

Partial FCC Test Report

Report No.: RFBEDW-WTW-P21010557-2

FCC ID: O57AX200NGW

Test Model: AX200NGW

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**FCC Registration /
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RFBEDW-WTW-P21010557-2	Original Release	Mar. 02, 2021

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -18.08 dB at 0.48063 MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.5 dB at 2483.50 MHz.
15.247(d)	Antenna Port Emission	N/A	Refer to Note
15.247(a)(2)	6 dB Bandwidth	N/A	Refer to Note
---	Occupied Bandwidth Measurement	N/A	Refer to Note
15.247(b)	Conducted power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	N/A	Refer to Note
15.203	Antenna Requirement	Pass	Antenna connector is MHF-B13-N-01 not a standard connector.

Note:

1. This report is a partial report, only test item of AC Power Conducted Emission, Radiated Emissions and Maximum Peak Output Power were performed for this report. Other testing data please refer to Intel report no.: 181210-03.TR04 for module (Brand: Intel® Wi-Fi 6 AX200 , Model: AX200NGW).
2. For 2.4G band compliance with rule 15.247(d) of the band-edge items, the test plots were recorded in Annex A. Test Procedures refer to report 4.1.3.
3. 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	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	WLAN and BT , 2x2 Pcle M.2 2230 adapter card
Brand	Intel® Wi-Fi 6 AX200
Test Model	AX200NGW
Status of EUT	Engineering Sample
Nominal Voltage	3.3Vdc form host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM for OFDMA
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: 11.0 / 5.5 / 2.0 / 1.0 Mbps 802.11g: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 802.11n: up to 300.0 Mbps 802.11ax: up to 573.5 Mbps
Operating Frequency	2412 ~ 2472 MHz
Number of Channel	13 for 802.11b, 802.11g, 802.11n (HT20), 802.11ax (HE20) 9 for 802.11n (HT40), 802.11ax (HE40)
Output Power	430.527 mW
Antenna Type	Refer to Note as below
Antenna Connector	Refer to Note as below
Accessory Device	N/A
Data Cable Supplied	N/A

Note:

- The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

Modulation Mode	Tx Function
802.11b	1TX
802.11g	1TX
802.11n (HT20)	1/2TX
802.11n (HT40)	1/2TX
802.11ax (HE20)	1/2TX
802.11ax (HE40)	1/2TX

* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ax mode for HE20 / HE40, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

- The EUT is authorized for use in specific End-product. Please refer to below table for more details.

Product	Brand	Model
Notebook Computer	Lenovo	Lenovo 100e Chromebook Gen 3 *****

Note: *=0~9,A-Z,a~z,"-" or blank, for marketing use only, with no impact on RF compliance of the product.

3. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter 1	Lenovo	ADLX45YLC3D	I/P: 100-240Vac, 50-60Hz, 1.3A O/P: 20.0V===2.25A, 45.0W 1.75M / Ocore
Adapter 2	Lenovo	ADLX65YLC3D	I/P: 100-240Vac, 50-60Hz, 1.8A O/P: 20.0V===3.25A, 65.0W 1.77M / Ocore
Adapter 3	Lenovo	ADLX45YLC3D	I/P: 100-240Vac, 50-60Hz, 1.3A O/P: 20.0V ===2.25A, 45.0W 1.55M / Ocore
Battery	Lenovo	L20C3PG0	11.52 Vdc, 3994 mAh, 46Wh

*After pretesting, the adapter 2 was the worst case and chose for final test.

4. The antenna information is listed as below.

Ant. Type	Brand	Ant.	Model	Antenna Peak Gain (dBi)				Connector	
				BT	2400-2500MHz	5150-5350MHz	5470-5725MHz		5725-5850MHz
PIFA	MAGLAYERS	Main	DC33002K400 (FPA-3008-25GC7-A1)	-	0.57	3.07	2.03	0.82	-
		Aux.	DC33002K400 (FPA-3008-25GC7-A1)	-1.71	-1.71	1.29	-1.14	0.01	
	South Star	Main	N12-7232-R0A (DC33002IZ00)	-	0.90	-0.87	-0.14	-0.96	MHF-B13-N-01
		Aux.	N12-7232-R0A (DC33002IZ00)	-1.87	-1.87	1.03	-0.19	-2.21	

* The Max antenna gain was chosen for final test.

5. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
6. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

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

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

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

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE \geq 1G	RE<1G	PLC	Power	
-	√	√	√	√	-

Where **RE \geq 1G**: Radiated Emission above 1 GHz **RE<1G**: Radiated Emission below 1 GHz
PLC: Power Line Conducted Emission **Power**: Maximum Output Power Measurement

Note: “-” means no effect.

Note: For radiated emission (below 1GHz) and power line conducted emission test items chosen the worst maximum fundamental emission level channel

Radiated Emission Test (Above 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11b	1 to 13	1, 6, 11, 12, 13	DSSS	DBPSK	1.0
-	802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.0
-	802.11ax (HE20)	1 to 13	1, 6, 11, 12, 13	OFDMA	BPSK	MCS0
-	802.11ax (HE40)	3 to11	3, 6, 9, 10, 11	OFDMA	BPSK	MCS0

Radiated Emission Test (Below 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11ax (HE40)	3 to11	11	OFDMA	BPSK	MCS0

Power Line Conducted Emission Test:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11ax (HE40)	3 to11	11	OFDMA	BPSK	MCS0

Maximum Output Power Measurement:

- This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
	802.11b	1 to 13	1, 6, 11, 12, 13	DSSS	DBPSK	1.0
	802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.0
	802.11n (HT20)	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.5
	802.11n (HT40)	3 to 11	3, 6, 9, 10, 11	OFDM	BPSK	13.5
	802.11ax (HE20)	1 to 13	1, 6, 11, 12, 13	OFDMA	BPSK	MCS0
	802.11ax (HE40)	3 to 11	3, 6, 9, 10, 11	OFDMA	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE \geq 1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Greg Lin
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Greg Lin
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Rex Wang
Power	25 deg. C, 65 % RH	120 Vac, 60 Hz	Gavin Wu

3.3 Description of Support Units

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

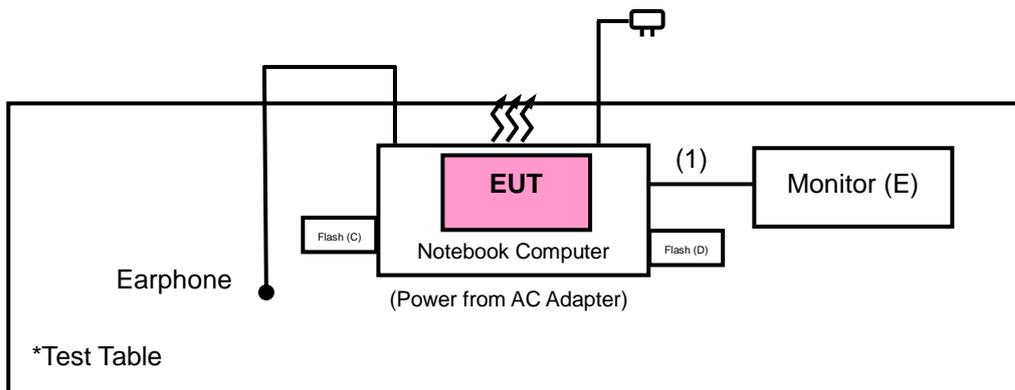
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Notebook Computer	Lenovo	Lenovo 100e Chromebook Gen3 *****	NA	NA	-
B	Adapter	Lenovo	ADLX65YLC3D	NA	NA	-
C	Flash	HP	v250W	09	NA	-
D	Flash	HP	v250W	03	NA	-
E	Monitor	ViewSonic	VX2457-MHD	UG0182942333	NA	-
F	Earphone	Apple	NA	NA	NA	-

No.	Signal Cable Description Of The Above Support Units
1.	HDMI Cable: 1m

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Items A, C, D acted as communication partners to transfer data.

3.3.1 Configuration of System under Test



3.4 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

Test Standard:

FCC Part 15, Subpart C (15.247)

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

References Test Guidance:

KDB 558074 D01 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

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

NOTE:

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.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 16, 2020	Apr. 15, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2020	Jun. 11, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 06, 2020	Nov. 05, 2021
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 22, 2020	Nov. 21, 2021
Loop Antenna EMCI	EM-6879	269	Sep. 17, 2020	Sep. 16, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jun. 08, 2020	Jun. 07, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 18, 2020	Feb. 17, 2021
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM- SM8000	CABLE-CH9-02 (248780+171006)	Jan. 16, 2021	Jan. 15, 2022
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9- (250795/4)	Jan. 16, 2021	Jan. 15, 2022
RF signal cable Woken	8D-FB	Cable-CH9-01	Jun. 08, 2020	Jun. 07, 2021
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55 190004/MY551900 07/MY55210005	Jul. 13, 2020	Jul. 12, 2021

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 9.

4.1.3 Test Procedures

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 a 3 meter chamber room. 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.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.

For Radiated Emission above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) 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.
- f. The test-receiver system was set to peak and average detected 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.

Note:

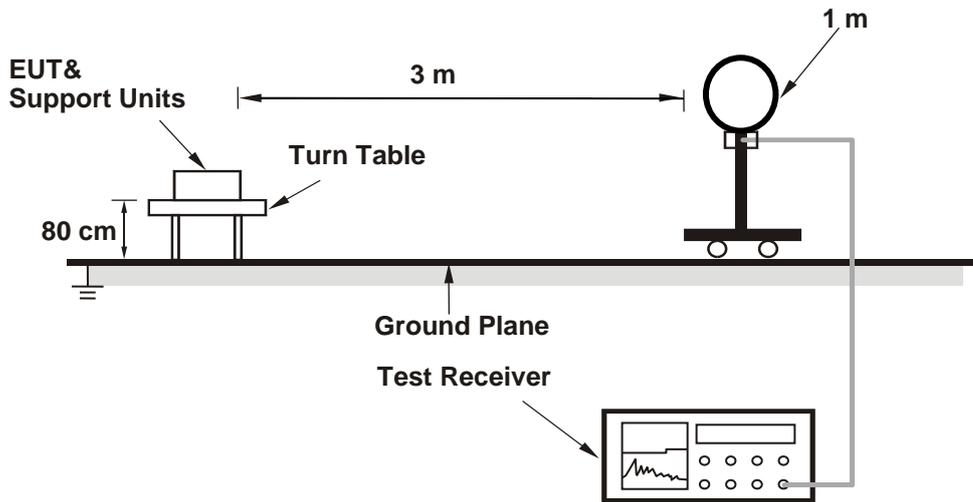
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98 %) or 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
(11b: RBW = 1 MHz, VBW = 10 Hz ; 11g: RBW = 1 MHz, VBW = 10 Hz ;
11ax (HE20): RBW = 1 MHz, VBW = 10 Hz ; 11ax (HE40): RBW = 1 MHz, VBW = 10 Hz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

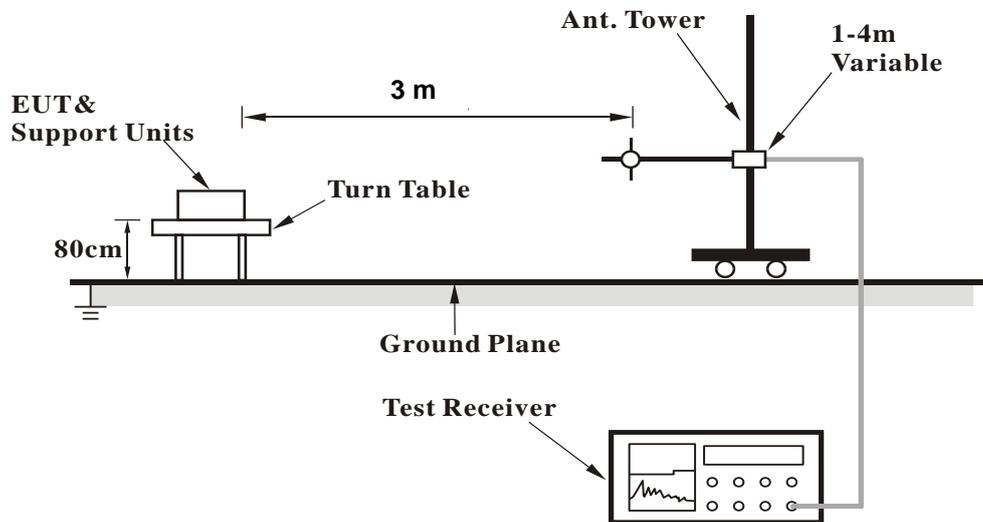
No deviation.

4.1.5 Test Set Up

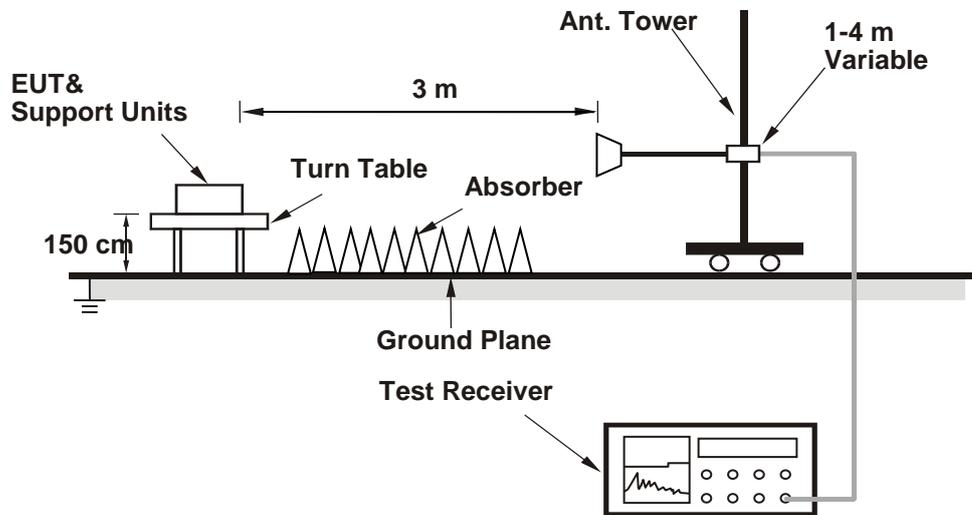
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.6 EUT Operating Conditions

- Placed the EUT on a testing table.
- Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

ABOVE 1GHz DATA

802.11b

RF Mode	TX 802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	57.8 PK	74.0	-16.2	1.66 H	178	26.6	31.2
2	2390.00	44.5 AV	54.0	-9.5	1.66 H	178	13.3	31.2
3	*2412.00	102.6 PK			1.66 H	178	71.4	31.2
4	*2412.00	98.7 AV			1.66 H	178	67.5	31.2
5	4824.00	43.5 PK	74.0	-30.5	1.70 H	354	41.5	2.0
6	4824.00	30.8 AV	54.0	-23.2	1.70 H	354	28.8	2.0

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.3 PK	74.0	-15.7	1.48 V	338	27.1	31.2
2	2390.00	46.9 AV	54.0	-7.1	1.48 V	338	15.7	31.2
3	*2412.00	103.8 PK			1.48 V	338	72.6	31.2
4	*2412.00	99.8 AV			1.48 V	338	68.6	31.2
5	4824.00	44.6 PK	74.0	-29.4	1.65 V	1	42.6	2.0
6	4824.00	31.2 AV	54.0	-22.8	1.65 V	1	29.2	2.0

Remarks:

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

RF Mode	TX 802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	104.2 PK			1.68 H	181	73.1	31.1
2	*2437.00	100.2 AV			1.68 H	181	69.1	31.1
3	4874.00	44.8 PK	74.0	-29.2	1.73 H	354	42.7	2.1
4	4874.00	32.2 AV	54.0	-21.8	1.73 H	354	30.1	2.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	105.3 PK			1.42 V	212	74.2	31.1
2	*2437.00	101.3 AV			1.42 V	212	70.2	31.1
3	4874.00	45.9 PK	74.0	-28.1	1.69 V	3	43.8	2.1
4	4874.00	32.7 AV	54.0	-21.3	1.69 V	3	30.6	2.1

Remarks:

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

RF Mode	TX 802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	102.7 PK			1.63 H	181	71.6	31.1
2	*2462.00	98.7 AV			1.63 H	181	67.6	31.1
3	2483.50	57.4 PK	74.0	-16.6	1.63 H	181	26.3	31.1
4	2483.50	46.9 AV	54.0	-7.1	1.63 H	181	15.8	31.1
5	4924.00	43.8 PK	74.0	-30.2	1.77 H	353	41.6	2.2
6	4924.00	31.1 AV	54.0	-22.9	1.77 H	353	28.9	2.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	103.8 PK			1.44 V	209	72.7	31.1
2	*2462.00	99.9 AV			1.44 V	209	68.8	31.1
3	2483.50	57.6 PK	74.0	-16.4	1.44 V	209	26.5	31.1
4	2483.50	47.2 AV	54.0	-6.8	1.44 V	209	16.1	31.1
5	4924.00	45.1 PK	74.0	-28.9	1.69 V	4	42.9	2.2
6	4924.00	31.6 AV	54.0	-22.4	1.69 V	4	29.4	2.2

Remarks:

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

RF Mode	TX 802.11b	Channel	CH 12 : 2467 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	102.6 PK			1.63 H	182	71.5	31.1
2	*2467.00	98.6 AV			1.63 H	182	67.5	31.1
3	2483.50	57.4 PK	74.0	-16.6	1.63 H	182	26.3	31.1
4	2483.50	46.9 AV	54.0	-7.1	1.63 H	182	15.8	31.1
5	4934.00	43.6 PK	74.0	-30.4	1.73 H	358	41.4	2.2
6	4934.00	30.8 AV	54.0	-23.2	1.73 H	358	28.6	2.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	103.7 PK			1.49 V	213	72.6	31.1
2	*2467.00	99.7 AV			1.49 V	213	68.6	31.1
3	2483.50	57.7 PK	74.0	-16.3	1.49 V	213	26.6	31.1
4	2483.50	47.3 AV	54.0	-6.7	1.49 V	213	16.2	31.1
5	4934.00	44.9 PK	74.0	-29.1	1.68 V	3	42.7	2.2
6	4934.00	31.5 AV	54.0	-22.5	1.68 V	3	29.3	2.2

Remarks:

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

RF Mode	TX 802.11b	Channel	CH 13 : 2472 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	100.8 PK			1.65 H	177	69.7	31.1
2	*2472.00	96.8 AV			1.65 H	177	65.7	31.1
3	2483.50	59.8 PK	74.0	-14.2	1.65 H	177	28.7	31.1
4	2483.50	46.5 AV	54.0	-7.5	1.65 H	177	15.4	31.1
5	4944.00	43.6 PK	74.0	-30.4	1.74 H	349	41.3	2.3
6	4944.00	30.9 AV	54.0	-23.1	1.74 H	349	28.6	2.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	101.9 PK			1.44 V	207	70.8	31.1
2	*2472.00	98.0 AV			1.44 V	207	66.9	31.1
3	2483.50	60.4 PK	74.0	-13.6	1.44 V	207	29.3	31.1
4	2483.50	46.7 AV	54.0	-7.3	1.44 V	207	15.6	31.1
5	4944.00	44.7 PK	74.0	-29.3	1.69 V	5	42.4	2.3
6	4944.00	31.3 AV	54.0	-22.7	1.69 V	5	29.0	2.3

Remarks:

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

802.11g

RF Mode	TX 802.11g	Channel	CH 1 : 2412 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	59.8 PK	74.0	-14.2	1.62 H	182	28.6	31.2
2	2390.00	45.4 AV	54.0	-8.6	1.62 H	182	14.2	31.2
3	*2412.00	101.7 PK			1.62 H	182	70.5	31.2
4	*2412.00	91.7 AV			1.62 H	182	60.5	31.2
5	4824.00	42.6 PK	74.0	-31.4	1.79 H	347	40.6	2.0
6	4824.00	29.1 AV	54.0	-24.9	1.79 H	347	27.1	2.0

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.3 PK	74.0	-13.7	1.49 V	210	29.1	31.2
2	2390.00	45.9 AV	54.0	-8.1	1.49 V	210	14.7	31.2
3	*2412.00	102.8 PK			1.49 V	210	71.6	31.2
4	*2412.00	92.8 AV			1.49 V	210	61.6	31.2
5	4824.00	43.3 PK	74.0	-30.7	1.61 V	13	41.3	2.0
6	4824.00	29.6 AV	54.0	-24.4	1.61 V	13	27.6	2.0

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	104.7 PK			1.64 H	173	73.6	31.1
2	*2437.00	94.7 AV			1.64 H	173	63.6	31.1
3	4874.00	43.0 PK	74.0	-31.0	1.73 H	353	40.9	2.1
4	4874.00	29.4 AV	54.0	-24.6	1.73 H	353	27.3	2.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	105.8 PK			1.45 V	210	74.7	31.1
2	*2437.00	95.7 AV			1.45 V	210	64.6	31.1
3	4874.00	43.7 PK	74.0	-30.3	1.68 V	17	41.6	2.1
4	4874.00	30.0 AV	54.0	-24.0	1.68 V	17	27.9	2.1

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 11 : 2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	101.7 PK			1.66 H	179	70.6	31.1
2	*2462.00	91.7 AV			1.66 H	179	60.6	31.1
3	2483.50	56.4 PK	74.0	-17.6	1.66 H	179	25.3	31.1
4	2483.50	45.9 AV	54.0	-8.1	1.66 H	179	14.8	31.1
5	4924.00	42.6 PK	74.0	-31.4	1.71 H	346	40.4	2.2
6	4924.00	29.0 AV	54.0	-25.0	1.71 H	346	26.8	2.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	102.6 PK			1.43 V	211	71.5	31.1
2	*2462.00	92.6 AV			1.43 V	211	61.5	31.1
3	2483.50	56.6 PK	74.0	-17.4	1.43 V	211	25.5	31.1
4	2483.50	46.2 AV	54.0	-7.8	1.43 V	211	15.1	31.1
5	4924.00	43.3 PK	74.0	-30.7	1.73 V	11	41.1	2.2
6	4924.00	29.7 AV	54.0	-24.3	1.73 V	11	27.5	2.2

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 12 : 2467 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	100.4 PK			1.62 H	177	69.3	31.1
2	*2467.00	90.3 AV			1.62 H	177	59.2	31.1
3	2483.50	56.9 PK	74.0	-17.1	1.62 H	177	25.8	31.1
4	2483.50	46.3 AV	54.0	-7.7	1.62 H	177	15.2	31.1
5	4934.00	42.5 PK	74.0	-31.5	1.79 H	347	40.3	2.2
6	4934.00	28.9 AV	54.0	-25.1	1.79 H	347	26.7	2.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	101.4 PK			1.42 V	211	70.3	31.1
2	*2467.00	91.4 AV			1.42 V	211	60.3	31.1
3	2483.50	57.6 PK	74.0	-16.4	1.42 V	211	26.5	31.1
4	2483.50	46.7 AV	54.0	-7.3	1.42 V	211	15.6	31.1
5	4934.00	43.0 PK	74.0	-31.0	1.76 V	11	40.8	2.2
6	4934.00	29.6 AV	54.0	-24.4	1.76 V	11	27.4	2.2

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 13 : 2472 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	98.6 PK			1.61 H	172	67.5	31.1
2	*2472.00	88.3 AV			1.61 H	172	57.2	31.1
3	2483.50	66.5 PK	74.0	-7.5	1.61 H	172	35.4	31.1
4	2483.50	47.0 AV	54.0	-7.0	1.61 H	172	15.9	31.1
5	4944.00	42.5 PK	74.0	-31.5	1.79 H	343	40.2	2.3
6	4944.00	28.9 AV	54.0	-25.1	1.79 H	343	26.6	2.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	99.8 PK			1.43 V	209	68.7	31.1
2	*2472.00	89.3 AV			1.43 V	209	58.2	31.1
3	2483.50	66.9 PK	74.0	-7.1	1.43 V	209	35.8	31.1
4	2483.50	47.2 AV	54.0	-6.8	1.43 V	209	16.1	31.1
5	4944.00	43.1 PK	74.0	-30.9	1.72 V	13	40.8	2.3
6	4944.00	29.6 AV	54.0	-24.4	1.72 V	13	27.3	2.3

Remarks:

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

802.11ax (HE20)

RF Mode	TX 802.11ax (HE20)	Channel	CH 1 : 2412 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	60.5 PK	74.0	-13.5	1.40 H	1	29.3	31.2
2	2390.00	46.1 AV	54.0	-7.9	1.40 H	1	14.9	31.2
3	*2412.00	109.0 PK			1.40 H	1	77.8	31.2
4	*2412.00	96.8 AV			1.40 H	1	65.6	31.2
5	4824.00	42.3 PK	74.0	-31.7	2.03 H	347	40.3	2.0
6	4824.00	29.2 AV	54.0	-24.8	2.03 H	347	27.2	2.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.0 PK	74.0	-11.0	3.81 V	96	31.8	31.2
2	2390.00	47.1 AV	54.0	-6.9	3.81 V	96	15.9	31.2
3	*2412.00	110.0 PK			3.81 V	96	78.8	31.2
4	*2412.00	98.0 AV			3.81 V	96	66.8	31.2
5	4824.00	43.2 PK	74.0	-30.8	1.53 V	11	41.2	2.0
6	4824.00	29.8 AV	54.0	-24.2	1.53 V	11	27.8	2.0

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 6 : 2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	111.9 PK			1.44 H	7	80.8	31.1
2	*2437.00	99.5 AV			1.44 H	7	68.4	31.1
3	4874.00	42.8 PK	74.0	-31.2	2.09 H	337	40.7	2.1
4	4874.00	29.5 AV	54.0	-24.5	2.09 H	337	27.4	2.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	113.2 PK			3.68 V	91	82.1	31.1
2	*2437.00	100.7 AV			3.68 V	91	69.6	31.1
3	4874.00	43.5 PK	74.0	-30.5	1.56 V	11	41.4	2.1
4	4874.00	30.2 AV	54.0	-23.8	1.56 V	11	28.1	2.1

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 11 : 2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	107.9 PK			1.47 H	6	76.8	31.1
2	*2462.00	95.3 AV			1.47 H	6	64.2	31.1
3	2483.50	57.5 PK	74.0	-16.5	1.47 H	6	26.4	31.1
4	2483.50	46.6 AV	54.0	-7.4	1.47 H	6	15.5	31.1
5	4924.00	42.4 PK	74.0	-31.6	2.09 H	337	40.2	2.2
6	4924.00	29.2 AV	54.0	-24.8	2.09 H	337	27.0	2.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	109.0 PK			3.68 V	87	77.9	31.1
2	*2462.00	96.3 AV			3.68 V	87	65.2	31.1
3	2483.50	57.9 PK	74.0	-16.1	3.68 V	87	26.8	31.1
4	2483.50	46.8 AV	54.0	-7.2	3.68 V	87	15.7	31.1
5	4924.00	43.1 PK	74.0	-30.9	1.53 V	12	40.9	2.2
6	4924.00	29.9 AV	54.0	-24.1	1.53 V	12	27.7	2.2

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 12 : 2467 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	104.5 PK			1.44 H	7	73.4	31.1
2	*2467.00	92.0 AV			1.44 H	7	60.9	31.1
3	2483.50	57.2 PK	74.0	-16.8	1.44 H	7	26.1	31.1
4	2483.50	46.8 AV	54.0	-7.2	1.44 H	7	15.7	31.1
5	4934.00	42.4 PK	74.0	-31.6	2.03 H	336	40.2	2.2
6	4934.00	29.1 AV	54.0	-24.9	2.03 H	336	26.9	2.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	105.4 PK			3.63 V	92	74.3	31.1
2	*2467.00	93.1 AV			3.63 V	92	62.0	31.1
3	2483.50	59.2 PK	74.0	-14.8	3.63 V	92	28.1	31.1
4	2483.50	47.3 AV	54.0	-6.7	3.63 V	92	16.2	31.1
5	4934.00	42.9 PK	74.0	-31.1	1.52 V	9	40.7	2.2
6	4934.00	29.7 AV	54.0	-24.3	1.52 V	9	27.5	2.2

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 13 : 2472 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	100.9 PK			1.48 H	7	69.8	31.1
2	*2472.00	87.8 AV			1.48 H	7	56.7	31.1
3	2483.50	61.9 PK	74.0	-12.1	1.48 H	7	30.8	31.1
4	2483.50	46.4 AV	54.0	-7.6	1.48 H	7	15.3	31.1
5	4944.00	42.1 PK	74.0	-31.9	1.97 H	336	39.8	2.3
6	4944.00	28.7 AV	54.0	-25.3	1.97 H	336	26.4	2.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	102.2 PK			3.65 V	89	71.1	31.1
2	*2472.00	89.0 AV			3.65 V	89	57.9	31.1
3	2483.50	65.2 PK	74.0	-8.8	3.65 V	89	34.1	31.1
4	2483.50	46.7 AV	54.0	-7.3	3.65 V	89	15.6	31.1
5	4944.00	42.9 PK	74.0	-31.1	1.55 V	14	40.6	2.3
6	4944.00	29.6 AV	54.0	-24.4	1.55 V	14	27.3	2.3

Remarks:

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

802.11ax (HE40)

RF Mode	TX 802.11ax (HE40)	Channel	CH 3 : 2422 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	58.5 PK	74.0	-15.5	1.47 H	7	27.3	31.2
2	2390.00	45.4 AV	54.0	-8.6	1.47 H	7	14.2	31.2
3	*2422.00	106.7 PK			1.47 H	7	75.5	31.2
4	*2422.00	93.8 AV			1.47 H	7	62.6	31.2
5	4844.00	41.8 PK	74.0	-32.2	2.02 H	347	39.7	2.1
6	4844.00	28.9 AV	54.0	-25.1	2.02 H	347	26.8	2.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.9 PK	74.0	-15.1	3.75 V	95	27.7	31.2
2	2390.00	45.8 AV	54.0	-8.2	3.75 V	95	14.6	31.2
3	*2422.00	107.8 PK			3.75 V	95	76.6	31.2
4	*2422.00	95.0 AV			3.75 V	95	63.8	31.2
5	4844.00	42.7 PK	74.0	-31.3	1.58 V	13	40.6	2.1
6	4844.00	29.4 AV	54.0	-24.6	1.58 V	13	27.3	2.1

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 6 : 2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	107.0 PK			1.46 H	9	75.9	31.1
2	*2437.00	94.1 AV			1.46 H	9	63.0	31.1
3	4874.00	41.9 PK	74.0	-32.1	2.03 H	337	39.8	2.1
4	4874.00	29.0 AV	54.0	-25.0	2.03 H	337	26.9	2.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	108.4 PK			3.79 V	94	77.3	31.1
2	*2437.00	95.3 AV			3.79 V	94	64.2	31.1
3	4874.00	42.9 PK	74.0	-31.1	1.47 V	8	40.8	2.1
4	4874.00	29.5 AV	54.0	-24.5	1.47 V	8	27.4	2.1

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 9 : 2452 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	105.7 PK			1.38 H	7	74.6	31.1
2	*2452.00	92.9 AV			1.38 H	7	61.8	31.1
3	2483.50	60.4 PK	74.0	-13.6	1.38 H	7	29.3	31.1
4	2483.50	47.8 AV	54.0	-6.2	1.38 H	7	16.7	31.1
5	4904.00	41.6 PK	74.0	-32.4	2.01 H	339	39.6	2.0
6	4904.00	28.5 AV	54.0	-25.5	2.01 H	339	26.5	2.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	106.7 PK			3.71 V	91	75.6	31.1
2	*2452.00	94.0 AV			3.71 V	91	62.9	31.1
3	2483.50	61.2 PK	74.0	-12.8	3.71 V	91	30.1	31.1
4	2483.50	48.4 AV	54.0	-5.6	3.71 V	91	17.3	31.1
5	4904.00	42.4 PK	74.0	-31.6	1.55 V	13	40.4	2.0
6	4904.00	29.2 AV	54.0	-24.8	1.55 V	13	27.2	2.0

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 10 : 2457 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	98.3 PK			1.39 H	8	67.2	31.1
2	*2457.00	85.1 AV			1.39 H	8	54.0	31.1
3	2483.50	56.8 PK	74.0	-17.2	1.39 H	8	25.7	31.1
4	2483.50	46.4 AV	54.0	-7.6	1.39 H	8	15.3	31.1
5	4914.00	41.5 PK	74.0	-32.5	2.09 H	335	39.5	2.0
6	4914.00	28.3 AV	54.0	-25.7	2.09 H	335	26.3	2.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	99.4 PK			3.63 V	90	68.3	31.1
2	*2457.00	86.2 AV			3.63 V	90	55.1	31.1
3	2483.50	57.1 PK	74.0	-16.9	3.63 V	90	26.0	31.1
4	2483.50	46.6 AV	54.0	-7.4	3.63 V	90	15.5	31.1
5	4914.00	42.2 PK	74.0	-31.8	1.56 V	11	40.2	2.0
6	4914.00	28.8 AV	54.0	-25.2	1.56 V	11	26.8	2.0

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 11 : 2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	102.3 PK			1.48 H	3	71.2	31.1
2	*2462.00	89.7 AV			1.48 H	3	58.6	31.1
3	2483.50	69.0 PK	74.0	-5.0	1.48 H	3	37.9	31.1
4	2483.50	52.6 AV	54.0	-1.4	1.48 H	3	21.5	31.1
5	4924.00	41.7 PK	74.0	-32.3	2.07 H	336	39.5	2.2
6	4924.00	28.6 AV	54.0	-25.4	2.07 H	336	26.4	2.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	104.5 PK			3.62 V	95	73.4	31.1
2	*2462.00	90.8 AV			3.62 V	95	59.7	31.1
3	2483.50	71.9 PK	74.0	-2.1	2.62 V	95	40.8	31.1
4	2483.50	53.5 AV	54.0	-0.5	2.62 V	95	22.4	31.1
5	4924.00	42.7 PK	74.0	-31.3	1.58 V	14	40.5	2.2
6	4924.00	29.4 AV	54.0	-24.6	1.58 V	14	27.2	2.2

Remarks:

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

9 kHz ~ 30 MHz Data:

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

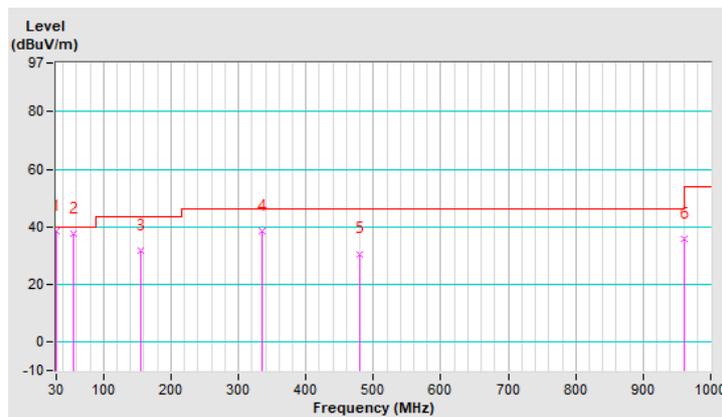
802.11ax (HE40)

RF Mode	TX 802.11ax (HE40)	Channel	CH 11 : 2462 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	30.97	38.4 QP	40.0	-1.6	1.25 H	254	49.0	-10.6
2	56.19	37.6 QP	40.0	-2.4	1.25 H	119	46.6	-9.0
3	156.10	31.8 QP	43.5	-11.7	1.00 H	219	39.9	-8.1
4	335.55	38.7 QP	46.0	-7.3	1.00 H	67	44.7	-6.0
5	480.08	30.6 QP	46.0	-15.4	1.00 H	140	33.6	-3.0
6	960.23	36.0 QP	54.0	-18.0	1.50 H	225	30.0	6.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

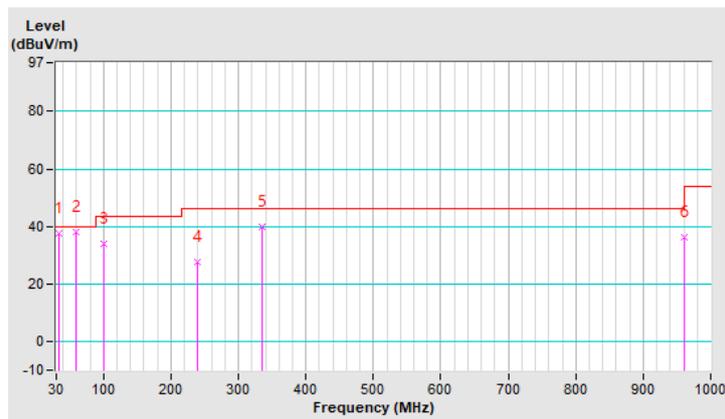


RF Mode	TX 802.11ax (HE40)	Channel	CH 11 : 2462 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	33.88	37.7 QP	40.0	-2.3	1.25 V	152	47.8	-10.1
2	59.10	38.2 QP	40.0	-1.8	1.00 V	265	47.5	-9.3
3	99.84	33.9 QP	43.5	-9.6	1.50 V	188	47.0	-13.1
4	238.55	27.7 QP	46.0	-18.3	1.25 V	163	37.0	-9.3
5	335.55	39.8 QP	46.0	-6.2	1.00 V	152	45.8	-6.0
6	960.23	36.1 QP	54.0	-17.9	1.00 V	117	30.1	6.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

- Note: 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.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 04, 2020	Dec. 03, 2021
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Sep. 04, 2020	Sep. 03, 2021
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 19, 2020	Mar. 18, 2021
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 28, 2020	Aug. 27, 2021
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Shielded Room 1 (Conduction 1).
 3. The VCCI Site Registration No. is C-12040.

4.2.3 Test Procedures

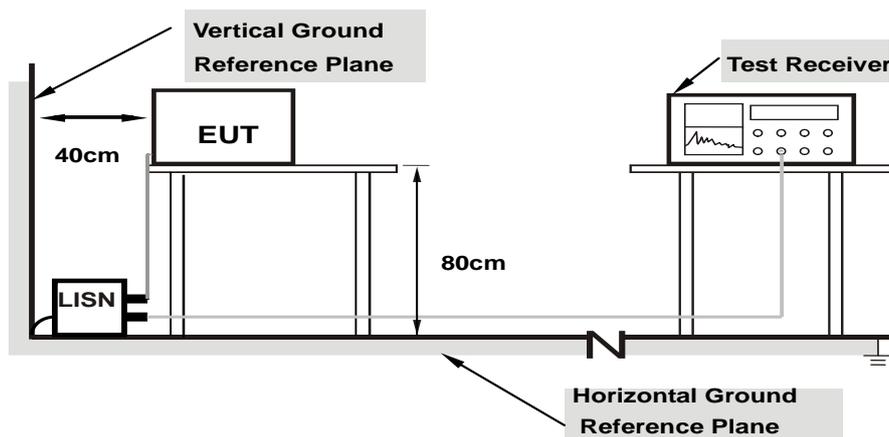
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 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).

4.2.6 EUT Operating Conditions

- a. Placed the EUT on a testing table.
- b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 75%RH
Tested by	Rex Wang	Test Date	2021/2/1

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	0.15000	9.59	27.98	25.41	37.57	35.00	66.00	56.00	-28.43	-21.00
2	0.18277	9.58	32.36	18.40	41.94	27.98	64.36	54.36	-22.42	-26.38
3	0.48700	9.61	22.24	14.45	31.85	24.06	56.22	46.22	-24.37	-22.16
4	0.84462	9.63	14.85	8.95	24.48	18.58	56.00	46.00	-31.52	-27.42
5	4.79000	9.68	15.66	6.49	25.34	16.17	56.00	46.00	-30.66	-29.83
6	16.21800	9.70	22.50	13.92	32.20	23.62	60.00	50.00	-27.80	-26.38

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

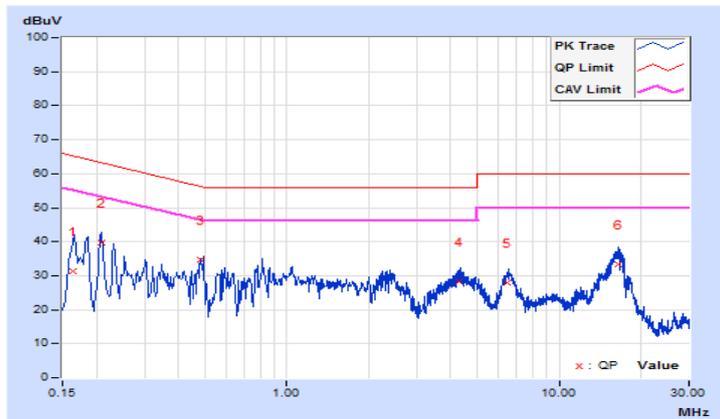


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 75%RH
Tested by	Rex Wang	Test Date	2021/2/1

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	0.16319	9.56	21.68	18.99	31.24	28.55	65.30	55.30	-34.06	-26.75
2	0.20740	9.56	30.33	16.78	39.89	26.34	63.31	53.31	-23.42	-26.97
3	0.48063	9.59	25.04	18.66	34.63	28.25	56.33	46.33	-21.70	-18.08
4	4.26911	9.65	18.61	11.50	28.26	21.15	56.00	46.00	-27.74	-24.85
5	6.41400	9.68	18.43	13.63	28.11	23.31	60.00	50.00	-31.89	-26.69
6	16.42200	9.73	23.75	14.43	33.48	24.16	60.00	50.00	-26.52	-25.84

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



4.3 Conducted Output Power Measurement

4.3.1 Limits of Conducted Output Power Measurement

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,

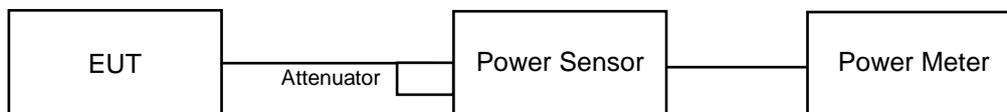
Array Gain = 0 dB (i.e., no array gain) for NANT \leq 4;

Array Gain = 0 dB (i.e., no array gain) for channel widths \geq 40 MHz for any NANT;

Array Gain = $5 \log(\text{NANT}/\text{NSS})$ dB or 3 dB, whichever is less for 20 MHz channel widths with NANT \geq 5.

For power measurements on all other devices: Array Gain = $10 \log(\text{NANT}/\text{NSS})$ dB.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedures

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Results

(SISO)
802.11b

Channel	Frequency (MHz)	Peak Power (mW)		Peak Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
1	2412	175.792	142.233	22.45	21.53	30	Pass
6	2437	190.985	228.560	22.81	23.59	30	Pass
11	2462	130.617	138.038	21.16	21.40	30	Pass
12	2467	100.462	87.297	20.02	19.41	30	Pass
13	2472	54.576	50.350	17.37	17.02	30	Pass

Channel	Frequency (MHz)	Average Power (mW)		Average Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
1	2412	94.624	83.946	19.76	19.24	30	Pass
6	2437	133.968	131.522	21.27	21.19	30	Pass
11	2462	81.096	82.035	19.09	19.14	30	Pass
12	2467	60.674	49.317	17.83	16.93	30	Pass
13	2472	32.509	28.510	15.12	14.55	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)		Peak Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
1	2412	135.207	156.675	21.31	21.95	30	Pass
6	2437	264.850	266.073	24.23	24.25	30	Pass
11	2462	92.683	94.406	19.67	19.75	30	Pass
12	2467	61.660	75.683	17.90	18.79	30	Pass
13	2472	51.642	49.545	17.13	16.95	30	Pass

Channel	Frequency (MHz)	Average Power (mW)		Average Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
1	2412	49.659	49.204	16.96	16.92	30	Pass
6	2437	111.944	113.240	20.49	20.54	30	Pass
11	2462	31.842	30.832	15.03	14.89	30	Pass
12	2467	22.699	22.387	13.56	13.50	30	Pass
13	2472	15.031	14.322	11.77	11.56	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (mW)		Peak Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
1	2412	139.637	154.525	21.45	21.89	30	Pass
6	2437	277.332	277.332	24.43	24.43	30	Pass
11	2462	142.561	150.314	21.54	21.77	30	Pass
12	2467	81.658	100.925	19.12	20.04	30	Pass
13	2472	62.517	59.566	17.96	17.75	30	Pass

Channel	Frequency (MHz)	Average Power (mW)		Average Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
1	2412	49.317	51.286	16.93	17.10	30	Pass
6	2437	111.429	101.625	20.47	20.07	30	Pass
11	2462	48.195	47.753	16.83	16.79	30	Pass
12	2467	28.379	29.242	14.53	14.66	30	Pass
13	2472	16.482	15.311	12.17	11.85	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Peak Power (mW)		Peak Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
3	2422	143.880	200.447	21.58	23.02	30	Pass
6	2437	147.231	184.927	21.68	22.67	30	Pass
9	2452	123.595	132.130	20.92	21.21	30	Pass
10	2457	86.099	106.170	19.35	20.26	30	Pass
11	2462	64.863	63.533	18.12	18.03	30	Pass

Channel	Frequency (MHz)	Average Power (mW)		Average Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
3	2422	45.082	52.723	16.54	17.22	30	Pass
6	2437	46.666	47.315	16.69	16.75	30	Pass
9	2452	37.584	34.754	15.75	15.41	30	Pass
10	2457	18.664	17.865	12.71	12.52	30	Pass
11	2462	16.106	15.849	12.07	12.00	30	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	Peak Power (mW)		Peak Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
1	2412	177.828	188.799	22.50	22.76	30	Pass
6	2437	271.644	269.153	24.34	24.30	30	Pass
11	2462	156.675	165.196	21.95	22.18	30	Pass
12	2467	112.460	56.364	20.51	17.51	30	Pass
13	2472	58.345	56.234	17.66	17.50	30	Pass

Channel	Frequency (MHz)	Average Power (mW)		Average Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
1	2412	50.816	50.582	17.06	17.04	30	Pass
6	2437	82.604	88.512	19.17	19.47	30	Pass
11	2462	43.251	44.566	16.36	16.49	30	Pass
12	2467	29.717	14.256	14.73	11.54	30	Pass
13	2472	14.555	13.900	11.63	11.43	30	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	Peak Power (mW)		Peak Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
3	2422	147.231	204.174	21.68	23.10	30	Pass
6	2437	140.929	167.109	21.49	22.23	30	Pass
9	2452	108.643	119.674	20.36	20.78	30	Pass
10	2457	78.524	103.753	18.95	20.16	30	Pass
11	2462	61.518	59.156	17.89	17.72	30	Pass

Channel	Frequency (MHz)	Average Power (mW)		Average Power (dBm)		Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 0	Chain 1		
3	2422	45.290	59.704	16.56	17.76	30	Pass
6	2437	44.771	46.026	16.51	16.63	30	Pass
9	2452	33.963	31.623	15.31	15.00	30	Pass
10	2457	17.539	16.904	12.44	12.28	30	Pass
11	2462	15.631	14.622	11.94	11.65	30	Pass

(MIMO)
802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	20.84	20.65	237.684	23.76	30	Pass
6	2437	23.45	23.21	430.527	26.34	30	Pass
11	2462	19.21	19.41	170.608	22.32	30	Pass
12	2467	17.11	17.25	104.472	20.19	30	Pass
13	2472	13.98	14.02	50.350	17.02	30	Pass

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	15.68	15.66	73.790	18.68	30	Pass
6	2437	19.20	19.25	167.494	22.24	30	Pass
11	2462	14.29	14.35	54.075	17.33	30	Pass
12	2467	12.16	12.18	32.961	15.18	30	Pass
13	2472	8.08	8.07	12.853	11.09	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	20.43	20.45	221.309	23.45	30	Pass
6	2437	20.50	20.48	223.872	23.50	30	Pass
9	2452	20.54	20.67	230.144	23.62	30	Pass
10	2457	15.34	15.57	70.307	18.47	30	Pass
11	2462	16.21	16.79	89.536	19.52	30	Pass

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	14.42	14.42	55.335	17.43	30	Pass
6	2437	14.82	14.80	60.534	17.82	30	Pass
9	2452	14.75	14.82	60.256	17.80	30	Pass
10	2457	7.91	7.93	12.388	10.93	30	Pass
11	2462	10.39	10.35	21.777	13.38	30	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	21.32	21.22	267.917	24.28	30	Pass
6	2437	21.85	22.01	311.889	24.94	30	Pass
11	2462	19.11	19.28	166.341	22.21	30	Pass
12	2467	16.12	16.30	83.560	19.22	30	Pass
13	2472	14.01	14.38	52.602	17.21	30	Pass

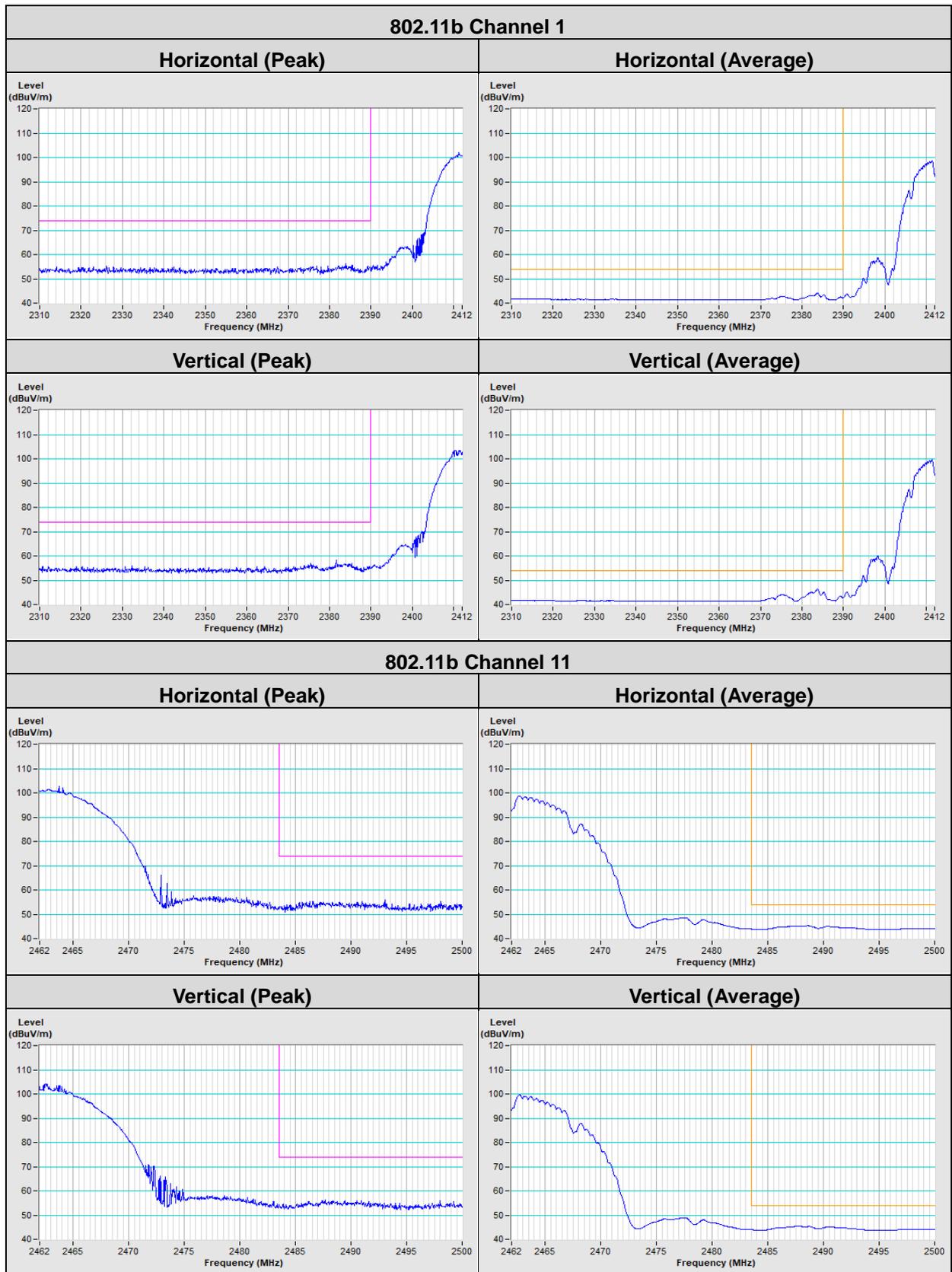
Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	15.86	15.81	76.736	18.85	30	Pass
6	2437	16.60	16.63	91.833	19.63	30	Pass
11	2462	14.14	14.17	52.119	17.17	30	Pass
12	2467	11.13	11.12	25.942	14.14	30	Pass
13	2472	8.15	8.14	13.062	11.16	30	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	21.43	21.56	282.488	24.51	30	Pass
6	2437	21.30	21.60	279.254	24.46	30	Pass
9	2452	21.22	21.12	261.818	24.18	30	Pass
10	2457	15.43	15.58	71.121	18.52	30	Pass
11	2462	17.66	18.01	121.619	20.85	30	Pass

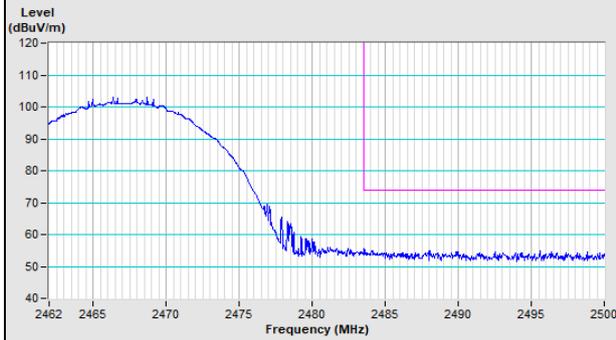
Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	15.00	15.02	63.387	18.02	30	Pass
6	2437	14.98	15.03	63.387	18.02	30	Pass
9	2452	14.65	14.60	58.076	17.64	30	Pass
10	2457	7.43	7.44	11.092	10.45	30	Pass
11	2462	11.75	11.80	30.130	14.79	30	Pass

Annex A- Band Edge Measurement

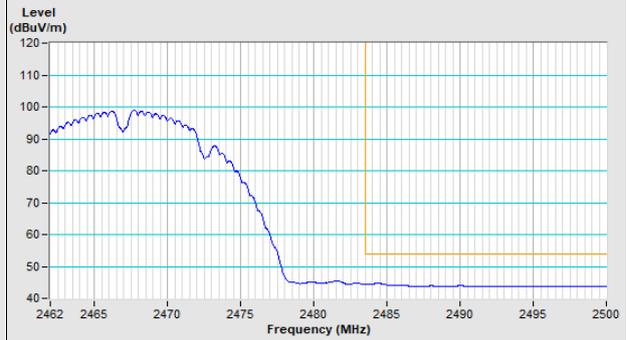


802.11b Channel 12

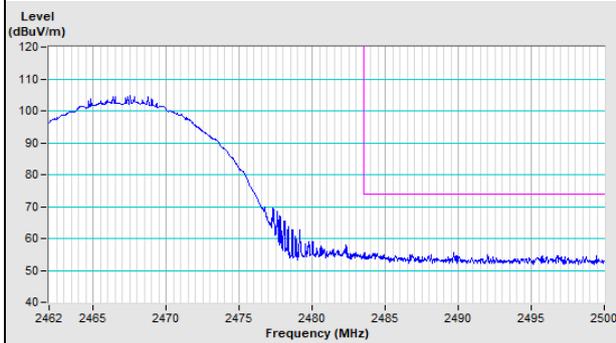
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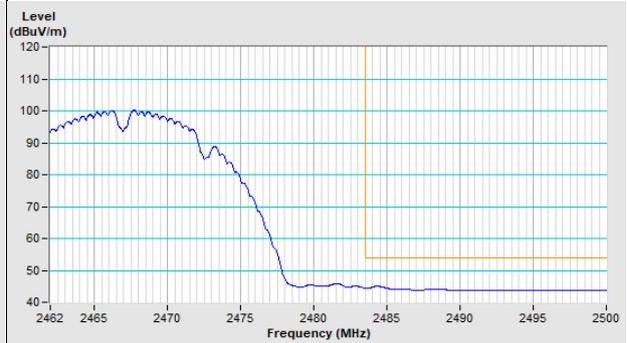
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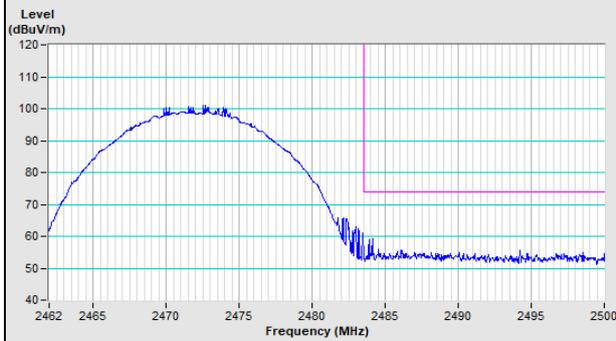


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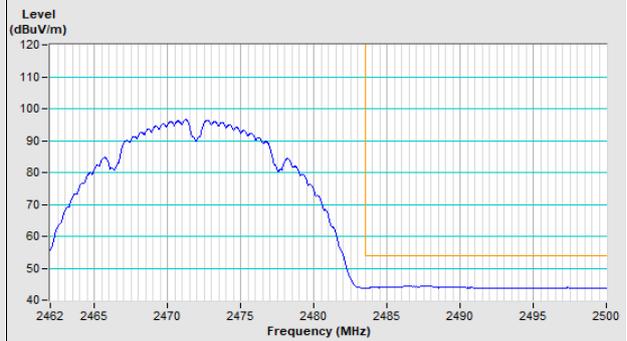


802.11b Channel 13

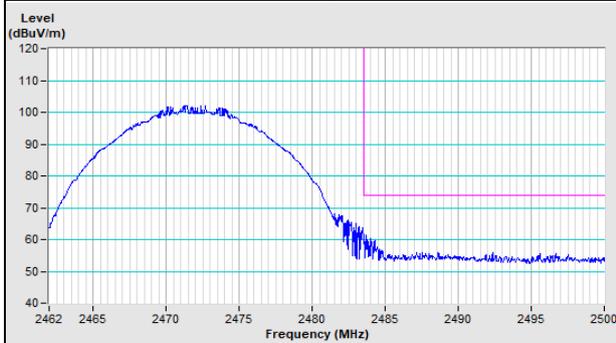
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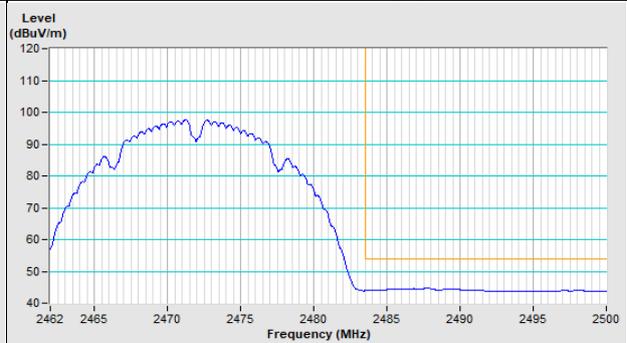
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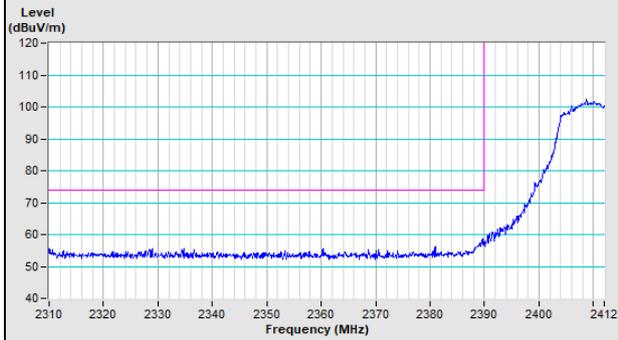


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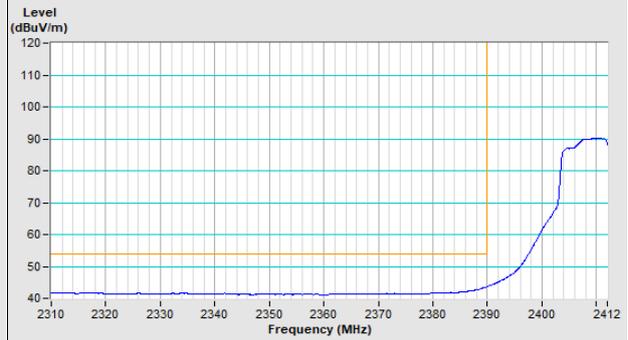


802.11g Channel 1

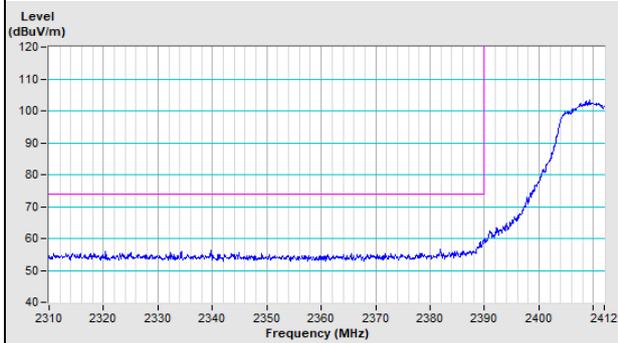
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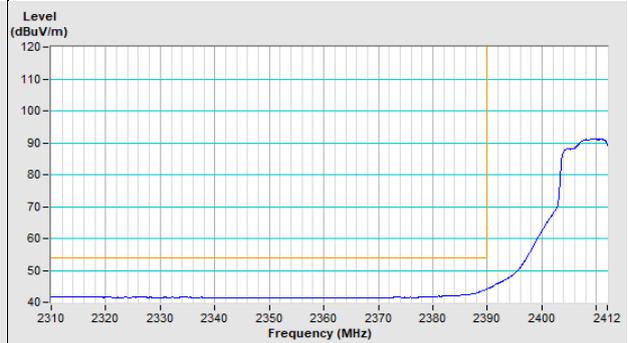
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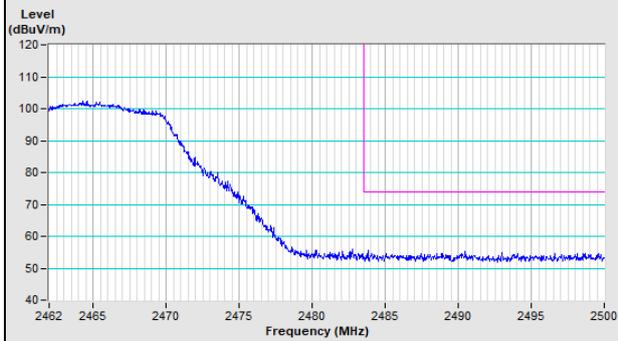


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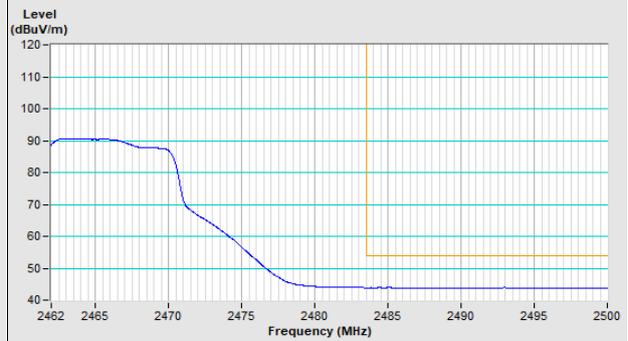


802.11g Channel 11

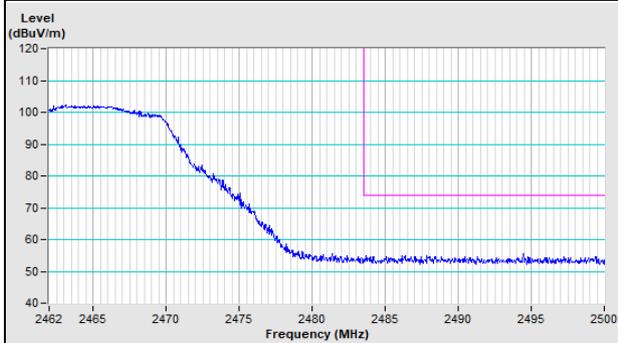
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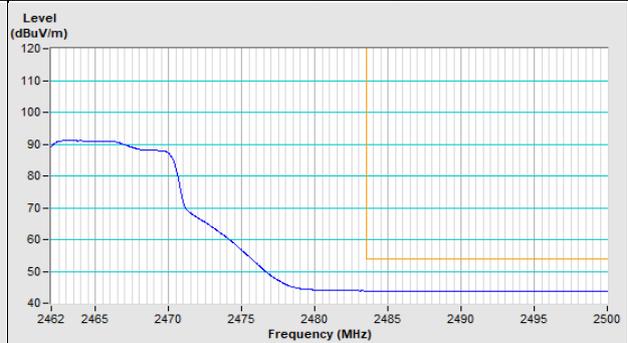
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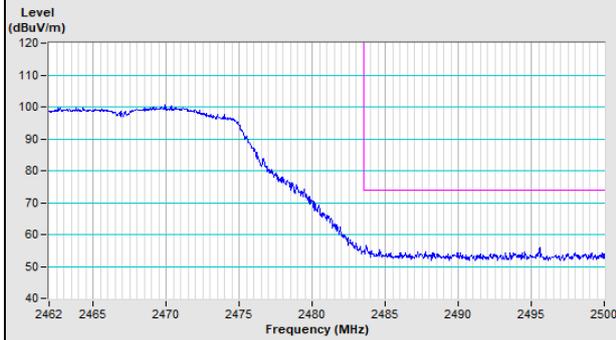


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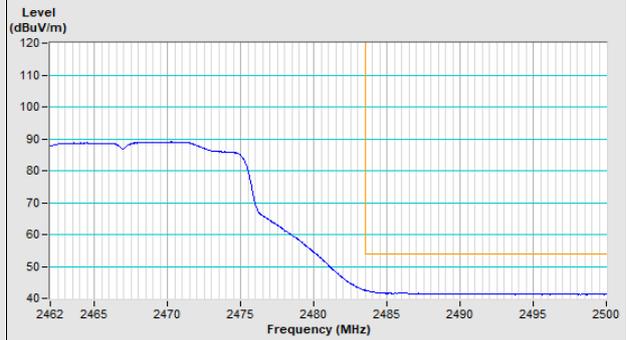


802.11g Channel 12

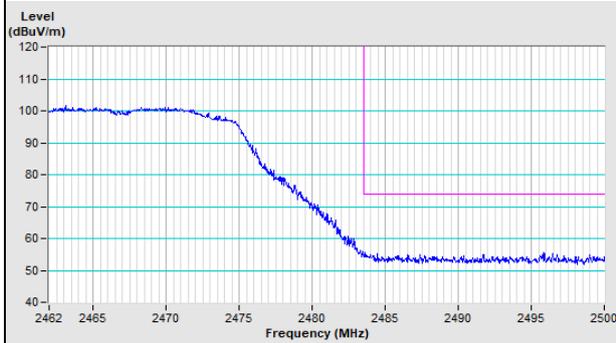
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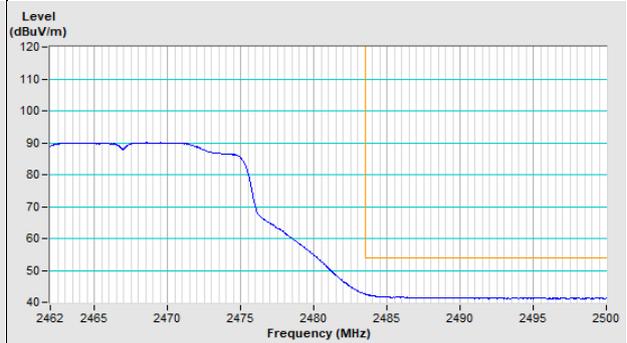
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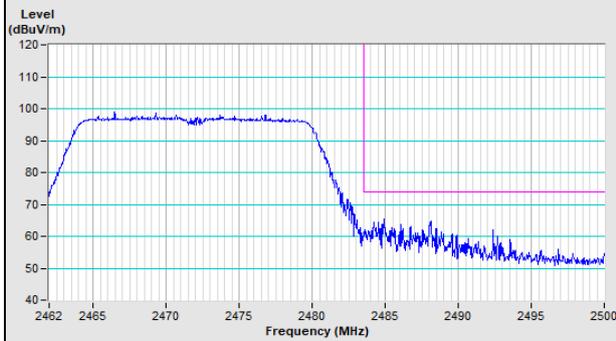


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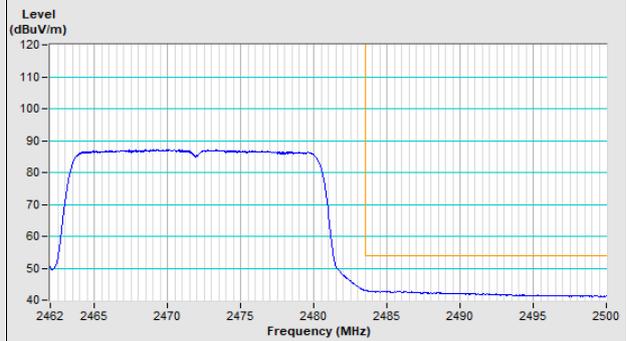


802.11g Channel 13

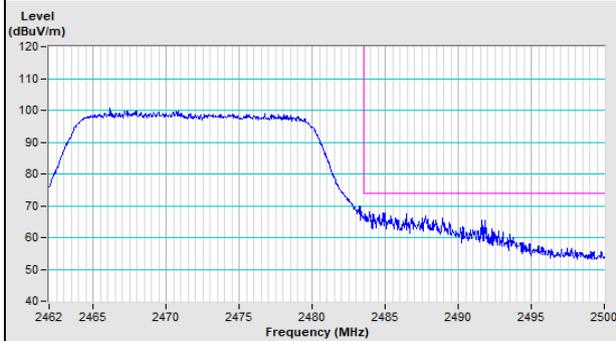
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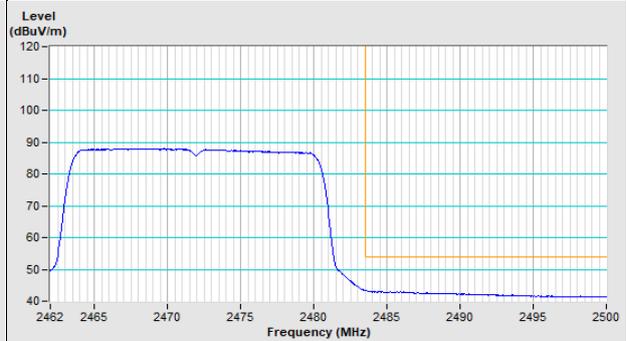
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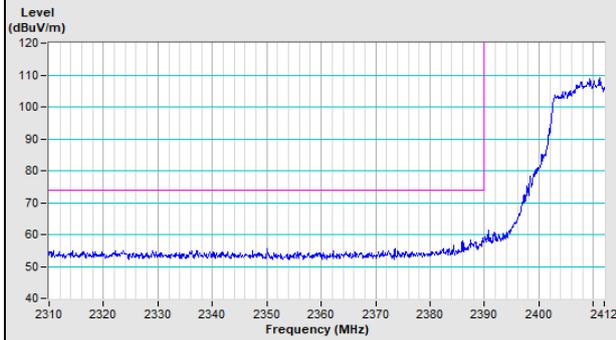


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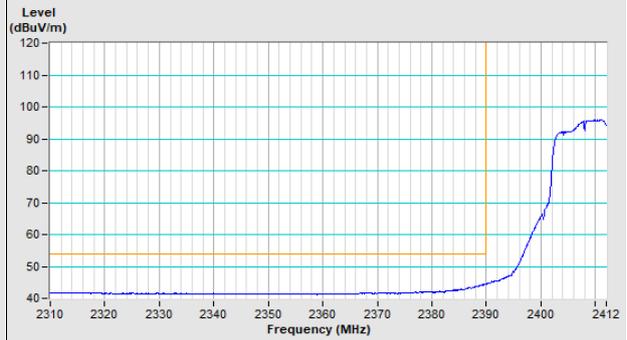


802.11ax (HE20) Channel 1

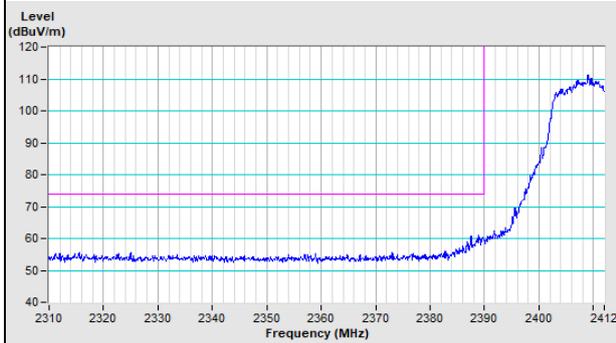
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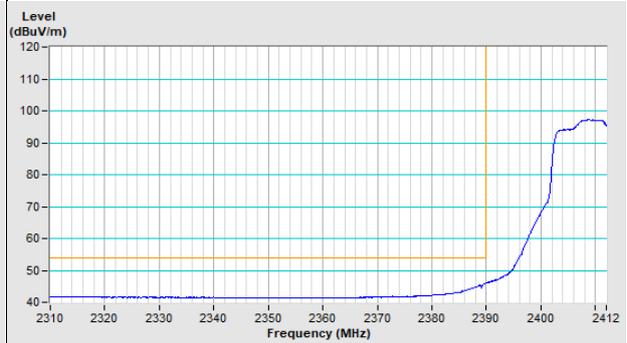
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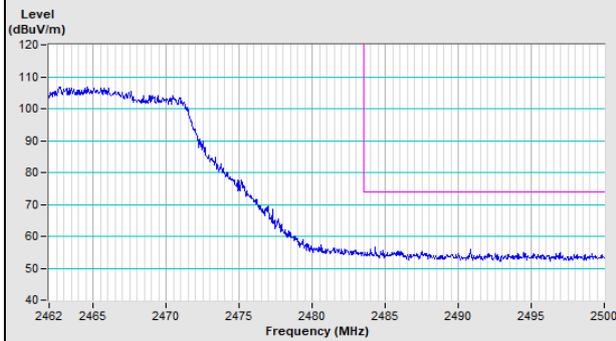


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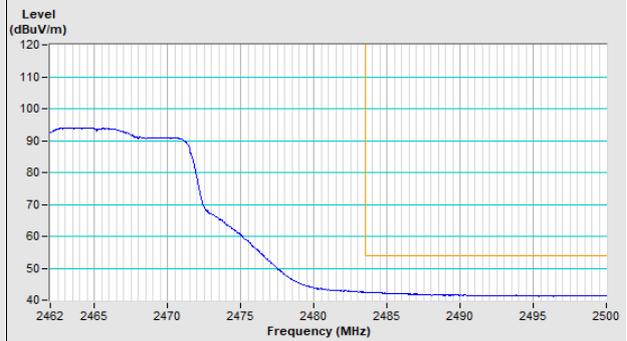


802.11ax (HE20) Channel 11

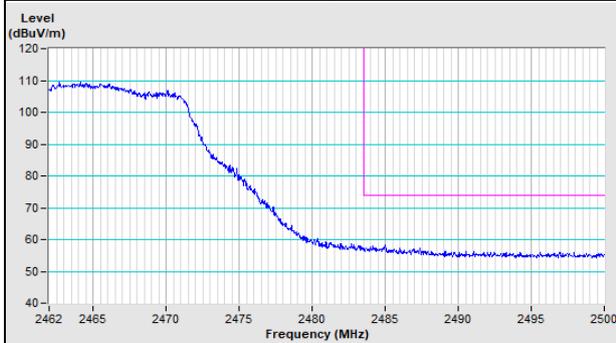
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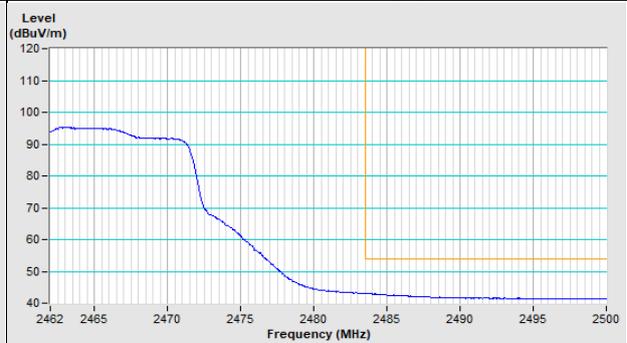
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Vertical (Peak)

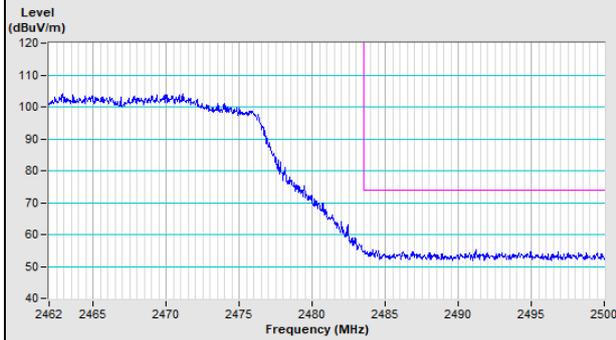


Vertical (Average)

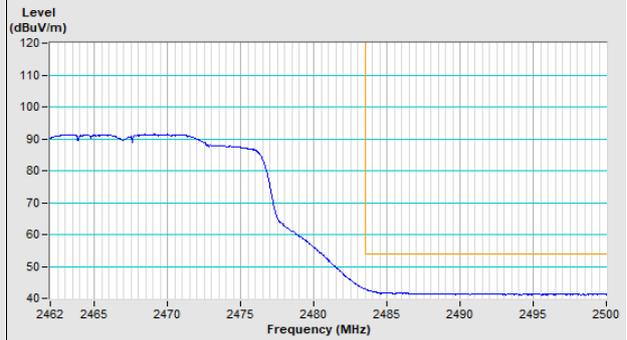


802.11ax (HE20) Channel 12

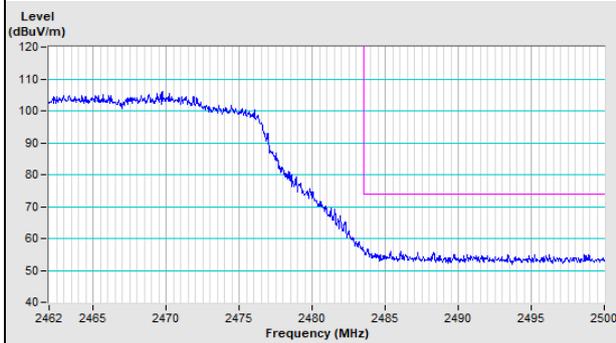
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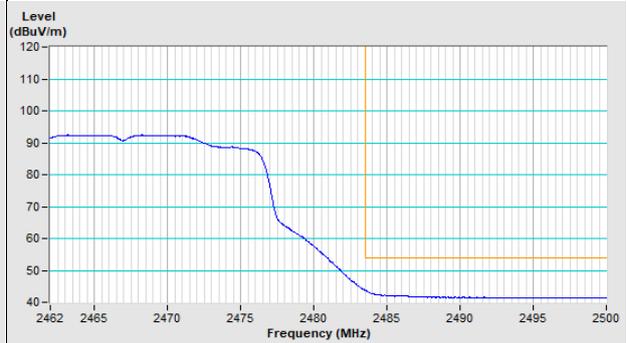
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Vertical (Peak)

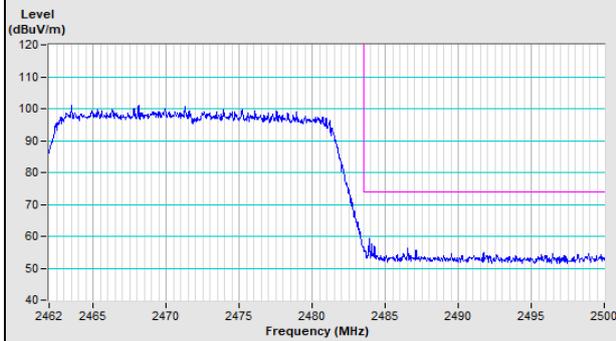


Vertical (Average)

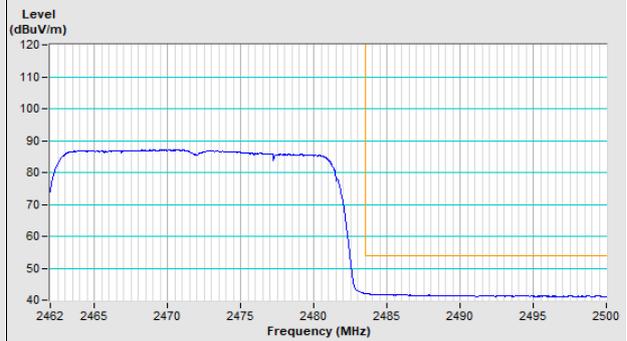


802.11ax (HE20) Channel 13

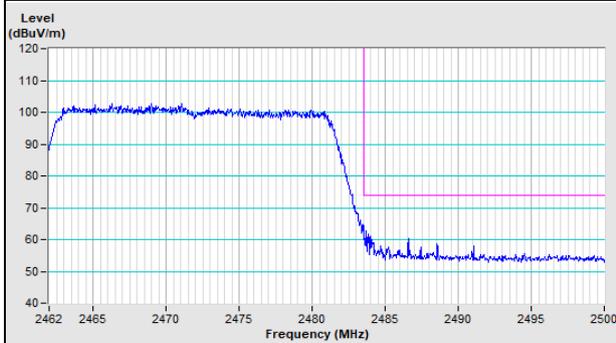
Horizontal (Peak)



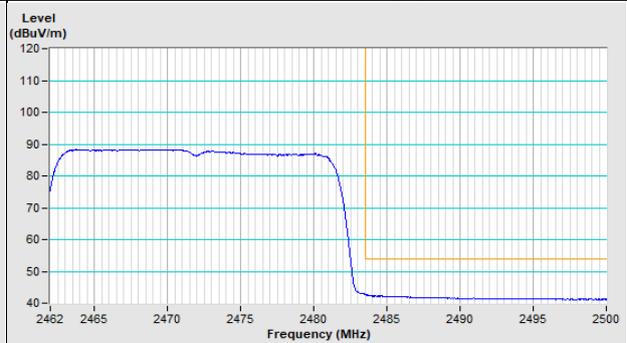
Horizontal (Average)



Vertical (Peak)

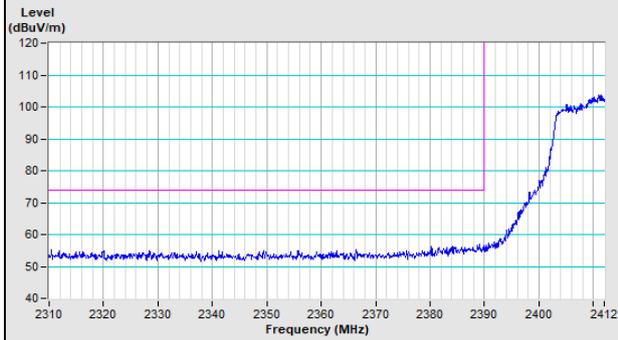


Vertical (Average)

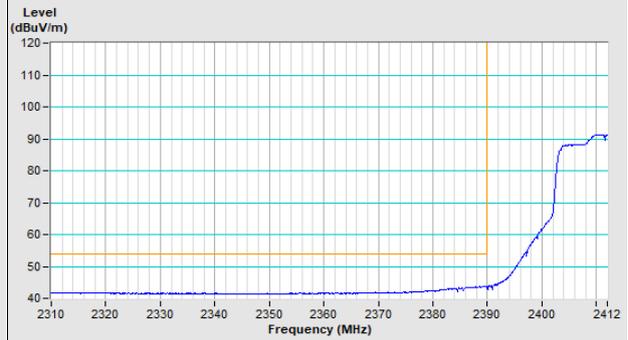


802.11ax (HE40) Channel 3

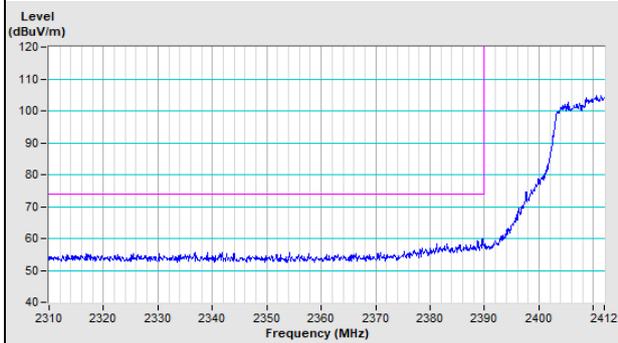
Horizontal (Peak)



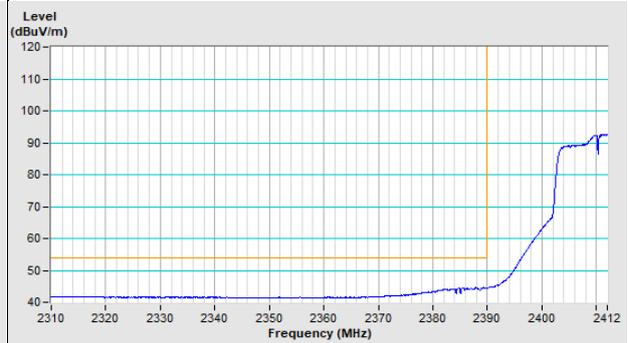
Horizontal (Average)



Vertical (Peak)

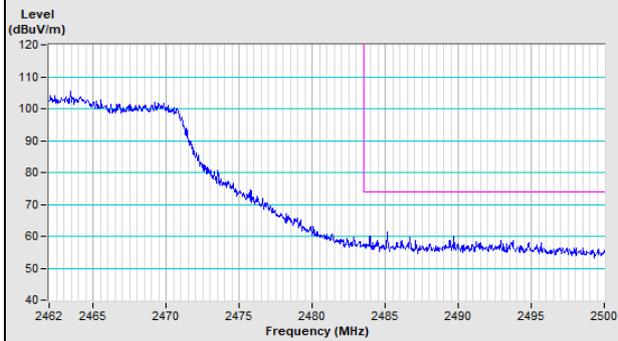


Vertical (Average)

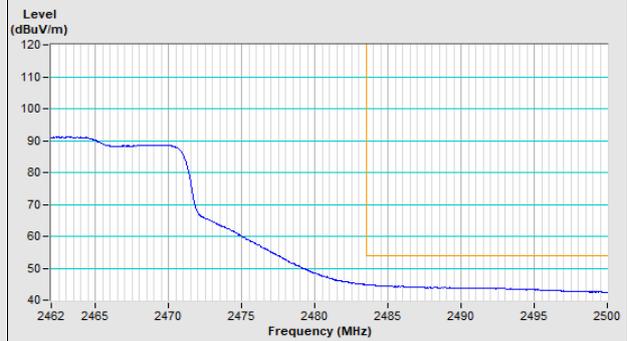


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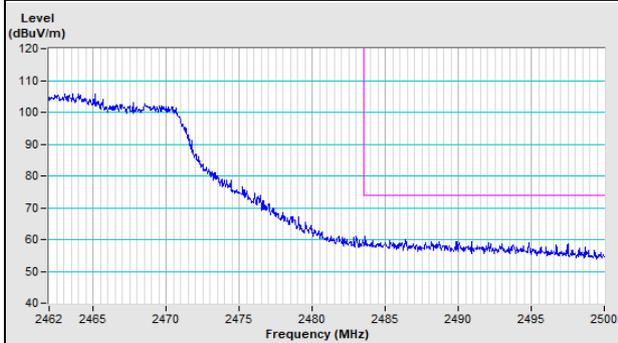
Horizontal (Peak)



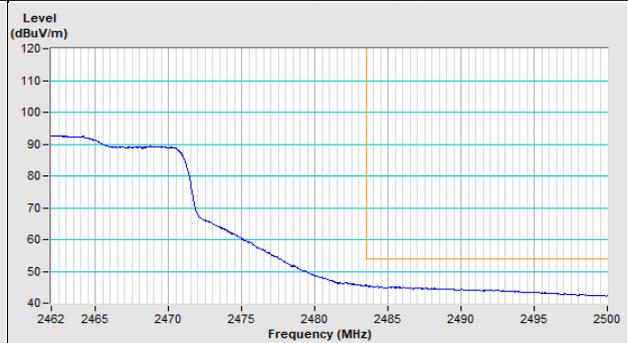
Horizontal (Average)



Vertical (Peak)

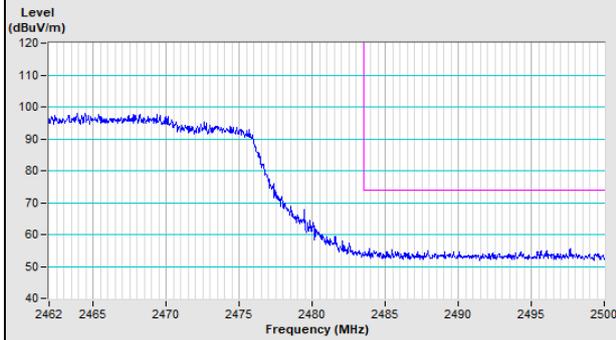


Vertical (Average)

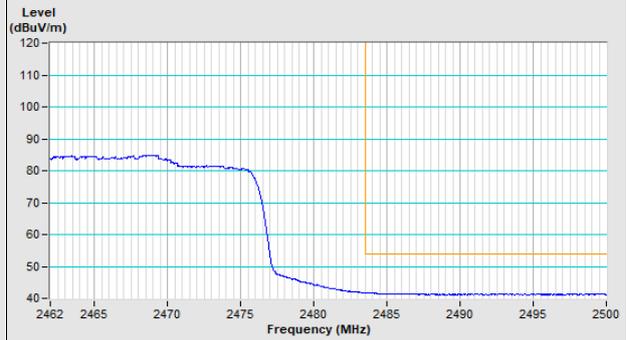


802.11ax (HE40) Channel 10

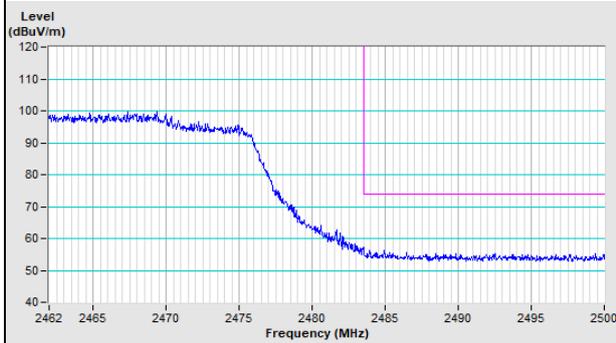
Horizontal (Peak)



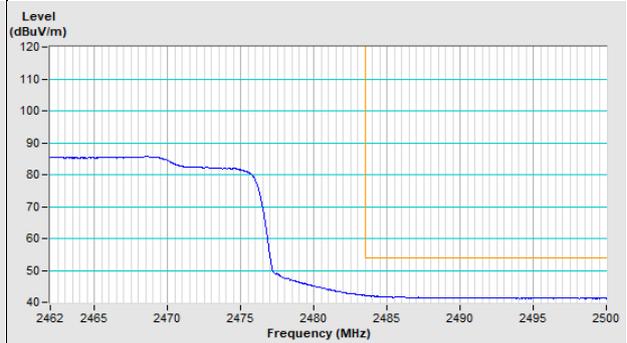
Horizontal (Average)



Vertical (Peak)

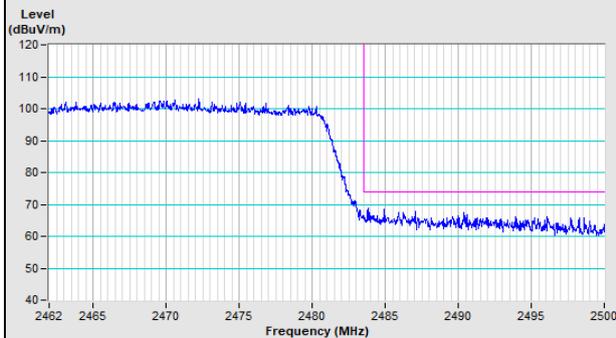


Vertical (Average)

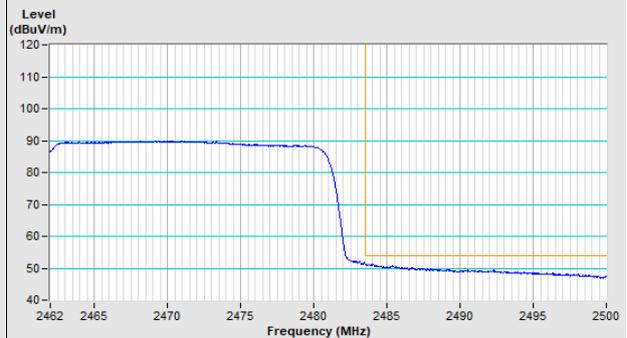


802.11ax (HE40) Channel 11

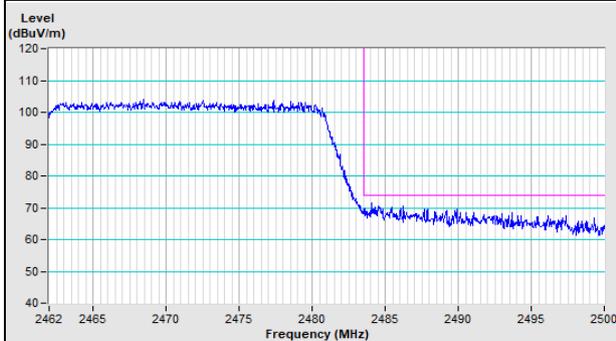
Horizontal (Peak)



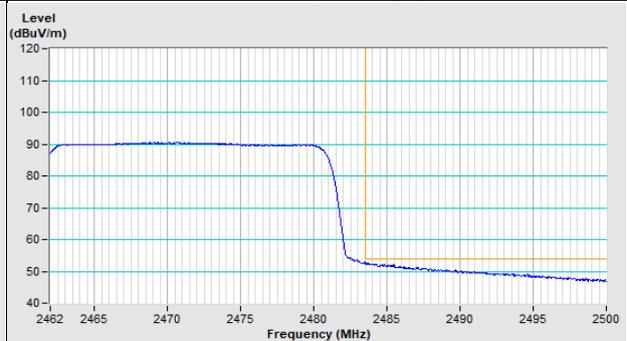
Horizontal (Average)



Vertical (Peak)



Vertical (Average)



5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – 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.

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Web Site: www.bureauveritas-adt.com

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

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