TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 15, Subpart C (Section 15.247)**
Report No.:	RFBEOP-WTW-P22030407
FCC ID:	NKR-LS04
Model No.:	S501R0-01
Received Date:	2022/3/26
Test Date:	2022/5/18 ~ 2022/5/27
Issued Date:	2022/7/8
Applicant:	Wistron NeWeb Corporation
Address:	20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C.
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location (1):	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003
Test Location (2):	No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
FCC Registration / Designation Number:	281270 / TW0032

Approved by: Jeremy Lin , **Date:** 2022/7/8

Jeremy Lin / Project Engineer

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Prepared by : Celine Chou / Senior Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBEOP-WTW-P22030407	Original release.	2022/7/8

1 Certificate

Product:	home security gateway
Brand:	ADT
Test Model:	S501R0-01
Sample Status:	Engineering sample
Applicant:	Wistron NeWeb Corporation
Test Date:	2022/5/18 ~ 2022/5/27
Standard:	47 CFR FCC Part 15, Subpart C (Section 15.247)
Measurement procedure:	ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02 KDB 662911 D01 Multiple Transmitter Output v02r01

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Standard / Clause	Test Item	Result	Remark
15.247(b)	RF Output Power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.247(a)(2)	6 dB Bandwidth	Pass	Meet the requirement of limit.
15.247(d)	Conducted Out of Band Emissions	Pass	Meet the requirement of limit.
15.207	AC Power Conducted Emissions	Pass	Minimum passing margin is -10.68 dB at 0.45000 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -5.8 dB at 34.85 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.5 dB at 2386.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Specification	Expanded Uncertainty (k=2) (±)
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.79 dB
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.79 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.00 dB
	30 MHz ~ 1 GHz	2.93 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description

Product	home security gateway
Brand	ADT
Test Model	S501R0-01
Status of EUT	Engineering sample
Power Supply Rating	12Vdc from adapter 3.65Vdc from battery
Modulation Type	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps VHT: up to 400Mbps
Operating Frequency	2412 ~ 2462 MHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), VHT20: 11 802.11n (HT40), VHT40: 7
Output Power	191.630 mW (22.82 dBm)

Note:

1. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	ADT	1A101-1215-01	I/P: 100-120Vac, 50Hz-60Hz, 500mA O/P: 12Vdc, 1.5A 1.5m cable without core attached on adapter
Battery	TENERGY	34262	3.65Vdc, 2400mAh, 8.76Wh

2. The EUT contains certified LTE module (Brand: Telit, Model: LE910C4-WWX, FCC ID: RI7LE910CXWWX).
3. Simultaneously transmission condition.

Condition	Technology
1	WLAN 2.4G + BLE + Zigbee + DECT + WWAN
2	WLAN 2.4G + BLE + Z-wave + DECT + WWAN
3	WLAN 5G + BLE + Zigbee + DECT + WWAN
4	WLAN 5G + BLE + Z-wave + DECT + WWAN
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.	

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna No.	Brand	Model	Frequency Range	Antenna Type	Connector Type	Antenna Gain (dBi)
WIFI1	WNC	LS04	2.4~2.4835GHz	Dipole	ipex(MHF)	5.19
			5.15~5.25GHz	Dipole	ipex(MHF)	5.36
			5.25~5.35GHz	Dipole	ipex(MHF)	4.68
			5.47~5.725GHz	Dipole	ipex(MHF)	4.22
			5.725~5.85GHz	Dipole	ipex(MHF)	4.83
WIFI2	WNC	LS04	2.4~2.4835GHz	Dipole	ipex(MHF)	4.05
			5.15~5.25GHz	Dipole	ipex(MHF)	5.56
			5.25~5.35GHz	Dipole	ipex(MHF)	5.36
			5.47~5.725GHz	Dipole	ipex(MHF)	5.54
			5.725~5.85GHz	Dipole	ipex(MHF)	5.52

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

2. The EUT incorporates a MIMO function:

2.4GHz Band		
Modulation Mode	TX & RX Configuration	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
Note: The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz) and VHT mode for 20 MHz (40 MHz), therefore the manufacturer will control the power for 802.11n mode is the same as the VHT or more lower than it and investigated worst case to representative mode in test report.		

3.3 Channel List

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20) and VHT20:

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

7 channels are provided for 802.11n (HT40) and VHT40:

Channel	Frequency	Channel	Frequency
3	2422 MHz	7	2442 MHz
4	2427 MHz	8	2447 MHz
5	2432 MHz	9	2452 MHz
6	2437 MHz		

3.4 Test Mode Applicability and Tested Channel Detail

Worst Case:	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).

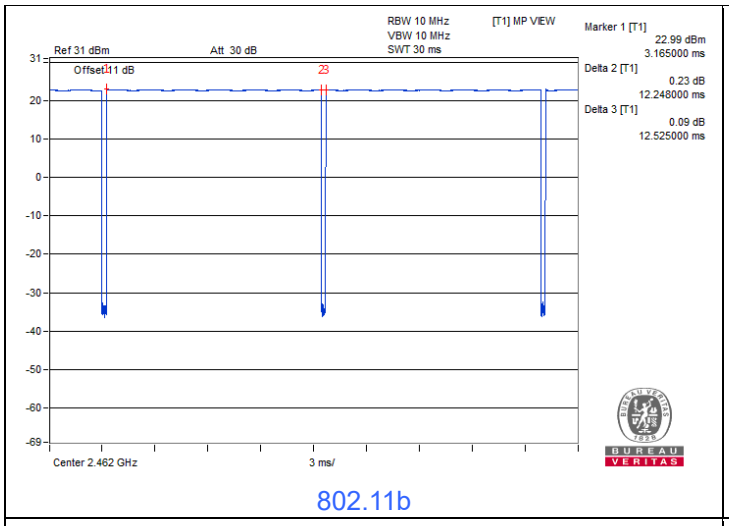
Following channel(s) was (were) selected for the final test as listed below:

Test Item	Mode	Tested Channel	Modulation	Data Rate Parameter
AC Power Conducted Emissions	802.11b	1	DBPSK	1Mb/s
Unwanted Emissions below 1 GHz	802.11b	1	DBPSK	1Mb/s
Unwanted Emissions above 1 GHz	802.11b	1, 6, 11	DBPSK	1Mb/s
	802.11g	1, 6, 11	BPSK	6Mb/s
	VHT20	1, 6, 11	BPSK	MCS0
	VHT40	3, 6, 9	BPSK	MCS0
RF Output Power	802.11b	1, 6, 11	DBPSK	1Mb/s
	802.11g	1, 6, 11	BPSK	6Mb/s
	802.11n (HT20)	1, 6, 11	BPSK	MCS0
	802.11n (HT40)	3, 6, 9	BPSK	MCS0
	VHT20	1, 6, 11	BPSK	MCS0
	VHT40	3, 6, 9	BPSK	MCS0
6 dB Bandwidth / Conducted Out of Band Emissions / Power Spectral Density	802.11b	1, 6, 11	DBPSK	1Mb/s
	802.11g	1, 6, 11	BPSK	6Mb/s
	VHT20	1, 6, 11	BPSK	MCS0
	VHT40	3, 6, 9	BPSK	MCS0

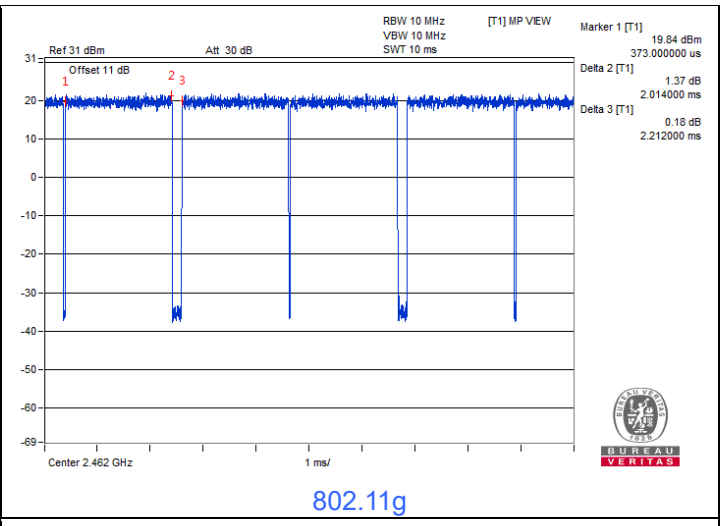
3.5 Duty Cycle of Test Signal

Duty cycle of test signal is < 98 %, duty factor shall be considered.

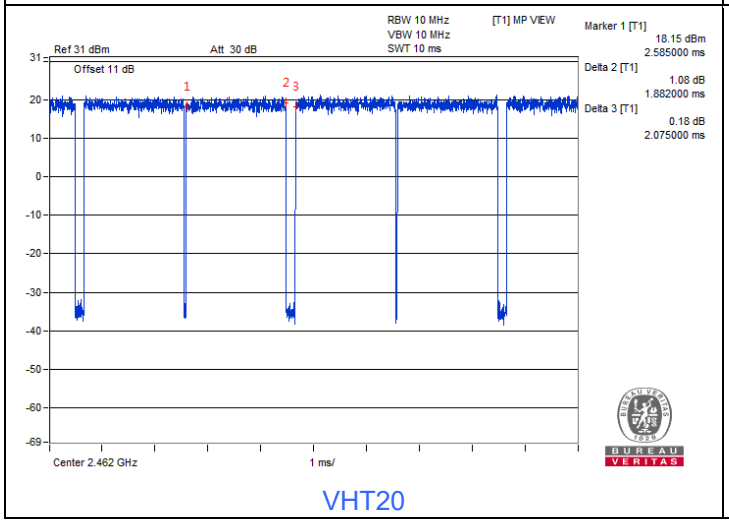
802.11b: Duty cycle = 12.248 ms / 12.525 ms x 100% = 97.8%, duty factor = 10 * log (1/Duty cycle) = 0.10 dB
802.11g: Duty cycle = 2.014 ms / 2.212 ms x 100% = 91.0%, duty factor = 10 * log (1/Duty cycle) = 0.41 dB
VHT20: Duty cycle = 1.882 ms / 2.075 ms x 100% = 90.7%, duty factor = 10 * log (1/Duty cycle) = 0.42 dB
VHT40: Duty cycle = 0.927 ms / 1.117 ms x 100% = 83.0%, duty factor = 10 * log (1/Duty cycle) = 0.81 dB



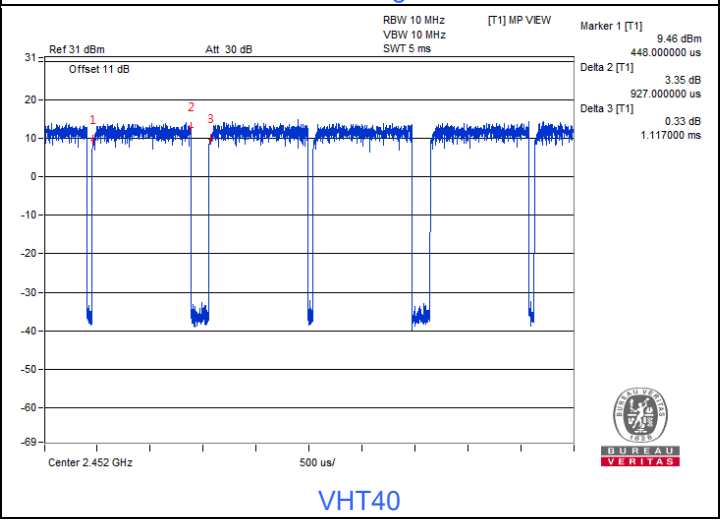
802.11b



802.11g



VHT20

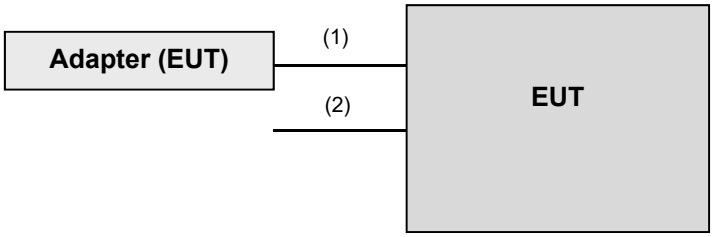


VHT40

3.6 Test Program Used and Operation Descriptions

Controlling software (QRCT4 (4.0.00177.0)) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	Power cable	1	1.5	N	0	Accessory of EUT
2	USB type C cable	1	0.2	Y	0	Provided by client

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
3-channel DC power supply JIN YIH Technology	ODP3033	ODP30332128138	N/A	N/A
AC Power Source ExTech	CFW-105	E000603	N/A	N/A
Digital Multimeter Fluke	87-III	70360755	2021/7/8	2022/7/7
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	2022/1/18	2023/1/17
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100979	2022/3/25	2023/3/24
Temperature & Humidity Chamber TERCHY	HRM-120RF	931022	2022/1/3	2023/1/2
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/MY55190007/MY55210005	2021/7/12	2022/7/11
Wideband Power Sensor(N1923A) KEYSIGHT	N1923A	MY58020002	2022/1/17	2023/1/16

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/5/27

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100979	2022/3/25	2023/3/24

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/5/27

4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

4.4 Conducted Out of Band Emissions

Refer to section 4.2 to get information of the instruments.

4.5 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
DC LISN R&S	ESH3-Z6	100219	2021/7/25	2022/7/24
		844950/018	2021/7/25	2022/7/24
DC-LISN SCHWARZBECK MESS-ELETRONIK	NNBM 8126G	8126G-069	2021/11/10	2022/11/9
LISN ROHDE & SCHWARZ	ENV216	101826	2022/3/14	2023/3/13
LISN R&S	ESH3-Z5	100311	2021/9/7	2022/9/6
	ENV216	100072	2021/6/16	2022/6/15
RF Coaxial Cable WOKEN	5D-FB	Cable-cond1-01	2022/1/15	2023/1/14
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
Test Receiver Rohde&Schwarz	ESCI	100613	2021/12/3	2022/12/2
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2021/8/20	2022/8/19

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2022/5/26 ~ 2022/5/27

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Bi-log Broadband Antenna Schwarzbeck	VULB9168	9168-1213	2021/10/27	2022/10/26
Loop Antenna TESEQ	HLA 6121	45745	2021/7/21	2022/7/20
Loop Antenna EMCI	EM-6879	269	2021/9/16	2022/9/15
Pre_Amplifier EMCI	EMC330N	980782	2022/1/17	2023/1/16
Pre-amplifier EMCI	EMC001340	980201	2021/9/15	2022/9/14
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2022/1/15	2023/1/14
	EMCCFD400-NM-NM-500	201233	2022/1/17	2023/1/16
	EMCCFD400-NM-NM-3000	201235	2022/1/17	2023/1/16
	EMCCFD400-NM-NM-9000	201236	2022/1/17	2023/1/16
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101866	2022/1/14	2023/1/13
Test Receiver R&S	ESR3+	102782	2021/12/10	2022/12/9
Turn Table Max-Full	MF-7802BS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208674	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2022/5/25

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Horn Antenna RFSPIN	DRH18-E	210103A18E	2021/11/14	2022/11/13
Horn Antenna Schwarzbeck	BBHA 9170	9170-1049	2021/11/14	2022/11/13
Pre_Amplifier EMCI	EMC118A45SE	980808	2021/12/30	2022/12/29
	EMC184045SE	980788	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC104-SM-SM-1000	210102	2022/1/17	2023/1/16
	EMC104-SM-SM-3000	201231	2022/1/17	2023/1/16
	EMC104-SM-SM-9000	201243	2022/1/17	2023/1/16
	EMC101G-KM-KM-5000	201260	2022/1/17	2023/1/16
	EMC101G-KM-KM-3000	201257	2022/1/17	2023/1/16
	EMC101G-KM-KM-2000	201254	2022/1/17	2023/1/16
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101866	2022/1/14	2023/1/13
Test Receiver R&S	ESR3+	102782	2021/12/10	2022/12/9
Turn Table Max-Full	MF-7802BS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208674	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2022/5/18 ~ 2022/5/26

5 Limits of Test Items

5.1 RF Output Power

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30 dBm)

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

5.2 Power Spectral Density

The Maximum of Power Spectral Density Measurement is 8 dBm in any 3 kHz.

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

Below 30 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

5.5 AC Power Conducted Emissions

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Notes:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

5.6 Unwanted Emissions below 1 GHz

Radiated emissions up to 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30 dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

5.7 Unwanted Emissions above 1 GHz

Radiated emissions above 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30 dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

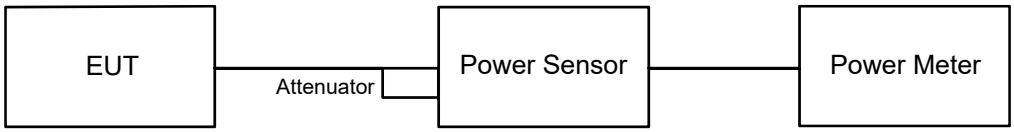
Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, 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.

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup

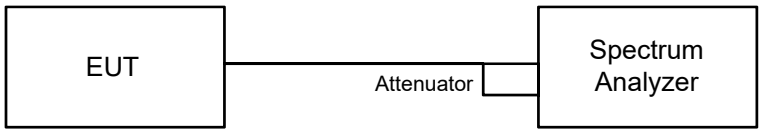


6.1.2 Test Procedure

Average power sensor was used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

6.2 Power Spectral Density

6.2.1 Test Setup



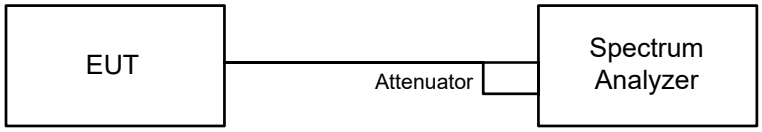
6.2.2 Test Procedure

a. Measure the duty cycle (x).
b. Set instrument center frequency to DTS channel center frequency.
c. Set span to at least 1.5 times the OBW.
d. Set RBW to: 3 kHz.
e. Set VBW ≥3 x RBW.
f. Detector = power averaging (RMS) or sample detector (when RMS not available).
g. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
h. Sweep time = auto couple.
i. Do not use sweep triggering. Allow sweep to “free run”.
j. Employ trace averaging (RMS) mode over a minimum of 100 traces.
k. Use the peak marker function to determine the maximum amplitude level.

Note: If Duty cycle < 98%, Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time.

6.3 6 dB Bandwidth

6.3.1 Test Setup

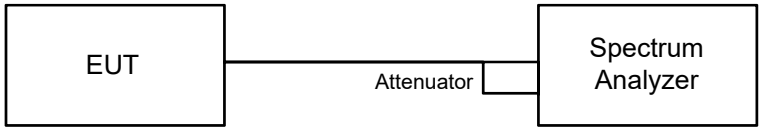


6.3.2 Test Procedure

a. Set resolution bandwidth (RBW) = 100 kHz.
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

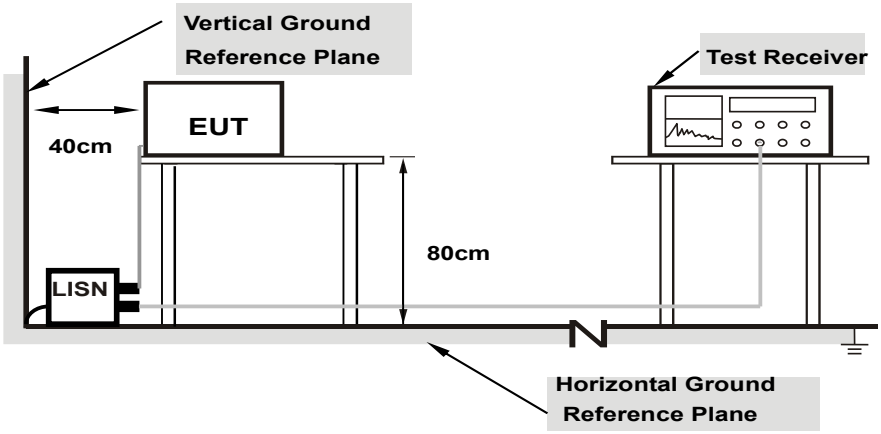
a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

a. Set RBW = 100 kHz.
b. Set VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep = auto couple.
e. Trace Mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum amplitude level.

6.5 AC Power Conducted Emissions

6.5.1 Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.5.2 Test Procedure

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

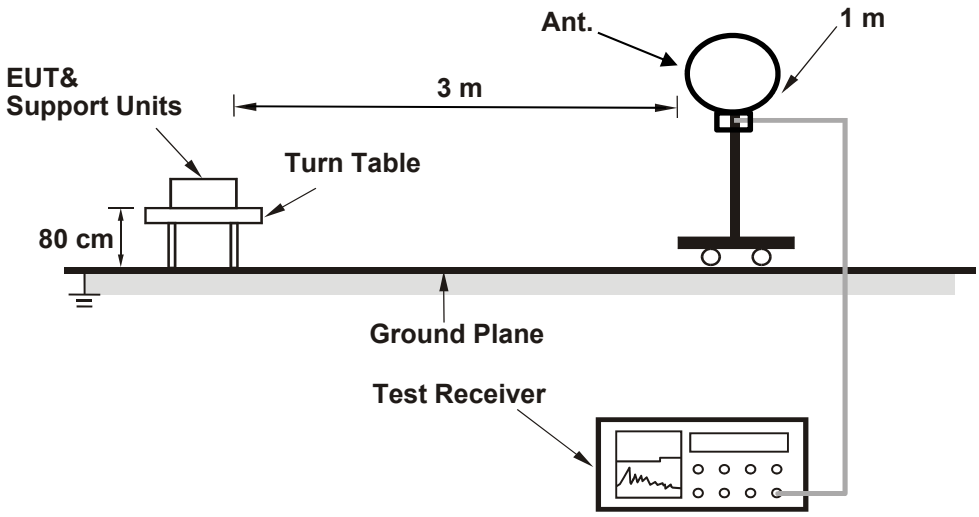
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note:
The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz-30 MHz.

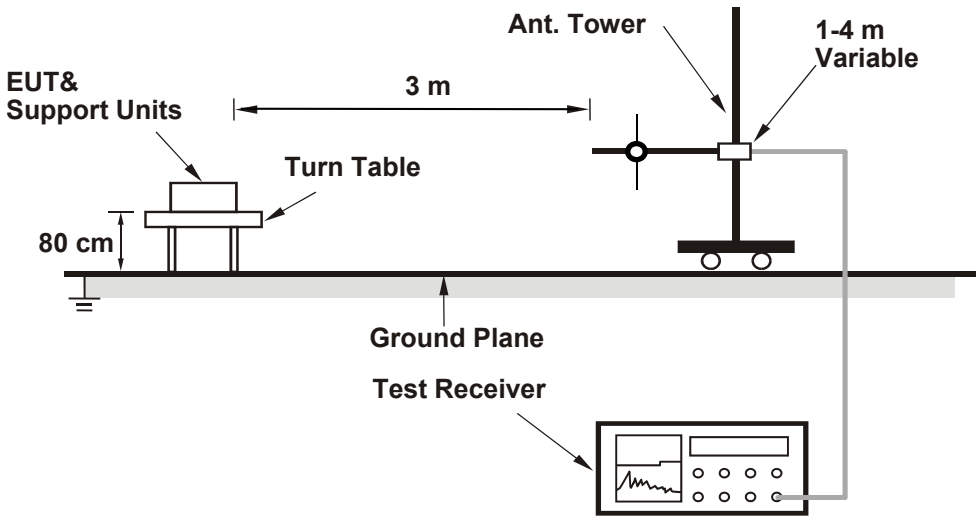
6.6 Unwanted Emissions below 1 GHz

6.6.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



6.6.2 Test Procedure

For Radiated emission below 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

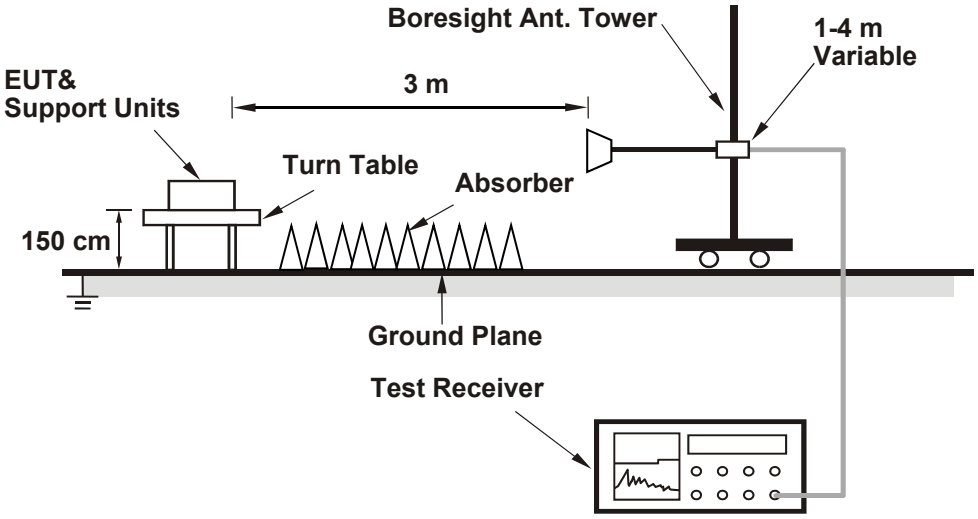
Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

6.7 Unwanted Emissions above 1 GHz

6.7.1 Test Setup

For Radiated emission above 1 GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.7.2 Test Procedure

a. The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Notes:

1. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
2. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10 Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1 GHz.
3. All modes of operation were investigated and the worst-case emissions are reported.

7 Test Results of Test Item

7.1 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Vincent Huang

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	20.09	19.52	191.630	22.82	30	Pass
6	2437	19.18	17.71	141.814	21.52	30	Pass
11	2462	20.03	19.36	186.991	22.72	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.19 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	17.34	16.97	103.974	20.17	30	Pass
6	2437	20.11	19.02	182.365	22.61	30	Pass
11	2462	16.89	15.61	85.257	19.31	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.19 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	17.24	16.64	99.098	19.96	30	Pass
6	2437	19.82	18.62	168.718	22.27	30	Pass
11	2462	16.06	15.27	74.016	18.69	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.19 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	14.01	13.82	49.276	16.93	30	Pass
6	2437	16.50	16.04	84.847	19.29	30	Pass
9	2452	12.04	11.97	31.735	15.02	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.19 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT20

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	17.35	16.83	102.520	20.11	30	Pass
6	2437	19.98	18.82	175.748	22.45	30	Pass
11	2462	16.21	15.43	76.697	18.85	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.19 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT40

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	14.16	14.02	51.296	17.10	30	Pass
6	2437	16.66	16.14	87.460	19.42	30	Pass
9	2452	12.23	12.14	33.079	15.20	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.19 dBi < 6 dBi, so the output power limit shall not be reduced.

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Vincent Huang

802.11b

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
1	2412	-11.10	-10.83	0.10	-7.86	6.35	Pass
6	2437	-10.94	-12.22	0.10	-8.43	6.35	Pass
11	2462	-10.13	-11.26	0.10	-7.55	6.35	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2]
3. The directional gain is 7.65 dBi > 6 dBi, so the power density limit shall be reduced to 8-(7.65-6) = 6.35 dBm/3kHz.

802.11g

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
1	2412	-12.82	-13.92	0.41	-9.92	6.35	Pass
6	2437	-10.43	-11.24	0.41	-7.40	6.35	Pass
11	2462	-13.68	-14.73	0.41	-10.76	6.35	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2]
3. The directional gain is 7.65 dBi > 6 dBi, so the power density limit shall be reduced to 8-(7.65-6) = 6.35 dBm/3kHz.

VHT20

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
1	2412	-13.07	-14.49	0.42	-10.29	6.35	Pass
6	2437	-10.18	-11.22	0.42	-7.23	6.35	Pass
11	2462	-14.86	-15.75	0.42	-11.85	6.35	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2]
3. The directional gain is 7.65 dBi > 6 dBi, so the power density limit shall be reduced to 8-(7.65-6) = 6.35 dBm/3kHz.

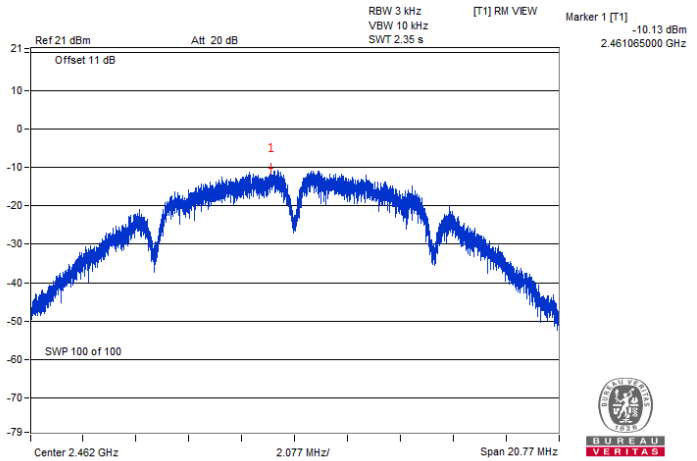
VHT40

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
3	2422	-20.30	-20.71	0.81	-16.68	6.35	Pass
6	2437	-17.30	-18.02	0.81	-13.82	6.35	Pass
9	2452	-22.02	-21.98	0.81	-18.18	6.35	Pass

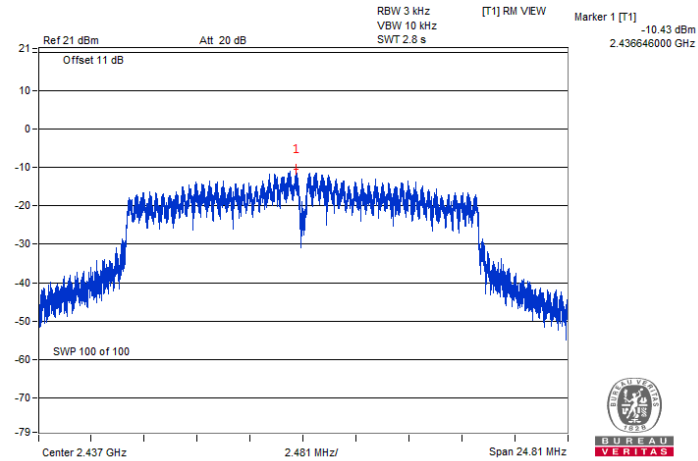
Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[($10^{Chain0/20}$ + $10^{Chain1/20}$)^2 / 2]
3. The directional gain is 7.65 dBi > 6 dBi, so the power density limit shall be reduced to 8-(7.65-6) = 6.35 dBm/3kHz.

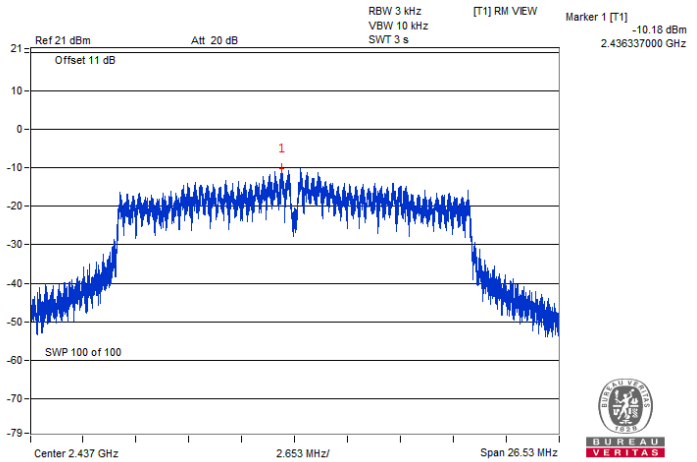
Spectrum Plot of Maximum Value



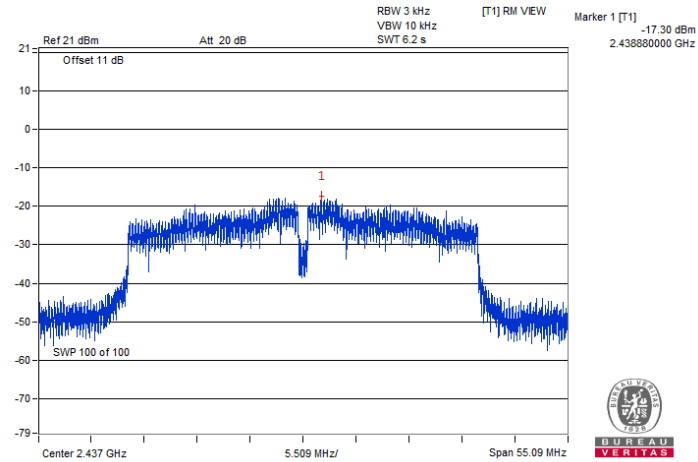
802.11b / Chain0 : CH 11



802.11g / Chain0 : CH 6



VHT20 / Chain0 : CH 6



VHT40 / Chain0 : CH 6

7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Vincent Huang

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	9.08	8.11	0.5	Pass
6	2437	9.02	8.60	0.5	Pass
11	2462	8.61	9.57	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	13.85	13.88	0.5	Pass
6	2437	13.75	15.08	0.5	Pass
11	2462	13.89	15.11	0.5	Pass

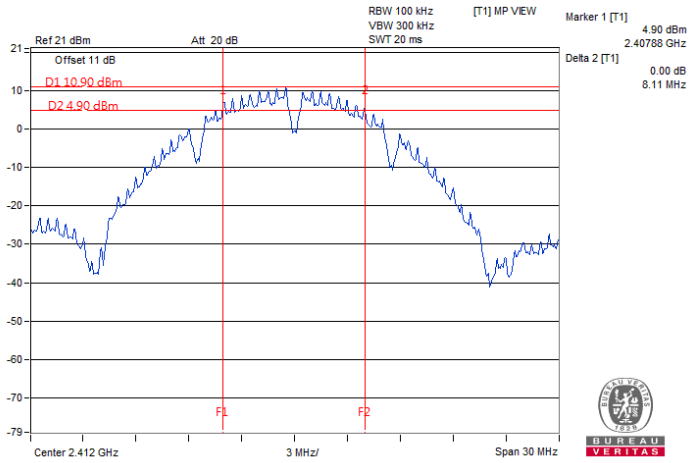
VHT20

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	15.11	15.09	0.5	Pass
6	2437	15.08	15.06	0.5	Pass
11	2462	15.11	15.15	0.5	Pass

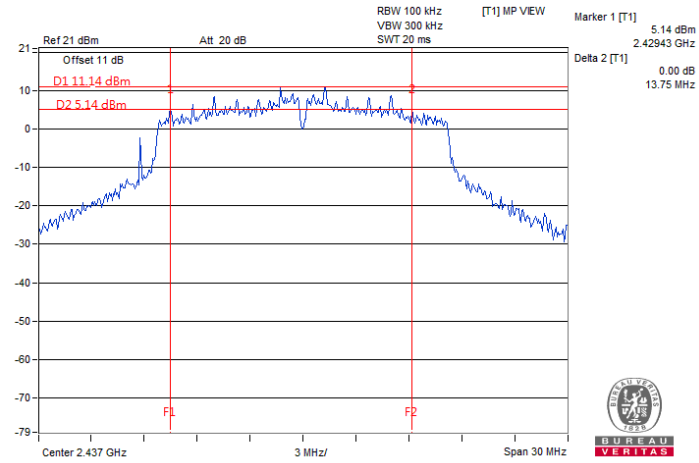
VHT40

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
3	2422	33.85	33.87	0.5	Pass
6	2437	30.09	32.70	0.5	Pass
9	2452	35.04	28.93	0.5	Pass

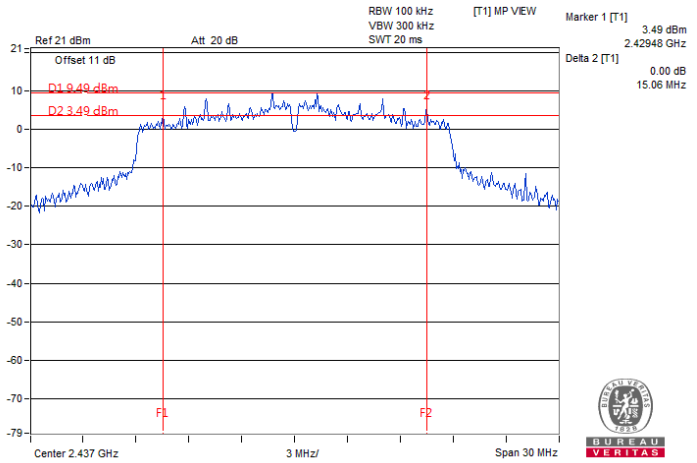
Spectrum Plot of Minimum Value



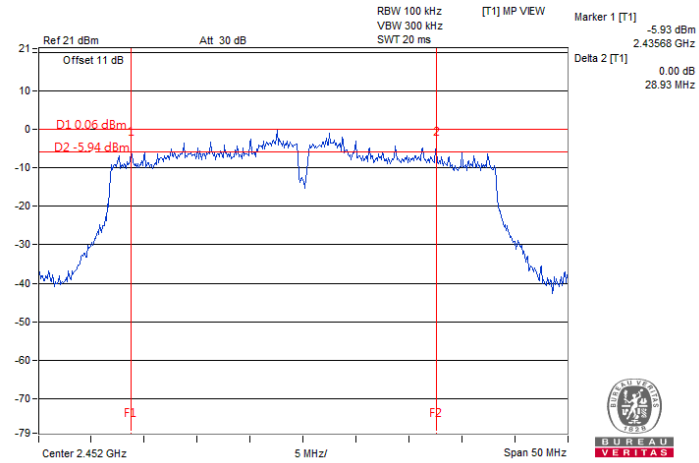
802.11b / Chain1 : CH 1



802.11g / Chain0 : CH 6



VHT20 / Chain1 : CH 6

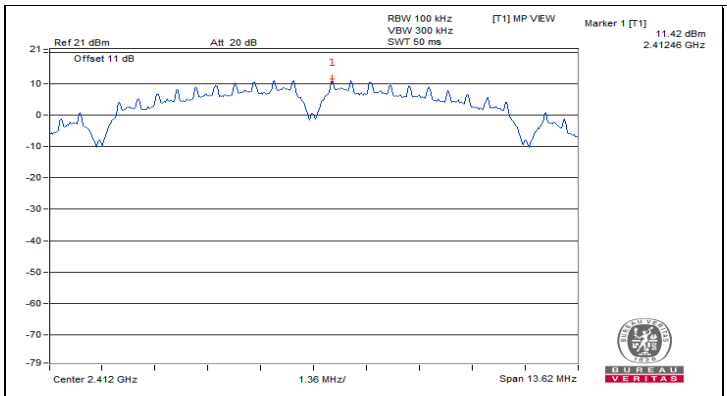


VHT40 / Chain1 : CH 9

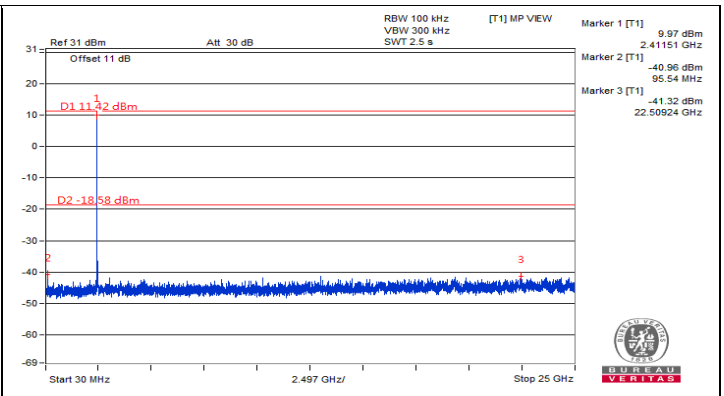
7.4 Conducted Out of Band Emissions

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Vincent Huang

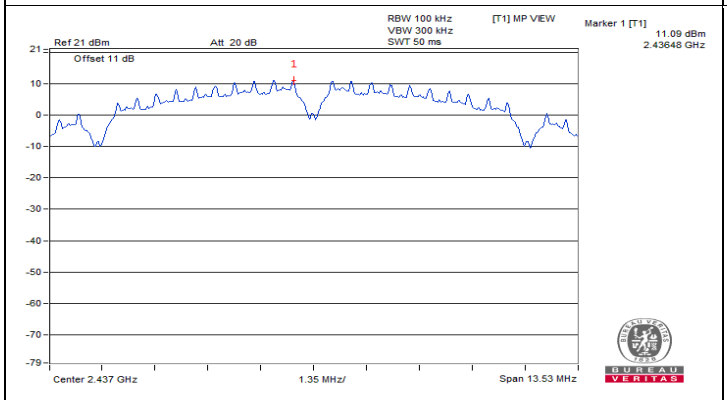
802.11b



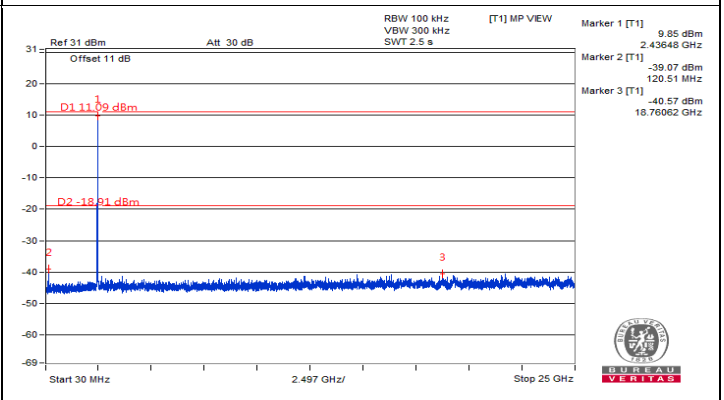
Chain 0 : CH 1



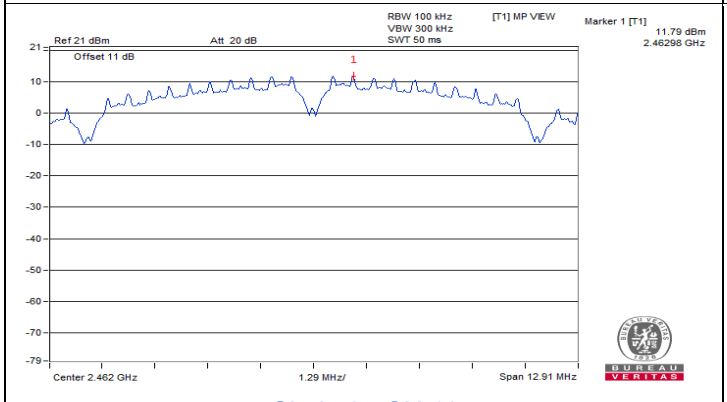
Chain 0 : CH 1



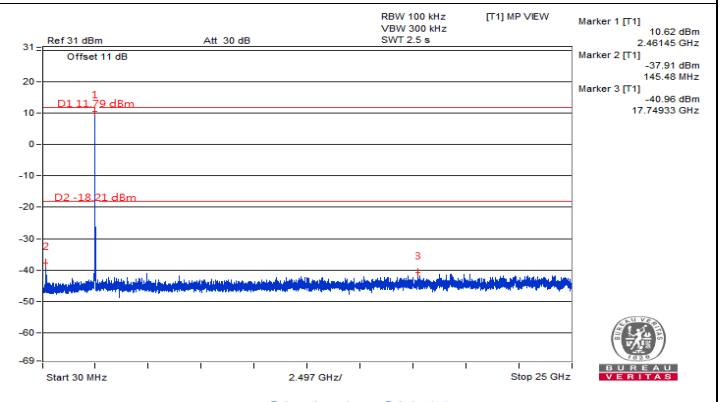
Chain 0 : CH 6



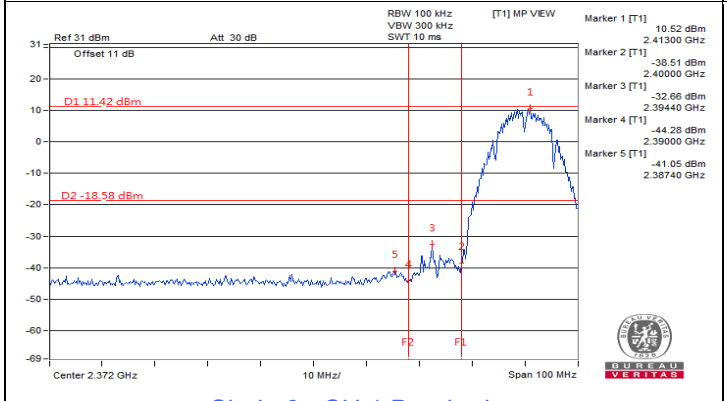
Chain 0 : CH 6



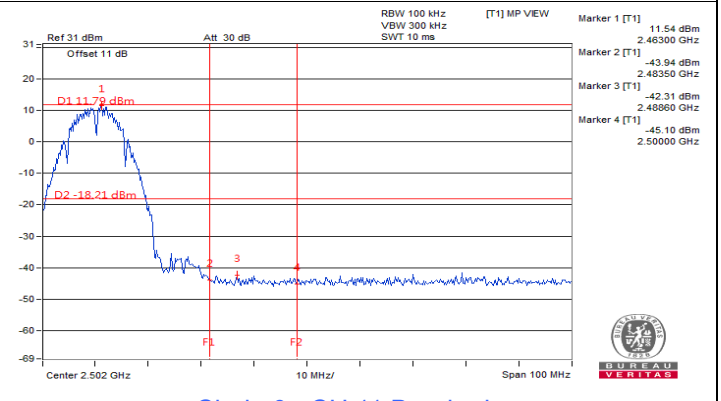
Chain 0 : CH 11



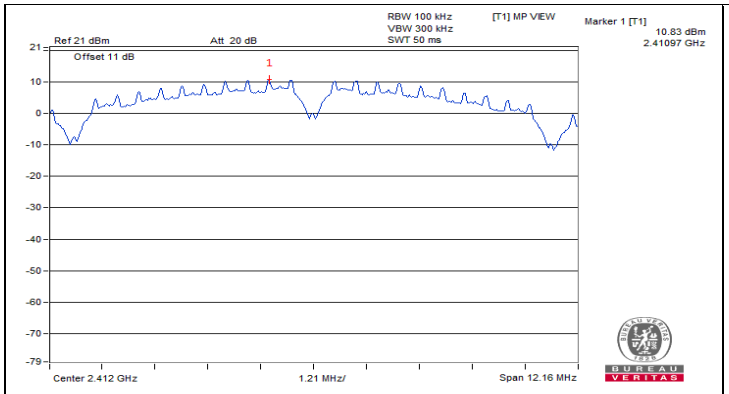
Chain 0 : CH 11



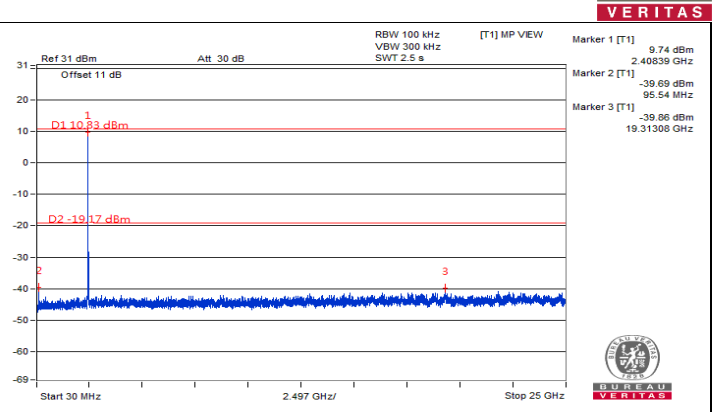
Chain 0 : CH 1 Band edge



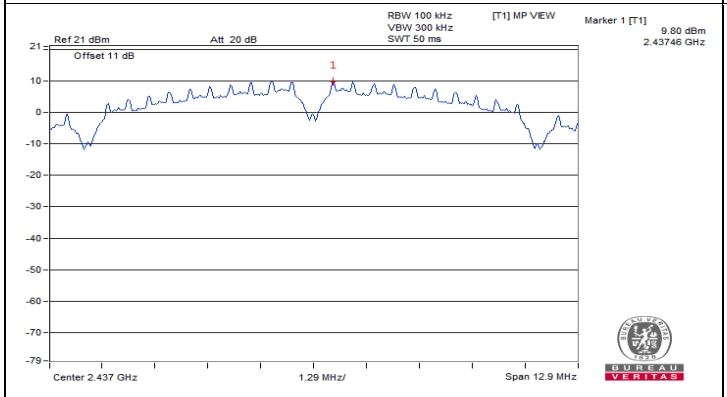
Chain 0 : CH 11 Band edge



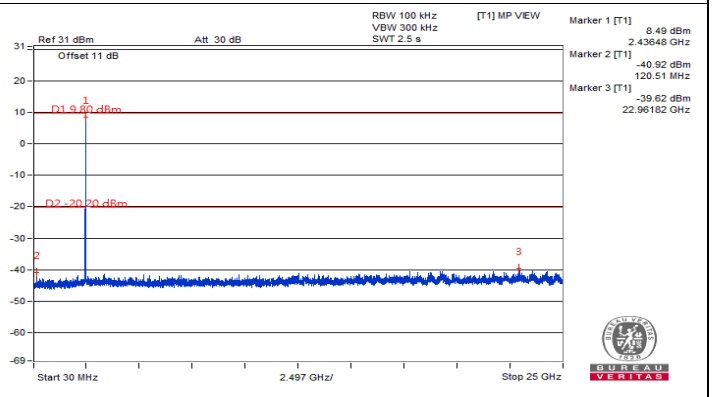
Chain 1 : CH 1



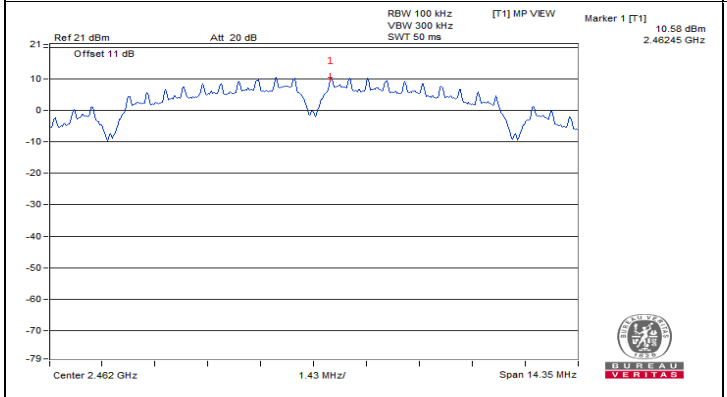
Chain 1 : CH 1



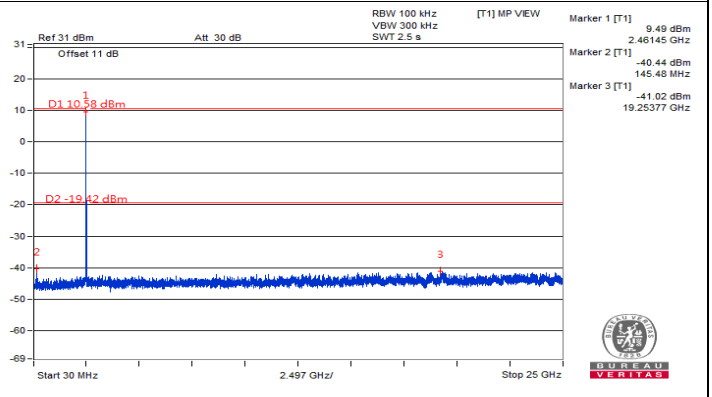
Chain 1 : CH 6



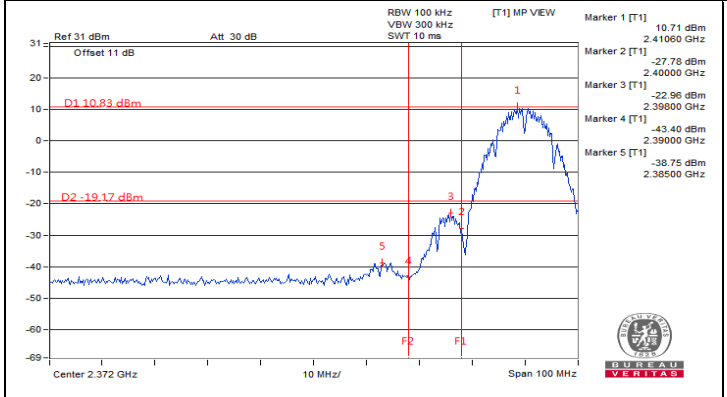
Chain 1 : CH 6



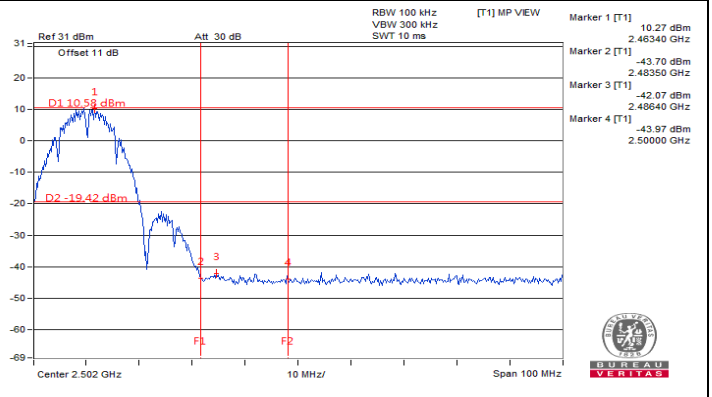
Chain 1 : CH 11



Chain 1 : CH 11

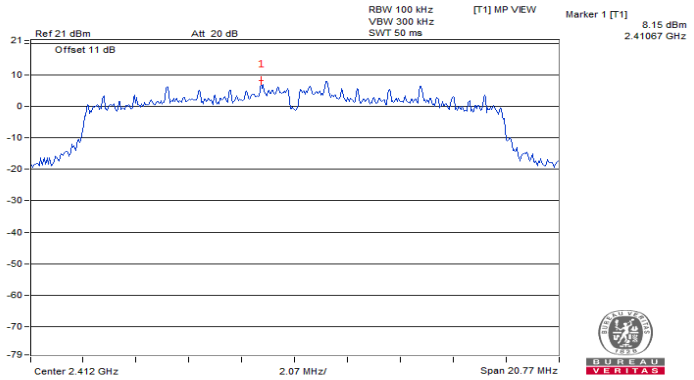


Chain 1 : CH 1 Band edge

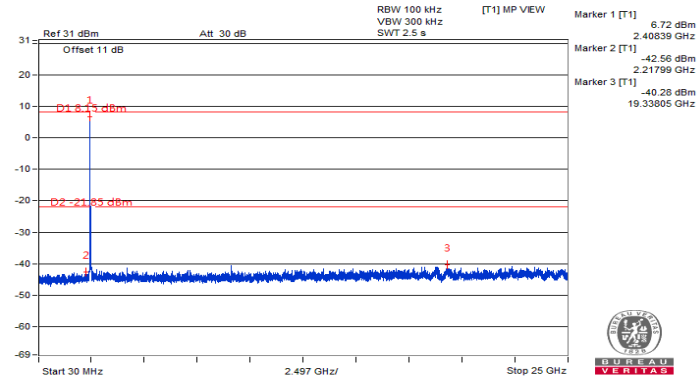


Chain 1 : CH 11 Band edge

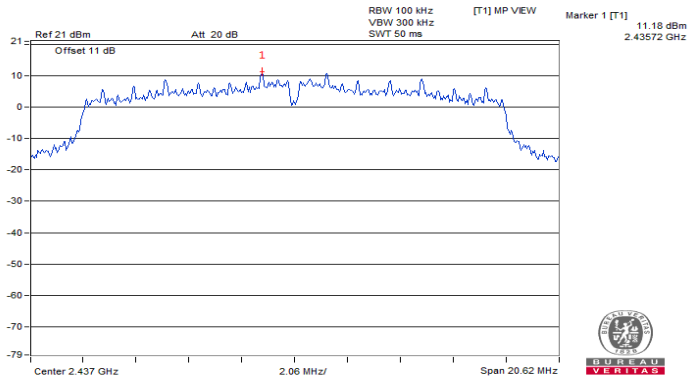
802.11g



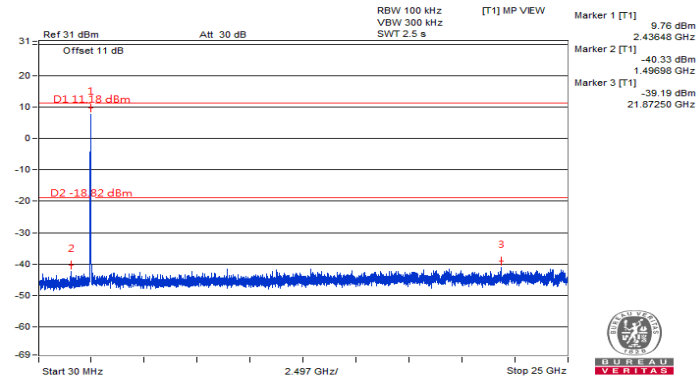
Chain 0 : CH 1



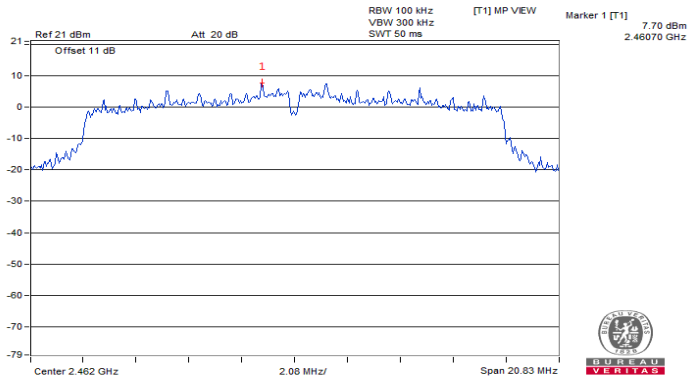
Chain 0 : CH 1



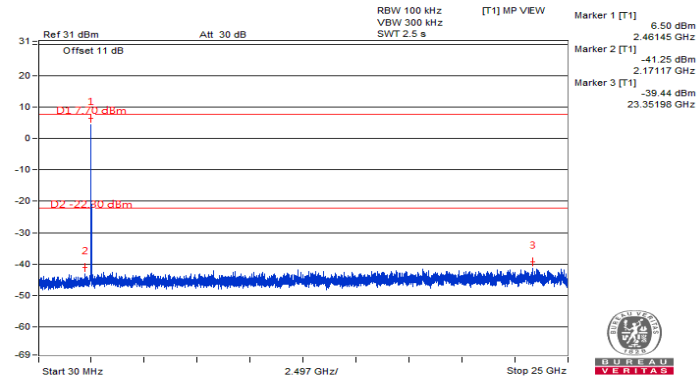
Chain 0 : CH 6



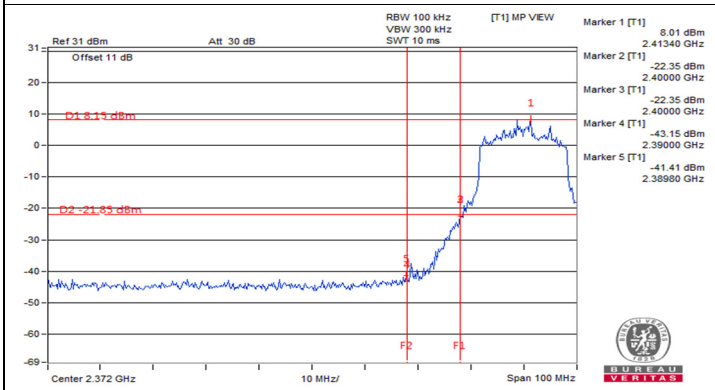
Chain 0 : CH 6



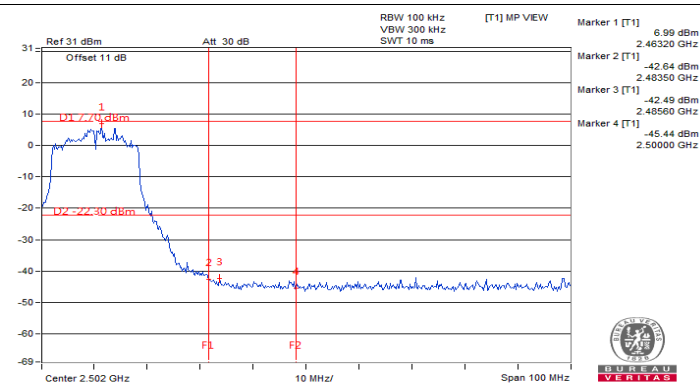
Chain 0 : CH 11



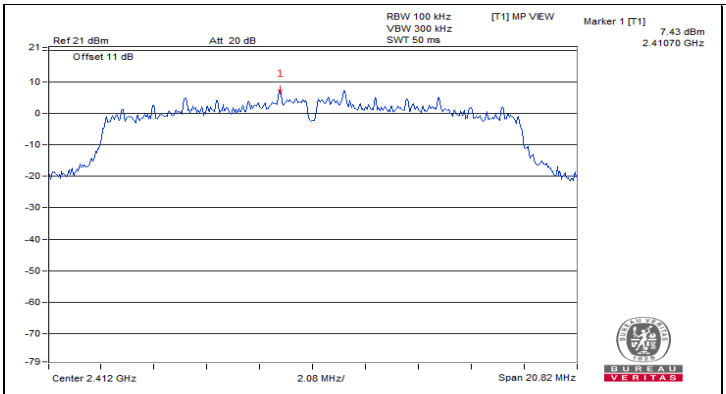
Chain 0 : CH 11



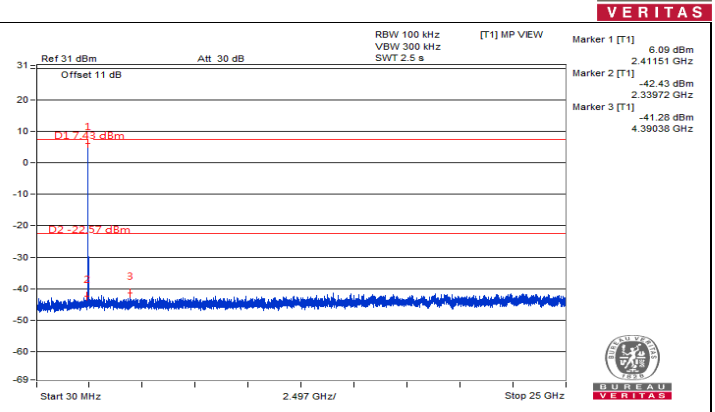
Chain 0 : CH 1 Band edge



Chain 0 : CH 11 Band edge



Chain 1 : CH 1



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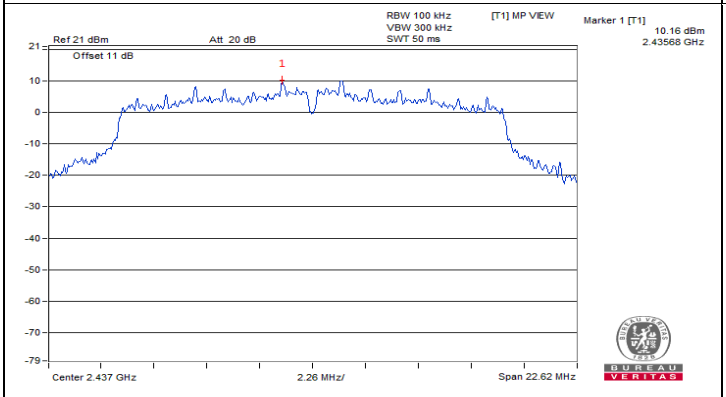

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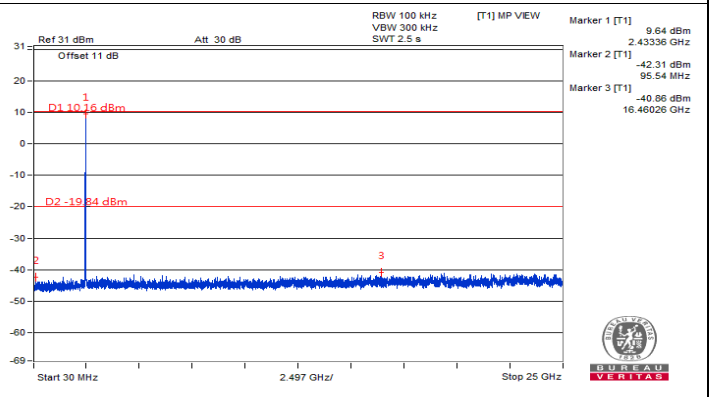
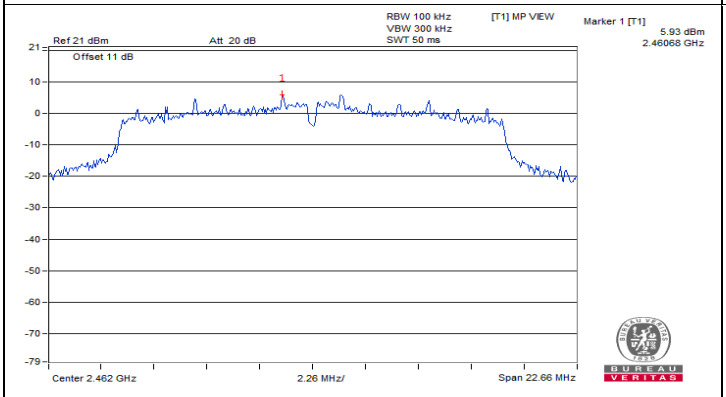
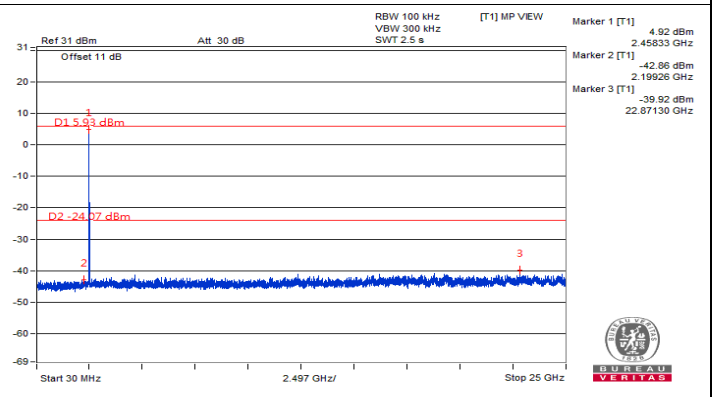


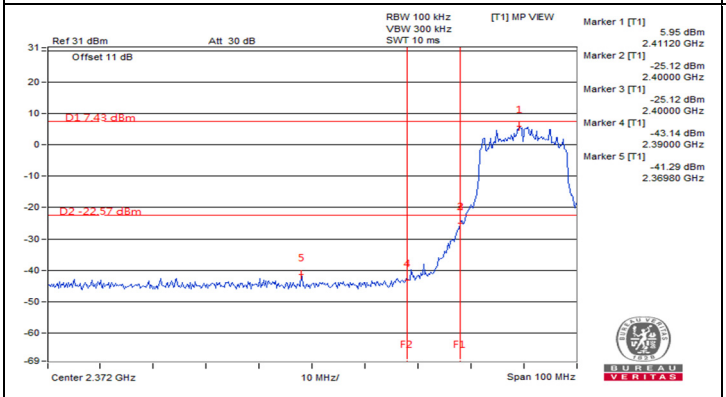
Chain 1 : CH 6



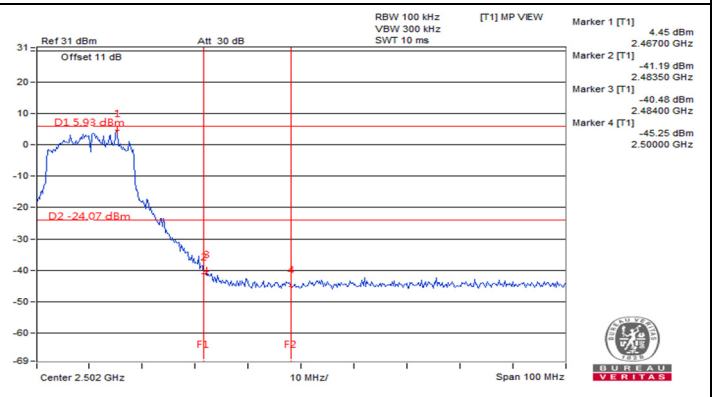
Chain 1 : CH 11



Chain 1 : CH 11

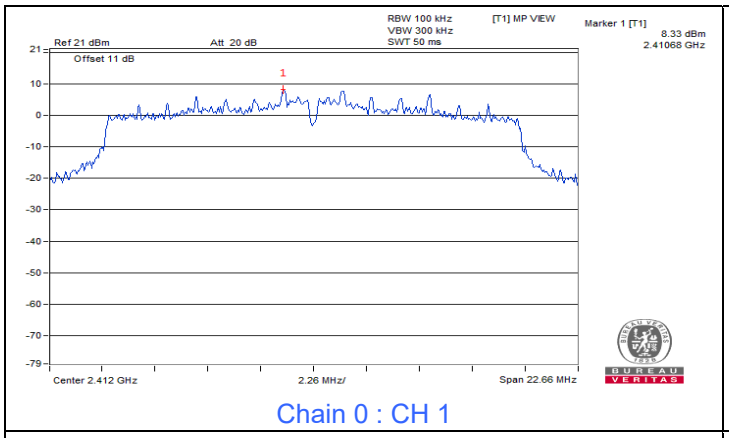


Chain 1 : CH 1 Band edge

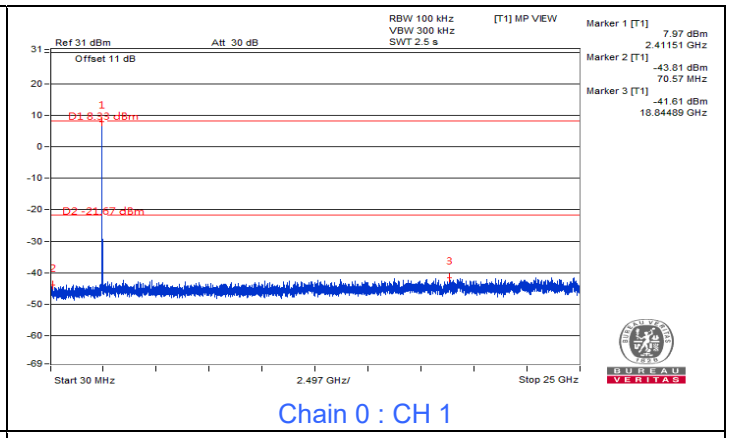


Chain 1 : CH 11 Band edge

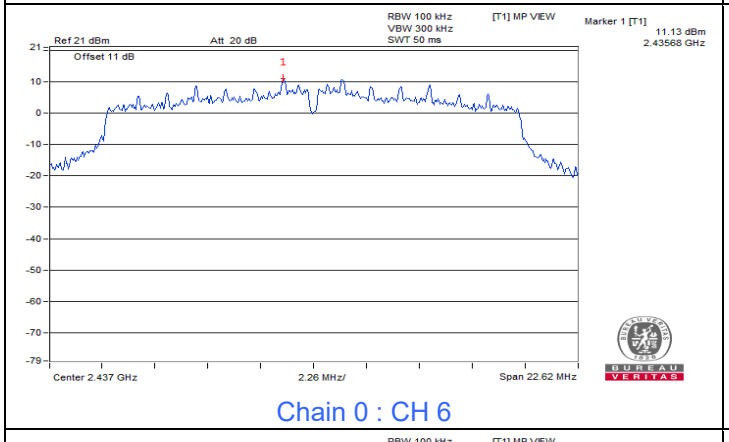
VHT20



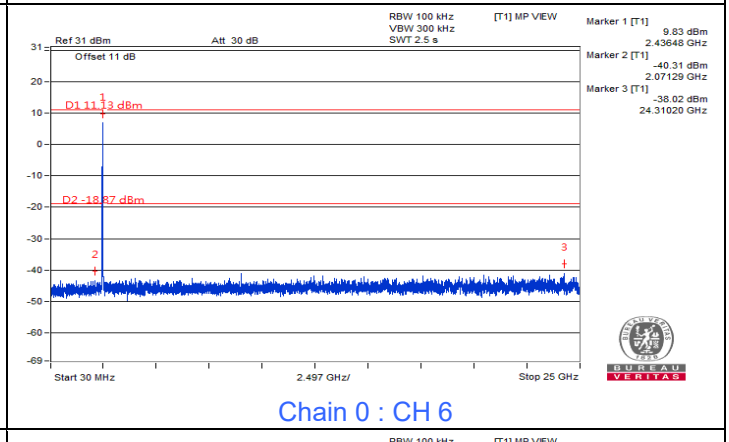
Chain 0 : CH 1



Chain 0 : CH 1



Chain 0 : CH 6



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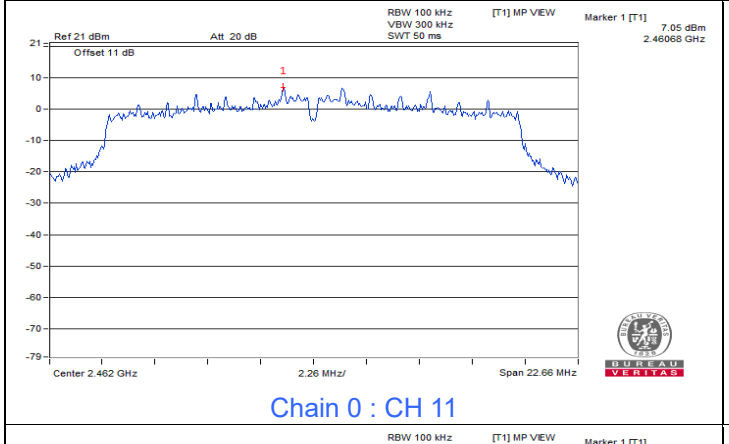
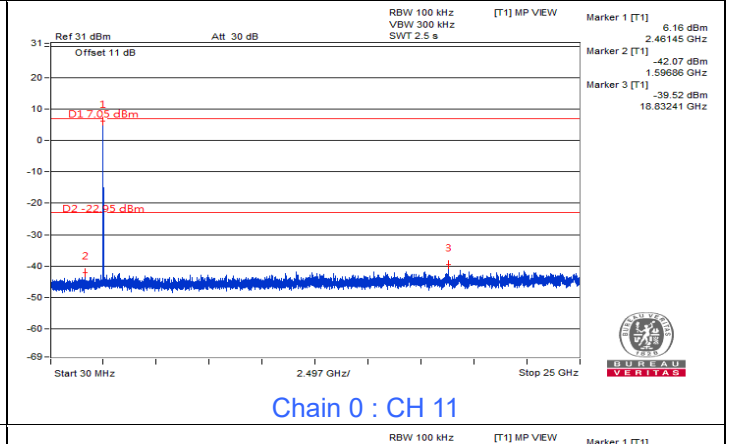
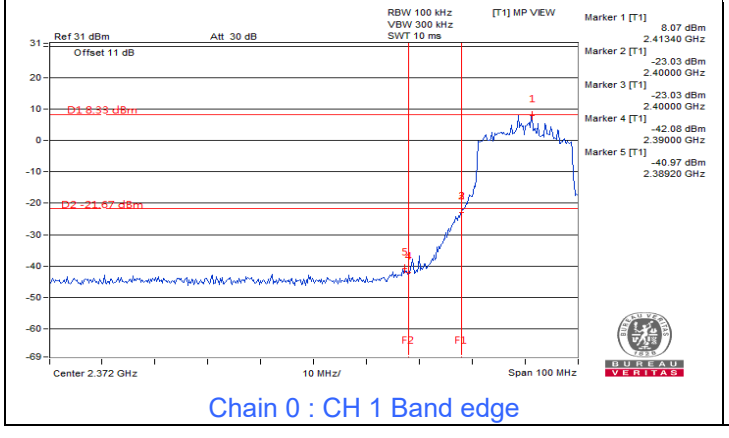


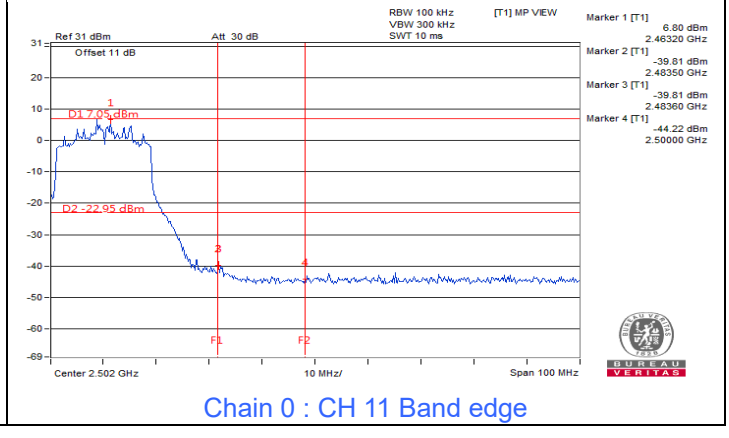
Chain 0 : CH 11



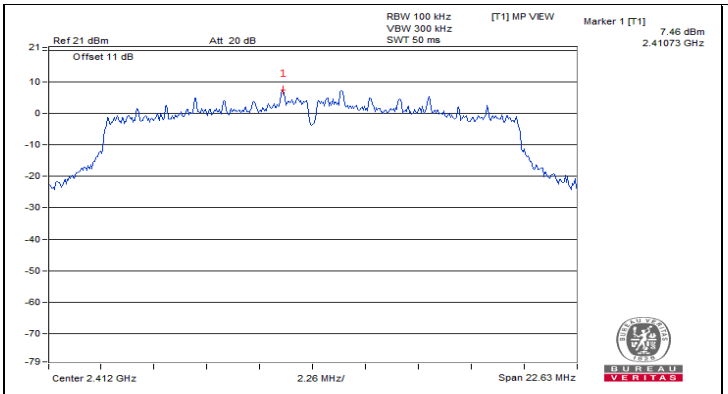
Chain 0 : CH 11



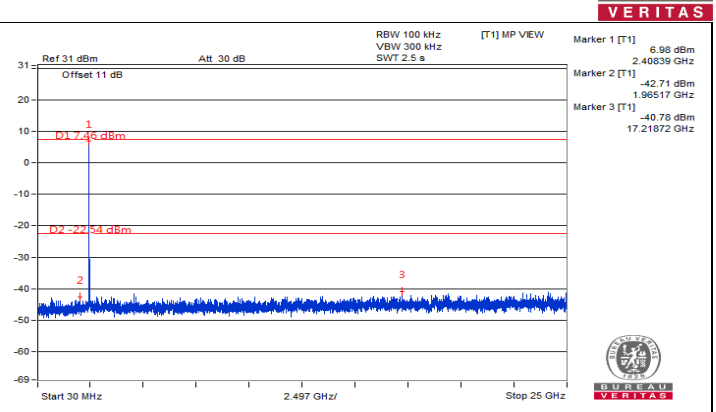
Chain 0 : CH 1 Band edge



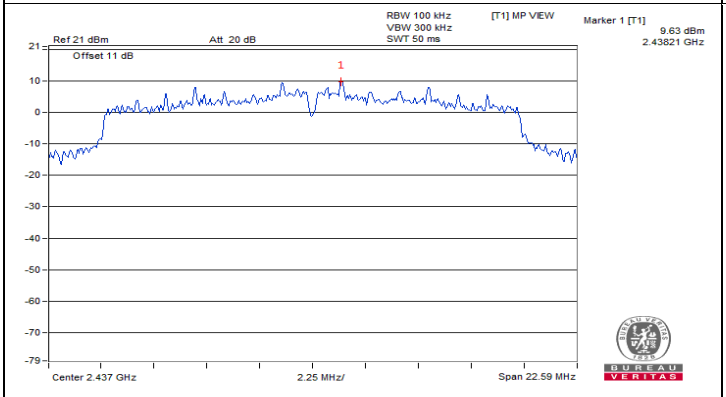
Chain 0 : CH 11 Band edge



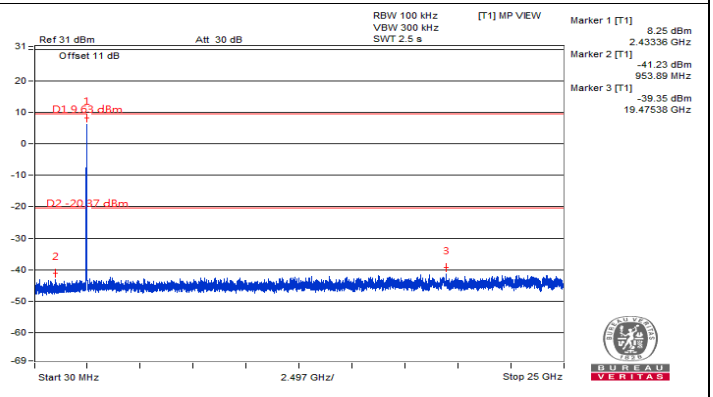
Chain 1 : CH 1



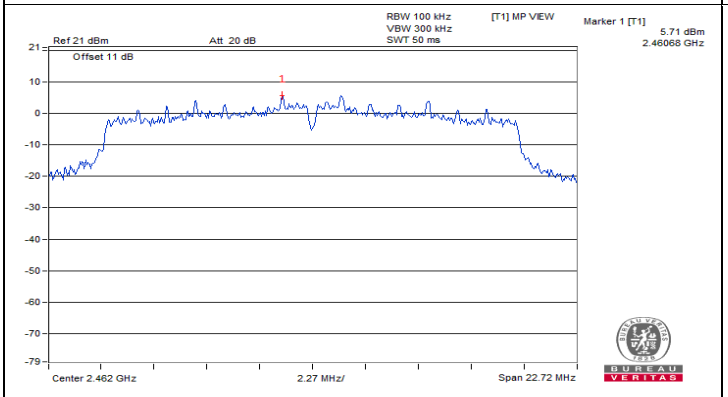
Chain 1 : CH 1



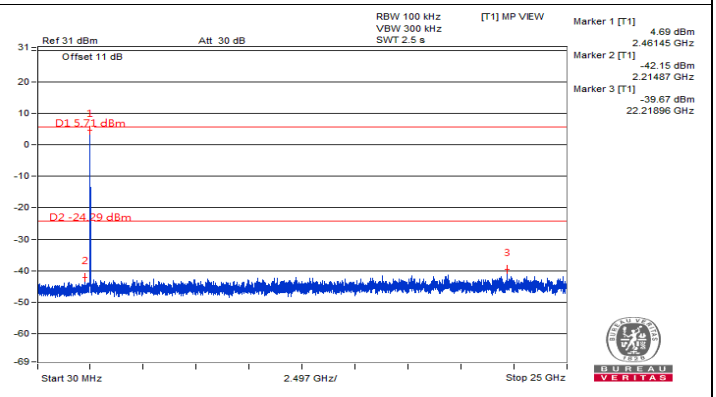
Chain 1 : CH 6



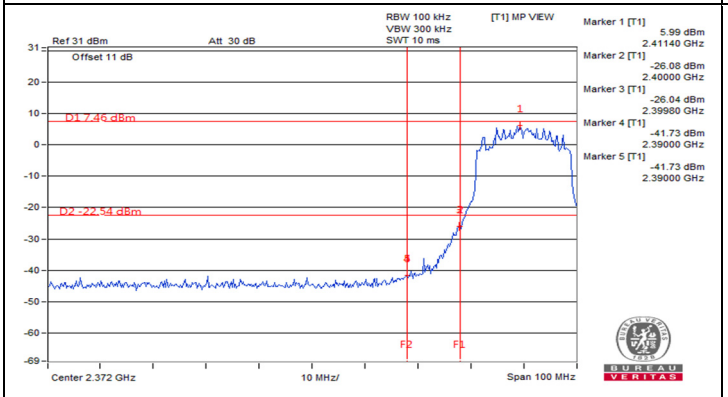
Chain 1 : CH 6



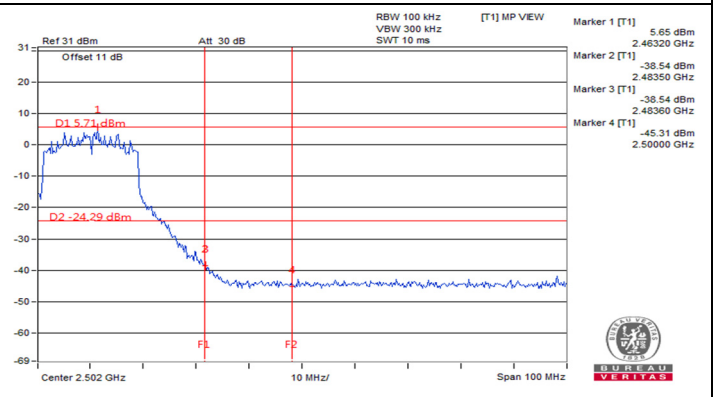
Chain 1 : CH 11



Chain 1 : CH 11

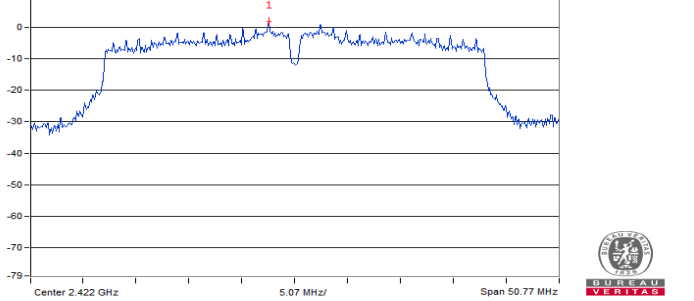


Chain 1 : CH 1 Band edge

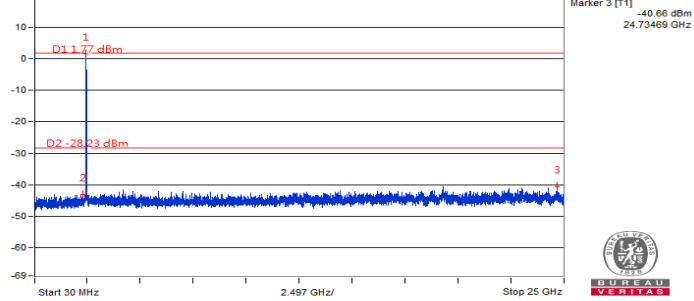


Chain 1 : CH 11 Band edge

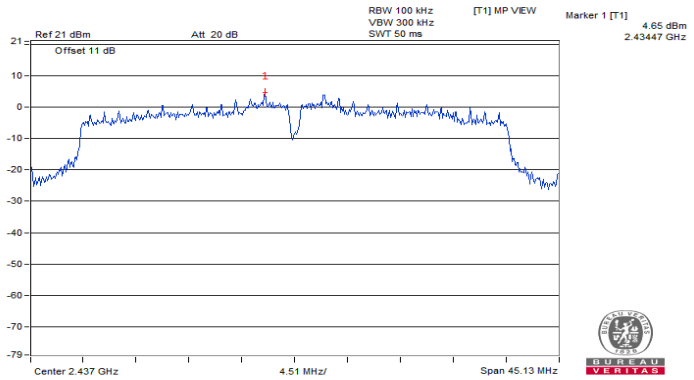
VHT40



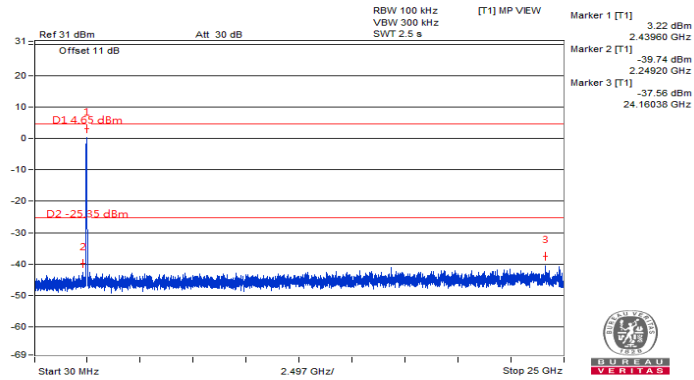
Chain 0 : CH 3



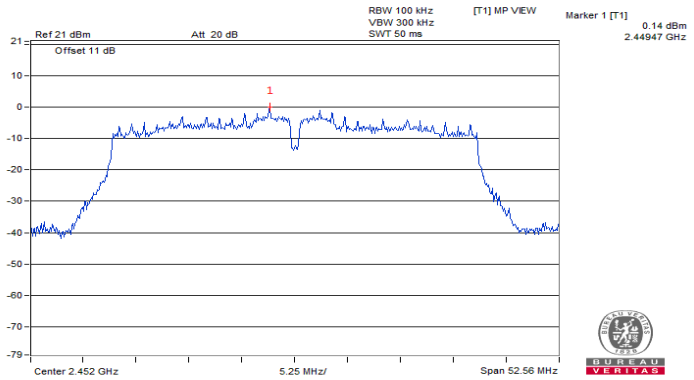
Chain 0 : CH 3



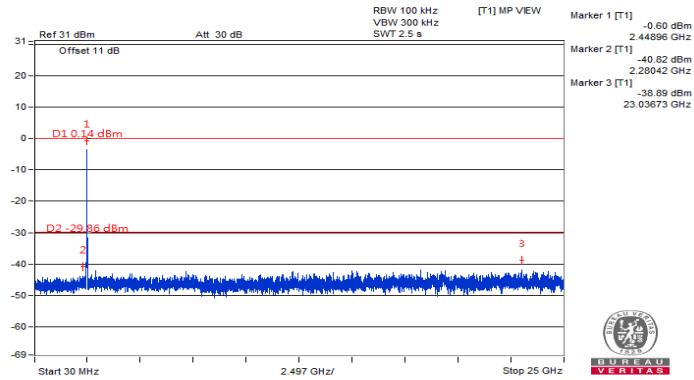
Chain 0 : CH 6



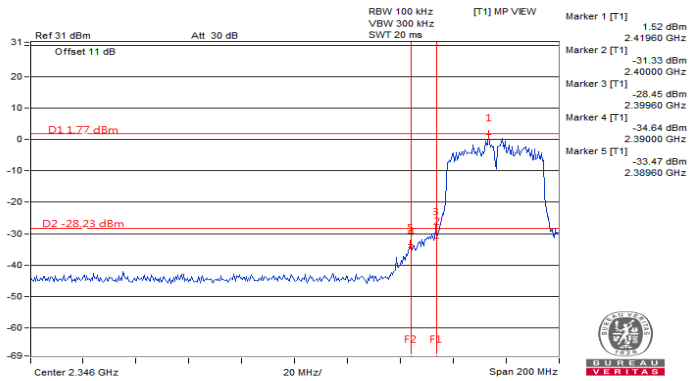
Chain 0 : CH 6



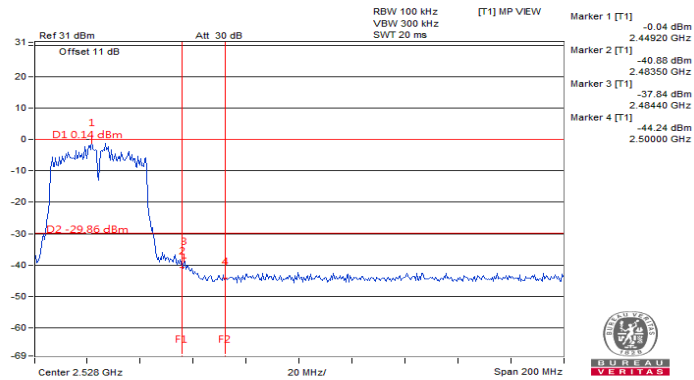
Chain 0 : CH 9



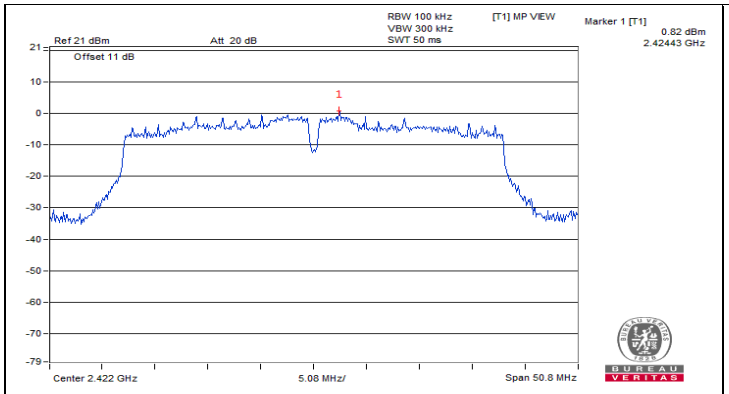
Chain 0 : CH 9



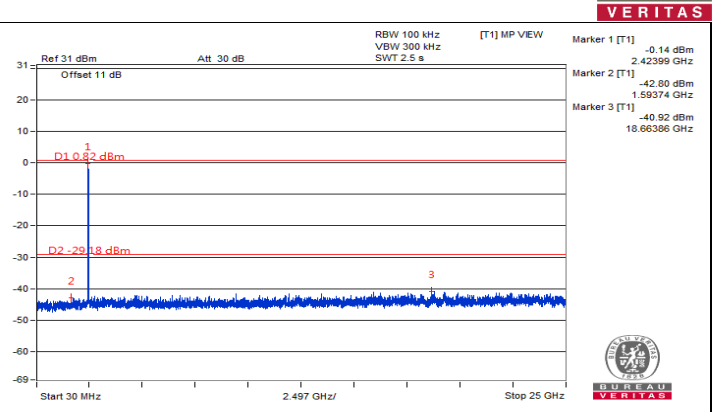
Chain 0 : CH 3 Band edge



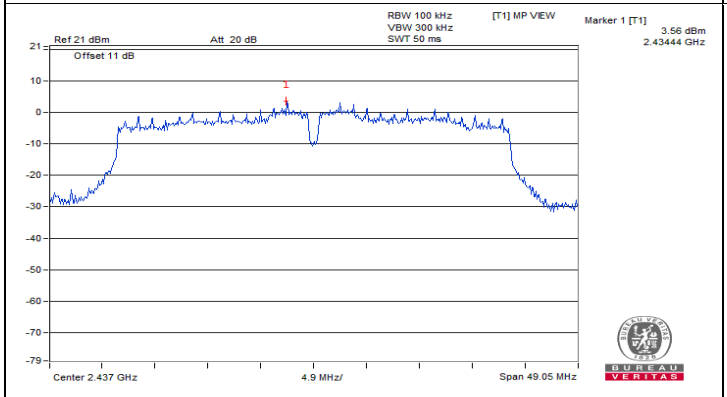
Chain 0 : CH 9 Band edge



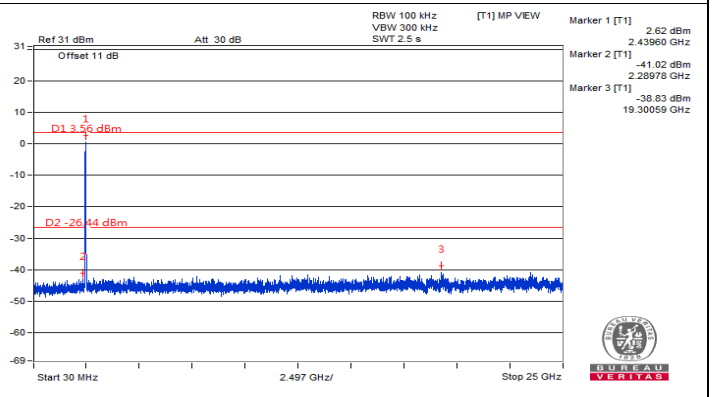
Chain 1 : CH 3



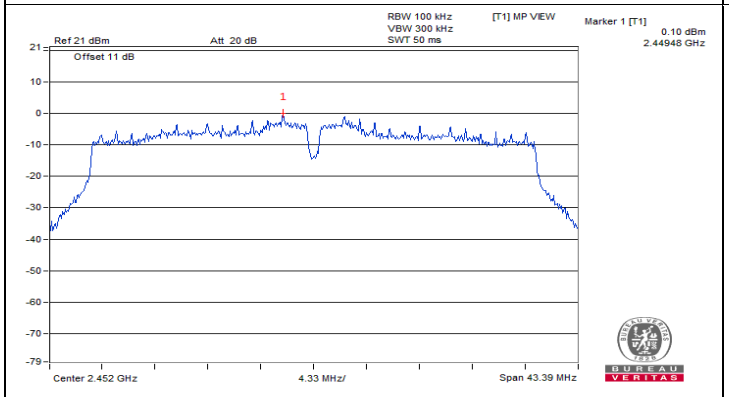
Chain 1 : CH 3



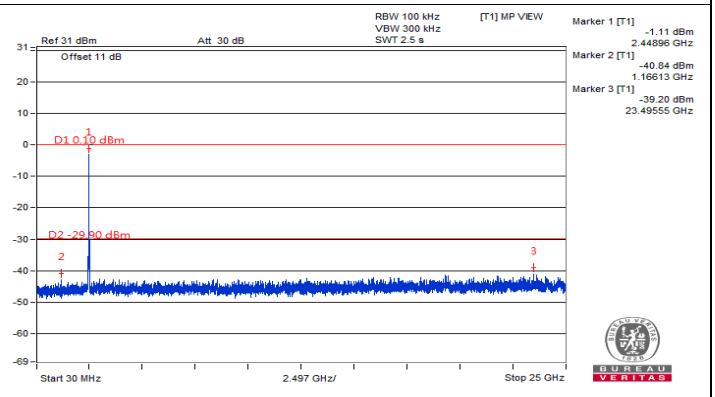
Chain 1 : CH 6



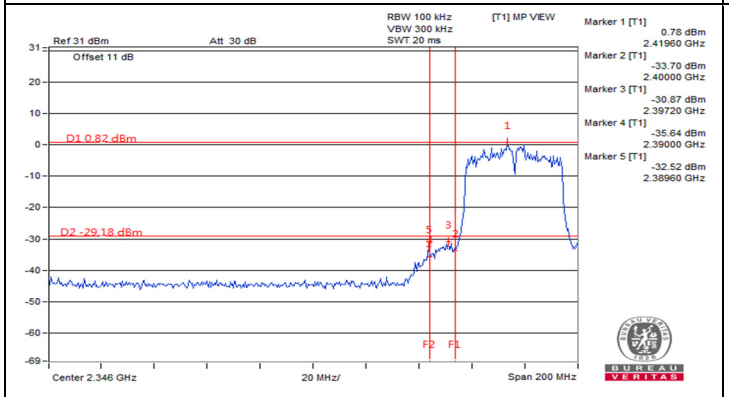
Chain 1 : CH 6



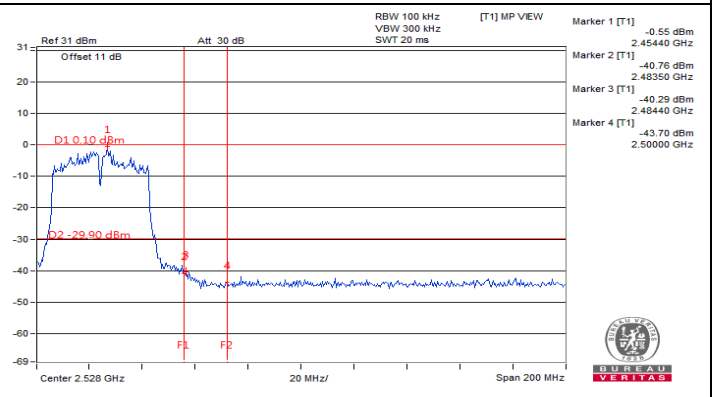
Chain 1 : CH 9



Chain 1 : CH 9



Chain 1 : CH 3 Band edge



Chain 1 : CH 9 Band edge

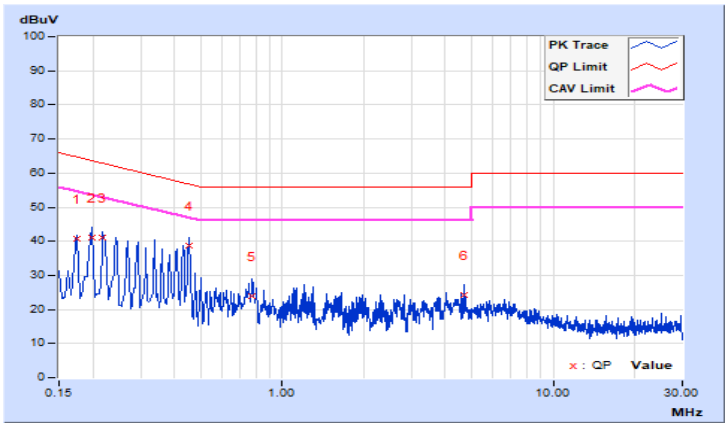
7.5 AC Power Conducted Emissions

RF Mode	TX 802.11b	**Channel**	CH 1：2412 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23°C, 75% RH
Tested By	Greg Lin		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.17400	9.70	30.90	20.38	40.60	30.08	64.77	54.77	-24.17	-24.69
2	0.19800	9.72	31.32	16.86	41.04	26.58	63.69	53.69	-22.65	-27.11
3	0.21800	9.73	31.24	14.47	40.97	24.20	62.89	52.89	-21.92	-28.69
4	0.45400	9.80	28.99	23.87	38.79	33.67	56.80	46.80	-18.01	-13.13
5	0.77400	9.82	13.99	7.89	23.81	17.71	56.00	46.00	-32.19	-28.29
6	4.66600	9.96	14.42	2.44	24.38	12.40	56.00	46.00	-31.62	-33.60

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

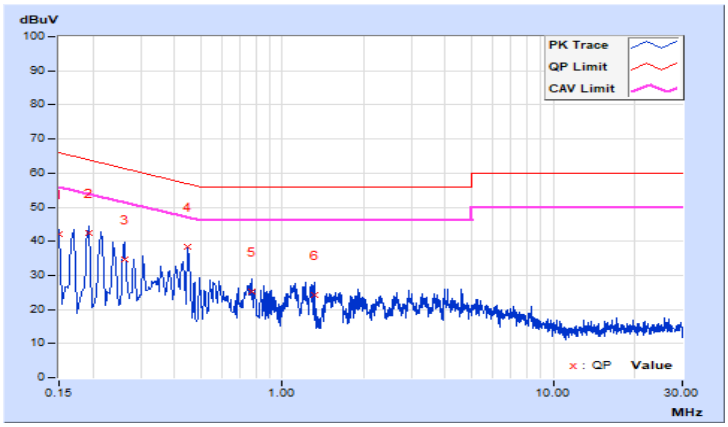


RF Mode	TX 802.11b	**Channel**	CH 1：2412 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23°C, 75% RH
Tested By	Greg Lin		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15000	9.68	32.32	14.84	42.00	24.52	66.00	56.00	-24.00	-31.48
2	0.19400	9.72	32.55	15.50	42.27	25.22	63.86	53.86	-21.59	-28.64
3	0.26200	9.75	24.93	8.34	34.68	18.09	61.37	51.37	-26.69	-33.28
4	**0.45000**	**9.81**	**28.46**	**26.39**	**38.27**	**36.20**	**56.88**	**46.88**	**-18.61**	**-10.68**
5	0.77000	9.84	15.57	11.45	25.41	21.29	56.00	46.00	-30.59	-24.71
6	1.31000	9.88	14.41	9.52	24.29	19.40	56.00	46.00	-31.71	-26.60

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



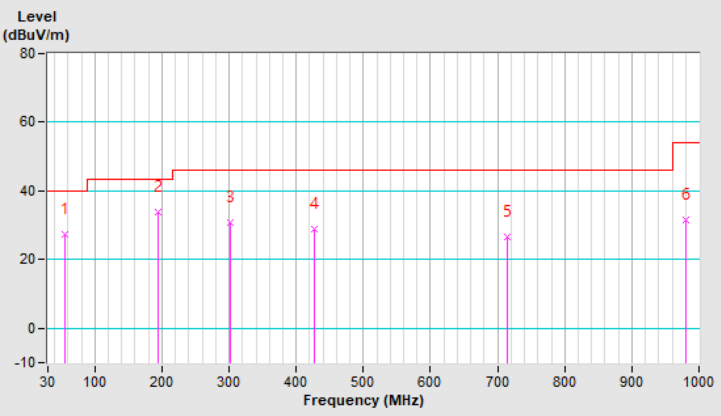
7.6 Unwanted Emissions below 1 GHz

RF Mode	TX 802.11b	**Channel**	CH 1：2412 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22°C, 73% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	56.19	27.4 QP	40.0	-12.6	1.00 H	203	40.9	-13.5
2	194.90	33.7 QP	43.5	-9.8	1.25 H	182	50.2	-16.5
3	302.57	30.8 QP	46.0	-15.2	1.50 H	204	43.7	-12.9
4	427.70	28.8 QP	46.0	-17.2	1.00 H	50	38.5	-9.7
5	714.82	26.8 QP	46.0	-19.2	1.00 H	188	31.0	-4.2
6	979.63	31.4 QP	54.0	-22.6	1.25 H	134	31.8	-0.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

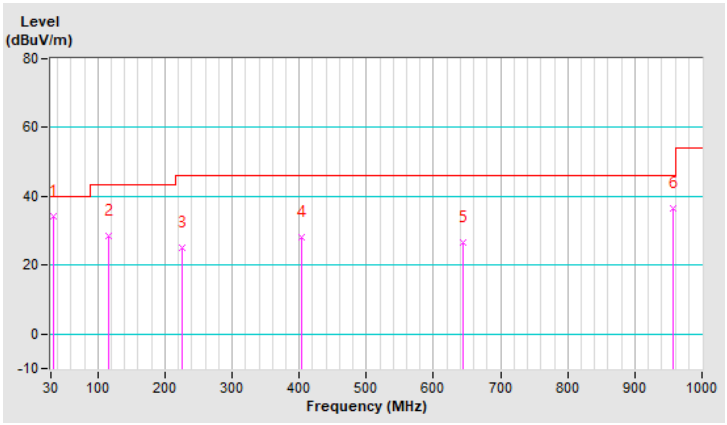


RF Mode	TX 802.11b	**Channel**	CH 1：2412 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22°C, 73% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	**34.85**	**34.2 QP**	**40.0**	**-5.8**	**1.00 V**	**3**	**48.4**	**-14.2**
2	115.36	28.6 QP	43.5	-14.9	1.50 V	303	44.4	-15.8
3	225.94	25.2 QP	46.0	-20.8	1.25 V	101	41.9	-16.7
4	403.45	28.2 QP	46.0	-17.8	1.00 V	191	38.6	-10.4
5	644.01	26.5 QP	46.0	-19.5	1.25 V	356	31.6	-5.1
6	957.32	36.5 QP	46.0	-9.5	1.00 V	255	37.2	-0.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



7.7 Unwanted Emissions above 1 GHz

RF Mode	TX 802.11b	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	27°C, 75% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2386.00	61.5 PK	74.0	-12.5	1.98 H	220	29.5	32.0
2	**2386.00**	**53.5 AV**	**54.0**	**-0.5**	**1.98 H**	**220**	**21.5**	**32.0**
3	*2412.00	114.5 PK			1.98 H	220	82.6	32.0
4	*2412.00	111.9 AV			1.98 H	220	80.0	32.0
5	4824.00	55.5 PK	74.0	-18.6	2.35 H	255	52.5	2.9
6	4824.00	51.5 AV	54.0	-2.5	2.35 H	255	48.5	2.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2386.00	60.4 PK	74.0	-13.7	1.35 V	1	28.4	32.0
2	2386.00	50.2 AV	54.0	-3.8	1.35 V	1	18.3	32.0
3	*2412.00	113.1 PK			1.35 V	1	81.1	32.0
4	*2412.00	111.1 AV			1.35 V	1	79.2	32.0
5	4824.00	54.1 PK	74.0	-19.9	1.46 V	133	51.2	2.9
6	4824.00	49.6 AV	54.0	-4.4	1.46 V	133	46.7	2.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX 802.11b	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	113.4 PK			1.94 H	217	81.5	31.9
2	*2437.00	111.1 AV			1.94 H	217	79.2	31.9
3	4874.00	56.5 PK	74.0	-17.5	2.25 H	227	53.6	2.9
4	4874.00	53.4 AV	54.0	-0.6	2.25 H	227	50.5	2.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	111.8 PK			1.34 V	29	79.9	31.9
2	*2437.00	109.3 AV			1.34 V	29	77.4	31.9
3	4874.00	54.1 PK	74.0	-19.9	1.51 V	303	51.2	2.9
4	4874.00	49.4 AV	54.0	-4.6	1.51 V	303	46.5	2.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX 802.11b	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	115.4 PK			1.94 H	233	83.5	31.9
2	*2462.00	112.9 AV			1.94 H	233	81.0	31.9
3	2483.50	60.9 PK	74.0	-13.1	1.94 H	233	28.9	32.0
4	2483.50	52.8 AV	54.0	-1.2	1.94 H	233	20.8	32.0
5	4924.00	55.3 PK	74.0	-18.7	2.26 H	253	52.5	2.8
6	4924.00	52.3 AV	54.0	-1.7	2.26 H	253	49.5	2.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	112.1 PK			1.68 V	29	80.2	31.9
2	*2462.00	109.6 AV			1.68 V	29	77.6	31.9
3	2483.50	60.6 PK	74.0	-13.4	1.68 V	29	28.7	32.0
4	2483.50	49.4 AV	54.0	-4.7	1.68 V	29	17.4	32.0
5	4924.00	54.2 PK	74.0	-19.8	1.64 V	18	51.4	2.8
6	4924.00	49.6 AV	54.0	-4.4	1.64 V	18	46.8	2.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX 802.11g	Channel	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	68.5 PK	74.0	-5.5	1.76 H	218	36.5	32.0
2	2390.00	52.2 AV	54.0	-1.8	1.76 H	218	20.3	32.0
3	*2412.00	115.3 PK			1.76 H	218	83.4	32.0
4	*2412.00	106.0 AV			1.76 H	218	74.0	32.0
5	4824.00	49.1 PK	74.0	-24.9	1.34 H	221	46.1	2.9
6	4824.00	36.8 AV	54.0	-17.2	1.34 H	221	33.9	2.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.0 PK	74.0	-14.0	1.54 V	16	28.1	32.0
2	2390.00	47.6 AV	54.0	-6.4	1.54 V	16	15.6	32.0
3	*2412.00	114.4 PK			1.54 V	16	82.5	32.0
4	*2412.00	105.6 AV			1.54 V	16	73.6	32.0
5	4824.00	48.5 PK	74.0	-25.5	2.33 V	16	45.6	2.9
6	4824.00	36.7 AV	54.0	-17.3	2.33 V	16	33.8	2.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.3 PK	74.0	-6.7	1.76 H	218	35.3	32.0
2	2390.00	52.6 AV	54.0	-1.4	1.76 H	218	20.7	32.0
3	*2437.00	118.6 PK			1.76 H	218	86.7	31.9
4	*2437.00	108.5 AV			1.76 H	218	76.6	31.9
5	4874.00	53.1 PK	74.0	-20.9	2.28 H	259	50.2	2.9
6	4874.00	38.5 AV	54.0	-15.5	2.28 H	259	35.6	2.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.9 PK	74.0	-13.1	1.27 V	19	28.9	32.0
2	2390.00	47.3 AV	54.0	-6.7	1.27 V	19	15.3	32.0
3	*2437.00	117.2 PK			1.27 V	19	85.3	31.9
4	*2437.00	107.9 AV			1.27 V	19	76.0	31.9
5	4874.00	50.0 PK	74.0	-24.0	1.60 V	129	47.1	2.9
6	4874.00	37.2 AV	54.0	-16.8	1.60 V	129	34.3	2.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX 802.11g	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	27°C, 75% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	115.6 PK			1.74 H	218	83.7	31.9
2	*2462.00	106.3 AV			1.74 H	218	74.4	31.9
3	2483.50	65.9 PK	74.0	-8.1	1.74 H	218	33.9	32.0
4	2483.50	52.6 AV	54.0	-1.4	1.74 H	218	20.6	32.0
5	4924.00	49.5 PK	74.0	-24.5	1.51 H	257	46.7	2.8
6	4924.00	37.0 AV	54.0	-17.0	1.51 H	257	34.2	2.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	114.2 PK			1.36 V	19	82.2	31.9
2	*2462.00	104.7 AV			1.36 V	19	72.8	31.9
3	2483.50	64.0 PK	74.0	-10.0	1.36 V	19	32.0	32.0
4	2483.50	49.8 AV	54.0	-4.2	1.36 V	19	17.8	32.0
5	4924.00	48.3 PK	74.0	-25.7	1.69 V	292	45.4	2.8
6	4924.00	36.5 AV	54.0	-17.5	1.69 V	292	33.7	2.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX VHT20	Channel	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 73% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	68.4 PK	74.0	-5.6	1.64 H	232	36.5	31.9
2	2390.00	53.1 AV	54.0	-0.9	1.64 H	232	21.2	31.9
3	*2412.00	115.2 PK			1.64 H	232	83.3	31.9
4	*2412.00	105.4 AV			1.64 H	232	73.5	31.9
5	4824.00	50.7 PK	74.0	-23.3	2.26 H	250	48.6	2.1
6	4824.00	36.9 AV	54.0	-17.1	2.26 H	250	34.8	2.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	64.8 PK	74.0	-9.2	2.06 V	3	32.9	31.9
2	2390.00	50.2 AV	54.0	-3.8	2.06 V	3	18.3	31.9
3	*2412.00	114.5 PK			2.06 V	3	82.6	31.9
4	*2412.00	104.7 AV			2.06 V	3	72.8	31.9
5	4824.00	49.8 PK	74.0	-24.2	1.53 V	137	47.7	2.1
6	4824.00	36.0 AV	54.0	-18.0	1.53 V	137	33.9	2.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX VHT20	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 73% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	66.2 PK	74.0	-7.8	1.72 H	232	34.3	31.9
2	2390.00	52.8 AV	54.0	-1.2	1.72 H	232	20.9	31.9
3	*2437.00	117.7 PK			1.72 H	232	85.9	31.8
4	*2437.00	107.8 AV			1.72 H	232	76.0	31.8
5	4874.00	51.4 PK	74.0	-22.6	2.26 H	264	49.2	2.2
6	4874.00	37.5 AV	54.0	-16.5	2.26 H	264	35.3	2.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.8 PK	74.0	-10.2	2.12 V	11	31.9	31.9
2	2390.00	50.2 AV	54.0	-3.8	2.12 V	11	18.3	31.9
3	*2437.00	116.6 PK			2.12 V	11	84.8	31.8
4	*2437.00	106.7 AV			2.12 V	11	74.9	31.8
5	4874.00	50.6 PK	74.0	-23.4	1.46 V	128	48.4	2.2
6	4874.00	36.5 AV	54.0	-17.5	1.46 V	128	34.3	2.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX VHT20	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 73% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	114.5 PK			1.84 H	220	82.7	31.8
2	*2462.00	104.6 AV			1.84 H	220	72.8	31.8
3	2483.50	66.1 PK	74.0	-7.9	1.84 H	220	34.2	31.9
4	2483.50	53.0 AV	54.0	-1.0	1.84 H	220	21.1	31.9
5	4960.00	50.8 PK	74.0	-23.2	2.39 H	271	48.4	2.4
6	4960.00	37.1 AV	54.0	-16.9	2.39 H	271	34.7	2.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	113.5 PK			2.03 V	15	81.7	31.8
2	*2462.00	103.6 AV			2.03 V	15	71.8	31.8
3	2483.50	64.2 PK	74.0	-9.8	2.03 V	15	32.3	31.9
4	2483.50	50.3 AV	54.0	-3.7	2.03 V	15	18.4	31.9
5	4960.00	50.2 PK	74.0	-23.8	1.53 V	142	47.8	2.4
6	4960.00	36.3 AV	54.0	-17.7	1.53 V	142	33.9	2.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX VHT40	Channel	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 73% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	66.5 PK	74.0	-7.5	1.59 H	228	34.6	31.9
2	2390.00	53.1 AV	54.0	-0.9	1.59 H	228	21.2	31.9
3	*2422.00	109.8 PK			1.59 H	228	77.9	31.9
4	*2422.00	100.1 AV			1.59 H	228	68.2	31.9
5	4844.00	50.5 PK	74.0	-23.5	2.31 H	264	48.3	2.2
6	4844.00	36.6 AV	54.0	-17.4	2.31 H	264	34.4	2.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	64.7 PK	74.0	-9.3	2.14 V	13	32.8	31.9
2	2390.00	50.8 AV	54.0	-3.2	2.14 V	13	18.9	31.9
3	*2422.00	109.0 PK			2.14 V	13	77.1	31.9
4	*2422.00	99.3 AV			2.14 V	13	67.4	31.9
5	4844.00	49.5 PK	74.0	-24.5	1.56 V	131	47.3	2.2
6	4844.00	35.8 AV	54.0	-18.2	1.56 V	131	33.6	2.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX VHT40	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 73% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	112.0 PK			1.68 H	234	80.2	31.8
2	*2437.00	102.4 AV			1.68 H	234	70.6	31.8
3	2483.50	66.5 PK	74.0	-7.5	1.68 H	234	34.6	31.9
4	2483.50	52.7 AV	54.0	-1.3	1.68 H	234	20.8	31.9
5	4874.00	50.5 PK	74.0	-23.5	2.43 H	258	48.3	2.2
6	4874.00	36.8 AV	54.0	-17.2	2.43 H	258	34.6	2.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	111.2 PK			2.14 V	9	79.4	31.8
2	*2437.00	101.5 AV			2.14 V	9	69.7	31.8
3	2483.50	64.6 PK	74.0	-9.4	2.14 V	9	32.7	31.9
4	2483.50	50.5 AV	54.0	-3.5	2.14 V	9	18.6	31.9
5	4874.00	49.4 PK	74.0	-24.6	1.47 V	130	47.2	2.2
6	4874.00	35.5 AV	54.0	-18.5	1.47 V	130	33.3	2.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX VHT40	Channel	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 73% RH
Tested By	Randy Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	108.0 PK			1.79 H	226	76.2	31.8
2	*2452.00	98.4 AV			1.79 H	226	66.6	31.8
3	2483.50	66.2 PK	74.0	-7.8	1.79 H	226	34.3	31.9
4	2483.50	52.5 AV	54.0	-1.5	1.79 H	226	20.6	31.9
5	4904.00	49.8 PK	74.0	-24.2	2.31 H	272	47.6	2.2
6	4904.00	36.5 AV	54.0	-17.5	2.31 H	272	34.3	2.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	106.9 PK			2.08 V	7	75.1	31.8
2	*2452.00	97.3 AV			2.08 V	7	65.5	31.8
3	2483.50	64.3 PK	74.0	-9.7	2.08 V	7	32.4	31.9
4	2483.50	50.4 AV	54.0	-3.6	2.08 V	7	18.5	31.9
5	4904.00	48.8 PK	74.0	-25.2	1.54 V	139	46.6	2.2
6	4904.00	35.4 AV	54.0	-18.6	1.54 V	139	33.2	2.2

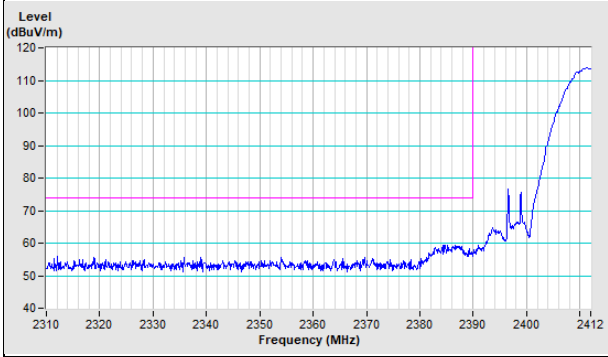
Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

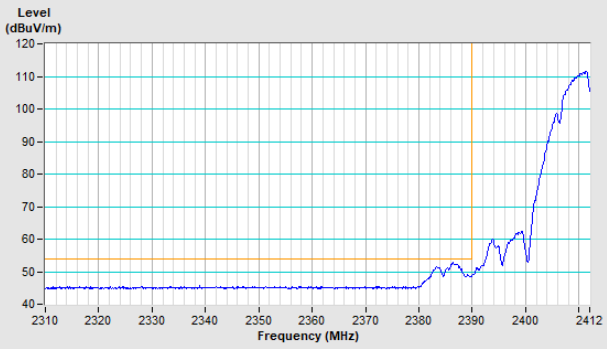
Band Edge Measurement

802.11b Channel 1

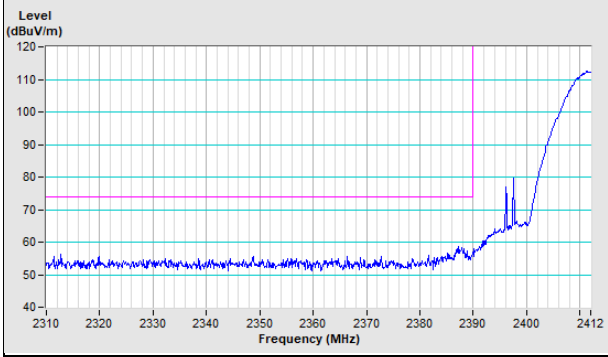
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



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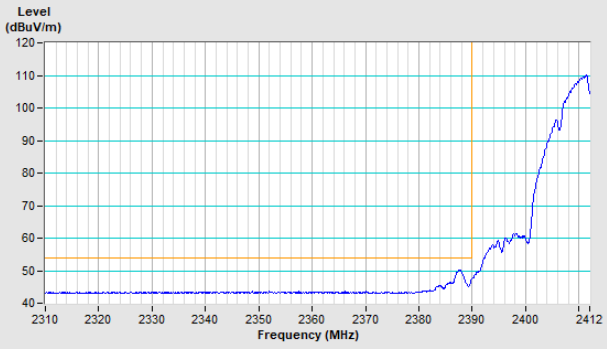
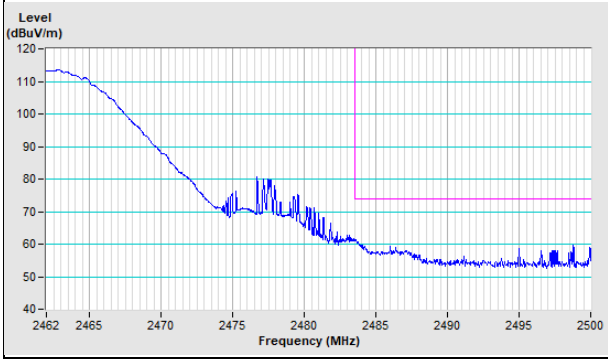


802.11b Channel 11

Horizontal (Peak)



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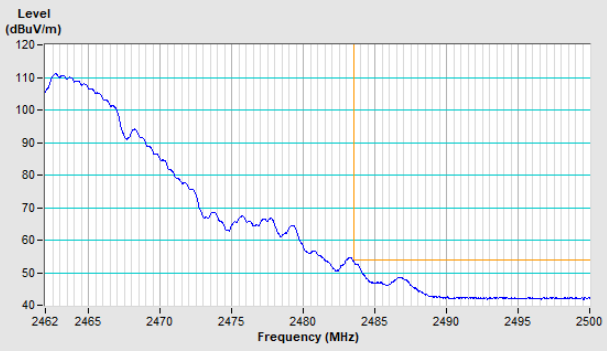

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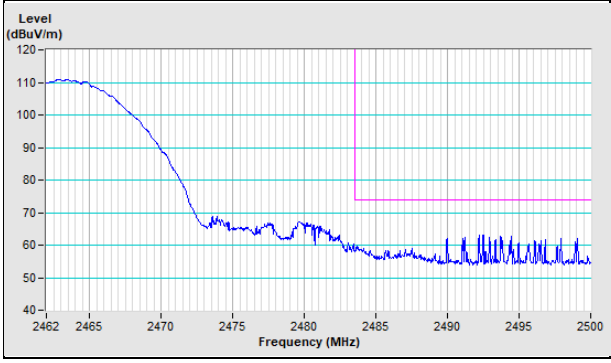

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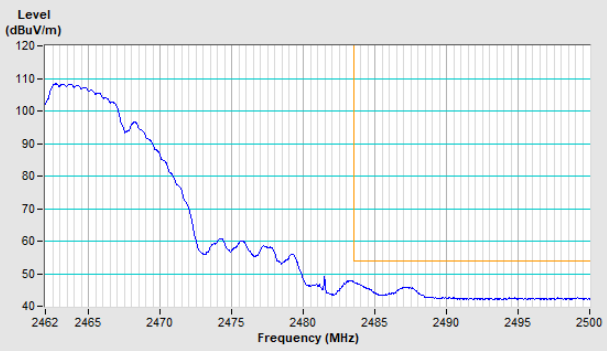
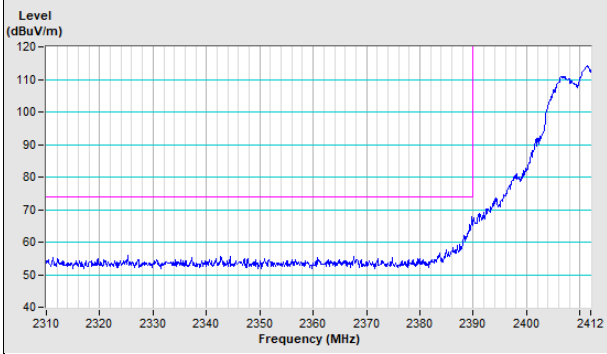
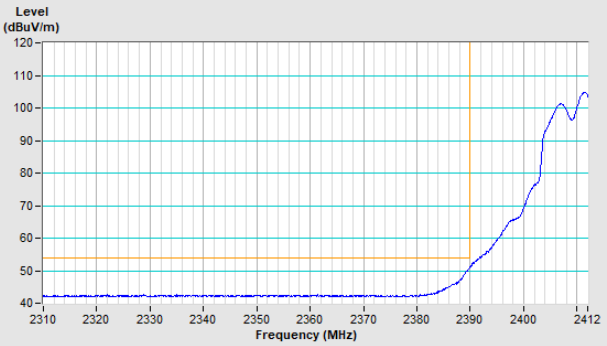


802.11g Channel 1

Horizontal (Peak)



Horizontal (Average)



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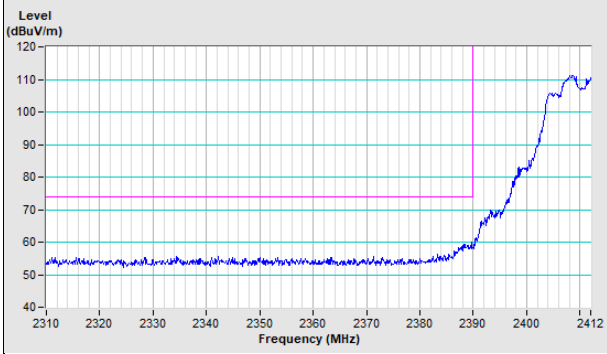
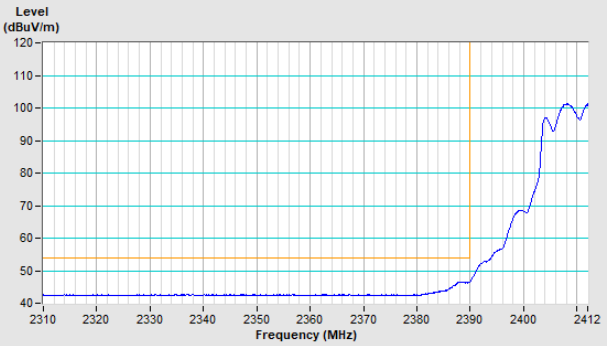


Vertical (Average)



802.11g Channel 11

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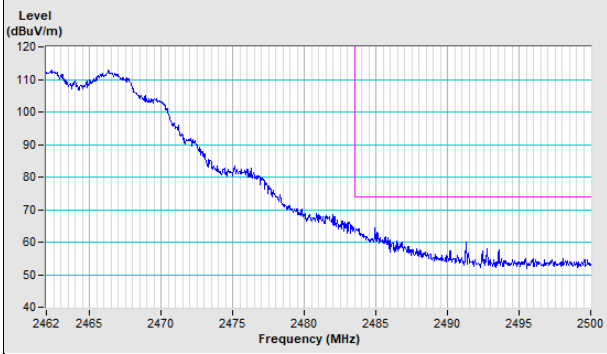

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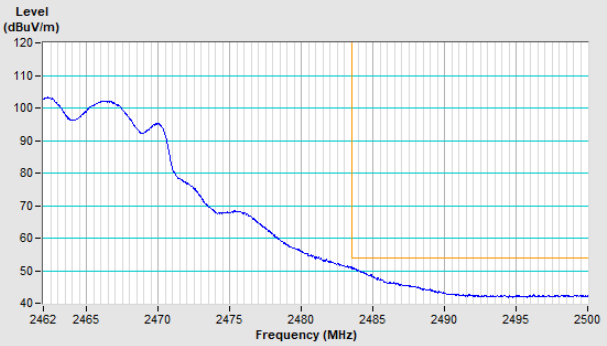
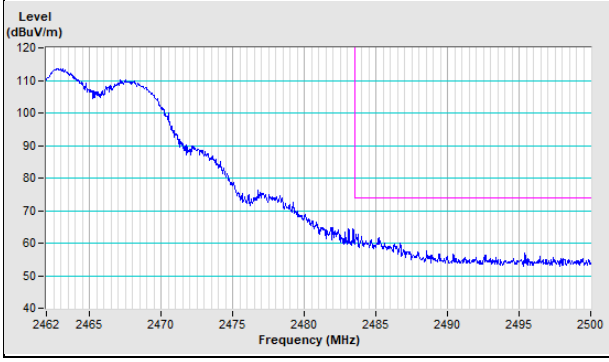
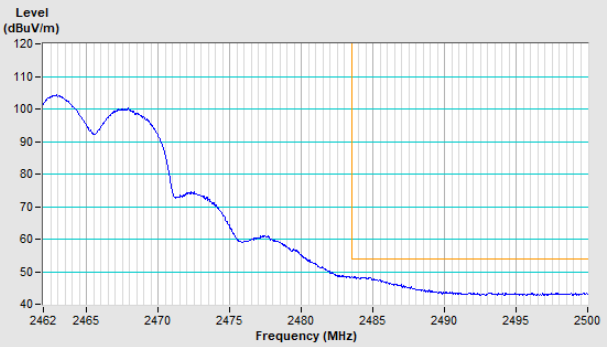


Vertical (Peak)

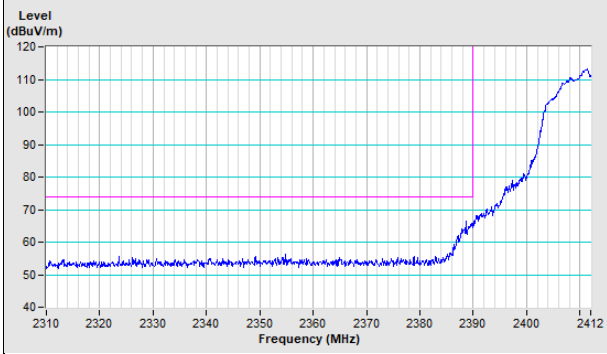


Vertical (Average)

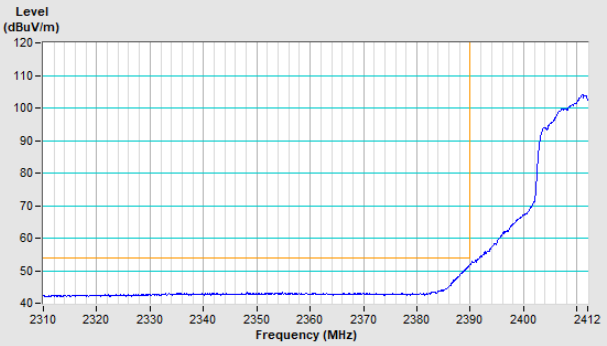


VHT20 Channel 1

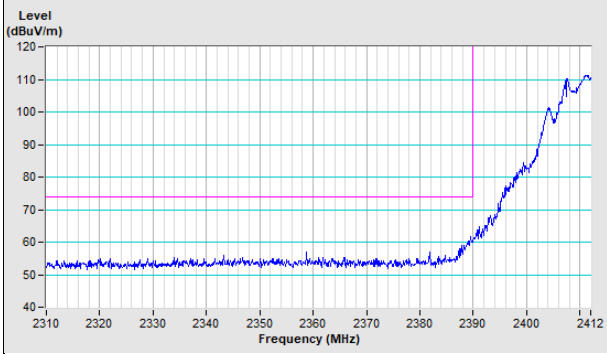
Horizontal (Peak)



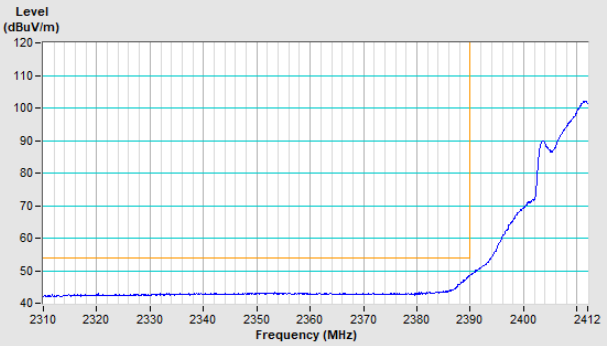
Horizontal (Average)



Vertical (Peak)

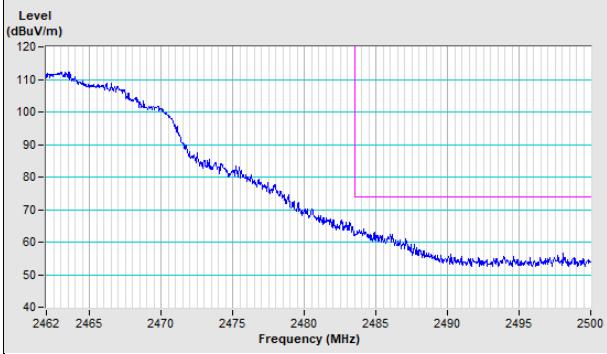


Vertical (Average)

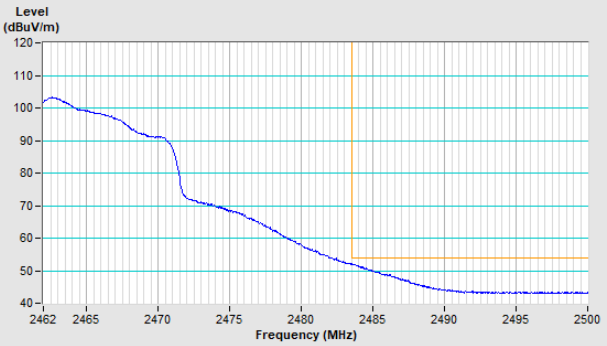


VHT20 Channel 11

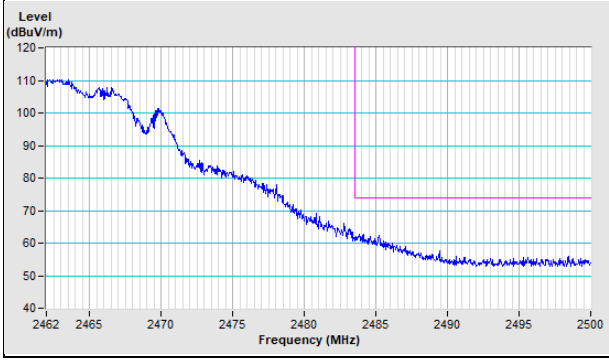
Horizontal (Peak)



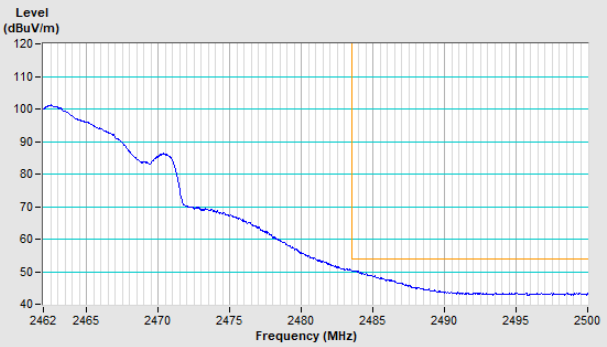
Horizontal (Average)



Vertical (Peak)

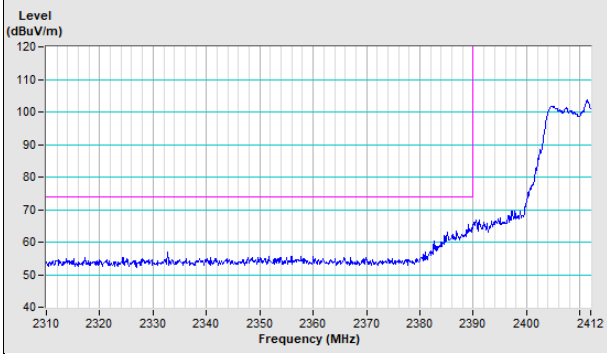


Vertical (Average)



VHT40 Channel 3

Horizontal (Peak)



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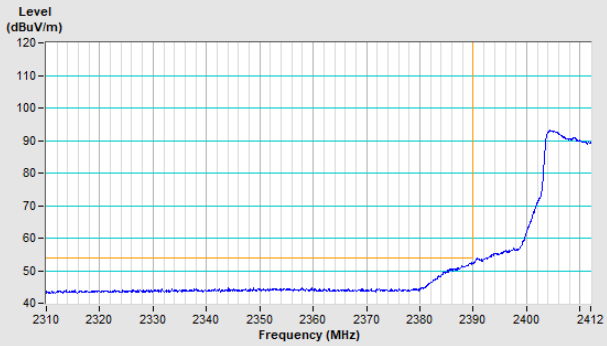
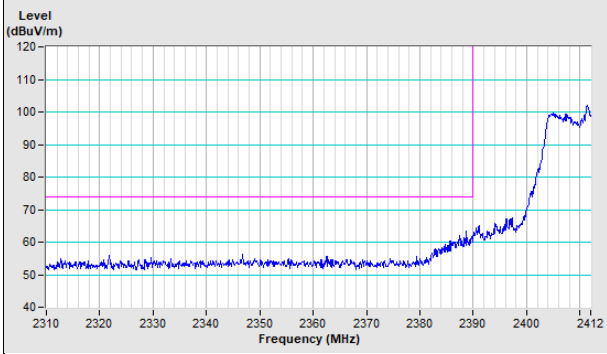
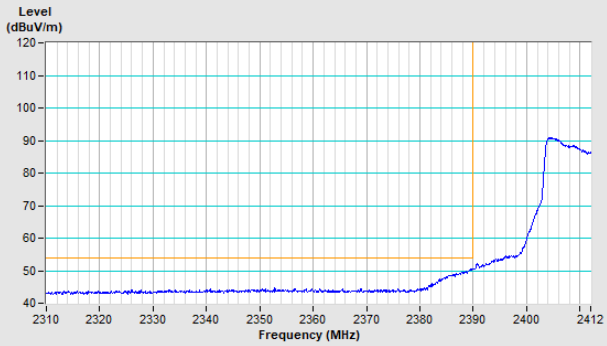


Vertical (Peak)

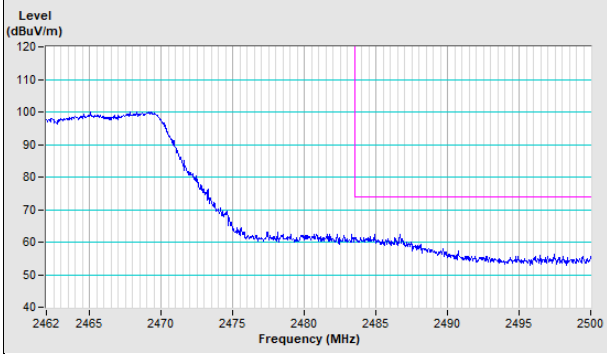


Vertical (Average)

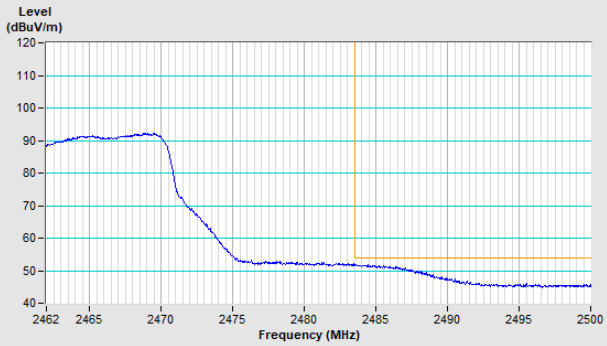


VHT40 Channel 9

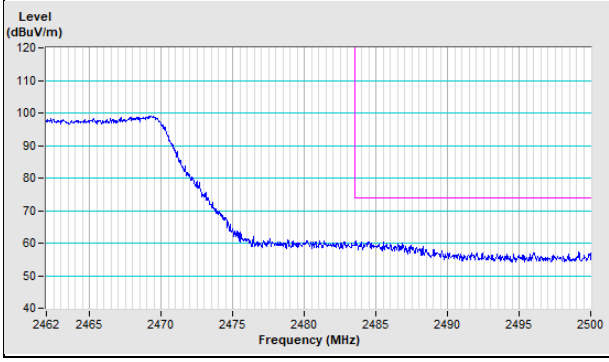
Horizontal (Peak)



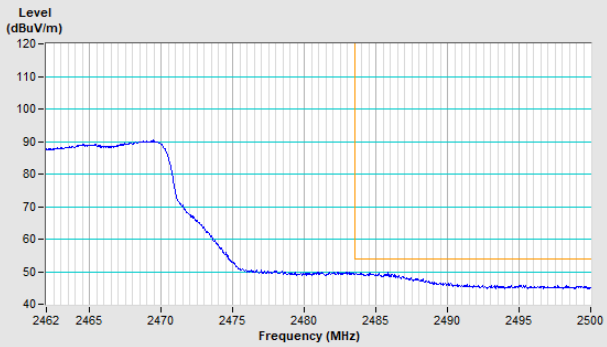
Horizontal (Average)



Vertical (Peak)



Vertical (Average)



8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@bureauveritas.com
Web Site: http://ee.bureauveritas.com.tw

The address and road map of all our labs can be found in our web site also.

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