

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)

Report No.: RFBFLF-WTW-P23030480

FCC ID: MSQ-RTAX6Q00

Product: Wireless-AX3000 Dual-band Router

Brand: ASUS

Model No.: EBR63

Received Date: 2023/3/21

Test Date: 2023/3/21 ~ 2023/6/20

Issued Date: 2023/7/11

Applicant: ASUSTeK COMPUTER INC.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

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FCC Registration / 788550 / TW0003

Designation Number:

Approved by: Jeremy Lin, **Date:** 2023/7/11
Jeremy Lin / Project Engineer

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Prepared by : Vera Huang / Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFBFLF-WTW-P23030480	Original Release	2023/7/11

1 Certificate

Product: Wireless-AX3000 Dual-band Router

Brand: ASUS

Test Model: EBR63

Sample Status: Engineering Sample

Applicant: ASUSTeK COMPUTER INC.

Test Date: 2023/3/21 ~ 2023/6/20

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)

Measurement ANSI C63.10-2013

procedure: 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 -14.23 dB at 16.75400 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -4.1 dB at 55.22 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.2 dB at 2485.60, 2486.20 MHz
15.203	Antenna Requirement	Pass	Antenna connector is IPEX 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	2.99 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.59 dB
	30 MHz ~ 1 GHz	3.6 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 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	Wireless-AX3000 Dual-band Router
Brand	ASUS
Test Model	EBR63
Status of EUT	Engineering sample
Power Supply Rating	Refer to Note
Modulation Type	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 400 Mbps 802.11ax: up to 574 Mbps
Operating Frequency	2412 ~ 2472 MHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 13 802.11n (HT40), VHT40, 802.11ax (HE40): 9
Output Power	CDD Mode: 961.804 mW (29.83 dBm) Beamforming Mode: 635.706 mW (28.03 dBm)

Note:

1. The EUT uses following accessories.

AC Adapter 1		
Brand	Model	Specification
CHENZHOU FRECOM ELECTRONICS CO., LTD.	F24L6-120200SPAU	AC Input : 100-240Vac, 50-60Hz, 0.6A DC Output : 12Vdc, 2A. DC Output Cable : 1.5m without core, wo shielding Plug : US plug Manufacturer : CHENZHOU FRECOM ELECTRONICS CO., LTD.
AC Adapter 2		
Brand	Model	Specification
Shenzhen Keyu Power Supply Technology Co., Ltd.	KA2401A-1202000DE	AC Input : 100-240Vac, 50/60Hz, 0.65A DC Output : 12Vdc, 2A. DC Output Cable : 1.5m without core, wo shielding Plug : EU/UK/AU/US plug Manufacturer : Shenzhen Keyu Power Supply Technology Co., Ltd.
AC Adapter 3		
Brand	Model	Specification
Shenzhen Keyu Power Supply Technology Co., Ltd.	KA2401A-1202000US	AC Input : 100-240Vac, 50-60Hz, 0.65A DC Output : 12Vdc, 2A. DC Output Cable : 1.5m without core, wo shielding Plug : US plug Manufacturer : Shenzhen Keyu Power Supply Technology Co., Ltd.

*The adapter 1 & 3 was chosen for final test.

2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna No.	Brand	Model	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type
1	XINGSHENG	SSR-2303018	3	2.4~2.4835GHz	Dipole	IPEX
2	XINGSHENG	SSR-2303019	3	2.4~2.4835GHz	Dipole	IPEX

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

2. The EUT incorporates a MIMO function:

2.4 GHz 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
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX

Note:

- All of modulation mode support beamforming function except 802.11b/g modulation mode.
- The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
- The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), VHT mode for 20 MHz (40 MHz), and 802.11ax mode for 20 MHz (40 MHz), therefore the manufacturer will control the power for 802.11n/VHT mode is same as the 802.11ax mode or more lower than it and investigated worst case to representative mode in test report.
- The EUT supports full RU only.

3.3 Channel List

13 channels are provided for 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
1	2412 MHz	8	2447 MHz
2	2417 MHz	9	2452 MHz
3	2422 MHz	10	2457 MHz
4	2427 MHz	11	2462 MHz
5	2432 MHz	12	2467 MHz
6	2437 MHz	13	2472 MHz
7	2442 MHz		

9 channels are provided for 802.11n (HT40), VHT40, 802.11ax (HE40):

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

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition.
Worst Case:	Z-AXIS (LAN port left)
EUT Configure Mode:	Mode A: Powered by Adapter 1 Mode B: Powered by Adapter 3

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

Test Item	EUT Configure Mode	Signal Mode	Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	A	CDD	802.11b	1, 6, 11, 12, 13	DBPSK	1Mb/s
		CDD	802.11g	1, 6, 11, 12, 13	BPSK	6Mb/s
		CDD & Beamforming	802.11ax (HE20)	1, 6, 11, 12, 13	BPSK	MCS0
		CDD & Beamforming	802.11ax (HE40)	3, 6, 9, 10, 11	BPSK	MCS0
Power Spectral Density / 6 dB Bandwidth / Conducted Out of Band Emissions	A	CDD	802.11b	1, 6, 11, 12, 13	DBPSK	1Mb/s
		CDD	802.11g	1, 6, 11, 12, 13	BPSK	6Mb/s
		CDD	802.11ax (HE20)	1, 6, 11, 12, 13	BPSK	MCS0
		CDD	802.11ax (HE40)	3, 6, 9, 10, 11	BPSK	MCS0
AC Power Conducted Emissions	A, B	CDD	802.11b	6	DBPSK	1Mb/s
Unwanted Emissions below 1 GHz	A, B	CDD	802.11b	6	DBPSK	1Mb/s
Unwanted Emissions above 1 GHz	A	CDD	802.11b	1, 6, 11, 12, 13	DBPSK	1Mb/s
		CDD	802.11g	1, 6, 11, 12, 13	BPSK	6Mb/s
		CDD	802.11ax (HE20)	1, 6, 11, 12, 13	BPSK	MCS0
		CDD	802.11ax (HE40)	3, 6, 9, 10, 11	BPSK	MCS0

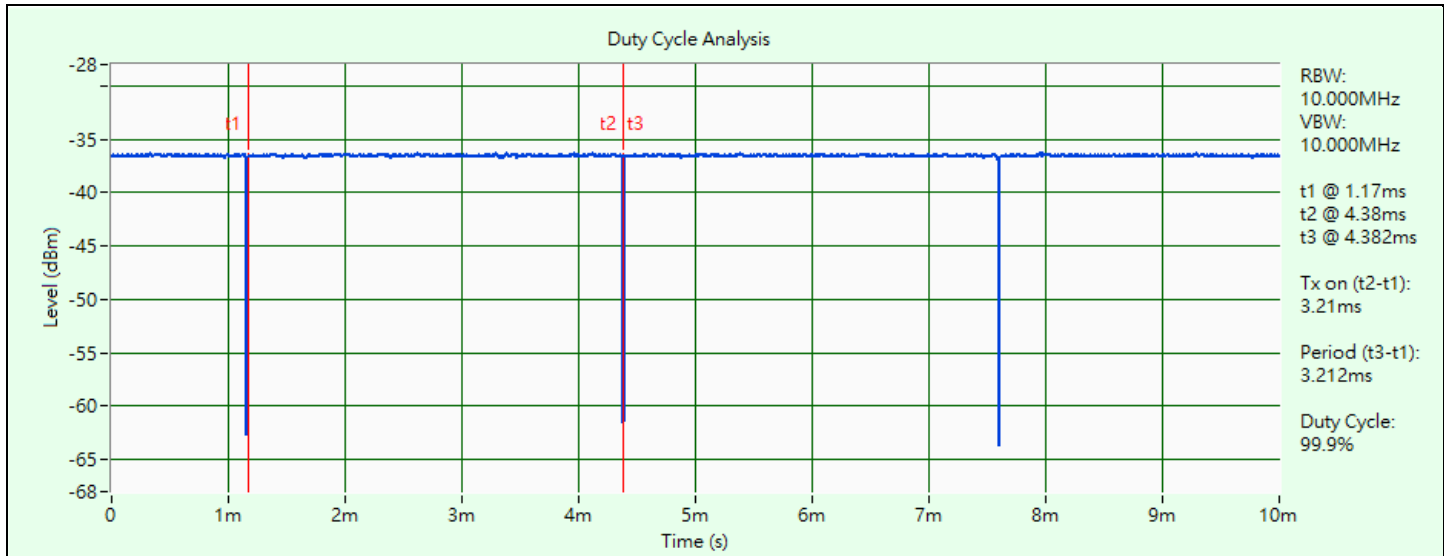
3.5 Duty Cycle of Test Signal

802.11b: Duty cycle = 3.21 ms / 3.212 ms x 100% = 99.9%

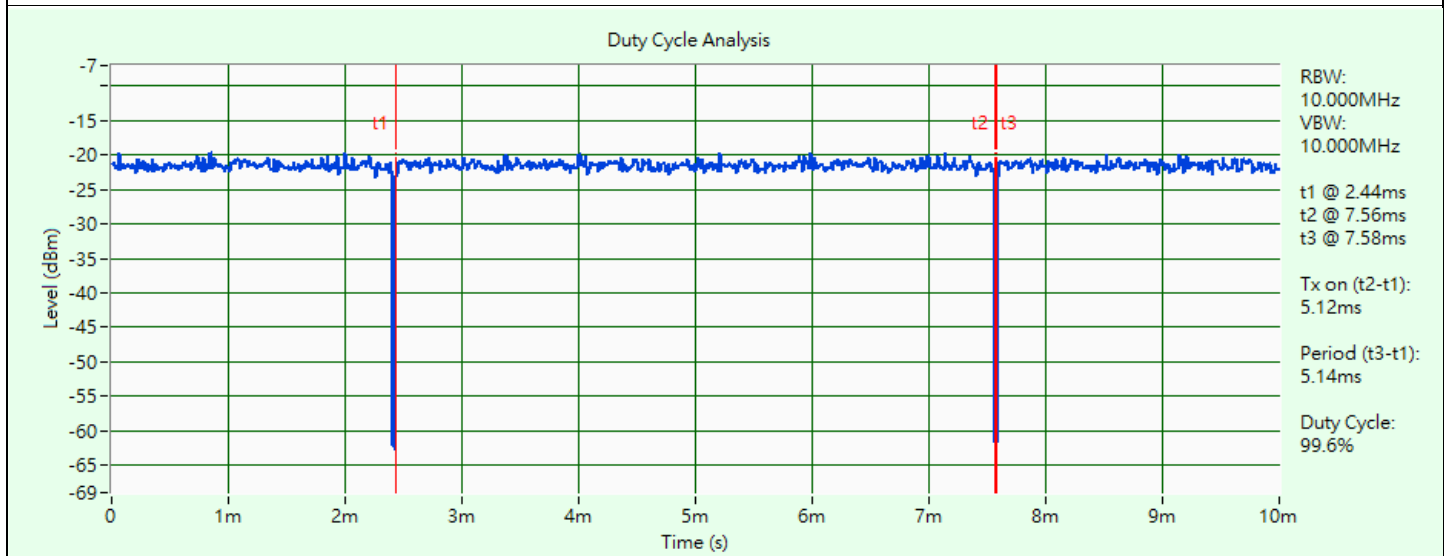
802.11g: Duty cycle = 5.12 ms / 5.14 ms x 100% = 99.6%

802.11ax (HE20): Duty cycle = 3.06 ms / 3.07 ms x 100% = 99.7%

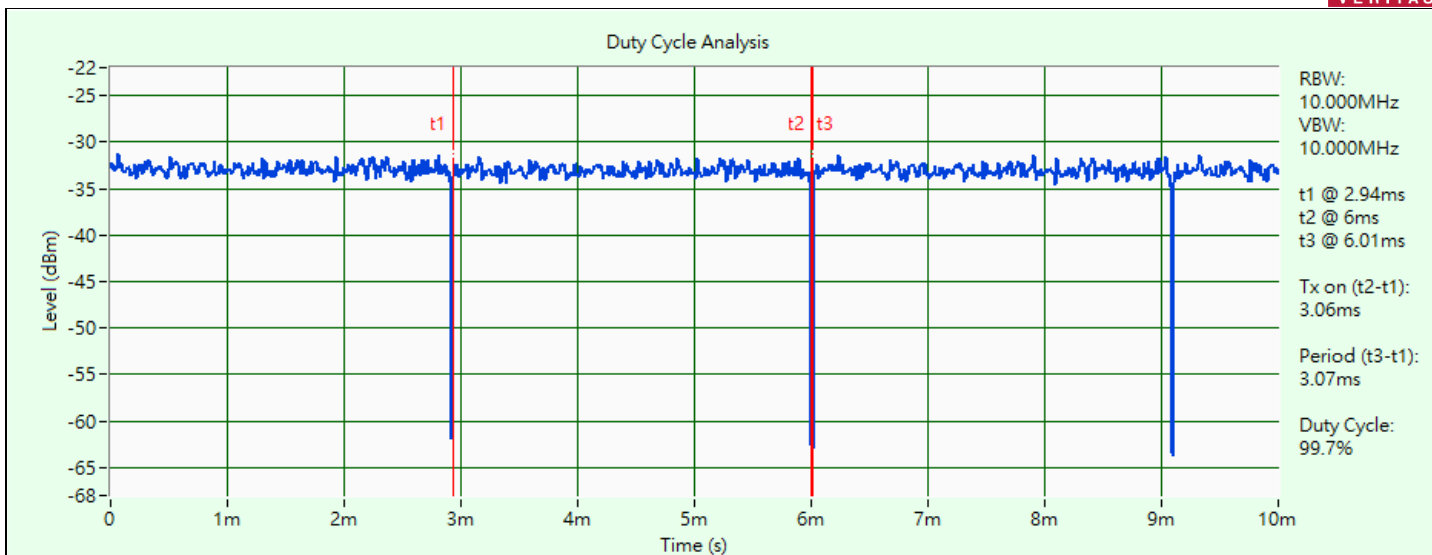
802.11ax (HE40): Duty cycle = 3.07 ms / 3.08 ms x 100% = 99.7%



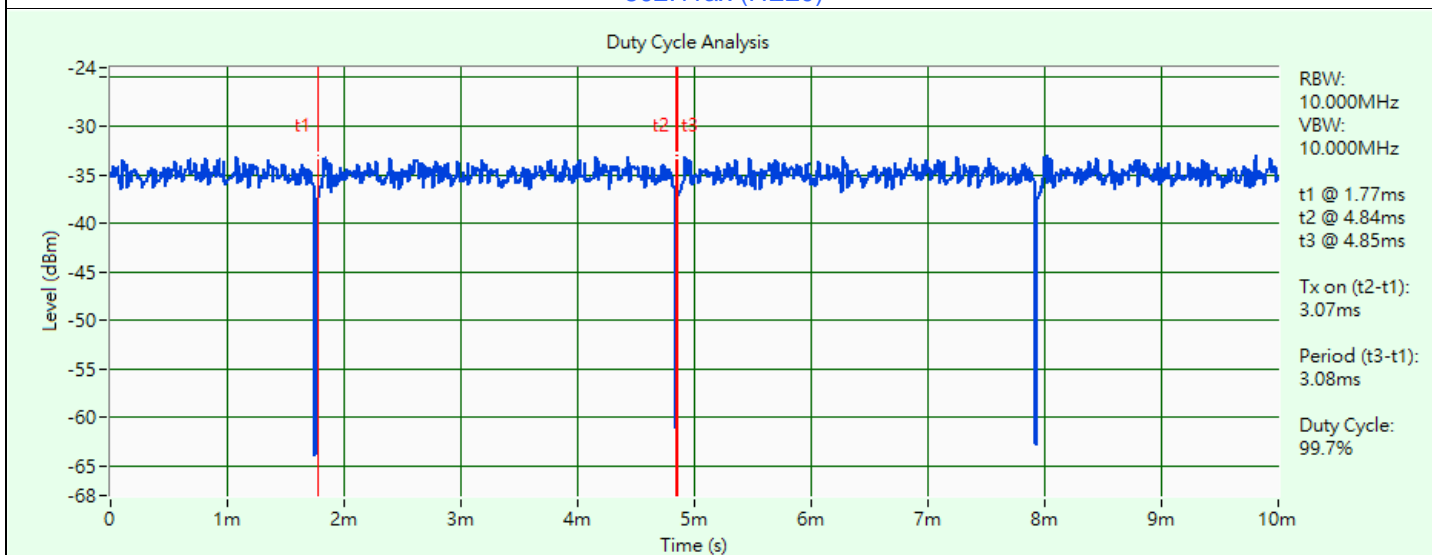
802.11b



802.11g



802.11ax (HE20)

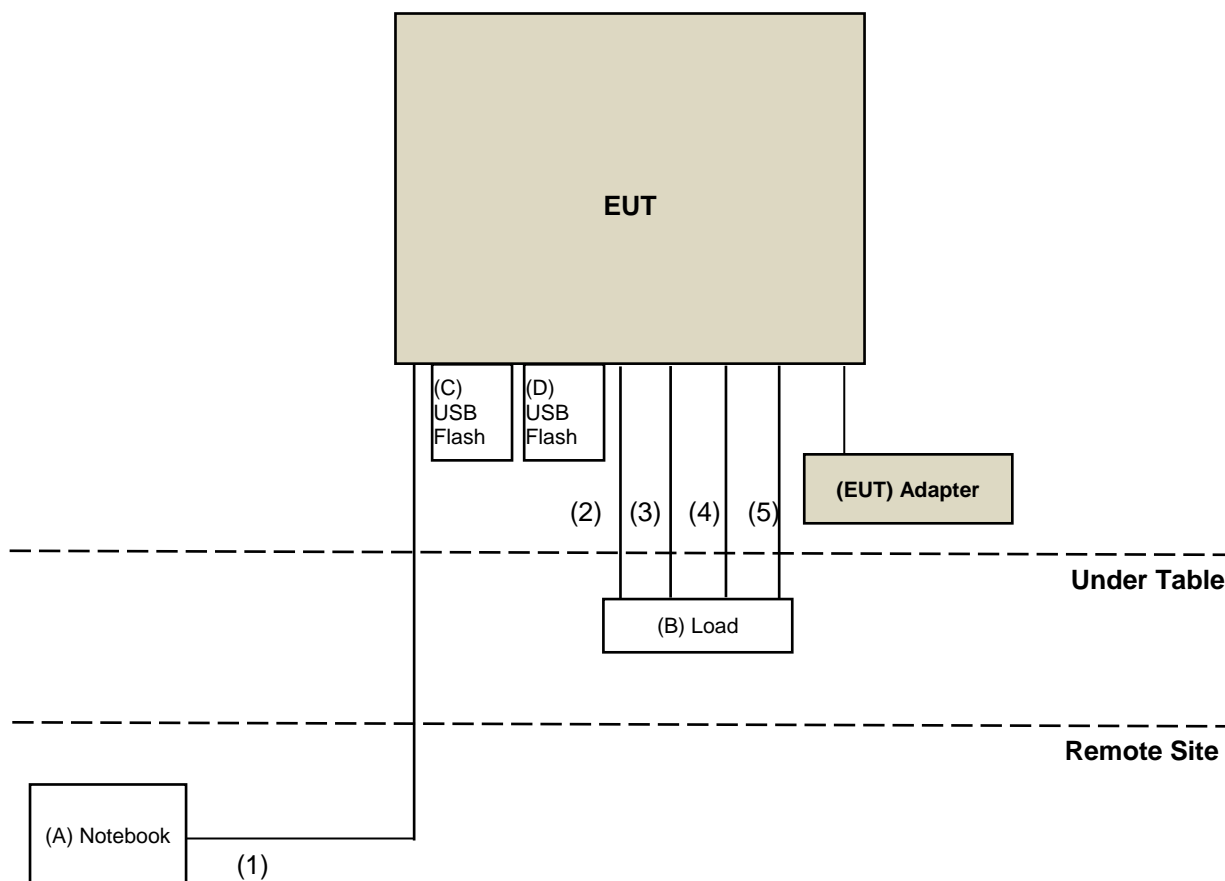


802.11ax (HE40)

3.6 Test Program Used and Operation Descriptions

Controlling software accessMTool_REL_3_2_1_5 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	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Notebook	Lenovo	L470	PF0XEHC5	N/A	Provided by Lab
B	Load	N/A	N/A	N/A	N/A	Provided by Lab
C	USB Flash	SanDisk	SDDDC3-032G	N/A	N/A	Provided by Lab
D	USB Flash	SanDisk	SDDDC3-032G	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	1	6	No	0	Provided by Lab
2	RJ-45 Cable	1	1.5	No	0	Provided by Lab
3	RJ-45 Cable	1	1.5	No	0	Provided by Lab
4	RJ-45 Cable	1	1.5	No	0	Provided by Lab
5	RJ-45 Cable	1	1.5	No	0	Provided by Lab

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
USB Wideband Power Sensor Keysight	U2021XA	MY55050005/MY55190004/ MY55190007/MY55210005	2022/7/13	2023/7/12

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/4/9

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Signal & Spectrum Analyzer R&S	FSV3044	101105	2023/2/22	2024/2/21
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/4/9

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
EMI Test Receiver R&S	ESCI	100613	2022/12/5	2023/12/4
LISN R&S	ESH3-Z5	100116	2023/2/15	2024/2/14
		100311	2022/9/12	2023/9/11
RF Coaxial Cable Woken	5D-FB	Cable-cond1-01	2023/1/7	2024/1/6
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2022/8/31	2023/8/30

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2023/3/21 ~ 2023/6/20

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn BV ADT	AT100	AT93021705	N/A	N/A
Bi_Log Antenna Schwarbeck	VULB 9168	9168-160	2022/10/20	2023/10/19
Loop Antenna Electro-Metrics	EM-6879	269	2022/9/19	2023/9/18
Loop Antenna TESEQ	HLA 6121	45745	2022/7/27	2023/7/26
MXE EMI Receiver Keysight	N9038A	MY55420137	2022/4/27	2023/4/26
			2023/5/3	2024/5/2
Preamplifier Agilent	8447D	2944A10638	2022/5/14	2023/5/13
			2023/5/7	2024/5/6
Preamplifier EMCI	EMC001340	980201	2022/9/23	2023/9/22
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2023/1/7	2024/1/6
RF Coaxial Cable Woken	8D-FB	Cable-CH9-01	2022/5/14	2023/5/13
			2023/5/7	2024/5/6
Signal & Spectrum Analyzer R&S	FSW43	101867	2022/12/30	2023/12/29
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2023/3/27 ~ 2023/6/20

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn BV ADT	AT100	AT93021705	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	5	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-1169	2022/11/13	2023/11/12
	BBHA 9170	9170-480	2022/11/13	2023/11/12
		BBHA9170243	2022/11/13	2023/11/12
MXE EMI Receiver Keysight	N9038A	MY55420137	2023/05/03	2024/05/02
Notch Filter Micro-Tronics	BRM17690	004	2023/01/11	2024/01/10
	BRM50716	060	2023/01/11	2024/01/10
Preamplifier Agilent	8449B	3008A02367	2023/02/15	2024/02/14
Preamplifier EMCI	EMC 184045	980116	2022/10/01	2023/09/30
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2022/07/09	2023/07/08
	EMC102-KM-KM-3000	150929	2022/07/09	2023/07/08
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	2023/01/07	2024/01/06
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	2023/01/07	2024/01/06
Signal & Spectrum Analyzer R&S	FSW43	101867	2022/12/30	2023/12/29
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2023/6/2

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

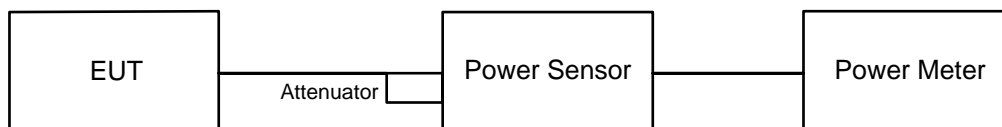
Notes:

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



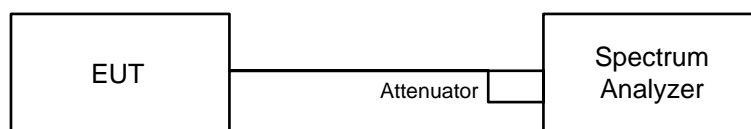
6.1.2 Test Procedure

Average Power:

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

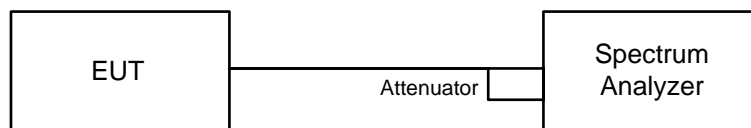


6.2.2 Test Procedure

- 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 $\geq 3 \times$ RBW.
- f. Detector = power averaging (RMS) or sample detector (when RMS not available).
- g. Ensure that the number of measurement points in the sweep $\geq 2 \times$ 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.
- l. 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

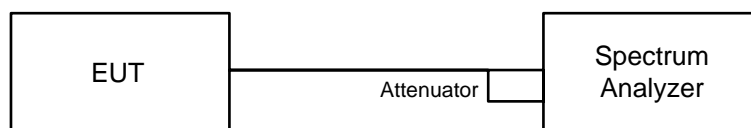


6.3.2 Test Procedure

- Set resolution bandwidth (RBW) = 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- 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

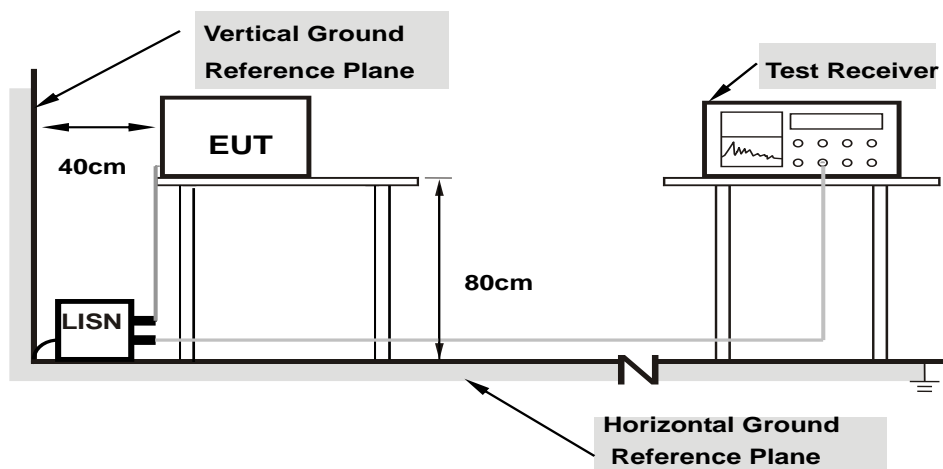
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOB

- Set RBW = 100 kHz.
- Set VBW ≥ 300 kHz.
- Detector = peak.
- Sweep = auto couple.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- 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

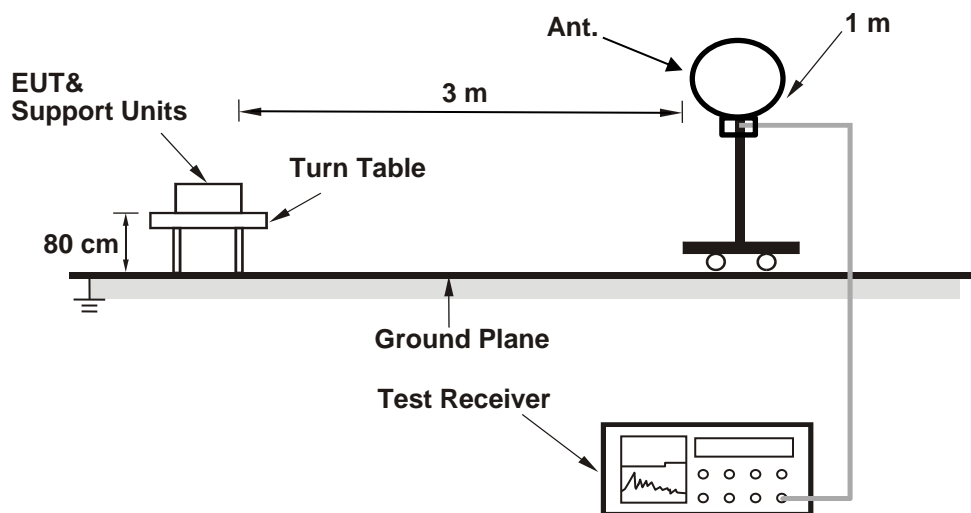
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- 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.

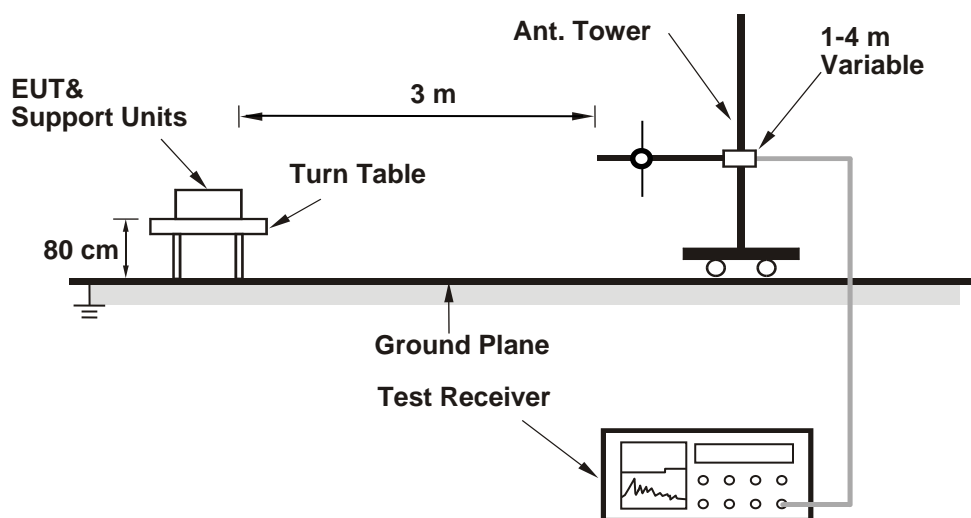
6.6 Unwanted Emissions below 1 GHz

6.6.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

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, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

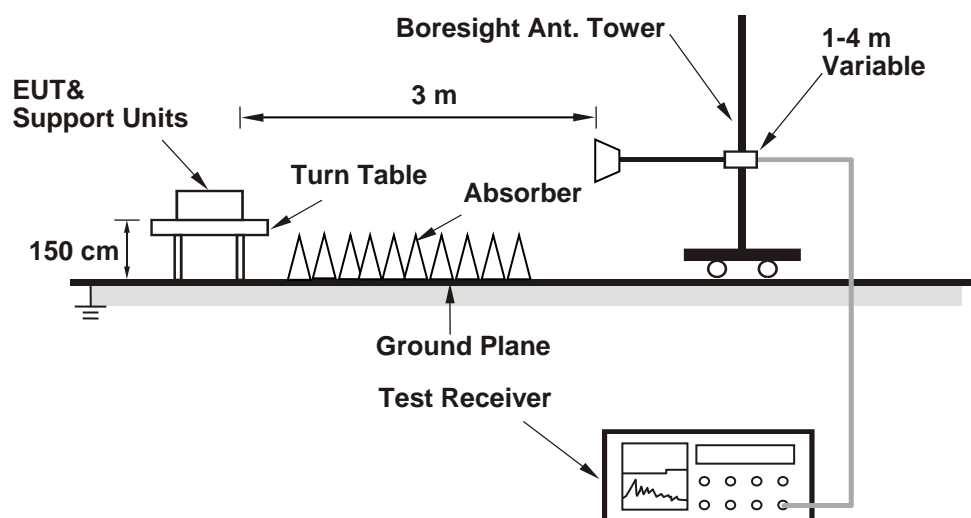
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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 the actual test configuration, please refer to the attached file (Test Setup Photo).

6.7.2 Test Procedure

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

- 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.
- For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
- 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:	Jisyong Wang
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802.11b CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	25.84	25.66	751.836	28.76	30	Pass
6	2437	26.89	26.75	961.804	29.83	30	Pass
11	2462	25.89	25.72	761.401	28.82	30	Pass
12	2467	23.91	23.69	479.92	26.81	30	Pass
13	2472	20.33	20.21	212.849	23.28	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11g CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	20.71	21.69	265.331	24.24	30	Pass
6	2437	24.82	25.63	668.984	28.25	30	Pass
11	2462	20.52	21.33	248.551	23.95	30	Pass
12	2467	17.75	18.89	137.012	21.37	30	Pass
13	2472	15.79	17.09	89.1	19.50	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	19.75	20.53	207.386	23.17	30	Pass
6	2437	24.46	25.52	635.706	28.03	30	Pass
11	2462	19.05	20.15	183.867	22.65	30	Pass
12	2467	17.58	18.55	128.894	21.10	30	Pass
13	2472	14.15	15.61	62.393	17.95	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	18.13	17.82	125.547	20.99	30	Pass
6	2437	19.88	19.75	191.681	22.83	30	Pass
9	2452	19.22	18.93	161.723	22.09	30	Pass
10	2457	18.18	18.11	130.48	21.16	30	Pass
11	2462	15.56	15.47	71.212	18.53	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	19.75	20.53	207.386	23.17	29.99	Pass
6	2437	24.46	25.52	635.706	28.03	29.99	Pass
11	2462	19.05	20.15	183.867	22.65	29.99	Pass
12	2467	17.58	18.55	128.894	21.10	29.99	Pass
13	2472	14.15	15.61	62.393	17.95	29.99	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. The directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to $30 - (6.01 - 6) = 29.99$ dBm.

802.11ax (HE40) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	18.13	17.82	125.547	20.99	29.99	Pass
6	2437	19.88	19.75	191.681	22.83	29.99	Pass
9	2452	19.22	18.93	161.723	22.09	29.99	Pass
10	2457	18.18	18.11	130.48	21.16	29.99	Pass
11	2462	15.56	15.47	71.212	18.53	29.99	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. The directional gain is 6.01 dBi > 6 dBi, so the output power limit shall be reduced to $30 - (6.01 - 6) = 29.99$ dBm.

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang
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802.11b

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
1	2412	-6.05	-7.05	-3.51	7.99	Pass
6	2437	-4.91	-5.11	-2.00	7.99	Pass
11	2462	-5.64	-6.06	-2.83	7.99	Pass
12	2467	-7.92	-7.26	-4.57	7.99	Pass
13	2472	-11.83	-12.17	-8.99	7.99	Pass

Notes:

- Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
- Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
- The directional gain is 6.01 dBi > 6 dBi, so the power density limit shall be reduced to $8 - (6.01 - 6) = 7.99$ dBm/3kHz.

802.11g

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
1	2412	-12.63	-13.61	-10.08	7.99	Pass
6	2437	-8.65	-9.29	-5.95	7.99	Pass
11	2462	-13.29	-13.51	-10.39	7.99	Pass
12	2467	-15.87	-15.87	-12.86	7.99	Pass
13	2472	-17.42	-17.19	-14.29	7.99	Pass

Notes:

- Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
- Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
- The directional gain is 6.01 dBi > 6 dBi, so the power density limit shall be reduced to $8 - (6.01 - 6) = 7.99$ dBm/3kHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
1	2412	-16.07	-14.08	-11.95	7.99	Pass
6	2437	-10.03	-11.19	-7.56	7.99	Pass
11	2462	-16.29	-15.91	-13.09	7.99	Pass
12	2467	-18.30	-17.90	-15.08	7.99	Pass
13	2472	-21.06	-20.29	-17.65	7.99	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 = gain of antenna element + 10 log (2 of TX antenna elements)
3. The directional gain is 6.01 dBi > 6 dBi, so the power density limit shall be reduced to $8-(6.01-6) = 7.99$ dBm/3kHz.

802.11ax (HE40)

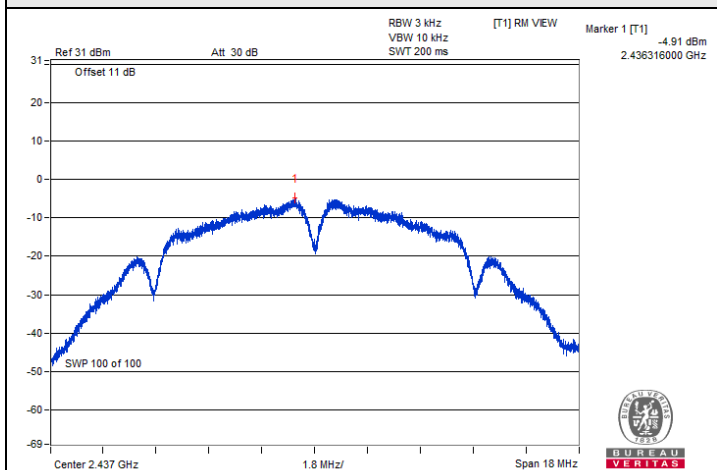
Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
3	2422	-19.88	-19.83	-16.84	7.99	Pass
6	2437	-17.88	-17.61	-14.73	7.99	Pass
9	2452	-18.10	-18.73	-15.39	7.99	Pass
10	2457	-19.31	-20.30	-16.77	7.99	Pass
11	2462	-21.39	-22.05	-18.70	7.99	Pass

Notes:

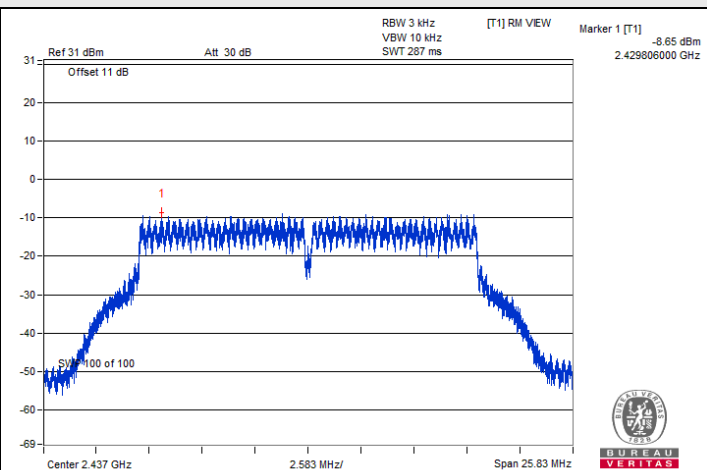
1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. The directional gain is 6.01 dBi > 6 dBi, so the power density limit shall be reduced to $8-(6.01-6) = 7.99$ dBm/3kHz.



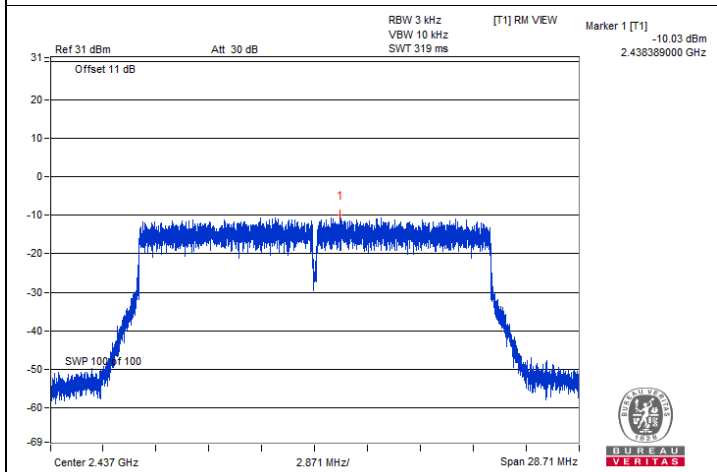
Spectrum Plot of Maximum Value



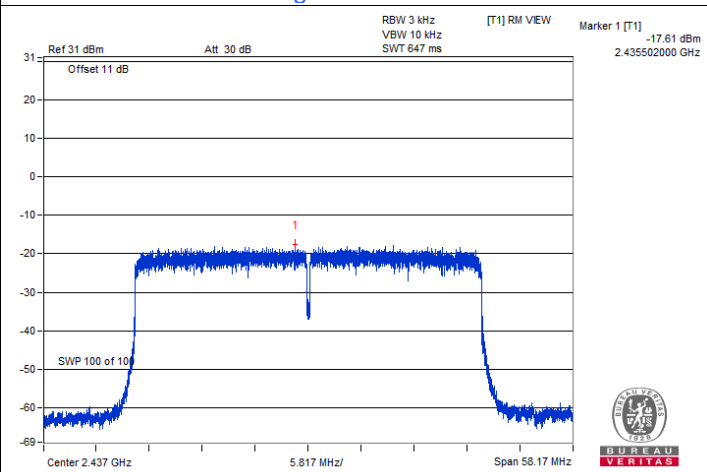
802.11b / Chain 0 : CH 6



802.11g / Chain 0 : CH 6



802.11ax (HE20) / Chain 0 : CH 6



802.11ax (HE40) / Chain 1 : CH 6

7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang
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802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	7.09	7.12	0.5	Pass
6	2437	7.07	7.11	0.5	Pass
11	2462	7.11	7.09	0.5	Pass
12	2467	7.10	7.10	0.5	Pass
13	2472	7.10	7.11	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	16.41	16.41	0.5	Pass
6	2437	16.43	16.44	0.5	Pass
11	2462	16.41	16.42	0.5	Pass
12	2467	16.42	16.43	0.5	Pass
13	2472	16.45	16.43	0.5	Pass

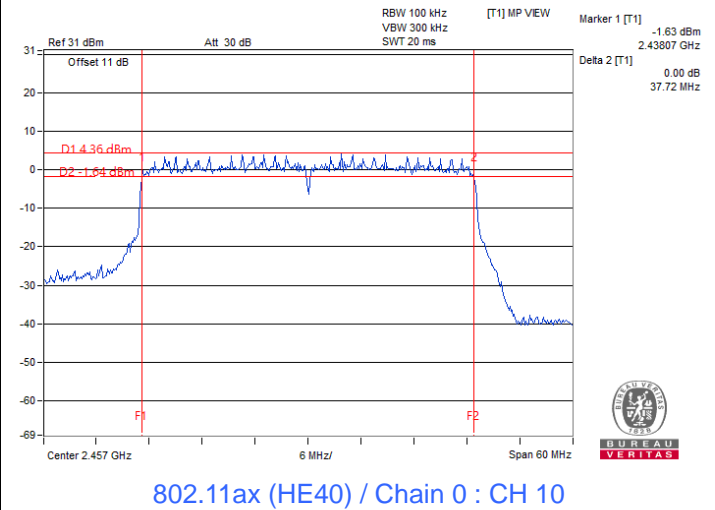
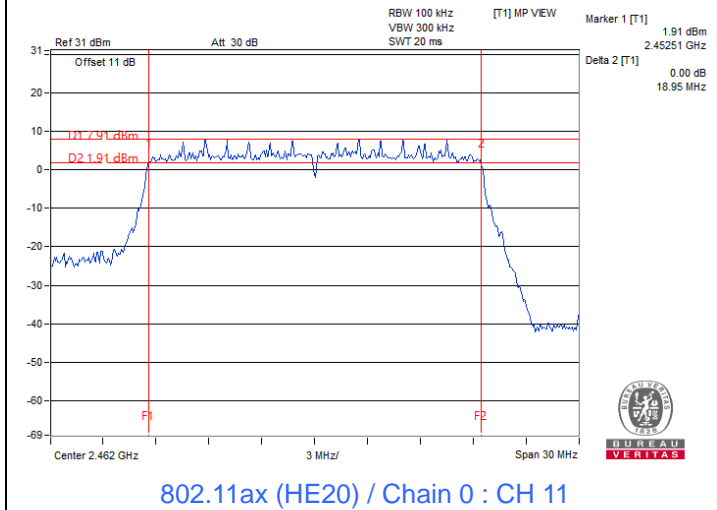
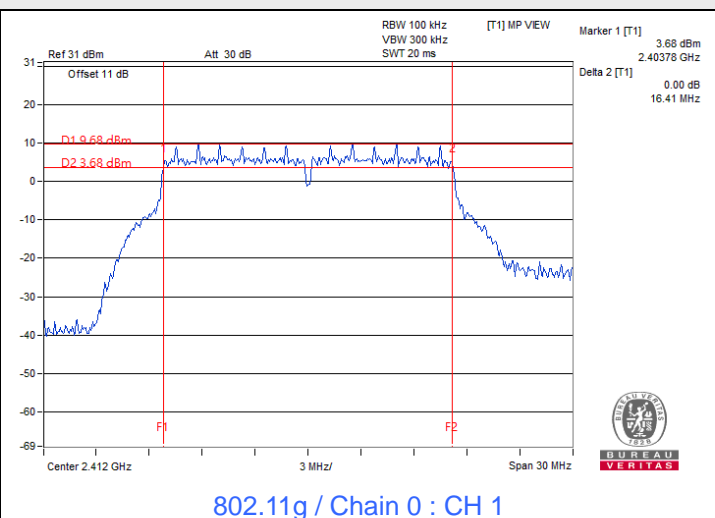
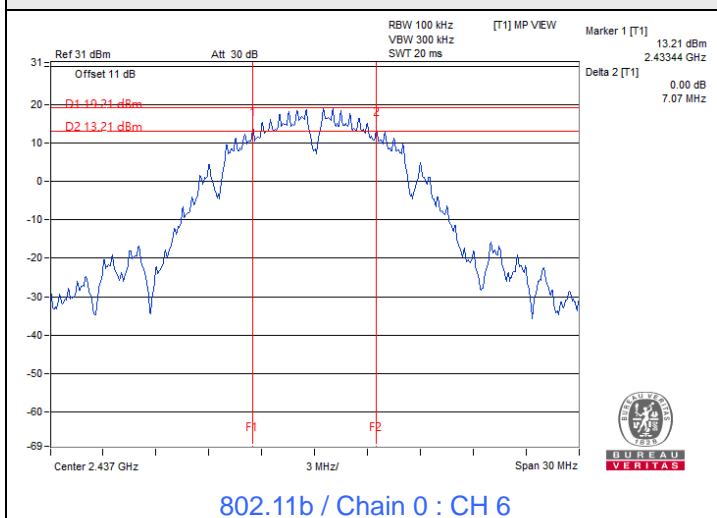
802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	18.99	18.98	0.5	Pass
6	2437	19.00	19.01	0.5	Pass
11	2462	18.95	18.98	0.5	Pass
12	2467	18.98	18.97	0.5	Pass
13	2472	19.02	19.06	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
3	2422	37.73	37.74	0.5	Pass
6	2437	37.81	37.82	0.5	Pass
9	2452	37.79	37.79	0.5	Pass
10	2457	37.72	37.77	0.5	Pass
11	2462	37.83	37.86	0.5	Pass

Spectrum Plot of Minimum Value

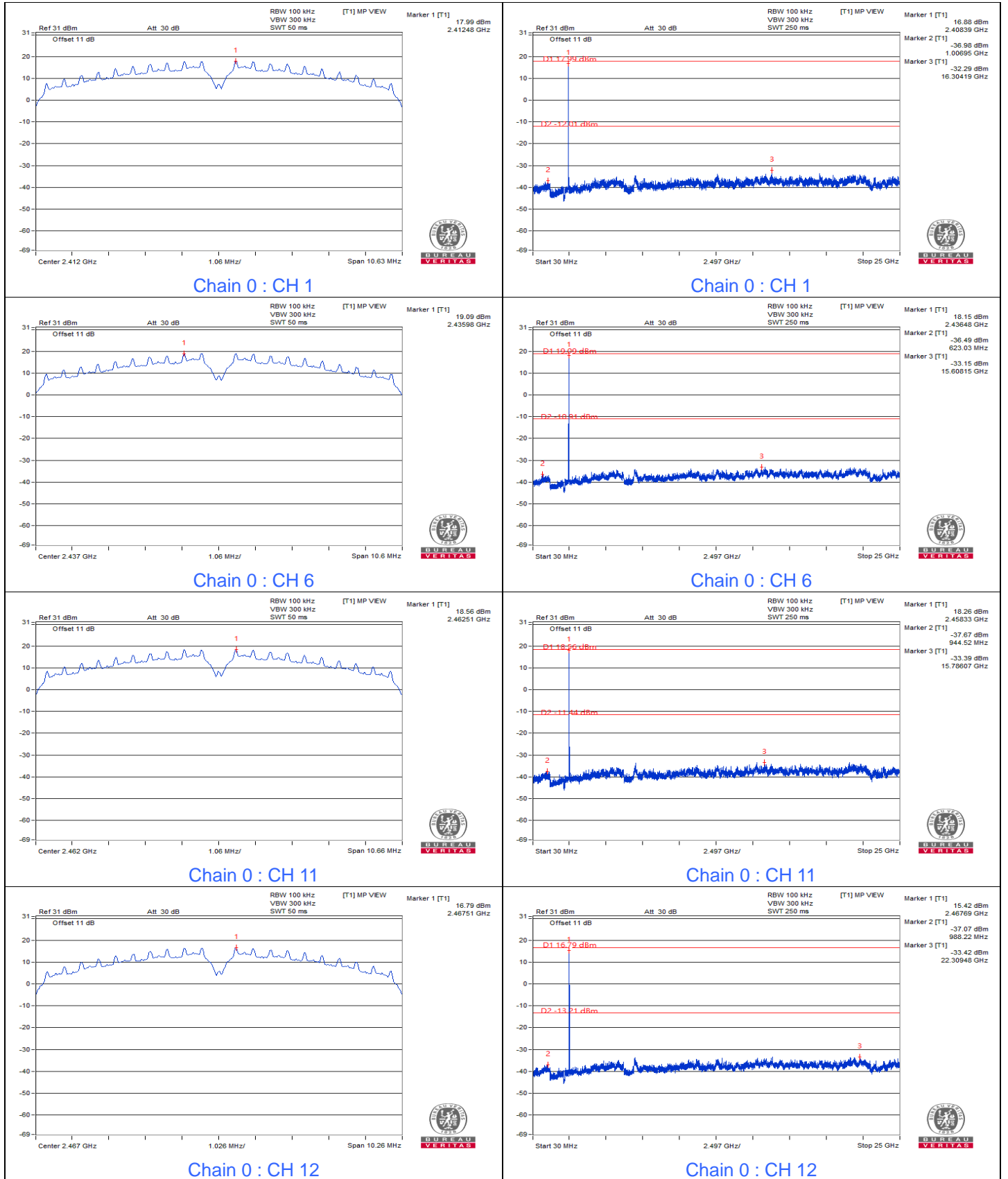


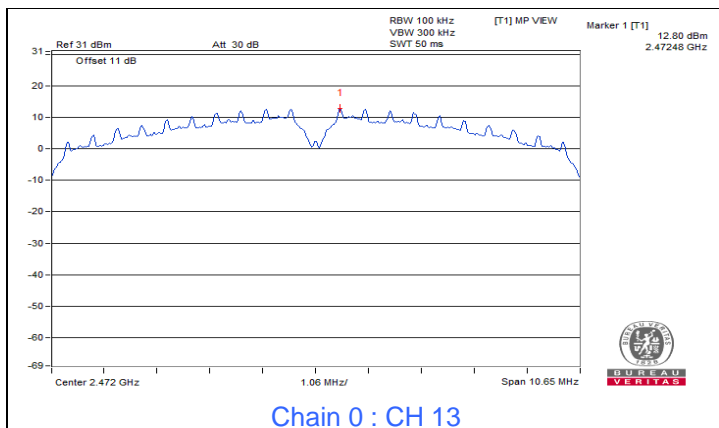


7.4 Conducted Out of Band Emissions

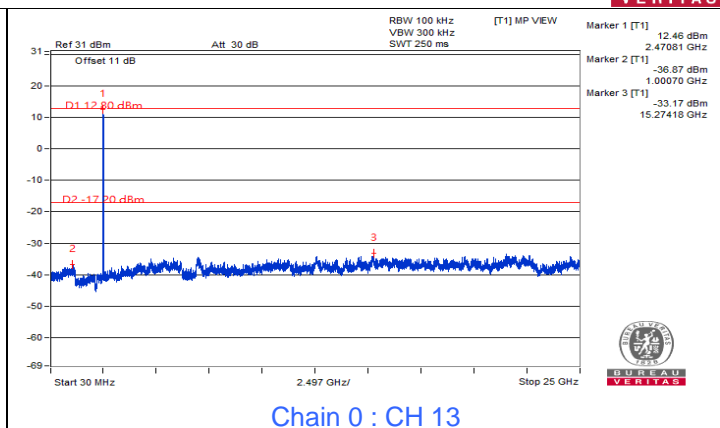
Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang
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802.11b

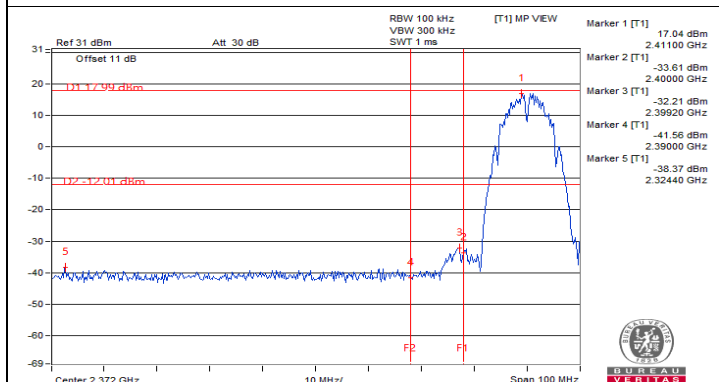




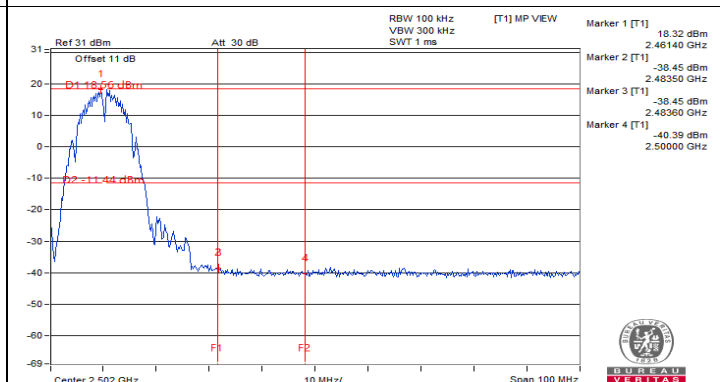
Chain 0 : CH 13



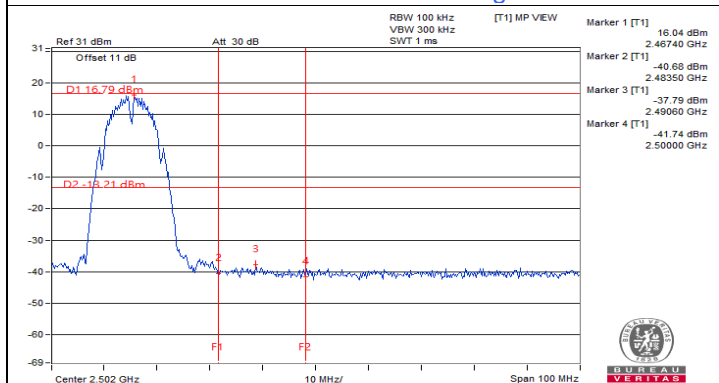
Chain 0 : CH 13



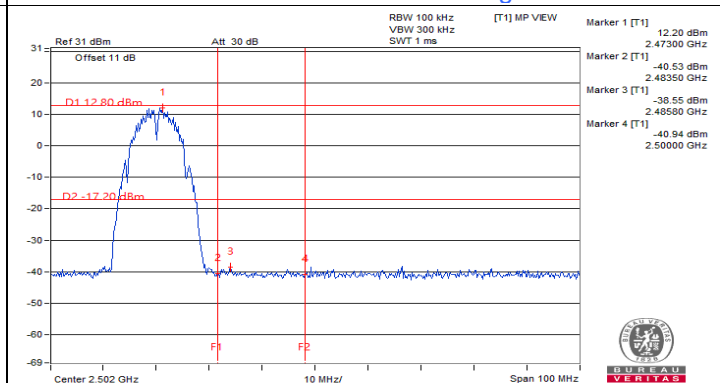
Chain 0 : CH 1 Band edge



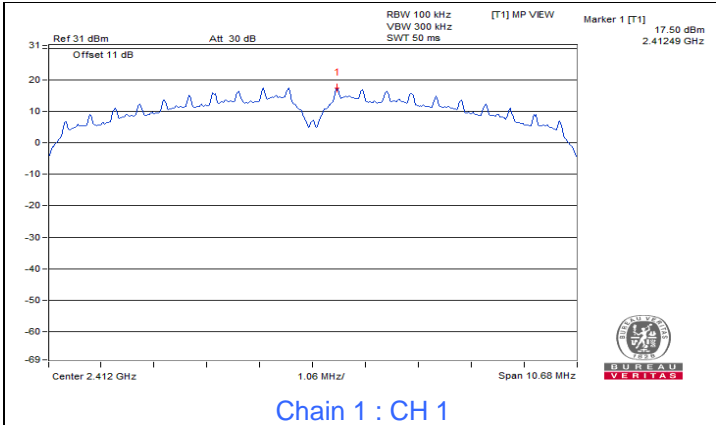
Chain 0 : CH 11 Band edge



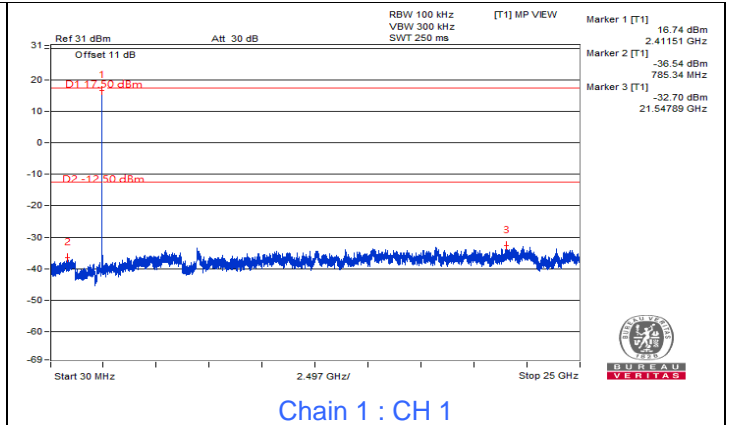
Chain 0 : CH 12 Band edge



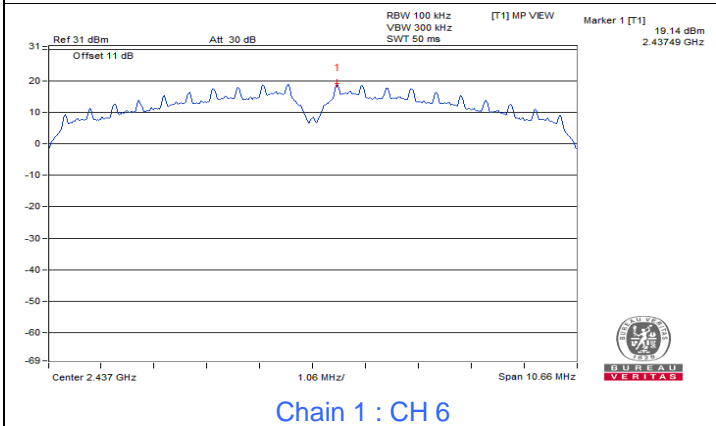
Chain 0 : CH 13 Band edge



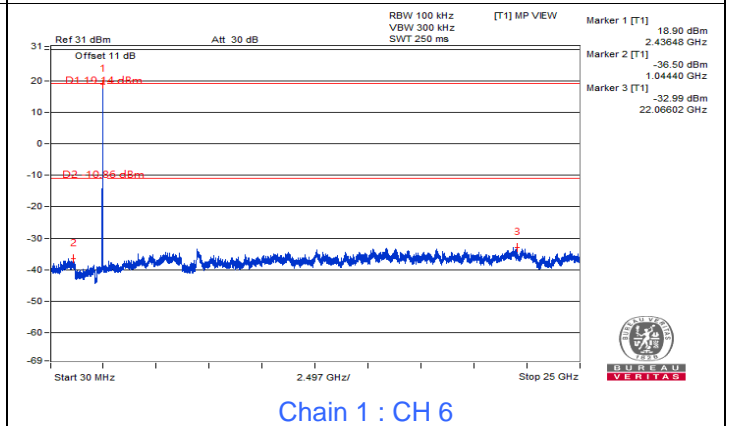
Chain 1 : CH 1



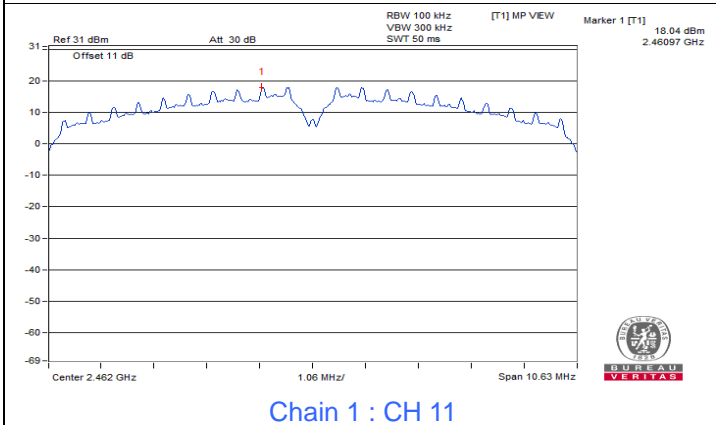
Chain 1 : CH 1



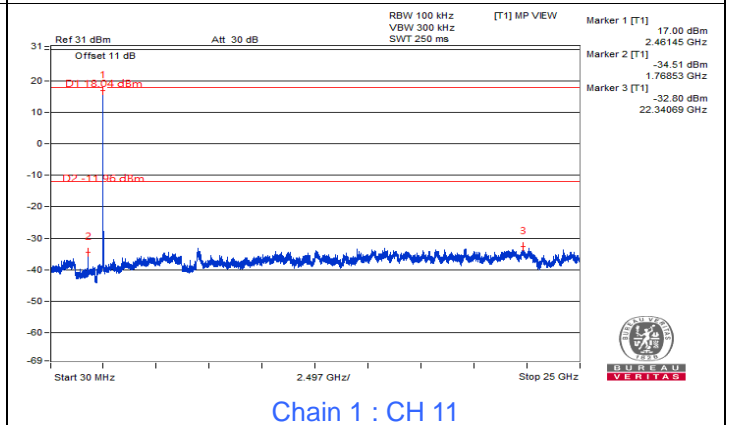
Chain 1 : CH 6



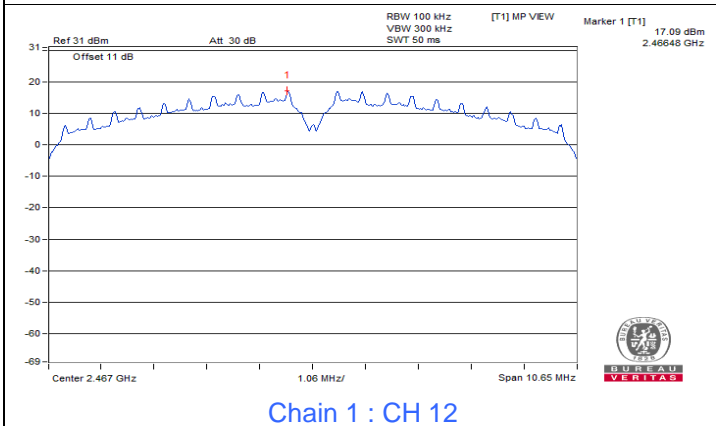
Chain 1 : CH 6



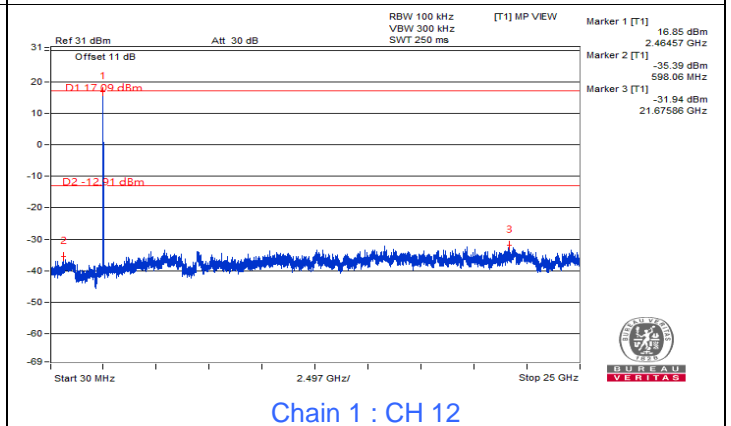
Chain 1 : CH 11



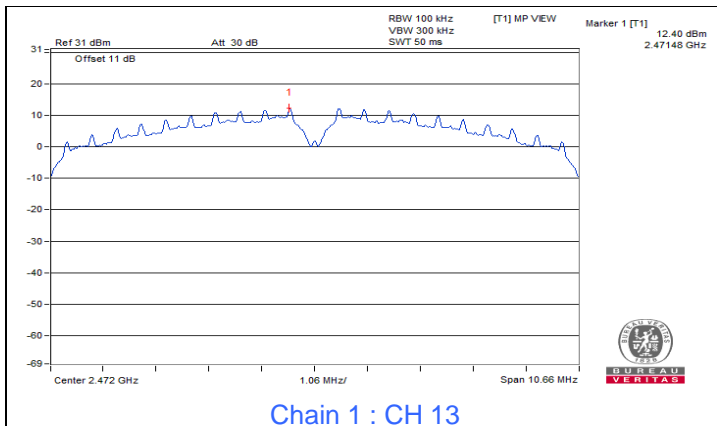
Chain 1 : CH 11



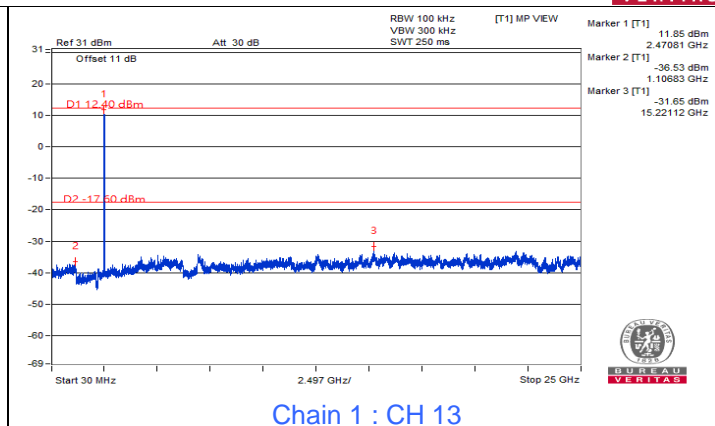
Chain 1 : CH 12



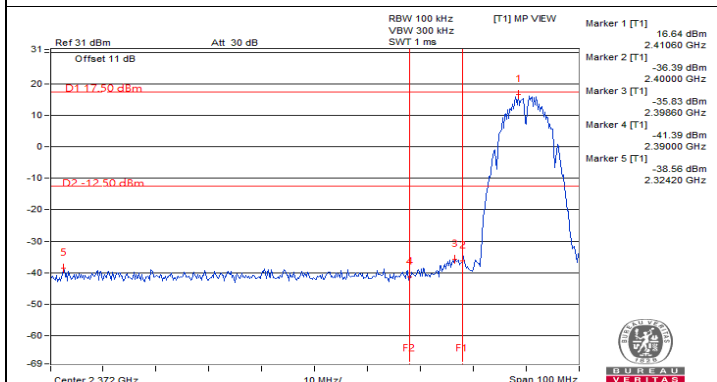
Chain 1 : CH 12



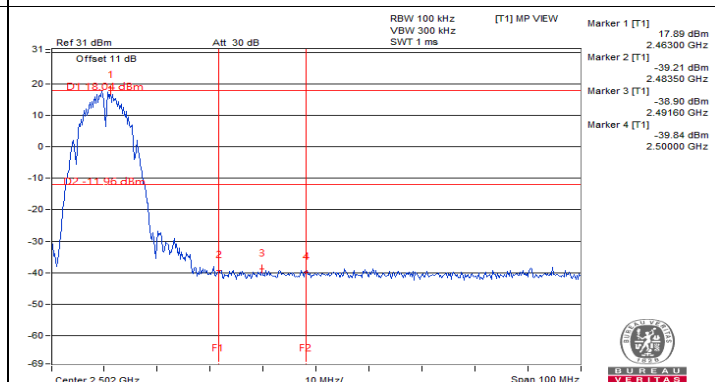
Chain 1 : CH 13



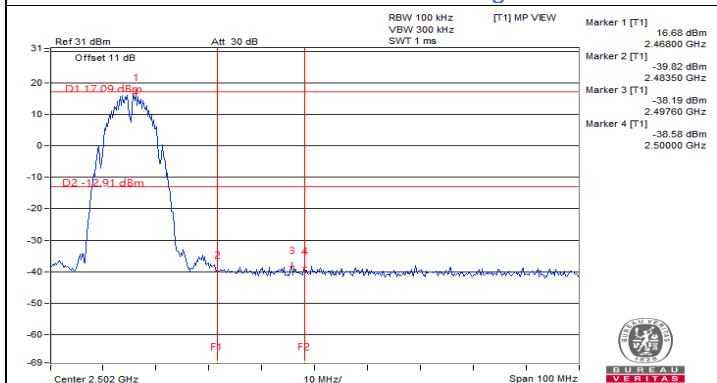
Chain 1 : CH 13



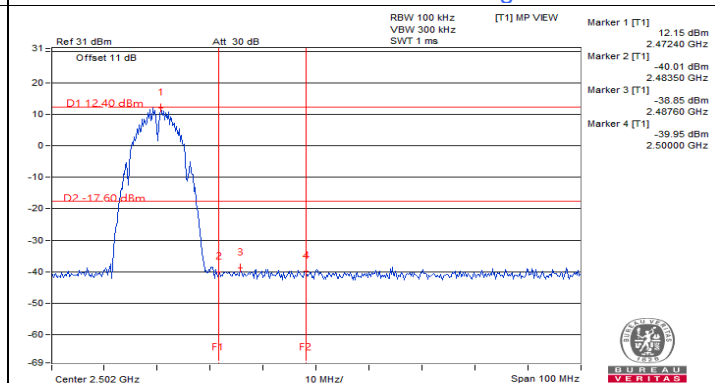
Chain 1 : CH 1 Band edge



Chain 1 : CH 11 Band edge



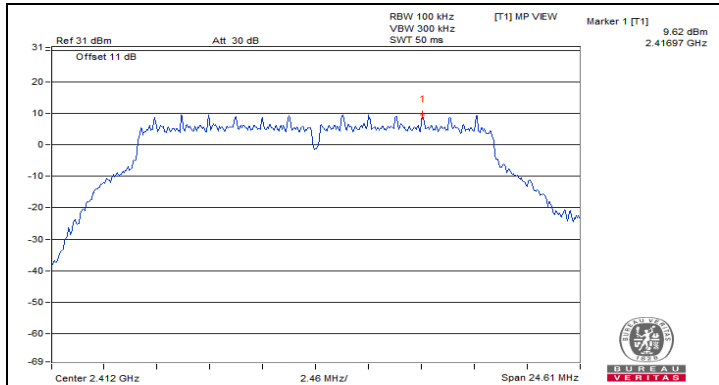
Chain 1 : CH 12 Band edge



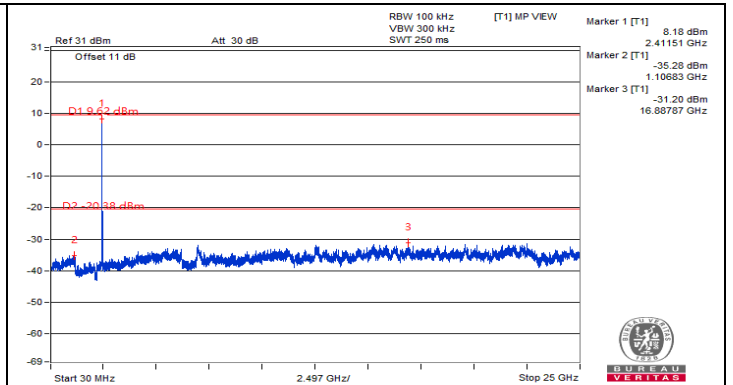
Chain 1 : CH 13 Band edge



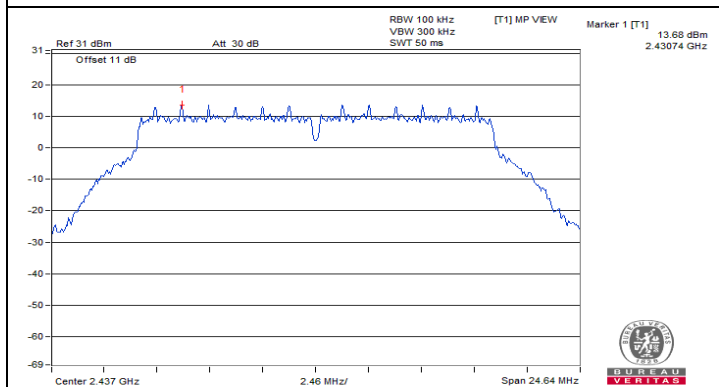
802.11g



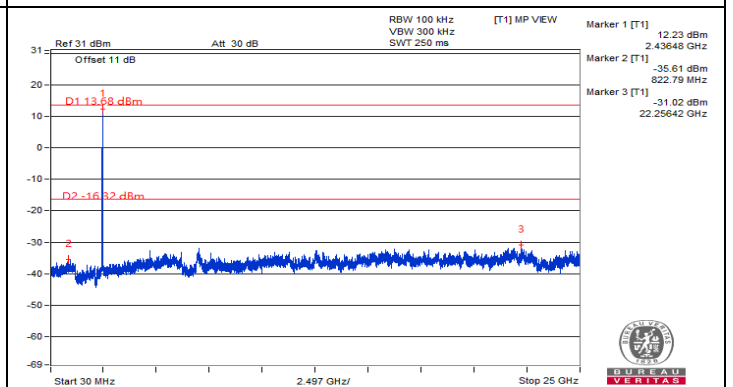
Chain 0 : CH 1



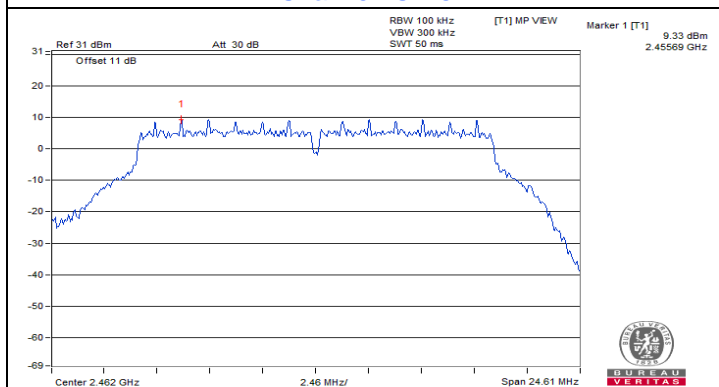
Chain 0 : CH 1



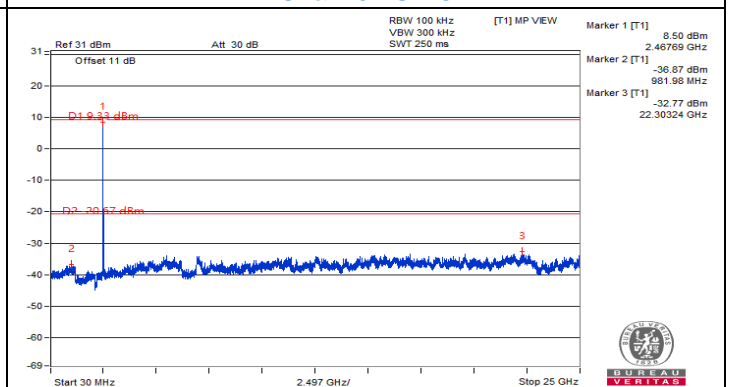
Chain 0 : CH 6



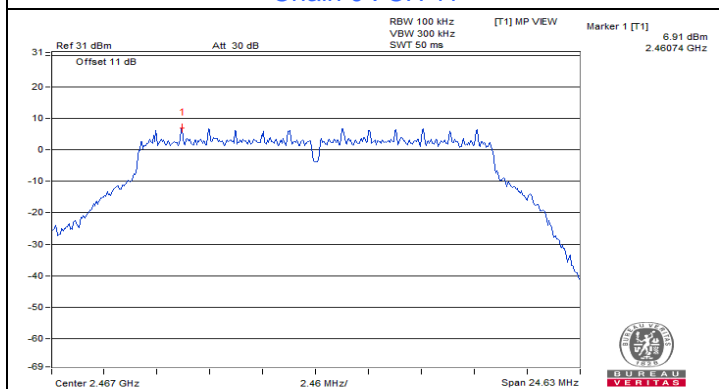
Chain 0 : CH 6



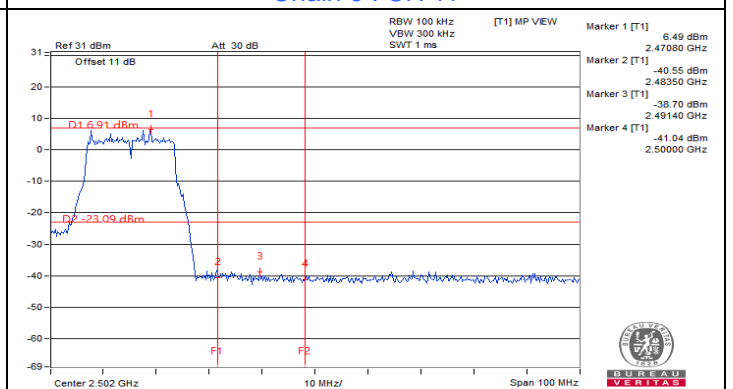
Chain 0 : CH 11



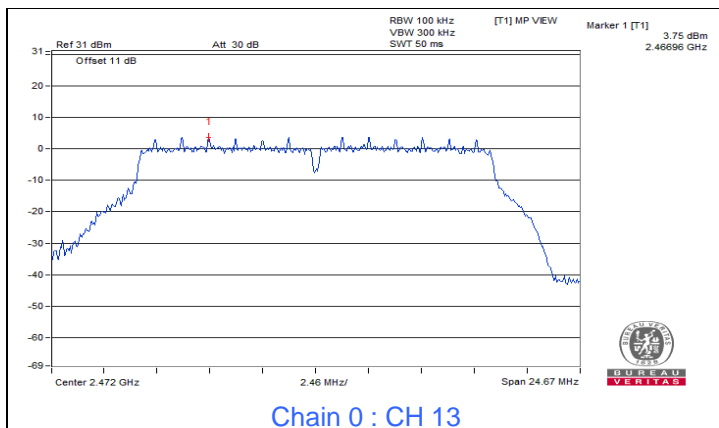
Chain 0 : CH 11



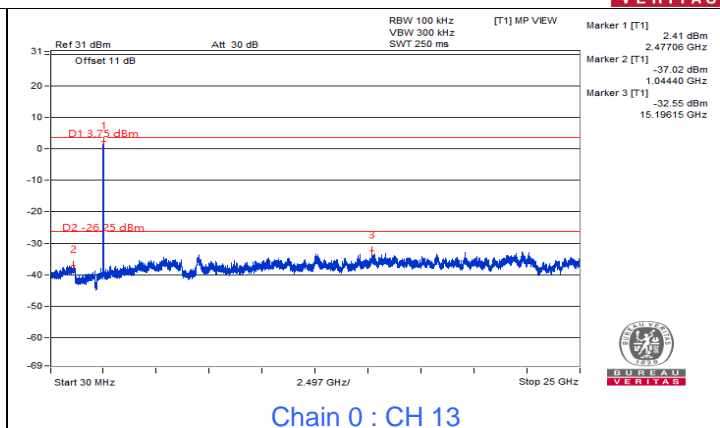
Chain 0 : CH 12



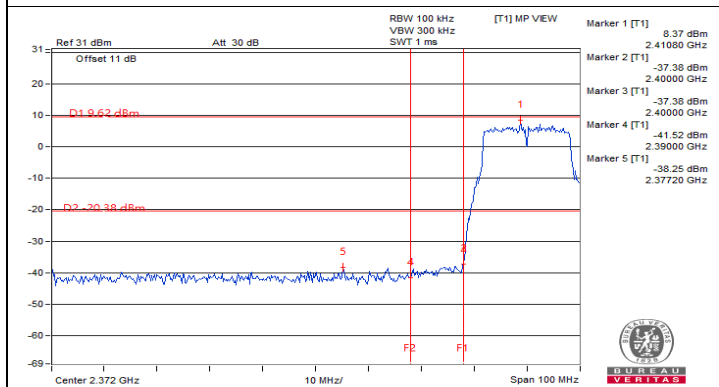
Chain 0 : CH 12



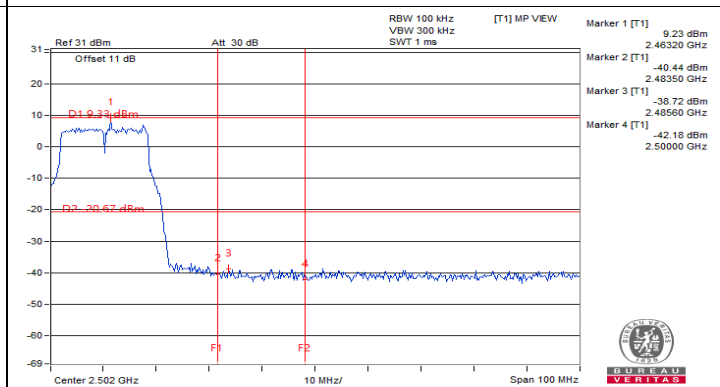
Chain 0 : CH 13



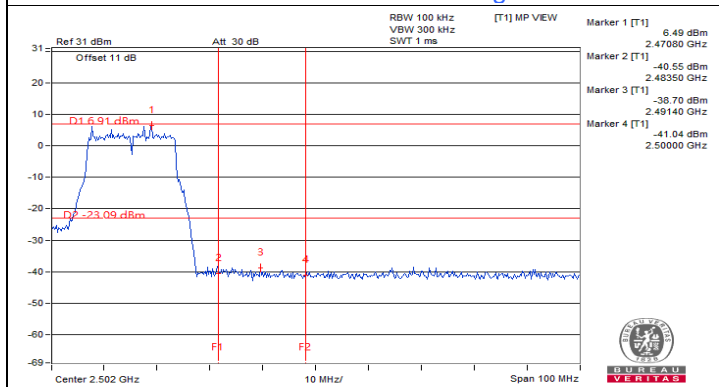
Chain 0 : CH 13



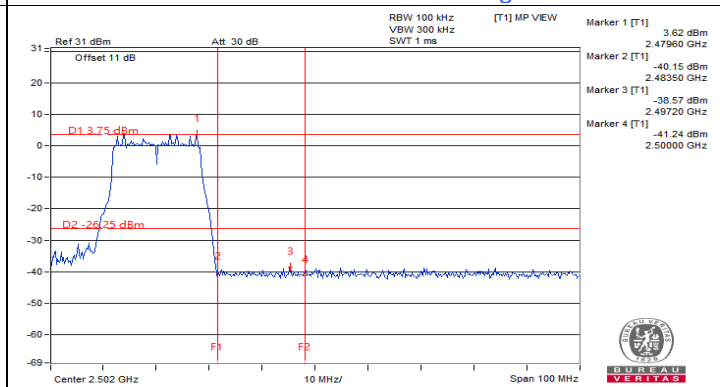
Chain 0 : CH 1 Band edge



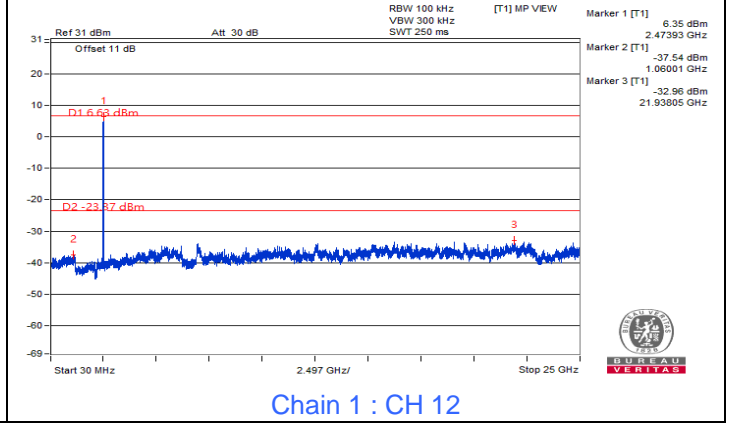
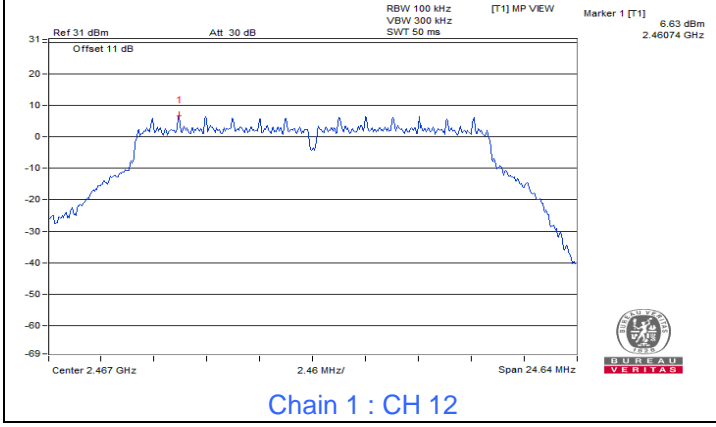
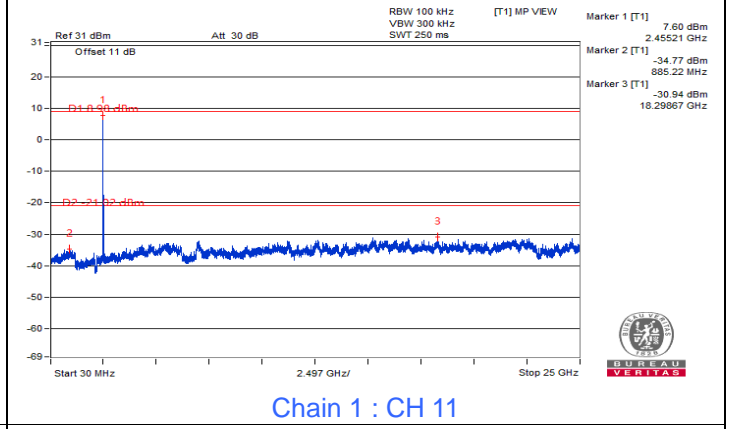
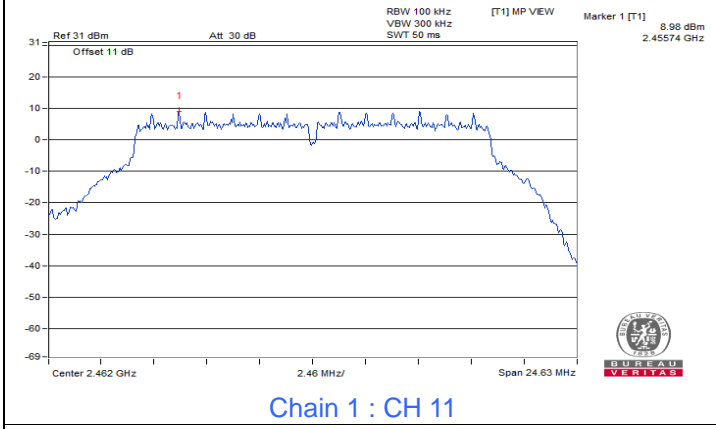
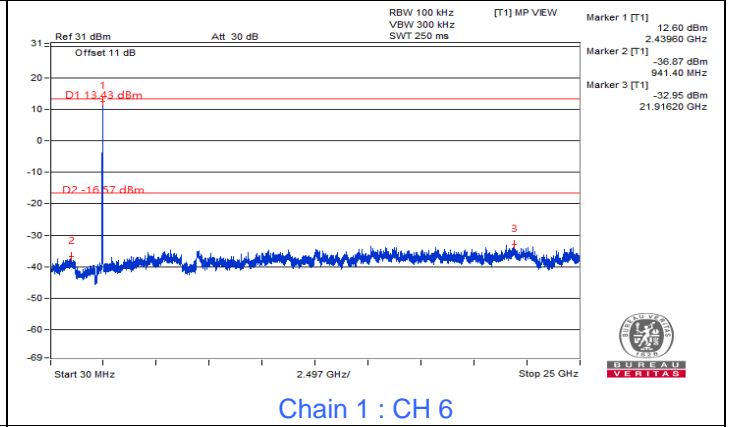
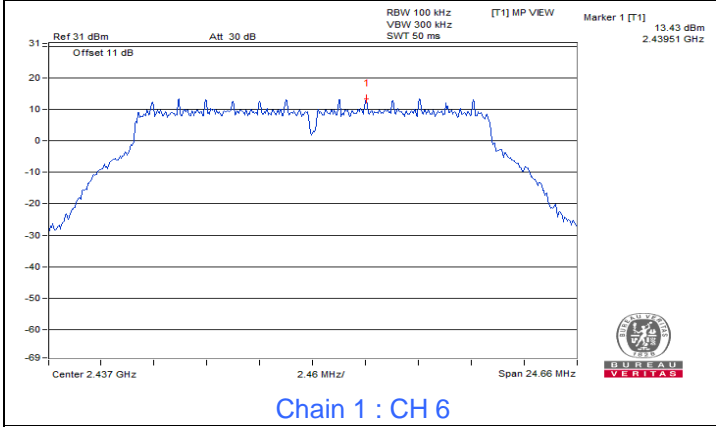
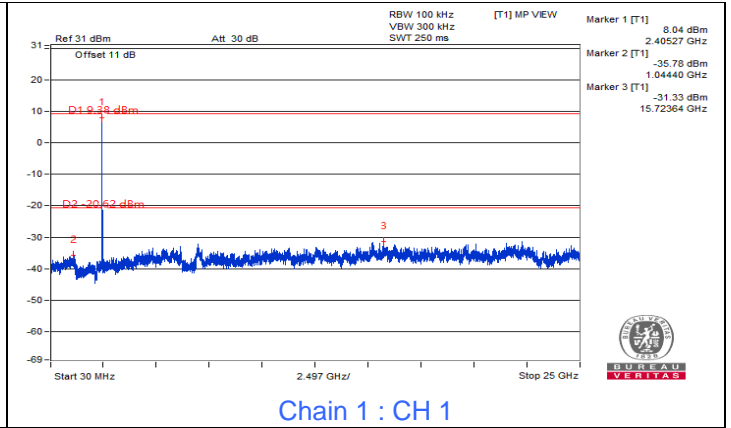
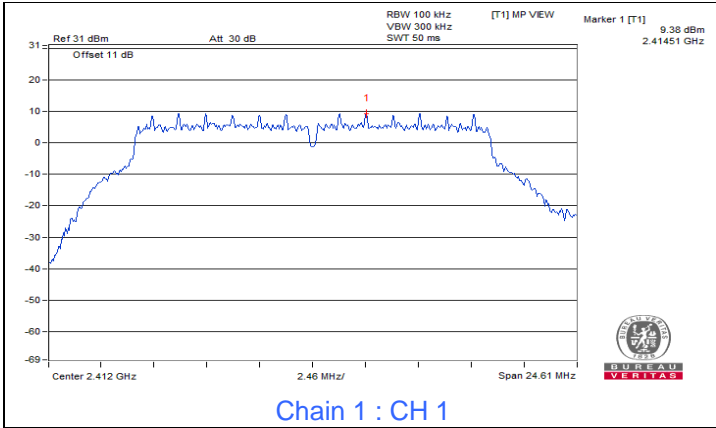
Chain 0 : CH 11 Band edge

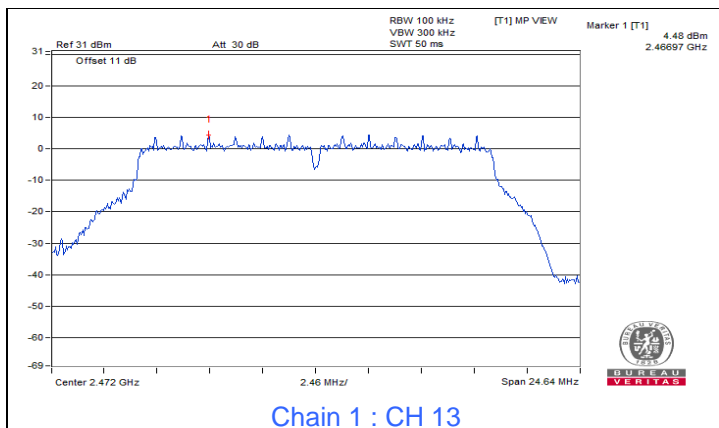


Chain 0 : CH 12 Band edge

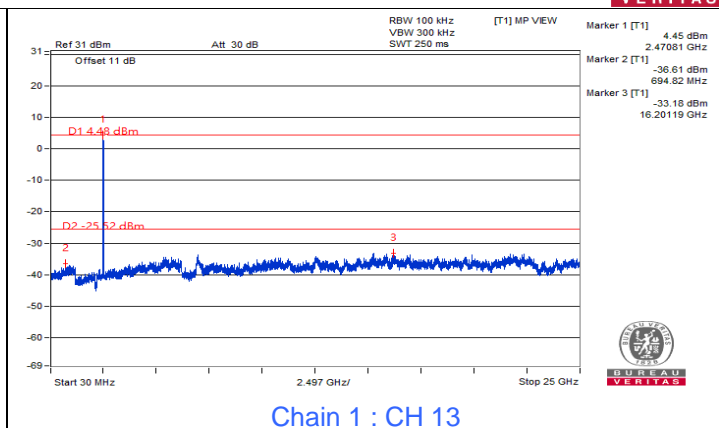


Chain 0 : CH 13 Band edge

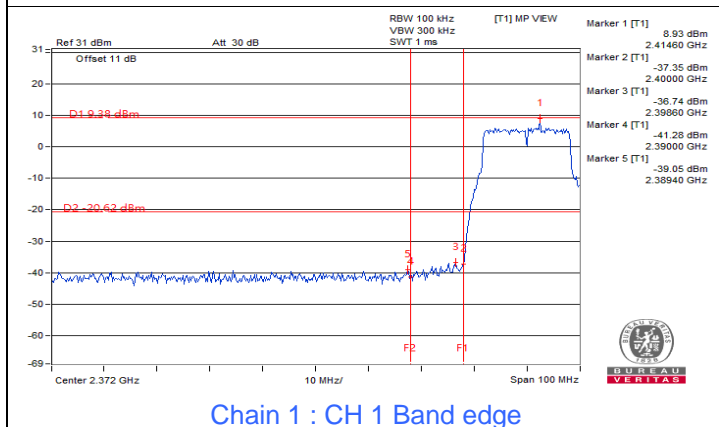




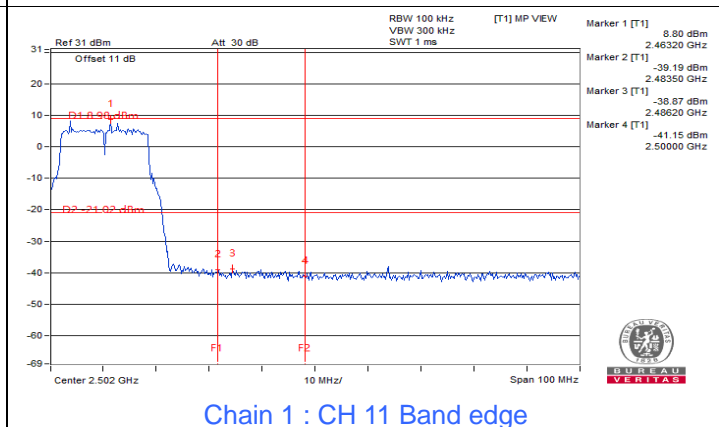
Chain 1 : CH 13



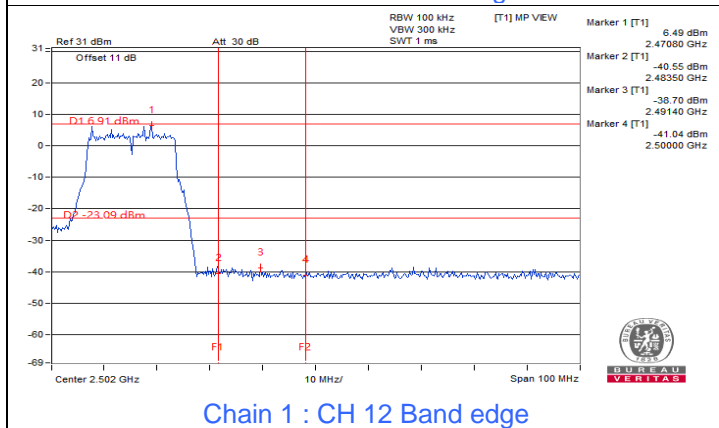
Chain 1 : CH 13



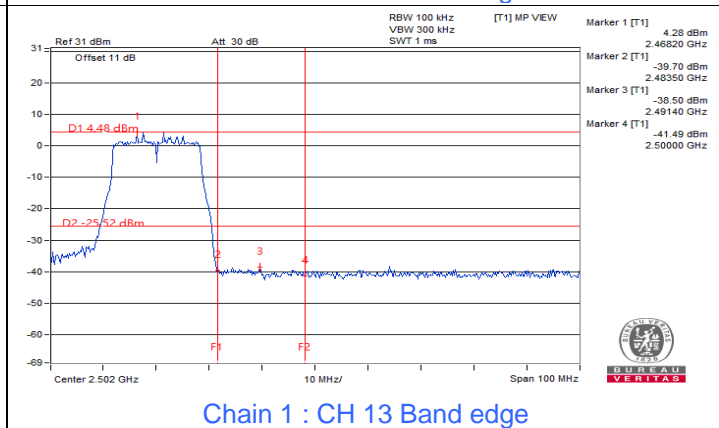
Chain 1 : CH 1 Band edge



Chain 1 : CH 11 Band edge



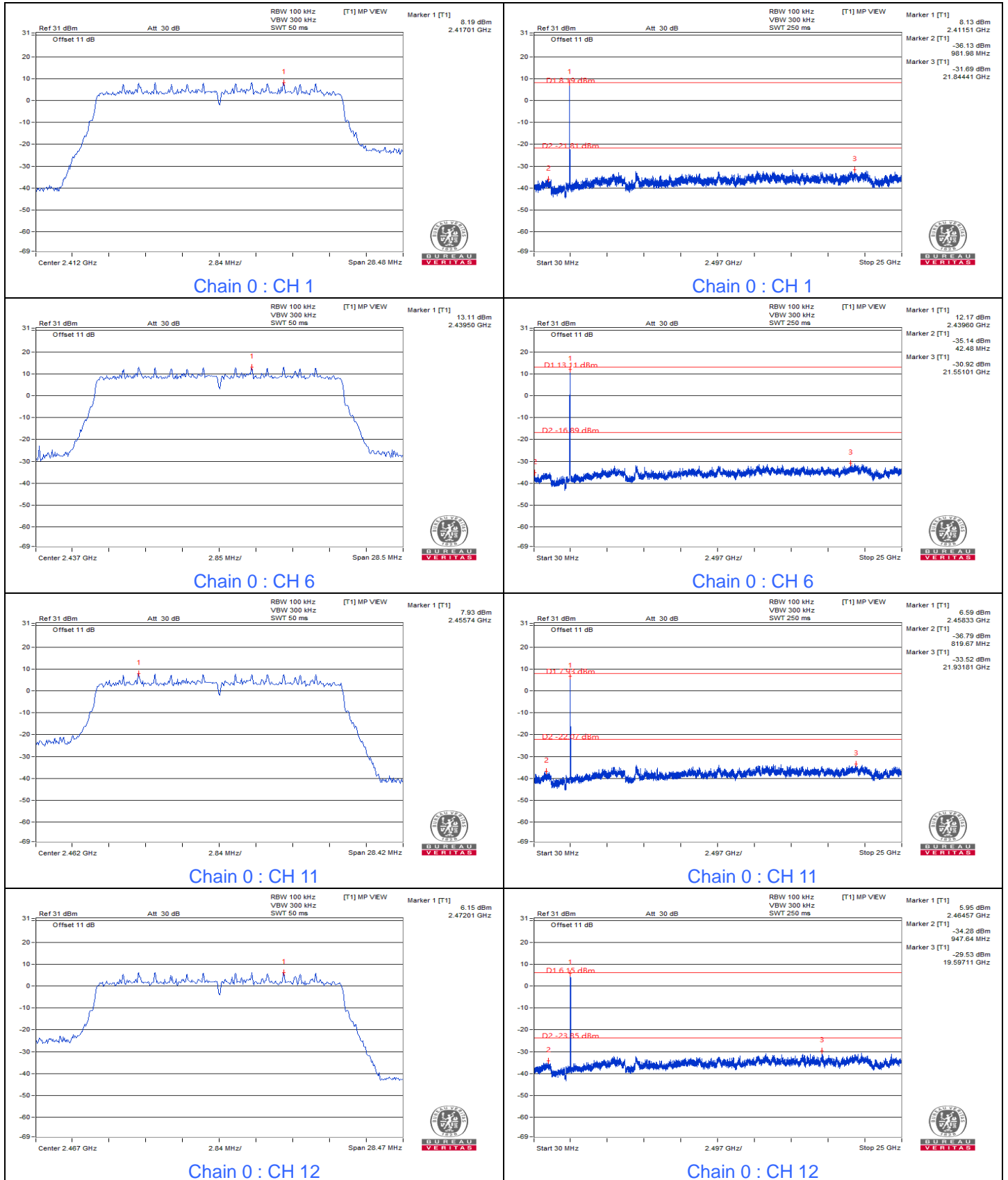
Chain 1 : CH 12 Band edge

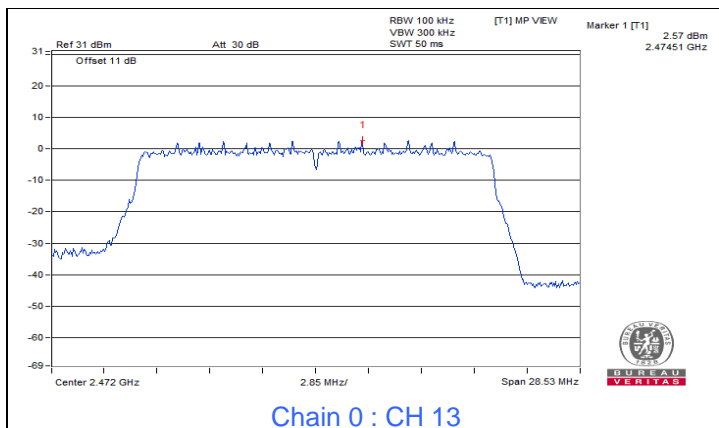


Chain 1 : CH 13 Band edge

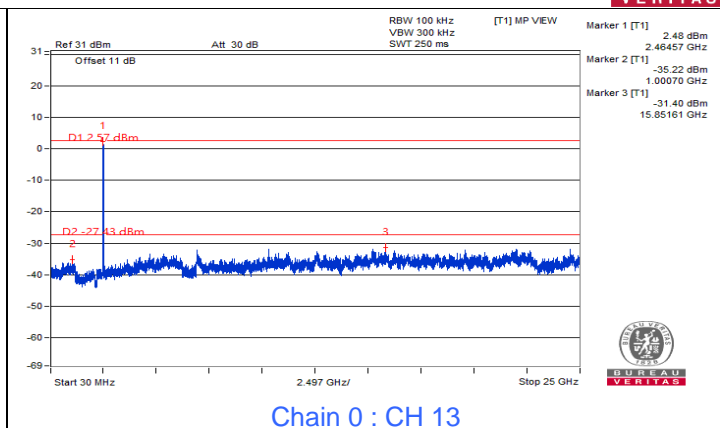


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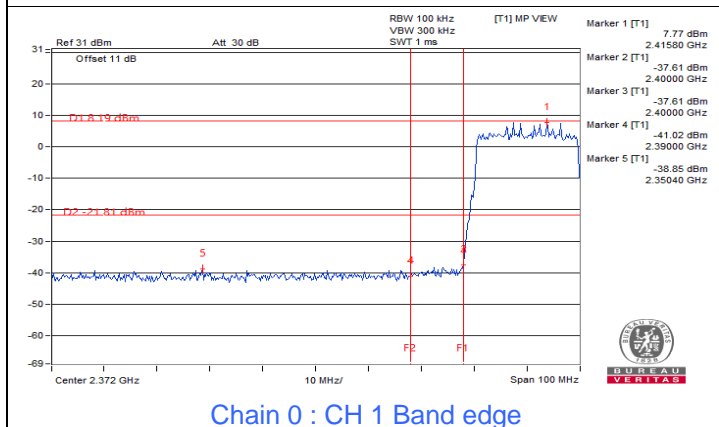




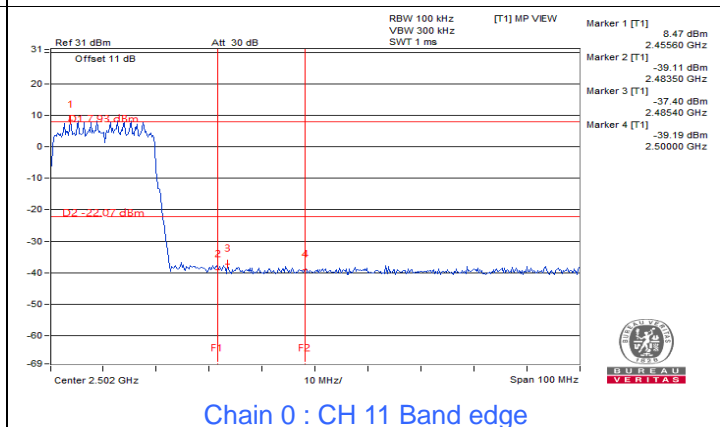
Chain 0 : CH 13



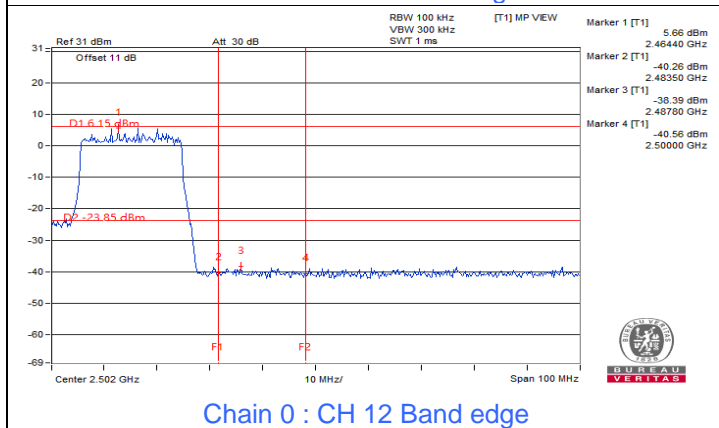
Chain 0 : CH 13



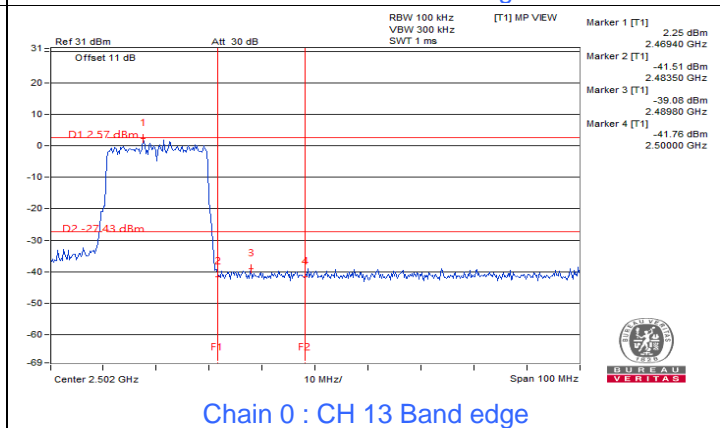
Chain 0 : CH 1 Band edge



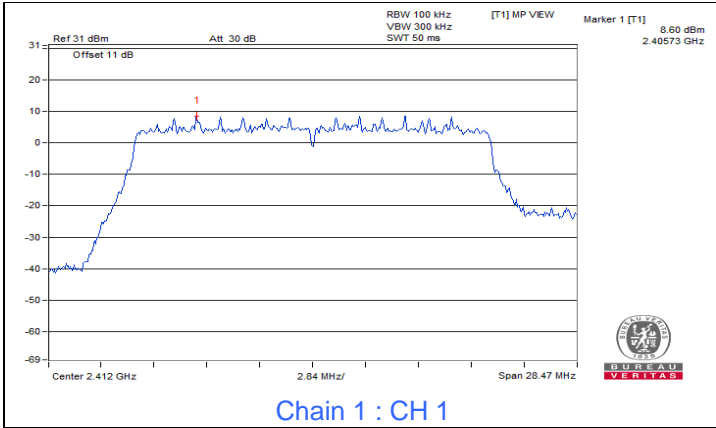
Chain 0 : CH 11 Band edge



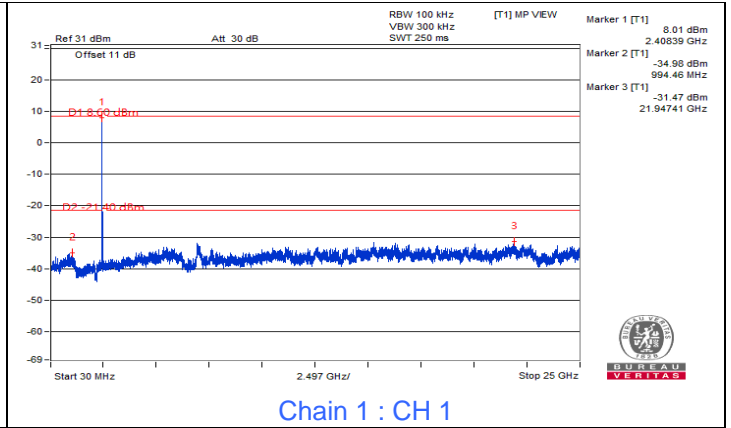
Chain 0 : CH 12 Band edge



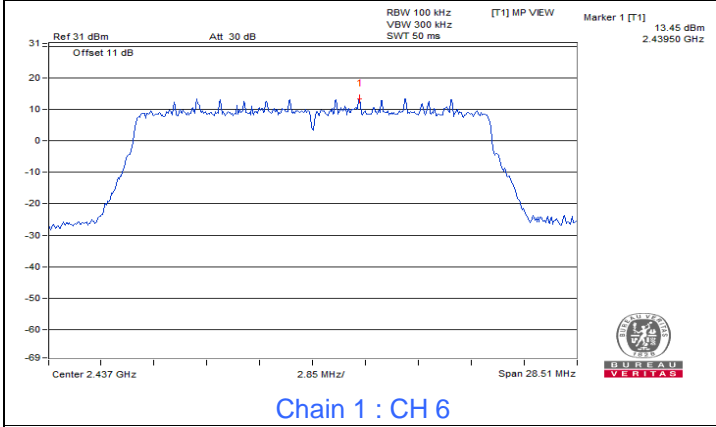
Chain 0 : CH 13 Band edge



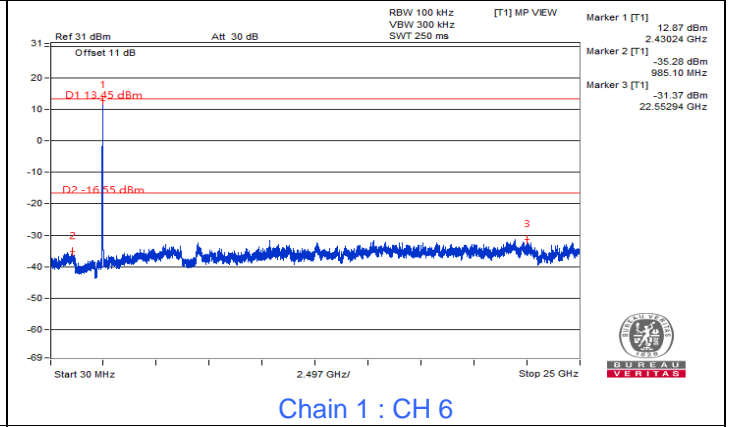
Chain 1 : CH 1



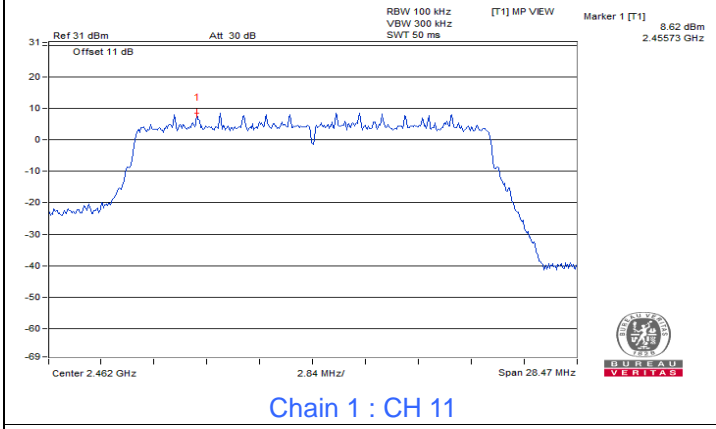
Chain 1 : CH 1



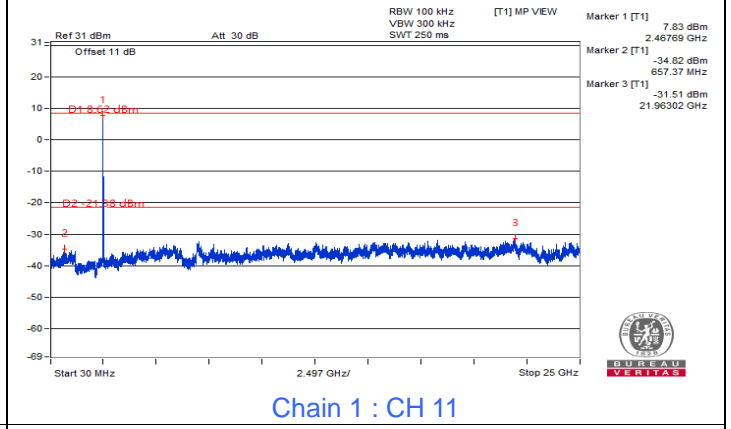
Chain 1 : CH 6



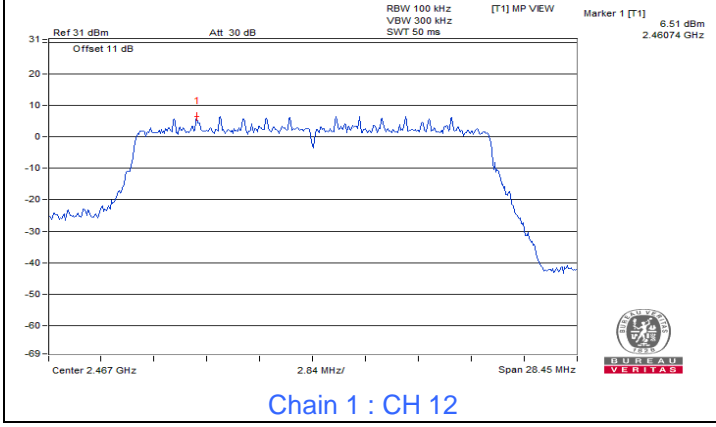
Chain 1 : CH 6



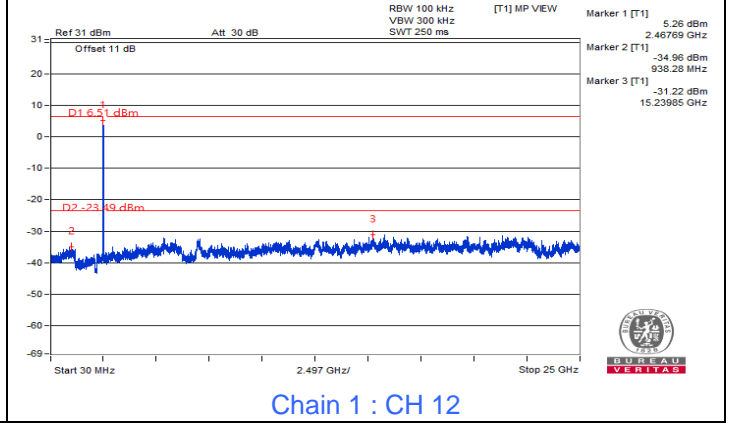
Chain 1 : CH 11



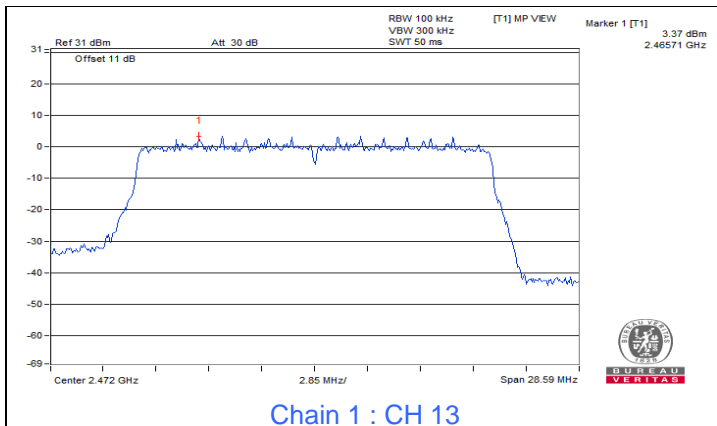
Chain 1 : CH 11



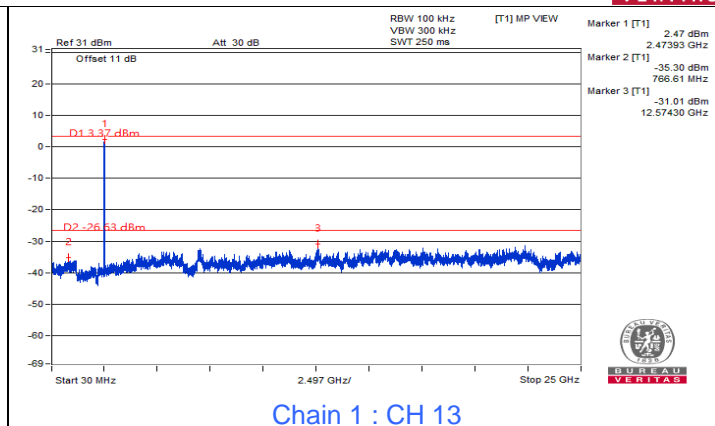
Chain 1 : CH 12



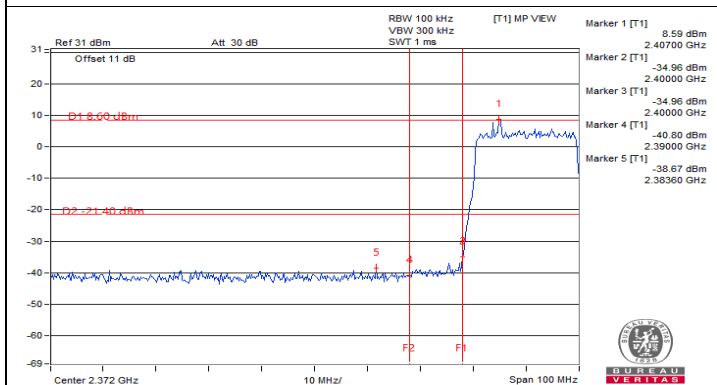
Chain 1 : CH 12



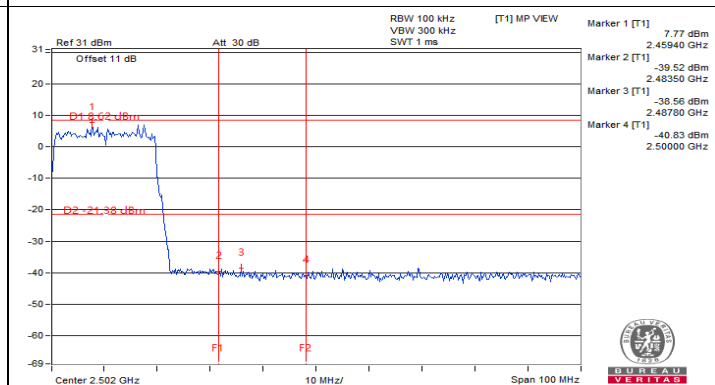
Chain 1 : CH 13



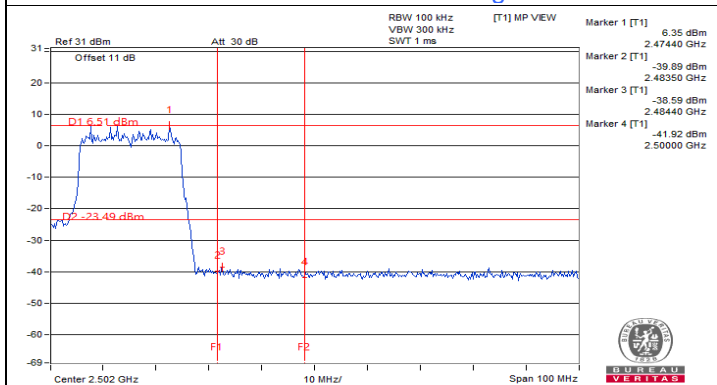
Chain 1 : CH 13



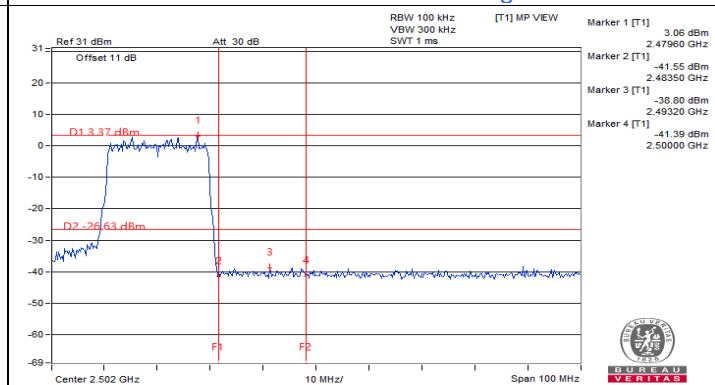
Chain 1 : CH 1 Band edge



Chain 1 : CH 11 Band edge



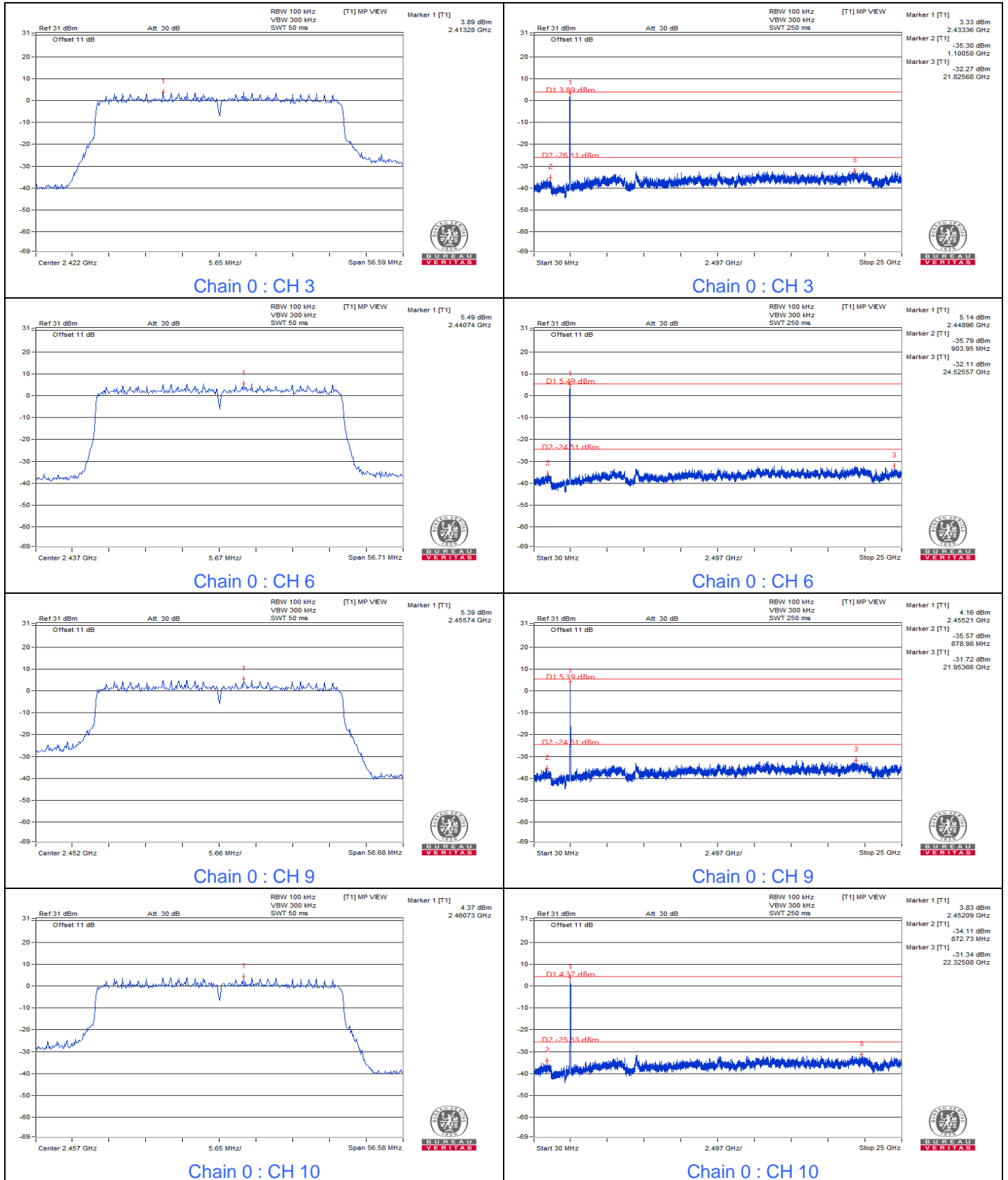
Chain 1 : CH 12 Band edge

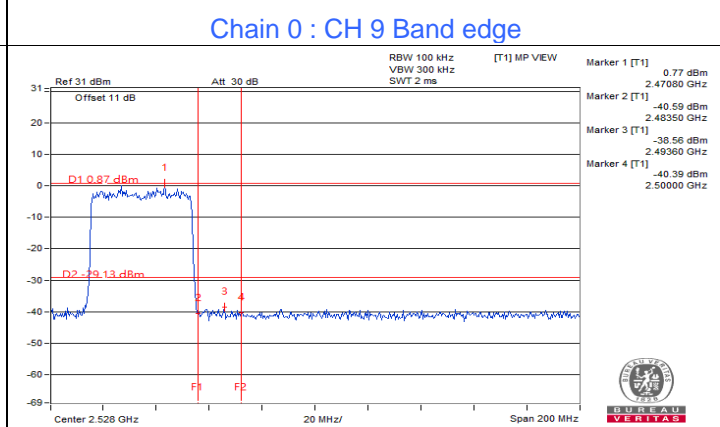
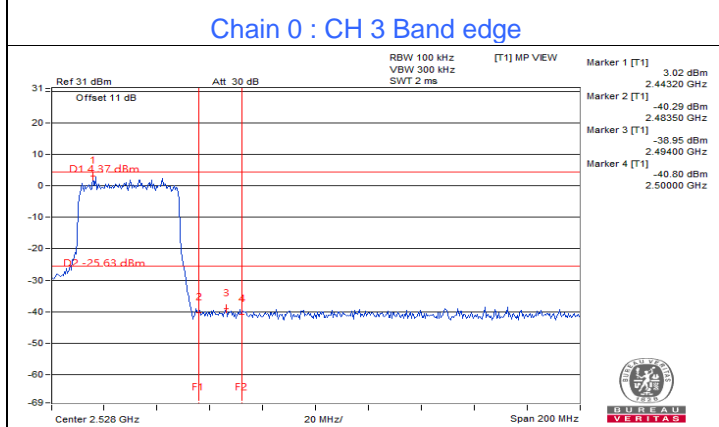
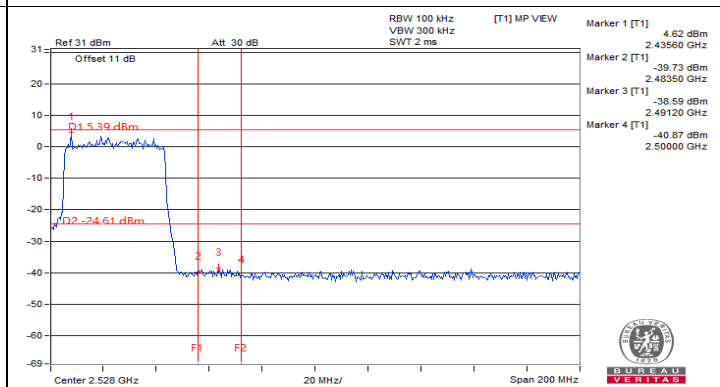
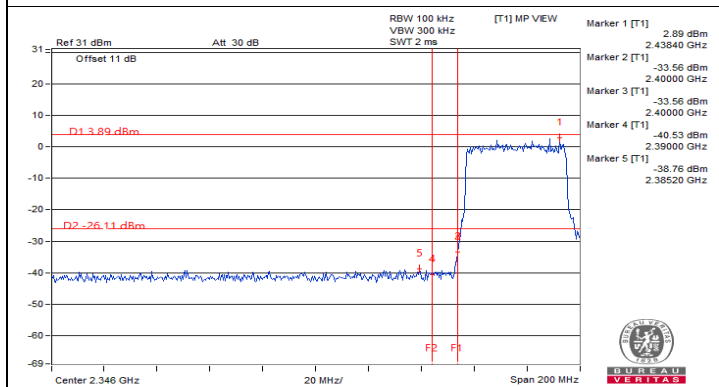
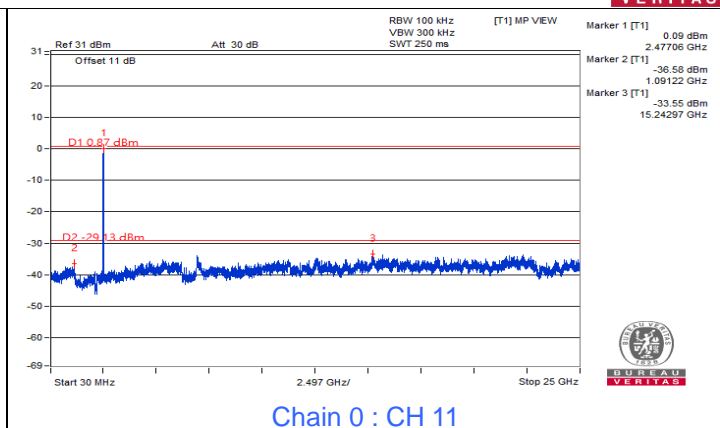
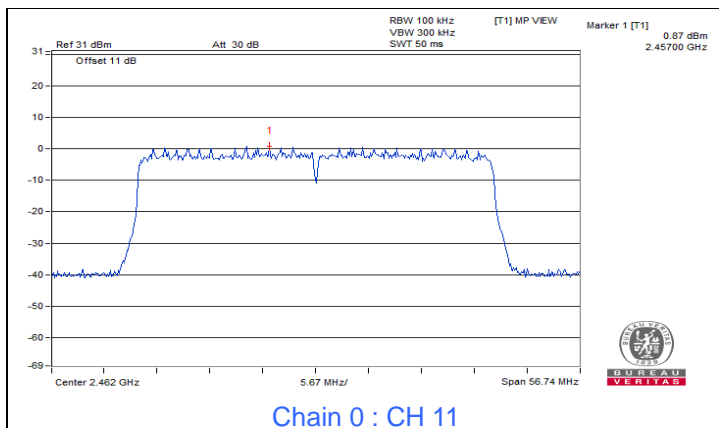


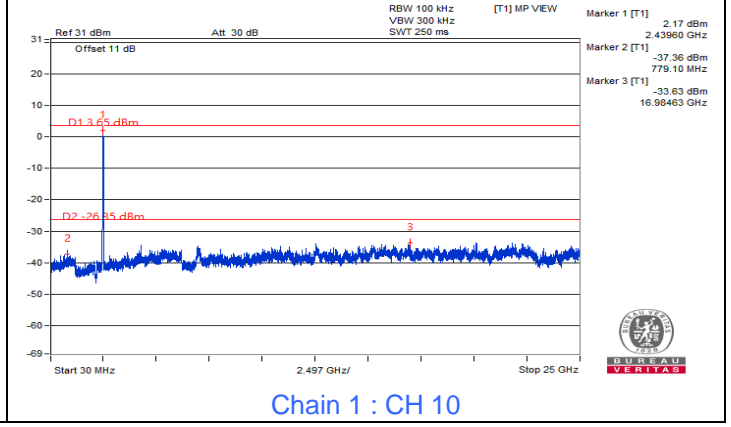
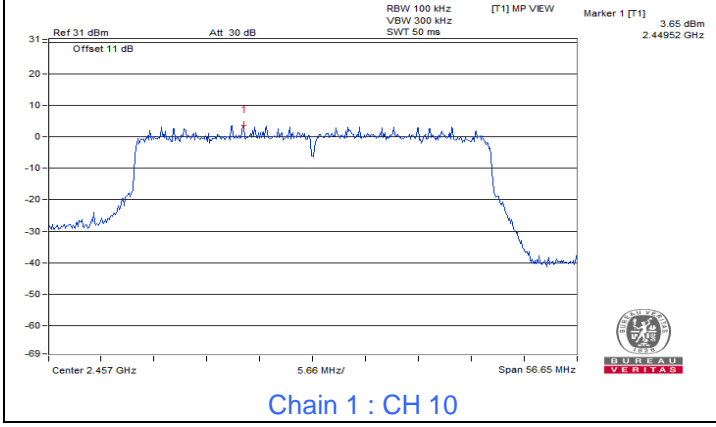
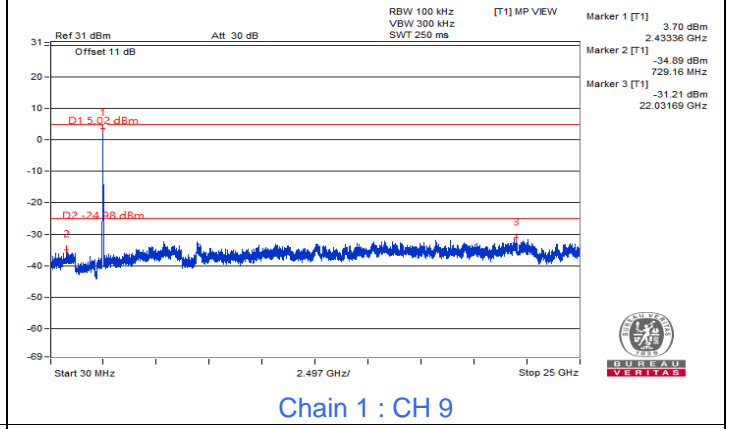
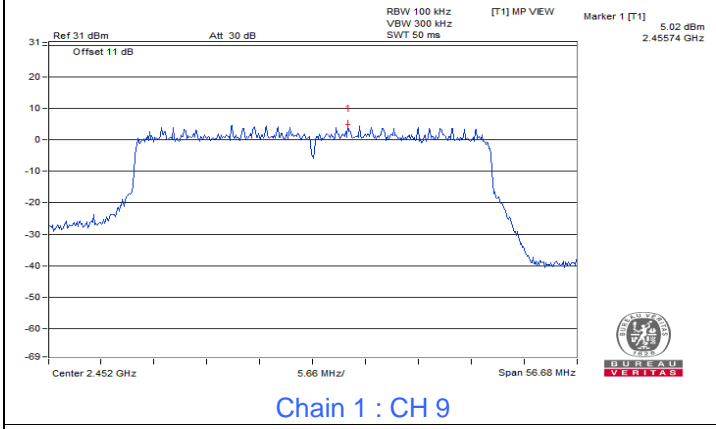
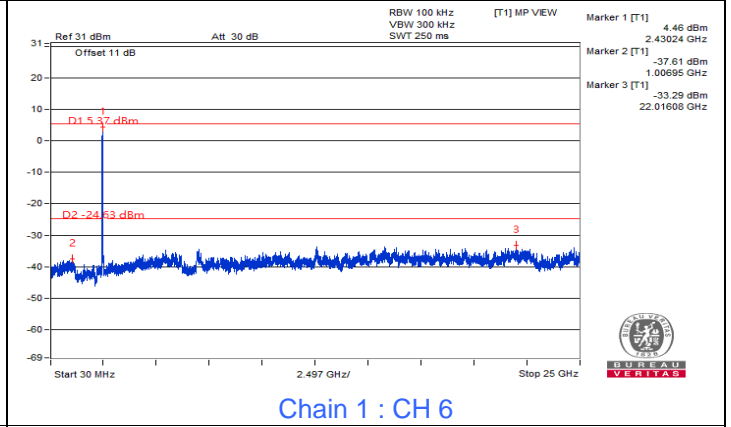
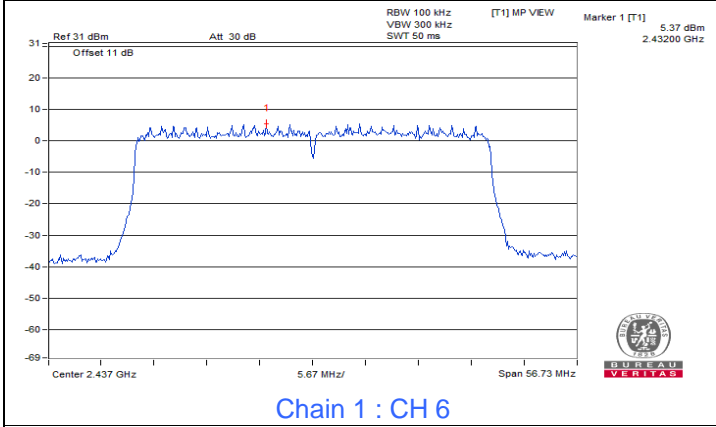
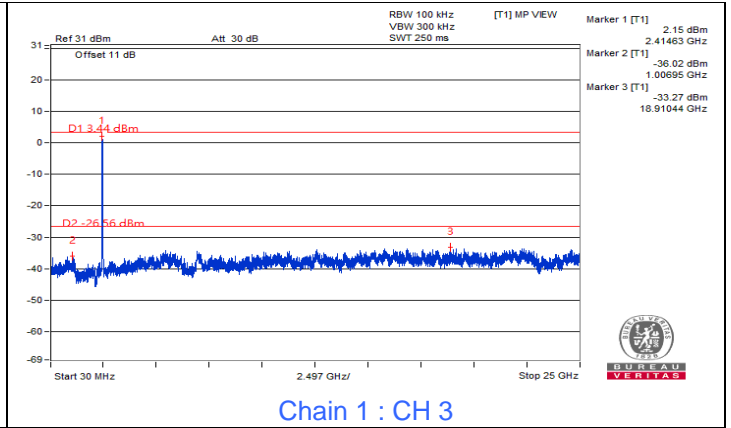
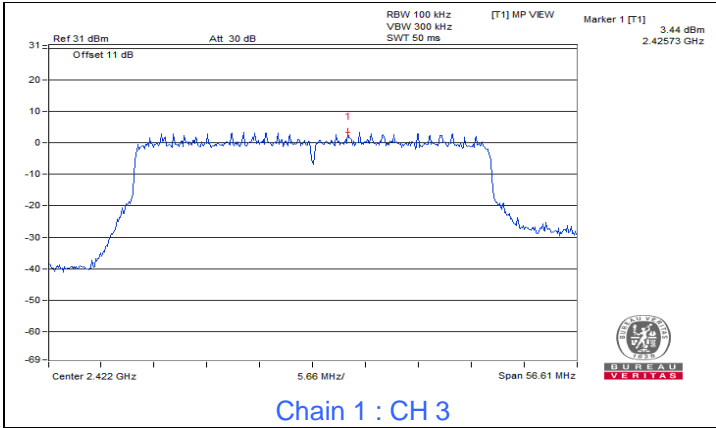
Chain 1 : CH 13 Band edge

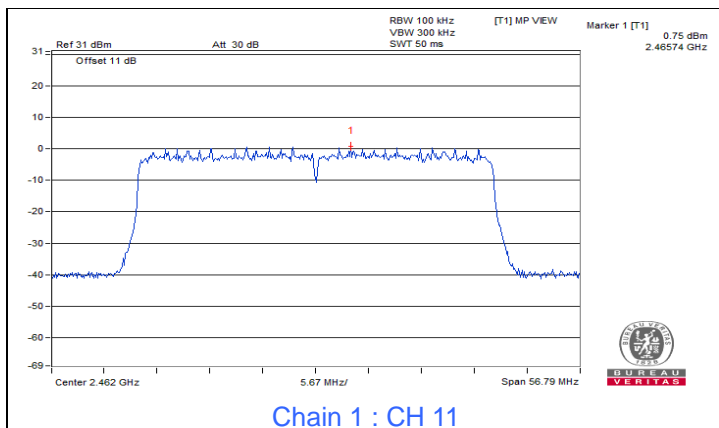


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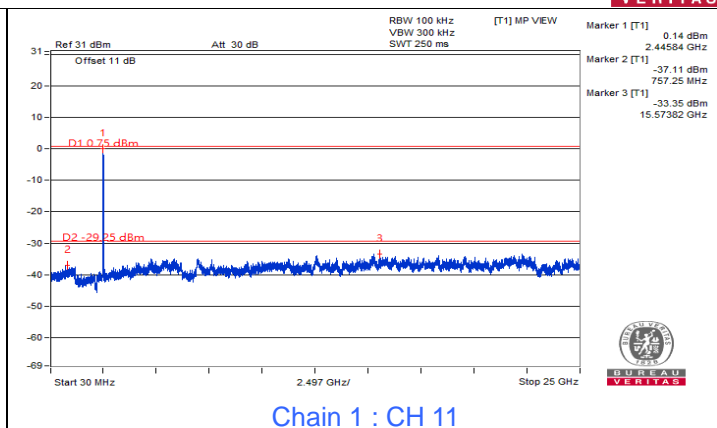




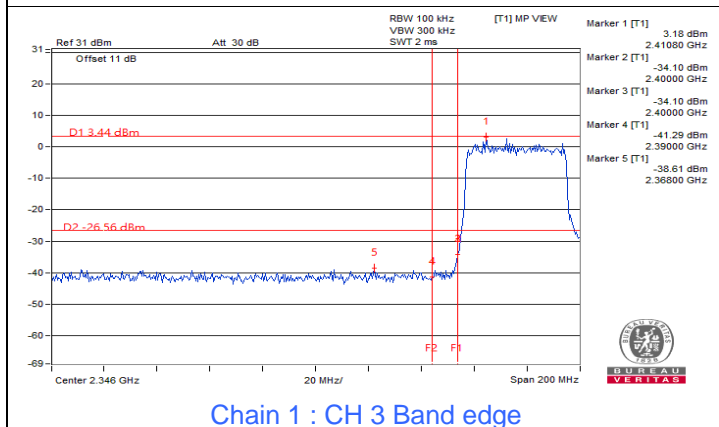




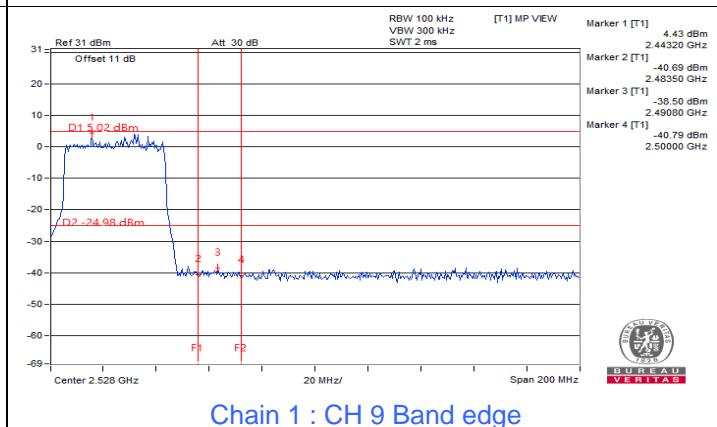
Chain 1 : CH 11



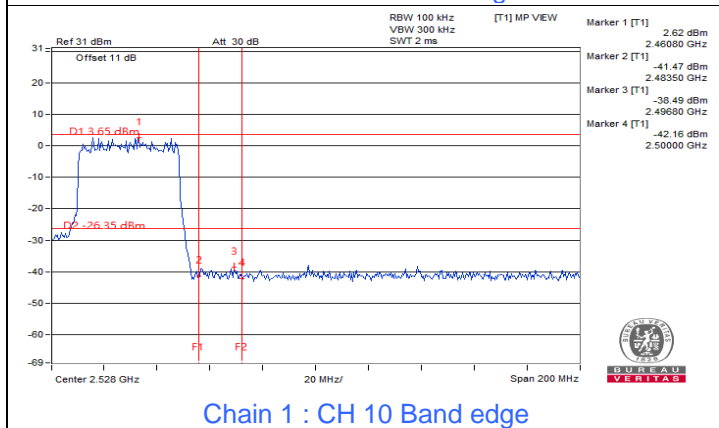
Chain 1 : CH 11



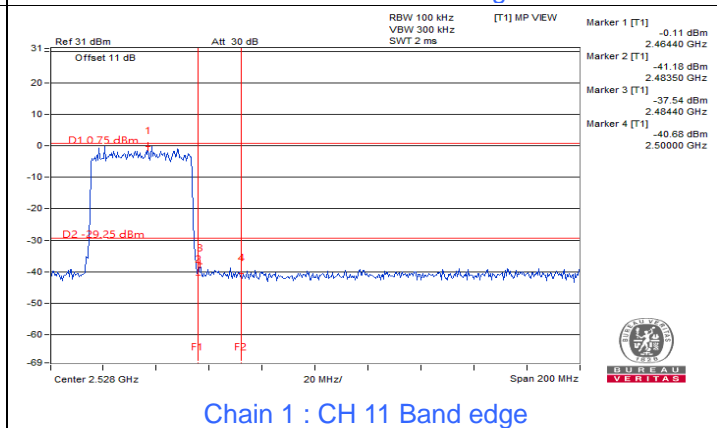
Chain 1 : CH 3 Band edge



Chain 1 : CH 9 Band edge



Chain 1 : CH 10 Band edge



Chain 1 : CH 11 Band edge

7.5 AC Power Conducted Emissions

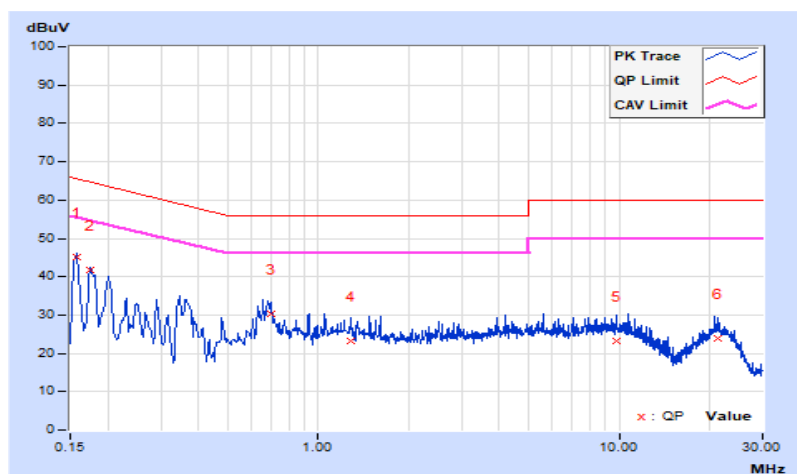
Mode A

RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Thomas Cheng		

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	0.15800	9.62	35.65	18.32	45.27	27.94	65.57	55.57	-20.30	-27.63
2	0.17400	9.63	32.08	17.21	41.71	26.84	64.77	54.77	-23.06	-27.93
3	0.69400	9.68	20.51	12.36	30.19	22.04	56.00	46.00	-25.81	-23.96
4	1.28200	9.70	13.67	7.61	23.37	17.31	56.00	46.00	-32.63	-28.69
5	9.82200	9.79	13.51	7.83	23.30	17.62	60.00	50.00	-36.70	-32.38
6	21.21400	9.77	14.08	7.48	23.85	17.25	60.00	50.00	-36.15	-32.75

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

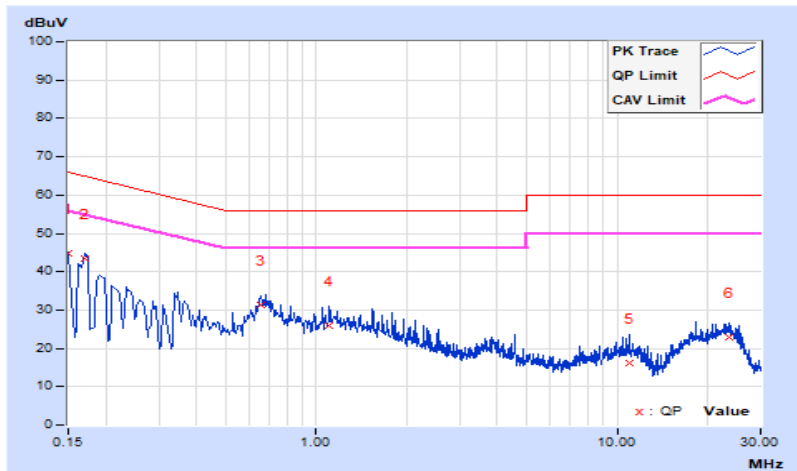


RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Thomas Cheng		

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	9.62	35.01	18.08	44.63	27.70	66.00	56.00	-21.37	-28.30
2	0.17000	9.63	33.68	17.93	43.31	27.56	64.96	54.96	-21.65	-27.40
3	0.65800	9.68	21.50	15.70	31.18	25.38	56.00	46.00	-24.82	-20.62
4	1.10600	9.70	16.19	7.71	25.89	17.41	56.00	46.00	-30.11	-28.59
5	11.00600	9.82	6.22	1.58	16.04	11.40	60.00	50.00	-43.96	-38.60
6	23.52200	9.88	12.92	6.24	22.80	16.12	60.00	50.00	-37.20	-33.88

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



Mode B

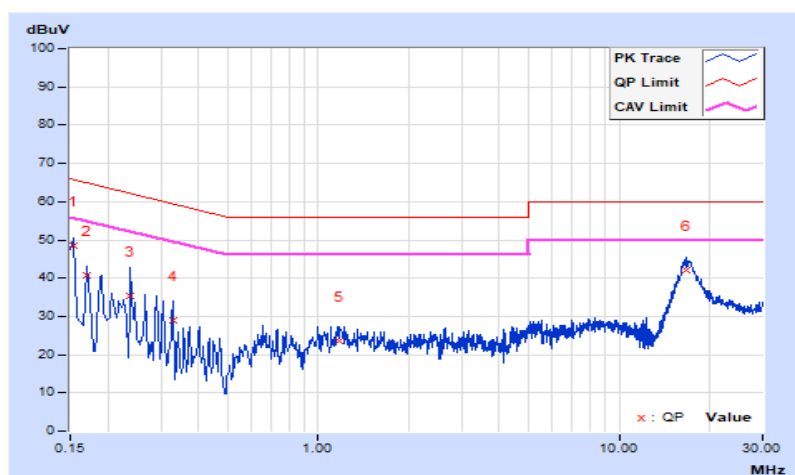
RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Adair Peng		

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	0.15400	9.62	38.71	23.16	48.33	32.78	65.78	55.78	-17.45	-23.00
2	0.17000	9.63	31.22	17.32	40.85	26.95	64.96	54.96	-24.11	-28.01
3	0.23800	9.65	25.68	8.38	35.33	18.03	62.17	52.17	-26.84	-34.14
4	0.33000	9.66	19.38	7.13	29.04	16.79	59.45	49.45	-30.41	-32.66
5	1.18200	9.69	13.72	5.31	23.41	15.00	56.00	46.00	-32.59	-31.00
6	16.75400	9.78	32.20	25.99	41.98	35.77	60.00	50.00	-18.02	-14.23

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

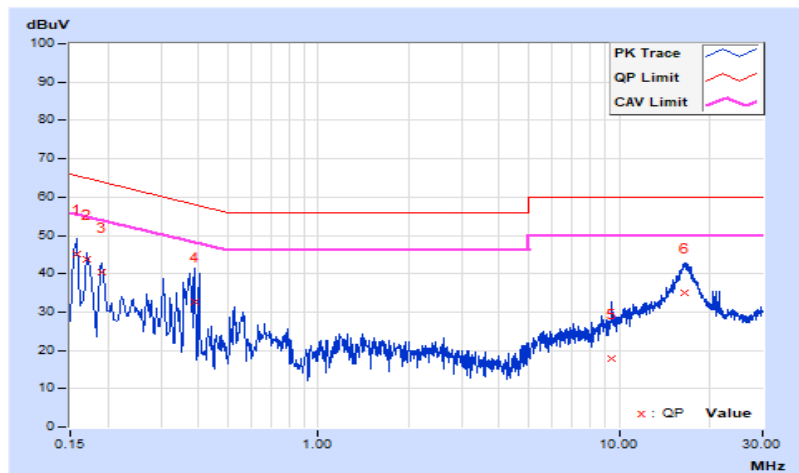


RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Adair Peng		

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	0.15800	9.62	35.58	20.07	45.20	29.69	65.57	55.57	-20.37	-25.88
2	0.17000	9.63	34.13	15.82	43.76	25.45	64.96	54.96	-21.20	-29.51
3	0.19000	9.64	30.92	16.73	40.56	26.37	64.04	54.04	-23.48	-27.67
4	0.39000	9.67	23.11	11.78	32.78	21.45	58.06	48.06	-25.28	-26.61
5	9.44600	9.80	8.10	1.21	17.90	11.01	60.00	50.00	-42.10	-38.99
6	16.49400	9.86	25.16	19.19	35.02	29.05	60.00	50.00	-24.98	-20.95

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

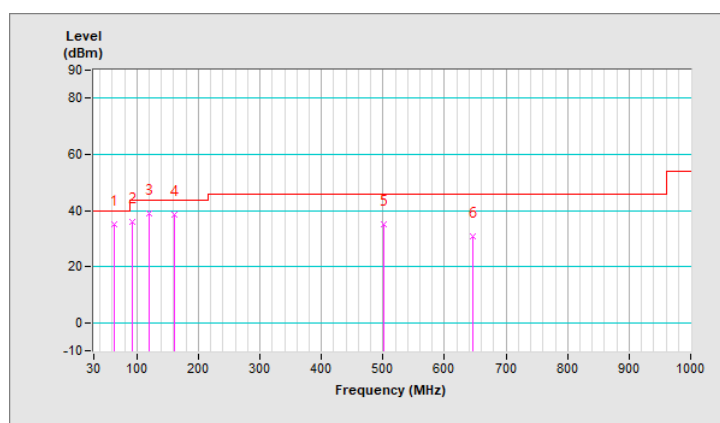
Mode A

RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	Quasi-Peak (QP), RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	63.95	34.9 QP	40.0	-5.1	1.01 H	53	45.1	-10.2
2	93.05	35.8 QP	43.5	-7.7	1.01 H	356	50.1	-14.3
3	119.24	39.1 QP	43.5	-4.4	1.50 H	2	50.3	-11.2
4	160.95	38.4 QP	43.5	-5.1	1.01 H	192	47.0	-8.6
5	500.45	35.0 QP	46.0	-11.0	2.00 H	315	37.5	-2.5
6	645.95	30.6 QP	46.0	-15.4	1.01 H	266	30.0	0.6

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.

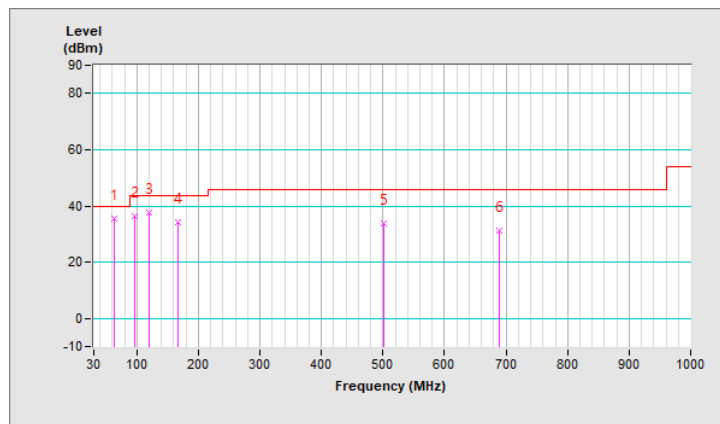


RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	Quasi-Peak (QP), RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	62.98	35.6 QP	40.0	-4.4	1.00 V	136	45.4	-9.8
2	95.96	36.4 QP	43.5	-7.1	1.99 V	9	50.5	-14.1
3	119.24	37.7 QP	43.5	-5.8	1.99 V	307	48.9	-11.2
4	167.74	34.4 QP	43.5	-9.1	1.00 V	228	43.3	-8.9
5	500.45	33.9 QP	46.0	-12.1	1.00 V	259	36.4	-2.5
6	688.63	31.1 QP	46.0	-14.9	1.50 V	272	30.1	1.0

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.



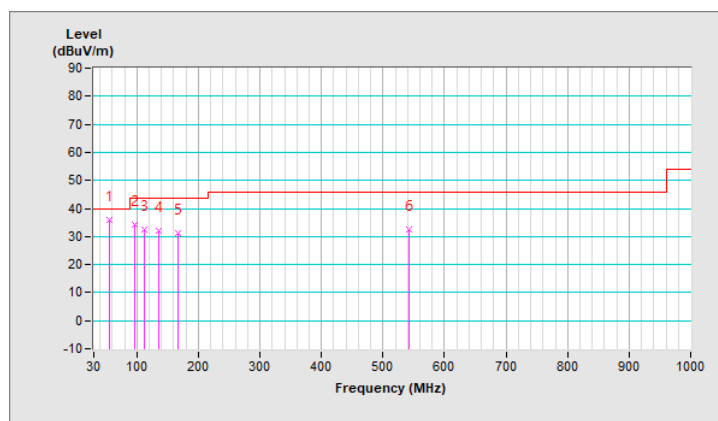
Mode B

RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	Quasi-Peak (QP), RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	55.22	35.9 QP	40.0	-4.1	2.00 H	1	45.3	-9.4
2	95.96	34.3 QP	43.5	-9.2	1.01 H	107	48.7	-14.4
3	111.48	32.6 QP	43.5	-10.9	2.00 H	220	44.7	-12.1
4	135.73	32.1 QP	43.5	-11.4	1.01 H	327	41.9	-9.8
5	167.74	31.1 QP	43.5	-12.4	1.01 H	330	40.3	-9.2
6	543.13	32.3 QP	46.0	-13.7	1.50 H	229	35.7	-3.4

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.

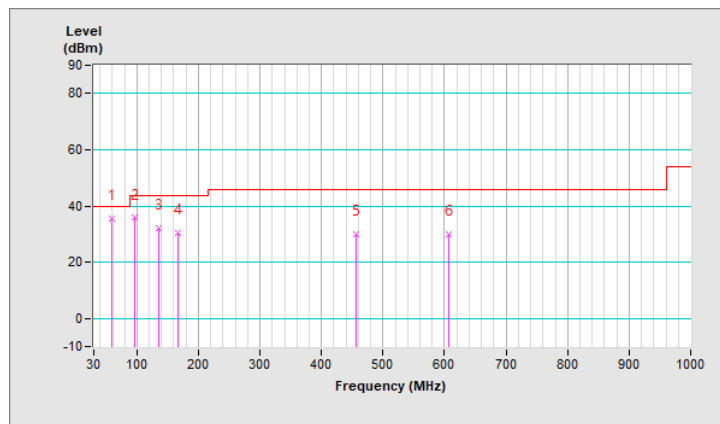


RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	Quasi-Peak (QP), RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	59.10	35.4 QP	40.0	-4.6	1.99 V	80	45.2	-9.8
2	95.96	35.7 QP	43.5	-7.8	1.00 V	324	50.1	-14.4
3	135.73	32.0 QP	43.5	-11.5	1.99 V	144	41.8	-9.8
4	167.74	30.4 QP	43.5	-13.1	1.00 V	163	39.6	-9.2
5	456.80	29.9 QP	46.0	-16.1	1.00 V	143	34.6	-4.7
6	607.15	29.8 QP	46.0	-16.2	1.00 V	356	31.4	-1.6

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	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	65.6 PK	74.0	-8.4	1.06 H	3	31.9	33.7
2	2390.00	53.2 AV	54.0	-0.8	1.06 H	3	19.5	33.7
3	*2412.00	122.5 PK			1.06 H	3	88.8	33.7
4	*2412.00	120.3 AV			1.06 H	3	86.6	33.7
5	4824.00	51.1 PK	74.0	-22.9	1.10 H	219	40.8	10.3
6	4824.00	41.3 AV	54.0	-12.7	1.10 H	219	31.0	10.3
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	61.2 PK	74.0	-12.8	3.44 V	263	27.5	33.7
2	2390.00	48.2 AV	54.0	-5.8	3.44 V	263	14.5	33.7
3	*2412.00	117.3 PK			3.44 V	263	83.6	33.7
4	*2412.00	114.9 AV			3.44 V	263	81.2	33.7
5	4824.00	50.7 PK	74.0	-23.3	3.99 V	231	40.4	10.3
6	4824.00	39.3 AV	54.0	-14.7	3.99 V	231	29.0	10.3

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, the limit was restricted at the RF Output Power.

RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	64.3 PK	74.0	-9.7	2.09 H	6	30.6	33.7
2	2390.00	52.5 AV	54.0	-1.5	2.09 H	6	18.8	33.7
3	*2437.00	125.6 PK			2.09 H	6	91.8	33.8
4	*2437.00	123.6 AV			2.09 H	6	89.8	33.8
5	2485.60	66.2 PK	74.0	-7.8	2.09 H	6	32.4	33.8
6	2485.60	53.8 AV	54.0	-0.2	2.09 H	6	20.0	33.8
7	4874.00	56.6 PK	74.0	-17.4	2.08 H	225	46.1	10.5
8	4874.00	52.6 AV	54.0	-1.4	2.08 H	225	42.1	10.5
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	60.7 PK	74.0	-13.3	3.84 V	278	27.0	33.7
2	2390.00	48.7 AV	54.0	-5.3	3.84 V	278	15.0	33.7
3	*2437.00	119.5 PK			3.84 V	278	85.7	33.8
4	*2437.00	117.4 AV			3.84 V	278	83.6	33.8
5	2483.50	60.6 PK	74.0	-13.4	3.84 V	278	26.8	33.8
6	2483.50	49.3 AV	54.0	-4.7	3.84 V	278	15.5	33.8
7	4874.00	53.6 PK	74.0	-20.4	3.83 V	283	43.1	10.5
8	4874.00	48.0 AV	54.0	-6.0	3.83 V	283	37.5	10.5

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, the limit was restricted at the RF Output Power.



RF Mode	802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	122.9 PK			1.00 H	4	89.0	33.9
2	*2462.00	120.6 AV			1.00 H	4	86.7	33.9
3	2483.50	64.6 PK	74.0	-9.4	1.00 H	4	30.8	33.8
4	2483.50	53.3 AV	54.0	-0.7	1.00 H	4	19.5	33.8
5	4924.00	51.0 PK	74.0	-23.0	1.13 H	172	40.6	10.4
6	4924.00	41.8 AV	54.0	-12.2	1.13 H	172	31.4	10.4
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	117.4 PK			3.83 V	261	83.5	33.9
2	*2462.00	115.1 AV			3.83 V	261	81.2	33.9
3	2483.50	61.3 PK	74.0	-12.7	3.83 V	261	27.5	33.8
4	2483.50	50.4 AV	54.0	-3.6	3.83 V	261	16.6	33.8
5	4924.00	50.1 PK	74.0	-23.9	2.98 V	214	39.7	10.4
6	4924.00	40.7 AV	54.0	-13.3	2.98 V	214	30.3	10.4

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, the limit was restricted at the RF Output Power.



RF Mode	802.11b	Channel	CH 12 : 2467 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	*2467.00	121.9 PK			2.07 H	10	88.0	33.9
2	*2467.00	119.6 AV			2.07 H	10	85.7	33.9
3	2483.50	65.9 PK	74.0	-8.1	2.07 H	10	32.1	33.8
4	2483.50	53.3 AV	54.0	-0.7	2.07 H	10	19.5	33.8
5	4934.00	51.5 PK	74.0	-22.5	1.22 H	170	40.9	10.6
6	4934.00	40.4 AV	54.0	-13.6	1.22 H	170	29.8	10.6
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	*2467.00	116.0 PK			3.81 V	267	82.1	33.9
2	*2467.00	113.7 AV			3.81 V	267	79.8	33.9
3	2483.50	60.3 PK	74.0	-13.7	3.81 V	267	26.5	33.8
4	2483.50	49.8 AV	54.0	-4.2	3.81 V	267	16.0	33.8
5	4934.00	51.1 PK	74.0	-22.9	3.95 V	244	40.5	10.6
6	4934.00	39.1 AV	54.0	-14.9	3.95 V	244	28.5	10.6

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, the limit was restricted at the RF Output Power.



RF Mode	802.11b	Channel	CH 13 : 2472 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	*2472.00	118.4 PK			1.95 H	7	84.5	33.9
2	*2472.00	115.9 AV			1.95 H	7	82.0	33.9
3	2483.50	65.0 PK	74.0	-9.0	1.95 H	7	31.2	33.8
4	2483.50	53.4 AV	54.0	-0.6	1.95 H	7	19.6	33.8
5	4944.00	50.3 PK	74.0	-23.7	1.24 H	176	39.8	10.5
6	4944.00	39.1 AV	54.0	-14.9	1.24 H	176	28.6	10.5

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	*2472.00	112.7 PK			3.80 V	260	78.8	33.9
2	*2472.00	110.4 AV			3.80 V	260	76.5	33.9
3	2483.50	60.8 PK	74.0	-13.2	3.80 V	260	27.0	33.8
4	2483.50	49.7 AV	54.0	-4.3	3.80 V	260	15.9	33.8
5	4944.00	49.9 PK	74.0	-24.1	3.99 V	241	39.4	10.5
6	4944.00	38.5 AV	54.0	-15.5	3.99 V	241	28.0	10.5

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, the limit was restricted at the RF Output Power.



RF Mode	802.11g	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	65.9 PK	74.0	-8.1	2.22 H	10	32.2	33.7
2	2390.00	53.5 AV	54.0	-0.5	2.22 H	10	19.8	33.7
3	*2412.00	120.7 PK			2.22 H	10	87.0	33.7
4	*2412.00	111.5 AV			2.22 H	10	77.8	33.7
5	4824.00	50.6 PK	74.0	-23.4	1.14 H	216	40.3	10.3
6	4824.00	37.9 AV	54.0	-16.1	1.14 H	216	27.6	10.3

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	62.0 PK	74.0	-12.0	3.82 V	260	28.3	33.7
2	2390.00	48.8 AV	54.0	-5.2	3.82 V	260	15.1	33.7
3	*2412.00	113.5 PK			3.82 V	260	79.8	33.7
4	*2412.00	103.9 AV			3.82 V	260	70.2	33.7
5	4824.00	50.1 PK	74.0	-23.9	3.92 V	238	39.8	10.3
6	4824.00	37.7 AV	54.0	-16.3	3.92 V	238	27.4	10.3

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, the limit was restricted at the RF Output Power.

RF Mode	802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	65.6 PK	74.0	-8.4	2.19 H	8	31.9	33.7
2	2390.00	53.5 AV	54.0	-0.5	2.19 H	8	19.8	33.7
3	*2437.00	124.6 PK			2.19 H	8	90.8	33.8
4	*2437.00	115.1 AV			2.19 H	8	81.3	33.8
5	2483.50	65.4 PK	74.0	-8.6	2.19 H	8	31.6	33.8
6	2483.50	52.8 AV	54.0	-1.2	2.19 H	8	19.0	33.8
7	4874.00	50.8 PK	74.0	-23.2	1.12 H	217	40.3	10.5
8	4874.00	38.3 AV	54.0	-15.7	1.12 H	217	27.8	10.5
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	60.5 PK	74.0	-13.5	3.72 V	259	26.8	33.7
2	2390.00	48.2 AV	54.0	-5.8	3.72 V	259	14.5	33.7
3	*2437.00	117.3 PK			3.72 V	259	83.5	33.8
4	*2437.00	107.9 AV			3.72 V	259	74.1	33.8
5	2483.50	60.9 PK	74.0	-13.1	3.72 V	259	27.1	33.8
6	2483.50	49.5 AV	54.0	-4.5	3.72 V	259	15.7	33.8
7	4874.00	50.6 PK	74.0	-23.4	3.93 V	242	40.1	10.5
8	4874.00	38.0 AV	54.0	-16.0	3.93 V	242	27.5	10.5

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, the limit was restricted at the RF Output Power.



RF Mode	802.11g	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	119.7 PK			2.05 H	9	85.8	33.9
2	*2462.00	110.1 AV			2.05 H	9	76.2	33.9
3	2483.50	67.1 PK	74.0	-6.9	2.05 H	9	33.3	33.8
4	2483.50	53.7 AV	54.0	-0.3	2.05 H	9	19.9	33.8
5	4924.00	50.9 PK	74.0	-23.1	1.10 H	219	40.5	10.4
6	4924.00	38.1 AV	54.0	-15.9	1.10 H	219	27.7	10.4

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	114.4 PK			3.65 V	260	80.5	33.9
2	*2462.00	104.1 AV			3.65 V	260	70.2	33.9
3	2483.50	60.5 PK	74.0	-13.5	3.65 V	260	26.7	33.8
4	2483.50	50.4 AV	54.0	-3.6	3.65 V	260	16.6	33.8
5	4924.00	50.7 PK	74.0	-23.3	3.95 V	236	40.3	10.4
6	4924.00	37.8 AV	54.0	-16.2	3.95 V	236	27.4	10.4

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, the limit was restricted at the RF Output Power.



RF Mode	802.11g	Channel	CH 12 : 2467 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	*2467.00	117.1 PK			2.14 H	9	83.2	33.9
2	*2467.00	107.4 AV			2.14 H	9	73.5	33.9
3	2483.50	66.2 PK	74.0	-7.8	2.14 H	9	32.4	33.8
4	2483.50	53.7 AV	54.0	-0.3	2.14 H	9	19.9	33.8
5	4934.00	51.0 PK	74.0	-23.0	1.14 H	216	40.4	10.6
6	4934.00	38.1 AV	54.0	-15.9	1.14 H	216	27.5	10.6
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	*2467.00	111.5 PK			3.71 V	259	77.6	33.9
2	*2467.00	101.9 AV			3.71 V	259	68.0	33.9
3	2483.50	60.6 PK	74.0	-13.4	3.71 V	259	26.8	33.8
4	2483.50	49.7 AV	54.0	-4.3	3.71 V	259	15.9	33.8
5	4934.00	50.8 PK	74.0	-23.2	3.92 V	246	40.2	10.6
6	4934.00	38.0 AV	54.0	-16.0	3.92 V	246	27.4	10.6

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, the limit was restricted at the RF Output Power.

RF Mode	802.11g	Channel	CH 13 : 2472 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	*2472.00	114.7 PK			2.14 H	16	80.8	33.9
2	*2472.00	105.4 AV			2.14 H	16	71.5	33.9
3	2486.20	68.0 PK	74.0	-6.0	2.14 H	16	34.2	33.8
4	2486.20	53.8 AV	54.0	-0.2	2.14 H	16	20.0	33.8
5	4944.00	50.4 PK	74.0	-23.6	1.17 H	212	39.9	10.5
6	4944.00	37.9 AV	54.0	-16.1	1.17 H	212	27.4	10.5
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	*2472.00	109.4 PK			3.74 V	261	75.5	33.9
2	*2472.00	100.1 AV			3.74 V	261	66.2	33.9
3	2483.50	60.7 PK	74.0	-13.3	3.74 V	261	26.9	33.8
4	2483.50	50.6 AV	54.0	-3.4	3.74 V	261	16.8	33.8
5	4944.00	50.3 PK	74.0	-23.7	3.96 V	243	39.8	10.5
6	4944.00	37.7 AV	54.0	-16.3	3.96 V	243	27.2	10.5

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, the limit was restricted at the RF Output Power.

RF Mode	802.11ax (HE20)	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	65.2 PK	74.0	-8.8	1.83 H	8	31.5	33.7
2	2390.00	53.4 AV	54.0	-0.6	1.83 H	8	19.7	33.7
3	*2412.00	121.3 PK			1.83 H	8	87.6	33.7
4	*2412.00	108.8 AV			1.83 H	8	75.1	33.7
5	4824.00	50.6 PK	74.0	-23.4	1.14 H	215	40.3	10.3
6	4824.00	37.7 AV	54.0	-16.3	1.14 H	215	27.4	10.3
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	2380.50	61.0 PK	74.0	-13.0	3.88 V	258	27.2	33.8
2	2380.50	48.3 AV	54.0	-5.7	3.88 V	258	14.5	33.8
3	*2412.00	113.6 PK			3.88 V	258	79.9	33.7
4	*2412.00	101.5 AV			3.88 V	258	67.8	33.7
5	4824.00	50.4 PK	74.0	-23.6	3.93 V	244	40.1	10.3
6	4824.00	37.5 AV	54.0	-16.5	3.93 V	244	27.2	10.3

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, the limit was restricted at the RF Output Power.

RF Mode	802.11ax (HE20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	65.6 PK	74.0	-8.4	1.80 H	6	31.9	33.7
2	2390.00	53.3 AV	54.0	-0.7	1.80 H	6	19.6	33.7
3	*2437.00	125.8 PK			1.80 H	6	92.0	33.8
4	*2437.00	113.9 AV			1.80 H	6	80.1	33.8
5	2483.50	65.3 PK	74.0	-8.7	1.80 H	6	31.5	33.8
6	2483.50	53.4 AV	54.0	-0.6	1.80 H	6	19.6	33.8
7	4874.00	51.1 PK	74.0	-22.9	1.16 H	217	40.6	10.5
8	4874.00	38.3 AV	54.0	-15.7	1.16 H	217	27.8	10.5
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	60.3 PK	74.0	-13.7	3.74 V	262	26.6	33.7
2	2390.00	48.0 AV	54.0	-6.0	3.74 V	262	14.3	33.7
3	*2437.00	118.6 PK			3.74 V	262	84.8	33.8
4	*2437.00	108.1 AV			3.74 V	262	74.3	33.8
5	2483.50	60.5 PK	74.0	-13.5	3.74 V	262	26.7	33.8
6	2483.50	49.5 AV	54.0	-4.5	3.74 V	262	15.7	33.8
7	4874.00	51.0 PK	74.0	-23.0	3.87 V	237	40.5	10.5
8	4874.00	38.0 AV	54.0	-16.0	3.87 V	237	27.5	10.5

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, the limit was restricted at the RF Output Power.



RF Mode	802.11ax (HE20)	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	120.0 PK			2.15 H	7	86.1	33.9
2	*2462.00	107.8 AV			2.15 H	7	73.9	33.9
3	2484.30	66.3 PK	74.0	-7.7	2.15 H	7	32.5	33.8
4	2484.30	53.6 AV	54.0	-0.4	2.15 H	7	19.8	33.8
5	4924.00	50.8 PK	74.0	-23.2	1.10 H	213	40.4	10.4
6	4924.00	38.0 AV	54.0	-16.0	1.10 H	213	27.6	10.4
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	113.7 PK			3.64 V	257	79.8	33.9
2	*2462.00	102.1 AV			3.64 V	257	68.2	33.9
3	2483.50	61.6 PK	74.0	-12.4	3.64 V	257	27.8	33.8
4	2483.50	49.5 AV	54.0	-4.5	3.64 V	257	15.7	33.8
5	4924.00	50.7 PK	74.0	-23.3	3.91 V	235	40.3	10.4
6	4924.00	37.7 AV	54.0	-16.3	3.91 V	235	27.3	10.4

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, the limit was restricted at the RF Output Power.



RF Mode	802.11ax (HE20)	Channel	CH 12 : 2467 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	*2467.00	118.4 PK			2.12 H	11	84.5	33.9
2	*2467.00	106.3 AV			2.12 H	11	72.4	33.9
3	2483.50	65.6 PK	74.0	-8.4	2.12 H	11	31.8	33.8
4	2483.50	53.6 AV	54.0	-0.4	2.12 H	11	19.8	33.8
5	4934.00	50.9 PK	74.0	-23.1	1.14 H	220	40.3	10.6
6	4934.00	38.0 AV	54.0	-16.0	1.14 H	220	27.4	10.6

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	*2467.00	112.6 PK			3.68 V	259	78.7	33.9
2	*2467.00	100.6 AV			3.68 V	259	66.7	33.9
3	2483.50	61.4 PK	74.0	-12.6	3.68 V	259	27.6	33.8
4	2483.50	49.6 AV	54.0	-4.4	3.68 V	259	15.8	33.8
5	4934.00	50.7 PK	74.0	-23.3	3.88 V	243	40.1	10.6
6	4934.00	37.8 AV	54.0	-16.2	3.88 V	243	27.2	10.6

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, the limit was restricted at the RF Output Power.



RF Mode	802.11ax (HE20)	Channel	CH 13 : 2472 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	*2472.00	114.9 PK			2.16 H	16	81.0	33.9
2	*2472.00	103.3 AV			2.16 H	16	69.4	33.9
3	2483.50	69.8 PK	74.0	-4.2	2.16 H	16	36.0	33.8
4	2483.50	53.3 AV	54.0	-0.7	2.16 H	16	19.5	33.8
5	4944.00	50.3 PK	74.0	-23.7	1.14 H	223	39.8	10.5
6	4944.00	37.9 AV	54.0	-16.1	1.14 H	223	27.4	10.5

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	*2472.00	109.9 PK			3.68 V	261	76.0	33.9
2	*2472.00	97.7 AV			3.68 V	261	63.8	33.9
3	2483.50	62.6 PK	74.0	-11.4	3.68 V	261	28.8	33.8
4	2483.50	49.9 AV	54.0	-4.1	3.68 V	261	16.1	33.8
5	4944.00	50.0 PK	74.0	-24.0	3.89 V	232	39.5	10.5
6	4944.00	37.6 AV	54.0	-16.4	3.89 V	232	27.1	10.5

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, the limit was restricted at the RF Output Power.



RF Mode	802.11ax (HE40)	Channel	CH 3 : 2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	2388.40	65.9 PK	74.0	-8.1	2.22 H	8	32.2	33.7
2	2388.40	53.2 AV	54.0	-0.8	2.22 H	8	19.5	33.7
3	*2422.00	116.6 PK			2.22 H	8	82.9	33.7
4	*2422.00	104.1 AV			2.22 H	8	70.4	33.7
5	4844.00	50.2 PK	74.0	-23.8	1.13 H	217	39.8	10.4
6	4844.00	37.8 AV	54.0	-16.2	1.13 H	217	27.4	10.4
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	2390.00	59.3 PK	74.0	-14.7	3.79 V	263	25.6	33.7
2	2390.00	47.8 AV	54.0	-6.2	3.79 V	263	14.1	33.7
3	*2422.00	110.1 PK			3.79 V	263	76.4	33.7
4	*2422.00	97.2 AV			3.79 V	263	63.5	33.7
5	4844.00	50.0 PK	74.0	-24.0	3.94 V	241	39.6	10.4
6	4844.00	37.7 AV	54.0	-16.3	3.94 V	241	27.3	10.4

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, the limit was restricted at the RF Output Power.

RF Mode	802.11ax (HE40)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	118.0 PK			2.16 H	10	84.2	33.8
2	*2437.00	106.0 AV			2.16 H	10	72.2	33.8
3	2484.00	70.5 PK	74.0	-3.5	2.16 H	10	36.7	33.8
4	2484.00	53.2 AV	54.0	-0.8	2.16 H	10	19.4	33.8
5	4874.00	50.1 PK	74.0	-23.9	1.17 H	215	39.6	10.5
6	4874.00	37.7 AV	54.0	-16.3	1.17 H	215	27.2	10.5
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	112.3 PK			4.00 V	265	78.5	33.8
2	*2437.00	99.2 AV			4.00 V	265	65.4	33.8
3	2483.50	64.8 PK	74.0	-9.2	4.00 V	265	31.0	33.8
4	2483.50	50.4 AV	54.0	-3.6	4.00 V	265	16.6	33.8
5	4874.00	49.9 PK	74.0	-24.1	3.90 V	238	39.4	10.5
6	4874.00	37.6 AV	54.0	-16.4	3.90 V	238	27.1	10.5

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, the limit was restricted at the RF Output Power.



RF Mode	802.11ax (HE40)	Channel	CH 9 : 2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	117.7 PK			1.78 H	6	83.9	33.8
2	*2452.00	105.4 AV			1.78 H	6	71.6	33.8
3	2484.60	67.0 PK	74.0	-7.0	1.78 H	6	33.2	33.8
4	2484.60	53.7 AV	54.0	-0.3	1.78 H	6	19.9	33.8
5	4904.00	50.0 PK	74.0	-24.0	1.12 H	216	39.6	10.4
6	4904.00	37.7 AV	54.0	-16.3	1.12 H	216	27.3	10.4
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	*2452.00	110.4 PK			3.99 V	261	76.6	33.8
2	*2452.00	98.4 AV			3.99 V	261	64.6	33.8
3	2483.50	61.3 PK	74.0	-12.7	3.99 V	261	27.5	33.8
4	2483.50	50.1 AV	54.0	-3.9	3.99 V	261	16.3	33.8
5	4904.00	49.8 PK	74.0	-24.2	3.94 V	234	39.4	10.4
6	4904.00	37.4 AV	54.0	-16.6	3.94 V	234	27.0	10.4

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, the limit was restricted at the RF Output Power.

RF Mode	802.11ax (HE40)	Channel	CH 10 : 2457 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	*2457.00	117.0 PK			1.79 H	8	83.2	33.8
2	*2457.00	104.1 AV			1.79 H	8	70.3	33.8
3	2483.50	66.2 PK	74.0	-7.8	1.79 H	8	32.4	33.8
4	2483.50	53.7 AV	54.0	-0.3	1.79 H	8	19.9	33.8
5	4914.00	49.9 PK	74.0	-24.1	1.11 H	214	39.5	10.4
6	4914.00	37.6 AV	54.0	-16.4	1.11 H	214	27.2	10.4
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	*2457.00	108.6 PK			3.75 V	258	74.8	33.8
2	*2457.00	97.5 AV			3.75 V	258	63.7	33.8
3	2483.50	60.6 PK	74.0	-13.4	3.75 V	258	26.8	33.8
4	2483.50	49.7 AV	54.0	-4.3	3.75 V	258	15.9	33.8
5	4914.00	49.7 PK	74.0	-24.3	3.94 V	233	39.3	10.4
6	4914.00	37.4 AV	54.0	-16.6	3.94 V	233	27.0	10.4

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, the limit was restricted at the RF Output Power.



RF Mode	802.11ax (HE40)	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	113.7 PK			1.81 H	7	79.8	33.9
2	*2462.00	101.2 AV			1.81 H	7	67.3	33.9
3	2483.50	72.5 PK	74.0	-1.5	1.81 H	7	38.7	33.8
4	2483.50	53.4 AV	54.0	-0.6	1.81 H	7	19.6	33.8
5	4924.00	49.9 PK	74.0	-24.1	1.12 H	215	39.5	10.4
6	4924.00	37.8 AV	54.0	-16.2	1.12 H	215	27.4	10.4

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	108.2 PK			3.70 V	263	74.3	33.9
2	*2462.00	95.2 AV			3.70 V	263	61.3	33.9
3	2483.50	65.1 PK	74.0	-8.9	3.70 V	263	31.3	33.8
4	2483.50	49.3 AV	54.0	-4.7	3.70 V	263	15.5	33.8
5	4924.00	49.7 PK	74.0	-24.3	3.98 V	231	39.3	10.4
6	4924.00	37.6 AV	54.0	-16.4	3.98 V	231	27.2	10.4

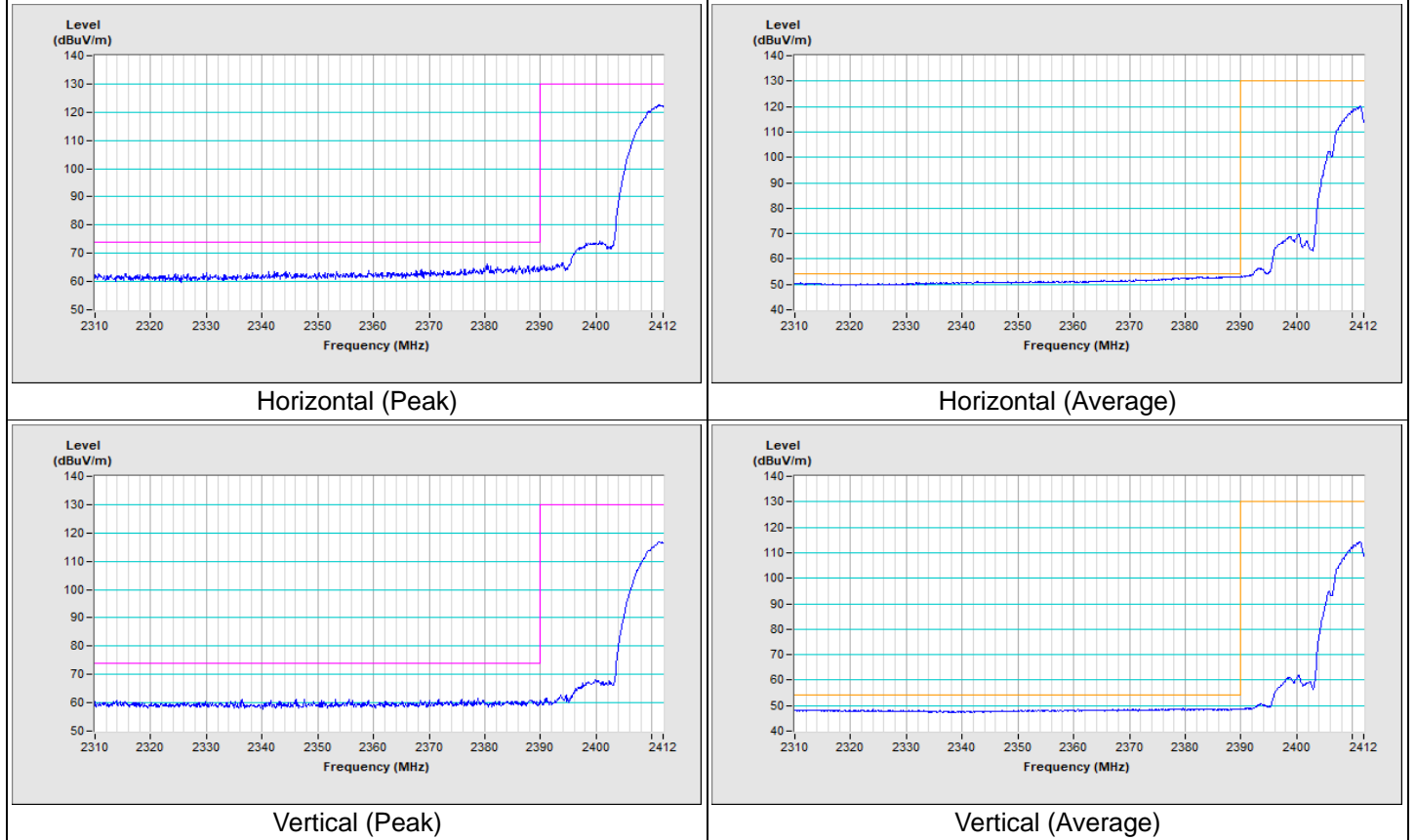
Remarks:

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, the limit was restricted at the RF Output Power.

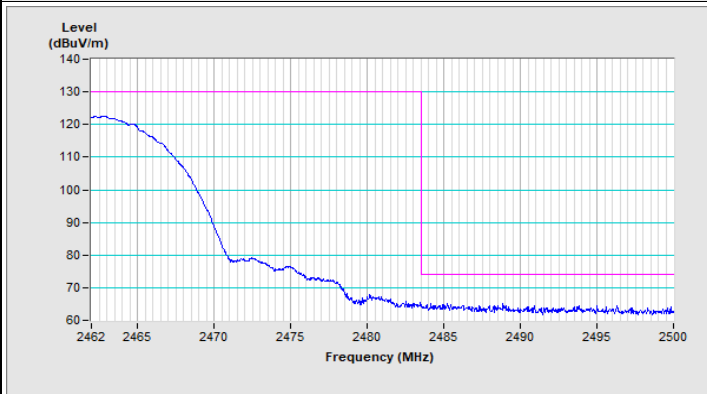
Plot of Band Edge

Frequency Range	2.31 GHz ~ 2.412 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
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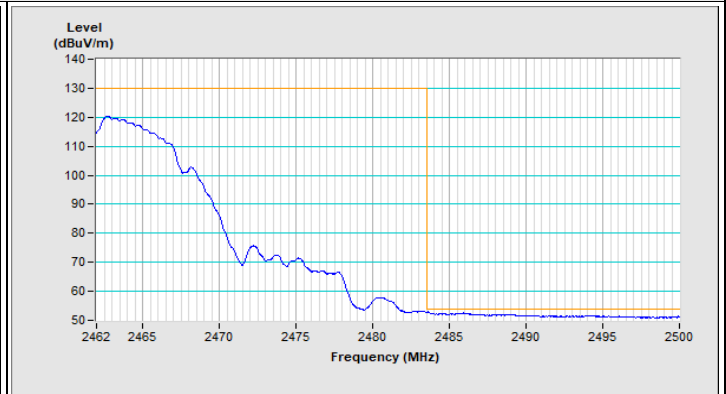
802.11b Channel 1



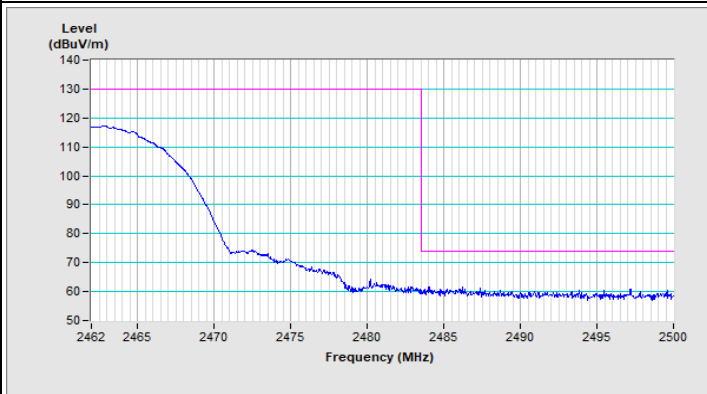
802.11b Channel 11



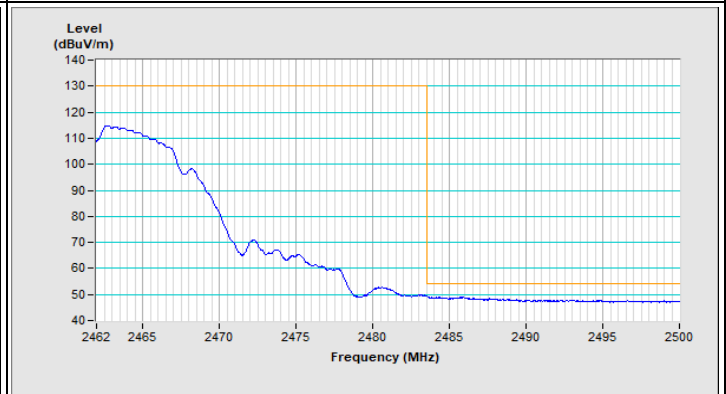
Horizontal (Peak)



Horizontal (Average)

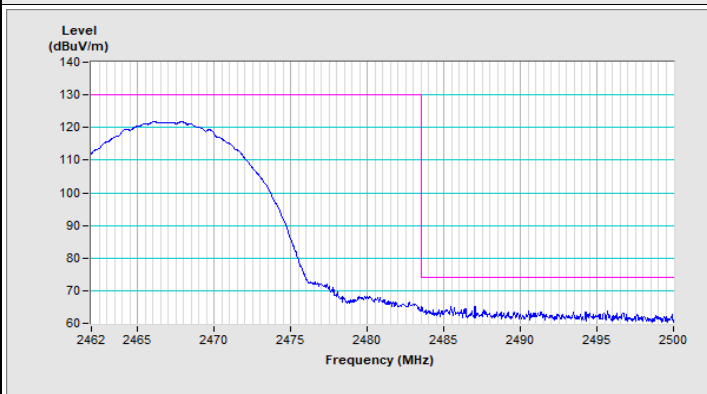


Vertical (Peak)

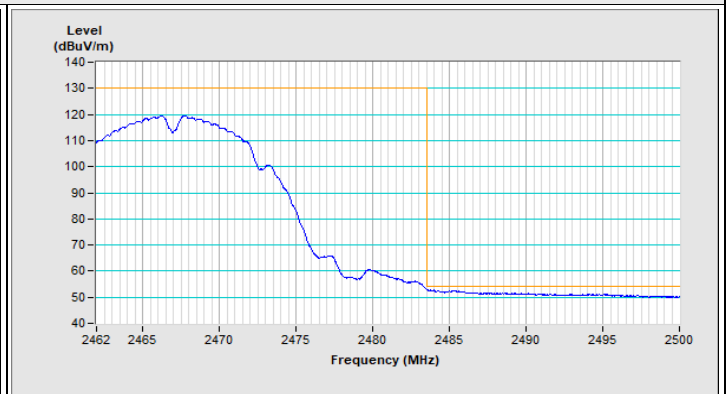


Vertical (Average)

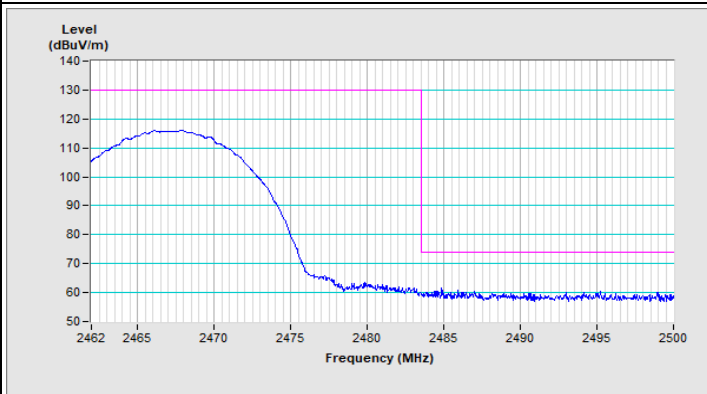
802.11b Channel 12



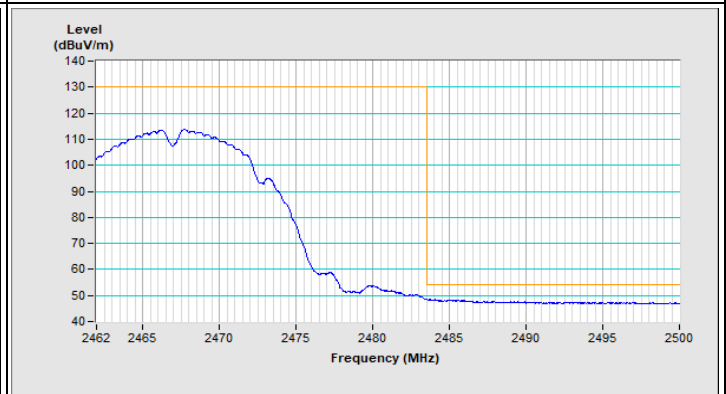
Horizontal (Peak)



Horizontal (Average)

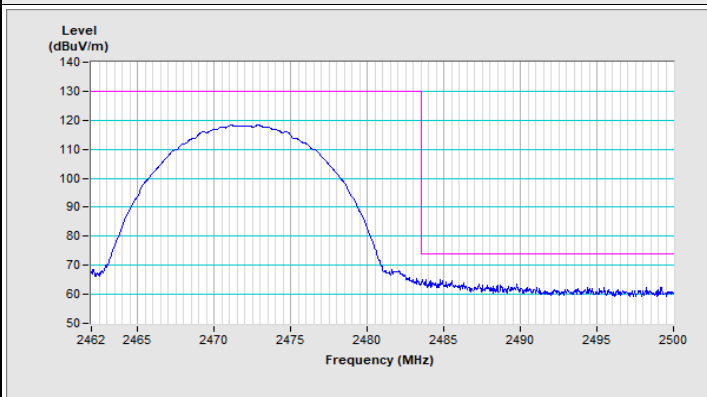


Vertical (Peak)

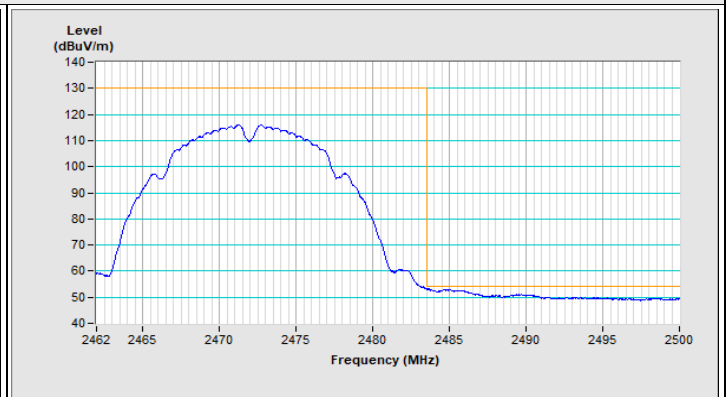


Vertical (Average)

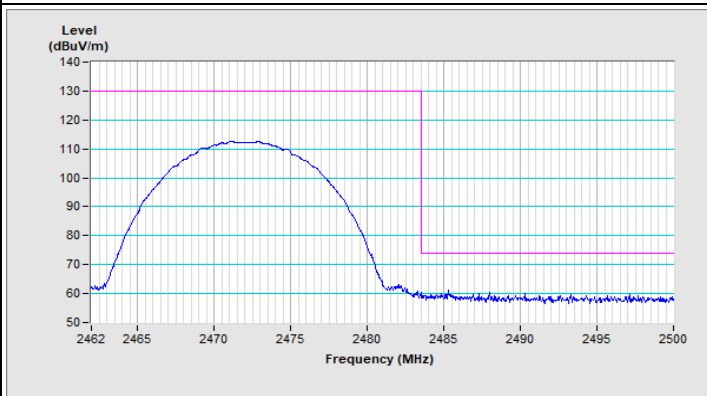
802.11b Channel 13



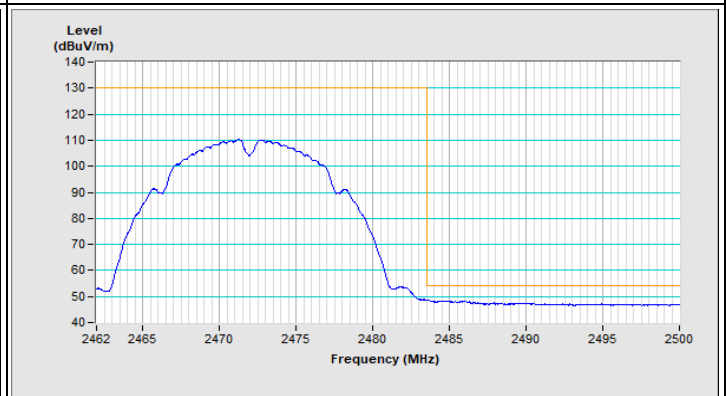
Horizontal (Peak)



Horizontal (Average)



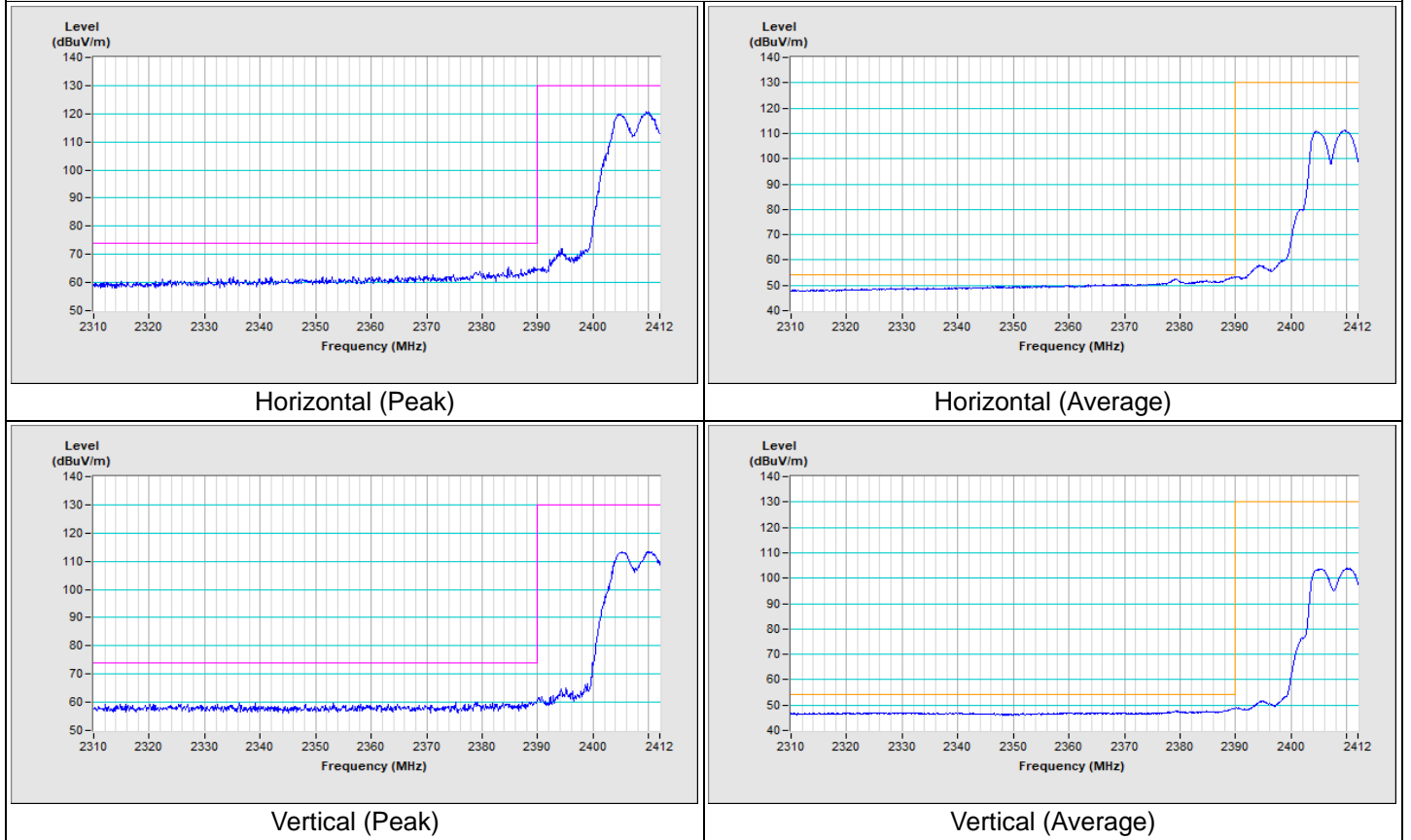
Vertical (Peak)



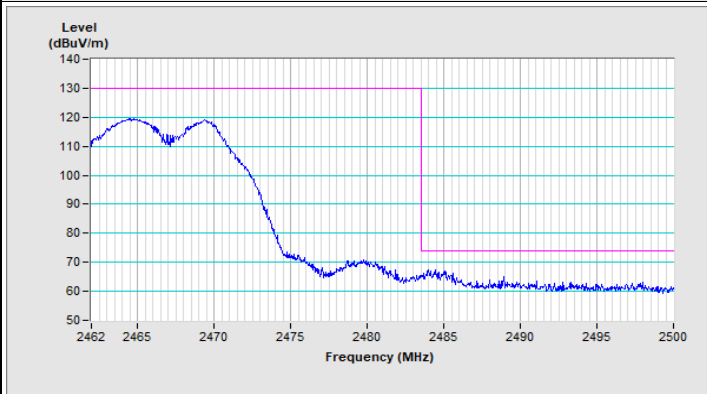
Vertical (Average)

Frequency Range	2.31 GHz ~ 2.412 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
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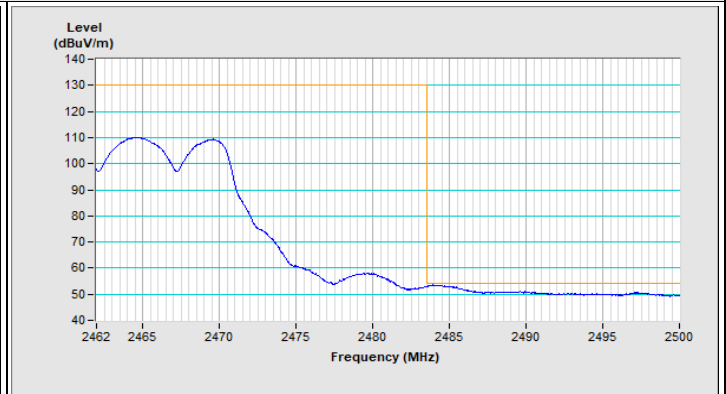
802.11g Channel 1



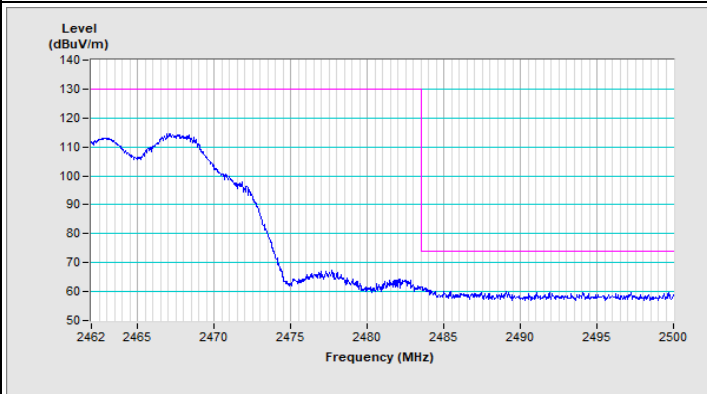
802.11g Channel 11



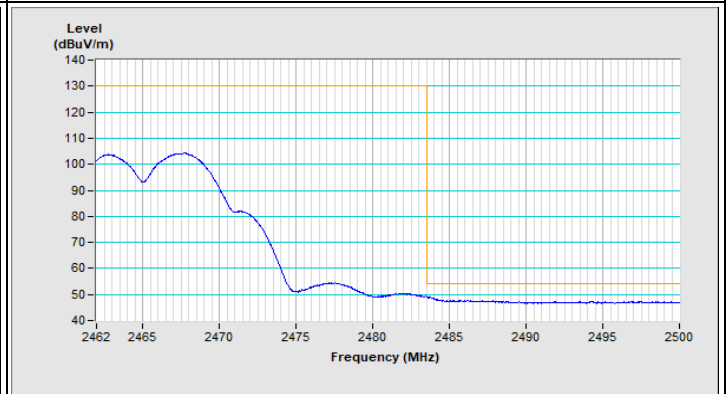
Horizontal (Peak)



Horizontal (Average)

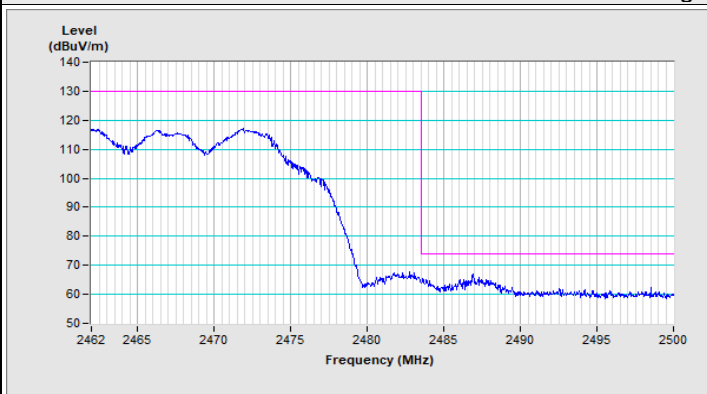


Vertical (Peak)

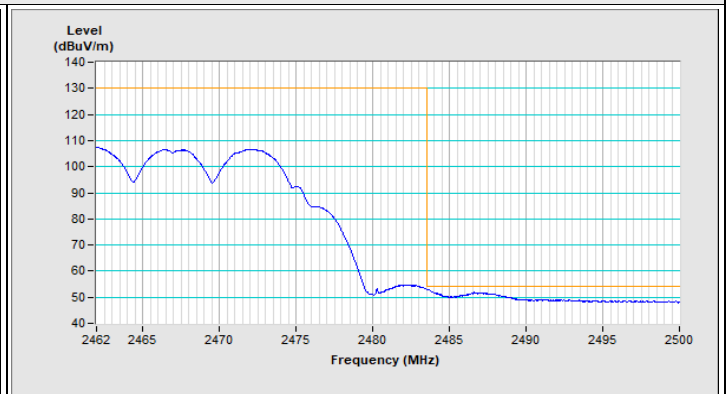


Vertical (Average)

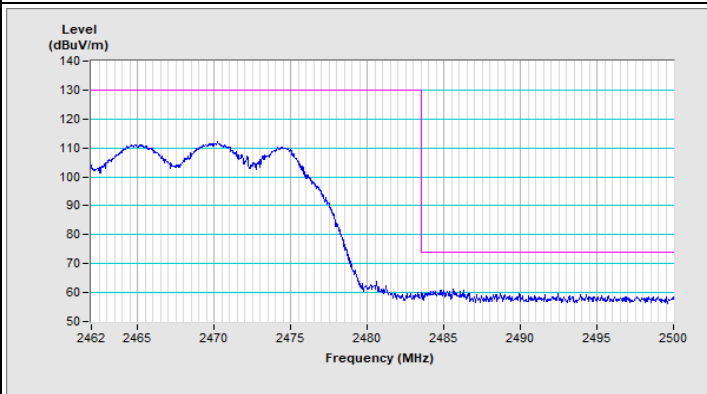
802.11g Channel 12



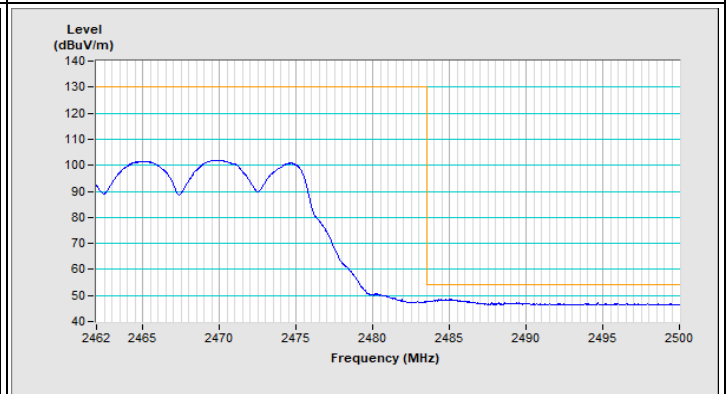
Horizontal (Peak)



Horizontal (Average)

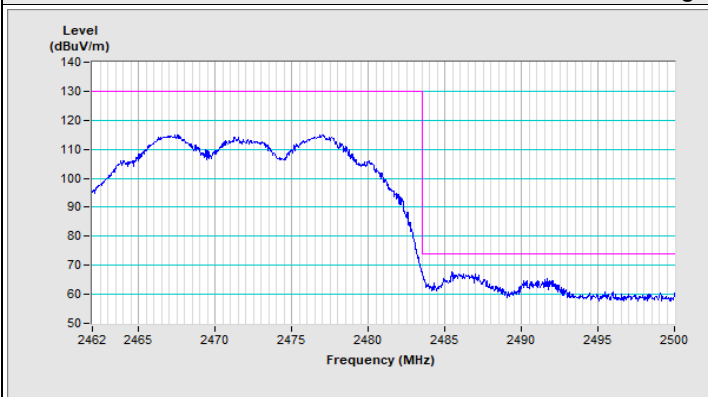


Vertical (Peak)

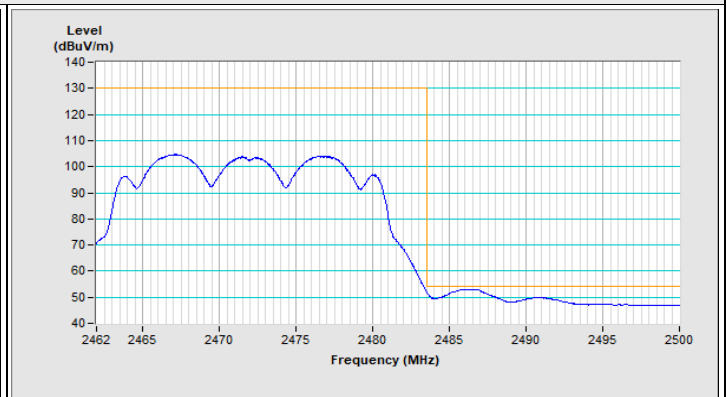


Vertical (Average)

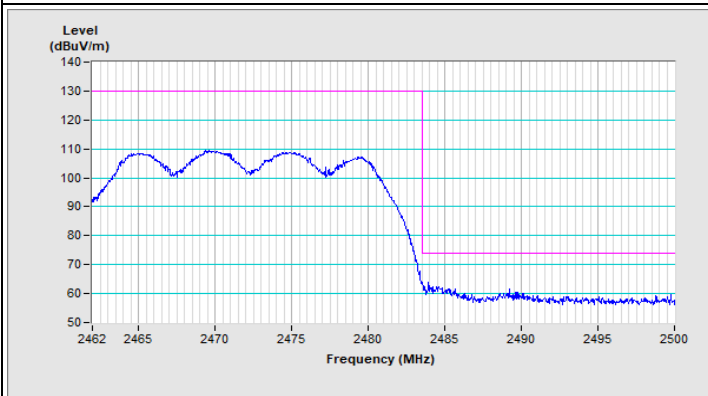
802.11g Channel 13



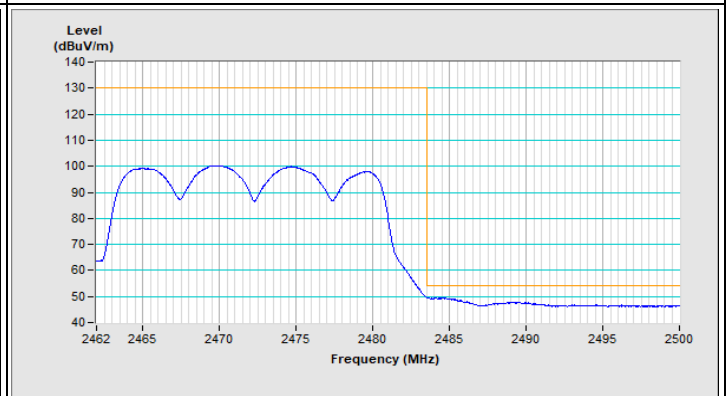
Horizontal (Peak)



Horizontal (Average)



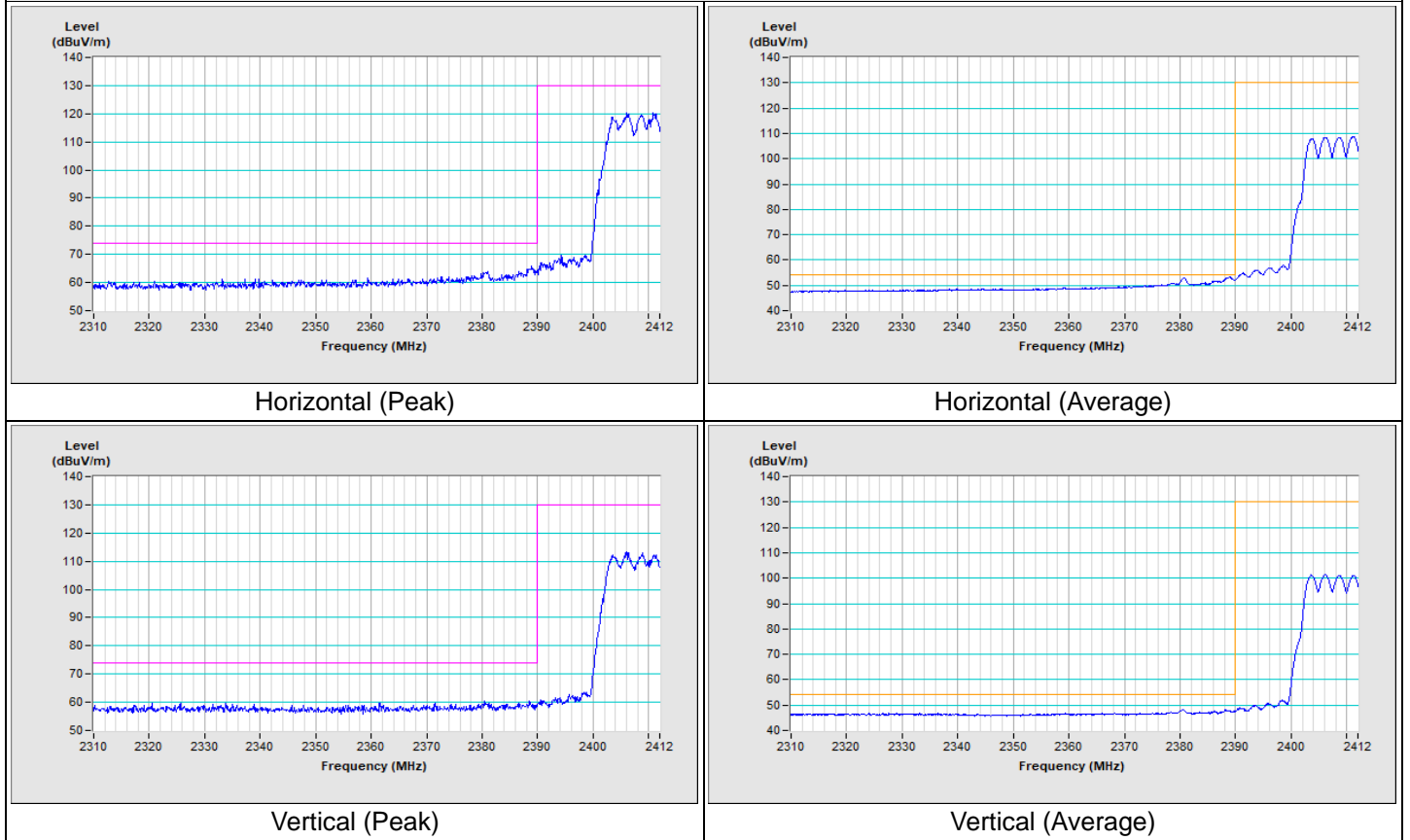
Vertical (Peak)



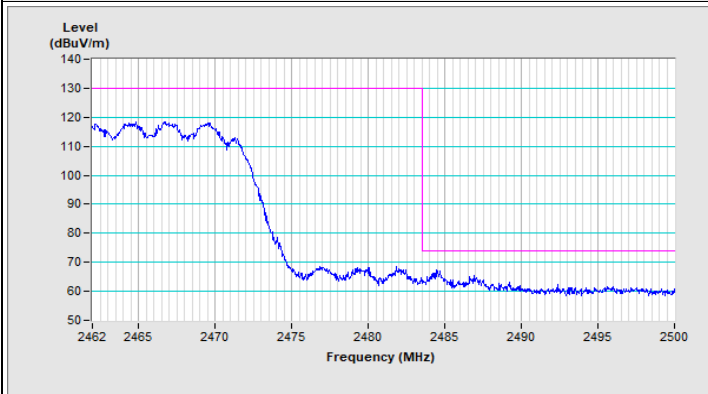
Vertical (Average)

Frequency Range	2.31 GHz ~ 2.412 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
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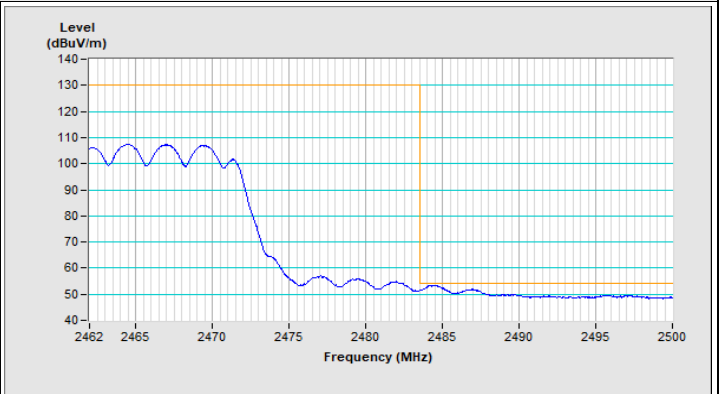
802.11ax (HE20) Channel 1



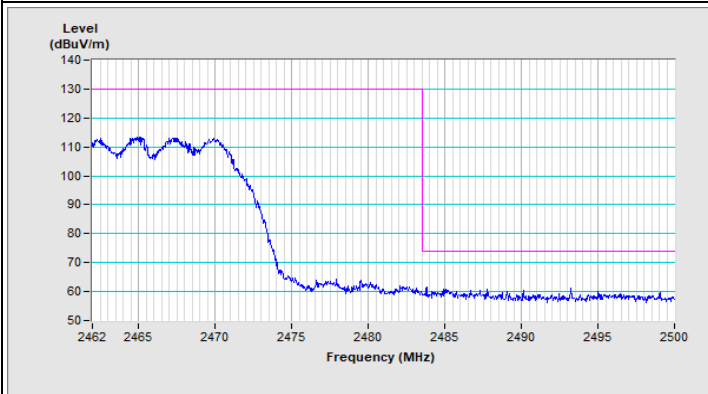
802.11ax (HE20) Channel 11



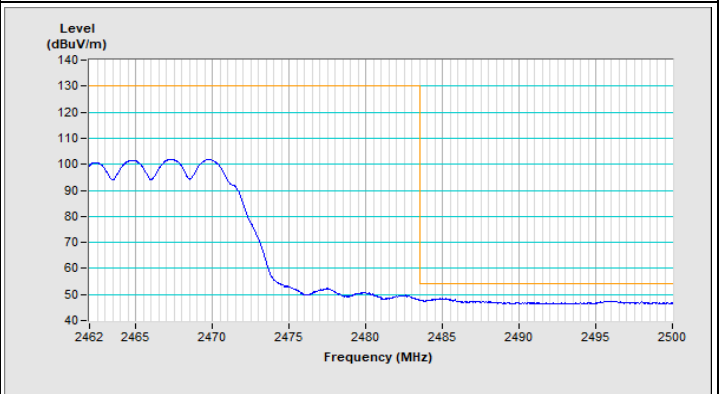
Horizontal (Peak)



Horizontal (Average)

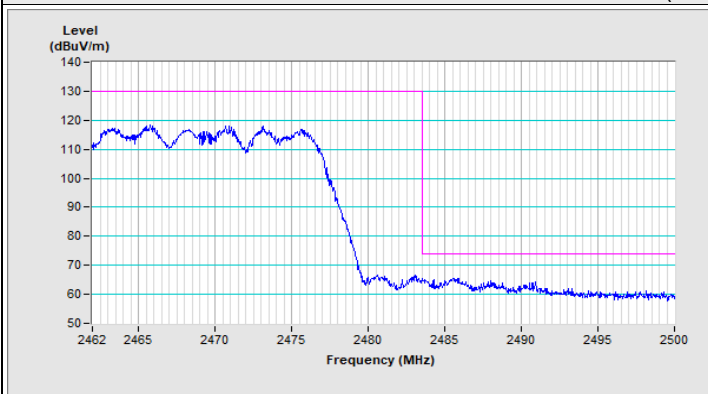


Vertical (Peak)

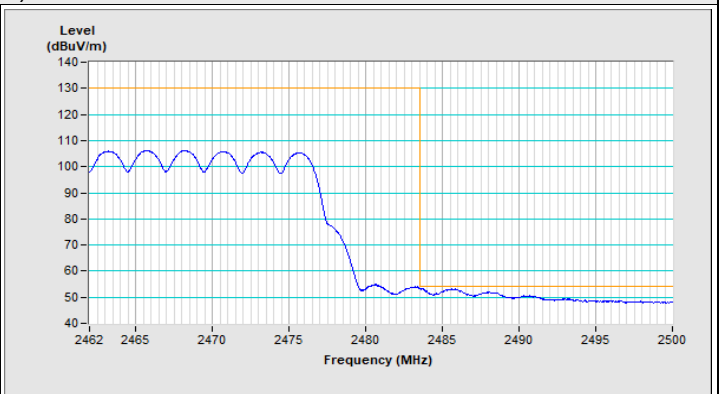


Vertical (Average)

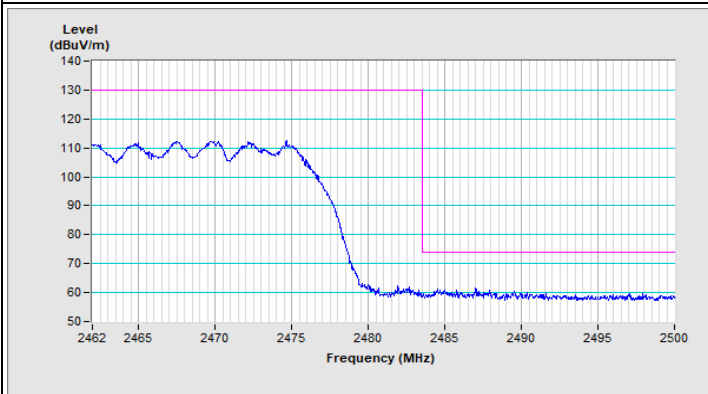
802.11ax (HE20) Channel 12



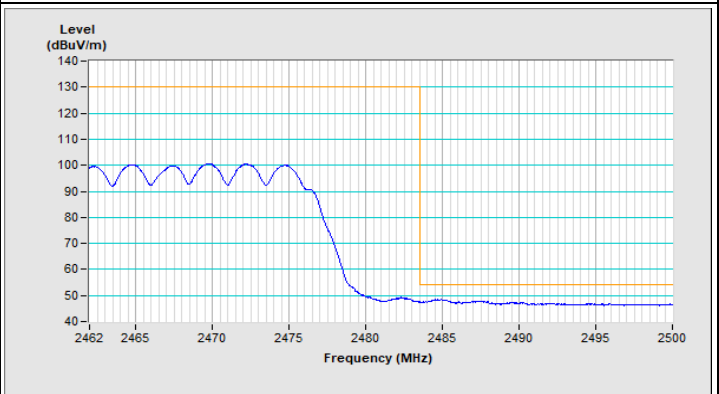
Horizontal (Peak)



Horizontal (Average)

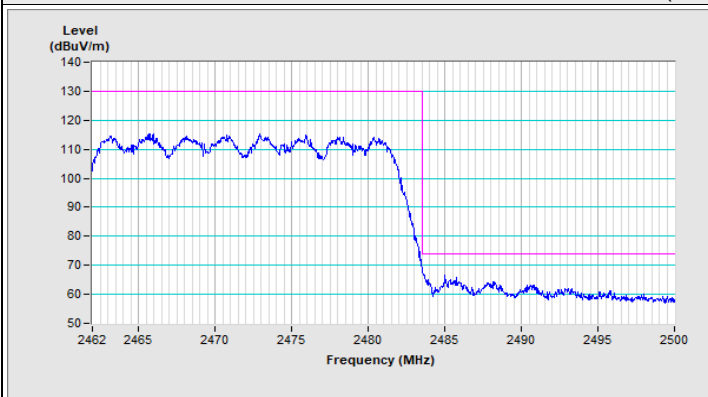


Vertical (Peak)

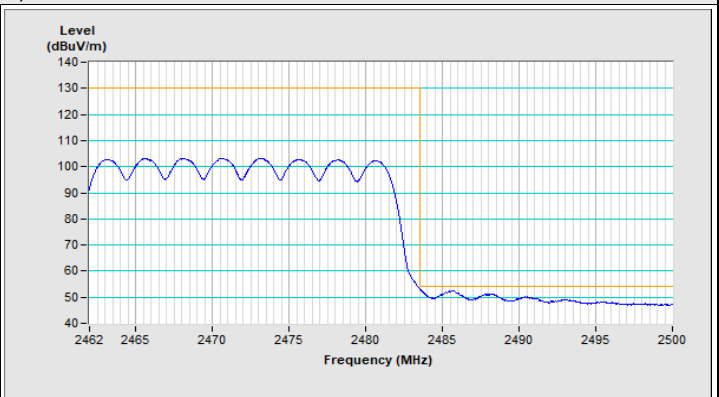


Vertical (Average)

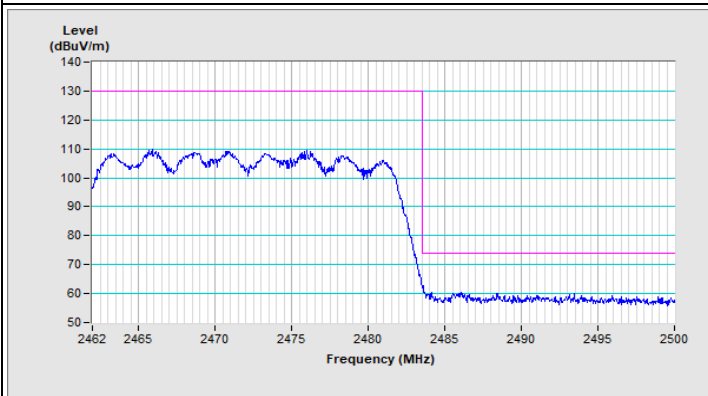
802.11ax (HE20) Channel 13



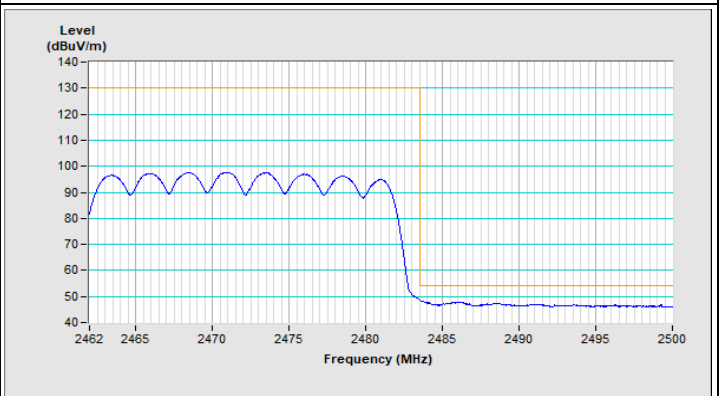
Horizontal (Peak)



Horizontal (Average)



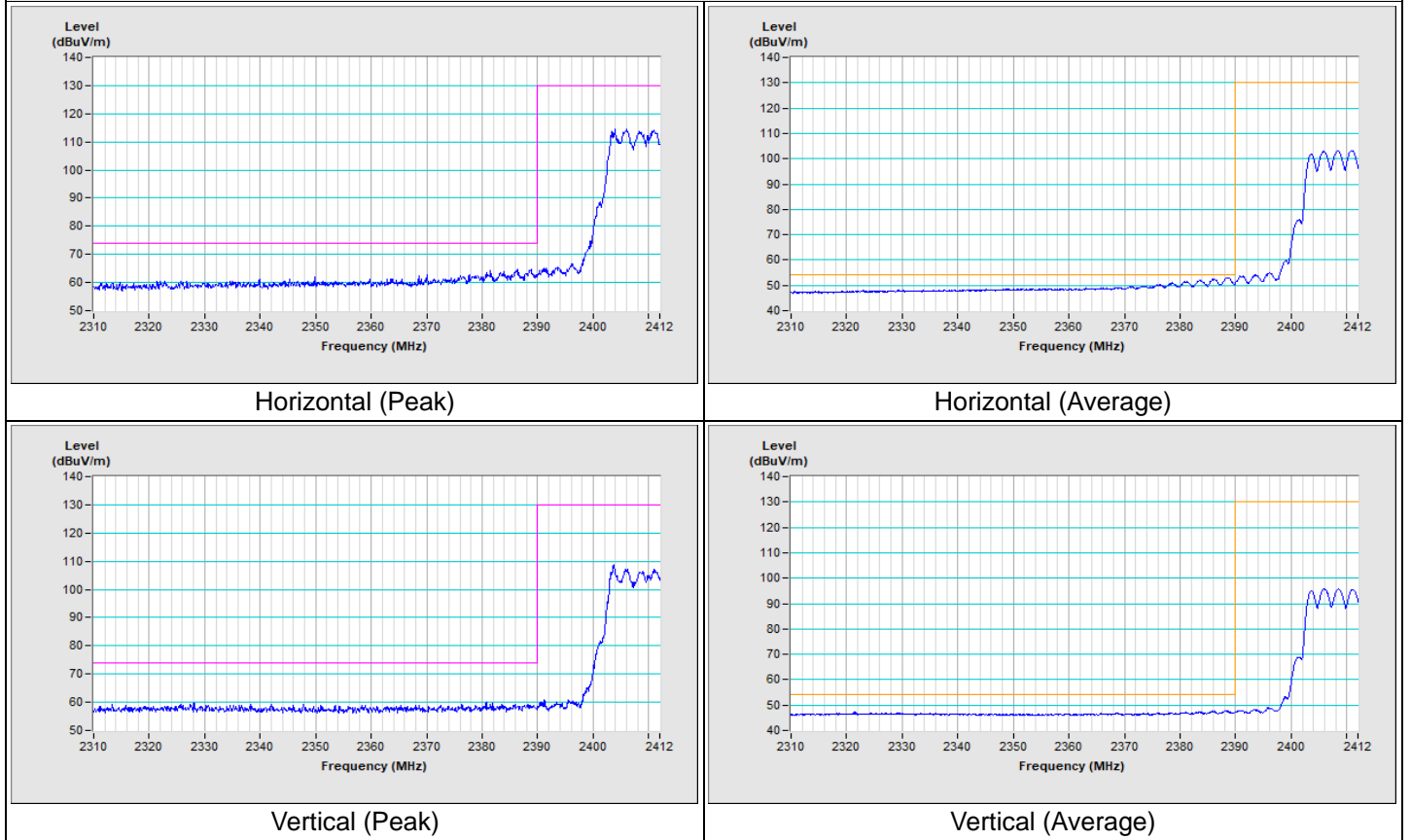
Vertical (Peak)



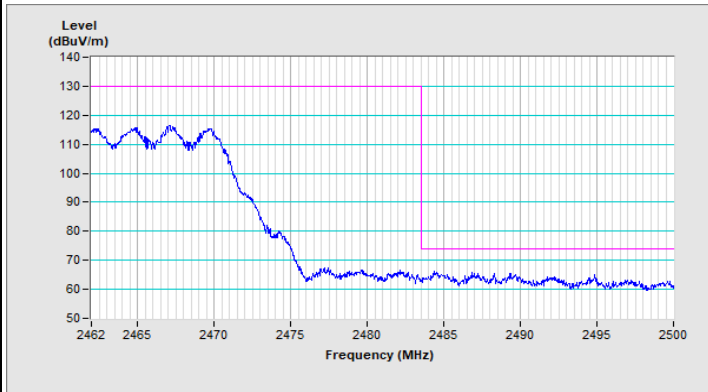
Vertical (Average)

Frequency Range	2.31 GHz ~ 2.412 GHz	Detector Function & Bandwidth	Peak (PK), RB = 1 MHz, VB = 3 MHz Peak (AV), RB = 1 MHz, VB = 10 Hz
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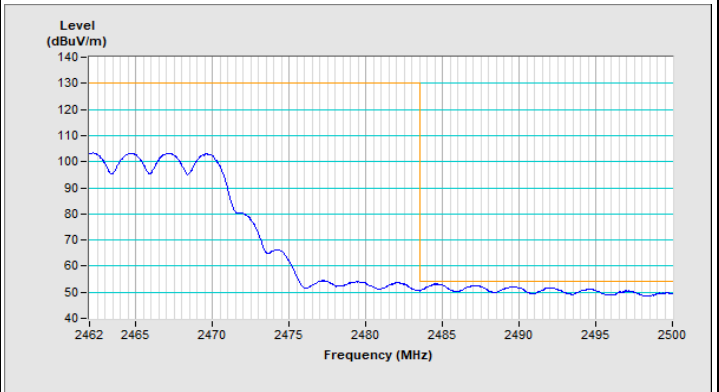
802.11ax (HE40) Channel 3



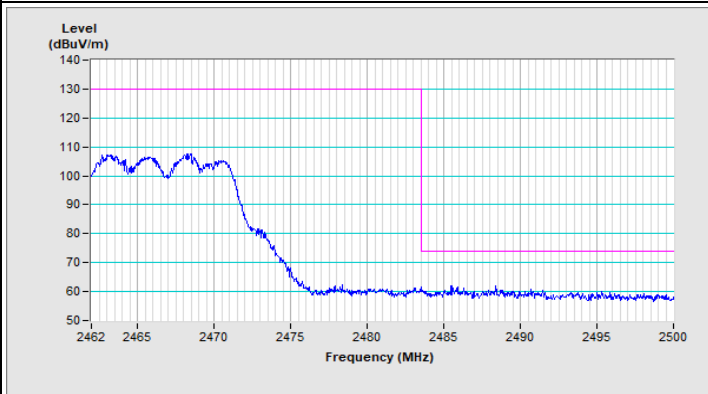
802.11ax (HE40) Channel 9



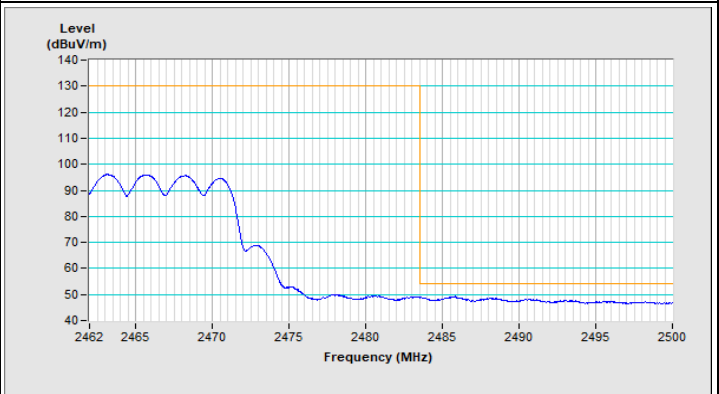
Horizontal (Peak)



Horizontal (Average)

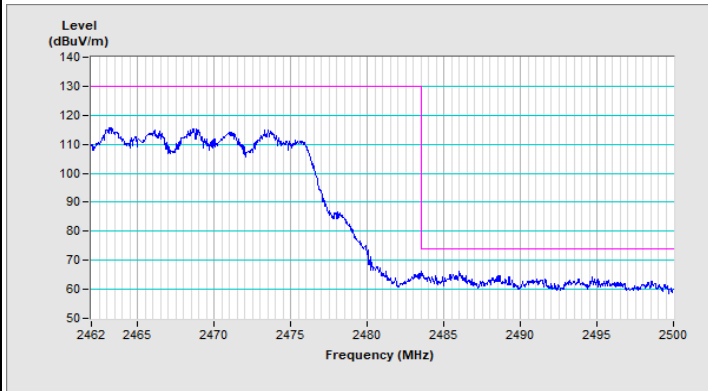


Vertical (Peak)

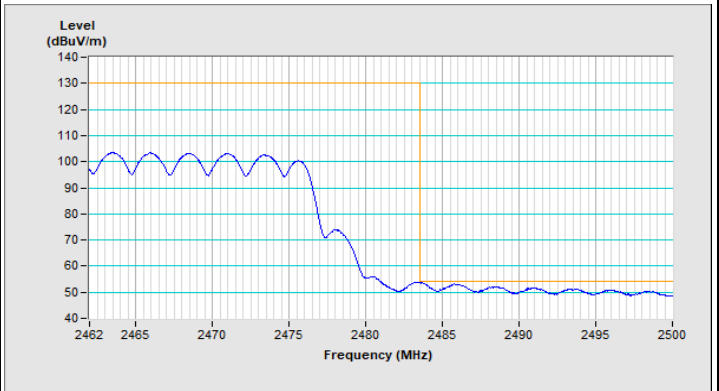


Vertical (Average)

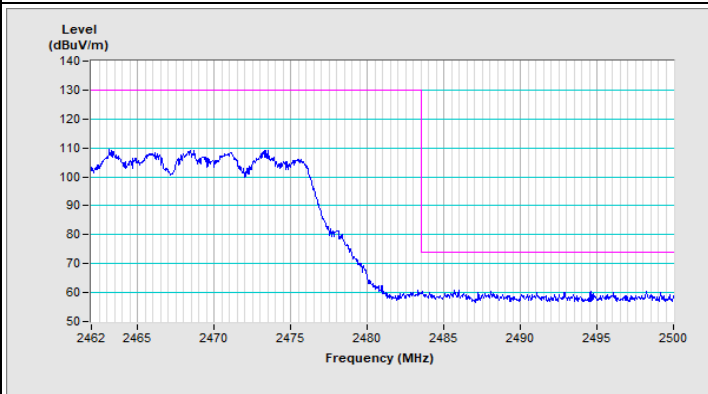
802.11ax (HE40) Channel 10



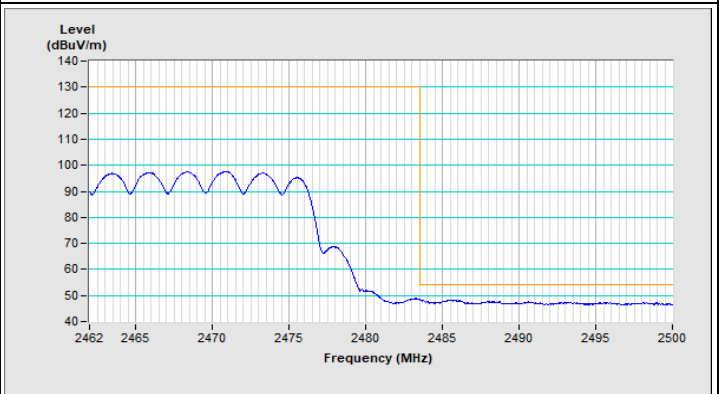
Horizontal (Peak)



Horizontal (Average)

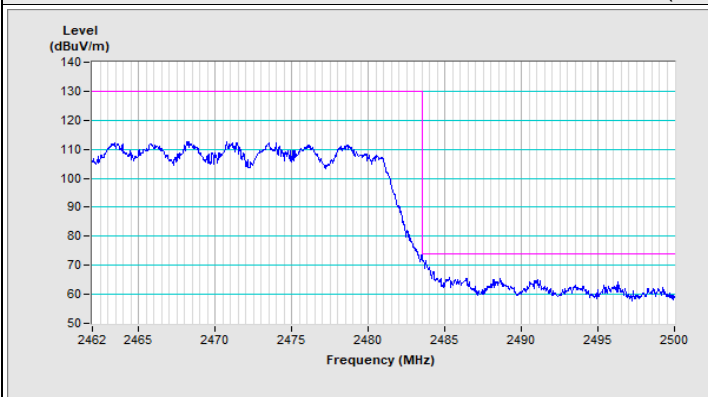


Vertical (Peak)

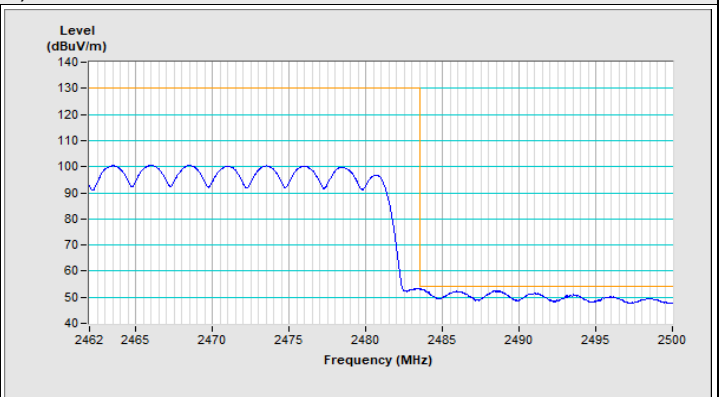


Vertical (Average)

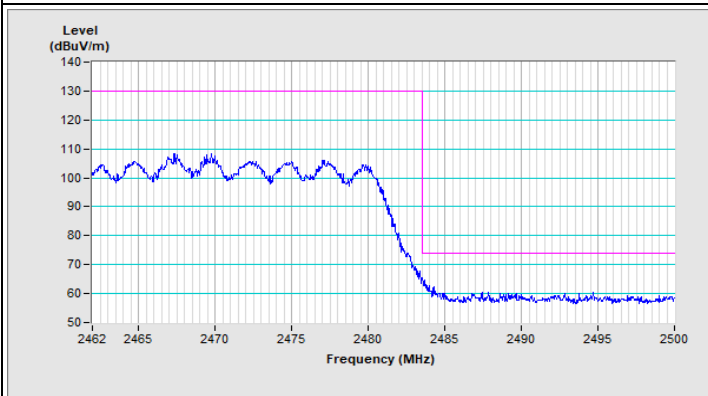
802.11ax (HE40) Channel 11



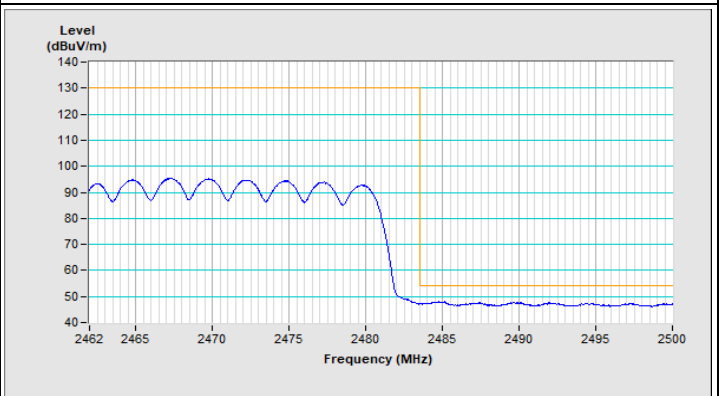
Horizontal (Peak)



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

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