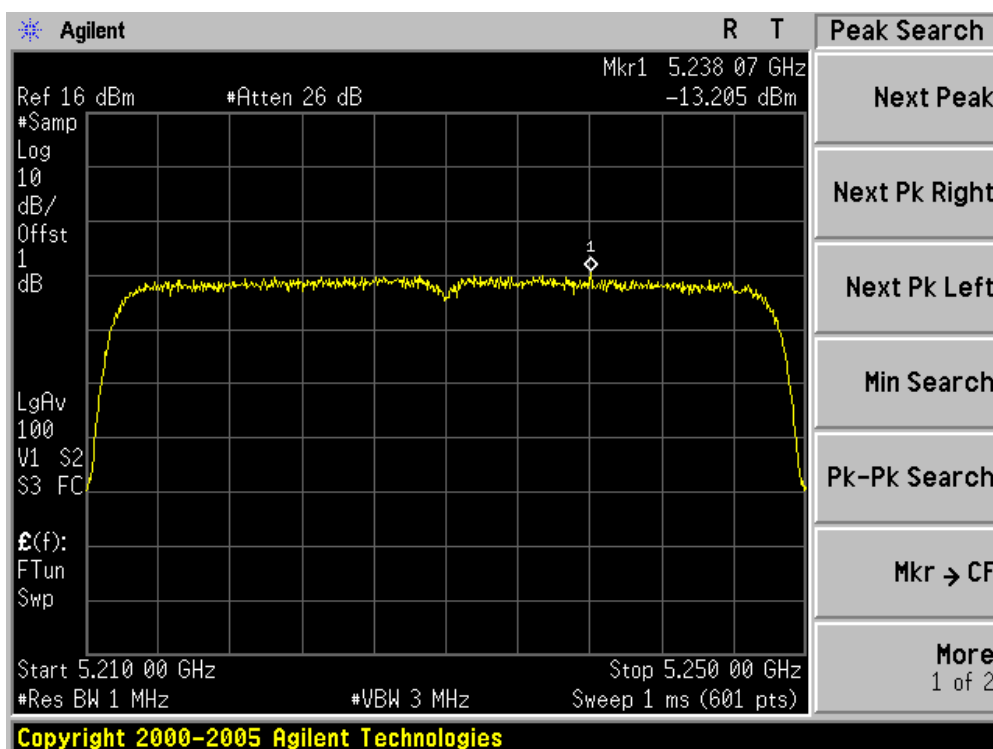
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Power Output
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 0+1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Chain 0	Chain 1			
38	5190	-13.86	-12.18	-12.18	4	Pass
46	5230	-13.20	-12.74	-12.76	4	Pass

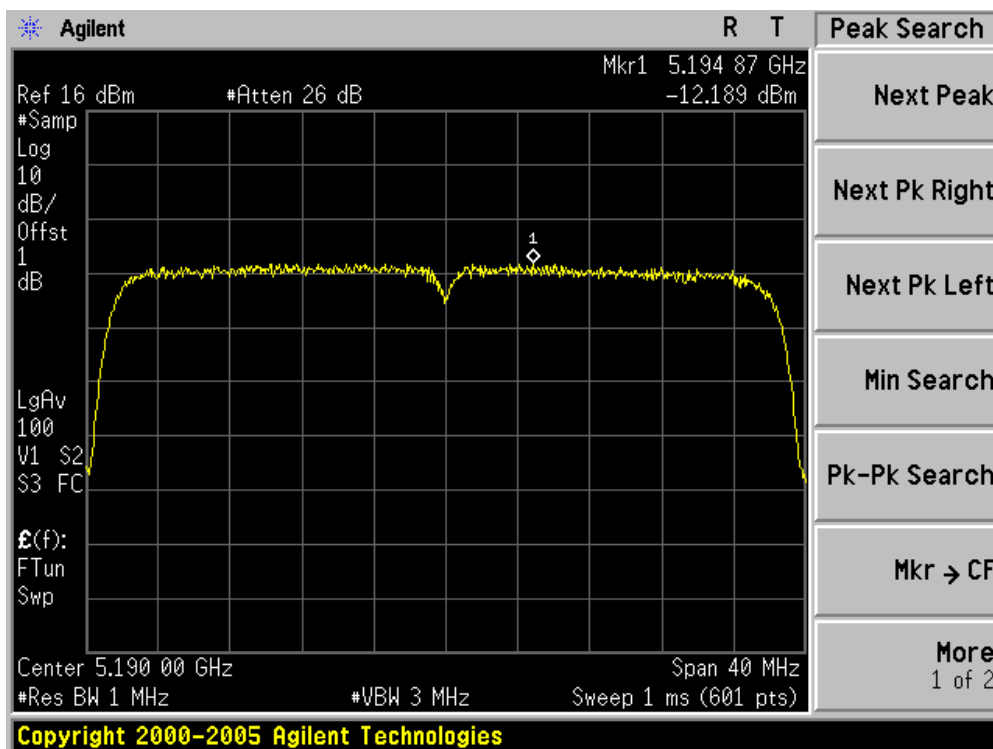
Channel 38 (5190MHz) - Chain 0



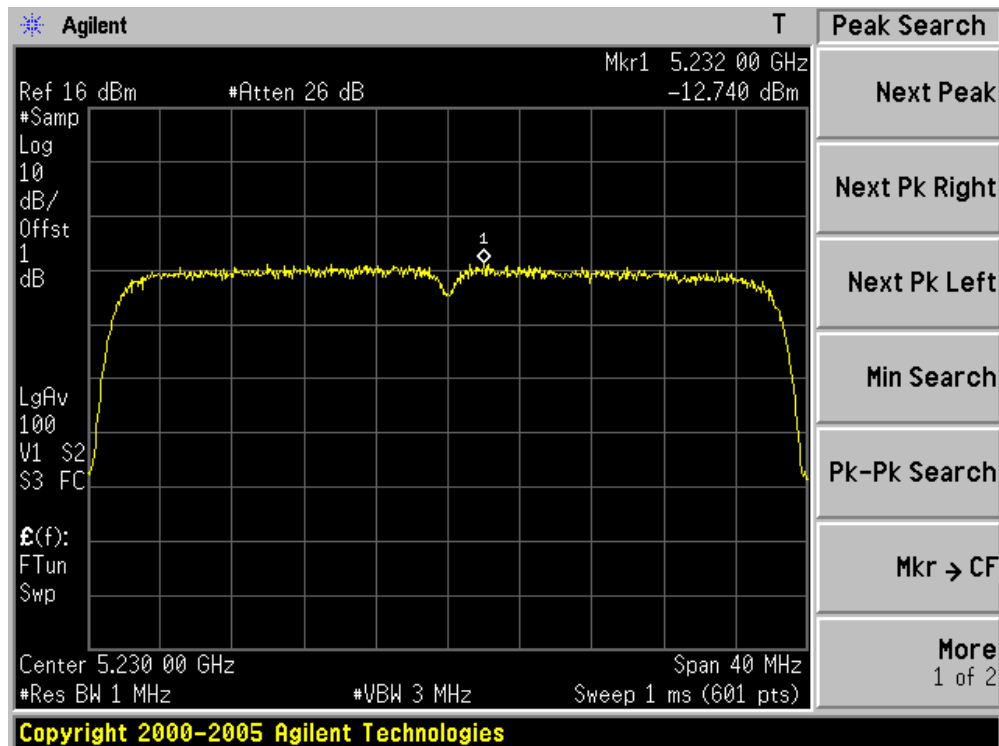
Channel 46 (5230MHz) - Chain 0



Channel 38 (5190MHz) - Chain 1



Channel 46 (5230MHz) - Chain 1



9. Peak Excursion

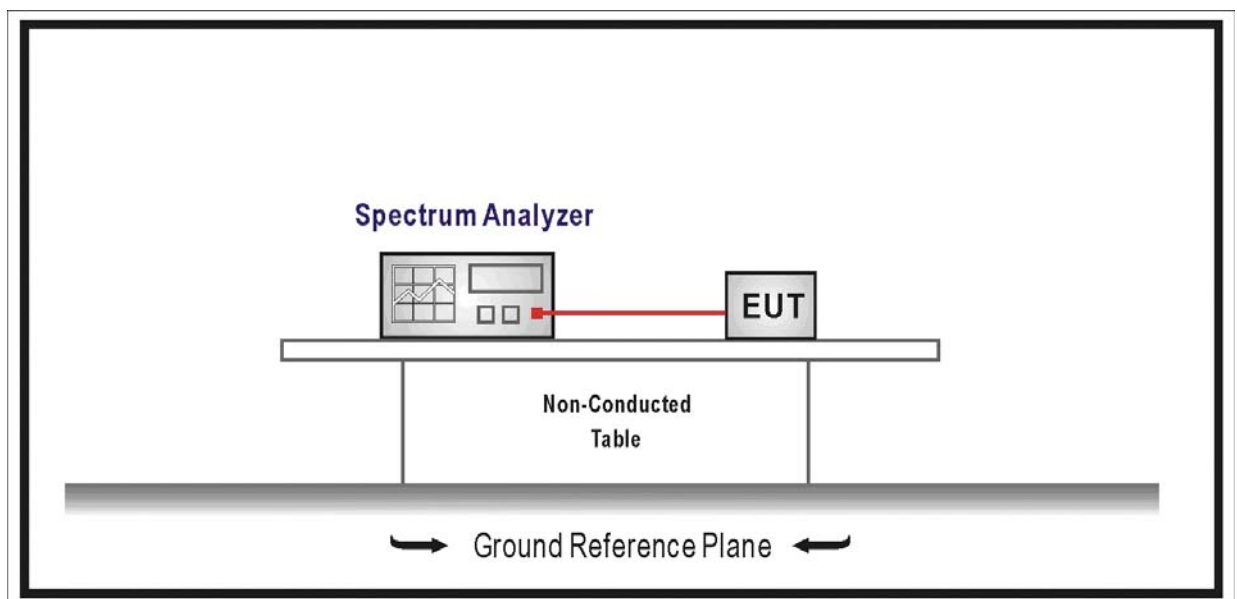
9.1. Test Equipment

Peak Excursion / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/30

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

9.2. Test Setup



9.3. Limit

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

9.4. Test Procedure

The EUT was tested according to FCC Public Notice DA 02-2138, August 30, 2002 for compliance to FCC 47CFR 15.407 requirements.

Set the spectrum analyzer span to view the entire emission bandwidth. The largest difference between the following two traces must be ≤ 13 dB for all frequencies across the emission bandwidth.

- 1st Trace: Set RBW = 1 MHz, VBW ≥ 3 MHz with peak detector and maxhold settings.
- 2nd Trace: Set RBW = 1 MHz, VBW = 30 kHz with peak detector and maxhold settings.

9.5. Uncertainty

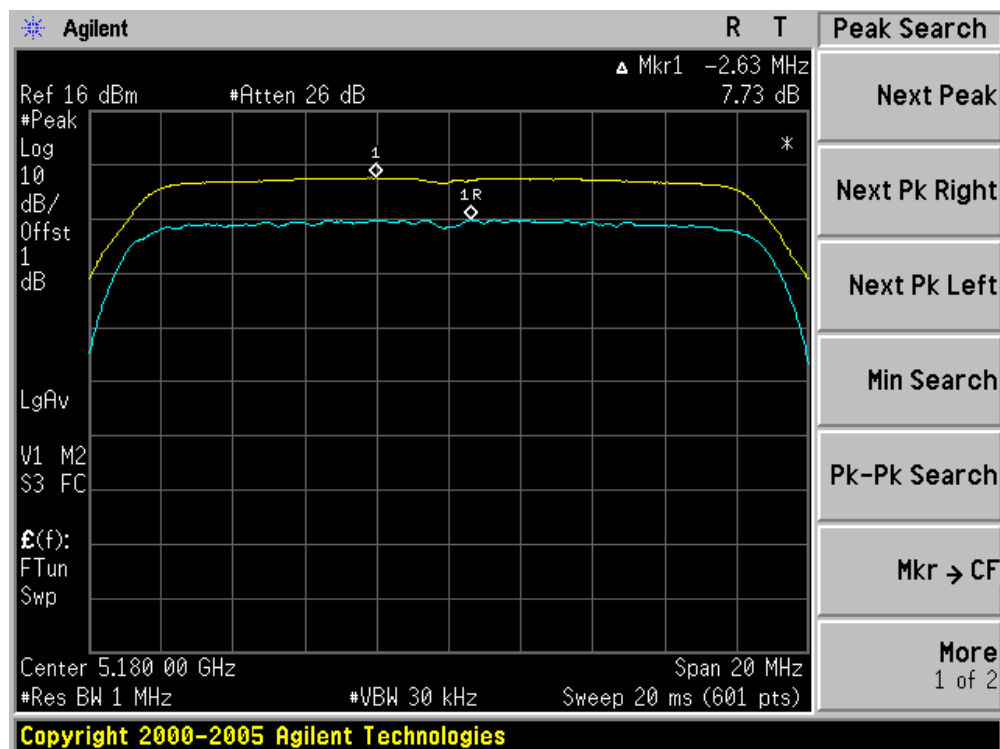
The measurement uncertainty is defined as ± 1.27 dB

9.6. Test Result

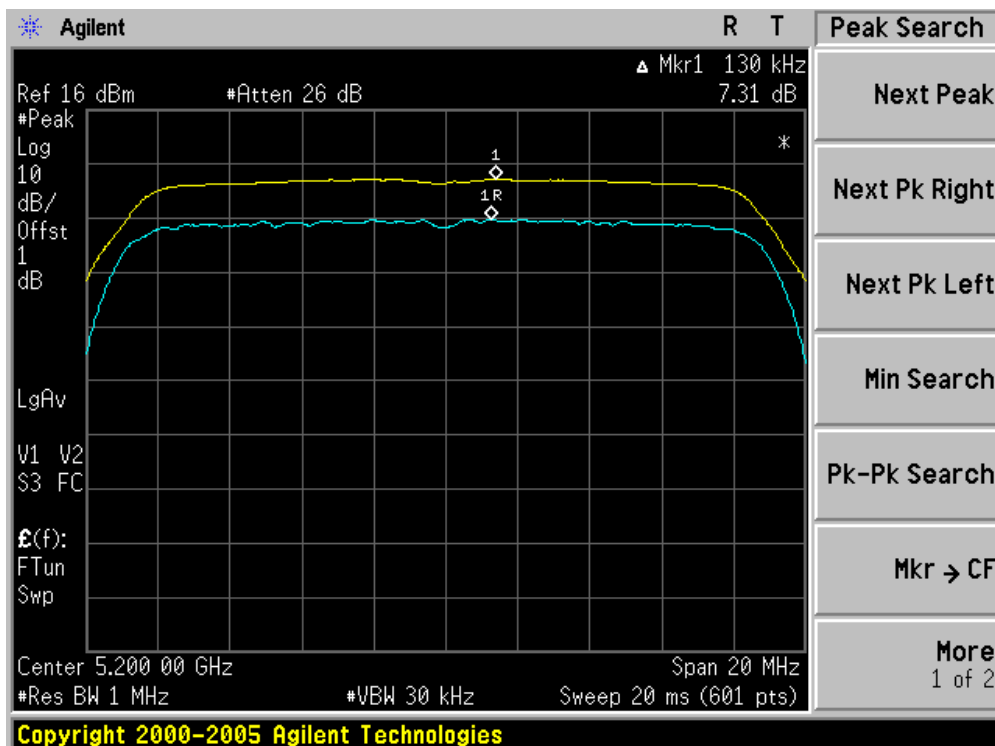
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Peak Excursion
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 0)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	7.73	13	Pass
40	5200	7.31	13	Pass
48	5240	7.45	13	Pass

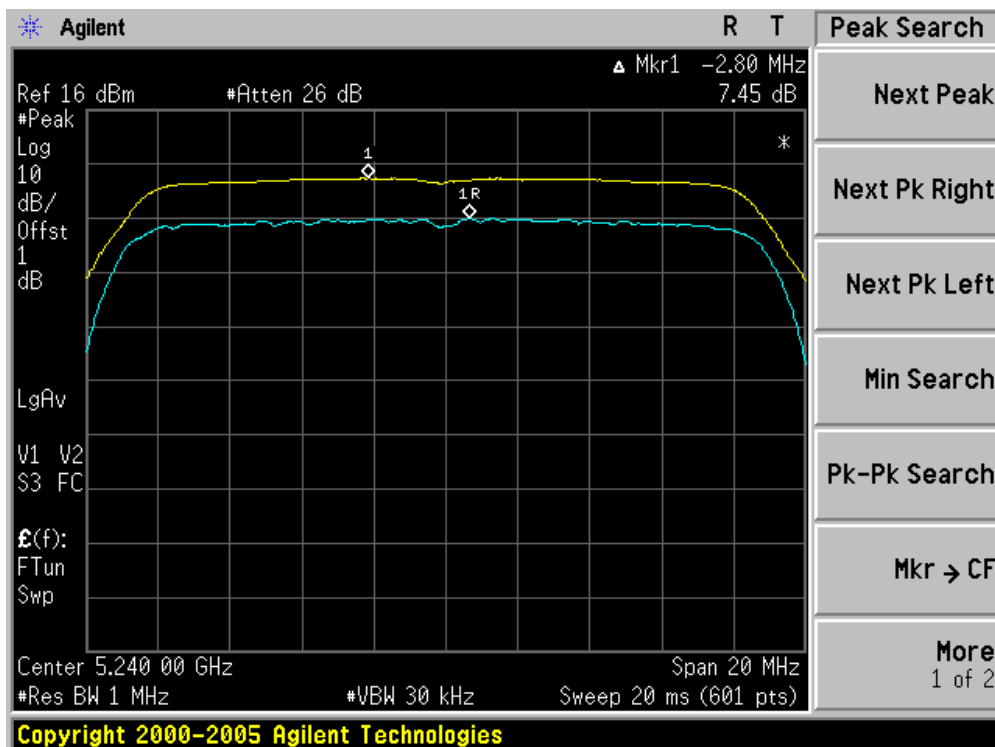
Channel 36 (5180MHz)



Channel 40 (5200MHz)



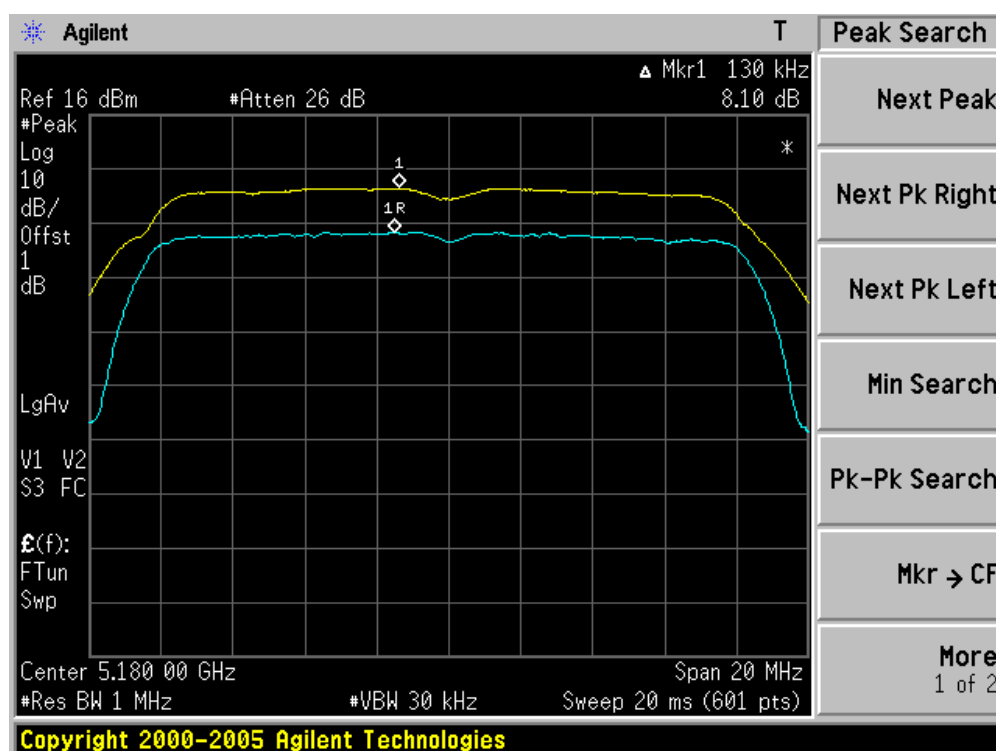
Channel 48 (5240MHz)



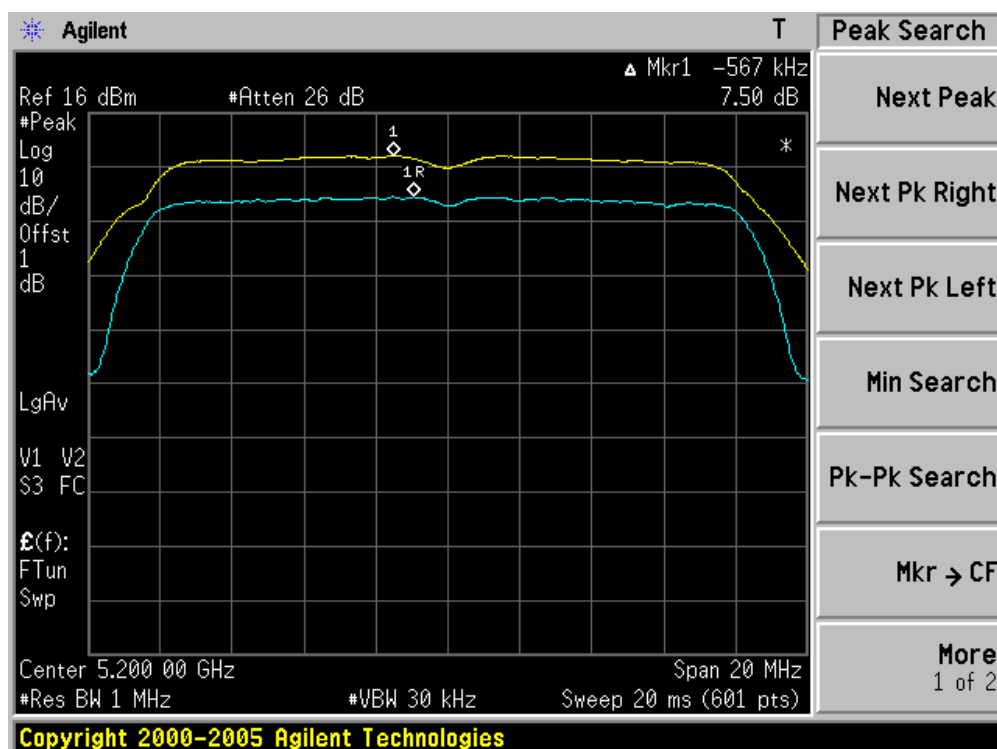
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Peak Excursion
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	8.10	13	Pass
40	5200	7.50	13	Pass
48	5240	7.58	13	Pass

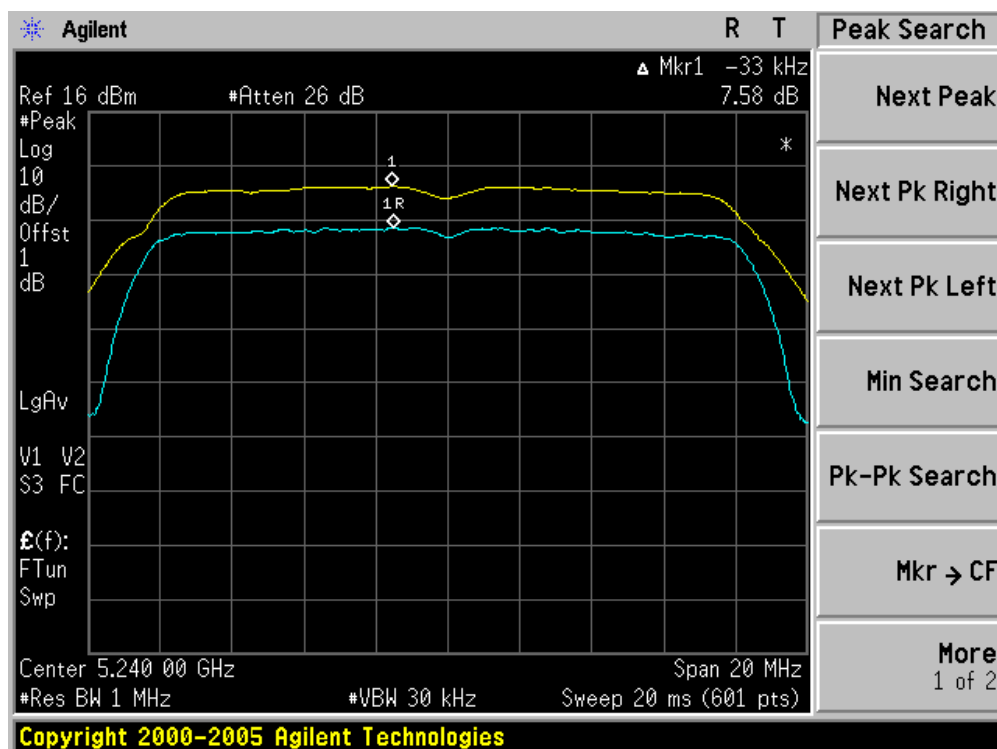
Channel 36 (5180MHz)



Channel 40 (5200MHz)



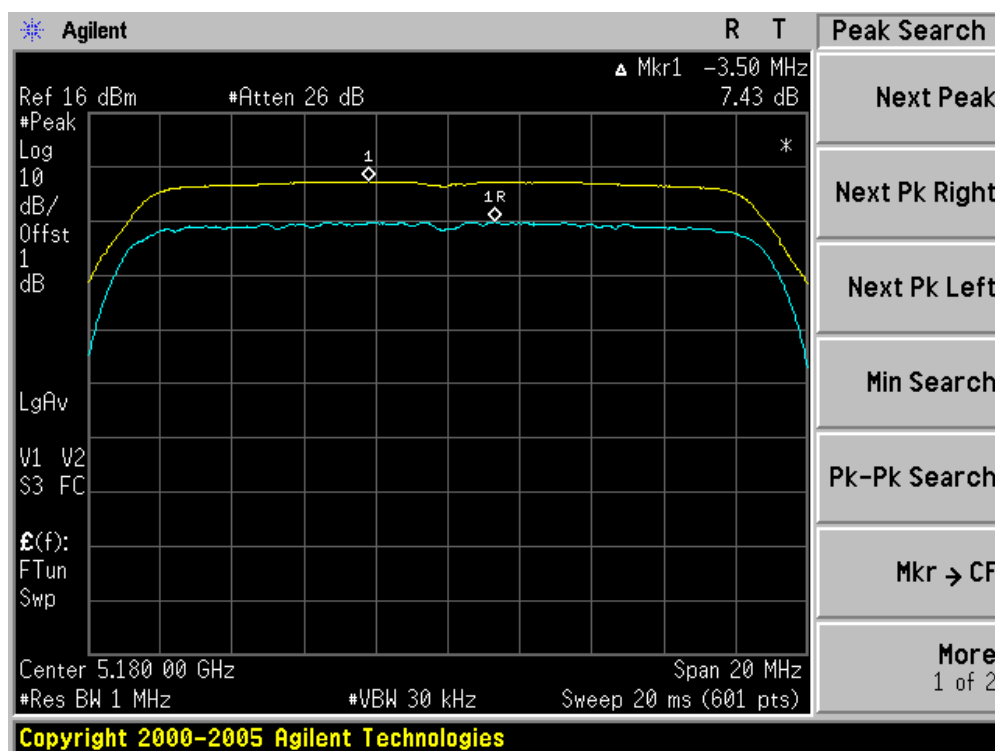
Channel 48 (5240MHz)



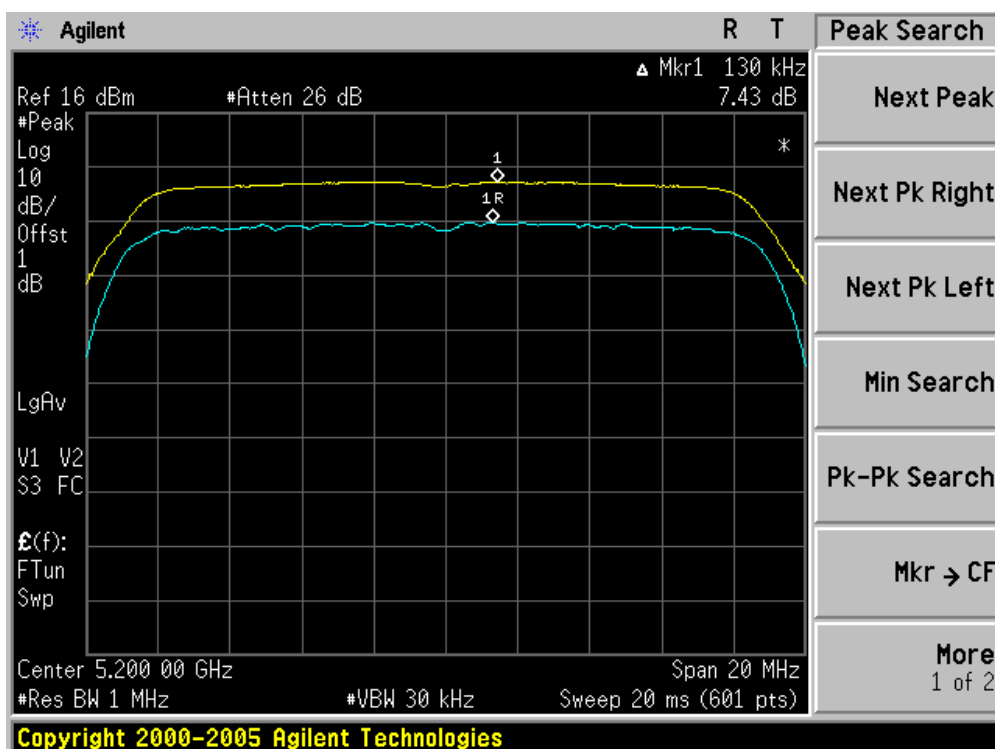
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Peak Excursion
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 0)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	7.43	13	Pass
40	5200	7.43	13	Pass
48	5240	7.38	13	Pass

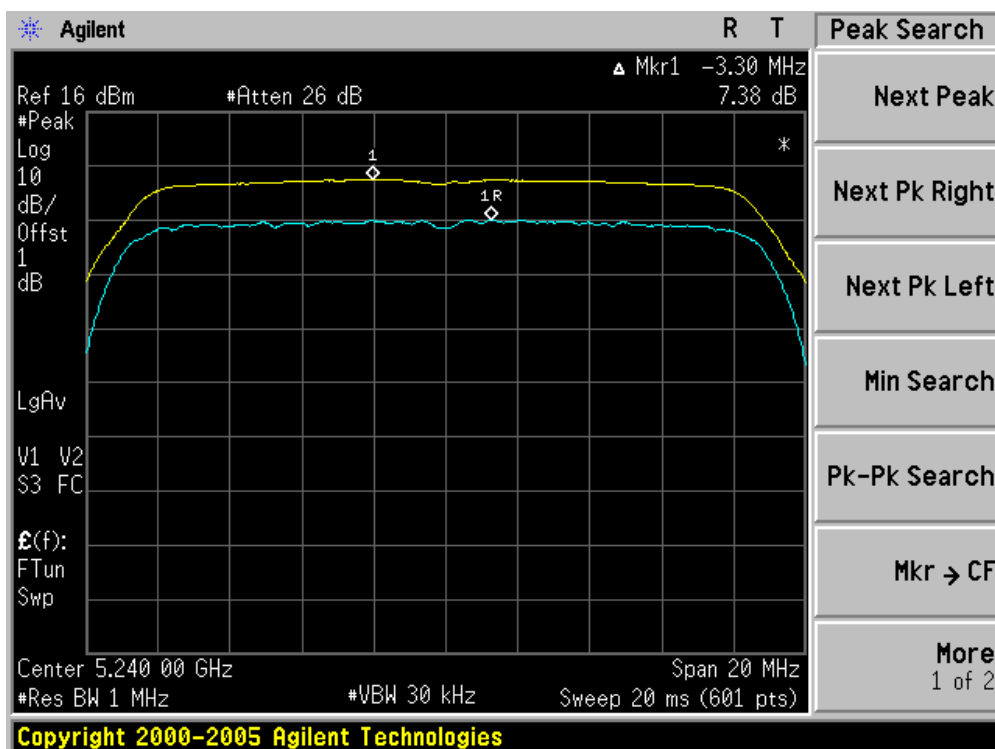
Channel 36 (5180MHz)



Channel 40 (5200MHz)



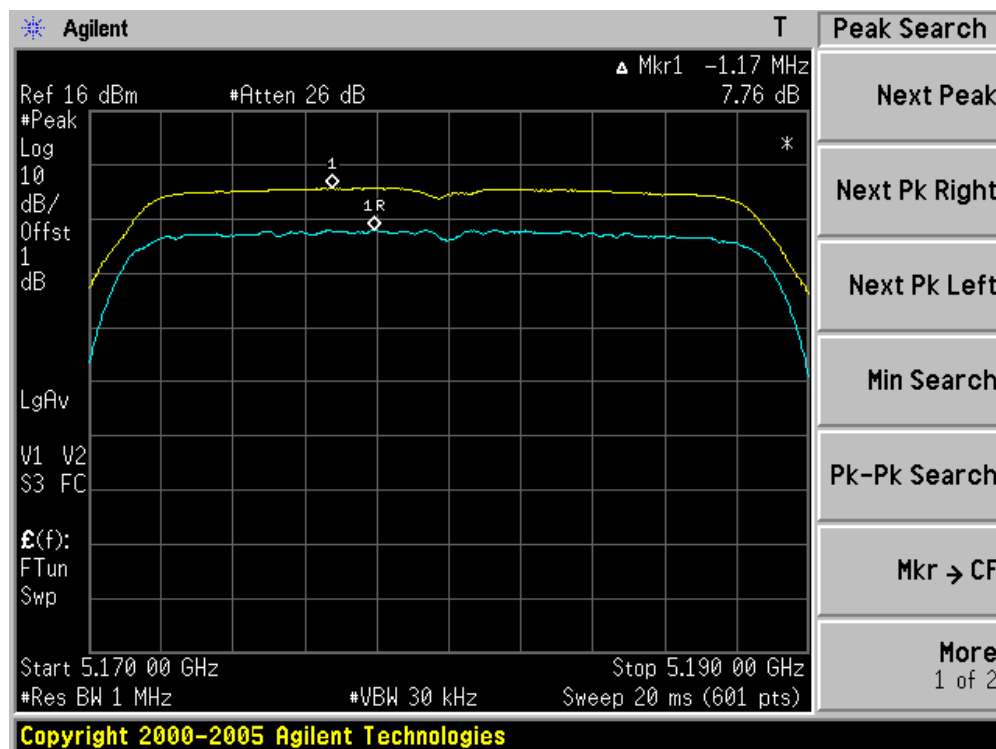
Channel 48 (5240MHz)



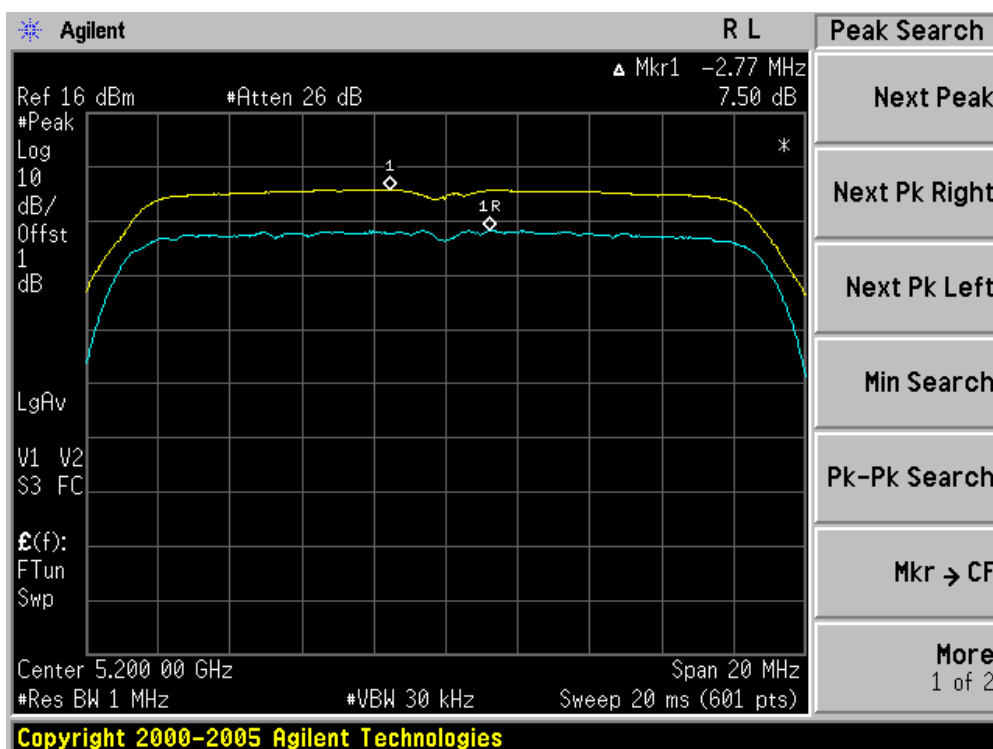
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Peak Excursion
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz Bandwidth) (Chain 1)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	7.76	13	Pass
40	5200	7.50	13	Pass
48	5240	7.51	13	Pass

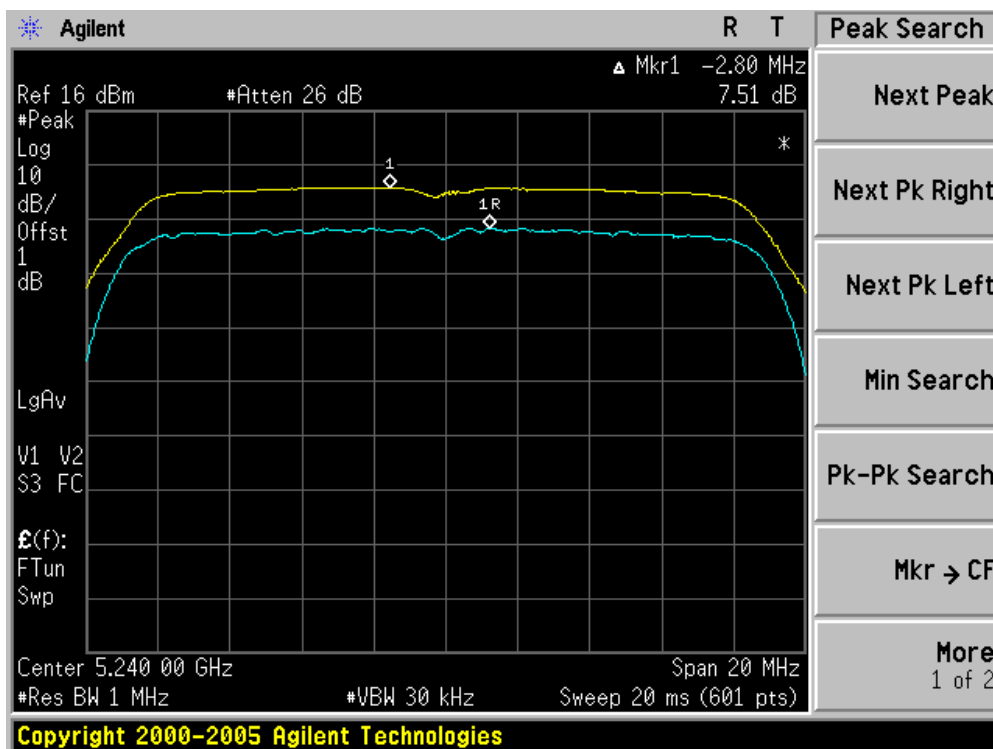
Channel 36 (5180MHz)



Channel 40 (5200MHz)



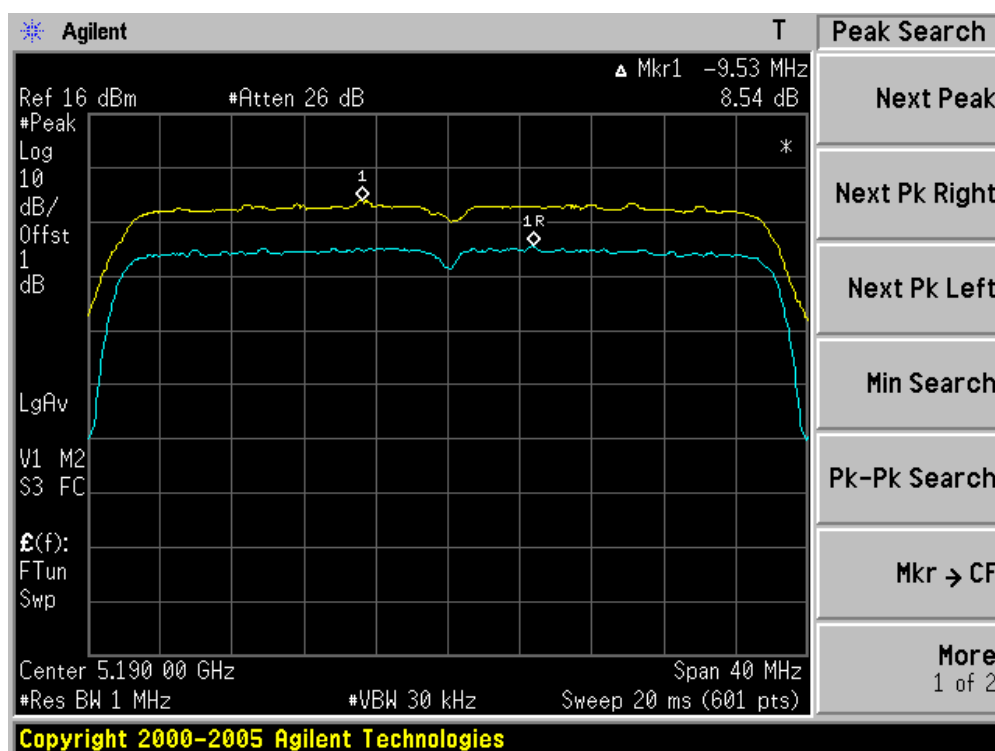
Channel 48 (5240MHz)



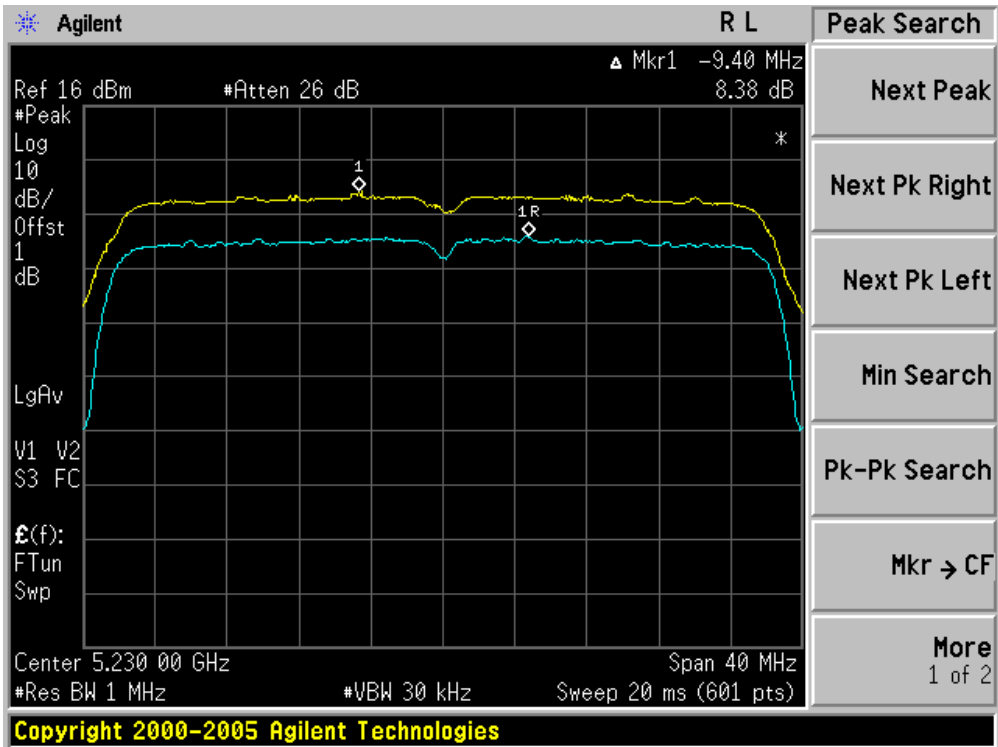
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Peak Excursion
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 0)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
38	5190	8.54	13	Pass
46	5230	8.38	13	Pass

Channel 38 (5190MHz)



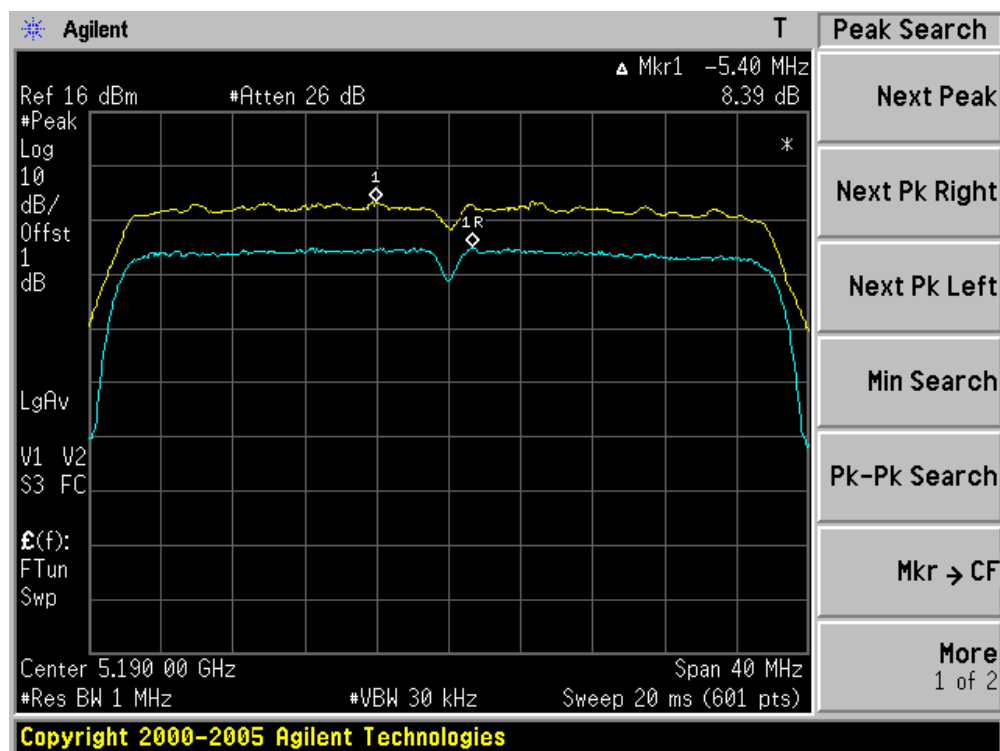
Channel 46 (5230MHz)



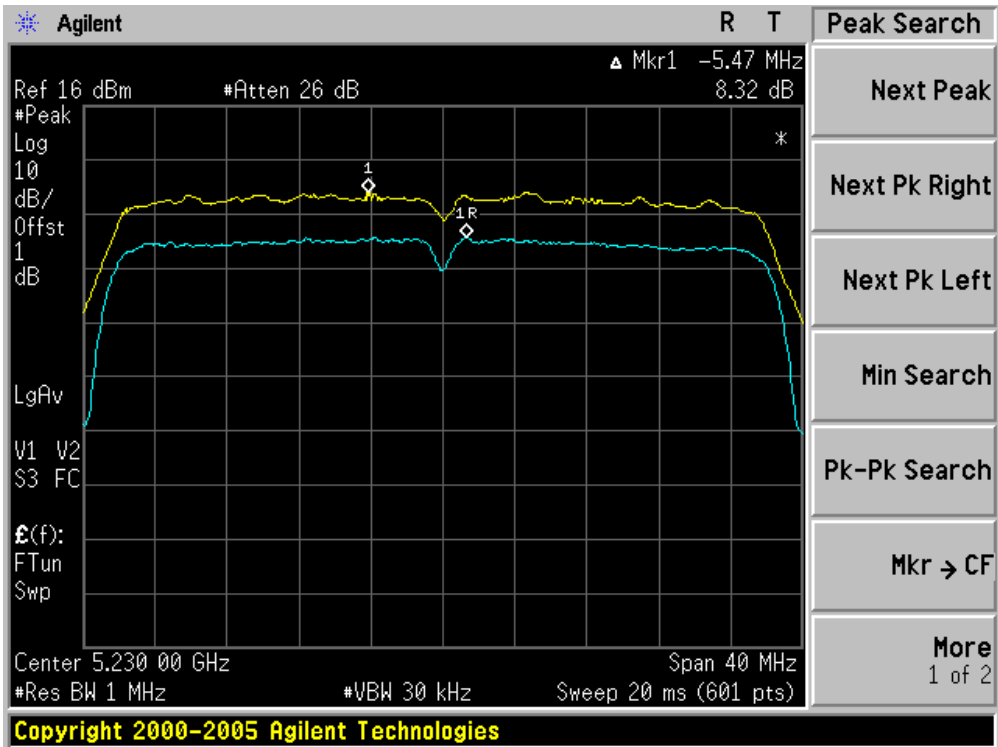
Product	:	Flip Share TV (Set Top Box)
Test Item	:	Peak Excursion
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz Bandwidth) (Chain 1)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
38	5190	8.39	13	Pass
46	5230	8.32	13	Pass

Channel 38 (5190MHz)



Channel 46 (5230MHz)



10. Radiated Emission Band Edge

10.1. Test Equipment

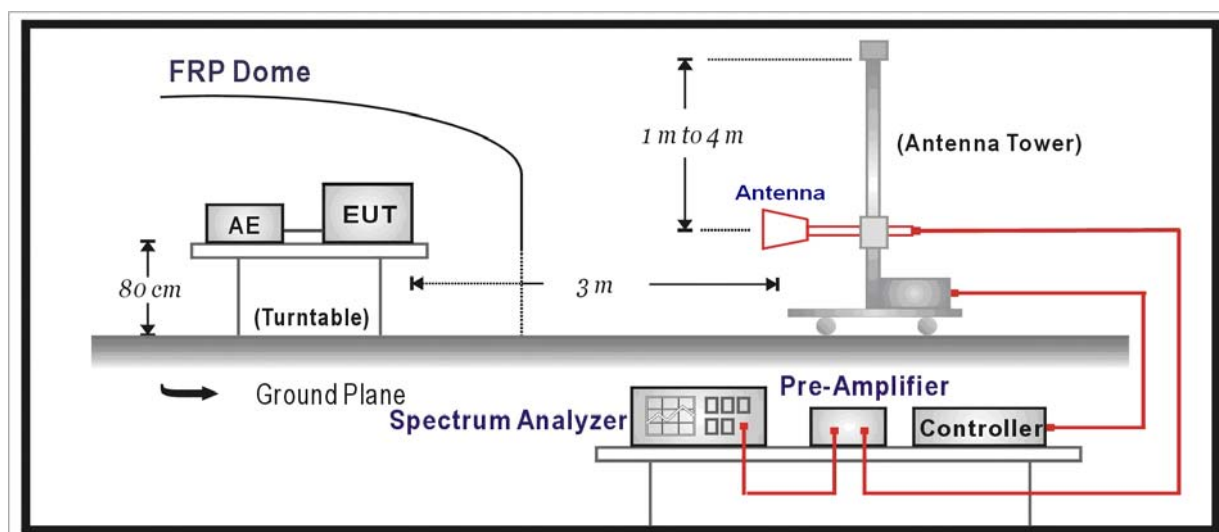
☒ Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/11/25
Coaxial Cable	Huber+Suhner	AC2-C	04	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2009/03/31

Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Note 2: The test instruments marked with "X" are used to measure the final test results.

10.2. Test Setup



10.3. Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)

For 15.407(b) requirement:

- For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.
- For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27dBm/MHz in the 5.15-5.25 GHz band.
- For transmitters operating in the 5.47-5.725 GHz band: all emission outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.
- For transmitters operating in the 5.725-5.825 GHz band: all emission within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz.

Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBuV/m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3
5725 - 5825	-27 [Note(1)]	68.3
	-17 [Note(2)]	78.3
Note(1): Outside the frequency range 5715 - 5835MHz. Note(2): Within the frequency range from the band edge to 10MHz below or above the band edge, 5715 – 5725MHz and 5825 - 5835MHz.		

10.4. Test Procedure

The EUT was tested according to FCC Public Notice DA 02-2138, August 30, 2002 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.

Note: When doing emission measurement above 1GHz, the horn antenna will be bended down a little (as horn antenna has the narrow beamwidth) in order to keeping the antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 60 degrees for H-plane and 90 degrees for E-plane.

10.5. Uncertainty

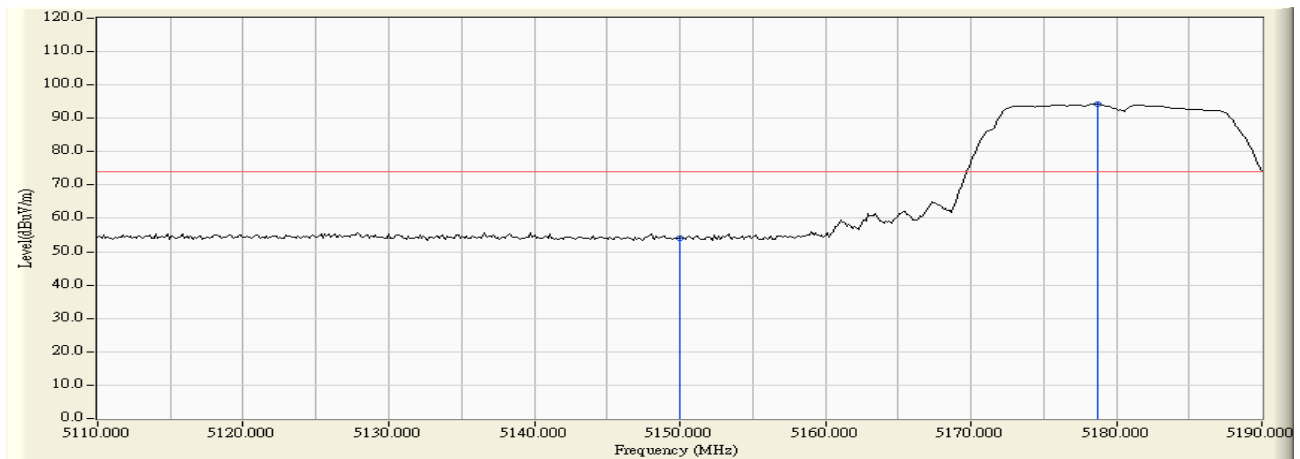
The measurement uncertainty above 1GHz is defined as ± 3.9 dB

10.6. Test Result

Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;

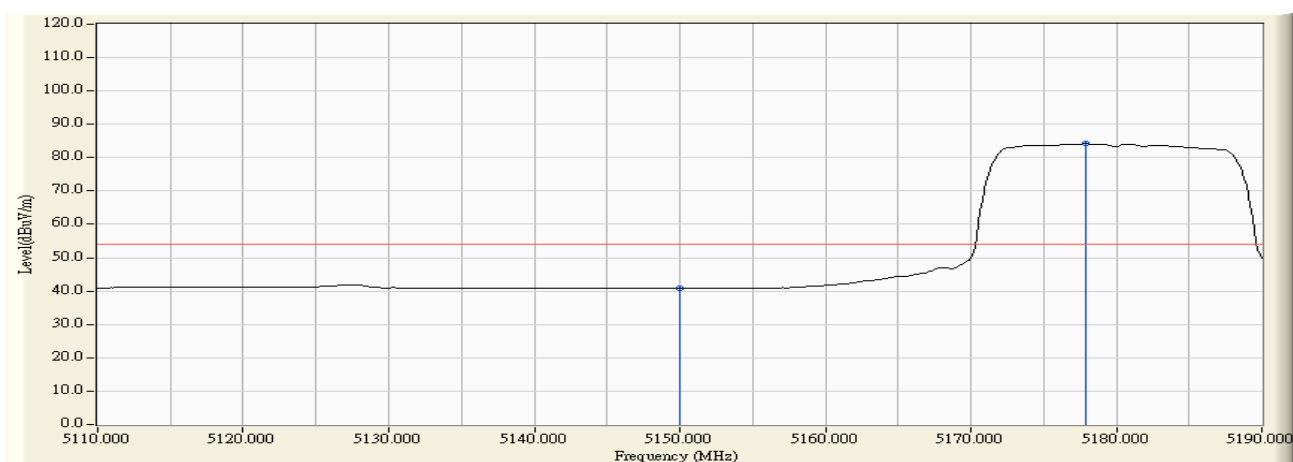
Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 09:59
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 1:Transmit at channel 5180MHz by 802.11a(Chain 0)



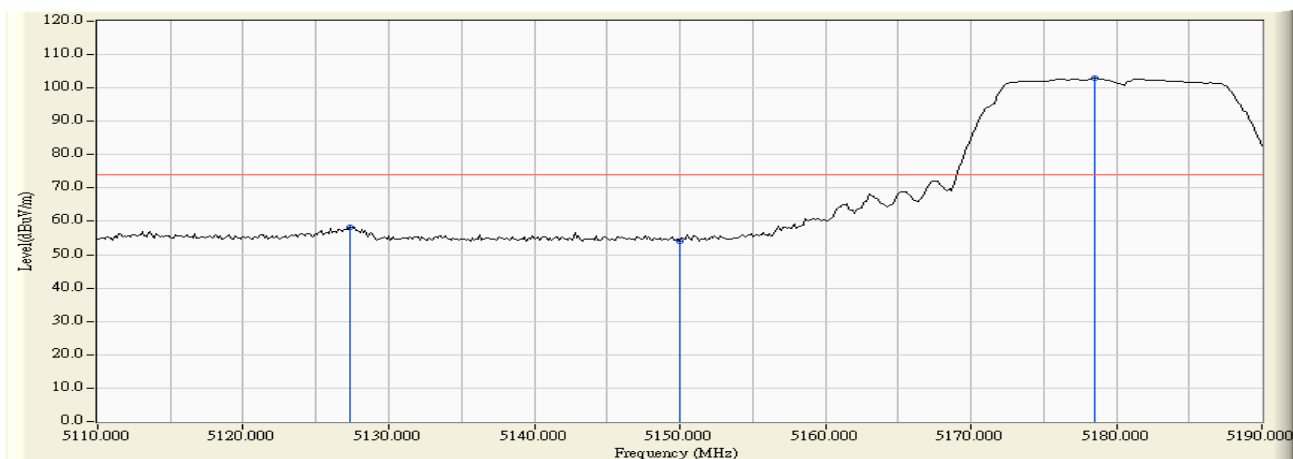
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	52.848	53.941	-20.029	73.970	PEAK
2	*	5178.667	1.134	93.053	94.187	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:00
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 1:Transmit at channel 5180MHz by 802.11a(Chain 0)



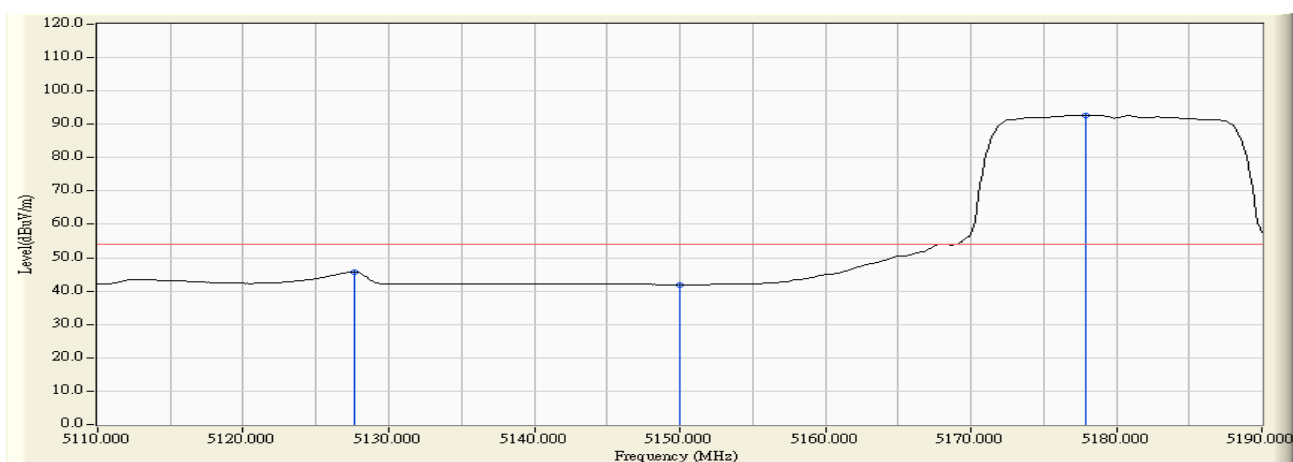
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	39.687	40.780	-13.190	53.970	AVERAGE
2	*	5177.867	1.134	83.010	84.143	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 1:Transmit at channel 5180MHz by 802.11a(Chain 0)



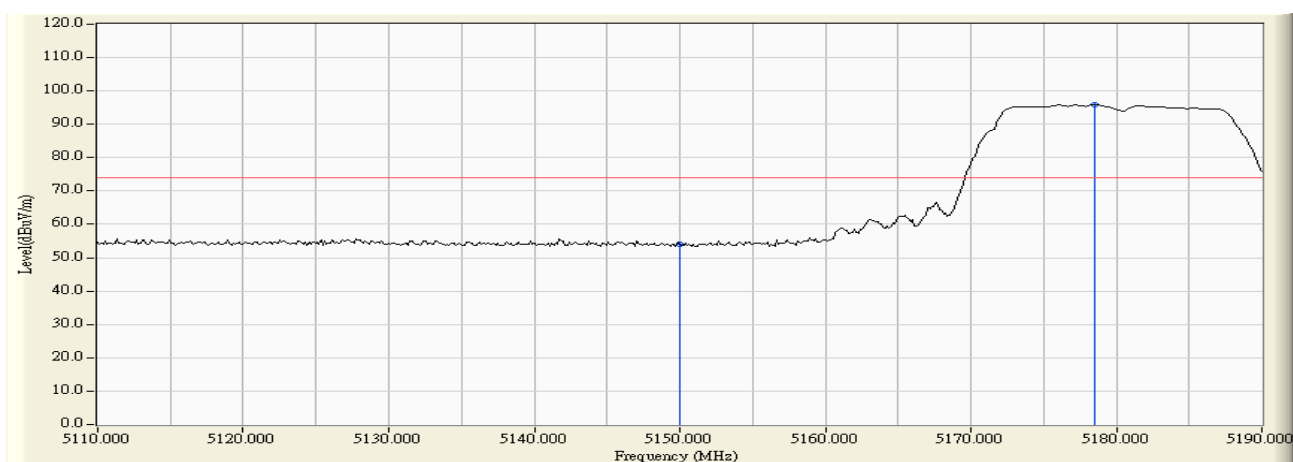
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5127.333	1.049	57.215	58.264	-15.706	73.970	PEAK
2		5150.000	1.093	53.026	54.119	-19.851	73.970	PEAK
3	*	5178.533	1.134	101.740	102.874	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:04
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 1:Transmit at channel 5180MHz by 802.11a(Chain 0)



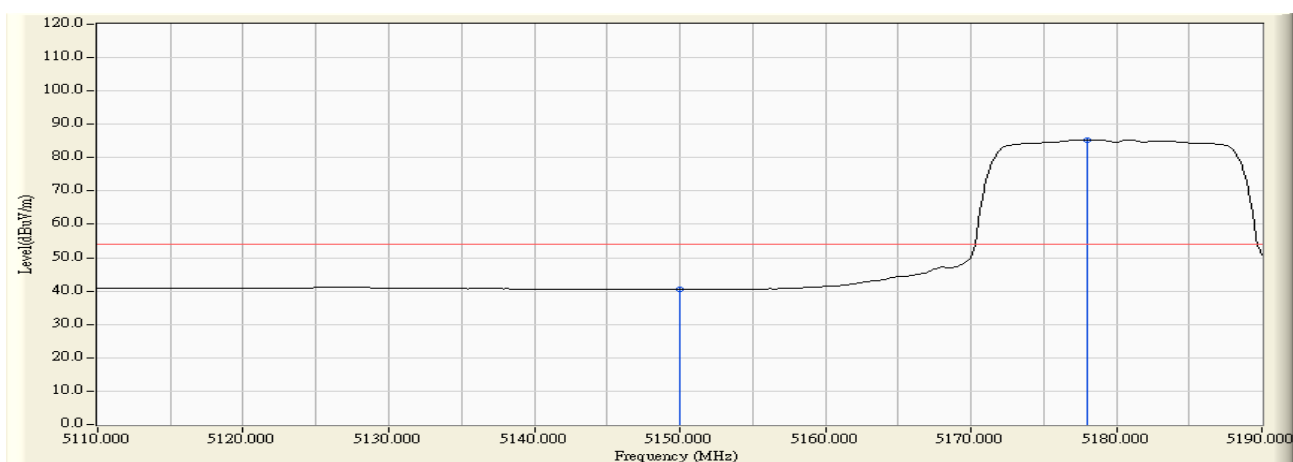
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5127.600	1.050	44.651	45.701	-8.269	53.970	AVERAGE
2		5150.000	1.093	40.835	41.928	-12.042	53.970	AVERAGE
3	*	5177.867	1.134	91.528	92.661	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 0)



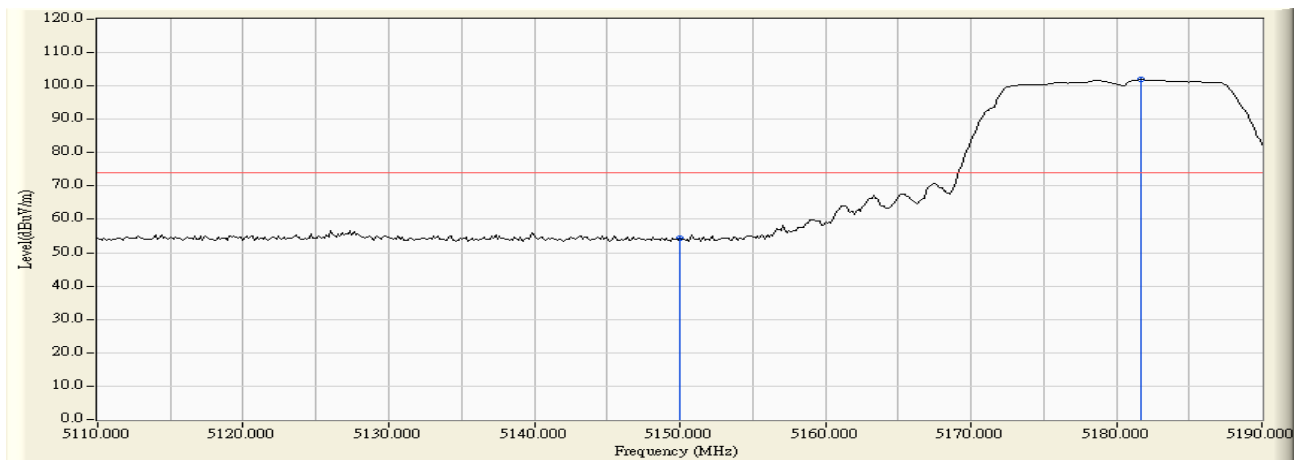
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	52.798	53.891	-20.079	73.970	PEAK
2	*	5178.533	1.134	94.710	95.844	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 0)



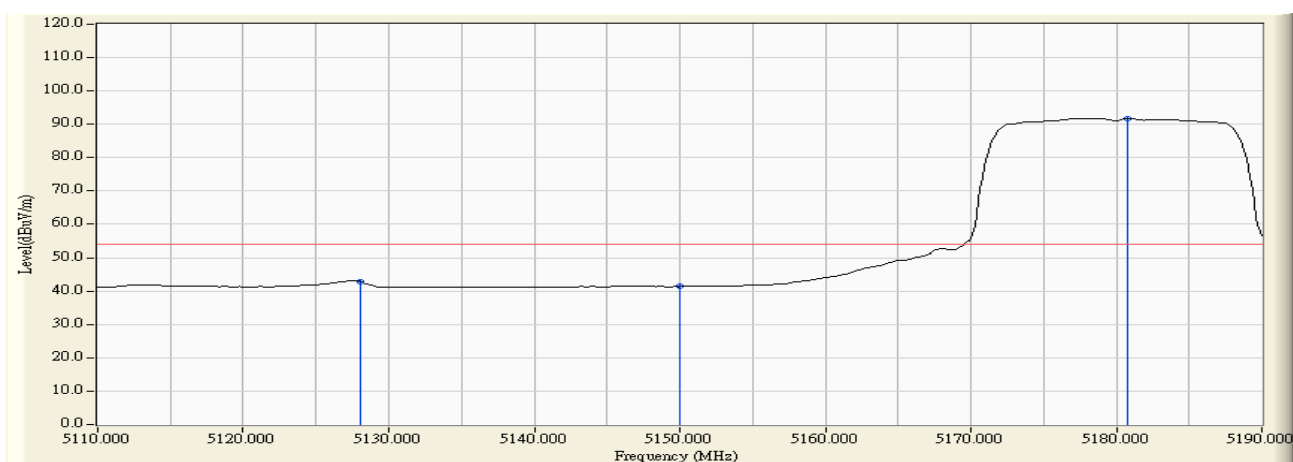
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	39.448	40.541	-13.429	53.970	AVERAGE
2	*	5178.000	1.134	84.124	85.257	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:12
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 0)



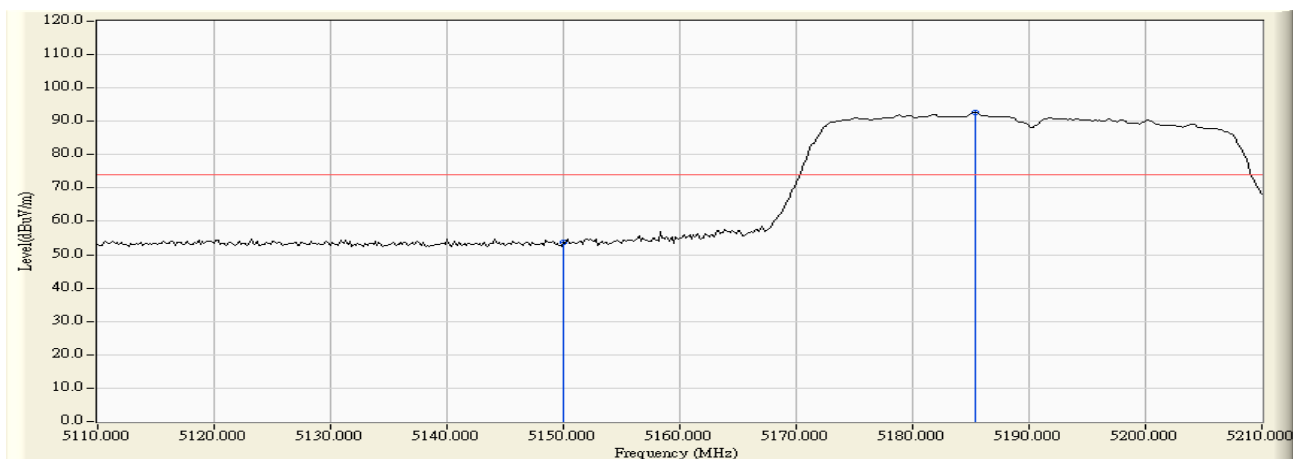
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	53.436	54.529	-19.441	73.970	PEAK
2	*	5181.733	1.139	100.705	101.844	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:12
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 0)



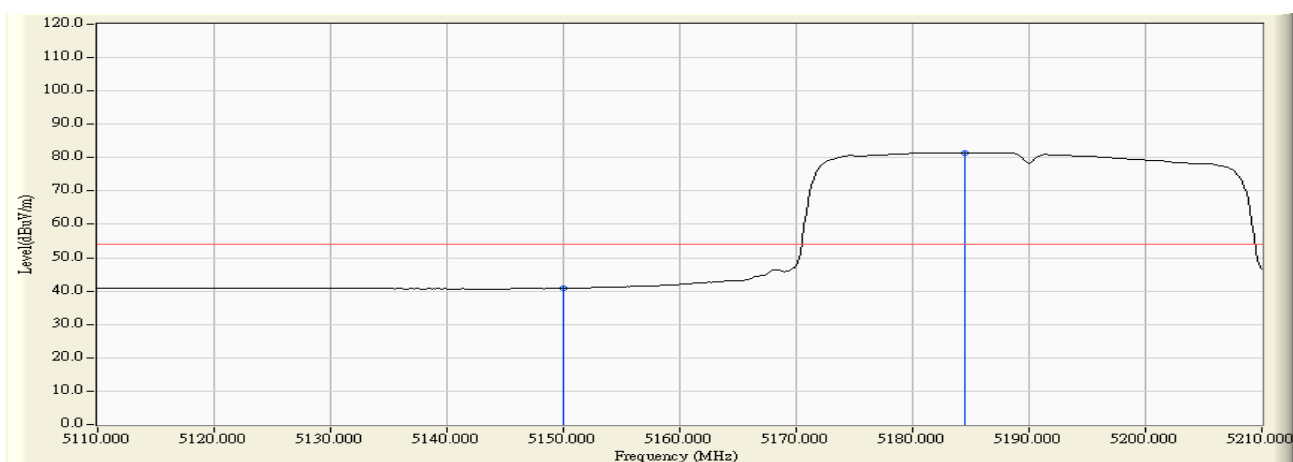
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5128.000	1.050	41.854	42.905	-11.065	53.970	AVERAGE
2		5150.000	1.093	40.261	41.354	-12.616	53.970	AVERAGE
3	*	5180.800	1.137	90.557	91.695	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:19
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 0)



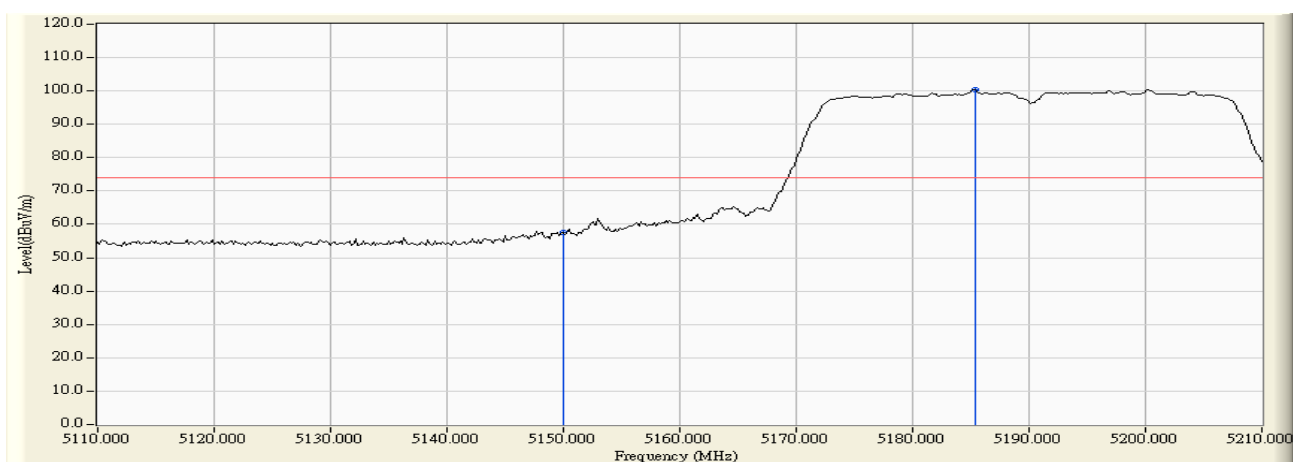
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	52.527	53.620	-20.350	73.970	PEAK
2	*	5185.333	1.143	91.540	92.682	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:19
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 0)



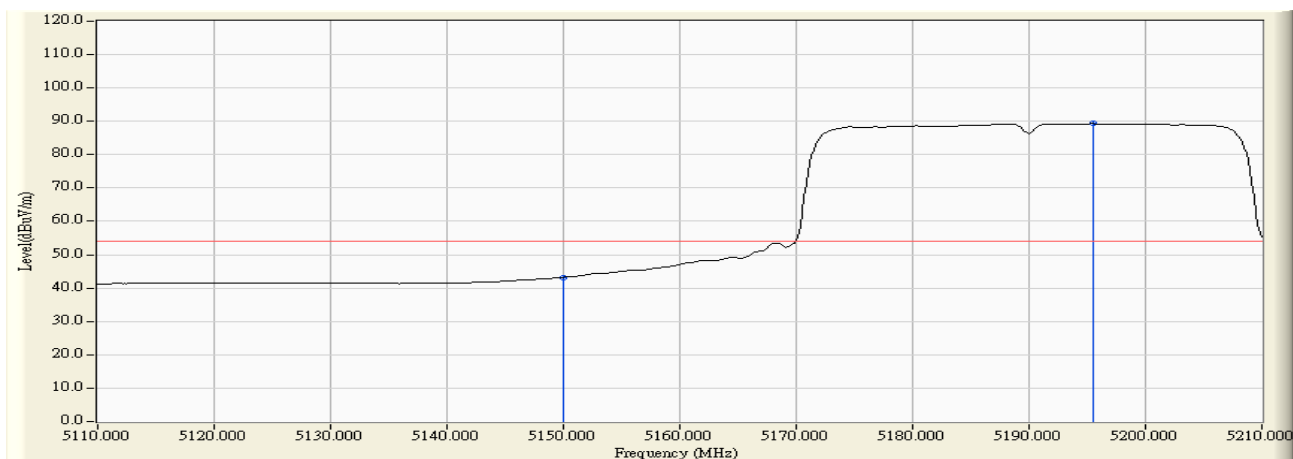
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	39.682	40.775	-13.195	53.970	AVERAGE
2	*	5184.500	1.141	80.397	81.539	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 0)



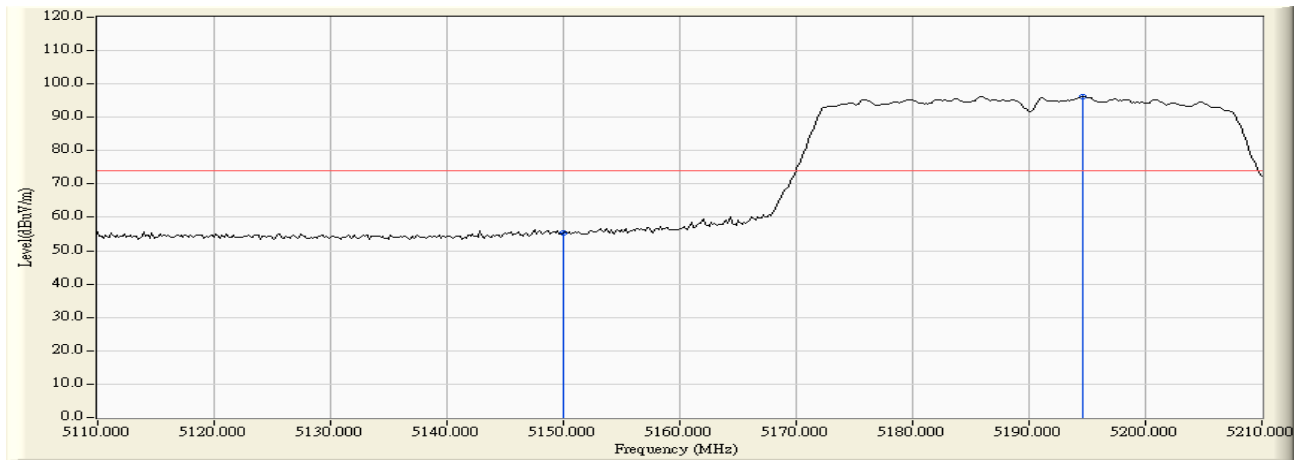
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	56.472	57.565	-16.405	73.970	PEAK
2	*	5185.333	1.143	99.270	100.412	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:21
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 0)



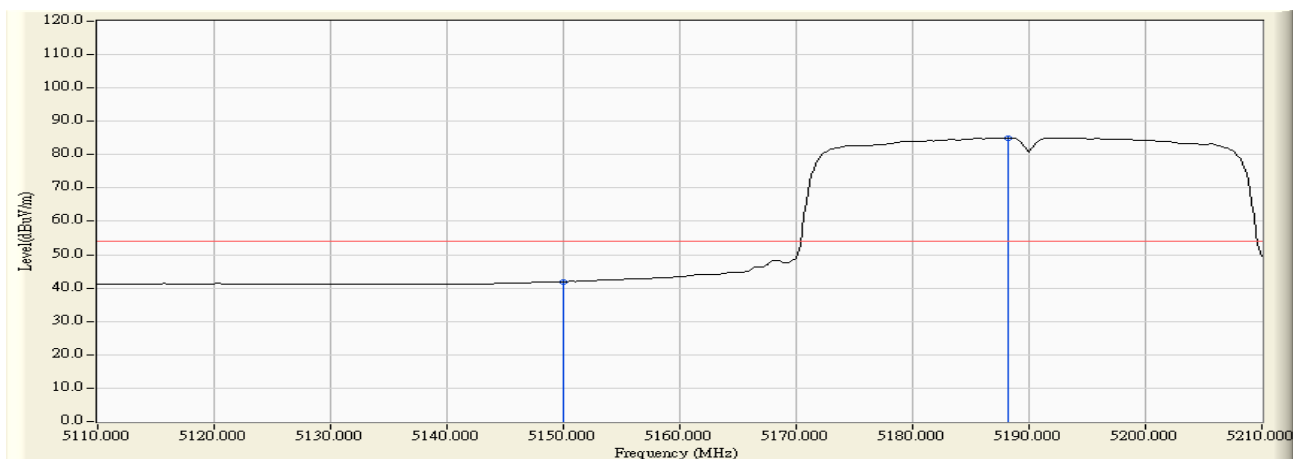
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	42.162	43.255	-10.715	53.970	AVERAGE
2	*	5195.500	1.152	88.133	89.285	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:24
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 1)



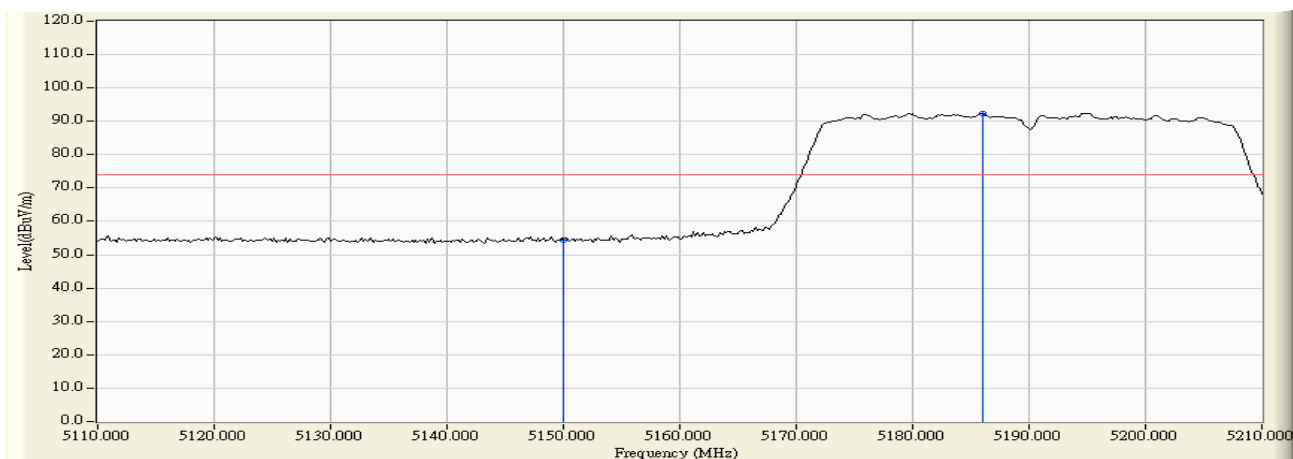
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	54.335	55.428	-18.542	73.970	PEAK
2	*	5194.667	1.151	95.134	96.285	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:24
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 1)



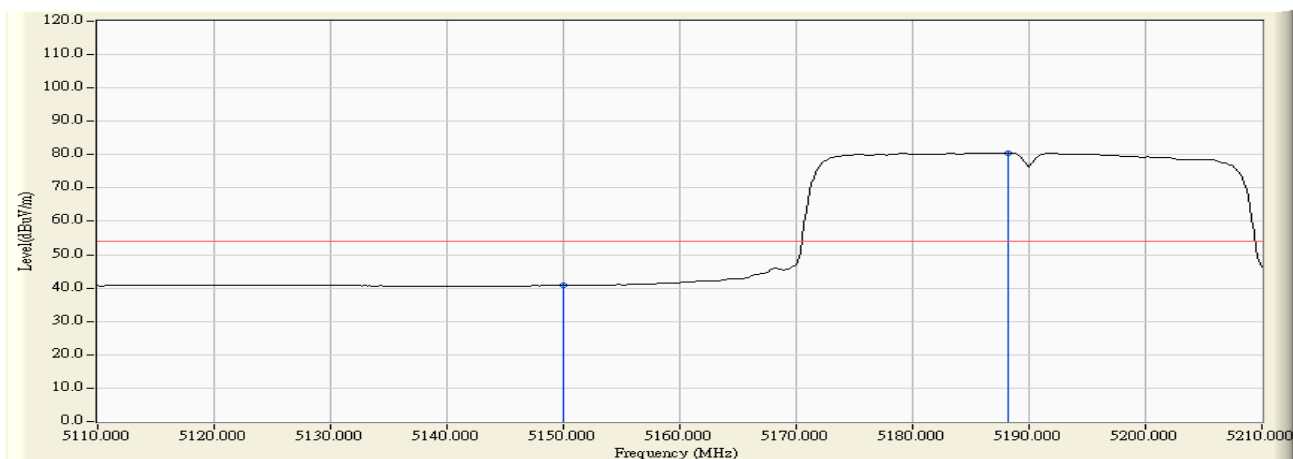
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	40.791	41.884	-12.086	53.970	AVERAGE
2	*	5188.167	1.146	83.910	85.055	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:28
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 1)



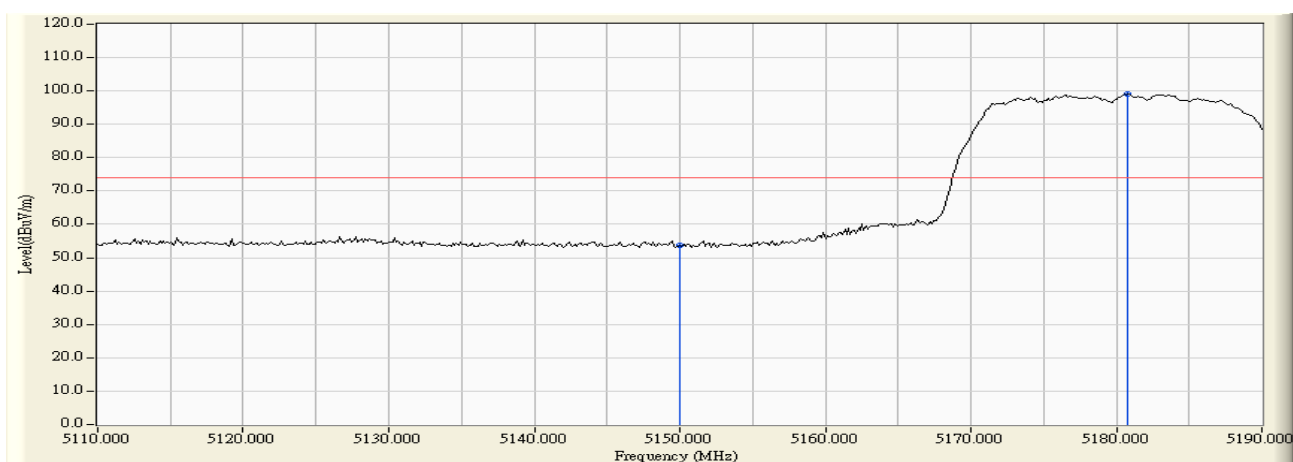
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	53.248	54.341	-19.629	73.970	PEAK
2	*	5186.000	1.142	91.171	92.314	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:28
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 1)



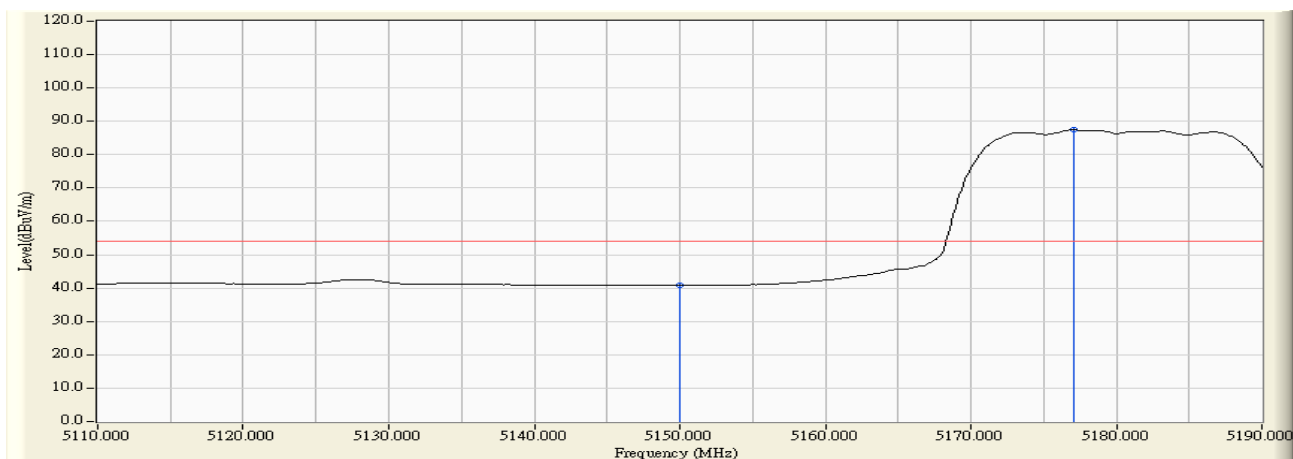
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	39.671	40.764	-13.206	53.970	AVERAGE
2	*	5188.167	1.146	79.413	80.558	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:32
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 1)



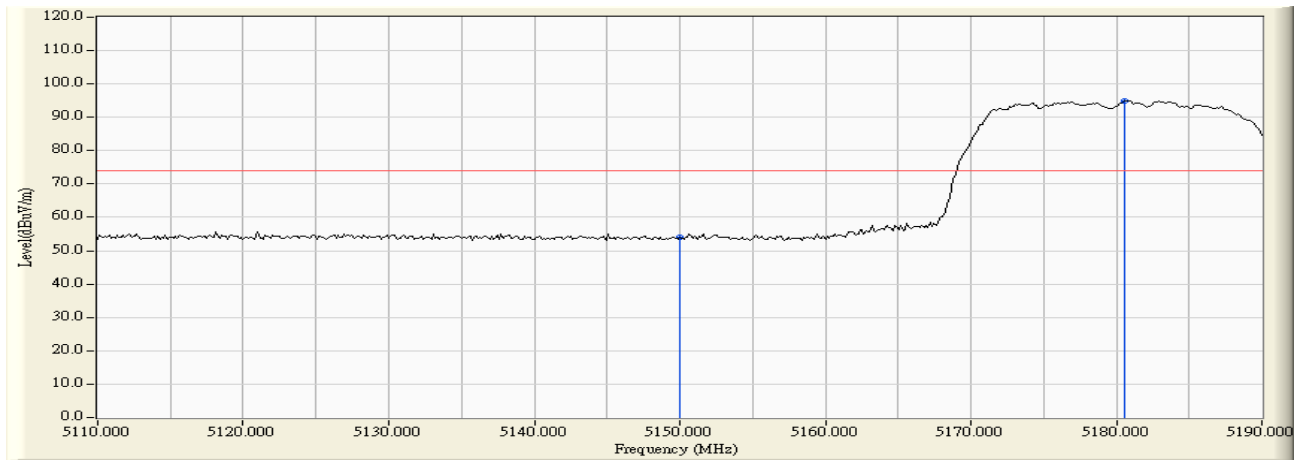
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	52.562	53.655	-20.315	73.970	PEAK
2	*	5180.800	1.137	98.008	99.146	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:33
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 1)



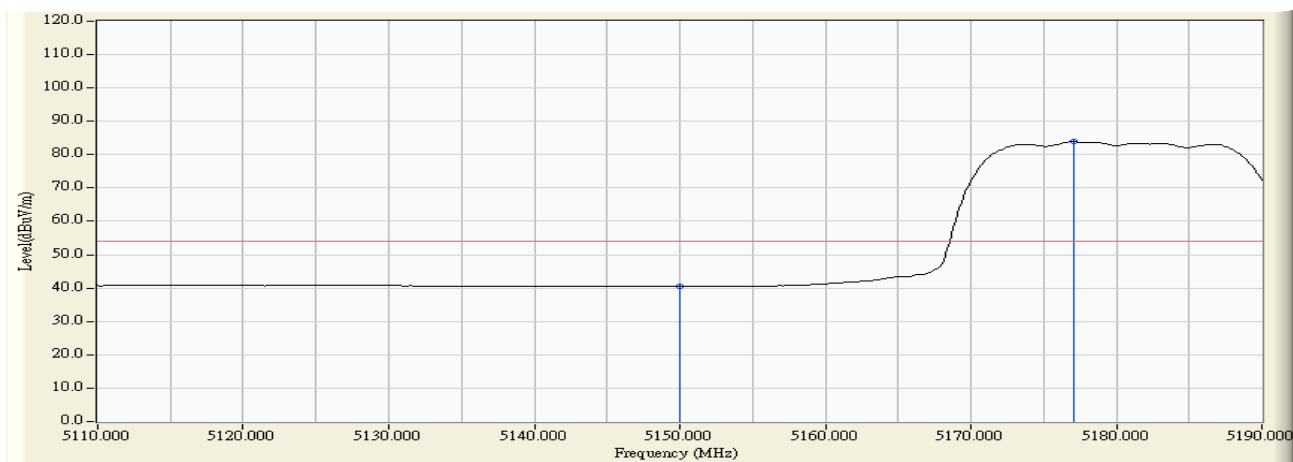
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	39.730	40.823	-13.147	53.970	AVERAGE
2	*	5177.067	1.131	86.232	87.364	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:35
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 1)



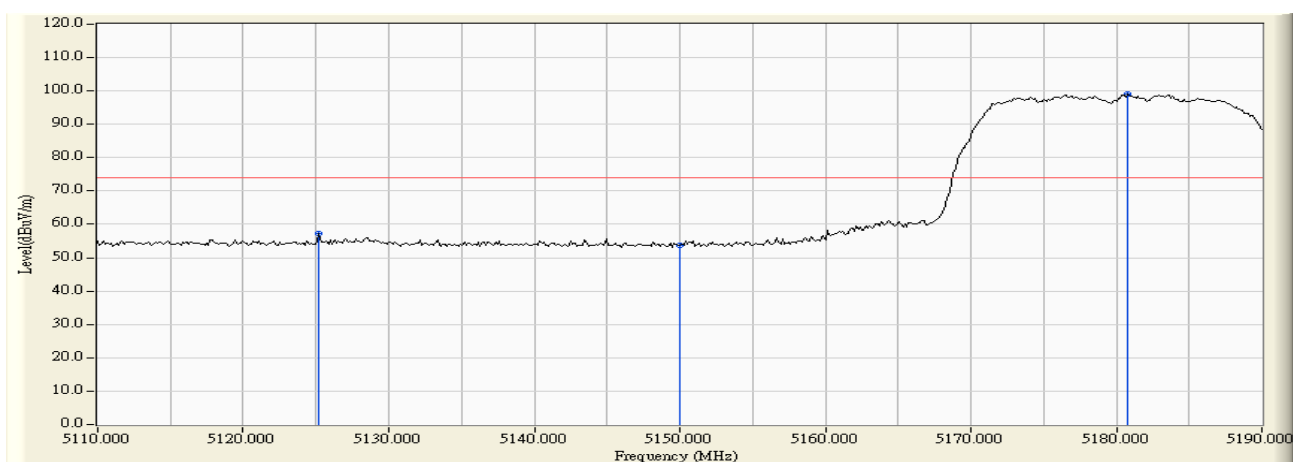
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	52.966	54.059	-19.911	73.970	PEAK
2	*	5180.533	1.137	93.718	94.855	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:35
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 1)



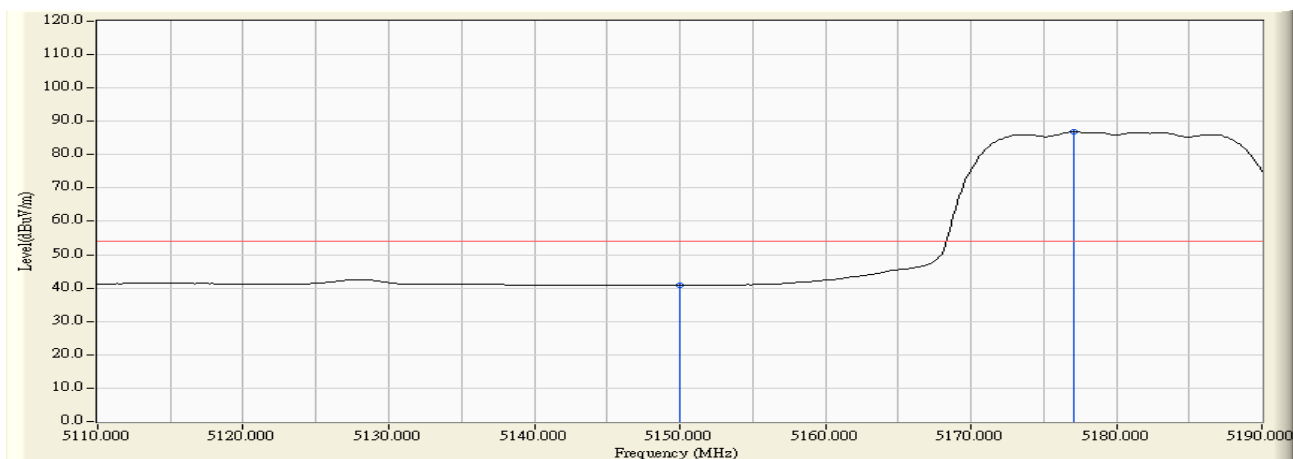
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	39.391	40.484	-13.486	53.970	AVERAGE
2	*	5177.067	1.131	82.695	83.827	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:39
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 1:Transmit at channel 5180MHz by 802.11a(Chain 1)



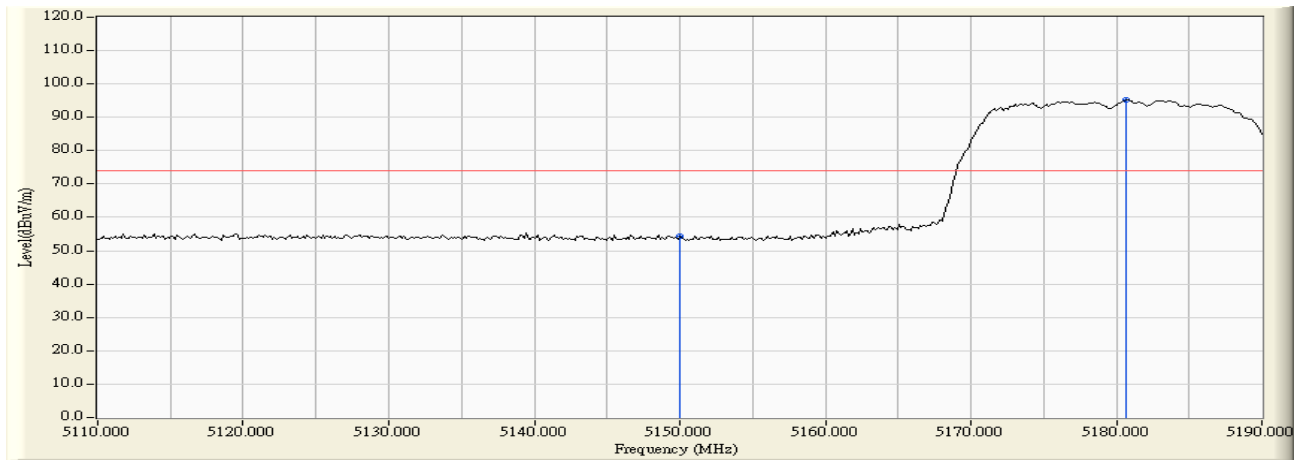
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5125.200	1.043	56.321	57.365	-16.605	73.970	PEAK
2		5150.000	1.093	52.669	53.762	-20.208	73.970	PEAK
3	*	5180.800	1.137	97.796	98.934	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:40
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 1:Transmit at channel 5180MHz by 802.11a(Chain 1)



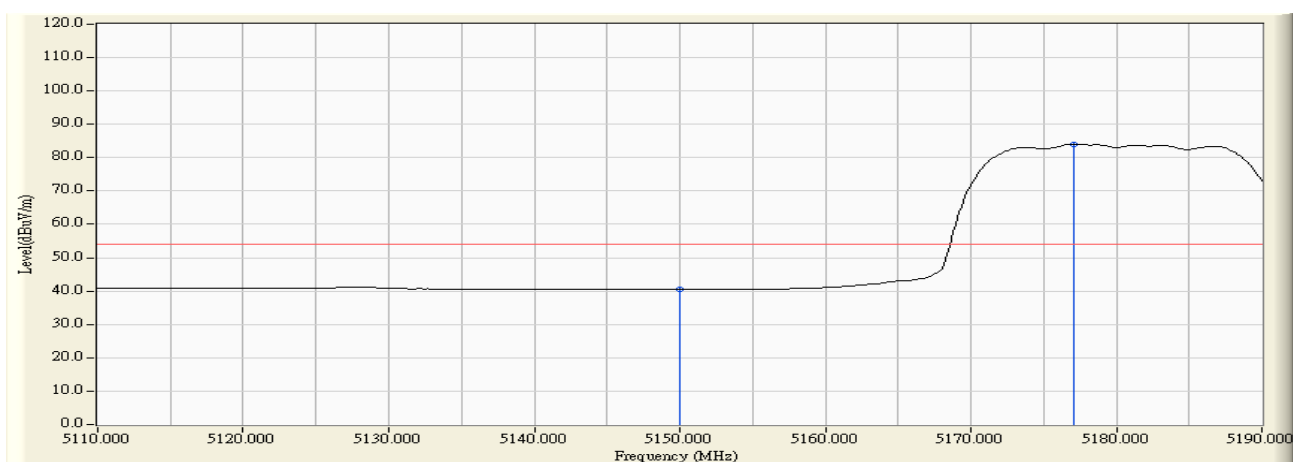
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	39.776	40.869	-13.101	53.970	AVERAGE
2	*	5177.067	1.131	85.618	86.750	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:42
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 1:Transmit at channel 5180MHz by 802.11a(Chain 1)



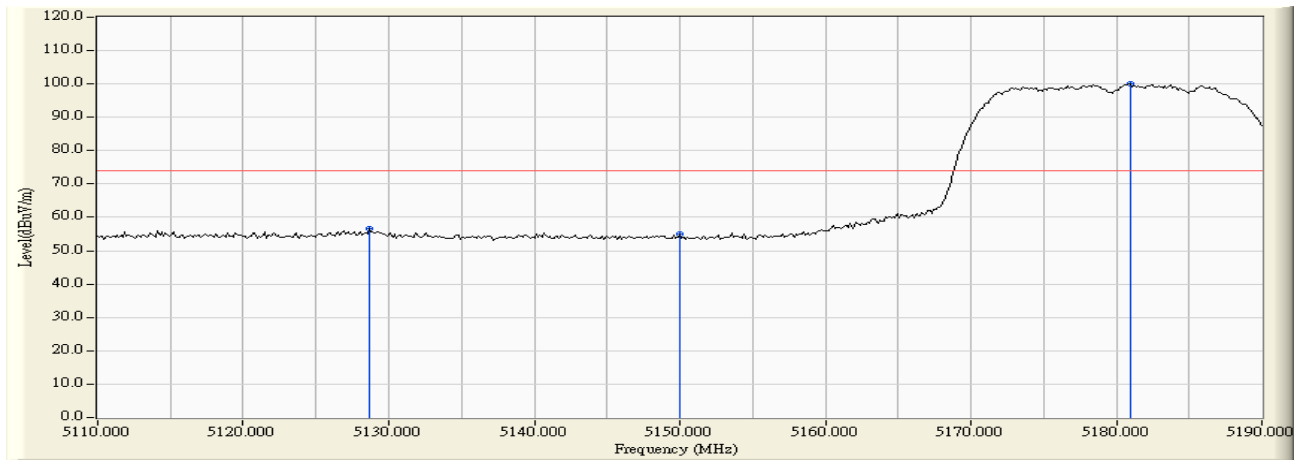
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	53.225	54.318	-19.652	73.970	PEAK
2	*	5180.667	1.137	93.984	95.121	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:43
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 1:Transmit at channel 5180MHz by 802.11a(Chain 1)



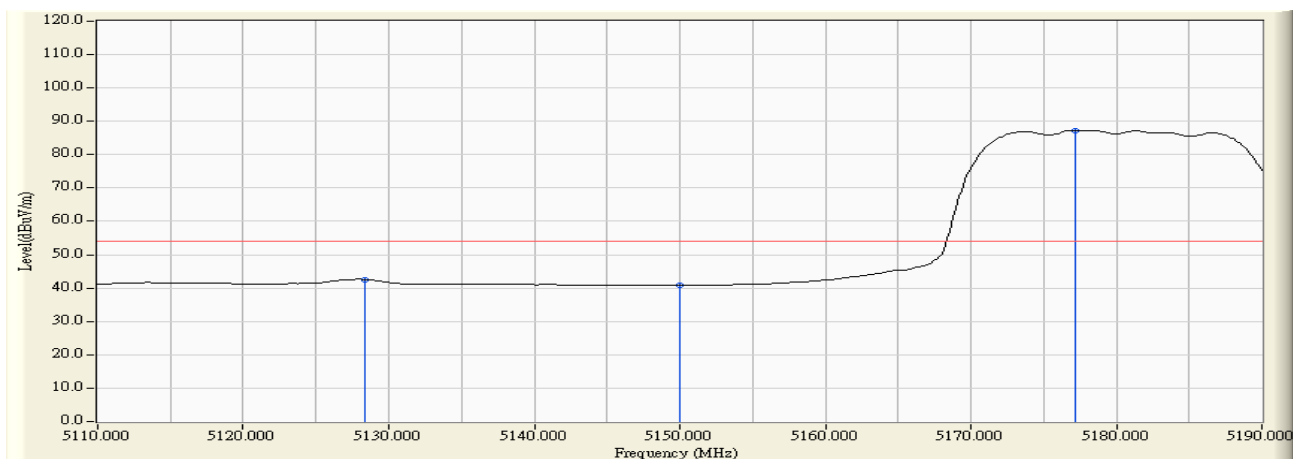
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	39.346	40.439	-13.531	53.970	AVERAGE
2	*	5177.067	1.131	82.899	84.031	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:47
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 0+1)



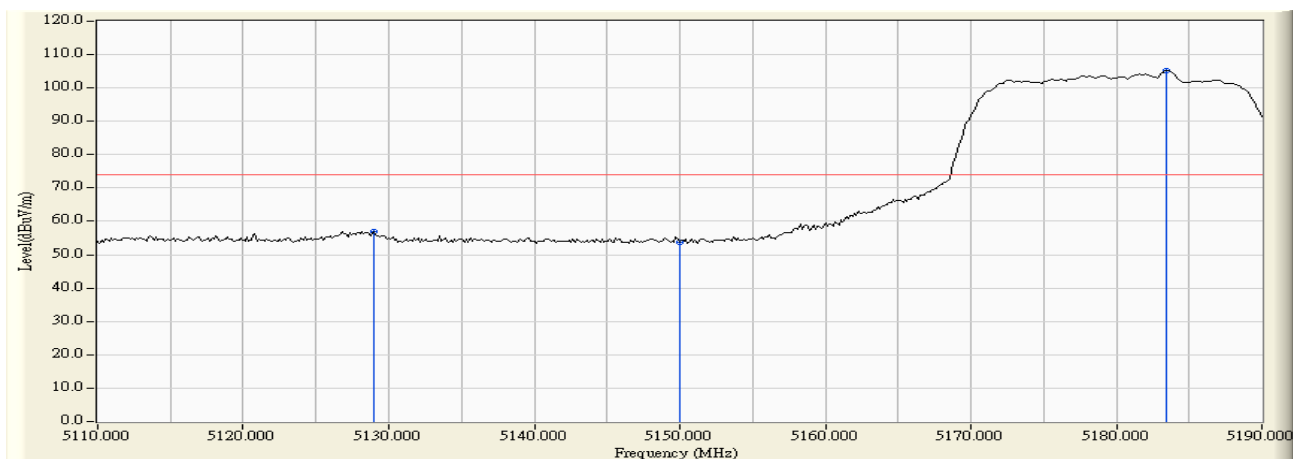
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5128.667	1.052	55.542	56.594	-17.376	73.970	PEAK
2		5150.000	1.093	53.762	54.855	-19.115	73.970	PEAK
3	*	5180.933	1.138	98.835	99.973	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:48
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 0+1)



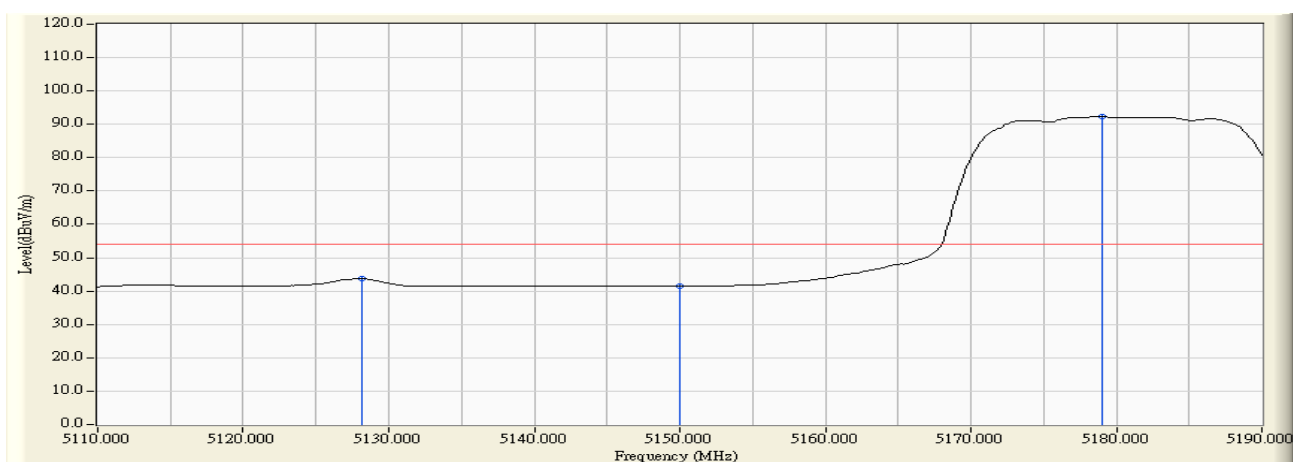
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5128.400	1.052	41.501	42.553	-11.417	53.970	AVERAGE
2		5150.000	1.093	39.791	40.884	-13.086	53.970	AVERAGE
3	*	5177.200	1.132	86.140	87.272	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:49
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 0+1)



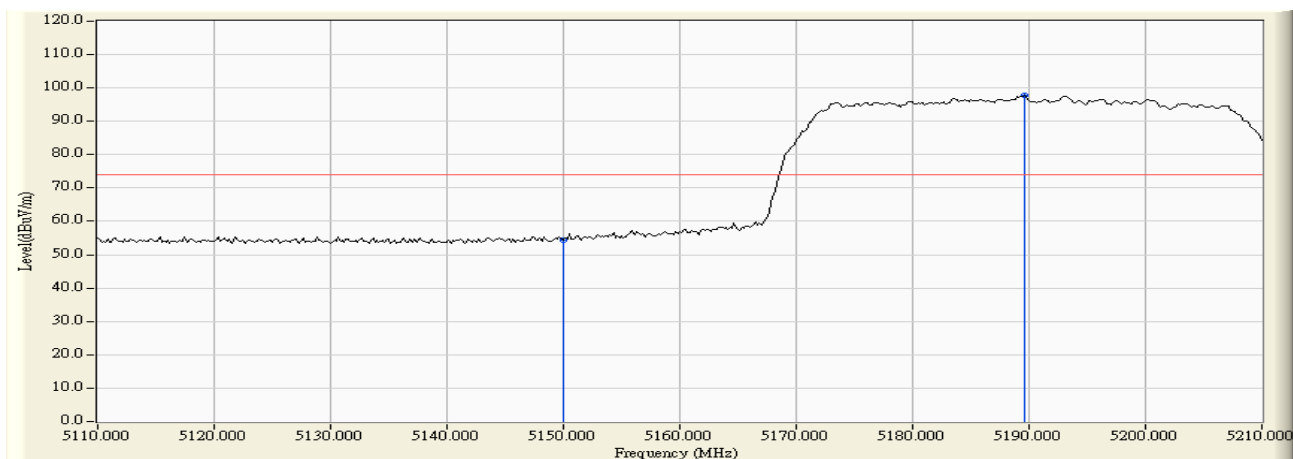
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5128.933	1.053	55.933	56.986	-16.984	73.970	PEAK
2		5150.000	1.093	52.689	53.782	-20.188	73.970	PEAK
3	*	5183.467	1.140	104.042	105.183	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:50
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 2:Transmit at channel 5180MHz by 802.11n(20MHz)(Chain 0+1)



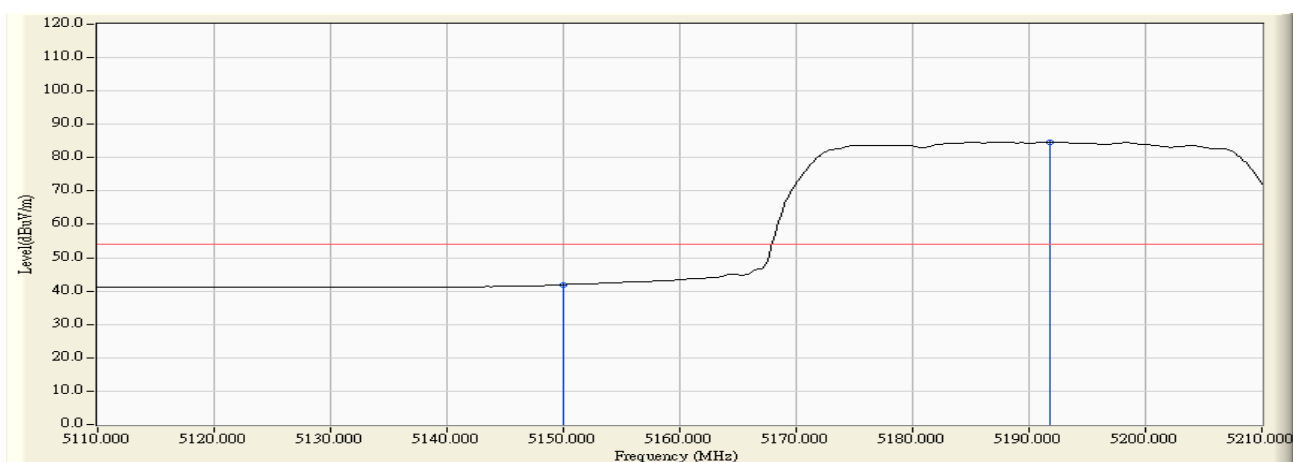
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5128.133	1.052	42.584	43.635	-10.335	53.970	AVERAGE
2		5150.000	1.093	40.315	41.408	-12.562	53.970	AVERAGE
3	*	5179.067	1.134	91.096	92.231	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:53
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 0+1)



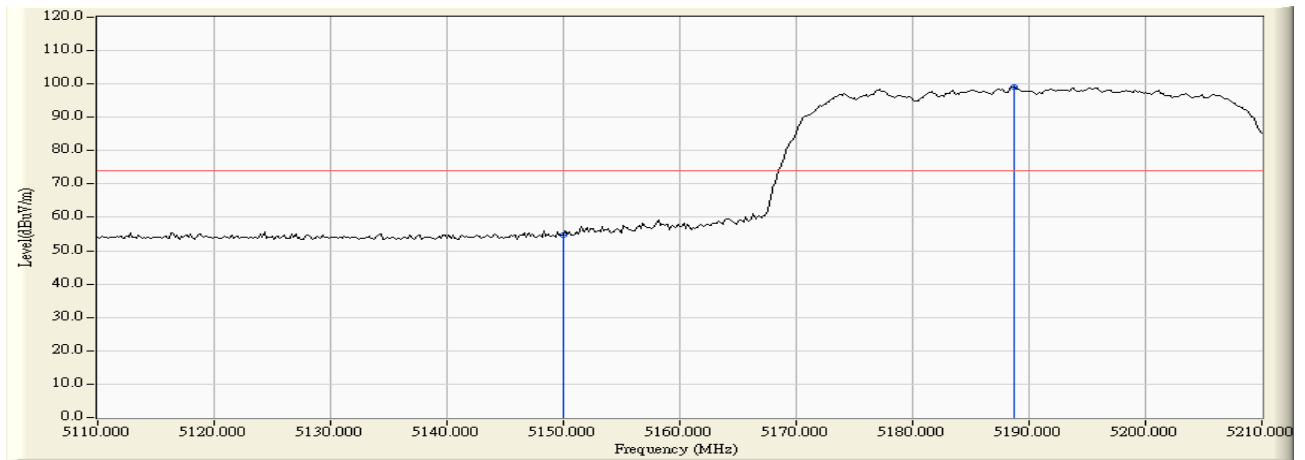
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	53.282	54.375	-19.595	73.970	PEAK
2	*	5189.667	1.147	96.674	97.820	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:54
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 0+1)



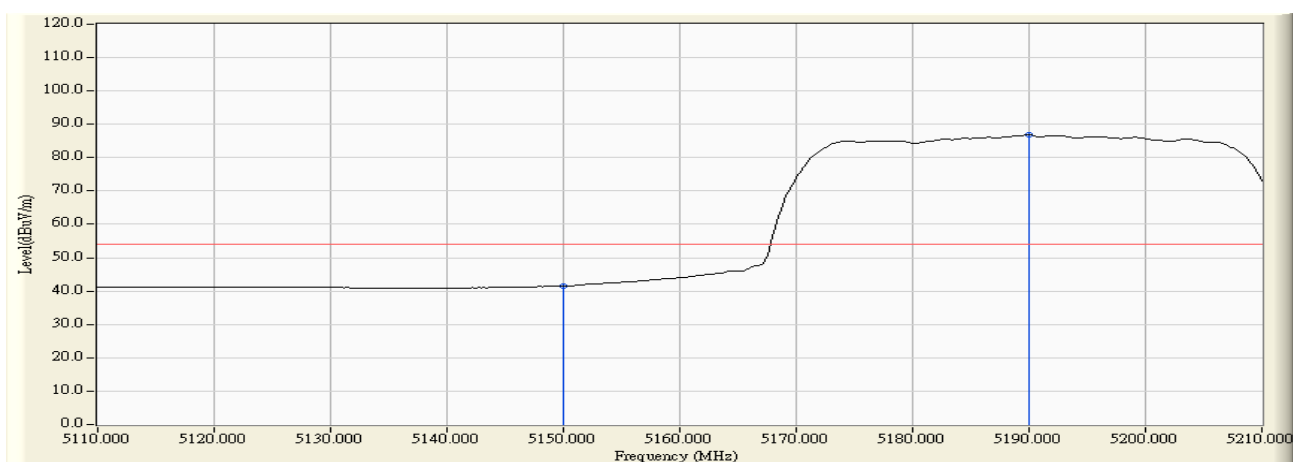
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	40.801	41.894	-12.076	53.970	AVERAGE
2	*	5191.833	1.149	83.595	84.743	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:55
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 0+1)



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	53.461	54.554	-19.416	73.970	PEAK
2	*	5188.667	1.146	98.046	99.192	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-2 (3m Semi-Anechoic Chamber)	Time : 2009/09/01 - 10:55
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Flip Share TV (Set Top Box)	Note : Mode 3:Transmit at channel 5190MHz by 802.11n(40MHz)(Chain 0+1)



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		5150.000	1.093	40.480	41.573	-12.397	53.970	AVERAGE
2	*	5190.000	1.147	85.654	86.801	N/A	N/A	AVERAGE

11. Frequency Stability

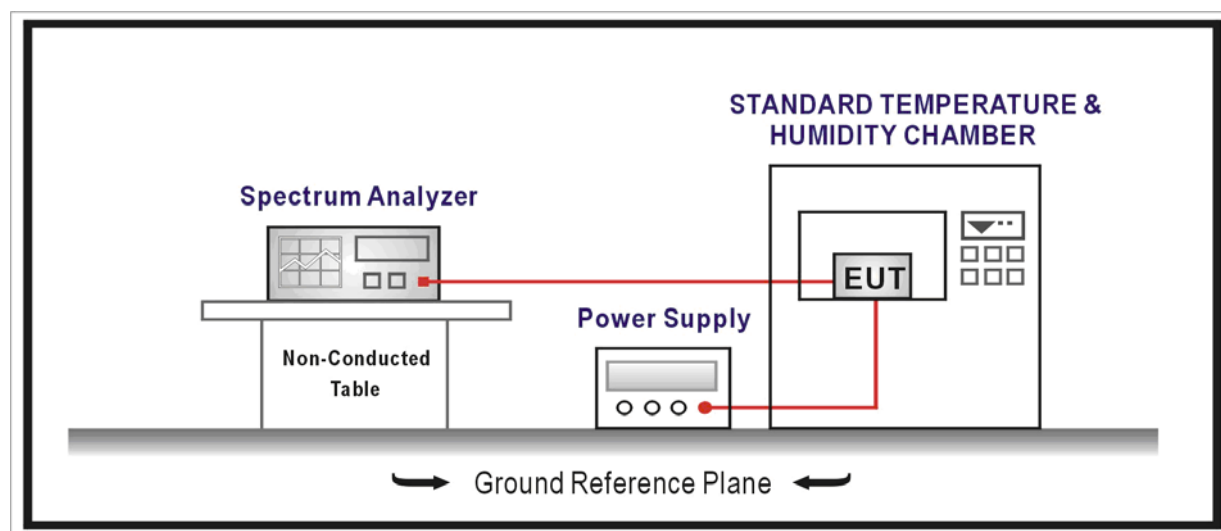
11.1. Test Equipment

Frequency Stability / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
AC Power Supply	IDRC	CF-500TP	979422	2008/10/30
DC Power Supply	IDRC	CD-035-020PR	977272	2008/10/30
Programmable Temperature & Humidity Chamber	Gaoyu	TH-1P-B	WIT-05121302	2009/01/19
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/30

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

11.2. Test Setup



11.3. Limit

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 in the user's manual.

11.4. Test Procedure

Frequency Stability Under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

11.5. Uncertainty

The measurement uncertainty is defined as ± 100 Hz

11.6. Test Result

Product	:	Flip Share TV (Set Top Box)
Test Item	:	Frequency Stability
Test Site	:	AC-6
Test Mode	:	Carrier Transmit

Operating Frequency: 5180MHz					
Temp (°C)	Voltage (AC)	Frequency Tolerance (ppm)			
		0 minutes	2 minutes	5 minutes	10 minutes
-20	102	2.13	2.13	2.19	2.18
	120	1.98	1.97	1.96	1.98
	138	2.22	2.21	2.21	2.14
20	102	2.13	2.13	2.19	2.18
	120	1.96	1.96	1.95	1.94
	138	2.21	2.21	2.21	2.14
55	102	2.13	2.13	2.19	2.18
	120	1.97	1.96	1.96	1.94
	138	2.22	2.20	2.18	2.16

12. Receiver Spurious Emission for Industry Canada RSS-Gen Requirement

12.1. Test Equipment

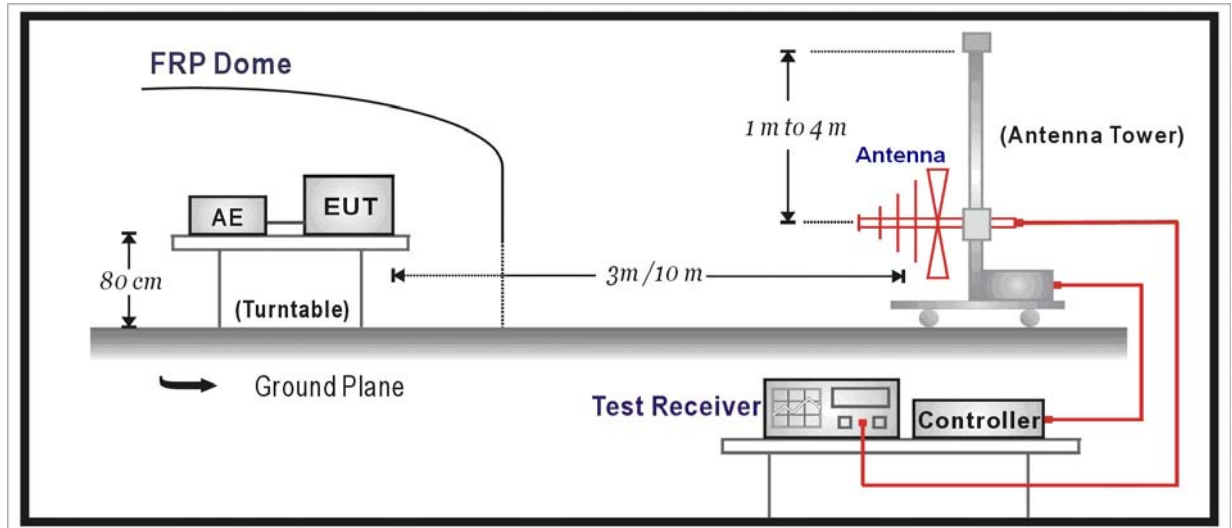
☒ Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
EMI Test Receiver	R&S	ESCI	100573	2009/05/10
Preamplifier	Quietek	AP-025C	QT-AP003	2008/11/25
Preamplifier	Quietek	AP-180C	CHM-0602012	2008/11/25
Bilog Type Antenna	Schaffner	CBL6112B	2932	2008/11/22
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/11/25
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2008/11/25
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2009/03/03
Low-Pass Filter	Wainwright	WLKS4500-9SS	SN2	2009/03/03
50ohm Coaxial Switch	Anritsu	MP59B	6200447304	2008/11/25
Coaxial Cable	Huber+Suhner	AC2-C	04	2008/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2009/03/31

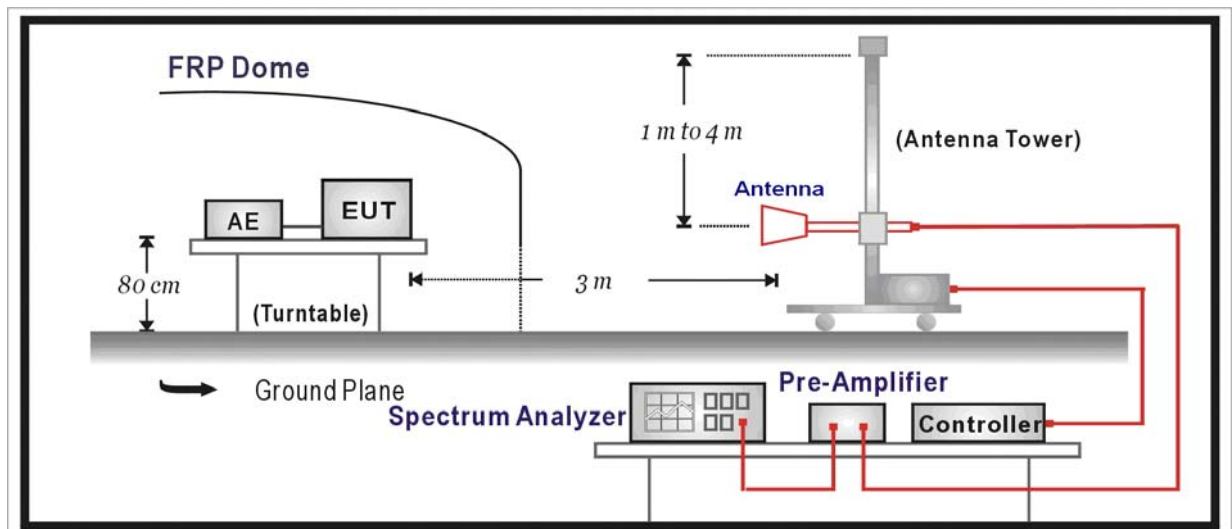
Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

12.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



12.3. Limit

FCC Part 15 Subpart B Paragraph 15.109		
Frequency (MHz)	Distance (m)	Level (dBuV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

12.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003.

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.

The frequency range from 30MHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn antenna will be bended down a little (as horn antenna has the narrow beamwidth) in order to keeping the antenna in the "cone of radiation" of EUT. The 3dB beamwidth is 60~10 degrees for H-plane and 90~10 degrees for E-plane.

12.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB
below 1G is defined as ± 3.8 dB

12.6. Test Result

All of the test result shown indicates the worst case, and spectrum analyzer parameters setting as shown below:

Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;

Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

No significant emissions measurable. Plots reported here represent the worse case emissions.

802.11n (20MHz) (Chain 0+1)

Channel	Frequency Range (MHz)	Measure Level (dBuV/m)	Detector Type	Limit (dBuV/m)
36	30~88	≤ 22	QP	40
	88~216	≤ 30	QP	43.5
	216~960	≤ 32	QP	46
	960~1000	≤ 38	QP	54
	1000~40000	≤ 49	PK	54 (Note 1)
40	30~88	≤ 22	QP	40
	88~216	≤ 30	QP	43.5
	216~960	≤ 32	QP	46
	960~1000	≤ 38	QP	54
	1000~40000	≤ 47	PK	54 (Note 1)
48	30~88	≤ 22	QP	40
	88~216	≤ 30	QP	43.5
	216~960	≤ 32	QP	46
	960~1000	≤ 38	QP	54
	1000~40000	≤ 49	PK	54 (Note 1)

Note 1: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.