FCC Test Report

Report No.:	RFBCKS-WTW-P22040223
FCC ID:	UXX-S5A235A
Test Model:	S5A235A
Received Date:	Apr. 08, 2022
Test Date:	Apr. 20 ~ Aug. 04, 2022
Issued Date:	Aug. 10, 2022
Applicant:	Cradlepoint, Inc.
Address:	1111 West Jefferson Street ,Boise ,Idaho, United States 83702
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RFBCKS-WTW-P22040223	Original release.	Aug. 10, 2022

1 Certificate of Conformity

Product:	Ruggedized LTE Router
Brand:	Cradlepoint, Inc.
Test Model:	S5A235A
Sample Status:	Engineering sample
Applicant:	Cradlepoint, Inc.
Test Date:	Apr. 20 ~ Aug. 04, 2022
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10:2013

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.

Prepared by : Polly Chien / Specialist , **Date:** Aug. 10, 2022

Approved by : Jeremy Lin / Project Engineer , **Date:** Aug. 10, 2022

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 -10.27dB at 0.34550MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.5dB at 2390.00MHz.
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	Pass	Meet the requirement of limit.
15.247(b)	Conducted power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is R-SMA and SMA not a standard connector.

Note:

1. 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.
2. 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	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Ruggedized LTE Router
Brand	Cradlepoint, Inc.
Test Model	S5A235A
Sample Status	Engineering sample
Power Supply Rating	12Vdc from adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ax: up to 573.5Mbps
Operating Frequency	2412~2462MHz
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: 208.468mW Beamforming Mode: 194.756mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Refer to Note
Cable Supplied	Refer to Note
Contains FCC ID (WWAN module)	N7NEM74B

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	TX Function	Beamforming Mode
802.11b	2TX	Not Support
802.11g	2TX	Not Support
802.11n (HT20)	2TX	Support
802.11n (HT40)	2TX	Support
VHT20	2TX	Support
VHT40	2TX	Support
802.11ax (HE20)	2TX	Support
802.11ax (HE40)	2TX	Support

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40 on 256QAM mode and HE20/HE40 on 802.11ax mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

* For 802.11n/ax, CDD mode and Beamforming mode are presented in power output test item. For other test items, CDD mode is the worst case for final tests after pretesting.

2. After pretest OFDMA mode, the Full RU is the worst case and record in this report.

3. The following antennas were provided to the EUT.

Ant. No.	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range (MHz)	Antenna Type	Connector Type
Wi-Fi Set1	1	Cradlepoint	test antenna 1	5.5069	2400-2483.5	Monopole	R-SMA
				5.8125	5150-5250	Monopole	R-SMA
				5.7725	5250-5350	Monopole	R-SMA
				5.7133	5425-5725	Monopole	R-SMA
				5.9957	5725-5850	Monopole	R-SMA
	2	Cradlepoint	test antenna 1	5.5069	2400-2483.5	Monopole	R-SMA
				5.8125	5150-5250	Monopole	R-SMA
				5.7725	5250-5350	Monopole	R-SMA
				5.7133	5425-5725	Monopole	R-SMA
				5.9957	5725-5850	Monopole	R-SMA
Wi-Fi Set2	1	PANORAMA	LG-IN2457	2	2400-2483.5	Monopole	R-SMA
				1.1	5150-5250	Monopole	R-SMA
				2.4	5250-5350	Monopole	R-SMA
				3.1	5425-5725	Monopole	R-SMA
				3.5	5725-5850	Monopole	R-SMA
	2	PANORAMA	LG-IN2457	2.4	2400-2483.5	Monopole	R-SMA
				0.9	5150-5250	Monopole	R-SMA
				1.7	5250-5350	Monopole	R-SMA
				2.9	5425-5725	Monopole	R-SMA
				3.5	5725-5850	Monopole	R-SMA
Wi-Fi Set3	1	WNC	170836-000	2.47	2400-2483.5	Dipole	R-SMA
				2.18	5150-5250	Dipole	R-SMA
				2.19	5250-5350	Dipole	R-SMA
				2.14	5425-5725	Dipole	R-SMA
				2.47	5725-5850	Dipole	R-SMA
	2	WNC	170836-000	2.47	2400-2483.5	Dipole	R-SMA
				2.18	5150-5250	Dipole	R-SMA
				2.19	5250-5350	Dipole	R-SMA
				2.14	5425-5725	Dipole	R-SMA
				2.47	5725-5850	Dipole	R-SMA
BT	1	Cradlepoint	170847-000	2.16	2400-2500	Dipole	R-SMA
GPS	1	PANORAMA	LG-IN2457	26	1562-1612	Dipole	SMA
GPS	2	Taoglas	AA.162	30	1562-1612	Dipole	SMA
LTE Set1	1	Cradlepoint	170801-000	1.42	619-790	Dipole	SMA
				0.88	1445-1515	Dipole	SMA
				2.69	1710-2700	Dipole	SMA
				4.13	3400-3700	Dipole	SMA
				4.29	5150-5925	Dipole	SMA
LTE Set2	2	Cradlepoint	170801-000	1.42	619-790	Dipole	SMA
				0.88	1445-1515	Dipole	SMA
				2.69	1710-2700	Dipole	SMA
				4.13	3400-3700	Dipole	SMA
				4.29	5150-5925	Dipole	SMA

Ant. No.	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range (MHz)	Antenna Type	Connector Type
LTE Set1	1	PANORAMA	LG-IN2457	0.5	617-698	Monopole	SMA
				1.3	699-798	Monopole	SMA
				1.9	807- 862	Monopole	SMA
				1.6	880-960	Monopole	SMA
				1.5	1427-1518	Monopole	SMA
				2	1625-1661	Monopole	SMA
				1.6	1710-1920	Monopole	SMA
				2.2	1920-2170	Monopole	SMA
				1.2	2300-2400	Monopole	SMA
				1.3	2496-2690	Monopole	SMA
				2.2	3300-4200	Monopole	SMA
				1.9	4400-5000	Monopole	SMA
LTE Set2	2	PANORAMA	LG-IN2457	0.15	617-698	Monopole	SMA
				1.5	699-798	Monopole	SMA
				2	807- 862	Monopole	SMA
				2	880-960	Monopole	SMA
				2.6	1427-1518	Monopole	SMA
				1.8	1625-1661	Monopole	SMA
				1.6	1710-1920	Monopole	SMA
				2	1920-2170	Monopole	SMA
				1.5	2300-2400	Monopole	SMA
				1.4	2496-2690	Monopole	SMA
				2.6	3300-4200	Monopole	SMA
				1.7	4400-5000	Monopole	SMA

* Detail antenna specification please refer to antenna datasheet.
*After the monopole antennas pre-test, the worst case is the Wi-Fi Set1 antenna with maximum antenna gain, so it was finally selected for testing. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

4. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter 1	ADP	WA-36N12R	I/P: 100-240Vac, 50-60Hz, 0.9A O/P: 12.0Vdc, 3.0A Power cable: 1.5m without core
Adapter 2	Ktec	KSA-36W-120300D5	I/P: 100-240V~50/60Hz, 1.0A O/P: 12.0Vdc, 3.0A, 36.0W Power cable: 1.42m without core
Nebula dock (Expansion dock) Support Unit	Cradlepoint, Inc.	S0A235A	-

5. The EUT has two different configuration, after pretest the original one was the worst case for final test.

Configuration		
PCBA	PHY IC	eMMC
Original	QCA-8081	MTFC8GAMALGT-AAT
2nd Source	QCA-8080	THGBMJG6C1LBAU7

3.2 Description of Test Modes

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

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

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

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Antenna	Description
	RE≥1G	RE<1G	PLC	APCM		
A1	√	√	√	√	Wi-Fi Set1 (Monopole)	EUT + Adapter 1
A2	-	√	√	-		EUT + Adapter 2
B1	√	√	√	-	Wi-Fi Set3 (Dipole)	EUT + Adapter 1
B2	-	√	√	-		EUT + Adapter 2

Where RE≥1G: Radiated Emission above 1GHz & Bandedge Measurement RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission APCM: Antenna Port Conducted Measurement

Note:

1. The EUT's antenna was positioned and tested under the listed conditions:
   a.) The Monopole Antenna Parallel(A1, A2)
   b.) The Dipole Antenna's angle of 90 degrees(B1, B2)
2. Radiated emission (below 1GHz) and power line conducted emission test items chosen the worst maximum power.
3. "-" means no effect.

Radiated Emission Test (Above 1GHz):

☒ 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)	Remark
A1, B1	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	-
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	-
	802.11ax (HE20)	1 to 11	1, 6, 11	OFDMA	BPSK	MCS0	-
	802.11ax (HE40)	3 to 9	3, 6, 9	OFDMA	BPSK	MCS0	-

Radiated Emission Test (Below 1GHz):

☒ 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)	Remark
A1, A2, B1, B2	802.11ax (HE20)	1 to 11	6	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)	Remark
A1, A2, B1, B2	802.11ax (HE20)	1 to 11	6	OFDMA	BPSK	MCS0	-

Antenna Port Conducted 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)	Remark
A1	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	-
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	-
	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0	-
	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	MCS0	-
	VHT20	1 to 11	1, 6, 11	OFDM	BPSK	MCS0	-
	VHT40	3 to 9	3, 6, 9	OFDM	BPSK	MCS0	-
	802.11ax (HE20)	1 to 11	1, 6, 11	OFDMA	BPSK	MCS0	-
	802.11ax (HE40)	3 to 9	3, 6, 9	OFDMA	BPSK	MCS0	-

* 802.11n, VHT20/ VHT40 modes are for conducted output power measurement only. For other test items, only test 802.11b/g, 802.11ax modes.

Test Condition:

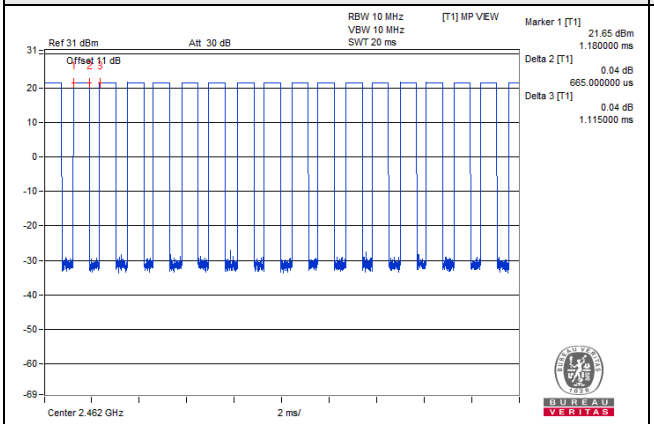
Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	22 deg. C, 70% RH	120Vac, 60Hz	Greg Lin,
RE<1G	23 deg. C, 67% RH	120Vac, 60Hz	Adair Peng, Rex Wang
PLC	25 deg. C, 75% RH	120Vac, 60Hz	Rex Wang
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Ivan Tseng, Chun Wu

3.3 Duty Cycle of Test Signal

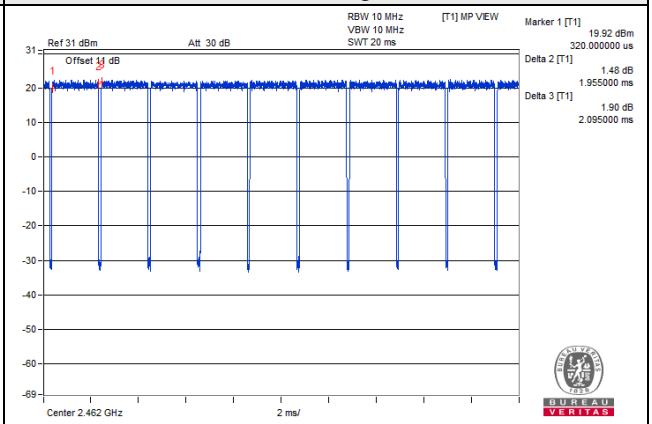
Duty cycle of test signal is < 98%, duty factor is required.

802.11b: Duty cycle = 0.665ms/1.115ms = 0.596, Duty factor = 10 * log (1/0.596) = 2.24
802.11g: Duty cycle = 1.955ms/2.095ms = 0.933, Duty factor = 10 * log (1/0.933) = 0.30
802.11ax (HE20): Duty cycle = 5.435ms/5.950ms= 0.913, Duty factor = 10 * log (1/0.913) = 0.39
802.11ax (HE40): Duty cycle = 5.400ms/5.965ms = 0.905, Duty factor = 10 * log (1/0.905) = 0.43

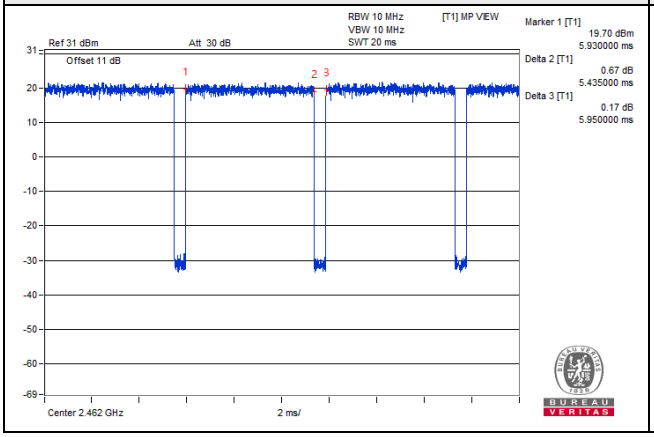
802.11b



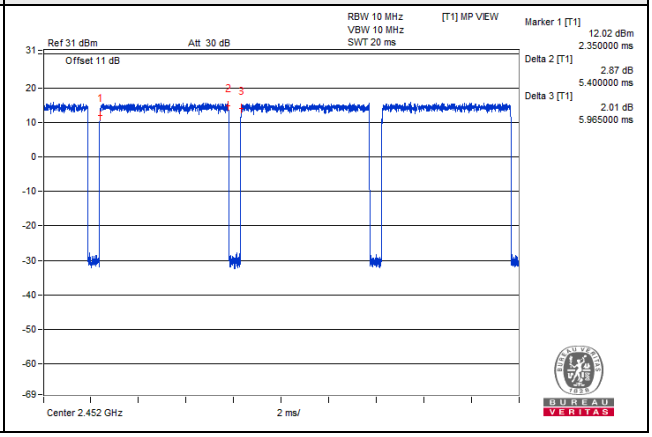
802.11g



802.11ax (HE20)



802.11ax (HE40)



3.4 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.

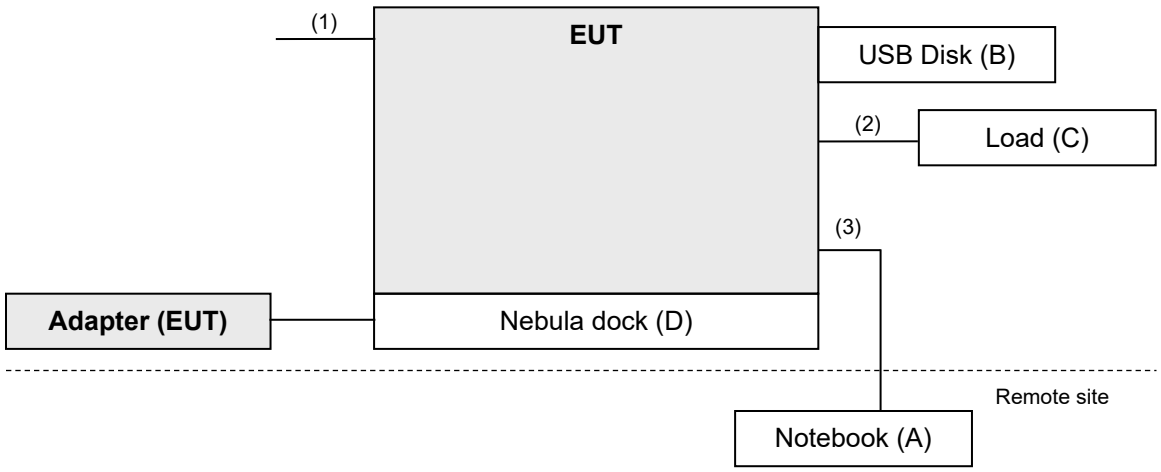
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	Inspiron 14R	8LRKKW1	FCC DoC Approved	Provided by Lab
B.	USB Disk	SanDisk	SDDDC3	NA	NA	Provided by Lab
C.	Load	NA	NA	NA	NA	Provided by Lab
D.	Nebula dock (Expansion dock)	Cradlepoint, Inc.	S0A235A	NA	NA	Provided by client

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RS232 Cable	1	1	N	0	Provided by Lab
2.	LAN Cable	1	1.5	N	0	Provided by Lab RJ45, Cat.5e
3.	LAN Cable	1	10	N	0	Provided by Lab RJ45, Cat.5e

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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 15.247 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 30dB 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 1000MHz, 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 20dB under any condition of modulation.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSV40	100979	Mar. 25, 2022	Mar. 24, 2023
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 27, 2022	Apr. 26, 2023
Spectrum Analyzer ROHDE & SCHWARZ	FSW43	101867	Jan. 07, 2022	Jan. 06, 2023
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Oct. 26, 2021	Oct. 25, 2022
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
			Jul. 27, 2022	Jul. 26, 2023
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jun. 05, 2021	Jun. 04, 2022
			May 14, 2022	May 13, 2023
Preamplifier Agilent (Above 1GHz)	8449B	3008A01962	Oct. 05, 2021	Oct. 04, 2022
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 15, 2022	Jan. 14, 2023
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jan. 15, 2022	Jan. 14, 2023
RF signal cable Woken	8D-FB	Cable-CH9-01	Jun. 05, 2021	Jun. 04, 2022
			May 14, 2022	May 13, 2023
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	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
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	Jan. 18, 2022	Jan. 17, 2023
Wideband Power Sensor KEYSIGHT	N1923A	MY58020002	Jan. 17, 2022	Jan. 16, 2023

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.
3. Tested data: Apr. 19 ~ Jun. 10, 2022 & Aug. 04, 2022

4.1.3 Test Procedures

For Radiated emission below 30MHz

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 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) 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 detect 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:

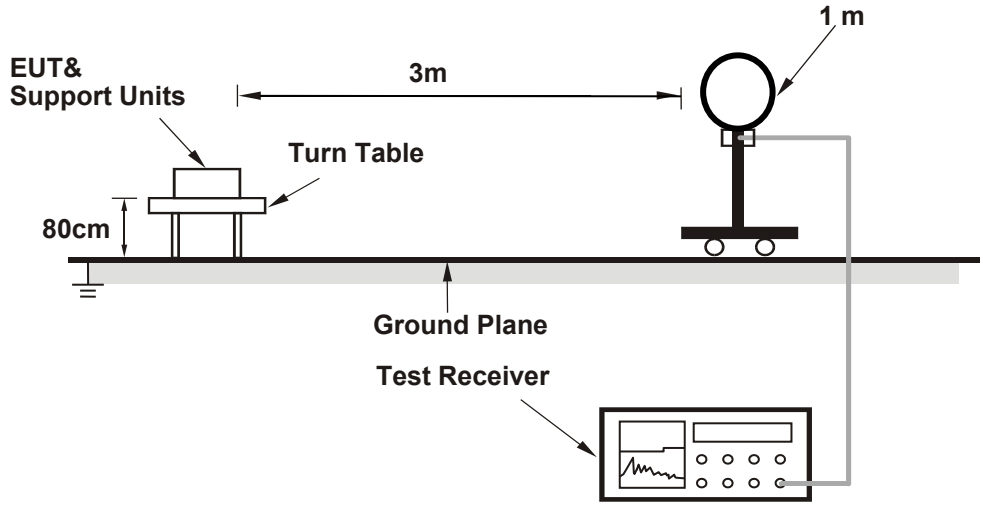
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz. (802.11b: RBW = 1MHz, VBW = 3Hz; 802.11g: RBW = 1MHz, VBW = 1kHz; 802.11ax (HE20): RBW = 1MHz, VBW = 1kHz; 802.11ax (HE40): RBW = 1MHz, VBW = 1kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

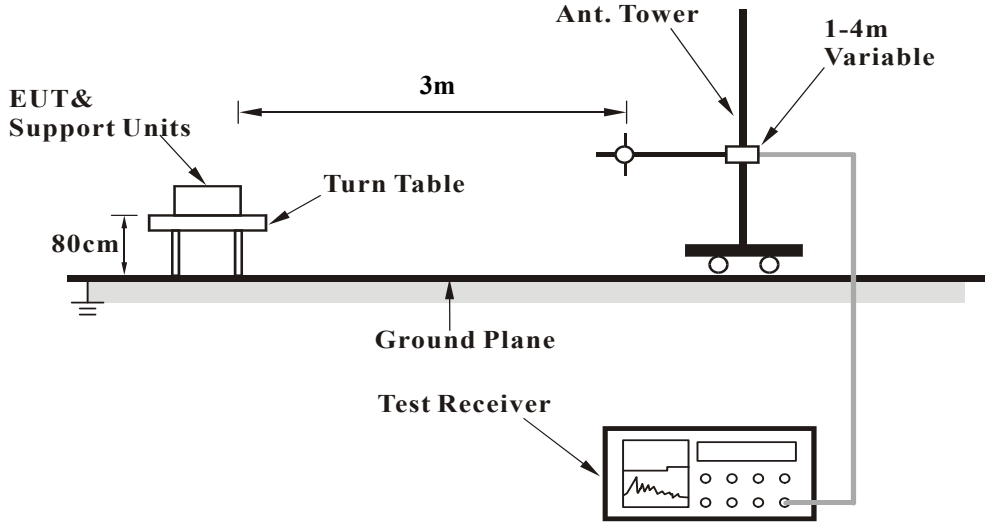
No deviation.

4.1.5 Test Setup

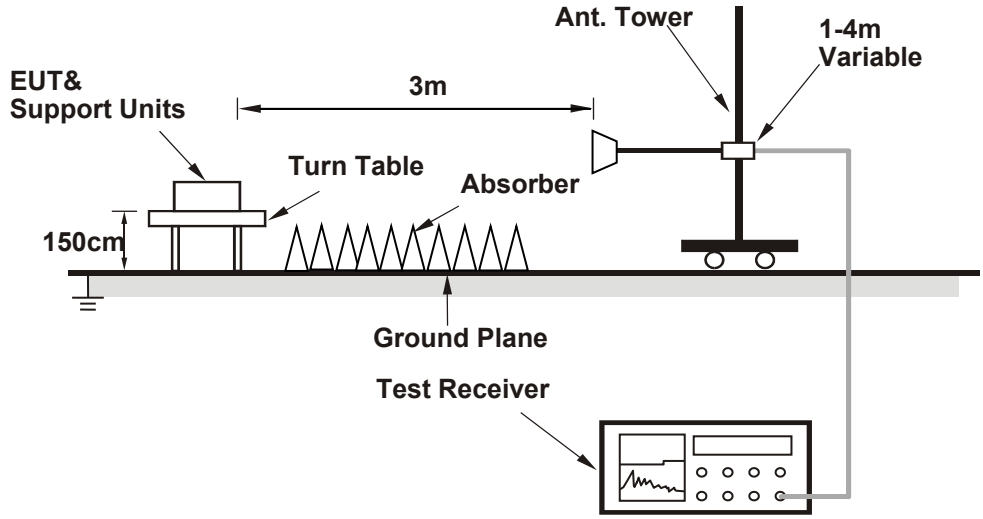
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

a. Placed the EUT on the testing table.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz worst-Case data:

Mode A1

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	2388.00	61.2 PK	74.0	-12.8	2.06 H	298	28.4	32.8
2	2388.00	53.2 AV	54.0	-0.8	2.06 H	298	20.4	32.8
3	*2412.00	119.4 PK			2.06 H	298	86.5	32.9
4	*2412.00	116.8 AV			2.06 H	298	83.9	32.9
5	4824.00	50.0 PK	74.0	-24.0	3.17 H	251	44.3	5.7
6	4824.00	40.9 AV	54.0	-13.1	3.17 H	251	35.2	5.7
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	2388.00	58.4 PK	74.0	-15.6	1.47 V	189	25.6	32.8
2	2388.00	47.4 AV	54.0	-6.6	1.47 V	189	14.6	32.8
3	*2412.00	109.3 PK			1.47 V	189	76.4	32.9
4	*2412.00	106.7 AV			1.47 V	189	73.8	32.9
5	4824.00	50.2 PK	74.0	-23.8	1.58 V	69	44.5	5.7
6	4824.00	42.7 AV	54.0	-11.3	1.58 V	69	37.0	5.7

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.
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	117.7 PK			1.68 H	314	84.9	32.8
2	*2437.00	115.1 AV			1.68 H	314	82.3	32.8
3	4874.00	49.8 PK	74.0	-24.2	3.12 H	243	44.2	5.6
4	4874.00	40.7 AV	54.0	-13.3	3.12 H	243	35.1	5.6
5	7311.00	58.6 PK	74.0	-15.4	1.64 H	325	46.3	12.3
6	7311.00	52.6 AV	54.0	-1.4	1.64 H	325	40.3	12.3
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	*2437.00	107.5 PK			1.46 V	186	74.7	32.8
2	*2437.00	104.9 AV			1.46 V	186	72.1	32.8
3	4874.00	50.2 PK	74.0	-23.8	1.62 V	70	44.6	5.6
4	4874.00	42.7 AV	54.0	-11.3	1.62 V	70	37.1	5.6
5	7311.00	59.1 PK	74.0	-14.9	1.80 V	29	46.8	12.3
6	7311.00	52.8 AV	54.0	-1.2	1.80 V	29	40.5	12.3

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.

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	115.7 PK			2.09 H	313	82.9	32.8
2	*2462.00	113.1 AV			2.09 H	313	80.3	32.8
3	2483.50	60.0 PK	74.0	-14.0	2.09 H	313	27.1	32.9
4	2483.50	50.7 AV	54.0	-3.3	2.09 H	313	17.8	32.9
5	4924.00	49.8 PK	74.0	-24.2	1.67 H	64	44.4	5.4
6	4924.00	42.3 AV	54.0	-11.7	1.67 H	64	36.9	5.4
7	7386.00	57.3 PK	74.0	-16.7	1.81 H	17	45.5	11.8
8	7386.00	51.8 AV	54.0	-2.2	1.81 H	17	40.0	11.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	105.6 PK			1.48 V	191	72.8	32.8
2	*2462.00	103.0 AV			1.48 V	191	70.2	32.8
3	2483.50	58.7 PK	74.0	-15.3	1.48 V	191	25.8	32.9
4	2483.50	48.2 AV	54.0	-5.8	1.48 V	191	15.3	32.9
5	4924.00	49.9 PK	74.0	-24.1	1.67 V	74	44.5	5.4
6	4924.00	42.3 AV	54.0	-11.7	1.67 V	74	36.9	5.4
7	7386.00	57.7 PK	74.0	-16.3	3.70 V	17	45.9	11.8
8	7386.00	52.7 AV	54.0	-1.3	3.70 V	17	40.9	11.8

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 1：2412 MHz
Frequency Range	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	68.5 PK	74.0	-5.5	2.32 H	302	35.7	32.8
2	2390.00	53.1 AV	54.0	-0.9	2.32 H	302	20.3	32.8
3	*2412.00	119.1 PK			2.32 H	302	86.2	32.9
4	*2412.00	109.2 AV			2.32 H	302	76.3	32.9
5	4824.00	47.5 PK	74.0	-26.5	3.15 H	249	41.8	5.7
6	4824.00	34.3 AV	54.0	-19.7	3.15 H	249	28.6	5.7
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	58.7 PK	74.0	-15.3	1.43 V	187	25.9	32.8
2	2390.00	45.2 AV	54.0	-8.8	1.43 V	187	12.4	32.8
3	*2412.00	109.3 PK			1.43 V	187	76.4	32.9
4	*2412.00	99.5 AV			1.43 V	187	66.6	32.9
5	4824.00	49.4 PK	74.0	-24.6	1.63 V	79	43.7	5.7
6	4824.00	36.0 AV	54.0	-18.0	1.63 V	79	30.3	5.7

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.
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	122.1 PK			2.01 H	294	89.3	32.8
2	*2437.00	112.2 AV			2.01 H	294	79.4	32.8
3	4874.00	48.5 PK	74.0	-25.5	3.17 H	252	42.9	5.6
4	4874.00	35.4 AV	54.0	-18.6	3.17 H	252	29.8	5.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	112.1 PK			1.47 V	186	79.3	32.8
2	*2437.00	102.3 AV			1.47 V	186	69.5	32.8
3	4874.00	50.2 PK	74.0	-23.8	1.67 V	79	44.6	5.6
4	4874.00	37.5 AV	54.0	-16.5	1.67 V	79	31.9	5.6

Remarks:

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

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	117.6 PK			1.98 H	294	84.8	32.8
2	*2462.00	107.8 AV			1.98 H	294	75.0	32.8
3	2483.50	65.6 PK	74.0	-8.4	1.98 H	294	32.7	32.9
4	2483.50	53.1 AV	54.0	-0.9	1.98 H	294	20.2	32.9
5	4924.00	46.7 PK	74.0	-27.3	3.21 H	247	41.3	5.4
6	4924.00	33.9 AV	54.0	-20.1	3.21 H	247	28.5	5.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	107.6 PK			1.48 V	187	74.8	32.8
2	*2462.00	97.7 AV			1.48 V	187	64.9	32.8
3	2483.50	58.1 PK	74.0	-15.9	1.48 V	187	25.2	32.9
4	2483.50	47.5 AV	54.0	-6.5	1.48 V	187	14.6	32.9
5	4924.00	48.8 PK	74.0	-25.2	1.69 V	77	43.4	5.4
6	4924.00	35.2 AV	54.0	-18.8	1.69 V	77	29.8	5.4

Remarks:

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

RF Mode	TX 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	63.9 PK	74.0	-10.1	2.18 H	309	31.1	32.8
2	2390.00	52.9 AV	54.0	-1.1	2.18 H	309	20.1	32.8
3	*2412.00	120.7 PK			2.18 H	309	87.8	32.9
4	*2412.00	108.1 AV			2.18 H	309	75.2	32.9
5	4824.00	48.3 PK	74.0	-25.7	3.14 H	256	42.6	5.7
6	4824.00	33.8 AV	54.0	-20.2	3.14 H	256	28.1	5.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	61.2 PK	74.0	-12.8	1.44 V	185	28.4	32.8
2	2390.00	48.4 AV	54.0	-5.6	1.44 V	185	15.6	32.8
3	*2412.00	111.0 PK			1.44 V	185	78.1	32.9
4	*2412.00	98.3 AV			1.44 V	185	65.4	32.9
5	4824.00	49.0 PK	74.0	-25.0	1.71 V	84	43.3	5.7
6	4824.00	34.4 AV	54.0	-19.6	1.71 V	84	28.7	5.7

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.
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	124.0 PK			2.18 H	310	91.2	32.8
2	*2437.00	111.3 AV			2.18 H	310	78.5	32.8
3	4874.00	48.4 PK	74.0	-25.6	3.14 H	249	42.8	5.6
4	4874.00	33.9 AV	54.0	-20.1	3.14 H	249	28.3	5.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	113.9 PK			1.44 V	175	81.1	32.8
2	*2437.00	101.2 AV			1.44 V	175	68.4	32.8
3	4874.00	48.8 PK	74.0	-25.2	1.55 V	71	43.2	5.6
4	4874.00	34.2 AV	54.0	-19.8	1.55 V	71	28.6	5.6

Remarks:

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

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	118.0 PK			2.09 H	310	85.2	32.8
2	*2462.00	105.4 AV			2.09 H	310	72.6	32.8
3	2483.50	65.4 PK	74.0	-8.6	2.09 H	310	32.5	32.9
4	2483.50	53.1 AV	54.0	-0.9	2.09 H	310	20.2	32.9
5	4924.00	48.3 PK	74.0	-25.7	3.14 H	251	42.9	5.4
6	4924.00	33.7 AV	54.0	-20.3	3.14 H	251	28.3	5.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	107.9 PK			1.37 V	193	75.1	32.8
2	*2462.00	95.4 AV			1.37 V	193	62.6	32.8
3	2483.50	57.3 PK	74.0	-16.7	1.37 V	193	24.4	32.9
4	2483.50	46.8 AV	54.0	-7.2	1.37 V	193	13.9	32.9
5	4924.00	48.5 PK	74.0	-25.5	1.71 V	83	43.1	5.4
6	4924.00	33.8 AV	54.0	-20.2	1.71 V	83	28.4	5.4

Remarks:

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

RF Mode	TX 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	70.3 PK	74.0	-3.7	2.23 H	306	37.5	32.8
2	**2390.00**	**53.5 AV**	**54.0**	**-0.5**	**2.23 H**	**306**	**20.7**	**32.8**
3	*2422.00	117.0 PK			2.23 H	306	84.1	32.9
4	*2422.00	104.8 AV			2.23 H	306	71.9	32.9
5	4844.00	48.3 PK	74.0	-25.7	3.14 H	252	42.6	5.7
6	4844.00	33.8 AV	54.0	-20.2	3.14 H	252	28.1	5.7
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	1.53 V	177	33.5	32.8
2	2390.00	49.7 AV	54.0	-4.3	1.53 V	177	16.9	32.8
3	*2422.00	107.3 PK			1.53 V	177	74.4	32.9
4	*2422.00	94.6 AV			1.53 V	177	61.7	32.9
5	4844.00	48.7 PK	74.0	-25.3	1.66 V	79	43.0	5.7
6	4844.00	34.1 AV	54.0	-19.9	1.66 V	79	28.4	5.7

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.
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	2390.00	67.7 PK	74.0	-6.3	2.16 H	309	34.9	32.8
2	2390.00	52.8 AV	54.0	-1.2	2.16 H	309	20.0	32.8
3	*2437.00	118.2 PK			2.16 H	309	85.4	32.8
4	*2437.00	105.6 AV			2.16 H	309	72.8	32.8
5	4874.00	48.0 PK	74.0	-26.0	3.23 H	261	42.4	5.6
6	4874.00	33.6 AV	54.0	-20.4	3.23 H	261	28.0	5.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.9 PK	74.0	-14.1	1.46 V	189	27.1	32.8
2	2390.00	47.2 AV	54.0	-6.8	1.46 V	189	14.4	32.8
3	*2437.00	108.1 PK			1.46 V	189	75.3	32.8
4	*2437.00	95.5 AV			1.46 V	189	62.7	32.8
5	4874.00	48.3 PK	74.0	-25.7	1.59 V	77	42.7	5.6
6	4874.00	33.9 AV	54.0	-20.1	1.59 V	77	28.3	5.6

Remarks:

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

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	113.9 PK			2.10 H	309	81.1	32.8
2	*2452.00	101.2 AV			2.10 H	309	68.4	32.8
3	2483.50	66.0 PK	74.0	-8.0	2.10 H	309	33.1	32.9
4	2483.50	53.1 AV	54.0	-0.9	2.10 H	309	20.2	32.9
5	4904.00	47.6 PK	74.0	-26.4	3.14 H	252	42.2	5.4
6	4904.00	33.2 AV	54.0	-20.8	3.14 H	252	27.8	5.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	104.0 PK			1.47 V	182	71.2	32.8
2	*2452.00	91.3 AV			1.47 V	182	58.5	32.8
3	2483.50	58.1 PK	74.0	-15.9	1.47 V	182	25.2	32.9
4	2483.50	46.3 AV	54.0	-7.7	1.47 V	182	13.4	32.9
5	4904.00	48.0 PK	74.0	-26.0	1.56 V	84	42.6	5.4
6	4904.00	33.6 AV	54.0	-20.4	1.56 V	84	28.2	5.4

Remarks:

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

Mode B1

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	2388.00	57.9 PK	74.0	-16.1	2.17 H	96	25.1	32.8
2	2388.00	47.0 AV	54.0	-7.0	2.17 H	96	14.2	32.8
3	*2412.00	106.2 PK			2.17 H	96	73.3	32.9
4	*2412.00	103.6 AV			2.17 H	96	70.7	32.9
5	4824.00	49.5 PK	74.0	-24.5	2.57 H	136	43.8	5.7
6	4824.00	40.9 AV	54.0	-13.1	2.57 H	136	35.2	5.7
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	2388.00	61.0 PK	74.0	-13.0	2.44 V	257	28.2	32.8
2	2388.00	53.4 AV	54.0	-0.6	2.44 V	257	20.6	32.8
3	*2412.00	116.1 PK			2.42 V	260	83.2	32.9
4	*2412.00	113.5 AV			2.42 V	260	80.6	32.9
5	4824.00	50.0 PK	74.0	-24.0	1.18 V	19	44.3	5.7
6	4824.00	43.3 AV	54.0	-10.7	1.18 V	19	37.6	5.7

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.
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	106.0 PK			2.06 H	74	73.2	32.8
2	*2437.00	103.4 AV			2.06 H	74	70.6	32.8
3	4874.00	49.8 PK	74.0	-24.2	2.52 H	126	44.2	5.6
4	4874.00	40.9 AV	54.0	-13.1	2.52 H	126	35.3	5.6
5	7311.00	57.6 PK	74.0	-16.4	1.61 H	143	45.3	12.3
6	7311.00	48.0 AV	54.0	-6.0	1.61 H	143	35.7	12.3
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	*2437.00	116.5 PK			2.28 V	180	83.7	32.8
2	*2437.00	113.9 AV			2.28 V	180	81.1	32.8
3	4874.00	50.1 PK	74.0	-23.9	1.16 V	12	44.5	5.6
4	4874.00	43.3 AV	54.0	-10.7	1.16 V	12	37.7	5.6
5	7311.00	58.5 PK	74.0	-15.5	1.00 V	290	46.2	12.3
6	7311.00	51.7 AV	54.0	-2.3	1.00 V	290	39.4	12.3

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.

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	105.1 PK			1.00 H	93	72.3	32.8
2	*2462.00	102.5 AV			1.00 H	93	69.7	32.8
3	4924.00	49.8 PK	74.0	-24.2	2.54 H	139	44.4	5.4
4	4924.00	41.7 AV	54.0	-12.3	2.54 H	139	36.3	5.4
5	7386.00	57.4 PK	74.0	-16.6	1.67 H	142	45.6	11.8
6	7386.00	47.6 AV	54.0	-6.4	1.67 H	142	35.8	11.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	115.2 PK			2.66 V	146	82.4	32.8
2	*2462.00	112.6 AV			2.66 V	146	79.8	32.8
3	2483.50	59.1 PK	74.0	-14.9	2.66 V	146	26.2	32.9
4	2483.50	49.6 AV	54.0	-4.4	2.66 V	146	16.7	32.9
5	4924.00	50.2 PK	74.0	-23.8	1.28 V	16	44.8	5.4
6	4924.00	43.3 AV	54.0	-10.7	1.28 V	16	37.9	5.4
7	7386.00	58.4 PK	74.0	-15.6	1.04 V	293	46.6	11.8
8	7386.00	51.4 AV	54.0	-2.6	1.04 V	293	39.6	11.8

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 1：2412 MHz
Frequency Range	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	58.1 PK	74.0	-15.9	2.18 H	91	25.3	32.8
2	2390.00	45.2 AV	54.0	-8.8	2.18 H	91	12.4	32.8
3	*2412.00	106.6 PK			2.18 H	91	73.7	32.9
4	*2412.00	96.7 AV			2.18 H	91	63.8	32.9
5	4824.00	47.2 PK	74.0	-26.8	2.57 H	129	41.5	5.7
6	4824.00	34.0 AV	54.0	-20.0	2.57 H	129	28.3	5.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.9 PK	74.0	-11.1	2.27 V	261	30.1	32.8
2	2390.00	50.7 AV	54.0	-3.3	2.27 V	261	17.9	32.8
3	*2412.00	116.5 PK			2.27 V	261	83.6	32.9
4	*2412.00	106.5 AV			2.27 V	261	73.6	32.9
5	4824.00	49.1 PK	74.0	-24.9	1.27 V	15	43.4	5.7
6	4824.00	35.0 AV	54.0	-19.0	1.27 V	15	29.3	5.7

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.
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	109.3 PK			2.12 H	82	76.5	32.8
2	*2437.00	99.3 AV			2.12 H	82	66.5	32.8
3	4874.00	47.3 PK	74.0	-26.7	2.43 H	141	41.7	5.6
4	4874.00	34.0 AV	54.0	-20.0	2.43 H	141	28.4	5.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	119.3 PK			2.29 V	173	86.5	32.8
2	*2437.00	109.4 AV			2.29 V	173	76.6	32.8
3	4874.00	49.1 PK	74.0	-24.9	1.34 V	28	43.5	5.6
4	4874.00	35.2 AV	54.0	-18.8	1.34 V	28	29.6	5.6

Remarks:

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

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	105.8 PK			2.18 H	86	73.0	32.8
2	*2462.00	95.7 AV			2.18 H	86	62.9	32.8
3	2483.50	59.3 PK	74.0	-14.7	2.18 H	86	26.4	32.9
4	2483.50	47.5 AV	54.0	-6.5	2.18 H	86	14.6	32.9
5	4924.00	46.7 PK	74.0	-27.3	2.55 H	124	41.3	5.4
6	4924.00	33.6 AV	54.0	-20.4	2.55 H	124	28.2	5.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	115.4 PK			2.36 V	104	82.6	32.8
2	*2462.00	105.5 AV			2.36 V	104	72.7	32.8
3	2483.50	63.1 PK	74.0	-10.9	2.36 V	104	30.2	32.9
4	2483.50	50.3 AV	54.0	-3.7	2.36 V	104	17.4	32.9
5	4924.00	48.6 PK	74.0	-25.4	1.18 V	26	43.2	5.4
6	4924.00	34.7 AV	54.0	-19.3	1.18 V	26	29.3	5.4

Remarks:

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

RF Mode	TX 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	64.0 PK	74.0	-10.0	2.07 H	82	31.2	32.8
2	2390.00	50.0 AV	54.0	-4.0	2.07 H	82	17.2	32.8
3	*2412.00	108.3 PK			2.07 H	82	75.4	32.9
4	*2412.00	95.7 AV			2.07 H	82	62.8	32.9
5	4824.00	47.3 PK	74.0	-26.7	2.62 H	147	41.6	5.7
6	4824.00	34.1 AV	54.0	-19.9	2.62 H	147	28.4	5.7
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	68.2 PK	74.0	-5.8	2.40 V	258	35.4	32.8
2	2390.00	51.4 AV	54.0	-2.6	2.40 V	258	18.6	32.8
3	*2412.00	118.3 PK			2.40 V	258	85.4	32.9
4	*2412.00	105.5 AV			2.40 V	258	72.6	32.9
5	4824.00	49.0 PK	74.0	-25.0	1.35 V	26	43.3	5.7
6	4824.00	35.1 AV	54.0	-18.9	1.35 V	26	29.4	5.7

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.
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	111.5 PK			2.09 H	87	78.7	32.8
2	*2437.00	99.0 AV			2.09 H	87	66.2	32.8
3	4874.00	47.0 PK	74.0	-27.0	2.38 H	121	41.4	5.6
4	4874.00	33.9 AV	54.0	-20.1	2.38 H	121	28.3	5.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	121.6 PK			2.39 V	254	88.8	32.8
2	*2437.00	108.9 AV			2.39 V	254	76.1	32.8
3	4874.00	49.2 PK	74.0	-24.8	1.19 V	17	43.6	5.6
4	4874.00	35.2 AV	54.0	-18.8	1.19 V	17	29.6	5.6

Remarks:

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

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	106.4 PK			2.24 H	95	73.6	32.8
2	*2462.00	93.7 AV			2.24 H	95	60.9	32.8
3	2483.50	64.6 PK	74.0	-9.4	2.24 H	95	31.7	32.9
4	2483.50	49.4 AV	54.0	-4.6	2.24 H	95	16.5	32.9
5	4924.00	46.8 PK	74.0	-27.2	2.67 H	148	41.4	5.4
6	4924.00	33.6 AV	54.0	-20.4	2.67 H	148	28.2	5.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	116.1 PK			2.72 V	140	83.3	32.8
2	*2462.00	103.4 AV			2.72 V	140	70.6	32.8
3	2483.50	69.0 PK	74.0	-5.0	2.72 V	140	36.1	32.9
4	2483.50	52.5 AV	54.0	-1.5	2.72 V	140	19.6	32.9
5	4924.00	48.6 PK	74.0	-25.4	1.17 V	16	43.2	5.4
6	4924.00	34.8 AV	54.0	-19.2	1.17 V	16	29.4	5.4

Remarks:

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

RF Mode	TX 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	58.6 PK	74.0	-15.4	2.46 H	128	25.8	32.8
2	2390.00	46.1 AV	54.0	-7.9	2.46 H	128	13.3	32.8
3	*2422.00	104.3 PK			2.46 H	128	71.4	32.9
4	*2422.00	91.6 AV			2.46 H	128	58.7	32.9
5	4844.00	47.0 PK	74.0	-27.0	2.49 H	127	41.3	5.7
6	4844.00	33.8 AV	54.0	-20.2	2.49 H	127	28.1	5.7
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	65.2 PK	74.0	-8.8	2.39 V	114	32.4	32.8
2	2390.00	53.0 AV	54.0	-1.0	2.39 V	114	20.2	32.8
3	*2422.00	114.1 PK			2.39 V	114	81.2	32.9
4	*2422.00	101.4 AV			2.39 V	114	68.5	32.9
5	4844.00	48.6 PK	74.0	-25.4	1.34 V	19	42.9	5.7
6	4844.00	34.9 AV	54.0	-19.1	1.34 V	19	29.2	5.7

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.
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	106.3 PK			2.11 H	87	73.5	32.8
2	*2437.00	93.7 AV			2.11 H	87	60.9	32.8
3	2483.50	64.3 PK	74.0	-9.7	2.11 H	87	31.4	32.9
4	2483.50	49.8 AV	54.0	-4.2	2.11 H	87	16.9	32.9
5	4874.00	46.8 PK	74.0	-27.2	2.62 H	123	41.2	5.6
6	4874.00	33.7 AV	54.0	-20.3	2.62 H	123	28.1	5.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	116.2 PK			2.27 V	142	83.4	32.8
2	*2437.00	103.6 AV			2.27 V	142	70.8	32.8
3	2483.50	67.3 PK	74.0	-6.7	2.27 V	142	34.4	32.9
4	2483.50	53.2 AV	54.0	-0.8	2.27 V	142	20.3	32.9
5	4874.00	48.7 PK	74.0	-25.3	1.16 V	14	43.1	5.6
6	4874.00	34.8 AV	54.0	-19.2	1.16 V	14	29.2	5.6

Remarks:

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

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	101.5 PK			2.22 H	75	68.7	32.8
2	*2452.00	88.9 AV			2.22 H	75	56.1	32.8
3	2483.50	60.0 PK	74.0	-14.0	2.22 H	75	27.1	32.9
4	2483.50	47.6 AV	54.0	-6.4	2.22 H	75	14.7	32.9
5	4904.00	46.7 PK	74.0	-27.3	2.57 H	142	41.3	5.4
6	4904.00	33.5 AV	54.0	-20.5	2.57 H	142	28.1	5.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	111.2 PK			2.30 V	257	78.4	32.8
2	*2452.00	98.7 AV			2.30 V	257	65.9	32.8
3	2483.50	66.8 PK	74.0	-7.2	2.30 V	257	33.9	32.9
4	2483.50	53.0 AV	54.0	-1.0	2.30 V	257	20.1	32.9
5	4904.00	48.5 PK	74.0	-25.5	1.17 V	11	43.1	5.4
6	4904.00	34.6 AV	54.0	-19.4	1.17 V	11	29.2	5.4

Remarks:

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

Below 1GHz worst-case data:

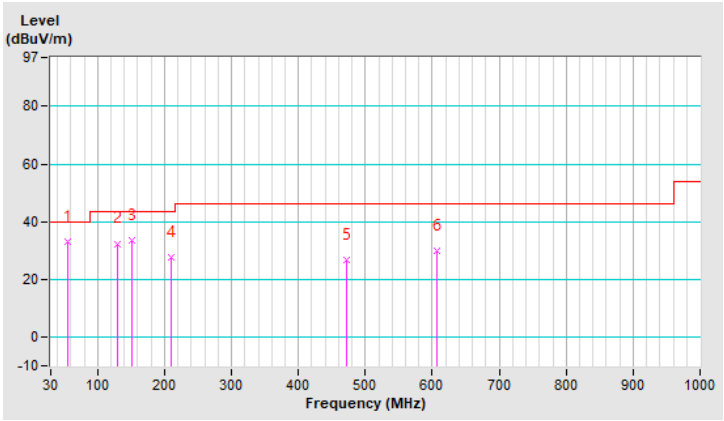
Mode A1

RF Mode	TX 802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	56.19	33.1 QP	40.0	-6.9	1.50 H	290	42.4	-9.3
2	128.94	32.4 QP	43.5	-11.1	1.00 H	103	42.8	-10.4
3	152.22	33.6 QP	43.5	-9.9	1.00 H	211	42.5	-8.9
4	210.42	27.6 QP	43.5	-15.9	2.00 H	208	38.9	-11.3
5	472.32	26.9 QP	46.0	-19.1	1.00 H	216	29.9	-3.0
6	606.18	29.7 QP	46.0	-16.3	1.00 H	145	30.0	-0.3

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
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.

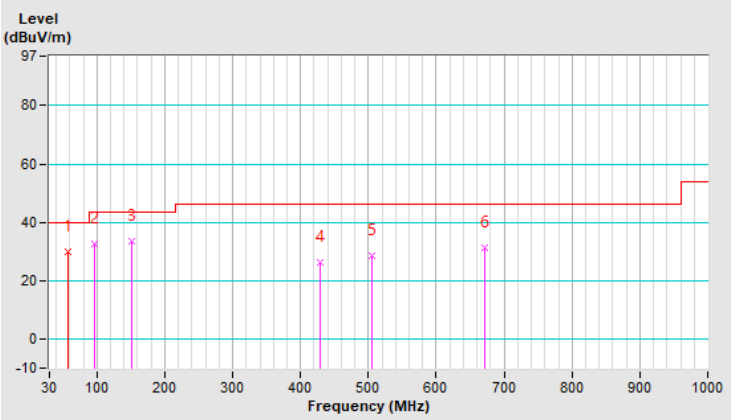


RF Mode	TX 802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	58.05	30.0 QP	40.0	-10.0	1.50 V	18	39.5	-9.5
2	95.96	32.5 QP	43.5	-11.0	1.00 V	234	47.2	-14.7
3	152.22	33.4 QP	43.5	-10.1	2.00 V	180	42.3	-8.9
4	429.64	26.4 QP	46.0	-19.6	1.50 V	16	30.3	-3.9
5	505.30	28.4 QP	46.0	-17.6	1.00 V	298	30.9	-2.5
6	672.14	31.4 QP	46.0	-14.6	1.00 V	343	30.9	0.5

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
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.



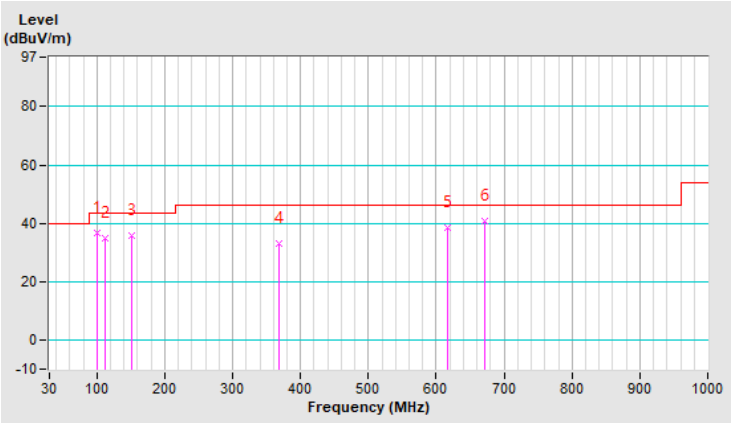
Mode A2

RF Mode	TX 802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	100.81	36.6 QP	43.5	-6.9	1.00 H	82	50.0	-13.4
2	112.45	34.9 QP	43.5	-8.6	1.00 H	8	46.8	-11.9
3	152.22	35.8 QP	43.5	-7.7	1.50 H	58	44.7	-8.9
4	367.56	33.2 QP	46.0	-12.8	1.50 H	58	38.8	-5.6
5	615.88	38.5 QP	46.0	-7.5	1.00 H	199	38.6	-0.1
6	672.14	40.7 QP	46.0	-5.3	1.00 H	310	40.2	0.5

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
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.

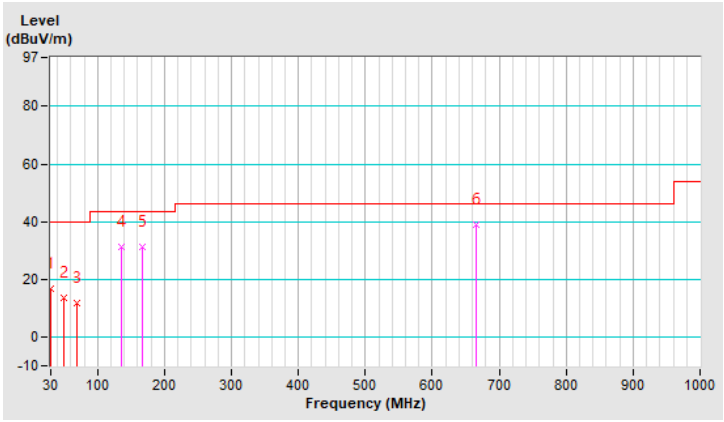


RF Mode	TX 802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.75	16.8 QP	40.0	-23.2	1.00 V	108	27.3	-10.5
2	49.02	13.6 QP	40.0	-26.4	1.00 V	184	22.6	-9.0
3	69.77	11.9 QP	40.0	-28.1	1.00 V	108	22.9	-11.0
4	135.73	31.3 QP	43.5	-12.2	1.00 V	245	41.0	-9.7
5	167.74	31.4 QP	43.5	-12.1	1.00 V	171	40.3	-8.9
6	666.32	38.9 QP	46.0	-7.1	1.00 V	6	38.5	0.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
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.



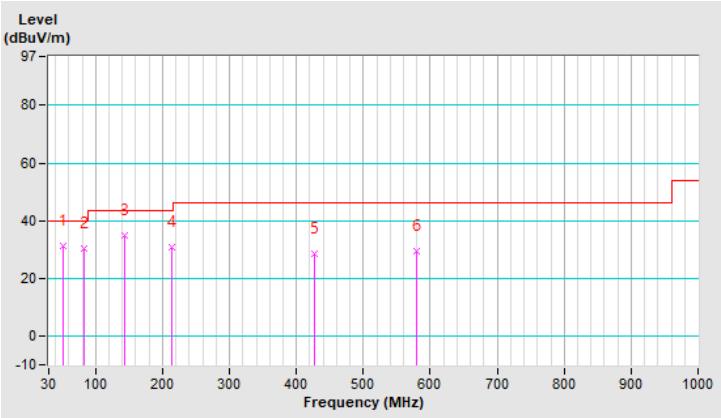
Mode B1

RF Mode	TX 802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	52.31	31.3 QP	40.0	-8.7	1.00 H	236	40.3	-9.0
2	83.35	30.5 QP	40.0	-9.5	1.00 H	5	44.7	-14.2
3	143.49	34.8 QP	43.5	-8.7	1.50 H	141	43.9	-9.1
4	214.30	30.6 QP	43.5	-12.9	1.00 H	112	41.8	-11.2
5	426.73	28.6 QP	46.0	-17.4	2.00 H	292	32.7	-4.1
6	579.99	29.5 QP	46.0	-16.5	1.00 H	288	30.3	-0.8

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
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.

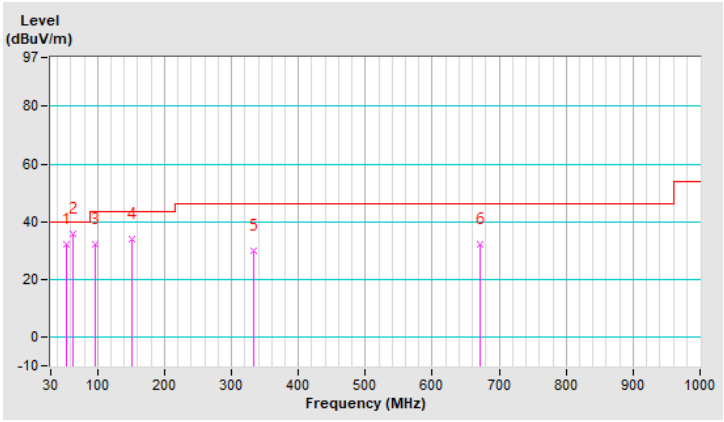


RF Mode	TX 802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	53.28	32.1 QP	40.0	-7.9	1.50 V	203	41.2	-9.1
2	63.95	35.7 QP	40.0	-4.3	1.00 V	303	45.7	-10.0
3	95.96	32.0 QP	43.5	-11.5	2.00 V	180	46.7	-14.7
4	152.22	33.8 QP	43.5	-9.7	1.00 V	40	42.7	-8.9
5	333.61	30.0 QP	46.0	-16.0	1.00 V	10	36.0	-6.0
6	672.14	32.1 QP	46.0	-13.9	1.00 V	163	31.6	0.5

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
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.



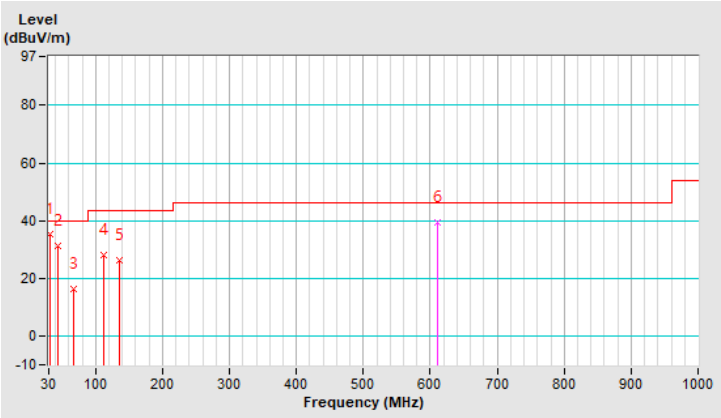
Mode B2

RF Mode	TX 802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.66	35.4 QP	40.0	-4.6	1.00 H	72	46.0	-10.6
2	44.26	31.4 QP	40.0	-8.6	1.00 H	157	40.8	-9.4
3	66.51	16.4 QP	40.0	-23.6	1.00 H	48	26.8	-10.4
4	112.00	27.9 QP	43.5	-15.6	1.00 H	13	39.9	-12.0
5	136.00	26.2 QP	43.5	-17.3	1.00 H	13	35.9	-9.7
6	610.06	39.6 QP	46.0	-6.4	1.50 H	45	39.8	-0.2

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
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.

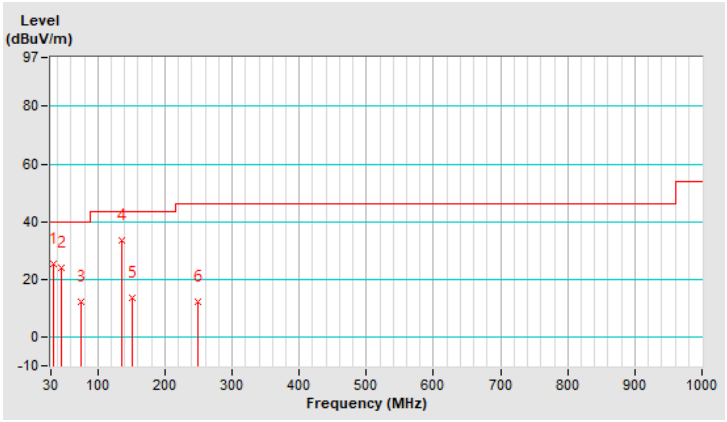


RF Mode	TX 802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	33.59	25.4 QP	40.0	-14.6	1.00 V	317	35.9	-10.5
2	46.42	23.9 QP	40.0	-16.1	1.50 V	234	33.0	-9.1
3	74.30	12.2 QP	40.0	-27.8	1.00 V	153	24.3	-12.1
4	136.00	33.5 QP	43.5	-10.0	1.50 V	347	43.2	-9.7
5	152.00	13.6 QP	43.5	-29.9	1.00 V	321	22.5	-8.9
6	249.22	12.4 QP	46.0	-33.6	1.50 V	180	21.4	-9.0

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
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 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102412	Jan. 22, 2022	Jan. 21, 2023
RF signal cable Woken	5D-FB	Cable-cond2-01	Sep. 04, 2021	Sep. 03, 2022
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Feb. 17, 2022	Feb. 16, 2023
V-LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Sep. 17, 2021	Sep. 16, 2022
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 2 (Conduction 2).
3. The VCCI Site Registration No. is C-12047.
4. Tested date: May 17 ~ Jun. 10, 2022

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/ 50uH of coupling impedance for the measuring instrument.

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

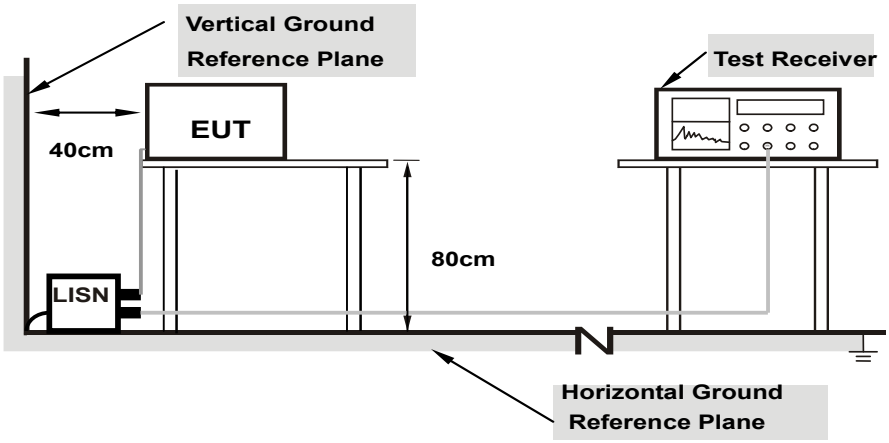
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

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

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

802.11ax (HE20)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A1		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16564	10.14	36.61	24.10	46.75	34.24	65.18	55.18	-18.43	-20.94
2	0.20243	10.16	30.25	18.13	40.41	28.29	63.51	53.51	-23.10	-25.22
3	0.34550	10.22	33.94	28.56	44.16	38.78	59.07	49.07	-14.91	-10.29
4	0.77951	10.28	13.81	7.52	24.09	17.80	56.00	46.00	-31.91	-28.20
5	3.45395	10.39	15.33	5.01	25.72	15.40	56.00	46.00	-30.28	-30.60
6	12.54079	10.49	11.16	4.90	21.65	15.39	60.00	50.00	-38.35	-34.61

Remarks:

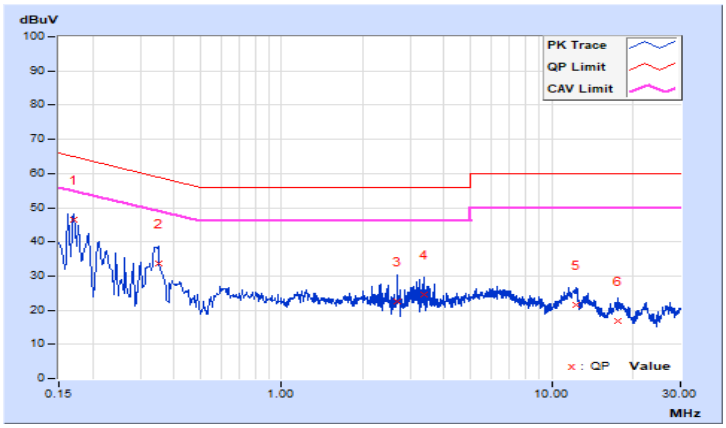
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A1		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16955	10.16	36.16	23.55	46.32	33.71	64.98	54.98	-18.66	-21.27
2	0.34926	10.24	23.37	13.52	33.61	23.76	58.98	48.98	-25.37	-25.22
3	2.69150	10.37	12.35	4.83	22.72	15.20	56.00	46.00	-33.28	-30.80
4	3.38357	10.39	14.07	2.83	24.46	13.22	56.00	46.00	-31.54	-32.78
5	12.38439	10.56	11.15	5.36	21.71	15.92	60.00	50.00	-38.29	-34.08
6	17.70590	10.69	6.12	1.15	16.81	11.84	60.00	50.00	-43.19	-38.16

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.

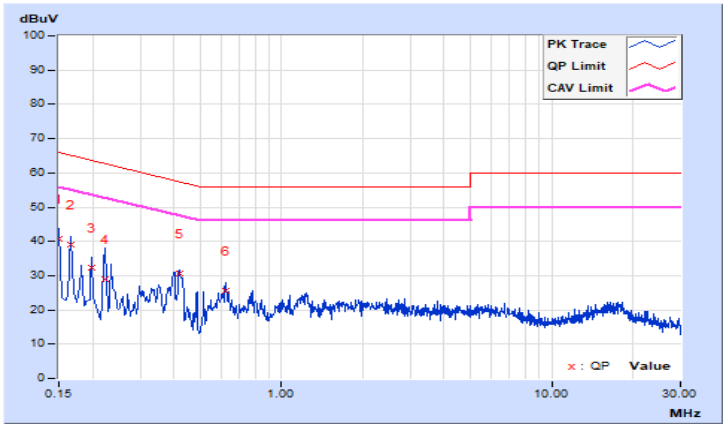


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A2		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.13	30.59	14.50	40.72	24.63	66.00	56.00	-25.28	-31.37
2	0.16535	10.14	29.07	12.75	39.21	22.89	65.19	55.19	-25.98	-32.30
3	0.19800	10.16	22.25	7.11	32.41	17.27	63.69	53.69	-31.28	-36.42
4	0.22200	10.17	18.92	3.74	29.09	13.91	62.74	52.74	-33.65	-38.83
5	0.41799	10.24	20.33	11.58	30.57	21.82	57.49	47.49	-26.92	-25.67
6	0.62600	10.26	15.24	8.69	25.50	18.95	56.00	46.00	-30.50	-27.05

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.

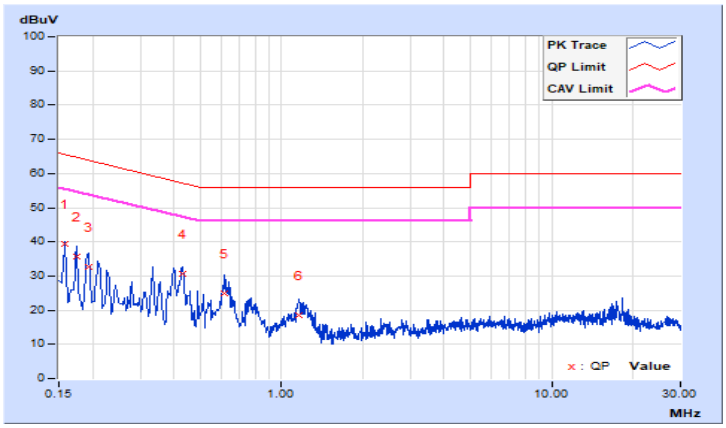


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A2		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15800	10.15	29.10	12.41	39.25	22.56	65.57	55.57	-26.32	-33.01
2	0.17400	10.16	25.65	11.57	35.81	21.73	64.77	54.77	-28.96	-33.04
3	0.19367	10.18	22.36	7.14	32.54	17.32	63.88	53.88	-31.34	-36.56
4	0.42915	10.26	20.54	13.99	30.80	24.25	57.27	47.27	-26.47	-23.02
5	0.61800	10.28	14.55	7.54	24.83	17.82	56.00	46.00	-31.17	-28.18
6	1.15800	10.32	8.36	1.20	18.68	11.52	56.00	46.00	-37.32	-34.48

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.

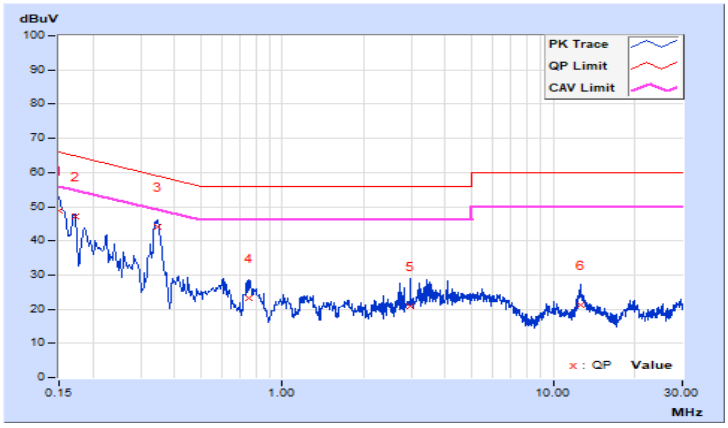


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B1		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.13	38.64	21.44	48.77	31.57	66.00	56.00	-17.23	-24.43
2	0.17147	10.14	37.06	24.03	47.20	34.17	64.89	54.89	-17.69	-20.72
3	**0.34550**	**10.22**	**33.90**	**28.58**	**44.12**	**38.80**	**59.07**	**49.07**	**-14.95**	**-10.27**
4	0.75605	10.28	13.01	6.83	23.29	17.11	56.00	46.00	-32.71	-28.89
5	2.98084	10.38	10.56	1.96	20.94	12.34	56.00	46.00	-35.06	-33.66
6	12.65418	10.49	10.69	4.90	21.18	15.39	60.00	50.00	-38.82	-34.61

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.

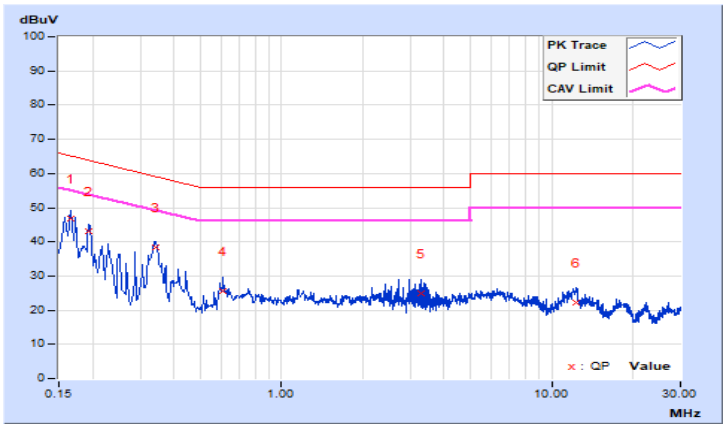


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B1		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16564	10.16	36.76	23.75	46.92	33.91	65.18	55.18	-18.26	-21.27
2	0.19301	10.18	32.76	20.88	42.94	31.06	63.91	53.91	-20.97	-22.85
3	0.34108	10.24	28.04	22.03	38.28	32.27	59.18	49.18	-20.90	-16.91
4	0.60747	10.28	15.36	8.77	25.64	19.05	56.00	46.00	-30.36	-26.95
5	3.30537	10.39	14.46	4.41	24.85	14.80	56.00	46.00	-31.15	-31.20
6	12.30228	10.56	11.56	5.91	22.12	16.47	60.00	50.00	-37.88	-33.53

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.

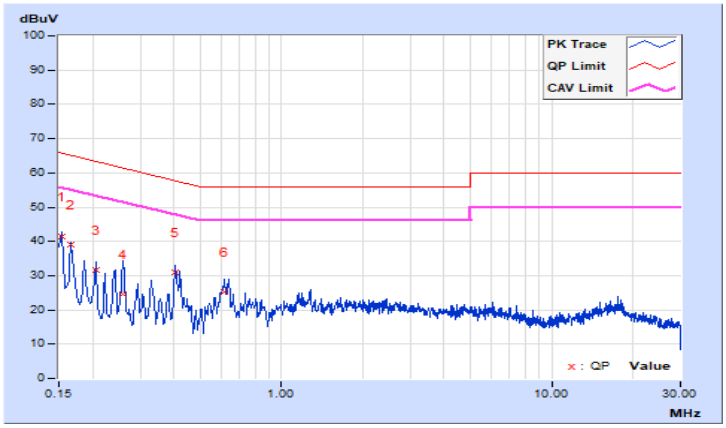


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B2		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	10.13	31.34	15.62	41.47	25.75	65.78	55.78	-24.31	-30.03
2	0.16579	10.14	29.05	12.78	39.19	22.92	65.17	55.17	-25.98	-32.25
3	0.20600	10.16	21.56	7.27	31.72	17.43	63.37	53.37	-31.65	-35.94
4	0.25800	10.18	14.34	4.95	24.52	15.13	61.50	51.50	-36.98	-36.37
5	0.40600	10.24	20.63	14.90	30.87	25.14	57.73	47.73	-26.86	-22.59
6	0.61800	10.26	14.93	8.66	25.19	18.92	56.00	46.00	-30.81	-27.08

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.

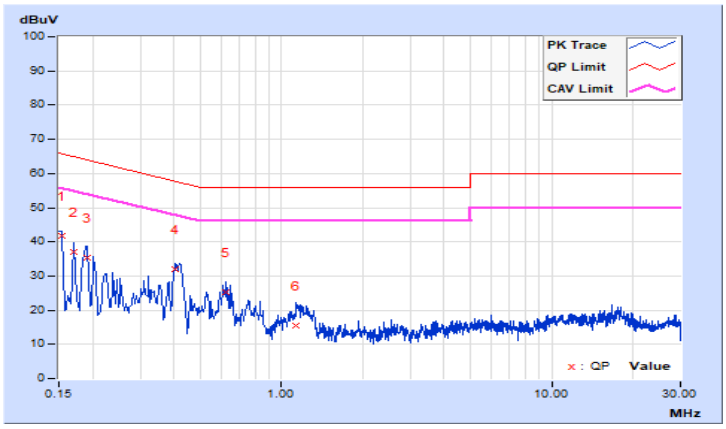


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B2		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	10.14	31.60	15.76	41.74	25.90	65.78	55.78	-24.04	-29.88
2	0.17000	10.16	26.95	11.44	37.11	21.60	64.96	54.96	-27.85	-33.36
3	0.19000	10.18	25.26	9.46	35.44	19.64	64.04	54.04	-28.60	-34.40
4	0.40600	10.26	21.67	11.85	31.93	22.11	57.73	47.73	-25.80	-25.62
5	0.62600	10.28	14.87	8.43	25.15	18.71	56.00	46.00	-30.85	-27.29
6	1.13400	10.32	5.28	1.13	15.60	11.45	56.00	46.00	-40.40	-34.55

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.

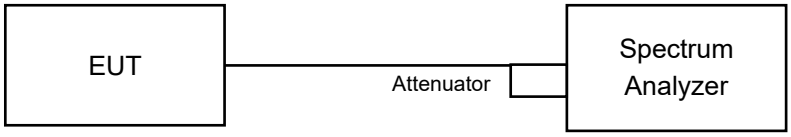


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

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 Procedure

a. Set resolution bandwidth (RBW) = 100kHz.
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.

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 Result

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	8.57	7.62	0.5	Pass
6	2437	8.08	8.56	0.5	Pass
11	2462	8.06	8.08	0.5	Pass

802.11g

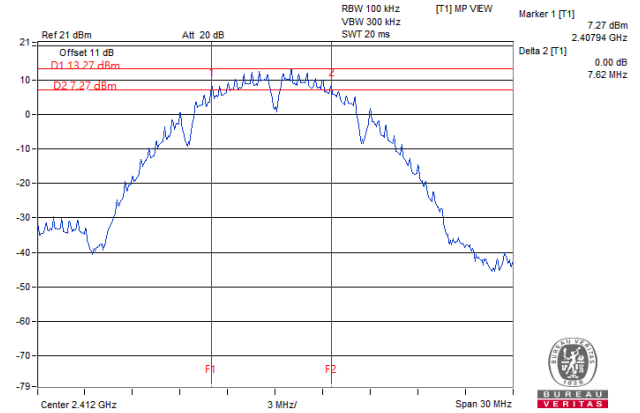
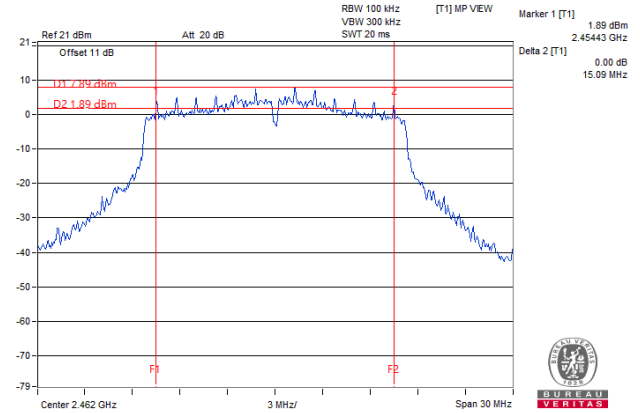
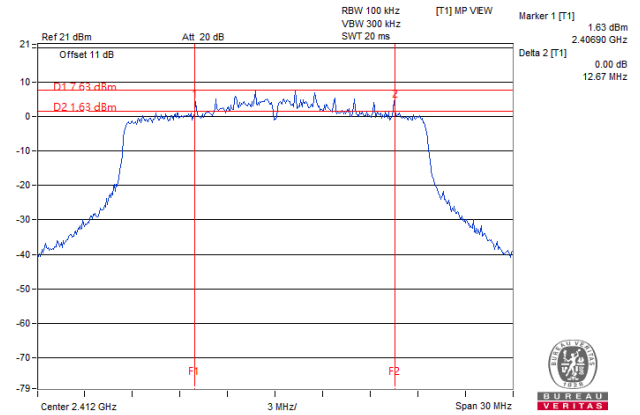
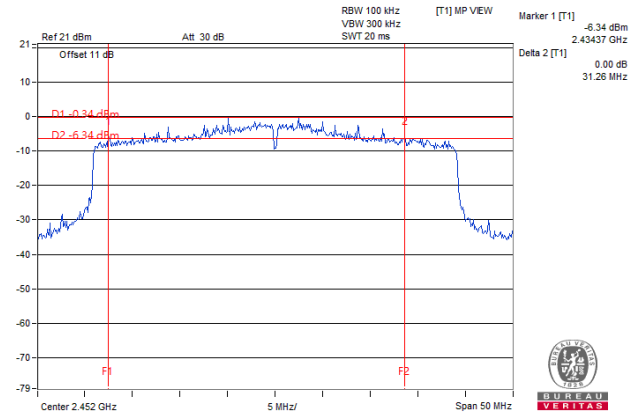
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.16	15.14	0.5	Pass
6	2437	15.13	15.17	0.5	Pass
11	2462	15.16	15.09	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	12.67	16.37	0.5	Pass
6	2437	15.12	15.10	0.5	Pass
11	2462	15.13	15.40	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	33.87	33.91	0.5	Pass
6	2437	32.58	35.54	0.5	Pass
9	2452	32.75	31.26	0.5	Pass

Spectrum Plot of Worst Value	
802.11b	802.11g
	
802.11ax (HE20)	802.11ax (HE40)
	

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

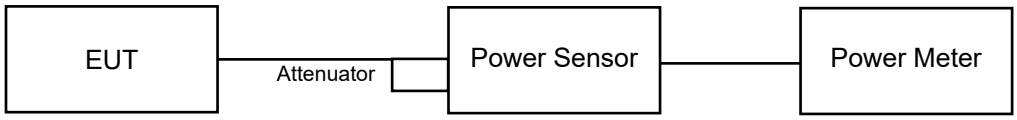
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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.

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

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.

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as item 4.2.6.

4.4.7 Test Results

CDD Mode

802.11b

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	19.31	18.94	163.653	22.14	30	Pass
6	2437	20.21	20.15	**208.468**	23.19	30	Pass
11	2462	18.28	18.16	132.761	21.23	30	Pass

802.11g

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	17.47	17.18	108.087	20.34	30	Pass
6	2437	20.24	20.04	206.607	23.15	30	Pass
11	2462	16.43	16.22	85.834	19.34	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	16.11	15.96	80.278	19.05	30	Pass
6	2437	20.04	19.65	193.182	22.86	30	Pass
11	2462	14.51	14.10	53.953	17.32	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	14.19	14.07	51.769	17.14	30	Pass
6	2437	16.27	15.92	81.448	19.11	30	Pass
9	2452	12.18	12.05	32.552	15.13	30	Pass

VHT20

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	16.13	15.97	80.557	19.06	30	Pass
6	2437	20.06	19.67	194.074	22.88	30	Pass
11	2462	14.55	14.14	54.452	17.36	30	Pass

VHT40

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	14.20	14.09	51.948	17.16	30	Pass
6	2437	16.30	15.94	81.922	19.13	30	Pass
9	2452	12.21	12.13	32.965	15.18	30	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	16.15	15.98	80.838	19.08	30	Pass
6	2437	20.08	19.68	194.756	22.89	30	Pass
11	2462	14.57	14.16	54.703	17.38	30	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	14.22	14.12	52.247	17.18	30	Pass
6	2437	16.32	15.95	82.210	19.15	30	Pass
9	2452	12.24	12.17	33.231	15.22	30	Pass

Beamforming Mode

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	16.11	15.96	80.278	19.05	27.48	Pass
6	2437	20.04	19.65	193.182	22.86	27.48	Pass
11	2462	14.51	14.10	53.953	17.32	27.48	Pass

Note: Directional gain = 5.51dBi + 10log(2) = 8.52dBi > 6dBi , so the power limit shall be reduced to 30-(8.52-6) =27.48dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	14.19	14.07	51.769	17.14	27.48	Pass
6	2437	16.27	15.92	81.448	19.11	27.48	Pass
9	2452	12.18	12.05	32.552	15.13	27.48	Pass

Note: Directional gain = 5.51dBi + 10log(2) = 8.52dBi > 6dBi , so the power limit shall be reduced to 30-(8.52-6) =27.48dBm.

VHT20

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	16.13	15.97	80.557	19.06	27.48	Pass
6	2437	20.06	19.67	194.074	22.88	27.48	Pass
11	2462	14.55	14.14	54.452	17.36	27.48	Pass

Note: Directional gain = 5.51dBi + 10log(2) = 8.52dBi > 6dBi , so the power limit shall be reduced to 30-(8.52-6) =27.48dBm.

VHT40

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	14.20	14.09	51.948	17.16	27.48	Pass
6	2437	16.30	15.94	81.922	19.13	27.48	Pass
9	2452	12.21	12.13	32.965	15.18	27.48	Pass

Note: Directional gain = 5.51dBi + 10log(2) = 8.52dBi > 6dBi , so the power limit shall be reduced to 30-(8.52-6) =27.48dBm.

802.11ax (HE20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	16.15	15.98	80.838	19.08	27.48	Pass
6	2437	20.08	19.68	**194.756**	22.89	27.48	Pass
11	2462	14.57	14.16	54.703	17.38	27.48	Pass

Note: Directional gain = 5.51dBi + 10log(2) = 8.52dBi > 6dBi , so the power limit shall be reduced to 30-(8.52-6) =27.48dBm.

802.11ax (HE40)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	14.22	14.12	52.247	17.18	27.48	Pass
6	2437	16.32	15.95	82.210	19.15	27.48	Pass
9	2452	12.24	12.17	33.231	15.22	27.48	Pass

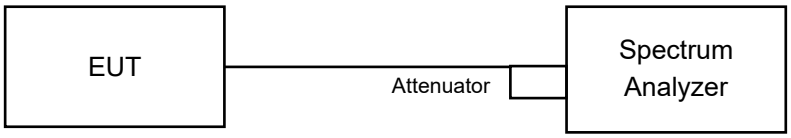
Note: Directional gain = 5.51dBi + 10log(2) = 8.52dBi > 6dBi , so the power limit shall be reduced to 30-(8.52-6) =27.48dBm.

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm in any 3 kHz band during any time interval of continuous transmission.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

For Average Power (Duty cycle < 98%)
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 ≤ RBW ≤ 100 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) 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.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as item 4.2.6.

4.5.7 Test Results

802.11b

TX chain	Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/3kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-14.87	3.01	2.24	-9.62	5.48	Pass
	6	2437	-14.03	3.01	2.24	-8.78	5.48	Pass
	11	2462	-15.62	3.01	2.24	-10.37	5.48	Pass
1	1	2412	-14.93	3.01	2.24	-9.68	5.48	Pass
	6	2437	-14.34	3.01	2.24	-9.09	5.48	Pass
	11	2462	-15.80	3.01	2.24	-10.55	5.48	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = 5.51dBi + 10log(2)=8.52dBi > 6dBi, so the power density limit shall be reduced to 8-(8.52-6) = 5.48 dBm/3kHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11g

TX chain	Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/3kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-13.39	3.01	0.30	-10.08	5.48	Pass
	6	2437	-10.97	3.01	0.30	-7.66	5.48	Pass
	11	2462	-14.07	3.01	0.30	-10.76	5.48	Pass
1	1	2412	-14.07	3.01	0.30	-10.76	5.48	Pass
	6	2437	-11.40	3.01	0.30	-8.09	5.48	Pass
	11	2462	-14.77	3.01	0.30	-11.46	5.48	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = 5.51dBi + 10log(2)=8.52dBi > 6dBi, so the power density limit shall be reduced to 8-(8.52-6) = 5.48 dBm/3kHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

TX chain	Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/3kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-18.24	3.01	0.39	-14.84	5.48	Pass
	6	2437	-15.08	3.01	0.39	-11.68	5.48	Pass
	11	2462	-20.24	3.01	0.39	-16.84	5.48	Pass
1	1	2412	-18.61	3.01	0.39	-15.21	5.48	Pass
	6	2437	-15.28	3.01	0.39	-11.88	5.48	Pass
	11	2462	-20.71	3.01	0.39	-17.31	5.48	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = 5.51dBi + 10log(2)=8.52dBi > 6dBi, so the power density limit shall be reduced to 8-(8.52-6) = 5.48 dBm/3kHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

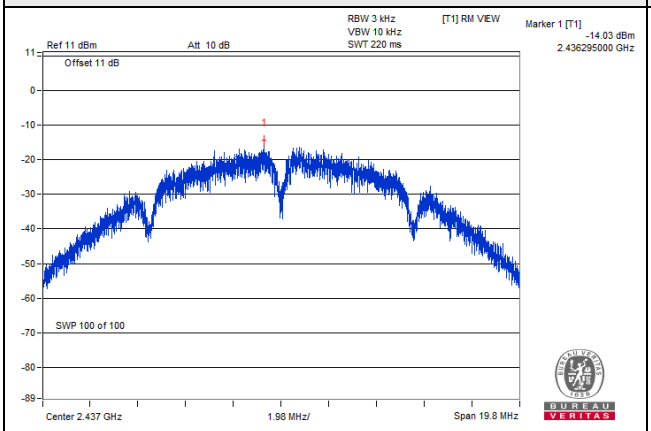
802.11ax (HE40)

TX chain	Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/3kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	3	2422	-22.55	3.01	0.43	-19.11	5.48	Pass
	6	2437	-20.42	3.01	0.43	-16.98	5.48	Pass
	9	2452	-24.16	3.01	0.43	-20.72	5.48	Pass
1	3	2422	-22.77	3.01	0.43	-19.33	5.48	Pass
	6	2437	-21.01	3.01	0.43	-17.57	5.48	Pass
	9	2452	-24.65	3.01	0.43	-21.21	5.48	Pass

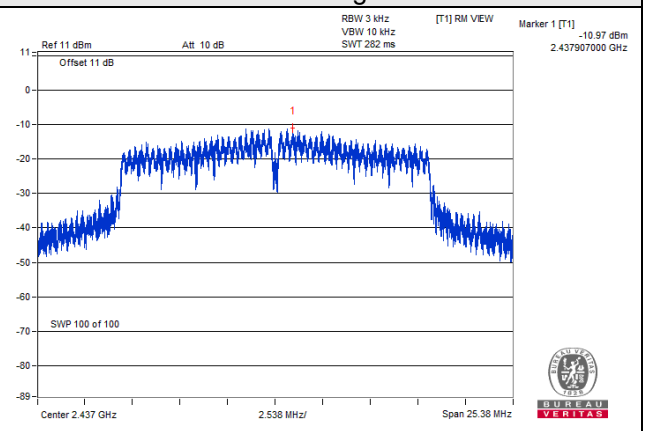
Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = 5.51dBi + 10log(2)=8.52dBi > 6dBi, so the power density limit shall be reduced to 8-(8.52-6) = 5.48 dBm/3kHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

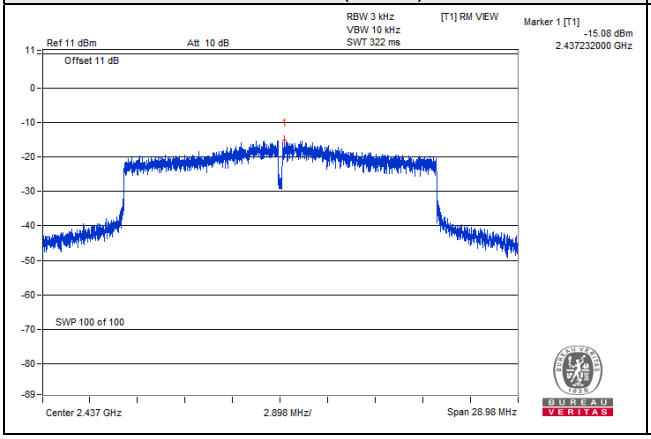
802.11b



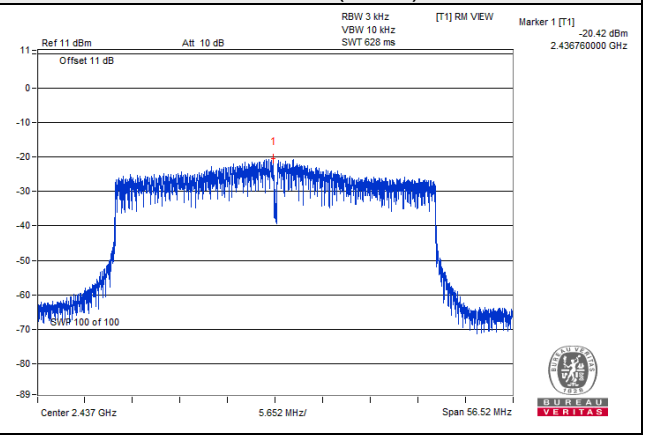
802.11g



802.11ax (HE20)



802.11ax (HE40)

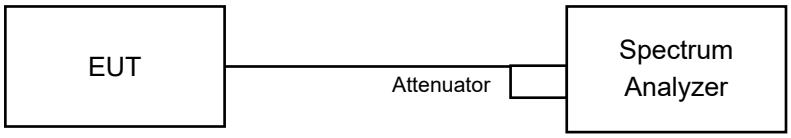


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

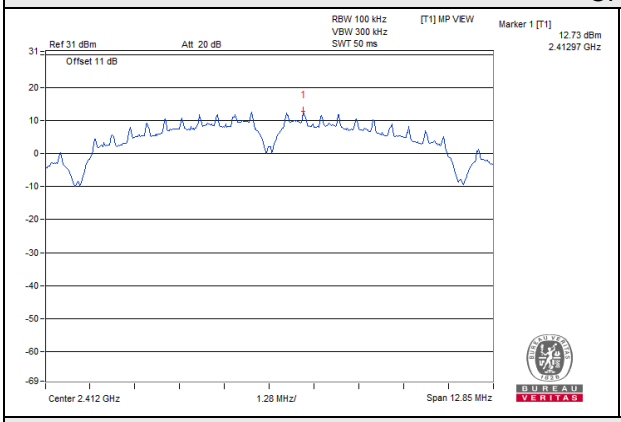
Same as item 4.2.6.

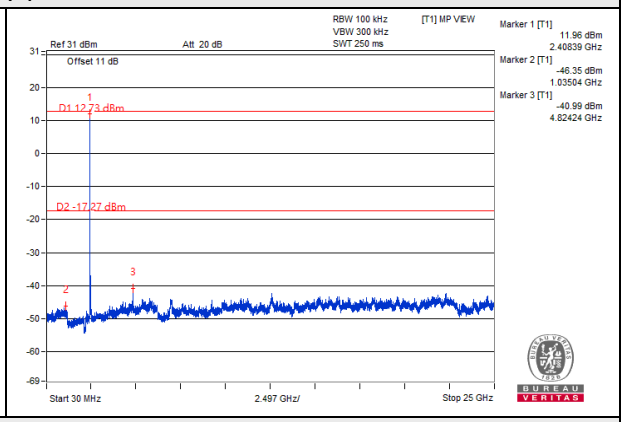
4.6.7 Test Results

The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

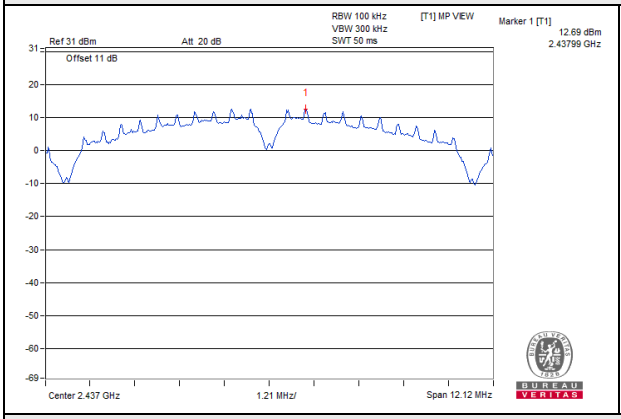
802.11b_Chain 0

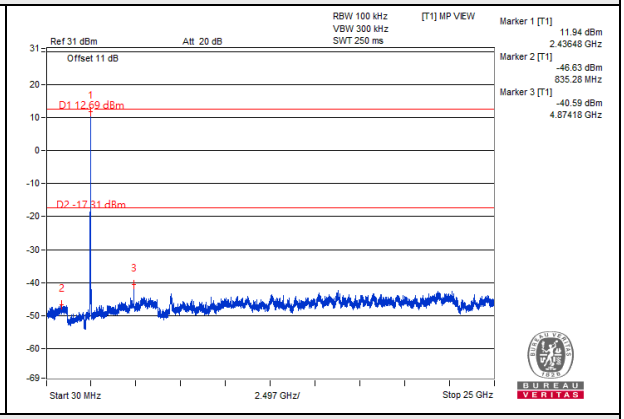
CH 1



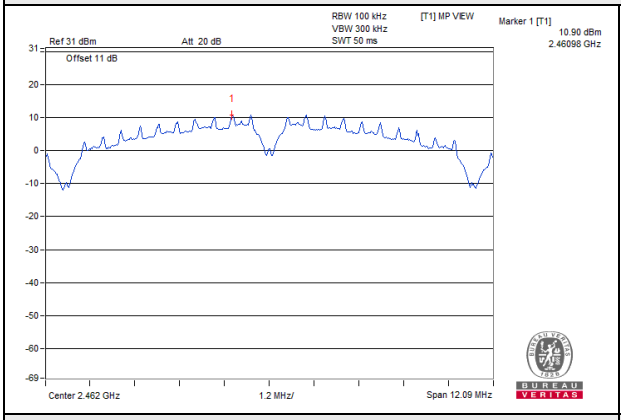


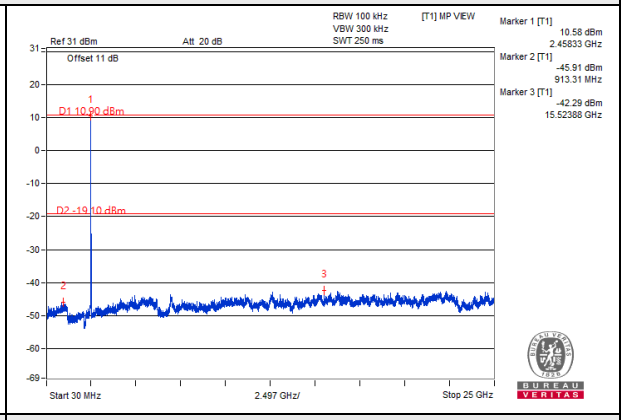
CH 6



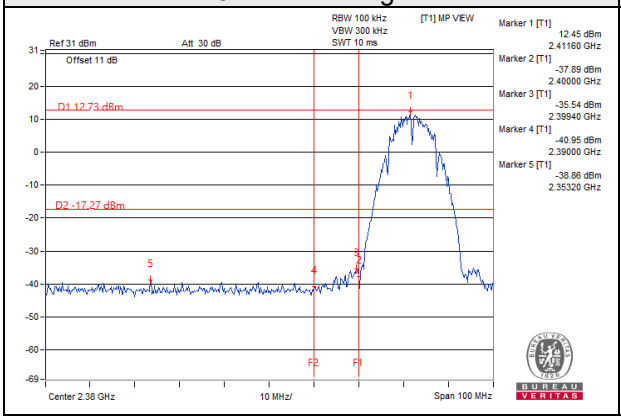


CH 11

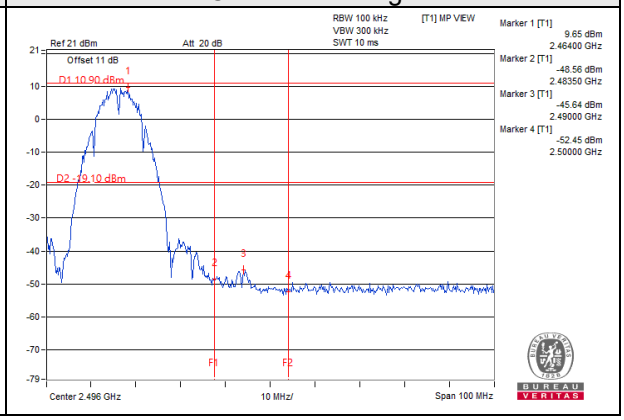




CH 1 Band edge

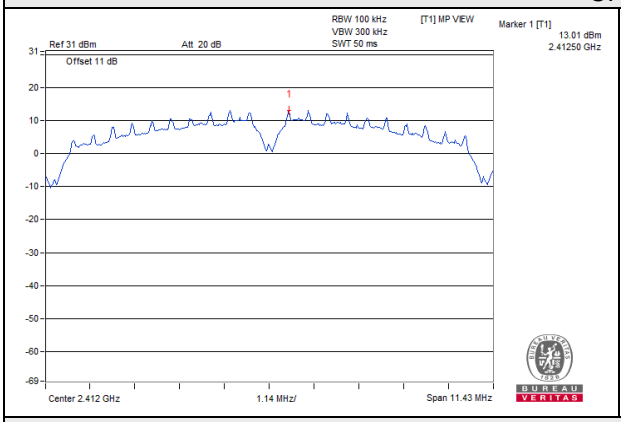


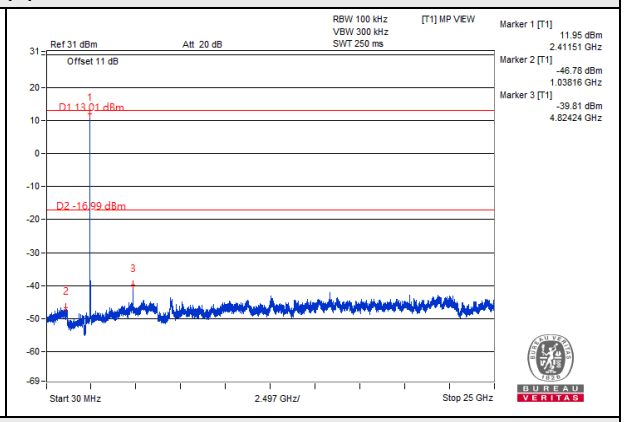
CH 11 Band edge



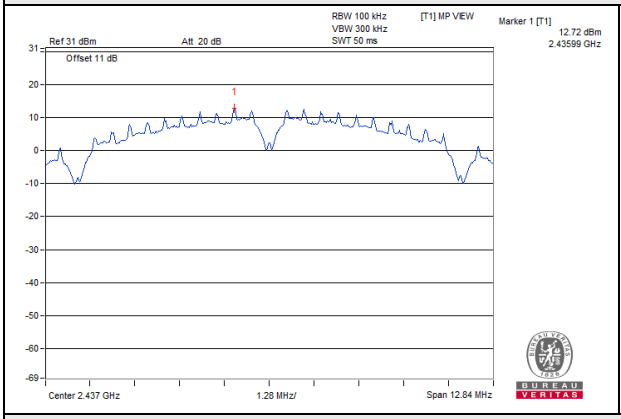
802.11b_Chain 1

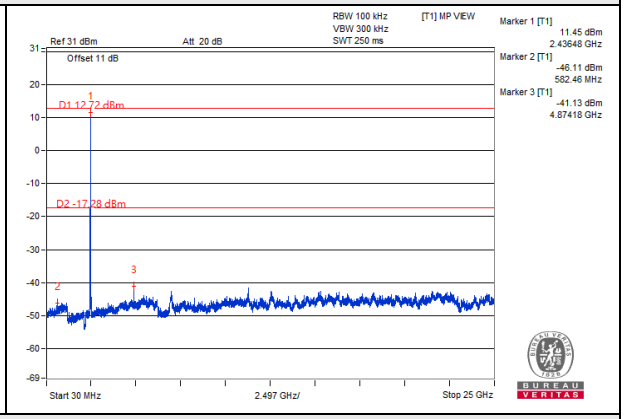
CH 1



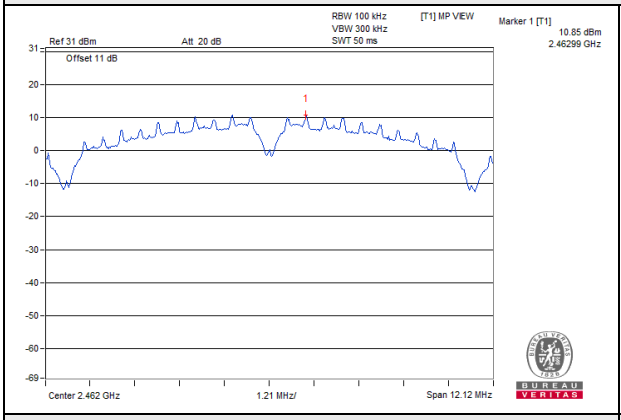


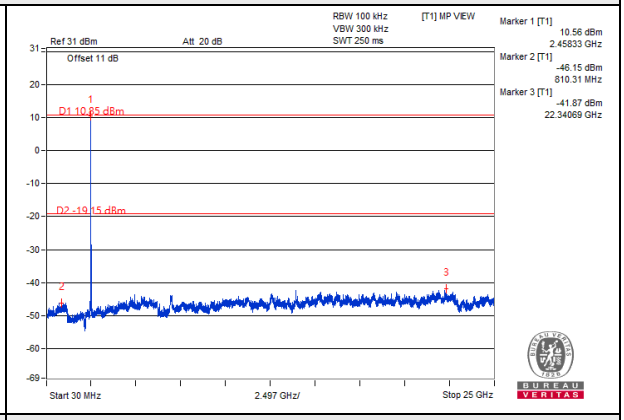
CH 6



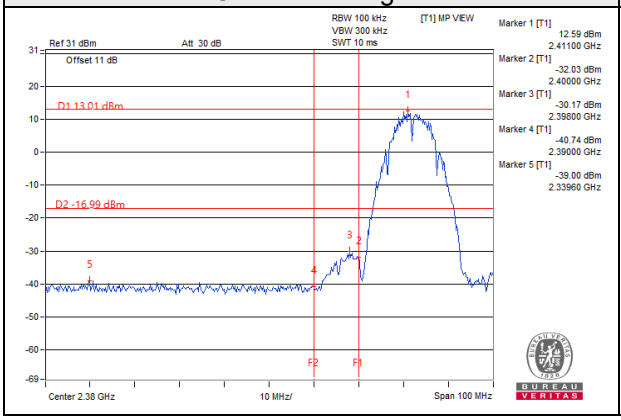


CH 11

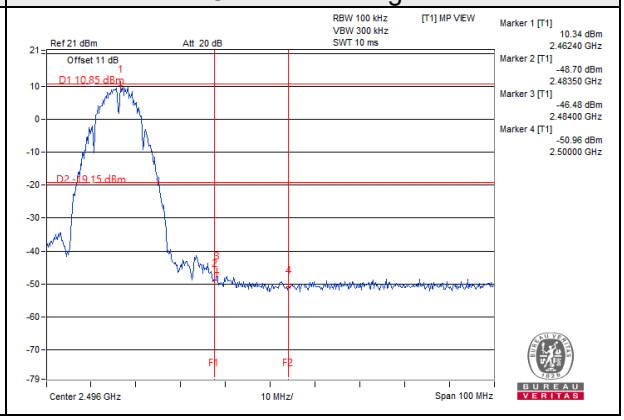




CH 1 Band edge

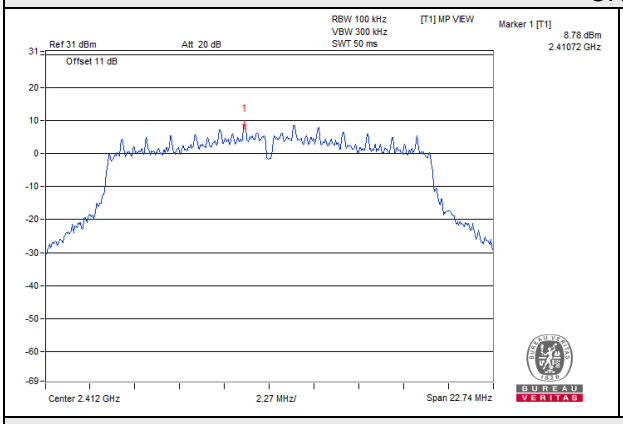


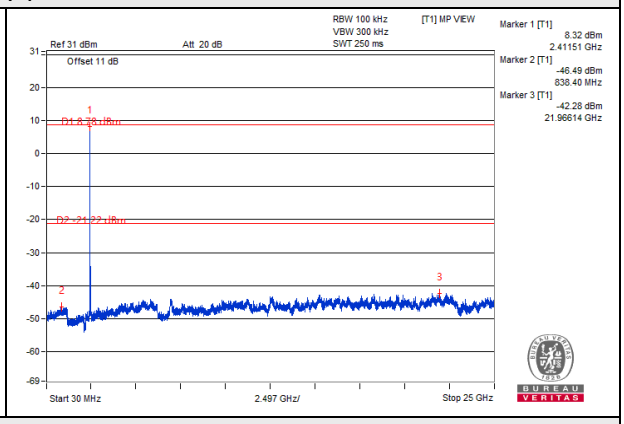
CH 11 Band edge



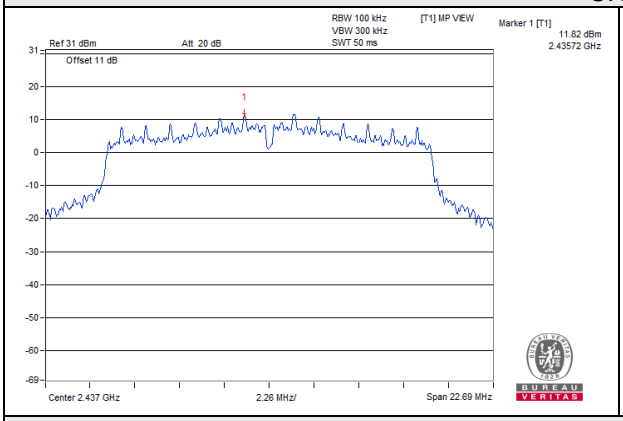
802.11g_Chain 0

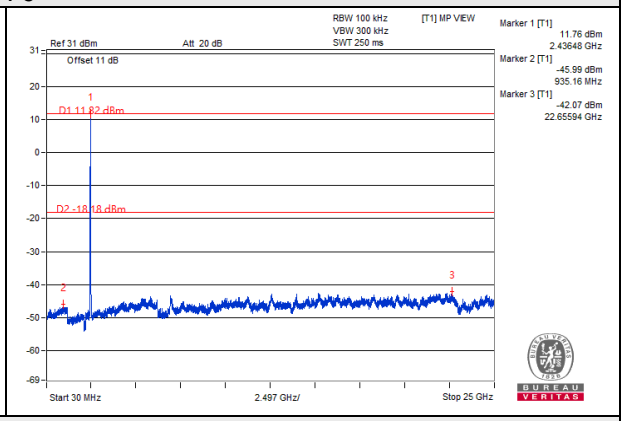
CH 1



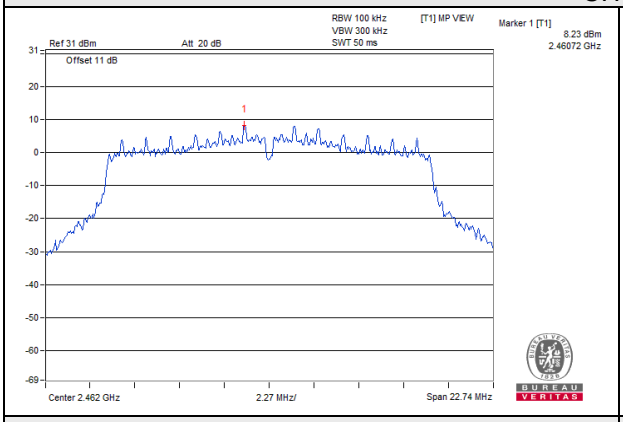


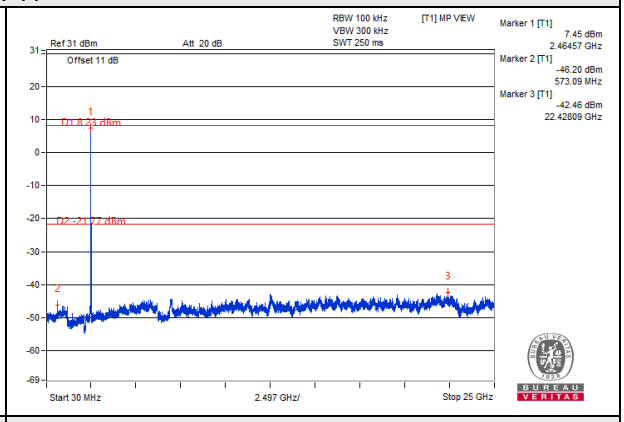
CH 6



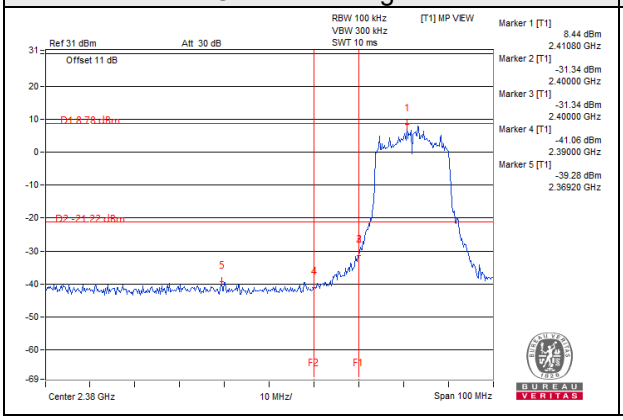


CH 11

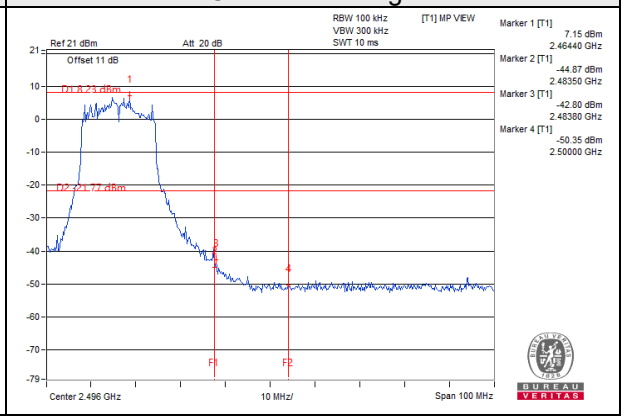




CH 1 Band edge

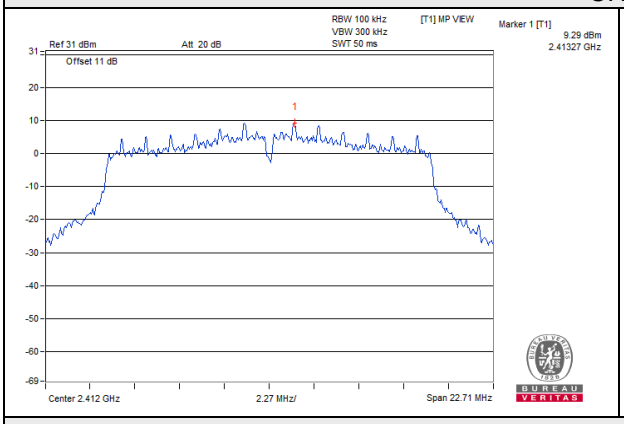


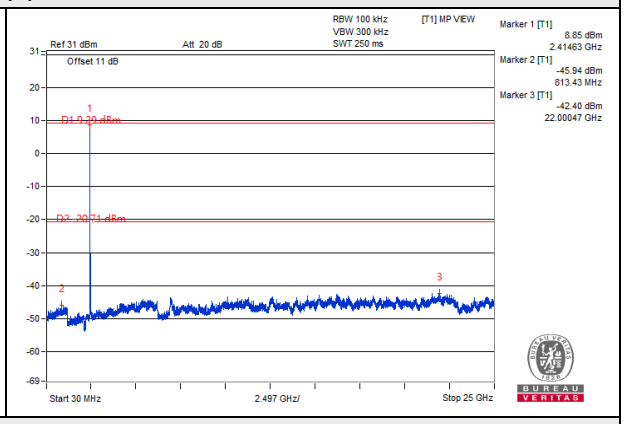
CH 11 Band edge



802.11g_Chain 1

CH 1





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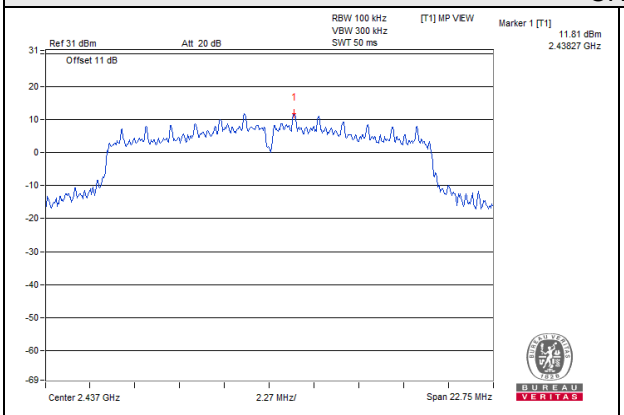
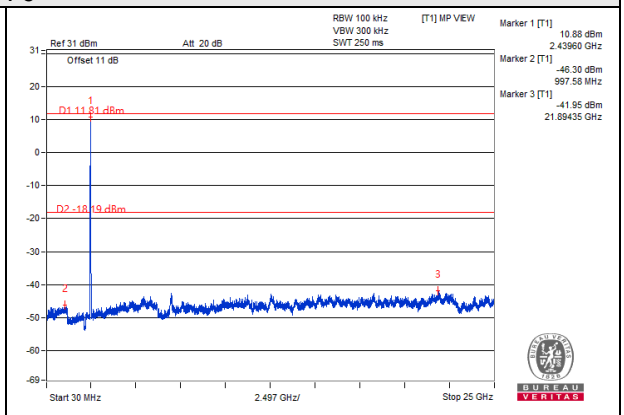
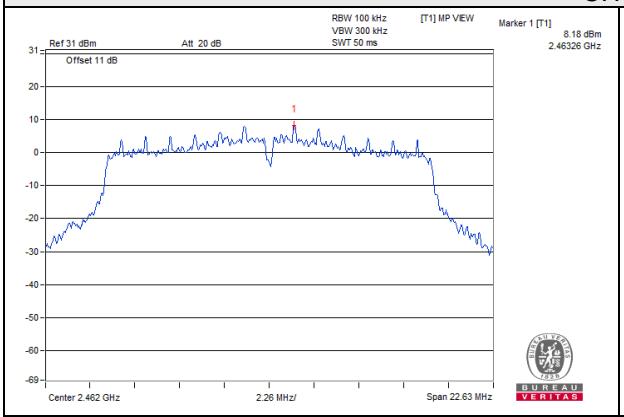
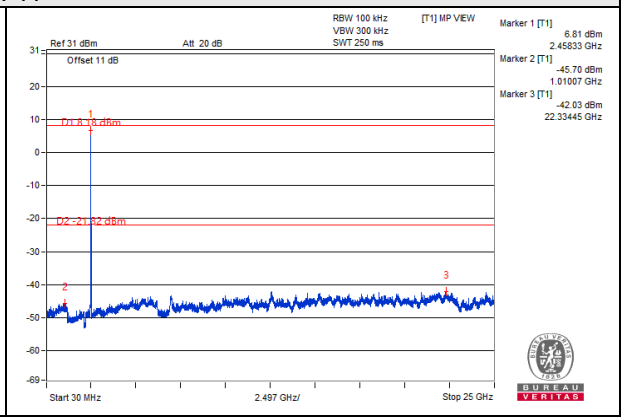


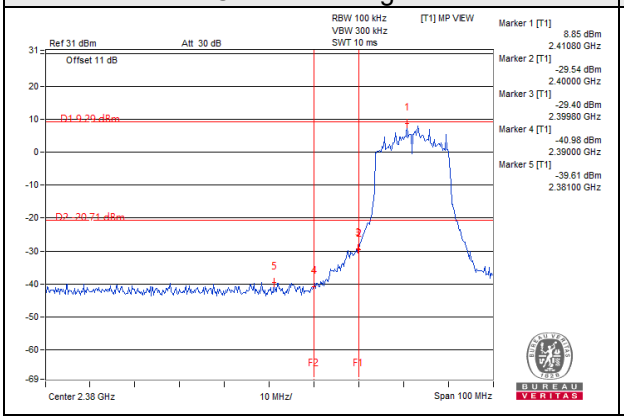


CH 11

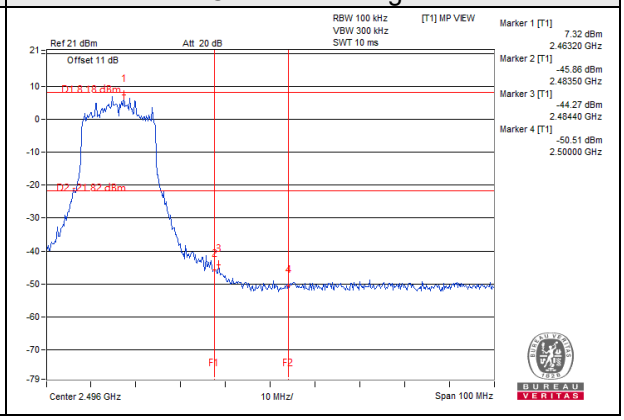




CH 1 Band edge

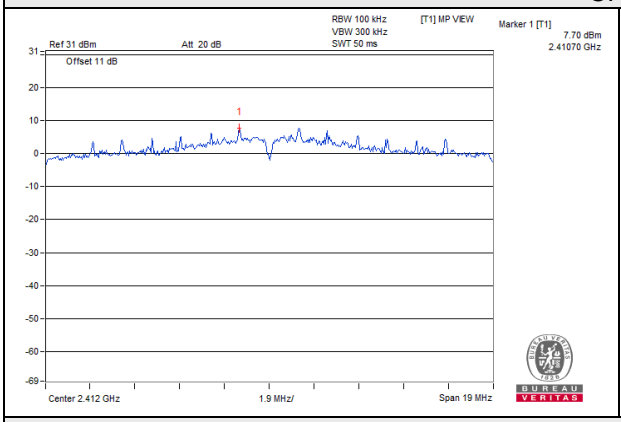


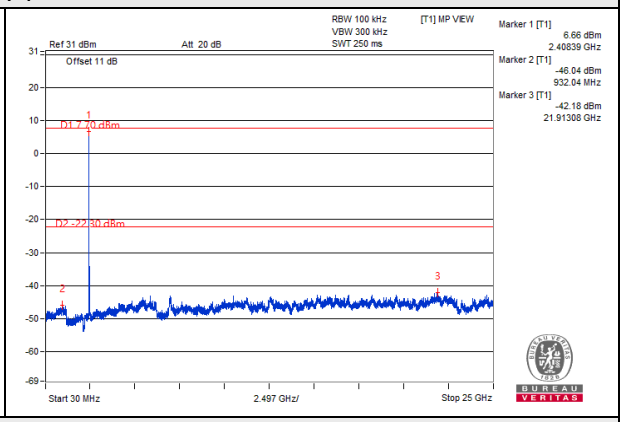
CH 11 Band edge



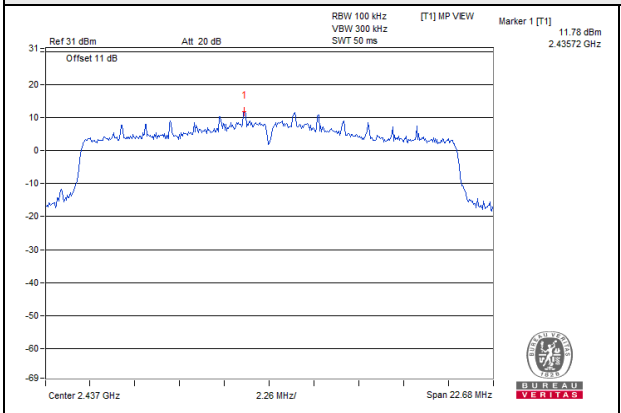
802.11ax (HE20)_Chain 0

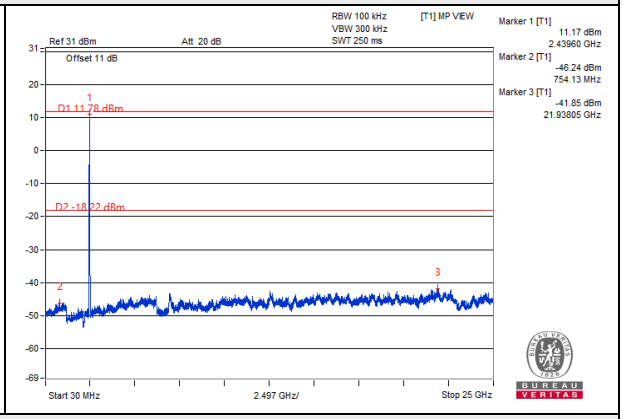
CH 1



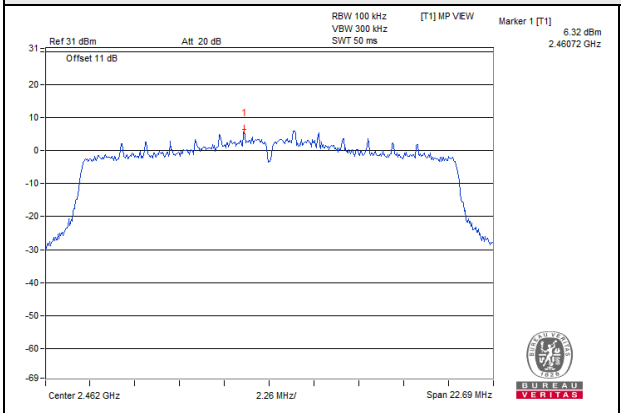


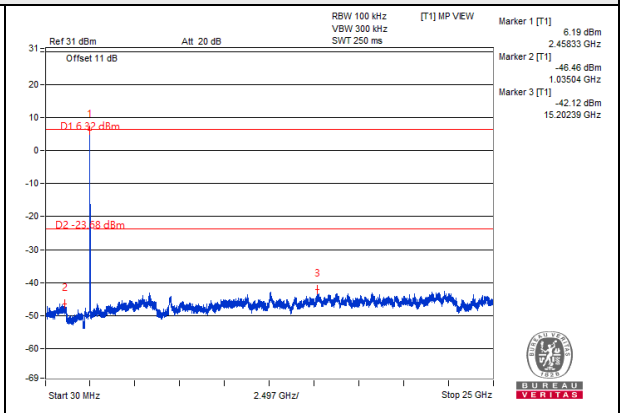
CH 6



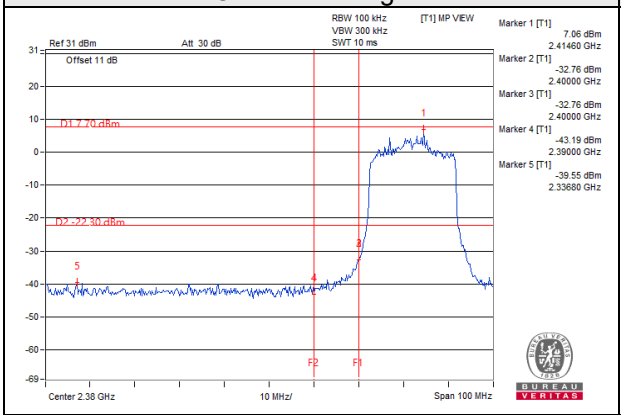


CH 11





CH 1 Band edge



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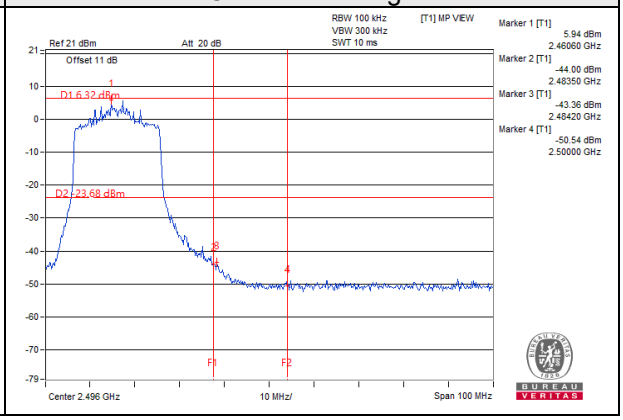
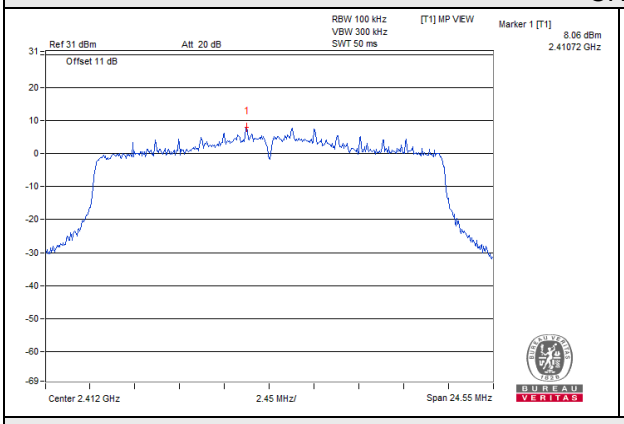
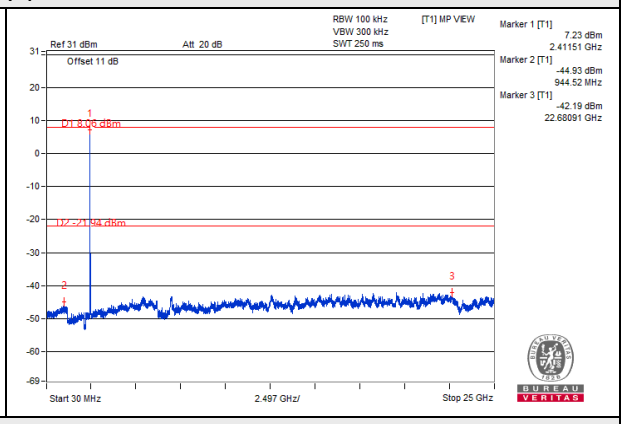


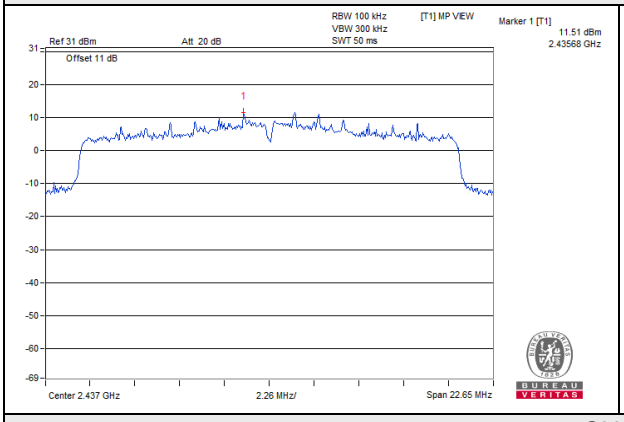
802.11ax (HE20)_Chain 1

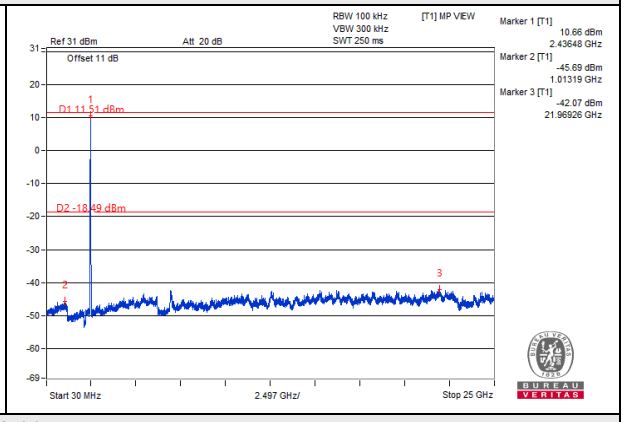
CH 1



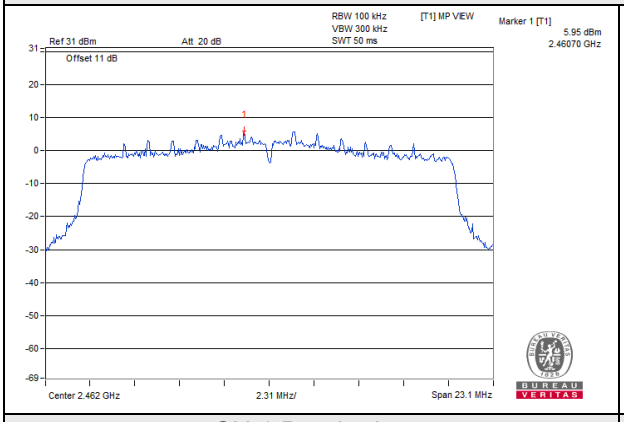


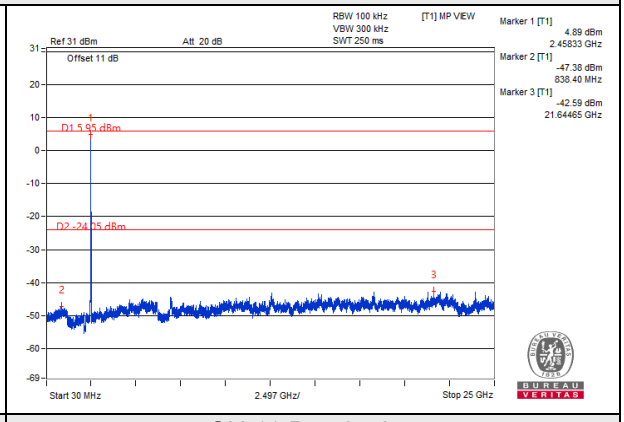
CH 6



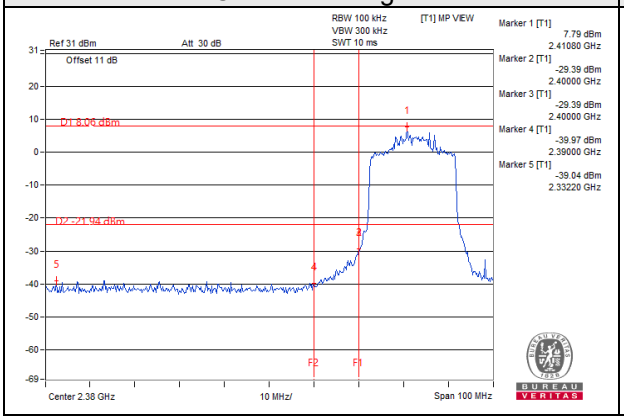


CH 11

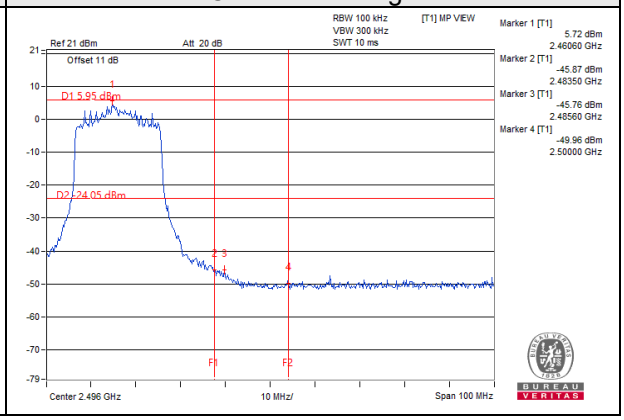




CH 1 Band edge

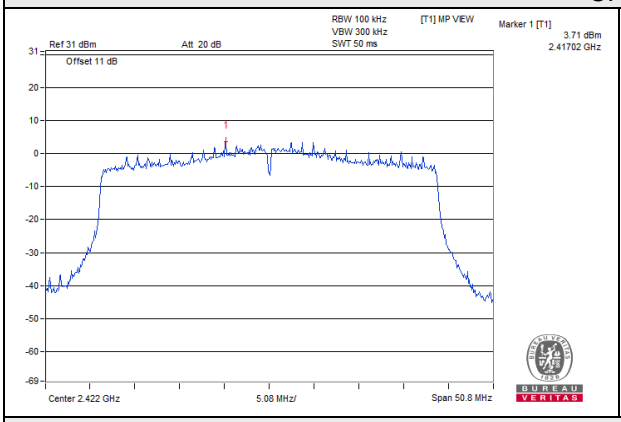


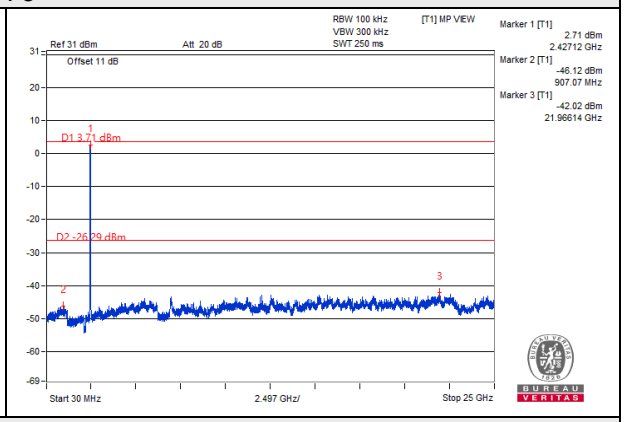
CH 11 Band edge



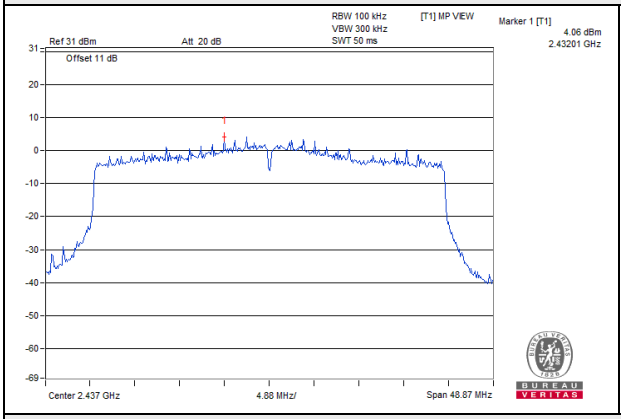
802.11ax (HE40)_Chain 0

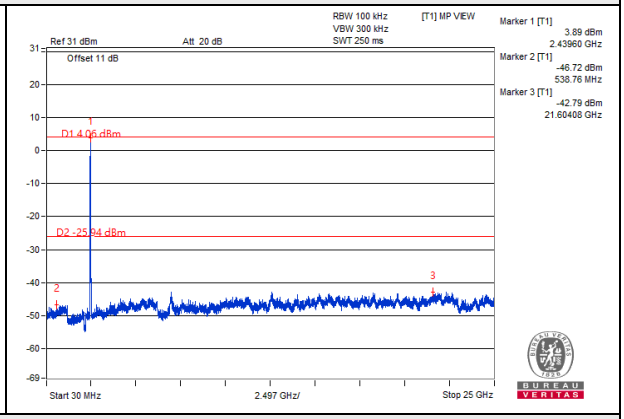
CH 3



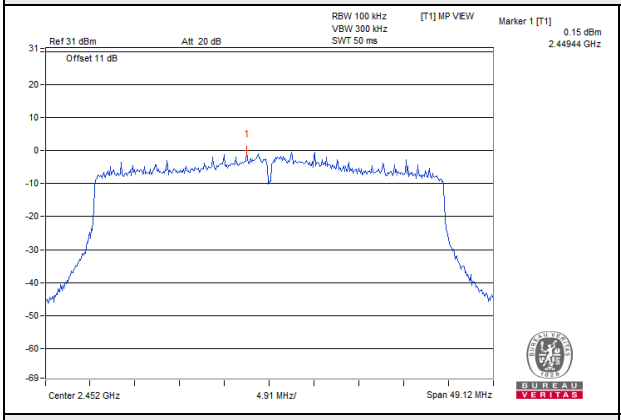


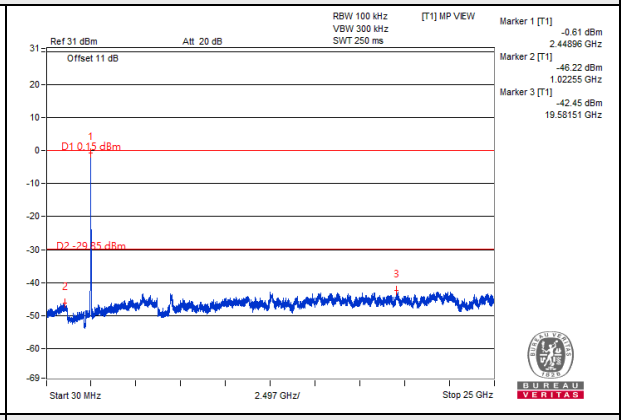
CH 6



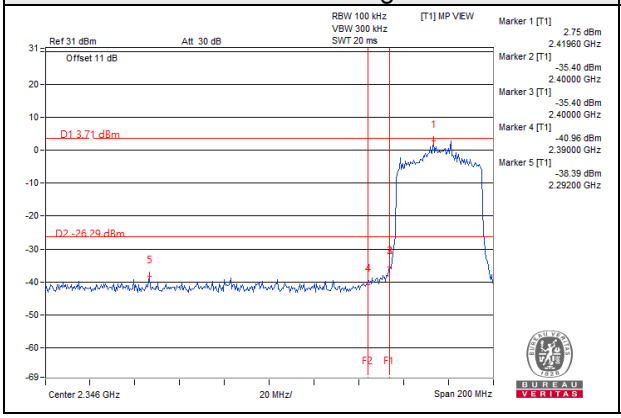


CH 9

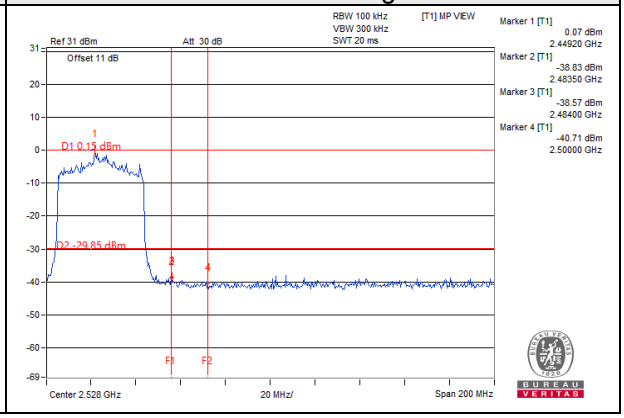




CH 3 Band edge

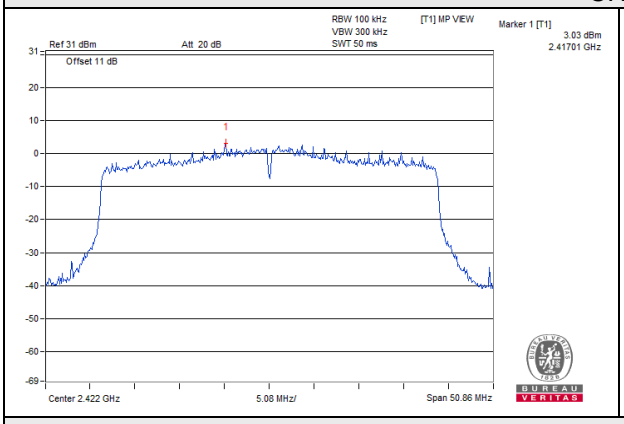


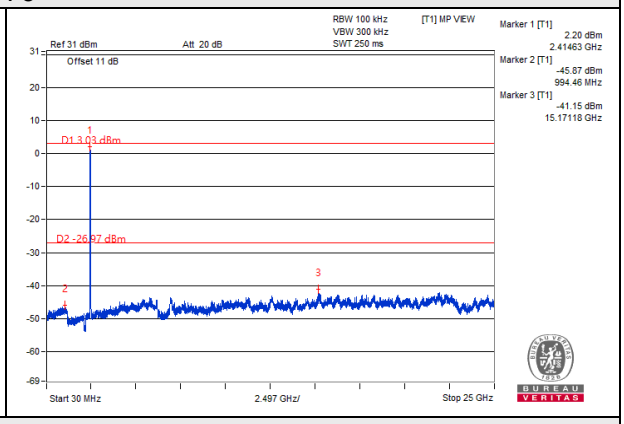
CH 9 Band edge



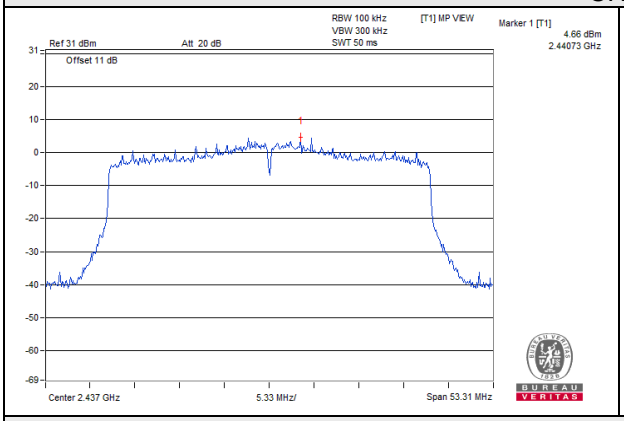
802.11ax (HE40)_Chain 1

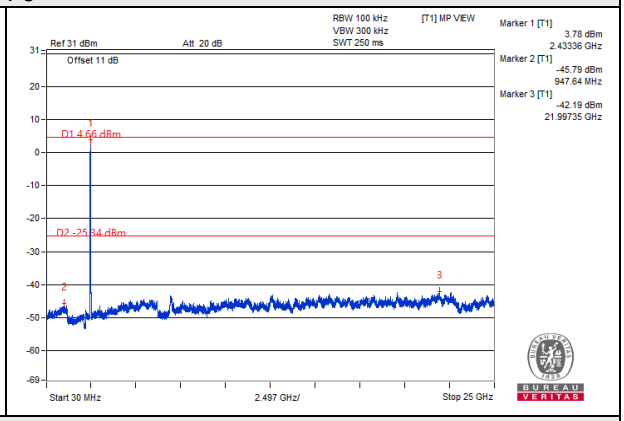
CH 3





CH 6





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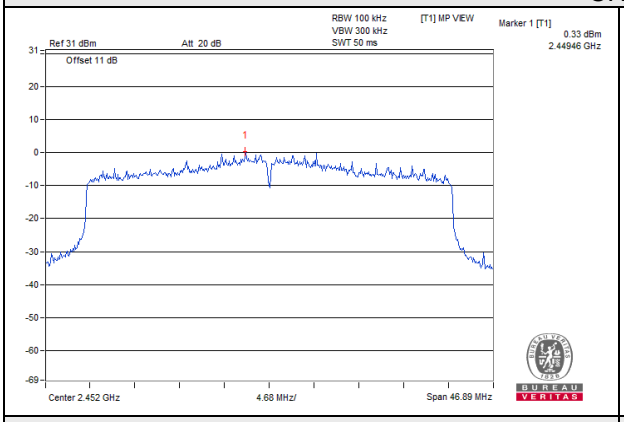
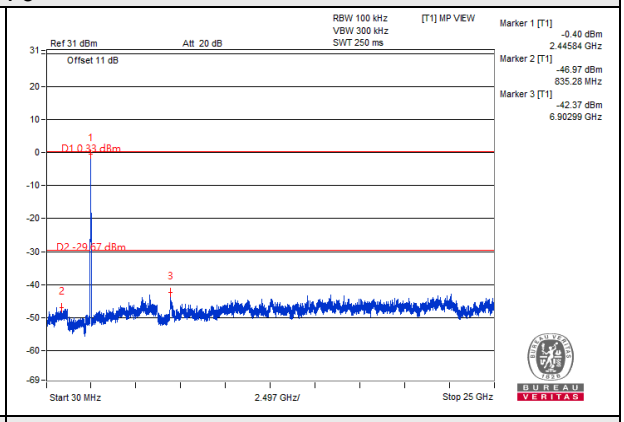
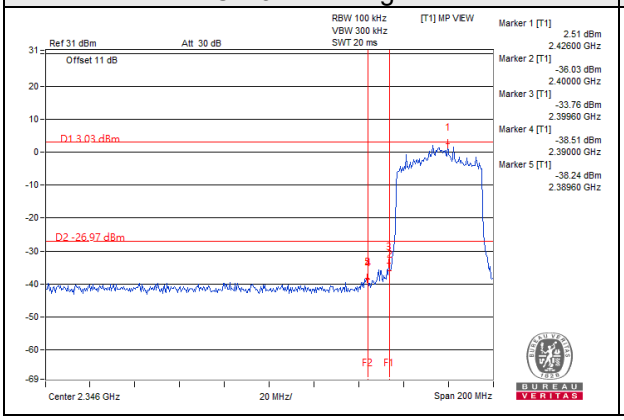
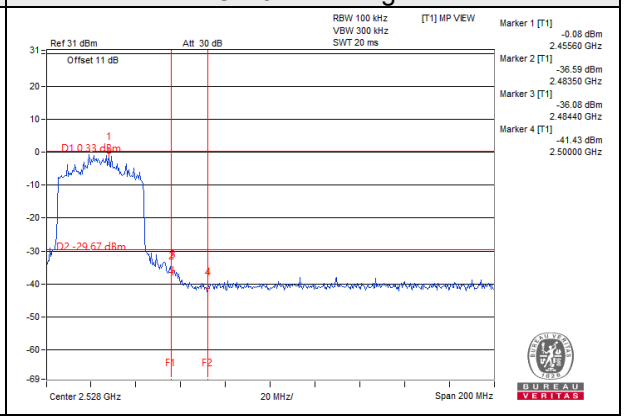




CH 3 Band edge



CH 9 Band edge



5 Pictures of Test Arrangements

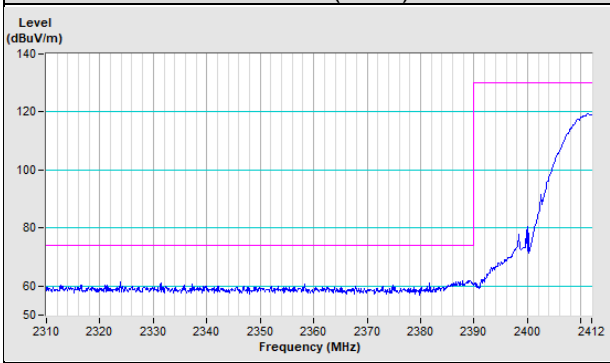
Please refer to the attached file (Test Setup Photo).

Annex A- Band Edge Measurement

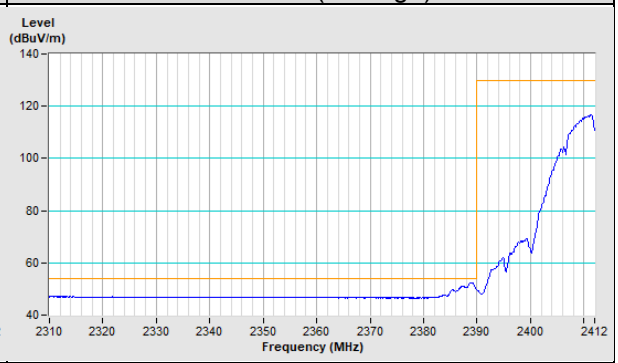
Mode A1

802.11b Channel 1

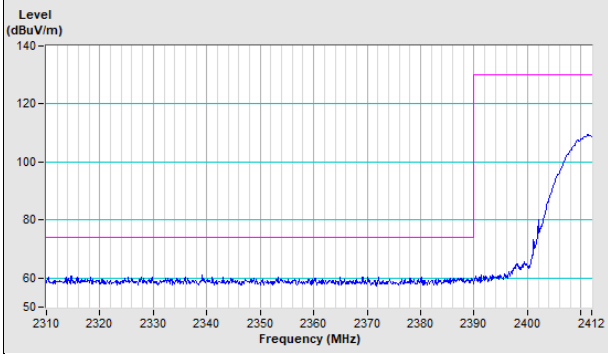
Horizontal (Peak)



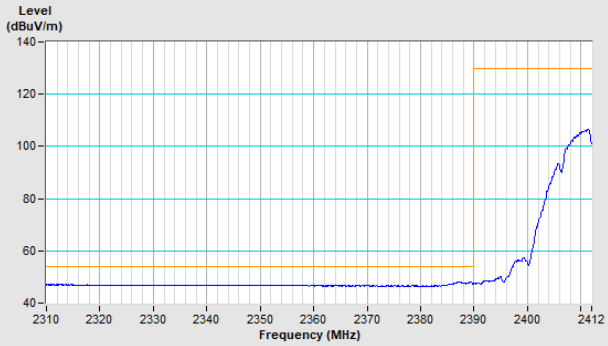
Horizontal (Average)



Vertical (Peak)

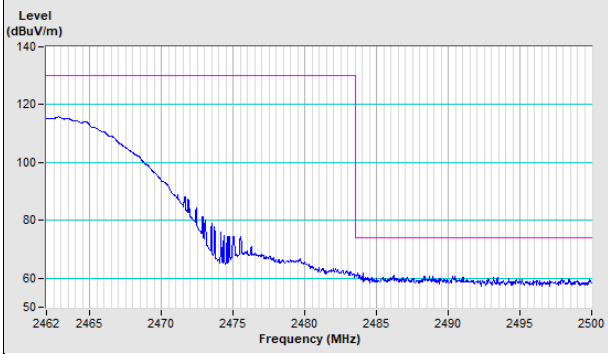


Vertical (Average)

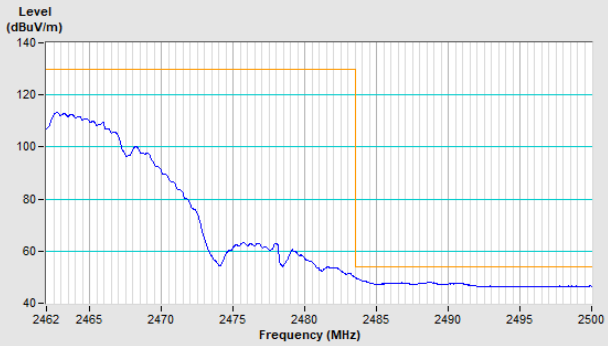


802.11b Channel 11

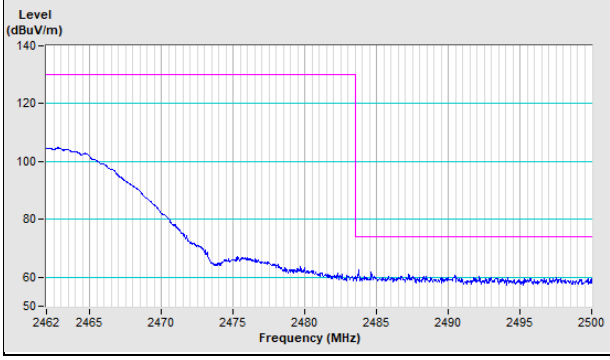
Horizontal (Peak)



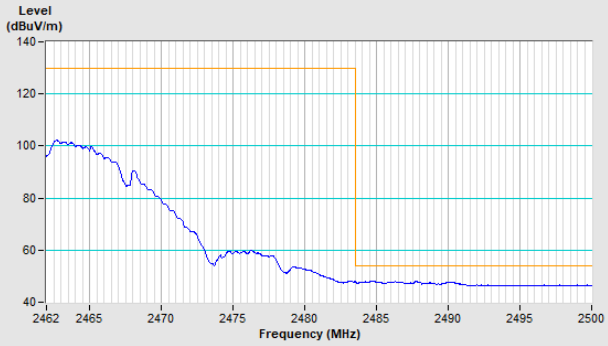
Horizontal (Average)

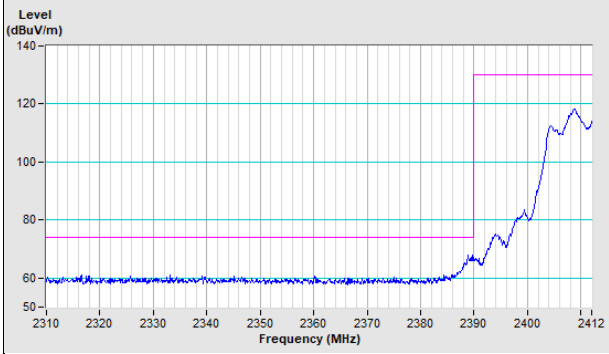
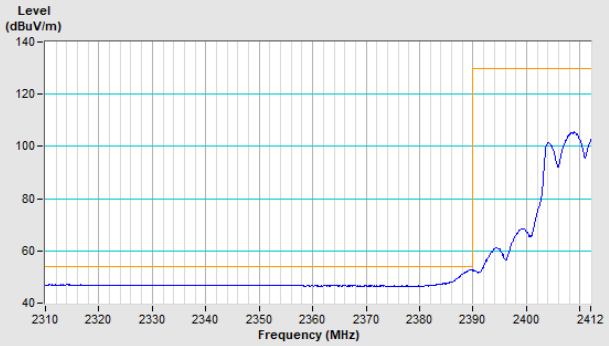
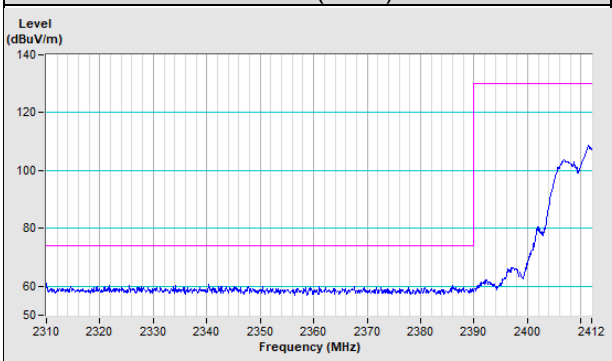
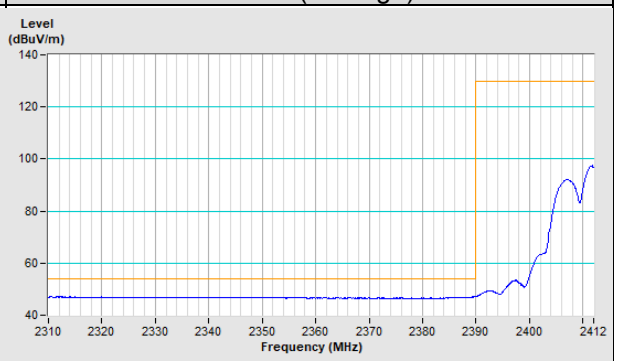
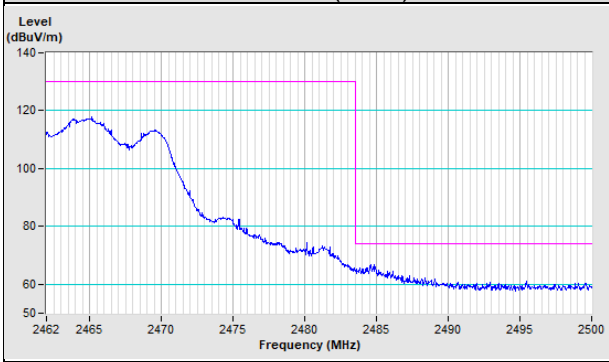
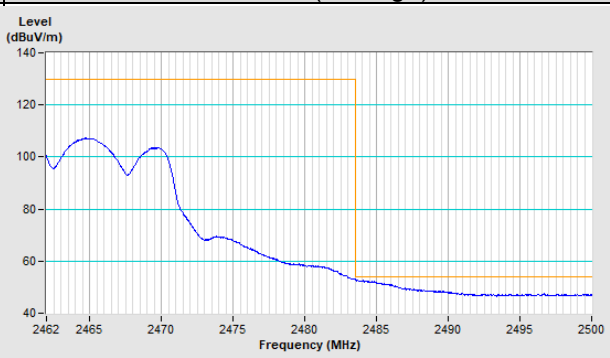
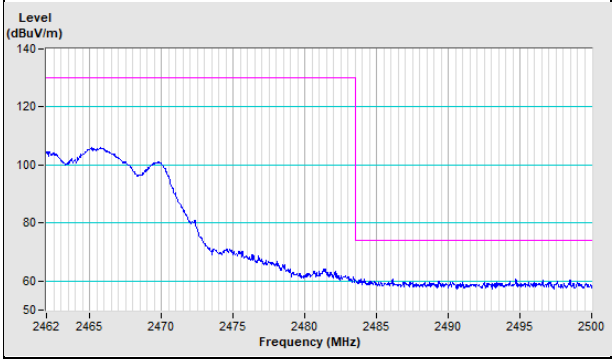
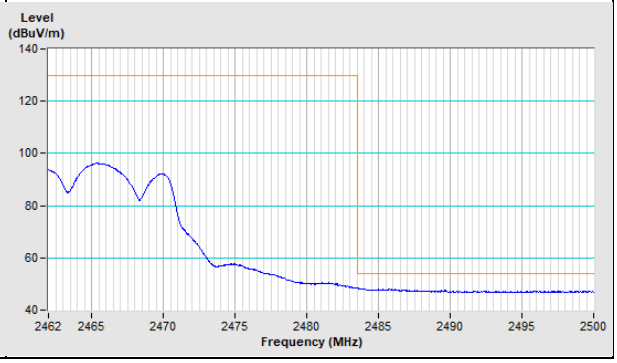


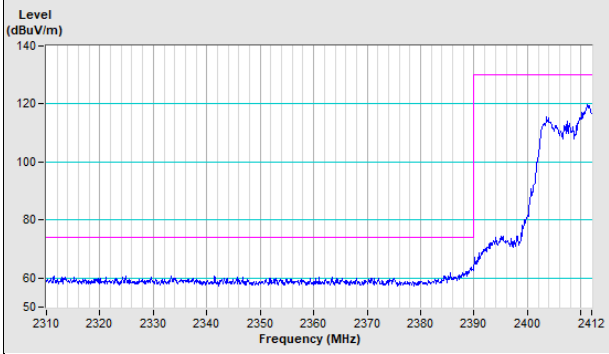
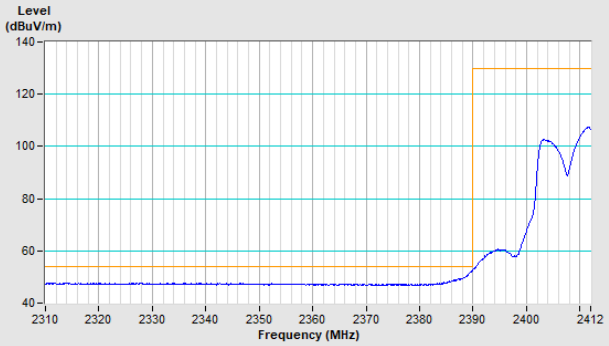
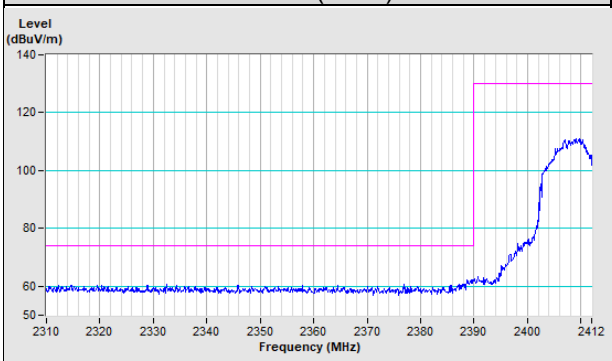
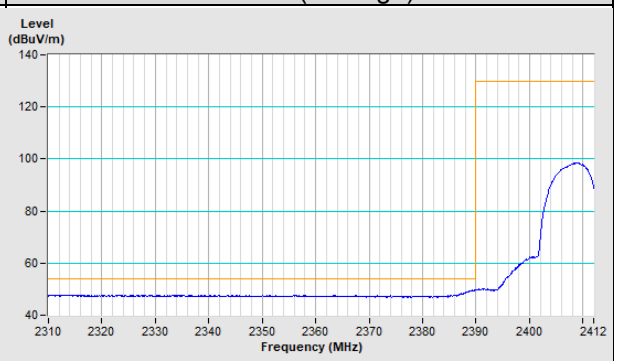
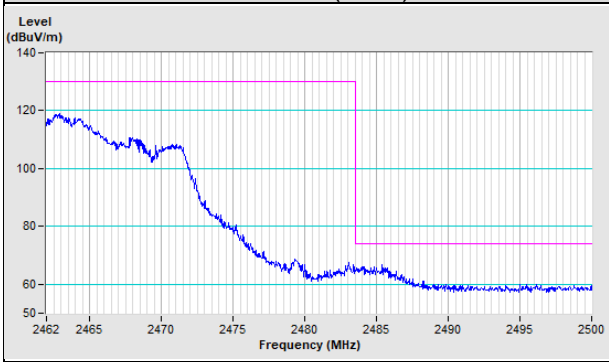
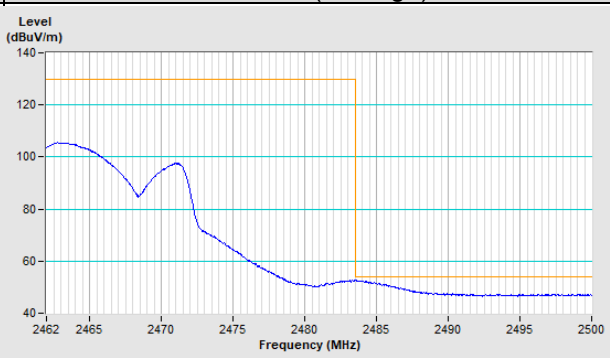
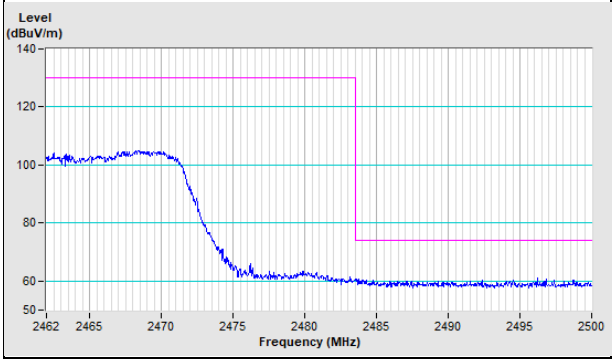
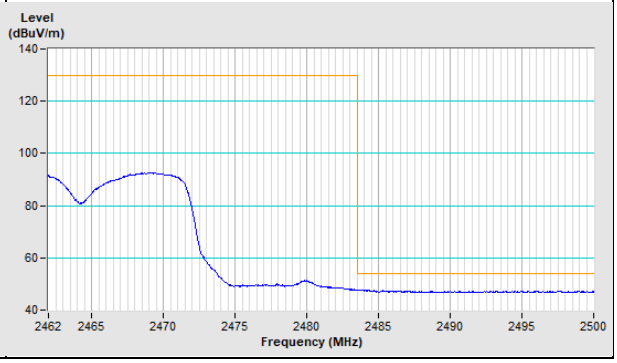
Vertical (Peak)

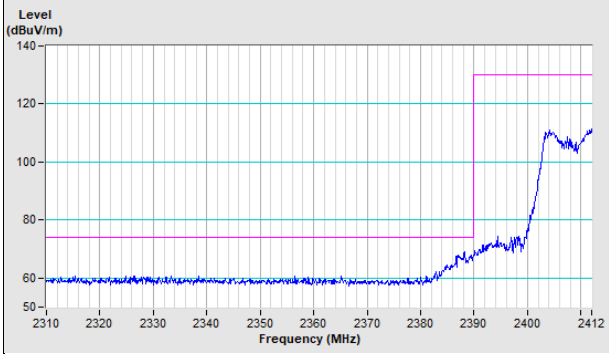
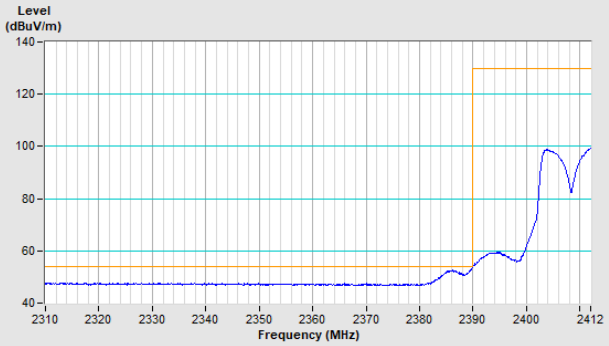
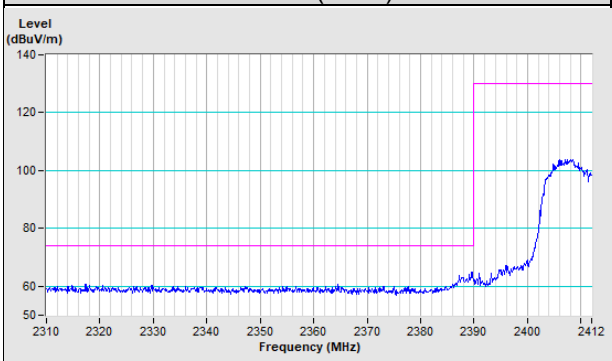
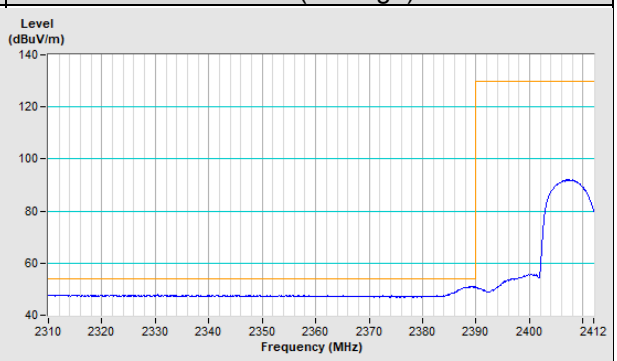
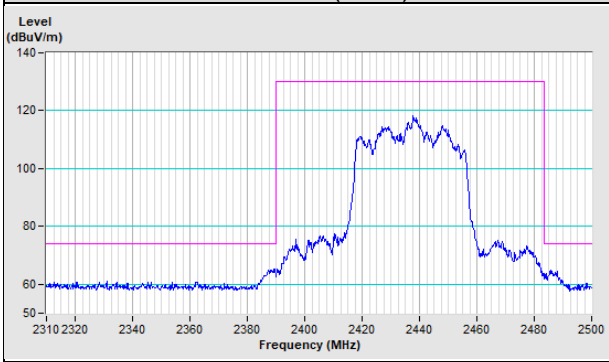
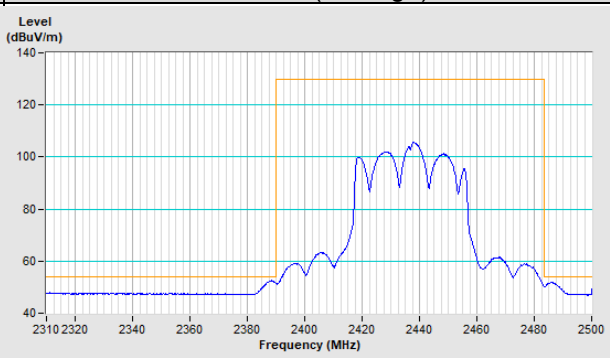
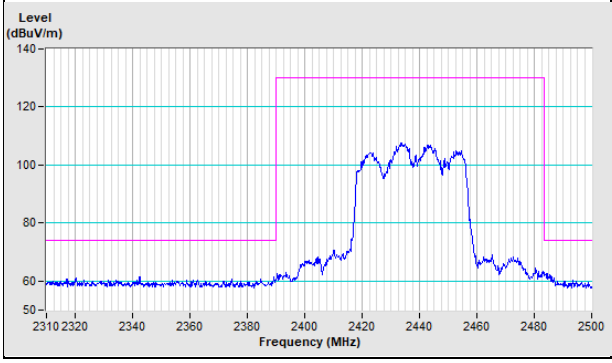
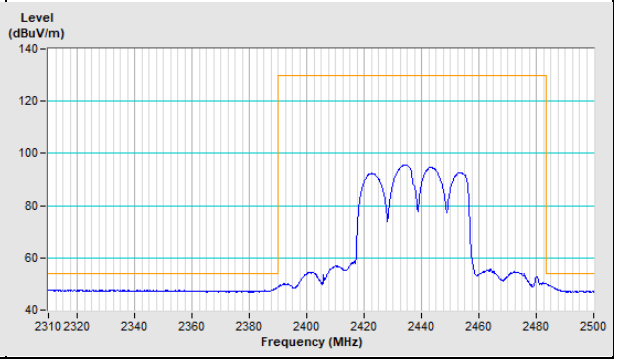


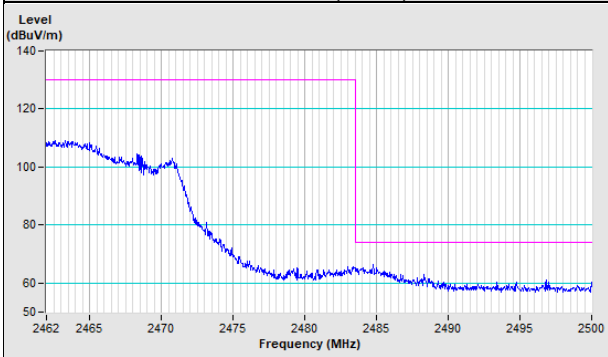
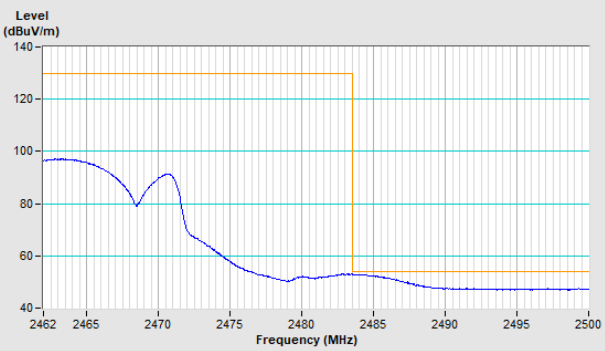
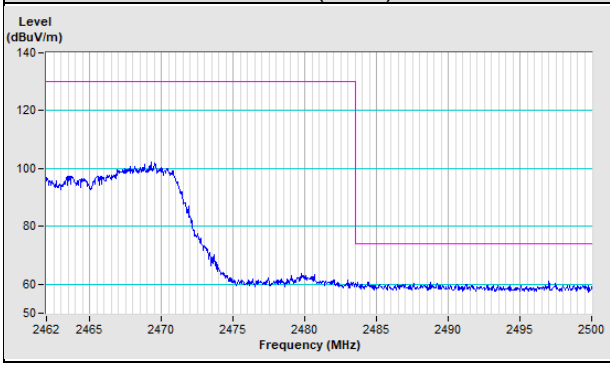
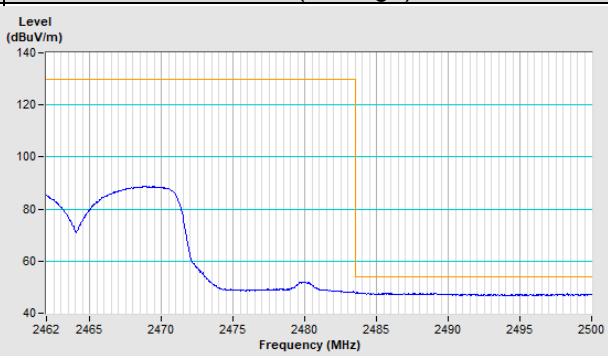
Vertical (Average)



802.11g Channel 1	
Horizontal (Peak)	Horizontal (Average)
	
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)
	

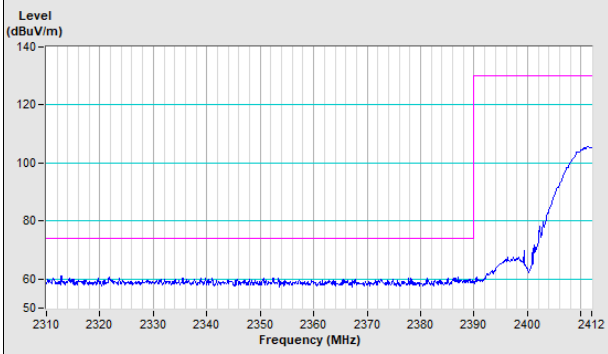
802.11ax (HE40) Channel 3	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE40) Channel 6	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE40) Channel 9	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

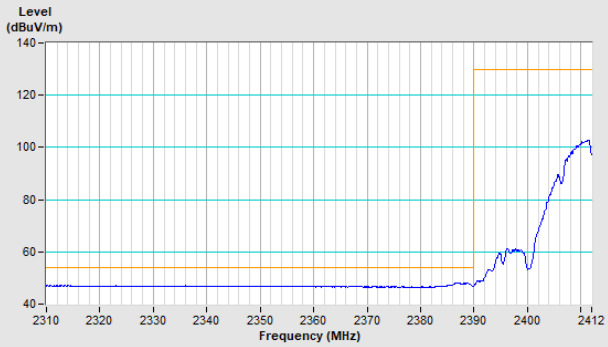
Mode B1

802.11b Channel 1

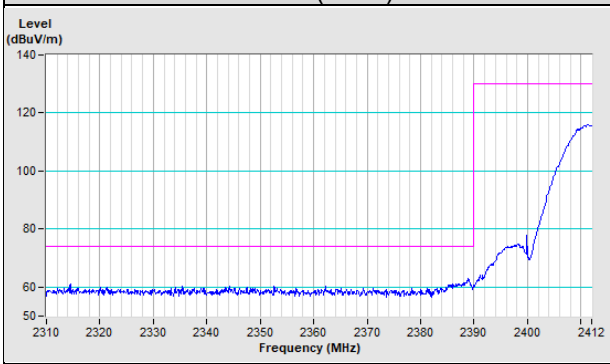
Horizontal (Peak)



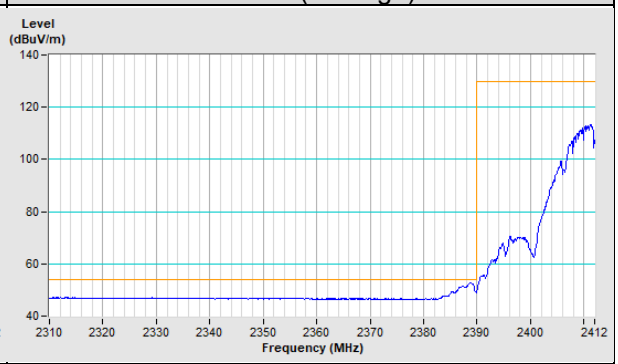
Horizontal (Average)



Vertical (Peak)

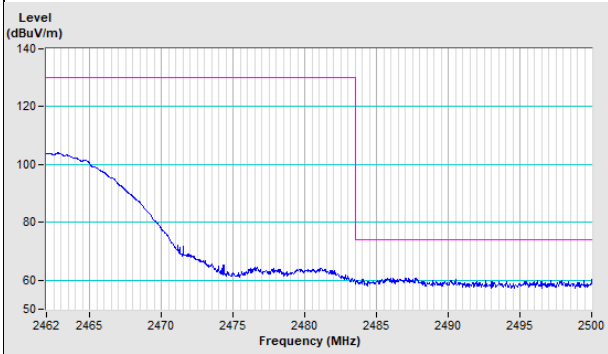


Vertical (Average)

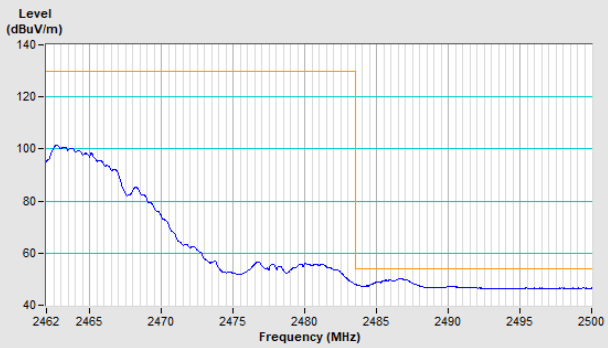


802.11b Channel 11

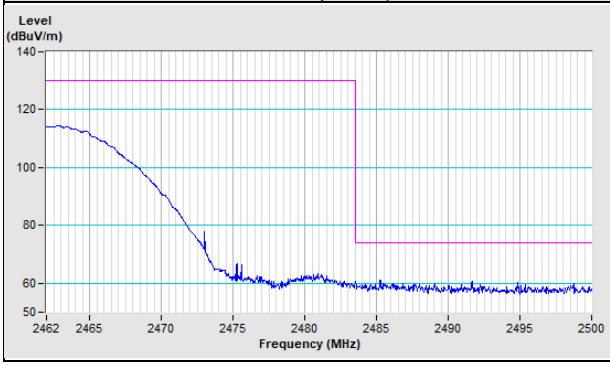
Horizontal (Peak)



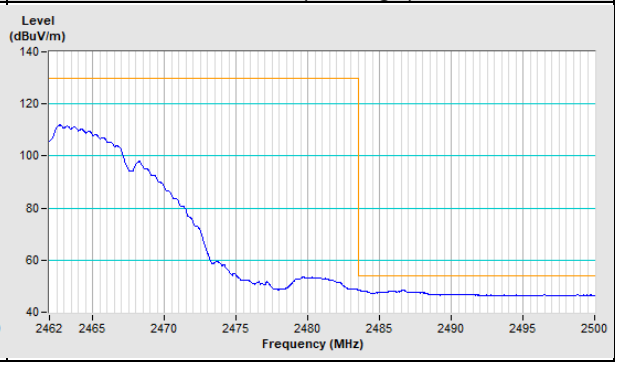
Horizontal (Average)

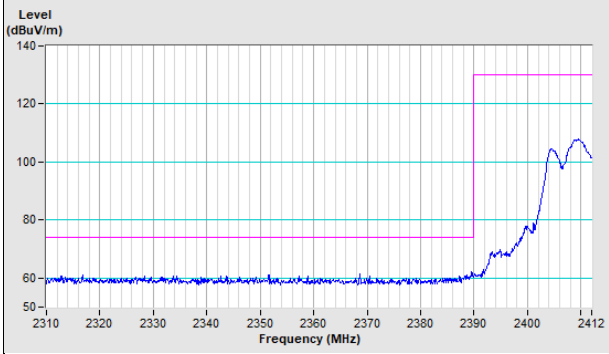
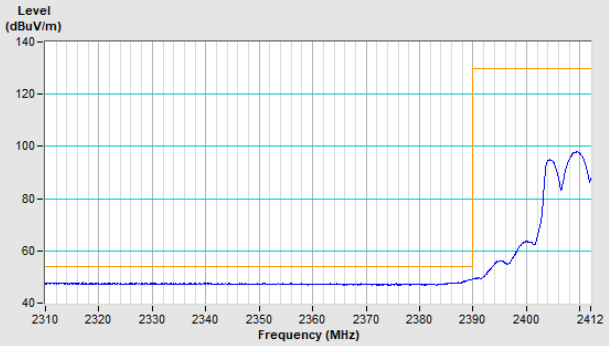
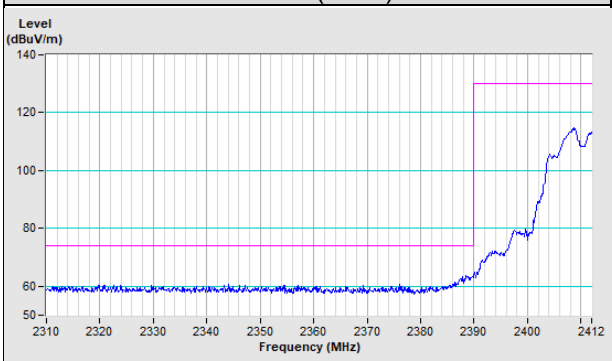
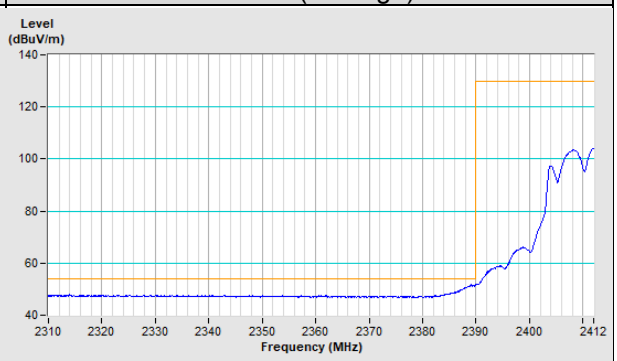
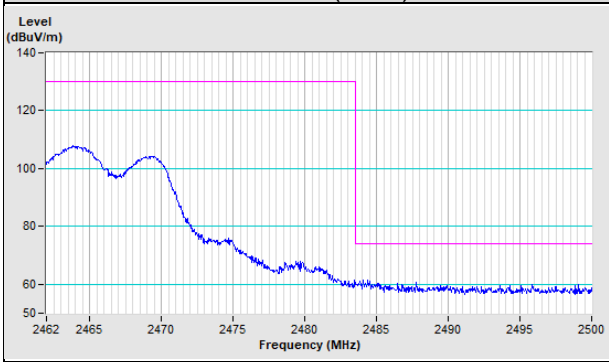
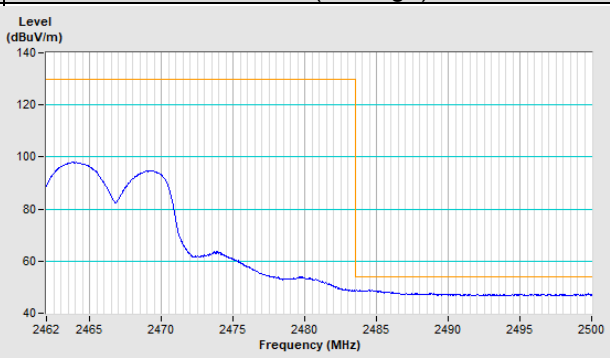
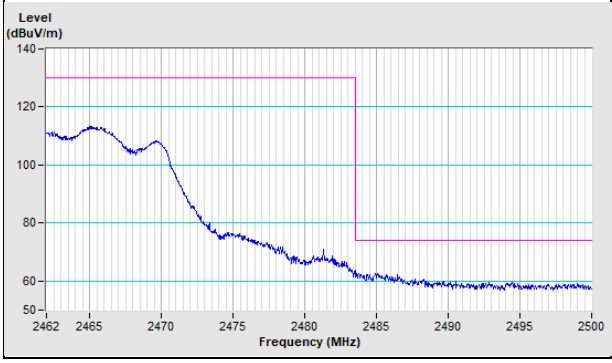
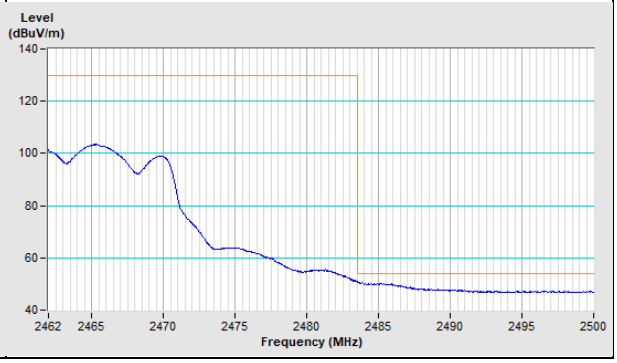


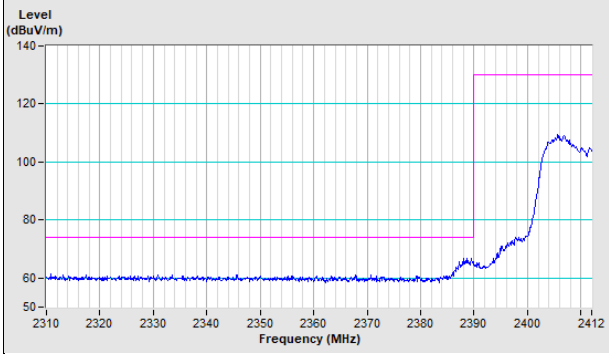
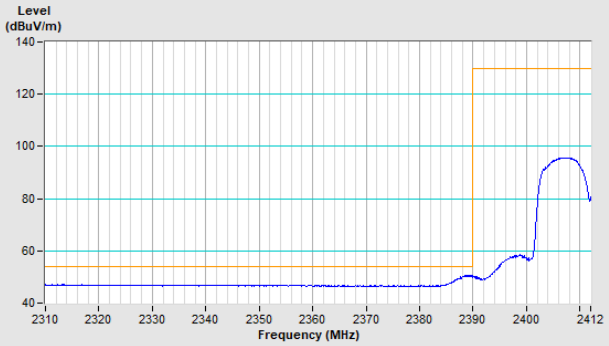
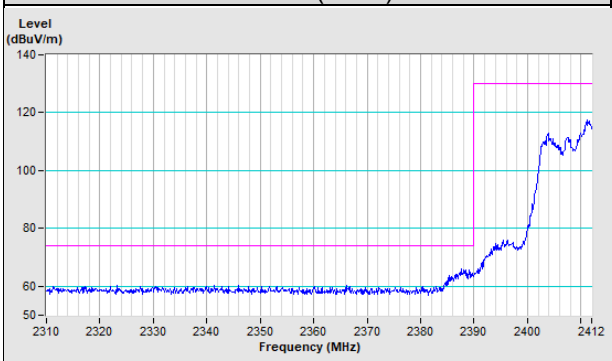
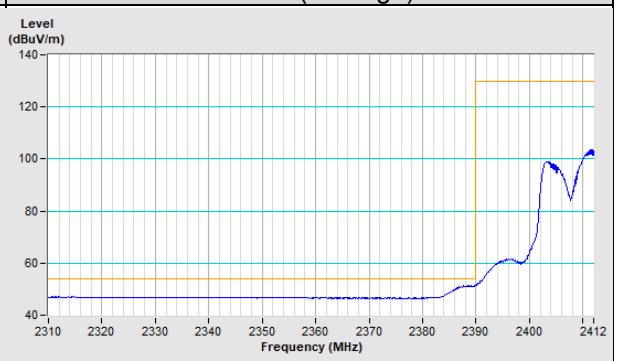
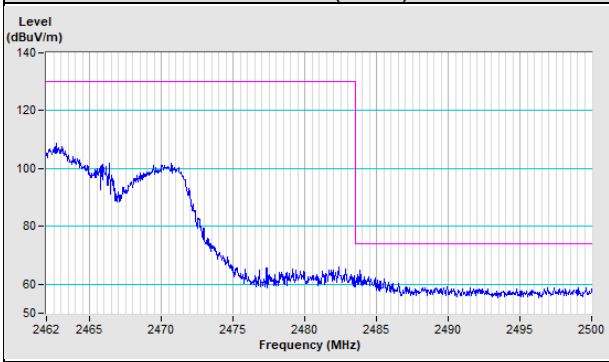
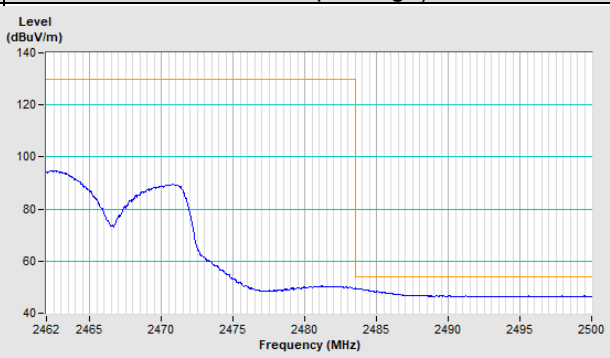
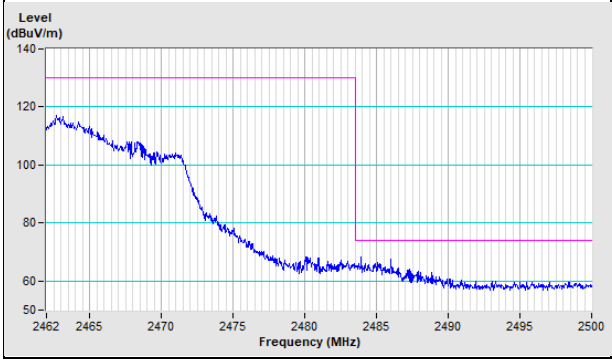
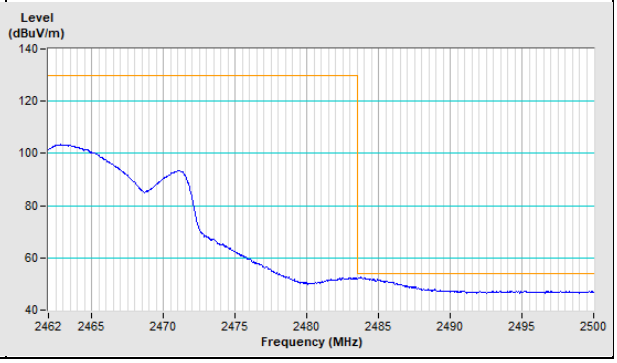
Vertical (Peak)

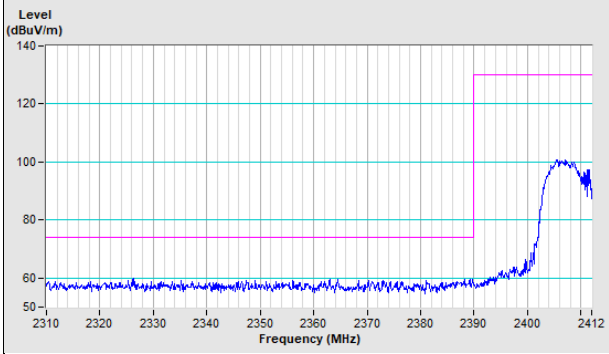
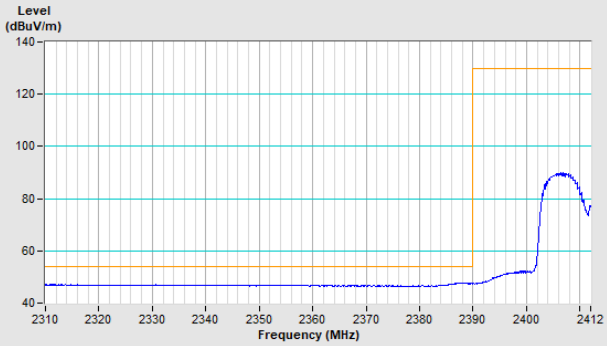
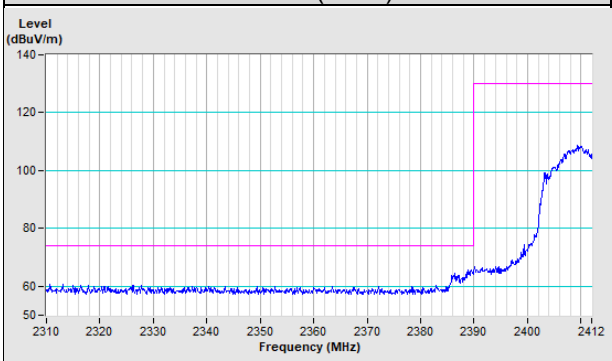
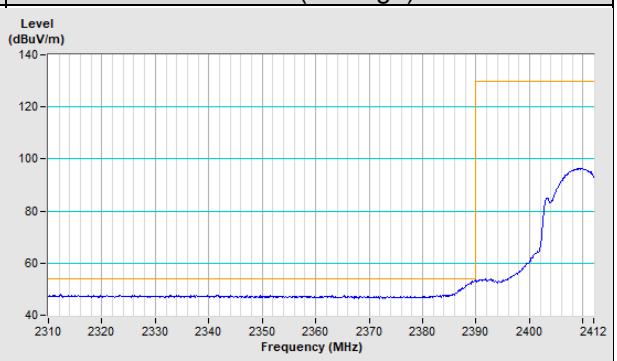


Vertical (Average)



802.11g Channel 1	
Horizontal (Peak)	Horizontal (Average)
	
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)
	
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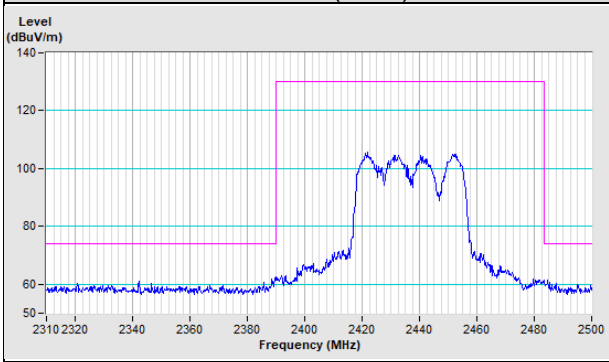
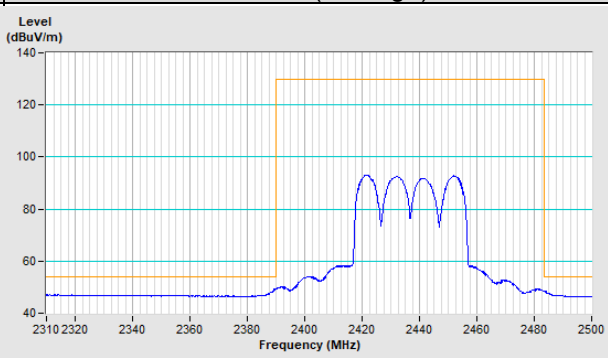
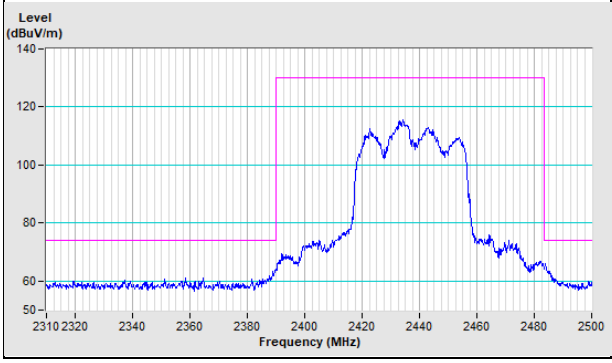
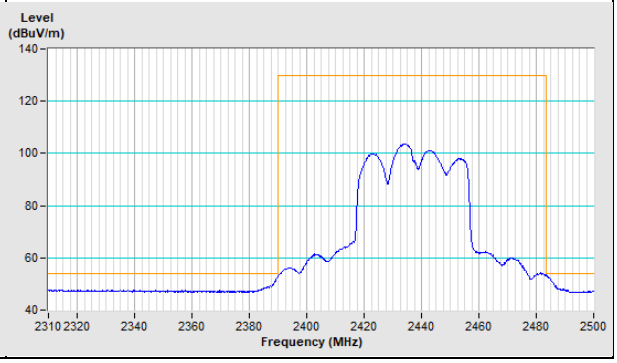
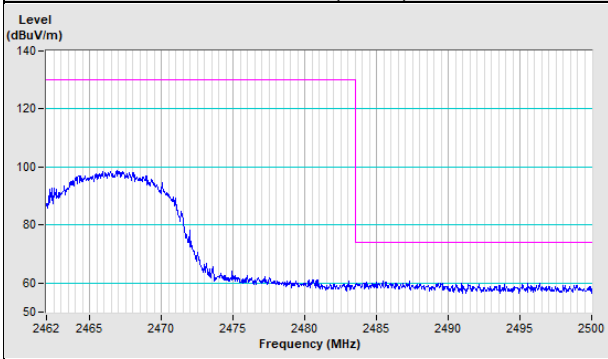
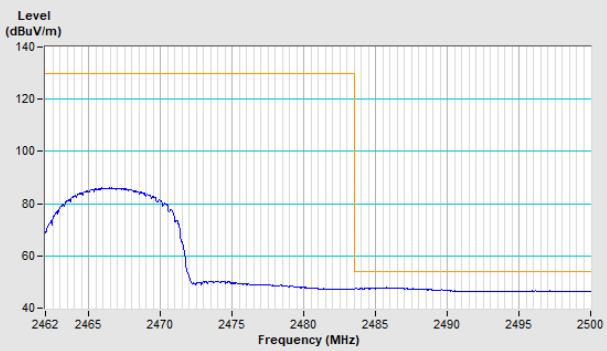
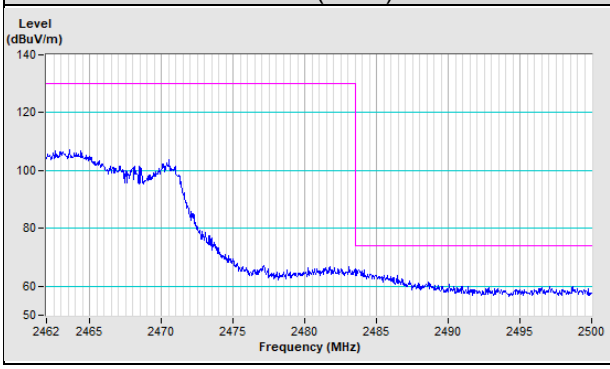
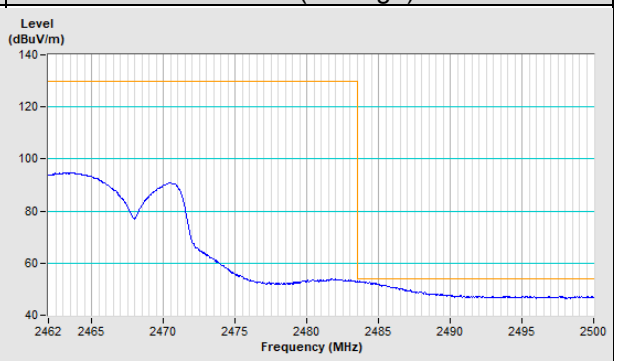
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE40) Channel 9	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

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 and approved according to ISO/IEC 17025.

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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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