TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBDUM-WTW-P22090716 R1

FCC ID: UXX-S5A246A

Product: Semi-Ruggedized Router

Brand: cradlepoint

Model No.: S5A245A

Series Model: S5A246A

Received Date: 2022/10/11

Test Date: 2022/10/13 ~ 2022/11/25

Issued Date: 2023/3/23

Applicant: CRADLEPOINT, INC.

Address: 1111 W. Jefferson Street Suite 400, Boise ID 83702 United States Of America

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

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Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

FCC Registration / Designation Number: 723255 / TW2022

Approved by: _____ , **Date:** **2023/3/23**

May Chen / Manager

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Prepared by : Vivian Huang / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBDUM-WTW-P22090716	Original release.	2022/12/9
RFBDUM-WTW-P22090716 R1	Modified the antenna list and the section 7.1 & 7.2.	2023/3/23

1 Certificate

Product:	Semi-Ruggedized Router
Brand:	cradlepoint
Test Model:	S5A245A
Series Model:	S5A246A
Sample Status:	Engineering sample
Applicant:	CRADLEPOINT, INC.
Test Date:	2022/10/13 ~ 2022/11/25
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 -6.86 dB at 0.50156 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -6.2 dB at 41.33 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.1 dB at 2390.00, 2483.50 MHz
15.203	Antenna Requirement	Pass	Antenna connector is R-SMA not a standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.5 dB
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.4 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.0 dB
	18 GHz ~ 40 GHz	5.3 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	Semi-Ruggedized Router
Brand	cradlepoint
Test Model	S5A245A
Series Model	S5A246A
Status of EUT	Engineering sample
Power Supply Rating	9 ~ 33 Vdc
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	802.11b: up to 11 Mbps 802.11g: up to 54 Mbps 802.11n: up to 300 Mbps VHT: up to 400 Mbps 802.11ax: 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	**CDD Mode:** 982.325 mW (29.92 dBm) **Beamforming Mode:** 476.887 mW (26.78 dBm)

Note:

1. The EUT has below model names which are identical to each other in all aspects except for the following table:

Product name	Brand	Product marketing name (PMN)	Model	Wi-Fi Function	Embedded radio (WWAN module)	Contains FCC ID
Polaris	cradlepoint	S700-C4E	S5A245A	Yes	Quectel, EG25-G	XMR201903EG25G
		S700-C4D	S5A246A	Yes	Quectel, EC25-AF	XMR201808EC25AF
Note: From the above models, model: **S5A245A** was selected as representative model for the test and its data was recorded in this report.						

2. There are WWAN and WLAN (2.4 GHz & 5 GHz) technology used for the EUT.
3. Simultaneously transmission condition.

Condition	Technology		
1	WWAN	WLAN (5GHz)	WLAN (2.4GHz)
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.			

4. The EUT uses following accessories.

GPIO Cable For DC Power		
Brand	Model	Specification
U-MEDIA	0573-1200090001	With DC Power supply Voltage Range : 9V-33V, 3A Cable : Unshielded, 2m
AC Adapter 1		
Brand	Model	Specification
APD	WA-36N12R	AC Input : 100-240V, 0.9A, 50-60Hz DC Output : 12V, 3A DC Output Cable : Unshielded, 1.5m
AC Adapter 2		
Brand	Model	Specification
Ktec	KSA-36W-120300D5	AC Input : 100-240V, 1A, 50-60Hz DC Output : 12V, 3A DC Output Cable : Unshielded, 1.5m

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

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

For WLAN							
Ant. Set	RF Chain NO.	Brand	Model	Ant. Net Gain (dBi)	Frequency Range (GHz)	Ant. Type	Connector Type
1	Chain 0	M.gear	C732-510013-A	3.5	2.4~2.4835	Dipole	R-SMA
				4.5	5.15~5.85		
	Chain 1	M.gear	C732-510013-A	3.5	2.4~2.4835	Dipole	R-SMA
				4.5	5.15~5.85		
2	Chain 0	JOYMAX	TWX-151ARSXX-711	3.86	2.4~2.4835	Dipole	R-SMA
				3.58	5.15~5.85		
	Chain 1	JOYMAX	TWX-151ARSXX-711	3.86	2.4~2.4835	Dipole	R-SMA
				3.58	5.15~5.85		
3	Chain 0	WNC	08.22100.011	2.47	2.4~2.4835	Dipole	R-SMA
				2.47	5.15~5.85		
	Chain 1	WNC	08.22100.011	2.47	2.4~2.4835	Dipole	R-SMA
				2.47	5.15~5.85		
4	Chain 0	Cradlepoint	CP01	5.74	2.4~2.4835	Monopole	R-SMA
				5.60	5.15~5.85		
	Chain 1	Cradlepoint	CP01	5.74	2.4~2.4835	Monopole	R-SMA
				5.60	5.15~5.85		
5	Chain 0	TAOGLAS	MA1505.AK.001	1.4	2.4~2.4835	Monopole	R-SMA
				2.33	5.15~5.85		
	Chain 1	TAOGLAS	MA1505.AK.001	1.37	2.4~2.4835	Monopole	R-SMA
				2.55	5.15~5.85		

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

2. The EUT incorporates a MIMO function:

2.4 GHz Band		
Modulation Mode	**TX & RX Configuration**	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX

Note:
1. All of modulation mode support beamforming function except 802.11b/g modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. 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 the same as the 802.11ax 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

Pre-Scan:	1. The power Cable for DC Power, has the following models: 0573-1200090001. The AC Adapter has the following models: KSA-36W-120300D5 / WA-36N12R. Pre-scan these models and find the worst case as a representative test condition. 2. EUT can be used in the following ways for Dipole antenna: X-axis/ Y-axis/ Z-axis and also with the Monopole antenna has placed in the X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition.
Worst Case:	1. Power source Worst Condition: WA-36N12R 2. EUT with Dipole antenna and Monopole antenna Pre-scan X-axis/ Y-axis/ Z-axis Worst condidtion: X-axis 3. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Note: Partial RU(resource unit) Configuration not supported.

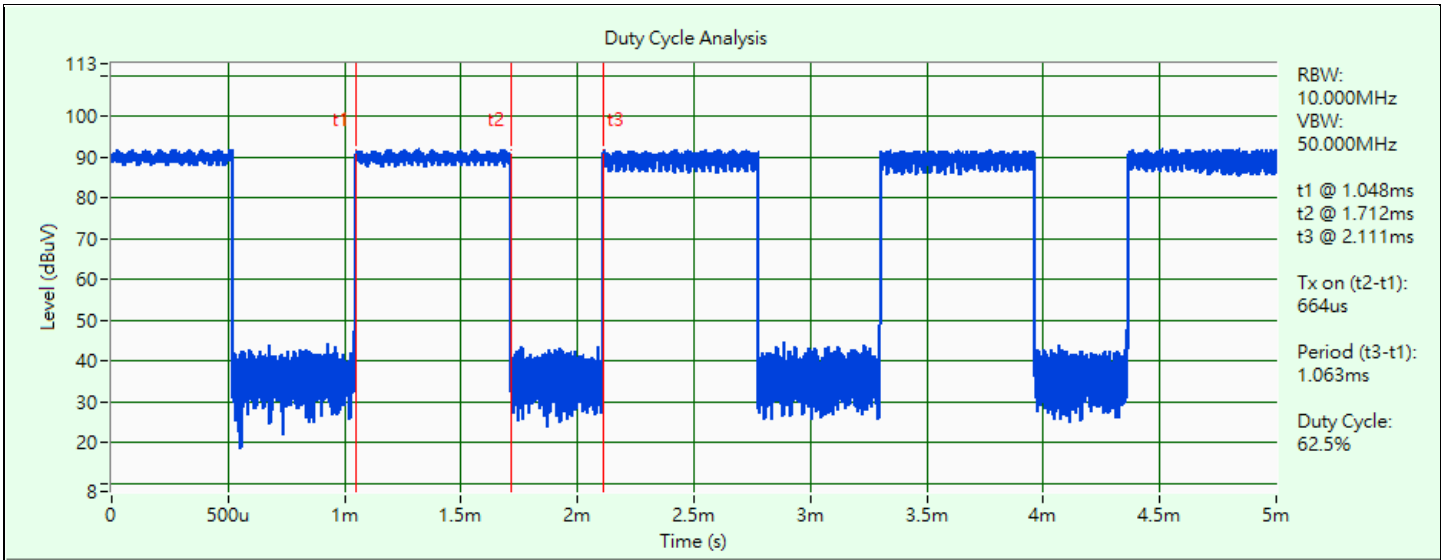
Following channel(s) was (were) selected for the final test as listed below:

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

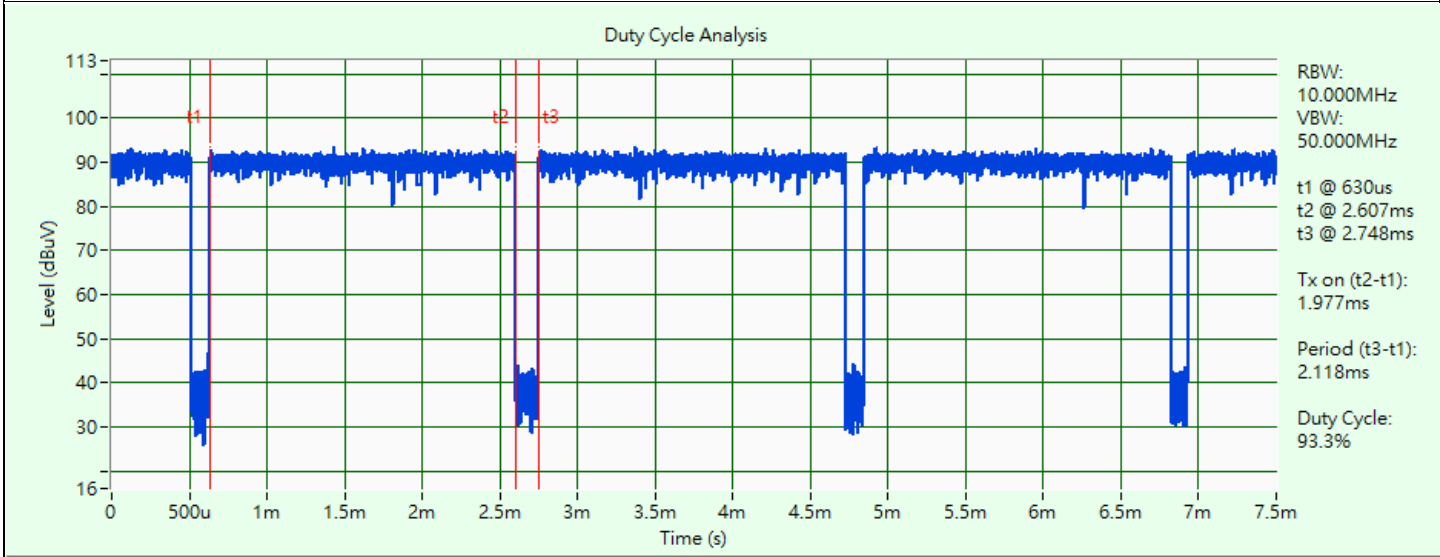
EUT Configure Mode:	A	Antenna Type : Dipole (Antenna Set 2)
	B	Antenna Type : Monopole (Antenna Set 4)
	C	Antenna Port

3.5 Duty Cycle of Test Signal

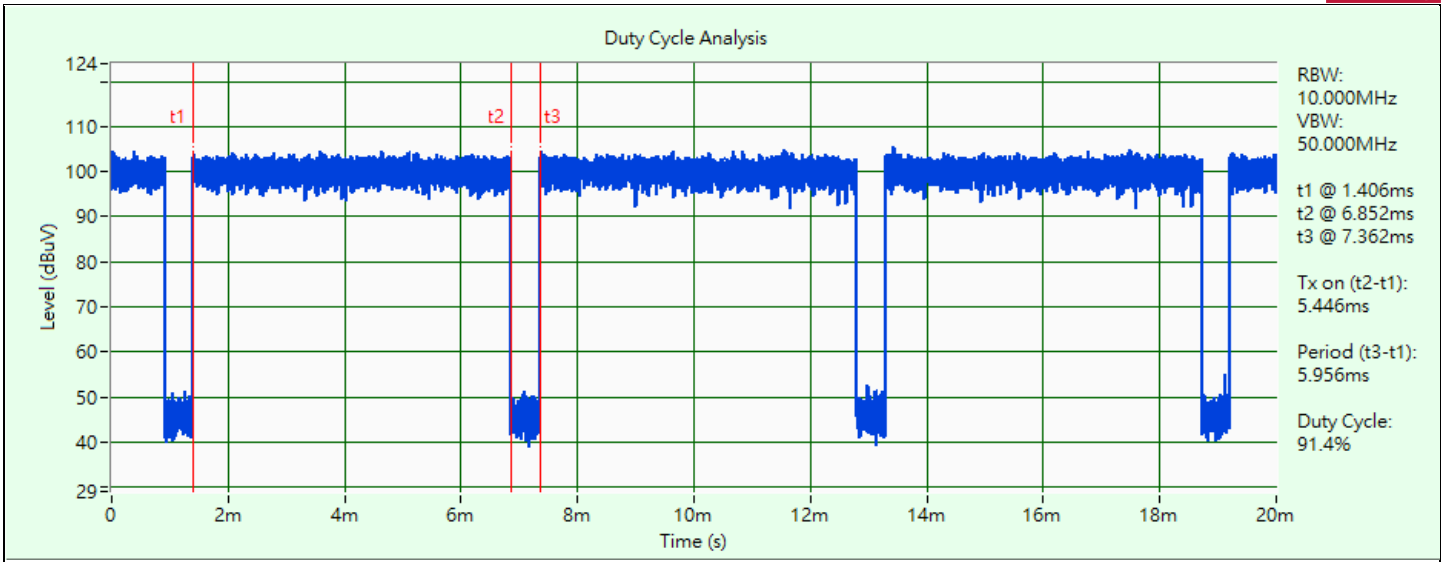
802.11b: Duty cycle = 0.664 ms / 1.063 ms x 100% = 62.5%, duty factor = 10 * log (1/Duty cycle) = 2.04 dB
802.11g: Duty cycle = 1.977 ms / 2.118 ms x 100% = 93.3%, duty factor = 10 * log (1/Duty cycle) = 0.30 dB
802.11ax (HE20): Duty cycle = 5.446 ms / 5.956 ms x 100% = 91.4%, duty factor = 10 * log (1/Duty cycle) = 0.39 dB
802.11ax (HE40): Duty cycle = 5.446 ms / 5.946 ms x 100% = 91.6%, duty factor = 10 * log (1/Duty cycle) = 0.38 dB



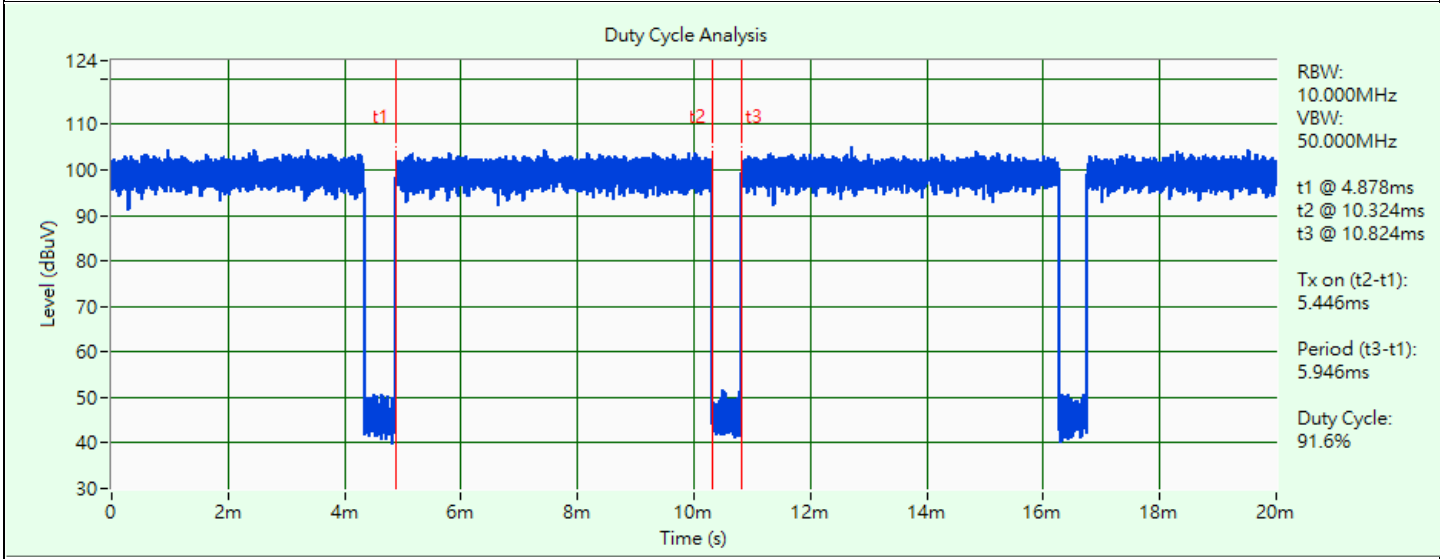
802.11b



802.11g



802.11ax (HE20)



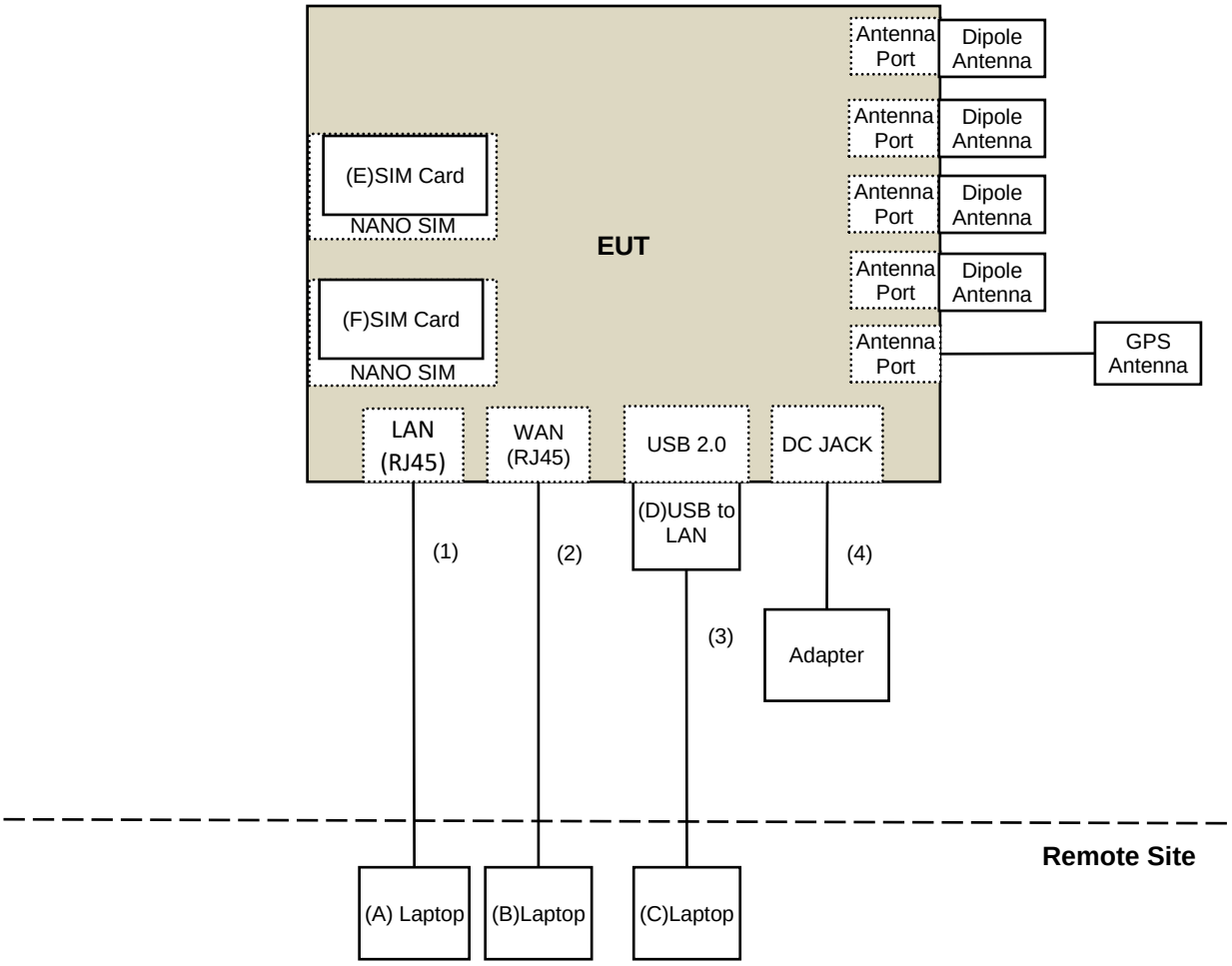
802.11ax (HE40)

3.6 Test Program Used and Operation Descriptions

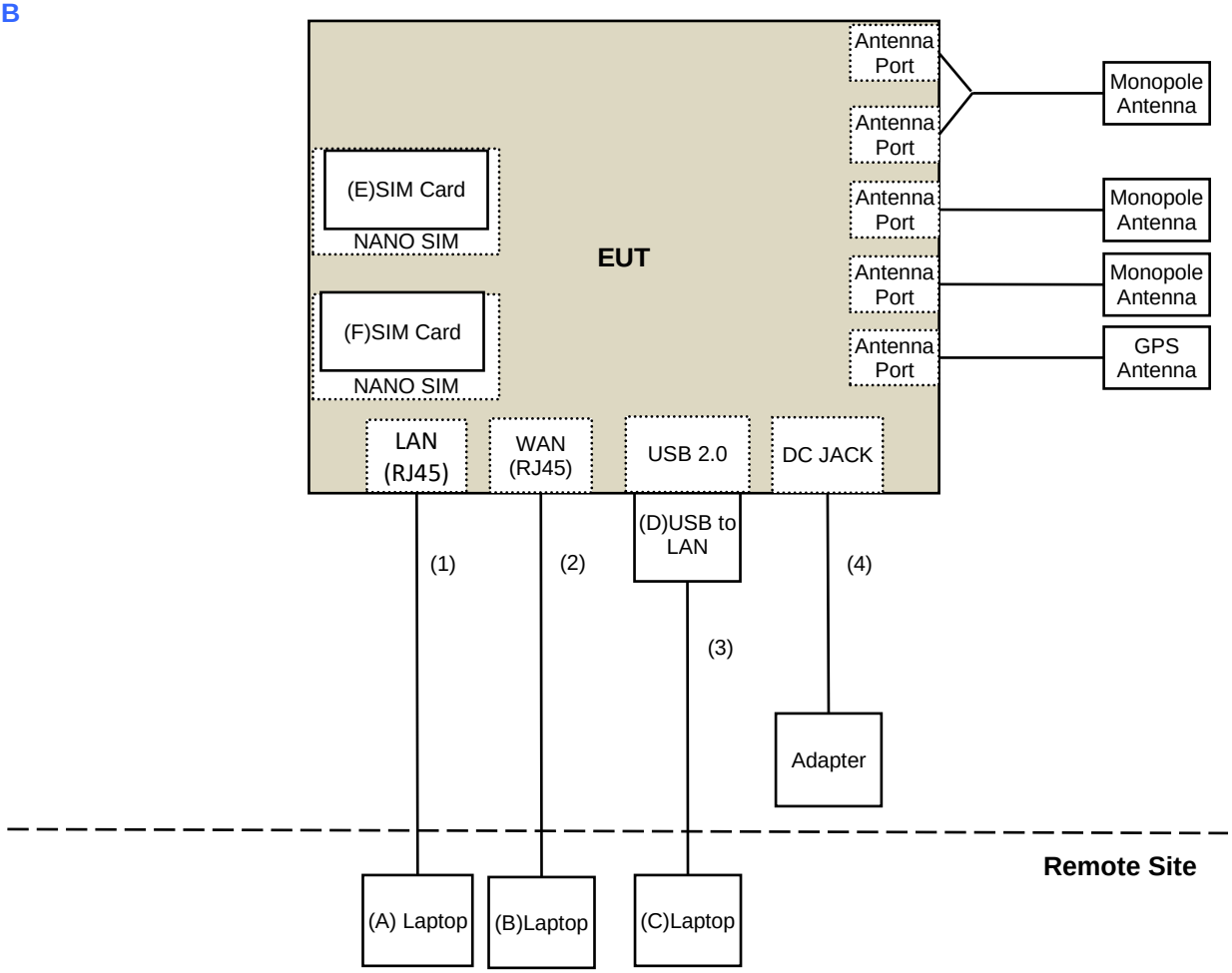
Controlling software (qdart_conn.win.1.0_installer_00089.1) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices

For Mode A



For Mode B


Antenna Port
Antenna Port
Antenna Port
Antenna Port
Antenna Port
Monopole Antenna
Monopole Antenna
Monopole Antenna
GPS Antenna
(E)SIM Card
NANO SIM
(F)SIM Card
NANO SIM
EUT
LAN (RJ45)
WAN (RJ45)
USB 2.0
DC JACK
(D)USB to LAN
(1)
(2)
(3)
(4)
Adapter
Remote Site
(A) Laptop
(B)Laptop
(C)Laptop

3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	DELL	E6440	85HJXZ1	N/A	Provided by Lab
B	Laptop	Lenovo	81A4	YD02YN76	PD93165NGU	Provided by Lab
C	Laptop	Dell	Latitude 7430	8C19NN3	N/A	Provided by Lab
D	USB to LAN	i-gota	LAN-USBRJ45	N/A	N/A	Supplied by applicant
E	SIM Card	KeysSight	E7515-10910	N/A	N/A	Provided by Lab
F	SIM Card	R&S	CRT-Z3	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45	1	10	No	0	Provided by Lab
2	RJ-45	1	10	No	0	Provided by Lab
3	RJ-45	1	10	No	0	Provided by Lab
4	DC Cable	1	1.5	No	0	Supplied by applicant

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
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Power Meter Anritsu	ML2495A	1529002	2022/6/22	2023/6/21
Pulse Power Sensor Anritsu	MA2411B	1726434	2022/6/22	2023/6/21
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/11/2

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer Keysight	N9020B	MY60112409	2022/3/11	2023/3/10

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/11/2

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 ohms Terminator	50	3	2021/10/27	2022/10/26
Fixed attenuator STI	STI02-2200-10	005	2022/8/24	2023/8/23
LISN R&S	ESH3-Z5	848773/004	2021/10/29	2022/10/28
RF Coaxial Cable JYEBO	5D-FB	COCCAB-001	2022/8/24	2023/8/23
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A
TEST RECEIVER R&S	ESCS 30	847124/029	2022/10/14	2023/10/13

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2022/10/25

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	N/A	N/A
Fix tool for Boresight antenna tower BV	FBA-01	FBA_SIP01	N/A	N/A
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	2022/9/14	2023/9/13
LOOP ANTENNA Electro-Metrics	EM-6879	264	2022/3/18	2023/3/17
Pre_Amplifier Agilent	8447D	2944A10636	2022/3/19	2023/3/18
Pre_Amplifier Mini-Circuits	ZFL-1000VH2	QA0838008	2022/10/4	2023/10/3
RF Coaxial Cable COMMATE/PEWC	8D	966-3-2	2022/2/26	2023/2/25
		966-3-3	2022/2/26	2023/2/25
		966-4-1	2022/3/8	2023/3/7
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2022/1/6	2023/1/5
		LOOPCAB-002	2022/1/6	2023/1/5
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer KEYSIGHT	N9030B	MY57142938	2022/4/26	2023/4/25
Test Receiver KEYSIGHT	N9038A	MY59050100	2022/6/20	2023/6/19
Trilog Broadband Antenna Schwarzbeck	VULB 9168	9168-361	2022/10/21	2023/10/20

Notes:

1. The test was performed in 966 Chamber No. 3.
2. Tested Date: 2022/10/23

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	N/A	N/A
Fix tool for Boresight antenna tower BV	FBA-01	FBA_SIP01	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9170	9170-739	2021/11/14 2022/11/13	2022/11/13 2023/11/12
	BBHA9120-D	9120D-406	2021/11/14 2022/11/13	2022/11/13 2023/11/12
Pre_Amplifier EMCI	EMC12630SE	980384	2022/1/10	2023/1/9
	EMC184045SE	980387	2022/1/10	2023/1/9
RF Cable EMCI	EMC104-SM-SM-6000	210201	2022/5/10	2023/5/9
RF Cable-Frequency range: 1-40GHz EMCI	EMC102-KM-KM-1200	160924	2022/1/10	2023/1/9
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2022/3/8	2023/3/7
	EMC104-SM-SM-1500	180504	2022/4/25	2023/4/24
	EMC104-SM-SM-2000	180601	2022/6/6	2023/6/5
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer KEYSIGHT	N9030B	MY57142938	2022/4/26	2023/4/25
Test Receiver KEYSIGHT	N9038A	MY59050100	2022/6/20	2023/6/19

Notes:

1. The test was performed in 966 Chamber No. 3.
2. Tested Date: 2022/10/13 ~ 2022/11/25

5 Limits of Test Items

5.1 RF Output Power

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

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

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

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

5.2 Power Spectral Density

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

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

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

5.5 AC Power Conducted Emissions

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

Notes:

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

5.6 Unwanted Emissions below 1 GHz

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

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

Notes:

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

5.7 Unwanted Emissions above 1 GHz

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

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

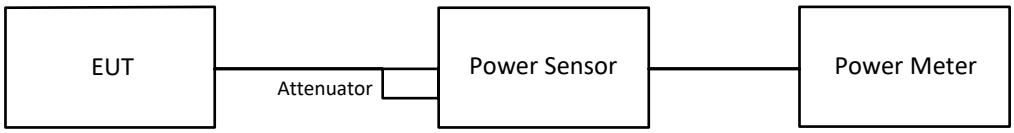
Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup

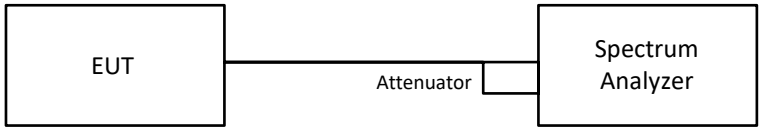


6.1.2 Test Procedure

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

6.2 Power Spectral Density

6.2.1 Test Setup

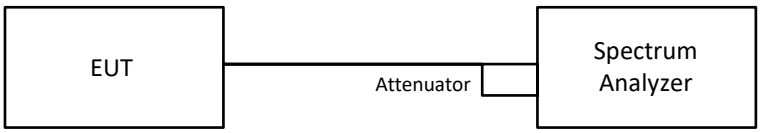


6.2.2 Test Procedure

a. Measure the duty cycle (x).
b. Set instrument center frequency to DTS channel center frequency.
c. Set span to at least 1.5 times the OBW.
d. Set RBW to: 3 kHz.
e. Set VBW ≥3 x RBW.
f. Detector = power averaging (RMS) or sample detector (when RMS not available).
g. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
h. Sweep time = auto couple.
i. Do not use sweep triggering. Allow sweep to “free run”.
j. Employ trace averaging (RMS) mode over a minimum of 100 traces.
k. Use the peak marker function to determine the maximum amplitude level.
l. Note: If Duty cycle < 98%, Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time.

6.3 6 dB Bandwidth

6.3.1 Test Setup

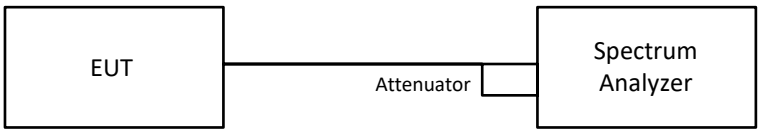


6.3.2 Test Procedure

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

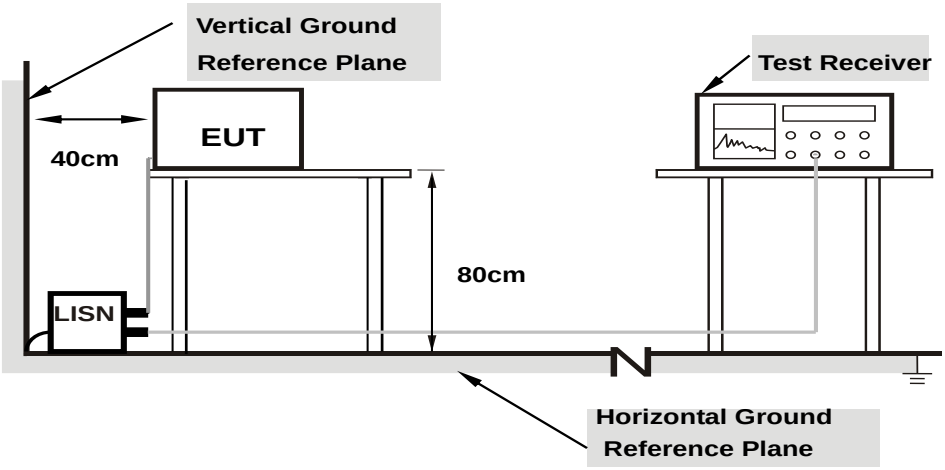
a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

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.

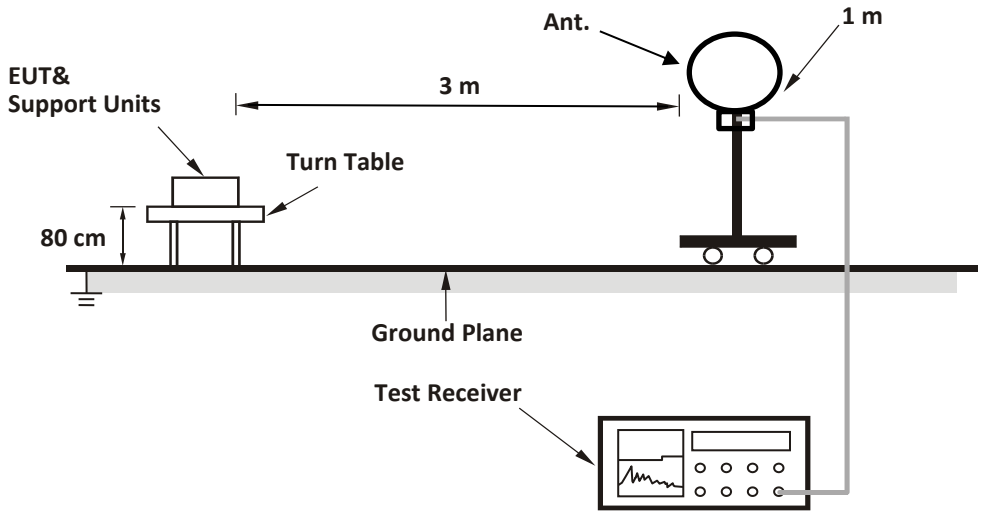
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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.

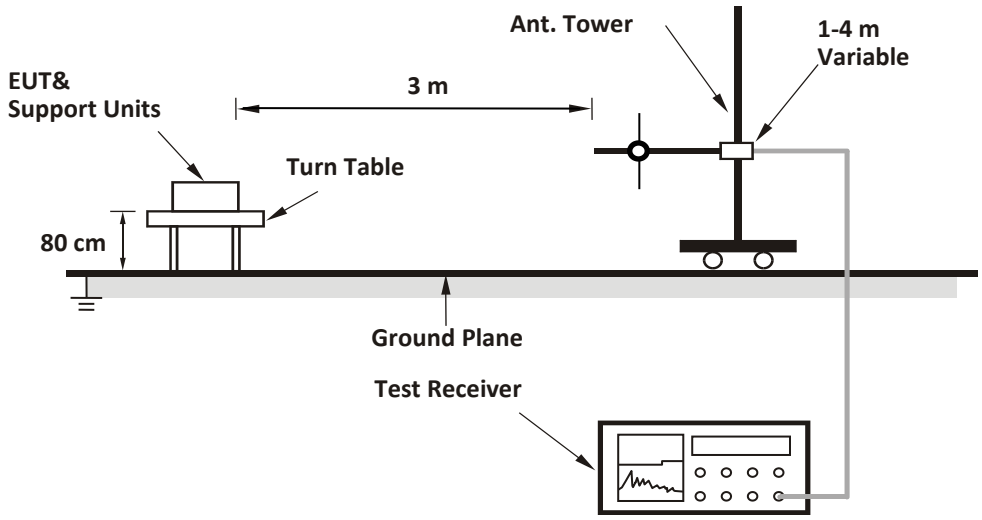
6.6 Unwanted Emissions below 1 GHz

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.

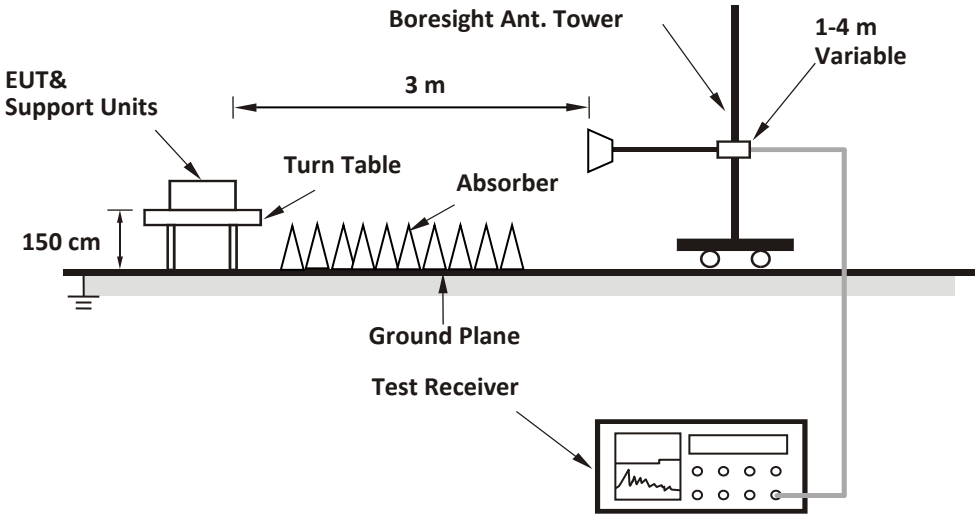
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

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

Mode C

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

802.11b CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	22.97	23.37	415.423	26.18	30	Pass
6	2437	26.54	26.97	948.554	29.77	30	Pass
11	2462	26.82	26.83	962.787	29.84	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.74 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11g CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.67	22.42	321.475	25.07	30	Pass
6	2437	26.45	27.33	982.325	29.92	30	Pass
11	2462	23.11	23.65	436.384	26.40	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.74 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT20 CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.02	21.96	283.51	24.53	30	Pass
6	2437	26.19	26.88	903.439	29.56	30	Pass
11	2462	21.63	21.36	282.319	24.51	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.74 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT40 CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	21.28	21.89	288.802	24.61	30	Pass
6	2437	22.01	22.68	344.208	25.37	30	Pass
9	2452	22.29	22.57	350.151	25.44	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.74 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.29	22.21	300.927	24.78	30	Pass
6	2437	26.46	27.13	959.005	29.82	30	Pass
11	2462	21.89	21.59	298.737	24.75	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.74 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	21.54	22.14	306.242	24.86	30	Pass
6	2437	22.27	22.95	365.898	25.63	30	Pass
9	2452	22.53	22.83	370.927	25.69	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 5.74 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT20 Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.02	21.96	283.51	24.53	27.25	Pass
6	2437	23.18	24.01	459.737	26.63	27.25	Pass
11	2462	21.63	21.36	282.319	24.51	27.25	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. The directional gain is 8.75 dBi > 6 dBi, so the output power limit shall be reduced to 30-(8.75-6) = 27.25 dBm.

VHT40 Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	21.28	21.89	288.802	24.61	27.25	Pass
6	2437	22.01	22.68	344.208	25.37	27.25	Pass
9	2452	22.29	22.57	350.151	25.44	27.25	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. The directional gain is 8.75 dBi > 6 dBi, so the output power limit shall be reduced to 30-(8.75-6) = 27.25 dBm.

802.11ax (HE20) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.29	22.21	300.927	24.78	27.25	Pass
6	2437	23.35	24.16	476.887	26.78	27.25	Pass
11	2462	21.89	21.59	298.737	24.75	27.25	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. The directional gain is 8.75 dBi > 6 dBi, so the output power limit shall be reduced to 30-(8.75-6) = 27.25 dBm.

802.11ax (HE40) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	21.54	22.14	306.242	24.86	27.25	Pass
6	2437	22.27	22.95	365.898	25.63	27.25	Pass
9	2452	22.53	22.83	370.927	25.69	27.25	Pass

Notes:

1. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
2. The directional gain is 8.75 dBi > 6 dBi, so the output power limit shall be reduced to 30-(8.75-6) = 27.25 dBm.

7.2 Power Spectral Density

Mode C

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

802.11b

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
1	2412	-8.32	-6.41	2.04	-2.21	5.25	Pass
6	2437	-2.45	-1.90	2.04	2.89	5.25	Pass
11	2462	-3.62	-4.93	2.04	0.83	5.25	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. The directional gain is 8.75 dBi > 6 dBi, so the power density limit shall be reduced to 8-(8.75-6) = 5.25 dBm/3kHz.

802.11g

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
1	2412	-8.75	-9.33	0.30	-5.72	5.25	Pass
6	2437	-3.95	-4.58	0.30	-0.94	5.25	Pass
11	2462	-8.02	-7.38	0.30	-4.38	5.25	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. The directional gain is 8.75 dBi > 6 dBi, so the power density limit shall be reduced to 8-(8.75-6) = 5.25 dBm/3kHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
1	2412	-9.63	-11.56	0.39	-7.09	5.25	Pass
6	2437	-6.51	-6.92	0.39	-3.31	5.25	Pass
11	2462	-11.30	-10.25	0.39	-7.34	5.25	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. The directional gain is 8.75 dBi > 6 dBi, so the power density limit shall be reduced to 8-(8.75-6) = 5.25 dBm/3kHz.

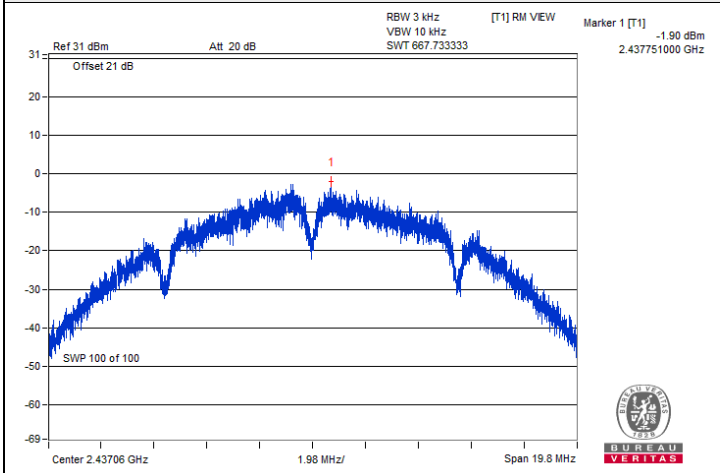
802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
3	2422	-13.48	-13.92	0.38	-10.30	5.25	Pass
6	2437	-12.84	-11.43	0.38	-8.69	5.25	Pass
9	2452	-12.16	-13.06	0.38	-9.19	5.25	Pass

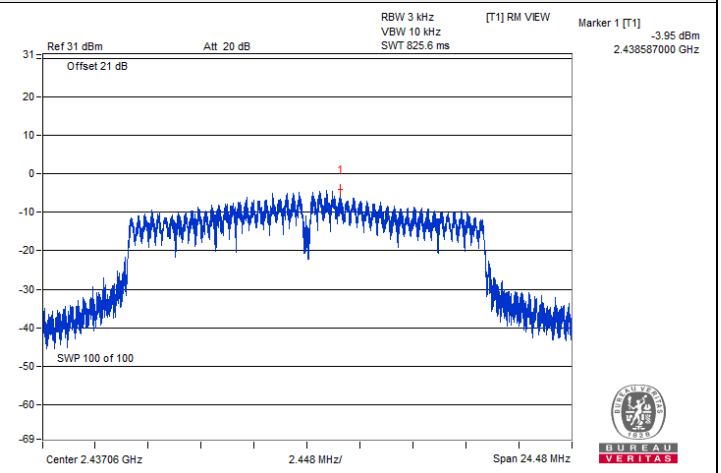
Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. The directional gain is 8.75 dBi > 6 dBi, so the power density limit shall be reduced to 8-(8.75-6) = 5.25 dBm/3kHz.

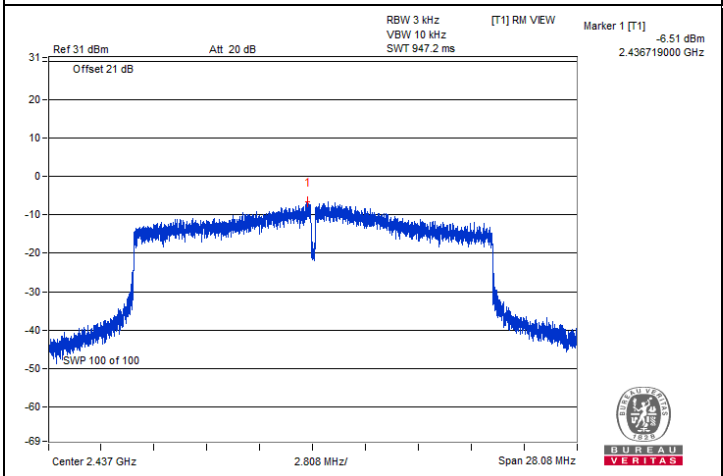
Spectrum Plot of Maximum Value



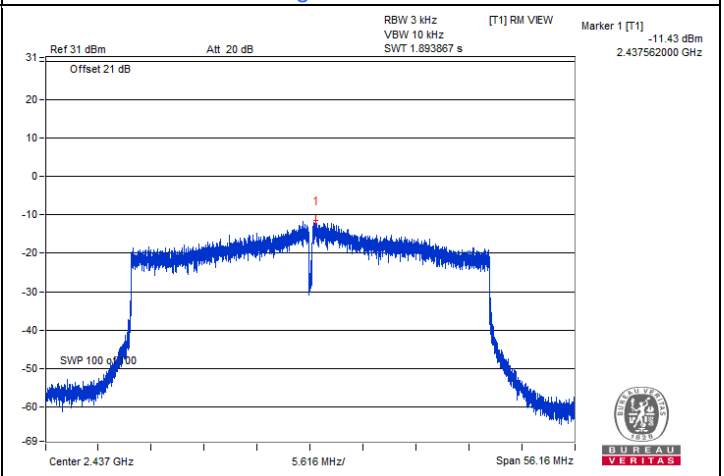
802.11b / Chain 1 : CH 6



802.11g / Chain 0 : CH 6



802.11ax (HE20) / Chain 0 : CH 6



802.11ax (HE40) / Chain 1 : CH 6

7.3 6 dB Bandwidth

Mode C

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

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	8.07	8.07	0.5	Pass
6	2437	8.06	6.62	0.5	Pass
11	2462	7.59	8.56	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	13.87	15.08	0.5	Pass
6	2437	15.08	15.13	0.5	Pass
11	2462	15.03	15.09	0.5	Pass

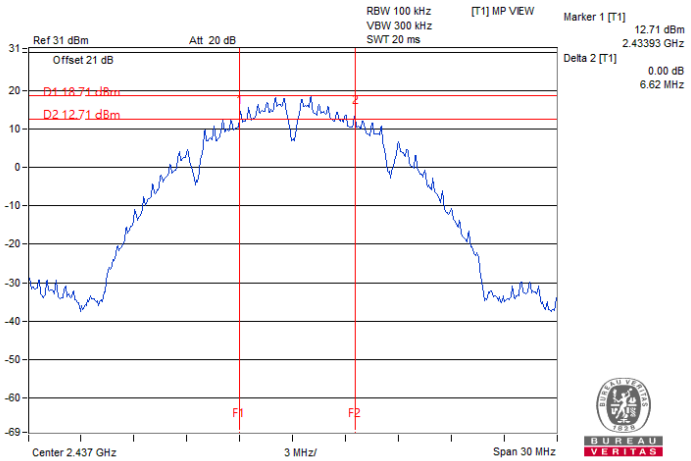
802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	15.04	15.12	0.5	Pass
6	2437	15.03	15.12	0.5	Pass
11	2462	15.02	15.07	0.5	Pass

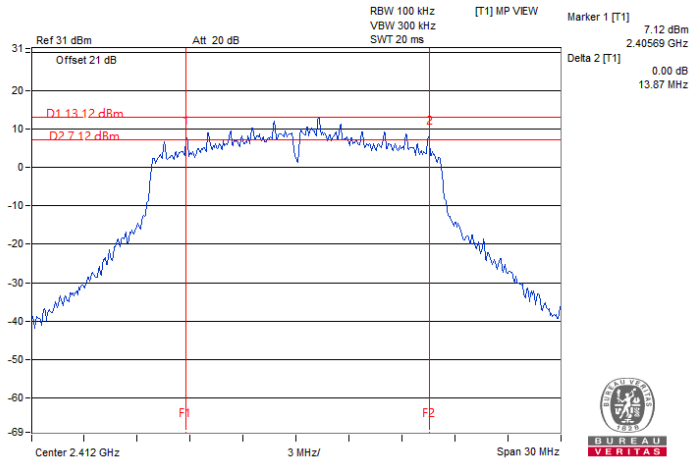
802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
3	2422	32.51	35.08	0.5	Pass
6	2437	35.09	30.12	0.5	Pass
9	2452	33.90	23.81	0.5	Pass

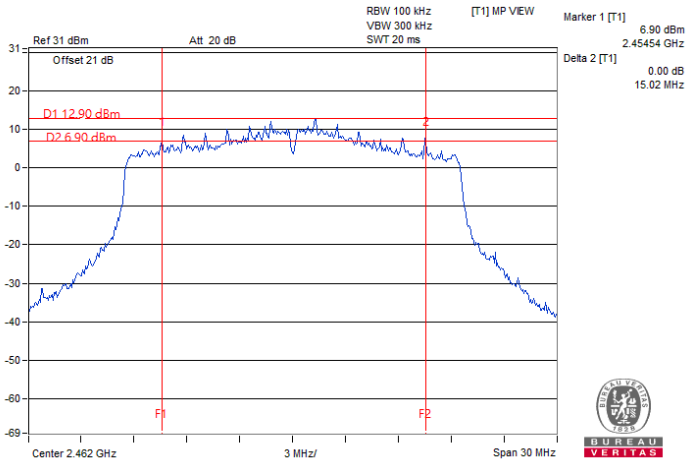
Spectrum Plot of Minimum Value



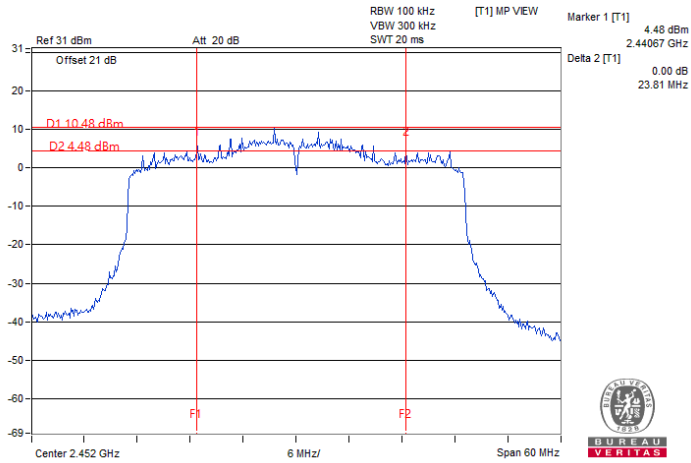
802.11b / Chain 1 : CH 6



802.11g / Chain 0 : CH 1



802.11ax (HE20) / Chain 0 : CH 11



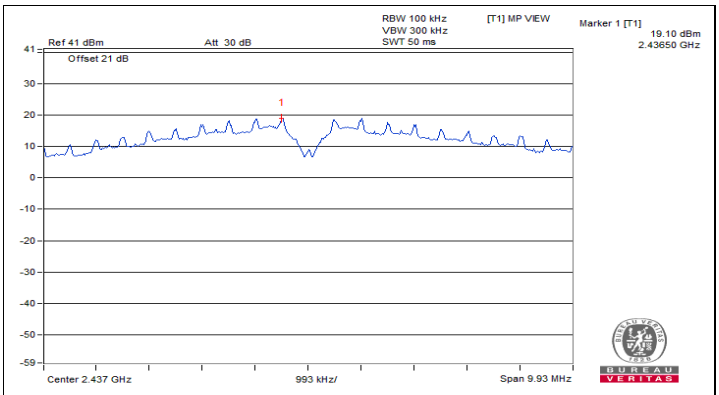
802.11ax (HE40) / Chain 1 : CH 9

7.4 Conducted Out of Band Emissions

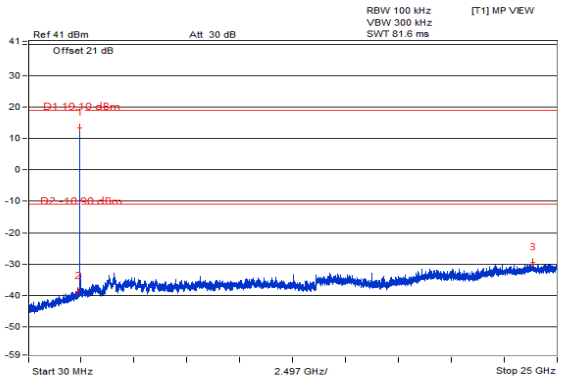
Mode C

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

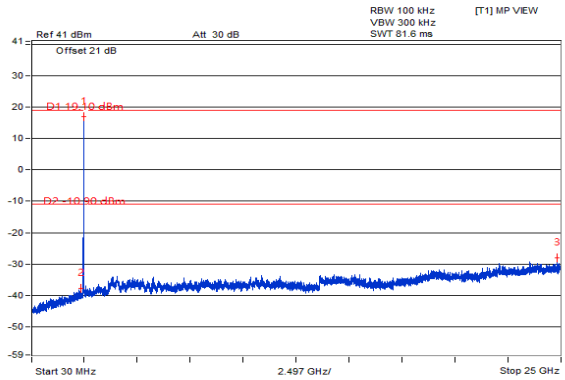
802.11b



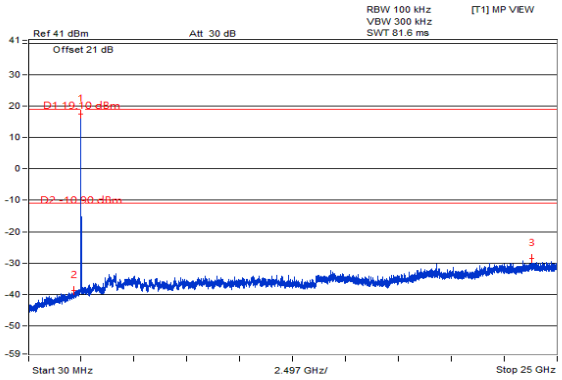
Maximum Reference Level



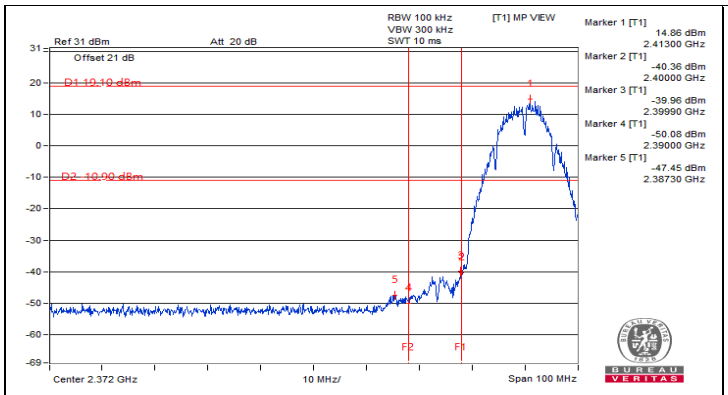
Chain 0 : CH 1



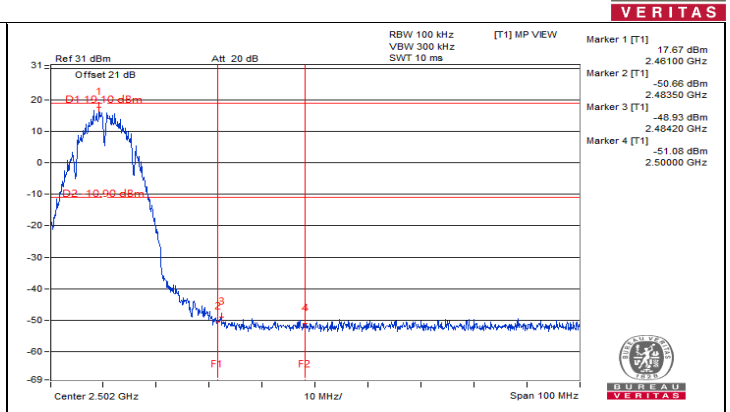
Chain 0 : CH 6



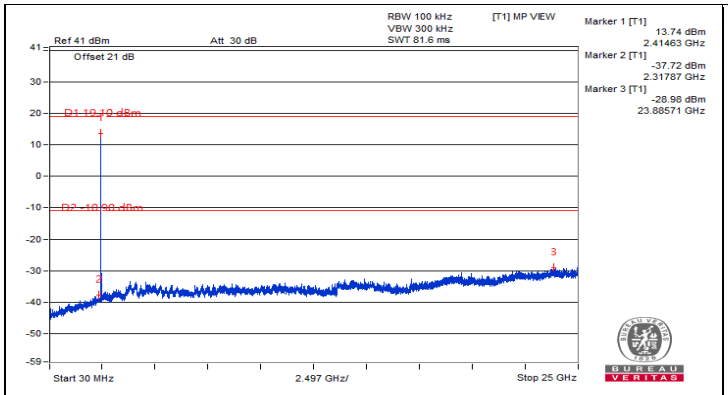
Chain 0 : CH 11



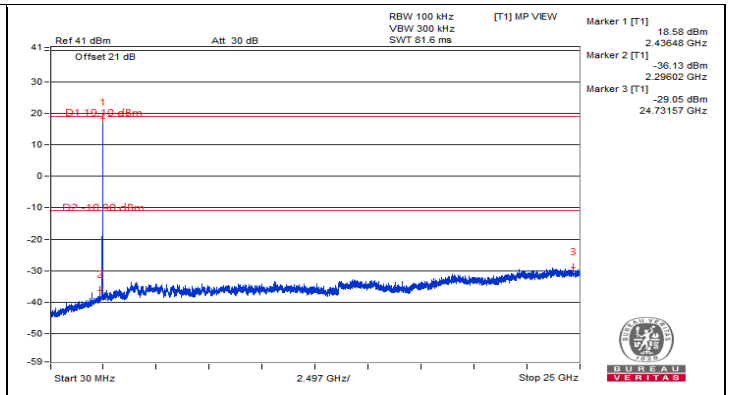
Chain 0 : CH 1 Band edge



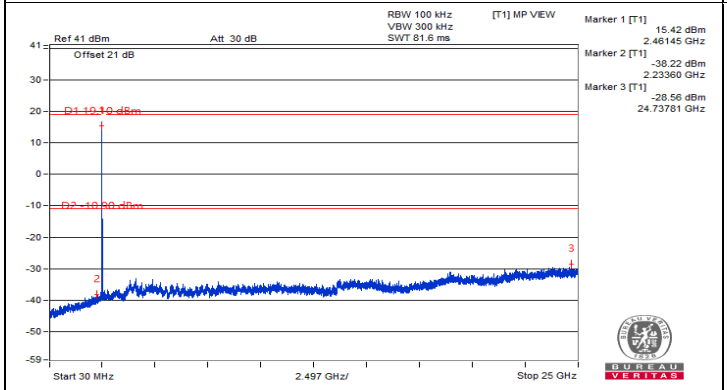
Chain 0 : CH 11 Band edge



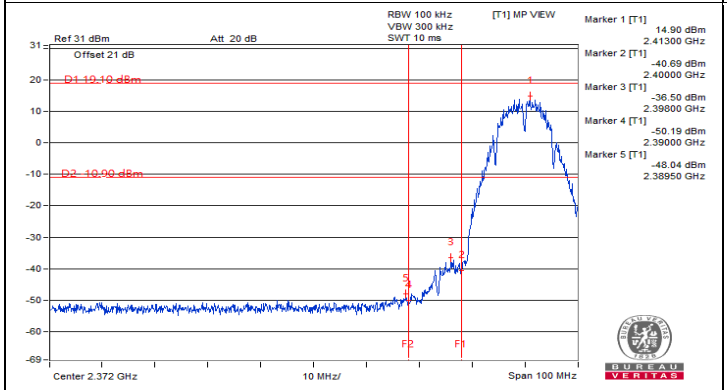
Chain 1 : CH 1



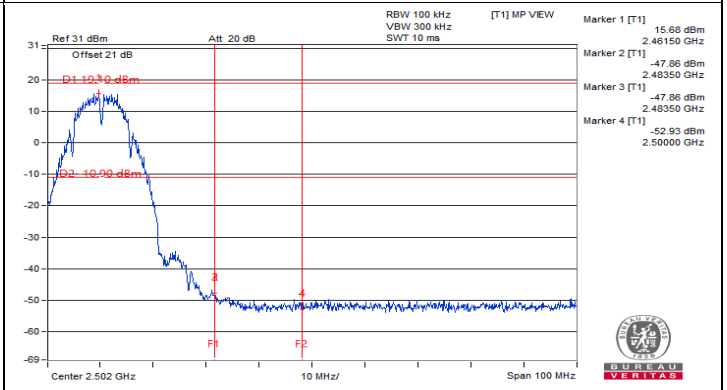
Chain 1 : CH 6



Chain 1 : CH 11

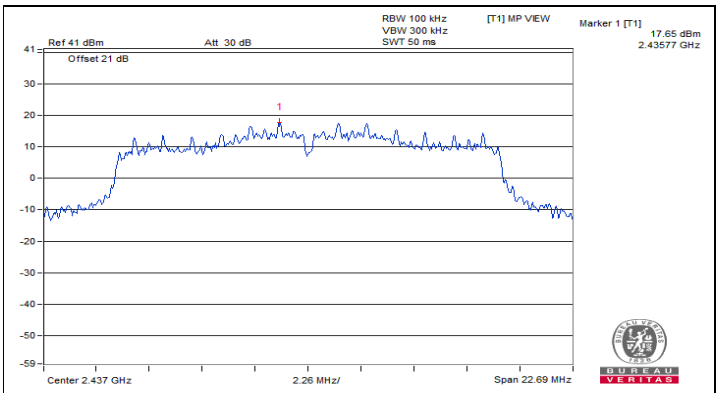


Chain 1 : CH 1 Band edge

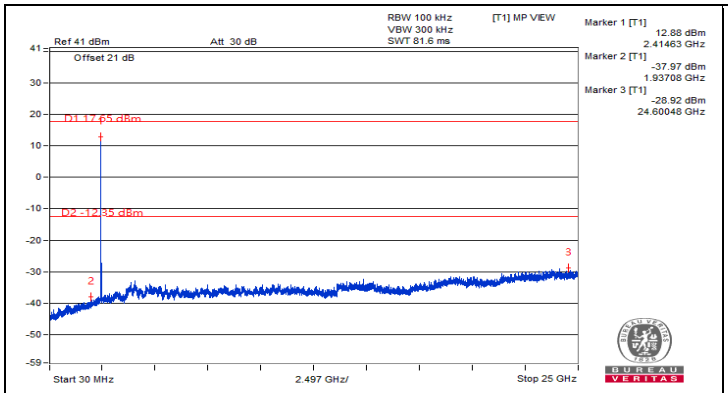


Chain 1 : CH 11 Band edge

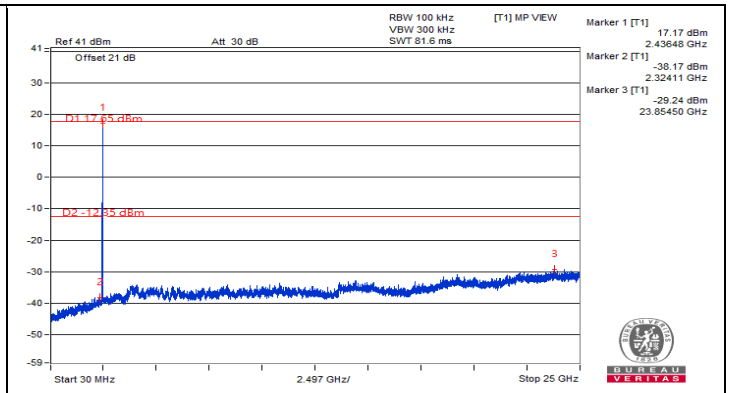
802.11g



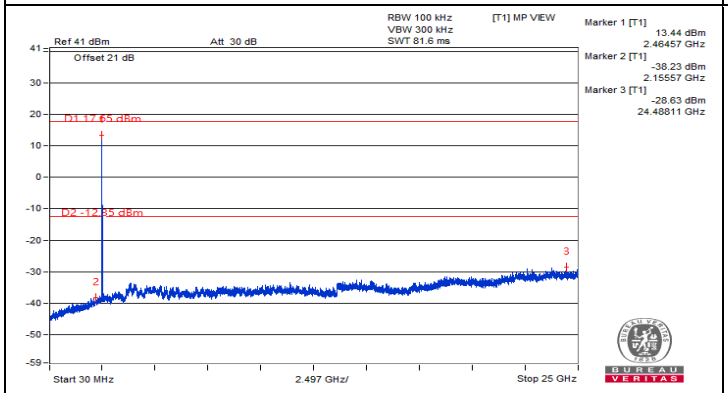
Maximum Reference Level



Chain 0 : CH 1



Chain 0 : CH 6



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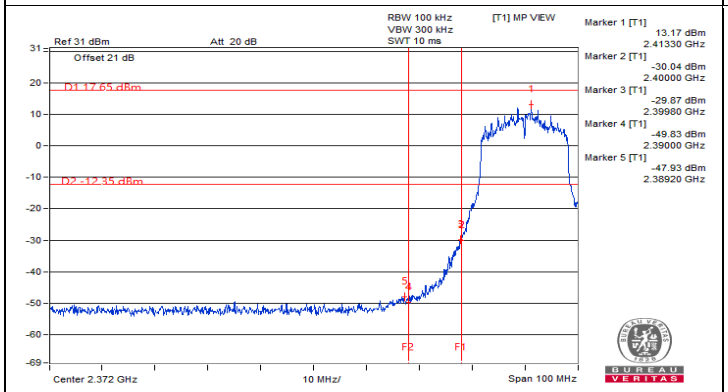
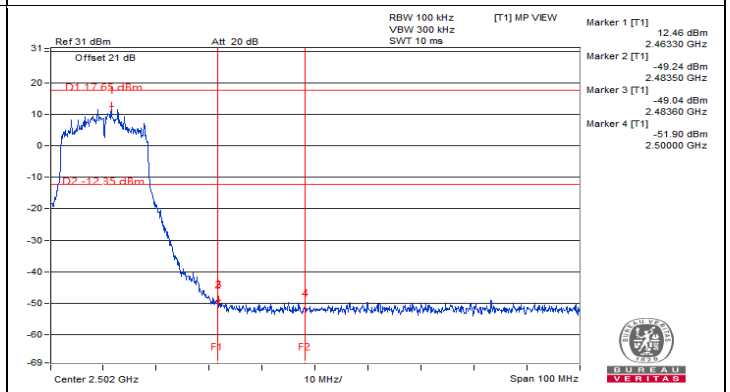


Chain 0 : CH 1 Band edge



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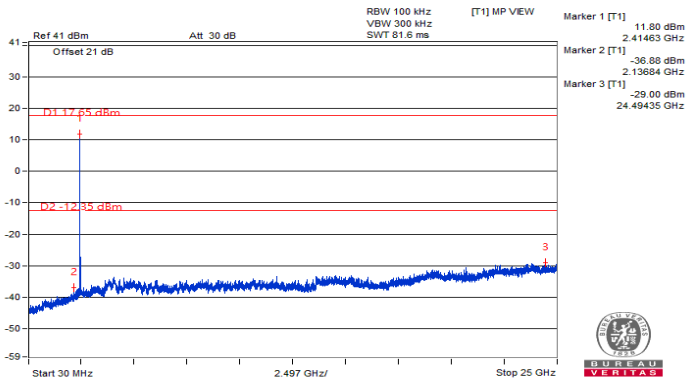
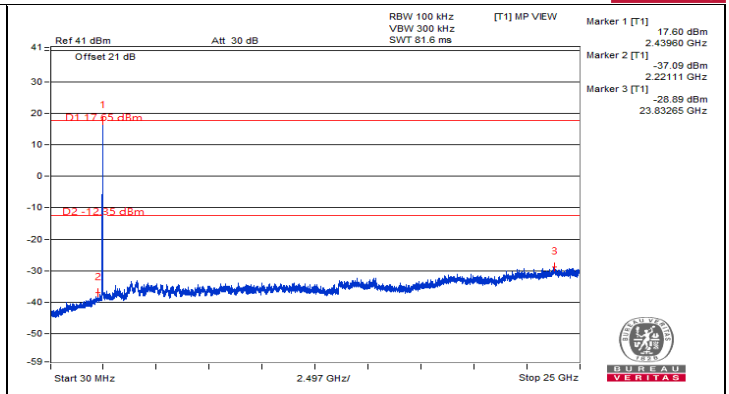


Chain 1 : CH 1



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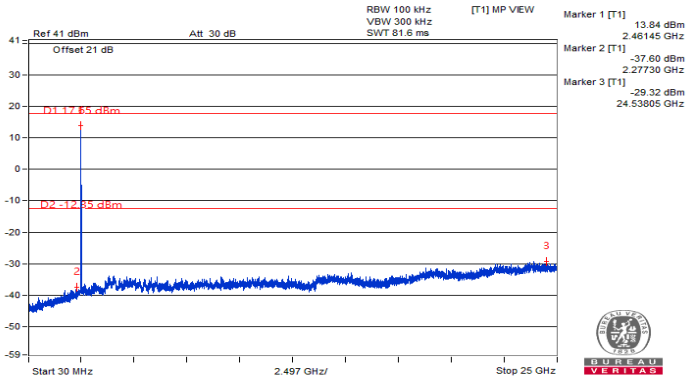

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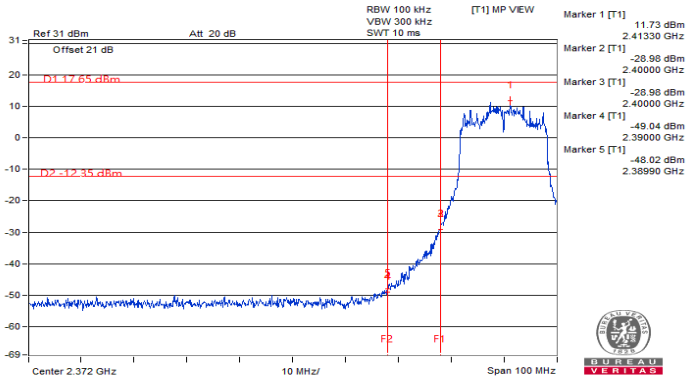
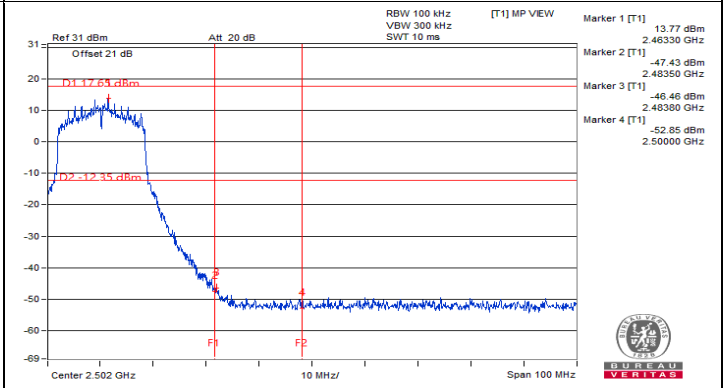
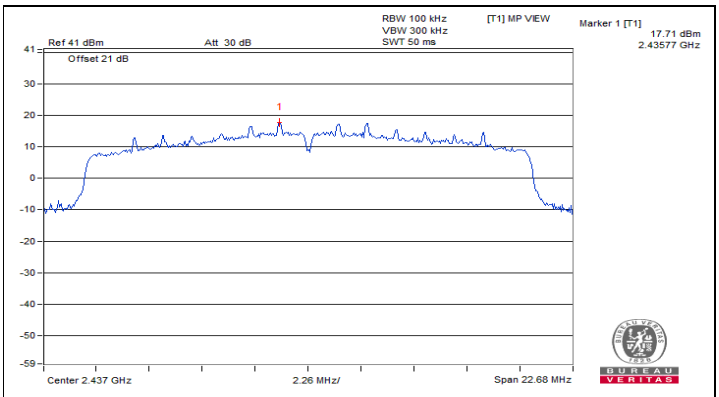


Chain 1 : CH 1 Band edge

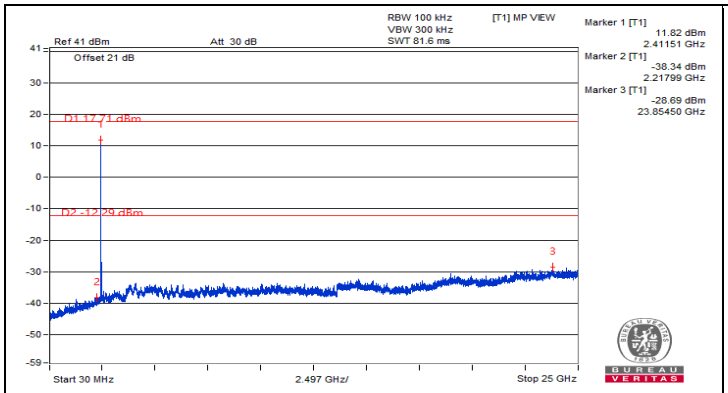


Chain 1 : CH 11 Band edge

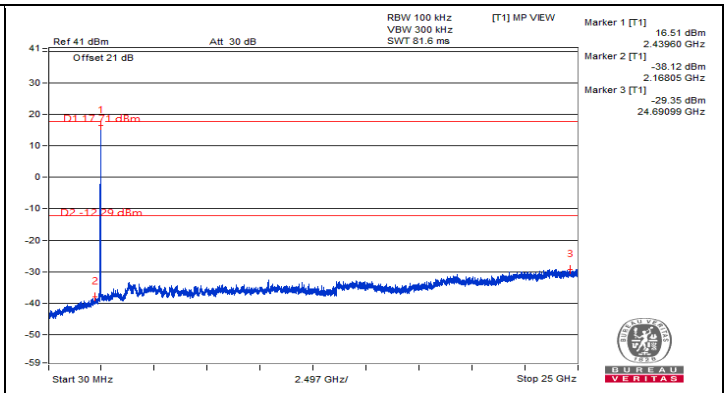
802.11ax (HE20)



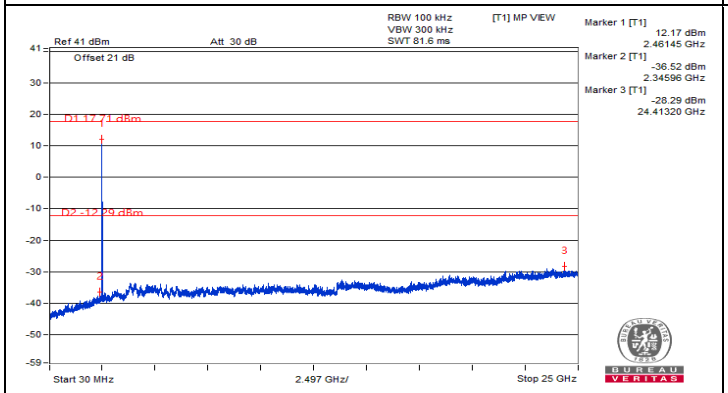
Maximum Reference Level



Chain 0 : CH 1



Chain 0 : CH 6



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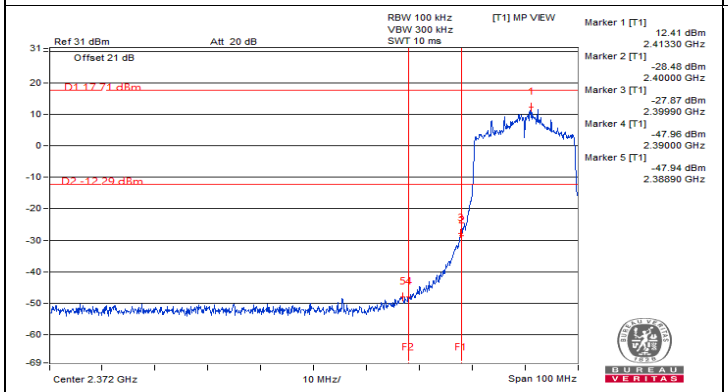
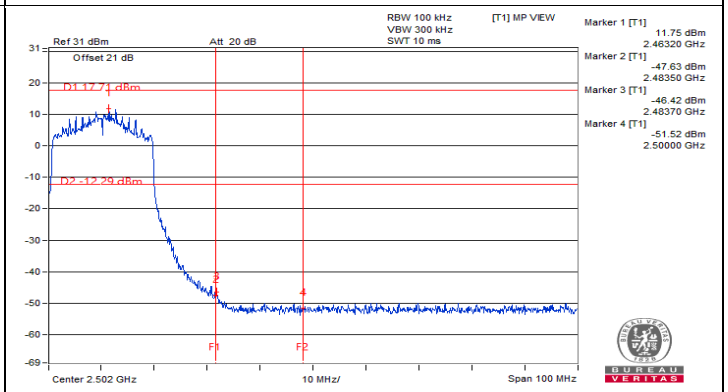
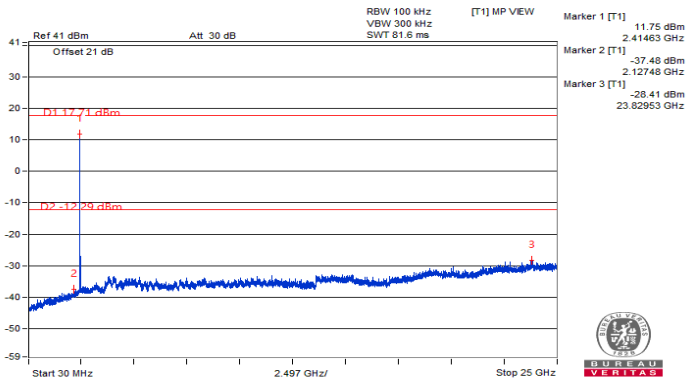


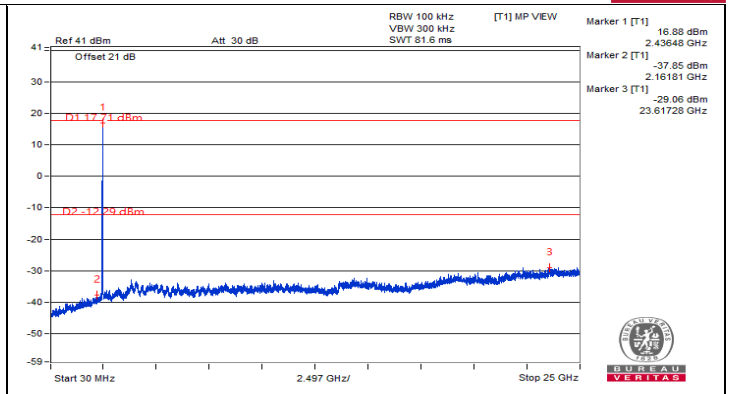
Chain 0 : CH 1 Band edge



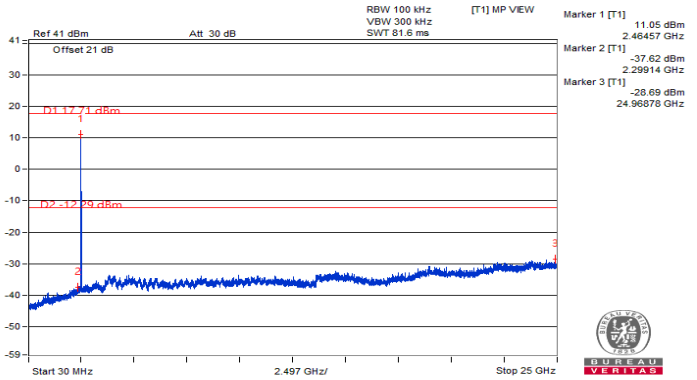
Chain 0 : CH 11 Band edge



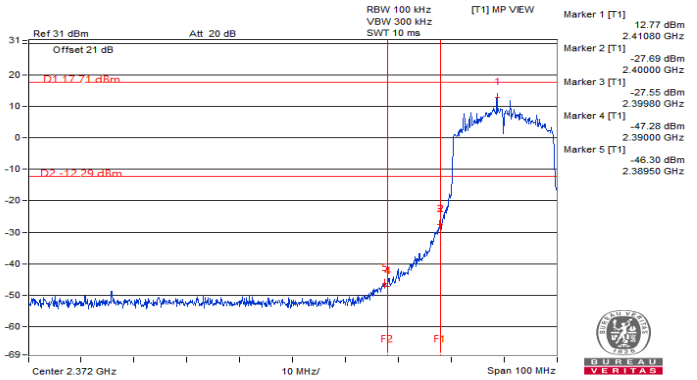
Chain 1 : CH 1



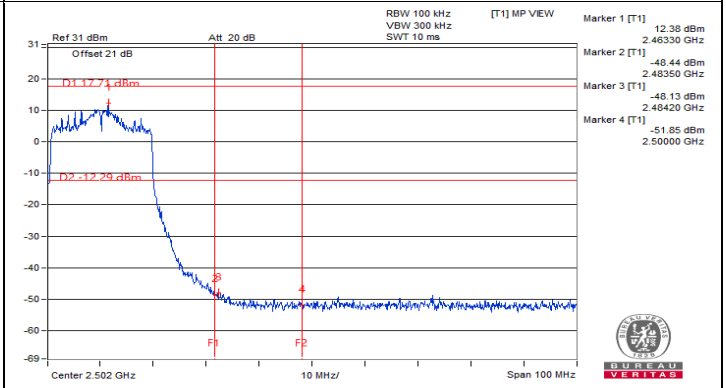
Chain 1 : CH 6



Chain 1 : CH 11



Chain 1 : CH 1 Band edge



Chain 1 : CH 11 Band edge

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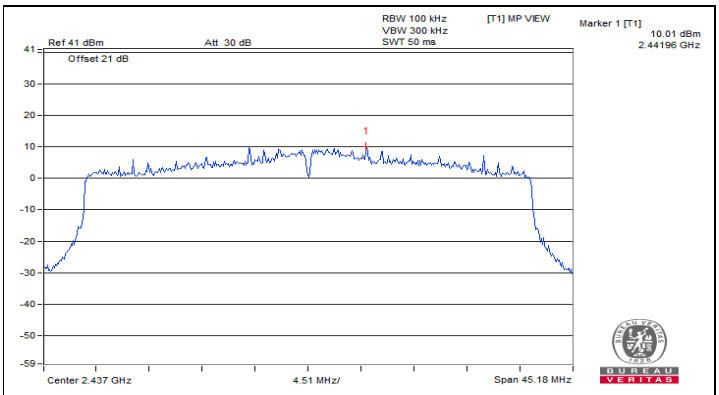
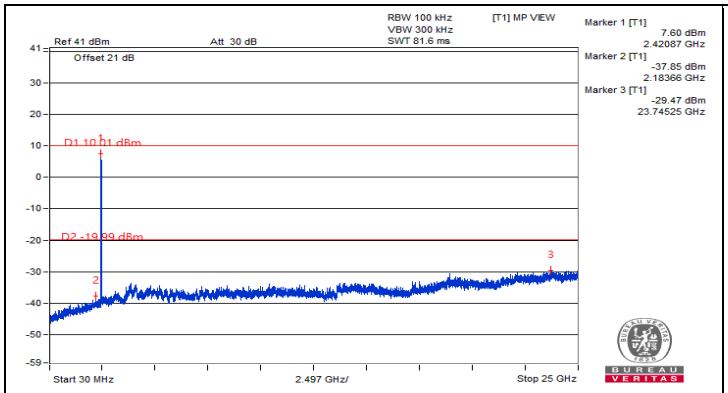
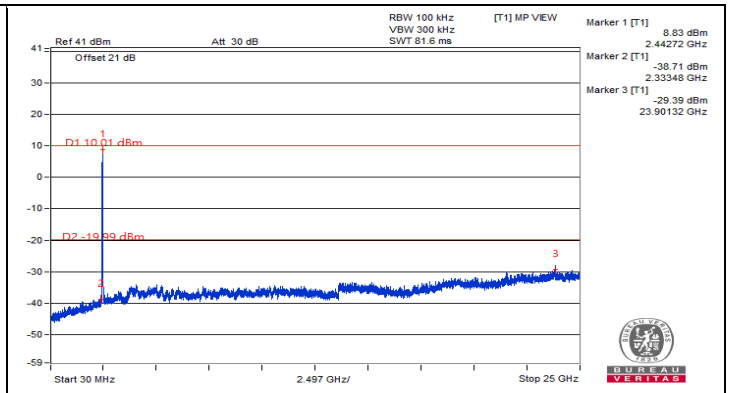


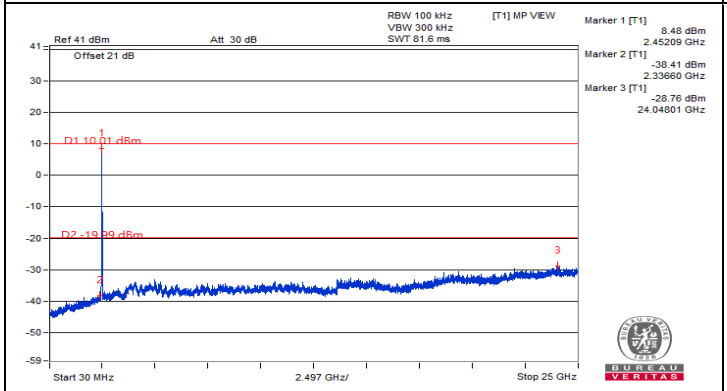
Maximum Reference Level



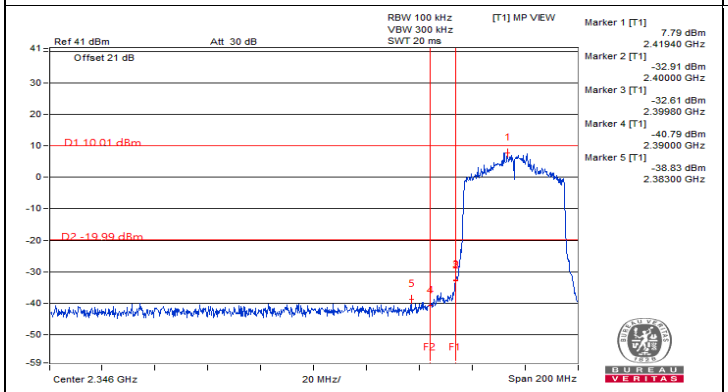
Chain 0 : CH 3



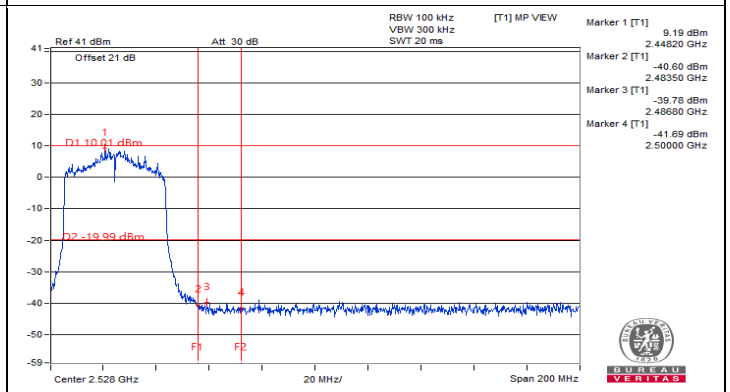
Chain 0 : CH 6



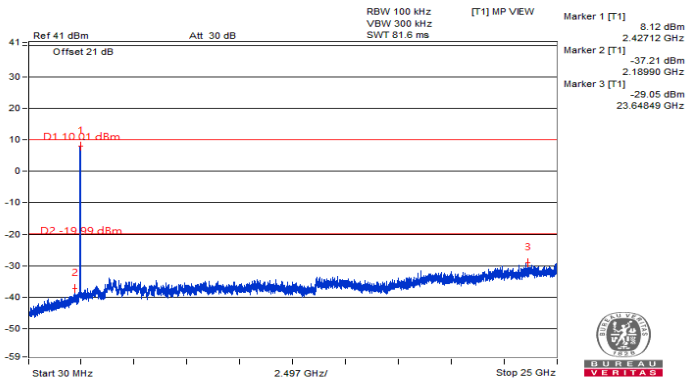
Chain 0 : CH 9



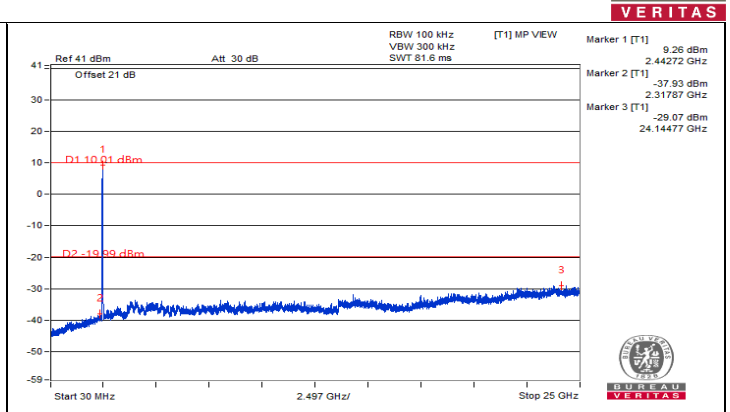
Chain 0 : CH 3 Band edge



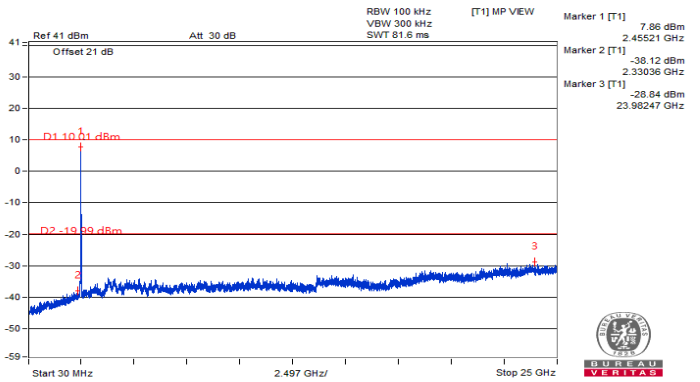
Chain 0 : CH 9 Band edge



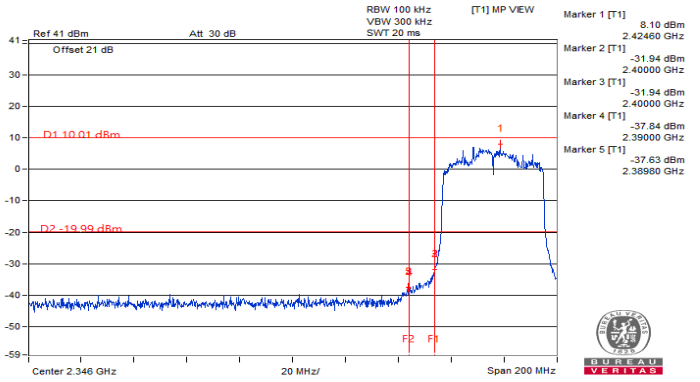
Chain 1 : CH 3



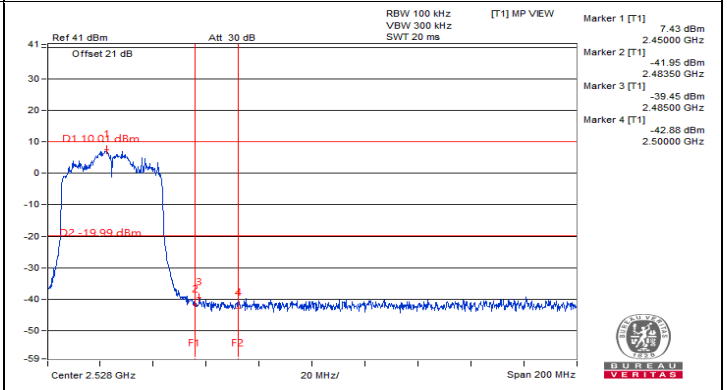
Chain 1 : CH 6



Chain 1 : CH 9



Chain 1 : CH 3 Band edge



Chain 1 : CH 9 Band edge

7.5 AC Power Conducted Emissions

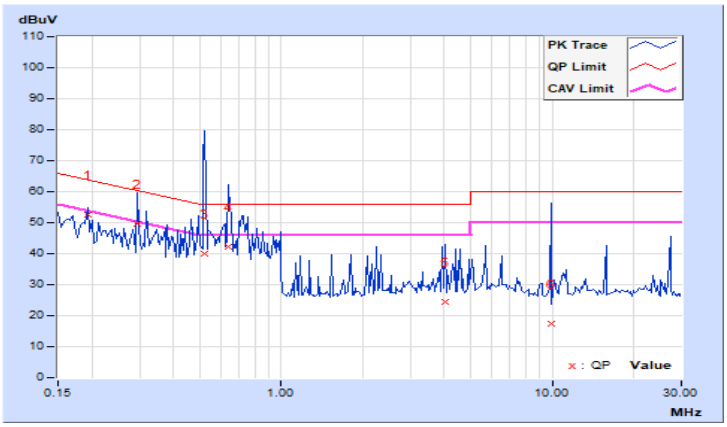
Mode B

RF Mode	802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	0.19297	9.94	42.80	25.22	52.74	35.16	63.91	53.91	-11.17	-18.75
2	0.29453	9.94	39.70	16.26	49.64	26.20	60.40	50.40	-10.76	-24.20
3	0.52109	9.96	29.86	9.98	39.82	19.94	56.00	46.00	-16.18	-26.06
4	0.64219	9.97	32.26	11.42	42.23	21.39	56.00	46.00	-13.77	-24.61
5	4.02344	10.22	14.24	6.54	24.46	16.76	56.00	46.00	-31.54	-29.24
6	9.87500	10.67	6.84	2.58	17.51	13.25	60.00	50.00	-42.49	-36.75

Remarks:

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

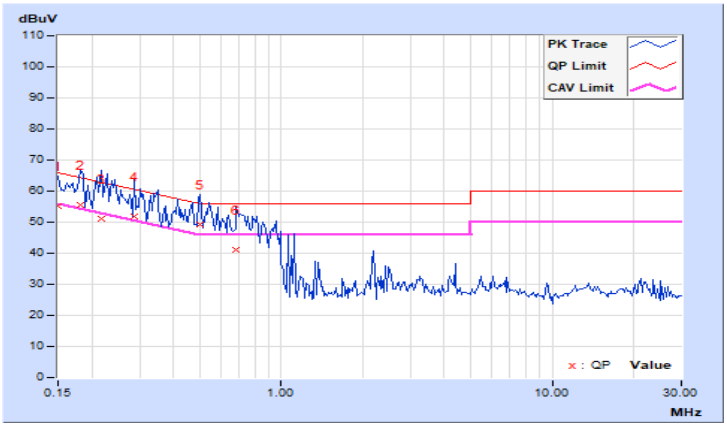


RF Mode	802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15000	10.00	45.02	29.18	55.02	39.18	66.00	56.00	-10.98	-16.82
2	0.18125	10.00	45.46	25.18	55.46	35.18	64.43	54.43	-8.97	-19.25
3	0.21641	10.00	41.20	26.16	51.20	36.16	62.96	52.96	-11.76	-16.80
4	0.28672	10.00	41.92	20.68	51.92	30.68	60.62	50.62	-8.70	-19.94
5	**0.50156**	**10.02**	**39.12**	**14.02**	**49.14**	**24.04**	**56.00**	**46.00**	**-6.86**	**-21.96**
6	0.68125	10.03	31.02	10.50	41.05	20.53	56.00	46.00	-14.95	-25.47

Remarks:

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



7.6 Unwanted Emissions below 1 GHz

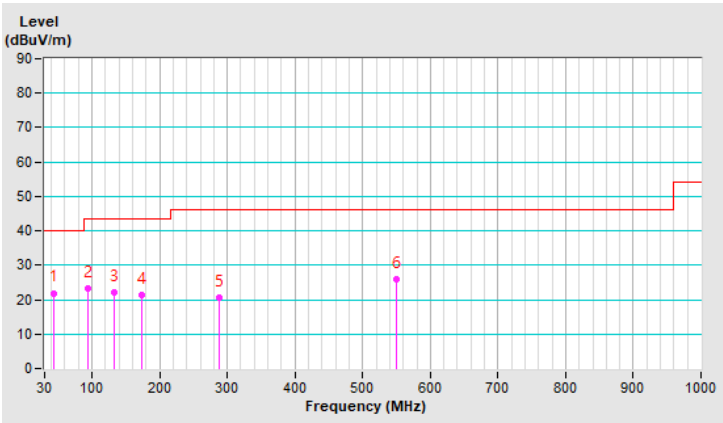
Mode A

RF Mode	802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

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	42.79	21.9 QP	40.0	-18.1	1.50 H	296	30.2	-8.3
2	93.51	23.3 QP	43.5	-20.2	1.00 H	76	37.0	-13.7
3	133.40	22.2 QP	43.5	-21.3	1.00 H	63	31.1	-8.9
4	173.03	21.5 QP	43.5	-22.0	1.00 H	96	30.6	-9.1
5	288.65	20.6 QP	46.0	-25.4	1.50 H	68	28.6	-8.0
6	549.36	26.0 QP	46.0	-20.0	1.50 H	152	27.9	-1.9

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

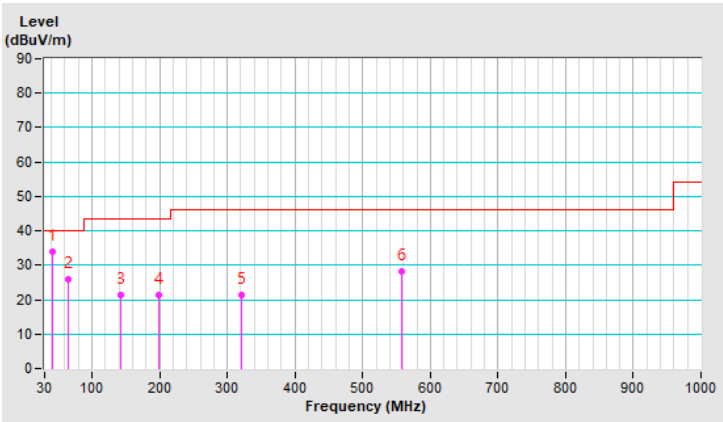


RF Mode	802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

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	**41.33**	**33.8 QP**	**40.0**	**-6.2**	**1.50 V**	**277**	**42.3**	**-8.5**
2	65.26	25.9 QP	40.0	-14.1	1.50 V	333	35.7	-9.8
3	143.13	21.5 QP	43.5	-22.0	1.50 V	121	29.7	-8.2
4	199.39	21.4 QP	43.5	-22.1	1.50 V	360	32.6	-11.2
5	320.47	21.2 QP	46.0	-24.8	1.50 V	360	28.0	-6.8
6	558.46	28.3 QP	46.0	-17.7	1.50 V	3	30.0	-1.7

Remarks:

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



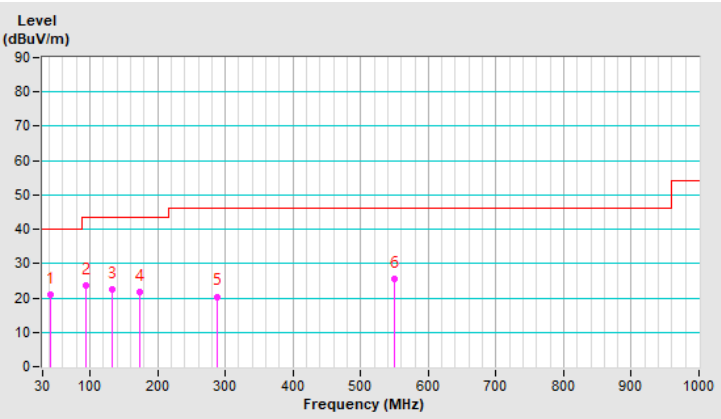
Mode B

RF Mode	802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

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	42.24	21.1 QP	40.0	-18.9	1.50 H	306	29.5	-8.4
2	93.16	23.7 QP	43.5	-19.8	1.00 H	69	37.5	-13.8
3	133.61	22.6 QP	43.5	-20.9	1.00 H	153	31.4	-8.8
4	172.67	21.6 QP	43.5	-21.9	1.00 H	77	30.7	-9.1
5	288.52	20.4 QP	46.0	-25.6	1.50 H	151	28.4	-8.0
6	549.18	25.5 QP	46.0	-20.5	1.50 H	163	27.4	-1.9

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

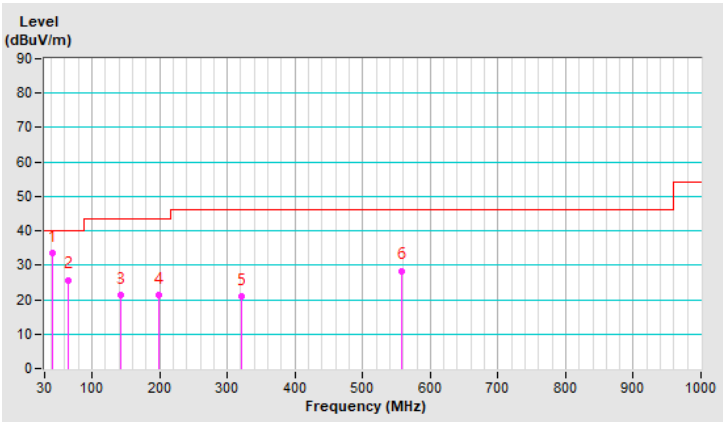


RF Mode	802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

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	41.25	33.6 QP	40.0	-6.4	1.50 V	243	42.1	-8.5
2	65.15	25.7 QP	40.0	-14.3	1.50 V	325	35.4	-9.7
3	143.05	21.3 QP	43.5	-22.2	1.50 V	135	29.5	-8.2
4	199.33	21.2 QP	43.5	-22.3	1.50 V	355	32.4	-11.2
5	320.41	21.1 QP	46.0	-24.9	1.50 V	306	27.9	-6.8
6	558.37	28.4 QP	46.0	-17.6	1.50 V	35	30.1	-1.7

Remarks:

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



7.7 Unwanted Emissions above 1 GHz

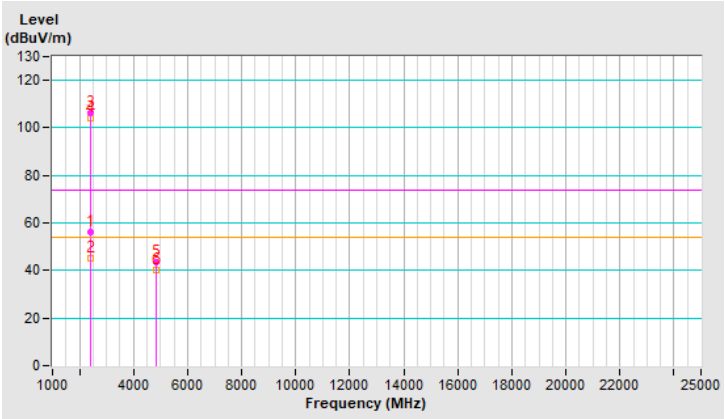
Mode A

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 (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	2385.17	56.1 PK	74.0	-17.9	4.00 H	67	56.9	-0.8
2	2385.17	45.2 AV	54.0	-8.8	4.00 H	67	46.0	-0.8
3	*2412.00	106.3 PK			4.00 H	67	107.1	-0.8
4	*2412.00	104.1 AV			4.00 H	67	104.9	-0.8
5	4824.00	43.6 PK	74.0	-30.4	1.49 H	143	39.8	3.8
6	4824.00	40.1 AV	54.0	-13.9	1.49 H	143	36.3	3.8

Remarks:

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

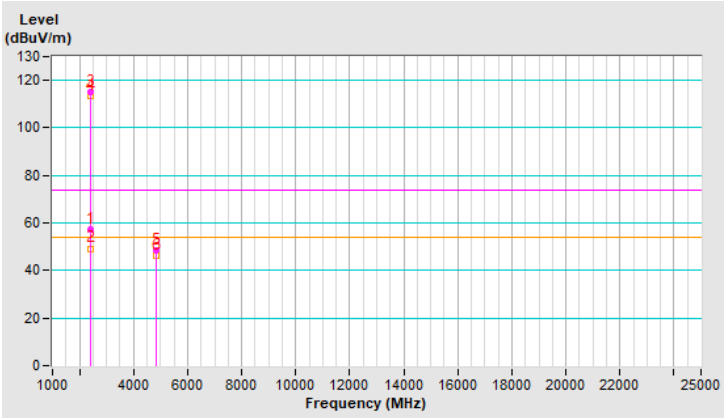


RF Mode	802.11b	Channel	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	2389.26	57.2 PK	74.0	-16.8	1.72 V	1	58.1	-0.9
2	2389.26	49.3 AV	54.0	-4.7	1.72 V	1	50.2	-0.9
3	*2412.00	115.1 PK			1.72 V	1	115.9	-0.8
4	*2412.00	113.7 AV			1.72 V	1	114.5	-0.8
5	4824.00	48.2 PK	74.0	-25.8	1.55 V	232	44.4	3.8
6	4824.00	46.3 AV	54.0	-7.7	1.55 V	232	42.5	3.8

Remarks:

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

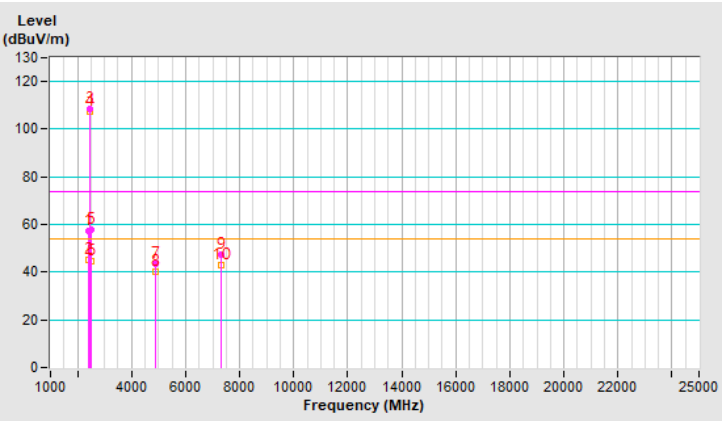


RF Mode	802.11b	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	57.1 PK	74.0	-16.9	1.07 H	350	58.0	-0.9
2	2390.00	45.0 AV	54.0	-9.0	1.07 H	350	45.9	-0.9
3	*2437.00	108.5 PK			1.07 H	350	109.2	-0.7
4	*2437.00	107.5 AV			1.07 H	350	108.2	-0.7
5	2483.50	57.9 PK	74.0	-16.1	1.07 H	350	58.7	-0.8
6	2483.50	44.5 AV	54.0	-9.5	1.07 H	350	45.3	-0.8
7	4874.00	43.7 PK	74.0	-30.3	1.49 H	136	39.9	3.8
8	4874.00	40.0 AV	54.0	-14.0	1.49 H	136	36.2	3.8
9	7311.00	47.6 PK	74.0	-26.4	1.66 H	344	37.1	10.5
10	7311.00	42.7 AV	54.0	-11.3	1.66 H	344	32.2	10.5

Remarks:

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

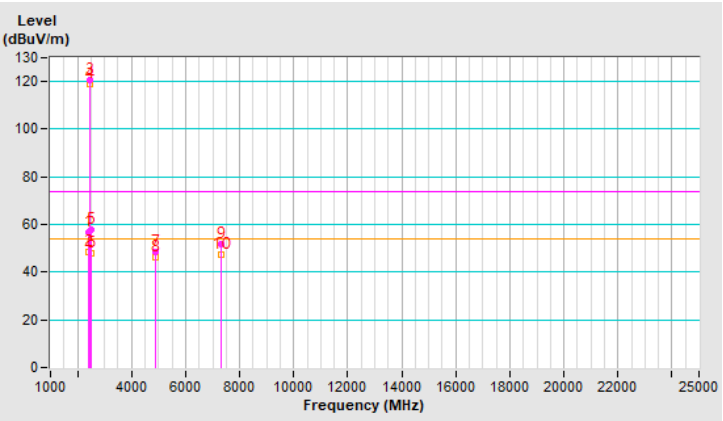


RF Mode	802.11b	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	56.5 PK	74.0	-17.5	3.07 V	2	57.4	-0.9
2	2390.00	48.4 AV	54.0	-5.6	3.07 V	2	49.3	-0.9
3	*2437.00	120.4 PK			3.07 V	2	121.1	-0.7
4	*2437.00	119.1 AV			3.07 V	2	119.8	-0.7
5	2483.50	58.0 PK	74.0	-16.0	3.07 V	2	58.8	-0.8
6	2483.50	47.9 AV	54.0	-6.1	3.07 V	2	48.7	-0.8
7	4874.00	48.5 PK	74.0	-25.5	1.57 V	258	44.7	3.8
8	4874.00	46.2 AV	54.0	-7.8	1.57 V	258	42.4	3.8
9	7311.00	51.8 PK	74.0	-22.2	1.52 V	325	41.3	10.5
10	7311.00	47.2 AV	54.0	-6.8	1.52 V	325	36.7	10.5

Remarks:

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

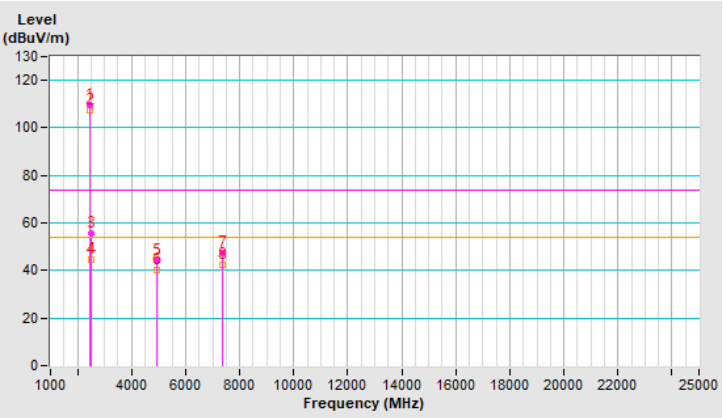


RF Mode	802.11b	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	109.6 PK			2.29 H	336	110.3	-0.7
2	*2462.00	107.5 AV			2.29 H	336	108.2	-0.7
3	2483.50	55.6 PK	74.0	-18.4	2.29 H	336	56.4	-0.8
4	2483.50	44.4 AV	54.0	-9.6	2.29 H	336	45.2	-0.8
5	4924.00	44.2 PK	74.0	-29.8	1.52 H	131	40.3	3.9
6	4924.00	40.3 AV	54.0	-13.7	1.52 H	131	36.4	3.9
7	7386.00	47.3 PK	74.0	-26.7	1.68 H	346	37.1	10.2
8	7386.00	42.6 AV	54.0	-11.4	1.68 H	346	32.4	10.2

Remarks:

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

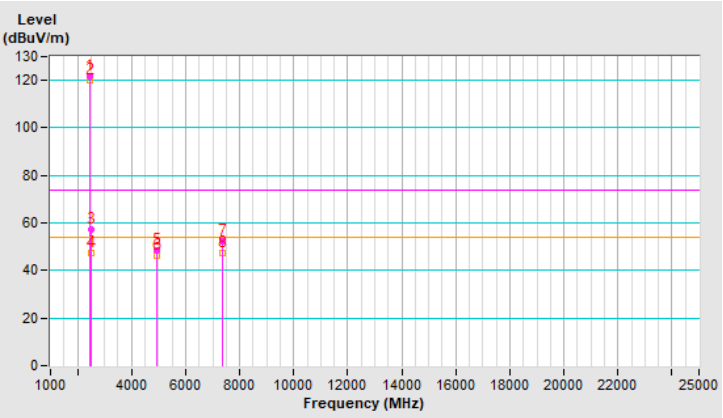


RF Mode	802.11b	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	121.8 PK			3.68 V	3	122.5	-0.7
2	*2462.00	120.0 AV			3.68 V	3	120.7	-0.7
3	2484.19	57.3 PK	74.0	-16.7	3.68 V	3	58.1	-0.8
4	2484.19	47.3 AV	54.0	-6.7	3.68 V	3	48.1	-0.8
5	4924.00	48.3 PK	74.0	-25.7	1.54 V	260	44.4	3.9
6	4924.00	46.2 AV	54.0	-7.8	1.54 V	260	42.3	3.9
7	7386.00	52.1 PK	74.0	-21.9	1.53 V	326	41.9	10.2
8	7386.00	47.4 AV	54.0	-6.6	1.53 V	326	37.2	10.2

Remarks:

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

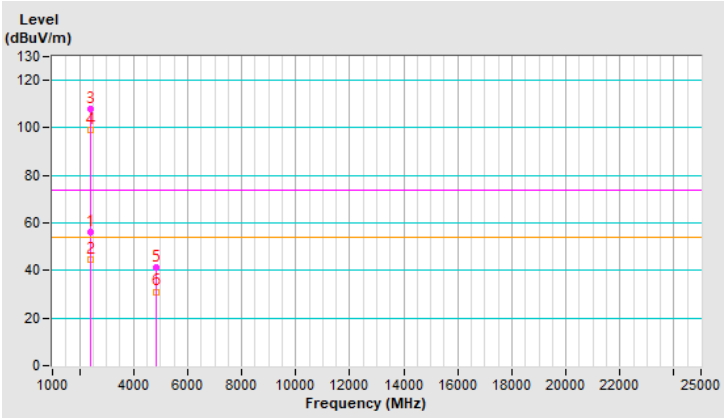


RF Mode	802.11g	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	56.1 PK	74.0	-17.9	4.00 H	62	57.0	-0.9
2	2390.00	44.5 AV	54.0	-9.5	4.00 H	62	45.4	-0.9
3	*2412.00	108.1 PK			4.00 H	62	108.9	-0.8
4	*2412.00	99.2 AV			4.00 H	62	100.0	-0.8
5	4824.00	41.3 PK	74.0	-32.7	1.41 H	153	37.5	3.8
6	4824.00	31.1 AV	54.0	-22.9	1.41 H	153	27.3	3.8

Remarks:

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

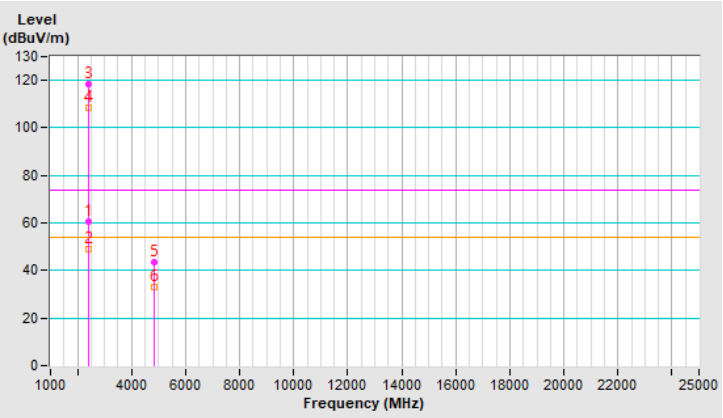


RF Mode	802.11g	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	60.5 PK	74.0	-13.5	1.54 V	5	61.4	-0.9
2	2390.00	49.2 AV	54.0	-4.8	1.54 V	5	50.1	-0.9
3	*2412.00	118.2 PK			1.54 V	5	119.0	-0.8
4	*2412.00	108.7 AV			1.54 V	5	109.5	-0.8
5	4824.00	43.5 PK	74.0	-30.5	1.38 V	301	39.7	3.8
6	4824.00	33.0 AV	54.0	-21.0	1.38 V	301	29.2	3.8

Remarks:

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

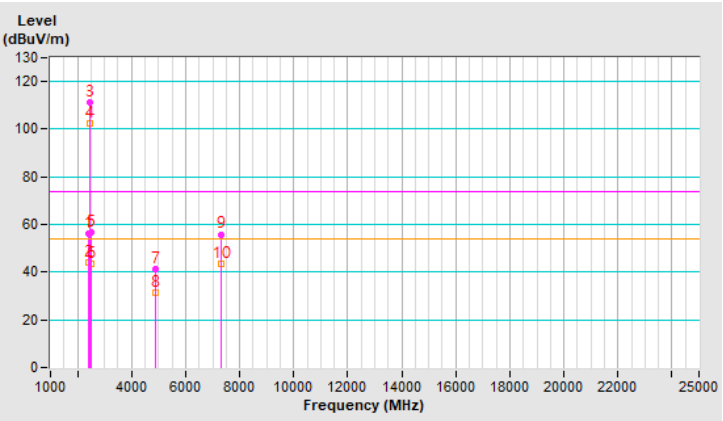


RF Mode	802.11g	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	56.3 PK	74.0	-17.7	1.09 H	348	57.2	-0.9
2	2390.00	43.8 AV	54.0	-10.2	1.09 H	348	44.7	-0.9
3	*2437.00	111.2 PK			1.09 H	348	111.9	-0.7
4	*2437.00	102.5 AV			1.09 H	348	103.2	-0.7
5	2483.50	56.6 PK	74.0	-17.4	1.09 H	348	57.4	-0.8
6	2483.50	43.5 AV	54.0	-10.5	1.09 H	348	44.3	-0.8
7	4874.00	41.4 PK	74.0	-32.6	1.46 H	164	37.6	3.8
8	4874.00	31.3 AV	54.0	-22.7	1.46 H	164	27.5	3.8
9	7311.00	55.9 PK	74.0	-18.1	1.53 H	345	45.4	10.5
10	7311.00	43.4 AV	54.0	-10.6	1.53 H	345	32.9	10.5

Remarks:

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

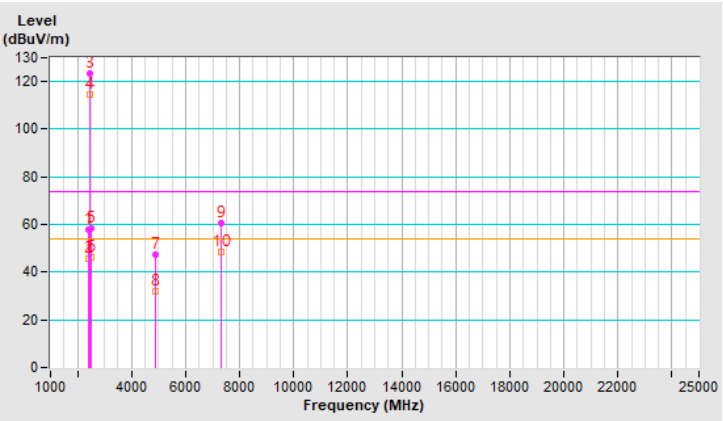


RF Mode	802.11g	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	57.8 PK	74.0	-16.2	3.04 V	356	58.7	-0.9
2	2390.00	45.9 AV	54.0	-8.1	3.04 V	356	46.8	-0.9
3	*2437.00	123.2 PK			3.04 V	356	123.9	-0.7
4	*2437.00	114.8 AV			3.04 V	356	115.5	-0.7
5	2483.50	58.4 PK	74.0	-15.6	3.04 V	356	59.2	-0.8
6	2483.50	46.5 AV	54.0	-7.5	3.04 V	356	47.3	-0.8
7	4874.00	47.2 PK	74.0	-26.8	1.31 V	293	43.4	3.8
8	4874.00	32.0 AV	54.0	-22.0	1.31 V	293	28.2	3.8
9	7311.00	60.4 PK	74.0	-13.6	1.52 V	331	49.9	10.5
10	7311.00	48.5 AV	54.0	-5.5	1.52 V	331	38.0	10.5

Remarks:

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

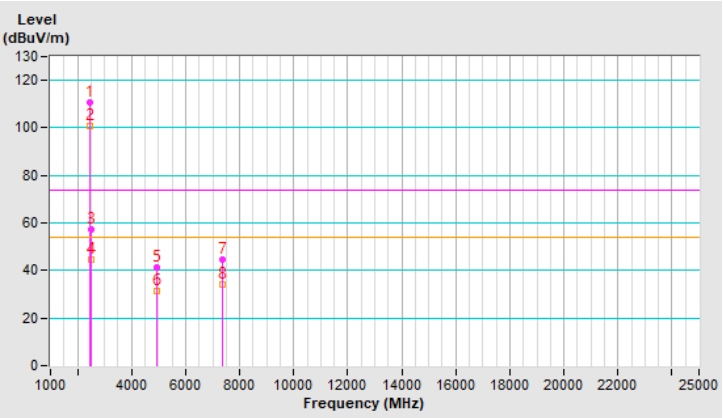


RF Mode	802.11g	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	110.8 PK			2.28 H	337	111.5	-0.7
2	*2462.00	100.8 AV			2.28 H	337	101.5	-0.7
3	2483.50	57.1 PK	74.0	-16.9	2.28 H	337	57.9	-0.8
4	2483.50	44.7 AV	54.0	-9.3	2.28 H	337	45.5	-0.8
5	4924.00	41.4 PK	74.0	-32.6	1.38 H	155	37.5	3.9
6	4924.00	31.2 AV	54.0	-22.8	1.38 H	155	27.3	3.9
7	7386.00	44.5 PK	74.0	-29.5	1.54 H	359	34.3	10.2
8	7386.00	34.0 AV	54.0	-20.0	1.54 H	359	23.8	10.2

Remarks:

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

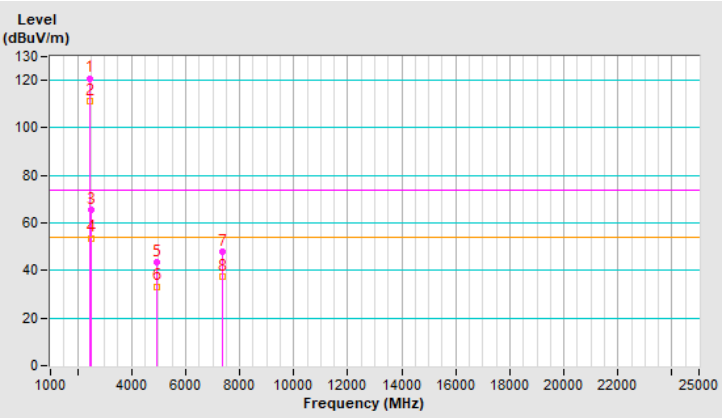


RF Mode	802.11g	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	120.9 PK			2.63 V	7	121.6	-0.7
2	*2462.00	111.5 AV			2.63 V	7	112.2	-0.7
3	2483.50	65.7 PK	74.0	-8.3	2.63 V	7	66.5	-0.8
4	2483.50	53.7 AV	54.0	-0.3	2.63 V	7	54.5	-0.8
5	4924.00	43.6 PK	74.0	-30.4	1.33 V	286	39.7	3.9
6	4924.00	33.3 AV	54.0	-20.7	1.33 V	286	29.4	3.9
7	7386.00	47.8 PK	74.0	-26.2	1.59 V	338	37.6	10.2
8	7386.00	37.5 AV	54.0	-16.5	1.59 V	338	27.3	10.2

Remarks:

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

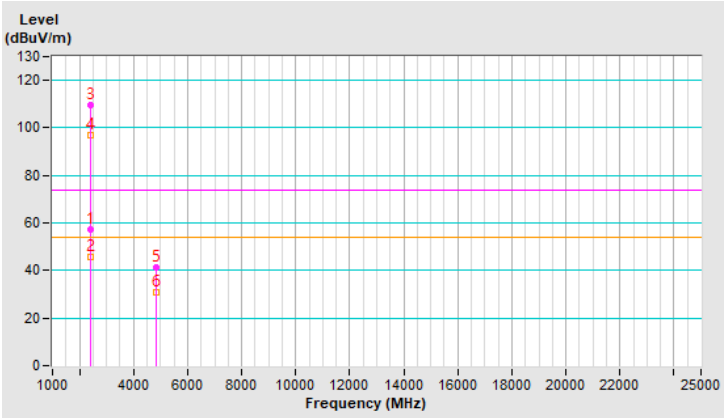


RF Mode	802.11ax (HE20)	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	57.3 PK	74.0	-16.7	4.00 H	69	58.2	-0.9
2	2390.00	45.5 AV	54.0	-8.5	4.00 H	69	46.4	-0.9
3	*2412.00	109.7 PK			4.00 H	69	110.5	-0.8
4	*2412.00	96.8 AV			4.00 H	69	97.6	-0.8
5	4824.00	41.1 PK	74.0	-32.9	1.35 H	158	37.3	3.8
6	4824.00	31.0 AV	54.0	-23.0	1.35 H	158	27.2	3.8

Remarks:

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

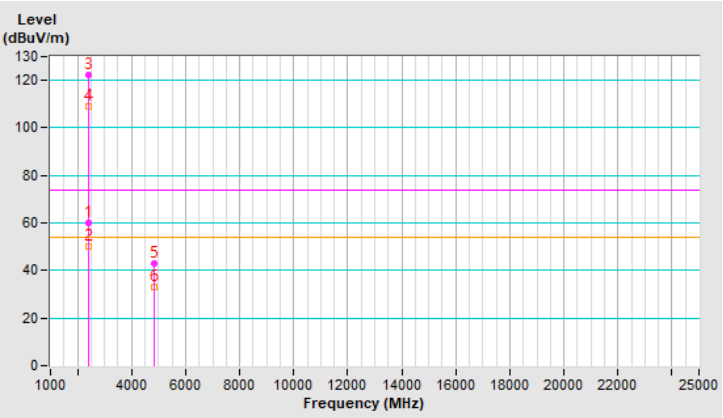


RF Mode	802.11ax (HE20)	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	60.1 PK	74.0	-13.9	1.56 V	1	61.0	-0.9
2	2390.00	50.2 AV	54.0	-3.8	1.56 V	1	51.1	-0.9
3	*2412.00	122.1 PK			1.56 V	1	122.9	-0.8
4	*2412.00	109.3 AV			1.56 V	1	110.1	-0.8
5	4824.00	43.1 PK	74.0	-30.9	1.40 V	283	39.3	3.8
6	4824.00	33.1 AV	54.0	-20.9	1.40 V	283	29.3	3.8

Remarks:

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

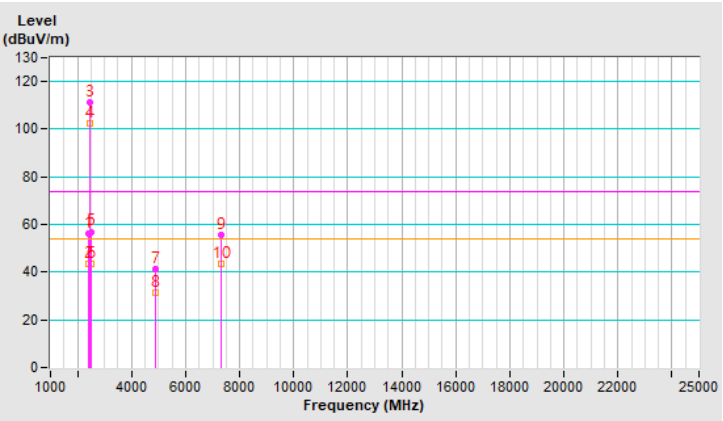


RF Mode	802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	56.0 PK	74.0	-18.0	1.09 H	335	56.9	-0.9
2	2390.00	43.5 AV	54.0	-10.5	1.09 H	335	44.4	-0.9
3	*2437.00	111.0 PK			1.09 H	335	111.7	-0.7
4	*2437.00	102.2 AV			1.09 H	335	102.9	-0.7
5	2483.50	57.0 PK	74.0	-17.0	1.09 H	335	57.8	-0.8
6	2483.50	43.7 AV	54.0	-10.3	1.09 H	335	44.5	-0.8
7	4874.00	41.3 PK	74.0	-32.7	1.51 H	152	37.5	3.8
8	4874.00	31.2 AV	54.0	-22.8	1.51 H	152	27.4	3.8
9	7311.00	55.6 PK	74.0	-18.4	1.56 H	347	45.1	10.5
10	7311.00	43.3 AV	54.0	-10.7	1.56 H	347	32.8	10.5

Remarks:

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

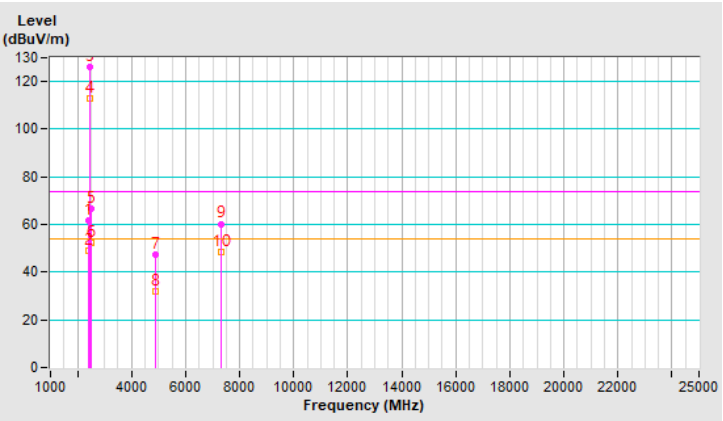


RF Mode	802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	61.9 PK	74.0	-12.1	3.04 V	4	62.8	-0.9
2	2390.00	48.8 AV	54.0	-5.2	3.04 V	4	49.7	-0.9
3	*2437.00	126.1 PK			3.04 V	4	126.8	-0.7
4	*2437.00	113.1 AV			3.04 V	4	113.8	-0.7
5	2483.50	66.5 PK	74.0	-7.5	3.04 V	4	67.3	-0.8
6	2483.50	52.3 AV	54.0	-1.7	3.04 V	4	53.1	-0.8
7	4874.00	47.5 PK	74.0	-26.5	1.34 V	289	43.7	3.8
8	4874.00	32.1 AV	54.0	-21.9	1.34 V	289	28.3	3.8
9	7311.00	60.3 PK	74.0	-13.7	1.53 V	325	49.8	10.5
10	7311.00	48.2 AV	54.0	-5.8	1.53 V	325	37.7	10.5

Remarks:

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

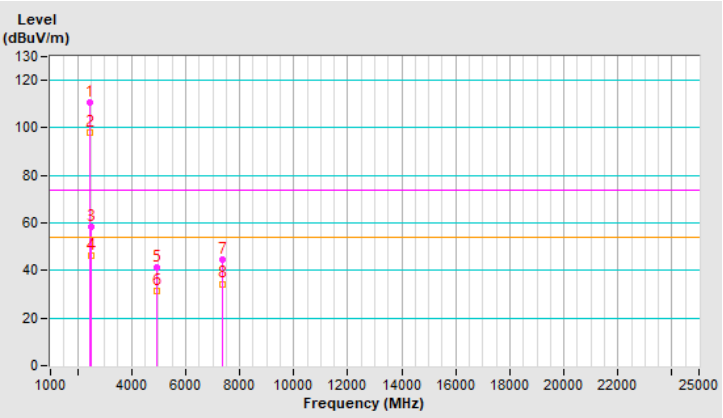


RF Mode	802.11ax (HE20)	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	110.5 PK			2.25 H	337	111.2	-0.7
2	*2462.00	98.2 AV			2.25 H	337	98.9	-0.7
3	2483.50	58.3 PK	74.0	-15.7	2.25 H	337	59.1	-0.8
4	2483.50	46.1 AV	54.0	-7.9	2.25 H	337	46.9	-0.8
5	4924.00	41.4 PK	74.0	-32.6	1.32 H	153	37.5	3.9
6	4924.00	31.2 AV	54.0	-22.8	1.32 H	153	27.3	3.9
7	7386.00	44.6 PK	74.0	-29.4	1.58 H	347	34.4	10.2
8	7386.00	34.4 AV	54.0	-19.6	1.58 H	347	24.2	10.2

Remarks:

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

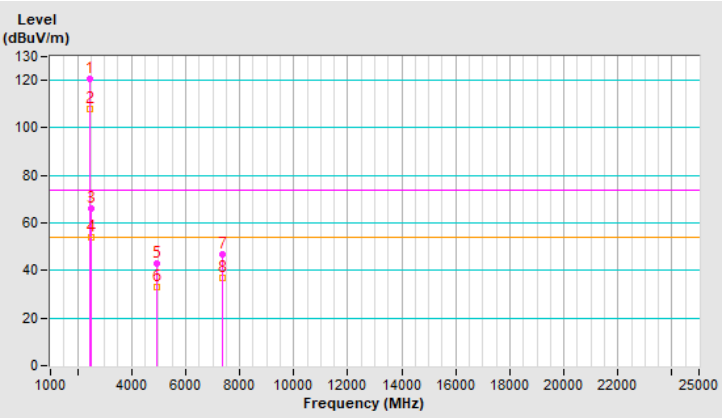


RF Mode	802.11ax (HE20)	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	120.7 PK			1.72 V	80	121.4	-0.7
2	*2462.00	107.7 AV			1.72 V	80	108.4	-0.7
3	2483.50	66.2 PK	74.0	-7.8	1.72 V	80	67.0	-0.8
4	2483.50	53.8 AV	54.0	-0.2	1.72 V	80	54.6	-0.8
5	4924.00	42.9 PK	74.0	-31.1	1.34 V	296	39.0	3.9
6	4924.00	33.0 AV	54.0	-21.0	1.34 V	296	29.1	3.9
7	7386.00	46.9 PK	74.0	-27.1	1.52 V	339	36.7	10.2
8	7386.00	36.9 AV	54.0	-17.1	1.52 V	339	26.7	10.2

Remarks:

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

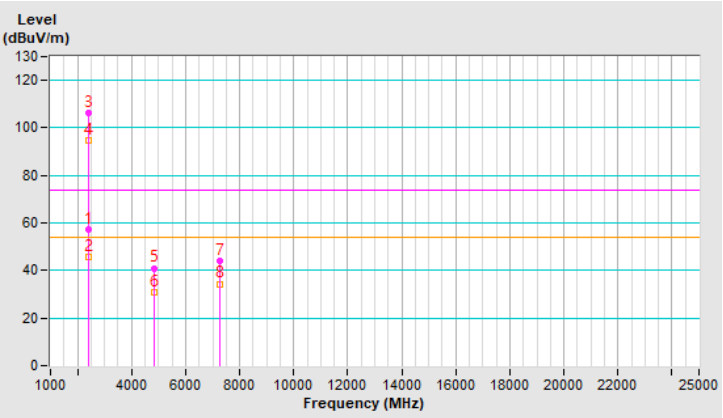


RF Mode	802.11ax (HE40)	Channel	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	57.4 PK	74.0	-16.6	3.50 H	43	58.3	-0.9
2	2390.00	45.6 AV	54.0	-8.4	3.50 H	43	46.5	-0.9
3	*2422.00	106.5 PK			3.50 H	43	107.2	-0.7
4	*2422.00	94.5 AV			3.50 H	43	95.2	-0.7
5	4844.00	41.0 PK	74.0	-33.0	1.48 H	131	37.2	3.8
6	4844.00	30.7 AV	54.0	-23.3	1.48 H	131	26.9	3.8
7	7266.00	44.2 PK	74.0	-29.8	1.46 H	341	33.7	10.5
8	7266.00	34.4 AV	54.0	-19.6	1.46 H	341	23.9	10.5

Remarks:

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

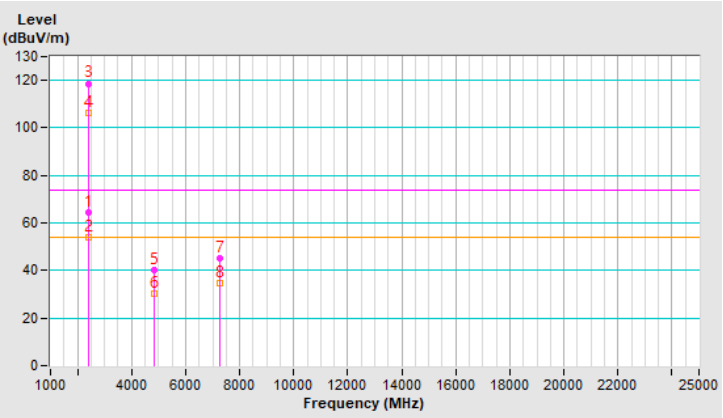


RF Mode	802.11ax (HE40)	Channel	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	64.6 PK	74.0	-9.4	2.50 V	1	65.5	-0.9
2	2390.00	53.8 AV	54.0	-0.2	2.50 V	1	54.7	-0.9
3	*2422.00	118.7 PK			2.50 V	1	119.4	-0.7
4	*2422.00	106.2 AV			2.50 V	1	106.9	-0.7
5	4844.00	40.3 PK	74.0	-33.7	1.38 V	263	36.5	3.8
6	4844.00	30.3 AV	54.0	-23.7	1.38 V	263	26.5	3.8
7	7266.00	45.2 PK	74.0	-28.8	1.45 V	338	34.7	10.5
8	7266.00	34.7 AV	54.0	-19.3	1.45 V	338	24.2	10.5

Remarks:

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

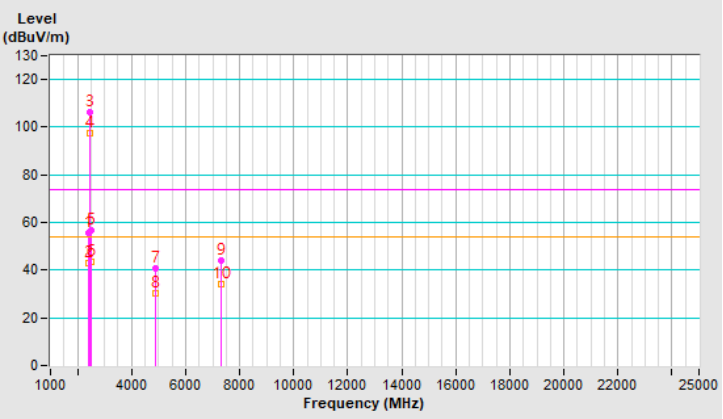


RF Mode	802.11ax (HE40)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	55.7 PK	74.0	-18.3	1.09 H	330	56.6	-0.9
2	2390.00	43.1 AV	54.0	-10.9	1.09 H	330	44.0	-0.9
3	*2437.00	106.4 PK			1.09 H	330	107.1	-0.7
4	*2437.00	97.6 AV			1.09 H	330	98.3	-0.7
5	2483.50	56.9 PK	74.0	-17.1	1.09 H	330	57.7	-0.8
6	2483.50	43.5 AV	54.0	-10.5	1.09 H	330	44.3	-0.8
7	4874.00	40.5 PK	74.0	-33.5	1.53 H	146	36.7	3.8
8	4874.00	30.4 AV	54.0	-23.6	1.53 H	146	26.6	3.8
9	7311.00	44.0 PK	74.0	-30.0	1.52 H	330	33.5	10.5
10	7311.00	34.3 AV	54.0	-19.7	1.52 H	330	23.8	10.5

Remarks:

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

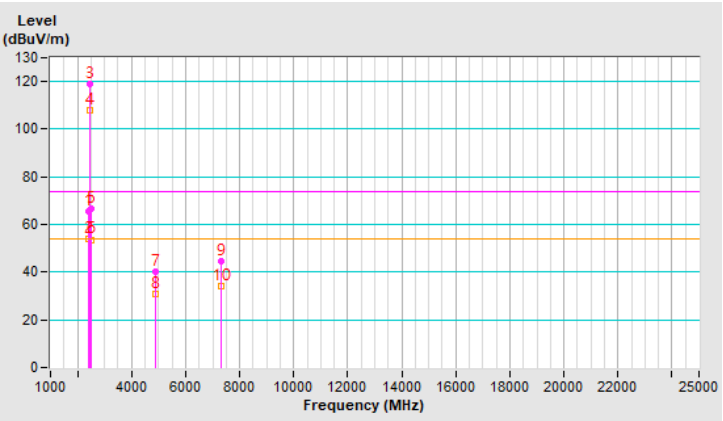


RF Mode	802.11ax (HE40)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	65.3 PK	74.0	-8.7	3.09 V	3	66.2	-0.9
2	**2390.00**	**53.9 AV**	**54.0**	**-0.1**	**3.09 V**	**3**	**54.8**	**-0.9**
3	*2437.00	119.1 PK			3.09 V	3	119.8	-0.7
4	*2437.00	108.0 AV			3.09 V	3	108.7	-0.7
5	2483.50	66.7 PK	74.0	-7.3	3.09 V	3	67.5	-0.8
6	2483.50	53.7 AV	54.0	-0.3	3.09 V	3	54.5	-0.8
7	4874.00	40.3 PK	74.0	-33.7	1.34 V	261	36.5	3.8
8	4874.00	30.7 AV	54.0	-23.3	1.34 V	261	26.9	3.8
9	7311.00	44.8 PK	74.0	-29.2	1.51 V	323	34.3	10.5
10	7311.00	34.3 AV	54.0	-19.7	1.51 V	323	23.8	10.5

Remarks:

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

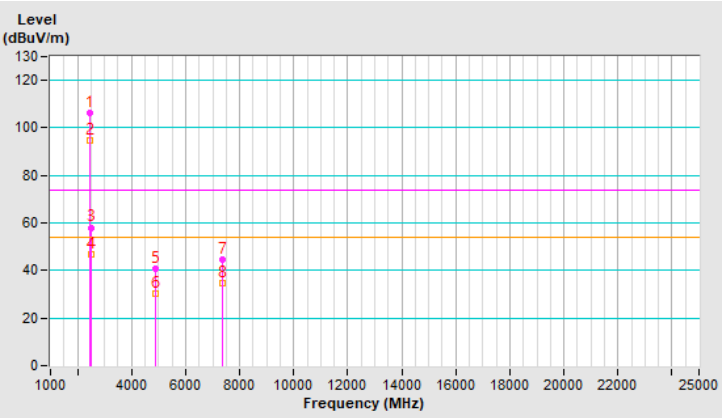


RF Mode	802.11ax (HE40)	Channel	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	106.2 PK			2.23 H	339	106.9	-0.7
2	*2452.00	94.5 AV			2.23 H	339	95.2	-0.7
3	2484.86	58.1 PK	74.0	-15.9	2.23 H	339	58.9	-0.8
4	2484.86	46.9 AV	54.0	-7.1	2.23 H	339	47.7	-0.8
5	4904.00	40.5 PK	74.0	-33.5	1.55 H	142	36.7	3.8
6	4904.00	30.3 AV	54.0	-23.7	1.55 H	142	26.5	3.8
7	7356.00	44.4 PK	74.0	-29.6	1.51 H	329	34.2	10.2
8	7356.00	34.7 AV	54.0	-19.3	1.51 H	329	24.5	10.2

Remarks:

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

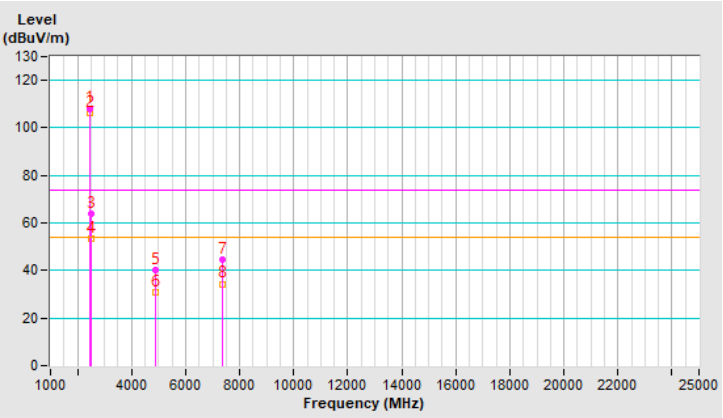


RF Mode	802.11ax (HE40)	**Channel**	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	108.2 PK			2.17 V	5	108.9	-0.7
2	*2452.00	106.1 AV			2.17 V	5	106.8	-0.7
3	2484.86	64.1 PK	74.0	-9.9	2.17 V	5	64.9	-0.8
4	2484.86	53.5 AV	54.0	-0.5	2.17 V	5	54.3	-0.8
5	4904.00	40.3 PK	74.0	-33.7	1.33 V	257	36.5	3.8
6	4904.00	30.8 AV	54.0	-23.2	1.33 V	257	27.0	3.8
7	7356.00	44.6 PK	74.0	-29.4	1.42 V	330	34.4	10.2
8	7356.00	34.4 AV	54.0	-19.6	1.42 V	330	24.2	10.2

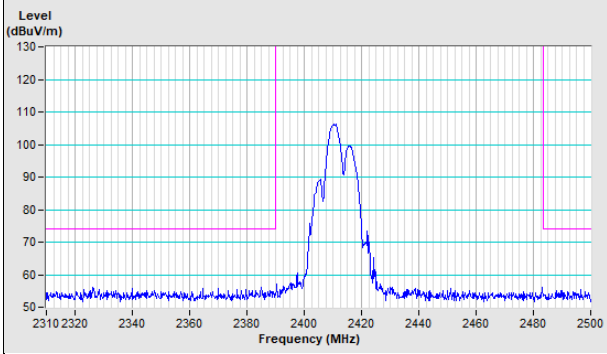
Remarks:

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



802.11b Channel 1

Horizontal (Peak)



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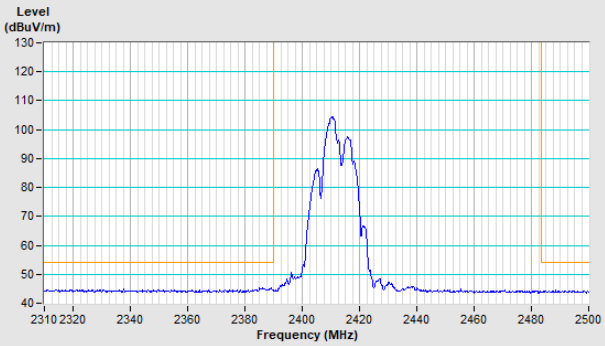

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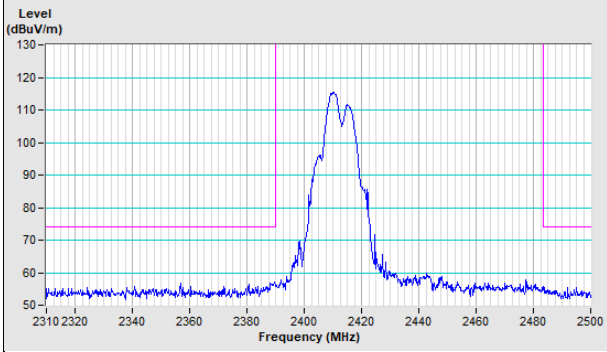

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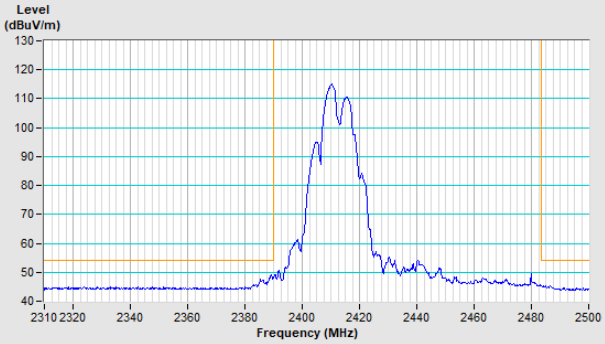
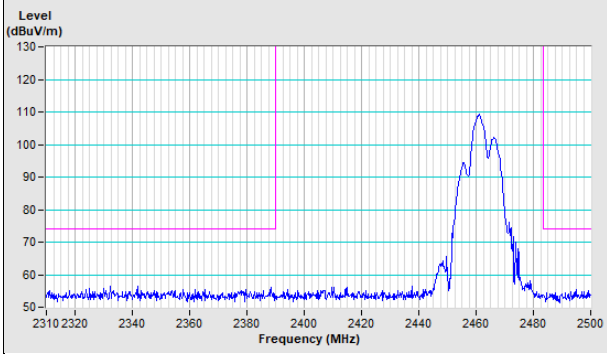


802.11b Channel 11

Horizontal (Peak)



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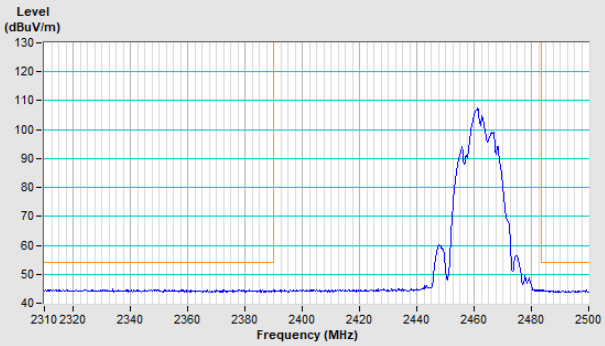
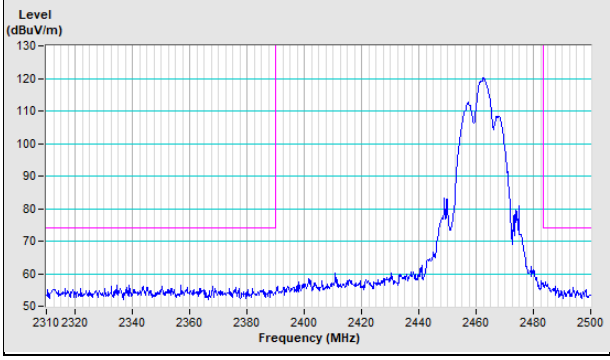


Vertical (Peak)



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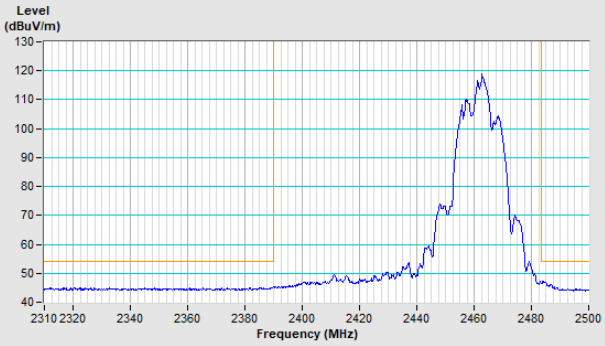
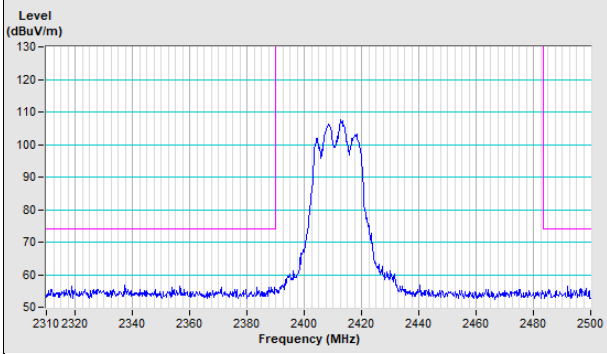


802.11g Channel 1

Horizontal (Peak)



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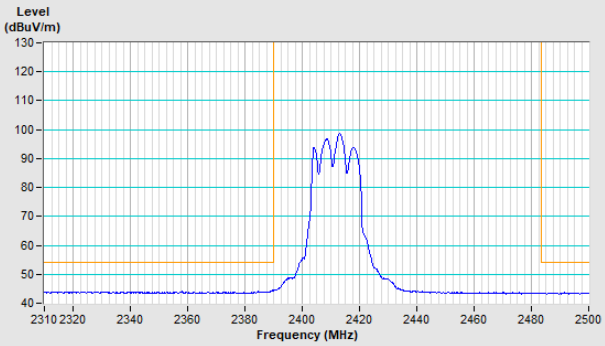
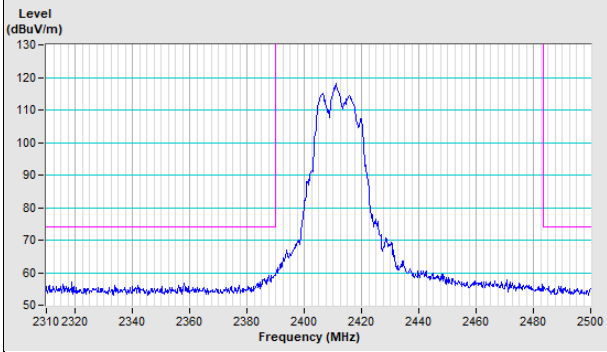
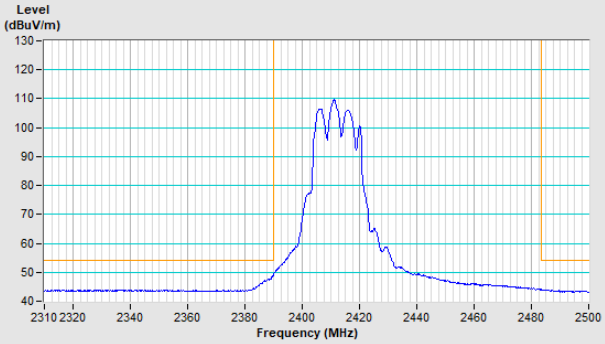


Vertical (Peak)

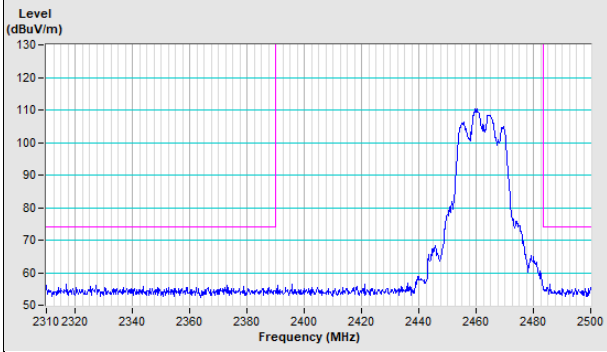


Vertical (Average)

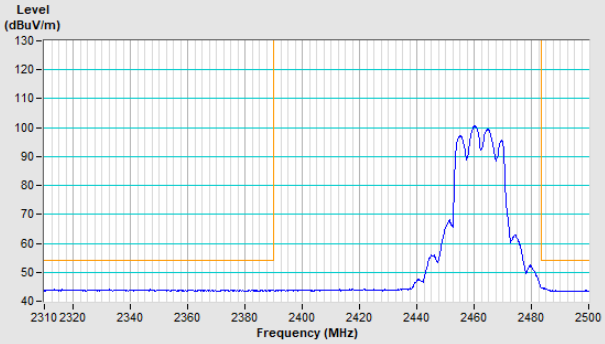


802.11g Channel 11

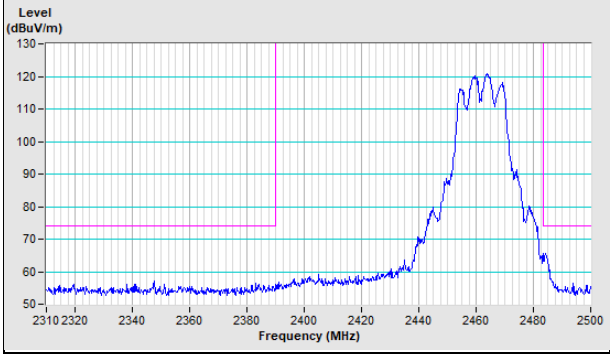
Horizontal (Peak)



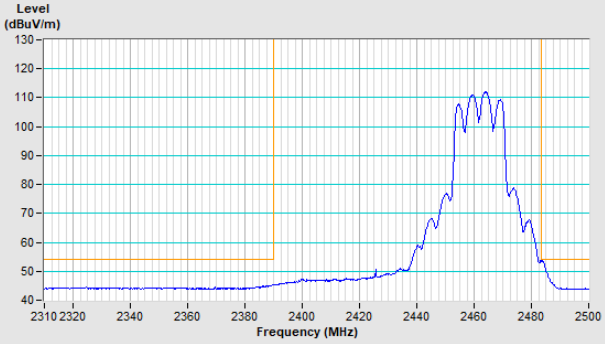
Horizontal (Average)



Vertical (Peak)

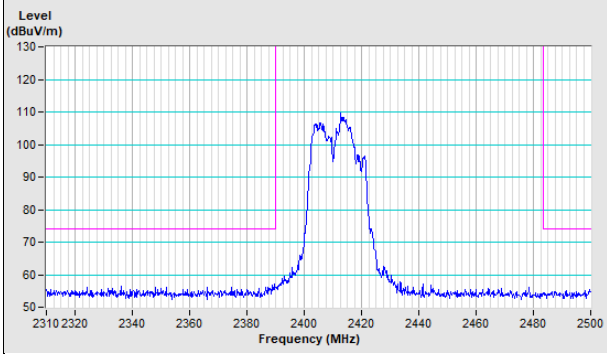


Vertical (Average)

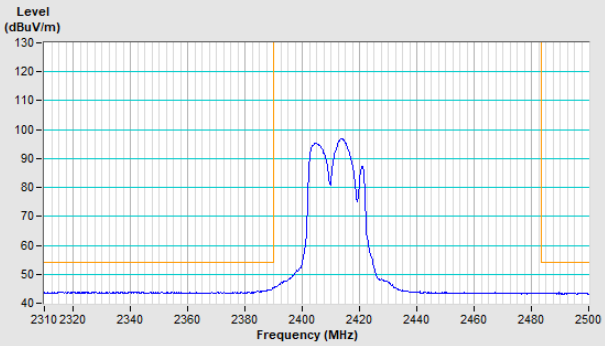


802.11ax (HE20) Channel 1

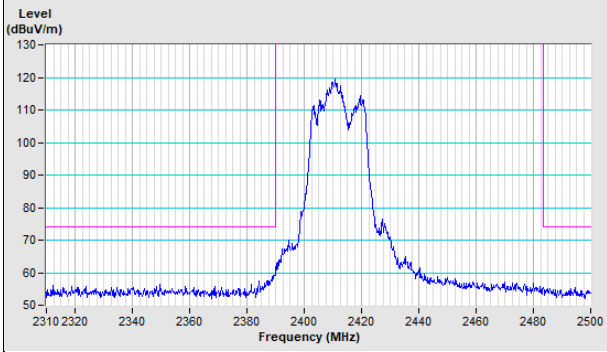
Horizontal (Peak)



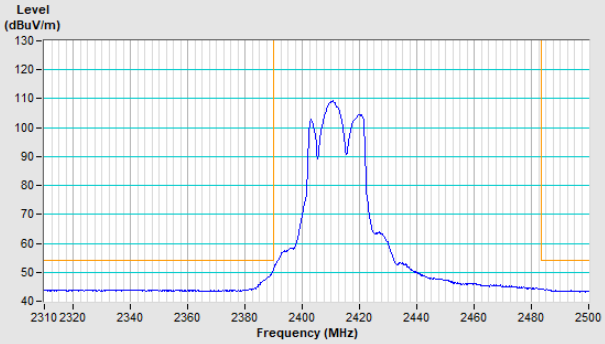
Horizontal (Average)



Vertical (Peak)

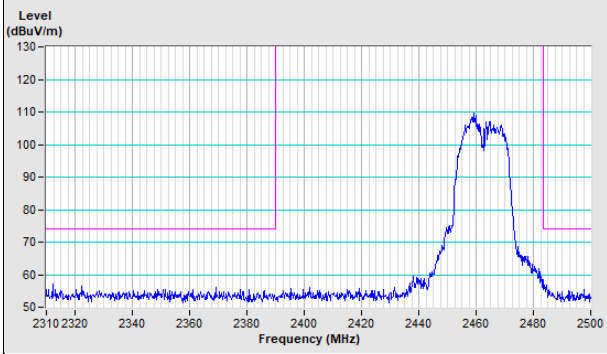


Vertical (Average)

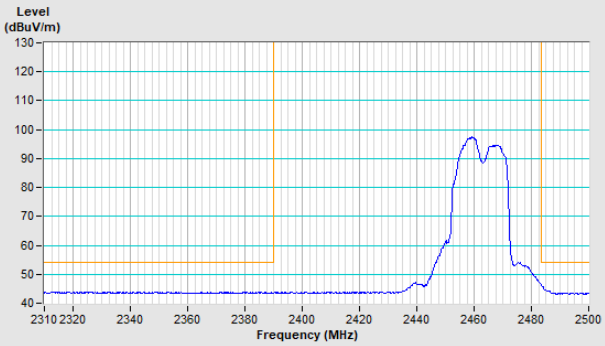


802.11ax (HE20) Channel 11

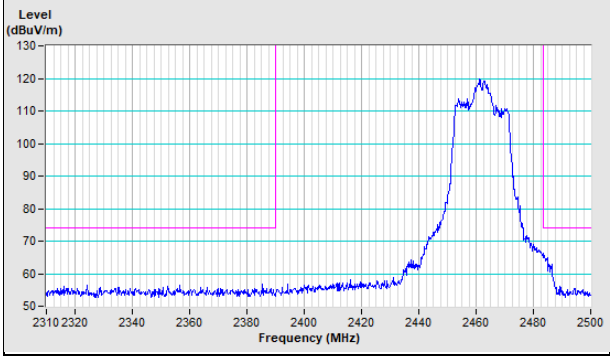
Horizontal (Peak)



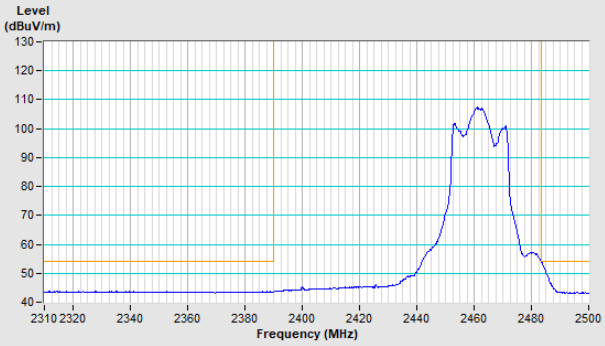
Horizontal (Average)



Vertical (Peak)

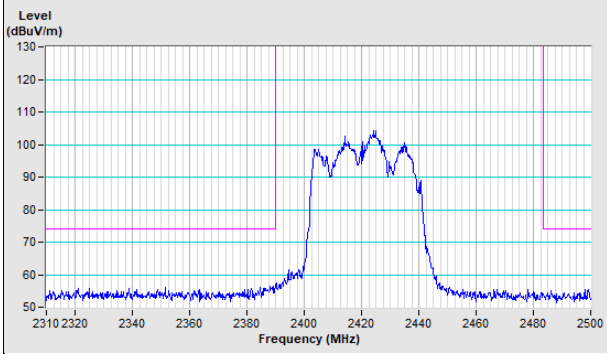


Vertical (Average)

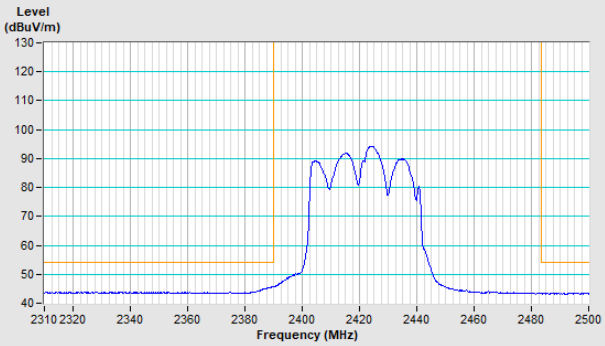


802.11ax (HE40) Channel 3

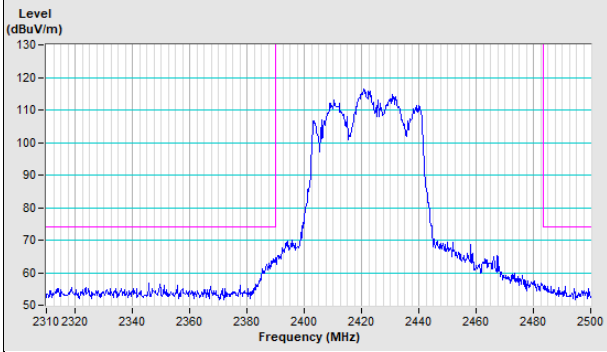
Horizontal (Peak)



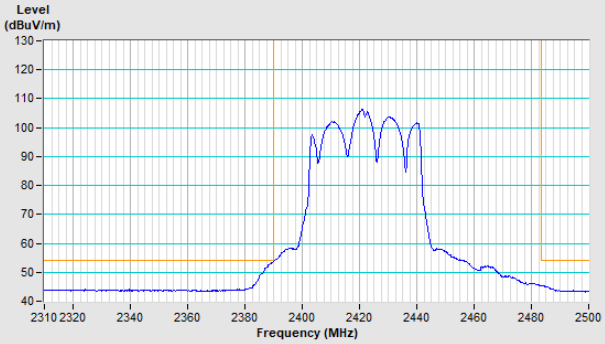
Horizontal (Average)



Vertical (Peak)

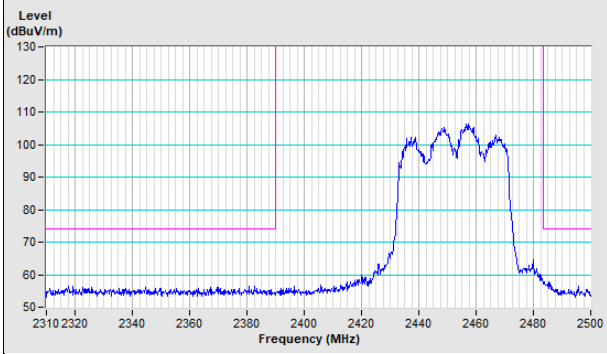


Vertical (Average)

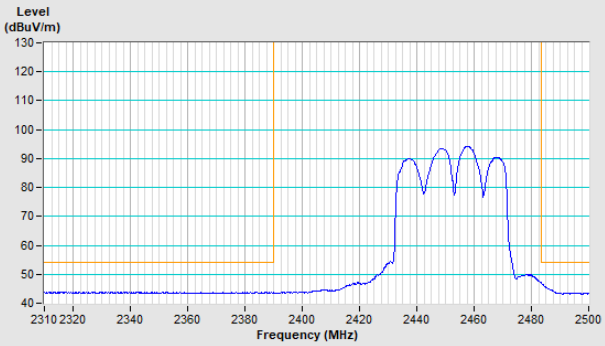


802.11ax (HE40) Channel 9

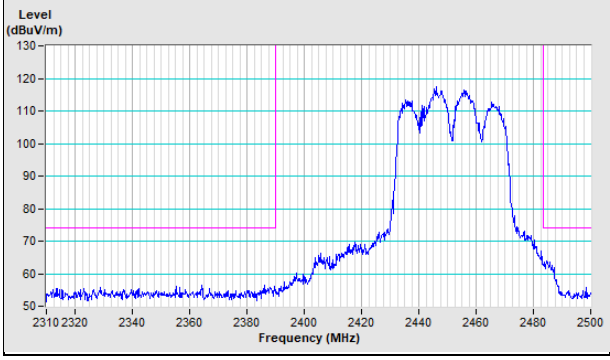
Horizontal (Peak)



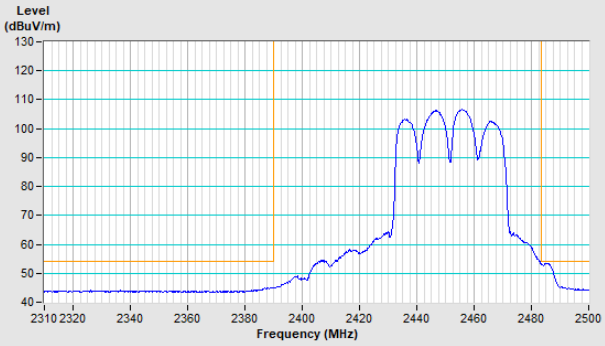
Horizontal (Average)



Vertical (Peak)



Vertical (Average)



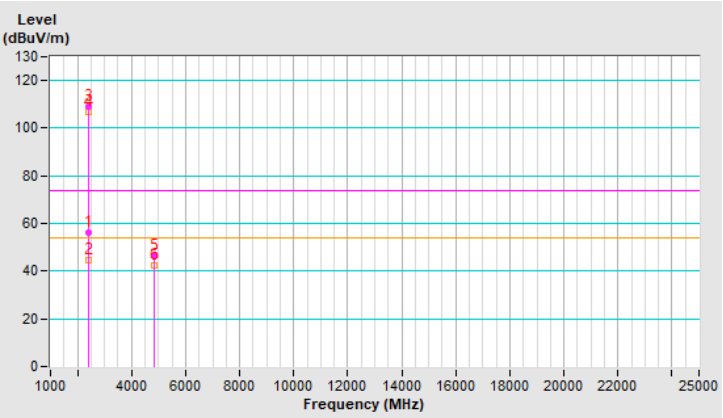
Mode B

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 (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2388.84	56.1 PK	74.0	-17.9	2.46 H	92	57.0	-0.9
2	2388.84	44.6 AV	54.0	-9.4	2.46 H	92	45.5	-0.9
3	*2412.00	108.9 PK			2.46 H	92	109.7	-0.8
4	*2412.00	106.7 AV			2.46 H	92	107.5	-0.8
5	4824.00	46.0 PK	74.0	-28.0	1.48 H	43	42.2	3.8
6	4824.00	42.3 AV	54.0	-11.7	1.48 H	43	38.5	3.8

Remarks:

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

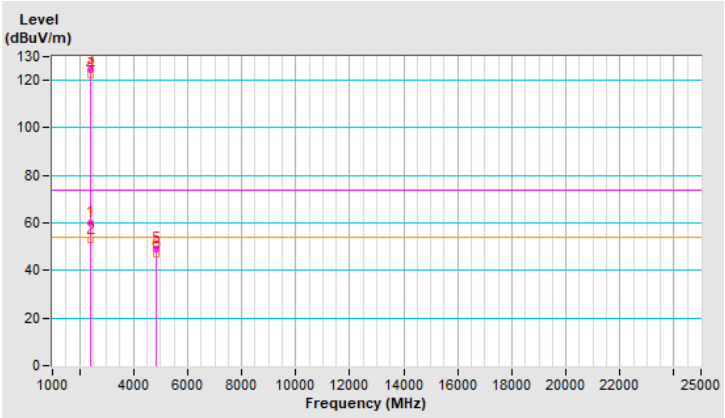


RF Mode	802.11b	Channel	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	2388.84	59.8 PK	74.0	-14.2	3.09 V	64	60.7	-0.9
2	2388.84	52.7 AV	54.0	-1.3	3.09 V	64	53.6	-0.9
3	*2412.00	124.3 PK			3.09 V	64	125.1	-0.8
4	*2412.00	122.2 AV			3.09 V	64	123.0	-0.8
5	4824.00	48.9 PK	74.0	-25.1	1.55 V	241	45.1	3.8
6	4824.00	46.7 AV	54.0	-7.3	1.55 V	241	42.9	3.8

Remarks:

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

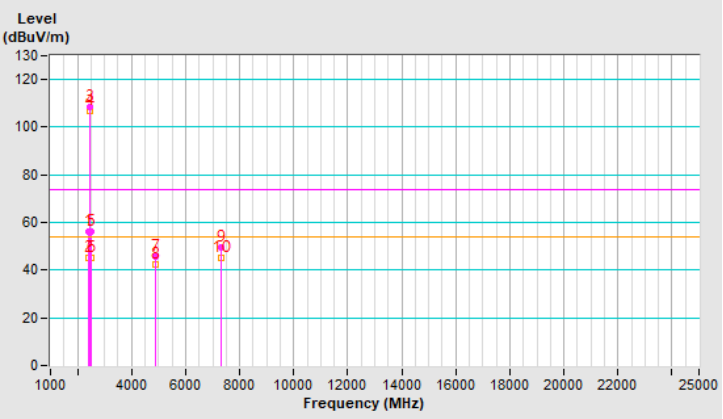


RF Mode	802.11b	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	56.2 PK	74.0	-17.8	2.48 H	95	57.1	-0.9
2	2390.00	44.9 AV	54.0	-9.1	2.48 H	95	45.8	-0.9
3	*2437.00	108.6 PK			2.48 H	95	109.3	-0.7
4	*2437.00	106.6 AV			2.48 H	95	107.3	-0.7
5	2483.50	56.3 PK	74.0	-17.7	2.48 H	95	57.1	-0.8
6	2483.50	44.9 AV	54.0	-9.1	2.48 H	95	45.7	-0.8
7	4874.00	45.9 PK	74.0	-28.1	1.50 H	52	42.1	3.8
8	4874.00	42.5 AV	54.0	-11.5	1.50 H	52	38.7	3.8
9	7311.00	49.7 PK	74.0	-24.3	1.62 H	347	39.2	10.5
10	7311.00	45.1 AV	54.0	-8.9	1.62 H	347	34.6	10.5

Remarks:

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

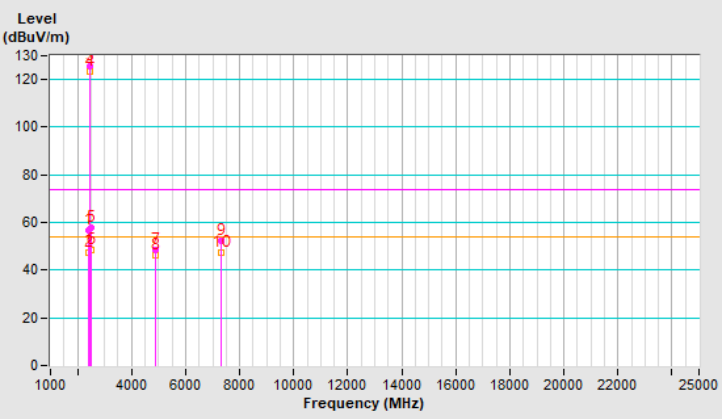


RF Mode	802.11b	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	56.7 PK	74.0	-17.3	3.11 V	67	57.6	-0.9
2	2390.00	47.4 AV	54.0	-6.6	3.11 V	67	48.3	-0.9
3	*2437.00	125.5 PK			3.11 V	67	126.2	-0.7
4	*2437.00	123.6 AV			3.11 V	67	124.3	-0.7
5	2483.50	57.6 PK	74.0	-16.4	3.11 V	67	58.4	-0.8
6	2483.50	48.3 AV	54.0	-5.7	3.11 V	67	49.1	-0.8
7	4874.00	48.6 PK	74.0	-25.4	1.58 V	248	44.8	3.8
8	4874.00	46.3 AV	54.0	-7.7	1.58 V	248	42.5	3.8
9	7311.00	52.5 PK	74.0	-21.5	1.48 V	336	42.0	10.5
10	7311.00	47.6 AV	54.0	-6.4	1.48 V	336	37.1	10.5

Remarks:

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

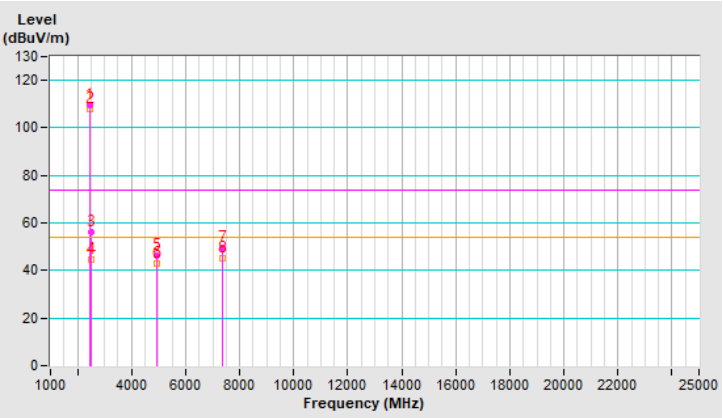


RF Mode	802.11b	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	109.8 PK			2.37 H	60	110.5	-0.7
2	*2462.00	107.8 AV			2.37 H	60	108.5	-0.7
3	2483.50	56.2 PK	74.0	-17.8	2.37 H	60	57.0	-0.8
4	2483.50	44.5 AV	54.0	-9.5	2.37 H	60	45.3	-0.8
5	4924.00	46.2 PK	74.0	-27.8	1.47 H	53	42.3	3.9
6	4924.00	42.9 AV	54.0	-11.1	1.47 H	53	39.0	3.9
7	7386.00	49.4 PK	74.0	-24.6	1.57 H	360	39.2	10.2
8	7386.00	44.9 AV	54.0	-9.1	1.57 H	360	34.7	10.2

Remarks:

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

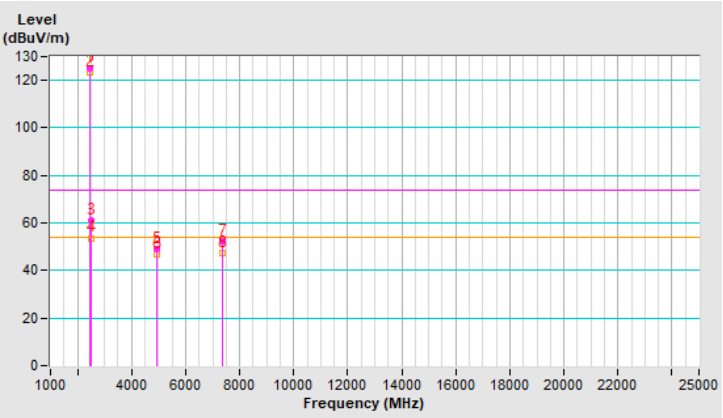


RF Mode	802.11b	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	125.1 PK			3.13 V	60	125.8	-0.7
2	*2462.00	123.3 AV			3.13 V	60	124.0	-0.7
3	2483.50	61.1 PK	74.0	-12.9	3.13 V	60	61.9	-0.8
4	2483.50	53.7 AV	54.0	-0.3	3.13 V	60	54.5	-0.8
5	4924.00	49.2 PK	74.0	-24.8	1.53 V	249	45.3	3.9
6	4924.00	46.6 AV	54.0	-7.4	1.53 V	249	42.7	3.9
7	7386.00	52.5 PK	74.0	-21.5	1.48 V	338	42.3	10.2
8	7386.00	47.6 AV	54.0	-6.4	1.48 V	338	37.4	10.2

Remarks:

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

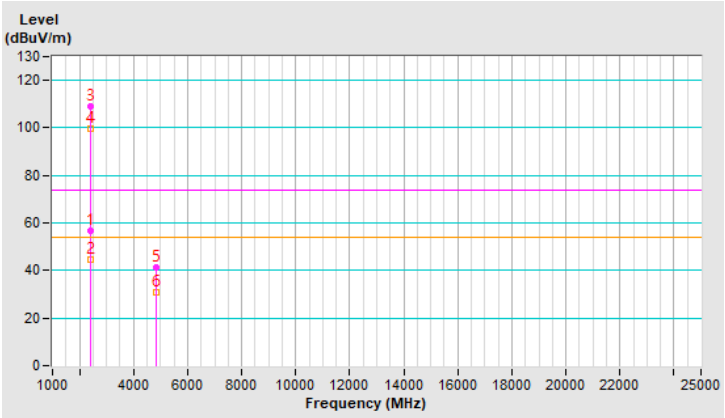


RF Mode	802.11g	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	56.6 PK	74.0	-17.4	2.43 H	63	57.5	-0.9
2	2390.00	44.6 AV	54.0	-9.4	2.43 H	63	45.5	-0.9
3	*2412.00	108.8 PK			2.43 H	63	109.6	-0.8
4	*2412.00	99.6 AV			2.43 H	63	100.4	-0.8
5	4824.00	41.1 PK	74.0	-32.9	1.41 H	36	37.3	3.8
6	4824.00	31.0 AV	54.0	-23.0	1.41 H	36	27.2	3.8

Remarks:

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

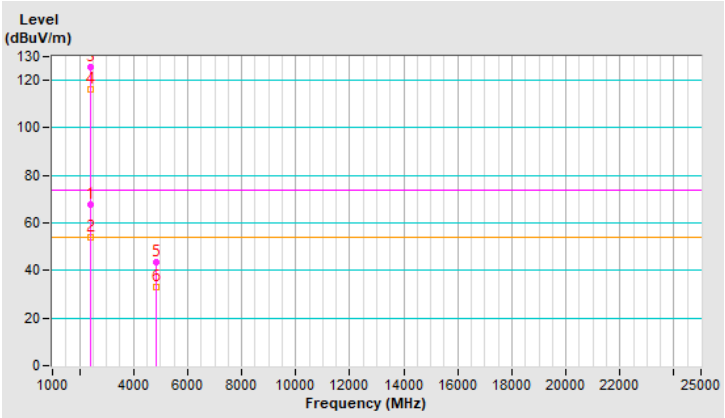


RF Mode	802.11g	Channel	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	67.6 PK	74.0	-6.4	2.99 V	51	68.5	-0.9
2	**2390.00**	**53.9 AV**	**54.0**	**-0.1**	**2.99 V**	**51**	**54.8**	**-0.9**
3	*2412.00	125.4 PK			2.99 V	51	126.2	-0.8
4	*2412.00	116.2 AV			2.99 V	51	117.0	-0.8
5	4824.00	43.4 PK	74.0	-30.6	1.38 V	291	39.6	3.8
6	4824.00	33.0 AV	54.0	-21.0	1.38 V	291	29.2	3.8

Remarks:

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

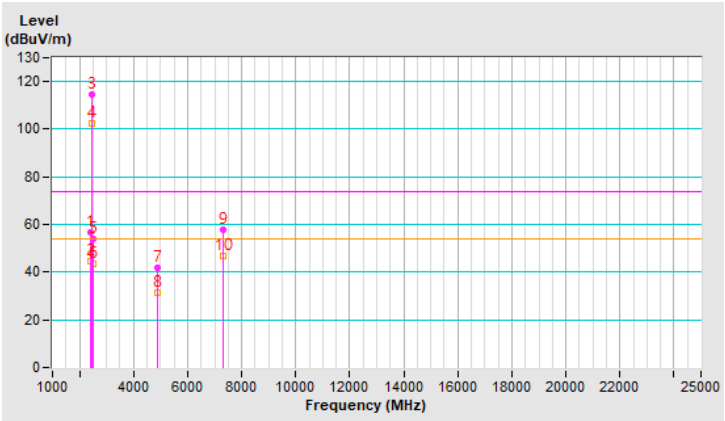


RF Mode	802.11g	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	56.7 PK	74.0	-17.3	2.37 H	58	57.6	-0.9
2	2390.00	44.6 AV	54.0	-9.4	2.37 H	58	45.5	-0.9
3	*2437.00	114.6 PK			2.37 H	58	115.3	-0.7
4	*2437.00	102.4 AV			2.37 H	58	103.1	-0.7
5	2483.50	53.8 PK	74.0	-20.2	2.37 H	58	54.6	-0.8
6	2483.50	43.7 AV	54.0	-10.3	2.37 H	58	44.5	-0.8
7	4874.00	41.7 PK	74.0	-32.3	1.42 H	49	37.9	3.8
8	4874.00	31.4 AV	54.0	-22.6	1.42 H	49	27.6	3.8
9	7311.00	57.9 PK	74.0	-16.1	1.59 H	346	47.4	10.5
10	7311.00	46.6 AV	54.0	-7.4	1.59 H	346	36.1	10.5

Remarks:

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

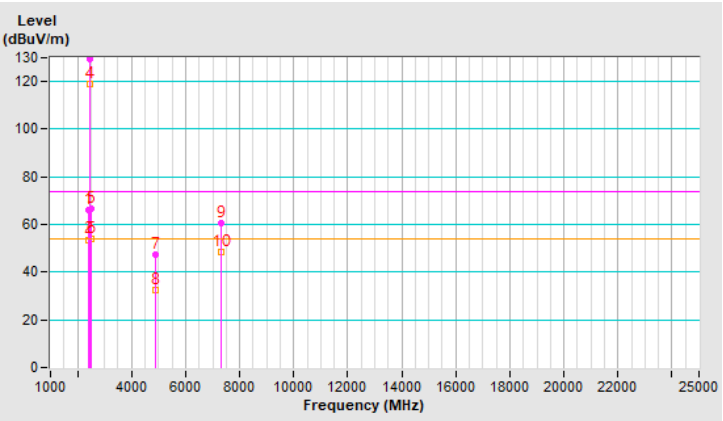


RF Mode	802.11g	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	66.2 PK	74.0	-7.8	2.90 V	63	67.1	-0.9
2	2390.00	53.7 AV	54.0	-0.3	2.90 V	63	54.6	-0.9
3	*2437.00	129.2 PK			2.90 V	63	129.9	-0.7
4	*2437.00	118.8 AV			2.90 V	63	119.5	-0.7
5	2483.50	66.7 PK	74.0	-7.3	2.90 V	63	67.5	-0.8
6	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**2.90 V**	**63**	**54.7**	**-0.8**
7	4874.00	47.4 PK	74.0	-26.6	1.32 V	282	43.6	3.8
8	4874.00	32.3 AV	54.0	-21.7	1.32 V	282	28.5	3.8
9	7311.00	60.6 PK	74.0	-13.4	1.51 V	336	50.1	10.5
10	7311.00	48.5 AV	54.0	-5.5	1.51 V	336	38.0	10.5

Remarks:

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

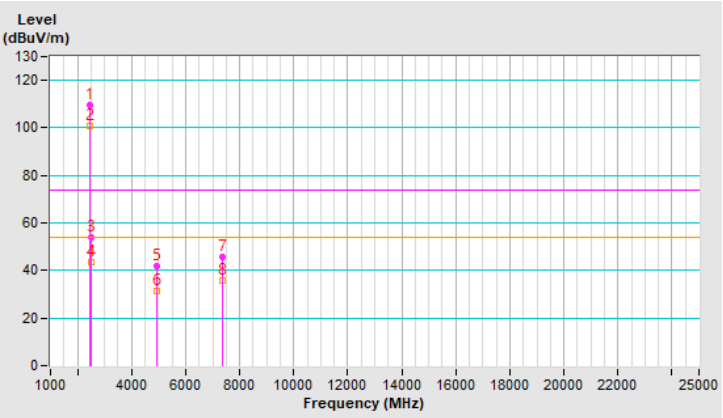


RF Mode	802.11g	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	109.8 PK			2.36 H	60	110.5	-0.7
2	*2462.00	100.6 AV			2.36 H	60	101.3	-0.7
3	2483.50	54.1 PK	74.0	-19.9	2.36 H	60	54.9	-0.8
4	2483.50	43.7 AV	54.0	-10.3	2.36 H	60	44.5	-0.8
5	4924.00	41.6 PK	74.0	-32.4	1.40 H	48	37.7	3.9
6	4924.00	31.3 AV	54.0	-22.7	1.40 H	48	27.4	3.9
7	7386.00	45.9 PK	74.0	-28.1	1.55 H	359	35.7	10.2
8	7386.00	35.6 AV	54.0	-18.4	1.55 H	359	25.4	10.2

Remarks:

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

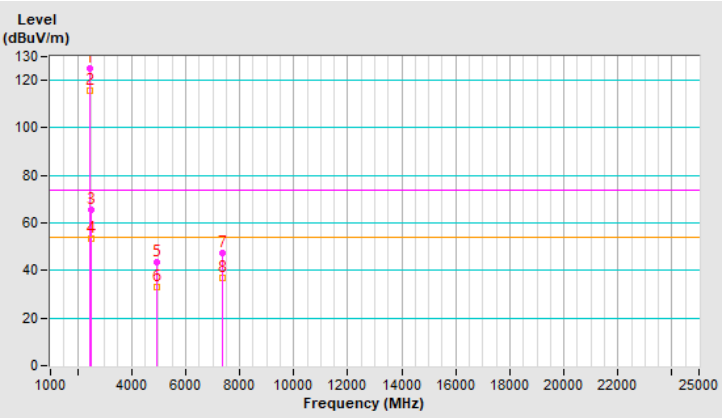


RF Mode	802.11g	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 510 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	124.8 PK			2.82 V	60	125.5	-0.7
2	*2462.00	115.6 AV			2.82 V	60	116.3	-0.7
3	2483.50	65.4 PK	74.0	-8.6	2.82 V	60	66.2	-0.8
4	2483.50	53.6 AV	54.0	-0.4	2.82 V	60	54.4	-0.8
5	4924.00	43.3 PK	74.0	-30.7	1.37 V	286	39.4	3.9
6	4924.00	33.1 AV	54.0	-20.9	1.37 V	286	29.2	3.9
7	7386.00	47.1 PK	74.0	-26.9	1.54 V	339	36.9	10.2
8	7386.00	37.0 AV	54.0	-17.0	1.54 V	339	26.8	10.2

Remarks:

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

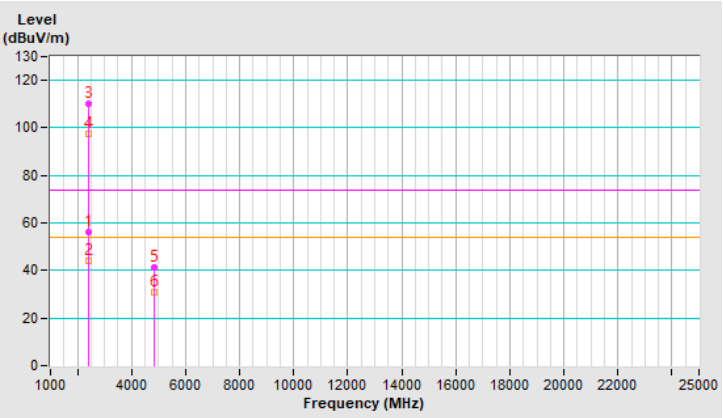


RF Mode	802.11ax (HE20)	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	56.4 PK	74.0	-17.6	2.39 H	158	57.3	-0.9
2	2390.00	44.1 AV	54.0	-9.9	2.39 H	158	45.0	-0.9
3	*2412.00	109.9 PK			2.39 H	158	110.7	-0.8
4	*2412.00	97.5 AV			2.39 H	158	98.3	-0.8
5	4824.00	41.2 PK	74.0	-32.8	1.43 H	20	37.4	3.8
6	4824.00	31.0 AV	54.0	-23.0	1.43 H	20	27.2	3.8

Remarks:

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

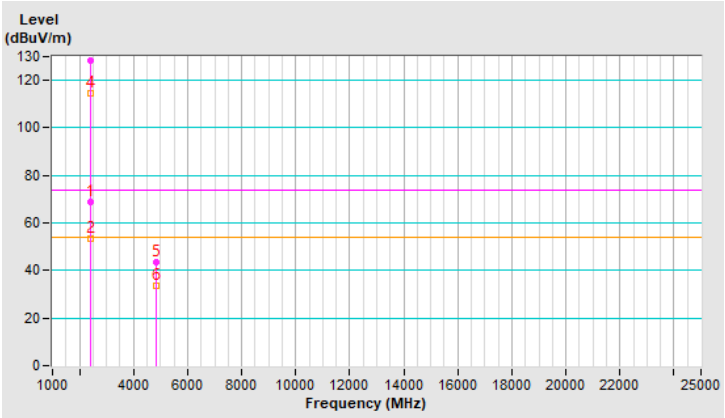


RF Mode	802.11ax (HE20)	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	68.9 PK	74.0	-5.1	2.94 V	54	69.8	-0.9
2	2390.00	53.6 AV	54.0	-0.4	2.94 V	54	54.5	-0.9
3	*2412.00	128.4 PK			2.94 V	54	129.2	-0.8
4	*2412.00	114.7 AV			2.94 V	54	115.5	-0.8
5	4824.00	43.7 PK	74.0	-30.3	1.42 V	277	39.9	3.8
6	4824.00	33.6 AV	54.0	-20.4	1.42 V	277	29.8	3.8

Remarks:

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

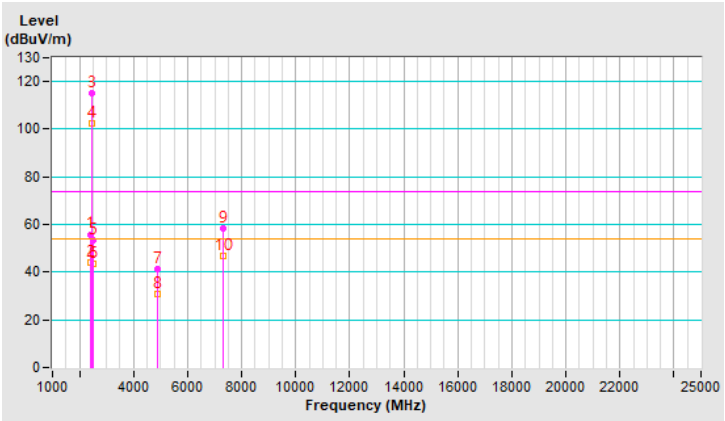


RF Mode	802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	55.9 PK	74.0	-18.1	2.40 H	56	56.8	-0.9
2	2390.00	44.1 AV	54.0	-9.9	2.40 H	56	45.0	-0.9
3	*2437.00	114.9 PK			2.40 H	56	115.6	-0.7
4	*2437.00	102.6 AV			2.40 H	56	103.3	-0.7
5	2483.50	53.5 PK	74.0	-20.5	2.40 H	56	54.3	-0.8
6	2483.50	43.6 AV	54.0	-10.4	2.40 H	56	44.4	-0.8
7	4874.00	41.2 PK	74.0	-32.8	1.36 H	58	37.4	3.8
8	4874.00	31.0 AV	54.0	-23.0	1.36 H	58	27.2	3.8
9	7311.00	58.2 PK	74.0	-15.8	1.55 H	355	47.7	10.5
10	7311.00	47.0 AV	54.0	-7.0	1.55 H	355	36.5	10.5

Remarks:

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

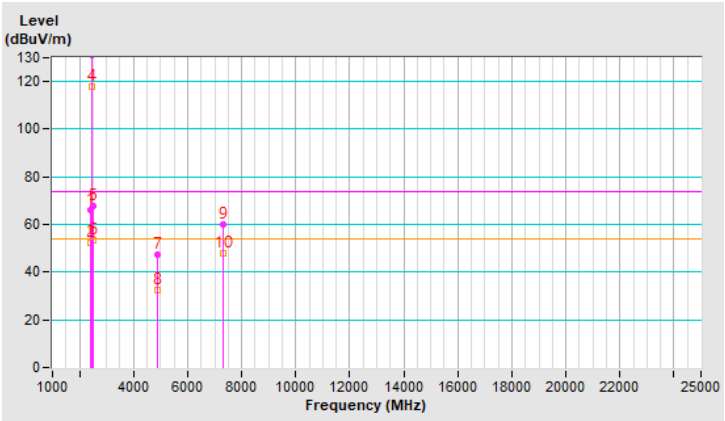


RF Mode	802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	66.3 PK	74.0	-7.7	2.89 V	62	67.2	-0.9
2	2390.00	52.4 AV	54.0	-1.6	2.89 V	62	53.3	-0.9
3	*2437.00	131.1 PK			2.89 V	62	131.8	-0.7
4	*2437.00	117.9 AV			2.89 V	62	118.6	-0.7
5	2483.50	67.5 PK	74.0	-6.5	2.89 V	62	68.3	-0.8
6	2483.50	53.6 AV	54.0	-0.4	2.89 V	62	54.4	-0.8
7	4874.00	47.6 PK	74.0	-26.4	1.32 V	268	43.8	3.8
8	4874.00	32.4 AV	54.0	-21.6	1.32 V	268	28.6	3.8
9	7311.00	60.2 PK	74.0	-13.8	1.50 V	323	49.7	10.5
10	7311.00	48.1 AV	54.0	-5.9	1.50 V	323	37.6	10.5

Remarks:

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

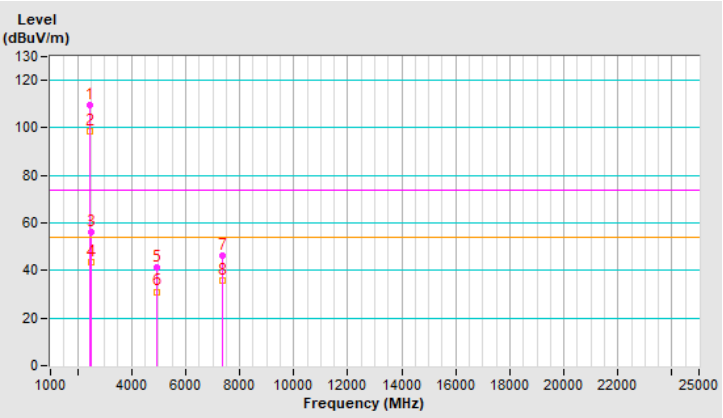


RF Mode	802.11ax (HE20)	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	109.5 PK			2.36 H	61	110.2	-0.7
2	*2462.00	98.7 AV			2.36 H	61	99.4	-0.7
3	2483.50	56.2 PK	74.0	-17.8	2.36 H	61	57.0	-0.8
4	2483.50	43.6 AV	54.0	-10.4	2.36 H	61	44.4	-0.8
5	4924.00	41.5 PK	74.0	-32.5	1.45 H	42	37.6	3.9
6	4924.00	31.1 AV	54.0	-22.9	1.45 H	42	27.2	3.9
7	7386.00	46.0 PK	74.0	-28.0	1.53 H	360	35.8	10.2
8	7386.00	35.9 AV	54.0	-18.1	1.53 H	360	25.7	10.2

Remarks:

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

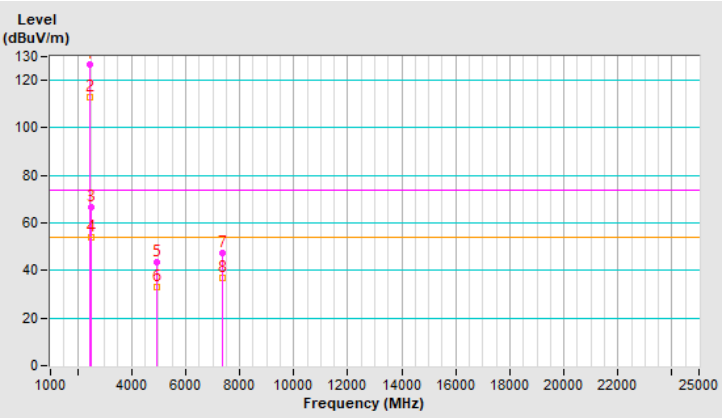


RF Mode	802.11ax (HE20)	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	126.5 PK			3.07 V	61	127.2	-0.7
2	*2462.00	113.0 AV			3.07 V	61	113.7	-0.7
3	2483.50	66.6 PK	74.0	-7.4	3.07 V	61	67.4	-0.8
4	2483.50	53.8 AV	54.0	-0.2	3.07 V	61	54.6	-0.8
5	4924.00	43.7 PK	74.0	-30.3	1.36 V	271	39.8	3.9
6	4924.00	33.2 AV	54.0	-20.8	1.36 V	271	29.3	3.9
7	7386.00	47.1 PK	74.0	-26.9	1.57 V	348	36.9	10.2
8	7386.00	37.0 AV	54.0	-17.0	1.57 V	348	26.8	10.2

Remarks:

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

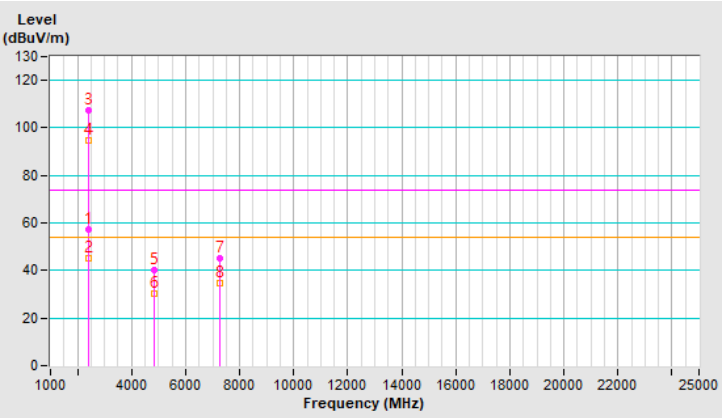


RF Mode	802.11ax (HE40)	Channel	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	57.2 PK	74.0	-16.8	2.42 H	64	58.1	-0.9
2	2390.00	45.0 AV	54.0	-9.0	2.42 H	64	45.9	-0.9
3	*2422.00	107.6 PK			2.42 H	64	108.3	-0.7
4	*2422.00	94.9 AV			2.42 H	64	95.6	-0.7
5	4844.00	40.4 PK	74.0	-33.6	1.47 H	40	36.6	3.8
6	4844.00	30.2 AV	54.0	-23.8	1.47 H	40	26.4	3.8
7	7266.00	44.9 PK	74.0	-29.1	1.54 H	350	34.4	10.5
8	7266.00	34.8 AV	54.0	-19.2	1.54 H	350	24.3	10.5

Remarks:

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

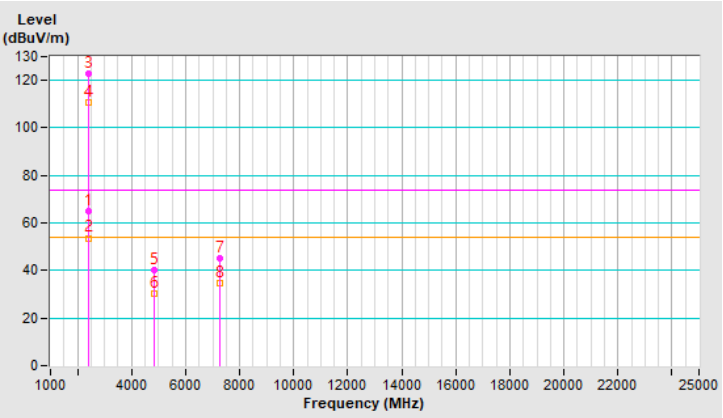


RF Mode	802.11ax (HE40)	**Channel**	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	65.1 PK	74.0	-8.9	3.26 V	58	66.0	-0.9
2	2390.00	53.7 AV	54.0	-0.3	3.26 V	58	54.6	-0.9
3	*2422.00	122.9 PK			3.26 V	58	123.6	-0.7
4	*2422.00	110.7 AV			3.26 V	58	111.4	-0.7
5	4844.00	40.2 PK	74.0	-33.8	1.36 V	266	36.4	3.8
6	4844.00	30.3 AV	54.0	-23.7	1.36 V	266	26.5	3.8
7	7266.00	45.0 PK	74.0	-29.0	1.49 V	338	34.5	10.5
8	7266.00	34.6 AV	54.0	-19.4	1.49 V	338	24.1	10.5

Remarks:

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

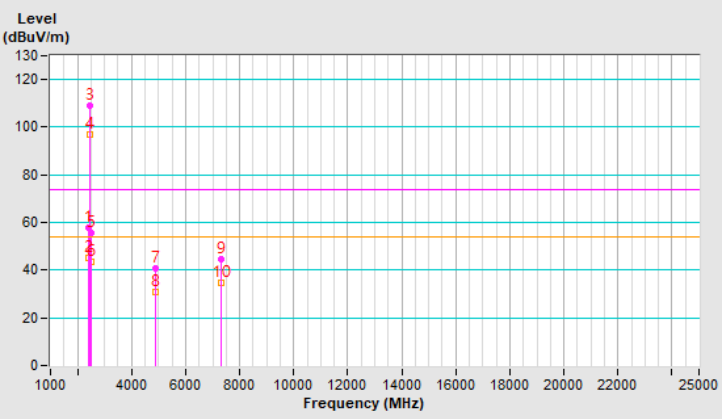


RF Mode	802.11ax (HE40)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	57.6 PK	74.0	-16.4	2.39 H	60	58.5	-0.9
2	2390.00	45.1 AV	54.0	-8.9	2.39 H	60	46.0	-0.9
3	*2437.00	108.8 PK			2.39 H	60	109.5	-0.7
4	*2437.00	97.0 AV			2.39 H	60	97.7	-0.7
5	2483.50	55.4 PK	74.0	-18.6	2.39 H	60	56.2	-0.8
6	2483.50	43.3 AV	54.0	-10.7	2.39 H	60	44.1	-0.8
7	4874.00	40.6 PK	74.0	-33.4	1.50 H	51	36.8	3.8
8	4874.00	30.6 AV	54.0	-23.4	1.50 H	51	26.8	3.8
9	7311.00	44.4 PK	74.0	-29.6	1.57 H	351	33.9	10.5
10	7311.00	34.5 AV	54.0	-19.5	1.57 H	351	24.0	10.5

Remarks:

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

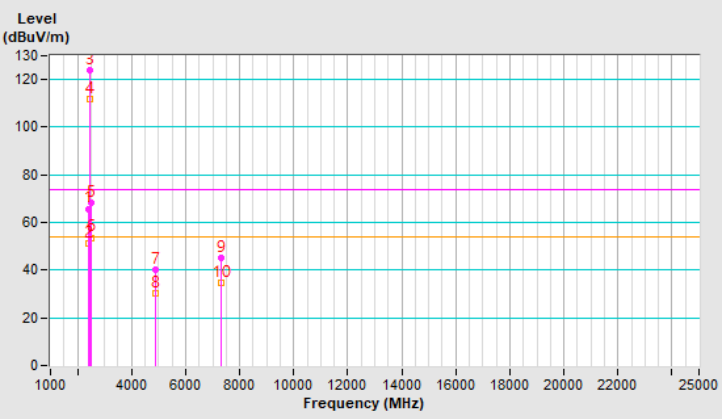


RF Mode	802.11ax (HE40)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

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	65.8 PK	74.0	-8.2	2.78 V	51	66.7	-0.9
2	2390.00	51.2 AV	54.0	-2.8	2.78 V	51	52.1	-0.9
3	*2437.00	124.1 PK			2.78 V	51	124.8	-0.7
4	*2437.00	112.0 AV			2.78 V	51	112.7	-0.7
5	2483.50	68.4 PK	74.0	-5.6	2.78 V	51	69.2	-0.8
6	2483.50	53.7 AV	54.0	-0.3	2.78 V	51	54.5	-0.8
7	4874.00	40.3 PK	74.0	-33.7	1.32 V	273	36.5	3.8
8	4874.00	30.5 AV	54.0	-23.5	1.32 V	273	26.7	3.8
9	7311.00	45.1 PK	74.0	-28.9	1.48 V	323	34.6	10.5
10	7311.00	34.7 AV	54.0	-19.3	1.48 V	323	24.2	10.5

Remarks:

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

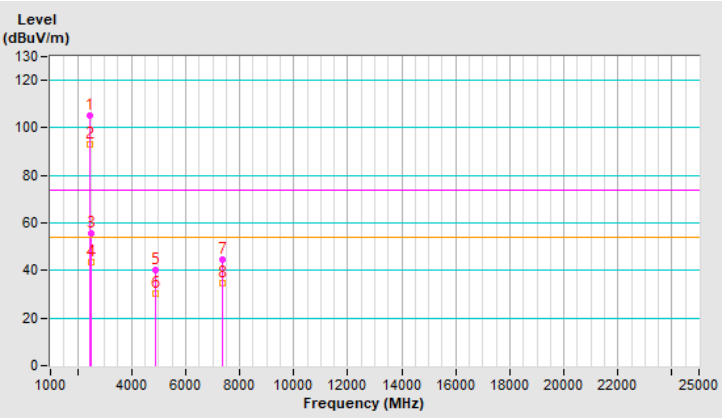


RF Mode	802.11ax (HE40)	**Channel**	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	105.1 PK			2.33 H	59	105.8	-0.7
2	*2452.00	93.1 AV			2.33 H	59	93.8	-0.7
3	2483.50	55.7 PK	74.0	-18.3	2.33 H	59	56.5	-0.8
4	2483.50	43.3 AV	54.0	-10.7	2.33 H	59	44.1	-0.8
5	4904.00	40.3 PK	74.0	-33.7	1.53 H	58	36.5	3.8
6	4904.00	30.4 AV	54.0	-23.6	1.53 H	58	26.6	3.8
7	7356.00	44.5 PK	74.0	-29.5	1.63 H	337	34.3	10.2
8	7356.00	34.5 AV	54.0	-19.5	1.63 H	337	24.3	10.2

Remarks:

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

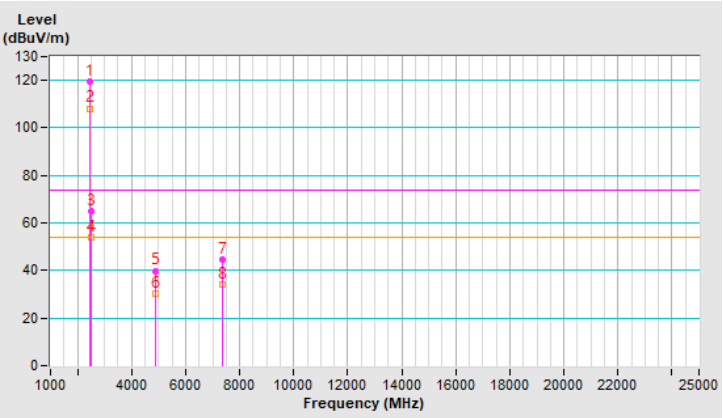


RF Mode	802.11ax (HE40)	**Channel**	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested By	Ryan Du		

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	119.7 PK			2.74 V	57	120.4	-0.7
2	*2452.00	108.2 AV			2.74 V	57	108.9	-0.7
3	2483.50	64.9 PK	74.0	-9.1	2.74 V	57	65.7	-0.8
4	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**2.74 V**	**57**	**54.7**	**-0.8**
5	4904.00	39.9 PK	74.0	-34.1	1.35 V	267	36.1	3.8
6	4904.00	30.1 AV	54.0	-23.9	1.35 V	267	26.3	3.8
7	7356.00	44.5 PK	74.0	-29.5	1.44 V	328	34.3	10.2
8	7356.00	34.3 AV	54.0	-19.7	1.44 V	328	24.1	10.2

Remarks:

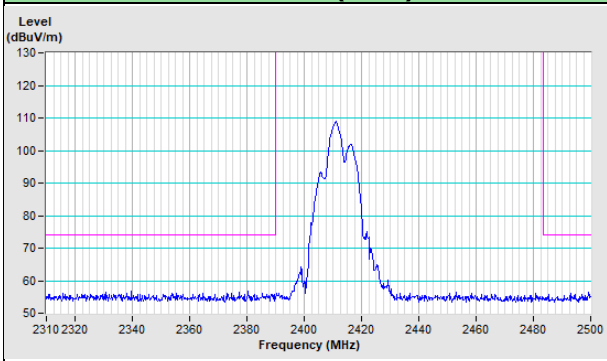
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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



Mode B_Plot of Band Edge

802.11b Channel 1

Horizontal (Peak)



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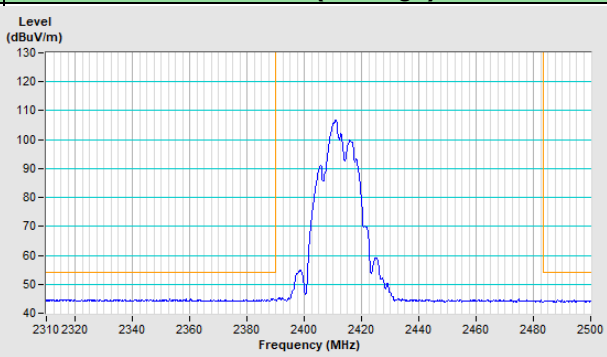
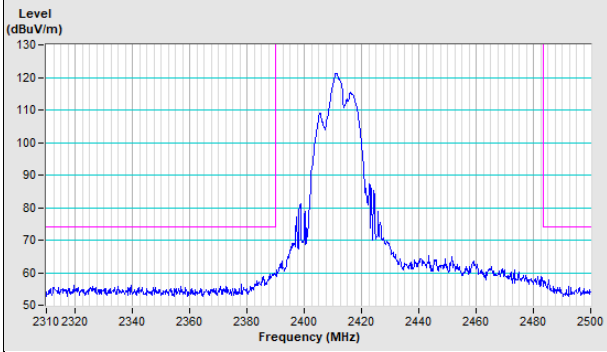


Vertical (Peak)



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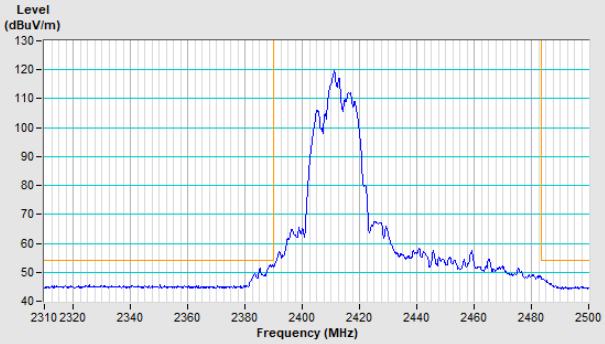
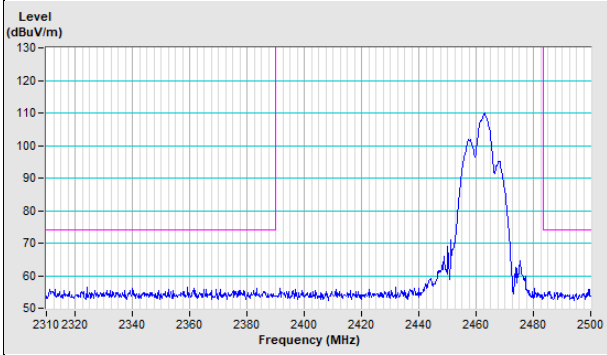


802.11b Channel 11

Horizontal (Peak)



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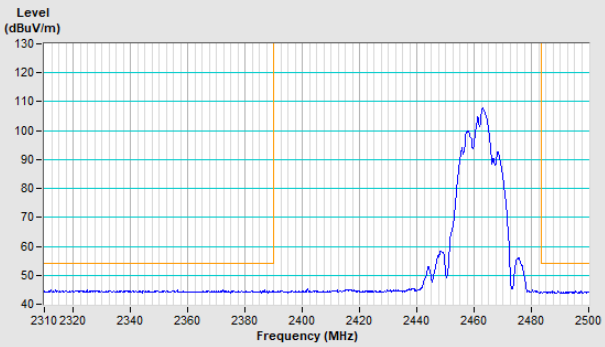
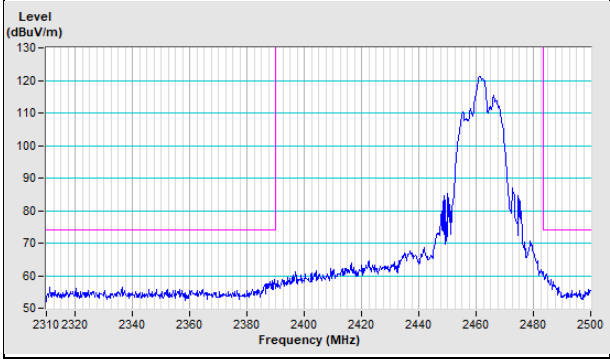


Vertical (Peak)



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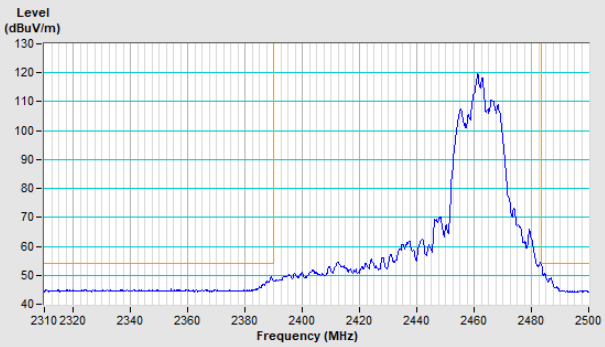
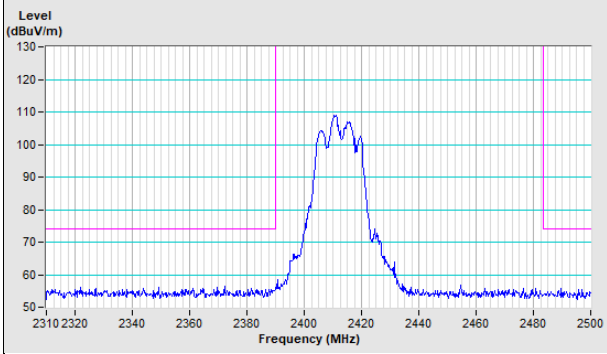


802.11g Channel 1

Horizontal (Peak)



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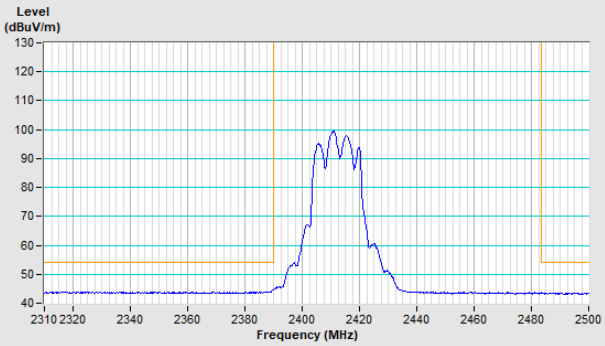
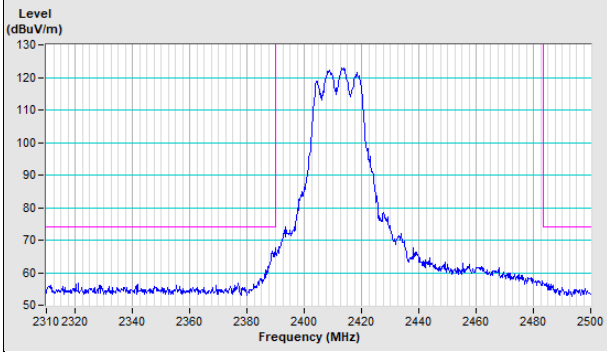


Vertical (Peak)



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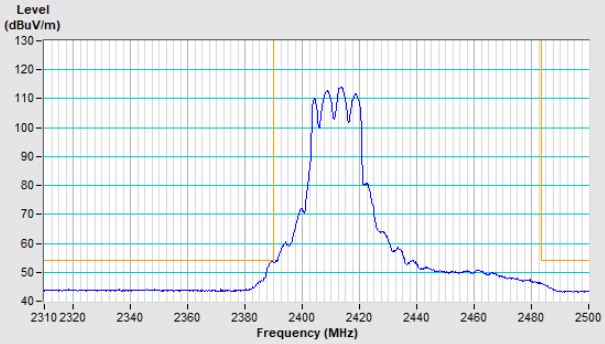
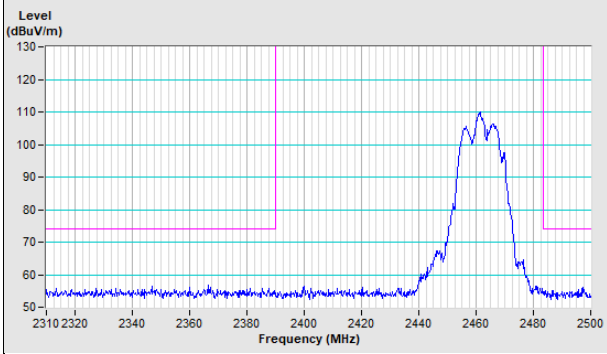
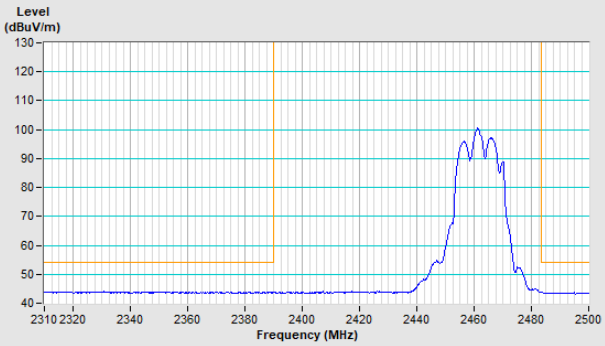


802.11g Channel 11

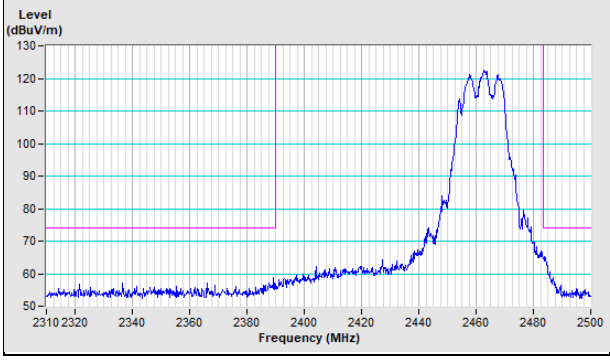
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



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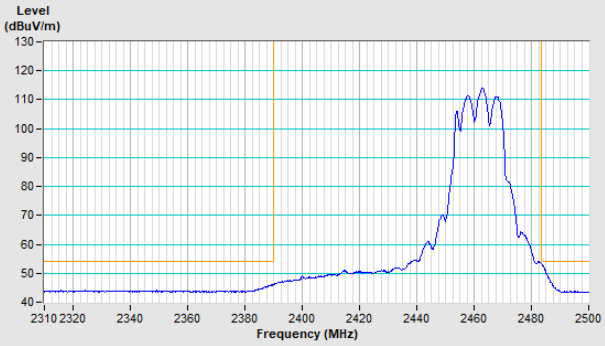
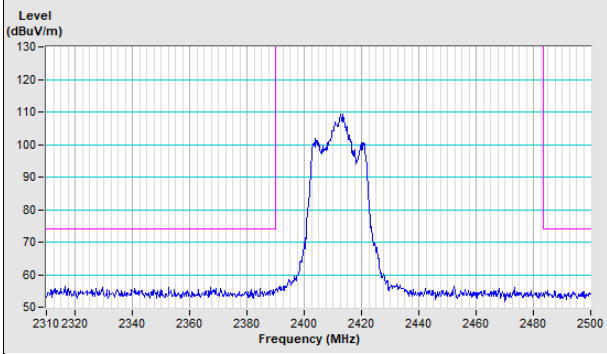


802.11ax (HE20) Channel 1

Horizontal (Peak)



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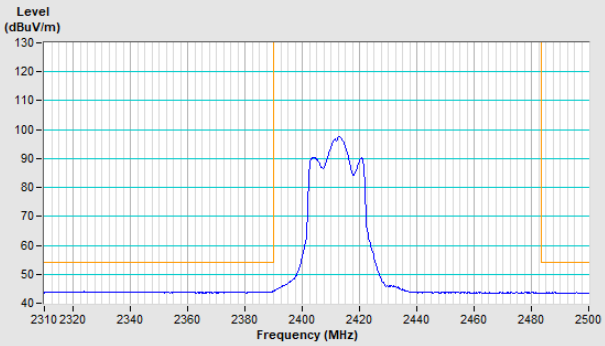
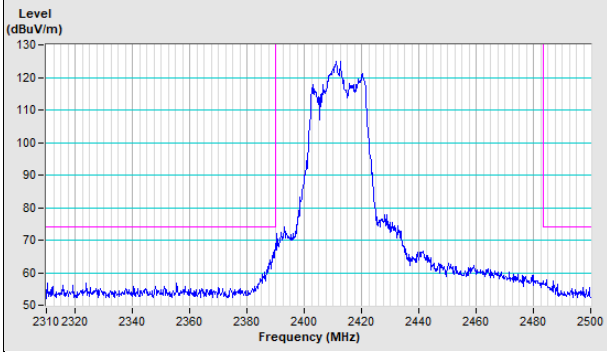
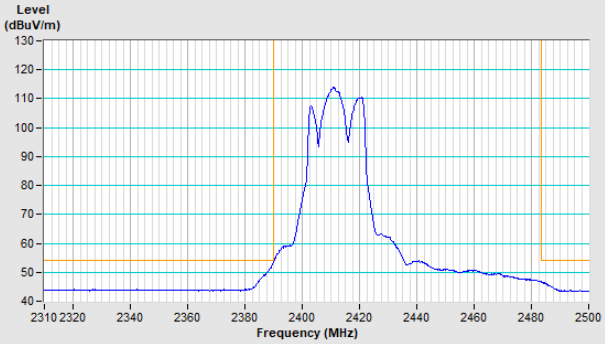


Vertical (Peak)

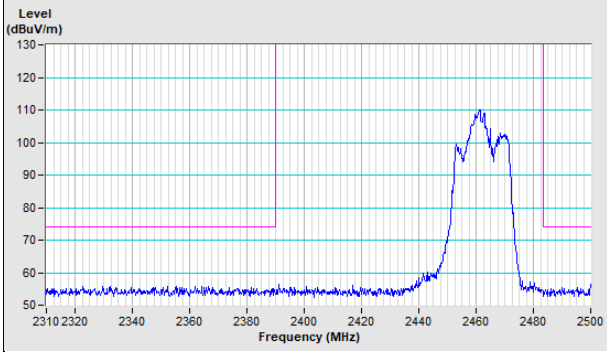


Vertical (Average)

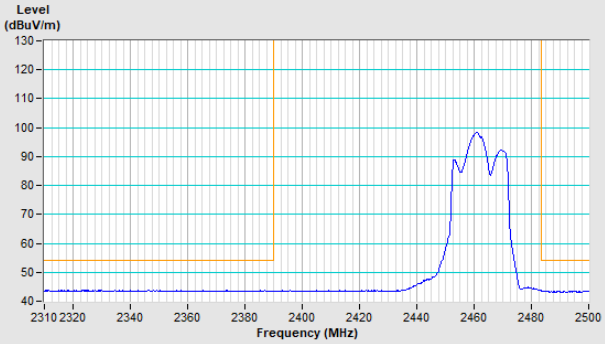


802.11ax (HE20) Channel 11

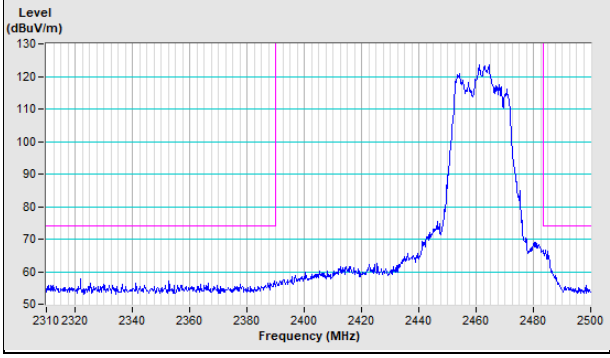
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



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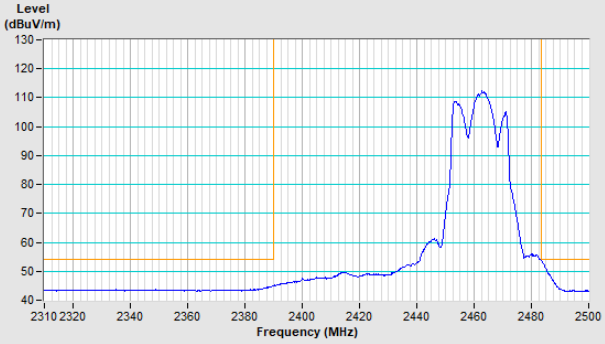
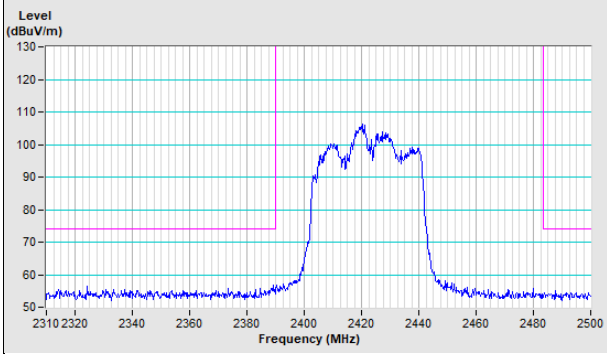
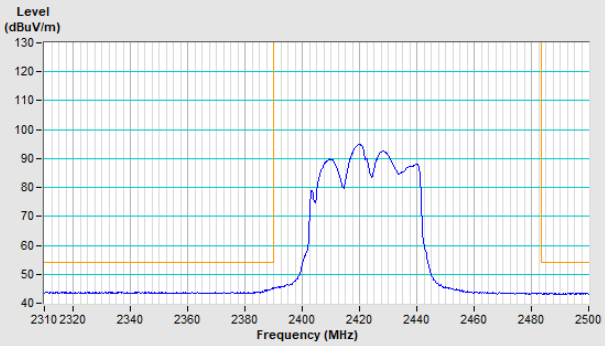


802.11ax (HE40) Channel 3

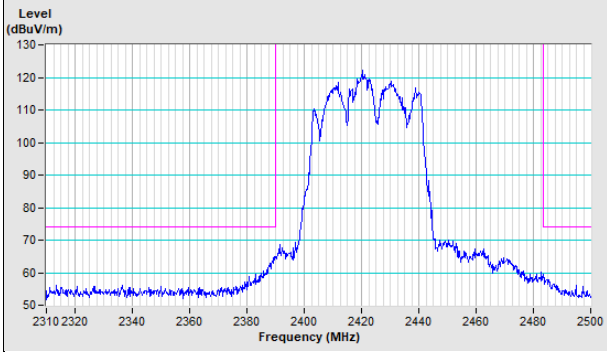
Horizontal (Peak)



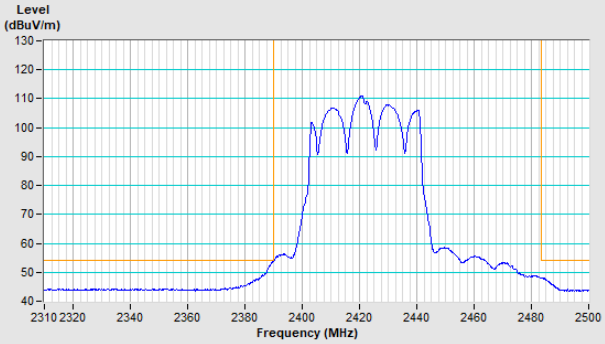
Horizontal (Average)



Vertical (Peak)

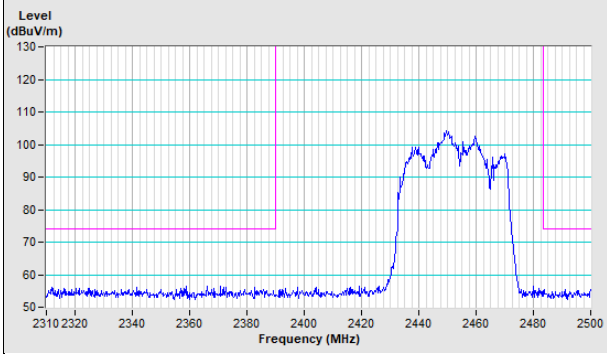


Vertical (Average)

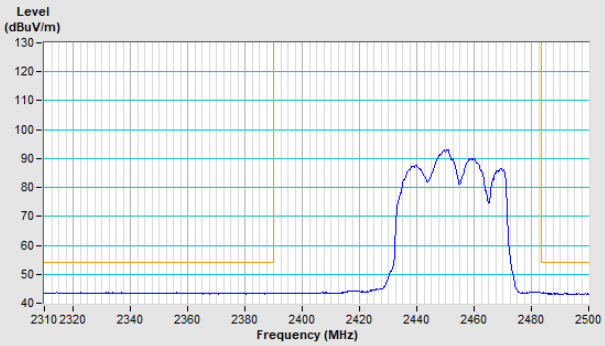


802.11ax (HE40) Channel 9

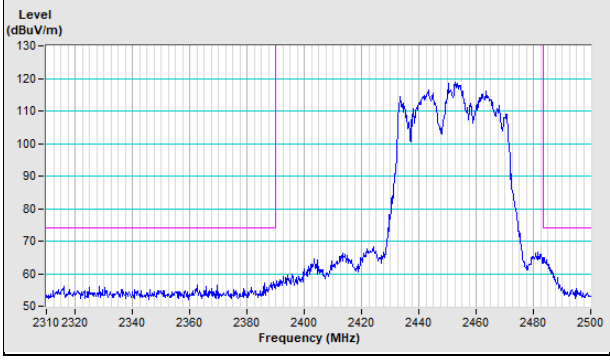
Horizontal (Peak)



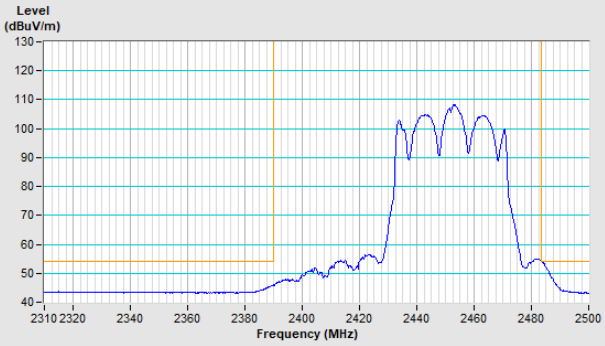
Horizontal (Average)



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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