

# FCC Test Report

Product Name	OTT BOX
Model No	SB520
FCC ID	JCK-SB5204KOTTBK

Applicant	Giga Byte Technology Co Ltd
Address	No.6, Bau Chiang Road,Hsin-Tien,Taipei Hsien,Taiwan

Date of Receipt	Aug. 04, 2015
Issued Date	Sep. 01, 2015
Report No.	1580191R-RFUSP05V00
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 report of the equipment and evaluated measurement uncertainty herein.

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## Test Report

Issued Date: Sep. 01, 2015 Report No.: 1580191R-RFUSP05V00



Product Name	OTT BOX			
Applicant	Giga Byte Technology Co Ltd			
Address	No.6, Bau Chiang Road,Hsin-Tien,Taipei Hsien,Taiwan			
Manufacturer	GIGA-BYTE TECHNOLOGY CO., LTD			
Model No.	SB520			
FCC ID.	JCK-SB5204KOTTBK			
EUT Rated Voltage	AC 100-240V, 50-60Hz			
EUT Test Voltage	AC 120V/60Hz			
Trade Name	GIGABYTE			
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2014			
	ANSI C63.4: 2014, ANSI C63.10: 2013			
	789033 D02 General UNII Test Procedures New Rules v01			
Test Result	Complied			
Documented By	Joanne lin			
	(Senior Adm. Specialist / Joanne Lin)			

(Senior Adm. Specialist / Joanne Lin )

Tested By

:

:

Ivan Chuang

(Assistant Engineer / Ivan Chuang)

Approved By

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(Director / Vincent Lin)

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Attachment 2: EUT Detailed Photographs

## 1. GENERAL INFORMATION

## **1.1. EUT Description**

Product Name	OTT BOX		
Trade Name	GIGABYTE		
FCC ID.	JCK-SB5204KOTTBK		
Model No.			
	SB520		
Frequency Range	802.11a/n-20MHz: 5180-5320MHz, 5500-5700MHz, 5745-5825MHz		
	802.11n-40MHz: 5190-5310MHz, 5510-5670MHz		
	802.11ac-20MHz: 5720MHz, 802.11ac-40MHz: 5710MHz		
	802.11ac-80MHz: 5210-5290MHz, 5530-5690MHz, 5775MHz		
Number of Channels	802.11a/n-20MHz: 21; 802.11n-40MHz: 7		
	802.11ac-20MHz: 1, 802.11ac-40MHz: 1, 802.11ac-80MHz: 5		
Data Rate 802.11a: 6 - 54Mbps			
	802.11n: up to 150Mbps		
802.11ac-80MHz: up to 433.3MHz			
Channel Control	Auto		
Type of Modulation	802.11a/n/ac:OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM		
Antenna type	PIFA Antenna		
Antenna Gain	Refer to the table "Antenna List"		
Remote control	1set		
HDMI Cable	Shielded, 1.2m		
IR Cable	Non-Shielded, 1.8m		
Power Adapter	MFR: APD, M/N: WB-18D12R		
	Input: AC 100-240V~50-60Hz, 0.5A Max		
	Output: 12V==1.5A		
	Cable Out: Non-Shielded, 1.5m, with one ferrite core bonded.		

### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	ACON	APP6P-701316	PIFA	3.54dBi For 5.15~5.25GHz
				3.50dBi for 5.25~5.35GHz
				3.41dBi for 5.47~5.725GHz
				3.52dBi for 5.725~5.825GHz

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
Channel 52:	5260 MHz	Channel 56:	5280 MHz	Channel 60:	5300 MHz	Channel 64:	5320 MHz
Channel 100:	5500 MHz	Channel 104:	5520 MHz	Channel 108:	5540 MHz	Channel 112:	5560 MHz
Channel 116:	5580 MHz	Channel 132:	5660 MHz	Channel 136:	5680 MHz	Channel 140:	5700 MHz
Channel 149:	5745 MHz	Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz
Channel 165:	5825 MHz						

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

ChannelFrequencyChannelFrequencyChannelFrequencyChannelChannel 38:5190 MHzChannel 46:5230 MHzChannel 54:5270 MHzChannel 62:5310 MHzChannel 102:5510 MHzChannel 110:5550 MHzChannel 134:5670 MHz5670 MHz

802.11ac-20MHz Center Working Frequency of Each Channel:

Channel Frequency Channel 144: 5720 MHz

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

Channel Frequency Channel 142: 5710 MHz

802.11ac-80MHz Center Working Frequency of Each Channel:

ChannelFrequencyChannelFrequencyChannelFrequencyFrequencyChannel 42:5210 MHzChannel 58:5290 MHzChannel 106:5530 MHzChannel 138:5690 MHzChannel 155:5775 MHz

- 1. This device is a OTT BOX with a built-in WLAN and Bluetooth transceiver, this report for WLAN.
- 2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
- At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report. (802.11a is chain A)
- 4. 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 7.2Mbps \$ 802.11n-40BW is 15Mbps and 802.11ac(80M-BW) is 32.5 Mbps)
- 5. 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.
- 6. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode	Mode 1: Transmit (802.11a-6Mbps)
	Mode 2: Transmit (802.11n-20BW 7.2Mbps)
	Mode 3: Transmit (802.11n-40BW 15Mbps)
	Mode 4: Transmit (802.11ac-20BW-7.2Mbps)
	Mode 5: Transmit (802.11ac-40BW-15Mbps)
	Mode 6: Transmit (802.11ac-80BW-32.5Mbps)

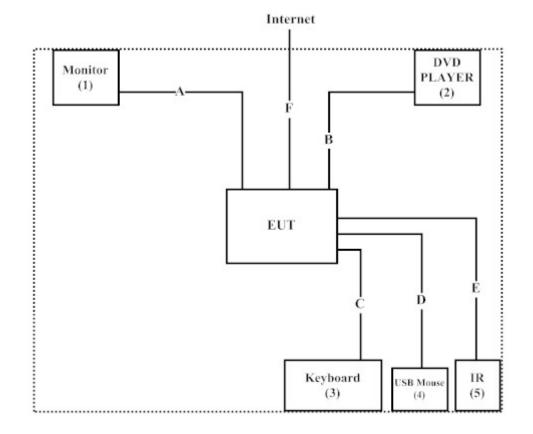
## **1.3.** Tested System Datails

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

Prod	uct	Manufacturer	Model No.	Serial No.	Power Cord
1	Monitor	Dell	2407WFPb	CN-0FC255-46633-67T-047S	Non-Shielded, 1.8m
2	DVD PLAYER	Panasonic	DVD-S97	VC6GG001022R	Non-Shielded, 1.8m
3	Keyboard	DELL	SK-8115	MY-0DJ325-71619-6A3-1911	N/A
4	USB Mouse	DELL	M056U0A	F0Y01YEQ	N/A
5	IR	Always Tai Lai	Y001-0572	N/A	N/A
5		CO.,LTD.			

Signa	l Cable Type	Signal cable Description
А	HDMI Cable	Shielded, 1.2m
В	OPTICAL Cable	Non-Shielded, 1.8m
С	USB Cable	Shielded, 1.8m, with one ferrite core bonded.
D	USB Cable	Shielded, 1.8m
Е	IR Cable	Non-Shielded, 1.8m
F	RJ-45 Cable	Non-Shielded, 3m

## 1.4. Configuration of tested System



## **1.5. EUT Exercise Software**

- (1) Setup the EUT as shown on 1.4
- (2) Execute "Ampak RF Test Tool V5.2" program on the EUT.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Start the continuous transmission.
- (5) Verify that the EUT works properly.

## 1.6. Test Facility

Ambient conditions in the laboratory:

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

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FCC Accreditation Number: TW1014

## 2. Conducted Emission

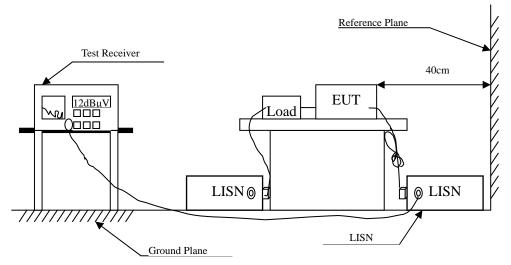
## 2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark		
Х	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2015			
Х	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2015	Peripherals		
Х	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2015	EUT		
	DC LISN	Schwarzbeck	8226 / 176	Mar., 2015	EUT		
Х	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2015			
	No.1 Shielded Room						

Note:

- 1. All equipments are calibrated every one year.
- 2. The test instruments marked by "X" are used to measure the final test results.

## 2.2. Test Setup



#### 2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBµV) Limit						
Frequency	Limits					
MHz	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 C63.10:2013 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, 2014; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

### 2.5. Uncertainty

± 2.26 dB

## 2.6. Test Result of Conducted Emission

Product	:	OTT BOX
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5210MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.189	9.650	31.590	41.240	-23.646	64.886
0.220	9.652	29.070	38.722	-25.278	64.000
0.259	9.654	23.380	33.034	-29.852	62.886
0.345	9.658	22.000	31.658	-28.771	60.429
0.388	9.661	28.130	37.791	-21.409	59.200
0.642	9.675	14.350	24.025	-31.975	56.000
Average					
0.189	9.650	19.820	29.470	-25.416	54.886
0.220	9.652	18.670	28.322	-25.678	54.000
0.259	9.654	11.550	21.204	-31.682	52.886
0.345	9.658	14.910	24.568	-25.861	50.429
0.388	9.661	22.160	31.821	-17.379	49.200
0.642	9.675	4.570	14.245	-31.755	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	:	OTT BOX
Test Item	:	Conducted Emission Test
Power Line	:	Line 2
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5210MHz)

Correct	Reading Measurement Margi		Margin	Limit
Factor	Level	Level		
dB	dBµV	dBµV	dB	dBµV
9.658	33.550	43.208	-22.449	65.657
9.659	30.780	40.439	-24.675	65.114
9.661	27.550	37.211	-27.103	64.314
9.664	20.780	30.444	-32.442	62.886
9.656	15.410	25.066	-36.363	61.429
9.660	17.960	27.620	-31.694	59.314
9.658	18.910	28.568	-27.089	55.657
9.659	16.580	26.239	-28.875	55.114
9.661	12.550	22.211	-32.103	54.314
9.664	8.120	17.784	-35.102	52.886
9.656	4.000	13.656	-37.773	51.429
9.660	10.820	20.480	-28.834	49.314
	Factor dB 9.658 9.659 9.661 9.664 9.656 9.660 9.659 9.661 9.661 9.664 9.656	Factor         Level           dB         dBμV           9.658         33.550           9.659         30.780           9.661         27.550           9.664         20.780           9.656         15.410           9.660         17.960           9.659         16.580           9.659         12.550           9.664         8.120           9.656         4.000	FactorLevelLevel $dB$ $dB\mu V$ $dB\mu V$ 9.65833.55043.2089.65930.78040.4399.66127.55037.2119.66420.78030.4449.65615.41025.0669.66017.96027.6209.65818.91028.5689.65916.58026.2399.66112.55022.2119.6648.12017.7849.6564.00013.656	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

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

Product	:	OTT BOX
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5290MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.162	9.657	35.590	45.247	-20.410	65.657
0.193	9.650	31.510	41.160	-23.611	64.771
0.252	9.653	22.790	32.443	-30.643	63.086
0.384	9.660	26.980	36.640	-22.674	59.314
0.638	9.674	13.990	23.664	-32.336	56.000
1.306	9.721	17.080	26.801	-29.199	56.000
Average					
0.162	9.657	23.900	33.557	-22.100	55.657
0.193	9.650	20.480	30.130	-24.641	54.771
0.252	9.653	10.300	19.953	-33.133	53.086
0.384	9.660	22.120	31.780	-17.534	49.314
0.638	9.674	4.290	13.964	-32.036	46.000
1.306	9.721	12.340	22.061	-23.939	46.000

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

Product	:	OTT BOX
Test Item	:	Conducted Emission Test
Power Line	:	Line 2
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5290MHz)

Frequency	Correct Reading Measurement		Margin	Limit	
	Factor	Level	Level		
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.162	9.658	34.280	43.938	-21.719	65.657
0.197	9.660	28.780	38.440	-26.217	64.657
0.224	9.662	25.340	35.002	-28.884	63.886
0.252	9.663	21.460	31.123	-31.963	63.086
0.283	9.664	17.840	27.504	-34.696	62.200
0.322	9.657	15.420	25.077	-36.009	61.086
Average					
0.162	9.658	21.200	30.858	-24.799	55.657
0.197	9.660	14.790	24.450	-30.207	54.657
0.224	9.662	11.720	21.382	-32.504	53.886
0.252	9.663	8.200	17.863	-35.223	53.086
0.283	9.664	5.110	14.774	-37.426	52.200
0.322	9.657	5.390	15.047	-36.039	51.086

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

Product	:	OTT BOX
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5530MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.150	9.661	35.530	45.191	-20.809	66.000
0.201	9.650	31.690	41.340	-23.203	64.543
0.263	9.654	23.080	32.734	-30.037	62.771
0.392	9.661	28.010	37.671	-21.415	59.086
0.853	9.686	15.910	25.596	-30.404	56.000
10.607	9.996	28.340	38.336	-21.664	60.000
Average					
0.150	9.661	19.140	28.801	-27.199	56.000
0.201	9.650	20.140	29.790	-24.753	54.543
0.263	9.654	10.410	20.064	-32.707	52.771
0.392	9.661	21.720	31.381	-17.705	49.086
0.853	9.686	10.100	19.786	-26.214	46.000
10.607	9.996	23.700	33.696	-16.304	50.000

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

Product	:	OTT BOX
Test Item	:	Conducted Emission Test
Power Line	:	Line 2
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5530MHz)

Frequency	Correct	Reading	ling Measurement		Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.158	9.658	35.180	44.838	-20.933	65.771
0.209	9.661	28.150	37.811	-26.503	64.314
0.255	9.663	21.580	31.243	-31.757	63.000
0.357	9.659	15.780	25.439	-34.647	60.086
0.470	9.665	11.320	20.985	-35.872	56.857
0.576	9.671	17.320	26.991	-29.009	56.000
Average					
0.158	9.658	20.590	30.248	-25.523	55.771
0.209	9.661	13.150	22.811	-31.503	54.314
0.255	9.663	7.540	17.203	-35.797	53.000
0.357	9.659	8.060	17.719	-32.367	50.086
0.470	9.665	3.960	13.625	-33.232	46.857
0.576	9.671	11.960	21.631	-24.369	46.000

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

Product	:	OTT BOX
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.287	9.703	35.310	45.013	-17.073	62.086
0.505	9.713	21.790	31.503	-24.497	56.000
0.681	9.721	16.570	26.291	-29.709	56.000
0.849	9.728	18.550	28.278	-27.722	56.000
1.002	9.735	14.860	24.595	-31.405	56.000
8.646	9.870	12.470	22.340	-37.660	60.000
Average					
0.287	9.703	33.550	43.253	-8.833	52.086
0.505	9.713	14.780	24.493	-21.507	46.000
0.681	9.721	9.750	19.471	-26.529	46.000
0.849	9.728	12.160	21.888	-24.112	46.000
1.002	9.735	7.470	17.205	-28.795	46.000
8.646	9.870	7.140	17.010	-32.990	50.000
0.040	2.070	/.140	17.010	-32.770	50.000

- 4. All Reading Levels are Quasi-Peak and average value.
- 5. "means the worst emission level.
- 6. Measurement Level = Reading Level + Correct Factor

Product	:	OTT BOX
Test Item	:	Conducted Emission Test
Power Line	:	Line 2
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)

Frequency	Correct	Reading	Reading Measurement		Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.181	9.678	35.920	45.598	-19.516	65.114
0.283	9.682	34.430	44.112	-18.088	62.200
0.322	9.684	26.210	35.894	-25.192	61.086
0.443	9.690	20.860	30.550	-27.079	57.629
0.630	9.698	30.410	40.108	-15.892	56.000
8.998	9.880	10.910	20.790	-39.210	60.000
Average					
0.181	9.678	19.880	29.558	-25.556	55.114
0.283	9.682	30.180	39.862	-12.338	52.200
0.322	9.684	17.460	27.144	-23.942	51.086
0.443	9.690	12.440	22.130	-25.499	47.629
0.630	9.698	16.330	26.028	-19.972	46.000
8.998	9.880	5.020	14.900	-35.100	50.000

- 4. All Reading Levels are Quasi-Peak and average value.
- 5. "means the worst emission level.
- 6. Measurement Level = Reading Level + Correct Factor

## 3. Maximun conducted output power

### **3.1.** Test Equipment

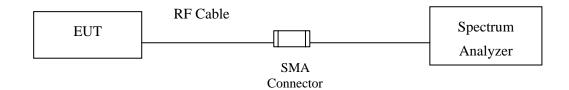
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Х	Power Meter	Anritsu	ML2495A/6K00003357	May, 2015
Х	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2015
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015
Note	2:			

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

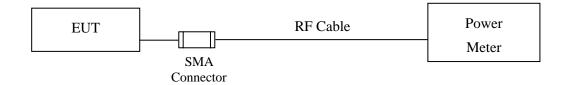
2. The test instruments marked with "X" are used to measure the final test results.

#### 3.2. Test Setup

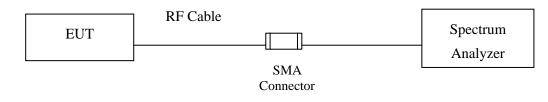
#### 26dBc Occupied Bandwidth



#### **Conduction Power Measurement (for 802.11an)**



#### **Conduction Power Measurement (for 802.11ac)**



#### 3.3. Limits

#### 3.3.1. For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

- 3.3.2. For the 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 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- 3.3.3. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in

this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

#### **3.4.** Test Procedure

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was measured with an average power meter employing a video bandwidth greater the 6dB BW of the emission under test. Maximum conducted 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 FCC KDB-789033, and provides more accurate measurements.

802.11an (BW  $\leq$  40MHz) Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated RF average power meter) <u>Note: the power meter have a video bandwidth that is greater than or equal to the measurement</u> <u>bandwidth, (Anritsu/MA2411B video bandwidth: 65MHz)</u>

802.11ac (BW=80MHz) Maximum conducted output power using KDB 789033 section E)2)b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep).

When transmitted signals consist of two or more non-contiguous spectrum segments (e.g., 80+80 MHz mode) or when a single spectrum segment of a transmission crosses the boundary between two adjacent U-NII bands, KDB 644545 D01 section F) procedure is used for measurements.

### 3.5. Uncertainty

± 1.27 dB



## **3.6.** Test Result of Maximum conducted output power

Product	:	OTT BOX
Test Item	:	Maximum conducted output power
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	6	9	12	18	24	36	48	54	Required Limit
				Measu	urement	Level (	dBm)			
36	5180	15.94								<24dBm
44	5220	16.08	16.01	15.98	15.76	15.66	15.51	15.46	15.25	<24dBm
48	5240	16.87								<24dBm
52	5260	15.99								<24dBm
60	5300	16.63	16.59	16.53	16.48	16.41	16.45	16.39	16.33	<24dBm
64	5320	16.56								<24dBm
100	5500	17.27								<24dBm
116	5580	17.38	17.31	17.33	17.26	17.22	17.24	17.18	17.11	<24dBm
140	5700	16.79								<24dBm
149	5745	16.39								<30dBm
157	5785	15.96	15.83	15.73	15.65	15.52	15.44	15.3	15.21	<30dBm
165	5825	15.89								<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

## Maximum conducted output power Measurement:

Channel No Range		26 dB Bandwidth	Output Power	Output Power Limit		
	(MHz)	(MHz)	(dBm)	(dBm)	dBm+10log(BW)	
36	5180		15.94	24		
44	5220		16.08	24		
48	5240		16.87	24		
52	5260	18.395	15.99	24	23.65	
60	5300	17.160	16.63	24	23.35	
64	5320	17.176	16.56	24	23.35	
100	5500	17.267	17.27	24	23.37	
116	5580	17.205	17.38	24	23.36	
140	5700	17.198	16.79	24	23.35	
149	5745		16.39	30		
157	5785		15.96	30		
165	5825		15.89	30		

Note:

1. Power Output Value =Reading value on average power meter + cable loss

2. 26 dB Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

## 26 dB Occupied Bandwidth:

Channel 52:

		nalyzer - Occ										
(XI RI Cen		RF 50Ω 5.26000	AC	-17		NSE:INT req: 5.26000	0000 GHz	ALIGN AUTO	02:52:59 A Radio Std	M Aug 25, 2015 : None	Frequency	
		0.20000		Gain:Low		e Run	Avg Hold	1: 10/10	Radio Dev	vice: BTS		
				Gam.Low	#1 (CO.). 0				110010-2-0-	100.0.0		
10 di		Ref Offset Ref 21.5										
Log 11.5											0	
1.50				and the second second		and the second s	and a second and a s				Center F 5.260000000	- 11
			<i>#</i>	M			l 1	when				312
-18.5		hy When all a selfations	MARCH MARKED					Warthly Kylerste	MARKING LUIS	NINH UNIN		
-28.5		h h h h h h h h h h h h h h h h h h h	16.	<u> </u>					NIN	Wind the providence		
-38.5										· T IN		
-48.5						-						
-58.5		-				-						
-68.5												
Cen	ter 5.26	CH7							Sna	n 50 MHz		
	s BW 1				#VE	вки з мн	z			ep 1 ms	CF S 5.000000	
		-l Dand				Total P	owor	21 7	dBm		2	Man
10	ccupie	d Band				TULALE	ower	21.7	авш			
			18.3	95 MI	ΗZ						Freq Off	set
Т	ransmit	Freq Err	or	31.777	kHz	OBW P	ower	99	.00 %		0	) Hz
x	dB Band	dwidth		30.96 N	√Hz	x dB		-26.	00 dB			
-				•		A		-				
MSG								STATUS				

#### Channel 60:

	ectrum Analyzer - Occupi								
LXI RL		AC		SENSE:INT		ALIGN AUTO		M Aug 31, 2015	Frequency
Center F	req 5.300000	000 GHz		Freq: 5.30000 ree Run	Avg Hol	d->10/10	Radio Std	: None	riequency
		#IFGain:Lo			Avginoi	u.>10/10	Radio Dev	vice: BTS	
-		#IT Guill.EG							
	Ref Offset 1.5	5 dB							
10 dB/div	Ref 21.50 c	dBm							
Log									
11.5				-					Center Freq
1.50			ap-matrix and an ampletu	หร <sub>ับของ</sub> ระหาราสาสาราช	How we wanted				5.30000000 GHz
-8.50		1			L N				
10.5		h.			1	ul III			
-18.5		Marine and Annual An				14		ANNILLING WINTER	
-28.5	- Louis And Plan	Marander					HUMAN	<u>.</u>	
-38.5	where does will prove the						· · v-4	WH44604	
-48.5									
-58.5						-			
-68.5				_					
Center 5								in 50 MHz	CF Step
#Res BW	1 MHz		#\	/ВЖ/ЗМН	z		SW	eep 1 ms	5.000000 MHz
									Auto Man
Occu	pied Bandw	idth		Total P	ower	16.5	ō dBm		
		17.160							
		17.100							Freq Offset
Trans	mit Freq Erroi	29	17 kHz	OBW P	ower	90	.00 %		0 Hz
XdBE	Bandwidth	21.0	04 MHz	x dB		-26.	00 dB		
							1		
MSG						STATUS	s		
1									



#### Channel 64:

	ht Spectrum Analyzer	- Occupied BW									
LXI RL		i0 Ω AC			ENSE:INT Freq: 5.32000	0000 CH		LIGN AUTO	09:57:01 P Radio Std	M Aug 31, 2015	Frequency
Cente	r Freq 5.320	000000 GI	1Z	Trig: Fr		Avg H		>10/10	Radio Stu	. None	
		#IF	Gain:Low	#Atten:	30 dB				Radio Dev	rice: BTS	
	Ref Off	set 1.5 dB									
10 dB/c		1.50 dBm	. <u></u>								
Log 11.5											Center Freq
1.50 —			, marrier	w <b>aha</b> anawalo	Mar and an and the second	anterogener					5.320000000 GHz
-8.50						`	ι				5.52000000 GHZ
			كمحل				V				
-18.5 —		للمعادي	Ϋ́				-1	ալ Նեւ մես ե			
-28.5 —	jan walnut	avitor the second							where the way	Moyer Markel Marry	
-38.5	ha waa			-						- Wallor	
-48.5 —											
-58.5 —							_				
-68.5											
	r 5.32 GHz BW 1 MHz			-43.4	вж змн	-				n 50 MHz	CF Step
#Res i				#V		2			SWC	ep 1ms	5.000000 MHz
	cupied Ba	ndwidth			Total P	ower		16.3	dBm		<u>Auto</u> Man
	cupica Ba		70 84								
		17.1	76 M	HZ							Freq Offset
Tra	nsmit Freq	Error	-1.010	kHz	OBW P	ower		99	.00 %		0 Hz
x di	B Bandwidt	h	21.30	MHz	x dB			-26.0	00 dB		
		•									
								07.07			
MSG								STATUS			

#### Channel 100:

			-	namic	1 100	•				
	trum Analyzer - Occupied BW									
LXI RL	RF 50 Ω AC			NSE:INT			LIGN AUTO		M Aug 31, 2015	Frequency
Center Fre	eq 5.500000000	GHz _	Center F	req: 5.50000	:0000 GH Avg H		-10/10	Radio Std:	None	requeitcy
		#IFGain:Low	⊃ ing:rre #Atten:3		Avgino		>10/10	Radio Dev	ice: BTS	
		#I Gam.Low								
	Ref Offset 1.5 dB									
10 dB/div	Ref 21.50 dBm	1								
Log										
11.5			<u> </u>							Center Free
1.50			******************************	and the second	Maren and					5.50000000 GH
-8.50		1				λ				
-0.55		كعل				N.				
-18.5	www.arenewymanystarica.yydorawiath.jr	JMAT .				- 15	Minhall		W. William	
-28.5	www.uppinenter.						1 44404	a nu an	WUU	
-38.5 -38.5	rm -								N U.J. W. Mary	
-48.5										
-58.5										
-68.5										
Center 5.5	6 GHz							Spa	n 50 MHz	CF Ster
#Res BW 🗎	1 MHz		#VE	SM 3 MH	z			Swe	ep 1 ms	5.000000 MH
										Auto Mai
Occup	ied Bandwidtl	h		Total P	ower		17.1	dBm		
	47	.267 M	U-,							
	17	.207 11	пZ							Freq Offse
Transm	it Freq Error	-22.388	kH7	OBW P	ower		90	.00 %		0 H
	-									
x dB Ba	ndwidth	22.27	MHz	x dB			-26.	00 dB		
MSG							STATUS			



## Channel 116:

		Spectrum	Analyzer - Oo											_	
<b>lxi</b> R		R						NSE:INT			ALIGN AUTO		M Aug 31, 2015	Frequ	iency
Cer	nter	Freq	5.5800	00000 GI	Ιz		Tuine Free	req: 5.58000			>10/10	Radio Std	I: None	i i cqu	lency
				#IF	Gai	n:Low 두	#Atten: 3		Avgin	oiu.	~10/10	Radio Dev	vice: BTS		
					Gai										
			Ref Offse												
	B/div		Ref 21.5	50 dBm											
Log 11.5														0	
						-	fedgene segendjensen	and the second	-						nter Freq
1.50						r		1	- ``					5.58000	0000 GHz
-8.50					+				-	Ľ,					
-18.5				· · · · ·	۳Ľ.					٦	4.		to Vulled 19 providence		
-28.5				Male Walker							<sup>™</sup> ₩ላ <sub>\\</sub> ₩	WWW. when when			
20.0		MUNIN	fwr <sup>n</sup> thr - w	A REAL ANY MICHAER									WWWWWWWWWWWW		
-38.5	n training and the second s														
-48.5					+										
-58.5					-										
-68.5															
00.0															
Cer	nter	5.58 0	GHz									Spa	n 50 MHz		OF Oton
#Re	s BV	V 1 N	1Hz				#VE	зм з мн	z			Swe	eep 1 ms		CF Step 0000 MHz
										_				Auto	Man
l c	)ccı	pied	d Band	dwidth				Total P	ower		17.1	dBm			
		•			5	5 N.I.	1-								
				17.4	0	5 MI	٦Z							Fre	q Offset
Iт	rand	mit I	Freg Er	ror	10	9.443	/ <b>L</b> I7	OBW P	ower		00	.00 %			0 Hz
			•	101				00111	00001					1	
x	dB	Band	lwidth		2	1.65 N	1Hz	x dB			-26.	00 dB			
MSG											STATUS				

#### Channel 140:

	rum Analyzer - Occupied BW										
LXI RL	RF 50 Ω AC				NSE:INT			ALIGN AUTO		M Aug 31, 2015	Frequency
Center Fre	eq 5.700000000	GHz		Center Fr Trig: Free	req: 5.70000	:0000 GH Avg H	Z a lalı	- 40/40	Radio Std	: None	riequency
		#IFGain:I		#Atten: 3		Avgin	010:	>10/10	Radio Dev	ice: BTS	
		#IFGall.L	LUW	#/ tuteri. o					Induite Dei	100. 101 0	
	Ref Offset 1.5 dB										
10 dB/div	Ref 21.50 dBm										
Log											
11.5											Center Free
1.50			and a second second	ะระบามมีระวงกา <sub>ยสถ</sub>		and the second					5.70000000 GH
-8.50		A					V.				
		Jul 1					J.M	۱.		William May Maga	
-10.5	alester of the states of the second	W						<sup>W</sup> WWWWW	. <b>.</b>		
-28.5	+ Water of the state of the sta								M.M.M.	WWWWWW	
-38.5	40# 41									1 Stray Autor	
-48.5											
-58.5											
-68.5											
									0		
Center 5.7 #Res BW				-41 / E	NAC O BALL	-				n 50 MHz	CF Step
#Res BW				#VE	SW 3 MH	2			SWE	ep 1 ms	5.000000 MH
0	ia di Dana duvi dél	-			Total P	ower		16.6	dBm		<u>Auto</u> Mar
Occup	ied Bandwidth				TUTALE	Ower		10.0	UBIII		
	17	.198	S MH	Z							Freq Offse
				_							
Transm	it Freq Error	12.	966 kH	lz	OBW P	ower		99	.00 %		0 H:
v dB Ba	ndwidth	24	.72 MF	-	x dB			26	00 dB		
	nuwiun	21	./ 2 1915	12	X UD			-20.	00 UB		
											L
MSG								STATUS			



Product	:	OTT BOX
Test Item	:	Maximum conducted output power
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Cable	e loss=1dB				Maximu	im cond	lucted o	utput po	ower	
				D	Data Rat	e (Mbps	s)			
Channel No.	Frequency (MHz)	7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	Required Limit
				Measu	urement	Level (	dBm)			
36	5180	16.07								<30dBm
44	5220	16								<30dBm
48	5240	16.92								<30dBm
52	5260	16.56								<24dBm
60	5300	16.54	16.50	16.46	16.42	16.37	16.33	16.39	16.24	<24dBm
64	5320	16.72								<24dBm
100	5500	17.22								<24dBm
116	5580	17.26	17.22	17.17	17.12	17.07	17.01	16.95	16.89	<24dBm
140	5700	16.59								<24dBm
149	5745	16.11								<30dBm
157	5785	16.14	16.02	15.98	15.82	15.74	15.65	15.52	15.44	<30dBm
165	5825	15.82								<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

## Maximum conducted output power Measurement:

Channel Number	Frequency	26 dB Bandwidth	Output Power	Outj	put Power Limit
	(MHz)	(MHz)	(dBm)	(dBm)	dBm+10log(BW)
36	5180		16.07	24	
44	5220		16	24	
48	5240		16.92	24	
52	5260	19.380	16.56	24	23.87
60	5300	18.296	16.54	24	23.62
64	5320	18.339	16.72	24	23.63
100	5500	18.378	17.22	24	23.64
116	5580	18.332	17.26	24	23.63
140	5700	18.355	16.59	24	23.64
149	5745		16.11	30	
157	5785		16.14	30	
165	5825		15.82	30	

- 1. Power Output Value =Reading value on average power meter + cable loss
- 2. 26 dB Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.



### 26 dB Occupied Bandwidth:

#### ectrum Analyzer - Occupied BW ent Spe RI 03:07:58 AM Aug 25, 2015 Radio Std: None Center Freq: 5.26000000 GHz Trig: Free Run Avg|Hold: 10/10 #Atten: 30 dB Frequency Center Freq 5.260000000 GHz Radio Device: BTS #IFGain:Low Ref Offset 1.5 dB Ref 21.50 dBm 10 dB/div og 11.5 **Center Freq** 1.50 5.260000000 GHz Withwhite and the der of the second day -8.50 Allow Hard and shake good and have I, 18.5 -28.5 38.5 48.5 -58.5 68.5 Center 5.26 GHz #Res BW 1 MHz Span 50 MHz Sweep 1 ms CF Step 5.000000 MHz Man #VBW 3 MHz Auto **Total Power** 21.6 dBm **Occupied Bandwidth** 19.380 MHz Freq Offset Transmit Freq Error 41.511 kHz 99.00 % 0 Hz **OBW Power** x dB Bandwidth 33.75 MHz x dB -26.00 dB STATUS SG

#### Channel 52

Keysight Spect	trum Analyzer - Occupied BW									X
Keysight Speci	RF 50 Ω AC		SENS	E:INT		ALIGN AUTO	09:58:41 P	M Aug 31, 2015		
Center Fre	eq 5.30000000	GHz	Center Fre	q: 5.300000			Radio Std:		Frequency	
		#IFGain:Low	Trig: Free #Atten: 30		Avg Hold	i:>10/10	Radio Dev	ice: BTS		
10 dB/div	Ref Offset 1.5 dB Ref 21.50 dBm									
Log 11.5									Center F	
-8.50		A A A A A A A A A A A A A A A A A A A	ee-at-fi-sherifitedined	and Weith of the Angle of the A	- and a second				5.30000000	GHz
-18.5		<u>ل</u> ار الار				Muse				
-28.5 -38.5 -38.5	when we when the state of the second					- Marka Arga	⋇ <del>୶</del> <sup>୲</sup> ୳⋈⊷,∎∓∜⋈⋎∤µ <sub>⋪</sub>	M. L. Murchanne		
-48.5										
-58.5										
Center 5.3 #Res BW			#VB\	N/ 3 MHz	2			n 50 MHz ep 1 ms	CF S 5.000000	
Occup	ied Bandwidth	ı	Total Power						<u>Auto</u>	Man
	18	.296 MI	Ηz						Freq Of	
	it Freq Error	8.562	562 kHz OBW Power			99	.00 %			0 Hz
x dB Ba	andwidth	21.41 N	1Hz :	x dB		-26.	00 dB			
MSG						STATUS	6		<u></u>	



#### Channel 64

	t Spectrum Analyzer - Oc									
Center	RF 50 Ω		z	Center Fr	NSE:INT req: 5.32000		ALIGN AUTO	09:59:10 P Radio Std	M Aug 31, 2015 None	Frequency
			ain:Low	<sup>4</sup> Trig: Free #Atten: 3		Avg Hol	d:>10/10	Radio Dev	ice: BTS	
10 dB/di	Ref Offset v Ref 21.5									
Log 11.5 1.50			, Marson and a start of a	proterritoryterty	,	- malager all				Center Freq 5.320000000 GHz
-8.50 -18.5		المربع المراجع					Mar In	. 1		
-28.5 -38.5 →	and a standard and a standard and a standard	and the second s					Mr. June of the office of the	An through Miller	wywyky ji wanaz	
-58.5 -68.5										
	5.32 GHz W 1 MHz			#VE	sw змн	z			n 50 MHz ep 1 ms	CF Step 5.000000 MHz
Occ	upied Band			_	Total P	ower	16.2	dBm		<u>Auto</u> Man
		18.3	39 MH	z						Freq Offset
Tran	ismit Freq Eri	ror	6.780 k	Hz	OBW P	ower	99	.00 %		0 Hz
x dB	Bandwidth		22.30 M	Hz	x dB		-26.	00 dB		
MSG							STATUS			

🎉 Keysight S	Spectrum Analyzer - Occ	upied BW									7 ×
LXI RL	RF 50 Ω	AC	_		NSE:INT reg: 5.50000	0000 GH-	ALIGN AUTO	09:59:33 P	M Aug 31, 2015	Frequen	cy
Center	Freq 5.50000	0000 GH	z F	Trig: Free	e Run	Avg Hol	d:>10/10				
		#IFC	Gain:Low	#Atten: 3	0 dB			Radio Dev	ice: BTS		
	Ref Offset	15 dB									
10 dB/div											
Log											_
11.5				and the state of the state		hand a state of the state of th				Center	
1.50										5.5000000	0 GHz
-8.50			1				1				
-18.5	huntration makes all a state	اللع					hy white the	Mutor Manaline			
-28.5	Low both of the set of	NULANAM					- vi Para	"Who William Come	mount		
-38.5 WW	and an a second s								1 V 1 M		
-48.5											
-58.5											
-68.5											
Center	5.5 GHz							Spa	n 50 MHz		Oton
#Res B\	N 1 MHz			#VE	зм змн	z		Swe	ep 1 ms	5.00000	Step
										Auto	Man
Οςςι	upied Band	width			Total P	ower	17.	1 dBm			
		18.3	78 MH	Ηz						Freq	offect
										l rieqe	0 Hz
Tran	smit Freq Err	or	-3.496	(Hz	OBW P	ower	9	9.00 %			0 112
x dB	Bandwidth		22.20 N	IHz	x dB		-26	.00 dB			
MSG							STATU	JS			



Channel 116	
-------------	--

	Spectrum Analyzer - Oce									
K RL	RF 50 Ω Freq 5.58000		7		NSE:INT req: 5.58000	0000 GHz	ALIGN AUTO	09:59:57 P Radio Std	M Aug 31, 2015 : None	Frequency
Center				Trig: Fre #Atten: 3	e Run	Avg Hold	d:>10/10			
		#IFG	ain:Low	#Atten: 3	0 dB			Radio Dev	ICE: BIS	
10 dB/div	Ref Offset Ref 21.5									
Log										
11.5			man		and the area way					Center Freq
1.50			,				1			5.58000000 GHz
-8.50		J					N.			
-18.5	water the advanced and the second second	. B. Ash					Numpeting and	And the second	and the second	
-28.5	Anthen the works	MAL W						N/V P34	the way have a	
-48.5										
-58.5										
-68.5										
Center	5.58 GHz							Spa	n 50 MHz	
	N 1 MHz			#VE	в змн	z			ep 1 ms	CF Step 5.000000 MHz
_							47.0			<u>Auto</u> Man
Occ	upied Band				Total P	ower	17.0	dBm		
		18.3	32 MH	lz						Freq Offset
Tran	smit Freq Err	or	-8.627 k	Hz	OBW P	ower	99	.00 %		0 Hz
x dB	Bandwidth		27.95 M	IHz	x dB		-26.	00 dB		
MSG							STATUS	6		<u>[]</u>

	ht Spectrum Analyzer - Occ	cupied BW										
LXI RL	RF 50 Ω				NSE:INT req: 5.70000	0000 GH7	ALIGN AUTO	10:00:25 P Radio Std	M Aug 31, 2015	Freque	ncy	
Cente	er Freq 5.70000	0000 GH	<u>z</u>	🚽 Trig: Free	e Run	Avg Hol	d:>10/10				-	
	#IFGain:Low #Atten: 30 dB Radio Device: BTS											
	Ref Offset 1.5 dB											
10 dB/c												
Log 11.5										0		
			منهبهمهطنيس	~	****	the growthe party					er Freq	
1.50 —			1		1	1	N N			5.7000000	JUU GHZ	
-8.50			1				1					
-18.5	Munyonghingdown Janguy	م منظم المحمد والما					Mark aller	s	Holor Marrieland			
-28.5	LING CONTRACTOR	Mar Mar					1= KA)-1	"" Water	WAR WALL			
-38.5 📥	NNt						-		~~~~			
-48.5												
-58.5												
-68.5												
	r 5.7 GHz								n 50 MHz	с	F Step	
#Res I	BW 1 MHz			#VE	SW 3 MH	Z		Swe	eep 1 ms	5.0000	000 MHz	
00	cupied Band	width			Total P	ower	16.6	dBm		Auto	Man	
	cupied Ballo				Total I	00001	10.0	ubiii				
		18.3	55 MI	ΗZ						Freq	Offset	
Tra	Transmit Freg Error 27.263 k				OBW P	ower	99	.00 %			0 Hz	
	B Bandwidth						00	00 dB				
xa	B Bandwidth		25.34 N	IHZ	x dB		-20.	00 aB				
MSG							STATUS	5				
								1				



Product	:	OTT BOX
Test Item	:	Maximum conducted output power
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps)

Cable	Maximum conducted output power									
			-							
Channel No.	Frequency (MHz)	15	30	45	60	90	120	135	150	Required Limit
			-	Measu	urement	Level (	dBm)	-		
38	5190	16.71								<24dBm
46	5230	14.96								<24dBm
54	5270	14.84	14.73	14.52	14.44	14.38	14.28	14.18	14.02	<24dBm
62	5310	15.21								<24dBm
102	5510	14.74								<24dBm
110	5550	17.57	17.53	17.48	17.44	17.35	17.41	17.29	17.24	<24dBm
134	5670	17.29								<24dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

## Maximum conducted output power Measurement:

Channel Number	Frequency	26 dB Bandwidth	Output Power	Output Power Limit	
	(MHz)	(MHz)	(dBm)	(dBm)	dBm+10log(BW)
38	5190		16.71	24	
46	5230		14.96	24	
54	5270	36.798	14.84	24	26.66
62	5310	36.560	15.21	24	26.63
102	5510	36.691	14.74	24	26.65
110	5550	36.756	17.57	24	26.65
134	5670	36.707	17.29	24	26.65

Note:

1. Power Output Value =Reading value on average power meter + cable loss

2. 26 dB Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.



## 26 dB Occupied Bandwidth:

#### Channel 54

		n Analyzer - Occ										
LXI R		RF 50 Ω eq 5.27000		<u> </u>		NSE:INT req: 5.27000	0000 GHz	ALIGN AUTO	03:15:08 Al Radio Std:	M Aug 25, 2015	Frequency	
Cer		9 5.27000			🚽 Trig: Fre	e Run	Avg Hold	1: 10/10				
	#IFGain:Low #Atten: 30 dB Radio Device: BTS											
10 d	Ref Offset 1.5 dB 10 dB/div Ref 21.50 dBm											
Log												
11.5					-		and the second second				Center Freq	
1.50				1		¥ i		1			5.270000000 GHz	
-8.50				/				1				
-18.5			all and all a should be	1				month	u kun.			
-28.5	the the second second	ahouto makedu	erdel and median of					dha adda ada	ard Milling and set	Window With Name		
-38.5										ւս դոլ		
-48.5												
-58.5												
-68.5												
Con	ter 5.2	7 647							Enan	100 MHz		
	s BW				#VE	в змн	z			ep 1 ms	CF Step 10.000000 MHz	
						Total P		40.6	dBm		<u>Auto</u> Man	
	ccup	ied Band				TOLALF	ower	19.0	авт			
			36.7	'98 MI	Ηz						Freq Offset	
Ιт	ranem	it Freq Err	or	18.242		OBW P	ower	00	.00 %		0 Hz	
		-					OWEI					
х	dB Ba	ndwidth		47.41 N	/IHz	x dB		-26.	00 dB			
MSG								STATUS				

_				manni					
	rum Analyzer - Occupied BW								
LXI RL	RF 50 Ω AC			SE:INT		ALIGN AUTO		M Aug 31, 2015	Frequency
Center Fre	Center Freq 5.310000000 GHz				0000 GHz		Radio Std	None	requeries
		Trig: Free #Atten: 30		Avg Hol	a:>10/10	Radio Dev	ion BTS		
		#IFGain:Low	#Atten: 50	ub			Radio Dev	ICE. DT3	
	Ref Offset 1.5 dB								
10 dB/div	Ref 21.50 dBm								
Log	Iter 2 not abin	- Tİ			1				
11.5									Center Freq
1.50		you along you al	Martin and a start	-	- Almer Verman				5.310000000 GHz
-8.50			Ψ		<u> </u>	·			
-18.5		1				{			
		ſ				Y			
-28.5	1	u l				<b>h</b> .			
-38.5	www.witerrades.physocialistics	~r				- Wuthapphila	Martin Hill		
-48.5						ha (luphapat, kalu		ANT AND ANT AND	
-48.5									
-58.5						_			
-68.5									
-00.5									
Center 5.3	1 GHz					1	Snan	100 MHz	
#Res BW 1			#\/B)	w змн	-			ep 1 ms	CF Step
#RES BW			#VD1	мэмп	2		owe	ep mis	10.000000 MHz
· ·				Total P			dBm		<u>Auto</u> Man
Occupi	ied Bandwidth	1		Total P	ower	14.4	aem		
	36	.560 Mł	47						
	50	.500 1011	12						Freq Offset
Transmi	it Freg Error	10.169 k		OBW P	ower	00	.00 %		0 Hz
Transm	IL FIEY EITOI	10.103				33	.00 /6		
x dB Ba	ndwidth	39.11 M	IHz :	x dB		-26.	00 dB		
MSG						STATUS	3		
1									



		ectrum Analyzer - Oc									
<b>lxi</b> R		RF 50 Ω				NSE:INT		ALIGN AUT		M Aug 31, 2015	Frequency
Cen	iter F	req 5.5100	00000 GH	z	Trig: Free	req: 5.51000	Avg Hol	d->10/10	Radio Sto	I: None	riequency
			#IFC	Gain:Low	#Atten: 3		Avginor	4.210/10	Radio De	vice: BTS	
10 d	B/div	Ref Offset Ref 21.5									
Log											
11.5											Center Freq
1.50				- Mariana	and the second	a the second second	24447878649				5.510000000 GHz
-8.50				1				\	_		
-18.5				1				¥			
-28.5		an a	J-thepathone have					Participity of the second seco	wipstranneringelees	Har have able of	
-38.5	hard/from	- uu								- I WINN WIN	
-48.5											
-58.5											
-68.5											
	Ļ										
		.51 GHz 1 MHz			-40./F	зжі з мн	-			100 MHz	CF Step
#ке	SBW	1 IVIAZ			#VE	5WV 31VIH	z		5W	eep 1 ms	10.000000 MHz
	).	pied Band	width			Total P	ower	17	.7 dBm		<u>Auto</u> Man
1 4	licu	pieu Banu			_	Totall	01101				
			36.6	91 MI	ΗZ						Freq Offset
т	rans	mit Freq Er	ror	18.425 I	(Hz	OBW P	ower	9	99.00 %		0 Hz
x	dB E	Bandwidth		54.52 N	1Hz	x dB		-2	6.00 dB		
MSG								STA	rus		

	rum Analyzer - Oco										
Center Fre	RF <u>50 Ω</u> cq 5.55000		z	Center Fr	NSE:INT req: 5.55000		ALIGN A		Radio Std:	4 Aug 31, 2015 None	Frequency
		#IF(	Gain:Low	Trig: Free #Atten: 3		Avg Hol	a:>10/10	,	Radio Dev	ice: BTS	
10 dB/div	Ref Offset Ref 21.5										
Log 11.5											Center Fred
1.50			Mappinen	dankas Aktoretikory	parameter in the second s	and the second sec	1				5.55000000 GHz
-8.50			/				V				
-28.5	All and a start	pyrathikandbl	•				<sup>ra</sup> yahadi <sub>n</sub> a	1 <sup>04</sup> 1 Julyan	*** <b>**</b> *************	alow on your to	
-38.5										1	
-40.5											
-68.5							-				
Center 5.5 #Res BW 1				#VE	swi 3 MH	z				100 MHz ep 1 ms	CF Step 10.000000 MHz
Occupi	ed Band	width			Total P	ower		17.6	dBm		<u>Auto</u> Mar
		36.7	56 MI	Ηz							Freq Offset
Transmi	it Freq Err	or	62.975 k	κHz	OBW P	ower		99.	.00 %		0 Hz
x dB Ba	ndwidth		50.34 N	1Hz	x dB			-26.0	0 dB		
MSG							s	STATUS			ľ



	ht Spectrum Analyzer -	Occupied BW								
LXI RL		Ω AC			NSE:INT		ALIGN AUTO		M Aug 31, 2015	Frequency
Cente	r Freq 5.670	000000 GI	Ηz		req: 5.67000		1	Radio Std	: None	riequency
		#16	Gain:Low	Trig: Fre #Atten: 3		Avginoi	d:>10/10	Radio Dev	vice: BTS	
10 dB/d		set 1.5 dB .50 dBm						-		
Log 11.5										Center Freq
1.50			for a construction of the second	anistrophenikari, f	and Marinet and	ad a survey of the survey of				5.67000000 GHz
-18.5			1							
-28.5	and the second second second	inter and the statest	-				will year through a	www.	an ann ann an Ar Sha	
-38.5									*	
-58.5										
-68.5										
	r 5.67 GHz BW 1 MHz			#VE	зки з мн	z			100 MHz ep 1 ms	<b>CF Step</b> 10.000000 MHz
Ос	cupied Bar	ndwidth			Total P	ower	17.3	dBm		<u>Auto</u> Man
		36.7	'07 Mł	Ηz						Freq Offset
Tra	nsmit Freq E	rror	-27.703	Hz	OBW P	ower	99	.00 %		0 Hz
x di	B Bandwidth	1	55.07 N	IHz	x dB		-26.	00 dB		
MSG							STATUS			<u> </u>



Product	:	OTT BOX
Test Item	:	Maximum conducted output power
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11ac-20BW-7.2Mbps)

Cable lo	oss=1dB	Maximum conducted output power									
	F										
Channel No.	Frequency	VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	Required Limit
	(MHz)		Measurement Level (dBm)								
144 (Band3)	5720	14.9	14.85	14.79	14.73	14.68	14.61	14.55	14.49	14.41	<24dBm
144 (Band4)	5720	9.13	9.01	8.95	8.88	8.79	8.75	8.64	8.52	8.44	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

### Maximum conducted output power Measurement:

Channel No	Frequency Range	26 dBOutputBandwidthPower		Outp	Result	
	(MHz)	(MHz) (dBm) (dBm)		dBm+10log(BW)		
144(Band3)	5720	14.804	14.90	24	22.70	Pass
144(Band4)	5720		9.13	30		Pass

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

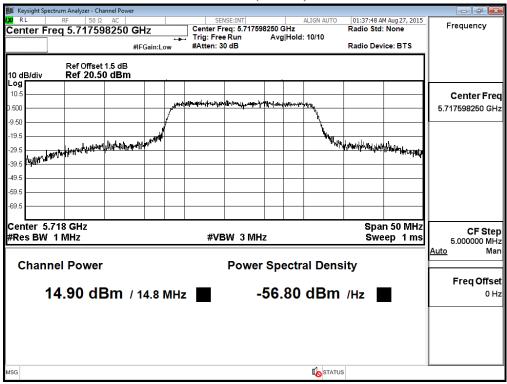


# 26 dB Occupied Bandwidth:

	rum Analyzer - Occu							-			
Center Fre	RF 50 Ω	AC 0000 GH	z	Center F	NSE:INT req: 5.72000		ALIGN AUTO	Radio Std	M Aug 27, 2015 : None	Frequ	lency
			Gain:Low	Trig: Fre #Atten: 3		Avg Hol	d: 10/10	Radio Dev	rice: BTS		
10 dB/div	Ref Offset 1 Ref 20.50						ΔMkr1		35 MHz 3306 dB		
Log 10.5 D.500		•	<u>1</u> Δ2	ليدريهم يورك يستردينهم	AL	2	4				n <b>ter Freq</b> 0000 GHz
-9.50 -19.5	read the shade of the last of the state of t	NAMAGONAL AND					N. White way	with the share with the state of the state o	an Markon Augusta		
-39.5											
-69.5											
Center 5.7: #Res BW 1				#VE	SW 3 MH	z			n 50 MHz eep 1 ms	5.00	CF Step 0000 MHz
Occupi	ied Bandv	width			Total P	ower	21.3	dBm		<u>Auto</u>	Man
		19.6	07 MI	Ηz						Fre	eq Offset
Transmi	it Freq Erro	or -	21.424	κHz	OBW P	ower	99	.00 %			0 Hz
x dB Ba	ndwidth		41.87 N	IHz	x dB		-26.	00 dB			
MSG								1			

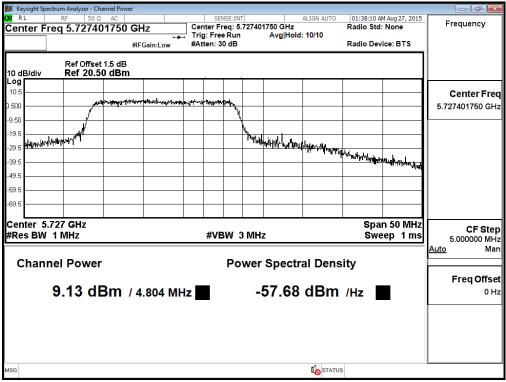


### Maximum conducted output power:



### Channel 144 (Band 3)

### Channel 144 (Band 4)





Product	:	OTT BOX
Test Item	:	Maximum conducted output power
Test Site	:	No.3 OATS
Test Mode	:	Mode 5: Transmit (802.11ac-40BW-15Mbps)

Cable loss	Cable loss=1dB		Maximum conducted output power										
Channel Ma	Frequency		Data Rate (Mbps)									Required	
Channel No	(MHz)	VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	Limit	
142F(Band3)	5710	15.97	15.82	15.74	15.65	15.57	15.52	15.47	15.41	15.36	15.31	<24dBm	
142F(Band4)	5710	5.69	5.63	5.54	5.49	5.41	5.33	5.24	5.14	5.02	4.93	<30dBm	

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

## Maximum conducted output power Measurement:

Channel No	Frequency Range	26 dB Bandwidth	Output Power	Outpu	Result		
	(MHz)	(MHz)	(dBm)	(dBm)	dBm+10log(BW)		
142F(Band3)	5710	33.936	15.97	24	26.31	Pass	
142F(Band4)	5710		5.69	30		Pass	

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



# 26 dB Occupied Bandwidth:

	ectrum Analyzer - Occ									
Center F	RF 50 Ω Freq 5.71000		7		NSE:INT rea: 5.71000	0000 GHz	ALIGN AUTO	01:40:08 A Radio Std	M Aug 27, 2015 : None	Frequency
Center I	1000		÷+-		e Run	Avg Hol	d: 10/10	Radio Dev		
		#IFG	Sain:Low	#Atten: 3	0 dB					
	Ref Offset						ΔΜΚΙ		36 MHz 2150 dB	
10 dB/div Log	Ref 20.5	0 dBm	·	1	1			-9.4	2150 UB	
10.5			Δ1Δ2			2				Center Freq
0.500										5.710000000 GHz
-9.50			<b>/</b>							
-19.5	printer warded in the	<b></b>					www.	Makasharikaya	allastary and a	
-29.5								-	· · · · · · · · · · · · · · · · · · ·	
-39.5										
-49.5										
-59.5										
-69.5										
								_		
Center 5 #Res BW				#\/E	зжіз мн	7			100 MHz ep 1 ms	CF Step
#Res DW				#VC		2		SWC	ep mis	10.000000 MHz Auto Man
Occu	pied Band	width			Total P	ower	22.0	dBm		Auto Mari
		37 8	72 MI	47						
		07.0		12						Freq Offset
Trans	mit Freq Err	or -	182.69	kHz	OBW P	ower	99	.00 %		0 Hz
x dB E	Bandwidth		86.99 N	(Hz	x dB		-26.	00 dB		
MSG								5		L
							-			

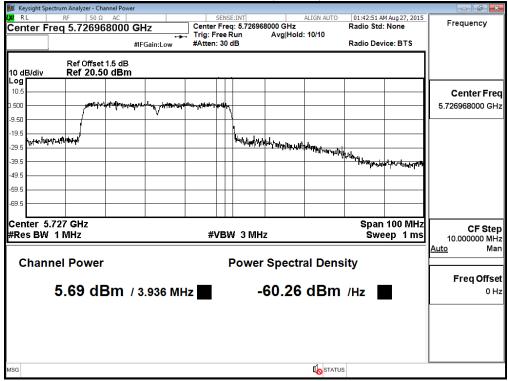


### Maximum conducted output power:

#### 📕 Keysight Spectrum Analyzer - Channel Pow 01:42:29 AM Aug 27, 2015 Radio Std: None R Center Freq: 5.708032000 GHz Trig: Free Run Avg|Hol #Atten: 30 dB ALIGN AUTO Center Freq 5.708032000 GHz Frequency Avg|Hold:>10/10 Radio Device: BTS #IFGain:Low Ref Offset 1.5 dB Ref 20.50 dBm 10 dB/div og 10.5 **Center Freq** 5 708032000 GHz .500 9.50 19.( Weiker with a with which we are ate where where a stranger with arigh<sup>the des</sup>lothe 29.5 MARAN AND 39.8 49. 597 69.9 Center 5.708 GHz Span 100 MHz CF Step 10.000000 MHz #Res BW 1 MHz #VBW 3 MHz . Sweep 1ms <u>Auto</u> Man **Channel Power Power Spectral Density** Freq Offset 15.97 dBm / 33.94 мнz -59.34 dBm /Hz 0 Hz **I**STATUS

### Channel 142 (Band 3)

### Channel 142 (Band 4)





Product	:	OTT BOX
Test Item	:	Maximum conducted output power
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps)

Cable lo	ss=1dB	Maximum conducted output power										
Channal Na	Frequency		Data Rate (Mbps)									
Channel No	(MHz)	VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	Limit
42	5210	15.3	15.21	15.13	15.05	14.94	14.82	14.71	14.62	14.59	14.48	<24dBm
58	5290	15.88	15.82	15.75	15.62	15.51	15.43	15.38	15.29	15.17	15.05	<24dBm
106	5530	16.48	16.42	16.34	16.22	16.1	15.99	15.88	15.82	15.78	15.71	<24dBm
138 (Band3)	5690	15.92	15.84	15.79	15.72	15.66	15.57	15.42	15.38	15.29	15.14	<24dBm
138 (Band4)	5690	1.16	1.13	1.08	1.04	0.98	0.91	0.85	0.73	0.69	0.61	<30dBm
155	5775	15.24	15.17	15.02	14.95	14.82	14.72	14.65	14.57	14.46	14.38	<30dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

### Maximum conducted output power Measurement

Channel No	Frequency Range	26 dB Bandwidth	Output Power	Outj	put Power Limit	Result
	(MHz)	(MHz)	(dBm)	(dBm)	dBm+10log(BW)	Pass
42	5210		15.30	24		Pass
58	5290	76.529	15.88	24	29.84	Pass
106	5530	76.701	16.48	24	29.85	Pass
138(Band3)	5690	73.244	15.92	24	29.65	Pass
138(Band4)	5690		1.16	30		Pass
155	5775		15.24	30		Pass

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



# 26 dB Occupied Bandwidth:

# Channel 42

		Analyzer - Oco									
<mark>LXI</mark> RL Cente		F 50 Ω	AC 00000 GH	7		NSE:INT req: 5.21000	0000 GHz	ALIGN AUTO	01:45:57 A Radio Std	M Aug 27, 2015 None	Frequency
Contra		5.2 1000		ain:low		e Run	Avg Hold	1: 10/10	Radio Dev	ion BTS	
			#IFG	ain:Low	#Atten: 5	UUD			Radio Dev		
10 dB/		Ref Offset Ref 20.5									
Log	iaiv	Rei 20.0		·		T	<u> </u>				
10.5 —											Center Freq
D.500 —				and the second	and the second state of th		· ····	h.			5.210000000 GHz
-9.50 —											
-19.5 —								What have a strength of the st	AL 18.		
-29.5 m	ally there	╢╚┲╗╲┶┇┊╏╱╼╬┿╗╠╝╱	a <sub>by</sub> stare <sub>n w</sub> hidh gold					الحمد ، ،	······································	en Marthal	
-39.5 —											
-49.5 —											
-59.5 —											
-69.5 —											
Conto	er 5.21	247							Snan	200 MHz	
	BW 1				#VE	змі з мн	z			ep 1 ms	CF Step 20.000000 MHz
						T-4-1 D		24.4	ID		Auto Man
00	cupie	d Band				Total P	ower	21.1	dBm		
			76.1	57 MI	Ηz						Freq Offset
Tra	ansmit	Freq Err	ror	55.314 I	κHz	OBW P	ower	99	.00 %		0 Hz
xd	IB Band	dwidth		97.20 N	1Hz	x dB		-26.	00 dB		
MSG								<b>K</b> STATUS			

RL         RF         50 Ω         AC         SENSE:INT         ALIGN AUTO         01:48:41 AM Aug 27, 2015           Center Freq         5.290000000 GHz         Center Freq: 5.290000000 GHz         Radio Std: None         Radio Std: None           #IFGain:Low         #IFGain:Low         #Atten: 30 dB         Avg Hold: 10/10         Radio Device: BTS           10 dB/div         Ref Offset 1.5 dB         Content Freq 20.50 dBm         Center freq 20.50 dBm         Center freq 20.50 dBm	uency nter Freq 10000 GHz
Ref Offset 1.5 dB         Center Freq 5.29000000 GHz         Radio Std: None         Frequencies           #IFGain:Low         #IFGain:Low         #Avg Hold: 10/10         Radio Device: BTS         Center Freq 5.29000000 GHz         Radio Device: BTS           0         #IFGain:Low         #Avg Hold: 10/10         Radio Device: BTS         Center Freq 5.29000000 GHz         Radio Device: BTS           0         #IFGain:Low         #Avg Hold: 10/10         Radio Device: BTS         Center Freq 5.29000           10 dB/div         Ref Offset 1.5 dB         Center Freq 5.29000         Center Freq 5.29000         Center Freq 5.29000           10.5	nter Freq
Center Freq 5.290000000 GHz         Sener Freq 5.290000000 GHz         Radio Stal. None           #FGain:Low         #Atten: 30 dB         Radio Device: BTS           10 dB/div         Ref 20.50 dBm         Center Freq 3.2900000000 GHz         Center Freq 3.29000000000000000000000000000000000000	nter Freq
#FGain:Low         #Atten: 30 dB         Radio Device: BTS           10 dB/div         Ref 20.50 dBm	- 11
Ref Offset 1.5 dB         Centre           10 dB/div         Ref 20.50 dBm           10.5	- 11
10 dB/div       Ref 20.50 dBm         Log       Image: Constraint of the second s	- 11
10 dB/div         Ref 20.50 dBm         Central           Log	- 11
10.5     Cen       1.500	- 11
0.500	- 11
9.50	00000 GHz
9.50	
19.5	
-39.5 	
-39.5	
-39.5 	
-49.5	
-59.5	
-69.5	
	CF Step
	0000 MHz
Auto	Man
Occupied Bandwidth Total Power 21.7 dBm	
76.259 MHz	
Free Free Free Free Free Free Free Free	eq Offset
Transmit Freg Error -2.511 kHz OBW Power 99.00 %	0 Hz
x dB Bandwidth 123.7 MHz x dB -26.00 dB	



Channel 106
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🊺 Keysight	t Spectrum Analyzer - Oo									
uxu <sub>RL</sub> Center	RF 50 Ω Freq 5.5300		z	Center Fr	NSE:INT req: 5.53000		ALIGN AUTO	01:52:00 A Radio Std	M Aug 27, 2015 : None	Frequency
			ain:Low	Trig: Free #Atten: 3		Avg Hold	d: 10/10	Radio Dev	rice: BTS	
10 d <u>B/d</u> i	Ref Offset									
10.5			-		person and person					Center Freq 5.53000000 GHz
-9.50			1				1 N			5.53000000 GHZ
-19.5	W. Martinetter	a way of the lot of the second					Meerlylowithmeter	weer-weetyman-lawy	www.unhippy,	
-39.5										
-49.5 -59.5										
-69.5										
	5.53 GHz W 1 MHz			#VE	sw. змн	z			200 MHz ep 1 ms	CF Step 20.000000 MHz
Occ	upied Banc	dwidth			Total P	ower	22.0	dBm		<u>Auto</u> Man
		76.7	01 MI	Ηz						Freq Offset
Tran	nsmit Freq Er	ror	128.70	Hz	OBW P	ower	99	.00 %		0 Hz
x dB	8 Bandwidth		139.6 N	IHz	x dB		-26.	00 dB		
MSG								\$		

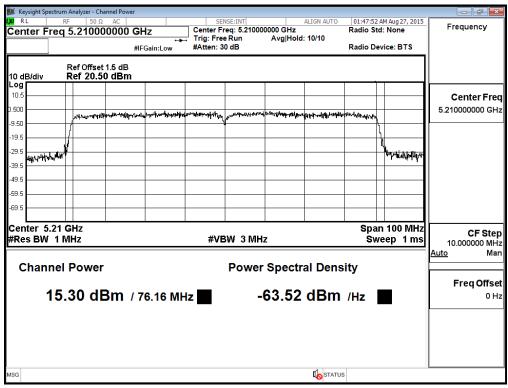
	trum Analyzer - Occupied	BW						
Center Fre	RF 50 Ω AC eq 5.69000000		SENSE:INT Center Freg: 5.6900	00000 GHz	ALIGN AUTO	01:57:49 A Radio Std	M Aug 27, 2015	Frequency
	eq 5.0500000	-+-	Trig: Free Run	Avg Hol	d: 10/10			
		#IFGain:Low	#Atten: 30 dB			Radio Dev		
10 dB/div	Ref Offset 1.5 c Ref 20.50 dE				ΔMkr1		35 MHz 7041 dB	
Log 10.5		<u></u> 1Δ2			2			Center Freq
D.500		from the second	un har man have been been have	enon mark	1			5.69000000 GHz
-9.50								
-19.5	water all a state and a state of the state o	<sup>ال</sup> ابيو( <sup>م</sup> ازمەير				www.uuw.u	ա. Դես Իսենի Մուսը	
-29.5								
-49.5								
-59.5								
-69.5								
Center 5.6 #Res BW			#VBW 3 M	Hz	11		200 MHz ep 1 ms	CF Step 20.000000 MHz
Оссир	ied Bandwid	lth	Total	Power	22.0	dBm		Auto Man
		 6.487 Mł	47					<b>E</b>
-				<b>-</b>		00.0/		Freq Offset 0 Hz
	it Freq Error	-51.095		Power		.00 %		
x dB Ba	ndwidth	150.4 N	lHz xdB		-26.	00 dB		
MSG					<b>K</b> STATUS			

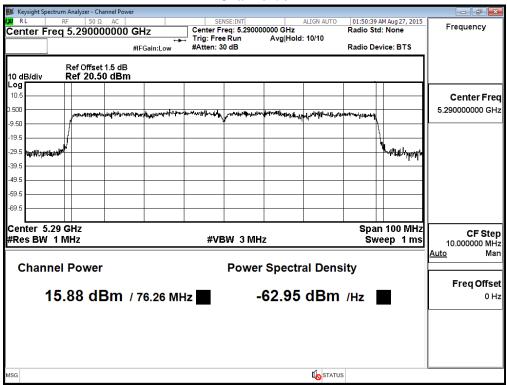


		C	Channel 155			
	t Spectrum Analyzer - Occupied	BW				
Center	RF 50 Ω AC Freq 5.77500000	DO GHZ #IFGain:Low Cent Trig: #Atte	SENSE:INT er Freq: 5.775000000 GHz Free Run Avg Hold en: 30 dB	Radio 5 d: 10/10	15 AM Aug 27, 2015 Std: None Device: BTS	Frequency
10 dB/di Log		3m			- Manufue Marie	Center Freq 5.775000000 GHz
	5.775 GHz W 1 MHz		#VBW 3 MHz		an 100 MHz weep 1 ms	CF Step 10.000000 MHz
Осо	upied Bandwic	dth 6.002 MHz	Total Power	21.0 dBm		<u>Auto</u> Man
	nsmit Freq Error Bandwidth	-10.889 kHz 99.85 MHz	OBW Power x dB	99.00 % -26.00 dB		Freq Offset 0 Hz
MSG				STATUS		

### Maximum conducted output power:

Channel 42







<b>Channel</b>	106
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		um Analyzer - Ch									
	nter Fre	RF 50 Ω q 5.53000		47		NSE:INT rea: <b>5.53000</b>	0000 GHz	ALIGN AUTO	01:54:03 Radio Sto	AM Aug 27, 2015 d: None	Frequency
001	ilei i ie	q 5.55000		++		e Run	Avg Hold	i: 10/10	Dedie De	vice: BTS	
_			#IF	Gain:Low	#Atten: 3				Radio De	VICE: DTS	
		Ref Offset									
10 c Log	B/div	Ref 20.5	U aBM					-	<u> </u>		
10.5	5										Center Freq
D.500	)	alumitaria	he-t-hereiter					والتعديدية والمراجع	6 <sup>464</sup> 01.87448		5.53000000 GHz
-9.50	)	1				Ψ	-				
-19.5										1	
-29.5	; 18744-14-14	rla								Herebyer	
-39.5	;										
-49.5	;										
-59.5	i							-			
-69.5	;										
<b>.</b>	nter 5.53									- 400 MIL-	
	es BW 1				#VE	зжіз мн	z		spai Sw	n 100 MHz eep 1 ms	CF Step
											10.000000 MHz Auto Man
	Channe	el Power				Power	Spectr	al Dens	sitv		
									,		Freq Offset
	16	6.48 dE	3m / 7	6 7 MH		_	62 37	dBm	/47		0 Hz
				0.7 10112	-	_	02.07	ubiii	/112		0112
MSG								🚺 STATU	s		

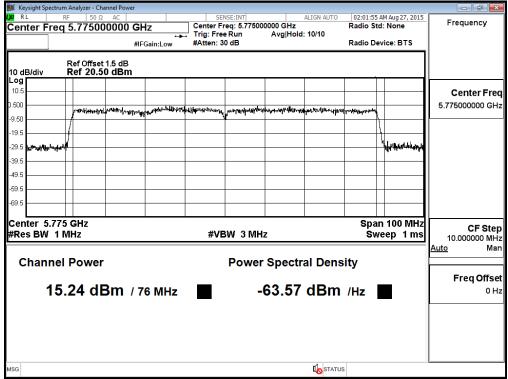
## Channel 138 (Band3)

🊺 Keysight S	Spectrum Analyzer - Ch	annel Power								
LXI RL	RF 50 Ω				SE:INT		ALIGN AUTO		M Aug 27, 2015	Frequency
Center	Freq 5.68837	78250 GH	Z	Center Fre Trig: Free		78250 GHz Avg Hold	. 40/40	Radio Std	: None	requeries
		#IEG	⊶ ain:Low	#Atten: 30		Avginoid	1. 10/10	Radio Dev	rice: BTS	
		mi c	unit.cow							
	Ref Offset									
10 dB/div	Ref 20.5	0 dBm								
Log										
10.5										Center Freq
D.500		+ +	19 Annual and 199	www.whiteman	mblenewmi	بال بيطيلية فعرف الا				5.688378250 GHz
-9.50			L on Mill and .	440 · · · · · · · · · · · · · · · · · ·	р <b>р</b> . р	- WILLY - Providence of the	1			
-19.5			1				}			
			1				1			
-29.5	<sub>างสู่ระบร<sup>ุ</sup>สแม่วันสวมใช้เพร<sub>ิ</sub>สต</sub>	A A PART OF THE APPROVE					NIN WEARING	minerurullacijuru		
-39.5	ν <b>τ</b>		_						ዀኯኯኯኯኯ	
-49.5										
-59.5								-		
-69.5										
Center	5.688 GHz							Span	200 MHz	CF Step
#Res BV	N 1 MHz			#VB۱	N/3 MH	z		Swe	ep 1 ms	20.000000 MHz
										Auto Man
Char	anal Dawar				Device	Cineati	ol Den	a inter		
Char	nnel Power				Power	r Specti	al Den	sity		
										Freq Offset
	15.92 dE	3m / 73	3 24 MF	7	-	62 72	dBm	/Hz		0 Hz
									-	
MSG							<b>I</b> STAT			
Mag							No stati	03		



### Channel 138 (Band4)

				annel Power									- đ <b>×</b>
Cen	_	<sub>R</sub> ⊧ req 5	.72662	AC 21750 GH	lz	Center F	req		1750 GHz Avg Hold	ALIGN AUTO	Radio Std	M Aug 27, 2015 None	Frequency
				#IF	Gain:Low	#Atten:					Radio Dev	ice: BTS	
10 dE	3/div		ef Offset ef 20.5						_		-		
Log 10.5													Center Freq
0.500			mennet		en y Maleration	The state of the							5.726621750 GHz
-9.50					r .		h						
-19.5 -29.5	والمعاد	ایندین						لطويتقد	l				
-39.5		<b>T</b>					#	, in straight	a Anna Matateria	aller and the second states and the second s	Ma Marine	water	
-49.5							╢					whethere	
-59.5													
-69.5													
		.727 C				#VI	ви	/ ЗМН	z			200 MHz ep 1 ms	CF Step 20.000000 MHz
													<u>Auto</u> Man
С	han	nel F	ower				F	ower	Spect	ral Dens	ity		
		1 1	6 dF	Rm / 3	.244 MH	17		_	63 95	dBm	/47		Freq Offset 0 Hz
		•••	U UL	<b>3</b> 11 7 3	.244 1011	12			00.00	ubiii	/112		
MSG											S		



# 4. Peak Power Spectral Density

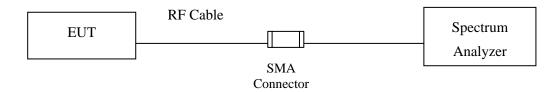
### 4.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2015
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2015
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr, 2015

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.

### 4.2. Test Setup



### 4.3. Limits

(1) For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the

equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. (**iv**) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.+

- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

### 4.4. Test Procedure

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer.

SA-1 method is selected to run the test.

For the band 5.725-5.85 GHz, Scale the observed power level to an equivalent value in 500 kHz by adjusting (increase) the measured power by a bandwidth correction factor (BWCF) where  $BWCF = 10\log (500 \text{ kHz}/100 \text{ kHz}) = 6.98 \text{ dB}.$ 

# 4.5. Uncertainty

± 1.27 dB



# 4.6. Test Result of Peak Power Spectral Density

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

Channel Number	Frequency (MHz)	Data Rata (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	6	4.710	11	Pass
44	5220	6	4.890	11	Pass
48	5240	6	4.670	11	Pass
52	5260	6	5.140	11	Pass
60	5300	6	3.653	11	Pass
64	5320	6	3.943	11	Pass
100	5500	6	4.429	11	Pass
116	5580	6	-0.060	11	Pass
140	5700	6	0.210	11	Pass

Channel Number	Frequency (MHz)	Data Rata (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	6	-3.15	6.98	3.83	<30	Pass
157	5785	6	-4.37	6.98	2.61	<30	Pass
165	5825	6	-4.96	6.98	2.02	<30	Pass



							Swept SA	um Analyzer - Si	gilent Spectru
A Station of the	02:46:21 AM Aug 25, 2015	NAUTO		ENSE:INT	SE		AC AC	RF 50.	RL
Frequency	TRACE 1 2 3 4 5 6	MS	#Avg Type:	Look a	Sec. Cal	GHz	0000000	reg 5.1800	enter Fr
a la carto	DET A NNNN			ee Run 30 dB	Trig: Fre #Atten: 3	PNO: Fast 😱 IFGain:Low			
Auto Tun	5.178 250 GHz 4.71 dBm	Mkr1						Ref Offset 1 Ref 21.50	0 dB/div
Center Fre					1.1				.og
5.180000000 GH				-	A1				11.5
	×				1				1.50
Start Fre	×								1.50
5.167500000 G	N.						1	1	3.50
Stop Free 5.192500000 GH:	No.		-	-	_			- Low Mark	18.5
	New							2°	28.5
CF Ste									
2.500000 MH							i li i		18,5
					_				48.5
Freq Offse									58.5
0 H									
									i8.5
	Span 25 00 Mile		4		-			18000 GHz	Contor E 4
	Span 25.00 MHz 000 ms (1001 pts)	eep 1.	S	z	3.0 MHz	#VBW :	2		Res BW 1
	STATUS								SG

#### Channel 36:

Channel 44:

KIL RF 50Ω AC		SENSE(INT		IGNAUTO		4 Aug 25, 2015	- Harange and
Center Freq 5.220000000	PNO: Fast 💭	] Trig: Free Run	#Avg Type:	RMS	TRAC	E 123456 A WAVAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Frequency
Ref Offset 1.5 dB	IFGain:Low	#Atten: 30 dB		Mkr1 8	5.218 5	25 GHz 89 dBm	Auto Tun
10 dB/div Ref 21.50 dBm			7		4.	os ubili	
11:5		<b>♦</b> 1					
8.50					1		Start Fre 5.207500000 GH
18.5					July Contract	Millionaryance	Stop Fre 5.232500000 GH
48.5							CF Ste 2.500000 MH Auto Ma
58.5							Freq Offso 0 F
68.5							
Center 5.22000 GHz #Res BW 1.0 MHz	#VBW	3.0 MHz	s	weep 1.0	Span 2 100 ms (	5.00 MHz 1001 pts)	
ISG				STATUS	*		<u> </u>



🖬 RL RF 50Ω A		SENSE(INT	ALIGNAUTO	02:52:08 AM Aug 25, 2015	Entertaint
Center Freq 5.2400000	PNO: Fast 💭	Trig: Free Run	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWWWW DET A N N N N N	Frequency
Ref Offset 1.5 dB	IFGain:Low	#Atten: 30 dB	Mkr1	5.242 775 GHz	Auto Tune
0 dB/div Ref 21.50 dBn				4.67 dBm	-
					Center Fre
11.5			<b>♦</b> <sup>1</sup>		5.240000000 GH
1.50					Start Fre
8.50					5.227500000 GH
18.5				han	Stop Free 5.252500000 GH
28.5	_ 1			N.	
38.5		= .E			CF Ste
		i=			2.500000 MH <u>Auto</u> Ma
48.5					
58.5					Freq Offse 0 H
68.5					
Center 5.24000 GHz #Res BW 1.0 MHz	#VBW	3.0 MHz	Sweep 1	Span 25.00 MHz .000 ms (1001 pts)	
ISG			STATU	5	

Channel 48:

Channel 52:

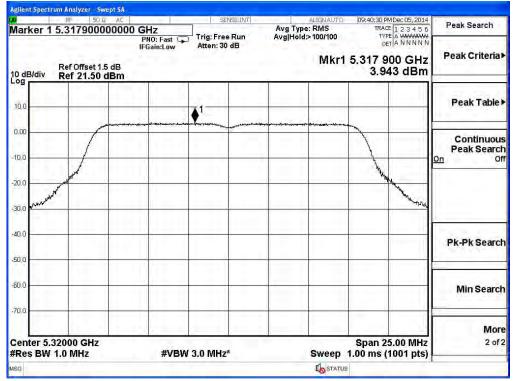




				inner ou:	Chan					
								n Analyzer - Sw		
Peak Search	09:56:20 PMDec 05, 2014 TRACE 1 2 3 4 5 6	ALIGN AUTO	Avg Typ	SENSE:INT		CHY		RF 50 S	arkor 1.5	
NextPeal	TYPE A WANAWAW DET A N N N N N	Trig:FreeRun AvgiHold:>100/100 TVEEAWWW Atten:30 dB DETAININ Mkr1 5.298 250 GH			PNO: Fast Trig: Free Run			Ref Offset 1. Ref 21.50		
Next Pk Righ										
			-	m went and			-	1	00	
Next Pk Lef				1						
Marker Detta	Mary Mary Mary Mary							aller all all all all all all all all all al		1.0
Mkr→C									).0 ).0	
Mkr→RefLv										
1.30									),0	
More 1 of 2	Span 25.00 MHz 00 ms (1001 pts)	Sweep 1	-	VIHz*	W 3.0 MH	#VBW	9	0000 GHz .0 MHz	enter 5.30 Res BW 1.	
		STATUS	-						3	

#### Channel 60:

Channel 64:





					um Analyzer - Swept SA	gilent Spectru
Frequency	09:41:23 PM Dec 05, 2014	ALIGNAUTO	SENSE:INT		RF 50 Q AC	1
Frequency	TRACE 123456	g Type: RMS		GHz	reg 5.500000000	Center Fre
Auto Tun	TYPE A WWAAWAW DET A NNNNN 5.506 775 GHz 4.429 dBm	g Hold:>100/100 Mkr1	Trig: Free Run Atten: 30 dB	PNO: Fast 😱 IFGain:Low	Ref Offset 1.5 dB Ref 21.50 dBm	0 dB/div
				1		og
Center Fre						·
5.500000000 GH		+1				10.0
5.50000000 GF		•				
	~		and the second	nourmention	man	
1						0.00
Start Fre	1			1 1 2 4	1	
5.487500000 GH					1	10.0
	X I				1	10.0
	Nr.			1.	WAT	
	~				, MINT	20.0
	Manuface					-20.0
5.512500000 GH				1.1.1.1.1.1.1		-30.0
						30,0
100.000						
CF Ste						40.0
2.500000 MH						
Auto Ma	· · · · · · · · · · · · · · · · · · ·				1 × 1 × 1 × 1	50.0
1				11 12 2 1 1		50.U
· ····	-					
Freq Offs						60.0
0 H						
						70.0
						70.0
	Span 25.00 MHz			100.000	50000 GHz	
	1.00 ms (1001 pts)	Sweep '	3.0 MHz*	#VBW 3	1.0 MHz	Res BW 1
		TATUS				ASG
		COLO. MIDS				

#### Channel 100:

#### Channel 116:





				manner 17				
						wept SA	n Analyzer - Swa	
Fulderada	12:14:18 AM Dec 05, 2014	ALIGNAUTO	-	SENSE:INT		Ω AC		RL
Frequency	TRACE 1 2 3 4 5 6	e: RMS	#Avg Typ	and a standard	SHz	000000 G	q 5.70000	Center Fre
	TYPE A WANAMAA DET A N N N N N			Trig: Free Run	PNO: Fast 😱 IFGain:Low	F		
10000	DELIMINATION			#Atten: 30 dB	IFGain:Low	IF		
Auto Tune	5.705 425 GHz	Mkr1						
	0.21 dBm						Ref Offset 1.5	
( ·	0.21 00111				17.	dBm	Ref 21.50 c	I0 dB/div
a. 20. 20. 20. 20.						a present of	1.0	
Center Free	a second a second a	1		1.001		1	1.1.1.1.1.1.1.1	
5.70000000 GH		-	-		-	-	-	10.0
Contraction of the		▲1						
1		•						0.00
Diant France	New		- and	and the second s		- man	S.	0.00
Start Free							A.	
5.687500000 GH	1						1	10.0
	X							
Stop Fre							1	Real Providence
	State of the second sec					-		20.0
	White was						de la compañía de la comp	
5.712500000 GH	No.						C	30.0
								1
								-ANA
CF Step	1 million	-	-		-	-	-	40.0
2.500000 MH								
<u>Auto</u> Mar								50.0
					1 1	1 1 2		-50.0
								1.
Freq Offse								60.0
0 H				· · · · · · · · · · · · · · · · · · ·				
								-70.0
					4.	-	1	
	Span 25.00 MHz						0000 GHz	Center 5.70
	.00 ms (1001 pts)	Sweep 1		3.0 MHz	#VBW		.0 MHz	Res BW 1
		TATUS						100
		STATUS						ISG

#### Channel 140:

Channel 149

Agilent Spectrum Analy RL RF	50 Q AC		SENSE:INT	ALIGN	AUTO 03:18:09/	AM Aug 25, 2015	
Center Freq 5.		PNO: Fast 💭	Trig: Free Run	#Avg Type: RM	IS TR/ T	ACE 1 2 3 4 5 6	Frequency
		IFGain:Low	#Atten: 30 dB			DETANNNNN	Auto Tun
	ffset 1.5 dB 21.50 dBm		1. J.	N	/kr1 5.743 -3	725 GHz .15 dBm	Auto Tun
11.5							Center Fre 5.745000000 GH
8.50	polymon	AMAAAAAAAAA	nang prine		nmm		Start Free 5.732500000 GH
18.5 28.5	and the second s				have		Stop Fre 5.757500000 GH
48.5						Marchy	CF Ste 2.500000 MH <u>Auto</u> Ma
58.5							Freq Offse 0 H
-68.5			- 1 -			1	
Center 5.74500 #Res BW 100 kl		#VBW	300 kHz	Swe	Span ep 3.133 ms	25.00 MHz (1001 pts)	
ASG			entre est		STATUS		L



			-	0				
						iwept SA	um Analyzer - Si	gilent Spectr
Frequency	03:21:12 AM Aug 25, 2015	ALIGN AUTO		SENSE:INT		Ω AC	RF 50	RL
Frequency	TRACE 1 2 3 4 5 6	e: RMS	#Avg Type	Sector Sector			req 5.7850	Center Fi
14.500 45.50	TYPE A WAXAAAAA DET A N N N N N	-	101.00	Trig: Free Run #Atten: 30 dB	PNO: Fast 😱 IFGain:Low	P IF)		
Auto Tun	5.783 750 GHz -4.37 dBm	Mkr1					Ref Offset 1 Ref 21.50	0 dB/div
Center Fre								J
5.785000000 G Start Fr 5.772500000 G Stop Fr					-			11.5
Start Ero				1		- X		1.50
5.772500000 GH	M-	MANNW	WWWW	www.pront	MANNWW	MMMMM	0	8.50
Stop Free				¥.				18.5
5.797500000 GH	John and the						- Antonio Cala	28.5
CF Ste	Maria				12.2		d.	38.5 ANNe
2.500000 MH	0.9						1	38.5
					1			48.5
Freq Offset 0 Ha								58.5
								68.5
	Span 25.00 MHz	<u> </u>					78500 GHz	Center 5.7
	.133 ms (1001 pts)	Sweep 3.		300 kHz	#VBW		100 kHz	Res BW
	STATUS						SG	

Channel 157

Channel 165

				.05	Chaimer				
							Swept SA	um Analyzer - Sw	
Figure 200	AM Aug 25, 2015		ALIGNAUTO		SENSE:INT		Ω AC		RL
Frequency	ACE 1 2 3 4 5 6 YPE A WWWWWW DET A N N N N N	TYP	e: RMS	#Avg Type	Trig: Free Run #Atten: 30 dB	HZ 'NO: Fast 😱 Gain:Low	P	req 5.8250	Center F
Auto Tune	750 GHz .96 dBm		Mkr1				1.5 dB	Ref Offset 1. Ref 21.50	10 dB/div
		The second		1		1			og
Center Free 5.825000000 GH					-				11.5
Start Fre				<b>●</b> <sup>1</sup>	These states				1.50
5.812500000 GH		m	uvv(uvv)	ANAA KAAKA	mm	<u>wwwww</u>	VYVVVVVVV	ſ	),50
Stop Free 5.837500000 GH		han						month	28.5
CF Stej 2.500000 MH Auto Ma	Juna								38.5 <del>34.400</del>
Freq Offse 0 H									58.5
									68.5
	25.00 MHz (1001 pts)	Span 2 133 ms (	Sweep 3	1	00 kHz	#VBW		82500 GHz 100 kHz	Center 5. #Res BW
		1	STATUS						ISG



Product	:	OTT BOX
Test Item	:	Peak Power Spectral Density
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Channel Number	Frequency (MHz)	Data Rata (Mbps)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	6	4.310	11	Pass
44	5220	6	4.560	11	Pass
48	5240	6	4.280	11	Pass
52	5260	6	4.700	11	Pass
60	5300	6	3.690	11	Pass
64	5320	6	3.650	11	Pass
100	5500	6	4.260	11	Pass
116	5580	6	4.450	11	Pass
140	5700	6	4.420	11	Pass

Channel Number	Frequency (MHz)	Data Rata (Mbps)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
149	5745	6	-4.24	6.98	2.74	<30	Pass
157	5785	6	-5.18	6.98	1.80	<30	Pass
165	5825	6	-5.41	6.98	1.57	<30	Pass



				Channel					
						wept SA	um Analyzer - Sw	gilent Spect	
-	03:02:06 AM Aug 25, 2015	ALIGNAUTO		SENSE:INT		Q AC	RF 50 S	RL	
AJ	TRACE 123456 TYPE A WWWWW	er Freq 5.180000000 GHz #Avg Type: RMS TRACE 1 2 3 4 5				er Freq 5.180000000 GHz PNO: Fast			
Auto Tur	DET A N N N N N	-		#Atten: 30 dB	FGain:Low	(F		_	
Auto Tu	5.182 700 GHz 4.31 dBm	Mkr1		- 21			Ref Offset 1. Ref 21.50	0 dB/div	
Center Fre									
5.180000000 GH			<b>♦</b> <sup>1</sup>					11.5	
Start Fre	-						1	1.50	
5.167500000 GH		-	-				1	9.50	
Stop Fre		_	-				w	18.5	
5.192500000 GH	Marine .			2.1				28.5	
CF Ste								38.5	
2.500000 MH Auto Ma							1 11 1		
								48.5	
Freq Offs 0 H		1						58.5	
								68.5	
	Span 25.00 MHz		· ·			4. JA	8000 GHz	Center 5.	
1 Caller	000 ms (1001 pts)	Sweep 1.		3.0 MHz	#VBW :		1.0 MHz	Res BW	
		STATUS						SG	

Channel 36

Channel 44

		-				
					Analyzer - Swept SA	ent Spectrum Ar
Frequency	03:04:33 AM Aug 25, 2015	ALIGNAUTO	SENSE:INT		RF 50 Ω AC	
Frequency	TRACE 123456	#Avg Type: RMS	34. C. TONA	) GHz	5.220000000	nter Freq
1000 200	TYPE A WAWAWAY DET A N N N N N		Trig: Free Run #Atten: 30 dB	PNO: Fast		
Auto Tun	5.221 750 GHz 4.56 dBm	Mkr1		- 1 - C	ef Offset 1.5 dB ef 21.50 dBm	
Center Fre						
5.220000000 GH						5
5.22000000 511		1.0	♦1	11.00		
Start Fre					1	0
5.207500000 GH	1			_		)
					K	
Stop Fre 5.232500000 GH	Lin					
CF Ste						-
2.500000 MH	· • · •					5
<u>Auto</u> Ma						5
Freq Offse				14 + 4 - 4		
0 H						5
						5
	Span 25.00 MHz 000 ms (1001 pts)	Sweep 1	3.0 MHz	#VBW :		nter 5.2200 es BW 1.0
		STATUS	Anne all'estates		A1. 199.20	



			4ð	Channe				
							um Analyzer - S	
Frequency	03:07:06 AM Aug 25, 2015 TRACE 1 2 3 4 5 6 TYPE A WAVAWAY	LIGNAUTO	#Avg Ty	SENSE(INT	GHz	0000000000000000000000000000000000000	RF 50 req 5.2400	Center F
Auto Tom	DET A N N N N N		-	Trig: Free Run #Atten: 30 dB	PNO: Fast 🖵 IFGain:Low		with the set	
Auto Tune	5.238 375 GHz 4.28 dBm	Mkr1					Ref Offset 1 Ref 21.50	10 dB/div
Center Fred	2							
5.240000000 GH;				<b>♦</b> <sup>1</sup>				11.5
Start Fred 5.227500000 GH:							1	-8.50
Stop Fred 5.252500000 GH;	1 con						and the second	-18.5
CF Step 2.500000 MH Auto Mar								38.5
Freq Offse 0 Hi		_						-58.5
			-					-68.5
	Span 25.00 MHz 000 ms (1001 pts)	weep 1.		.0 MHz	#VBW	z	24000 GHz 1.0 MHz	Center 5.: #Res BW
		STATUS						ASG

Channel 48

XIRL RF 50Ω AC		SENSE:INT	ALIGNAUTO	03:09:17 AM Aug 25, 2015					
Center Freq 5.2600000	Freq 5.260000000 GHz         #Avg Type: RMS         TRACE 1 2 3 4 5 6.           PN0: Fast         Trig: Free Run         TVPE A WWWWWW				Frequency				
Ref Offset 1.5 dB Mkr1 5.256 025 GHz 10 dB/div Ref 21.50 dBm 4.70 dBm									
- <b>O</b> g					Center Free 5.260000000 GH				
8.50					Start Fre 5.247500000 GH				
18.5				A hard and a second	Stop Fre 5.272500000 GH				
48.5					CF Ste 2.500000 MH Auto Ma				
58.6					Freq Offse 0 H				
-68.5				2 10 11 10 11					
Center 5.26000 GHz #Res BW 1.0 MHz	#VBW	3.0 MHz	Sweep	Span 25.00 MHz 1.000 ms (1001 pts)					
ISG			STAT	us	6				



				mer oo	U					
							wept SA	Analyzer - Sv		
Frequency	12:22:36 AM Dec 05, 2014	ALIGNAUTO		SENSE:INT				RF 50 9		KI RL
Frequency	TRACE 1 2 3 4 5 6	ype: RMS	#Avg	ree Run	].		000000	5.3000	er Fred	Cent
10.00	TYPE A WWWWWW DET A N N N N N			: 30 dB		PNO: Fast 😱 IFGain:Low				
Auto Tun		B.Alend 1				in Gam.cow				
	5.296 000 GHz 3.69 dBm	WKC1 :					.5 dB	ef Offset 1.	R	
	3.69 dBm	1.1.1					dBm	ef 21.50	/div R	10 dB
20.100.200	1 S and 1 S and 1						1.0	1.0		.°9
Center Free					-	1 - 1				12.2
5.30000000 GH		-				•1				10.0
			-	- man						
1. Date:	1	-		T	-			1		0.00
Start Free						1		5		
5.287500000 GH	- <u>\</u>		_		-			1		-10.0
	¥							1		
1	<b>N</b>					1.01			M	20.0
Stop Free									S	20.0
5.312500000 GH	and the second second								and and	
1.0000000000			1							30.0
CF Step		-	-	-	-		-	-	-	40.0
2.500000 MH Auto Mar										
Auto Iviai				-	-					50.0
1								1 1 1 1		
Freq Offse						4			Sec	60.0
он										00.0
011										
		-				1				70.0 -
								1		
	Coop 26 00 MUs	-	- (D.	-	_		-	000 GHz	or 5 200	L
	Span 25.00 MHz .00 ms (1001 pts)	Cwoor 4		U.7		#VBW			BW 1.0	
	.oo ms (1001 pts)	A COLORADA		12	¥ J.(	#VOW			DVV 1.0	rres
		To STATUS								ASG





				manner 10		And the second	
						Analyzer - Swept SA	
Frequency	12:31:02 AM Dec 05, 2014 TRACE 1 2 3 4 5 6	ALIGNAUTO	#Avg Typ	SENSE:INT	-	RF 50 Ω AC	RL
a Landa	TYPE A WARAWAY DET A NNNNN	e. Kivis	#Avg Typ	5.500000000 GHz PNO: Fast IFGain:Low #Atten: 30 dB			
Auto Tun	5.502 600 GHz 4.26 dBm	Mkr1				tef Offset 1.5 dB tef 21.50 dBm	
Center Fre						1	
5.50000000 GH			-1				10.0
5.50000000 GH			•				
	~						0.00
Start Fre	X				1 1 - 1		
5.487500000 GH	<u> </u>					f	10.0
-	N					1	~
Stop Fre	main allow						20.0
5.512500000 GH					· ·		
							30.0
CF Ste							40.0
2.500000 MH							
<u>Auto</u> Ma							50.0
Freq Offse							60.0
0 H							
1			-				70.0
					- 1, I I I	1	
	Span 25.00 MHz	1	- (p.	-		000 GHz	Center 5.5
	.00 ms (1001 pts)	Sweep 1		3.0 MHz	#VBW :		Res BW 1
		STATUS					ASG





		140	Channe			
					rum Analyzer - Swept SA RF 50 Ω AC	gilent Spectr
Frequency	12:49:19 AM Dec 05, 2014 TRACE 1 2 3 4 5 6	ALIGNAUTO Avg Type: RMS	SENSE:INT		RF 50 Ω AC Treq 5.700000000	
1 2.52	TYPE A WWWWWW DET A N N N N N	107 - Barris	Trig: Free Run #Atten: 30 dB	PNO: Fast C	100 0.100000000	officer 11
Auto Tune	5.696 950 GHz 4.42 dBm	Mkr1	1		Ref Offset 1.5 dB Ref 21.50 dBm	10 dB/div
Center Fred			1.1.1	1.1.1.1.1		Ug
5.700000000 GHz				1		10.0
Start Fred	1					0.00
5.687500000 GHz	<u>\</u>				1	-10,0
	h				1	
Stop Fred 5.712500000 GHz	and the second second				and the second s	30.0
1				1.00		
CF Step 2.500000 MHz Auto Mar						40.0
<u>tuto</u> indi						50.0
Freq Offsel						60.0
0 Hz						
						70.0
	Chap 25 00 MHz				70000 GHz	Contor 5 3
	Span 25.00 MHz .00 ms (1001 pts)	Sweep 1	3.0 MHz	#VBW		Res BW
		To STATUS				ISG

Channel 140

Channel 149

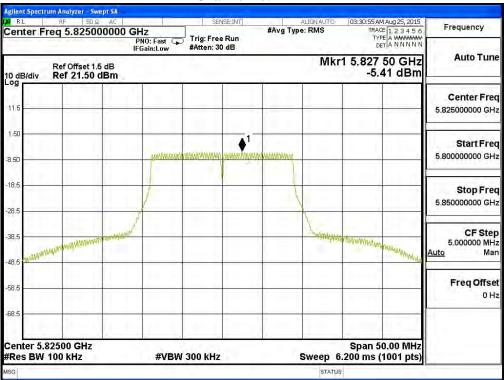
A RL RF	50 Ω AC		SENSE:INT		ALIGNAUTO	03:26:39 AM Aug 25, 2015			
Center Freq 5.74	er Freq 5.745000000 GHz PNO: Fast G IFGain: Low			r Freq 5.745000000 GHz #Avg Type: RMS TRACE 1.2.3.4.5 PNO: Fast Trig: Free Run Trig: Free Run				TRACE 1 2 3 4 5 6 TYPE A WARAWAY DET A N N N N N	Frequency
Ref Offse 10 dB/div Ref 21.3	t 1.5 dB	.ow *	Riten. So da		Mkr	1 5.740 00 GHz -4.24 dBm			
11.5							Center Fred 5.745000000 GH:		
8.50		NYMAMAPYWA	www.w	MMMMMMWWW.			Start Free 5.720000000 GH:		
-18.5							Stop Free 5.770000000 GH		
-38.5	udeniling whereas a				L LA WANGAN	Monton walk walk walk	CF Step 5.000000 MH <u>Auto</u> Mar		
-58.6							Freq Offse 0 H		
-68.5						2			
Center 5.74500 GH #Res BW 100 kHz		#VBW 30	)0 kHz		Sweep 6	Span 50.00 MHz .200 ms (1001 pts)			
ASG					STATUS		11		



Agilent Spectrum Analyzer - Swep					
RL RF 50Ω		SENSE:INT	ALIGNAUTO #Avg Type: RMS	03:29:10 AM Aug 25, 2015 TRACE 1 2 3 4 5 6	Frequency
Center Freq 5.785000	PNO: Fast C IFGain:Low	Trig: Free Run #Atten: 30 dB	wing Type. Tuno	TYPE A WAWAWAY DET A N N N N N	
Ref Offset 1.5 c 10 dB/div Ref 21.50 dE			Mk	r1 5.778 75 GHz -5.18 dBm	
og 11.5					Center Free 5.785000000 GH
8.50	portant	1	MMMMMMMMM		Start Fre 5.760000000 GH
18.5					<b>Stop Fre</b> 5.810000000 GH
38.5	In a Nilver of Contract		WANNE	annow warmaling warman	CF Ste 5.000000 MH <u>Auto</u> Ma
58.6					Freq Offse 0 H
68.5				,	1
Center 5.78500 GHz #Res BW 100 kHz	#VB	W 300 kHz	Sweep (	Span 50.00 MHz 5.200 ms (1001 pts)	
ASG			STATU	s	

Channel 157

Channel 165





Product	:	OTT BOX
Test Item	:	Peak Power Spectral Density
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps)

Channel Number	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
38	5190	1.830	11	Pass
46	5230	1.860	11	Pass
54	5270	0.030	11	Pass
62	5310	-1.510	11	Pass
102	5510	1.730	11	Pass
110	5550	1.860	11	Pass
134	5670	2.150	11	Pass



				ner	Cha					
Frequency	Aug 25, 2015	TRAC	ALIGNAUTO 3 Type: RMS		SENSE:	Hz	AC	m Analyzer - Sw RF 50 ຊ eq 5.1900	RL	
Auto Tune	E Â WANAWA T A N N N N N				Trig: Free Ru #Atten: 30 dB	PNO: Fast 😱 Gain:Low	Ŧ			
	85 GHz 33 dBm	Ref Offset 1.5 dB Mkr1 5.183 85 GHz 0 dB/div Ref 21.50 dBm 1.83 dBm								
Center Free 5.190000000 GH						▲1			11.5	
Start Free 5.165000000 GH		1			V			1	8.50	
Stop Free 5.215000000 GH		1							18.5 28.5	
CF Stej 5.000000 MH Auto Mai									38.5	
Freq Offse 0 H									58.6	
	0.00 MHz	Span 5	Sweep 1		3.0 MHz	#\/P\M		9000 GHz	Center 5.1	
		000 1113 (	STATUS	-	5.0 191112	**0**		1.0 14112	ISG	

Channel 38

**Channel 46** 

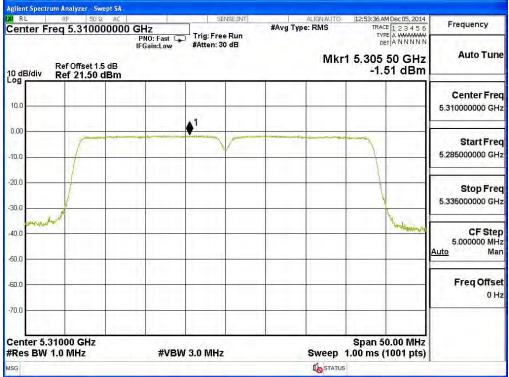
gilent Spectrum Analyzer - Swept SA					h	
RL RF 50 Ω AC	GH7	SENSE:INT	ALIGNAUTO #Avg Type: RMS	03:14:14 AM Aug 25, 2015 TRACE 1, 2, 3, 4, 5, 6	Frequency	
Cinci 1109 3.250000000	PNO: Fast 😱 IFGain:Low	Trig: Free Run #Atten: 30 dB		DET A NNNNN	Auto Tun	
Ref Offset 1.5 dB 0 dB/div Ref 21.50 dBm			Mkı	1 5.225 50 GHz 1.86 dBm		
11.5		.1	-		Center Free 5.230000000 GH	
3.60		1			Start Free 5.205000000 GH	
85				hermonie	Stop Free 5.255000000 GH	
18.5					CF Ste 5.000000 MH <u>Auto</u> Ma	
88.6					Freq Offse 0 H	
38.5				2.000		
enter 5.23000 GHz Res BW 1.0 MHz	#VBW	3.0 MHz	Sweep 1	Span 50.00 MHz I.000 ms (1001 pts)		
G JAlignment Completed			STATU	s	L	



			. 34	Chanr					
								ectrum Analyze	
Frequency	16:26 AM Aug 25, 2015 TRACE 1, 2 3 4 5 6 TYPE A WWAWW	TO	ALIGNAU #Avg Type: RMS	NSE(INT	1.2.2	GHz	50 Ω AC 270000000	Freq 5.27	<sup># RL</sup> Center
Auto Tur Center Fra 5.27000000 Gi 5.24500000 Gi 5.24500000 Gi 5.29500000 Gi	DET A NNNNN				Trig: Fre #Atten: 3	PNO: Fast 😱 IFGain:Low		- and the	
Auto Tune	263 70 GHz 0.03 dBm	/kr1	N	7		5.1	fset 1.5 dB 1.50 dBm		10 dB/di Log
Center Free									
5.270000000 GH:					-				11.5
Start Fred	S	-		-	-	1			1.50 —
5.245000000 GH	1.	_		Y	-				-8.50
Stop Erer						1			-18.5
5.295000000 GH									-28.5
CESter	In warman weeks					1 12 1		pannit	
5.000000 MHz Auto Mar			τ.,					n i jii	-38.5
						1			-48.5
Freq Offse 0 Ha				-					-58.5
	_	_	_						-68.5
	oan 50.00 MHz ms (1001 pts)	p 1.0	Swee	2	3.0 MHz	#VBW		5.27000 G W 1.0 MHz	
L		TATUS							MSG

Channel 54

Channel 62





			er 102	Chann			
						Analyzer - Swept SA	Agilent Spectr
Frequency	12:59:14 AM Dec 05, 2014 TRACE 1 2 3 4 5 6	ALIGNAUTO	#Avg T	SENSE:INT	CH2	RF 50 Ω AC q 5.510000000	
Auto Tune	5.515 30 GHz 1.73 dBm			Trig: Free Run #Atten: 30 dB	PNO: Fast 😱 IFGain:Low	Ref Offset 1.5 dB	10 dB/div
		<u> </u>				Ref 21.50 dBm	-og
Center Free				1.000	h dan 44		
5.51000000 GHz Start Freq 5.48500000 GHz			<b>↓</b> <sup>1</sup>				10.0
	1	-0		V			10.00
				ini in			20.0
Stop Fred 5.535000000 GHz	Sand menumeral					**	30.0
CF Step							40.0
5.000000 MH: <u>Auto</u> Mar							50.0
a set in the set							
Freq Offse 0 Hi							60.0
							70.0
	Span 50.00 MHz .00 ms (1001 pts)	Sweep 1	4	3.0 MHz	#VBW		Center 5.5 #Res BW
		STATUS					ASG

Channel 102

**Channel 110** 

				0				
				or Nor at 17		Swept SA IO Ω AC	um Analyzer -	Agilent Spectr
Frequency	01:12:47 AM Dec 05, 2014 TRACE 1 2 3 4 5 6	ALIGNAUTO #Avg Type: RMS		SENSE:INT	GHz		req 5.550	
Auto Tur	#Avg Type: RMS TRACE 1 23456 TYPE A WAAWAW DETA NNNN Mkr1 5.555 70 GHz 1.86 dBm		Trig: Free Run #Atten: 30 dB	PNO: Fast G	:1.5 dB	Ref Offset Ref 21.5	10 dB/div	
Center Fre						1.1		- og
5.55000000 GH			-					10.0
5.550000000 51			<b>♦</b> <sup>1</sup>					
Start Fre							T	0.00
5.525000000 GH		1						-10.0
0.0200000000								
Stop Fre	Marcin market	-					ner	20.0
5.575000000 GH		-			1.1		· · · ·	-30.0
					1 1 1 1 1			
CF Ste 5.000000 MH								-40.0
Auto Ma								-50.0
The second second							1.00	
Freq Offs						-	-	-60.0
01-							1 11	-70.0
								-70.0
	Span 50.00 MHz	1		where the	100	z	55000 GHz	
	.00 ms (1001 pts)			3.0 MHz	#VBW :		1.0 MHz	#Res BW
		To STATUS						ASG



			+	Channel				
							n Analyzer - Swep	
Frequency	M Dec 05, 2014 CE 1 2 3 4 5 6		ALIGNAUTO	SENSE:INT		AC CIL		RL
Auto Tune	55 GHz	TYI Di	-	g: Free Run ten: 30 dB	Fast 😱 :Low	PNO: IFGair	eq 5.670000	enter Fr
	15 dBm						Ref Offset 1.5 c Ref 21.50 dE	dB/div
Center Free 5.670000000 GH;				A1				1.0
		- Country -				and the second second	-	00
Start Fred 5.645000000 GH:				V	_			.0
Stop Free		1						
5.695000000 GH	Murander manual		_		_		-	0
CF Step 5.000000 MH					-			.0
<u>Auto</u> Mai	-		_	_				.0
Freq Offse 0 H								.0
								.0
	0.00 MHz (1001 pts)	Span 5 1.00 ms (	Sweep	MHz	#VBW :		7000 GHz .0 MHz	enter 5.6 tes BW
	Ches de cal	N. N. G. N. S. S. S.	STATUS	our des				

Channel 134



Product	:	OTT BOX
Test Item	:	Peak Power Spectral Density
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11ac-20BW-7.2Mbps)

Channel Number	Frequency (MHz)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)1	Required Limit (dBm)	Result
144	5720(Band3)	4.300		4.300	<11	Pass
144	5720(Band4)	-4.930	6.98	2.050	<30	Pass

# Channel 144 (Band 3)

Keysight Spectrum Analyze	r-Sweet SA 50 t2 WC	SENSELING	ALLIEN AUTO	01:37:08 AM Aug 27, 2015	<b>-</b>
Center Freq 5.72	0000000 GHz PNO: Fast	Trig: Free Run	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WINNIN N	Frequency
Ref Offs 10 dB/div Ref 20.	IFGain:Low et 1.5 dB 50 dBm	#Atten: 30 dB	Mkr2	2 5.718 100 GHz 4.30 dBm	Auto Tun
10.5			¢1		Center Fre 5.720000000 GH
9.50 -19.5 -29.5				1	Start Fre 5.707500000 GH
49.5					Stop Fre 5.732500000 GF
Center 5.72000 GH #Res BW 1.0 MHz		W 3.0 MHz		Span 25.00 MHz 1.000 ms (1001 pts)	CF Ste 2.500000 MH
MARE MODE FING SECU 1 N 1 f 2 N 1 f 3 4 5 6 6 7	x 5.725 000 GHz 5.718 100 GHz	3.47 dBm 4.30 dBm	FUNCTION FUNCTION WOTH	FUNCTION WALVE +	Freq Offs 0 F
8 9 10 11 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1		19	(butaro		

# Channel 144 (Band 4)

	num Analyzer - Sw					-		
Center Fre	eq 5.72000	00000 GHz	Trig: Free Run	#Avg	Type: RMS	01:37:26 AM AL TRACE	027, 2015	Frequency
10 dB/div	Ref Offset 1. Ref 20.50	IFGain:Low	#Atten: 30 dB		Mkr	2 5.727 475		Auto Tun
10 5					1	2		Center Fre 5.720000000 GH
9.50 19.5 29.5 39.5	and the							Start Fre 5.707500000 GH
49.5 69.5 69.5								Stop Fre 5.732500000 GH
Center 5.7 Res BW 1		#VB	W 300 kHz		Sweep	Span 25.0 3.133 ms (10	01 pts)	CF Ste 2.500000 MF
	1	X 5.725 000 GHz	-5.06 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION V	VALUE -	Auto Mi
2 N 1 3 4 5	1	5.727 475 GHz	-4.93 dBm	_				Freq Offs 0 F
6 7 8 9 10								
11,					L		7	



Product	:	OTT BOX
Test Item	:	Peak Power Spectral Density
Test Site	:	No.3 OATS
Test Mode	:	Mode 5: Transmit (802.11ac-40BW-15Mbps)

Channel Number	Frequency (MHz)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)1	Required Limit (dBm)	Result
142	5710 (Band3)	1.930		1.930	<11	Pass
142	5710 (Band4)	-7.710	6.98	-0.730	<30	Pass

# Channel 142 (Band 3)

RL	ectivin Analyzer	50 D AC 1		SENSEINT	4Link	arro 101/01/90	AM Aug 27, 2015	
		0000000 GHz	Fast 🗣	Trig: Free Run #Atten: 30 dB	#Avg Type: RM	\$ 17	ACE 1 2 3 4 5 6 VPE A WWWW DET A NNNN	Frequency
10 dB/div	Ref Offse Ref 20.5	t 1.5 dB	n:Low	#Atten: 30 dB		Mkr2 5.702		Auto Tune
10.5	1		<b>♦</b> <sup>2</sup>			¢1		Center Fre 5.710000000 GH
19.50 29.5	1							Start Fre 5.685000000 GH
49.5 49.5 69.5								Stop Fre 5.735000000 GH
Res BW	71000 GH 1.0 MHz		#VBW	3.0 MHz		ep 1.000 ms		CF Ste 5.000000 MH Auto Ma
1 N 2 N 3 4 5	1 f	5.725 00 0 5.702 65 0	3Hz 3Hz	0.79 dBm 1.93 dBm	UNCTION	WIDTH FUNC	TION VALUE	Freq Offse 0 H
7 8 9 10 11				10				
ANCE					4	strong		

### Channel 142 (Band 4)

	tum Analyzer - Six		7					
Center Fre	re 50 0	PNO: Fast	Trig: Free Run	#Avg Typ		TYPE	1 2 3 4 5 5 A WWWWW	Frequency
	Ref Offset 1.	IFGain:Low	#Atten: 30 dB	-	Mkr2	5.725 0	- All and a second	Auto Tun
10.5					×2	2		Center Fre 5.710000000 GH
9.60 19.5 29.5 Mywyliwy	and the second second					- I	Vashucanan	Start Fre 5.685000000 GH
49.5 79.5								Stop Fre 5.735000000 GH
enter 5.7 Res BW 1		#VB\	V 300 kHz		Sweep 6.2	Span 50 00 ms (1	001 pts)	CF Ste 5.000000 Mi Auto M
MAR MODE NHC 1 N 1 2 N 1 3 4 5	f f	5.725 00 GHz 5.725 00 GHz	-7.71 dBm -7.71 dBm	FUNCTION	NCTION WIDTH	FUNCTION	VALUE	Freq Offs 0 F
6 7 8 9 10 11								
IKE					(jamana)		- T	



Product	:	OTT BOX
Test Item	:	Peak Power Spectral Density
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps)

Channel Number	Frequency (MHz)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)1	Required Limit (dBm)	Result
42	5210	-1.930		-1.930	11	Pass
58	5290	-1.490		-1.490	11	Pass
106	5530	-0.930		-0.930	11	Pass
138	5690 (Band3)	-1.240		-1.240	11	Pass

Channel Number	Frequency (MHz)	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)1	Required Limit (dBm)	Result
138	5690 (Band4)	-12.010	6.98	-5.030	<30	Pass
155	5775	-10.750	6.98	-3.770	<30	Pass



		42	Channe			
					ctrum Analyzer - Swept SA	
Frequency	01:47:29 AM Aug 27, 2015 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNNN	ALIGN AUTO	SENSE(INT	DO GHZ PNO: Fast	RF 50 Ω AC eq 5.210000000	Center F
Auto Tune	r1 5.222 3 GHz -1.93 dBm	M	#Atten: 30 dB	IFGain:Low	Ref Offset 1.5 dB Ref 20.50 dBm	10 dB/div
Center Fred 5.210000000 GHz						10.5
Start Fre		<b>♦</b> <sup>1</sup>				).500
5.160000000 GHz						-9.50
Stop Fred 5.26000000 GHz						-19.5
CF Step	herennym				-M	29.5
10.000000 MHz Auto Mar						49.5
Freq Offset 0 Hz						-59.5
h						-69.5
	Span 100.0 MHz .000 ms (1001 pts)	Sweep 1	3.0 MHz	#VBW	1000 GHz 1.0 MHz	Center 5. #Res BW
		The STATUS				ASG

Channel 42

Channel 58

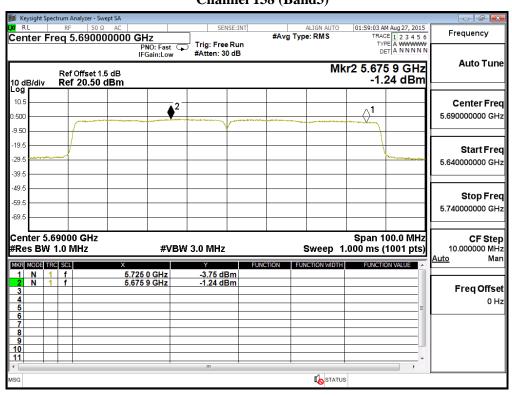
RL RF 50 Ω AC	SENSE(INT	ALIGN AUTO	01:50:18 AM Aug 27, 2015	Energianati
enter Freq 5.290000000 GHz PNO: Fast	Trig: Free Run	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNNN	Frequency
IFGain:Low	#Atten: 30 dB			Auto Tun
Ref Offset 1.5 dB dB/div Ref 20.50 dBm		M	r1 5.279 0 GHz -1.49 dBm	Auto Tun
9				Center Free
).5				5.290000000 GH
00	↑ <sup>1</sup>			and the state
	V		man and	Start Fre 5.240000000 GH
50				
.5				Stop Fre
1.5			and the second second	5.340000000 GH
				CF Ste
.5			1	10.000000 MH Auto Ma
.5				
.5				Freq Offse
				0 H
.5		1	a mark hand and	
enter 5.29000 GHz			Span 100.0 MHz	
tes BW 1.0 MHz #V	BW 3.0 MHz	Sweep 1	.000 ms (1001 pts)	



				lei 100	Chan				
	and the second second					_		ectrum Analyzer - S	
Frequency	42 AM Aug 27, 2015 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	TR4	ALIGN AUTO pe: RMS	#Avg Ty	SENSERINT	PNO: Fast 🔾		RF 50 req 5.5300	Center F
Auto Tun	542 8 GHz -0.93 dBm	r1 5.54	Mk		#Atten: 30 dB	IFGain:Low	1.5 dB	Ref Offset 1 Ref 20.50	I0 dB/div
Center Fre 5.53000000 GH				-					.og
Start Fre 5.480000000 GH		- marine	-	<b>♦</b> <sup>1</sup>					9.50
Stop Fre 5.58000000 GH	marconon							sin	29.5
CF Ste 10.000000 MH Auto Ma									19.5
Freq Offse 0 ⊦									9.5
	ın 100.0 MHz	Span		-				53000 GHz	69.5
	ns (1001 pts)	.000 ms	Sweep 1		3.0 MHz	#VBW			#Res BW

#### Channel 106

### Channel 138 (Band3)





		Spect	rum A	nalyzer - Swe	ept SA											
Cen	ter	Fre	RF eq 5	50 Ω 5.69000				1	NSE:INT	#Avg		ALIGN AUTO e: RMS	TRA	M Aug 27, 20 CE 1 2 3 4 5 PE A WWW	56	Frequency
10 di	3/div			Offset 1.9	5 dB	PNO: Fast IFGain:Lov	t ⊊ ″	<sup>1</sup> Trig: Fre #Atten: 3				Mk	r2 5.72	ETANNN	Z	Auto Tune
Log 10.5 0.500 -9.50													2 <sup>2</sup>			Center Freq 5.69000000 GHz
-19.5 -29.5 -39.5	al-mu	wet w	and	ninitationini		ha na han na	*******	an a	piehtmisikan.	ultri dan generali da provinsi da provi La provinsi da p	, day between	yeleti (ji ji j		Variant Sulphing	Hat	Start Freq 5.640000000 GHz
-49.5 -59.5 -69.5																<b>Stop Freq</b> 5.740000000 GHz
#Re	s B\	N 1	00	0 GHz kHz		#\	/BW	300 kHz				Sweep 1	2.40 ms (	<u> </u>	s)	<b>CF Step</b> 10.000000 MHz <u>Auto</u> Man
MKR 1 2 3 4 5 6	N N	1 1	f			2 <u>5 0 GHz</u> 26 2 GHz		-12.97 dl -12.01 dl	Bm	UNCTION	FUN	ICTION WIDTH	FUNCT	ON VALUE	* III	Freq Offset 0 Hz
7 8 9 10 11 <								III						4	•	
MSG													5			

### Channel 138 (Band4)

Channel 155

	ectrum Analyzer - Swe								
Center Fi	RF 50 Ω req 5.77500	AC 0000 GHz		SE:INT	#Avg Typ	ALIGN AUTO e: RMS	TRAC	Aug 27, 2015 E 1 2 3 4 5 6	Frequency
10 dB/div	Ref Offset 1.5 Ref 20.50 d	PNO: Fast ( IFGain:Low	Trig: Free #Atten: 30			Mk	r1 5.76	3 7 GHz 75 dBm	Auto Tune
10.5	<u>Rei 20.30 u</u>								Center Freq 5.775000000 GHz
-9.50	ntuladustadati	ertenanderten er	↓ 1 identivitetioutetio tetaotetioutet	uniprimited and	nyhatasimlantasing	anapatralika paranan	104hannah		<b>Start Freq</b> 5.725000000 GHz
-19.5									<b>Stop Freq</b> 5.825000000 GHz
-39.5 <mark>pontelongi</mark>	nadayild						\	With Control Manager	CF Step 10.000000 MHz <u>Auto</u> Mar
-49.5									Freq Offset 0 Hz
-69.5									
Center 5.7 #Res BW	77500 GHz 100 kHz	#VB	SW 300 kHz			Sweep 1		00.0 MHz 1001 pts)	
MSG									<u> </u>

# 5. Radiated Emission

# 5.1. 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	Х	Magnetic Loop Antenna	Teseq	HLA6121/ 37133	Sep., 2015
	Х	Bilog Antenna	Schaffner Chase	CBL6112B/ 2707	Jun., 2015
	Х	EMI Test Receiver	R&S	ESCS 30/838251/ 001	Jun., 2015
	Х	Coaxial Cable	QTK(Arnist)	RG 214/ LC003-RG	Jun., 2015
	Х	Coaxial signal switch	Arnist	MP59B/ 6200798682	Jun., 2015

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
CB # 8	Х	Spectrum Analyzer	R&S	FSP40/ 100339	Oct., 2014
	Х	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar., 2015
	Х	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan., 2015
	Х	Horn Antenna	TRC	AH-0801/95051	Aug., 2015
	Х	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan, 2015
	Х	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul., 2015
	Х	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul., 2015

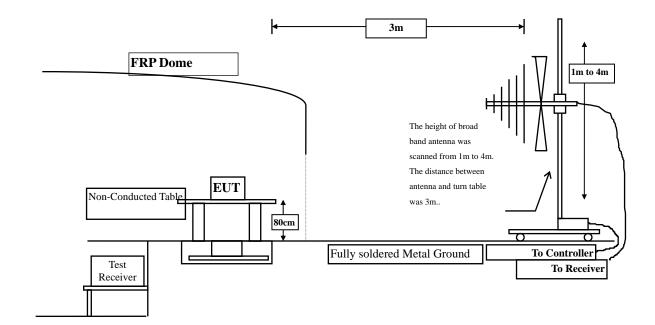
Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

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

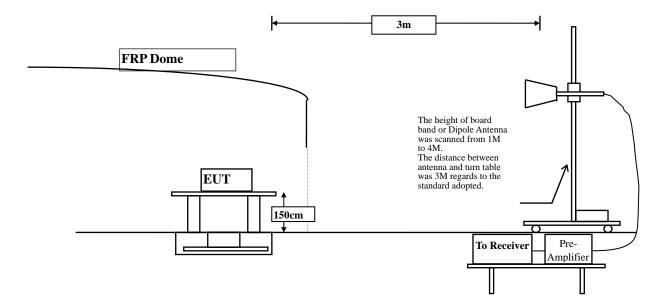


## 5.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



# 5.3. 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	Field strength	Measurement distance			
	(microvolts/meter)	(meter)			
0.009-0.490	2400/F(kHz)	300			
0.490-1.705	24000/F(kHz)	30			
1.705-30	30	30			
30-88	100	3			
88-216	150	3			
216-960	200	3			
Above 960	500	3			

Remarks: E field strength (dB $\mu$ V/m) = 20 log E field strength (uV/m)

# 5.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 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 between 1 meter and 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 C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~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 9kHz - 10th Harmonic of fundamental was investigated.

## 5.5. Uncertainty

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

## 5.6. Test Result of Radiated Emission

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

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
<b>Peak Detector:</b>					
10360.000	12.930	51.840	64.770	-9.230	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	12.930	37.880	50.810	-3.190	54.000
Vertical					
<b>Peak Detector:</b>					
10360.000	13.724	51.460	65.184	-8.816	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10360.000	13.724	37.880	51.604	-2.396	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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Correct	Reading	Measurement	Margin	Limit
dB	dBµV	dBµV/m	dB	dBµV/m
13.322	51.390	64.712	-9.288	74.000
*	*	*	*	74.000
*	*	*	*	74.000
*	*	*	*	74.000
13.322	36.470	49.792	-4.208	54.000
14.245	38.640	52.885	-21.115	74.000
*	*	*	*	74.000
*	*	*	*	74.000
*	*	*	*	74.000
14.245	36.420	50.665	-3.335	54.000
	Factor dB 13.322 * * * 13.322 14.245 * * *	Factor     Level       dB     dBμV       13.322     51.390       *     *       *     *       *     *       13.322     36.470       14.245     38.640       *     *       *     *       *     *       *     *       *     *	FactorLevelLeveldBdB $\mu$ VdB $\mu$ V/m13.32251.39064.712*********13.32236.47049.79214.24538.64052.885*********	FactorLevelLevelMenuMenu $dB$ $dB\mu V$ $dB\mu V/m$ $dB$ $13.322$ $51.390$ $64.712$ $-9.288$ *************13.322 $36.470$ $49.792$ $14.245$ $38.640$ $52.885$ $-21.115$ **

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

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	$dB\mu V/m$	dB	dBµV/m
Horizontal					
Peak Detector:					
10480.000	13.693	51.750	65.444	-8.556	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10480.000	13.693	36.730	50.424	-3.576	54.000
Vertical					
Peak Detector:					
10480.000	14.620	51.110	65.731	-8.269	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10480.000	14.620	36.690	51.311	-2.689	54.000

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) (5260MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	$dB\mu V/m$	dB	dBµV/m
Horizontal					
Peak Detector:					
10520.000	14.015	51.430	65.445	-8.555	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10520.000	14.015	37.250	51.265	-2.735	54.000
Vertical					
Peak Detector:					
10520.000	14.818	51.890	66.708	-7.292	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10520.000	14.818	37.240	52.058	-1.942	54.000

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) (5300MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
10600.000	11.868	39.340	51.208	-22.792	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10600.000	13.403	39.460	52.863	-21.137	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) (5320MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
NALL-				П	dDV/
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
<b>Peak Detector:</b>					
10640.000	11.844	39.220	51.064	-22.936	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10640.000	13.517	39.370	52.887	-21.113	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) (5500MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
11000.000	12.392	39.480	51.872	-22.128	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11000.000	14.514	39.210	53.724	-20.276	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) (5580MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
11160.000	12.201	38.790	50.991	-23.009	74.000
16800.000	*	*	*	*	74.000
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11160.000	14.445	38.510	52.955	-21.045	74.000
16800.000	*	*	*	*	74.000
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) (5700MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
				10	
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
11400.000	13.372	39.080	52.452	-21.548	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000
Average Detector:					
Belector:	*	*	*	*	*
	4.	-1-		-1-	44
Vertical					
<b>Peak Detector:</b>					
11400.000	14.922	39.000	53.922	-20.078	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*

- 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

OTT BOX

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Test Item:Harmonic Radiated Emission DataTest Site:No.3 OATSTest Mode:Mode 1: Transmit (802.11a-6Mbps) (5745MHz)						
Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit	
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal Peak Detector:						
11490.000	14.326	38.250	52.575	-21.425	74.000	
17235.000	*	*	*	*	74.000	
20720.000	*	*	*	*	74.000	
25900.000	*	*	*	*	74.000	
31080.000	*	*	*	*	74.000	
36260.000	*	*	*	*	74.000	
Average Detector:						
*	*	*	*	*	*	
Vertical						
Peak Detector:						
11490.000	15.842	37.860	53.701	-20.299	74.000	
17235.000	*	*	*	*	74.000	
20720.000	*	*	*	*	74.000	
25900.000	*	*	*	*	74.000	
31080.000	*	*	*	*	74.000	
36260.000	*	*	*	*	74.000	
Average Detector:						
*	*	*	*	*	*	

- 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 Test Item Test Site	<ul> <li>OTT BOX</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> </ul>					
Test Mode	: Mode 1:	Transmit (802.11	a-6Mbps) (5785MHz	2)		
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
11570.000	14.849	38.400	53.249	-20.751	74.000	
17355.000	*	*	*	*	74.000	
20800.000	*	*	*	*	74.000	
26000.000	*	*	*	*	74.000	
31200.000	*	*	*	*	74.000	
36400.000	*	*	*	*	74.000	
Average						
<b>Detector:</b>						
*	*	*	*	*	*	
Vertical						
<b>Peak Detector:</b>						
11570.000	16.215	37.340	53.554	-20.446	74.000	
17355.000	*	*	*	*	74.000	
20800.000	*	*	*	*	74.000	
26000.000	*	*	*	*	74.000	
31200.000	*	*	*	*	74.000	
36400.000	*	*	*	*	74.000	
Average						
<b>Detector:</b>						

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1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.

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- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.

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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 Test Item Test Site Test Mode	<ul> <li>OTT BOX</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 1: Transmit (802.11a-6Mbps) (5825MHz)</li> </ul>						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level	-			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
11650.000	13.179	37.240	50.419	-23.581	74.000		
17475.000	*	*	*	*	74.000		
20960.000	*	*	*	*	74.000		
26200.000	*	*	*	*	74.000		
31440000	*	*	*	*	74.000		
36680.000	*	*	*	*	74.000		
Average							
<b>Detector:</b>							
*	*	*	*	*	*		
Vertical							
<b>Peak Detector:</b>							
11650.000	14.634	37.270	51.904	-22.096	74.000		
17475.000	*	*	*	*	74.000		
20960.000	*	*	*	*	74.000		
26200.000	*	*	*	*	74.000		
31440000	*	*	*	*	74.000		
36680.000	*	*	*	*	74.000		
Average							
<b>Detector:</b>							

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1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.

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- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.

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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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5180MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
10360.000	12.930	51.750	64.680	-9.320	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
Average					
Detector:					
10360.000	12.930	37.850	50.780	-3.220	54.000
Vertical					
Peak Detector:					
10360.000	13.724	51.600	65.324	-8.676	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10360.000	13.724	37.870	51.594	-2.406	54.000

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5220MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	e	
MHz	dB	dBμV	dBµV/m	dB	dBµV/m
Horizontal		•	•		•
Peak Detector:					
10440.000	13.322	50.990	64.312	-9.688	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
10440.000	13.322	36.440	49.762	-4.238	54.000
Vertical					
<b>Peak Detector:</b>					
10440.000	14.245	51.070	65.315	-8.685	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000
Average Detector:					
10440.000	14.245	36.450	50.695	-3.305	54.000

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5240MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
10480.000	13.693	51.570	65.264	-8.736	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10480.000	13.693	36.670	50.364	-3.636	54.000
Vertical					
Peak Detector:					
10480.000	14.620	51.070	65.691	-8.309	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10480.000	14.620	36.690	51.311	-2.689	54.000

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5260MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
10520.000	14.015	51.440	65.455	-8.545	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000
Average Detector:					
10520.000	14.015	37.210	51.225	-2.775	54.000
Vertical					
Peak Detector:					
10520.000	14.818	51.820	66.638	-7.362	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000 Average Detector:	*	*	*	*	74.000
10520.000	14.818	37.210	52.028	-1.972	54.000

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5300MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	$dB\mu V/m$	dB	dBµV/m
Horizontal					
<b>Peak Detector:</b>					
10600.000	11.868	39.960	51.828	-22.172	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*
Vertical					
Peak Detector:					

10600.000	13.403	39.190	52.593	-21.407	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5320MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
10640.000	11.844	39.210	51.054	-22.946	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10640.000	13.517	39.740	53.257	-20.743	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					

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1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.

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- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5500MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					<u> </u>
Peak Detector:					
11000.000	12.392	39.240	51.632	-22.368	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11000.000	14.514	39.110	53.624	-20.376	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					

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1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.

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- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5580MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
11160.000	12.201	38.650	50.851	-23.149	74.000
16800.000	*	*	*	*	74.000
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11160.000	14.445	37.570	52.015	-21.985	74.000
	*	*	*	*	74.000
16800.000					
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000
Average					

Detector:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.

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- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5700MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
11400.000	13.372	39.890	53.262	-20.738	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11400.000	14.922	38.920	53.842	-20.158	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*

- 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	: OTT BOX							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5745MHz)							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
11490.000	14.326	38.250	52.575	-21.425	74.000			
17235.000	*	*	*	*	74.000			
20720.000	*	*	*	*	74.000			
25900.000	*	*	*	*	74.000			
31080.000	*	*	*	*	74.000			
36260.000	*	*	*	*	74.000			
Average								
<b>Detector:</b>								
*	*	*	*	*	*			
Vertical								
<b>Peak Detector:</b>								
11490.000	15.842	37.870	53.711	-20.289	74.000			
17235.000	*	*	*	*	74.000			
20720.000	*	*	*	*	74.000			
25900.000	*	*	*	*	74.000			
31080.000	*	*	*	*	74.000			
36260.000	*	*	*	*	74.000			
Average								
<b>Detector:</b>								
*	*	*	*	*	*			

- 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 Test Item Test Site Test Mode	<ul> <li>OTT BOX</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5785MHz)</li> </ul>					
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level	-		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
11570.000	14.849	38.570	53.419	-20.581	74.000	
17355.000	*	*	*	*	74.000	
20880.000	*	*	*	*	74.000	
26100.000	*	*	*	*	74.000	
31320.000	*	*	*	*	74.000	
36540.000	*	*	*	*	74.000	
Average						
<b>Detector:</b>						
*	*	*	*	*	*	
Vertical						
Peak Detector:						
11570.000	16.215	37.370	53.584	-20.416	74.000	
17355.000	*	*	*	*	74.000	
20880.000	*	*	*	*	74.000	
26100.000	*	*	*	*	74.000	
31320.000	*	*	*	*	74.000	
36540.000	*	*	*	*	74.000	
Average						
<b>Detector:</b>						
*	*	*	*	*	*	

- 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 Test Item Test Site Test Mode	<ul> <li>OTT BOX</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5825MHz)</li> </ul>					
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
11650.000	13.179	38.300	51.479	-22.521	74.000	
17475.000	*	*	*	*	74.000	
20960.000	*	*	*	*	74.000	
26200.000	*	*	*	*	74.000	
31440.000	*	*	*	*	74.000	
36680.000	*	*	*	*	74.000	
Average						
<b>Detector:</b>						
*	*	*	*	*	*	
Vertical						
<b>Peak Detector:</b>						
11650.000	14.634	37.940	52.574	-21.426	74.000	
17475.000	*	*	*	*	74.000	
20960.000	*	*	*	*	74.000	
26200.000	*	*	*	*	74.000	
31440.000	*	*	*	*	74.000	
36680.000	*	*	*	*	74.000	
Average						
<b>Detector:</b>						
*	*	*	*	*	*	

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) (5190MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBµV	$dB\mu V/m$	dB	dBµV/m	
Horizontal						
Peak Detector:						
10380.000	12.939	51.010	63.949	-10.051	74.000	
15570.000	*	*	*	*	74.000	
20760.000	*	*	*	*	74.000	
25950.000	*	*	*	*	74.000	
Average						
<b>Detector:</b>						
10380.000	12.939	37.410	50.349	-3.651	54.000	
Vertical						
Peak Detector:						
10380.000	13.796	51.100	64.896	-9.104	74.000	
15570.000	*	*	*	*	74.000	
20760.000	*	*	*	*	74.000	
25950.000	*	*	*	*	74.000	
Average						
<b>Detector:</b>						
10380.000	13.796	37.410	51.206	-2.794	54.000	

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) (5230MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
10460.000	13.508	50.970	64.478	-9.522	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10460.000	13.508	36.640	50.148	-3.852	54.000
Vertical					
Peak Detector:					
10460.000	14.433	51.530	65.963	-8.037	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10460.000	14.433	36.640	51.073	-2.927	54.000

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) (5270MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
10540.000	14.151	51.660	65.810	-8.190	74.000
15810.000	*	*	*	*	74.000
21080.000	*	*	*	*	74.000
26350.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10540.000	14.151	38.490	52.640	-1.360	54.000
Vertical					
Peak Detector:					
10540.000	14.829	51.370	66.198	-7.802	74.000
15810.000	*	*	*	*	74.000
21080.000	*	*	*	*	74.000
26350.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
10540.000	14.829	38.550	53.378	-0.622	54.000

- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) (5310MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
10620.000	11.862	39.560	51.422	-22.578	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10620.000	13.449	39.530	52.979	-21.021	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					

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1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.

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- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) (5510MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
11020.000	12.632	39.010	51.642	-22.358	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11020.000	14.778	38.760	53.538	-20.462	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000
Average					

Detector:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.

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- 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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) (5550MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector:					
11100.000	12.305	38.720	51.025	-22.975	74.000
16770.000	*	*	*	*	74.000
22360.000	*	*	*	*	74.000
27950.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*
Vertical					

# Peak Detector:

can Detector.					
11100.000	14.559	38.810	53.369	-20.631	74.000
16770.000	*	*	*	*	74.000
22360.000	*	*	*	*	74.000
27950.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*

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	:	OTT BOX
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) (5670MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	$dB\mu V/m$	dB	dBµV/m
Horizontal					
Peak Detector:					
11340.000	12.852	38.230	51.081	-22.919	74.000
17010.000	*	*	*	*	74.000
22680.000	*	*	*	*	74.000
28350.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11340.000	14.594	38.050	52.644	-21.356	74.000

11340.000	14.594	38.050	52.644	-21.356	74.000
17010.000	*	*	*	*	74.000
22680.000	*	*	*	*	74.000
28350.000	*	*	*	*	74.000
Average					
<b>Detector:</b>					
*	*	*	*	*	*

- 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	: OTT BO	DX						
Test Item	: Harmonic Radiated Emission Data							
Test Site	Site : No.3 OATS							
Test Mode	: Mode 4: Transmit (802.11ac-20BW-7.2Mbps) (5720MHz)							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
11440.000	13.997	39.130	53.127	-20.873	74.000			
11550.000	*	*	*	*	74.000			
17325.000	*	*	*	*	74.000			
20720.000	*	*	*	*	74.000			
25900.000	*	*	*	*	74.000			
31080.000	*	*	*	*	74.000			
36260.000	*	*	*	*	74.000			
Average								
<b>Detector:</b>								
*	*	*	*	*	*			
Vertical								
Peak Detector:								
11440.000	15.527	38.850	54.377	-19.623	74.000			
11550.000	*	*	*	*	74.000			
17325.000	*	*	*	*	74.000			
20720.000	*	*	*	*	74.000			
25900.000	*	*	*	*	74.000			
31080.000	*	*	*	*	74.000			
36260.000	*	*	*	*	74.000			
Average								
<b>Detector:</b>								
11440.000	15.527	25.240	40.767	-13.233	54.000			

- 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	: OTT BO	DX						
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 5: Transmit (802.11ac-40BW-15Mbps) (5710MHz)							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
11420.000	13.675	39.110	52.784	-21.216	74.000			
11550.000	*	*	*	*	74.000			
17325.000	*	*	*	*	74.000			
20720.000	*	*	*	*	74.000			
25900.000	*	*	*	*	74.000			
31080.000	*	*	*	*	74.000			
36260.000	*	*	*	*	74.000			
Average								
<b>Detector:</b>								
*	*	*	*	*	*			
Vertical								
Peak Detector:								
11420.000	15.210	38.870	54.080	-19.920	74.000			
11550.000	*	*	*	*	74.000			
17325.000	*	*	*	*	74.000			
20720.000	*	*	*	*	74.000			
25900.000	*	*	*	*	74.000			
31080.000	*	*	*	*	74.000			
36260.000	*	*	*	*	74.000			
Average								
<b>Detector:</b>								
11420.000	15.210	25.270	40.480	-13.520	54.000			

- 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	: OTT BO	DX						
Test Item	: Harmonic Radiated Emission Data							
Test Site : No.3 OATS								
Test Mode	: Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5210MHz)							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
10420.000	13.135	51.170	64.305	-9.695	74.000			
11550.000	*	*	*	*	74.000			
17325.000	*	*	*	*	74.000			
20720.000	*	*	*	*	74.000			
25900.000	*	*	*	*	74.000			
31080.000	*	*	*	*	74.000			
36260.000	*	*	*	*	74.000			
Average								
<b>Detector:</b>								
10420.000	13.135	36.680	49.815	-4.185	54.000			
Vertical								
<b>Peak Detector:</b>								
10420.000	14.057	51.790	65.847	-8.153	74.000			
11550.000	*	*	*	*	74.000			
17325.000	*	*	*	*	74.000			
20720.000	*	*	*	*	74.000			
25900.000	*	*	*	*	74.000			
31080.000	*	*	*	*	74.000			
36260.000	*	*	*	*	74.000			
Average								
<b>Detector:</b>								
10420.000	14.057	36.530	50.587	-3.413	54.000			

- 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.

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Product Test Item	<ul> <li>OTT BOX</li> <li>Harmonic Radiated Emission Data</li> </ul>						
Test Site	<ul> <li>No.3 OATS</li> <li>Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5290MHz)</li> </ul>						
Test Mode	: Mode 6:	Transmit (802.11	ac-80BW-32.5Mbps)	(5290MHz)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
<b>Peak Detector:</b>							
10580.000	14.423	52.270	66.693	-7.307	74.000		
11550.000	*	*	*	*	74.000		
17325.000	*	*	*	*	74.000		
20720.000	*	*	*	*	74.000		
25900.000	*	*	*	*	74.000		
31080.000	*	*	*	*	74.000		
36260.000	*	*	*	*	74.000		
Average							
Detector:							
10580.000	14.423	38.510	52.933	-1.067	54.000		
Vertical							
<b>Peak Detector:</b>							
10580.000	14.849	52.290	67.139	-6.861	74.000		
11550.000	*	*	*	*	74.000		
17325.000	*	*	*	*	74.000		
20720.000	*	*	*	*	74.000		
25900.000	*	*	*	*	74.000		
31080.000	*	*	*	*	74.000		
36260.000	*	*	*	*	74.000		
Average							
<b>Detector:</b>							
10580.000	14.849	38.590	53.439	-0.561	54.000		

- 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	: OTT BC	ЭX					
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5530MHz)						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
11060.000	12.824	38.530	51.354	-22.646	74.000		
11550.000	*	*	*	*	74.000		
17325.000	*	*	*	*	74.000		
20720.000	*	*	*	*	74.000		
25900.000	*	*	*	*	74.000		
31080.000	*	*	*	*	74.000		
36260.000	*	*	*	*	74.000		
Average							
<b>Detector:</b>							
*	*	*	*	*	*		
Vertical							
<b>Peak Detector:</b>							
11060.000	15.026	38.670	53.696	-20.304	74.000		
11550.000	*	*	*	*	74.000		
17325.000	*	*	*	*	74.000		
20720.000	*	*	*	*	74.000		
25900.000	*	*	*	*	74.000		
31080.000	*	*	*	*	74.000		
36260.000	*	*	*	*	74.000		
Average							
<b>Detector:</b>							
*	*	*	*	*	*		

- 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	: OTT BO	X						
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 6:	Transmit (802.11	ac-80BW-32.5Mbps)	(5690MHz)				
			_					
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
11380.000	13.200	38.600	51.800	-22.200	74.000			
11550.000	*	*	*	*	74.000			
17325.000	*	*	*	*	74.000			
20720.000	*	*	*	*	74.000			
25900.000	*	*	*	*	74.000			
31080.000	*	*	*	*	74.000			
36260.000	*	*	*	*	74.000			
Average								
<b>Detector:</b>								
*	*	*	*	*	*			
Vertical								
Peak Detector:								
11380.000	14.808	38.280	53.088	-20.912	74.000			
11550.000	*	*	*	*	74.000			
17325.000	*	*	*	*	74.000			
20720.000	*	*	*	*	74.000			
25900.000	*	*	*	*	74.000			
31080.000	*	*	*	*	74.000			
36260.000	*	*	*	*	74.000			
Average								
<b>Detector:</b>								
*	*	*	*	*	*			

- 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 Test Item Test Site Test Mode	<ul> <li>OTT BOX</li> <li>Harmonic Radiated Emission Data</li> <li>No.3 OATS</li> <li>Mode 6: Transmit (802.11ac-80BW-32.5Mbps) (5775MHz)</li> </ul>						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level	C			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
11550.000	14.599	38.170	52.769	-21.231	74.000		
17325.000	*	*	*	*	74.000		
20720.000	*	*	*	*	74.000		
25900.000	*	*	*	*	74.000		
31080.000	*	*	*	*	74.000		
36260.000	*	*	*	*	74.000		
Average							
<b>Detector:</b>							
*	*	*	*	*	*		
Vertical							
Peak Detector:							
11550.000	16.007	38.490	54.497	-19.503	74.000		
17325.000	*	*	*	*	74.000		
20720.000	*	*	*	*	74.000		
25900.000	*	*	*	*	74.000		
31080.000	*	*	*	*	74.000		
36260.000	*	*	*	*	74.000		
Average							
<b>Detector:</b>							
11550.000	16.007	24.670	40.677	-13.323	54.000		

- 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 Test Item Test Site Test Mode	: No.3 OA	Radiated Emissio	n a-6Mbps) (5220MHz	)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
Peak Detector					
105.913	-6.721	30.041	23.321	-20.179	43.500
306.942	-3.194	31.087	27.894	-18.106	46.000
370.203	-1.080	29.565	28.486	-17.514	46.000
427.841	-2.637	33.663	31.026	-14.974	46.000
599.348	3.984	25.033	29.017	-16.983	46.000
752.580	3.850	27.002	30.851	-15.149	46.000
Vertical					
<b>Peak Detector</b>					
306.942	-6.817	29.625	22.809	-23.191	46.000
381.449	-1.656	26.728	25.072	-20.928	46.000
520.623	-0.316	23.744	23.428	-22.572	46.000
613.406	-1.666	26.043	24.377	-21.623	46.000
756.797	3.066	26.171	29.237	-16.763	46.000
815.841	3.224	24.390	27.614	-18.386	46.000

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	<ul> <li>OTT BOX</li> <li>General Radiated Emission</li> <li>No.3 OATS</li> <li>Mode 1: Transmit (802.11a-6Mbps) (5300MHz)</li> </ul>						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBµV	dBµV/m	dB	dBµV/m		
Horizontal							
<b>Peak Detector</b>							
103.720	-8.230	40.582	32.351	-11.149	43.500		
216.240	-10.271	35.911	25.640	-20.360	46.000		
460.680	4.030	27.268	31.298	-14.702	46.000		
610.060	3.657	24.849	28.506	-17.494	46.000		
792.420	6.391	31.426	37.817	-8.183	46.000		
961.200	6.810	23.130	29.940	-24.060	54.000		
Vertical							
Peak Detector							
78.500	-5.604	38.944	33.340	-6.660	40.000		
179.380	-0.824	26.253	25.429	-18.071	43.500		
379.200	0.881	24.763	25.644	-20.356	46.000		
538.280	1.996	23.870	25.866	-20.134	46.000		
687.660	2.292	23.133	25.425	-20.575	46.000		
842.860	2.378	25.828	28.206	-17.794	46.000		

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product	: OTT BOX						
Test Item	: General Radiated Emission						
Test Site	: No.3 OA						
Test Mode	: Mode 1:	Transmit (802.11	a-6Mbps) (5580MHz	2)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBµV	$dB\mu V/m$	dB	dBµV/m		
Horizontal							
<b>Peak Detector</b>							
59.100	-11.901	37.382	25.481	-14.519	40.000		
105.660	-7.676	41.005	33.328	-10.172	43.500		
305.480	-3.836	32.604	28.768	-17.232	46.000		
462.620	3.589	28.090	31.679	-14.321	46.000		
794.360	6.387	32.136	38.523	-7.477	46.000		
887.480	6.623	25.213	31.836	-14.164	46.000		
Vertical							
Peak Detector							
78.500	-5.604	40.500	34.896	-5.104	40.000		
111.480	-3.439	34.966	31.528	-11.972	43.500		
365.620	0.282	25.834	26.116	-19.884	46.000		
610.060	2.087	27.407	29.494	-16.506	46.000		
790.480	2.693	26.862	29.555	-16.445	46.000		
943.740	3.383	23.423	26.806	-19.194	46.000		

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product	: OTT BOX						
Test Item	: General Radiated Emission						
Test Site	: No.3 OATS						
Test Mode	: Mode 2	: Transmit (802.11	n-20BW 7.2Mbps) (5	5785MHz)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBµV	dBµV/m	dB	dBµV/m		
Horizontal							
<b>Peak Detector</b>							
278.826	-5.643	29.435	23.792	-22.208	46.000		
378.638	-1.038	27.898	26.860	-19.140	46.000		
425.029	-3.131	30.542	27.411	-18.589	46.000		
572.638	2.411	26.805	29.216	-16.784	46.000		
745.551	3.310	27.651	30.962	-15.038	46.000		
791.942	5.212	27.136	32.348	-13.652	46.000		
Vertical							
<b>Peak Detector</b>							
150.899	-6.221	31.141	24.920	-18.580	43.500		
315.377	-6.886	29.648	22.762	-23.238	46.000		
378.638	-1.584	27.484	25.900	-20.100	46.000		
506.565	-0.582	35.613	35.030	-10.970	46.000		
689.319	2.525	24.735	27.260	-18.740	46.000		
791.942	2.897	29.761	32.658	-13.342	46.000		

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	<ul> <li>OTT BOX</li> <li>General Radiated Emission</li> <li>No.3 OATS</li> <li>Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5220MHz)</li> </ul>						
Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m		
Horizontal							
Peak Detector							
268.986	-4.943	28.244	23.301	-22.699	46.000		
368.797	-1.137	26.183	25.045	-20.955	46.000		
426.435	-2.968	30.524	27.557	-18.443	46.000		
544.522	3.597	25.404	29.001	-16.999	46.000		
575.449	2.962	29.533	32.495	-13.505	46.000		
791.942	5.212	25.089	30.301	-15.699	46.000		
Vertical							
Peak Detector							
105.913	-0.261	27.457	27.196	-16.304	43.500		
389.884	-3.070	27.504	24.433	-21.567	46.000		
540.304	0.105	24.083	24.188	-21.812	46.000		
603.565	-1.937	23.656	21.719	-24.281	46.000		
692.130	2.343	22.955	25.298	-20.702	46.000		
791.942	2.897	29.540	32.437	-13.563	46.000		

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	: No.3 OA	Radiated Emissio TS	n n-20BW 7.2Mbps) (5	5300MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
<b>Peak Detector</b>					
105.660	-7.676	40.619	32.942	-10.558	43.500
204.600	-10.493	36.971	26.478	-17.022	43.500
305.480	-3.836	31.198	27.362	-18.638	46.000
480.080	1.870	30.387	32.257	-13.743	46.000
792.420	6.391	31.910	38.301	-7.699	46.000
963.140	7.021	24.314	31.335	-22.665	54.000
Vertical Peak Detector					
78.500	-5.604	40.098	34.494	-5.506	40.000
177.440	-1.248	26.243	24.995	-18.505	43.500
373.380	0.043	26.804	26.847	-19.153	46.000
606.180	2.246	26.410	28.656	-17.344	46.000
792.420	2.681	27.546	30.227	-15.773	46.000
932.100	3.430	22.792	26.222	-19.778	46.000

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	: No.3 O/	Radiated Emissio	n n-20BW 7.2Mbps) (5	5580MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
<b>Peak Detector</b>					
103.720	-8.230	40.593	32.362	-11.138	43.500
241.460	-6.590	31.382	24.792	-21.208	46.000
462.620	3.589	28.887	32.476	-13.524	46.000
544.100	4.373	23.850	28.223	-17.777	46.000
792.420	6.391	31.665	38.056	-7.944	46.000
914.640	6.410	22.779	29.189	-16.811	46.000
Vertical					
<b>Peak Detector</b>					
78.500	-5.604	39.426	33.822	-6.178	40.000
179.380	-0.824	26.630	25.806	-17.694	43.500
460.680	-1.930	25.777	23.847	-22.153	46.000
608.120	2.175	25.004	27.179	-18.821	46.000
792.420	2.681	26.765	29.446	-16.554	46.000
945.680	3.300	22.697	25.997	-20.003	46.000

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	: No.3 OA	Radiated Emissio ATS	n n-20BW 7.2Mbps) (5	5785MHz)	
Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
<b>Peak Detector</b>					
187.140	-11.217	41.118	29.901	-13.599	43.500
272.500	-6.018	40.083	34.065	-11.935	46.000
340.400	-3.237	38.517	35.280	-10.720	46.000
594.540	3.555	37.506	41.061	-4.939	46.000
743.920	3.898	37.392	41.290	-4.710	46.000
852.560	7.106	29.935	37.041	-8.959	46.000
Vertical					
<b>Peak Detector</b>					
258.920	-4.900	43.353	38.453	-7.547	46.000
392.780	-1.210	40.858	39.648	-6.352	46.000
509.180	0.804	34.051	34.855	-11.145	46.000
664.380	-0.978	35.763	34.785	-11.215	46.000
792.420	2.681	30.915	33.596	-12.404	46.000
904.940	0.989	31.402	32.391	-13.609	46.000

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

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Product Test Item Test Site Test Mode	: No.3 OA	Radiated Emissio	n n-40BW 15Mbps) (5	190MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
<b>Peak Detector</b>					
292.884	-4.019	28.638	24.619	-21.381	46.000
380.043	-0.966	26.910	25.944	-20.056	46.000
426.435	-2.968	30.263	27.296	-18.704	46.000
572.638	2.411	26.497	28.908	-17.092	46.000
761.014	4.351	25.920	30.271	-15.729	46.000
791.942	5.212	26.876	32.088	-13.912	46.000
Vertical					
<b>Peak Detector</b>					
98.884	-0.706	30.154	29.448	-14.052	43.500
371.609	-2.706	27.527	24.822	-21.178	46.000
507.971	-0.350	24.526	24.175	-21.825	46.000
683.696	1.948	23.651	25.599	-20.401	46.000
791.942	2.897	29.221	32.118	-13.882	46.000
942.362	6.584	24.072	30.656	-15.344	46.000

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

-

Product Test Item Test Site Test Mode	: No.3 O.	Radiated Emissio	n n-40BW 15Mbps) (5	270MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
<b>Peak Detector</b>					
305.536	-2.939	30.854	27.916	-18.084	46.000
381.449	-1.016	29.551	28.535	-17.465	46.000
423.623	-3.172	32.360	29.188	-16.812	46.000
572.638	2.411	27.423	29.834	-16.166	46.000
745.551	3.310	26.489	29.800	-16.200	46.000
791.942	5.212	26.084	31.296	-14.704	46.000
Vertical					
<b>Peak Detector</b>					
104.507	-0.201	26.143	25.942	-17.558	43.500
365.986	-2.246	25.755	23.509	-22.491	46.000
529.058	-0.475	24.323	23.848	-22.152	46.000
690.725	2.504	24.172	26.676	-19.324	46.000
791.942	2.897	27.748	30.645	-15.355	46.000
928.304	6.219	23.009	29.227	-16.773	46.000

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	: No.3 O/	Radiated Emissio	n n-40BW 15Mbps) (5	550MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
<b>Peak Detector</b>					
103.720	-8.230	40.097	31.866	-11.634	43.500
251.160	-5.988	32.826	26.838	-19.162	46.000
460.680	4.030	27.702	31.732	-14.268	46.000
553.800	3.147	29.169	32.316	-13.684	46.000
792.420	6.391	33.838	40.229	-5.771	46.000
951.500	6.993	22.367	29.360	-16.640	46.000
Vertical					
Peak Detector					
78.500	-5.604	39.546	33.942	-6.058	40.000
179.380	-0.824	27.048	26.224	-17.276	43.500
396.660	-2.039	27.668	25.629	-20.371	46.000
613.940	1.782	26.454	28.236	-17.764	46.000
807.940	3.361	23.628	26.989	-19.011	46.000
918.520	1.958	22.512	24.470	-21.530	46.000

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product	:	OTT BOX				
Test Item	:	General Ra	diated Emission			
Test Site	:	No.3 OATS	5			
Test Mode	:	Mode 4: Tr	ansmit (802.11ac-20	)BW-7.2Mbps) (5720	OMHz)	
Frequency		Correct	Reading	Measurement	Margin	Limit
		Factor	Level	Level		
MHz		dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal						
Peak Detector						
103.720		-8.230	40.077	31.846	-11.654	43.500
241.460		-6.590	31.199	24.609	-21.391	46.000
396.660		0.771	31.291	32.062	-13.938	46.000
480.080		1.870	30.152	32.022	-13.978	46.000
792.420		6.391	32.697	39.088	-6.912	46.000
881.660		6.789	24.623	31.412	-14.588	46.000
Vertical						
Peak Detector						
78.500		-5.604	38.752	33.148	-6.852	40.000
179.380		-0.824	27.493	26.669	-16.831	43.500
383.080		0.195	25.770	25.965	-20.035	46.000
485.900		-2.324	25.956	23.632	-22.368	46.000
604.240		2.199	25.021	27.221	-18.779	46.000
792.420		2.681	37.953	40.634	-5.366	46.000

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	: No.3 O/	Radiated Emissio ATS	n ac-40BW-15Mbps) (	5710MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	$dB\mu V/m$	dB	dBµV/m
Horizontal					
<b>Peak Detector</b>					
101.780	-9.100	38.426	29.325	-14.175	43.500
206.540	-10.529	34.222	23.693	-19.807	43.500
412.180	-0.171	24.722	24.551	-21.449	46.000
606.180	4.196	24.999	29.195	-16.805	46.000
792.420	6.391	33.218	39.609	-6.391	46.000
930.160	7.530	22.197	29.727	-16.273	46.000
Vertical					
Peak Detector					
105.660	-4.576	35.889	31.312	-12.188	43.500
258.920	-4.900	25.807	20.907	-25.093	46.000
460.680	-1.930	25.951	24.021	-21.979	46.000
606.180	2.246	25.978	28.224	-17.776	46.000
794.360	2.657	29.149	31.806	-14.194	46.000
926.280	3.342	22.208	25.550	-20.450	46.000

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	: No.3 OA	Radiated Emissio ATS	n ac-80BW-32.5Mbps)	(5210MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	$dB\mu V/m$	dB	dBµV/m
Horizontal					
Peak Detector					
371.609	-1.104	28.818	27.714	-18.286	46.000
426.435	-2.968	30.169	27.202	-18.798	46.000
552.957	2.593	29.875	32.468	-13.532	46.000
607.783	4.433	24.431	28.864	-17.136	46.000
759.609	4.370	26.296	30.666	-15.334	46.000
822.870	6.077	24.693	30.771	-15.229	46.000
Vertical					
<b>Peak Detector</b>					
105.913	-0.261	27.239	26.978	-16.522	43.500
343.493	-3.321	26.731	23.410	-22.590	46.000
541.710	-0.172	24.009	23.837	-22.163	46.000
690.725	2.504	24.349	26.853	-19.147	46.000
791.942	2.897	28.868	31.765	-14.235	46.000
921.275	5.525	24.011	29.536	-16.464	46.000

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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site Test Mode	: No.3 O	Radiated Emissio ATS	n ac-80BW-32.5Mbps)	) (5290MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
<b>Peak Detector</b>					
305.536	-2.939	28.590	25.652	-20.348	46.000
373.014	-1.153	28.686	27.533	-18.467	46.000
429.246	-2.319	33.605	31.286	-14.714	46.000
572.638	2.411	27.136	29.547	-16.453	46.000
745.551	3.310	25.875	29.186	-16.814	46.000
829.899	6.321	23.988	30.309	-15.691	46.000
Vertical					
<b>Peak Detector</b>					
108.725	-0.372	25.513	25.141	-18.359	43.500
371.609	-2.706	27.524	24.819	-21.181	46.000
509.377	-0.143	24.340	24.197	-21.803	46.000
689.319	2.525	23.026	25.551	-20.449	46.000
791.942	2.897	29.938	32.835	-13.165	46.000
932.522	6.075	23.861	29.935	-16.065	46.000

-

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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

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FrequencyCorrectReadingMeasurementMarginLimitFactorLevelLevel $MHz$ dB $dB\mu V/m$ dB $dB\mu V/m$ MHzdB $dB\mu V$ $dB\mu V/m$ dB $dB\mu V/m$ HorizontalPeak Detector105.660-7.67640.43432.757-10.74343.500235.640-8.49034.66726.177-19.82346.000398.6000.87929.98230.861-15.13946.000	Product Test Item Test Site Test Mode
MHz         dB         dBμV         dBμV/m         dB         dBμV/m           Horizontal         -         105.660         -         -         -         -         10.743         43.500         235.640         -         8.490         34.667         26.177         -         19.823         46.000         -	Frequency
Horizontal           Peak Detector           105.660         -7.676         40.434         32.757         -10.743         43.500           235.640         -8.490         34.667         26.177         -19.823         46.000	
Peak Detector         105.660         -7.676         40.434         32.757         -10.743         43.500           235.640         -8.490         34.667         26.177         -19.823         46.000	MHz
105.660-7.67640.43432.757-10.74343.500235.640-8.49034.66726.177-19.82346.000	Horizontal
235.640 -8.490 34.667 26.177 -19.823 46.000	Peak Detector
	105.660
398.600 0.879 29.982 30.861 -15.139 46.000	235.640
	398.600
604.2404.28925.49329.783-16.21746.000	604.240
792.420 6.391 33.787 40.178 -5.822 46.000	792.420
968.960 7.356 22.723 30.079 -23.921 54.000	968.960
Vertical	Vertical
Peak Detector	Peak Detector
84.320 -4.204 36.766 32.562 -7.438 40.000	84.320
179.380 -0.824 28.356 27.532 -15.968 43.500	179.380
377.260 0.647 25.821 26.468 -19.532 46.000	377.260
612.0001.94326.26128.203-17.79746.000	612.000
794.360 2.657 28.847 31.504 -14.496 46.000	794.360
928.220 3.640 22.383 26.023 -19.977 46.000	928.220

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

Product Test Item Test Site	: No.3 OA	Radiated Emissio		////	
Test Mode	: Mode 6:	Transmit (802.11	ac-80BW-32.5Mbps)	(5775MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBµV	$dB\mu V/m$	dB	dBµV/m
Horizontal					
Peak Detector					
121.180	-7.289	37.972	30.683	-12.817	43.500
237.580	-7.697	47.730	40.033	-5.967	46.000
375.320	0.918	42.439	43.357	-2.643	46.000
431.580	0.757	40.328	41.085	-4.915	46.000
664.380	1.882	33.861	35.743	-10.257	46.000
904.940	6.009	28.863	34.872	-11.128	46.000
Vertical					
Peak Detector					
88.200	-4.076	39.169	35.093	-8.407	43.500
276.380	-6.006	41.665	35.659	-10.341	46.000
429.640	-8.060	43.427	35.366	-10.634	46.000
600.360	1.302	33.538	34.840	-11.160	46.000
753.620	2.730	33.658	36.388	-9.612	46.000
899.120	1.647	29.068	30.715	-15.285	46.000

- 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.
- 8. No emission found between lowest internal used/generated frequency to 30MHz.

# 6. Band Edge

# 6.1. 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., 2015
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2015
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

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.

## **RF Radiated Measurement:**

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

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
CB # 8	Х	Spectrum Analyzer	R&S	FSP40/ 100339	Oct., 2014
	Х	Horn Antenna	ETS-Lindgren	3117/ 35205	Mar., 2015
	Х	Horn Antenna	Schwarzbeck	BBHA9170/209	Jan., 2015
	Х	Horn Antenna	TRC	AH-0801/95051	Aug., 2015
	Х	Pre-Amplifier	EMCI	EMC012630SE/980210	Jan., 2015
	Х	Pre-Amplifier	MITEQ	JS41-001040000-58-5P/153945	Jul., 2015
	Х	Pre-Amplifier	NARDA	DBL-1840N506/013	Jul., 2015

Note:

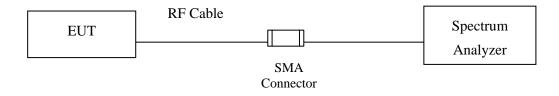
: 1. All instruments are calibrated every one year.

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

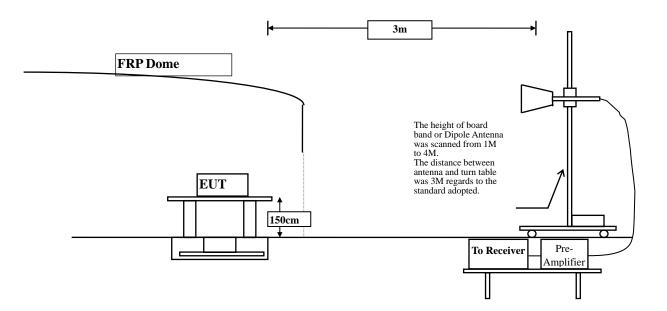


# 6.2. Test Setup

# **RF** Conducted Measurement:



### **RF Radiated Measurement:**





# 6.3. 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	dBµV/m@3m					
30-88	100	40					
88-216	150	43.5					
216-960	200	46					
Above 960	500	54					

Remarks : 1. RF Voltage  $(dB\mu V) = 20 \log RF$  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.

### 6.4. Test Procedure

The EUT is placed on a turn table which is 1.5 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 C63.10:2013 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 C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

# 6.5. Uncertainty

- $\pm$  3.8 dB below 1GHz
- $\pm$  3.9 dB above 1GHz

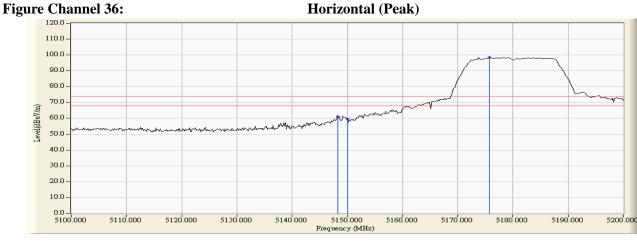


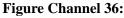
# 6.6. Test Result of Band Edge

Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps)-Channel 36 (5180MHz)

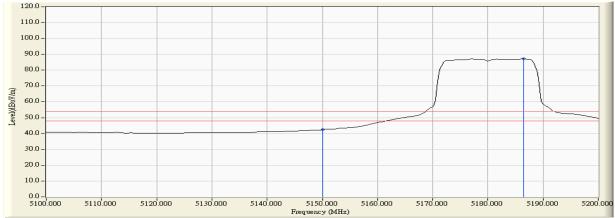
### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	<b>Emission Level</b>	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
36 (Peak)	5148.261	3.347	57.925	61.272	74.00	54.00	Pass
36 (Peak)	5150.000	3.340	56.330	59.670	74.00	54.00	Pass
36 (Peak)	5175.797	3.249	95.235	98.484			
36 (Average)	5150.000	3.340	39.065	42.405	74.00	54.00	Pass
36 (Average)	5186.522	3.211	83.983	87.194			





Horizontal (Average)



Note:1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.



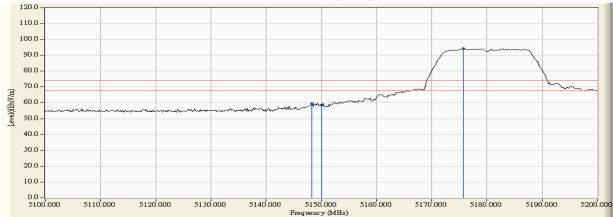
Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps)-Channel 36 (5180MHz)

### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBµV)	(dBµV/m)	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
36 (Peak)	5148.261	5.255	54.238	59.493	74.00	54.00	Pass
36 (Peak)	5150.000	5.260	53.286	58.546	74.00	54.00	Pass
36 (Peak)	5175.797	5.331	88.886	94.217			
36 (Average)	5150.000	5.260	37.641	42.901	74.00	54.00	Pass
36 (Average)	5186.667	5.360	77.543	82.903			

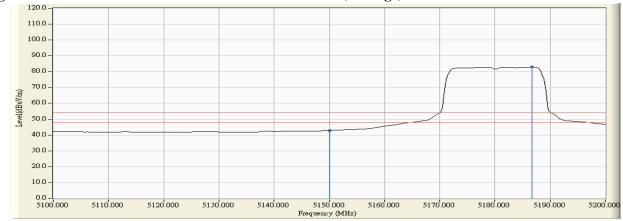
### Figure Channel 36:

### Vertical (Peak)



### Figure Channel 36:

### Vertical (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.



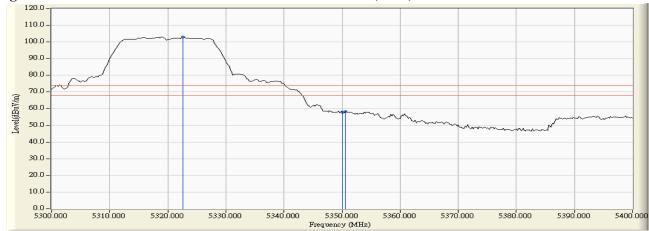
Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) -Channel 64 (5320MHz)

### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	D a sur 14
	(MHz)	(dB)	(dBµV)	(dBµV/m)	$(dB\mu V/m)$	(dBµV/m)	Result
64 (Peak)	5322.600	3.637	99.205	102.843			
64 (Peak)	5350.000	3.575	54.478	58.053	74.00	54.00	Pass
64 (Peak)	5350.600	3.573	54.791	58.364	74.00	54.00	Pass
64 (Average)	5322.000	3.639	88.040	91.679			
64 (Average)	5350.000	3.575	37.648	41.223	74.00	54.00	Pass

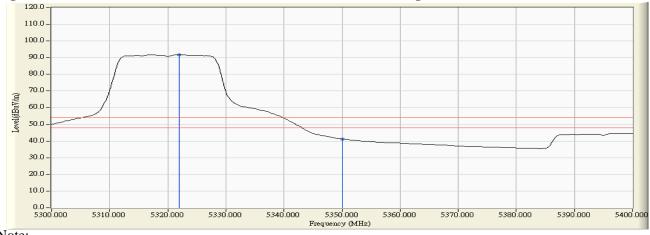
### **Figure Channel 64:**

### Horizontal (Peak)





Horizontal (Average)



- All readings above 1GHz are performed with peak and/or average measurements as necessary. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto. "\*", means this data is the worst emission level. 1.
- 2. 3.
- 4.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.



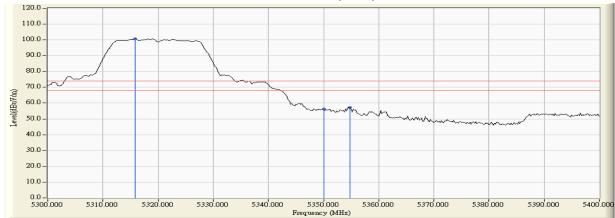
Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) -Channel 64 (5320MHz)

### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
Channel No.	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Kesuit
64 (Peak)	5315.800	3.883	96.838	100.721			
64 (Peak)	5350.000	3.900	52.373	56.273	74.00	54.00	Pass
64 (Peak)	5354.800	3.886	53.518	57.404	74.00	54.00	Pass
64 (Average)	5317.400	3.885	85.606	89.491			
64 (Average)	5350.000	3.900	35.812	39.712	74.00	54.00	Pass

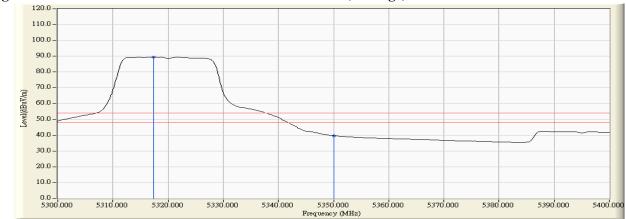
### Figure Channel 64:

### Vertical (Peak)



#### **Figure Channel 64:**

Vertical (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

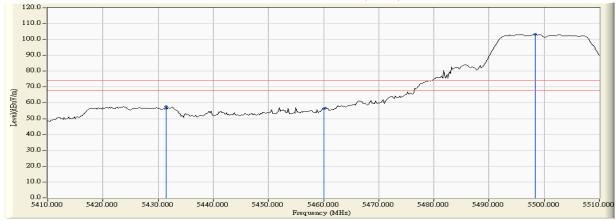


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) -Channel 100 (5500MHz)

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Degult
	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
100 (Peak)	5431.400	3.436	54.099	57.535	74.00	54.00	Pass
100 (Peak)	5460.000	3.775	52.472	56.247	74.00	54.00	Pass
100 (Peak)	5498.400	4.457	98.830	103.287			
100 (Average)	5422.600	3.367	42.171	45.538	74.00	54.00	Pass
100 (Average)	5460.000	3.775	36.667	40.442	74.00	54.00	Pass
100 (Average)	5497.200	4.440	87.461	91.902			

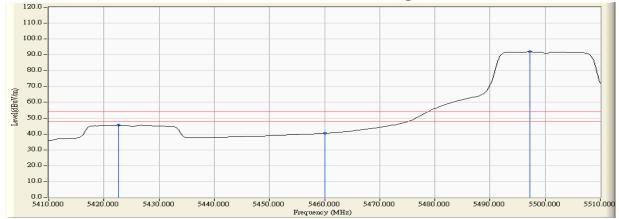
**Figure Channel 100:** 

Horizontal (Peak)





Horizontal (Average)



- All readings above 1GHz are performed with peak and/or average measurements as necessary. 1.
- 2. Peak measurements: RBW = 1MHz, VBW = 3MHz, Sweep: Auto.
- Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto. "\*", means this data is the worst emission level. 3.
- 4.
- 5. Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit of average 6. detection.

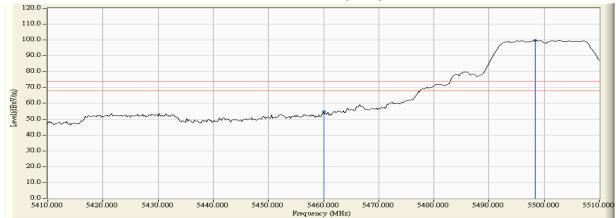


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) -Channel 100 (5500MHz)

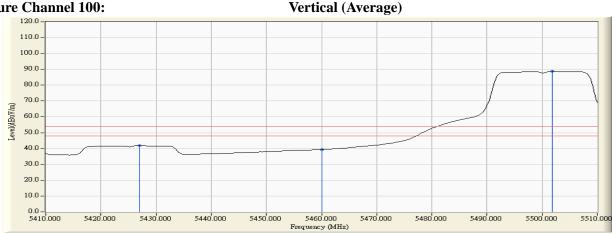
Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Degult
	(MHz)	(dB)	(dBµV)	(dBµV/m)	$(dB\mu V/m)$	(dBµV/m)	Result
100 (Peak)	5460.000	3.934	50.765	54.700	74.00	54.00	Pass
100 (Peak)	5498.400	4.443	95.372	99.815			
100 (Average)	5427.000	3.727	38.048	41.775	74.00	54.00	Pass
100 (Average)	5460.000	3.934	35.423	39.358	74.00	54.00	Pass
100 (Average)	5501.800	4.478	84.222	88.700			

#### **Figure Channel 100:**

## Vertical (Peak)



## **Figure Channel 100:**



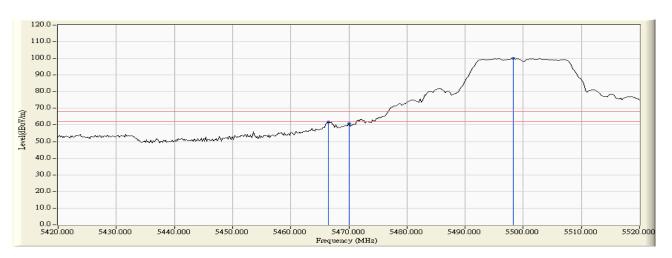
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- The average measurement was not performed when the peak measured data under the limit of average 6. detection.



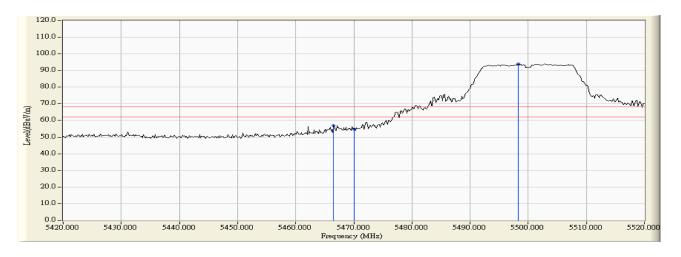
Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) -Channel 100

## **<u>RF</u>** Radiated Measurement:

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5466.522	4.442	57.197	61.638	-6.582	68.220	Pass
Horizontal	5470.000	4.488	56.218	60.706	-7.514	68.220	Pass
Horizontal	5498.261	4.802	95.343	100.145	31.925	68.220	Pass



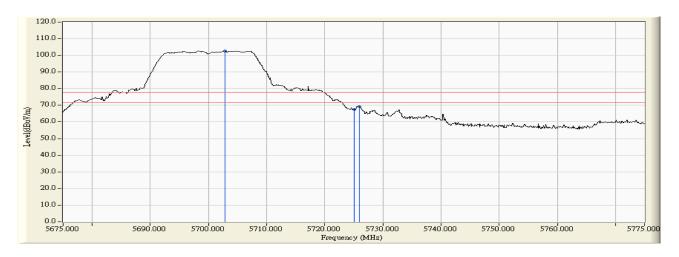
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5466.522	6.087	50.873	56.960	-11.260	68.220	Pass
Vertical	5470.000	6.112	48.494	54.605	-13.615	68.220	Pass
Vertical	5498.261	6.269	87.735	94.005	25.785	68.220	Pass



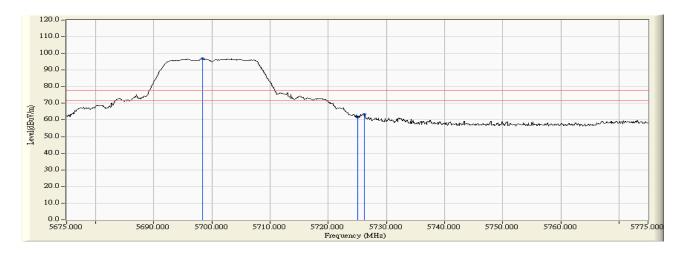


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps) -Channel 140

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5702.800	4.634	97.959	102.593	24.833	77.760	Pass
Horizontal	5725.000	4.654	62.806	67.460	-10.300	77.760	Pass
Horizontal	5725.900	4.655	64.639	69.293	-8.467	77.760	Pass



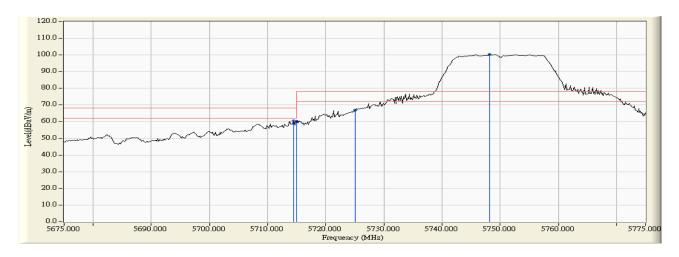
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5698.400	5.981	90.864	96.844	19.084	77.760	Pass
Vertical	5725.000	5.992	55.889	61.882	-15.878	77.760	Pass
Vertical	5726.200	5.992	57.263	63.255	-14.505	77.760	Pass



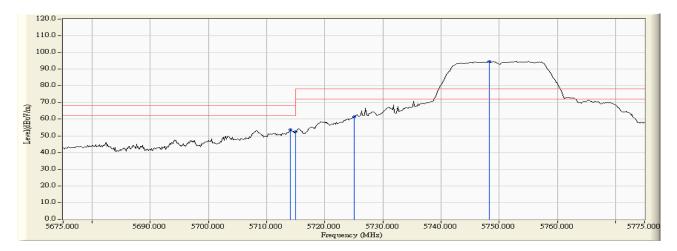


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps)-Channel 149

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5714.420	4.651	55.916	60.568	-7.652	68.220	Pass
Horizontal	5715.000	4.652	55.417	60.069	-8.151	68.220	Pass
Horizontal	5725.000	4.654	62.156	66.810	-11.410	78.220	Pass
Horizontal	5748.188	4.657	95.649	100.306	22.086	78.220	Pass



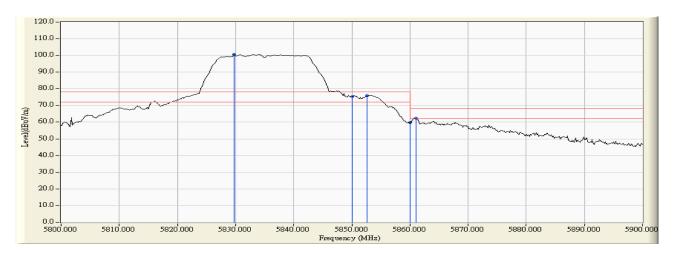
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5714.130	5.994	47.627	53.621	-14.599	68.220	Pass
Vertical	5715.000	5.994	46.562	52.556	-15.664	68.220	Pass
Vertical	5725.000	5.992	55.568	61.561	-16.659	78.220	Pass
Vertical	5748.333	5.988	88.657	94.645	16.425	78.220	Pass



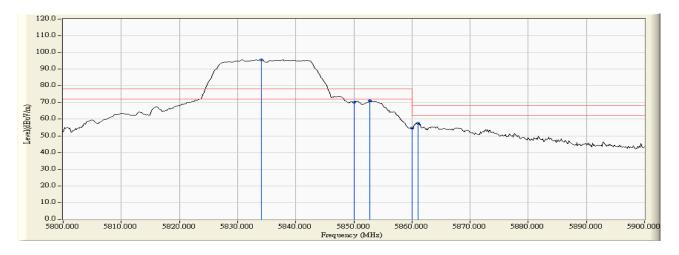


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps)-Channel 165

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5829.710	4.842	95.744	100.586	22.366	78.220	Pass
Horizontal	5850.000	4.964	70.468	75.432	-2.788	78.220	Pass
Horizontal	5852.609	4.978	70.802	75.781	-2.439	78.220	Pass
Horizontal	5860.000	5.023	54.881	59.904	-8.316	68.220	Pass
Horizontal	5861.014	5.028	57.507	62.536	-5.684	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5834.058	6.018	89.651	95.669	17.449	78.220	Pass
Vertical	5850.000	6.037	64.062	70.099	-8.121	78.220	Pass
Vertical	5852.754	6.040	64.919	70.959	-7.261	78.220	Pass
Vertical	5860.000	6.047	48.643	54.690	-13.530	68.220	Pass
Vertical	5861.014	6.048	51.595	57.643	-10.577	68.220	Pass



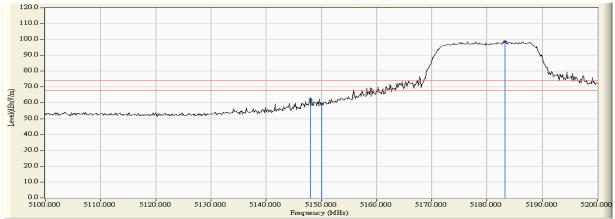


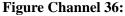
Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 36 (5180MHz)

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBµV)	(dBµV/m)	(dBµV/m)	(dBµV/m)	Result
36 (Peak)	5147.971	3.348	59.189	62.537	74.00	54.00	Pass
36 (Peak)	5150.000	3.340	55.920	59.260	74.00	54.00	Pass
36 (Peak)	5183.333	3.223	95.436	98.658			
36 (Average)	5150.000	3.340	39.070	42.410	74.00	54.00	Pass
36 (Average)	5186.232	3.213	83.138	86.350			

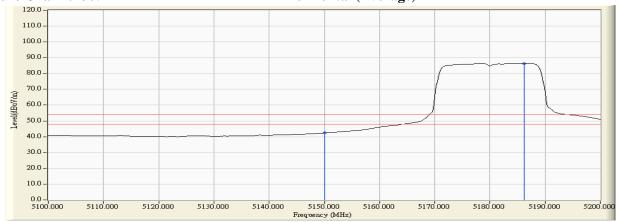
## Figure Channel 36:

## Horizontal (Peak)





# Horizontal (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

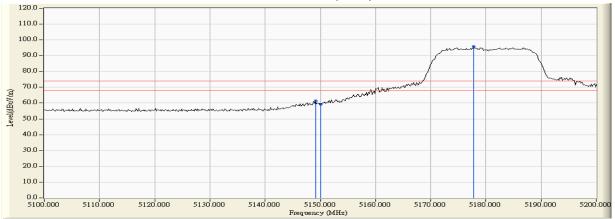


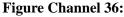
Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 36 (5180MHz)

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBµV)	(dBµV/m)	$(dB\mu V/m)$	(dBµV/m)	Result
36 (Peak)	5149.130	5.258	56.336	61.594	74.00	54.00	Pass
36 (Peak)	5150.000	5.260	53.941	59.201	74.00	54.00	Pass
36 (Peak)	5177.826	5.336	90.475	95.811			
36 (Average)	5150.000	5.260	37.570	42.830	74.00	54.00	Pass
36 (Average)	5185.217	5.357	76.708	82.064			

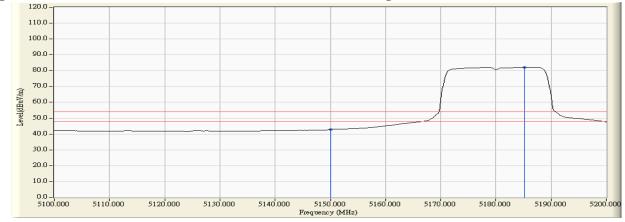
## Figure Channel 36:

## Vertical (Peak)









- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

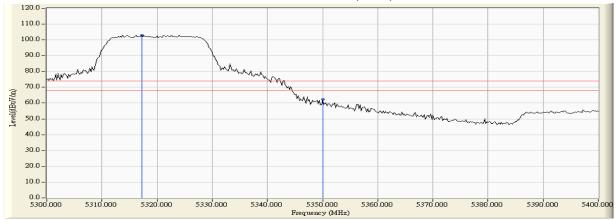


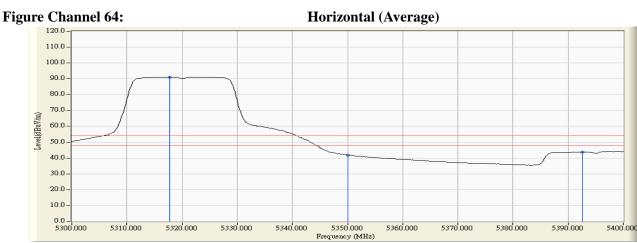
Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 64 (5320MHz)

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBµV)	(dBµV/m)	(dBµV/m)	(dBµV/m)	Kesuit
64 (Peak)	5317.200	3.648	99.395	103.043			
64 (Peak)	5350.000	3.575	58.708	62.283	74.00	54.00	Pass
64 (Average)	5317.800	3.647	87.525	91.172			
64 (Average)	5350.000	3.575	38.389	41.964	74.00	54.00	Pass
64 (Average)	5392.600	3.268	40.521	43.790	74.00	54.00	Pass

## **Figure Channel 64:**

## Horizontal (Peak)





- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

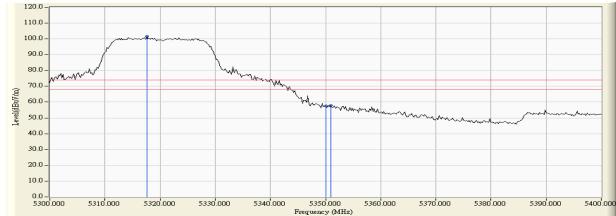


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 64 (5320MHz)

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
Channel No.	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
64 (Peak)	5317.600	3.885	97.631	101.516			
64 (Peak)	5350.000	3.900	53.633	57.533	74.00	54.00	Pass
64 (Peak)	5351.000	3.901	53.989	57.889	74.00	54.00	Pass
64 (Average)	5317.400	3.885	85.054	88.939			
64 (Average)	5350.000	3.900	36.699	40.599	74.00	54.00	Pass

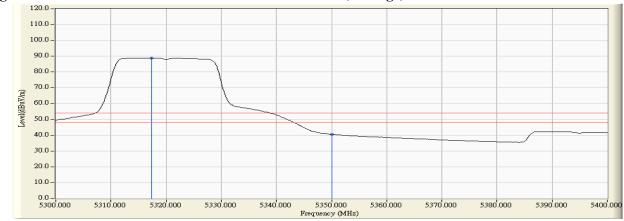
#### Figure Channel 64:

### Vertical (Peak)



#### Figure Channel 64:

#### Vertical (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

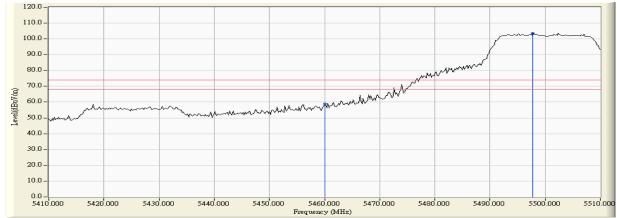


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 100 (5500MHz)

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBµV)	(dBµV/m)	$(dB\mu V/m)$	(dBµV/m)	Result
100 (Peak)	5460.000	3.775	55.088	58.863	74.00	54.00	Pass
100 (Peak)	5497.800	4.449	99.172	103.621			
100 (Average)	5423.000	3.370	41.987	45.357	74.00	54.00	Pass
100 (Average)	5460.000	3.775	37.227	41.002	74.00	54.00	Pass
100 (Average)	5497.600	4.446	86.972	91.418			

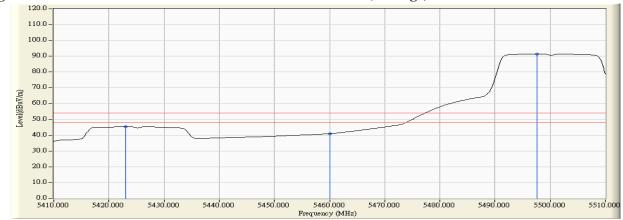
#### Figure Channel 100:

#### Horizontal (Peak)



#### Figure Channel 100:

Horizontal (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.



Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Cite		$N_{a} 2 \cap ATC$

Test Site : No.3 OATS

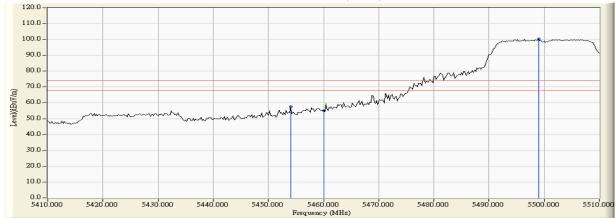
Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 100 (5500MHz)

## **RF** Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Decult
	(MHz)	(dB)	(dBµV)	(dBµV/m)	$(dB\mu V/m)$	(dBµV/m)	Result
100 (Peak)	5454.000	3.849	53.884	57.733	74.00	54.00	Pass
100 (Peak)	5460.000	3.934	51.018	54.953	74.00	54.00	Pass
100 (Peak)	5499.000	4.450	95.889	100.338			
100 (Average)	5426.800	3.727	37.959	41.686	74.00	54.00	Pass
100 (Average)	5460.000	3.934	36.323	40.258	74.00	54.00	Pass
100 (Average)	5503.800	4.499	84.096	88.595			

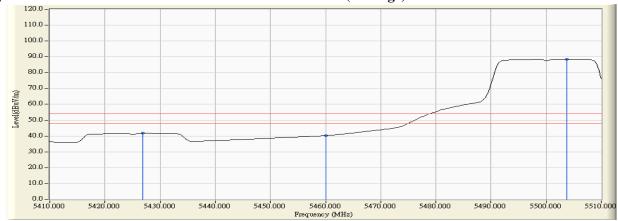
#### **Figure Channel 100:**

#### Vertical (Peak)



#### Figure Channel 100:

#### Vertical (Average)

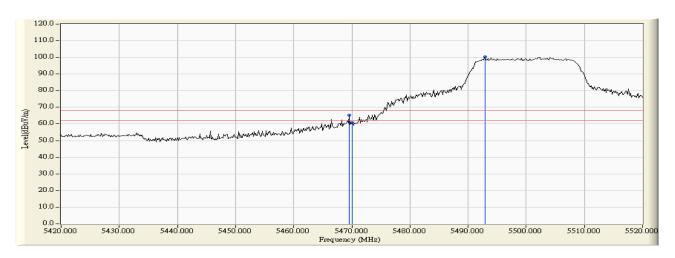


- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

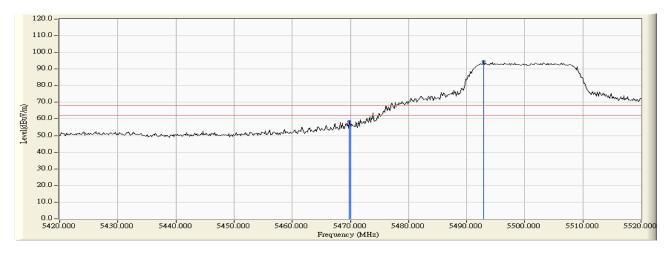


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 100

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5469.565	4.482	60.859	65.341	-2.879	68.220	Pass
Horizontal	5470.000	4.488	56.318	60.806	-7.414	68.220	Pass
Horizontal	5492.899	4.765	95.624	100.389	32.169	68.220	Pass



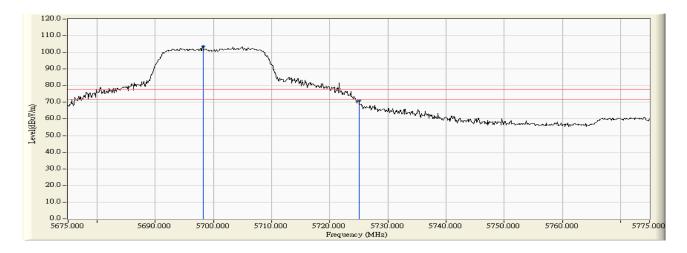
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5469.855	6.109	52.501	58.611	-9.609	68.220	Pass
Vertical	5470.000	6.112	50.142	56.253	-11.967	68.220	Pass
Vertical	5492.899	6.253	88.392	94.645	26.425	68.220	Pass



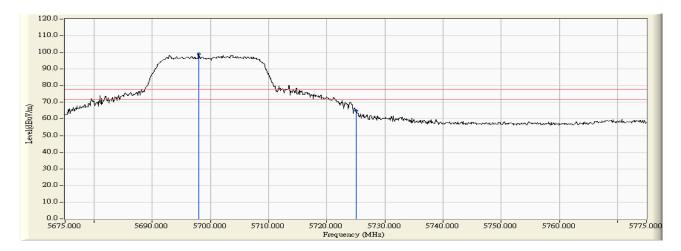


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 140

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5698.200	4.622	98.997	103.619	25.859	77.760	Pass
Horizontal	5725.000	4.654	66.499	71.153	-6.607	77.760	Pass



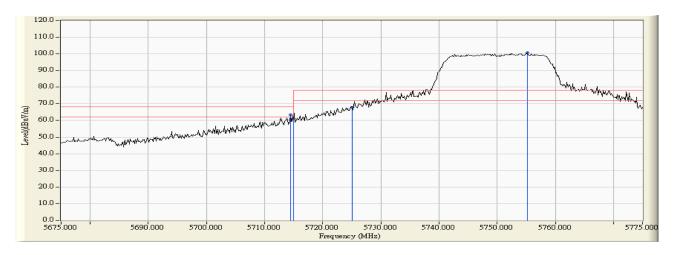
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5698.000	5.980	93.053	99.033	21.273	77.760	Pass
Vertical	5725.000	5.992	58.878	64.871	-12.889	77.760	Pass



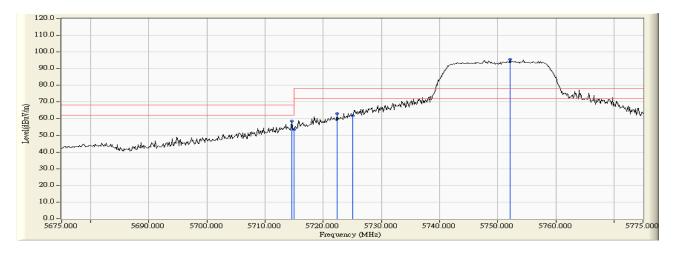


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 149

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5714.420	4.651	58.674	63.326	-4.894	68.220	Pass
Horizontal	5715.000	4.652	56.376	61.028	-7.192	68.220	Pass
Horizontal	5725.000	4.654	63.339	67.993	-10.227	78.220	Pass
Horizontal	5755.145	4.659	95.903	100.561	22.341	78.220	Pass



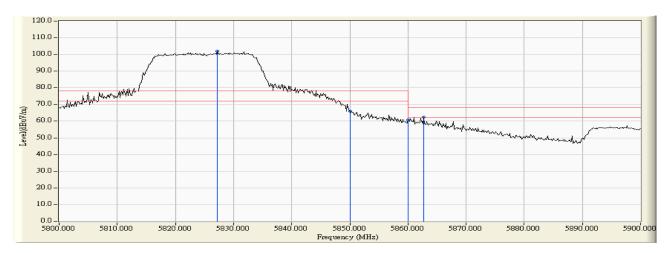
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5714.565	5.994	52.700	58.694	-9.526	68.220	Pass
Vertical	5715.000	5.994	47.504	53.498	-14.722	68.220	Pass
Vertical	5722.391	5.993	56.919	62.912	-15.308	78.220	Pass
Vertical	5725.000	5.992	55.794	61.787	-16.433	78.220	Pass
Vertical	5752.101	5.988	89.443	95.430	17.210	78.220	Pass



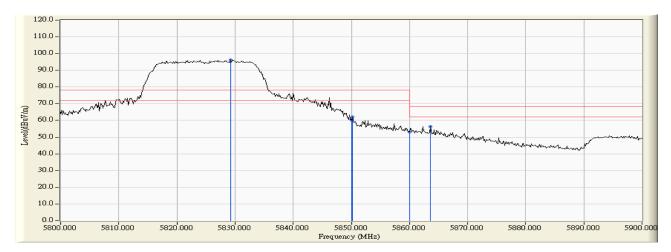


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 165

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5827.246	4.827	97.142	101.969	23.749	78.220	Pass
Horizontal	5850.000	4.964	61.001	65.965	-12.255	78.220	Pass
Horizontal	5860.000	5.023	55.657	60.680	-7.540	68.220	Pass
Horizontal	5862.754	5.039	57.488	62.527	-5.693	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5829.275	6.012	90.168	96.180	17.960	78.220	Pass
Vertical	5850.000	6.037	54.167	60.204	-18.016	78.220	Pass
Vertical	5850.145	6.037	56.187	62.224	-15.996	78.220	Pass
Vertical	5860.000	6.047	46.947	52.994	-15.226	68.220	Pass
Vertical	5863.623	6.051	50.371	56.422	-11.798	68.220	Pass



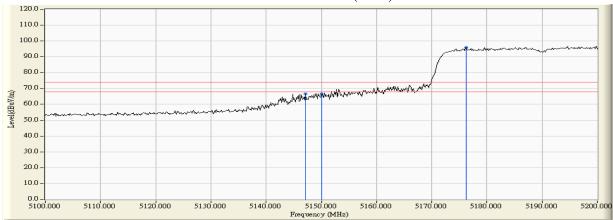


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 38 (5190MHz)

Channel No.	Frequency	Correct Factor	Reading Level	<b>Emission Level</b>	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBµV)	(dBµV/m)	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
38 (Peak)	5147.101	3.350	63.231	66.582	74.00	54.00	Pass
38 (Peak)	5150.000	3.340	63.182	66.522	74.00	54.00	Pass
38 (Peak)	5176.232	3.248	92.608	95.856			
38 (Average)	5150.000	3.340	41.035	44.375	74.00	54.00	Pass
38 (Average)	5196.377	3.167	79.264	82.432			

## Figure Channel 38:

#### Horizontal (Peak)



#### Figure Channel 38:

## Horizontal (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

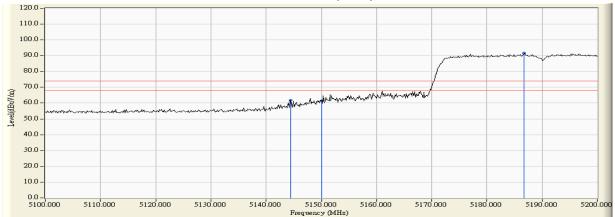


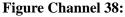
Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 38 (5190MHz)

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBµV)	(dBµV/m)	(dBµV/m)	(dBµV/m)	Kesuit
38 (Peak)	5144.493	5.244	56.513	61.758	74.00	54.00	Pass
38 (Peak)	5150.000	5.260	56.255	61.515	74.00	54.00	Pass
38 (Peak)	5186.667	5.360	86.477	91.837			
38 (Average)	5150.000	5.260	38.600	43.860	74.00	54.00	Pass
38 (Average)	5195.942	5.377	72.743	78.120			

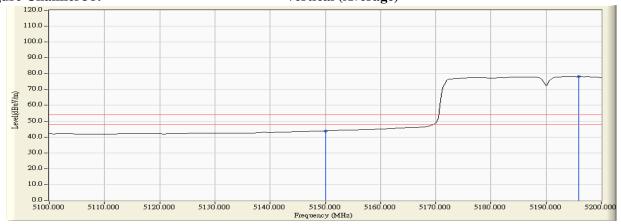
## **Figure Channel 38:**

## Vertical (Peak)





# Vertical (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

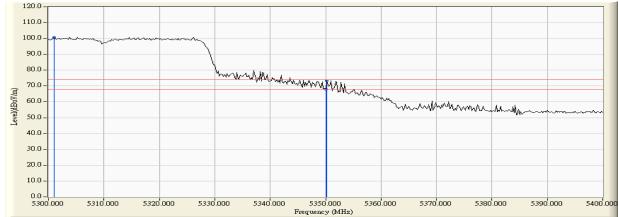


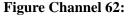
Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 62 (5310MHz)

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBµV)	(dBµV/m)	(dBµV/m)	(dBµV/m)	Result
62 (Peak)	5301.000	3.679	97.076	100.755			
62 (Peak)	5350.000	3.575	64.444	68.019	74.00	54.00	Pass
62 (Peak)	5350.200	3.575	69.860	73.434	74.00	54.00	Pass
62 (Average)	5303.800	3.674	83.402	87.076			
62 (Average)	5350.000	3.575	45.156	48.731	74.00	54.00	Pass

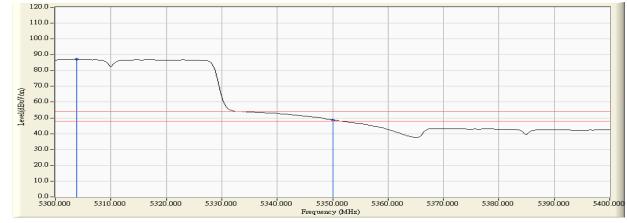
Figure Channel 62:

Horizontal (Peak)





Horizontal (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

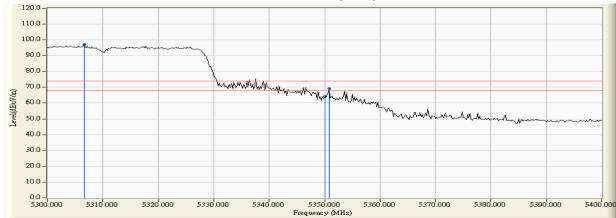


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 62 (5310MHz)

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Kesuit
62 (Peak)	5306.600	3.876	93.249	97.125			
62 (Peak)	5350.000	3.900	60.327	64.227	74.00	54.00	Pass
62 (Peak)	5350.800	3.900	65.381	69.281	74.00	54.00	Pass
62 (Average)	5303.800	3.874	79.439	83.312			
62 (Average)	5350.000	3.900	41.649	45.549	74.00	54.00	Pass

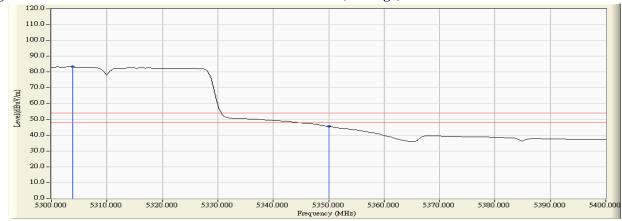
## Figure Channel 62:

## Vertical (Peak)





## Vertical (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.



Product	:	OTT BOX
Test Item	:	Band Edge Data

Test Item : Band Edge Data Test Site : No.3 OATS

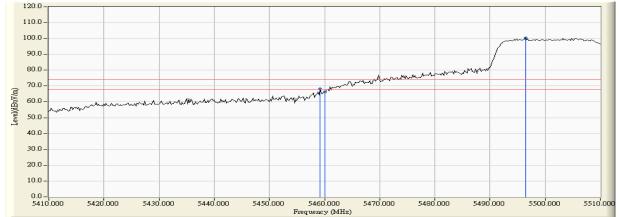
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 102 (5510MHz)

## **RF Radiated Measurement (Horizontal):**

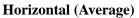
Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBµV)	(dBµV/m)	(dBµV/m)	(dBµV/m)	Kesult
102 (Peak)	5459.200	3.760	64.284	68.044	74.00	54.00	Pass
102 (Peak)	5460.000	3.775	62.625	66.400	74.00	54.00	Pass
102 (Peak)	5496.400	4.430	95.921	100.351			
102 (Average)	5460.000	3.775	45.380	49.155	74.00	54.00	Pass
102 (Average)	5504.000	4.533	82.012	86.545			

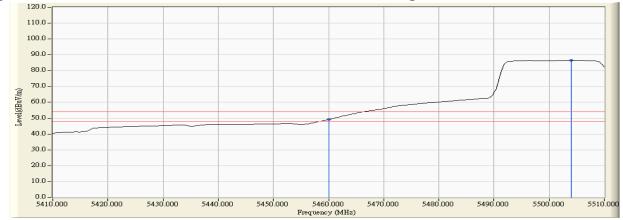
## Figure Channel 102:

## Horizontal (Peak)









Note:

1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

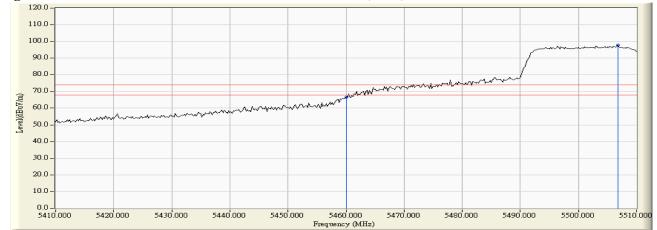


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 102 (5510MHz)

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
102 (Peak)	5460.000	3.934	62.599	66.534	74.00	54.00	Pass
102 (Peak)	5506.800	4.512	93.215	97.726			
102 (Average)	5460.000	3.934	44.593	48.528	74.00	54.00	Pass
102 (Average)	5505.600	4.511	79.445	83.956			

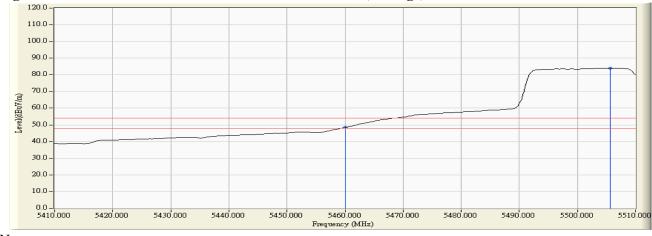
#### **Figure Channel 102:**

#### Vertical (Peak)



#### Figure Channel 102:

#### Vertical (Average)

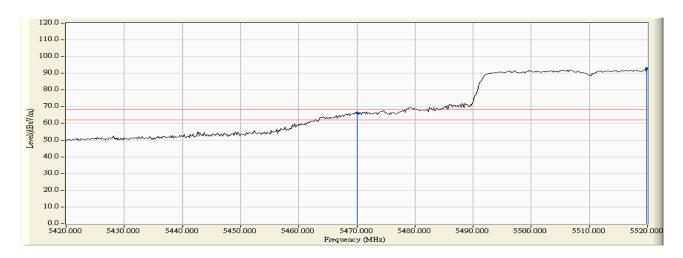


- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

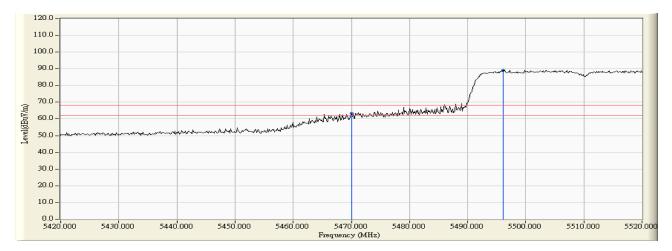


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 102

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5470.000	4.488	61.704	66.192	-2.028	68.220	Pass
Horizontal	5519.855	4.729	88.087	92.817	24.597	68.220	Pass



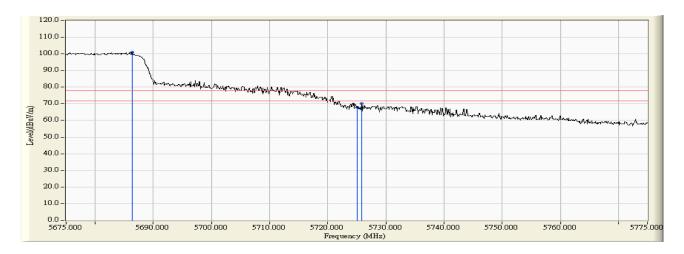
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5470.000	6.112	57.387	63.498	-4.722	68.220	Pass
Vertical	5496.087	6.263	82.883	89.146	20.926	68.220	Pass



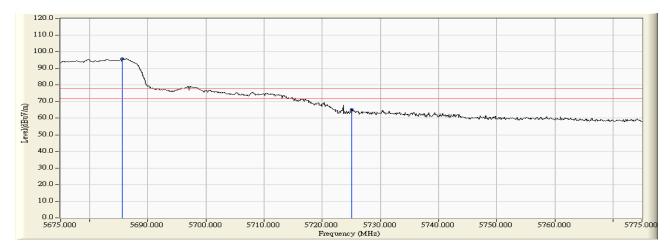


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 134

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5686.400	4.575	96.596	101.171	23.411	77.760	Pass
Horizontal	5725.000	4.654	63.081	67.735	-10.025	77.760	Pass
Horizontal	5725.800	4.655	65.454	70.108	-7.652	77.760	Pass



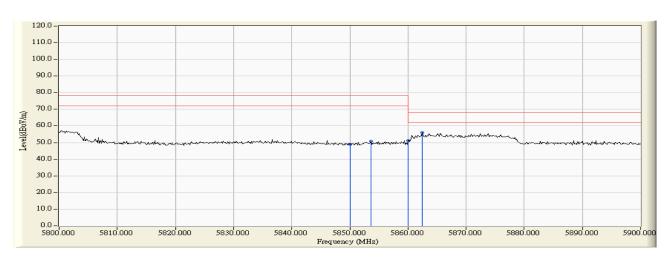
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5685.600	5.953	89.896	95.849	18.089	77.760	Pass
Vertical	5725.000	5.992	59.328	65.321	-12.439	77.760	Pass



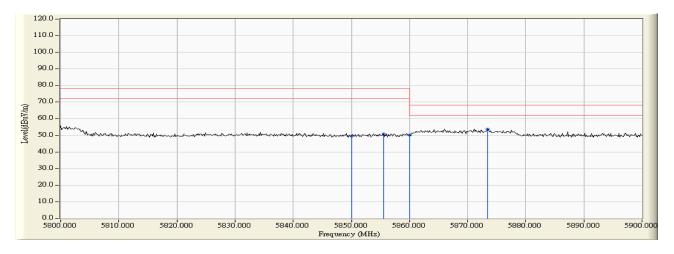


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11ac-20BW-7.2Mbps) -Channel 44

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5850.000	4.964	43.948	48.912	-29.308	78.220	Pass
Horizontal	5853.623	4.986	45.959	50.944	-27.276	78.220	Pass
Horizontal	5860.000	5.023	46.121	51.144	-17.076	68.220	Pass
Horizontal	5862.464	5.037	50.856	55.893	-12.327	68.220	Pass



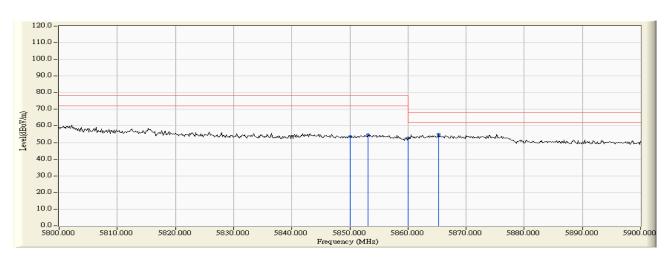
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5850.000	6.037	43.572	49.609	-28.611	78.220	Pass
Vertical	5855.507	6.043	44.848	50.891	-27.329	78.220	Pass
Vertical	5860.000	6.047	44.130	50.177	-18.043	68.220	Pass
Vertical	5873.478	6.063	47.759	53.821	-14.399	68.220	Pass



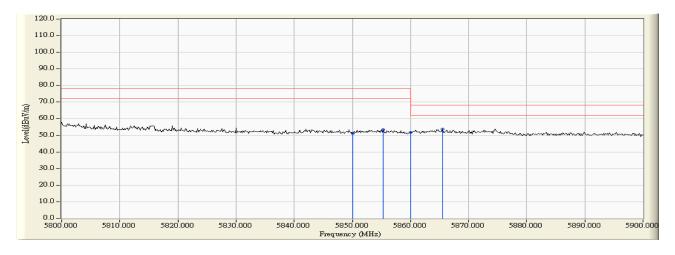


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 5: Transmit (802.11ac-40BW-15Mbps) -Channel 42

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5850.000	4.964	48.624	53.588	-24.632	78.220	Pass
Horizontal	5853.188	4.982	49.635	54.618	-23.602	78.220	Pass
Horizontal	5860.000	5.023	47.600	52.623	-15.597	68.220	Pass
Horizontal	5865.217	5.053	49.974	55.027	-13.193	68.220	Pass



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5850.000	6.037	45.033	51.070	-27.150	78.220	Pass
Vertical	5855.362	6.043	47.406	53.448	-24.772	78.220	Pass
Vertical	5860.000	6.047	45.835	51.882	-16.338	68.220	Pass
Vertical	5865.507	6.052	47.537	53.590	-14.630	68.220	Pass



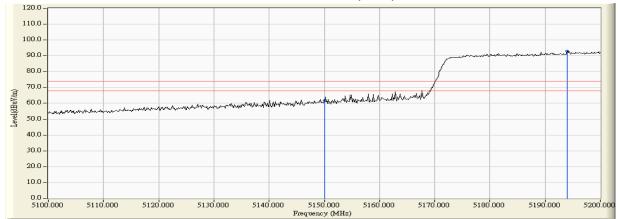


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) -Channel 42 (5210MHz)

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
42 (Peak)	5150.000	3.340	58.515	61.855	74.00	54.00	Pass
42 (Peak)	5194.058	3.179	89.840	93.018			
42 (Average)	5150.000	3.340	42.826	46.166	74.00	54.00	Pass
42 (Average)	5199.130	3.157	74.551	77.708			

## **Figure Channel 42:**

## Horizontal (Peak)





# Horizontal (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

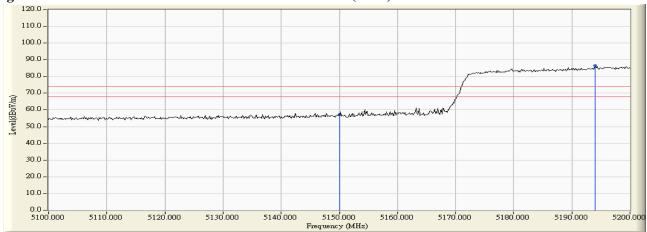


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) -Channel 42 (5210MHz)

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Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBµV)	(dBµV/m)	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
42 (Peak)	5150.000	5.260	52.001	57.261	74.00	54.00	Pass
42 (Peak)	5194.058	5.374	81.045	86.419			
42 (Average)	5150.000	5.260	38.348	43.608	74.00	54.00	Pass
42 (Average)	5199.130	5.383	66.564	71.948			

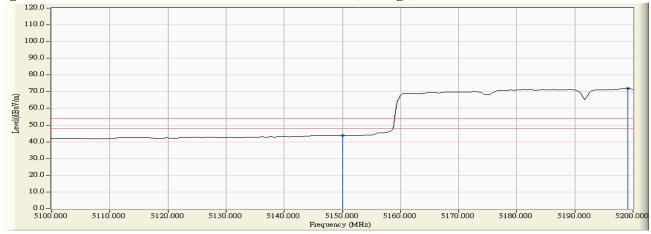
## Figure Channel 42:

### Vertical (Peak)



#### Figure Channel 42:

#### Vertical (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.



Product	:	OTT BOX
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Test Item : Band Edge Data

Test Site : No.3 OATS

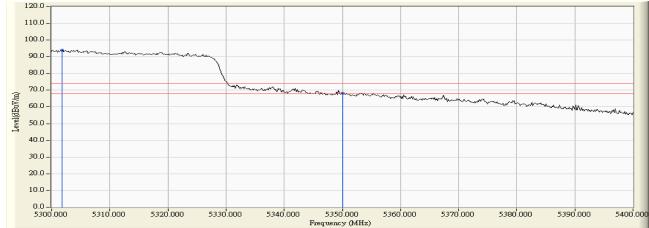
Test Mode : Mode 6: Transmit (802.11ac-80BW-32.5Mbps) -Channel 58 (5290MHz)

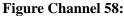
## **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Emission Level (dBµV/m)	Peak Limit (dBµV/m)	Average Limit (dBµV/m)	Result
58 (Peak)	5301.739	3.871	90.195	94.066	(uDµ v/III) 	(dDµ \/III) 	
58 (Peak)	5350.000	3.716	64.620	68.337	74.00	54.00	Pass
58 (Average)	5301.449	3.872	74.195	78.067			
58 (Average)	5350.000	3.716	47.251	50.968	74.00	54.00	Pass

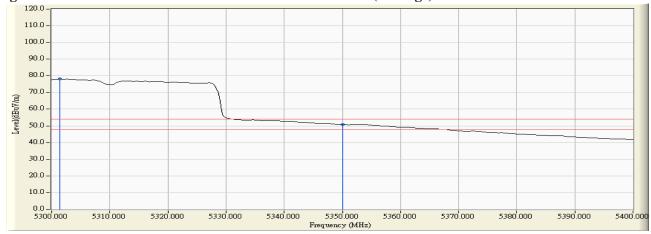
## **Figure Channel 58:**

## Horizontal (Peak)





## Horizontal (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.



Product	:	OTT BOX
Test Item	:	Band Edge Data

Test Site : No.3 OATS

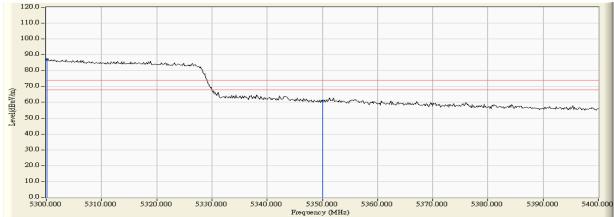
Test Mode : Mode 6: Transmit (802.11ac-80BW-32.5Mbps) -Channel 58 (5290MHz)

## **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
Channel No.	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
58 (Peak)	5300.145	5.751	81.470	87.221			
58 (Peak)	5350.000	5.691	55.206	60.898	74.00	54.00	Pass
58 (Average)	5301.304	5.753	66.865	72.618			
58 (Average)	5350.000	5.691	41.280	46.972	74.00	54.00	Pass

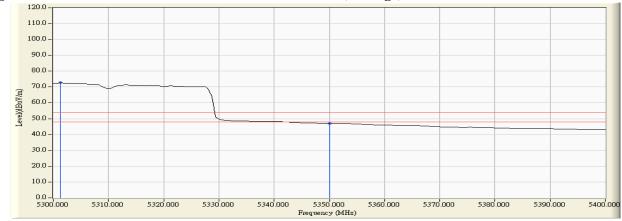
## Figure Channel 58:

## Vertical (Peak)



### Figure Channel 58:

#### Vertical (Average)



- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

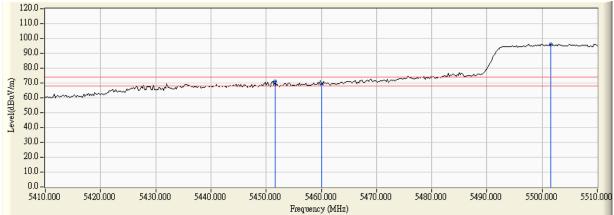


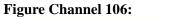
Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) -Channel 106 (5530MHz)

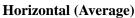
Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBµV)	(dBµV/m)	(dBµV/m)	(dBµV/m)	Kesuit
106 (Peak)	5451.600	3.634	67.562	71.195	74.00	54.00	Pass
106 (Peak)	5460.000	3.775	65.180	68.955	74.00	54.00	Pass
106 (Peak)	5501.600	4.500	91.708	96.208			
106 (Average)	5460.000	3.775	48.968	52.743	74.00	54.00	Pass
106 (Average)	5501.600	4.500	75.885	80.385			

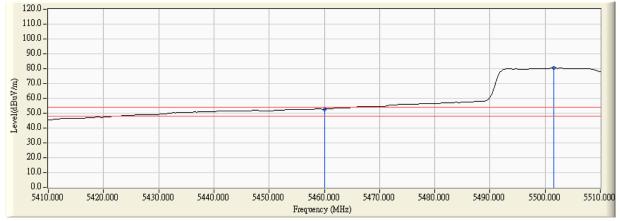
## Figure Channel 106:

## Horizontal (Peak)









- 1. All readings 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. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

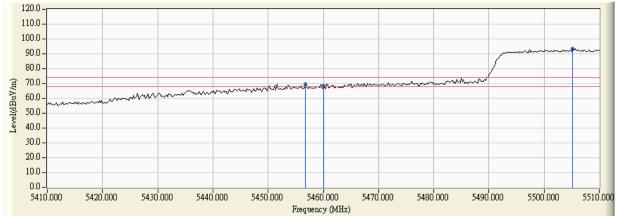


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) -Channel 106 (5530MHz)

Channel No.	Frequency	Correct Factor	Reading Level	<b>Emission Level</b>	Peak Limit	Average Limit	Result
	(MHz)	(dB)	(dBµV)	$(dB\mu V/m)$	$(dB\mu V/m)$	$(dB\mu V/m)$	Result
106 (Peak)	5456.800	3.888	65.782	69.671	74.00	54.00	Pass
106 (Peak)	5460.000	3.934	64.454	68.389	74.00	54.00	Pass
106 (Peak)	5505.200	4.511	88.941	93.452			
106 (Average)	5460.000	3.934	47.653	51.588	74.00	54.00	Pass
106 (Average)	5501.600	4.476	73.105	77.581			

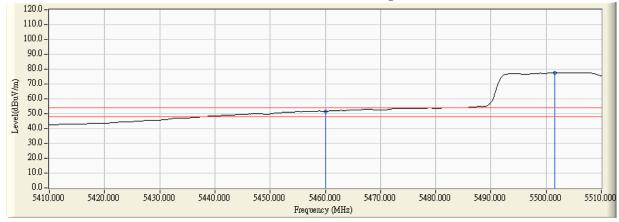
## **Figure Channel 106:**

## Vertical (Peak)







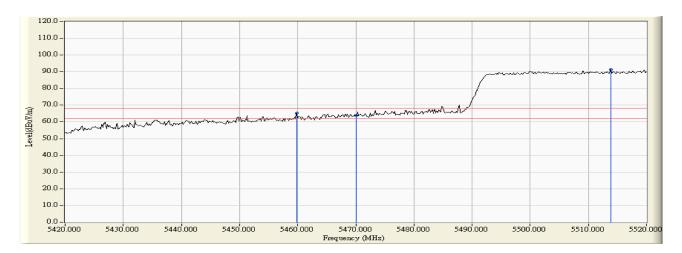


- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

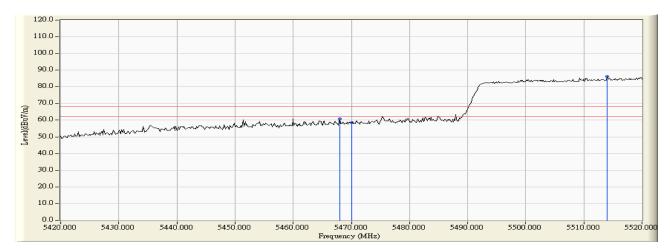


Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps) -Channel 106

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5459.855	4.353	60.971	65.323	-2.897	68.220	Pass
Horizontal	5470.000	4.488	59.068	63.556	-4.664	68.220	Pass
Horizontal	5513.913	4.777	86.462	91.239	23.019	68.220	Pass



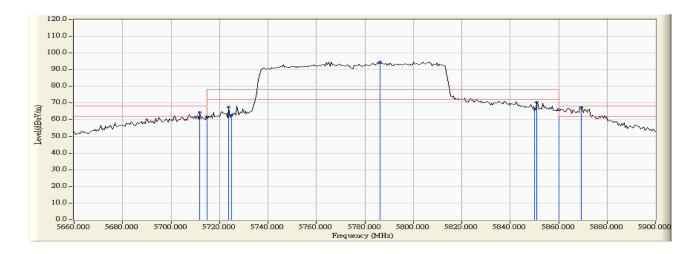
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5467.971	4.461	56.208	60.669	-7.551	68.220	Pass
Vertical	5470.000	4.488	54.161	58.649	-9.571	68.220	Pass
Vertical	5514.058	4.776	81.432	86.208	17.988	68.220	Pass





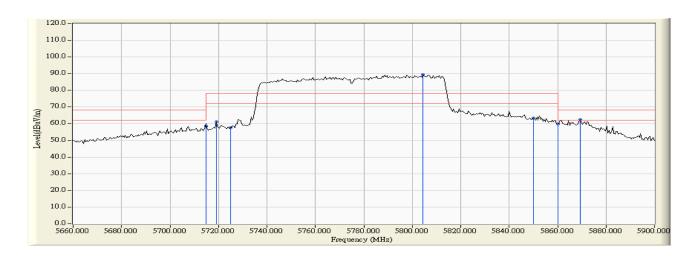
Product	:	OTT BOX
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps)-Channel 155

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Horizontal	5711.840	4.652	59.576	64.227	-3.993	68.220	Pass
Horizontal	5715.000	4.652	57.001	61.653	-6.567	68.220	Pass
Horizontal	5723.840	4.654	63.003	67.657	-10.563	78.220	Pass
Horizontal	5725.000	4.654	58.080	62.734	-15.486	78.220	Pass
Horizontal	5786.240	4.662	90.040	94.703	16.483	78.220	Pass
Horizontal	5850.000	4.964	61.419	66.383	-11.837	78.220	Pass
Horizontal	5851.040	4.969	65.480	70.450	-7.770	78.220	Pass
Horizontal	5860.000	5.023	60.818	65.841	-2.379	68.220	Pass
Horizontal	5869.280	5.078	62.480	67.558	-0.662	68.220	Pass





	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBµV)	Measure Level (dBµV /m)	Margin (dB)	Limit (dBµV /m)	Result
Vertical	5715.000	5.994	52.693	58.687	-9.533	68.220	Pass
Vertical	5719.040	5.993	54.990	60.983	-17.237	78.220	Pass
Vertical	5725.000	5.992	51.515	57.508	-20.712	78.220	Pass
Vertical	5804.480	5.984	83.536	89.520	11.300	78.220	Pass
Vertical	5850.000	6.037	57.291	63.328	-14.892	78.220	Pass
Vertical	5860.000	6.047	53.728	59.775	-8.445	68.220	Pass
Vertical	5869.280	6.058	56.259	62.316	-5.904	68.220	Pass



# 7. Occupied Bandwidth

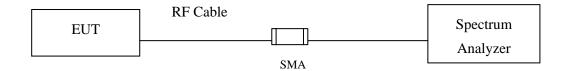
# 7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2015
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2015
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

## 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.

# 7.2. Test Setup



## 7.3. Limits

For the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz

# 7.4. .Test Procedure

The EUT was setup to ANSI C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

# 7.5. Uncertainty

 $\pm$  150Hz

# 7.6. Test Result of Occupied Bandwidth

Product	:	OTT BOX
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11a-6Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	16450	>500	Pass
157	5785.00	16450	>500	Pass
165	5825.00	16450	>500	Pass



Agilen	nt Spec	trum	Ana	lyzer - Sw	ept SA													
LXI R	L		RF	50 Ω .74500	AC		lz N0: Fast		SER	NSE:INT		Avg T		LIGNAUTO Log-Pwr	TR. T	AM Aug 25, 2015 ACE 1 2 3 4 5 6 YPE M WWWMAA		Frequency
		F	Refi	Offset 1.	5 dB		Gain:Lov		#Atten: 3					Mkr	2 5.736	oet P NNNN	1	Auto Tune
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11.5 1.50							¢2	Ŷ	, and all and a second	اسید <sub>ا</sub> اهد م	امهمهما		3			-0.27 dBm		Center Freq 5.745000000 GHz
-8.50 -18.5							word					\	Y.	ñ.				
-28.5 -38.5	or the start	Mirror	mpud	and the second second	hyper	Mr.n								No VINIVAN	www.	Werlyen how have		<b>Start Freq</b> 5.720000000 GHz
-48.5 -58.5			-															Stop Freq
-58.5																		5.770000000 GHz
	ter 5 s BV			) GHz (Hz			#V	/BW	300 kHz				S	weep 4		50.00 MHz (1001 pts)		<b>CF Step</b> 5.000000 MHz
MKR 1	MODE N	1	f			.738 7	5 GHz		Y 5.73 dl		FUNC	TION	FUN	CTION WIDTH	FUNCI	TION VALUE	Au	ito Man
2 3 4	N N		f				5 GHz 0 GHz		-1.28 dl -0.77 dl									Freq Offset 0 Hz
5 6 7																		
8 9 10 11																		
< MSG		-						I	Ш					STATUS	i	<u> </u>		

#### Figure Channel 149:

# Figure Channel 157:

Agilent Spectrum A		SA								
Center Freq				SEN	JSE:INT	Ανα Τγρ	ALIGNAUTO e: Log-Pwr		M Aug 25, 2015	Frequency
Center Freq	5.7650000		Fast 🖵 n:Low	Trig: Free #Atten: 30		018 I M	e. Log-i wi	TY	ET P N N N N N	
	ef Offset 1.5 di ef 21.50 dB						Mkr		80 GHz 09 dBm	Auto Tune
Log 11.5					1					Center Fre
1.50				4	$\langle \rangle$	, ,∆3			-1.87 dBm	5.78500000 GH
-8.50				and a start of the	and a start and a start and a start and a start				-1.07 0.011	0.10000000 01
-18.5		ىر	1			<u> </u>				
-28.5	Manager	AND					- V-VIDIARDAN			Start Fre
-38.5 ma wallyn	wypontallyses	-						Maryhanyhhy	whymas.	5.760000000 GH
-48.5									لوهد	
-58.5										Stop Fre
-68.5										5.81000000 GH
Center 5.785 #Res BW 100			#VBW	300 kHz			Sweep 4		0.00 MHz 1001 pts)	CF Ste 5.000000 MH
MKR MODE TRC SO		Х		Y		NCTION FL	INCTION WIDTH	FUNCTIO	ON VALUE	<u>Auto</u> Ma
1 N 1 f		5.786 25 G		4.13 dE -2.09 dE	3m 3m					
3 N 1 f		5.793 25 G	Hz	-2.35 dE	3m					Freq Offs
5									∃	01
6 7					_					
8										
10 11					-					
11      <	-				-				>	
ISG							STATUS	;		



			alyzer - Sv										
L <mark>XI</mark> RL		RF					SEI	VSE:INT		ALIGN AUTO		M Aug 25, 2015	Frequency
Cent	ter Fr	eq	5.8250	00000		ast 🕞 Low	Trig: Free #Atten: 30		Avg Typ	e: Log-Pwr	TY	CE 1 2 3 4 5 6 PE MWWWWW DET P N N N N N	
10 dE	3/div		Offset 1 f 21.50							Mkr		80 GHz 55 dBm	Auto Tune
11.5						•		<b>1</b>					Center Freq
1.50 -8.50						2 Jugalman	minumpe	water	and unlocated			-2:13 dBm	5.825000000 GHz
18.5					- And the second				- Vy				Start Free
28.5 38.5	up and the	n-n/v	phylo hylo M	and ware and the						Providenty	apaladarer with	hungmaddauthight	5.800000000 GH
48.5													Stop Fre
58.5 58.5													5.850000000 GH
Res	ter 5.8 s BW	100				#VBW	300 kHz	FI	NCTION FL	Sweep 4	.800 ms (	i0.00 MHz (1001 pts)	CF Step 5.000000 MH Auto Ma
1 2 3	N 1 N 1 N 1	f f f		5.82 5.81	6 25 GH 6 80 GH 3 25 GH	łz	3.87 d -2.55 d -2.96 d	3m 3m					Freq Offse
4 5 6												=	он
7 8 9													
10 11												v	
												>	
SG										STATUS	5		

#### **Figure Channel 165:**



Product	:	OTT BOX
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745.00	17700	>500	Pass
157	5785.00	17700	>500	Pass
165	5825.00	17650	>500	Pass



						0						
	Spectru		alyzer - Sv	wept SA								
LXI RL		RF					ENSE:INT		ALIGN AUTO		M Aug 25, 2015	Frequency
Cent	er Fr	eq (	5.7450	00000 G	iHz		_	Avg Ty	pe: Log-Pwr	TRA	CE 1 2 3 4 5 6	
					PNO: Fast		ee Run				PE MWWWWW	
					FGain:Low	#Atten:	30 dB				,	
				<b>F</b> 10					Mkı	2 5.736	15 GHz	Auto Tune
10 dB	1 ali		Offset 1 5 21.50								66 dBm	
Log	Jaiv	Re	21.30	UDIII		1	-	1	1			
11.5							1					Conton From
11.5					▲2		V .		3			Center Freq
1.50		_				howhat	and and see the	and marken with	<u>}</u>		-0.80 dBm	5.745000000 GHz
-8.50							V					
					N. C.				M.			
-18.5 -					N <sup>al</sup>				- hu			Start Freq
-28.5			بالمل سيلية	the There was					WWWW	Marthampy	an many man	
	HOW ANY MAN	all a la									work where	5.720000000 GHz
-38.5												
-48.5												
												Stop Freq
-58.5												5.770000000 GHz
-68.5												0.170000000000112
Cent	er 5.7	450	0 GHz							Span 5	60.00 MHz	CF Step
#Res					#VF	3W 300 kH	7		Sween 4		(1001 pts)	5.000000 MHz
<i>"</i>		100	1112			511 000 14			Officep 4		(1001 pts)	Auto Man
MKB M	IODE TR	C SCL		Х		Y		FUNCTION	UNCTION WIDTH	FUNCTI	ON VALUE 🛛 🔼	Auto Mari
	N 1	f			25 GHz	5.20						
	N 1	f			15 GHz	-1.66						Eron Offect
3	N 1	f		5./53	85 GHz	-2.12	aBm					Freq Offset
5		+										0 Hz
6		1										
7												
8												
9		-								-		
10		-										
11		-									>	
MSG									STATU	S		

### **Figure Channel 149**

## Figure Channel 157

		8**				
Agilent Spectrum Ana						
LXIRL RF	50 Ω AC	SEN	NSE:INT	ALIGN AUTO	03:28:50 AM Aug 25, 2015	
Center Freq 5	5.785000000 GHz	Trig: Free		g Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MWWWWW	
	PNO: F IEGain:I				DET P N N N N N	
				hA1.	0 5 770 45 011-	Auto Tune
	Offset 1.5 dB			IVIKI	2 5.776 15 GHz	
10 dB/div Ref	21.50 dBm				-2.85 dBm	
-			_ <b>∩1</b>			
11.5		2	Q.	∧3		Center Free
1.50		when the month of the	mound with more thank	the state of the s	-1.79 dBm	5.785000000 GH
-8.50						
-18.5				<u></u>		
10.5	a supply and			Mana	and the state of t	Start Free
-28.5	M NOW MAN AND MANY MANY			- MARCH MILLING	how when the second sec	5.76000000 GH
-38.5					- IN NOR	
-48.5						
50.5						Stop Free
-58.5						5.81000000 GH
-68.5						
Center 5.7850					Span 50.00 MHz	0.000
#Res BW 100	KHZ 7	¥VBW 300 kHz		Sweep 4	.800 ms (1001 pts)	5.000000 MH
MKR MODE TRC SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Mai
1 N 1 f	5.786 25 GH					
2 N 1 f 3 N 1 f	5.776 15 GH 5.793 85 GH					Freq Offse
4	0.750 00 01	1 <u>2</u> -2.00 ul	2111			0 H
5					=	UH
6						
8						
9						
10						
<					~	
MSG				STATUS		
100				STATUS		



		05	innel 1		1 1501					
							pt SA	alyzer - Swe		
Frequency	03:30:35 AM Aug 25, 2015 TRACE 1 2 3 4 5 6 TYPE M	ALIGNAUTO :: Log-Pwr			1	NO: Fast 🗔			er Freq	<sup>a</sup> RL Cente
Auto Tune	5.816 20 GHz -1.66 dBm	Mkr2			#Atten: 30	Gain:Low	dB	Offset 1.5		10 dB/
Center Fred 5.825000000 GH:	-1:63 dBm		wimine 3	- Al	karlaad madee	2 malerine				11.5 1.50 -8.50
Start Free 5.800000000 GH	and and and a factor of the second states and a se	Mundalling					Manual Marine	mutum	-wyhlpmyth	-18.5 - -28.5 - -38.5 4
<b>Stop Fre</b> 5.85000000 GH										-48.5 - -58.5 - -68.5 -
CF Ste 5.000000 MH Auto Ma	Span 50.00 MHz 300 ms (1001 pts)	•			300 kHz	#VBW		kHz	r 5.8250 BW 100	#Res
Freq Offse 0 H	FUNCTION VALUE	ICTION WIDTH		3m 3m	4.37 dE -1.66 dE -3.16 dE	0 GHz	× 5.826 2 5.816 2 5.833 8		1 f	1 1 2 1 3 1 4 5 6 7
	×									9 10 11
		STATUS								ISG

### **Figure Channel 165**

Product	:	OTT BOX
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 6: Transmit (802.11ac-80BW-32.5Mbps)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
155	5775.00	75900	>500	Pass

# Figure Channel 155

M         RF         50 Ω         AC         SENSE:INT         ALIGN AUTO         02:01:14 AM Aug 27, 2015           Center Freq 5.775000000 GHz         Avg Type: Log-Pwr         TRACE [1] 2 3 4 5 6         TRACE [1] 2 3 4 5 6	Frequency
PNO: Fast D Trig: Free Run TYPE M WWWWW IFGain:Low #Atten: 30 dB DET P NN NN N	Auto Tune
Ref Offset 1.5 dB         Mkr2 5.737 0 GHz           10 dB/div         Ref 20.50 dBm         -7.31 dBm	Auto Tune
10.5	Center Freq
0.500 2 9.50 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5.775000000 GHz
-19.5	<b>Start Freq</b> 5.725000000 GHz
-39.5	Stop Freq
-59.5	5.825000000 GHz
Center 5.77500 GHz Span 100.0 MHz Sweep 9.600 ms (1001 pts)	CF Step 10.000000 MHz Auto Man
MIGR         MODE         FIRE         SQL         X         Y         FUNCTION         FUNCTION WIDTH         FUNCTION VALUE         A         Z           1         N         1         f         5.786 2 GHz         -0.76 dBm         - <td></td>	
3         N         1         C.07 o GHz         7.06 dBm           4         -         -         -         7.06 dBm           5         -         -         -         -	Freq Offset 0 Hz
9	
MSG LASTATUS	

# 8. Frequency Stability

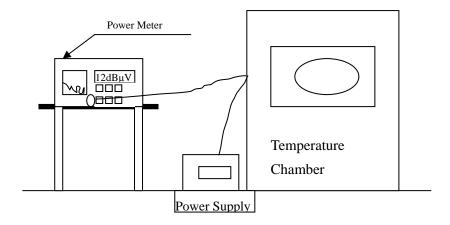
## 8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2015
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2015
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

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 C63.10, 2013; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

## 8.5. Uncertainty

± 150 Hz

# 8.6. Test Result of Frequency Stability

Product	:	OTT BOX
Test Item	:	Frequency Stability
Test Site	:	Temperature Chamber
Test Mode	:	Carrier Wave

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
		36	5180.0000	5180.0032	-0.0032
		38	5190.0000	5190.0021	-0.0021
		44	5220.0000	5220.0036	-0.0036
		46	5230.0000	5230.0021	-0.0021
		48	5240.0000	5240.0014	-0.0014
		52	5260.0000	5260.0036	-0.0036
		54	5270.0000	5270.0047	-0.0047
		60	5300.0000	5300.0035	-0.0035
		62	5310.0000	5310.0038	-0.0038
Tnom (20) oC	Vnom (110)V	64	5320.0000	5320.0041	-0.0041
		100	5500.0000	5500.0043	-0.0043
		102	5510.0000	5510.0047	-0.0047
		110	5550.0000	5550.0035	-0.0035
		116	5580.0000	5580.0038	-0.0038
		134	5670.0000	5670.0044	-0.0044
		140	5700.0000	5700.0048	-0.0048
		149	5745.0000	5745.0065	-0.0065
		157	5785.0000	5785.0032	-0.0032
		165	5825.0000	5825.0014	-0.0014



Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
		36	5180.0000	5180.0036	-0.0036
		38	5190.0000	5190.0022	-0.0022
		44	5220.0000	5220.0037	-0.0037
		46	5230.0000	5230.0029	-0.0029
		48	5240.0000	5240.0018	-0.0018
		52	5260.0000	5260.0031	-0.0031
		54	5270.0000	5270.0041	-0.0041
		60	5300.0000	5300.0028	-0.0028
	Vmax (126.5)V	62	5310.0000	5310.0024	-0.0024
Tmax (50) oC		64	5320.0000	5320.0031	-0.0031
		100	5500.0000	5500.0035	-0.0035
		102	5510.0000	5510.0027	-0.0027
		110	5550.0000	5550.0034	-0.0034
		116	5580.0000	5580.0036	-0.0036
		134	5670.0000	5670.0025	-0.0025
		140	5700.0000	5700.0033	-0.0033
		149	5745.0000	5745.0067	-0.0067
		157	5785.0000	5785.0039	-0.0039
		165	5825.0000	5825.0011	-0.0011



Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
		36	5180.0000	5180.0031	-0.0031
		38	5190.0000	5190.0022	-0.0022
		44	5220.0000	5220.0034	-0.0034
		46	5230.0000	5230.0024	-0.0024
		48	5240.0000	5240.0018	-0.0018
		52	5260.0000	5260.0074	-0.0074
		54	5270.0000	5270.0075	-0.0075
	Vmin (93.5)V	60	5300.0000	5300.0039	-0.0039
		62	5310.0000	5310.0038	-0.0038
Tmax (50) °C		64	5320.0000	5320.0042	-0.0042
		100	5500.0000	5500.0044	-0.0044
		102	5510.0000	5510.0048	-0.0048
		110	5550.0000	5550.0031	-0.0031
		116	5580.0000	5580.0036	-0.0036
		134	5670.0000	5670.0048	-0.0048
		140	5700.0000	5700.0047	-0.0047
		149	5745.0000	5745.0063	-0.0063
		157	5785.0000	5785.0035	-0.0035
		165	5825.0000	5825.0035	-0.0035



Test C	Test Conditions		Frequency (MHz)	Frequency (MHz)	△F (MHz)		
		36	5180.0000	5180.0074	-0.0074		
		38	5190.0000	5190.0028	-0.0028		
		44	5220.0000	5220.0036	-0.0036		
		46	5230.0000	5230.0077	-0.0077		
		48	5240.0000	5240.0055	-0.0055		
		52	5260.0000	5260.0069	-0.0069		
		54	5270.0000	5270.0000	0.0000		
		60	5300.0000	5300.0032	-0.0032		
	Vnom (126.5)V	62	5310.0000	5310.0036	-0.0036		
Tnom (0) oC		64	5320.0000	5320.0034	-0.0034		
		100	5500.0000	5500.0038	-0.0038		
		102	5510.0000	5510.0027	-0.0027		
		110	5550.0000	5550.0025	-0.0025		
		116	5580.0000	5580.0035	-0.0035		
		134	5670.0000	5670.0028	-0.0028		
		140	5700.0000	5700.0033	-0.0033		
		149	5745.0000	5745.0063	-0.0063		
		157	5785.0000	5785.0085	-0.0085		
				165	5825.0000	5825.0035	-0.0035



Test Co	Test Conditions		Frequency (MHz)	Frequency (MHz)	∆F (MHz)
		36	5180.0000	5180.0014	-0.0014
		38	5190.0000	5190.0033	-0.0033
		44	5220.0000	5220.0014	-0.0014
		46	5230.0000	5230.0046	-0.0046
		48	5240.0000	5240.0031	-0.0031
		52	5260.0000	5260.0041	-0.0041
		54	5270.0000	5270.0040	-0.0040
	Vmax (93.5)V	60	5300.0000	5300.0042	-0.0042
		62	5310.0000	5310.0036	-0.0036
Tmax (0) oC		64	5320.0000	5320.0034	-0.0034
		100	5500.0000	5500.0044	-0.0044
		102	5510.0000	5510.0047	-0.0047
		110	5550.0000	5550.0042	-0.0042
		116	5580.0000	5580.0038	-0.0038
		134	5670.0000	5670.0033	-0.0033
		140	5700.0000	5700.0043	-0.0043
		149	5745.0000	5745.0000	0.0000
		157	5785.0000	5785.0250	-0.0250
		165	5825.0000	5825.0200	-0.0200



Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	<b>△F (MHz)</b>
		42	5210.0000	5210.0220	-0.0220
		58	5290.0000	5290.0046	-0.0046
		138	5690.0000	5690.0046	-0.0046
Tnom (20) °C	Vnom (110)V	138	5690.0000	5690.0046	-0.0046
		142	5710.0000	5710.0029	-0.0029
		144	5720.0000	5720.0064	-0.0064
		155	5775.0000	5775.0034	-0.0034
Test Co	onditions	Channel	Frequency (MHz)	Frequency (MHz)	△F (MHz)
	Vmax (126.5)V	42	5210.0000	5210.0024	-0.0024
		58	5290.0000	5290.0046	-0.0046
		138	5530.0000	5530.0016	-0.0016
Tmax (50) °C		138	5690.0000	5690.0064	-0.0064
		142	5710.0000	5710.0044	-0.0044
		144	5720.0000	5720.0037	-0.0037
		155	5775.0000	5775.0029	-0.0029
Test Co	onditions	Channel	Frequency (MHz)	Frequency (MHz)	∆F (MHz)
		42	5210.0000	5210.0024	-0.0024
		58	5290.0000	5290.0046	-0.0046
		138	5530.0000	5530.0036	-0.0036
Tmax (50) °C	Vmin (93.5)V	138	5690.0000	5690.0027	-0.0027
		142	5710.0000	5710.0046	-0.0046
		144	5720.0000	5720.0033	-0.0033
		155	5775.0000	5775.0016	-0.0016



Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	∴F (MHz)
		42	5210.0000	5210.0024	-0.0024
		58	5290.0000	5290.0046	-0.0046
		138	5530.0000	5530.0025	-0.0025
Tmin (0) °C	Vmax (126.5)V	138	5690.0000	5690.0017	-0.0017
		142	5710.0000	5710.0039	-0.0039
		144	5720.0000	5720.0047	-0.0047
		155	5775.0000	5775.0046	-0.0046
Test Co	Test Conditions		Frequency (MHz)	Frequency (MHz)	△F (MHz)
		42	5210.0000	5210.0024	-0.0024
		58	5290.0000	5290.0046	-0.0046
		138	5530.0000	5530.0026	-0.0026
Tmin (0) °C	Vmin (93.5)V	138	5690.0000	5690.0021	-0.0021
		142	5710.0000	5710.0036	-0.0036
		144	5720.0000	5720.0039	-0.0039
		155	5775.0000	5775.0045	-0.0045



# 9. EMI Reduction Method During Compliance Testing

No modification was made during testing.



Attachment 1: EUT Test Photographs



Attachment 2: EUT Detailed Photographs