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FCC WIRELESS EQUIPMENT TEST&MEASUREMENT REPORT

On Model Name: IP Multimedia Phone

Model Numbers: GXV3175

Brand Name: Grandstream

FCC ID Number: YZZGXV3175-P

Prepared for Grandstream Networks,INC

Test Specification: FCC Part 15, Subpart C

Test Report #: SHE-1212-10918-FCC ID

Tested by: Daomen Galanz
Engineer Company Name

Reviewed by: ECMG
Senior Engineer Company Name

QC Manager: Swall Zhang ECMG
QC Manager Company Name

Test Report Released by: Swall Zhang January 9th, 2013
Swall Zhang Date

List of Attached Files

Exhibit Type	File Description	File Name
Test Report	Test Report	YZZGXV3175-P _Test report.pdf
Operation Description	Technical Description	YZZGXV3175-P _Operation Description.pdf
External Photos	External Photos	YZZGXV3175-P _External Photos.pdf
Internal Photos	Internal Photos	YZZGXV3175-P _Internal Photos.pdf
Block Diagram	Block Diagram	YZZGXV3175-P _Block Diagram.pdf
Schematics	Circuit Diagram	YZZGXV3175-P _Schematics.pdf
ID Label/Location	Label and Location	YZZGXV3175-P _Label & Location.pdf
User Manual	User Manual	YZZGXV3175-P _User Manual.pdf
Test Setup Photos	Test Setup Photos	YZZGXV3175-P _Test Setup Photos.pdf

Test Location

Tests performed in a Certified ANSI Semi-Anechoic Chamber and Shielded Room.

Test Site Location	*: Galanz*
	25 South Ronggui Rd., Shunde, Foshan,Guangdong, China
Tel	*: (86)-757-23612785*
Fax	*: (86)-757-23612537*

Test Facility

The test facility was recognized, certified, or accredited by the following organizations:

- *CNAL – LAB Code: L2244*

Galanz EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements)for the Competence of Testing Laboratories.

- *FCC – Registration No.: 580210*

Galanz EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC was maintained in our files.

List of Test and Measurement Instruments

Equipment	Manufacturer	Model No.	Serial No.	Calibrated Untill
Spectrum Analyzer	R&S	FSP30	100755	2013-11-30
EMI Receiver	SCHAFFNER	SMR4503	11725	2013-11-30
LISN	ETS	4825/2	1161	2013-11-30
Coaxial Cable	ATC	N/A	N/A	2013-11-30
Double-ridged Wave guide horn	ETS	3115	6587	2013-11-30
3116C Double-Ridged Waveguide Horn	ETS-Lindgren	3116C	6587/01	2013-11-30
Amplifier	Agilent	83017A	MY39500438	2013-11-30
Band filter	ASI	82346	S06389	2013-11-30
Biconilog Antenna	ETS	3142C	00042672	2013-11-30
Semi-anechoic Chamber	ETS	N/A	N/A	2013-11-30

Note: All testing were performed using internationally recognized standards.All test instruments were calibrated.

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Opinions and Interpretations

This test report relates to the abovementioned equipment under test (EU T).Without the permission of ECMG Electronic Technical Testing Corp (Shenzhen). Test Lab this test report is not permitted to be duplicated in extracts.This test report does not entitle to carry any test mark on this or similar products.The manufacturer has sole responsibility of continu ed compliance of the device.

Statement of Measurement Uncertainty

The data and results referenced in the document are true and accurate.The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities that can account for a nominal measurement error. Furthermore, component and process variability of devices similar to that tested may resultin additional deviation.

Administrative Data

Test Sample	*: IP Multimedia Phone*
Model Name	*: GXV3175*
Model Tested	*: GXV3175*
Receipt Date	*: December 5th, 2012*
Date Tested	*: December 6th to 29th, 2012*
Applicant	*: Grandstream Networks, INC*
Address	*5F, Bldg #1, No.2 Kefa Rd., Science & Technology Park, Shenzhen, China*
Telephone	*: (86)-755-26014600*
Fax	*: (86)-755-26014601*
Manufacturer	*: Grandstream Networks, INC*
Address	*5F, Bldg #1, No.2 Kefa Rd., Science & Technology Park, Shenzhen, China*
Telephone	*: (86)-755-26014600*
Fax	*: (86)-755-26014601*
Factory	*: Grandstream Networks, INC*
Address	*5F, Bldg #1, No.2 Kefa Rd., Science & Technology Park, Shenzhen, China*
Telephone	*: (86)-755-26014600*
Fax	*: (86)-755-26014601*

EUT Description

Grandstream Networks,Inc., model tested GXV3175(referred to as the EUT in this report) is an IP Multimedia Phone.

The EUT is an IP multimedia phone which integrates an IEEE 802.11 b/g/n wireless module. Main technical specifications of the EUT as belows:

<table>
<tr><th colspan="2">Parameter</th><th>Range</th></tr>
<tr><td rowspan="2">Rating</td><td>Rated voltage</td><td>DC12V</td></tr>
<tr><td>Rated Current</td><td>1.5A</td></tr>
<tr><td rowspan="6">IEEE 802.11b/g/n Wi-Fi module Parameters</td><td>Operating band</td><td>2400-2483.5MHz</td></tr>
<tr><td>WiFi Module Voltage</td><td>5.0VDC ± 5% (or 3.3VDV± 5% upon special requirement)</td></tr>
<tr><td>Working Frequency of Each Channel</td><td>
<table>
<tr><td>Channel No.</td><td>Frequency (MHz)</td><td>Channel No.</td><td>Frequency (MHz)</td></tr>
<tr><td>001</td><td>2412</td><td>007</td><td>2442</td></tr>
<tr><td>002</td><td>2417</td><td>008</td><td>2447</td></tr>
<tr><td>003</td><td>2422</td><td>009</td><td>2452</td></tr>
<tr><td>004</td><td>2427</td><td>010</td><td>2457</td></tr>
<tr><td>005</td><td>2432</td><td>011</td><td>2462</td></tr>
<tr><td>006</td><td>2437</td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Frequency of Number</td><td>IEEE 802.11b/g: 11 channels;
Draft 802.11n standard 20MHz: 11channels;
Draft 802.11n standard 40MHz: 7 channels.</td></tr>
<tr><td>Modulation Type</td><td>802.11b: DBPSK,DQPSK,CCK (DSSS); 802.11g/n: BPSK,QPSK,16-QAM,64-QAM (OFDM)</td></tr>
<tr><td>Data Rate</td><td>IEEE 802.11b: 11/5.5/2/1Mbps (Dynamic);
IEEE 802.11g: 54/48/36/24/18/12/9/6Mbps;
IEEE 802.11n: up to 150Mbps;</td></tr>
</table>

Continue on the next page…

	Wireless Transmit Power	*IEEE 802.11b(1-11M): 18dBm +/-2dB* *IEEE 802.11g(6-54M): 15dBm +/-2dB* *IEEE 802.11n(mcs=0~7): 15dBm +/-2dB*
	Antenna Spec.	*1. Gain: 2dBi* *2. Impedance: 50ohm* *3. I-PEX Receptacle(1T1R)*
I/O Ports	*PC Ethernet Port*	*10/100Mbps RJ-45 port connecting to PC*
	Network Ethernet Port	*10/100Mbps RJ-45 port connecting to Ethernet*
	Power Jack	*12V DC Power connector port12V DC Power connector port*
	RJ11 Jack	*Phone handset connector port*
	USB Port	*USB devices may be connected via the USB port*
	SD Card Slot	*SD card could be inserted in for picture/music/video files storage*
	HDMI	*High-Definition Multimedia Interface*
	Headset Jack	*3.5mm stereo headset connector port*
Universal Power Supply	*Input*	*100-240V AC 50/60Hz,0.4A*
	Output	*12V DC,1.5A*
	Model	*SFF1200150A1BB*
	Brand name	*Mass*

NOTE: For more detailed informations or features please refer to user's manual of EUT.

Test Summary

The Electromagnetic Compatibility requirements on tested model GXV 3175 for this test is stated below. All results listed in this report relate exclusively to this above-mentioned model as the Equipment Under Test. This report confers no approval or endors ement upon any other comp onent, host or subsystem used in the test set-up.

Tested model GXV3175 has been tested to conform to the following parts of the Part 15, Subpart C as detailed belows:

FCC Rules	Requirement	Result	Remark
§15.247(c)(1)(i); §15.203	Antenna Requirement	Compliant	Attachment 1
§15.207	Conducted Emission	Compliant	Attachment 2
§15.205(a); §15.209(a)	Radiated Emission	Compliant	Attachment 3
§15.247(b)	Maximum Peak Output Power	Compliant	Attachment 4
§15.247(a)(2)	Occupied Bandwidth	Compliant	Attachment 5
§15.247(d)	Edges Measurement	Compliant	Attachment 6
§15.247(e)	Power Spectral Density	Compliant	Attachment 7

Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations,data rate and antenna diversity(if any).

Regards to the frequency band over 10MHz, the lowest, middle and highest frequency of channel were selected to perform the test, and then shown on this report.

The following mode& channels were chosen for final test as listed belows.

For IEEE 802.11b/g mode & IEEE 802.11n HT20 mode:

Carried Frequency (MHz)	Channel Type& Number	Duty Cycle	Data Rate (Mbps)	Modulation Typle
2412	Channel Low	100%	IEEE 802.11b:1Mbps; IEEE 802.11g: 6Mbps; IEEE 802.11n HT20: 6.5Mbps; IEEE 802.11n HT40:13.5Mbps	IEEE 802.11b for DSSS; IEEE 802.11g & 802.11n HT20 For OFDM
2437	Channel Mid			
2462	Channel High			

For IEEE 802.11n HT40 mode:

Carried Frequency (MHz)	Channel Type& Number	Duty Cycle	Data Rate (Mbps)	Modulation Typle
2422	Channel Low	100%	13.5Mbps	OFDM
2437	Channel Mid			
2452	Channel High			

EUT Exercise Software

During testing an exercise software which "RT3x7xQA.exe" was provided by Grandstream Networks,Inc., runs on windows XP system and control IEEE 802.11b/g/n adapter operating on a continuous transmission mode and receive mode.

Equipment Modification

Any modifications installed previous to testing by Grandstream Networks,Inc., will be incorporated in each production model sold or leased in United States.

There were no modifications for this EUT intended for grant.

Test System Details

EUT	
Model Number:	GXV3175
Description:	IP Multimedia Phone
Manufacturer:	Grandstream Networks,Inc
Input Voltage:	DC12V

Support Equipment

Description	Model Number	Serial Number	Manufacturer
Notebook PC	NC4000	CNU4122BCL	HP
Power Adapter Of Notebook PC	PPP009H	239427-003	HP

Cable Description

Description	From	To	Length (Meters)	Shielded (Y/N)	Ferrite (Y/N)
Power Cord Of Notebook PC	Adapter	Notebook PC	1.6	N	Y
	Notebook PC	AC Plug	1.2	N	Y
Power Adapter of EUT	EUT	Plug	2.4	N	N
Note:The "EUT" means "IP Multimedia Phone".					

NOTE:The EUT has been tested as an independent unit together with other necessary accessories or support units.the above support units or accessories were used to form a representative test configuration during the test tests.

ATTACHMENT 1 - ANTENNA REQUIREMENT

§15.203 Requirements:

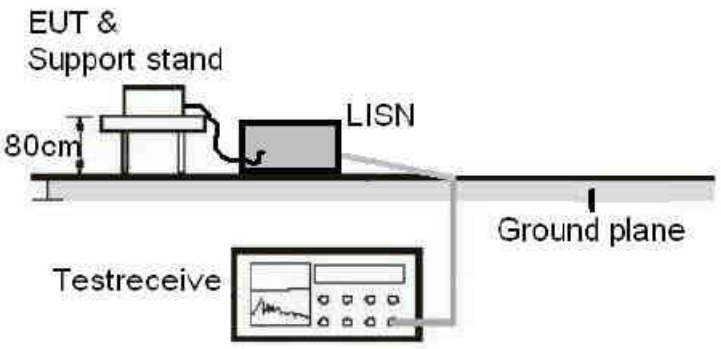
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

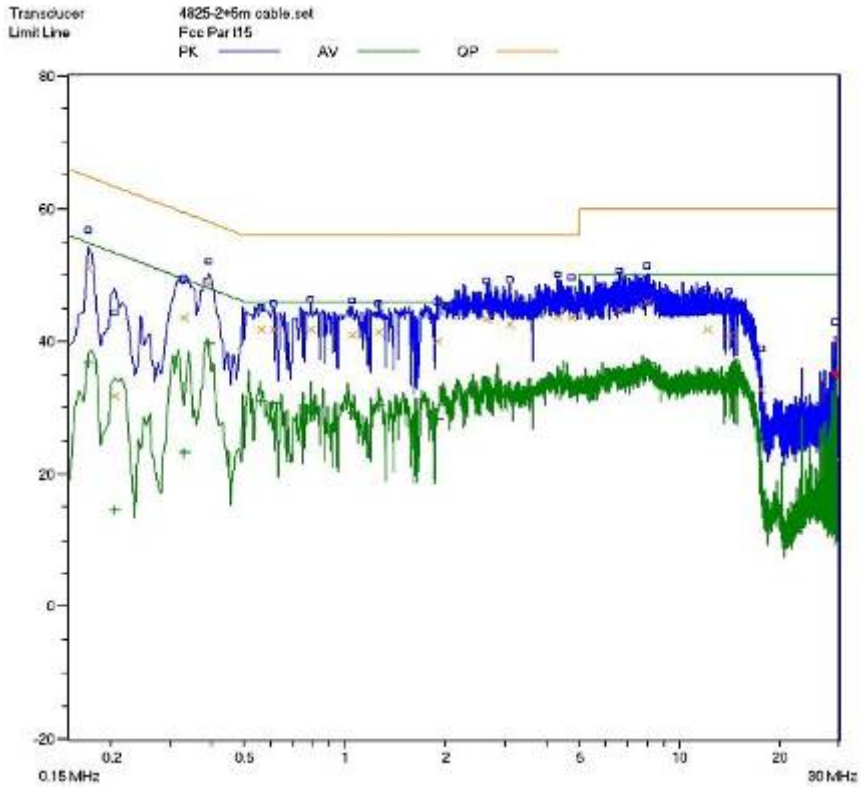
§15.247(c) (1)(i) Requirements:

(i) Systems operating in the 2400-2483.5 MHz bands that are used exclusively for fixed. Point to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

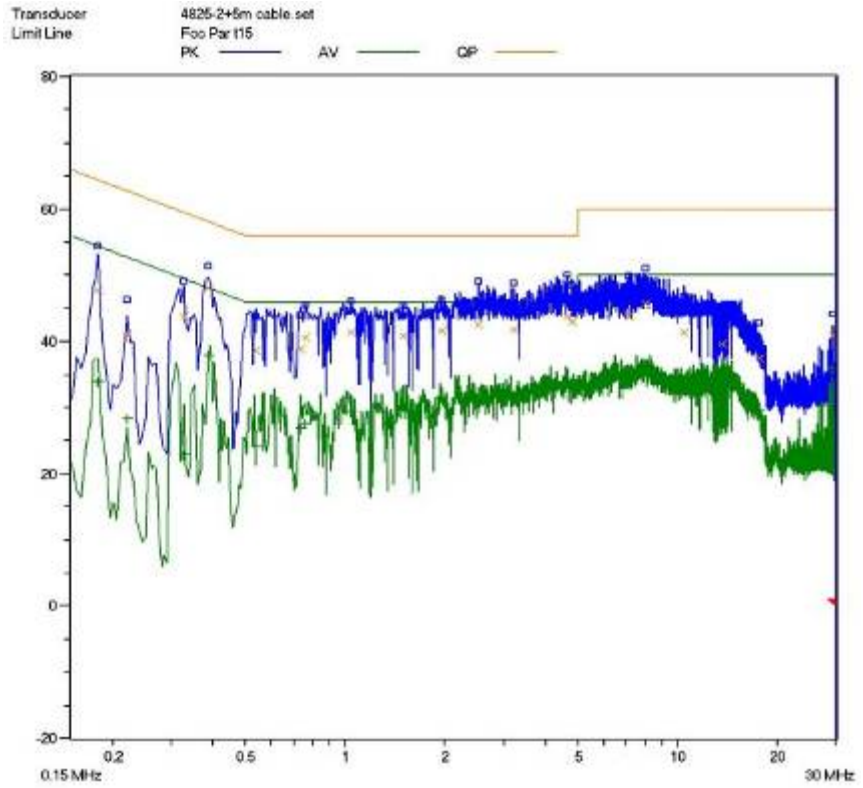
FCC Section	FCC Rules	Conclusion
§15.203& §15.207 (c) (1) (i)	*Described how the EUT complies with the requirements that either its antenna is permanently attached, or that it employ a unique antenna connector,for every antenna proposed for use with the EUT.* *The exception is in those cases where EUT must be professionally installed. In order to demonstrate that professional installation is required, the following 3 points must be addressed:* *1. The application (or intended use) of the EUT.* *2. The installation requirements of the EUT.* *3. The method by which the EUT will be marketed.*	*The maximal gain of the antenna is 2.0 dBi and use a unique connector.* *So the unit do meet requirement.*

ATTACHMENT 2 - CONDUCTED EMISSION TEST RESULTS

CLIENT:	GRANDSTREAM NETWORKS,INC.	**TEST STANDERD:**	Section 15.207
MODEL NUMBERS:	GXV3175	**PRODUCT:**	IP Multimedia Phone
EUT MODEL:	GXV3175	**EUT DESIGNATION:**	Digital Transmission Device
TEMPERATURE:	23°C	**HUMIDITY:**	47%RH
ATM PRESSURE:	101.0kPa	**GROUNDING:**	None
TESTED BY:	Daomen	**DATE OF TEST:**	December 10th, 2012
TEST REFERENCE:	ANSI C63.4: 2003		
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4:2003 for conducted emissions. The measurement was using a AMN on each line and an EMI receiver peak scan was made at the frequency measurement range.The six highest significant peaks were then marked, and these signals were then quasi-peaked and averaged.		
TEST SETUP			
DESCRIPTIONS OF TEST MODE:	Set to Wi-Fi mode,communicate with a notebook PC by wireless router nearby.		
TESTED RANGE:	150kHz to 30MHz		
TEST VOLTAGE:	120VAC/60Hz		
RESULTS:	The EUT meet the requirements of test reference for conducted missions at AC input port.The test results relate only to the equipment under test provided by client.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.		
M. UNCERTAINTY:	Freq. ± $2x10^{-7}$ x Center Freq., Amp ± 2.6 dB		



Line L Conducted Emission Graph



Line N Conducted Emission Graph

Test Data:

Lines	*Frequency (MHz)*	*Corrected QP Level (dBuV)*	*Limits QP (dBuV)*	*Margin QP (dB)*	*Frequency (MHz)*	*Corrected AV Level (dBuV)*	*Limits AV (dBuV)*	*Margin QP (dB)*
L	*0.170*	*51.1*	*64.9*	*-13.8*	*0.170*	*36.9*	*54.9*	*-18.0*
L	*0.390*	*48.0*	*58.0*	*-10.0*	*0.390*	*39.7*	*48.0*	*-8.3*
L	*7.890*	*45.9*	*60.0*	*-14.1*	*7.890*	*36.6*	*50.0*	*-13.4*
L	*/*	*/*	*/*	*/*	*/*	*/*	*/*	*/*
L	*/*	*/*	*/*	*/*	*/*	*/*	*/*	*/*
L	*/*	*/*	*/*	*/*	*/*	*/*	*/*	*/*
N	*0.180*	*47.8*	*64.4*	*-16.6*	*0.180*	*33.9*	*54.4*	*-20.5*
N	*0.385*	*48.1*	*58.2*	*-10.1*	*0.385*	*37.8*	*48.2*	*-10.4*
N	*7.995*	*45.7*	*60.0*	*-14.3*	*7.995*	*36.6*	*50.0*	*-13.4*
N	*/*	*/*	*/*	*/*	*/*	*/*	*/*	*/*
N	*/*	*/*	*/*	*/*	*/*	*/*	*/*	*/*
N	*/*	*/*	*/*	*/*	*/*	*/*	*/*	*/*

Note :
1) All readings are using a bandwidth of 9 kHz, with a 500 ms sweep time. A video filter was not use.
2) "QP" means "Quasi-Peak" values, "AV" means "Average" values.
3) The symbol "/" means other emission readings are too low against official limits that are not be recorded.

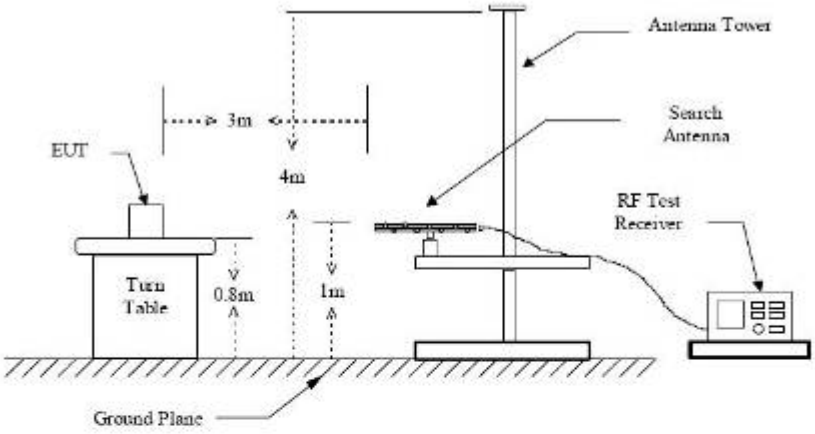
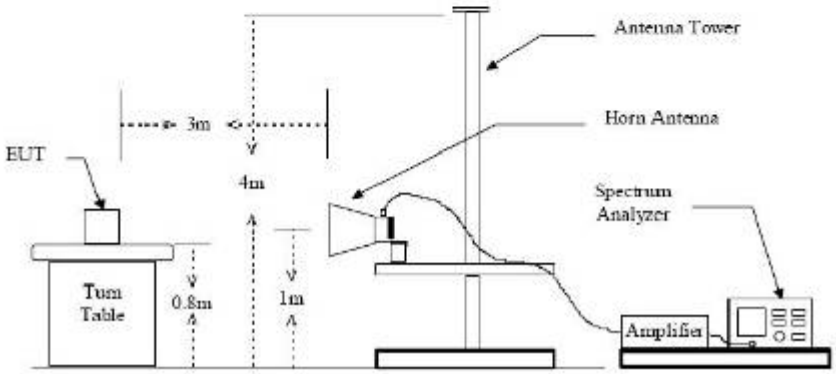
ATTACHMENT 3- RADIATED EMISSION TEST

CLIENT:	GRANDSTREAM NETWORKS,INC.	**TEST STANDERD:**	Section 15.209(a), Section 15.205(a)
MODEL NUMBERS:	GXV3175	**PRODUCT:**	IP Multimedia Phone
EUT MODEL:	GXV3175	**EUT DESIGNATION:**	Digital Transmission Device
TEMPERATURE:	23°C	**HUMIDITY:**	47%RH
ATM PRESSURE:	101.0kPa	**GROUNDING:**	None
TESTED BY:	Daomen	**DATE OF TEST:**	December 10th, 2012
TEST REFERENCE:	ANSI C63.4: 2003		
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4: 2003 for radiated emissions. An EMI receiver peak scan was made at the frequency measurement range (pre-scan) in an Anechoic chamber. Test procedure as follow: a) The EUT is placed on a turntable, which is 0.8 m above ground plane.The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. b) The EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. c) Maximum procedure was performed on the six highest emissions to ensure EUT compliance. d) And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. e) Repeat above procedures until the measurements for all frequencies are complete.		
DESCRIPTION OF TEST MODE	***For below 1GHz:*** Set to Wi-Fi mode, pre-scan all channels of the IEEE 802.11b/g/n, and found the 801.11b mode, channel 1 with data rate of 1Mbps which is worst-case. So IEEE 802.11b mode,channel 1 with data rate of 1Mbps was chosen for the final testing and recorded in report. ***For above 1GHz:*** Pre-Scan has been conducted to determine the worst-case from all possible combinations between available modulations,data rate and antenna ports (if EUT with antenna diversity architecture). Following channels were chosen for the final test as listed below: 802.11b mode with data rate of 1Mbps, 802.11g mode with data rate of 6Mbps, 802.11n HT20 mode with data rate of 6.5Mbps and 802.11n HT40 mode with data rate of 13.5Mbps.		

<table>
<tr><td>MEASUREMENT SETUP:</td><td>Measurement receiver shall be set as below:
<table>
<tr><th>Frequency (MHz)</th><th>Receive detector</th><th>RBW</th><th>VBW</th><th>Value</th></tr>
<tr><td>30-1000</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak</td></tr>
<tr><td>Above 1000</td><td>Peak</td><td>1MHz</td><td>1MHz</td><td>Peak</td></tr>
<tr><td>Above 1000</td><td>Peak</td><td>1MHz</td><td>10Hz</td><td>average</td></tr>
</table></td></tr>
<tr><td>LIMITS:</td><td>Section 15.209 limits as below:
<table>
<tr><th>Other Frequency (MHz)</th><th colspan="2">Field strength (uV/meter) dB uV/meter</th></tr>
<tr><td>30-88</td><td>100</td><td>40.0</td></tr>
<tr><td>88-216</td><td>150</td><td>43.5</td></tr>
<tr><td>216-960</td><td>200</td><td>46.0</td></tr>
<tr><td>Above 960</td><td>500</td><td>54.0</td></tr>
</table>
NOTE:

1) Field Strength (dBmV/m)= 20log Field Strength (mV/m).

2) In the emission tables above,the tighter limit applies at the band edge.</td></tr>
<tr><td>TESTED RANGE:</td><td>30MHz to 25GHz</td></tr>
<tr><td>TEST VOLTAGE:</td><td>120VAC/60Hz</td></tr>
<tr><td>RESULTS:</td><td>According to the data in the following,the EUT complied with the FCC Part 15.209 &15.205. The test results relate only to the equipment under test provided by client.</td></tr>
</table>

TEST SETUP:	Figure 1 : Frequencies measured below 1 GHz configuration  Figure 2 : Frequencies measured above 1 GHz configuration 
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.
M. UNCERTAINTY:	Freq. $\pm$ 2x10^{-7} x Center Freq., Amp $\pm$ 2.6 dB

Test Data (Below 1GHz):
For 802.11b mode, channel 1 with data rate of 1Mbps:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level QP (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
Horizontal							
40.640	0.02	16.8	/	5.88	22.7	40.0	-17.3
240.000	0.15	12.9	/	22.25	35.3	46.0	-10.7
322.960	0.16	13.4	/	12.94	26.5	46.0	-19.5
432.000	0.20	15.8	/	12.40	28.4	46.0	-17.6
720.000	0.39	20.7	/	13.61	34.7	46.0	-11.3
799.840	0.39	22.2	/	14.31	36.9	46.0	-9.1
Vertical							
30.640	0.02	16.8	/	21.1	37.9	40.0	-2.1
265.920	0.15	12.9	/	18.55	31.6	46.0	-14.4
307.920	0.16	13.7	/	7.64	21.5	46.0	-24.5
531.280	0.30	18.1	/	10.00	28.4	46.0	-17.6
584.720	0.30	19.0	/	11.40	30.7	46.0	-15.3
648.000	0.36	20.0	/	10.54	30.9	46.0	-15.1

Note:

1. *The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Emission Level =Reading Level + Antenna Factor + Cable Loss –Preamplifier Factor.*
2. *Other emission levels are too low against official limits that are not recorded.*

Test Data (Above 1GHz):
802.11b mode/Low Channel: 2412MHz

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
1656.00	1.71	26.1	33.6	65.43	59.64	74	-14.36	V
4823.26	3.26	32.9	32.0	53.30	57.46	74	-30.90	V
7246.00	4.67	36.0	30.5	52.77	62.94	74	-11.06	V
7392.00	5.32	36.2	30.5	29.35	40.37	74	-33.63	V
8320.52	4.67	35.8	29.9	29.99	40.56	74	-33.44	V
7250.00	4.67	36.0	30.5	40.13	50.3	74	-23.70	V
1656.00	1.71	26.1	33.6	60.44	54.65	74	-19.35	H
4823.26	3.26	32.9	32.0	55.94	60.10	74	-13.90	H
7246.00	4.67	36.0	30.5	52.75	62.92	74	-11.08	H
4808.0	3.26	32.9	32.0	45.08	49.24	74	-24.76	H
3212.0	3.26	32.2	32.1	36.94	40.30	74	-33.70	H
1272.5	1.71	23.9	33.6	55.55	47.56	74	-26.44	H

Frequency (MHz)	Cable Loss(dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
1656.00	1.71	26.1	33.6	56.75	51.00	54	-3.00	V
4823.26	3.26	32.9	32.0	49.84	44.10	54	-9.90	V
7246.00	4.67	36.0	30.5	40.45	50.66	54	-3.34	V
7392.00	4.10	36.20	30.5	18.67	28.47	54	-25.53	V
6904.85	4.10	33.90	30.8	22.8	30.0	54	-24.00	V
5987.01	3.87	35.40	31.6	21.87	29.54	54	-24.46	V
1656.00	1.71	26.1	33.6	57.49	51.7	54	-2.30	H
4823.26	3.26	32.9	32.0	41.61	45.77	54	-8.23	H
7246.00	4.67	36.0	30.5	39.41	49.58	54	-4.42	H
1170.00	1.39	23.9	31.6	39.63	33.32	54	-20.68	H
5672.00	3.87	35.40	31.6	22.48	30.15	54	-23.85	H
4503.34	3.26	33.5	32.0	25.74	30.50	54	-23.50	H

802.11b mode/Mid Channel: 2437MHz

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
1656.00	1.71	26.1	33.6	65.43	59.64	74	-14.36	V
4823.26	3.26	32.9	32.0	53.30	57.46	74	-30.90	V
7246.00	4.67	36.0	30.5	52.77	62.94	74	-11.06	V
1034.00	1.39	23.9	31.6	59.18	52.87	74	-21.13	V
5320.00	3.50	32.9	31.6	40.2	45.00	74	-29.00	V
4502.30	3.26	33.5	32.0	35.45	40.21	74	-33.79	V
1656.00	1.71	26.1	33.6	60.44	54.65	74	-19.35	H
4823.26	3.26	32.9	32.0	55.94	60.10	74	-13.90	H
7246.00	4.67	36.0	30.5	52.75	62.92	74	-11.08	H
1544.00	1.71	26.1	33.6	53.89	48.10	74	-25.90	H
5461.00	3.50	32.9	31.6	40.33	45.13	74	-28.87	H
6473.00	4.10	33.90	30.8	38.03	45.23	74	-28.77	H

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
1656.00	1.71	26.1	33.6	56.75	51.00	54	-3.00	V
4823.26	3.26	32.9	32.0	49.84	44.10	54	-9.90	V
7246.00	4.67	36.0	30.5	40.45	50.66	54	-3.34	V
4876.00	3.26	33.5	32.0	25.12	29.88	54	-24.12	V
3554.00	2.67	32.2	32.1	22.86	25.63	54	-28.37	V
1257.00	1.39	23.9	31.6	41.32	35.01	54	-18.99	V
1631.00	1.71	26.1	33.6	57.69	51.9	54	-2.10	H
4823.26	3.26	32.9	32.0	41.61	45.77	54	-8.23	H
7246.00	4.67	36.0	30.5	39.41	49.58	54	-4.42	H
2224.00	2.01	28.00	33.0	35.19	32.20	54	-21.80	H
3526.20	2.67	32.2	32.1	32.63	35.40	54	-18.60	H
6934.00	4.10	33.90	30.8	19.1	26.30	54	-27.70	H

802.11b mode/High Channel: 2462MHz

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
1656.00	1.71	26.1	33.6	65.43	59.64	74	-14.36	V
4823.26	3.26	32.9	32.0	53.30	57.46	74	-30.90	V
7246.00	4.67	36.0	30.5	52.77	62.94	74	-11.06	V
7392.00	4.10	36.20	30.5	30.54	40.34	74	-33.66	V
5320.15	3.50	32.90	31.6	33.4	38.20	74	-35.80	V
6103.00	4.02	35.00	30.8	30.88	39.10	74	-34.90	V
1656.00	1.71	26.1	33.6	60.44	54.65	74	-19.35	H
4823.26	3.26	32.9	32.0	55.94	60.10	74	-13.90	H
7246.00	4.67	36.0	30.5	52.75	62.92	74	-11.08	H
7834.00	4.10	36.20	30.5	31.57	41.37	74	-32.63	H
6534.00	4.10	33.90	30.8	32.9	40.10	74	-33.90	H
5210.32	3.50	32.90	31.6	40.52	45.32	74	-28.68	H

Frequency (MHz)	Cable Loss(dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
1631.00	1.71	26.1	33.6	56.49	50.70	54	-3.3	V
4823.26	3.26	32.9	32.0	49.84	44.10	54	-9.90	V
7246.00	4.67	36.0	30.5	40.45	50.66	54	-3.34	V
1170.00	1.39	23.9	31.60	40.37	34.06	54	-19.94	V
5220.00	3.50	32.9	31.60	25.3	30.10	54	-23.90	V
1232.00	1.39	23.9	31.60	41.36	35.05	54	-18.95	V
1631.00	1.71	26.1	33.6	57.89	52.10	54	-1.9	H
4823.26	3.26	32.9	32.0	41.61	45.77	54	-8.23	H
7246.00	4.67	36.0	30.5	39.41	49.58	54	-4.42	H
7392.00	4.10	36.20	30.50	19.3	29.10	54	-24.90	H
3550.00	2.67	32.20	32.10	29.33	32.10	54	-21.90	H
6230.00	4.02	35.00	30.80	21.88	30.10	54	-23.90	H

For 802.11g mode/Low Channel: 2412MHz

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
1034.00	1.39	23.9	31.6	58.63	52.32	74	-21.68	V
3210.00	2.57	31.5	32.1	40.64	42.61	74	-31.39	V
4808.00	3.26	33.5	32.0	36.89	41.65	74	-32.35	V
7120.00	4.10	36.20	30.5	30.77	40.57	74	-33.43	V
4905.00	3.26	33.5	32.0	37.8	42.56	74	-31.44	V
1250.00	1.39	23.9	31.6	61.31	55.00	74	-19.00	V
7256.00	4.10	36.20	30.5	31.32	41.12	74	-32.88	H
4808.00	3.26	33.5	32.0	38.81	43.57	74	-30.43	H
3210.00	2.57	31.5	32.1	43.76	45.73	74	-28.27	H
1544.00	1.71	26.1	33.6	56.19	50.40	74	-23.60	H
3350.12	2.57	31.5	32.1	44.53	46.50	74	-27.50	H
6825.00	4.10	33.90	30.8	33.0	40.20	74	-33.80	H

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
4908.00	3.26	33.5	32.0	24.54	29.3	54	-24.70	V
1024.00	7.2	37.8	30.0	5.62	20.62	54	-33.38	V
1170.00	1.39	23.9	31.6	40.77	34.46	54	-19.54	V
7426.00	4.10	36.20	30.5	18.66	28.46	54	-25.54	V
7500.00	5.32	36.00	30.5	16.76	27.58	54	-26.42	V
1800.00	1.71	26.1	33.6	37.99	32.20	54	-21.80	V
4808.00	3.26	33.5	32.0	24.41	29.17	54	-24.83	H
3210.00	2.57	31.5	32.1	27.95	29.92	54	-24.08	H
1660.00	1.71	26.1	33.6	56.49	50.70	54	-3.30	H
7256.00	4.10	36.20	30.5	18.35	28.15	54	-25.85	H
1860.00	1.71	26.1	33.6	40.79	35.00	54	-19.00	H
7005.00	4.10	36.20	30.5	19.2	29.00	54	-25.00	H

For 802.11g mode /Mid Channel: 2437MHz

Frequency (MHz)	Cable Loss(dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
4876.00	3.26	33.5	32.0	36.35	41.11	74	-32.89	V
3006.00	2.57	31.5	32.1	39.96	41.93	74	-32.07	V
1034.00	1.39	23.9	31.6	58.81	52.50	74	-21.50	V
7460.00	4.10	36.20	30.5	30.99	40.79	74	-33.21	V
7600.50	5.32	36.00	30.5	31.68	42.50	74	-31.50	V
3260.00	2.57	31.5	32.1	40.03	42.00	74	-32.00	V
4876.00	3.26	33.5	32.0	37.32	42.08	74	-31.92	H
3244.00	2.57	31.5	32.1	43.13	45.10	74	-28.90	H
1544.00	1.71	26.1	33.6	56.74	50.95	74	-23.05	H
7324.00	4.10	36.20	30.5	31.75	41.55	74	-32.45	H
7500.25	5.32	36.00	30.5	31.68	42.50	74	-31.50	H
3500.00	2.67	32.2	32.1	43.23	46.00	74	-28.00	H

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
4876.00	3.26	33.5	32.0	22.89	27.65	54	-26.35	V
3006.00	2.57	31.5	32.1	27.3	29.27	54	-24.73	V
1170.00	1.39	23.9	31.6	41.89	35.58	54	-18.42	V
7426.00	4.10	36.20	30.5	18.46	28.26	54	-25.74	V
7620.00	5.32	36.00	30.5	16.68	27.50	54	-26.50	V
1260.00	1.39	23.9	31.6	41.81	35.50	54	-18.50	V
7426.00	4.10	36.20	30.5	18.77	28.57	54	-25.43	H
4910.00	5.32	33.5	32.0	20.5	27.32	54	-26.68	H
3278.00	2.57	31.5	32.1	27.2	29.17	54	-24.83	H
1068.00	1.39	23.9	31.6	39.35	33.04	54	-20.96	H
1170.50	1.39	23.9	31.6	41.36	35.05	54	-18.95	H
7620.00	4.10	36.00	30.5	19.7	29.30	54	-24.70	H

For 802.11g mode /High Channel: 2462MHz

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Resding Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
4910.00	3.26	33.5	32.0	39.8	44.56	74	-29.44	V
3278.00	2.57	31.5	32.1	42.12	44.09	74	-29.91	V
1034.00	1.39	23.9	31.6	63.27	56.96	74	-17.04	V
7936.00	5.32	36.00	30.5	31.05	41.87	74	-32.13	V
7800.25	5.32	36.00	30.5	31.68	42.50	74	-31.5	V
3560.00	2.67	32.2	32.1	42.23	45.00	74	-29.00	V
7426.00	4.10	36.00	30.5	30.97	40.57	74	-33.43	H
4910.00	3.26	33.5	32.0	36.65	41.41	74	-32.59	H
3278.00	2.57	31.5	32.1	45.08	47.05	74	-26.95	H
1102.00	1.39	23.9	31.6	56.51	50.20	74	-23.80	H
1250.00	1.39	23.9	31.6	57.51	51.20	74	-22.80	H
3560.50	2.67	32.2	32.1	42.43	45.20	74	-28.80	H

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
7936.00	5.32	36.00	30.5	18.09	28.91	54	-25.09	V
4910.00	3.26	33.5	32.0	24.5	29.26	54	-24.74	V
3278.00	2.57	31.5	32.1	28.07	30.04	54	-23.96	V
1170.00	1.39	23.9	31.6	42.02	35.71	54	-18.29	V
3562.00	2.67	32.2	32.1	29.43	32.20	54	-21.80	V
4806.00	3.26	33.5	32.0	30.24	35.00	54	-19.00	V
7426.00	4.10	36.00	30.5	19.04	28.64	54	-25.36	H
4910.00	3.26	33.5	32.0	22.31	27.07	54	-26.93	H
3278.00	2.57	31.5	32.1	28.81	30.78	54	-23.22	H
1068.00	1.39	23.9	31.6	39.63	33.32	54	-20.68	H
1253.00	1.39	23.9	31.6	40.51	34.20	54	-19.80	H
7600.50	5.32	36.00	30.5	18.18	29.00	54	-25.00	H

For 802.11n HT20 mode/Low Channel: 2412MHz

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
7426.00	4.10	36.00	30.5	31.18	40.78	74	-33.22	V
4808.00	3.26	33.5	32.0	40.44	45.20	74	-28.80	V
3380.00	2.57	31.5	32.1	39.84	41.81	74	-32.19	V
1306.00	1.39	23.9	31.6	60.72	54.41	74	-19.59	V
1520.00	1.71	26.1	33.6	61.29	55.50	74	-18.5	V
4900.00	3.26	33.5	32.0	41.24	46.00	74	-28.00	V
7324.00	4.10	36.00	30.5	31.69	41.29	74	-32.71	H
4808.00	3.26	33.5	32.0	39.47	44.23	74	-29.77	H
3210.00	2.57	31.5	32.1	42.41	44.38	74	-29.62	H
1544.00	1.71	26.1	33.6	56.96	51.17	74	-22.83	H
3350.20	2.57	31.5	32.1	43.23	45.20	74	-28.80	H
7520.00	5.32	36.00	30.5	31.68	42.50	74	-31.50	H

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
8140.00	4.67	35.8	29.9	17.87	28.44	54	-25.56	V
3312.00	2.57	31.5	32.1	27.1	29.07	54	-24.93	V
1170.00	1.39	23.9	31.6	41.75	35.44	54	-18.56	V
4808.00	3.26	33.5	32.0	26.14	30.90	54	-23.10	V
4940.50	3.26	33.5	32.0	27.74	32.50	54	-21.50	V
1250.00	1.39	23.9	31.6	42.51	36.20	54	-17.80	V
4808.00	3.26	33.5	32.0	24.68	29.44	54	-24.56	H
3210.00	2.57	31.5	32.1	27.73	29.70	54	-24.30	H
1306.00	1.39	23.9	31.6	39.4	33.09	54	-20.91	H
7222.00	4.10	36.00	30.5	18.74	28.34	54	-25.66	H
7534.00	5.32	36.00	30.5	18.38	29.20	54	-24.8	H
3500.20	2.67	32.2	32.1	27.38	30.15	54	-23.85	H

For 802.11n HT20 mode/Mid Channel: 2437MHz

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
4876.00	3.26	33.5	32.0	37.05	41.81	74	-32.19	V
3312.00	2.57	31.5	32.1	39.76	41.73	74	-32.27	V
1034.00	1.39	23.9	31.6	63.51	57.20	74	-16.80	V
8140.00	4.67	35.8	29.9	30.49	41.06	74	-32.94	V
8250.00	4.67	35.8	29.9	31.93	42.50	74	-31.50	V
1259.00	1.39	23.9	31.6	64.31	58.00	74	-16.00	V
7460.00	4.10	36.00	30.5	31.77	41.37	74	-32.63	H
4876.00	3.26	33.5	32.0	38.26	43.02	74	-30.98	H
3346.00	2.57	31.5	32.1	40.59	42.56	74	-31.44	H
1306.00	1.39	23.9	31.6	55.69	49.38	74	-24.62	H
1450.00	1.39	23.9	31.6	54.66	48.35	74	-25.65	H
4874.00	3.26	33.5	32.0	40.44	45.20	74	-28.80	H

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
4876.00	3.26	33.5	32.0	24.76	29.52	54	-24.48	V
3312.00	2.57	31.5	32.1	27.24	29.21	54	-24.79	V
1034.00	1.39	23.9	31.6	43.64	37.33	54	-16.67	V
8140.00	4.67	35.8	29.9	17.87	28.44	54	-25.56	V
8200.00	4.67	35.8	29.9	18.43	29.00	54	-25.00	V
1400.50	1.39	23.9	31.6	44.81	38.50	54	-15.50	V
7426.00	4.10	36.00	30.5	19.02	28.62	54	-25.38	H
4876.00	3.26	33.5	32.0	23.17	27.93	54	-26.07	H
3244.00	2.57	31.5	32.1	27.74	29.71	54	-24.29	H
1170.00	1.39	23.9	31.6	39.73	33.42	54	-20.58	H
1252.00	1.39	23.9	31.6	40.51	34.20	54	-19.80	H
4900.00	3.26	33.5	32.0	23.24	28.00	54	-26.00	H

For 802.11n HT20 mode/High Channel: 2462MHz

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
7936.00	5.32	36.0	30.5	30.52	41.34	74	-32.66	V
3210.00	2.57	31.5	32.1	39.75	41.72	74	-32.28	V
1034.00	1.39	23.9	31.6	64.83	58.52	74	-15.48	V
4876.00	3.26	33.5	32.0	35.92	40.68	74	-33.32	V
3310.00	2.57	31.5	32.1	40.23	42.20	74	-31.80	V
1350.00	1.39	23.9	31.6	61.81	55.50	74	-18.50	V
7356.00	4.10	36.2	30.5	30.89	40.69	74	-33.31	H
5216.00	3.50	32.9	31.6	35.6	40.40	74	-33.60	H
3278.00	2.57	31.5	32.1	44.04	46.01	74	-27.99	H
1544.00	1.71	26.1	33.6	55.96	50.17	74	-23.83	H
1660.00	1.71	26.1	33.6	56.99	51.20	74	-22.80	H
3530.00	2.67	32.2	32.1	44.23	47.00	74	-27.00	H

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
7936.00	5.32	36.00	30.5	18.21	29.03	54	-24.97	V
4910.00	3.26	33.5	32.0	24.49	29.25	54	-24.75	V
3278.00	2.57	31.5	32.1	27.92	29.89	54	-24.11	V
1170.00	1.39	23.9	31.6	42.56	36.25	54	-17.75	V
1250.00	1.39	23.9	31.6	41.51	35.20	54	-18.80	V
3500.50	2.67	32.2	32.1	27.43	30.20	54	-23.80	V
7426.00	4.10	36.00	30.5	19.1	28.70	54	-25.30	H
3278.00	2.57	31.5	32.1	28.59	30.56	54	-23.44	H
1170.00	1.39	23.9	31.6	39.54	33.23	54	-20.77	H
4910.00	3.26	33.5	32.0	22.97	27.73	54	-26.27	H
1250.00	1.39	23.9	31.6	40.51	34.20	54	-19.80	H
7520.00	5.32	36.00	30.5	18.18	29.00	54	-25.00	H

For 802.11n HT40 Mode/Low Channel: 2422MHz

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
7460.00	4.10	36.00	30.5	31.02	40.62	74	-33.38	V
4842.00	3.26	33.5	32.0	37.03	41.79	74	-32.21	V
3006.00	2.57	31.5	32.1	40.13	42.10	74	-31.90	V
1034.00	1.39	23.9	31.6	63.42	57.11	74	-16.89	V
1200.00	1.39	23.9	31.6	64.51	58.20	74	-15.80	V
3150.00	2.57	31.5	32.1	41.03	43.00	74	-31.00	V
7222.00	4.10	36.00	30.5	30.95	40.55	74	-33.45	H
4842.00	3.26	33.5	32.0	37.37	42.13	74	-31.87	H
3210.00	2.57	31.5	32.1	42.88	44.85	74	-29.15	H
2224.00	2.01	28.0	33.0	53.73	50.74	74	-23.26	H
4920.00	3.26	33.5	32.0	40.24	45.00	74	-29.00	H
3250.00	2.57	31.5	32.1	43.03	45.00	74	-29.00	H

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
7460.00	4.10	36.00	30.5	19.01	28.61	54	-25.39	V
4842.00	3.26	33.5	32.0	15.87	20.63	54	-33.37	V
3006.00	2.57	31.5	32.1	27.56	29.53	54	-24.47	V
1034.00	1.39	23.9	31.6	44.08	37.77	54	-16.23	V
1150.00	1.39	23.9	31.6	44.31	38.00	54	-16.00	V
4820.50	3.26	33.5	32.0	16.24	21.00	54	-33.00	V
7426.00	4.10	36.00	30.5	18.96	28.56	54	-25.44	H
4842.00	3.26	33.5	32.0	15.75	20.51	54	-33.49	H
1442.00	1.39	23.9	31.6	40.21	33.90	54	-20.10	H
3210.00	2.57	31.5	32.1	27.6	29.57	54	-24.43	H
3500.20	2.67	32.2	32.1	25.79	28.56	54	-25.44	H
4900.00	3.26	33.5	32.0	16.24	21.00	54	-33.00	H

For 802.11n HT40 mode/Mid Channel: 2437MHz

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
4842.00	3.26	33.5	32.0	36.15	40.91	74	-33.09	V
1544.00	1.71	26.1	33.6	57.09	51.30	74	-22.70	V
1306.00	1.39	23.9	31.6	58.41	52.10	74	-21.90	V
7120.00	4.10	36.00	30.5	31.68	41.28	74	-32.72	V
1250.50	1.39	23.9	31.6	57.41	51.10	74	-22.90	V
1620.00	1.71	26.1	33.6	57.79	52.00	74	-22.00	V
8106.00	1.47	35.8	29.9	34.84	42.21	74	-31.79	H
4060.00	3.26	33.5	32.0	37.67	42.43	74	-31.57	H
3244.00	2.57	31.5	32.1	42.93	44.90	74	-29.10	H
1204.00	1.39	23.9	31.6	56.82	50.51	74	-23.49	H
1305.00	1.39	23.9	31.6	55.31	49.00	74	-25.00	H
3520.00	2.67	32.2	32.1	42.23	45.00	74	-29.00	H

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
7902.00	5.32	36.00	30.5	17.83	28.65	54	-25.35	V
4876.00	3.26	33.5	32.0	15.4	20.16	54	-33.84	V
1034.00	1.39	23.9	31.6	41.78	35.47	54	-18.53	V
1157.50	1.39	23.9	31.6	40.62	34.31	54	-19.69	V
1150.00	1.39	23.9	31.6	42.51	36.20	54	-17.80	V
4700.00	3.26	33.5	32.0	17.24	22.00	54	-32.00	V
7426.00	4.10	36.00	30.5	19.11	28.71	54	-25.29	H
4876.00	3.26	33.5	32.0	15.55	20.31	54	-33.69	H
3244.00	2.57	31.5	32.1	27.86	29.83	54	-24.17	H
1306.00	1.39	23.9	31.6	41.86	35.55	54	-18.45	H
1250.00	1.39	23.9	31.6	40.51	34.20	54	-19.80	H
4650.00	3.26	33.5	32.0	17.74	22.50	54	-31.50	H

For 802.11n HT40 Mode/High Channel: 2452MHz

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
7732.00	5.32	36.00	30.5	30.35	41.17	74	-32.83	V
4774.00	3.26	33.5	32.0	35.31	40.07	74	-33.93	V
1531.50	1.71	26.1	33.6	58.09	52.30	74	-21.70	V
1034.00	1.39	23.9	31.6	61.05	54.74	74	-19.26	V
1200.50	1.39	23.9	31.6	61.31	55.00	74	-19.00	V
7800.50	5.32	36.00	30.5	31.18	42.00	74	-32.00	V
4604.00	3.26	33.5	32.0	36.39	41.15	74	-32.85	H
3244.00	2.57	31.5	32.1	44.93	46.90	74	-27.10	H
1544.00	1.71	26.1	33.6	56.51	50.72	74	-23.28	H
7426.00	4.10	36.00	30.5	31.8	41.40	74	-32.60	H
1600.20	1.71	26.1	33.6	57.79	52.00	74	-22.00	H
4500.50	3.26	33.5	32.0	37.24	42.00	74	-32.00	H

Frequency (MHz)	Cable Loss(dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Average Measurement								
7732.00	5.32	36.00	30.5	17.4	28.22	54	-25.78	V
4774.00	3.26	33.5	32.0	22.85	27.61	54	-26.39	V
1225.50	1.39	23.9	31.6	40.21	33.90	54	-20.10	V
1034.00	1.71	26.1	31.6	38.9	35.11	54	-18.89	V
1150.00	1.39	23.9	31.6	42.31	36.00	54	-18.00	V
1300.50	1.39	23.9	31.6	40.81	34.50	54	-19.50	V
7426.00	4.10	36.00	30.5	19.14	28.74	54	-25.26	H
3244.00	2.57	31.5	32.1	27.93	29.90	54	-24.10	H
1306.00	1.39	23.9	31.6	39.51	33.20	54	-20.80	H
4570.00	3.26	33.5	32.0	23.23	27.99	54	-26.01	H
1605.00	1.71	26.1	33.6	56.69	50.9	54	-3.1	H
3520.00	2.67	32.2	32.1	25.03	27.80	54	-26.20	H

Note:

1. *The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Emission Level =Reading Level + Antenna Factor + Cable Loss –Preamplifier Factor.*
2. *According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.Hence there no other emissions have been reported.*
3. *As shown in Section, for frequencies above 1000 MHz. the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.*
4. *The test only perform the EUT in transmitting status since the test frequencies were over 1GHz only required transmitting status.*

§15.205(a) Requirement:

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2] Above 38.6

Conclusions:

The fundamental is not in a restricted band, and spurious emission in the restricted bands comply with the general emission limits of 15.209.

ATTACHMENT 4 – OCCUPIED BANDWIDTH TEST

<table>
<tr><td>CLIENT:</td><td>GRANDSTREAM NETWORKS,INC.</td><td>TEST STANDERD:</td><td>Section 15.247(a)</td></tr>
<tr><td>MODEL NUMBERS:</td><td>GXV3175</td><td>PRODUCT:</td><td>IP Multimedia Phone</td></tr>
<tr><td>EUT MODEL:</td><td>GXV3175</td><td>EUT DESIGNATION:</td><td>Digitall Transmission Device</td></tr>
<tr><td>TEMPERATURE:</td><td>23°C</td><td>HUMIDITY:</td><td>47%RH</td></tr>
<tr><td>ATM PRESSURE:</td><td>101.0kPa</td><td>GROUNDING:</td><td>None</td></tr>
<tr><td>TESTED BY:</td><td>Daomen</td><td>DATE OF TEST:</td><td>December 11st, 2012</td></tr>
<tr><td>TEST REFERENCE:</td><td colspan="3">ANSI C63.4:2003 and 558074 D01</td></tr>
<tr><td>TEST PROCEDURE:</td><td colspan="3">The transmitter output was connected to the spectrum analyzer through an attenua tor. The bandwidth of the fundamental frequency was measured by spectrum ana lyzer. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB. Analyzer and the attached plot were taken. The EUT was set up to ANSI C63.4-2003, tested to DTS test procedure of 558074 D01 for compliance with FCC 47CFR 15.247 requirements.</td></tr>
<tr><td>DESCRIPTIONS OF TEST MODE:</td><td colspan="3">Pre-Scan has been conducted to determine the worst-case mode from all possible Combinations between available modulations,data rates and antenna ports (if EUT with antenna diversity architecture).

Following channels were selected for the final test as listed below:

802.11b mode with data rate of 1Mbps, 802.11g mode with data rate of 6Mbps, 802.11n HT20 mode with data rate of 6.5Mbps and 802.11n HT40 mode with data rate of 13.5Mbps.</td></tr>
<tr><td>EQUIPMENT SETUP</td><td colspan="3"><table><tr><td>Equipment Mode</td><td>Spectrum Analyzer</td></tr><tr><td>Detector Function</td><td>Peak</td></tr><tr><td>RBW</td><td>100KHz</td></tr><tr><td>VBW</td><td>300KHz</td></tr></table></td></tr>
<tr><td>TEST VOLTAGE:</td><td colspan="3">120VAC/60Hz</td></tr>
<tr><td>RESULTS:</td><td colspan="3">The EUT meet the requirements of test reference for occupied bandwidth.The test results relate only to the equipment under test provided by client.</td></tr>
<tr><td>CHANGES OR MODIFICATIONS:</td><td colspan="3">There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.</td></tr>
<tr><td>M. UNCERTAINTY:</td><td colspan="3">Freq. ± $2x10^{-7}$ x Center Freq., Amp ± 2.6 dB</td></tr>
</table>

Test Data:

For 802.11b Mode:

Channel Frequency (MHz)	*6dB Bandwidth (MHz)*	*Minimum Limit (MHz)*	*Pass/Fail*
2412	*10.38*	*0.5*	*Pass*
2437	*10.42*	*0.5*	*Pass*
2462	*10.14*	*0.5*	*Pass*

For 802.11g Mode:

Channel Frequency (MHz)	*6dB Bandwidth (MHz)*	*Minimum Limit (MHz)*	*Pass/Fail*
2412	*16.5*	*0.5*	*Pass*
2437	*16.56*	*0.5*	*Pass*
2462	*16.50*	*0.5*	*Pass*

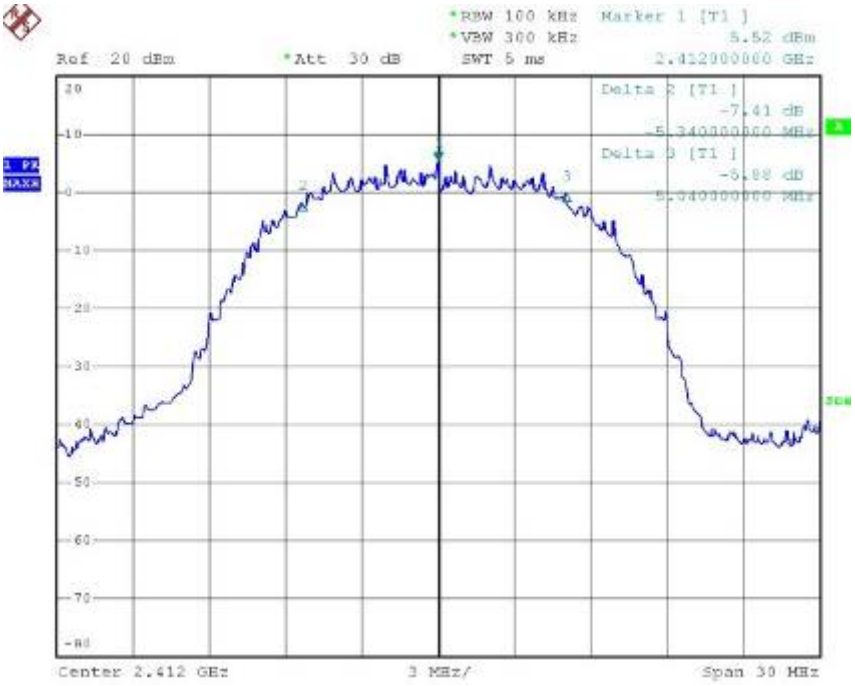
For 802.11n HT20 Mode:

Channel Frequency (MHz)	*6dB Bandwidth (MHz)*	*Minimum Limit (MHz)*	*Pass/Fail*
2412	*17.7*	*0.5*	*Pass*
2437	*17.7*	*0.5*	*Pass*
2462	*17.7*	*0.5*	*Pass*

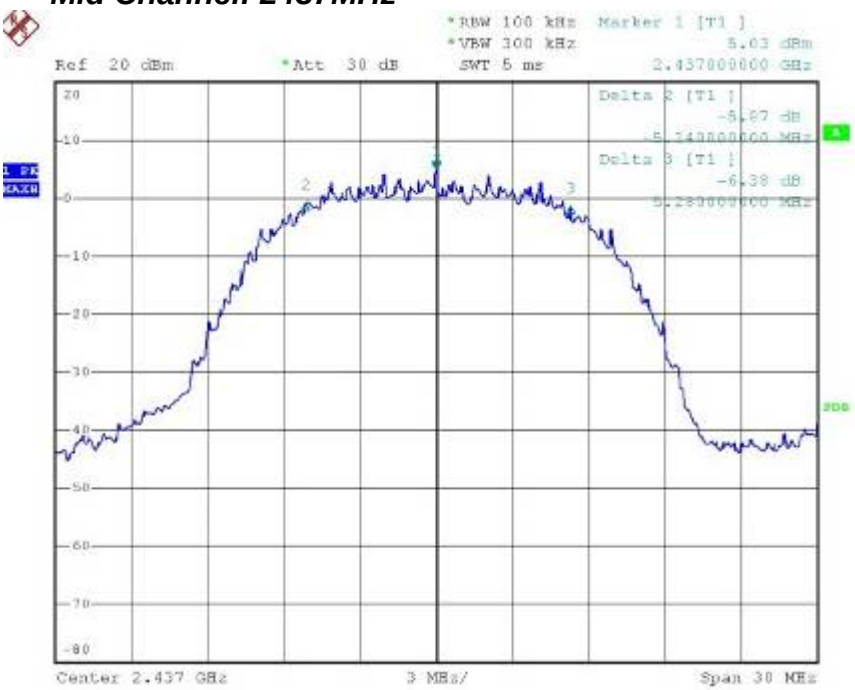
For 802.11n HT40 Mode:

Channel Frequency (MHz)	*6dB Bandwidth (MHz)*	*Minimum Limit (MHz)*	*Pass/Fail*
2422	*36.52*	*0.5*	*Pass*
2437	*36.48*	*0.5*	*Pass*
2452	*36.48*	*0.5*	*Pass*

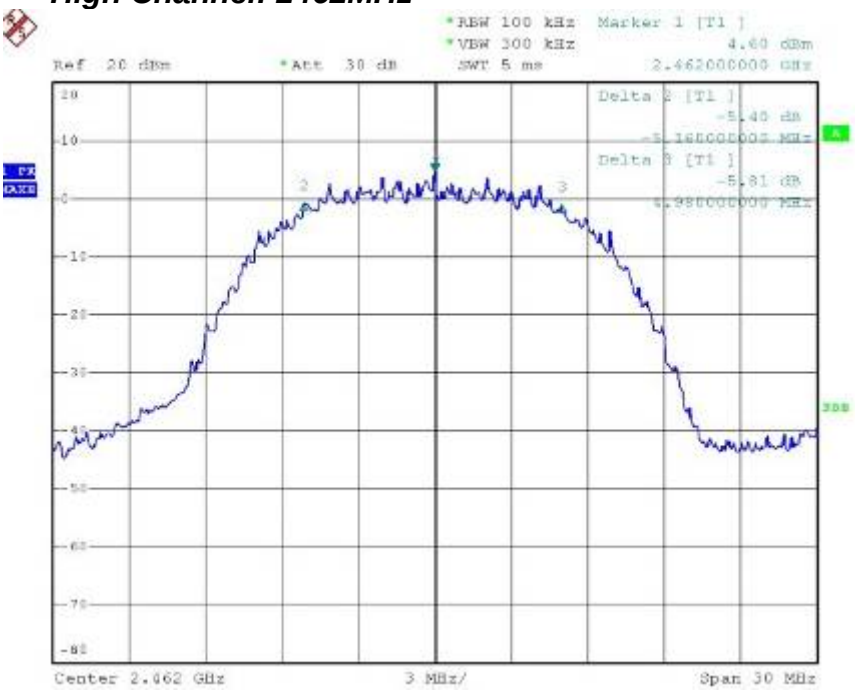
For 802.11b Mode:
Low Channel: 2412MHz



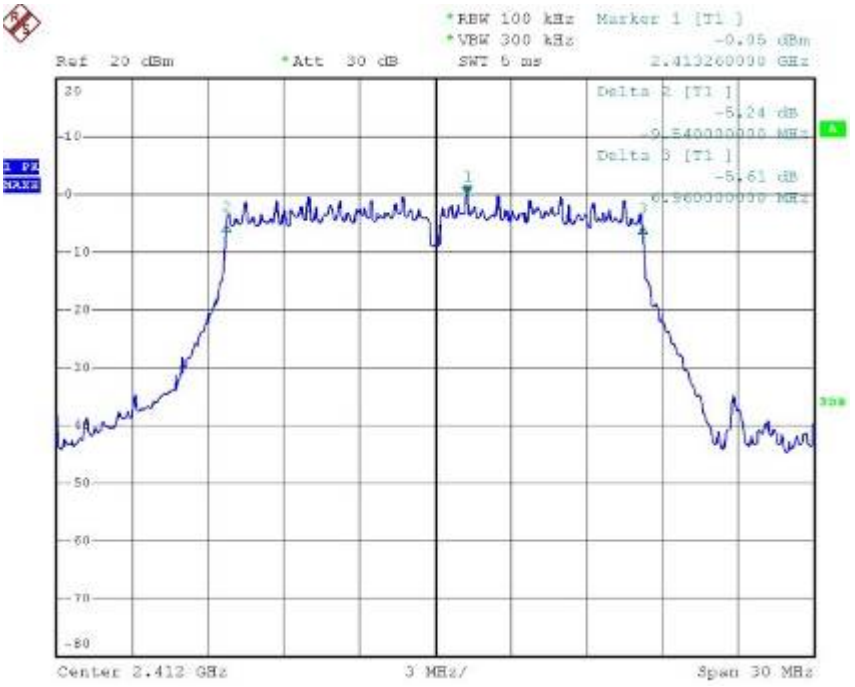
Mid Channel: 2437MHz



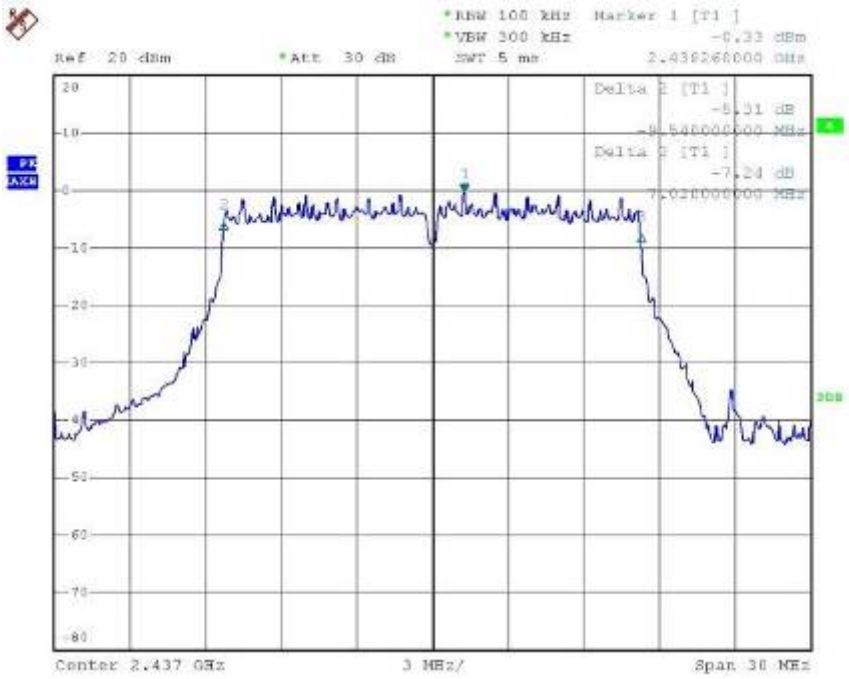
High Channel: 2462MHz



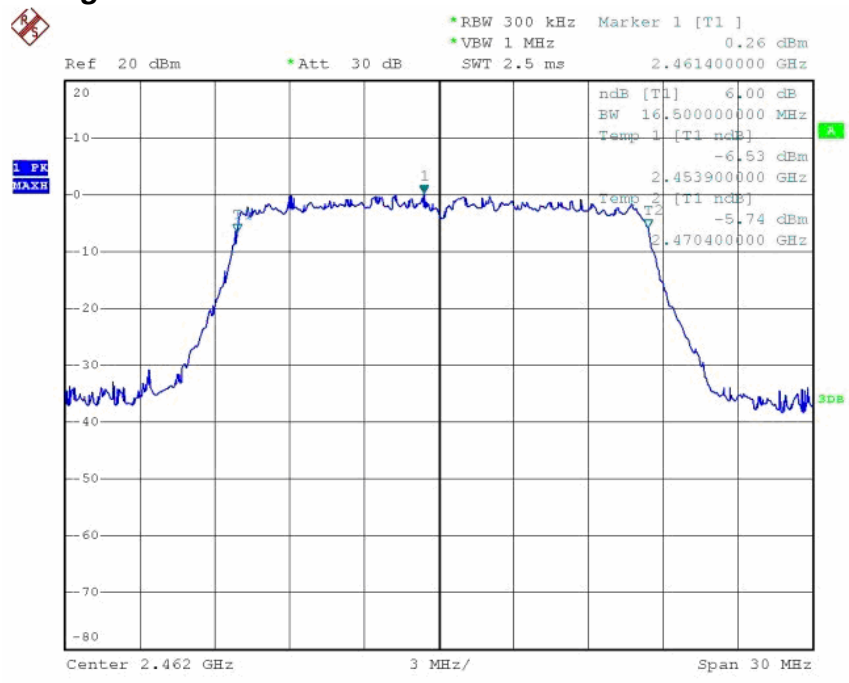
For 802.11g Mode:
Low Channel: 2412MHz



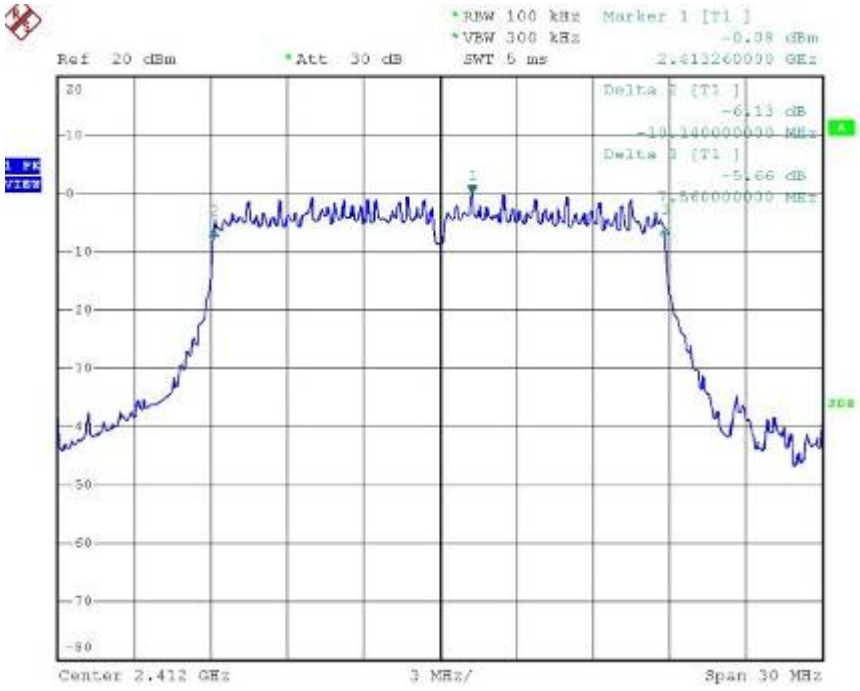
Mid Channel: 2437MHz



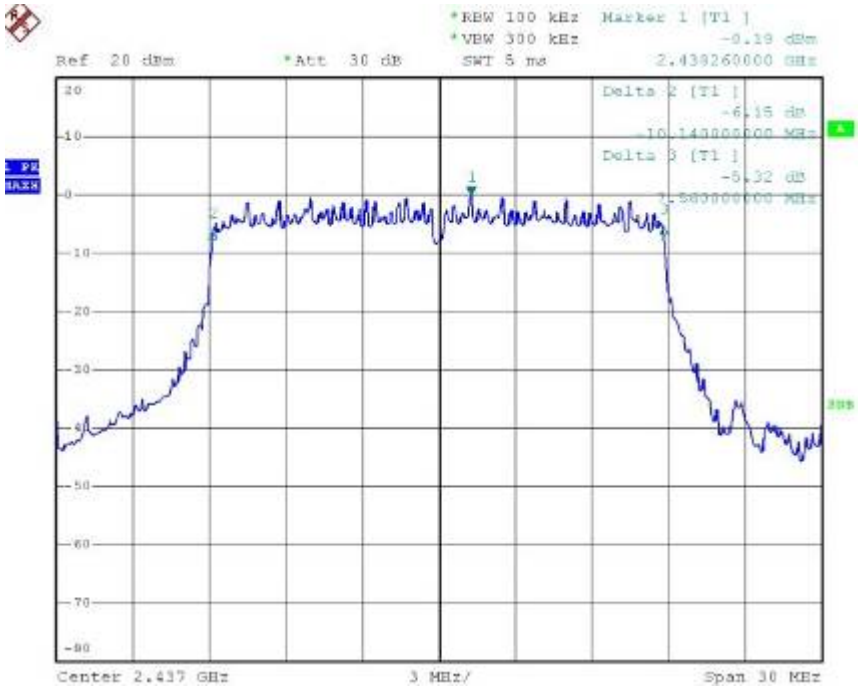
High Channel: 2462MHz



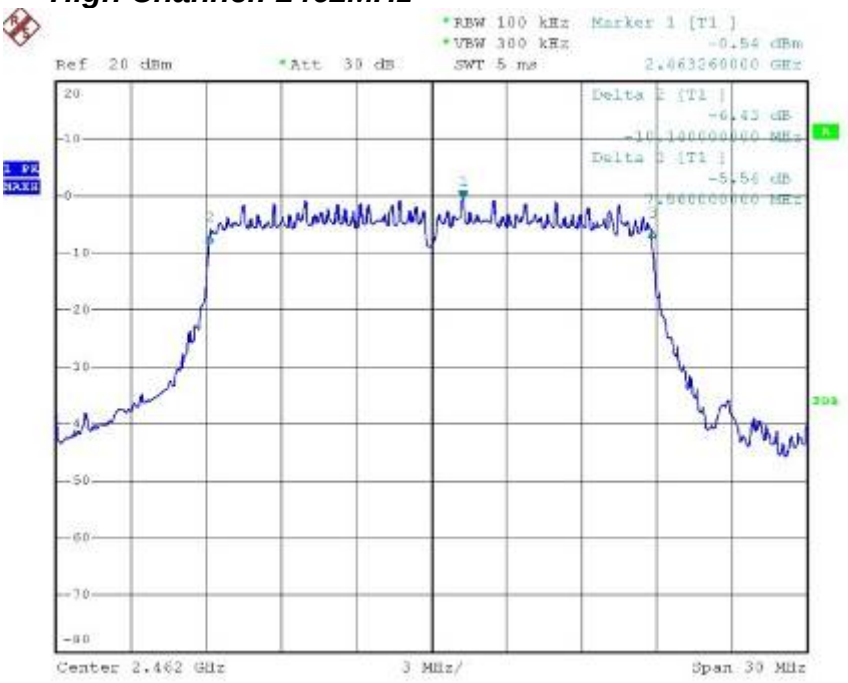
For 802.11n HT20 Mode:
Low Channel: 2412MHz



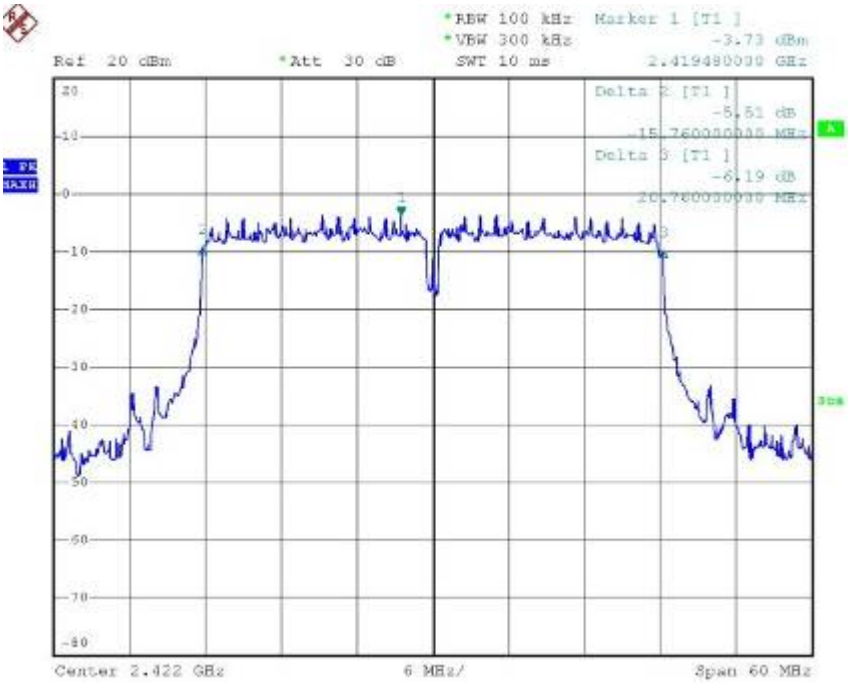
Mid Channel: 2437MHz



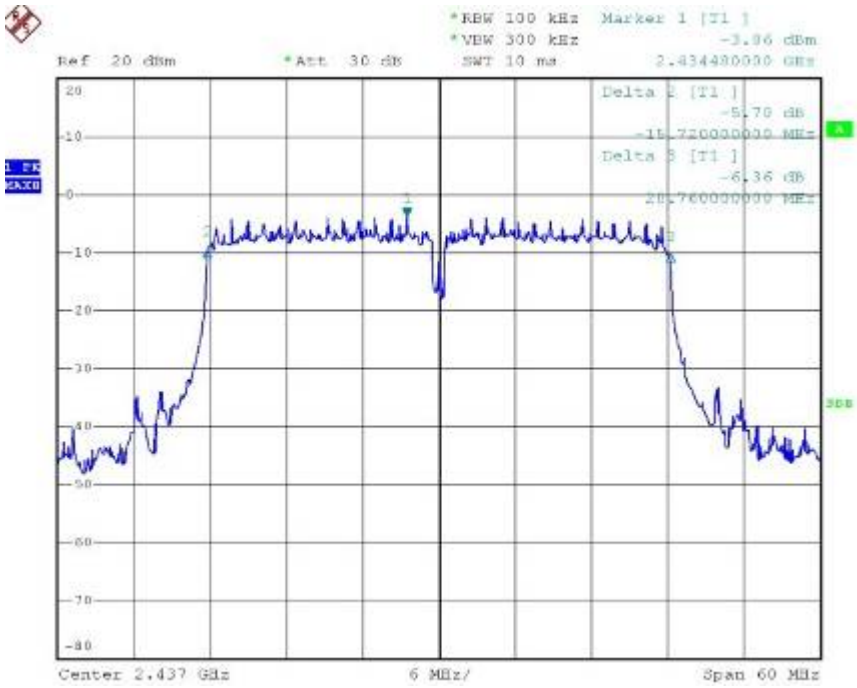
High Channel: 2462MHz



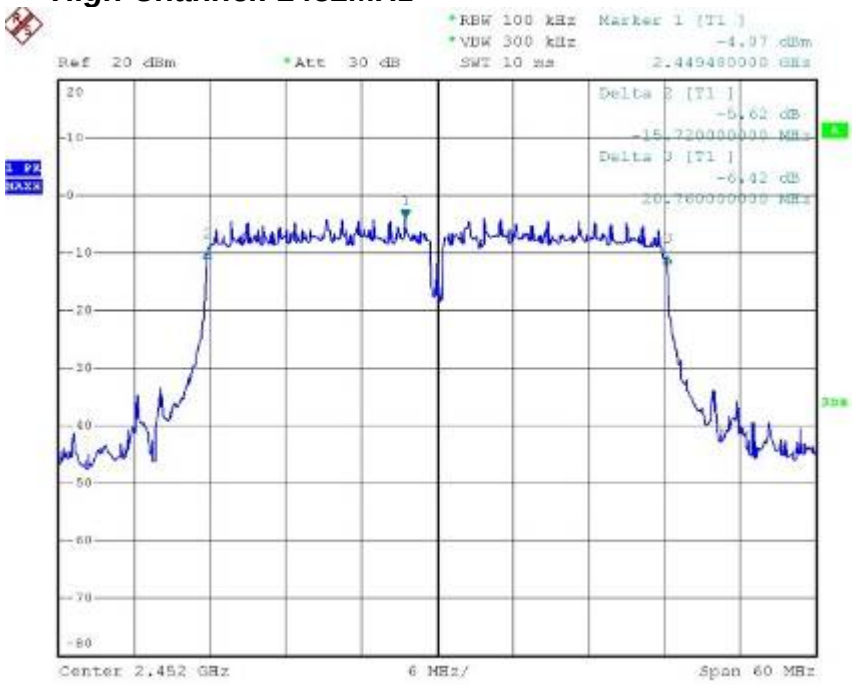
For 802.11n HT40 Mode:
Low Channel: 2422MHz



Mid Channel: 2437MHz



High Channel: 2452MHz



ATTACHMENT 5– MAXIMUM PEAK OUTPUT POWER

<table>
<tr><td>CLIENT:</td><td>GRANDSTREAM NETWORKS,INC.</td><td>TEST STANDERD:</td><td>Section 15.247(b)</td></tr>
<tr><td>MODEL NUMBERS:</td><td>GXV3175</td><td>PRODUCT:</td><td>IP Multimedia Phone</td></tr>
<tr><td>EUT MODEL:</td><td>GXV3175</td><td>EUT DESIGNATION:</td><td>Digital Transmission Device</td></tr>
<tr><td>TEMPERATURE:</td><td>23°C</td><td>HUMIDITY:</td><td>47%RH</td></tr>
<tr><td>ATM PRESSURE:</td><td>101.0kPa</td><td>GROUNDING:</td><td>None</td></tr>
<tr><td>TESTED BY:</td><td>Daomen</td><td>DATE OF TEST:</td><td>December 21st, 2012</td></tr>
<tr><td>TEST REFERENCE:</td><td colspan="3">ANSI C63.4:2003 and 558074 D01</td></tr>
<tr><td>TEST PROCEDURE:</td><td colspan="3">The EUT was set-up as ANSI C63.4:2003, tested to DTS test procedure of 558074 D01 for compliance to FCC 47CFR 15.247 requirements.</td></tr>
<tr><td>DESCRIPTIONS OF TEST MODE:</td><td colspan="3">Pre-Scan has been conducted to determine the worst-case mode from all possible Combinations between available modulations,data rates and antenna ports (if EUT with antenna diversity architecture). Following channels were selected for the final test as listed below:

802.11b mode with data rate of 1Mbps, 802.11g mode with data rate of 6Mbps, 802.11n HT20 mode with data rate of 6.5Mbps and 802.11n HT40 mode with data rate of 13.5Mbps.</td></tr>
<tr><td>MEASUREMENT EQUIPMENT SET</td><td colspan="3">Spectrum analyzer was set as below:
<table>
<tr><td>Equipment Mode</td><td>Spectrum Analyzer</td></tr>
<tr><td>Detector Function</td><td>Peak</td></tr>
<tr><td>RBW</td><td>1MHz</td></tr>
<tr><td>VBW</td><td>1MHz</td></tr>
</table></td></tr>
<tr><td>TESTED RANGE:</td><td colspan="3">N/A</td></tr>
<tr><td>TEST VOLTAGE:</td><td colspan="3">120VAC/60Hz</td></tr>
<tr><td>RESULTS:</td><td colspan="3">The EUT meet the requirements of test reference for maximum peak output power. the worst-case mode is 802.11b mode with data rate 1Mbps in channel 1.The test results relate only to the equipment under test provided by client.</td></tr>
<tr><td>CHANGES OR MODIFICATIONS:</td><td colspan="3">There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.</td></tr>
<tr><td>M. UNCERTAINTY:</td><td colspan="3">Freq. ± $2x10^{-7}$ x Center Freq., Amp ± 2.6 dB.</td></tr>
</table>

Test Data:

For 802.11b Mode:

Channel Frequency (MHz)	Peak Output Power(dBm)	Cable Loss (dB)	Power Level (dBm)	Limit	Margin
2412	20.93	2.00	22.93	30.00	-7.07
2437	15.64	2.00	17.64	30.00	-12.36
2462	19.67	2.00	21.67	30.00	-8.33

For 802.11g Mode:

Channel Frequency (MHz)	Peak Output Power(dBm)	Cable Loss (dB)	Power Level (dBm)	Limit	Margin
2412	20.24	2.00	22.24	30.00	-7.76
2437	19.89	2.00	21.89	30.00	-8.11
2462	19.14	2.00	21.14	30.00	-8.86

For 802.11n HT20 Mode:

Channel Frequency (MHz)	Peak Output Power(dBm)	Cable Loss (dB)	Power Level (dBm)	Limit	Margin
2412	19.72	2.00	21.72	30.00	-8.28
2437	19.55	2.00	21.55	30.00	-8.45
2462	19.05	2.00	21.05	30.00	-8.95

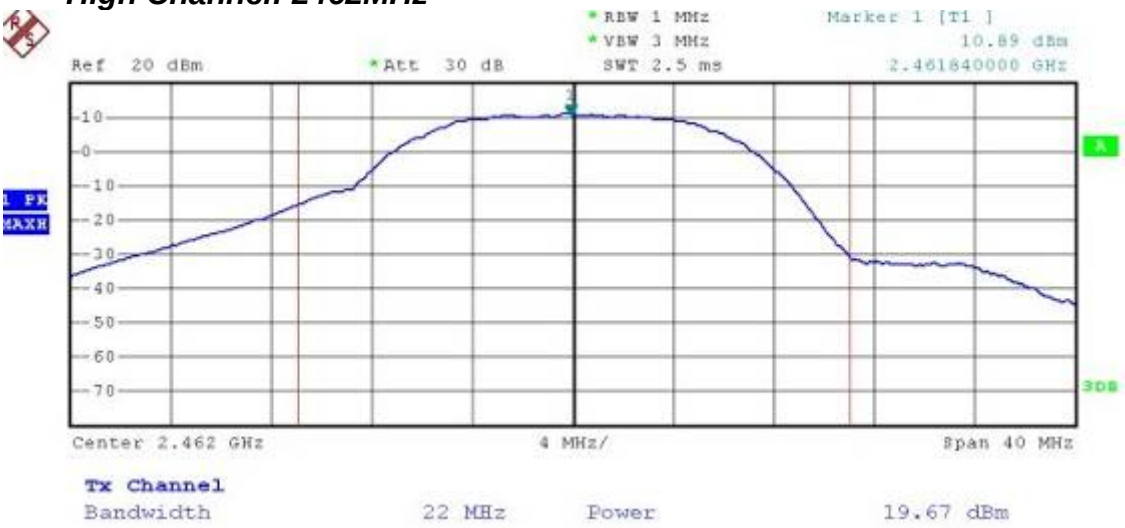
For 802.11n HT40 Mode:

Channel Frequency (MHz)	Peak Output Power(dBm)	Cable Loss (dB)	Power Level (dBm)	Limit	Margin
2422	18.92	2.00	20.92	30.00	-9.08
2437	19.04	2.00	21.04	30.00	-8.96
2452	18.67	2.00	20.67	30.00	-9.33

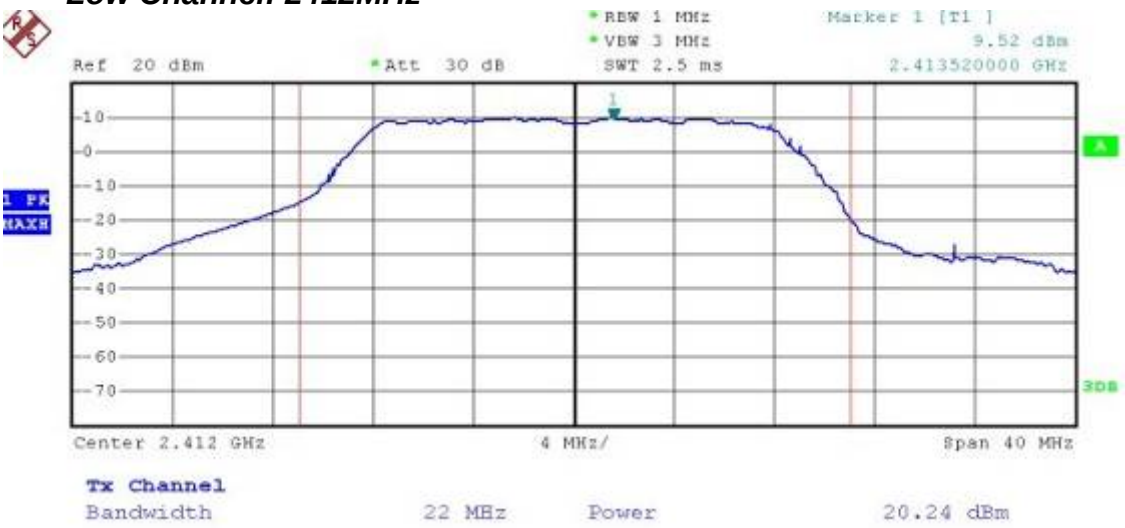
For 802.11b Mode:
Low Channel: 2412MHz

Mid Channel: 2437MHz

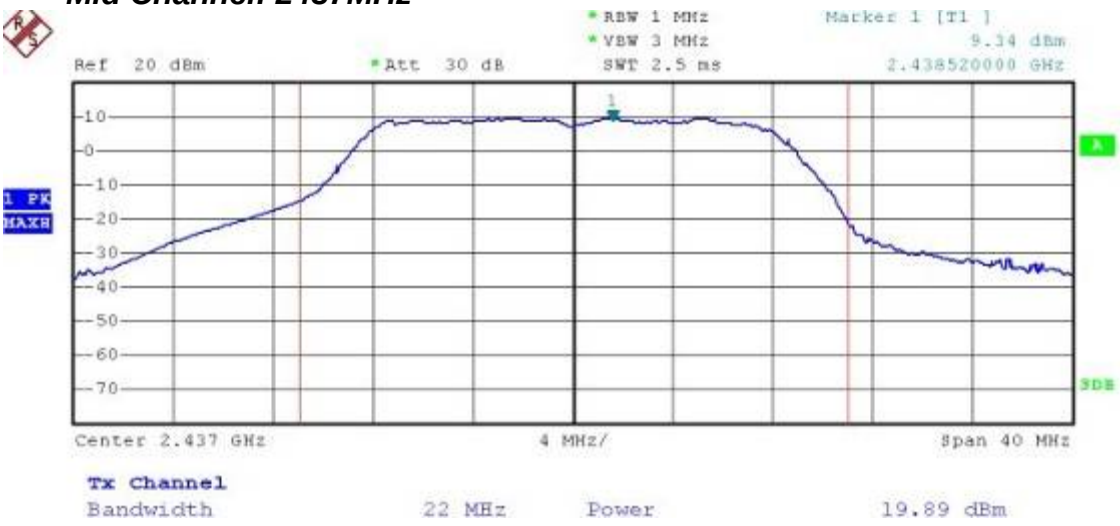
High Channel: 2462MHz



For 802.11g Mode:
Low Channel: 2412MHz

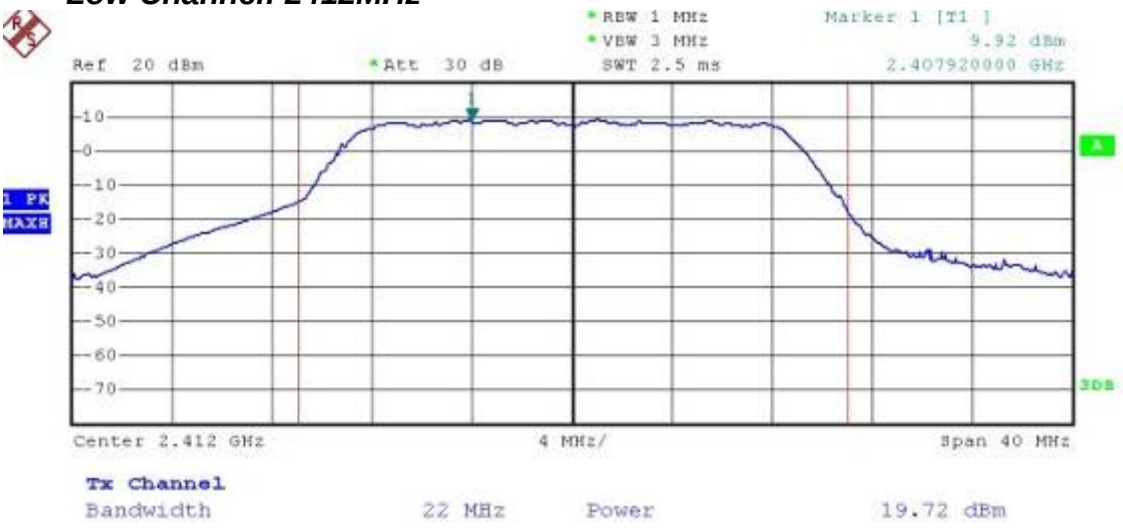


Mid Channel: 2437MHz

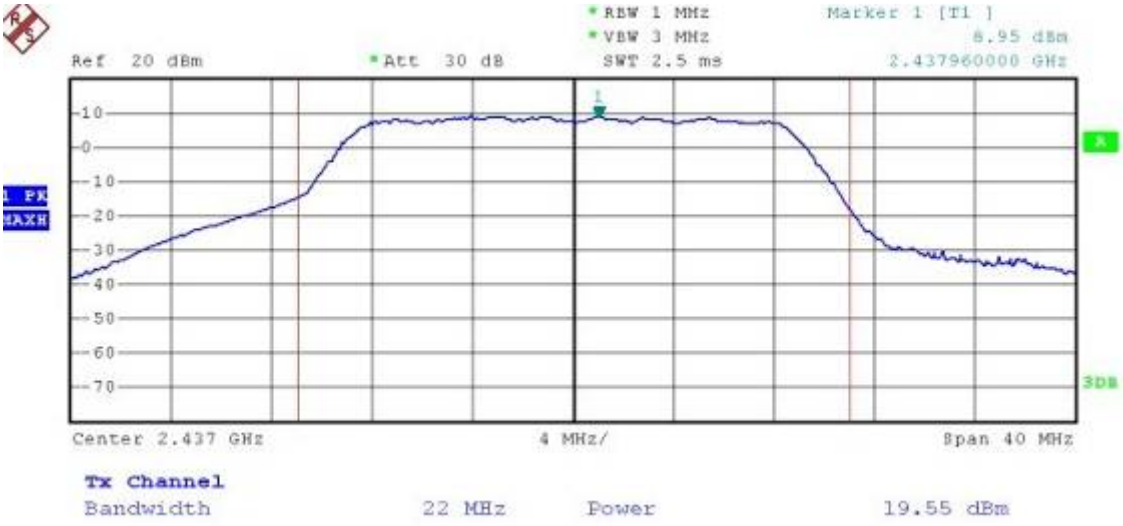


High Channel: 2462MHz

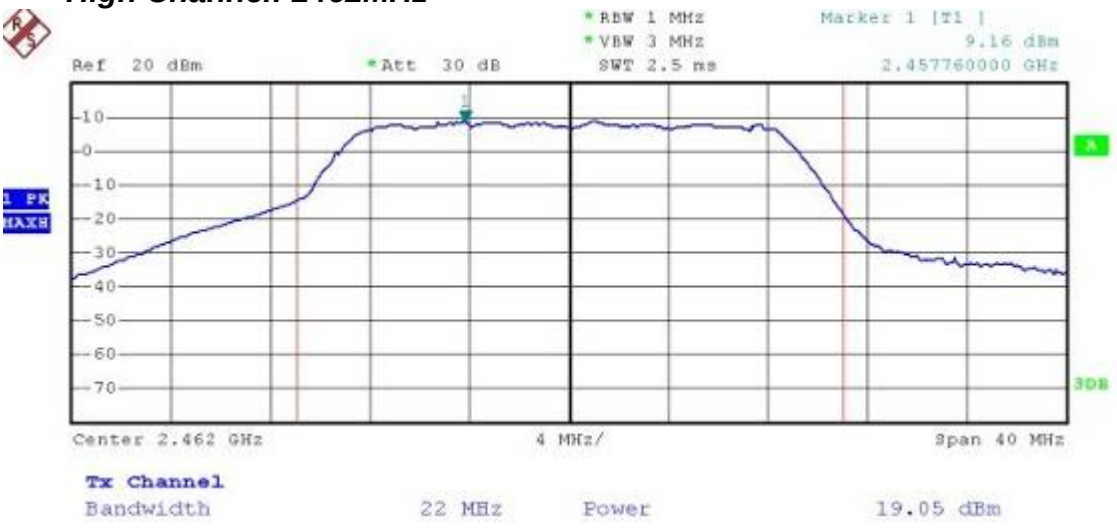
For 802.11n HT20 Mode:
Low Channel: 2412MHz



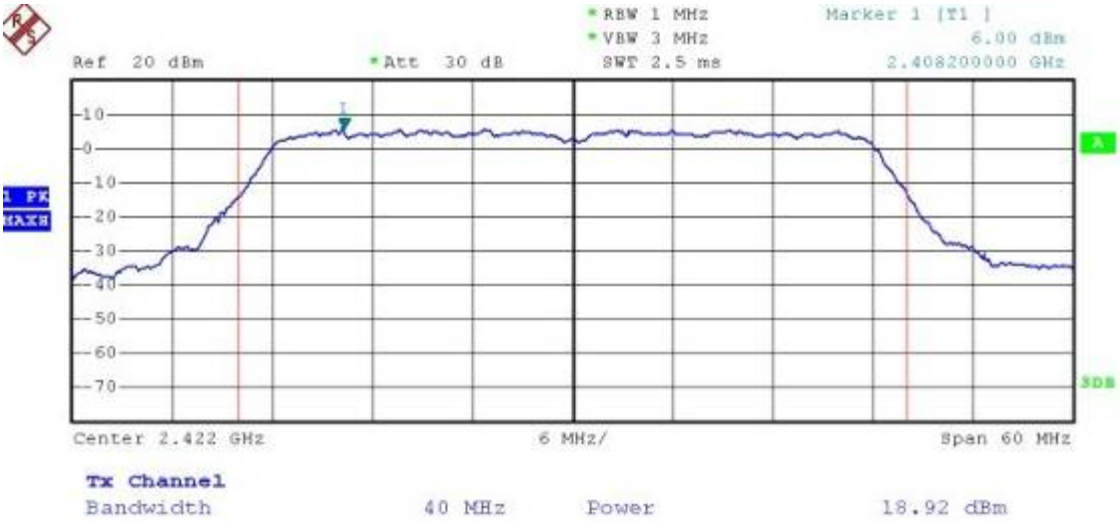
Mid Channel: 2437MHz



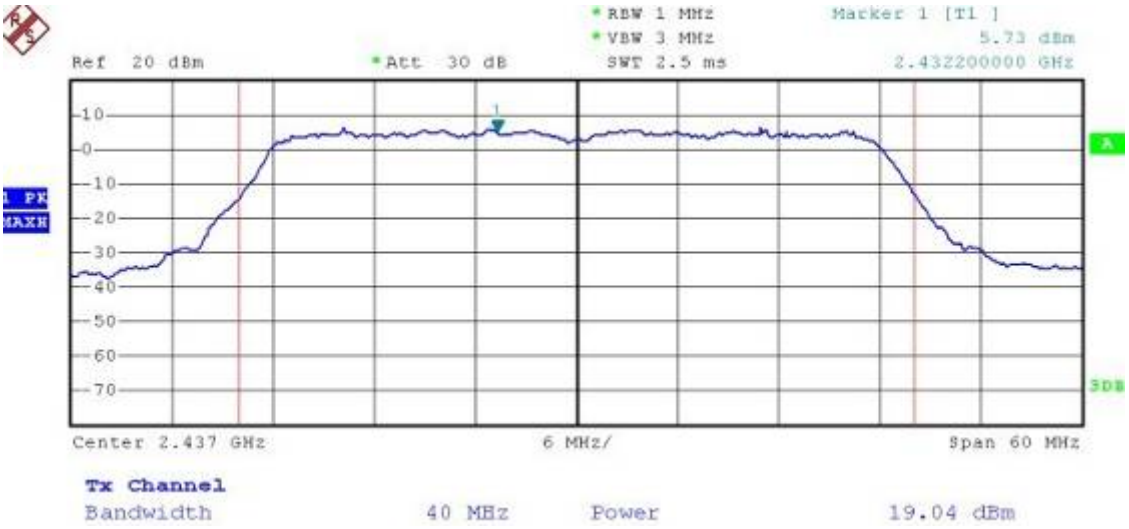
High Channel: 2462MHz



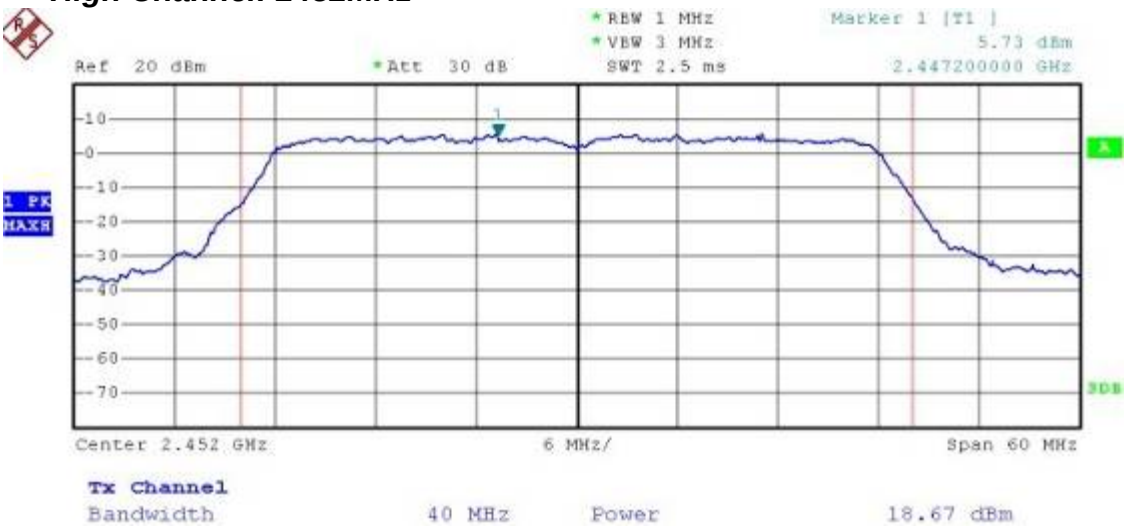
For 802.11n HT40 Mode:
Low Channel: 2422MHz



Mid Channel: 2437MHz



High Channel: 2452MHz



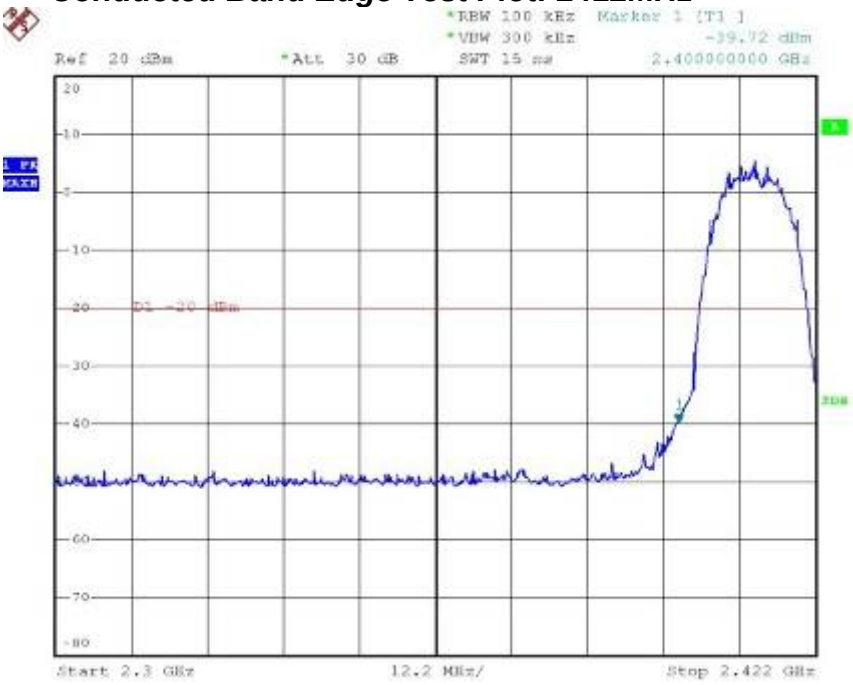
ATTACHMENT 6 – BAND EDGES TEST

<table>
<tr><td>CLIENT:</td><td>GRANDSTREAM NETWORKS,INC.</td><td>TEST STANDERD:</td><td>Section 15.247(d)</td></tr>
<tr><td>MODEL NUMBERS:</td><td>GXV3175</td><td>PRODUCT:</td><td>IP Multimedia Phone</td></tr>
<tr><td>EUT MODEL:</td><td>GXV3175</td><td>EUT DESIGNATION:</td><td>Digital Transmission Device</td></tr>
<tr><td>TEMPERATURE:</td><td>23°C</td><td>HUMIDITY:</td><td>47%RH</td></tr>
<tr><td>ATM PRESSURE:</td><td>101.0kPa</td><td>GROUNDING:</td><td>None</td></tr>
<tr><td>TESTED BY:</td><td>Daomen</td><td>DATE OF TEST:</td><td>December 21st, 2012</td></tr>
<tr><td>TEST REFERENCE:</td><td colspan="3">ANSI C63.4:2003 and 558074 D01</td></tr>
<tr><td>TEST PROCEDURE:</td><td colspan="3">Requirement: 15.247 (d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequen cy power that is produced by the intentional radiator shall be at least 20 dB belo w that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurem ent.

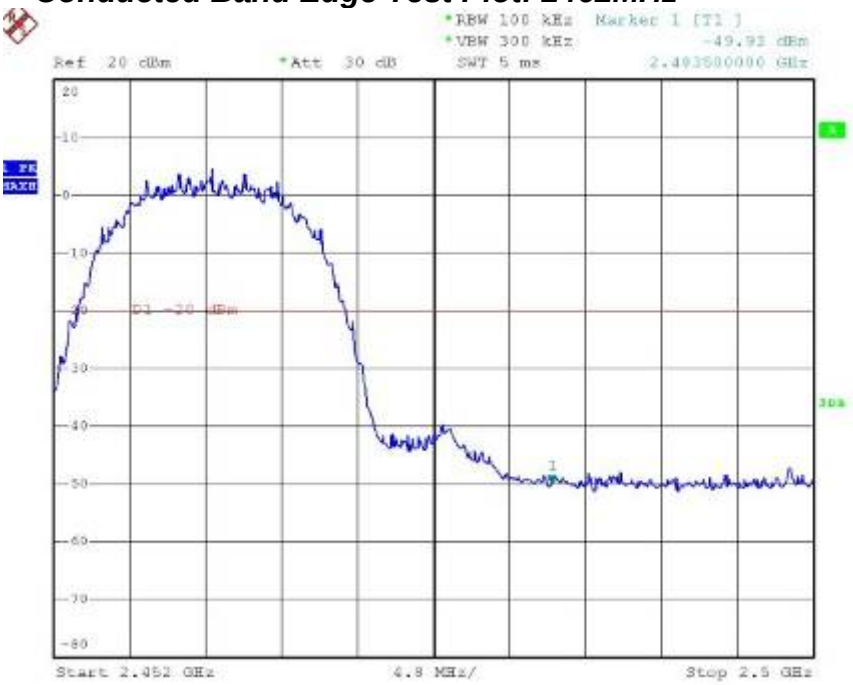
Test Procedures: The EUT was set -up as ANSI C63.4-2003, tested to DTS test procedure of 558074 D01 for compliance to FCC 47CFR 15.247 requirements.</td></tr>
<tr><td>DESCRIPTIONS OF TEST MODE:</td><td colspan="3">Pre-Scan has been conducted to determine the worst-case mode from all possible Combinations between available modulations,data rates and antenna ports (if EUT with antenna diversity architecture). Following channels were chosen for the final test as listed below: 802.11b mode with data rate of 1Mbps, 802.11g mode with data rate of 6Mbps,802.11n HT20 mode with data rate of 6.5Mbps and 802.11n HT40 mode with data rate of 13.5Mbps.</td></tr>
<tr><td>EQUIPMENT SETUP</td><td colspan="3">Spectrum analyzer shall be set as below:
<table><tr><td>Equipment Mode</td><td>Spectrum Analyzer</td></tr><tr><td>Detector Function</td><td>Peak Mode</td></tr><tr><td>RBW</td><td>100KHz</td></tr><tr><td>VBW</td><td>300KHz</td></tr></table></td></tr>
<tr><td>TEST VOLTAGE:</td><td colspan="3">120VAC/60Hz</td></tr>
<tr><td>RESULTS:</td><td colspan="3">The EUT meet the requirements of test reference for band edges.The test results relate only to the equipment under test provided by client.</td></tr>
<tr><td>CHANGES OR MODIFICATIONS:</td><td colspan="3">There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.</td></tr>
<tr><td>M. UNCERTAINTY:</td><td colspan="3">Freq. ± $2x10^{-7}$ x Center Freq., Amp ± 2.6 dB.</td></tr>
</table>

For 802.11b Mode:

Conducted Band Edge Test Plot: 2412MHz



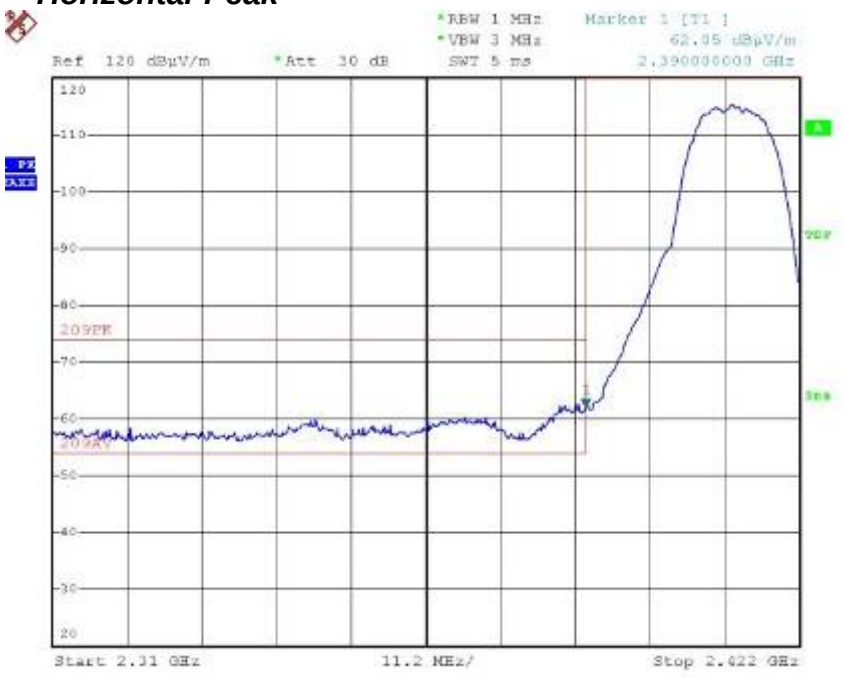
Conducted Band Edge Test Plot: 2462MHz



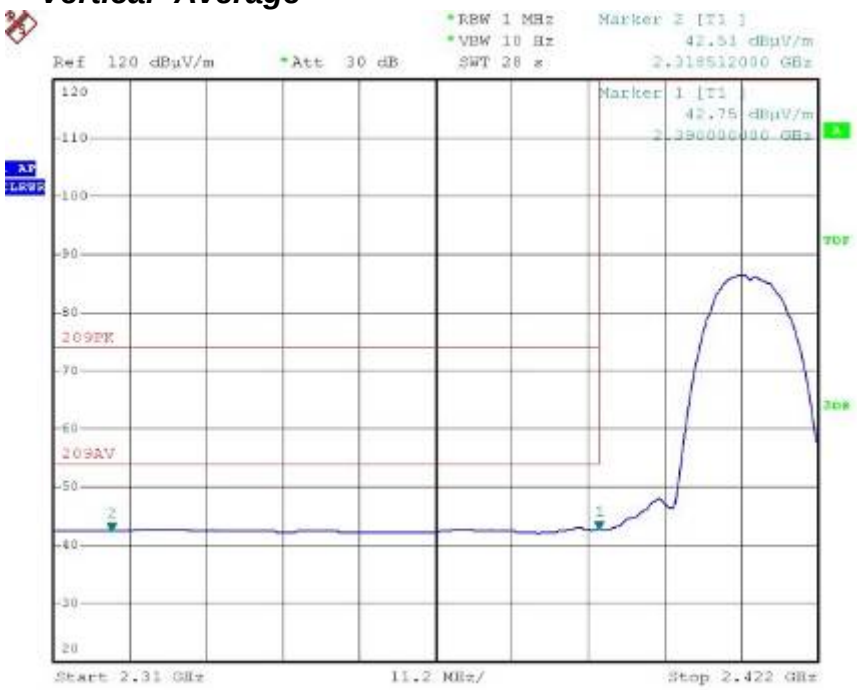
Radiated Band Edge Test Plot: 2412MHz

Horizontal-Average

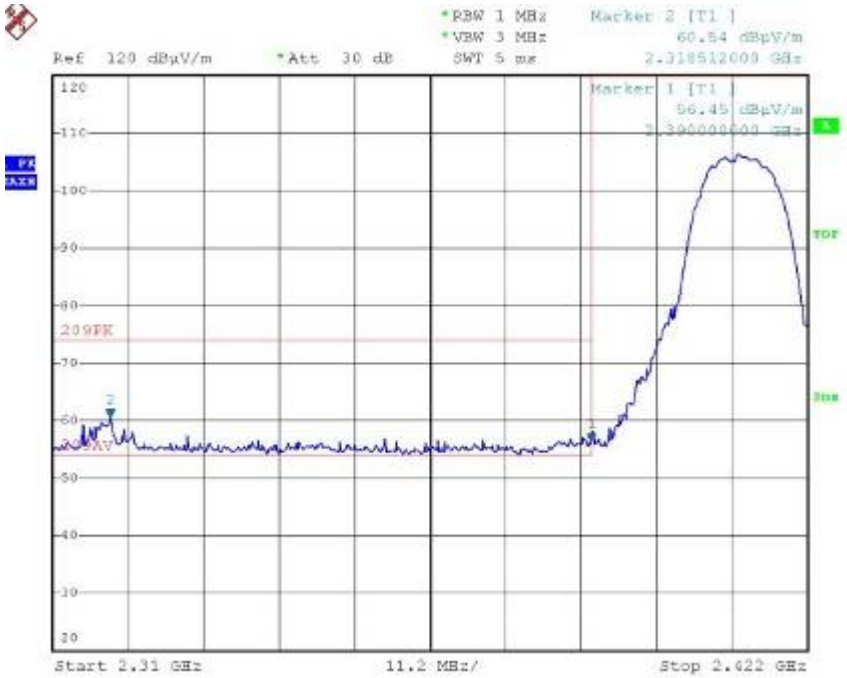
Horizontal-Peak



Vertical- Average



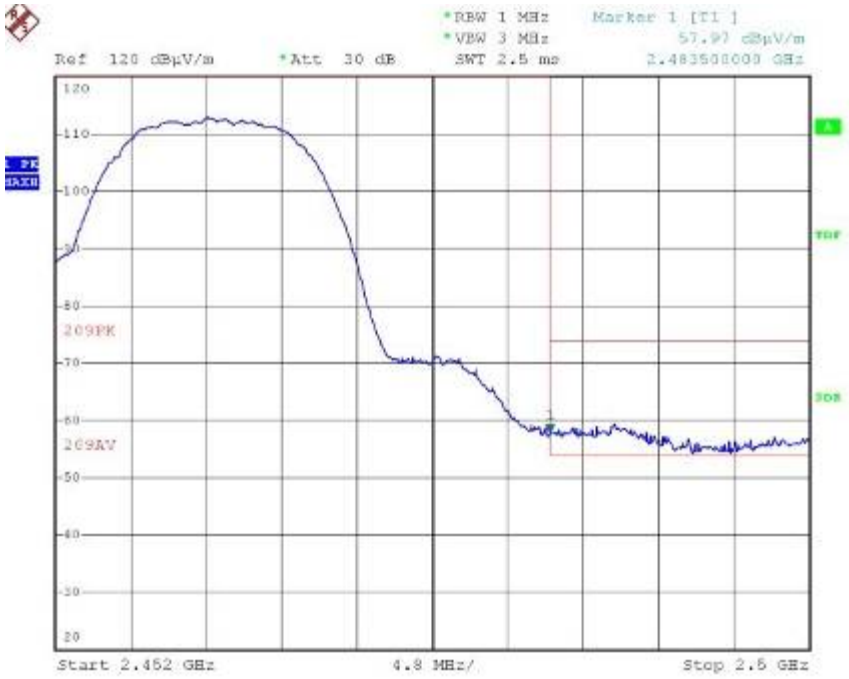
Vertical-Peak



Radiated Band Edge Test Plot: 2462MHz

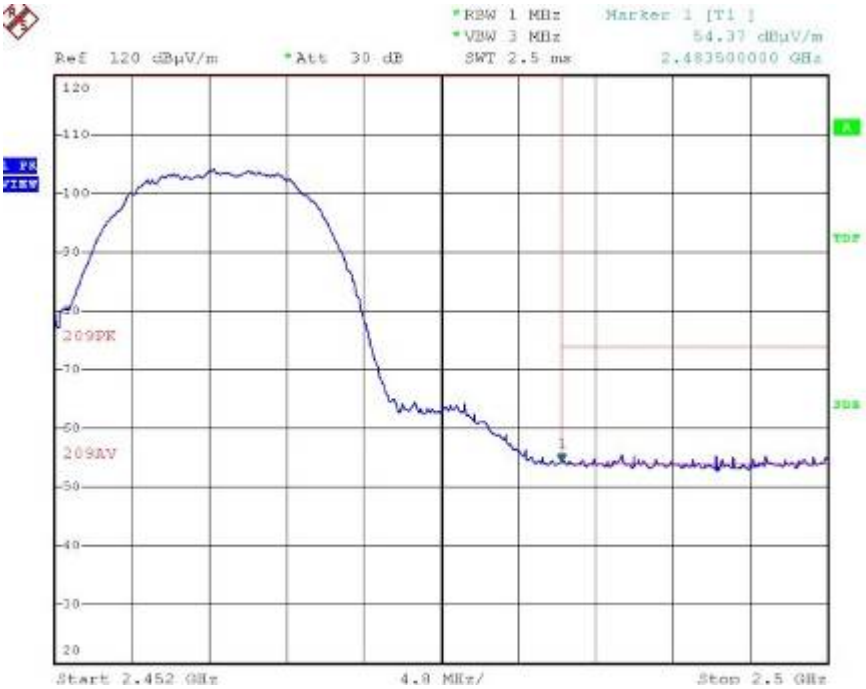
Horizontal-Average

Horizontal-Peak



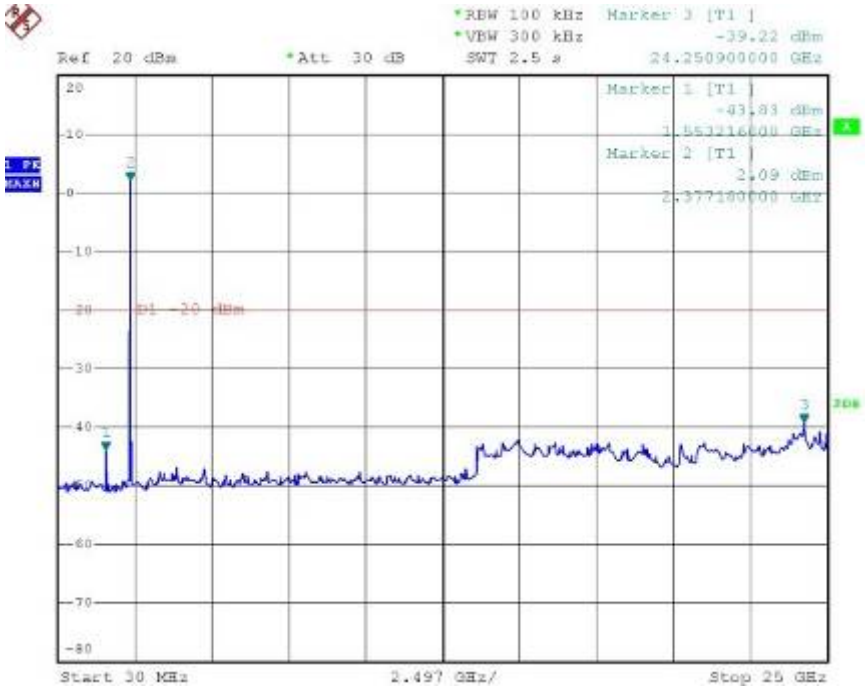
Vertical- Average

Vertical- Peak

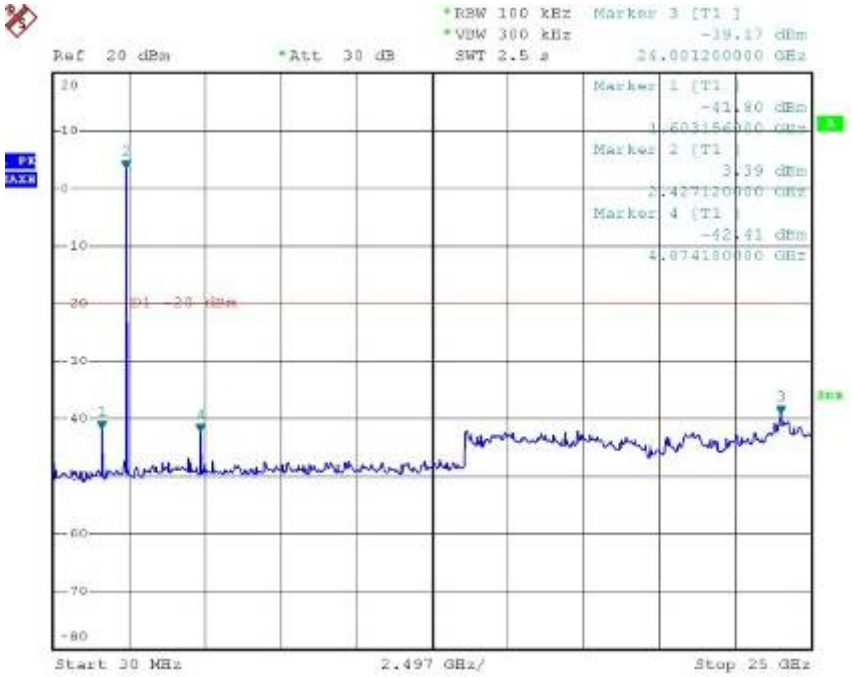


Conducted Spurious Emission Test Plot

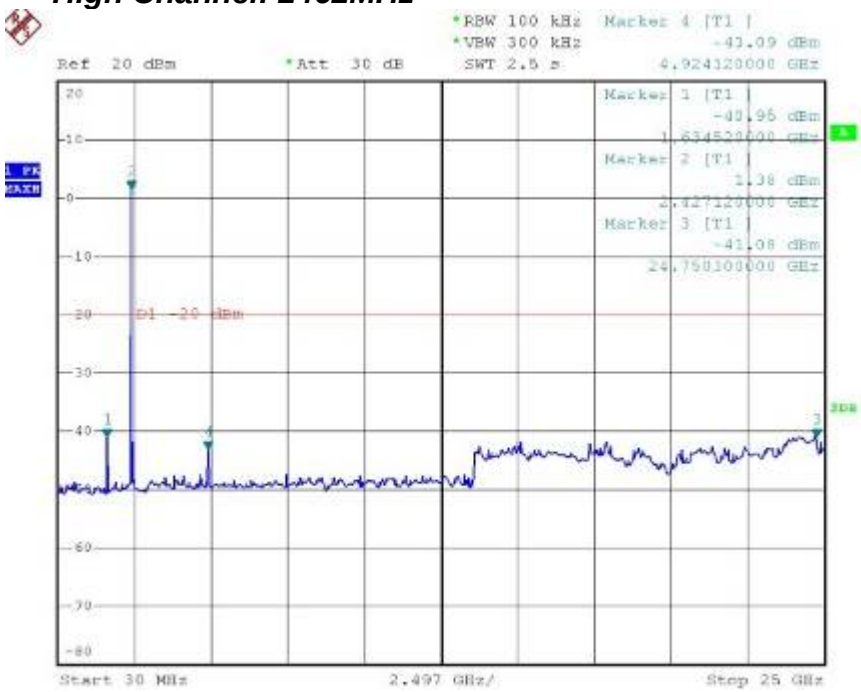
Low Channel: 2412MHz



Mid Channel: 2437MHz

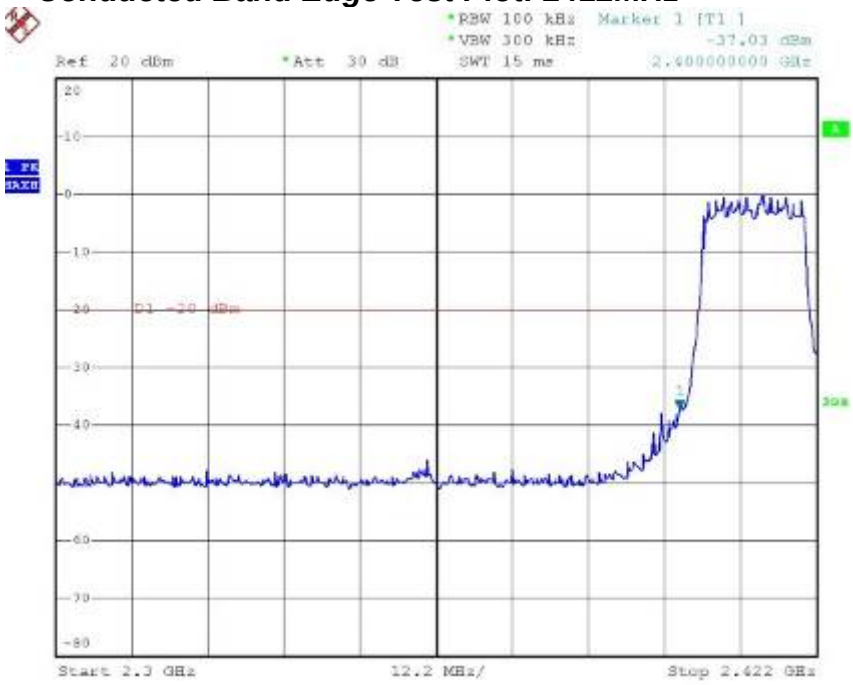


High Channel: 2462MHz

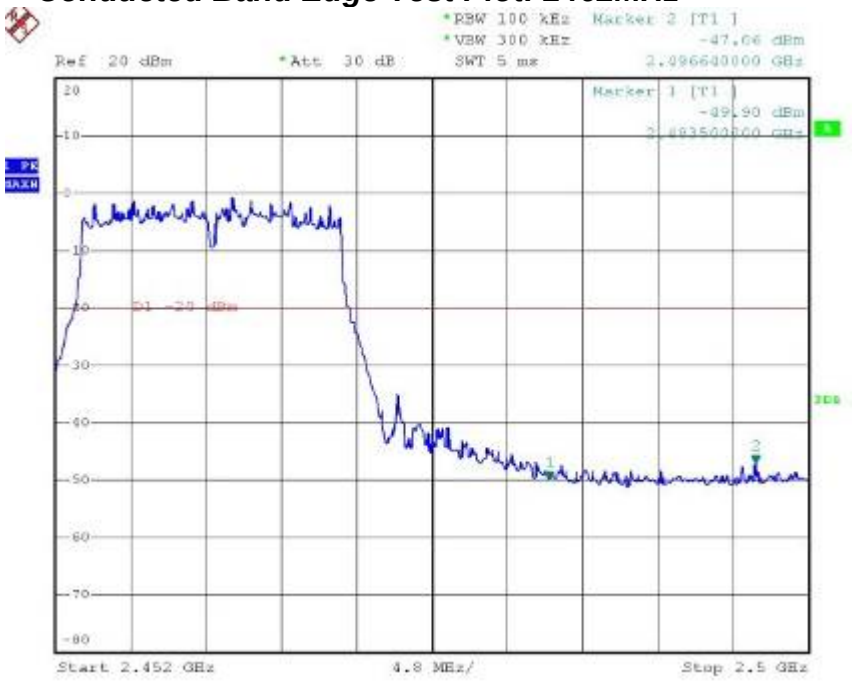


For 802.11g Mode:

Conducted Band Edge Test Plot: 2412MHz



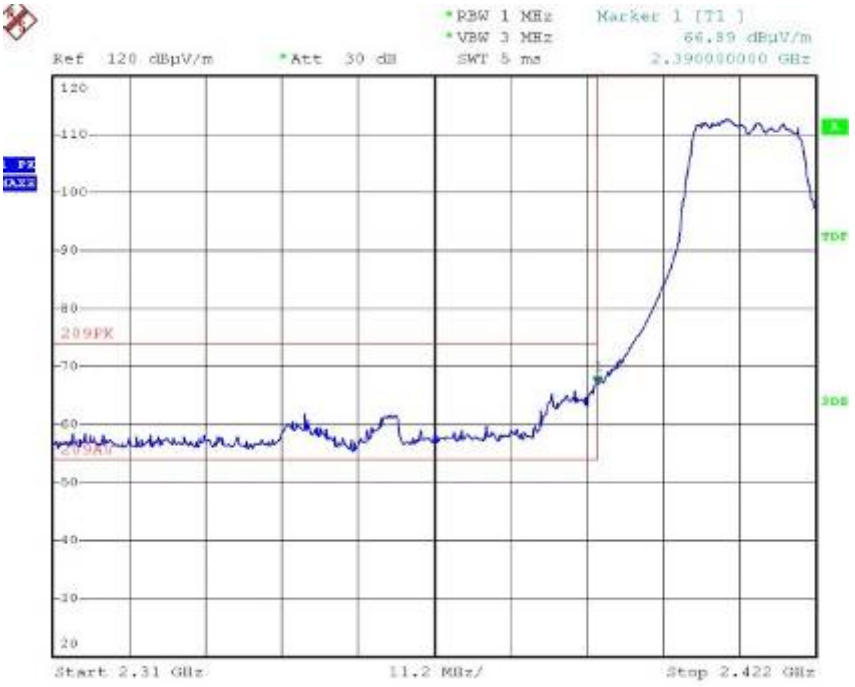
Conducted Band Edge Test Plot: 2462MHz



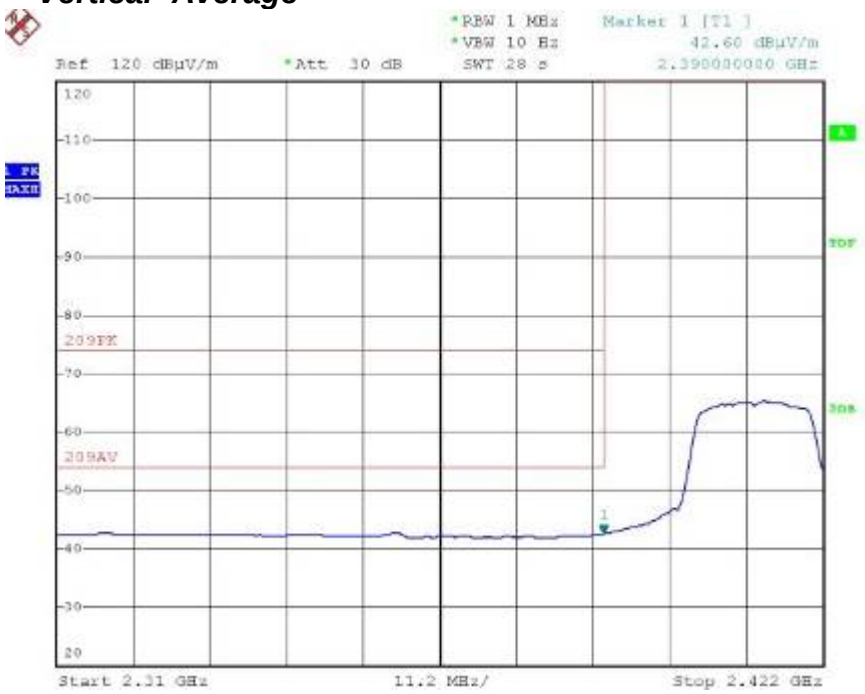
Radiated Band Edge Test Plot: 2412MHz

Horizontal- Average

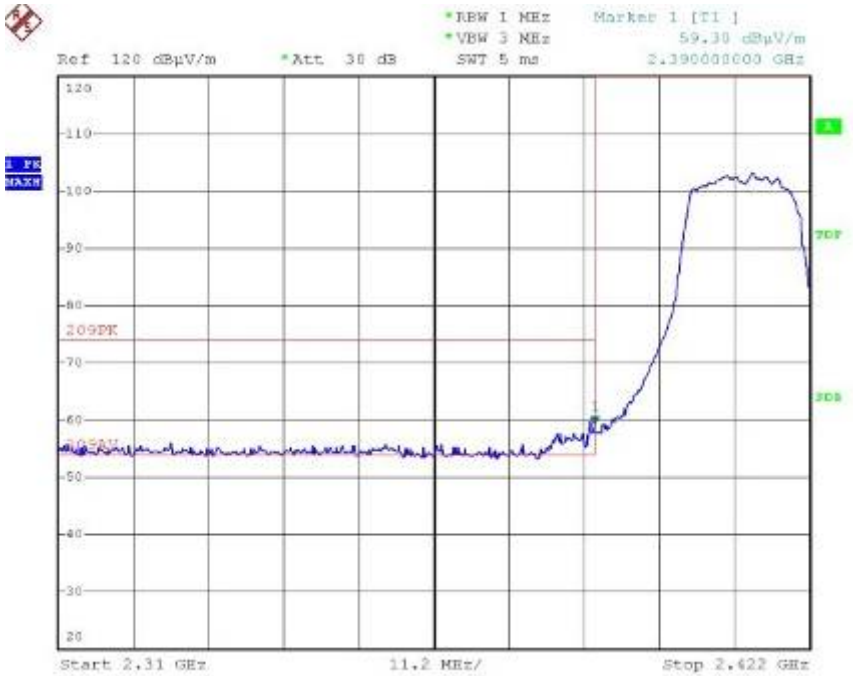
Horizontal-Peak



Vertical- Average

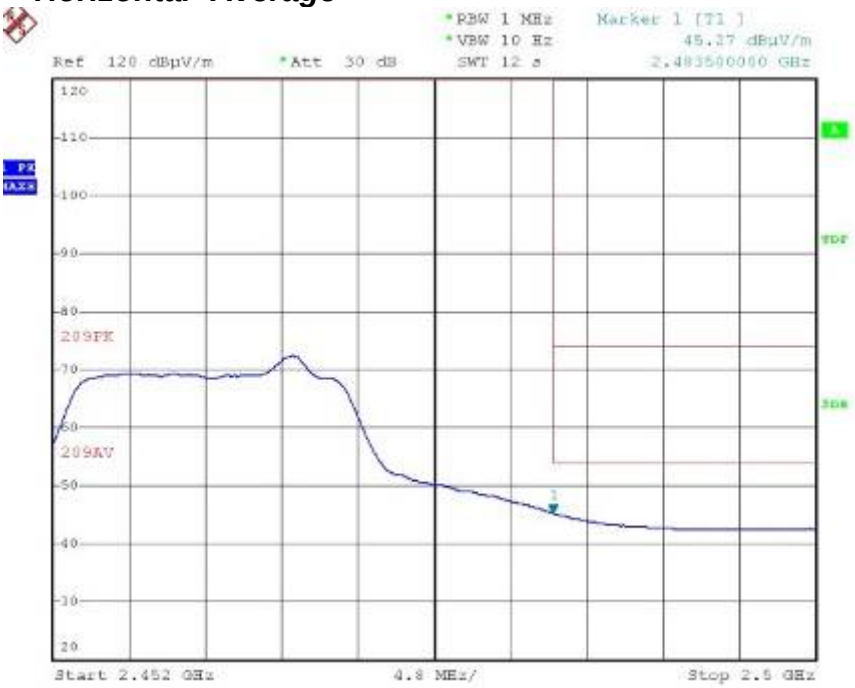


Vertical-Peak

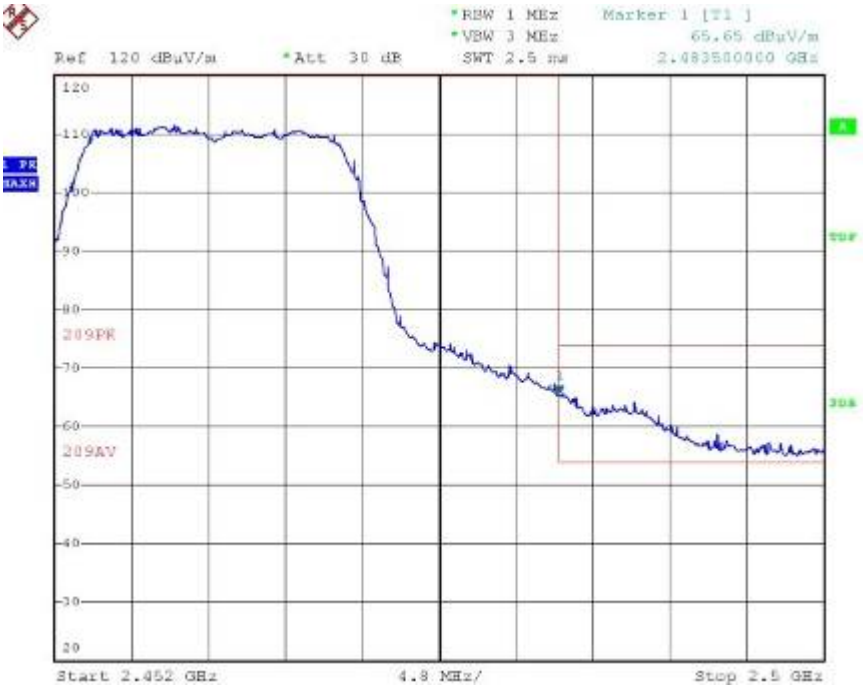


Radiated Band Edge Test Plot: 2462MHz

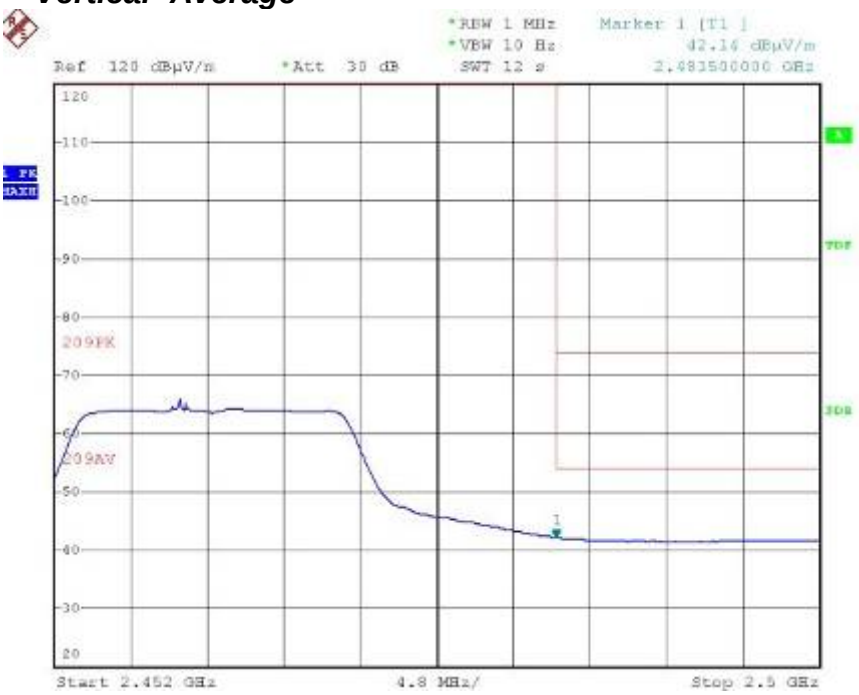
Horizontal- Average



Horizontal-Peak



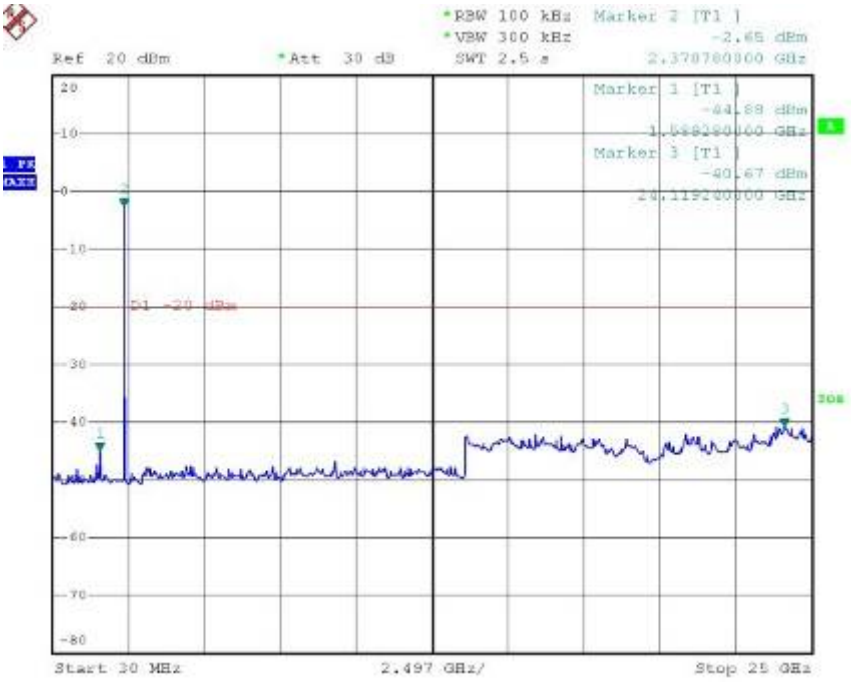
Vertical- Average



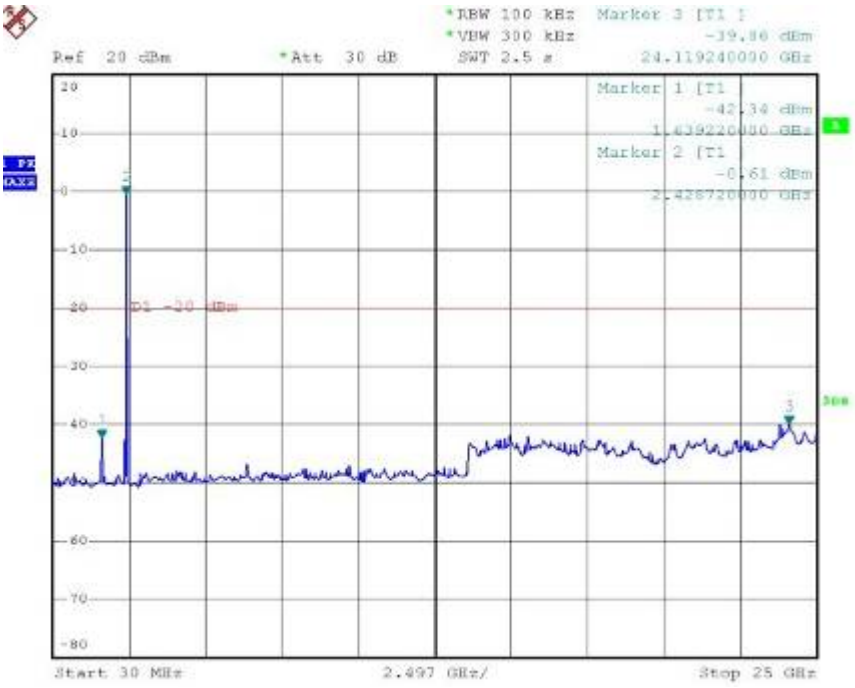
Vertical-Peak

Conducted Spurious Emission Test Plot

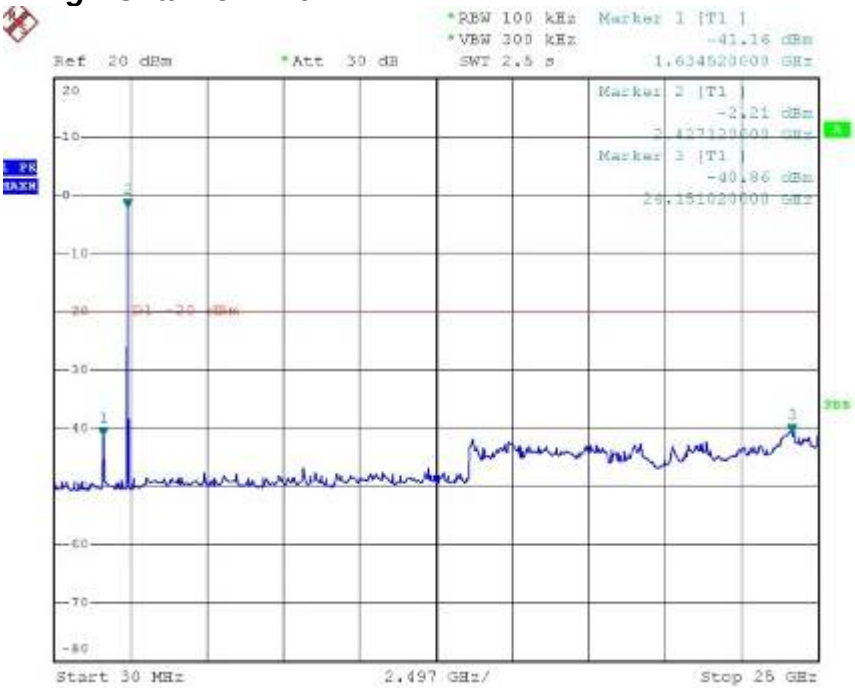
Low Channel: 2412MHz



Mid Channel: 2437MHz

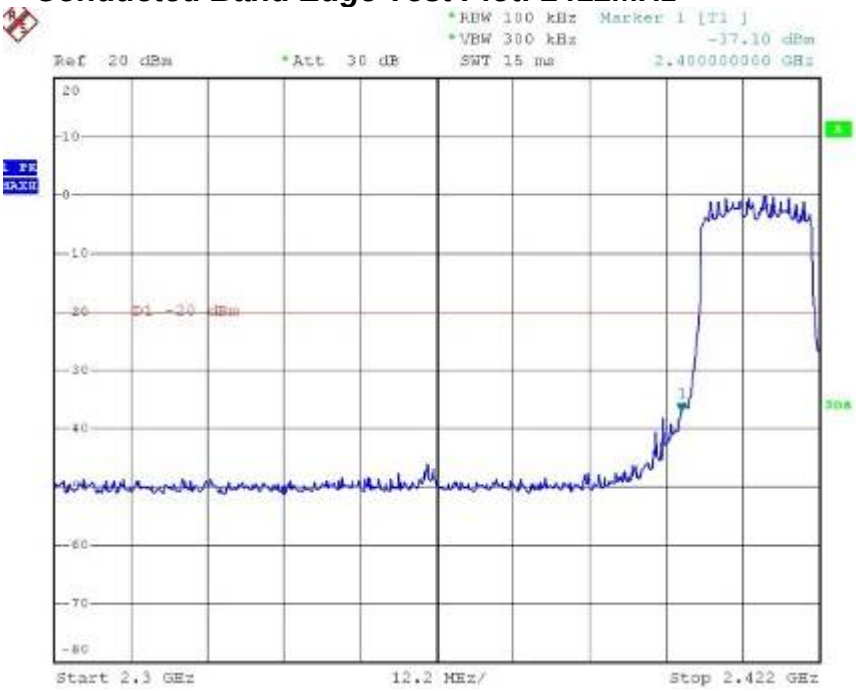


High Channel: 2462MHz

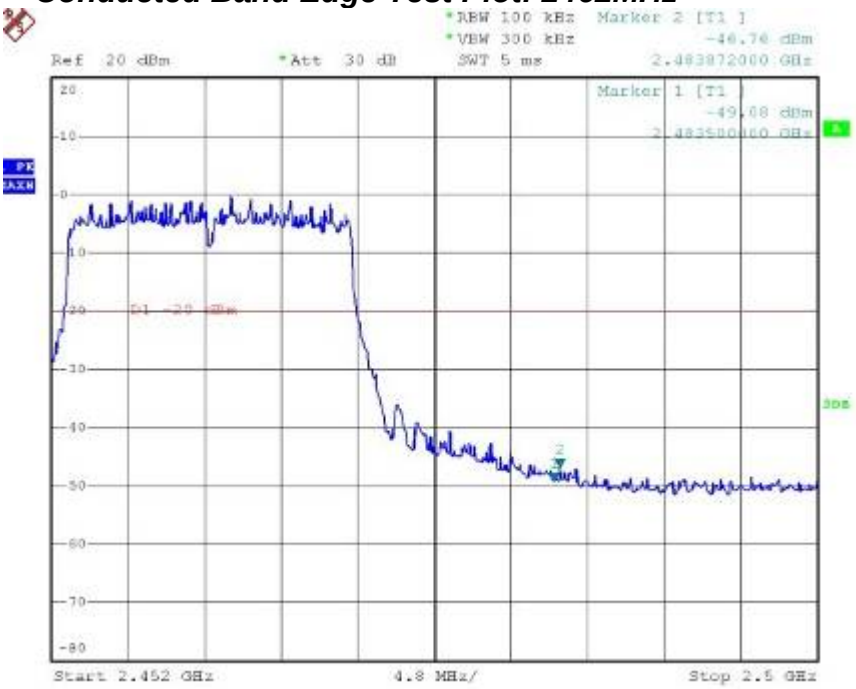


For 802.11n HT20 Mode:

Conducted Band Edge Test Plot: 2412MHz

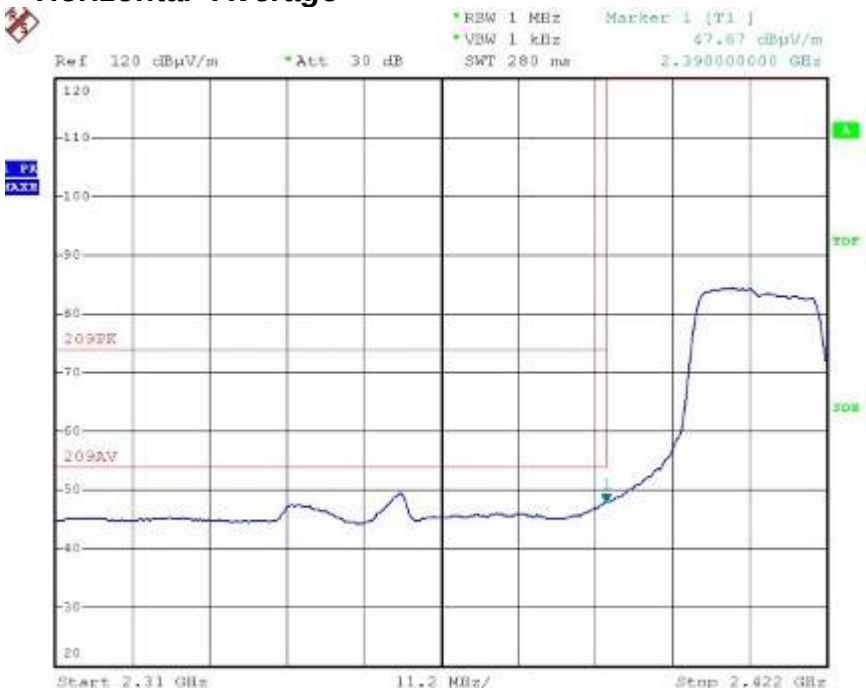


Conducted Band Edge Test Plot: 2462MHz

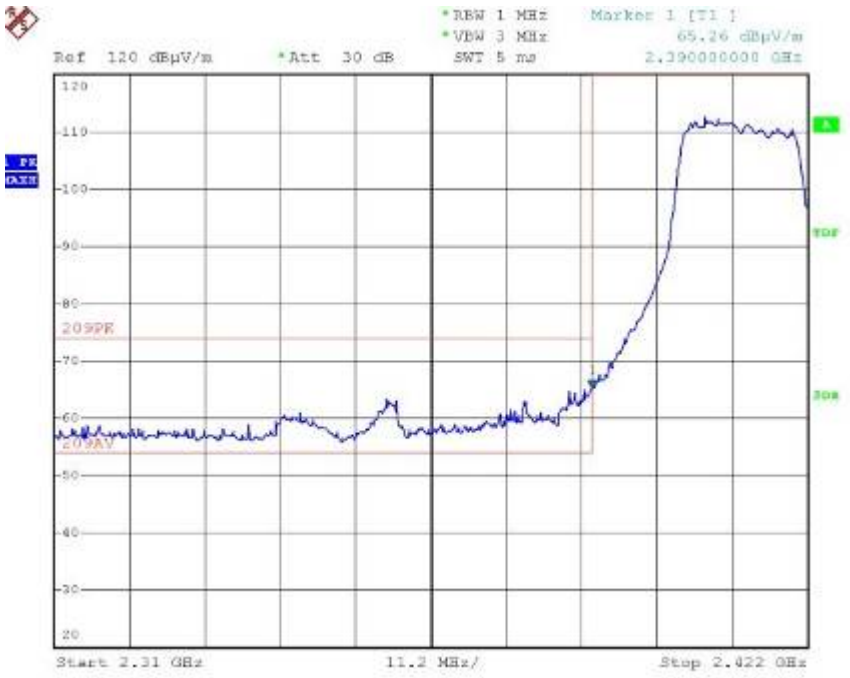


Radiated Band Edge Test Plot: 2412MHz

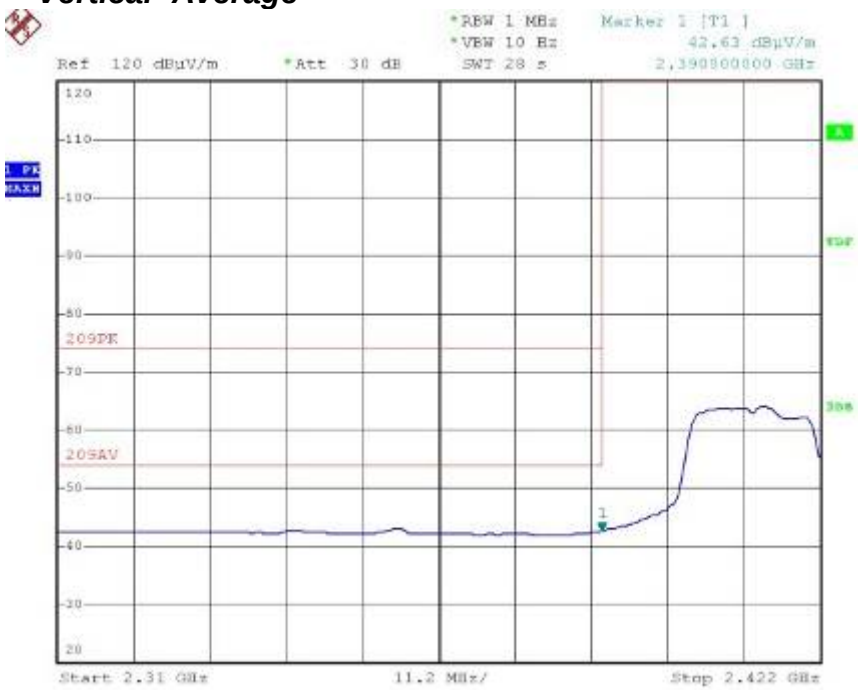
Horizontal- Average



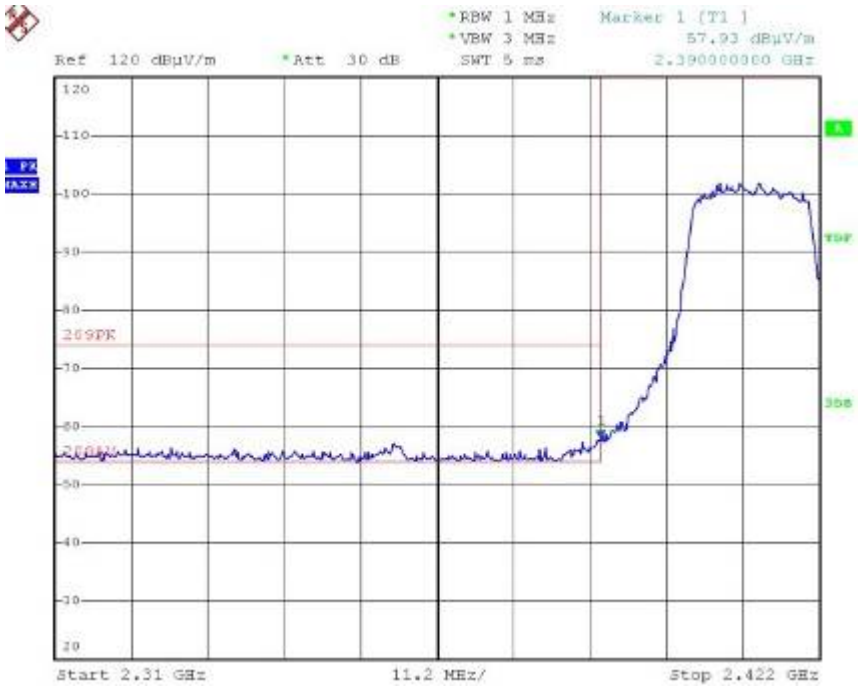
Horizontal-Peak



Vertical- Average



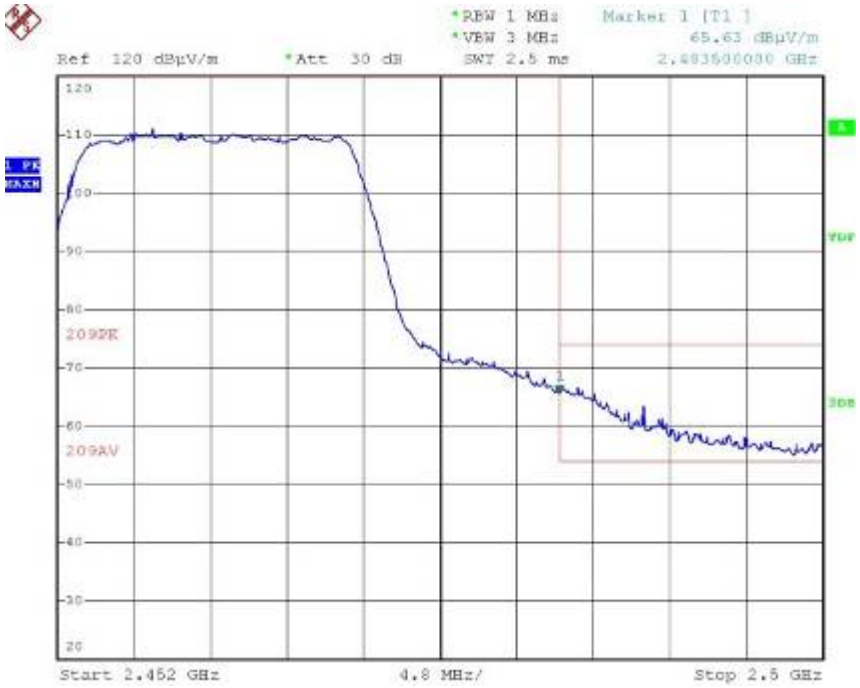
Vertical-Peak



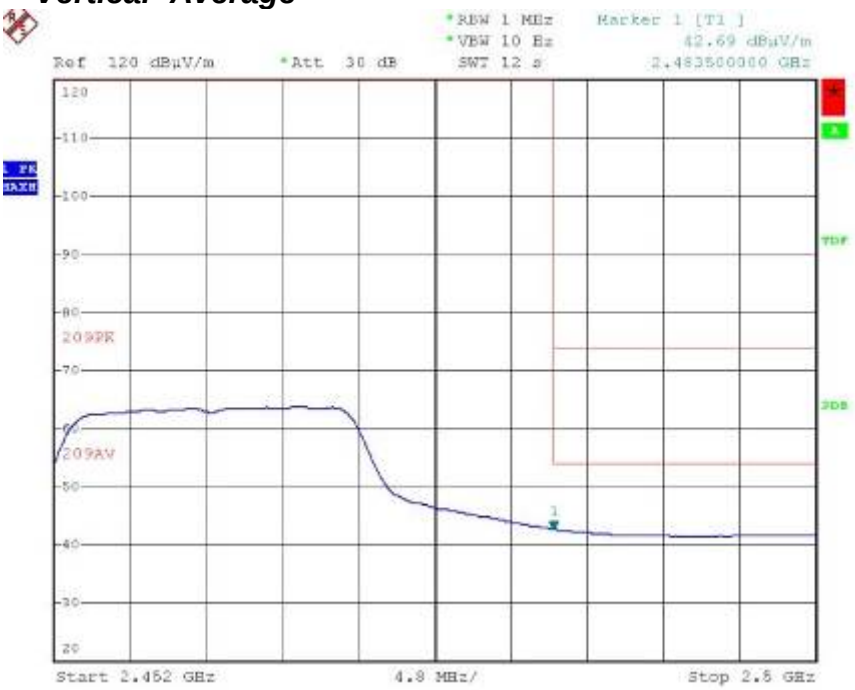
Radiated Band Edge Test Plot: 2462MHz

Horizontal- Average

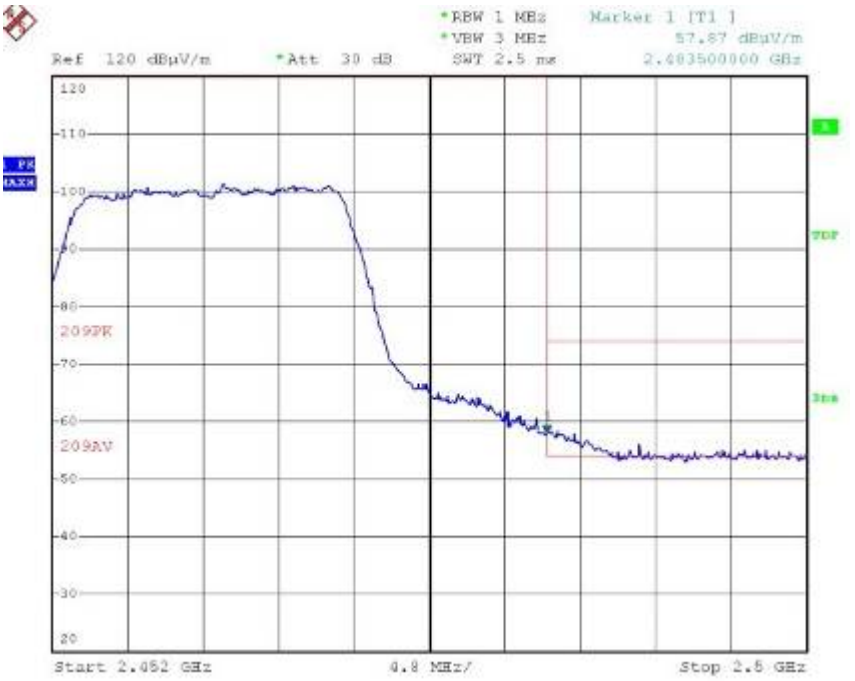
Horizontal-Peak



Vertical- Average

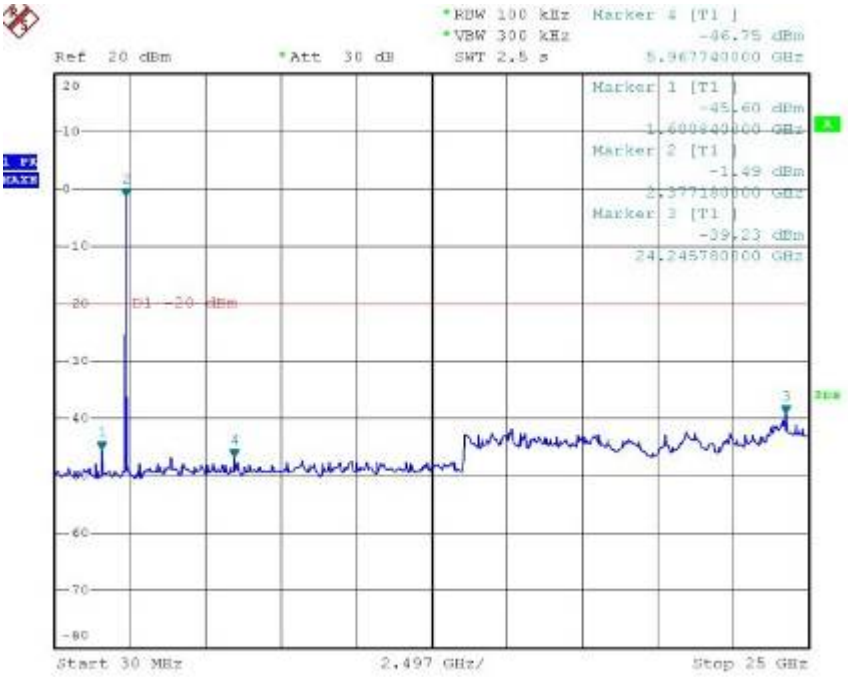


Vertical-Peak

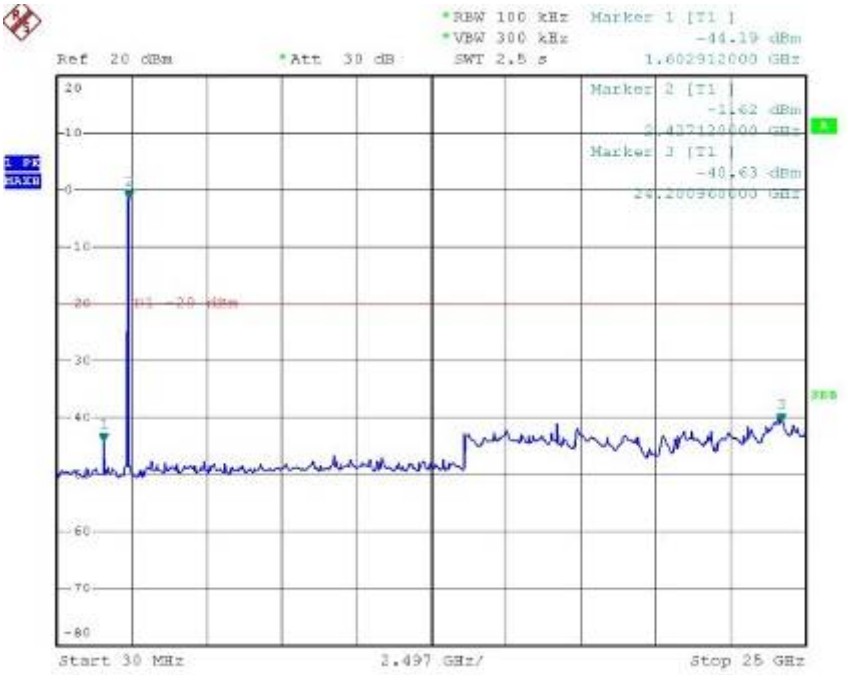


Conducted Spurious Emission Test Plot

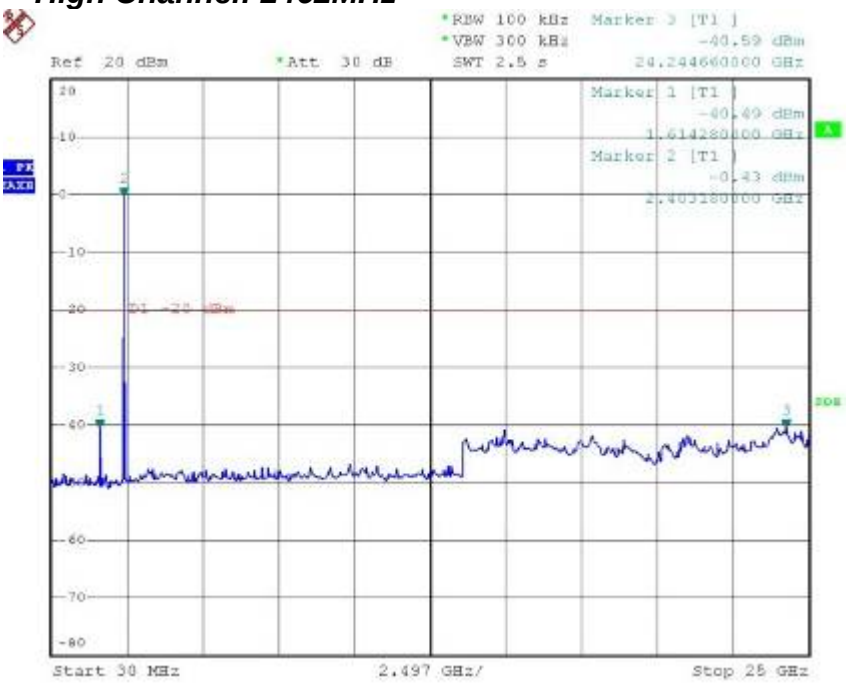
Low Channel: 2412MHz



Mid Channel: 2437MHz

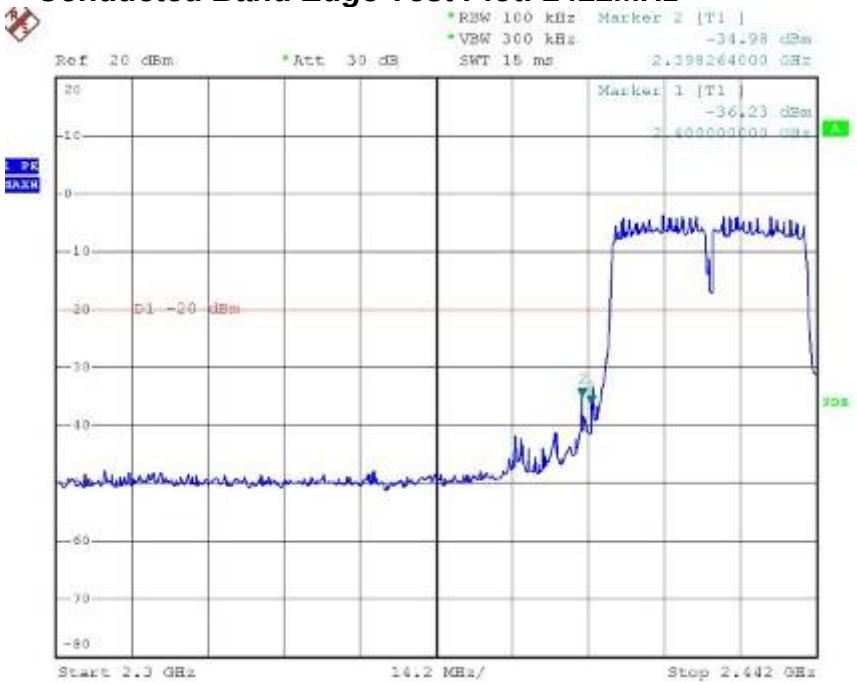


High Channel: 2462MHz

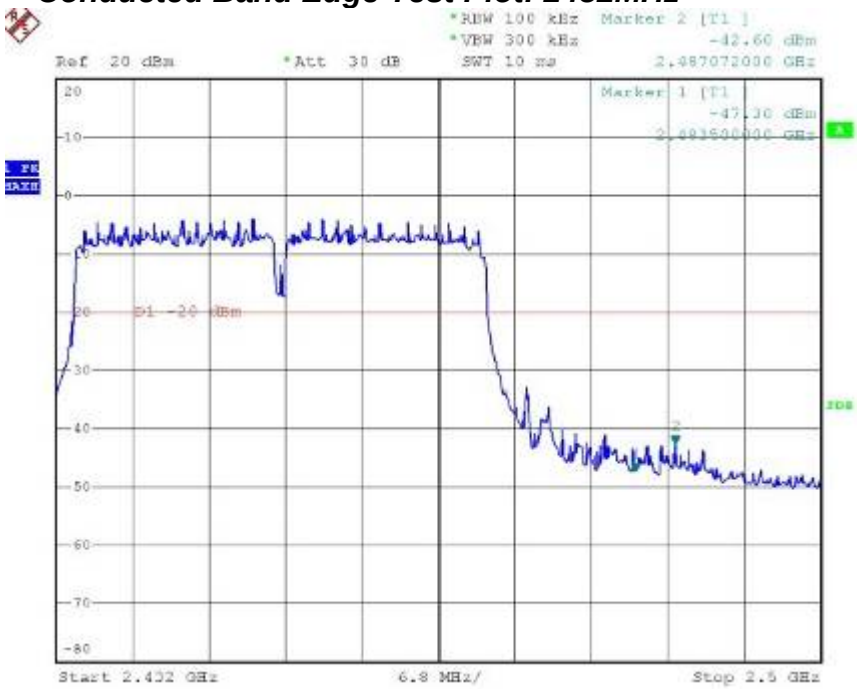


For 802.11n HT40 Mode:

Conducted Band Edge Test Plot: 2422MHz

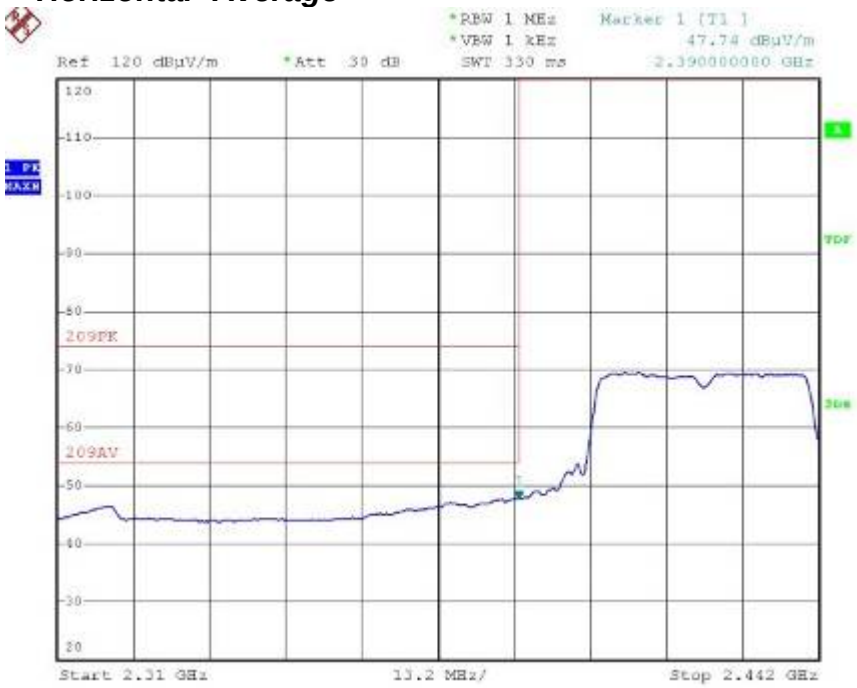


Conducted Band Edge Test Plot: 2452MHz



Radiated Band Edge Test Plot: 2422MHz

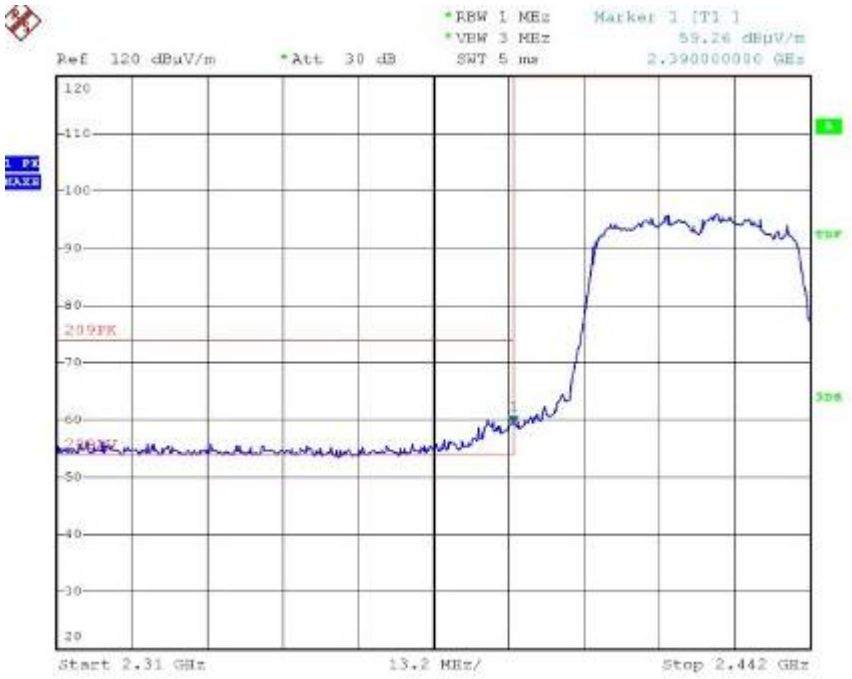
Horizontal- Average



Horizontal-Peak

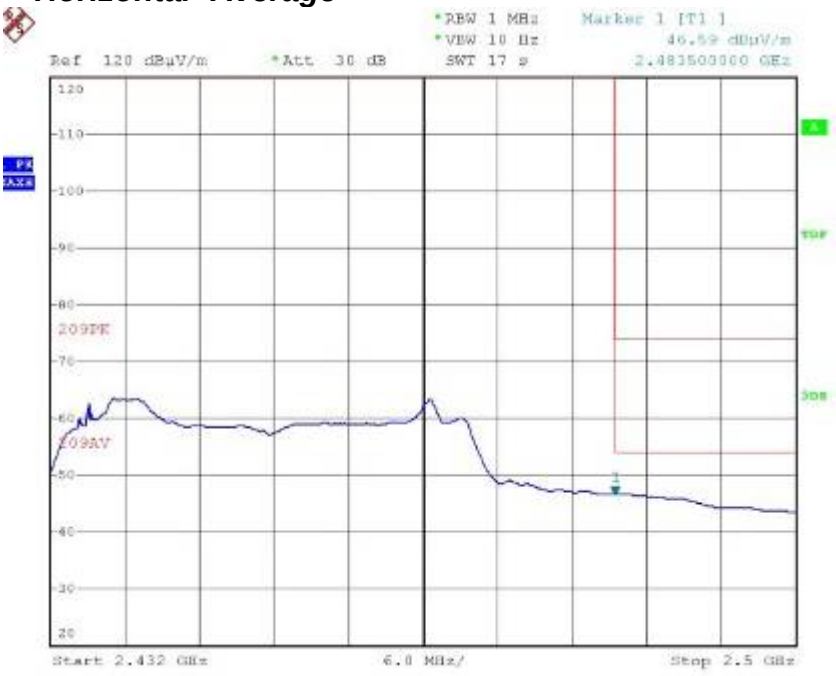
Vertical- Average

Vertical-Peak

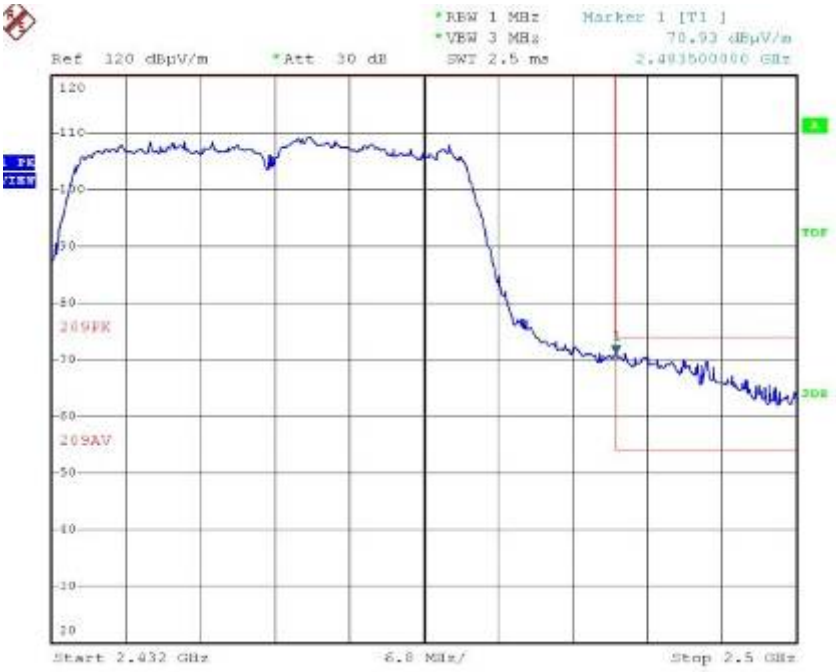


Radiated Band Edge Test Plot: 2452MHz

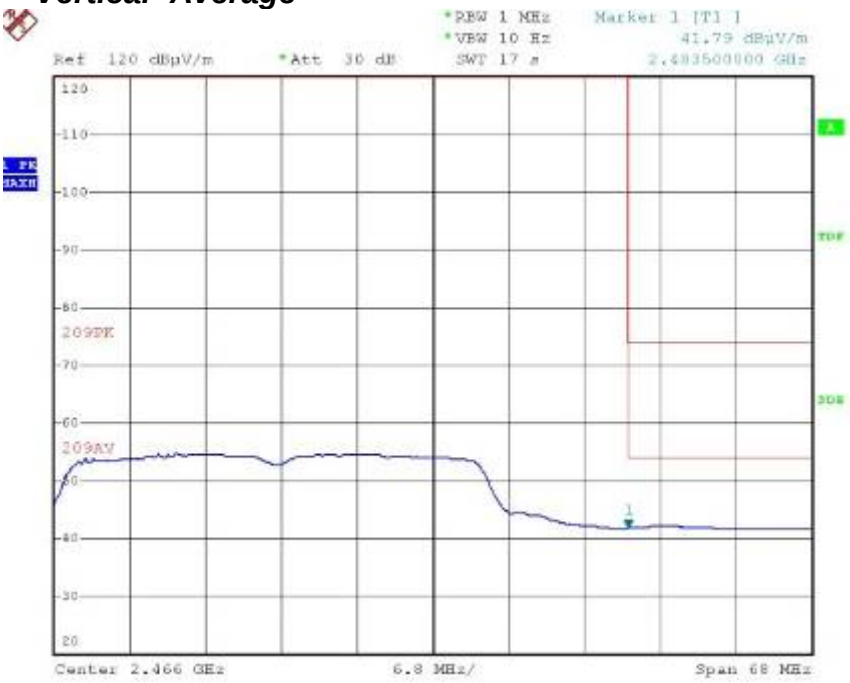
Horizontal- Average



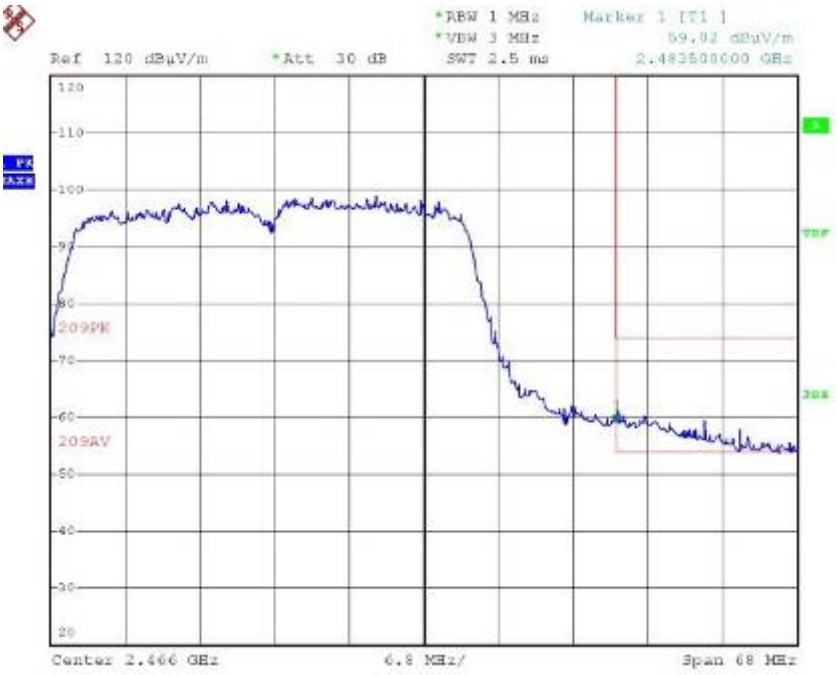
Horizontal-Peak



Vertical- Average

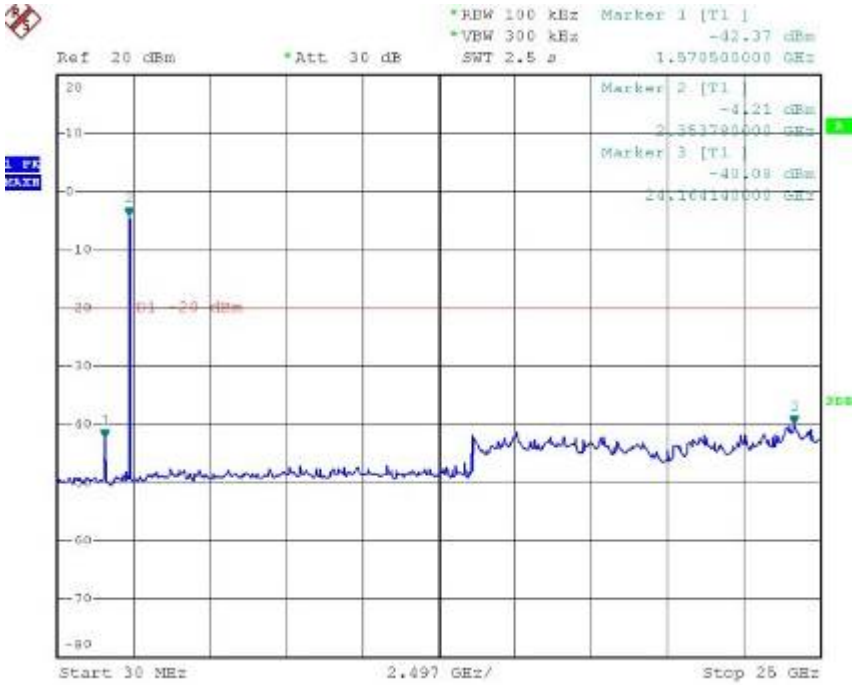


Vertical-Peak

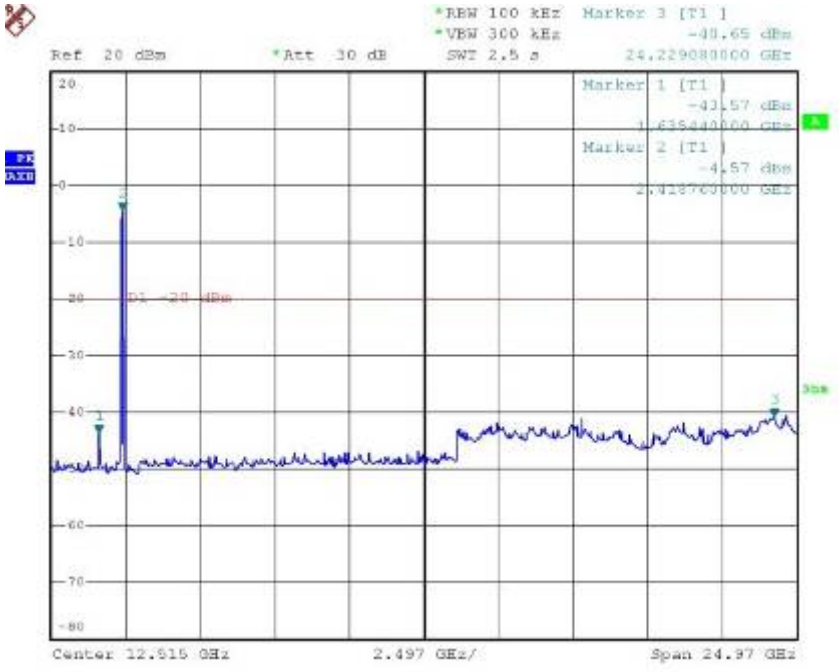


Conducted Spurious Emission Test Plot

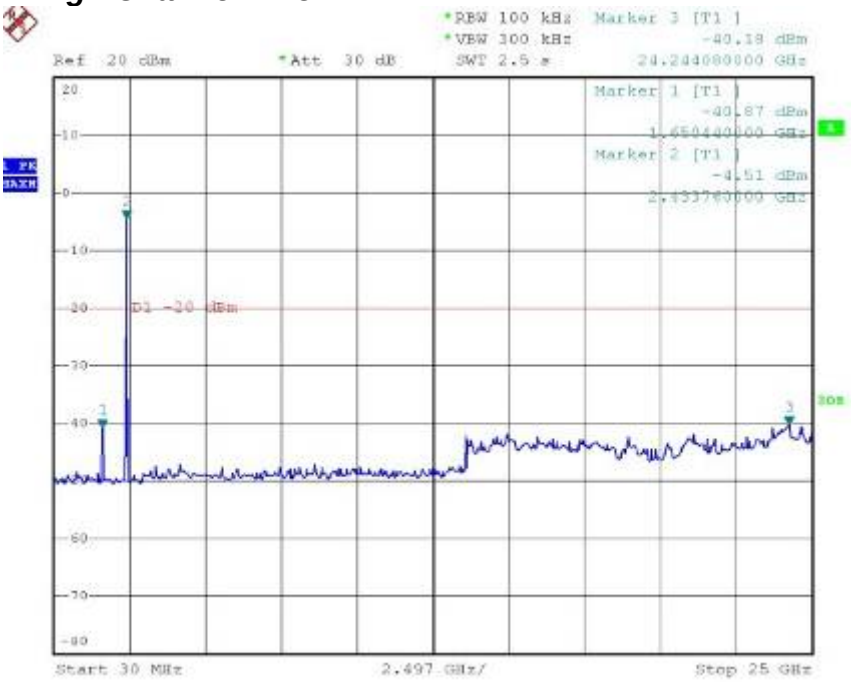
Low Channel: 2422MHz



Mid Channel: 2437MHz



High Channel: 2452MHz



ATTACHMENT 7 – PEAK POWER SPECTRAL DENSITY TEST

<table>
<tr><td>CLIENT:</td><td>GRANDSTREAM NETWORKS,INC.</td><td>TEST STANDERD:</td><td>Section 15.247(d)</td></tr>
<tr><td>MODEL NUMBERS:</td><td>GXV3175</td><td>PRODUCT:</td><td>IP Multimedia Phone</td></tr>
<tr><td>EUT MODEL:</td><td>GXV3175</td><td>EUT DESIGNATION:</td><td>Digital Transmission Device</td></tr>
<tr><td>TEMPERATURE:</td><td>23°C</td><td>HUMIDITY:</td><td>47%RH</td></tr>
<tr><td>ATM PRESSURE:</td><td>101.0kPa</td><td>GROUNDING:</td><td>None</td></tr>
<tr><td>TESTED BY:</td><td>Daomen</td><td>DATE OF TEST:</td><td>December 29th, 2012</td></tr>
<tr><td>TEST REFERENCE:</td><td colspan="3">ANSI C63.4:2003 and KDB Publication No. 558074 D01 for DSSS.</td></tr>
<tr><td>TEST PROCEDURE:</td><td colspan="3">Regulation 15.247(d) for direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.The EUT was set transmitting continuously and force selection of output power level and channel number. We'd observed that the peak levels aren't greater than +8dBm limit. The EUT was set up as ANSI C63.4: 2003, tested to DTS test procedure of 558074 D01 for compliance to FCC 47CFR 15.247 requirements.</td></tr>
<tr><td>DESCRIPTIONS OF TEST MODE:</td><td colspan="3">Pre-Scan has been conducted to determine the worst-case mode from all possible Combinations between available modulations,data rates and antenna ports (if EUT with antenna diversity architecture). Following channels were selected for the final test as listed below: 802.11b mode with data rate of 1mbps, 802.11g mode with data rate of 6mbps,802.11n ht20 mode with data rate of 6.5mbps and 802.11n ht40 mode with data rate of 13.5mbps.</td></tr>
<tr><td>EQUIPMENT SETUP</td><td colspan="3">Spectrum analyzer shall be set as below:
<table>
<tr><td>Equipment Mode</td><td>Spectrum Analyzer</td></tr>
<tr><td>Detector Function</td><td>Peak</td></tr>
<tr><td>RBW</td><td>3KHz</td></tr>
<tr><td>VBW</td><td>10KHz</td></tr>
<tr><td>Span</td><td>300KHz</td></tr>
<tr><td>Sweep Time</td><td>100S</td></tr>
</table></td></tr>
<tr><td>TEST VOLTAGE:</td><td colspan="3">120VAC/60Hz</td></tr>
<tr><td>RESULTS:</td><td colspan="3">The EUT meet the requirements of test reference for power spectral density.The test results relate only to the equipment under test provided by client.</td></tr>
<tr><td>CHANGES OR MODIFICATIONS:</td><td colspan="3">There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen) test personnel.</td></tr>
<tr><td>M. UNCERTAINTY:</td><td colspan="3">Freq. ± $2x10^{-7}$ x Center Freq., Amp ± 2.6 dB.</td></tr>
</table>

Test Data:

For 802.11b Mode:

Channel Frequency (MHz)	Power Spectral Density (dBm)	BWCF (db)	Cable Loss (dB)	Power Spectral Density Level (dBm)	Maximum Limit (dBm)	Margin (dB)
2412	-10.96	-15.2	2.0	-24.16	8.00	-32.16
2437	-10.22	-15.2	2.0	-23.42	8.00	-31.42
2462	-10.38	-15.2	2.0	-23.58	8.00	-31.58

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For 802.11g Mode:

Channel Frequency (MHz)	Power Spectral Density (dBm)	BWCF (db)	Cable Loss (dB)	Power Spectral Density Level (dBm)	Maximum Limit (dBm)	Margin (dB)
2412	-16.48	-15.2	2.0	-29.68	8.00	-37.68
2437	-16.53	-15.2	2.0	-29.73	8.00	-37.73
2462	-16.92	-15.2	2.0	-30.12	8.00	-38.12

For 802.11n HT20 Mode:

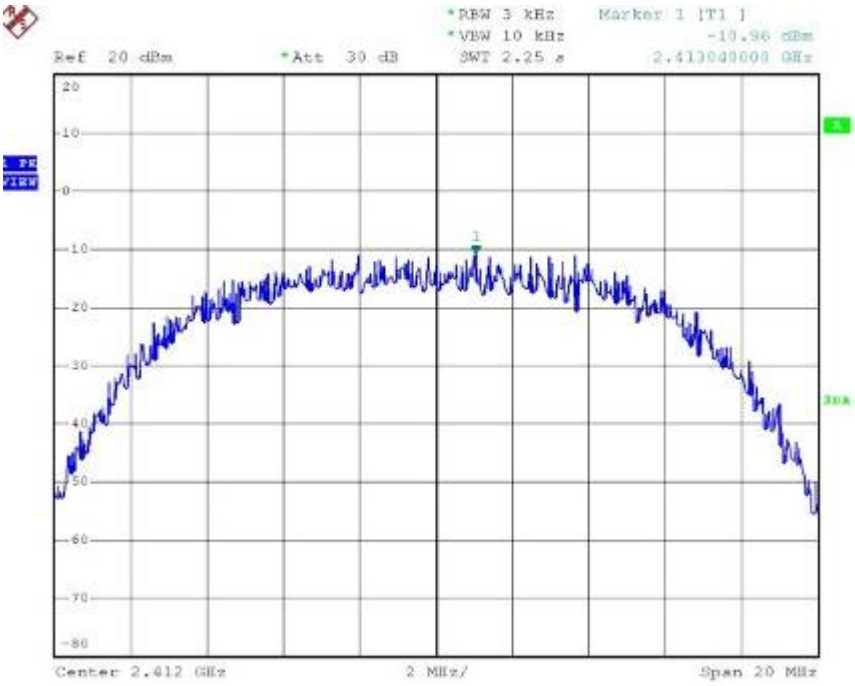
Channel Frequency (MHz)	Power Spectral Density (dBm)	BWCF (db)	Cable Loss (dB)	Power Spectral Density Level (dBm)	Maximum Limit (dBm)	Margin (dB)
2412	-16.13	-15.2	2.0	-29.33	8.00	-37.33
2437	-16.12	-15.2	2.0	-29.32	8.00	-37.32
2462	-15.90	-15.2	2.0	-29.1	8.00	-37.1

For 802.11n HT40 Mode:

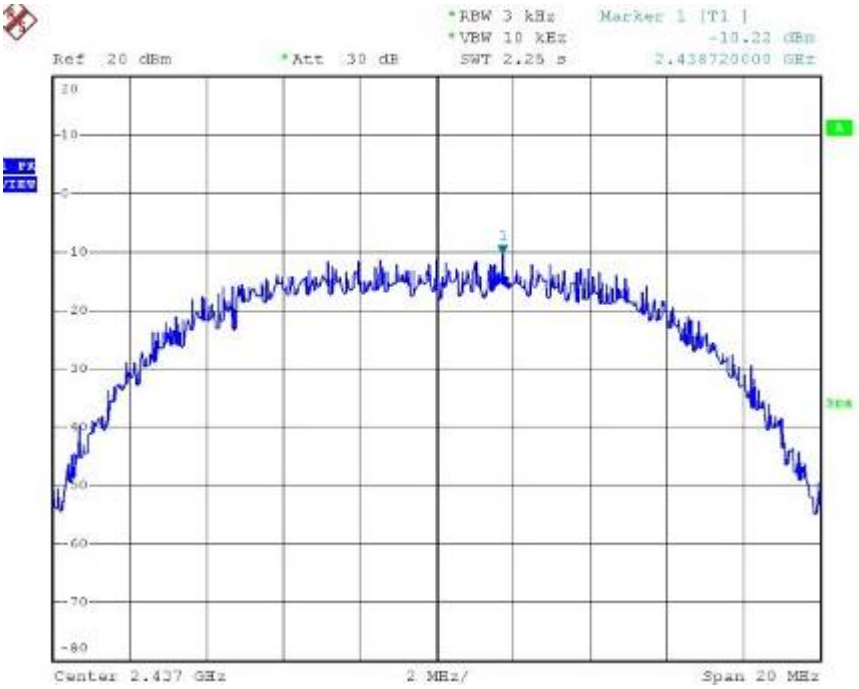
Channel Frequency (MHz)	Power Spectral Density (dBm)	BWCF (db)	Cable Loss (dB)	Power Spectral Density Level (dBm)	Maximum Limit (dBm)	Margin (dB)
2412	-21.96	-15.2	2.0	-35.16	8.00	-43.16
2437	-22.36	-15.2	2.0	-35.56	8.00	-43.56
2452	-22.21	-15.2	2.0	-35.41	8.00	-43.41

Note: BWCF = 10log (3 kHz/100kHz = -15.2 dB).

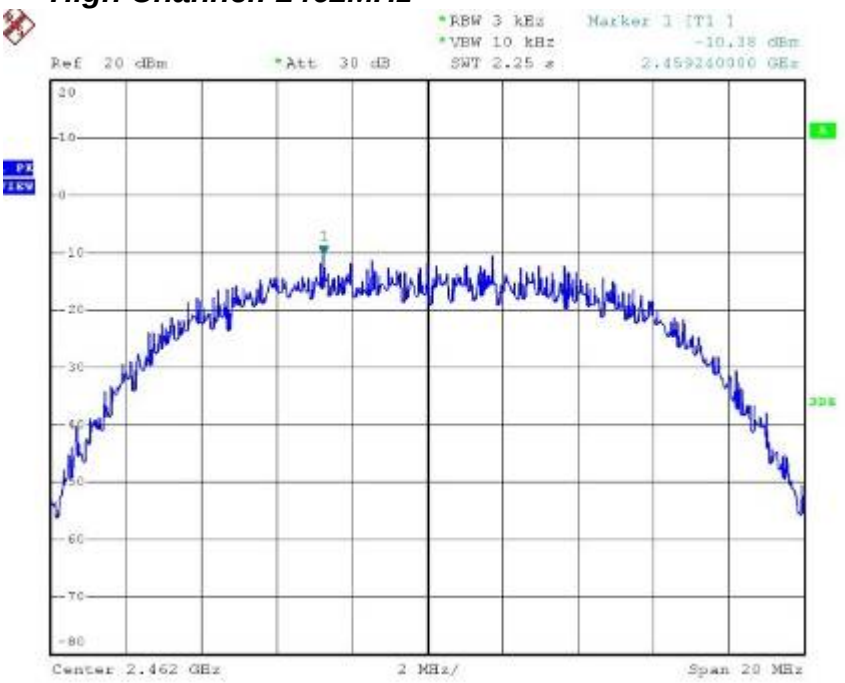
For 802.11b Mode:
Low Channel: 2412MHz



Mid Channel: 2437MHz

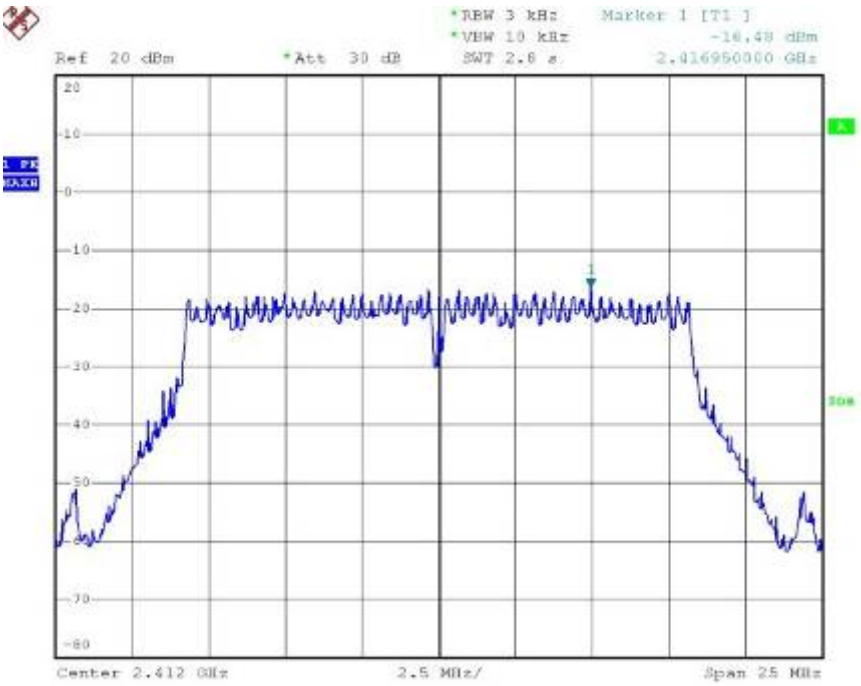


High Channel: 2462MHz

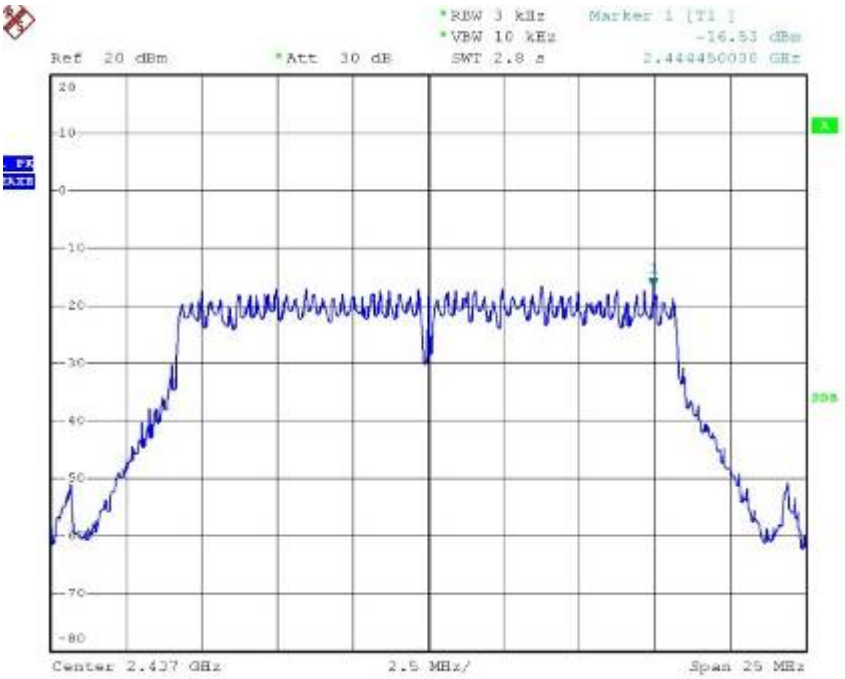


For 802.11g Mode:

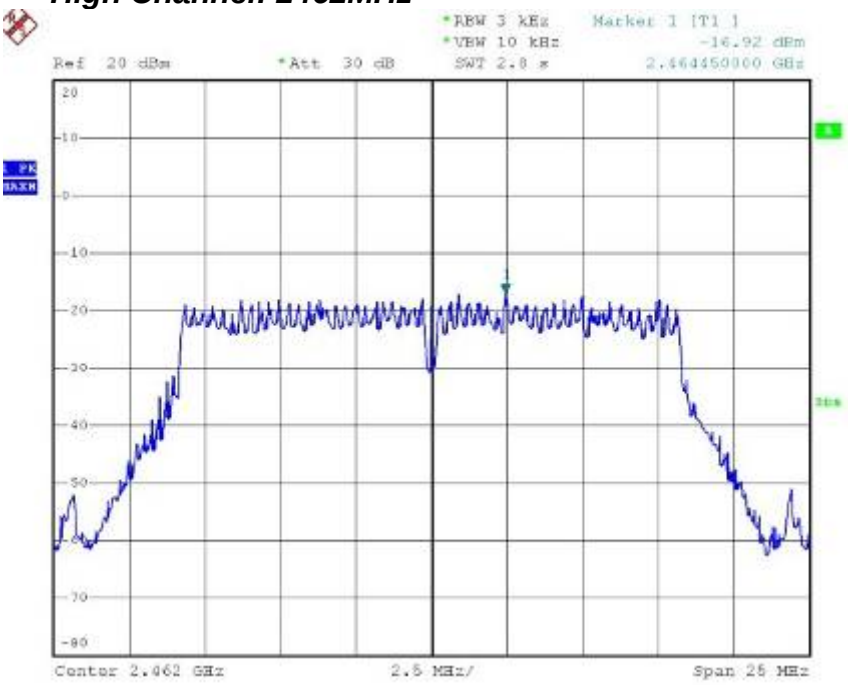
Low Channel: 2412MHz



Mid Channel: 2437MHz

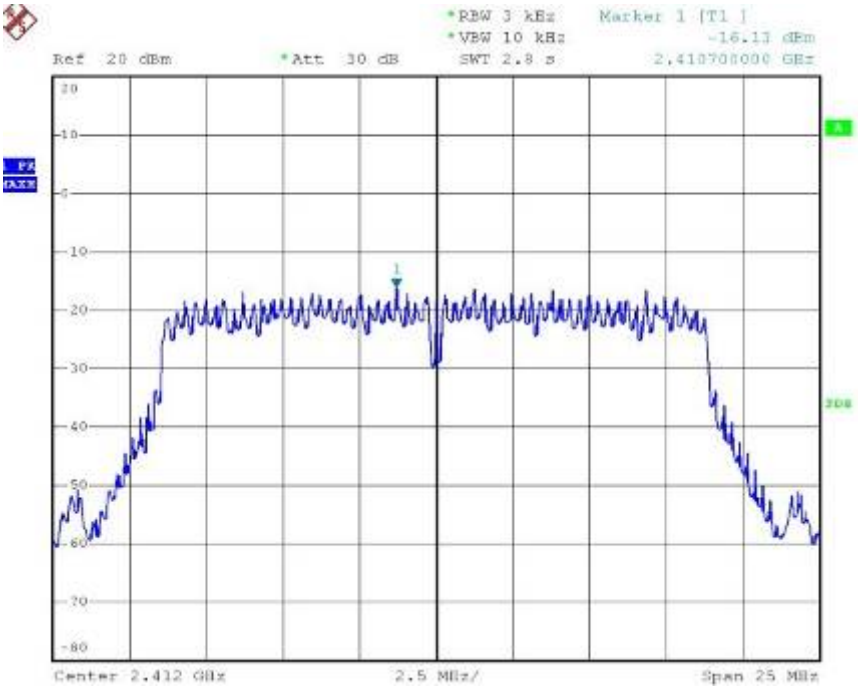


High Channel: 2462MHz

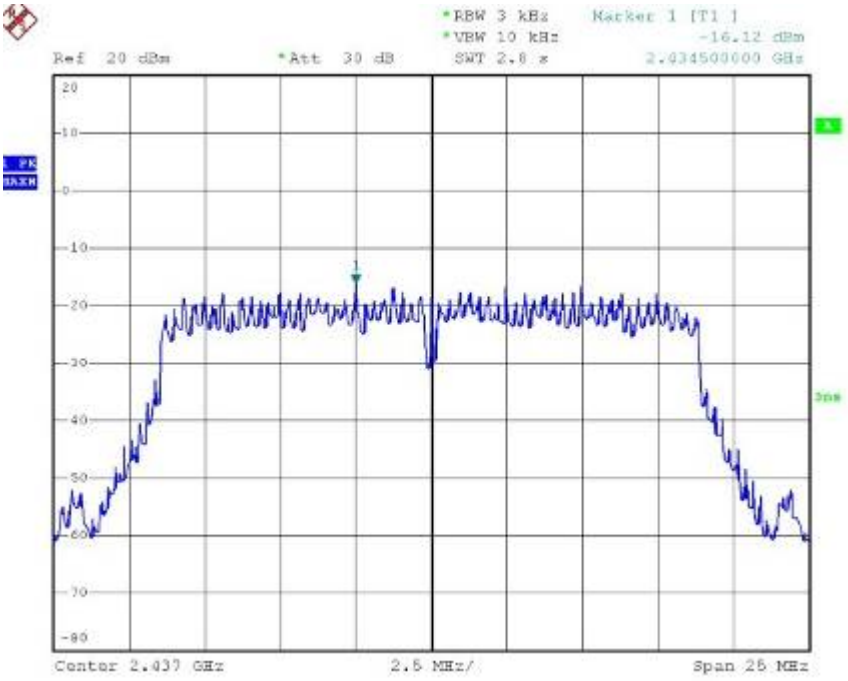


For 802.11n HT20 Mode:

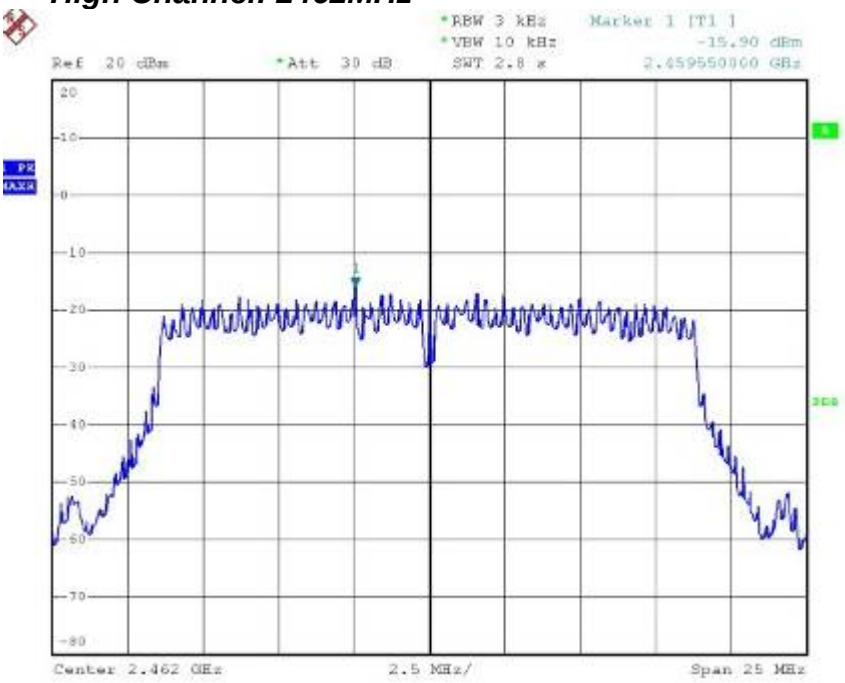
Low Channel: 2412MHz



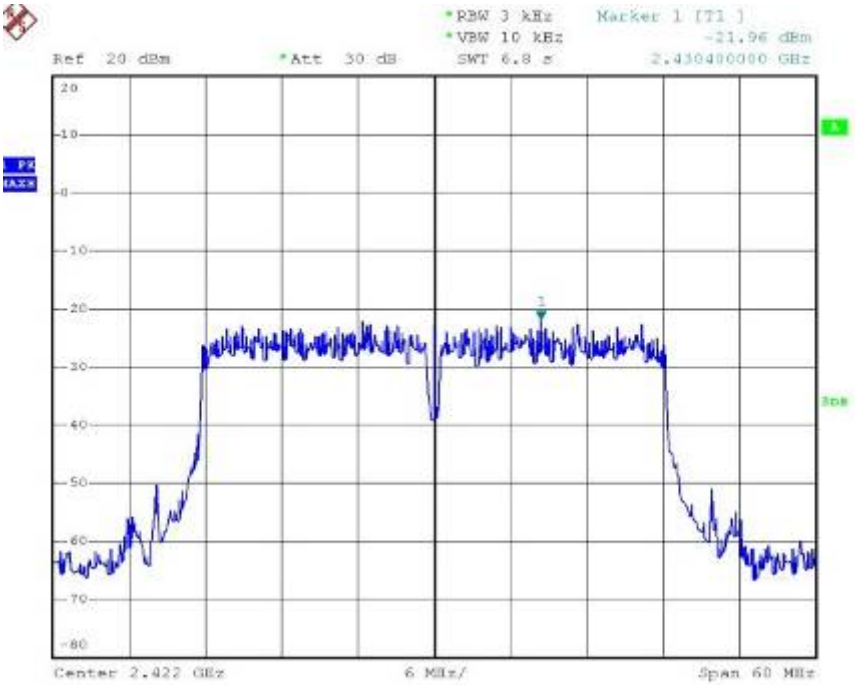
Mid Channel: 2437MHz



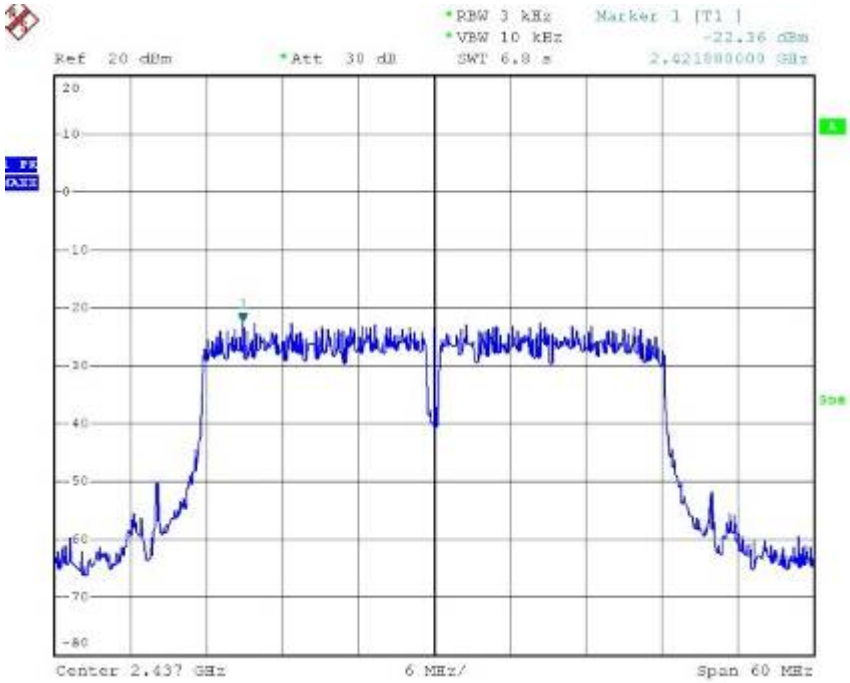
High Channel: 2462MHz



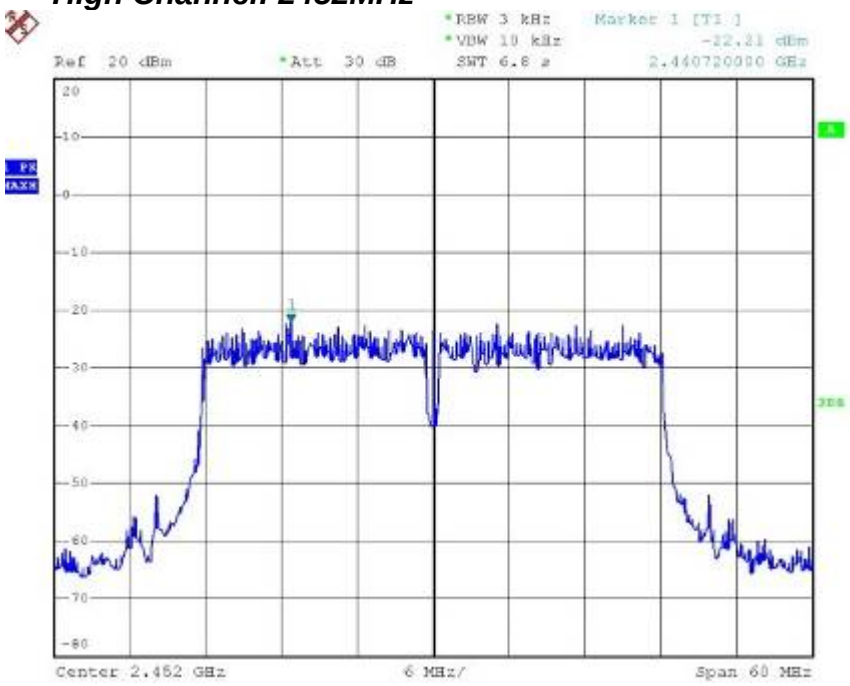
For 802.11n HT40 Mode:
Low Channel: 2422MHz



Mid Channel: 2437MHz



High Channel: 2452MHz



Attachment: Test Set-Up Photograph

Conducted Emission Test Set-up

Radiated Emission Test Set-up -below 1GHz

Radiated Emission Test Set-up - Above 1GHz