TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBEIU-WTW-P23120563

FCC ID: 2AUS4-NFK1

Product: Video conferencing device

Model No.: NF-K1

Received Date: 2023/12/22

Test Date: 2024/1/4 ~ 2024/4/24

Issued Date: 2024/7/3

Applicant: Neatframe Limited

Address: Cannon Green, 27 Bush Lane, London, EC4R 0AA, United Kingdom

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

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

FCC Registration / Designation Number: 198487 / TW2021

Approved by: Jeremy Lin , **Date:** 2024/7/3

Jeremy Lin / Project Engineer

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Prepared by : Annie Chang / Senior Specialist

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Table of Contents

Release Control Record **4**

1 Certificate **5**

2 Summary of Test Results **6**

2.1 Measurement Uncertainty 6
2.2 Supplementary Information 6

3 General Information **7**

3.1 General Description 7
3.2 Antenna Description of EUT 8
3.3 Channel List 9
3.4 Test Mode Applicability and Tested Channel Detail 10
3.5 Duty Cycle of Test Signal 11
3.6 Test Program Used and Operation Descriptions 13
3.7 Connection Diagram of EUT and Peripheral Devices 13
3.8 Configuration of Peripheral Devices and Cable Connections 14

4 Test Instruments **15**

4.1 RF Output Power 15
4.2 Power Spectral Density 15
4.3 6 dB Bandwidth 15
4.4 Conducted Out of Band Emissions 15
4.5 AC Power Conducted Emissions 16
4.6 Unwanted Emissions below 1 GHz 17
4.7 Unwanted Emissions above 1 GHz 18

5 Limits of Test Items **19**

5.1 RF Output Power 19
5.2 Power Spectral Density 19
5.3 6 dB Bandwidth 19
5.4 Conducted Out of Band Emissions 19
5.5 AC Power Conducted Emissions 19
5.6 Unwanted Emissions below 1 GHz 20
5.7 Unwanted Emissions above 1 GHz 20

6 Test Arrangements **21**

6.1 RF Output Power 21
6.1.1 Test Setup 21
6.1.2 Test Procedure 21
6.2 Power Spectral Density 21
6.2.1 Test Setup 21
6.2.2 Test Procedure 21
6.3 6 dB Bandwidth 22
6.3.1 Test Setup 22
6.3.2 Test Procedure 22
6.4 Conducted Out of Band Emissions 22
6.4.1 Test Setup 22
6.4.2 Test Procedure 22
6.5 AC Power Conducted Emissions 23
6.5.1 Test Setup 23
6.5.2 Test Procedure 23
6.6 Unwanted Emissions below 1 GHz 24
6.6.1 Test Setup 24
6.6.2 Test Procedure 25
6.7 Unwanted Emissions above 1 GHz 26
6.7.1 Test Setup 26
6.7.2 Test Procedure 26

7 Test Results of Test Item **27**

7.1 RF Output Power 27
7.2 Power Spectral Density 30
7.3 6 dB Bandwidth 33
7.4 Conducted Out of Band Emissions 35
7.5 AC Power Conducted Emissions 43
7.6 Unwanted Emissions below 1 GHz 45
7.7 Unwanted Emissions above 1 GHz 47

8 Pictures of Test Arrangements 67

9 Information of the Testing Laboratories 68

Release Control Record

Issue No.	Description	Date Issued
RFBEIU-WTW-P23120563	Original release.	2024/7/3

1 Certificate

Product:	Video conferencing device
Test Model:	NF-K1
Sample Status:	Engineering sample
Applicant:	Neatframe Limited
Test Date:	2024/1/4 ~ 2024/4/24
Standard:	47 CFR FCC Part 15, Subpart C (Section 15.247)
Measurement procedure:	ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02 KDB 662911 D01 Multiple Transmitter Output v02r01

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

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Standard / Clause	Test Item	Result	Remark
15.247(b)	RF Output Power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.247(a)(2)	6 dB Bandwidth	Pass	Meet the requirement of limit.
15.247(d)	Conducted Out of Band Emissions	Pass	Meet the requirement of limit.
15.207	AC Power Conducted Emissions	Pass	Minimum passing margin is -19.77 dB at 0.16096 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -3.1 dB at 52.22 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -1.4 dB at 2483.50 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) (±)
RF Output Power	-	1.1 dB
Power Spectral Density	-	1.3 dB
6 dB Bandwidth	-	960 Hz
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.7 dB
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	2.85 dB
	30 MHz ~ 1 GHz	5.7 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 6 GHz	3.06 dB
	6 GHz ~ 18 GHz	3.06 dB
	18 GHz ~ 40 GHz	3.29 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	Video conferencing device
Test Model	NF-K1
Status of EUT	Engineering sample
Power Supply Rating	100-240Vac, 50/60Hz
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in VHT mode 1024QAM for OFDMA in 11ax mode
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	Up to 573.5 Mbps
Operating Frequency	2.412 GHz ~ 2.462 GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20):11 802.11n (HT40), VHT40, 802.11ax (HE40):7
Output Power	664.72 mW (28.23 dBm)

Note:

1. The EUT uses following accessories.

Item	Brand	Model	Specification
Touch Pen	neat.	NF-H2	-
Power Cable (Table-top)	-	-	Non-shielded without core, 3.0m
Power Cable (Floor standing)	-	-	Non-shielded without core, 4.5m
RJ45 Cable	-	-	Shielded without core, 5.0m

2. There are Bluetooth and WLAN (2.4 GHz & 5 GHz) technology used for the EUT.
3. WLAN 2.4 GHz & WLAN 5 GHz & Bluetooth technology cannot transmit at same time.
4. The EUT does not support Partial RU technology.
5. The above EUT information is declared by manufacturer and for more detailed features description, please refers 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.	Gain (dBi)	Antenna Type	Connector Type
1	3.58	PIFA	IPEX
2	3.79	PIFA	IPEX
Note: The maximum gain was chosen for test.			

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

2. The EUT incorporates a MIMO function:

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: 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.		

3.3 Channel List

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

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

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

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

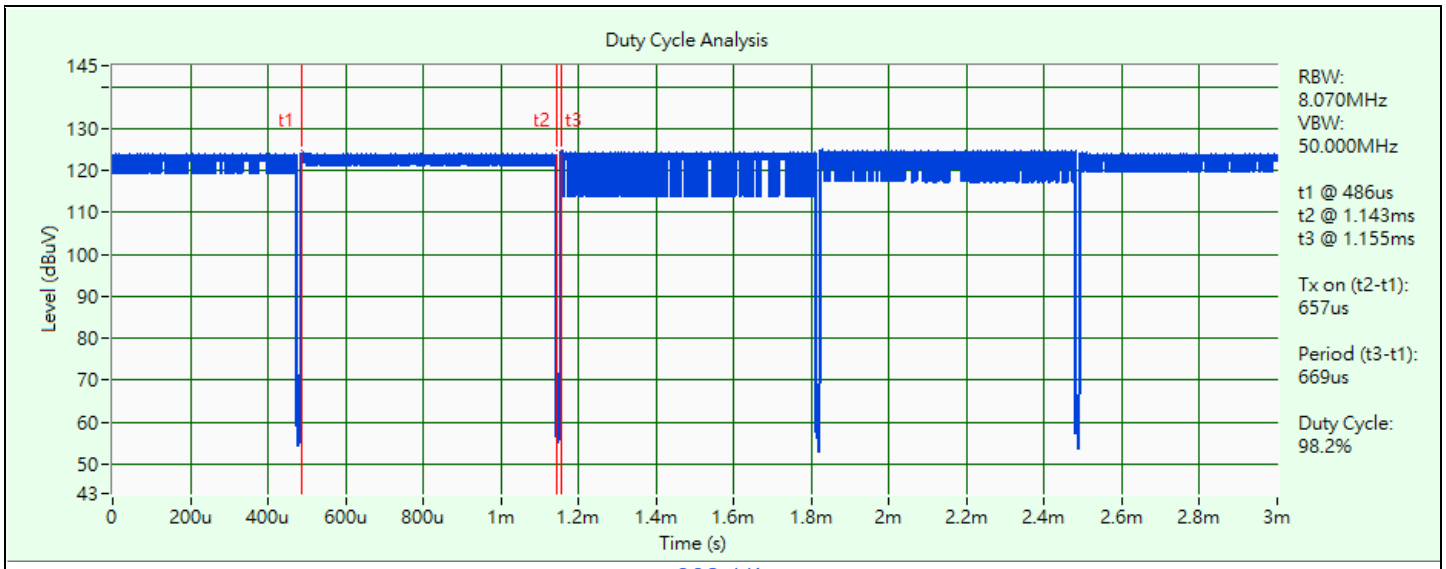
3.4 Test Mode Applicability and Tested Channel Detail

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

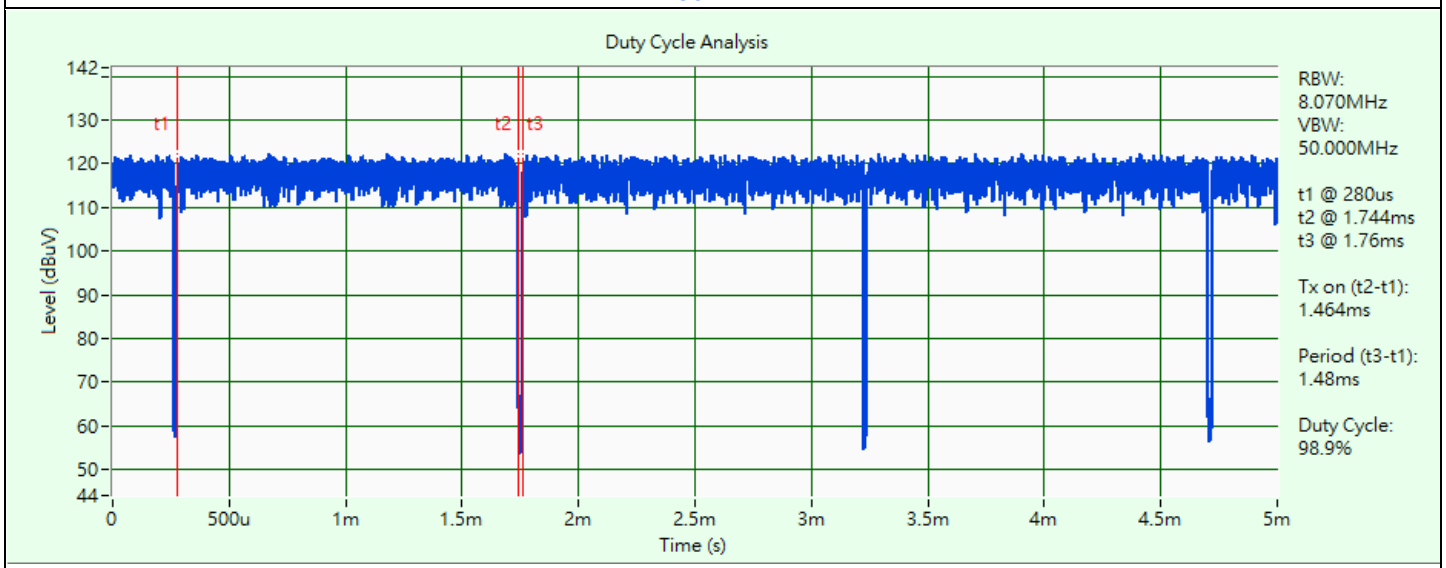
Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
	802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	VHT20	CDD	1, 6, 11	BPSK	MCS0
	VHT40	CDD	3, 6, 9	BPSK	MCS0
	802.11ax (HE20)	CDD	1, 6, 11	BPSK	MCS0
	802.11ax (HE40)	CDD	3, 6, 9	BPSK	MCS0
6 dB Bandwidth / Conducted Out of Band Emissions / Power Spectral Density	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
	802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	802.11ax (HE20)	CDD	1, 6, 11	BPSK	MCS0
	802.11ax (HE40)	CDD	3, 6, 9	BPSK	MCS0
AC Power Conducted Emissions	802.11ax (HE40)	CDD	6	BPSK	MCS0
Unwanted Emissions below 1 GHz	802.11ax (HE40)	CDD	6	BPSK	MCS0
Unwanted Emissions above 1 GHz	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
	802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	802.11ax (HE20)	CDD	1, 6, 11	BPSK	MCS0
	802.11ax (HE40)	CDD	3, 6, 9	BPSK	MCS0

3.5 Duty Cycle of Test Signal

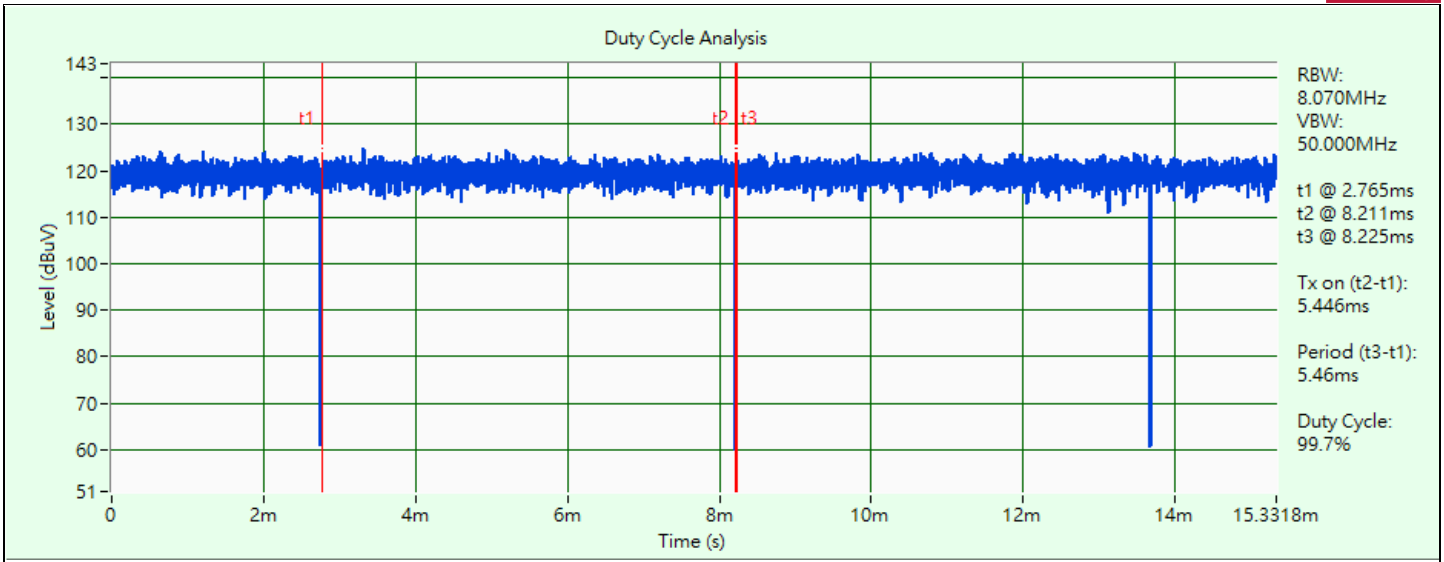
802.11b: Duty cycle = 0.657 ms / 0.669 ms x 100% = 98.2%
802.11g: Duty cycle = 1.464 ms / 1.48 ms x 100% = 98.9%
802.11ax (HE20): Duty cycle = 5.446 ms / 5.46 ms x 100% = 99.7%
802.11ax (HE40): Duty cycle = 5.448 ms / 5.46 ms x 100% = 99.8%



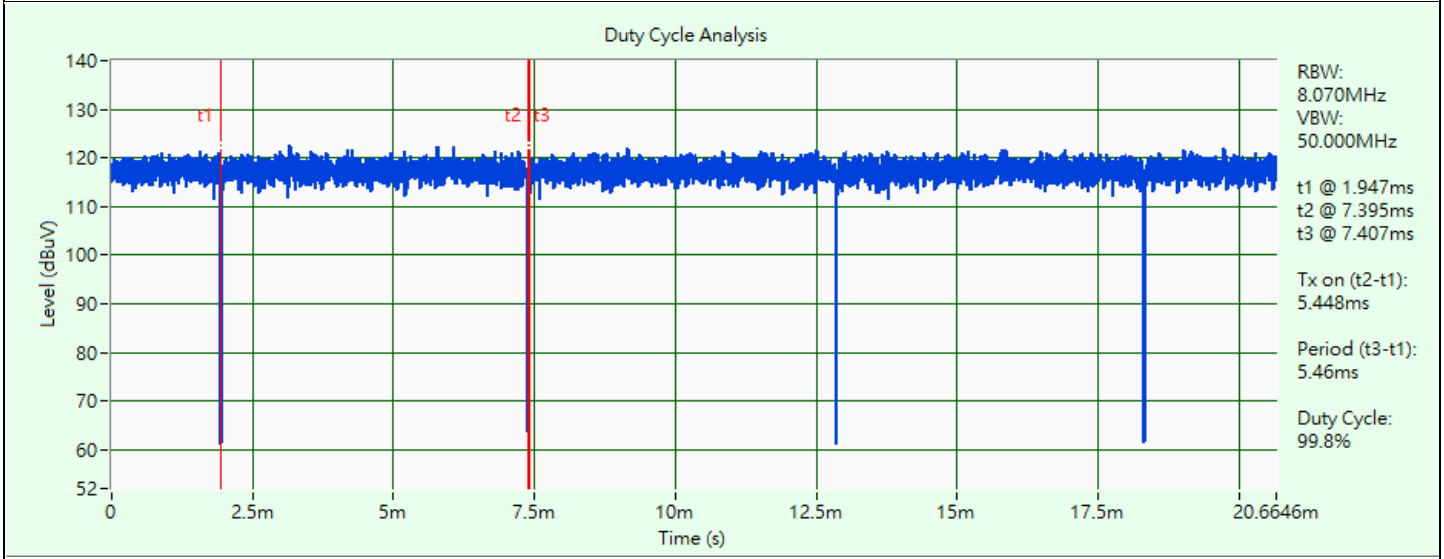
802.11b



802.11g



802.11ax (HE20)

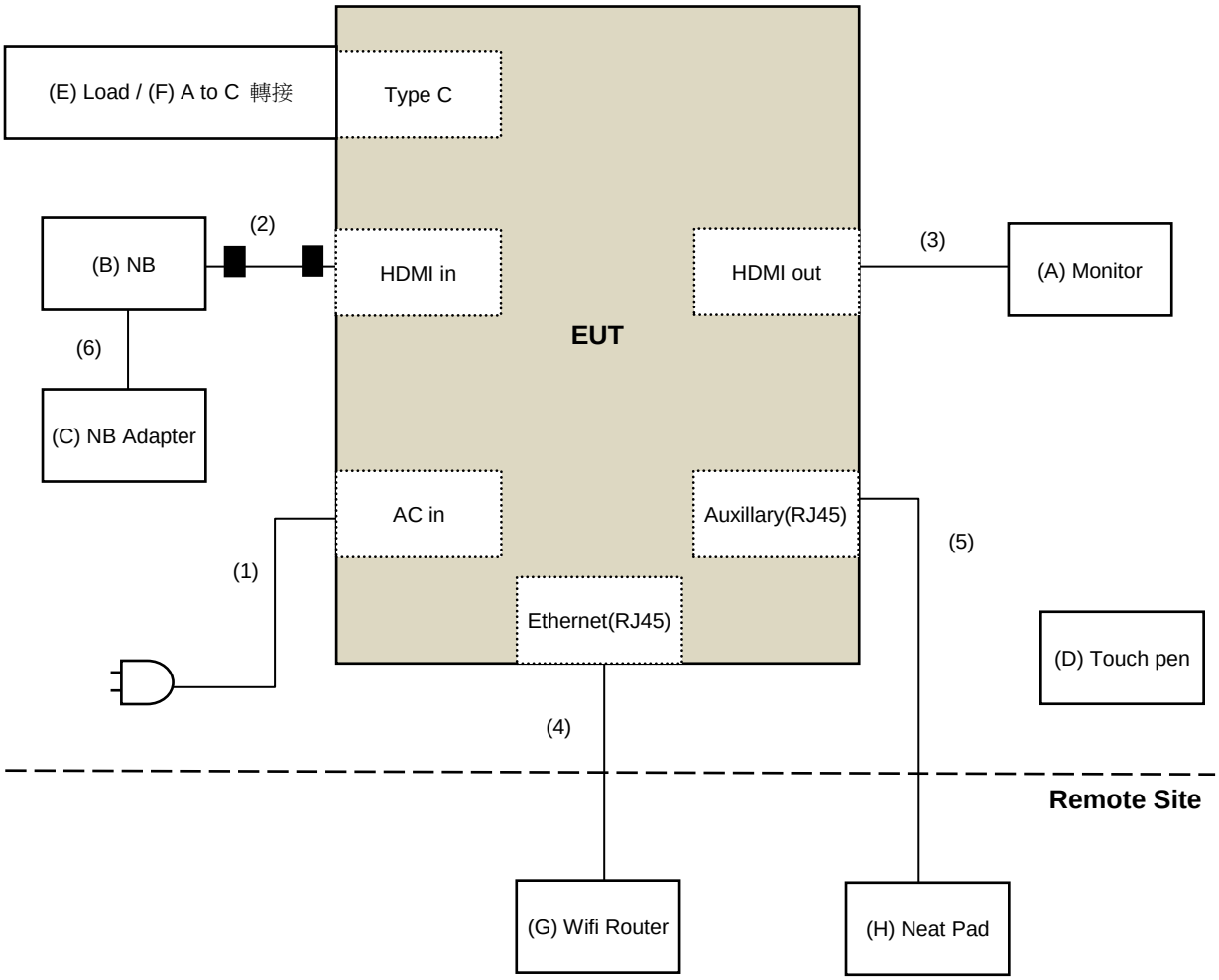


802.11ax (HE40)

3.6 Test Program Used and Operation Descriptions

Controlling software (QRCT v4.0.00204.0) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Monitor	ASUS	PA279CV	M7LMTF235971	DoC	Provided by Lab
B	NB	LENOVO	IdeaPad 5 15ITL05	N/A	N/A	Provided by Lab
C	NB Adapter	LENOVO	ADLX65CLGU2A	N/A	N/A	Provided by Lab
D	Touch pen	neat	NF-H2	N/A	N/A	Supplied by applicant
E	LOAD	BV	Dummy Load-02	N/A	N/A	Provided by Lab
F	A to C Adapter	i-gota	UTC180	N/A	N/A	Provided by Lab
G	Wifi Router	NETGEAR	R6350	58E798B00017E	DoC	Provided by Lab
H	Neat Pad	neat	A1	N/A	N/A	Supplied by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	AC Power Cable	1	3	N	0	Supplied by applicant
2	HDMI Cable	1	2	Y	2	Supplied by applicant
3	HDMI Cable	1	2	Y	0	Supplied by applicant
4	RJ45	1	10	N	0	Provided by Lab
5	RJ45	1	10	N	0	Provided by Lab
6	NB Adapter DC Cable	1	1.8	N	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
Pulse Power Sensor Anritsu	MA2411B	0738404	2023/5/5	2024/5/4
RF Power Meter Anritsu	ML2495A	0842014	2023/5/5	2024/5/4
USB Wideband Power Sensor Keysight	U2021XA	U2021XA_001	2023/6/6	2024/6/5

Notes:

1. The test was performed in LK - Oven
2. Tested Date: 2024/2/6

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
PXA Signal Analyzer Keysight	N9030A	MY54490260	2023/7/13	2024/7/12
Signal Analyzer R&S	FSV40	101042	2023/9/5	2024/9/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in LK - Oven
2. Tested Date: 2024/2/6

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
50 ohm terminal resistance LYNICS	0900510	E1-01-305	2024/2/6	2025/2/5
		E1-011285	2023/9/21	2024/9/20
		E1-011286	2023/9/21	2024/9/20
Coupling / Decoupling Network TESEQ	CDN A201A	44601	2023/12/14	2024/12/13
EMI Test Receiver R&S	ESCS 30	100276	2023/4/20	2024/4/19
	ESR3	102413	2024/1/29	2025/1/28
Fixed Attenuator EMEC	EM-ATT30002602NN	N/A	2024/3/22	2025/3/21
Fixed Attenuator STI	STI02-2200-10	NO.3	2023/10/20	2024/10/19
High Voltage Probe Schwarzbeck	TK9420	00982	2023/12/11	2024/12/10
LISN R&S	ENV216	101196	2023/5/22	2024/5/21
		101197	2023/7/12	2024/7/11
	ESH3-Z5	100220	2023/11/22	2024/11/21
LISN Schwarzbeck	NNLK 8121	8121-731	2023/6/9	2024/6/8
		8121-00759	2023/8/21	2024/8/20
		8121-808	2023/5/2	2024/5/1
	NNLK 8129	8129229	2023/6/27	2024/6/26
RF Coaxial Cable PEWC	5D-FB	Cable-CO3-01	2023/9/13	2024/9/12
Software BVADT	Cond_V7.4.1.0	N/A	N/A	N/A

Notes:

1. The test was performed in Linkou Conduction 3.
2. Tested Date: 2024/4/15

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	137	2023/10/13	2024/10/12
Coupling / Decoupling Network Schwarzbeck	CDNE-M2	00097	2023/5/25	2024/5/24
	CDNE-M3	00091	2023/5/25	2024/5/24
Loop Antenna EMCI	LPA600	270	2023/9/4	2024/9/3
MXE EMI Receiver Agilent	N9038A	MY51210129	2024/3/22	2025/3/21
		MY51210137	2023/6/5	2024/6/4
Preamplifier Agilent	8447D	2944A11064	2024/2/15	2025/2/14
Preamplifier EMCI	EMC001340	980269	2023/6/27	2024/6/26
RF Coaxial Cable Pacific	8D-FB	Cable-CH6-02	2023/6/27	2024/6/26
Signal Analyzer R&S	FSV40	101544	2023/5/9	2024/5/8
Software BVADT	Radiated_V8.7.08	N/A	N/A	N/A
Tower ADT	AT100	0306	N/A	N/A
Turn Table ADT	TT100	0306	N/A	N/A

Notes:

1. The test was performed in Linkou 966 Chamber 6 (CH 6).
2. Tested Date: 2024/4/17 ~ 2024/4/24

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight antenna tower fixture BV	BAF-02	6	N/A	N/A
High Pass Filter Wainwright	WHK 3.1/18G-10SS	SN 8	2023/5/25	2024/5/24
Horn Antenna EMCO	3115	00028257	2023/11/12	2024/11/11
Horn Antenna ETS-Lindgren	3117-PA	00215857	2023/11/12	2024/11/11
Horn Antenna Schwarzbeck	BBHA 9170	212	2023/10/16	2024/10/15
		BBHA9170241	2023/10/16	2024/10/15
MXE EMI Receiver Agilent	N9038A	MY51210129	2023/3/24	2024/3/23
		MY51210137	2023/6/5	2024/6/4
Notch Filter Micro-Tronics	BRC50703-01	010	2023/5/25	2024/5/24
	BRM17690	005	2023/5/25	2024/5/24
Preamplifier EMCI	EMC0126545	980076	2023/2/16	2024/2/15
	EMC184045B	980175	2023/9/2	2024/9/1
		980235	2023/2/16	2024/2/15
Preamplifier HP	8449B	3008A01201	2023/2/16	2024/2/15
RF Coaxial Cable EMCI	EMC102-KM-KM-1000	200310	2023/3/12	2024/3/11
	EMC104	190801	2023/9/13	2024/9/12
		190804	2023/9/13	2024/9/12
RF Coaxial Cable HUBER+SUHNER	SF-104	Cable-CH6-01	2023/9/13	2024/9/12
Signal Analyzer R&S	FSV40	101042	2023/9/5	2024/9/4
		101544	2023/5/9	2024/5/8
Software BVADT	Radiated_V7.7.1.1.1	N/A	N/A	N/A
Tower ADT	AT100	0306	N/A	N/A
Turn Table ADT	TT100	0306	N/A	N/A

Notes:

1. The test was performed in Linkou 966 Chamber 6 (CH 6).
2. Tested Date: 2024/1/4 ~ 2024/1/9

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 20 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 20 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 20 dB below the highest level of the desired power:

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

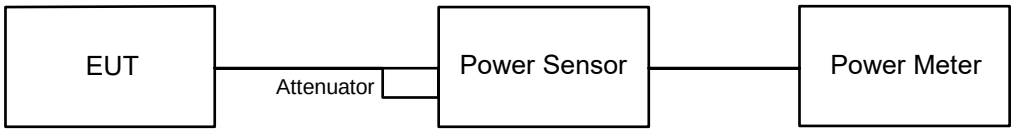
Notes:

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



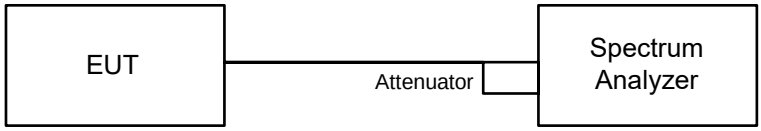
6.1.2 Test Procedure

Peak Power:
A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

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

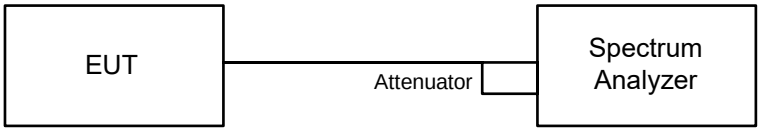


6.2.2 Test Procedure

a. Set analyzer center frequency to DTS channel center frequency.
b. Set the span to 1.5 times the DTS bandwidth.
c. Set the RBW to: 3 kHz.
d. Set the VBW ≥ 3 × RBW.
e. Detector = peak.
f. Sweep time = auto couple.
g. Trace mode = max hold.
h. Allow trace to fully stabilize.
i. Use the peak marker function to determine the maximum amplitude level within the RBW.

6.3 6 dB Bandwidth

6.3.1 Test Setup

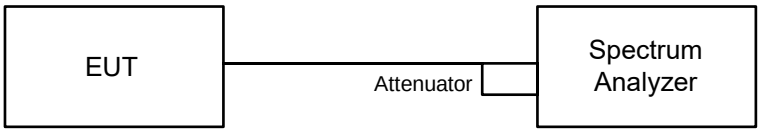


6.3.2 Test Procedure

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

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

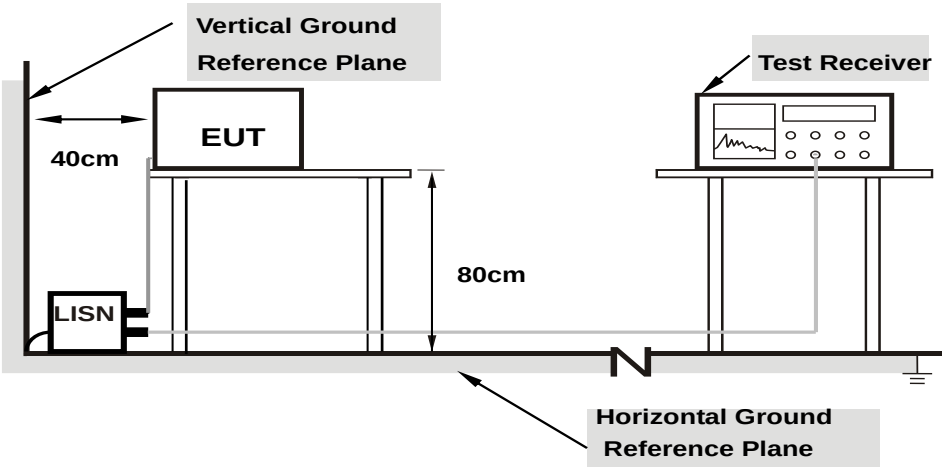
a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

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

6.5 AC Power Conducted Emissions

6.5.1 Test Setup



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

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

6.5.2 Test Procedure

a. The EUT was placed 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.

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

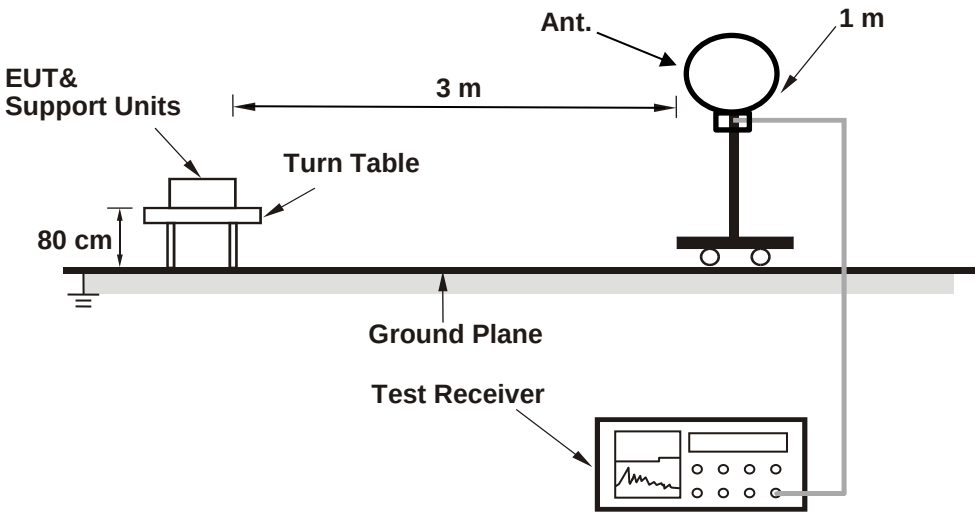
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

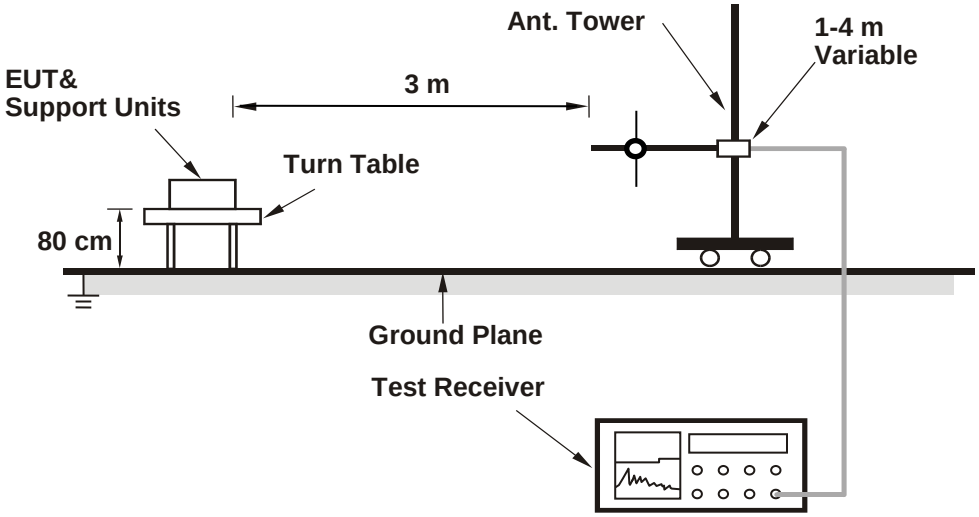
6.6 Unwanted Emissions below 1 GHz

6.6.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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.

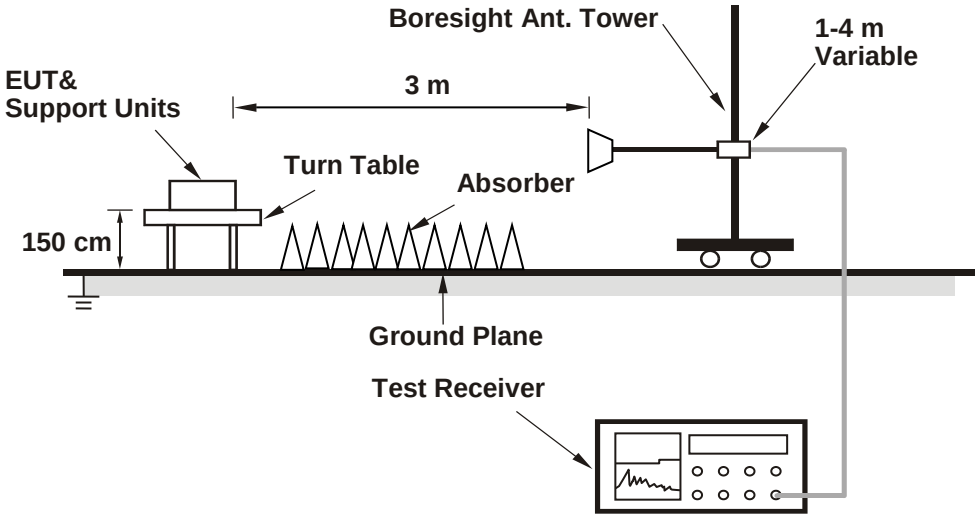
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

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

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

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

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

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

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

Notes:

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

7 Test Results of Test Item

7.1 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Dalen Dai

For Peak Power

802.11b

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	22.44	22.92	371.273	25.70	30	Pass
6	2437	22.19	22.63	348.808	25.43	30	Pass
11	2462	21.65	22.23	313.327	24.96	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.79 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	24.54	24.93	595.618	27.75	30	Pass
6	2437	23.76	24.15	497.7	26.97	30	Pass
11	2462	24.28	24.65	559.66	27.48	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.79 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT20

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	24.81	25.17	631.543	28.00	30	Pass
6	2437	24.88	25.21	639.504	28.06	30	Pass
11	2462	22.51	23.09	381.942	25.82	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.79 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT40

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	24.03	24.11	510.562	27.08	30	Pass
6	2437	24.83	25.31	643.714	28.09	30	Pass
9	2452	22.01	22.27	327.51	25.15	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.79 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	24.94	25.32	652.297	28.14	30	Pass
6	2437	24.99	25.35	658.268	28.18	30	Pass
11	2462	22.62	23.21	392.221	25.94	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.79 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	24.17	24.25	527.289	27.22	30	Pass
6	2437	24.98	25.44	664.72	28.23	30	Pass
9	2452	22.13	22.39	336.686	25.27	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.79 dBi < 6 dBi, so the output power limit shall not be reduced.

For Average Power

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	19.63	20.40	201.481	23.04
6	2437	19.70	20.21	198.28	22.97
11	2462	19.18	19.76	177.418	22.49

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	18.97	19.36	165.184	22.18
6	2437	18.25	18.68	140.625	21.48
11	2462	18.71	19.18	157.096	21.96

VHT20

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	18.46	18.91	147.949	21.70
6	2437	18.64	19.03	153.097	21.85
11	2462	15.46	15.85	73.615	18.67

VHT40

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
3	2422	17.10	17.18	103.526	20.15
6	2437	17.99	18.49	133.582	21.26
9	2452	14.14	14.62	54.915	17.40

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	18.58	19.02	151.91	21.82
6	2437	18.79	19.16	158.097	21.99
11	2462	15.58	15.99	75.86	18.80

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
3	2422	17.23	17.31	106.672	20.28
6	2437	18.12	18.60	137.307	21.38
9	2452	14.25	14.73	56.324	17.51

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Dalen Dai

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	1	2412	-2.93	3.01	0.08	7.3	Pass
	6	2437	-4.62	3.01	-1.61	7.3	Pass
	11	2462	-3.35	3.01	-0.34	7.3	Pass
Chain 1	1	2412	-3.67	3.01	-0.66	7.3	Pass
	6	2437	-4.73	3.01	-1.72	7.3	Pass
	11	2462	-4.11	3.01	-1.1	7.3	Pass

Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2]
3. The directional gain is 6.7 dBi > 6 dBi, so the power density limit shall be reduced to 8-(6.7-6) = 7.3 dBm/3kHz.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	1	2412	-9	3.01	-5.99	7.3	Pass
	6	2437	-10.25	3.01	-7.24	7.3	Pass
	11	2462	-9.12	3.01	-6.11	7.3	Pass
Chain 1	1	2412	-6.68	3.01	-3.67	7.3	Pass
	6	2437	-8.6	3.01	-5.59	7.3	Pass
	11	2462	-7.07	3.01	-4.06	7.3	Pass

Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2]
3. The directional gain is 6.7 dBi > 6 dBi, so the power density limit shall be reduced to 8-(6.7-6) = 7.3 dBm/3kHz.

802.11ax (HE20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	1	2412	-9.33	3.01	-6.32	7.3	Pass
	6	2437	-8.85	3.01	-5.84	7.3	Pass
	11	2462	-12.68	3.01	-9.67	7.3	Pass
Chain 1	1	2412	-9.55	3.01	-6.54	7.3	Pass
	6	2437	-7.85	3.01	-4.84	7.3	Pass
	11	2462	-11.49	3.01	-8.48	7.3	Pass

Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2]
3. The directional gain is 6.7 dBi > 6 dBi, so the power density limit shall be reduced to 8-(6.7-6) = 7.3 dBm/3kHz.

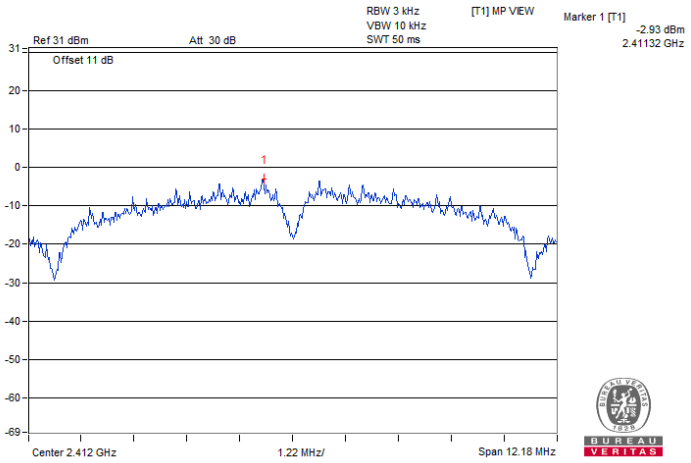
802.11ax (HE40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	3	2422	-13.6	3.01	-10.59	7.3	Pass
	6	2437	-12.4	3.01	-9.39	7.3	Pass
	9	2452	-17.1	3.01	-14.09	7.3	Pass
Chain 1	3	2422	-13.16	3.01	-10.15	7.3	Pass
	6	2437	-12.33	3.01	-9.32	7.3	Pass
	9	2452	-15.67	3.01	-12.66	7.3	Pass

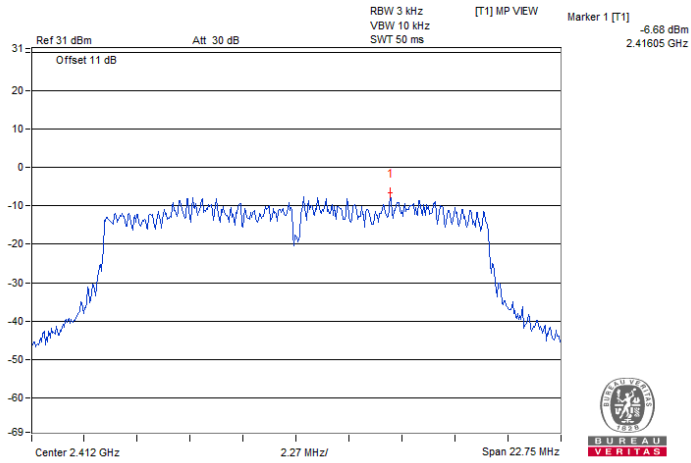
Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2]
3. The directional gain is 6.7 dBi > 6 dBi, so the power density limit shall be reduced to 8-(6.7-6) = 7.3 dBm/3kHz.

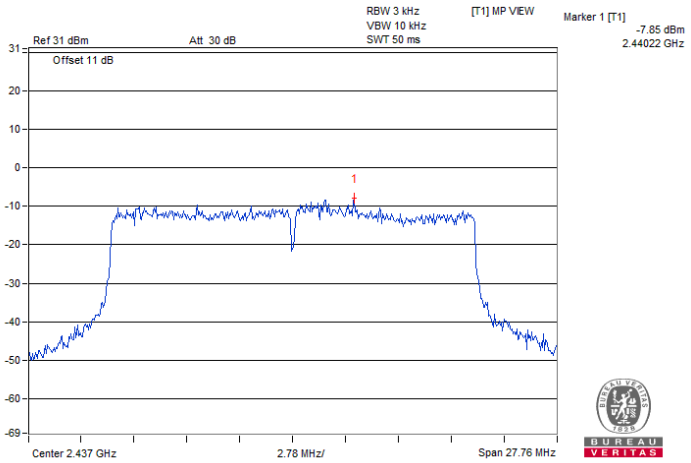
Spectrum Plot of Maximum Value



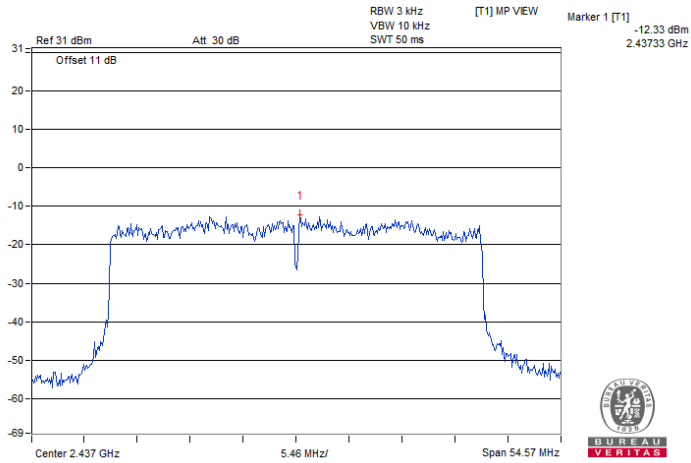
802.11b / Chain 0 : CH 1



802.11g / Chain 1 : CH 1



802.11ax (HE20) / Chain 1 : CH 6



802.11ax (HE40) / Chain 1 : CH 6

7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Dalen Dai

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	8.12	7.16	0.5	Pass
6	2437	8.15	8.08	0.5	Pass
11	2462	8.12	8.55	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	15.98	15.17	0.5	Pass
6	2437	16.35	15.37	0.5	Pass
11	2462	16.09	15.18	0.5	Pass

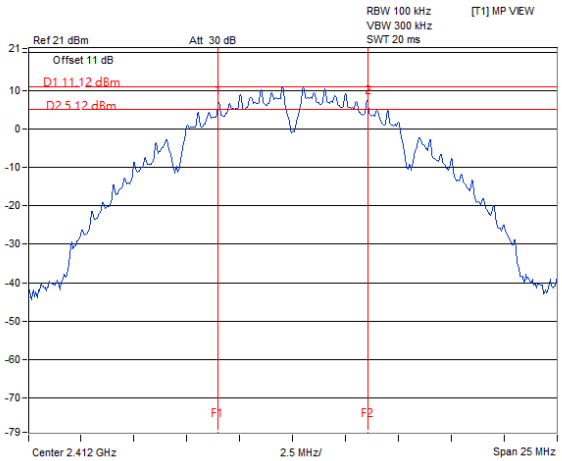
802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	18.66	18.70	0.5	Pass
6	2437	18.71	18.51	0.5	Pass
11	2462	18.68	18.60	0.5	Pass

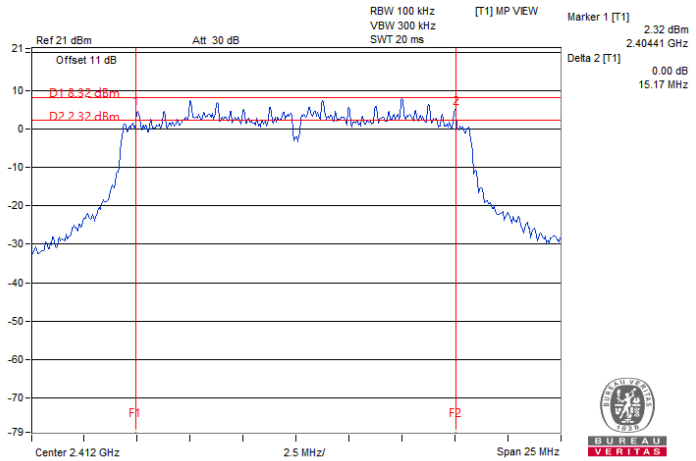
802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
3	2422	36.65	35.76	0.5	Pass
6	2437	37.94	36.38	0.5	Pass
9	2452	36.64	37.59	0.5	Pass

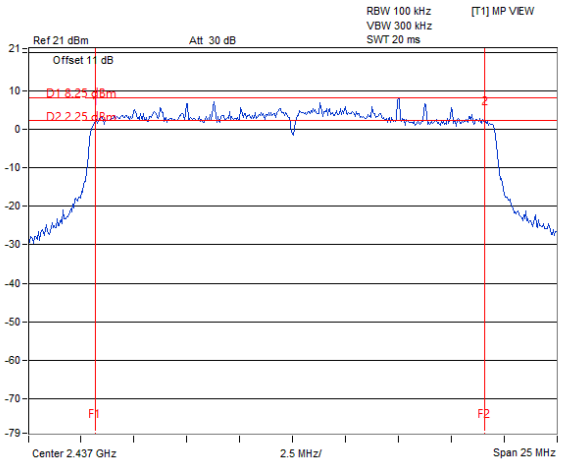
Spectrum Plot of Minimum Value



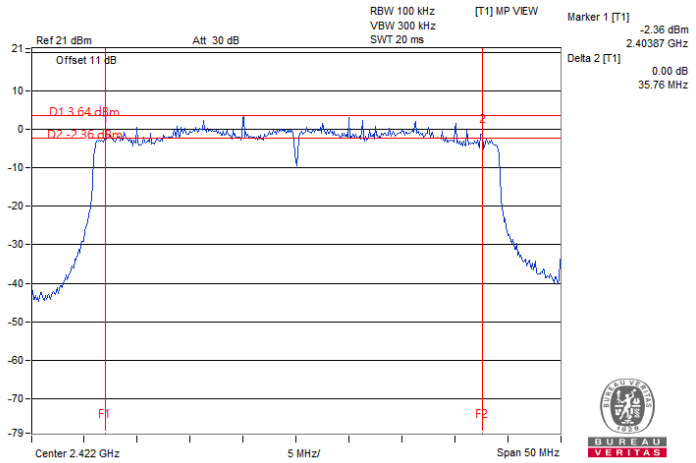
802.11b / Chain 1 : CH 1



802.11g / Chain 1 : CH 1



802.11ax (HE20) / Chain 1 : CH 6

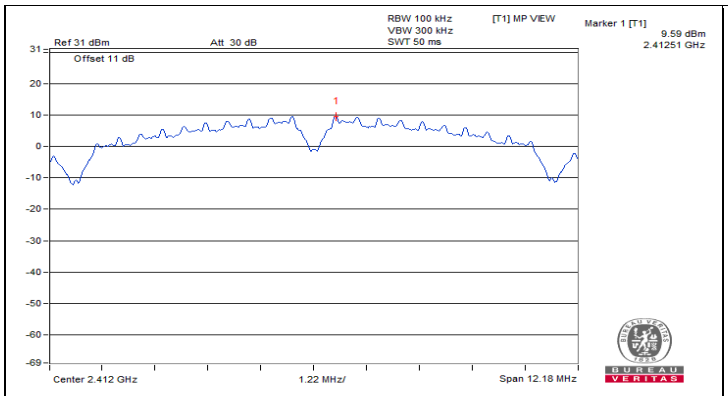


802.11ax (HE40) / Chain 1 : CH 3

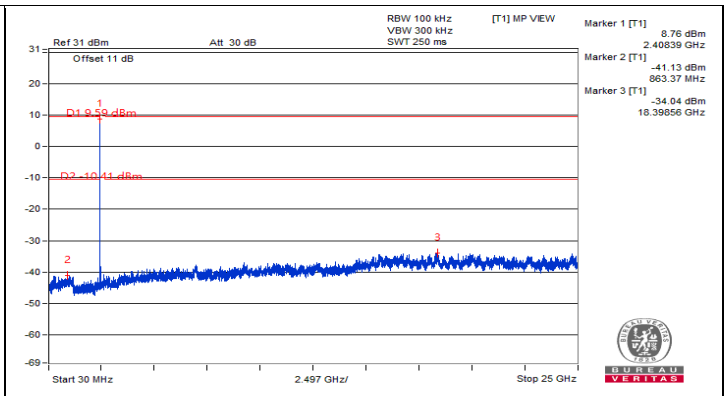
7.4 Conducted Out of Band Emissions

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Dalen Dai

802.11b



Chain 0 : CH 1



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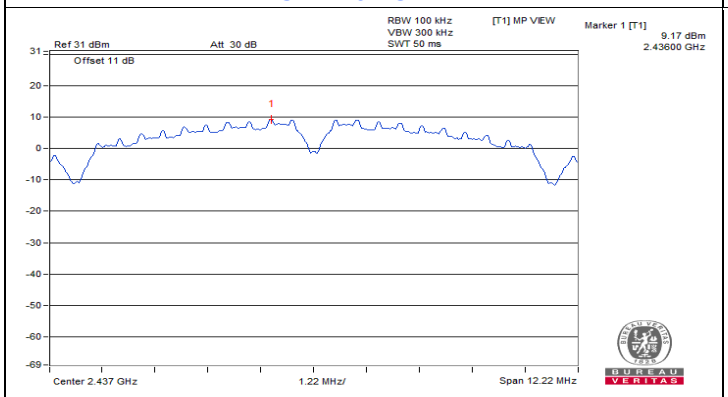

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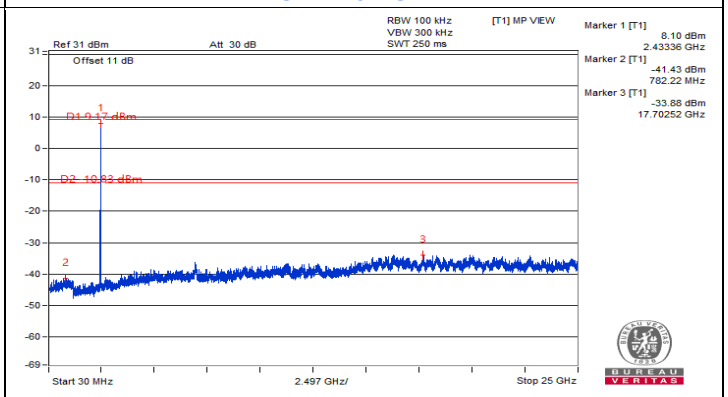
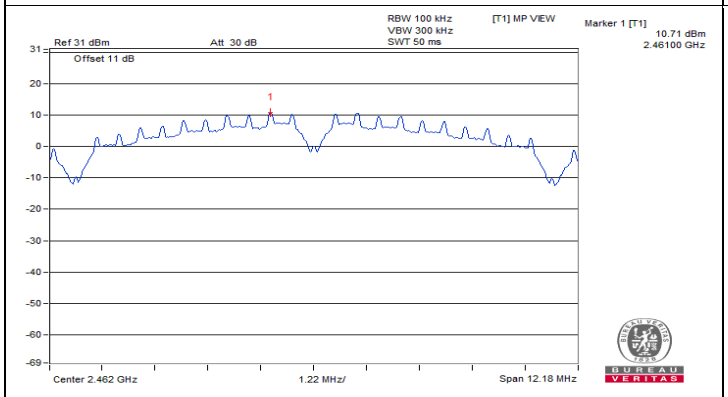


Chain 0 : CH 6



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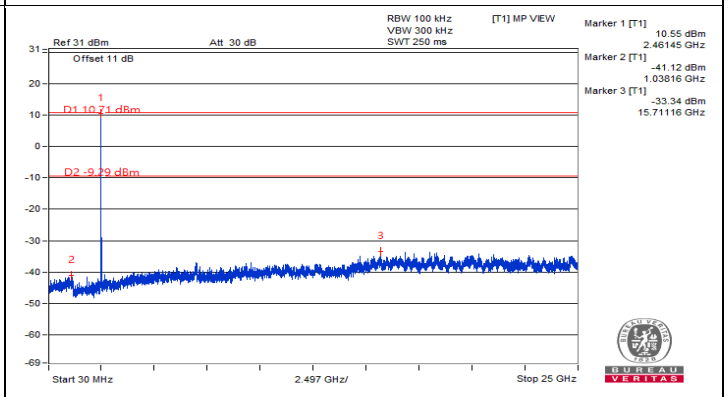

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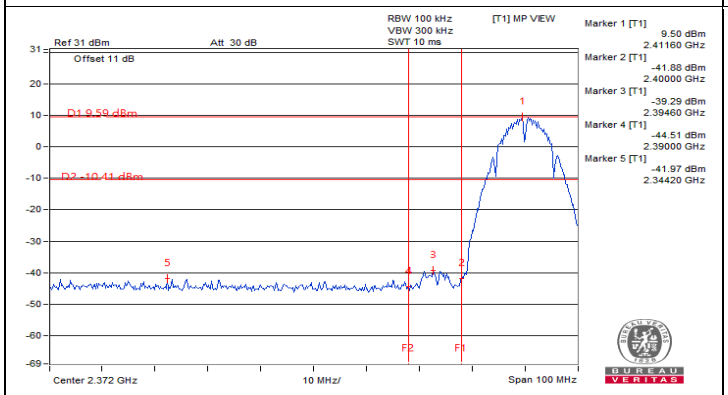
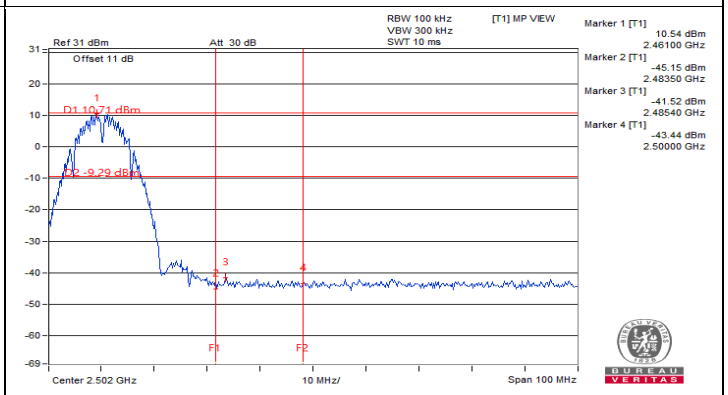
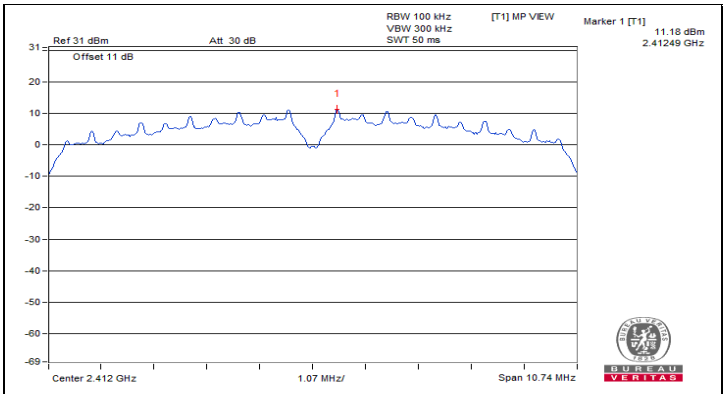


Chain 0 : CH 1 Band edge



Chain 0 : CH 11 Band edge



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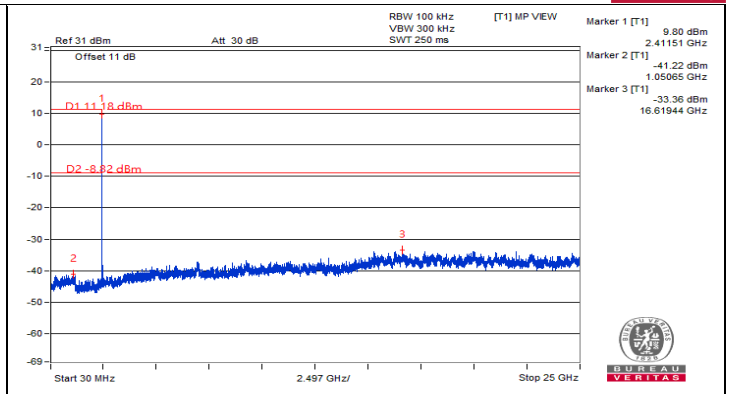

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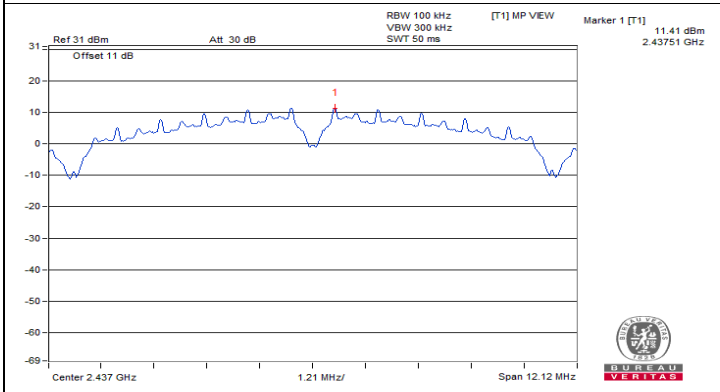

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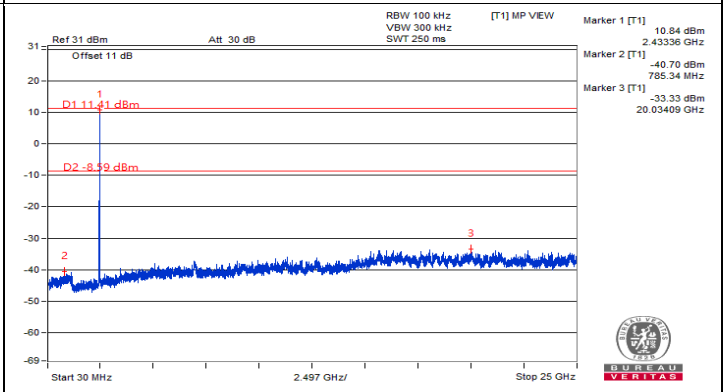

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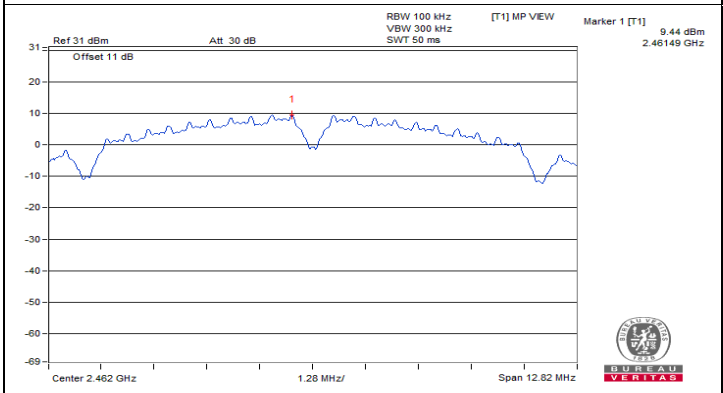

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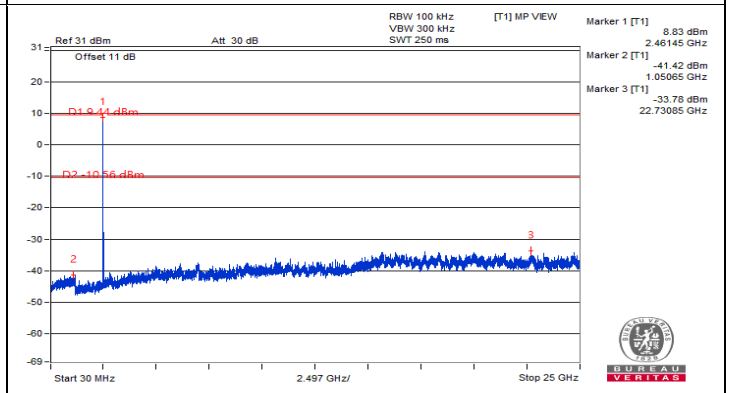

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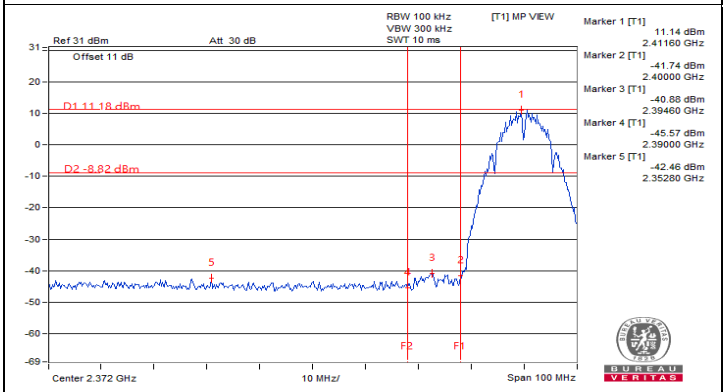
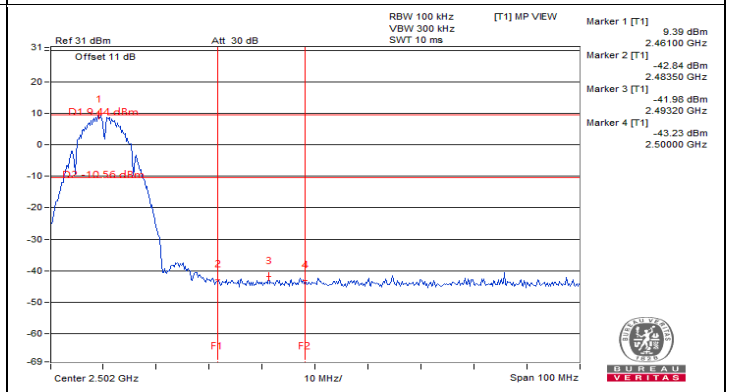
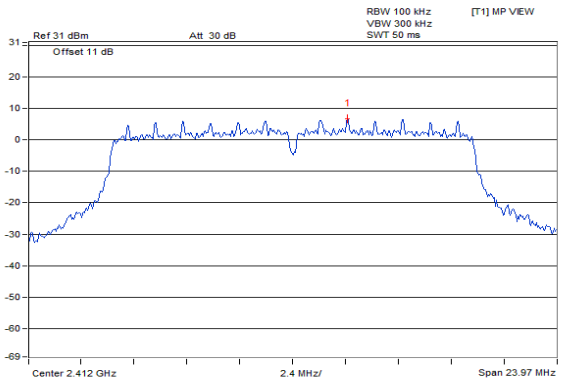


Chain 1 : CH 1 Band edge



Chain 1 : CH 11 Band edge

802.11g



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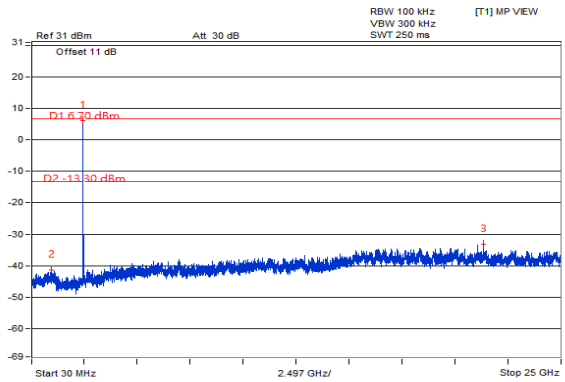

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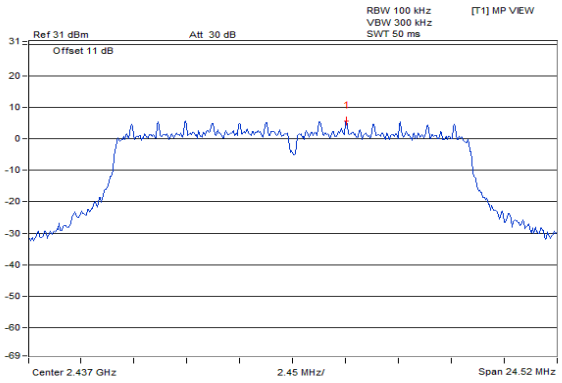

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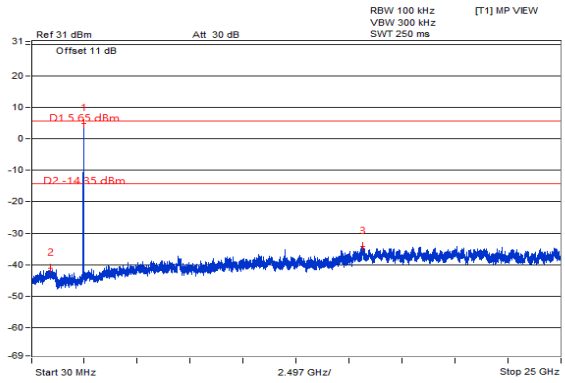

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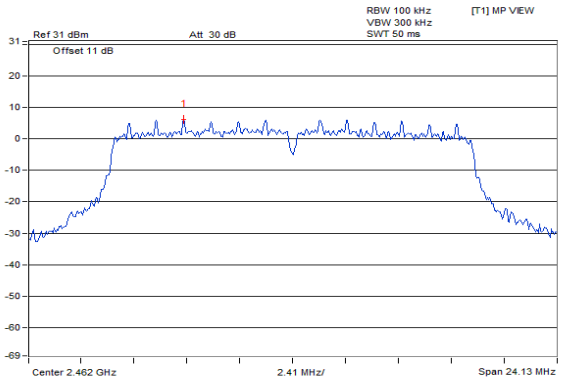

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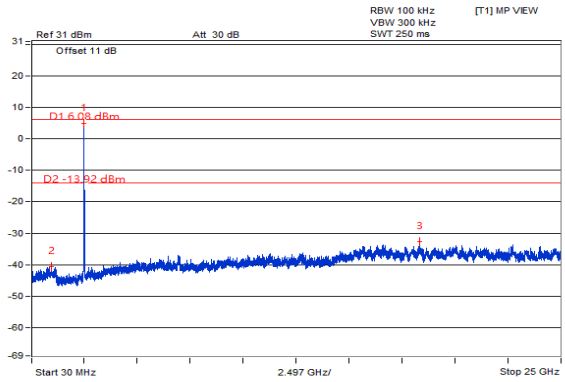

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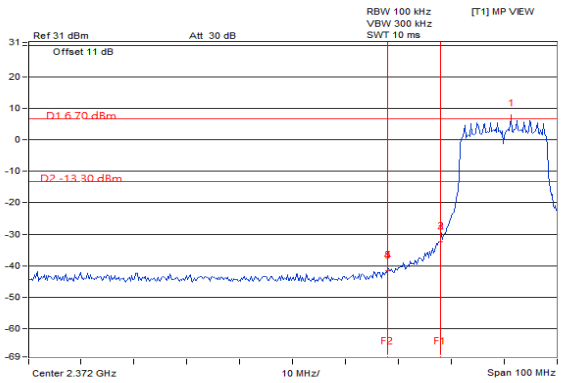
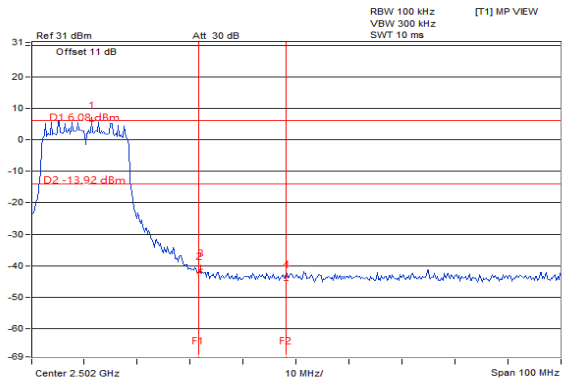
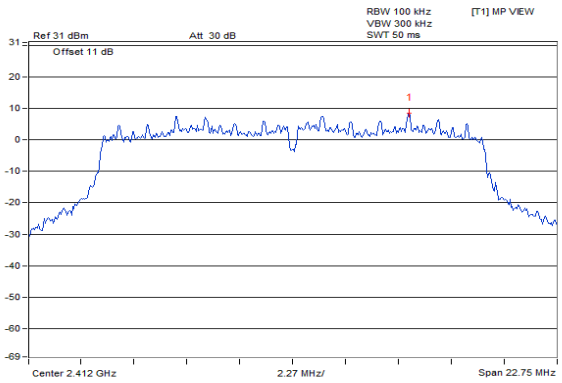


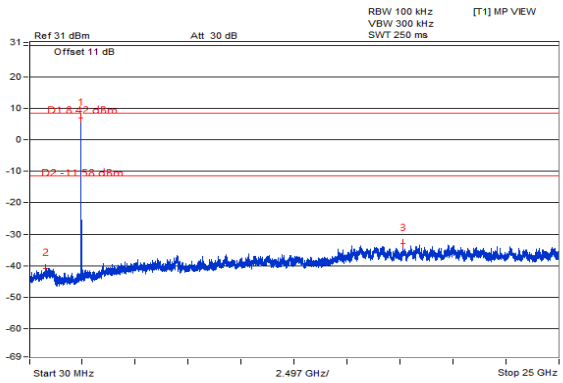
Chain 0 : CH 1 Band edge



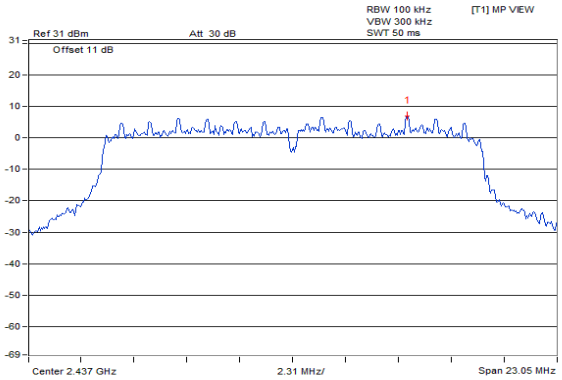
Chain 0 : CH 11 Band edge



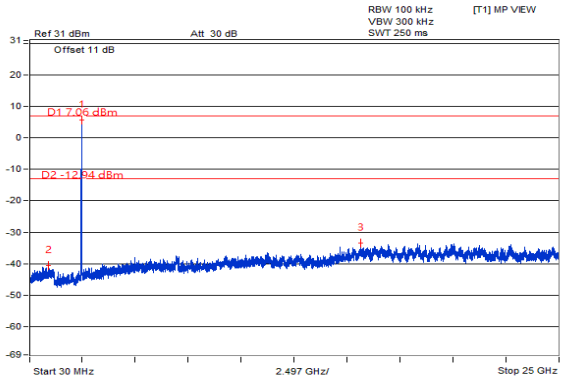
Chain 1 : CH 1



Chain 1 : CH 1



Chain 1 : CH 6



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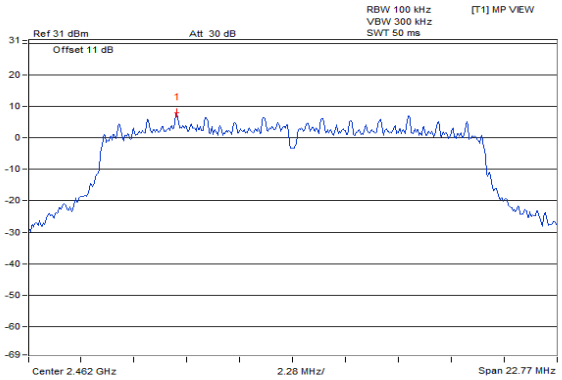
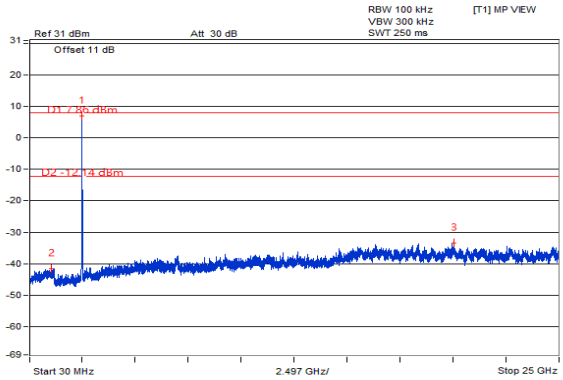
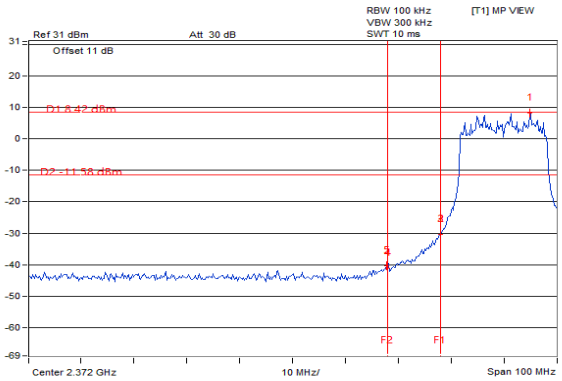


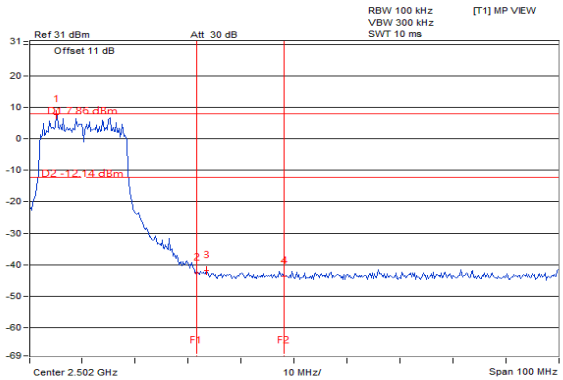
Chain 1 : CH 11



Chain 1 : CH 11

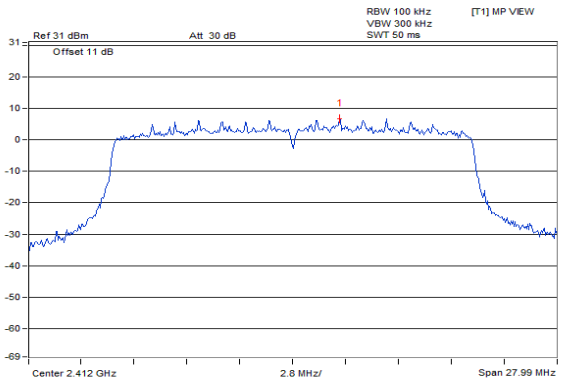


Chain 1 : CH 1 Band edge

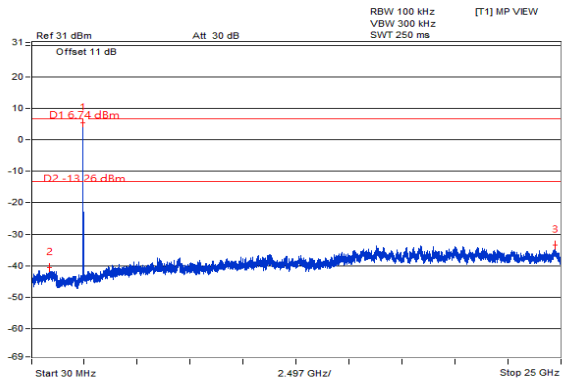


Chain 1 : CH 11 Band edge

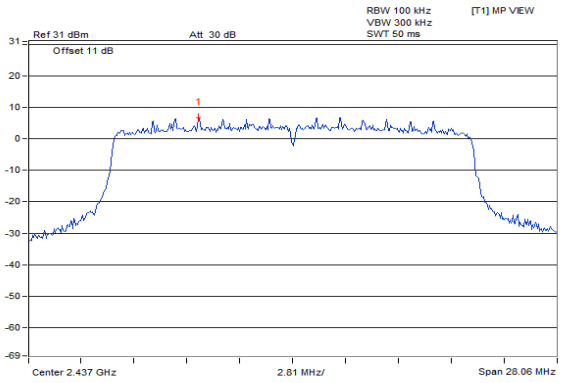
802.11ax (HE20)



Chain 0 : CH 1



Chain 0 : CH 1



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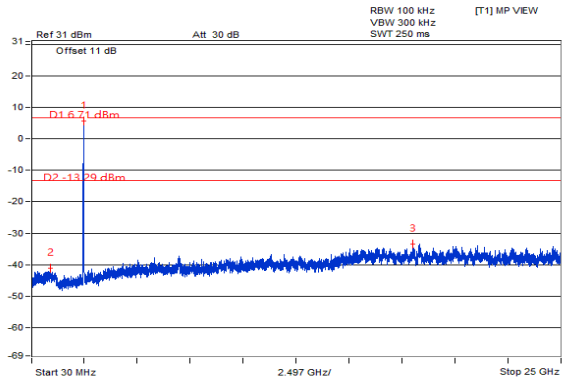
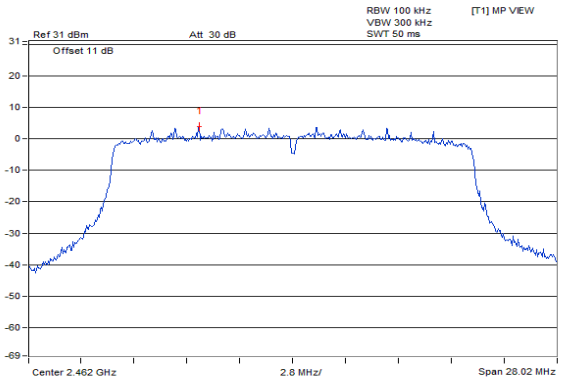
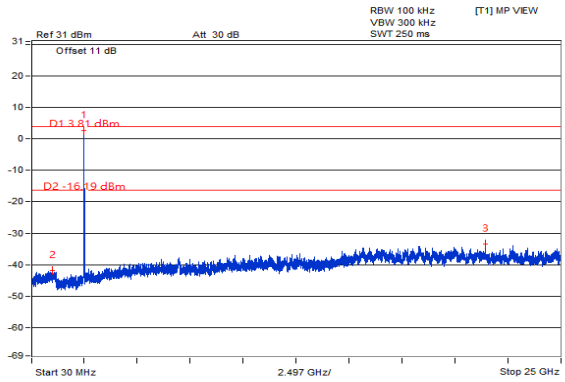


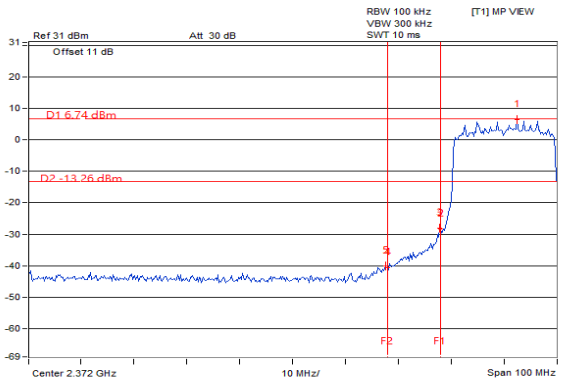
Chain 0 : CH 6



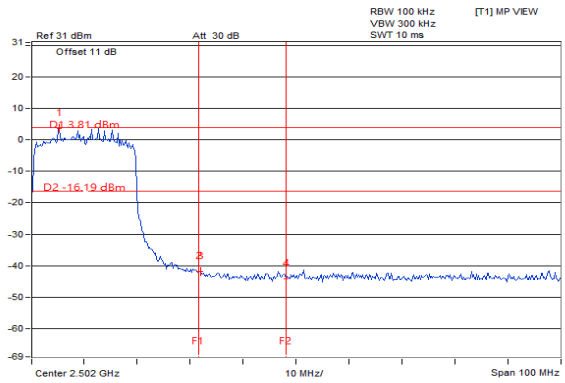
Chain 0 : CH 11



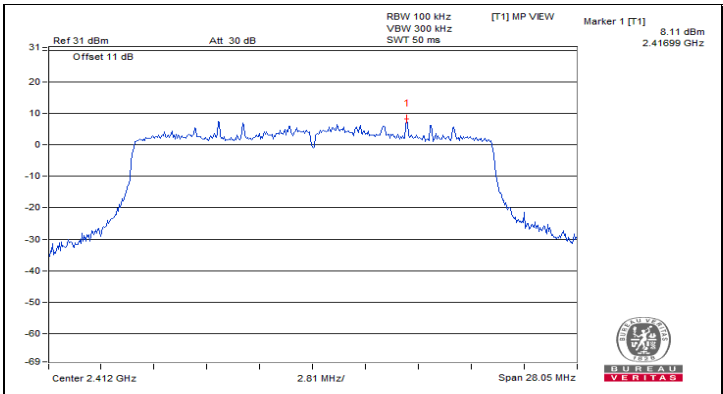
Chain 0 : CH 11



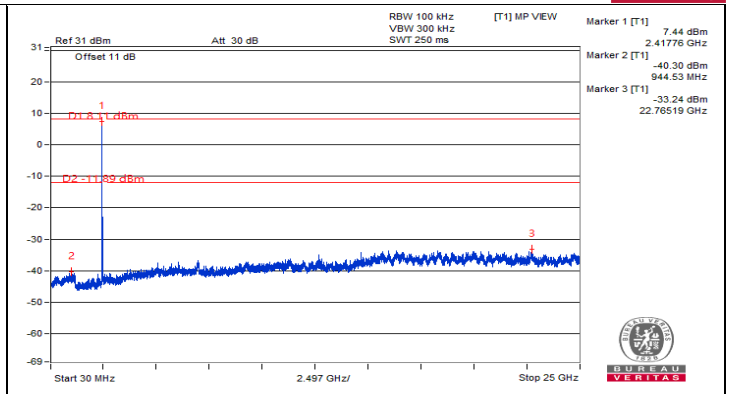
Chain 0 : CH 1 Band edge



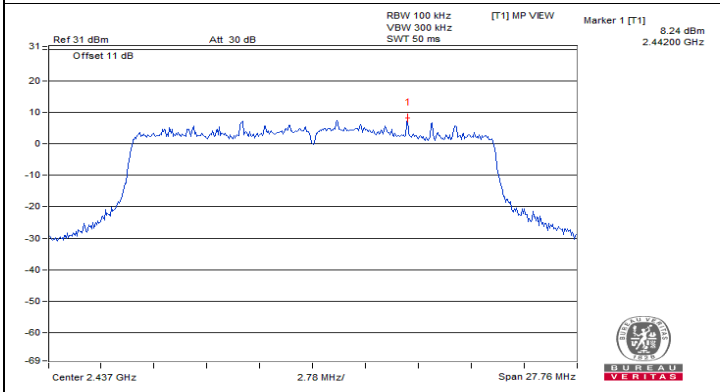
Chain 0 : CH 11 Band edge



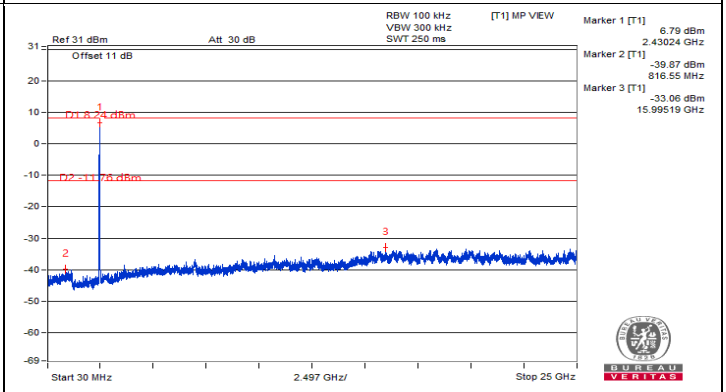
Chain 1 : CH 1



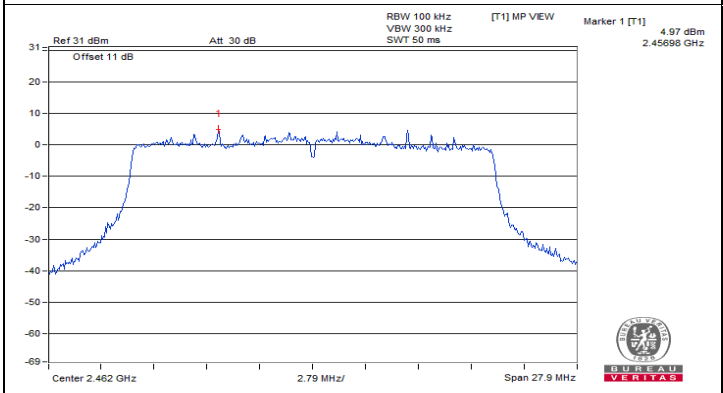
Chain 1 : CH 1



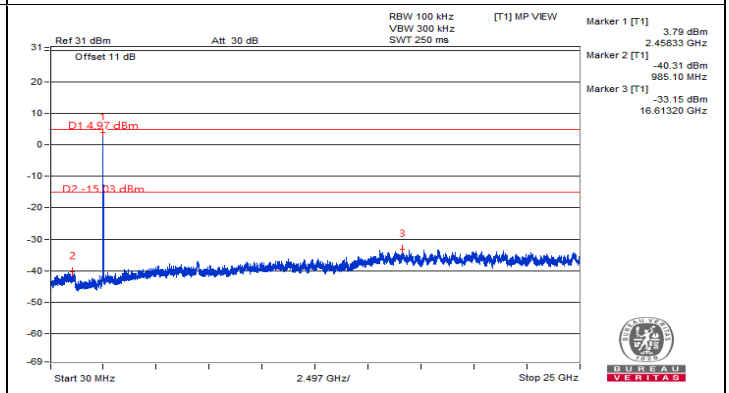
Chain 1 : CH 6



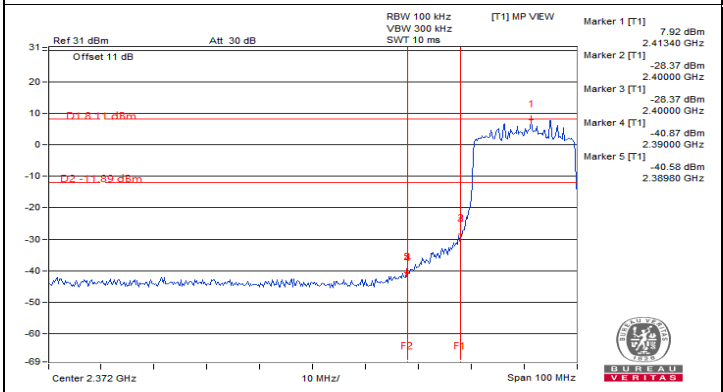
Chain 1 : CH 6



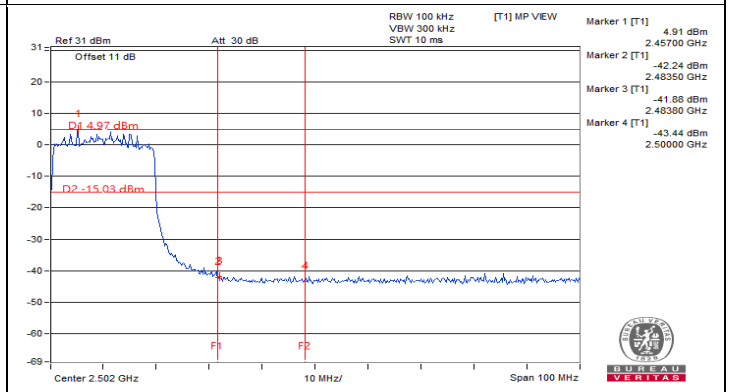
Chain 1 : CH 11



Chain 1 : CH 11

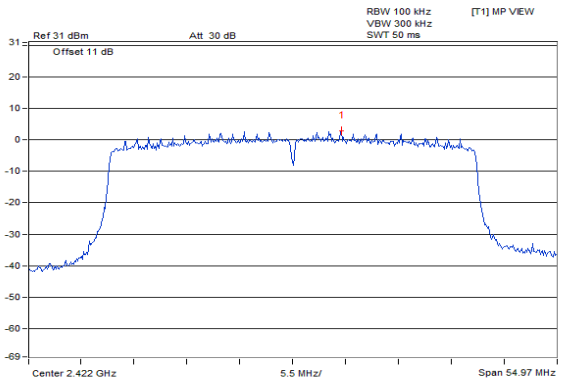


Chain 1 : CH 1 Band edge

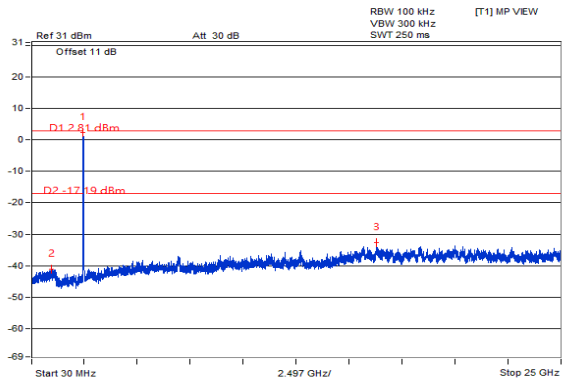


Chain 1 : CH 11 Band edge

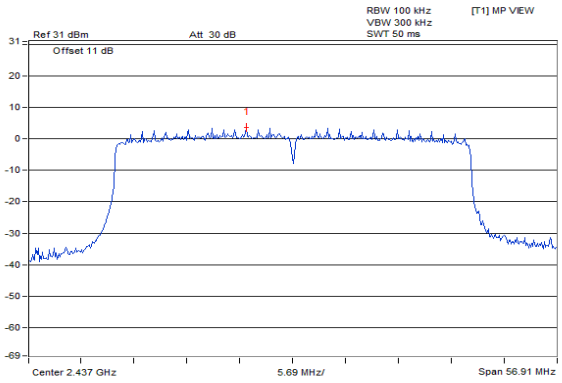
802.11ax (HE40)



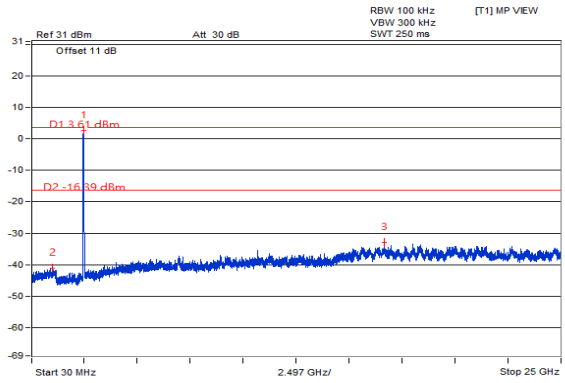
Chain 0 : CH 3



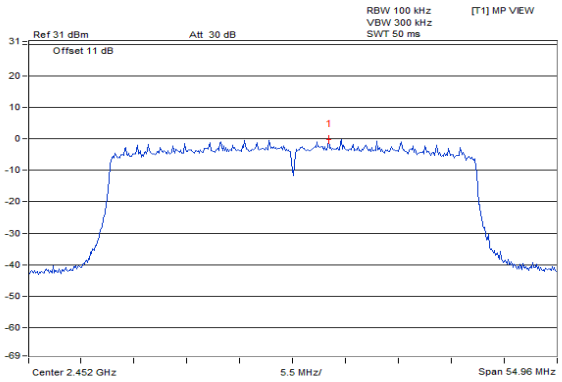
Chain 0 : CH 3



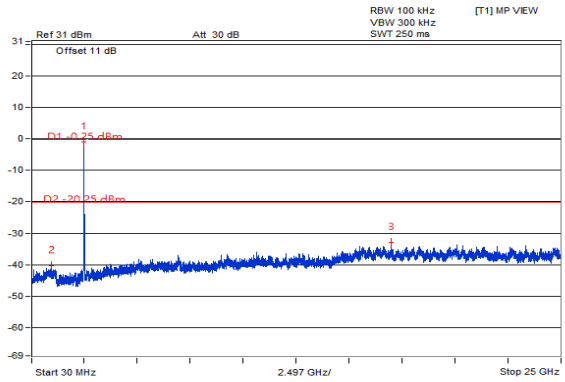
Chain 0 : CH 6



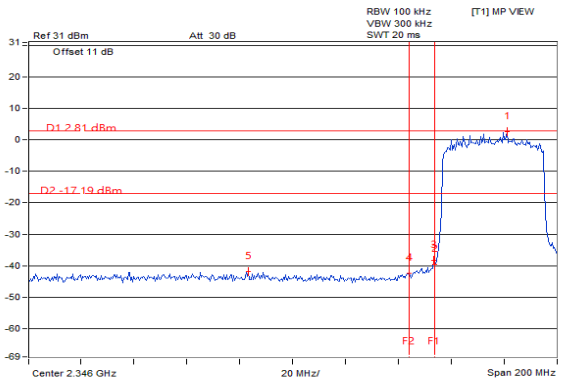
Chain 0 : CH 6



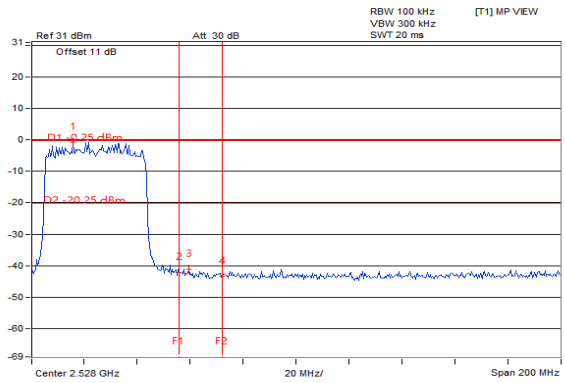
Chain 0 : CH 9



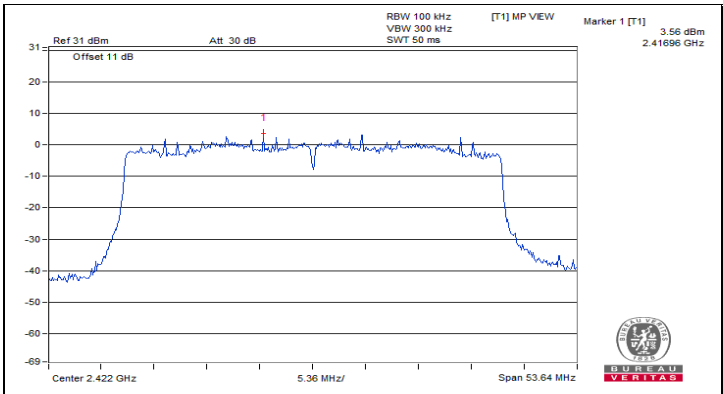
Chain 0 : CH 9



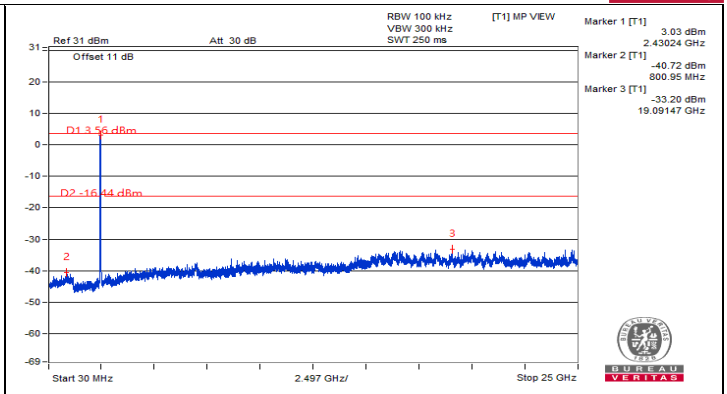
Chain 0 : CH 3 Band edge



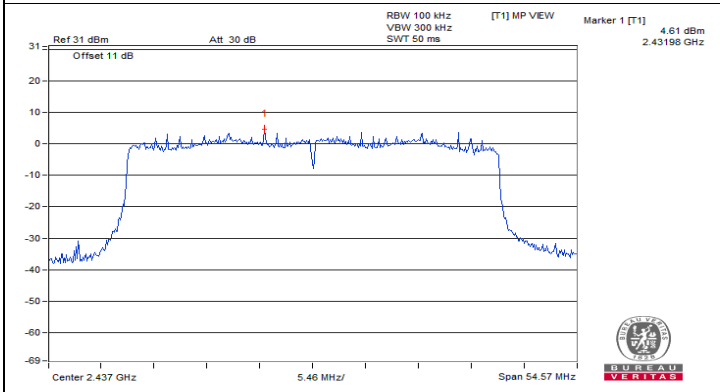
Chain 0 : CH 9 Band edge



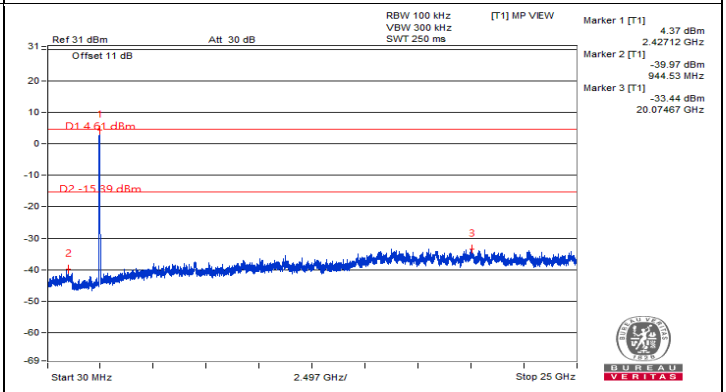
Chain 1 : CH 3



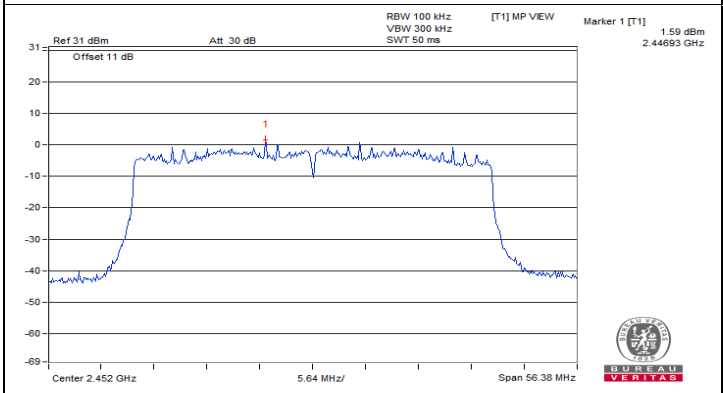
Chain 1 : CH 3



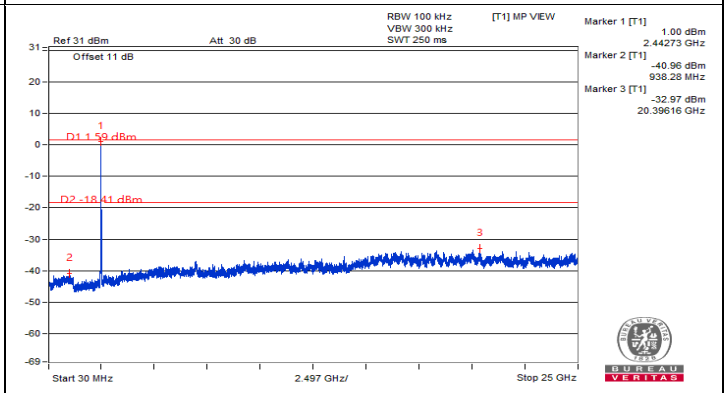
Chain 1 : CH 6



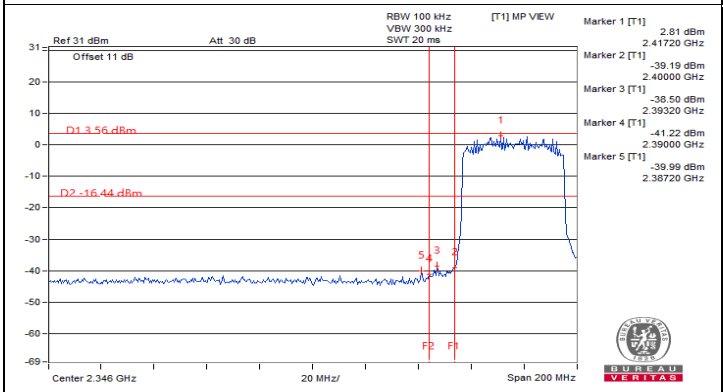
Chain 1 : CH 6



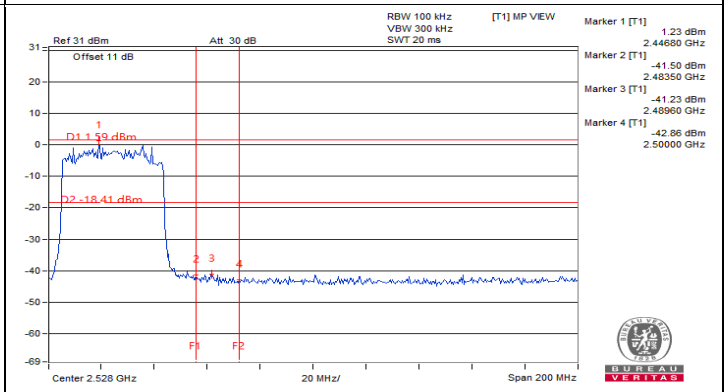
Chain 1 : CH 9



Chain 1 : CH 9



Chain 1 : CH 3 Band edge



Chain 1 : CH 9 Band edge

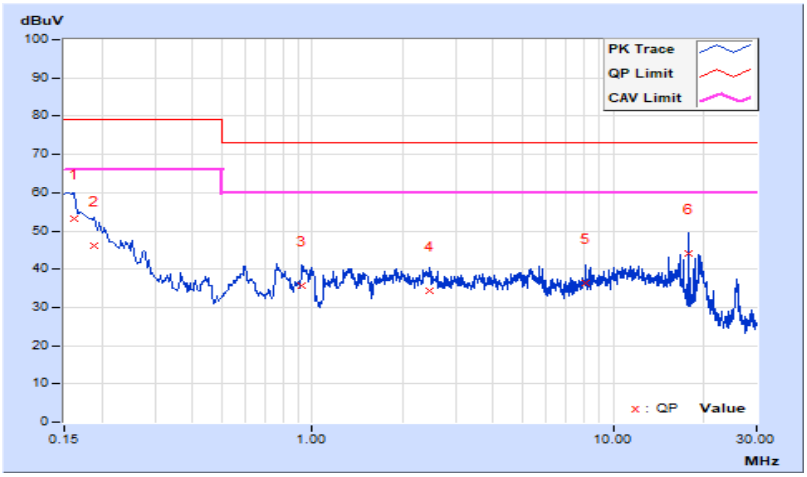
7.5 AC Power Conducted Emissions

RF Mode	802.11ax (HE40)	**Channel**	CH 6：2437 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	240 Vac, 60 Hz	**Environmental Conditions**	24°C, 76% RH
Tested By	Peter Lin		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	**0.16096**	**9.55**	**43.73**	**36.68**	**53.28**	**46.23**	**79.00**	**66.00**	**-25.72**	**-19.77**
2	0.18903	9.58	36.63	19.30	46.21	28.88	79.00	66.00	-32.79	-37.12
3	0.92630	9.62	26.09	16.54	35.71	26.16	73.00	60.00	-37.29	-33.84
4	2.44768	9.67	24.63	17.21	34.30	26.88	73.00	60.00	-38.70	-33.12
5	8.12489	9.95	26.31	17.57	36.26	27.52	73.00	60.00	-36.74	-32.48
6	17.83057	10.26	33.86	13.59	44.12	23.85	73.00	60.00	-28.88	-36.15

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
6. The EUT is Class A product, the non-RF signal please refer to FCC Part 15, Subpart B test report (Report No.: FDBEIU-WTW-P23120563).

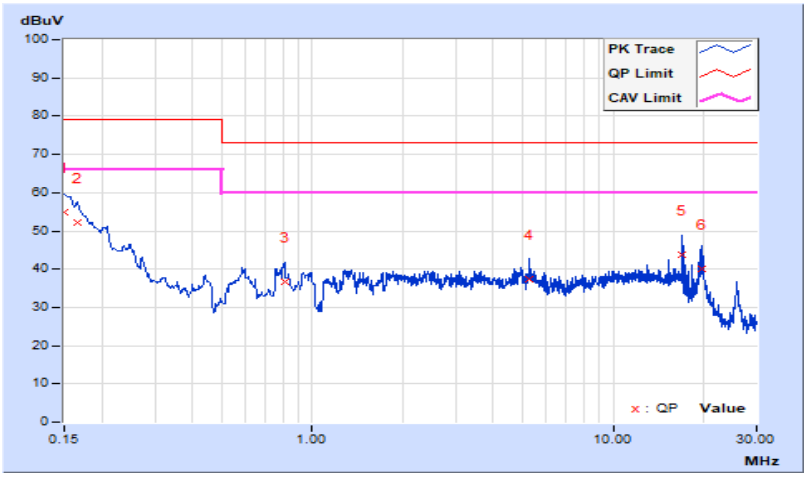


RF Mode	802.11ax (HE40)	**Channel**	CH 6：2437 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	240 Vac, 60 Hz	**Environmental Conditions**	24°C, 76% RH
Tested By	Peter Lin		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15002	9.60	45.14	25.79	54.74	35.39	79.00	66.00	-24.26	-30.61
2	0.16526	9.61	42.55	35.42	52.16	45.03	79.00	66.00	-26.84	-20.97
3	0.80897	9.57	27.11	18.07	36.68	27.64	73.00	60.00	-36.32	-32.36
4	5.28550	9.86	27.59	20.60	37.45	30.46	73.00	60.00	-35.55	-29.54
5	16.97699	10.29	33.51	17.09	43.80	27.38	73.00	60.00	-29.20	-32.62
6	19.78567	10.40	29.70	18.58	40.10	28.98	73.00	60.00	-32.90	-31.02

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
6. The EUT is Class A product, the non-RF signal please refer to FCC Part 15, Subpart B test report (Report No.: FDBEIU-WTW-P23120563).



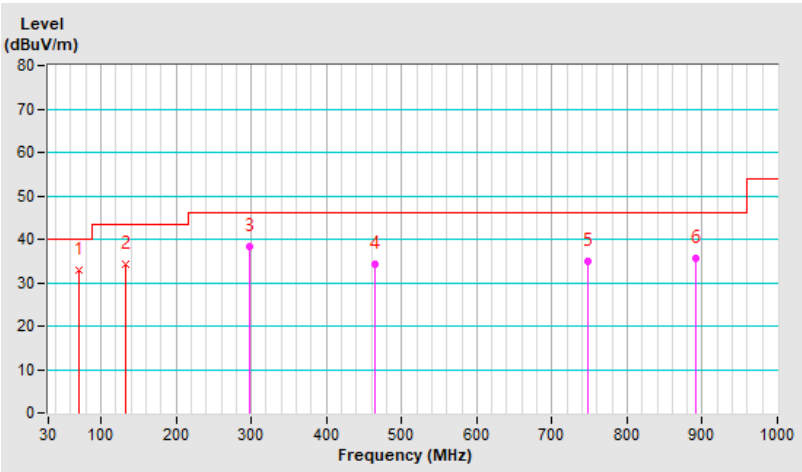
7.6 Unwanted Emissions below 1 GHz

RF Mode	802.11ax (HE40)	**Channel**	CH 6：2437 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23°C, 55% RH
Tested By	Peter Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	69.83	33.0 QP	40.0	-7.0	2.73 H	18	43.6	-10.6
2	132.26	34.3 QP	43.5	-9.2	3.41 H	191	43.6	-9.3
3	297.01	38.3 QP	46.0	-7.7	2.07 H	286	44.3	-6.0
4	464.17	34.3 QP	46.0	-11.7	1.27 H	219	36.6	-2.3
5	746.96	35.0 QP	46.0	-11.0	2.33 H	228	30.7	4.3
6	891.00	35.7 QP	46.0	-10.3	1.05 H	198	28.7	7.0

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 frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

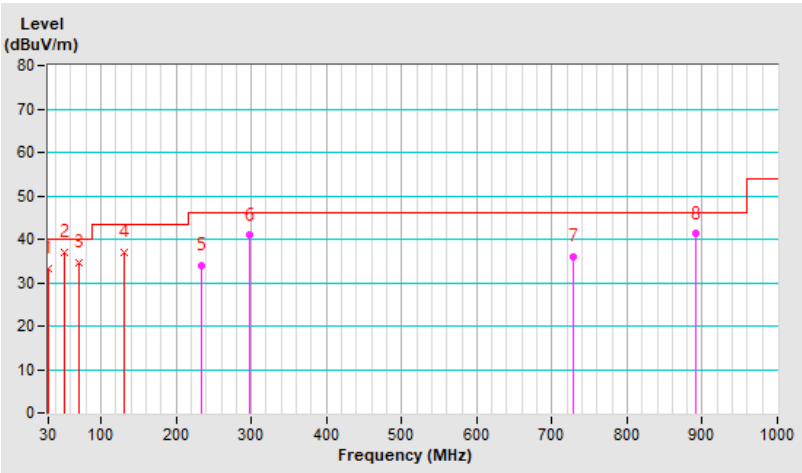


RF Mode	802.11ax (HE40)	Channel	CH 6：2437 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 55% RH
Tested By	Peter Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.00	33.4 QP	40.0	-6.6	1.19 V	228	44.0	-10.6
2	**52.22**	**36.9 QP**	**40.0**	**-3.1**	**1.06 V**	**95**	**45.6**	**-8.7**
3	69.95	34.6 QP	40.0	-5.4	1.72 V	202	45.2	-10.6
4	131.68	36.9 QP	43.5	-6.6	1.00 V	284	46.3	-9.4
5	233.60	34.0 QP	46.0	-12.0	1.30 V	242	43.5	-9.5
6	297.01	40.9 QP	46.0	-5.1	1.25 V	154	46.9	-6.0
7	729.11	36.1 QP	46.0	-9.9	1.01 V	330	32.7	3.4
8	891.00	41.2 QP	46.0	-4.8	1.49 V	104	34.2	7.0

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 frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this 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**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	55.6 PK	74.0	-18.4	1.32 H	167	56.8	-1.2
2	2390.00	46.6 AV	54.0	-7.4	1.32 H	167	47.8	-1.2
3	*2412.00	109.5 PK			1.32 H	167	110.6	-1.1
4	*2412.00	107.5 AV			1.32 H	167	108.6	-1.1
5	4824.00	48.0 PK	74.0	-26.0	1.58 H	136	40.0	8.0
6	4824.00	35.9 AV	54.0	-18.1	1.58 H	136	27.9	8.0
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	60.2 PK	74.0	-13.8	1.68 V	161	61.4	-1.2
2	2390.00	51.1 AV	54.0	-2.9	1.68 V	161	52.3	-1.2
3	*2412.00	112.9 PK			1.68 V	161	114.0	-1.1
4	*2412.00	110.8 AV			1.68 V	161	111.9	-1.1
5	4824.00	48.6 PK	74.0	-25.4	1.32 V	194	40.6	8.0
6	4824.00	36.5 AV	54.0	-17.5	1.32 V	194	28.5	8.0

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.
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**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2437.00	109.1 PK			1.30 H	168	110.1	-1.0
2	*2437.00	107.3 AV			1.30 H	168	108.3	-1.0
3	4874.00	48.5 PK	74.0	-25.5	1.54 H	135	40.5	8.0
4	4874.00	36.4 AV	54.0	-17.6	1.54 H	135	28.4	8.0
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	112.5 PK			1.66 V	161	113.5	-1.0
2	*2437.00	110.6 AV			1.66 V	161	111.6	-1.0
3	4874.00	49.1 PK	74.0	-24.9	1.30 V	195	41.1	8.0
4	4874.00	37.0 AV	54.0	-17.0	1.30 V	195	29.0	8.0

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.
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**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2462.00	107.7 PK			1.30 H	168	108.6	-0.9
2	*2462.00	105.8 AV			1.30 H	168	106.7	-0.9
3	2483.50	54.0 PK	74.0	-20.0	1.30 H	168	55.0	-1.0
4	2483.50	43.2 AV	54.0	-10.8	1.30 H	168	44.2	-1.0
5	4924.00	49.0 PK	74.0	-25.0	1.56 H	135	41.0	8.0
6	4924.00	36.9 AV	54.0	-17.1	1.56 H	135	28.9	8.0
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	111.1 PK			1.64 V	162	112.0	-0.9
2	*2462.00	109.2 AV			1.64 V	162	110.1	-0.9
3	2483.50	54.6 PK	74.0	-19.4	1.64 V	162	55.6	-1.0
4	2483.50	44.4 AV	54.0	-9.6	1.64 V	162	45.4	-1.0
5	4924.00	49.6 PK	74.0	-24.4	1.28 V	195	41.6	8.0
6	4924.00	37.5 AV	54.0	-16.5	1.28 V	195	29.5	8.0

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.
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	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.8 PK	74.0	-11.2	1.32 H	166	64.0	-1.2
2	2390.00	49.6 AV	54.0	-4.4	1.32 H	166	50.8	-1.2
3	*2412.00	109.6 PK			1.32 H	166	110.7	-1.1
4	*2412.00	102.7 AV			1.32 H	166	103.8	-1.1
5	4824.00	48.1 PK	74.0	-25.9	1.59 H	135	40.1	8.0
6	4824.00	36.0 AV	54.0	-18.0	1.59 H	135	28.0	8.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.9 PK	74.0	-10.1	1.68 V	162	65.1	-1.2
2	2390.00	51.8 AV	54.0	-2.2	1.68 V	162	53.0	-1.2
3	*2412.00	112.9 PK			1.68 V	162	114.0	-1.1
4	*2412.00	105.3 AV			1.68 V	162	106.4	-1.1
5	4824.00	48.7 PK	74.0	-25.3	1.33 V	193	40.7	8.0
6	4824.00	36.6 AV	54.0	-17.4	1.33 V	193	28.6	8.0

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.
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**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2437.00	108.8 PK			1.33 H	168	109.8	-1.0
2	*2437.00	102.1 AV			1.33 H	168	103.1	-1.0
3	4874.00	48.7 PK	74.0	-25.3	1.57 H	137	40.7	8.0
4	4874.00	36.4 AV	54.0	-17.6	1.57 H	137	28.4	8.0
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	112.2 PK			1.67 V	162	113.2	-1.0
2	*2437.00	105.4 AV			1.67 V	162	106.4	-1.0
3	4874.00	49.3 PK	74.0	-24.7	1.31 V	194	41.3	8.0
4	4874.00	37.2 AV	54.0	-16.8	1.31 V	194	29.2	8.0

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.
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	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	108.3 PK			1.29 H	166	109.2	-0.9
2	*2462.00	101.0 AV			1.29 H	166	101.9	-0.9
3	2483.50	62.1 PK	74.0	-11.9	1.29 H	166	63.1	-1.0
4	2483.50	49.5 AV	54.0	-4.5	1.29 H	166	50.5	-1.0
5	4924.00	49.5 PK	74.0	-24.5	1.55 H	136	41.5	8.0
6	4924.00	36.4 AV	54.0	-17.6	1.55 H	136	28.4	8.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	112.1 PK			1.65 V	161	113.0	-0.9
2	*2462.00	105.0 AV			1.65 V	161	105.9	-0.9
3	2483.50	63.6 PK	74.0	-10.4	1.65 V	161	64.6	-1.0
4	**2483.50**	**52.6 AV**	**54.0**	**-1.4**	**1.65 V**	**161**	**53.6**	**-1.0**
5	4924.00	49.1 PK	74.0	-24.9	1.29 V	195	41.1	8.0
6	4924.00	37.0 AV	54.0	-17.0	1.29 V	195	29.0	8.0

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.
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**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	62.8 PK	74.0	-11.2	1.32 H	166	64.0	-1.2
2	2390.00	50.8 AV	54.0	-3.2	1.32 H	166	52.0	-1.2
3	*2412.00	112.3 PK			1.32 H	166	113.4	-1.1
4	*2412.00	101.6 AV			1.32 H	166	102.7	-1.1
5	4824.00	50.0 PK	74.0	-24.0	1.59 H	135	42.0	8.0
6	4824.00	37.9 AV	54.0	-16.1	1.59 H	135	29.9	8.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	64.8 PK	74.0	-9.2	1.68 V	162	66.0	-1.2
2	2390.00	51.9 AV	54.0	-2.1	1.68 V	162	53.1	-1.2
3	*2412.00	115.9 PK			1.68 V	162	117.0	-1.1
4	*2412.00	106.3 AV			1.68 V	162	107.4	-1.1
5	4824.00	50.6 PK	74.0	-23.4	1.31 V	193	42.6	8.0
6	4824.00	38.5 AV	54.0	-15.5	1.31 V	193	30.5	8.0

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.
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**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2437.00	112.9 PK			1.31 H	168	113.9	-1.0
2	*2437.00	102.6 AV			1.31 H	168	103.6	-1.0
3	4874.00	50.3 PK	74.0	-23.7	1.57 H	136	42.3	8.0
4	4874.00	38.2 AV	54.0	-15.8	1.57 H	136	30.2	8.0
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	116.3 PK			1.67 V	162	117.3	-1.0
2	*2437.00	105.9 AV			1.67 V	162	106.9	-1.0
3	4874.00	50.9 PK	74.0	-23.1	1.33 V	194	42.9	8.0
4	4874.00	38.8 AV	54.0	-15.2	1.33 V	194	30.8	8.0

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.
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**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2462.00	111.8 PK			1.65 H	174	112.7	-0.9
2	*2462.00	100.7 AV			1.65 H	174	101.6	-0.9
3	2483.50	65.0 PK	74.0	-9.0	1.65 H	174	66.0	-1.0
4	2483.50	51.0 AV	54.0	-3.0	1.65 H	174	52.0	-1.0
5	4924.00	49.2 PK	74.0	-24.8	1.63 H	142	41.2	8.0
6	4924.00	37.1 AV	54.0	-16.9	1.63 H	142	29.1	8.0
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	114.3 PK			2.01 V	168	115.2	-0.9
2	*2462.00	103.4 AV			2.01 V	168	104.3	-0.9
3	2483.50	65.3 PK	74.0	-8.7	2.01 V	168	66.3	-1.0
4	2483.50	52.4 AV	54.0	-1.6	2.01 V	168	53.4	-1.0
5	4924.00	49.8 PK	74.0	-24.2	1.67 V	200	41.8	8.0
6	4924.00	37.7 AV	54.0	-16.3	1.67 V	200	29.7	8.0

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.
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	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.9 PK	74.0	-6.1	1.51 H	179	69.1	-1.2
2	2390.00	52.2 AV	54.0	-1.8	1.51 H	179	53.4	-1.2
3	*2422.00	110.3 PK			1.51 H	179	111.4	-1.1
4	*2422.00	99.5 AV			1.51 H	179	100.6	-1.1
5	4844.00	48.5 PK	74.0	-25.5	1.77 H	147	40.5	8.0
6	4844.00	36.4 AV	54.0	-17.6	1.77 H	147	28.4	8.0
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	67.9 PK	74.0	-6.1	2.15 V	163	69.1	-1.2
2	2390.00	52.5 AV	54.0	-1.5	2.15 V	163	53.7	-1.2
3	*2422.00	112.4 PK			2.15 V	163	113.5	-1.1
4	*2422.00	101.6 AV			2.15 V	163	102.7	-1.1
5	4844.00	49.1 PK	74.0	-24.9	1.81 V	195	41.1	8.0
6	4844.00	37.0 AV	54.0	-17.0	1.81 V	195	29.0	8.0

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.
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**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2437.00	112.2 PK			1.81 H	173	113.2	-1.0
2	*2437.00	100.9 AV			1.81 H	173	101.9	-1.0
3	4874.00	49.7 PK	74.0	-24.3	2.07 H	141	41.7	8.0
4	4874.00	37.6 AV	54.0	-16.4	2.07 H	141	29.6	8.0
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	114.7 PK			2.17 V	167	115.7	-1.0
2	*2437.00	103.6 AV			2.17 V	167	104.6	-1.0
3	4874.00	50.3 PK	74.0	-23.7	1.83 V	199	42.3	8.0
4	4874.00	38.0 AV	54.0	-16.0	1.83 V	199	30.0	8.0

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.
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**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2452.00	109.5 PK			1.52 H	184	110.5	-1.0
2	*2452.00	98.1 AV			1.52 H	184	99.1	-1.0
3	2483.50	62.5 PK	74.0	-11.5	1.52 H	184	63.5	-1.0
4	2483.50	50.9 AV	54.0	-3.1	1.52 H	184	51.9	-1.0
5	4904.00	48.7 PK	74.0	-25.3	1.78 H	148	40.8	7.9
6	4904.00	36.6 AV	54.0	-17.4	1.78 H	148	28.7	7.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2452.00	111.2 PK			2.14 V	168	112.2	-1.0
2	*2452.00	100.1 AV			2.14 V	168	101.1	-1.0
3	2483.50	64.6 PK	74.0	-9.4	2.14 V	168	65.6	-1.0
4	2483.50	52.3 AV	54.0	-1.7	2.14 V	168	53.3	-1.0
5	4904.00	49.3 PK	74.0	-24.7	1.80 V	200	41.4	7.9
6	4904.00	37.2 AV	54.0	-16.8	1.80 V	200	29.3	7.9

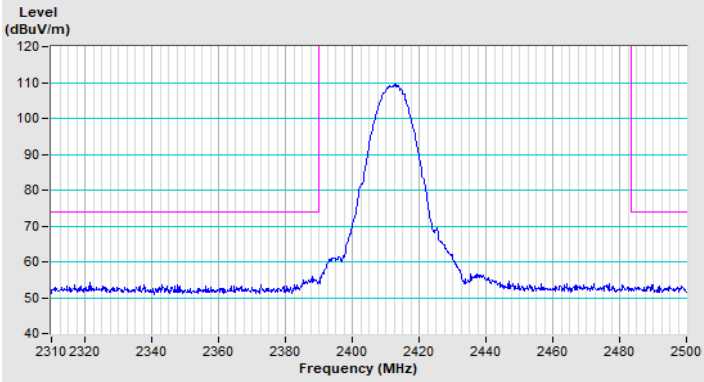
Remarks:

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

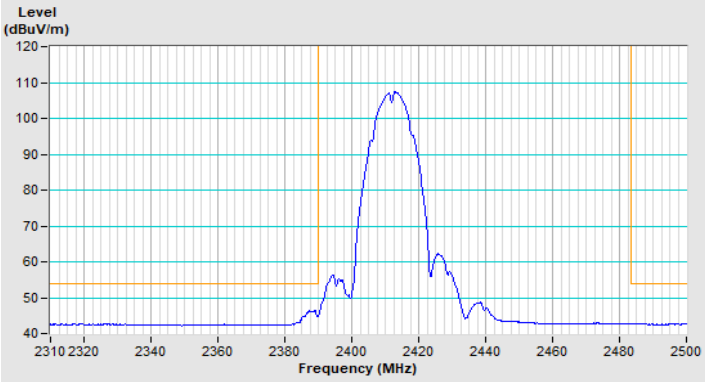
Plot of Band Edge

Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak

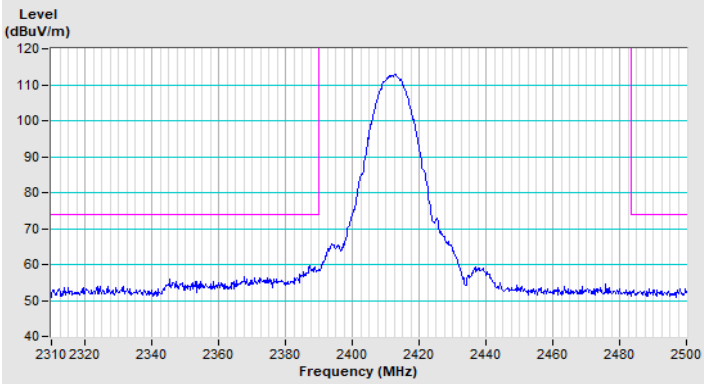
802.11b Channel 1



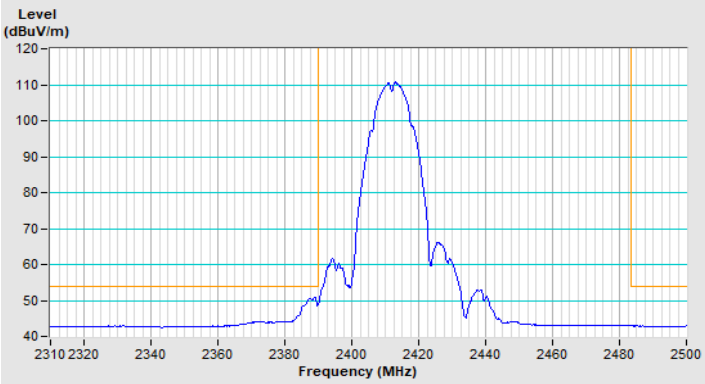
Horizontal (Peak)



Horizontal (Average)

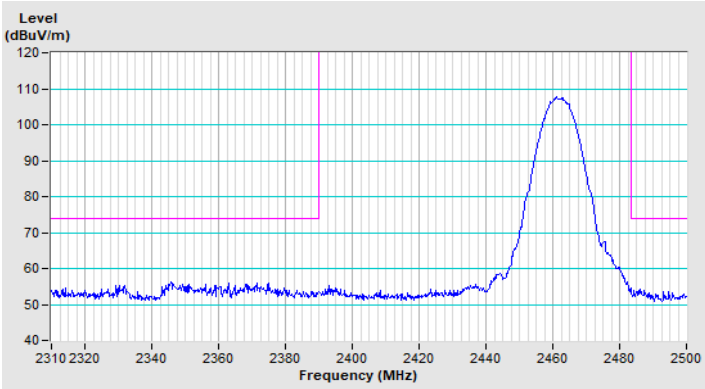


Vertical (Peak)

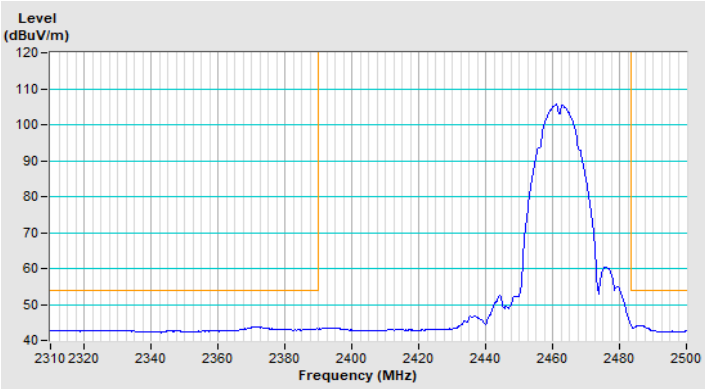


Vertical (Average)

802.11b Channel 11



Horizontal (Peak)



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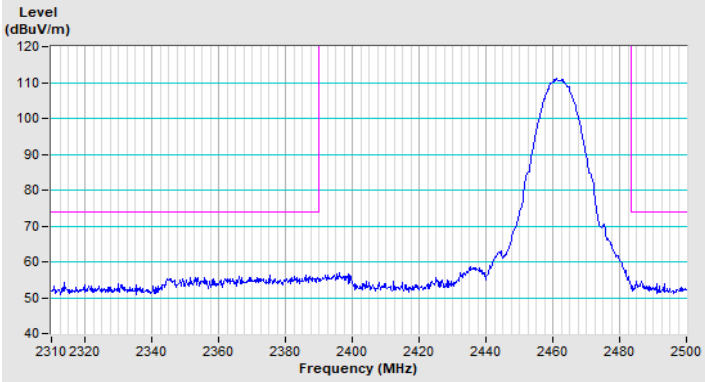
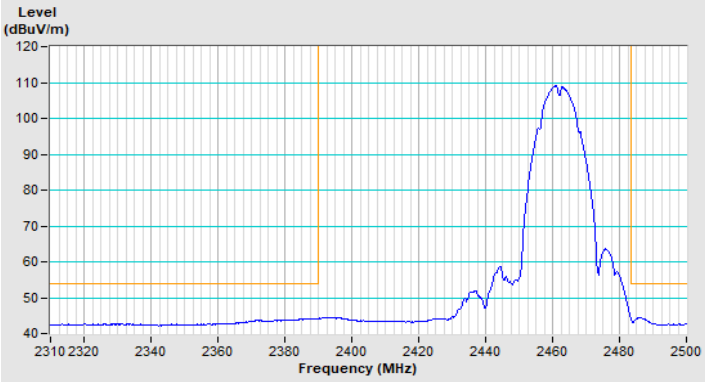


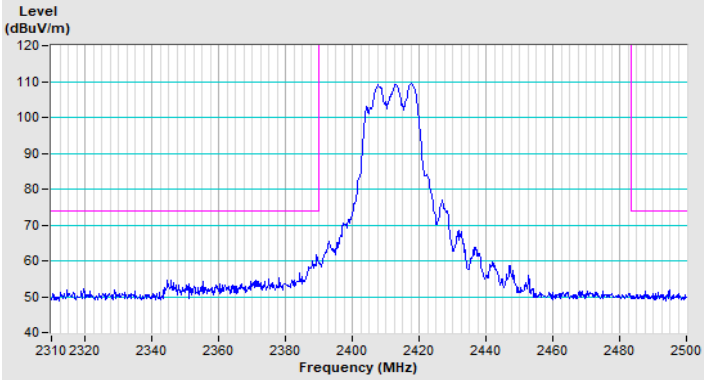
Vertical (Peak)



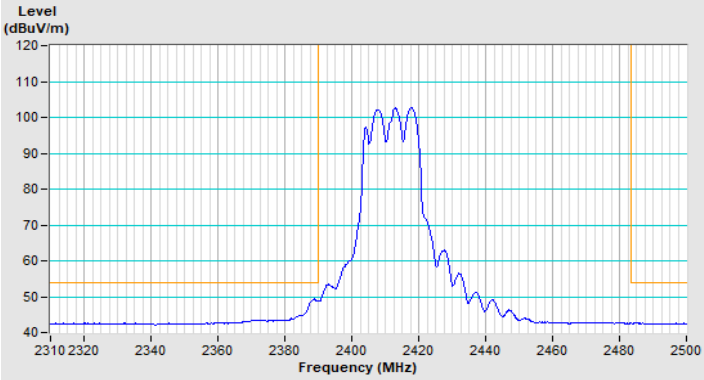
Vertical (Average)

Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak

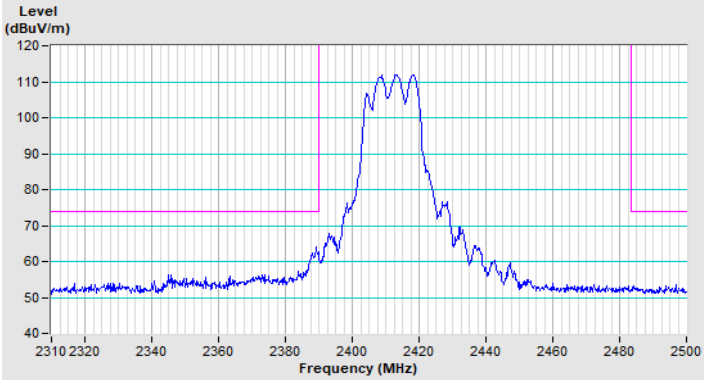
802.11g Channel 1



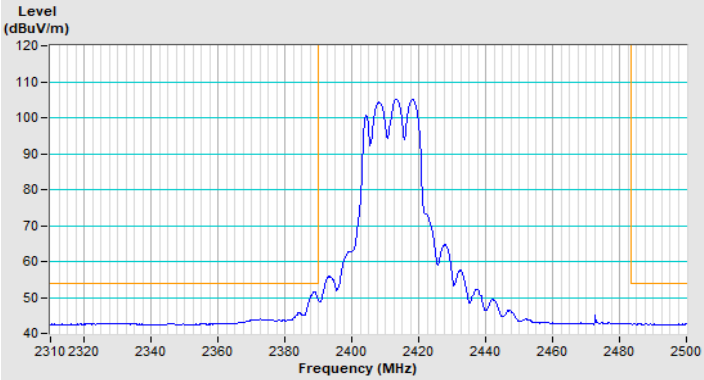
Horizontal (Peak)



Horizontal (Average)

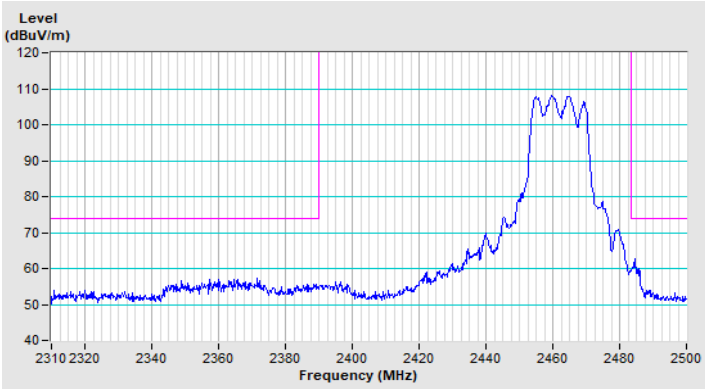


Vertical (Peak)

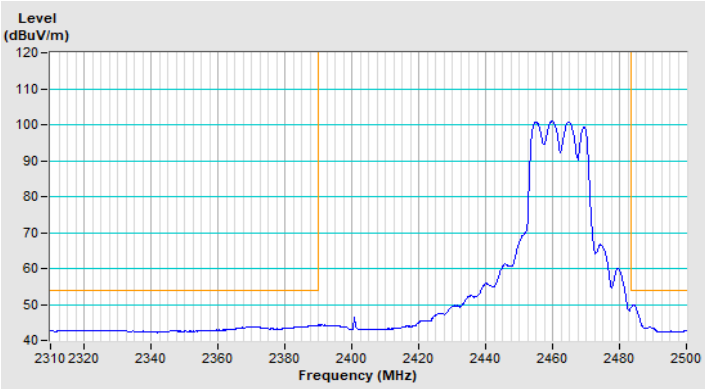


Vertical (Average)

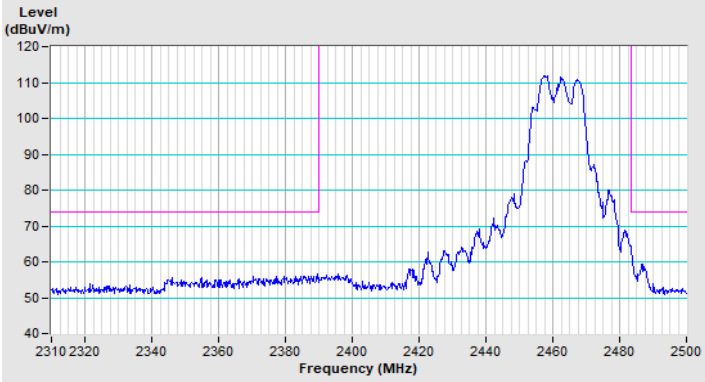
802.11g Channel 11



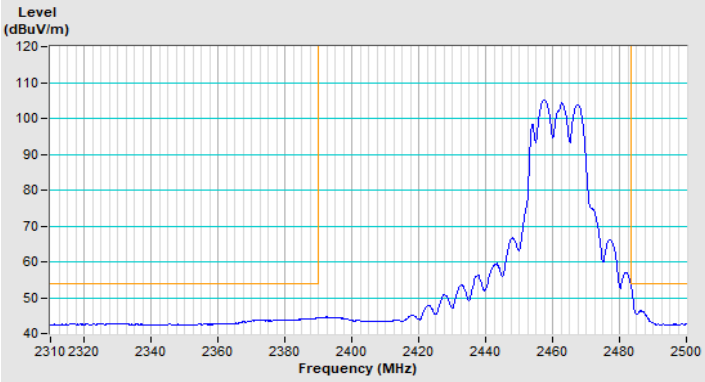
Horizontal (Peak)



Horizontal (Average)



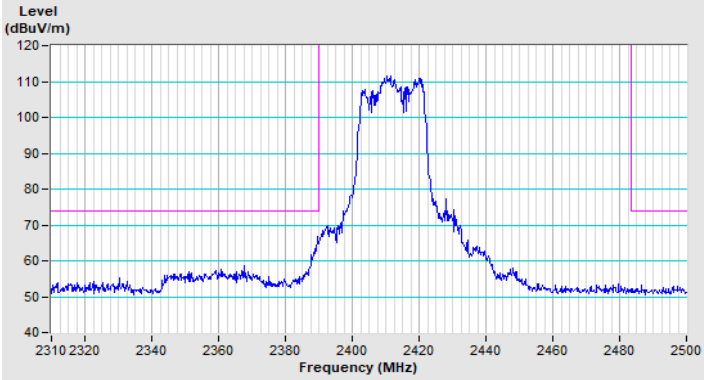
Vertical (Peak)



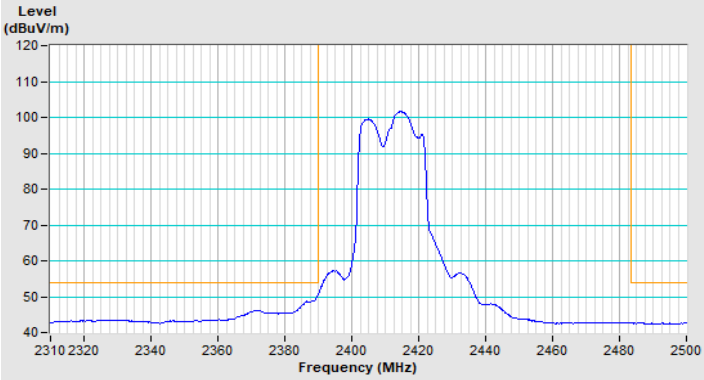
Vertical (Average)

Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak

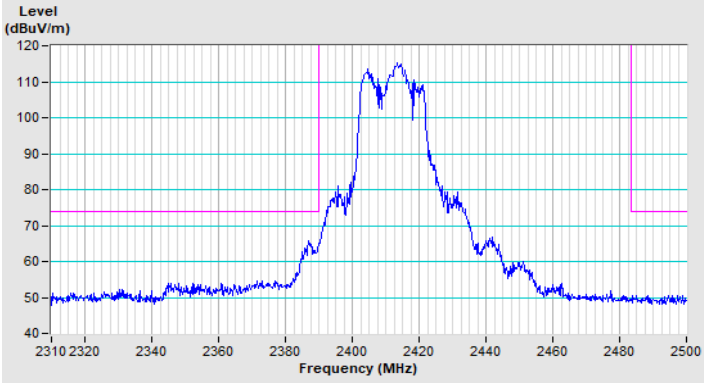
802.11ax (HE20) Channel 1



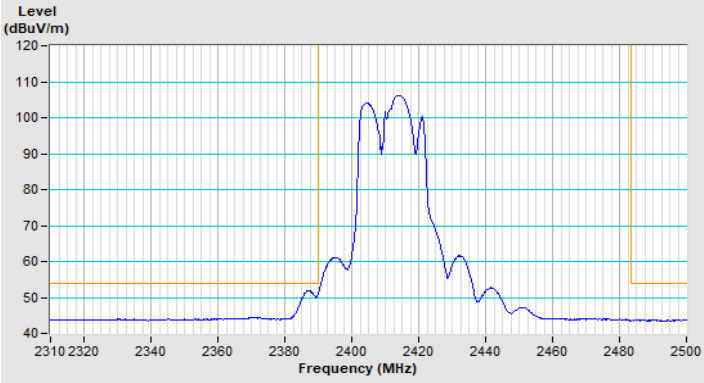
Horizontal (Peak)



Horizontal (Average)

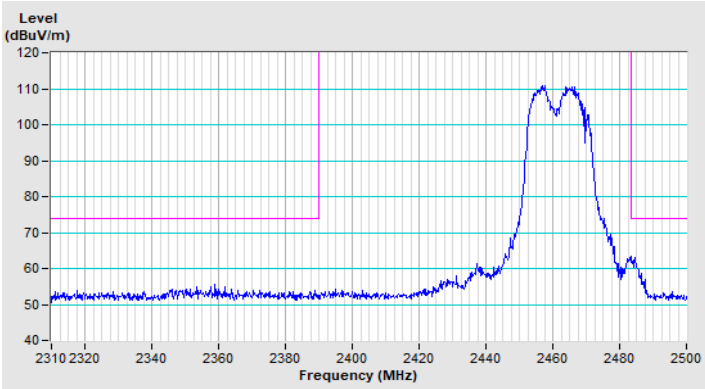


Vertical (Peak)

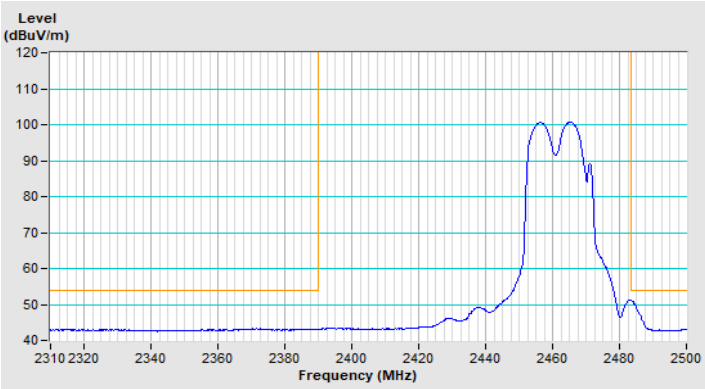


Vertical (Average)

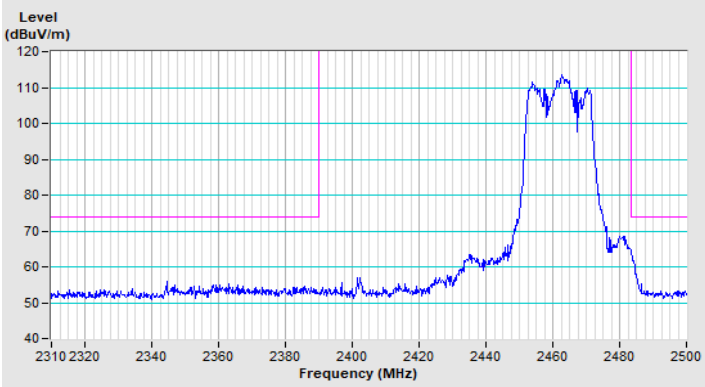
802.11ax (HE20) Channel 11



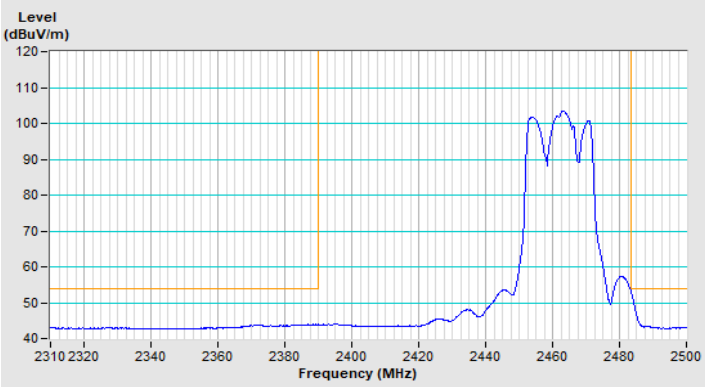
Horizontal (Peak)



Horizontal (Average)



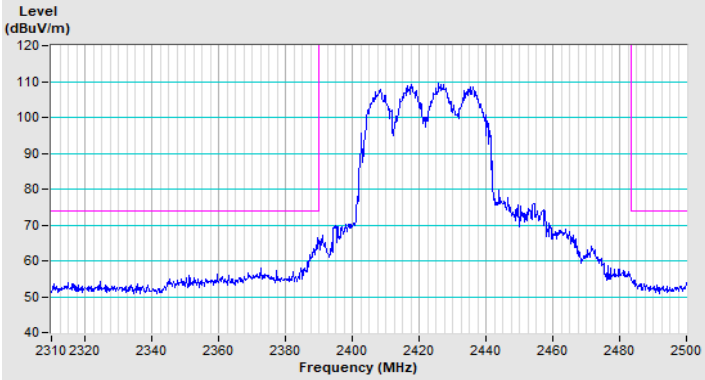
Vertical (Peak)



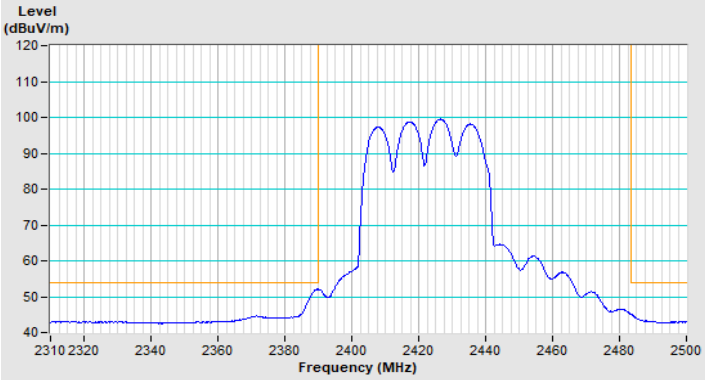
Vertical (Average)

Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak

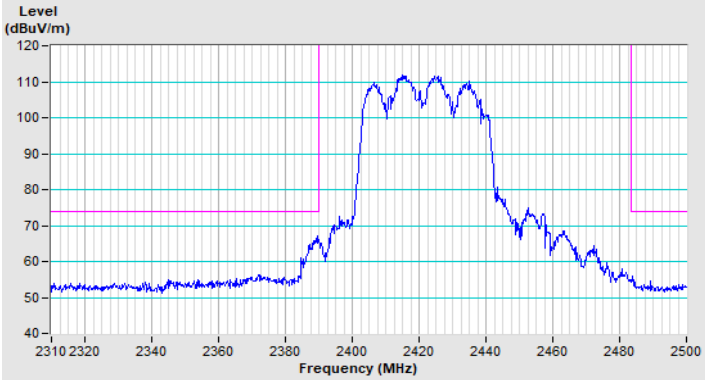
802.11ax (HE40) Channel 3



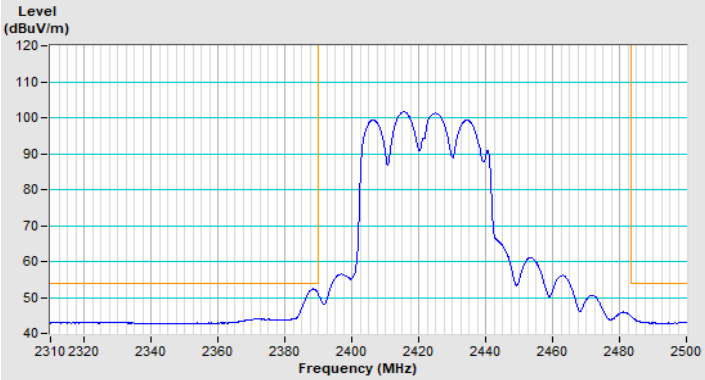
Horizontal (Peak)



Horizontal (Average)

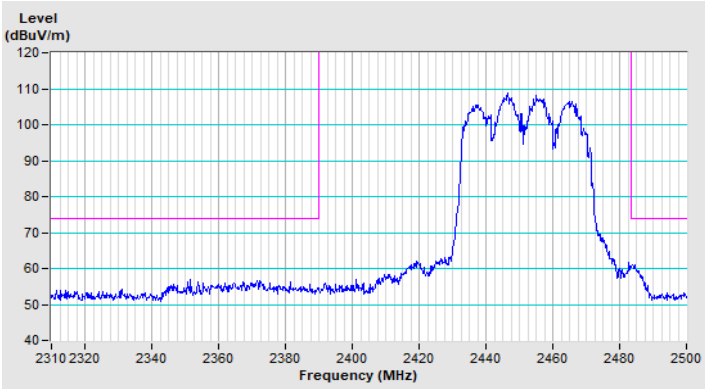


Vertical (Peak)

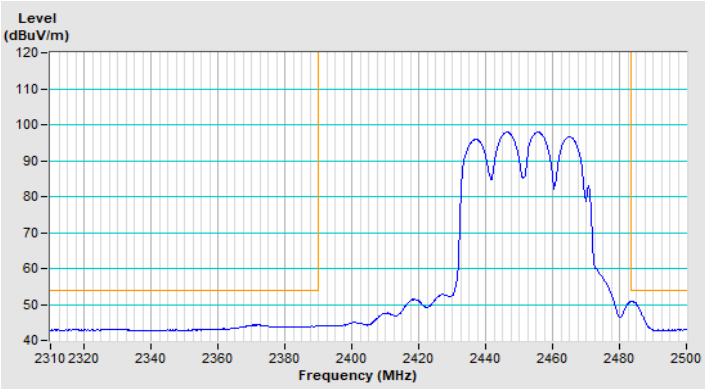


Vertical (Average)

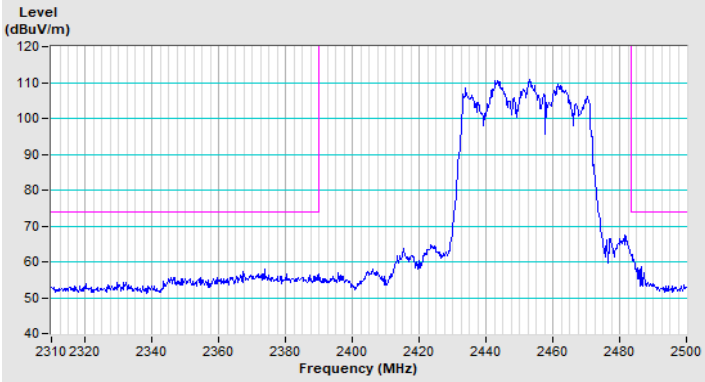
802.11ax (HE40) Channel 9



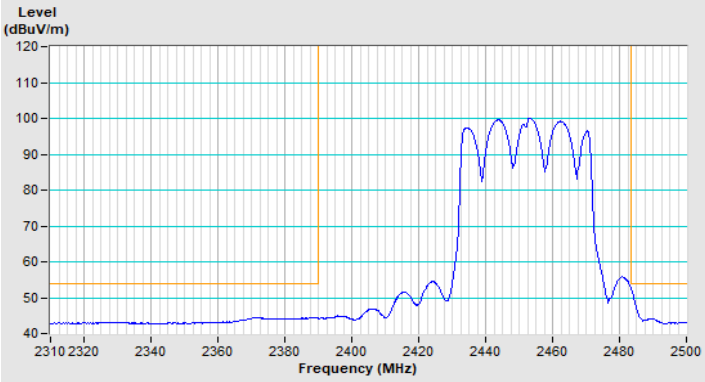
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



Vertical (Average)

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

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

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

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

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