TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 15, Subpart C (Section 15.247)**
Report No.:	RFBFBE-WTW-P22031258
FCC ID:	I88DX4510-B1
Model No.:	DX4510-B1
Received Date:	2022/4/14
Test Date:	2022/4/14 ~ 2022/6/11
Issued Date:	2022/7/29
Applicant:	Zyxel Communications Corporation
Address:	No.2 Industry East RD. IX, Hsinchu Science Park, Hsinchu 30075, Taiwan
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
FCC Registration / Designation Number:	723255 / TW2022

Approved by: _____ , **Date:** 2022/7/29

May Chen / Manager

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Prepared by : Cherry Chuo / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBFBE-WTW-P22031258	Original release.	2022/7/29

1 Certificate

Product:	AX6000 WiFi6 VDSL2 Bonding Gateway
Brand:	ZYXEL
Test Model:	DX4510-B1
Sample Status:	Engineering sample
Applicant:	Zyxel Communications Corporation
Test Date:	2022/4/14 ~ 2022/6/11
Standard:	47 CFR FCC Part 15, Subpart C (Section 15.247)
Measurement procedure:	ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02 KDB 662911 D01 Multiple Transmitter Output v02r01

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

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Standard / Clause	Test Item	Result	Remark
15.247(b)	RF Output Power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.247(a)(2)	6 dB Bandwidth	Pass	Meet the requirement of limit.
15.247(d)	Conducted Out of Band Emissions	Pass	Meet the requirement of limit.
15.207	AC Power Conducted Emissions	Pass	Minimum passing margin is -8.99 dB at 0.15371 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -6.4 dB at 520.70 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.2 dB at 2390.00, 2483.50, 2486.17 MHz
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.5 dB
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.4 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.0 dB
	18 GHz ~ 40 GHz	5.3 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description

Product	AX6000 WiFi6 VDSL2 Bonding Gateway
Brand	ZYXEL
Test Model	DX4510-B1
CPU Model No.	BCM63138UKFSBG
RF Chip Model No.	2.4G Chip Model: BCM6715X2 5G Chip Model: BCM6715X
FW Version	V5.17(ABYL.3)b2
Status of EUT	Engineering sample
Power Supply Rating	Refer to Note
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in VHT20/40 mode 1024QAM for OFDMA in 11ax mode
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 600Mbps VHT: up to 800Mbps 802.11ax: up to 1147.1Mbps
Operating Frequency	2412 ~ 2462 MHz
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** 946.837 mW (29.76 dBm) **Beamforming Mode** 807.068 mW (29.07 dBm)
Accessory Device	-AC Adapter x1, Brand: MNC, Model: MAUS-1202503000, DC Cord: Non-shielded, 1.5m -Ethernet Cable x1, Non-shielded, 1.8m -DSL Cable x1, Non-shielded, 1.8m

Note:

1. The EUT power needs to be supplied from a power adapter, the information is as below table:

Brand	Model	Specification
MNC	MAUS-1202503000	AC Input : 100-240V, 50/60Hz, 0.8A DC Output : 12V, 2.5A DC Output Cable : Unshielded, 1.5m

2. Simultaneously transmission condition.

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

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

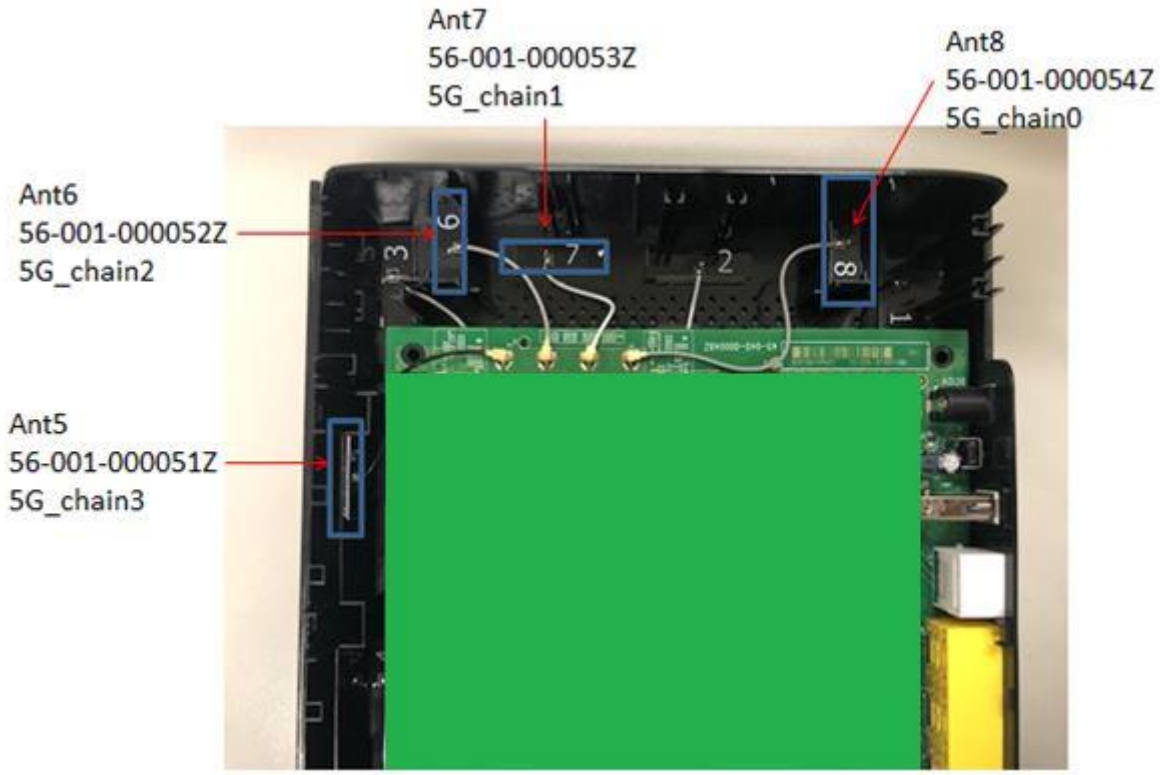
3.2 Antenna Description of EUT

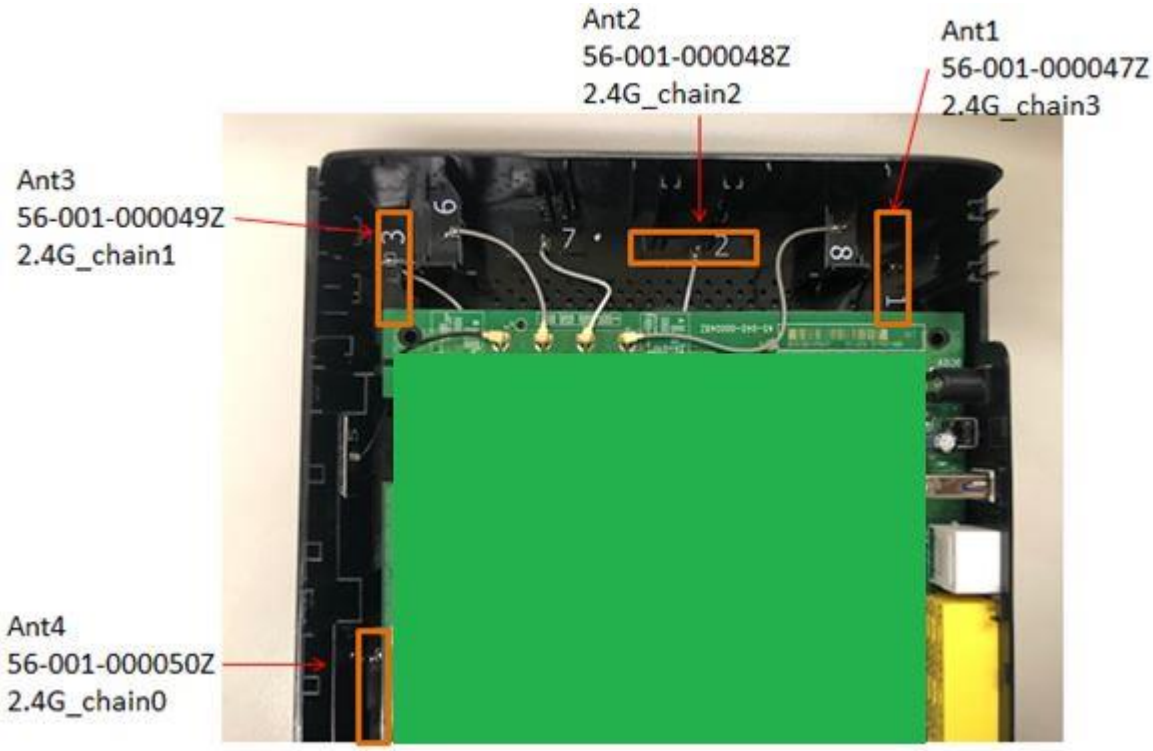
1. The antenna information is listed as below.

Antenna No.	RF Chain No.	Brand	Model	Antenna Net Gain(dBi)	Frequency range (GHz)	Antenna Type	Connector Type	*Cable Length (mm)
ANT1	2.4G_Chain 3	WHAYU	56-001-000047Z	2.7	2.4~2.4835	Dipole	ipex(MHF)	313
ANT2	2.4G_Chain 2	WHAYU	56-001-000048Z	2.31	2.4~2.4835	Dipole	ipex(MHF)	258
ANT3	2.4G_Chain 1	WHAYU	56-001-000049Z	2.57	2.4~2.4835	Dipole	ipex(MHF)	263
ANT4	2.4G_Chain 0	WHAYU	56-001-000050Z	2.53	2.4~2.4835	Dipole	ipex(MHF)	145
ANT5	5G_Chain 3	WHAYU	56-001-000051Z	2.6 2.92 3.31 3.16	5.15~5.25 5.25~5.35 5.47~5.725 5.725~5.85	Dipole	ipex(MHF)	59
ANT6	5G_Chain 2	WHAYU	56-001-000052Z	2.99 3.22 3.13 2.18	5.15~5.25 5.25~5.35 5.47~5.725 5.725~5.85	Dipole	ipex(MHF)	40
ANT7	5G_Chain 1	WHAYU	56-001-000053Z	3.48 3.09 3.79 2.46	5.15~5.25 5.25~5.35 5.47~5.725 5.725~5.85	Dipole	ipex(MHF)	45
ANT8	5G_Chain 0	WHAYU	56-001-000054Z	0.63 2.62 2.61 3.73	5.15~5.25 5.25~5.35 5.47~5.725 5.725~5.85	Dipole	ipex(MHF)	80

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

* Antenna port location





2. The directional antenna gain, please refer to the following table:

Frequency Range (GHz)	Directional Antenna Gain (dBi)	Antenna Type	Antenna Connector
2.4~2.4835	4.84	Dipole	ipex(MHF)
Note: Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement. More detailed information, please refer to antenna specification.			

3. The EUT incorporates a MIMO function:

2.4 GHz Band		
Modulation Mode	**TX & RX Configuration**	
802.11b	4TX	4RX
802.11g	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
VHT20	4TX	4RX
VHT40	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX

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

3.3 Channel List

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

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

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

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

3.4 Power Setting

Power Setting							
Channel	802.11b CDD	802.11g CDD	VHT20 CDD	Channel	VHT40 CDD	Channel	802.11ax (HE20) CDD
1	88	76	70	3	62	1	70
6	86	94	92	6	72	6	92
11	87	70	71	9	70	11	71

Power Setting									
Channel	802.11ax (HE40) CDD	Channel	VHT20 Beamforming	Channel	VHT40 Beamforming	Channel	802.11ax (HE20) Beamforming	Channel	802.11ax (HE40) Beamforming
3	62	1	70	3	62	1	70	3	62
6	72	6	92	6	72	6	92	6	72
9	70	11	71	9	70	11	71	9	70

3.5 Test Mode Applicability and Tested Channel Detail

Worst Case:	1. 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).

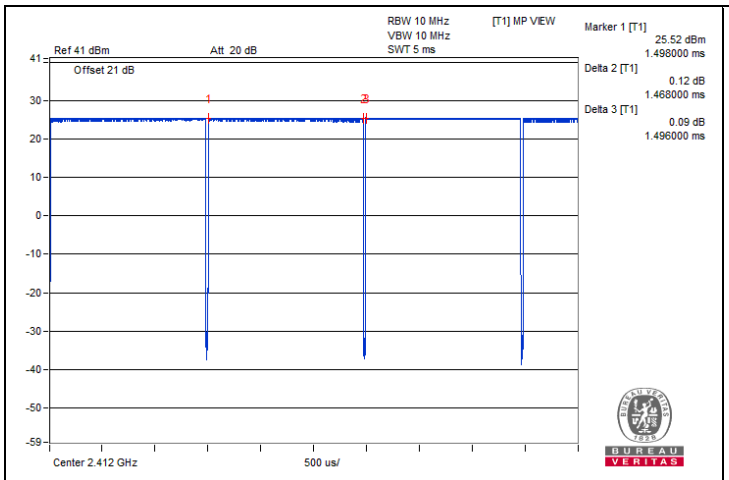
Following channel(s) was (were) selected for the final test as listed below:

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

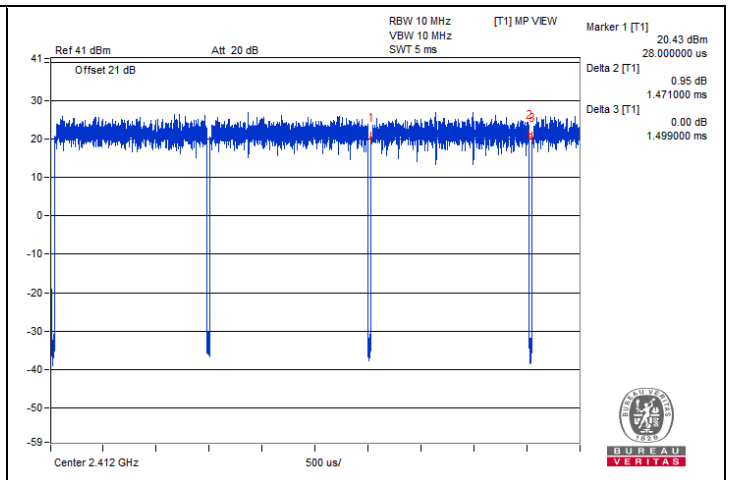
3.6 Duty Cycle of Test Signal

Duty cycle of test signal is >= 98 %, duty factor is not required.
Duty cycle of test signal is < 98 %, duty factor shall be considered.

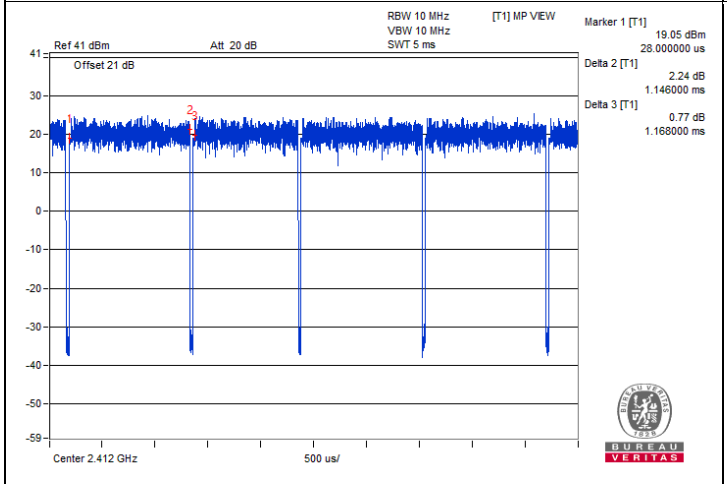
802.11b: Duty cycle = 1.468 ms / 1.496 ms x 100% = 98.1%
802.11g: Duty cycle = 1.471 ms / 1.499 ms x 100% = 98.1%
802.11ax (HE20): Duty cycle = 1.146 ms / 1.168 ms x 100% = 98.1%
802.11ax (HE40): Duty cycle = 1.188 ms / 1.21 ms x 100% = 98.2%



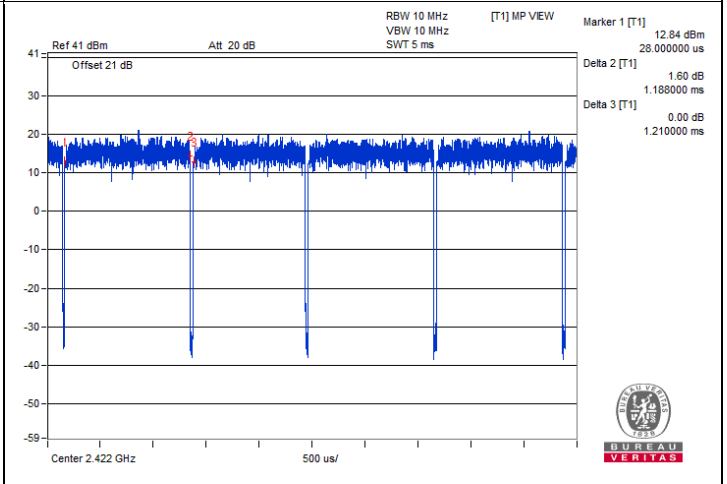
802.11b



802.11g



802.11ax (HE20)

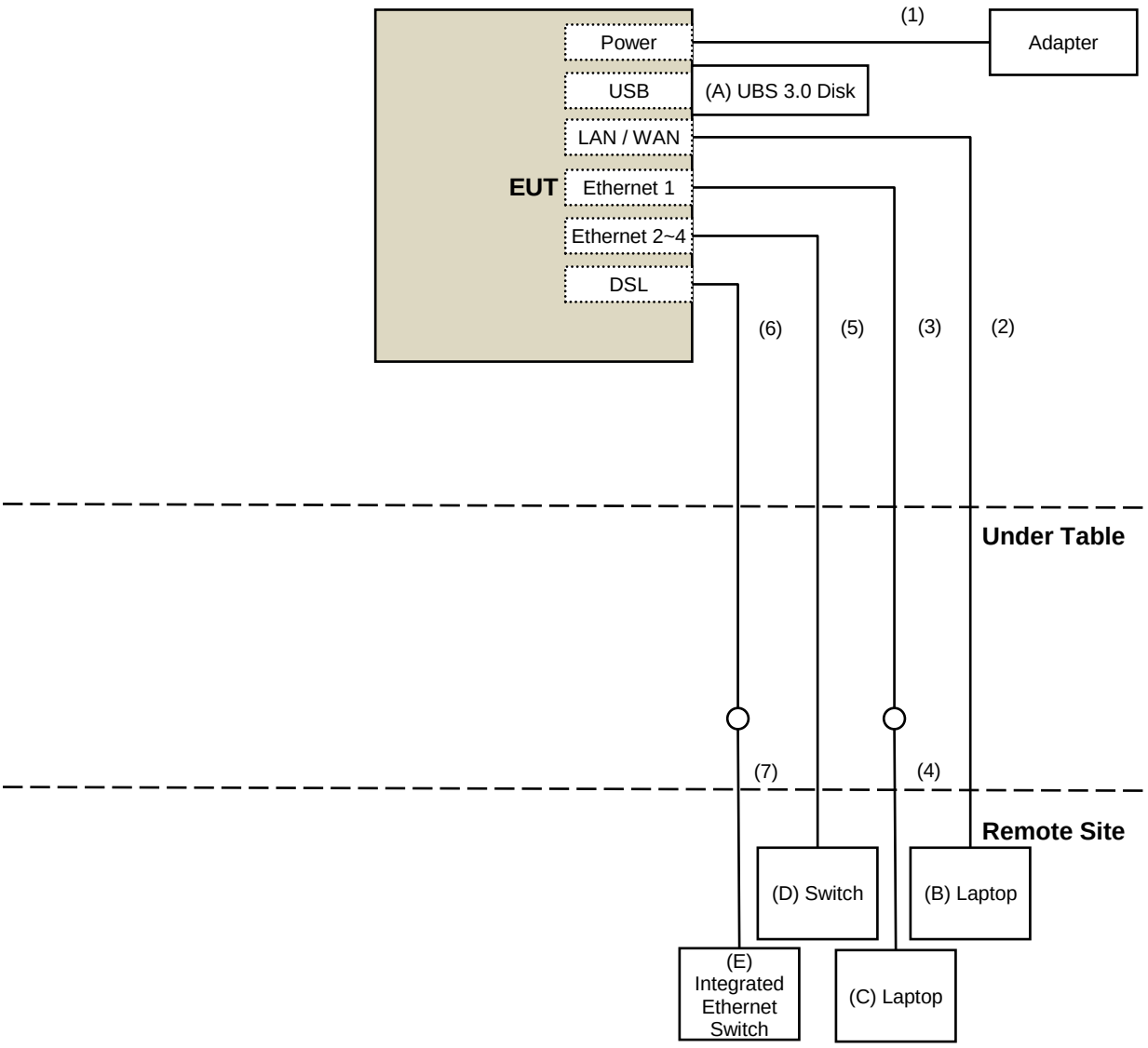


802.11ax (HE40)

3.7 Test Program Used and Operation Descriptions

Controlling software (accessMTool_3_2_1_0.msi) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.8 Connection Diagram of EUT and Peripheral Devices



3.9 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	UBS 3.0 Disk	SanDisk	BM181225896Z	N/A	N/A	Provided by Lab
B	Laptop	Lenovo	20U5S01X00 L14	PF-28LKK7	N/A	Provided by Lab
C	Laptop	DELL	PP36S	25733582128	N/A	Provided by Lab
D	Switch	D-Link	DGS-1005D	DR8WC92000523	N/A	Provided by Lab
E	Integrated Ethernet Switch	ZYXEL	IES-1000	S4Z3112558	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Cable	1	1.5	No	0	Supplied by applicant
2	RJ-45 Cable	1	10	No	0	Provided by Lab
3	Ethernet Cable	1	1.8	No	0	Supplied by applicant
4	RJ-45 Cable	1	10	No	0	Provided by Lab
5	RJ-45 Cable	3	10	No	0	Provided by Lab
6	DSL Cable	1	1.8	No	0	Supplied by applicant
7	RJ-11 Cable	1	10	No	0	Provided by Lab

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Power Meter Anritsu	ML2495A	1529002	2021/6/21	2022/6/20
Pulse Power Sensor Anritsu	MA2411B	1726434	2021/6/21	2022/6/20
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/6/11

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	101516	2022/3/7	2023/3/6

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/6/11

4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

4.4 Conducted Out of Band Emissions

Refer to section 4.2 to get information of the instruments.

4.5 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohms Terminator	50	3	2021/10/27	2022/10/26
Fixed attenuator STI	STI02-2200-10	005	2021/8/27	2022/8/26
LISN R&S	ESH3-Z5	848773/004	2021/10/29	2022/10/28
RF Coaxial Cable JYEBO	5D-FB	COCCAB-001	2021/9/25	2022/9/24
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A
TEST RECEIVER R&S	ESCS 30	847124/029	2021/10/13	2022/10/12

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2022/6/5

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	N/A	N/A
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	2021/9/23	2022/9/22
LOOP ANTENNA Electro-Metrics	EM-6879	264	2022/3/18	2023/3/17
MXE EMI Receiver(20 Hz to 44 GHz) Keysight	N9038A	MY54450088	2021/7/6	2022/7/5
Pre_Amplifier Agilent	8447D	2944A10636	2022/3/19	2023/3/18
Pre_Amplifier Mini-Circuits	ZFL-1000VH2	QA0838008	2021/10/19	2022/10/18
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2022/1/6	2023/1/5
		LOOPCAB-002	2022/1/6	2023/1/5
RF Coaxial Cable COMMATE/PEWC	8D	966-4-1	2022/3/8	2023/3/7
		966-3-2	2022/2/26	2023/2/25
		966-3-3	2022/2/26	2023/2/25
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Trilog Broadband Antenna Schwarzbeck	VULB 9168	9168-361	2021/10/26	2022/10/25

Notes:

1. The test was performed in 966 Chamber No. 3.
2. Tested Date: 2022/5/27

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	N/A	N/A
Fix tool for Boresight antenna tower BV	FBA-01	FBA_SIP01	N/A	N/A
Horn Antenna Schwarzbeck	BBHA9120-D	9120D-406	2021/11/14	2022/11/13
	BBHA 9170	9170-739	2021/11/14	2022/11/13
MXE EMI Receiver(20 Hz to 44 GHz) Keysight	N9038A	MY54450088	2021/7/6	2022/7/5
Pre_Amplifier EMCI	EMC12630SE	980384	2022/1/10	2023/1/9
	EMC184045SE	980387	2022/1/10	2023/1/9
RF Cable EMCI	EMC104-SM-SM-6000	210201	2021/5/13	2022/5/12
			2022/5/10	2023/5/9
RF Cable-Frequency Range : 1-26.5GHz EMCI	EMC104-SM-SM-1200	160922	2021/12/24	2022/12/23
RF Cable-Frequency range: 1-40GHz EMCI	EMC102-KM-KM-1200	160924	2022/1/10	2023/1/9
RF Coaxial Cable EMCI	EMC104-SM-SM-1500	180504	2021/4/26	2022/4/25
			2022/4/25	2023/4/24
	EMC104-SM-SM-2000	180601	2021/6/8	2022/6/7
	EMC-KM-KM-4000	200214	2022/3/8	2023/3/7
	EMC104-SM-SM-6000	210704	2021/11/9	2022/11/8
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer Keysight	N9030A	MY54490679	2021/7/9	2022/7/8

Notes:

1. The test was performed in 966 Chamber No. 3.
2. Tested Date: 2022/4/14 ~ 2022/6/5

5 Limits of Test Items

5.1 RF Output Power

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

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

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

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

5.2 Power Spectral Density

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

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

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

5.5 AC Power Conducted Emissions

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

Notes:

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

5.6 Unwanted Emissions below 1 GHz

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

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

Notes:

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

5.7 Unwanted Emissions above 1 GHz

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

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

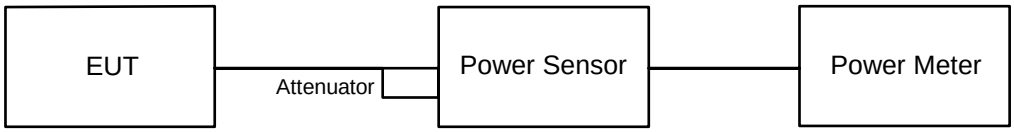
Notes:

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

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup

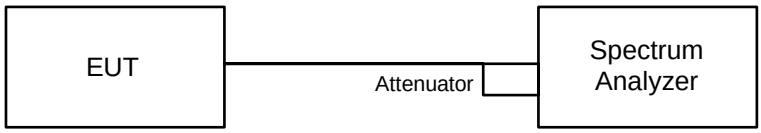


6.1.2 Test Procedure

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

6.2 Power Spectral Density

6.2.1 Test Setup



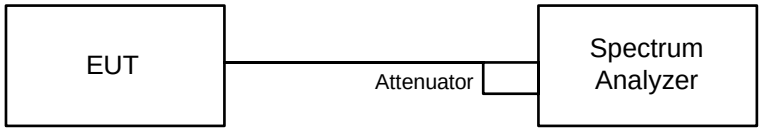
6.2.2 Test Procedure

a. Measure the duty cycle (x).
b. Set instrument center frequency to DTS channel center frequency.
c. Set span to at least 1.5 times the OBW.
d. Set RBW to: 3 kHz.
e. Set VBW ≥3 x RBW.
f. Detector = power averaging (RMS) or sample detector (when RMS not available).
g. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
h. Sweep time = auto couple.
i. Do not use sweep triggering. Allow sweep to “free run”.
j. Employ trace averaging (RMS) mode over a minimum of 100 traces.
k. Use the peak marker function to determine the maximum amplitude level.

Note: If Duty cycle < 98%, Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time.

6.3 6 dB Bandwidth

6.3.1 Test Setup

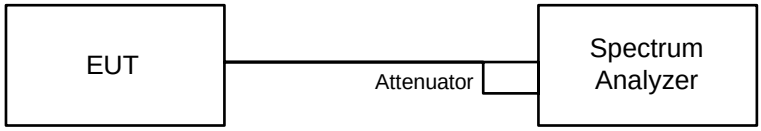


6.3.2 Test Procedure

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

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

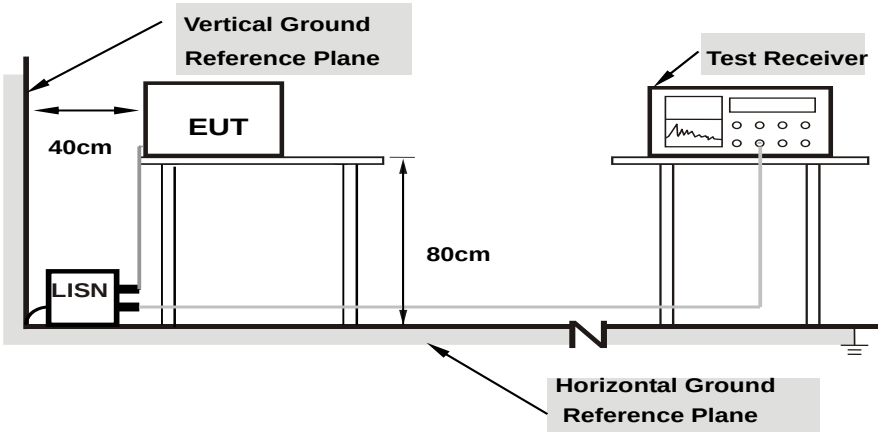
a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

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

6.5 AC Power Conducted Emissions

6.5.1 Test Setup



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

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

6.5.2 Test Procedure

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.

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

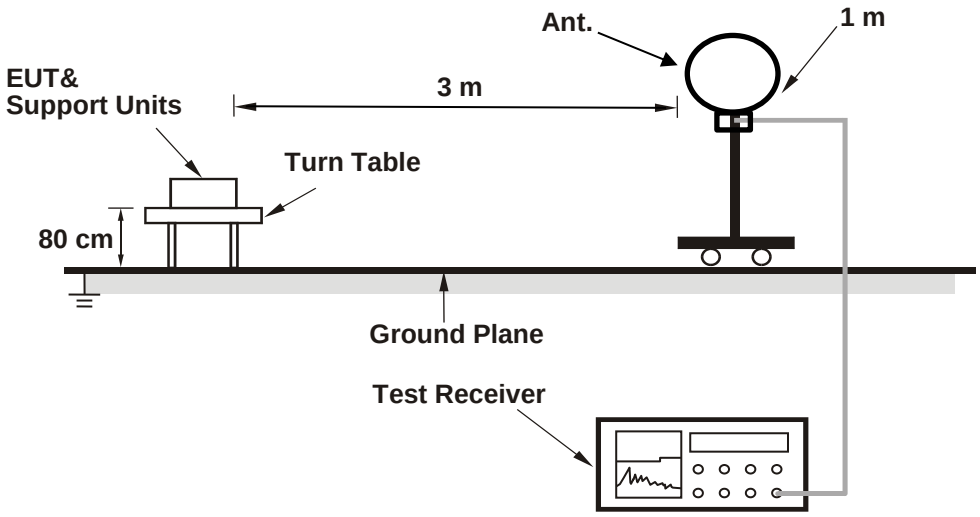
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

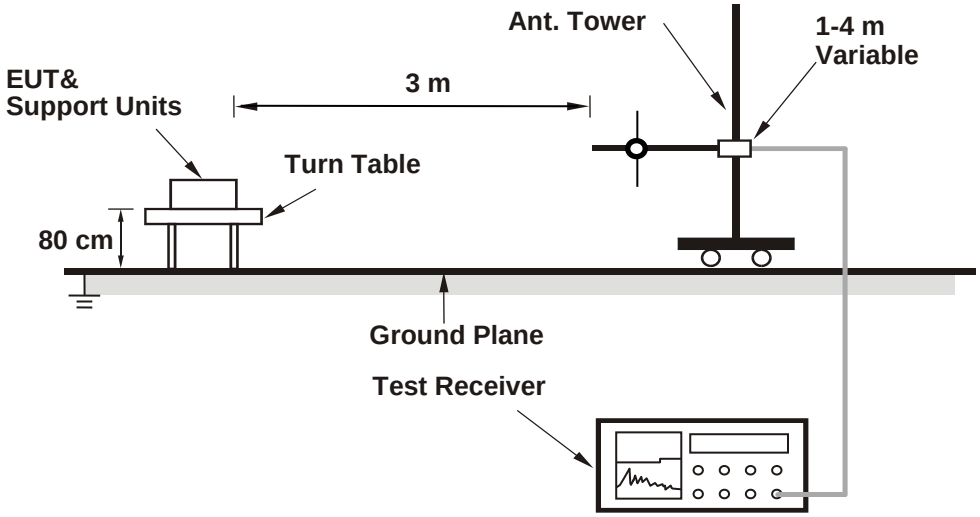
6.6 Unwanted Emissions below 1 GHz

6.6.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



6.6.2 Test Procedure

For Radiated emission below 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

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

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

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

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

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

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

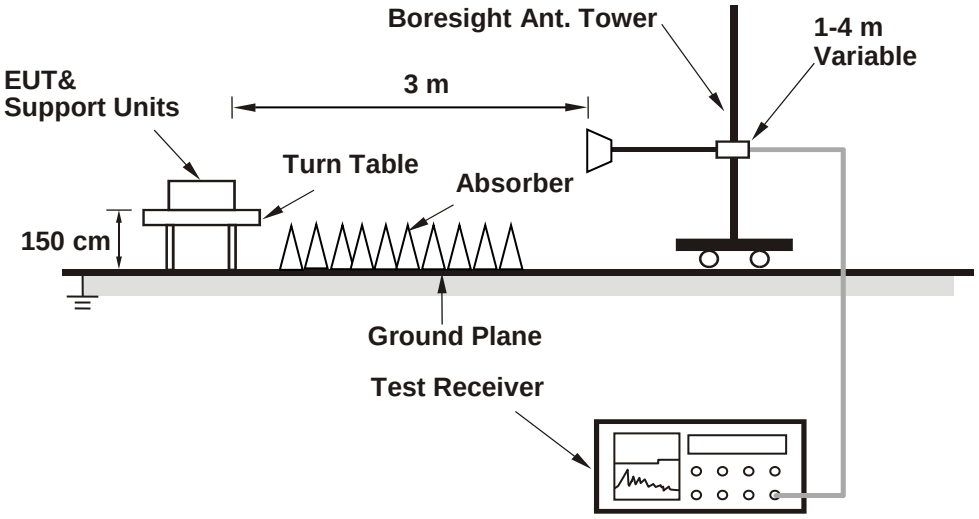
Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

6.7 Unwanted Emissions above 1 GHz

6.7.1 Test Setup

For Radiated emission above 1 GHz



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

6.7.2 Test Procedure

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

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

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

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

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

Notes:

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

7 Test Results of Test Item

7.1 RF Output Power

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

802.11b CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	23.06	22.87	22.77	22.75	773.543	28.88	30	Pass
6	2437	22.04	22.01	22.23	22.42	660.502	28.20	30	Pass
11	2462	22.54	22.33	22.37	22.35	694.85	28.42	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.7 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11g CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	19.78	19.81	19.73	20.15	388.266	25.89	30	Pass
6	2437	23.63	23.65	23.71	23.97	946.837	29.76	30	Pass
11	2462	18.03	17.91	18.06	17.98	252.114	24.02	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.7 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT20 CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	17.34	17.29	17.39	17.62	220.417	23.43	30	Pass
6	2437	22.90	22.76	22.71	22.93	766.758	28.85	30	Pass
11	2462	17.73	17.69	17.87	18.01	242.518	23.85	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.7 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT40 CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	15.92	15.79	15.87	15.90	154.557	21.89	30	Pass
6	2437	18.01	18.02	18.19	18.37	261.252	24.17	30	Pass
9	2452	17.71	17.62	17.59	17.53	230.865	23.63	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.7 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	17.58	17.52	17.63	17.85	232.67	23.67	30	Pass
6	2437	23.13	22.97	22.94	23.15	807.068	29.07	30	Pass
11	2462	17.99	17.96	18.13	18.27	257.624	24.11	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.7 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	16.16	16.03	16.11	16.14	163.338	22.13	30	Pass
6	2437	18.23	18.25	18.44	18.61	275.796	24.41	30	Pass
9	2452	17.94	17.86	17.83	17.77	243.839	23.87	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.7 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT20 Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	17.34	17.29	17.39	17.62	220.417	23.43	30	Pass
6	2437	22.90	22.76	22.71	22.93	766.758	28.85	30	Pass
11	2462	17.73	17.69	17.87	18.01	242.518	23.85	30	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. The directional gain is 4.84 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT40 Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	15.92	15.79	15.87	15.90	154.557	21.89	30	Pass
6	2437	18.01	18.02	18.19	18.37	261.252	24.17	30	Pass
9	2452	17.71	17.62	17.59	17.53	230.865	23.63	30	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. The directional gain is 4.84 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	17.58	17.52	17.63	17.85	232.67	23.67	30	Pass
6	2437	23.13	22.97	22.94	23.15	807.068	29.07	30	Pass
11	2462	17.99	17.96	18.13	18.27	257.624	24.11	30	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. The directional gain is 4.84 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	16.16	16.03	16.11	16.14	163.338	22.13	30	Pass
6	2437	18.23	18.25	18.44	18.61	275.796	24.41	30	Pass
9	2452	17.94	17.86	17.83	17.77	243.839	23.87	30	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. The directional gain is 4.84 dBi < 6 dBi, so the output power limit shall not be reduced.

7.2 Power Spectral Density

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

802.11b

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
1	2412	-8.40	-7.60	-9.23	-8.53	-2.38	8.00	Pass
6	2437	-9.51	-9.86	-9.69	-8.76	-3.41	8.00	Pass
11	2462	-9.36	-9.67	-9.48	-9.16	-3.39	8.00	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. The directional gain is 4.84 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
1	2412	-15.66	-15.22	-15.81	-15.13	-9.42	8.00	Pass
6	2437	-11.92	-11.59	-11.64	-11.33	-5.59	8.00	Pass
11	2462	-17.70	-17.42	-17.41	-17.45	-11.47	8.00	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. The directional gain is 4.84 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
1	2412	-17.29	-17.58	-17.04	-17.40	-11.30	8.00	Pass
6	2437	-12.45	-11.78	-12.23	-12.24	-6.15	8.00	Pass
11	2462	-17.06	-17.57	-16.62	-17.22	-11.08	8.00	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. The directional gain is 4.84 dBi < 6 dBi, so the power density limit shall not be reduced.

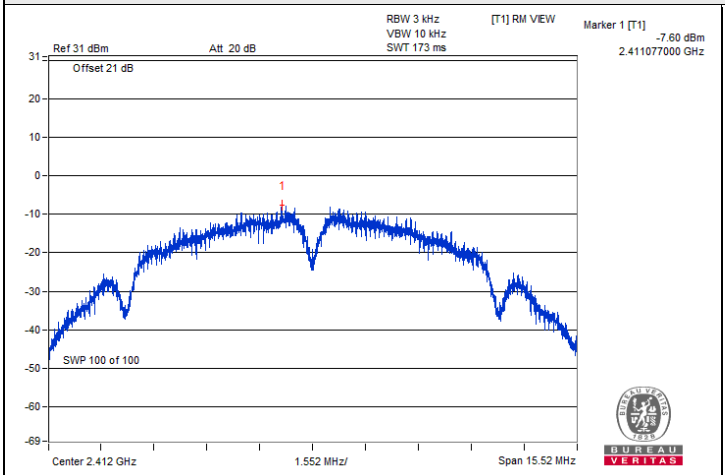
802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
3	2422	-22.37	-21.89	-21.41	-21.58	-15.78	8.00	Pass
6	2437	-19.71	-19.62	-20.20	-19.91	-13.83	8.00	Pass
9	2452	-20.35	-19.90	-20.40	-20.10	-14.16	8.00	Pass

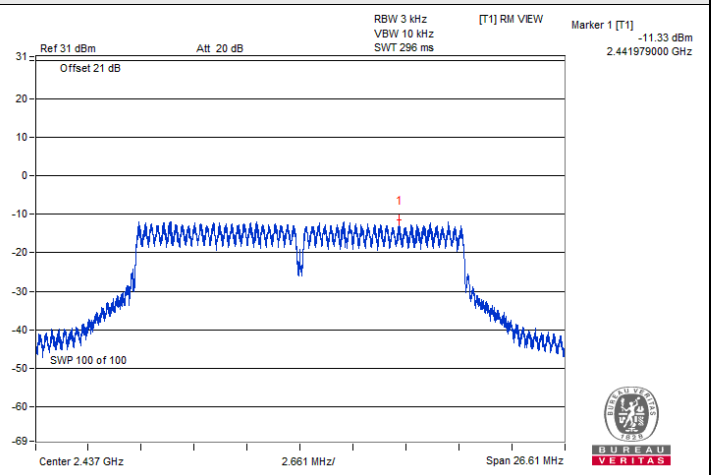
Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. The directional gain is 4.84 dBi < 6 dBi, so the power density limit shall not be reduced.

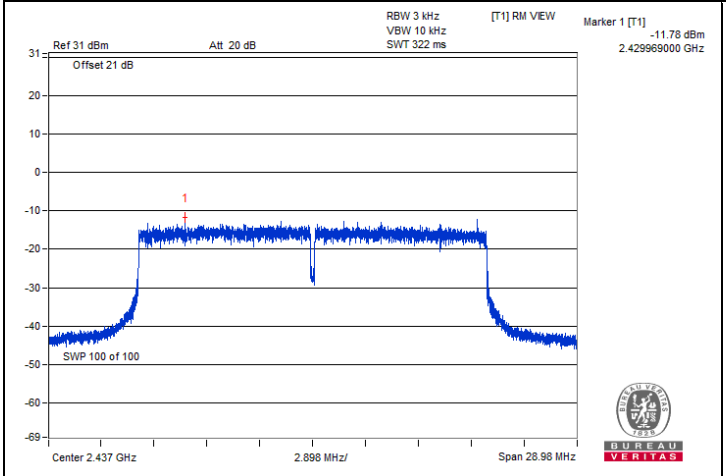
Spectrum Plot of Maximum Value



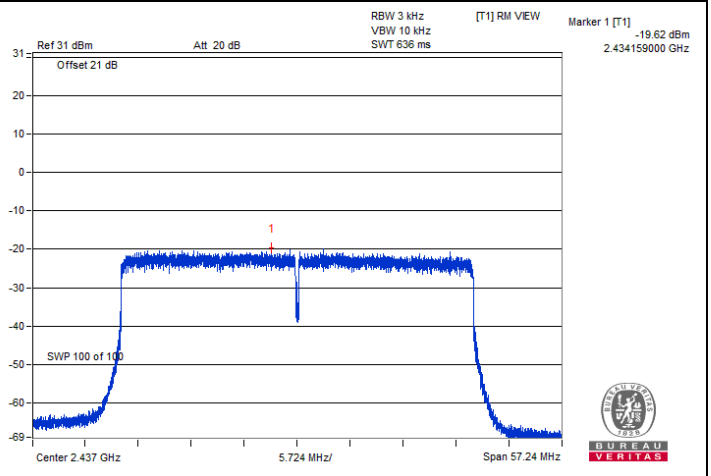
802.11b / Chain1 : CH 1



802.11g / Chain3 : CH 6



802.11ax (HE20) / Chain1 : CH 6



802.11ax (HE40) / Chain1 : CH 6

7.3 6 dB Bandwidth

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

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	7.12	7.05	7.10	7.10	0.5	Pass
6	2437	7.05	7.11	7.10	7.57	0.5	Pass
11	2462	7.08	7.12	7.10	7.10	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	16.44	16.46	16.44	16.46	0.5	Pass
6	2437	16.42	16.42	16.43	16.43	0.5	Pass
11	2462	16.44	16.43	16.45	16.46	0.5	Pass

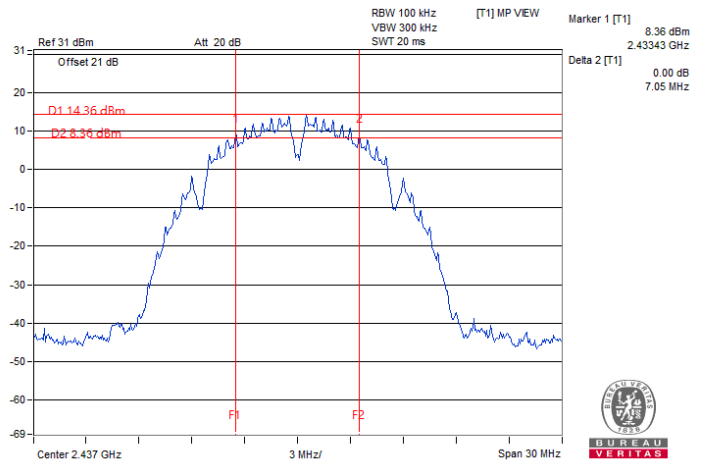
802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	19.11	19.03	19.07	19.07	0.5	Pass
6	2437	19.02	19.03	19.01	19.07	0.5	Pass
11	2462	19.08	19.05	19.02	19.03	0.5	Pass

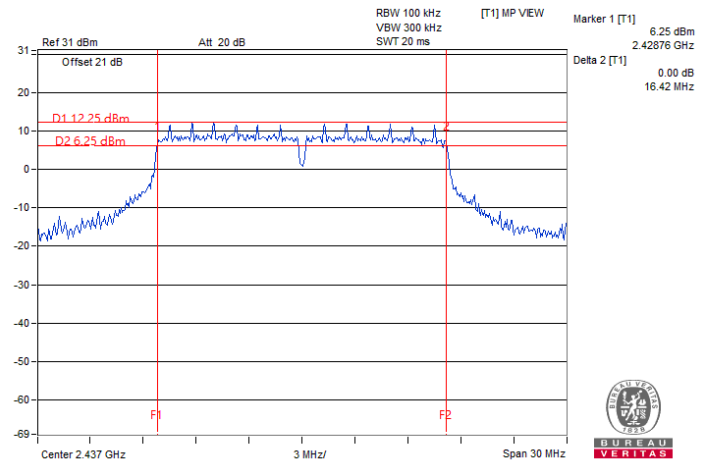
802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
3	2422	38.07	38.02	38.00	38.00	0.5	Pass
6	2437	38.09	37.99	38.00	37.87	0.5	Pass
9	2452	38.16	38.04	38.02	37.87	0.5	Pass

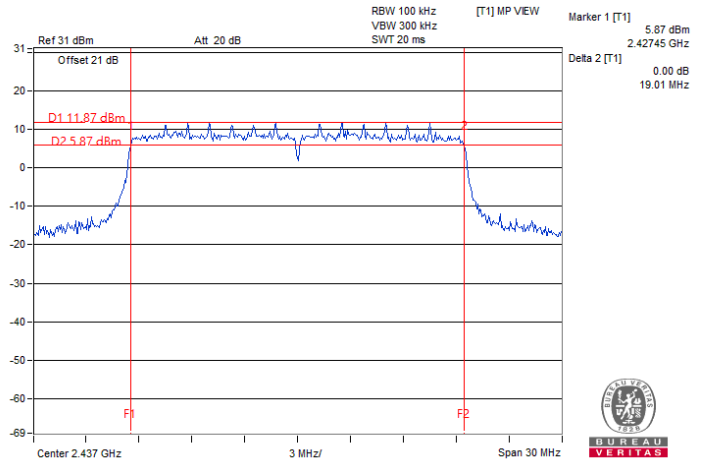
Spectrum Plot of Minimum Value



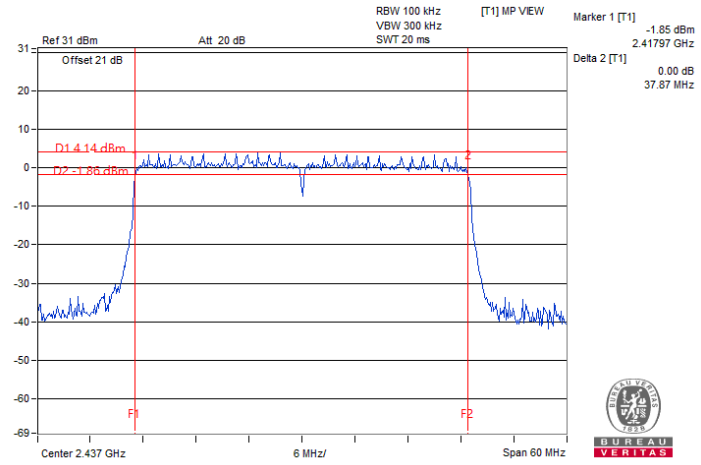
802.11b / Chain0 : CH 6



802.11g / Chain0 : CH 6



802.11ax (HE20) / Chain2 : CH 6

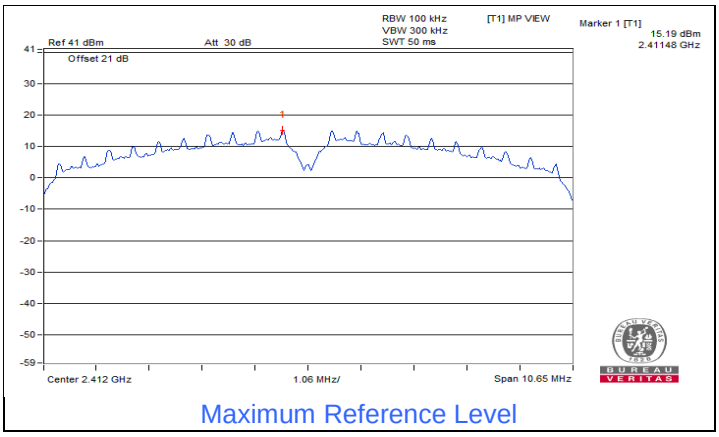


802.11ax (HE40) / Chain3 : CH 6

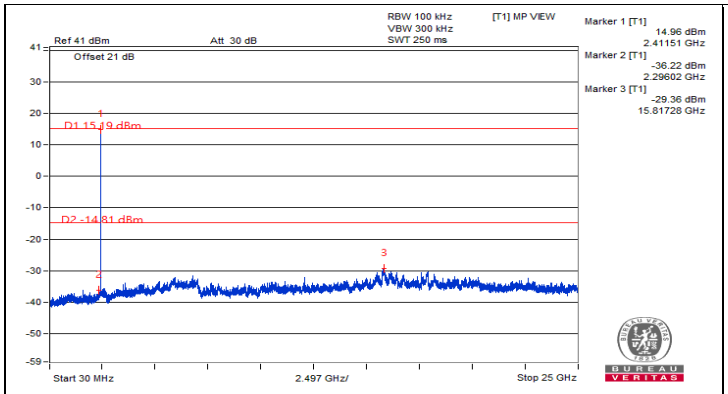
7.4 Conducted Out of Band Emissions

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

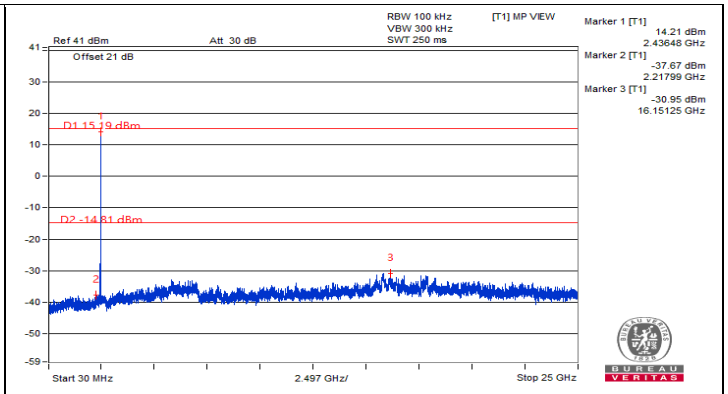
802.11b



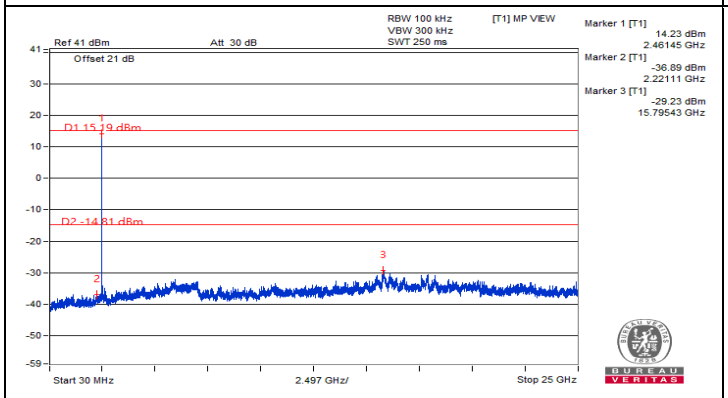
Maximum Reference Level



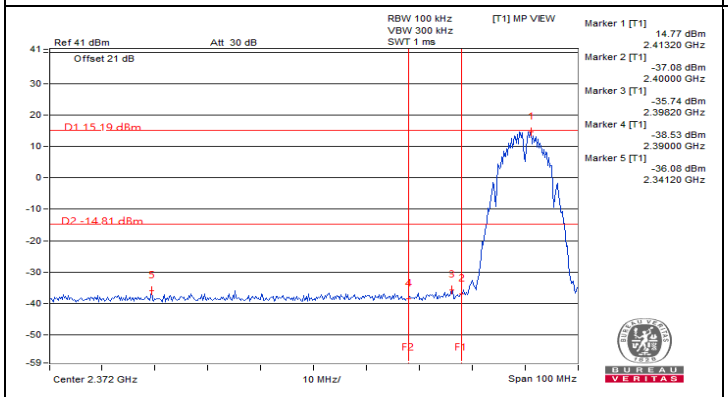
Chain 0 : CH 1



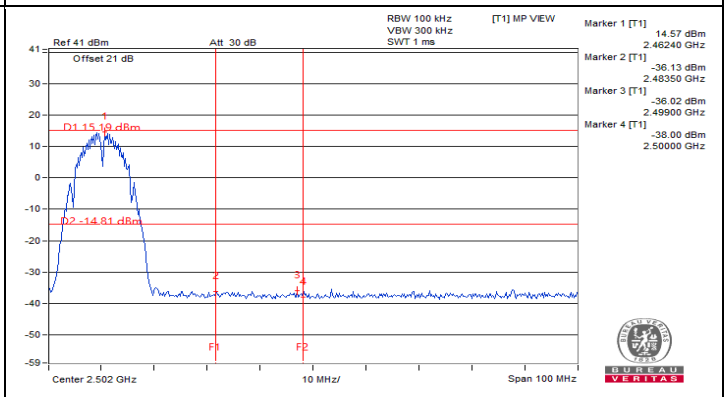
Chain 0 : CH 6



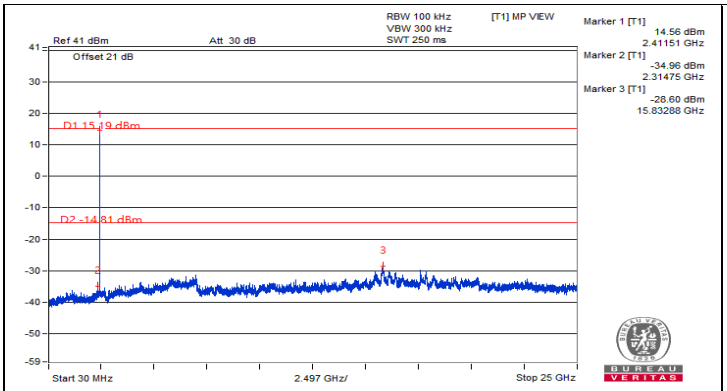
Chain 0 : CH 11



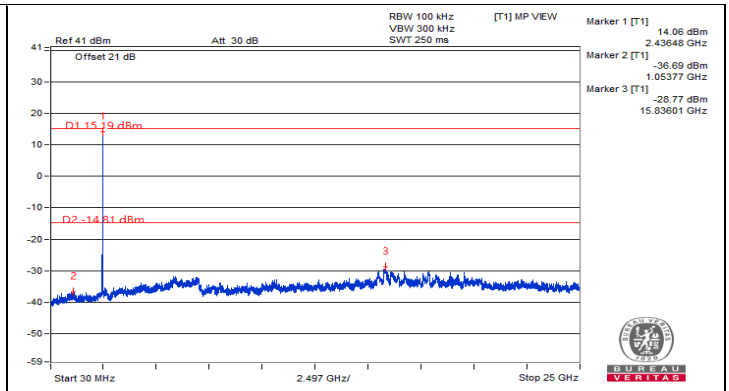
Chain 0 : CH 1 Band edge



Chain 0 : CH 11 Band edge



Chain 1 : CH 1



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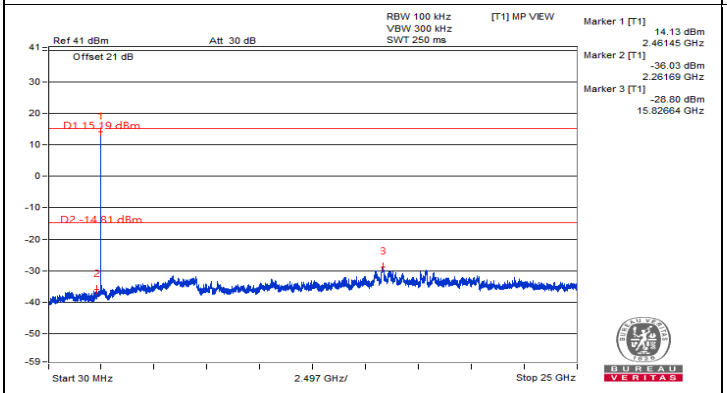
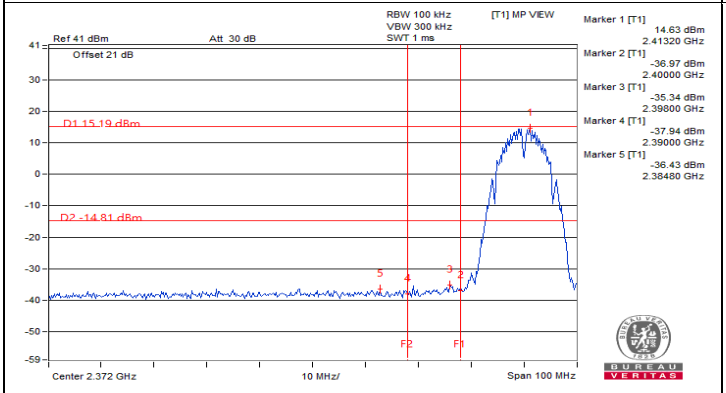
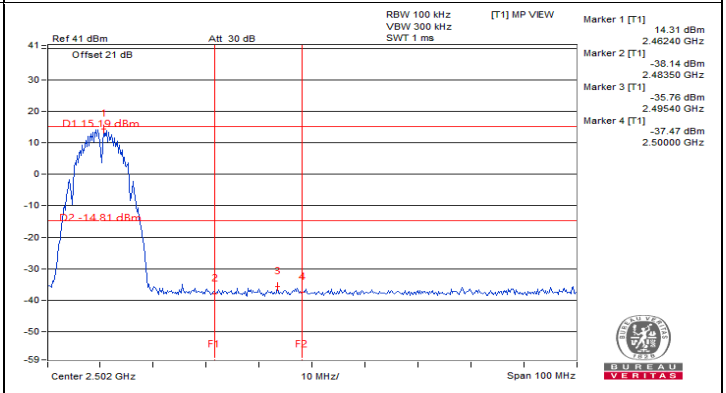


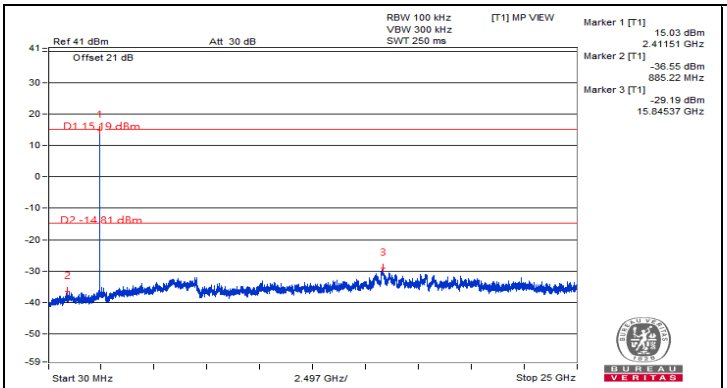
Chain 1 : CH 11



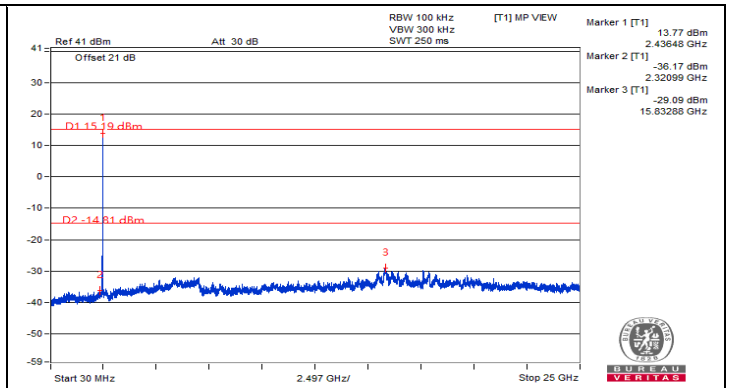
Chain 1 : CH 1 Band edge



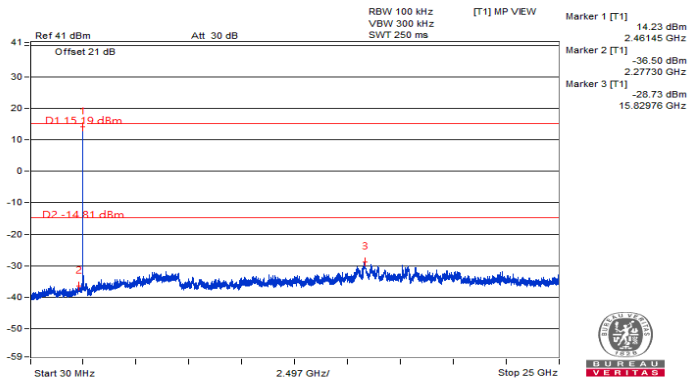
Chain 1 : CH 11 Band edge



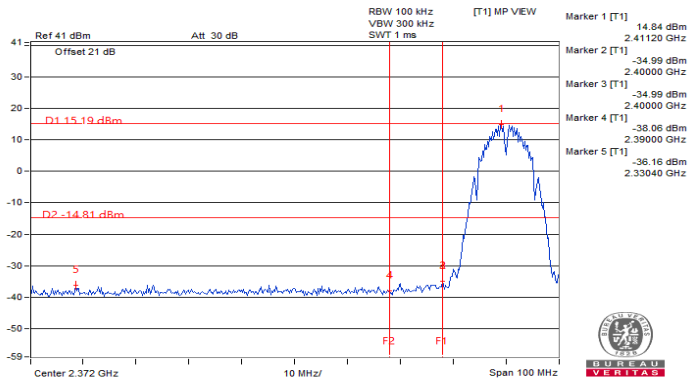
Chain 2 : CH 1



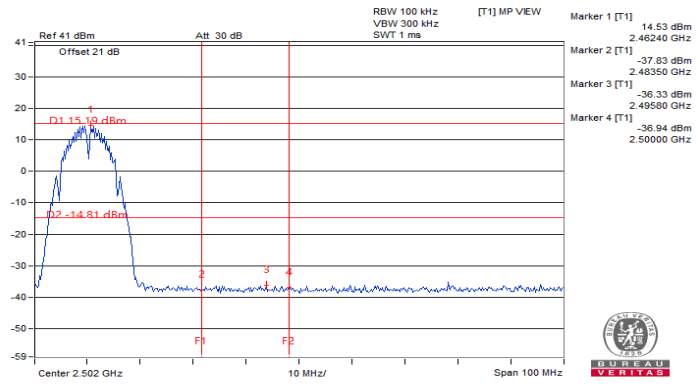
Chain 2 : CH 6



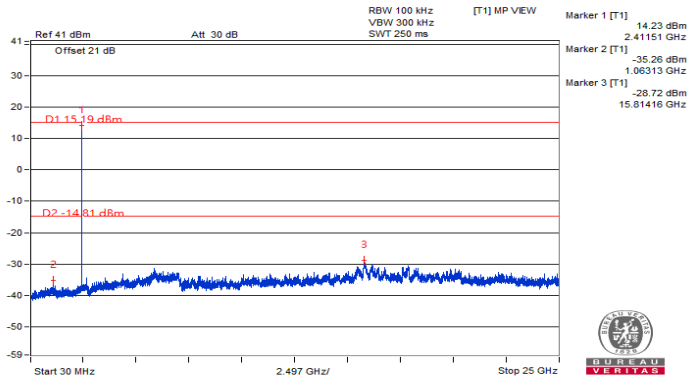
Chain 2 : CH 11



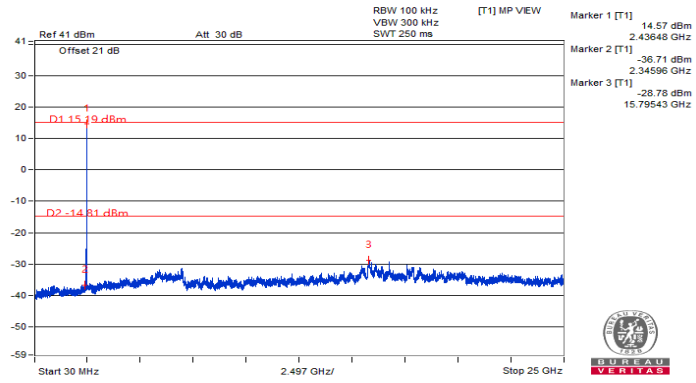
Chain 2 : CH 1 Band edge



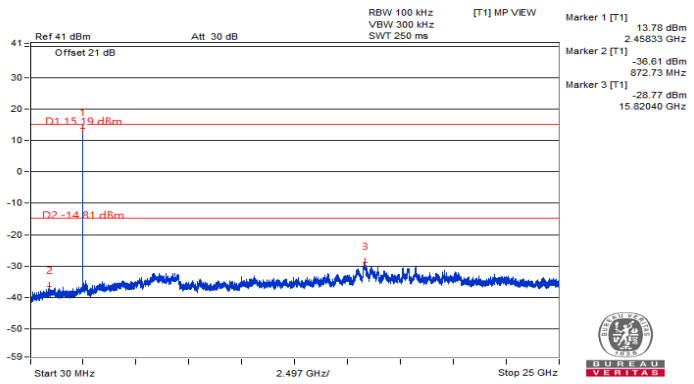
Chain 2 : CH 11 Band edge



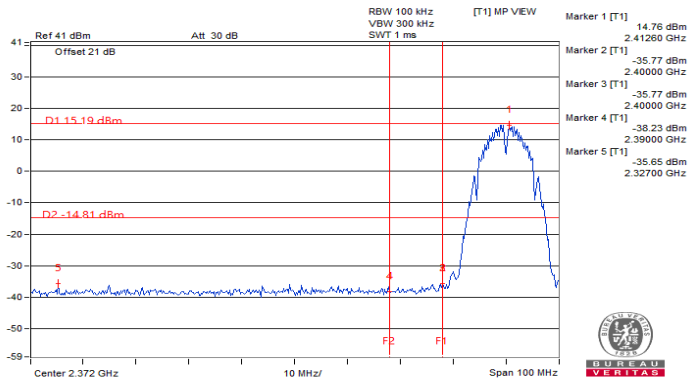
Chain 3 : CH 1



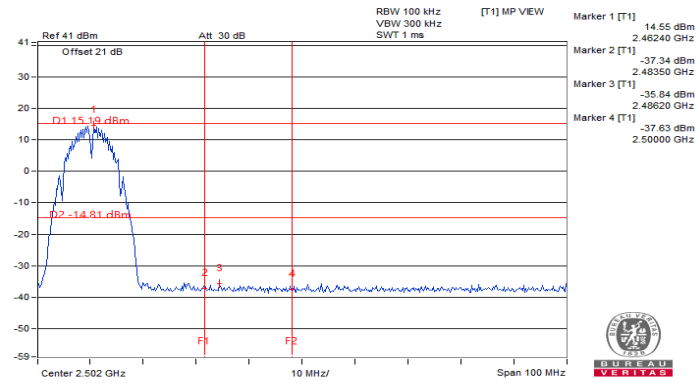
Chain 3 : CH 6



Chain 3 : CH 11

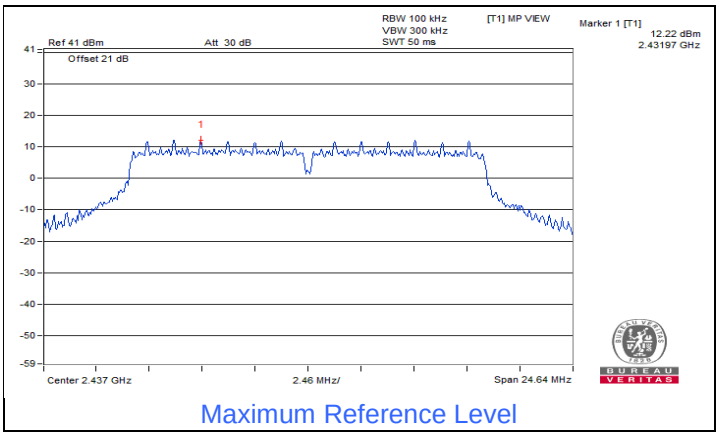


Chain 3 : CH 1 Band edge

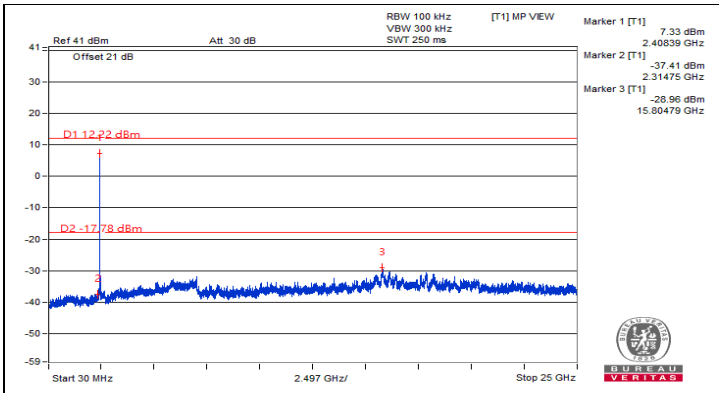


Chain 3 : CH 11 Band edge

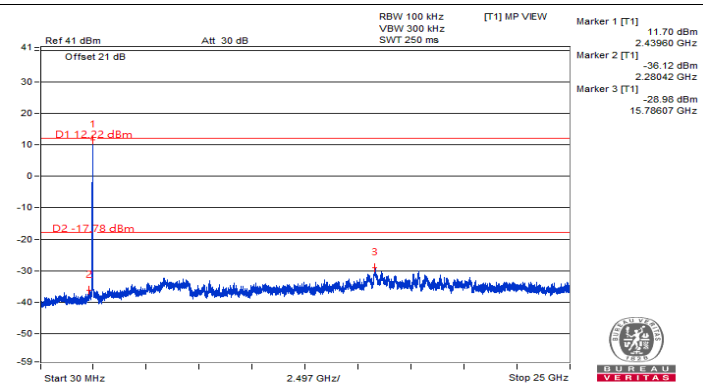
802.11g



Maximum Reference Level



Chain 0 : CH 1



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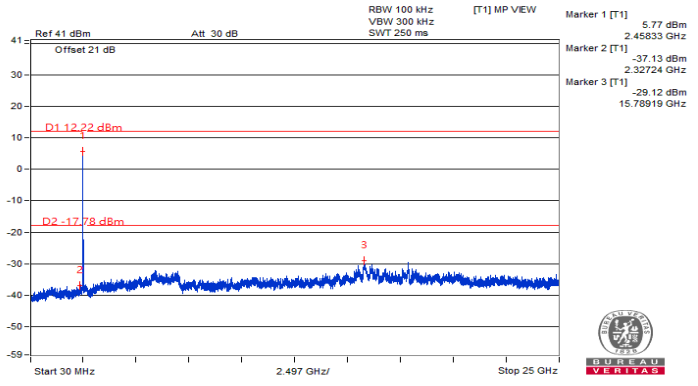
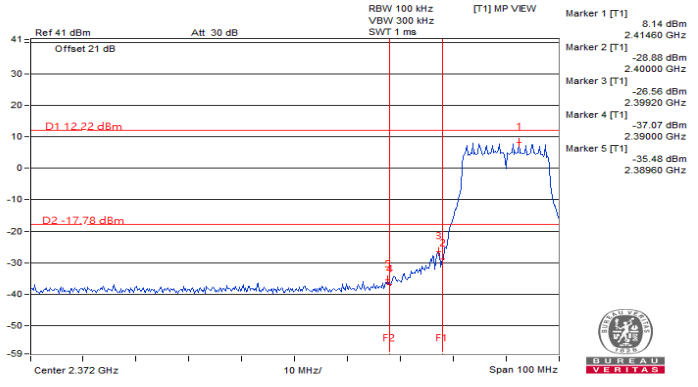


Chain 0 : CH 11



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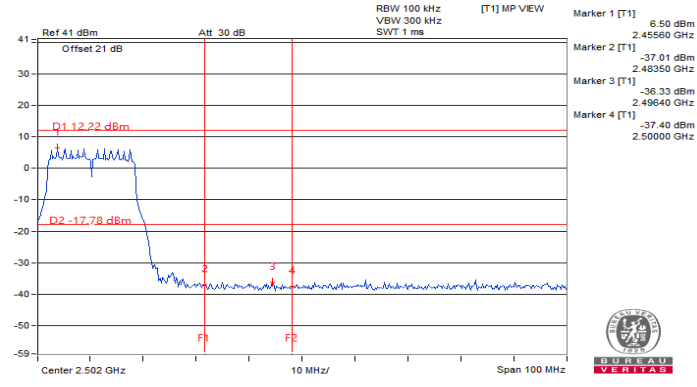
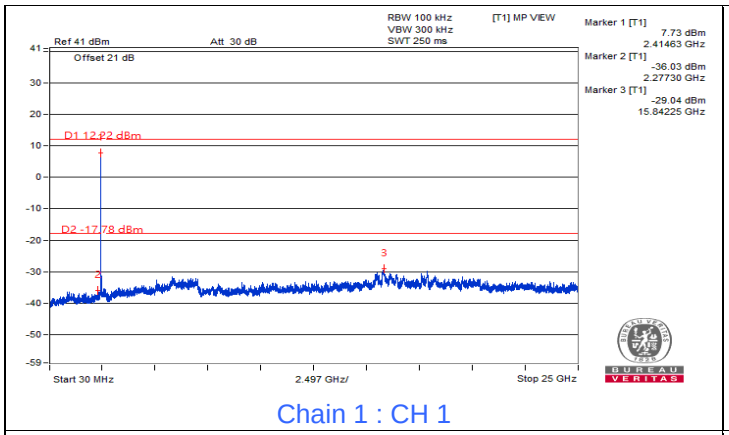
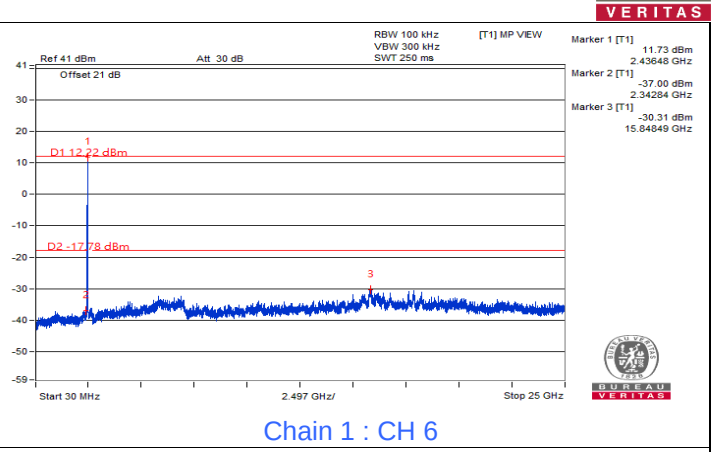


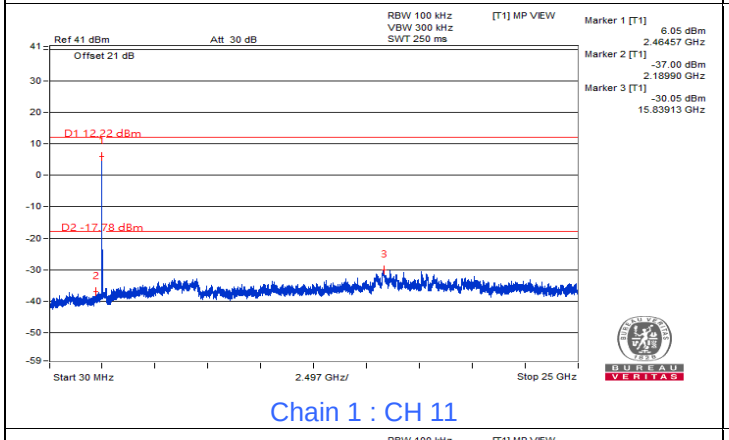
Chain 0 : CH 11 Band edge



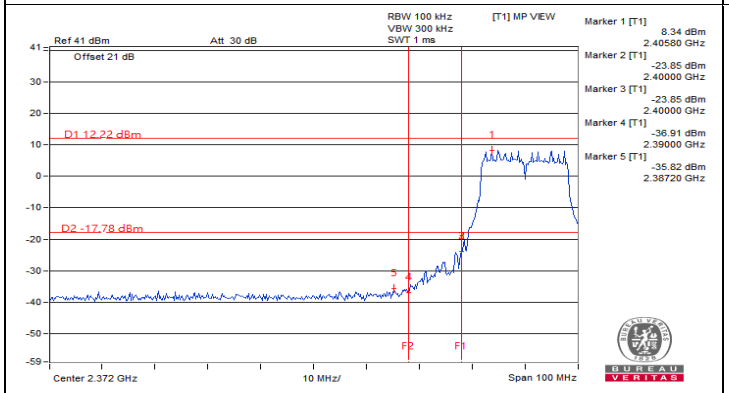
Chain 1 : CH 1



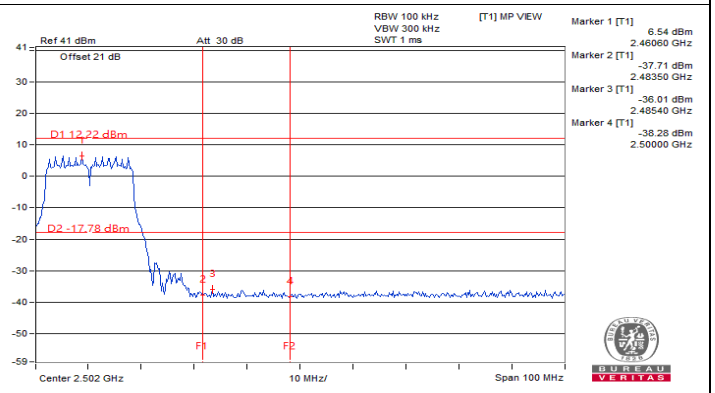
Chain 1 : CH 6



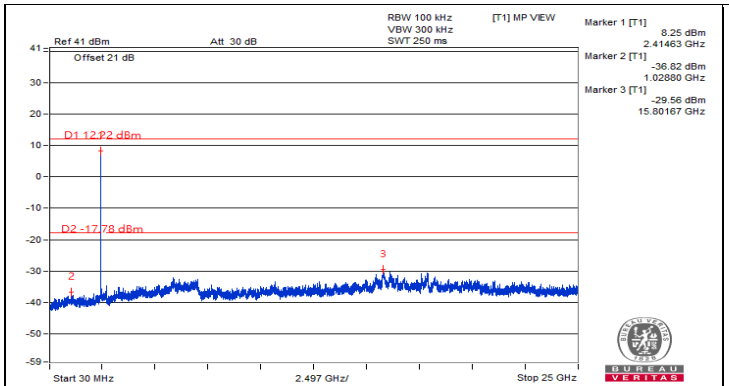
Chain 1 : CH 11



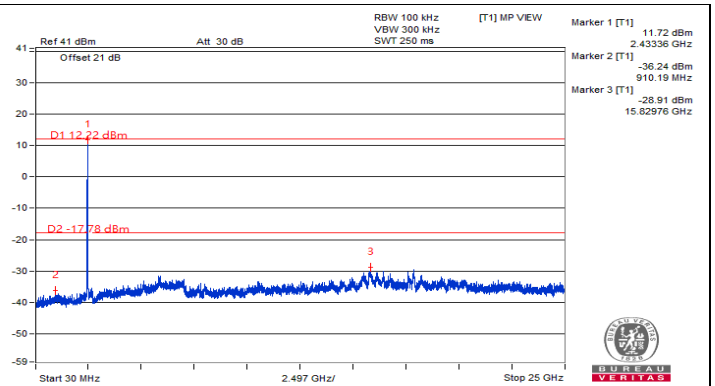
Chain 1 : CH 1 Band edge



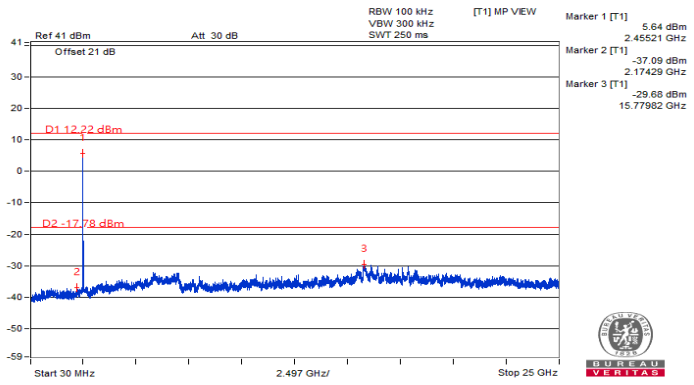
Chain 1 : CH 11 Band edge



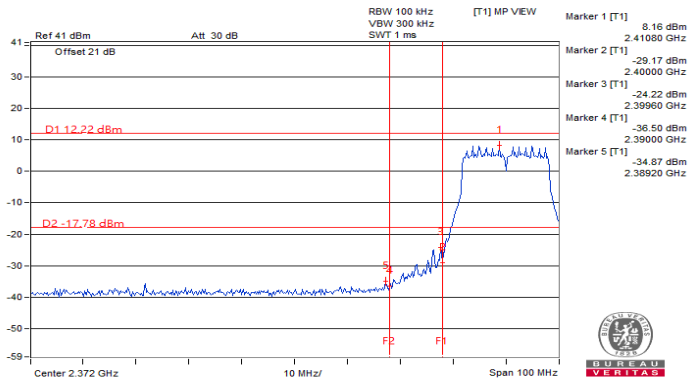
Chain 2 : CH 1



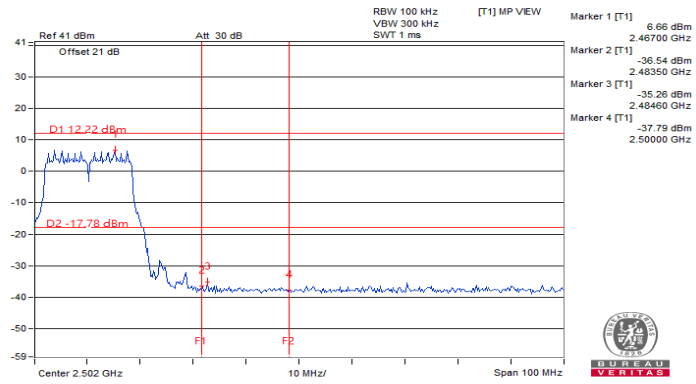
Chain 2 : CH 6



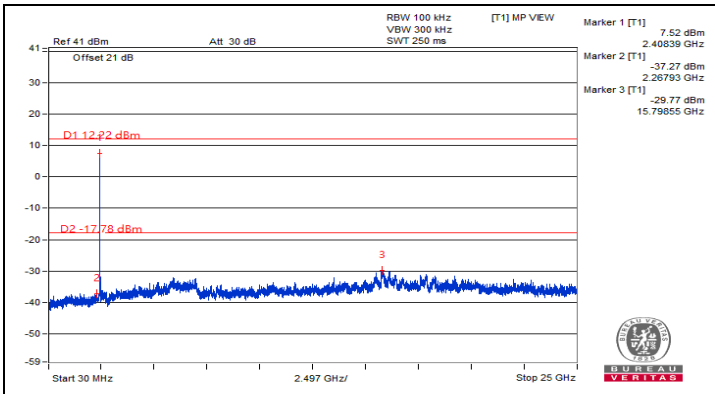
Chain 2 : CH 11



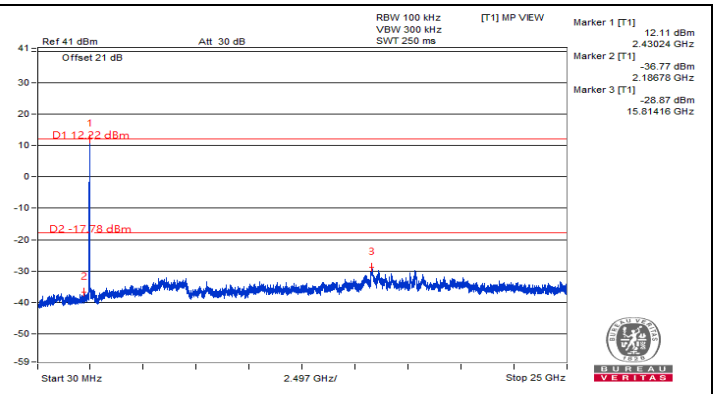
Chain 2 : CH 1 Band edge



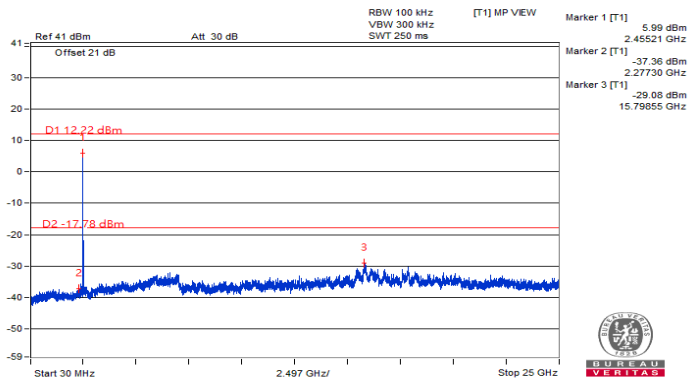
Chain 2 : CH 11 Band edge



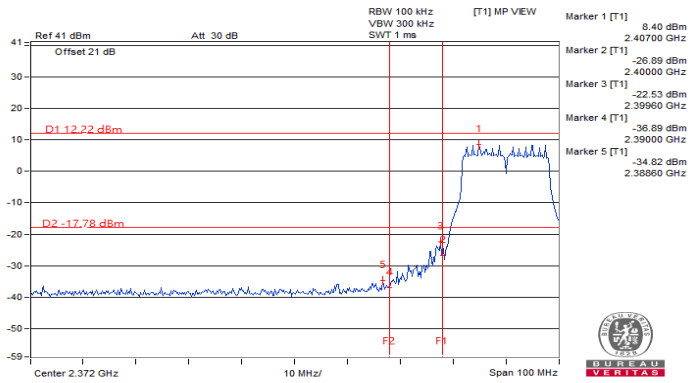
Chain 3 : CH 1



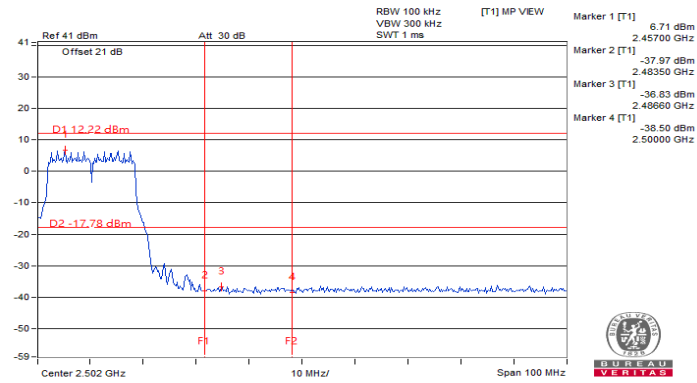
Chain 3 : CH 6



Chain 3 : CH 11

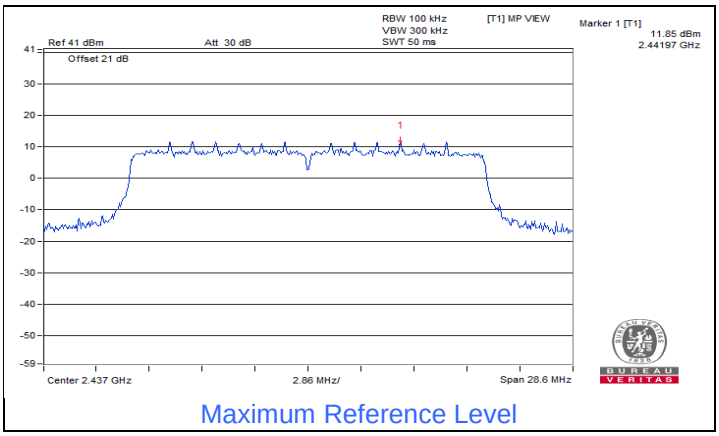


Chain 3 : CH 1 Band edge

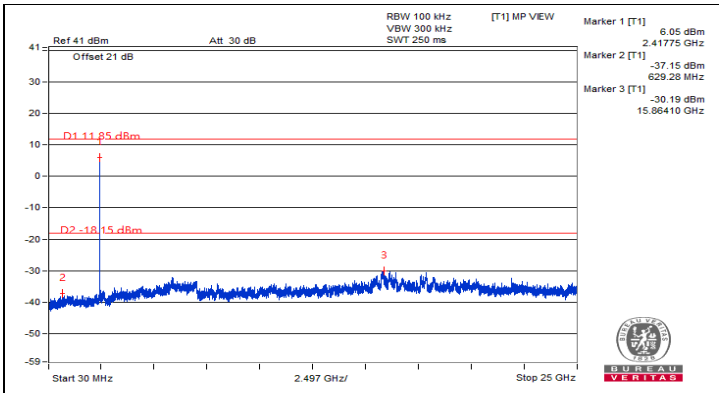


Chain 3 : CH 11 Band edge

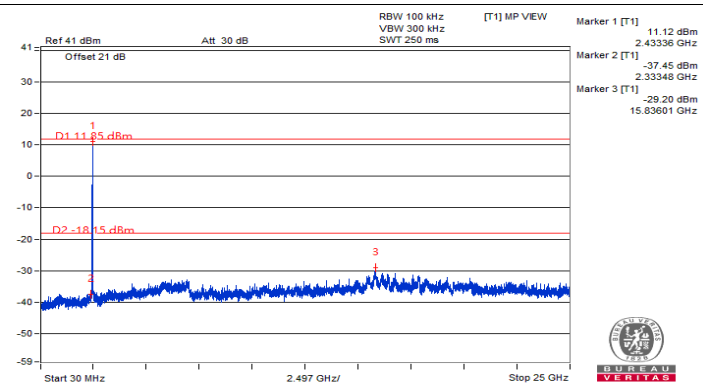
802.11ax (HE20)



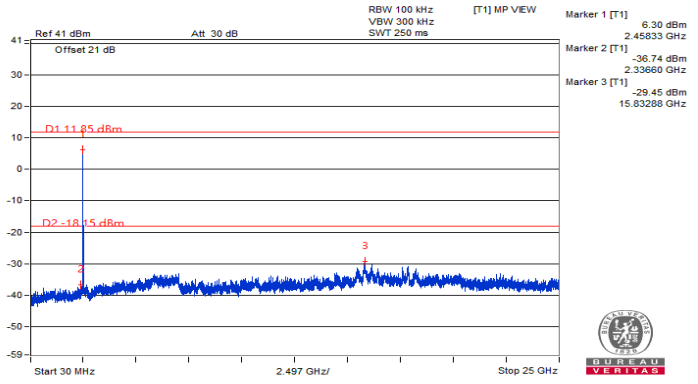
Maximum Reference Level



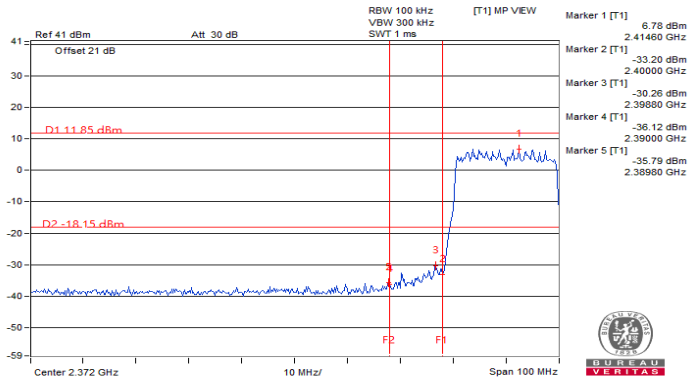
Chain 0 : CH 1



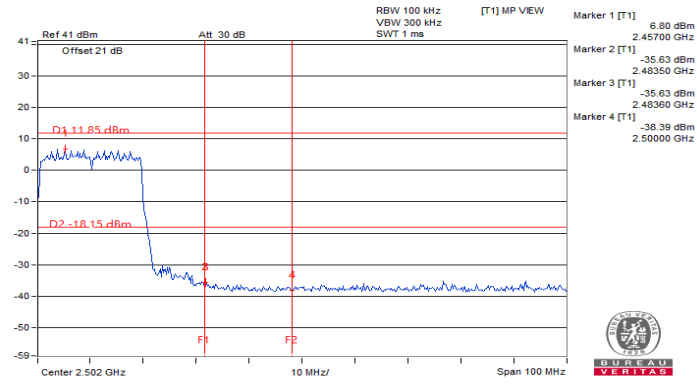
Chain 0 : CH 6



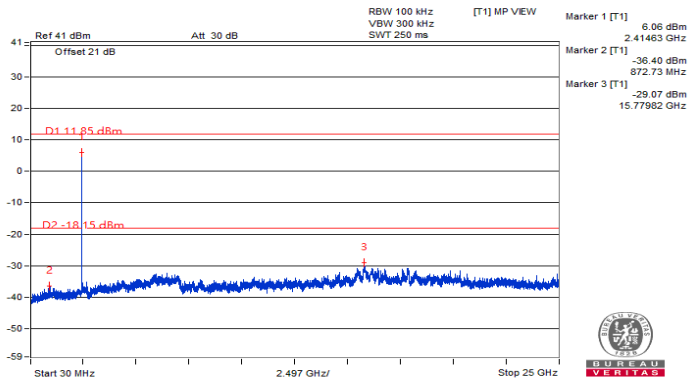
Chain 0 : CH 11



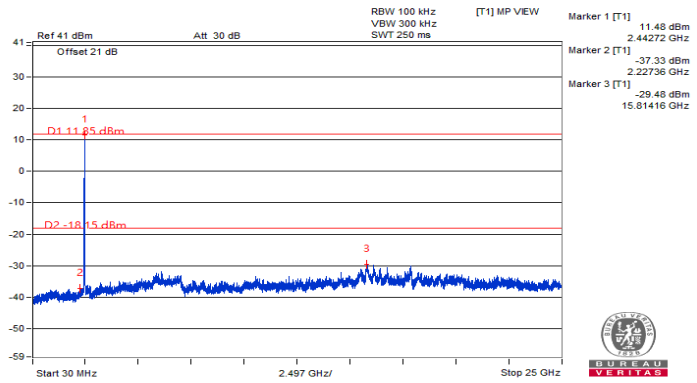
Chain 0 : CH 1 Band edge



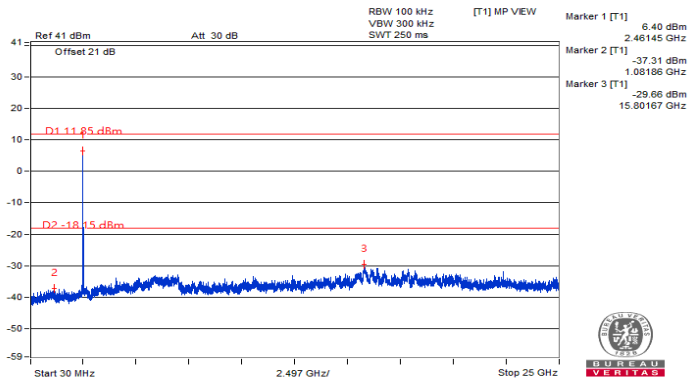
Chain 0 : CH 11 Band edge



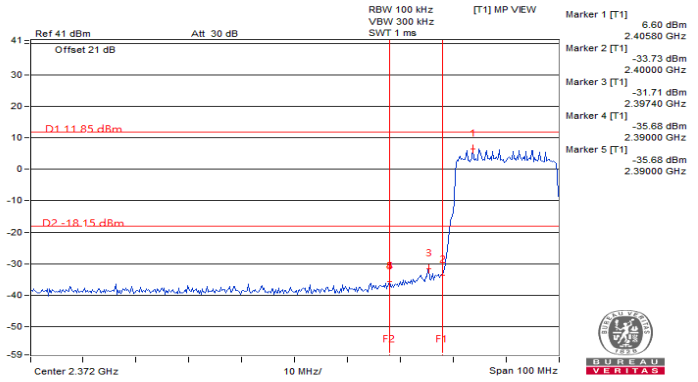
Chain 1 : CH 1



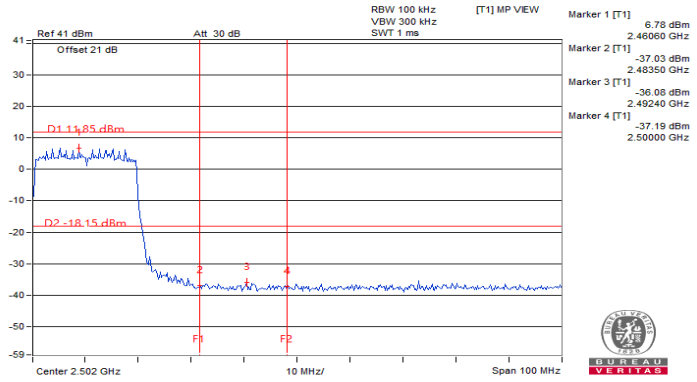
Chain 1 : CH 6



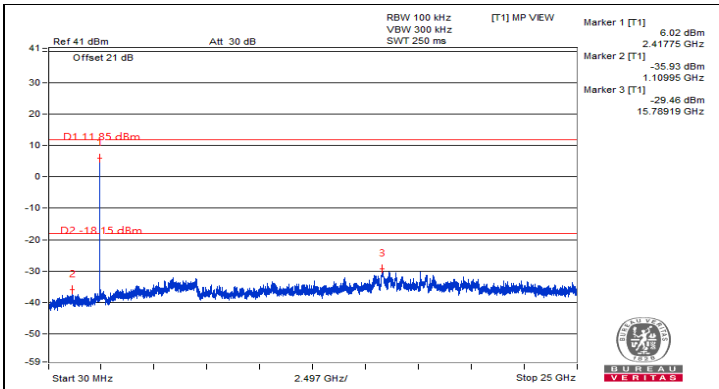
Chain 1 : CH 11



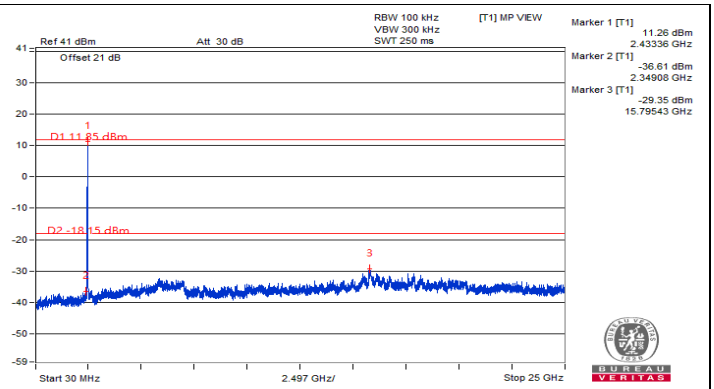
Chain 1 : CH 1 Band edge



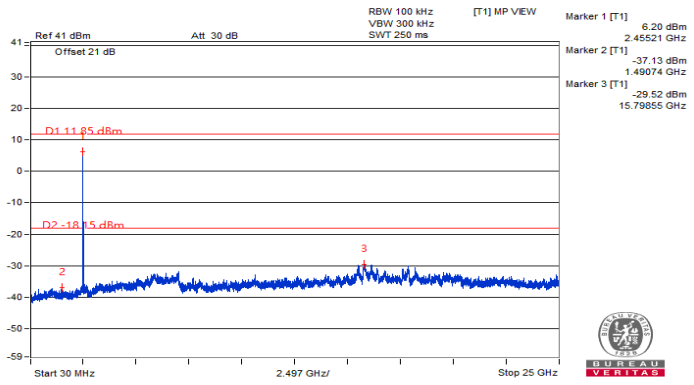
Chain 1 : CH 11 Band edge



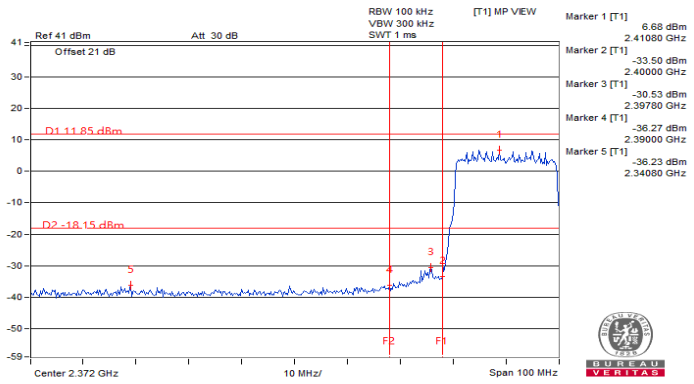
Chain 2 : CH 1



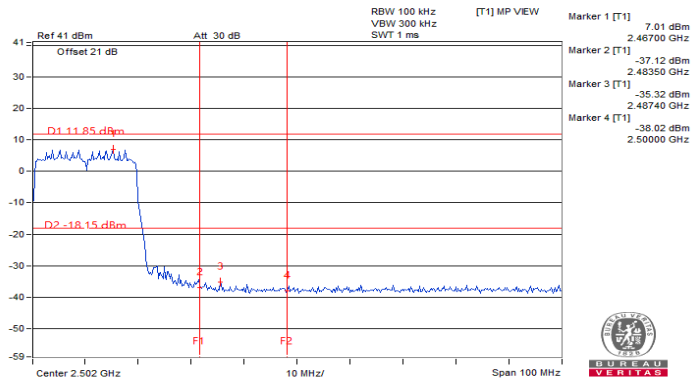
Chain 2 : CH 6



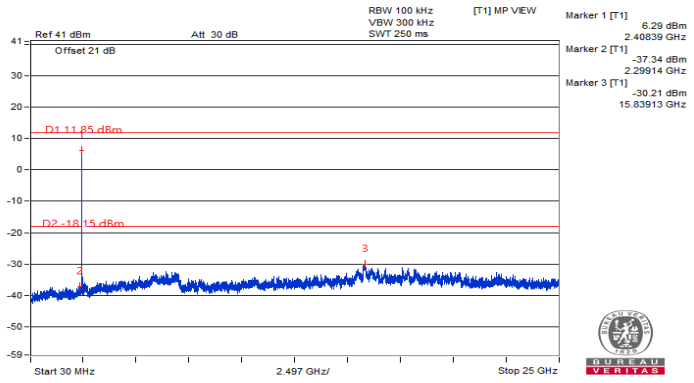
Chain 2 : CH 11



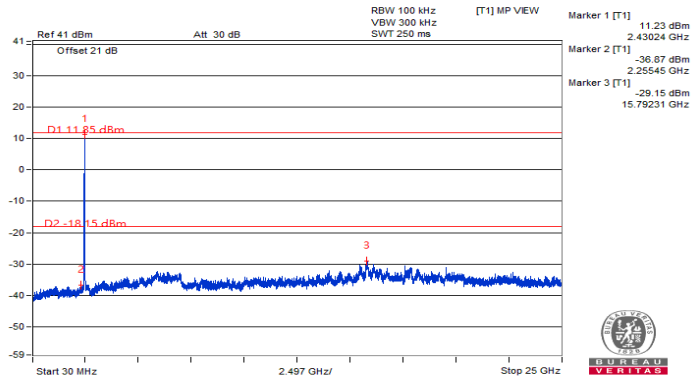
Chain 2 : CH 1 Band edge



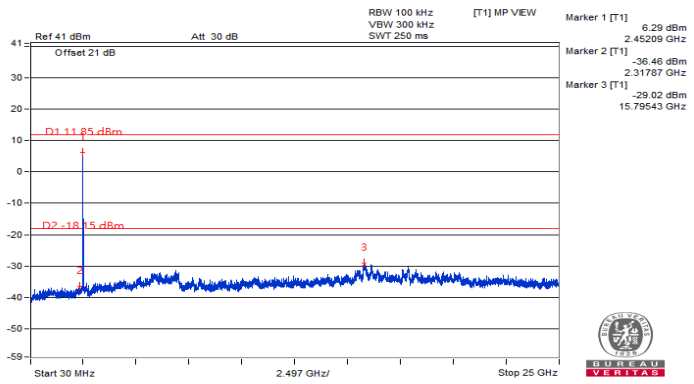
Chain 2 : CH 11 Band edge



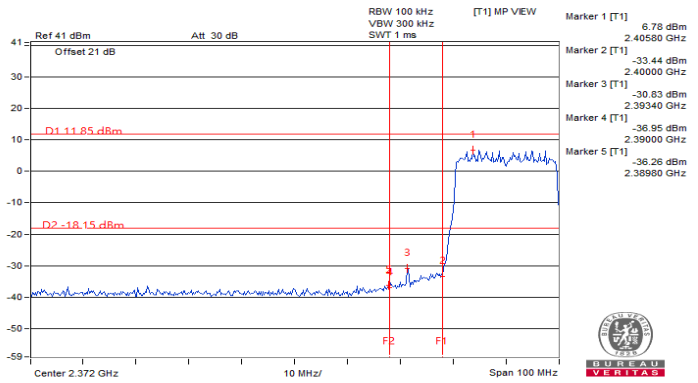
Chain 3 : CH 1



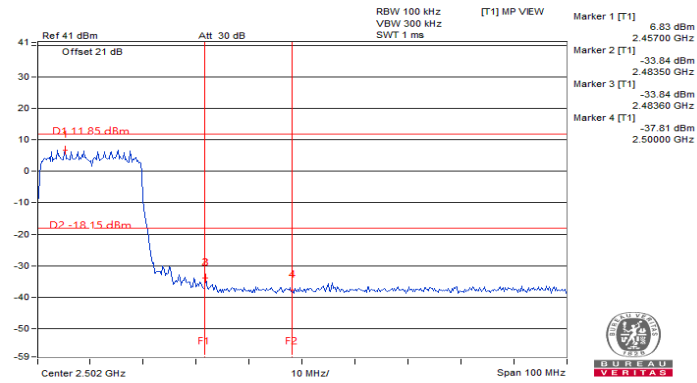
Chain 3 : CH 6



Chain 3 : CH 11

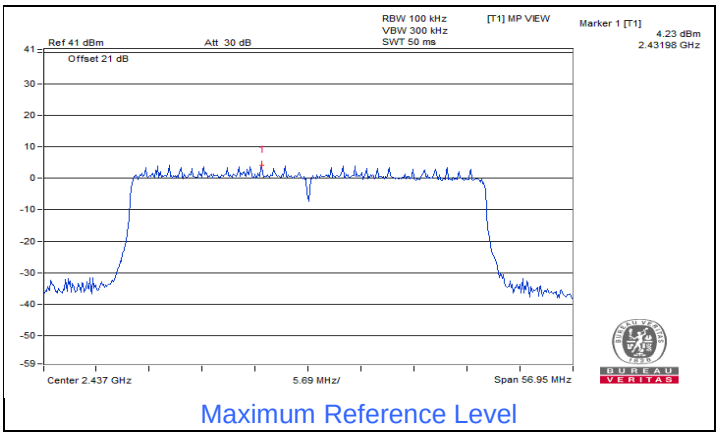


Chain 3 : CH 1 Band edge

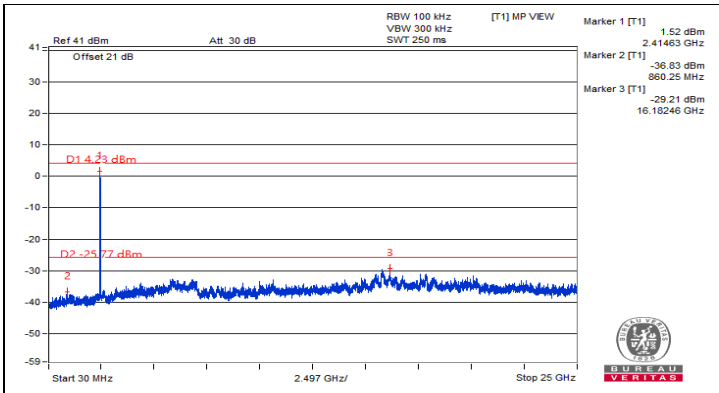


Chain 3 : CH 11 Band edge

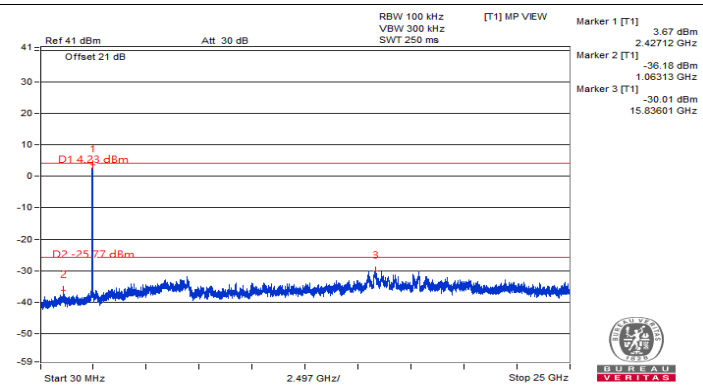
802.11ax (HE40)



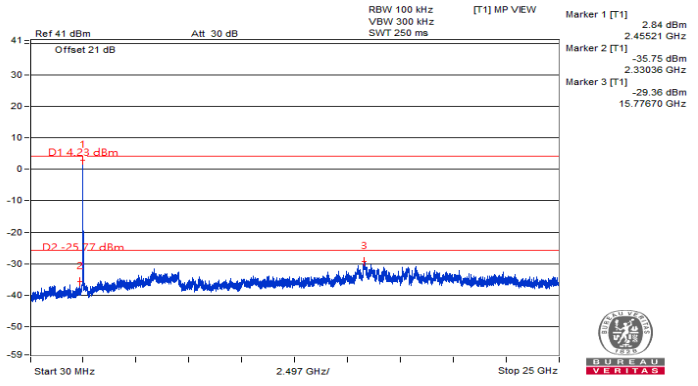
Maximum Reference Level



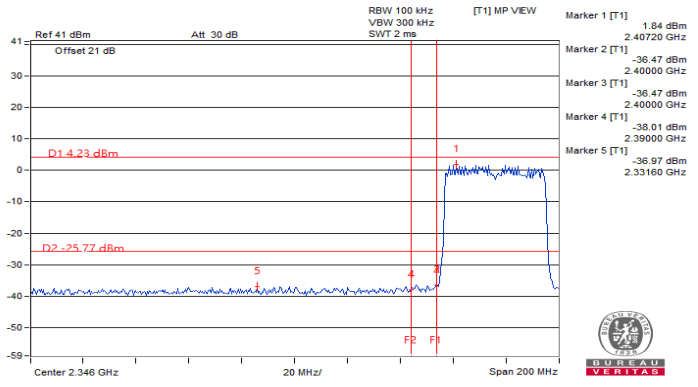
Chain 0 : CH 3



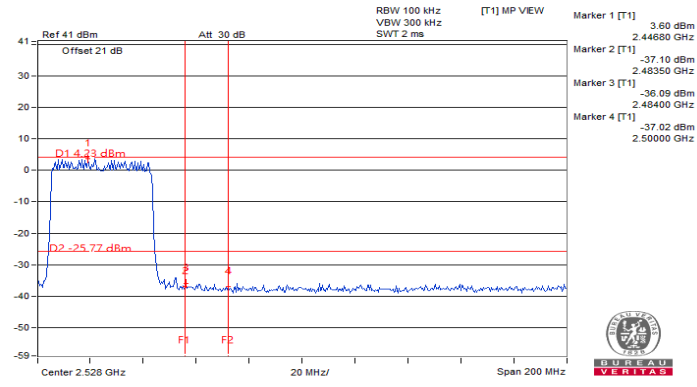
Chain 0 : CH 6



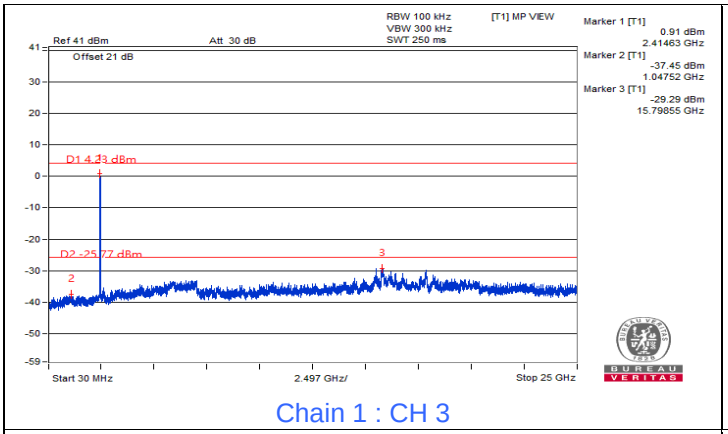
Chain 0 : CH 9



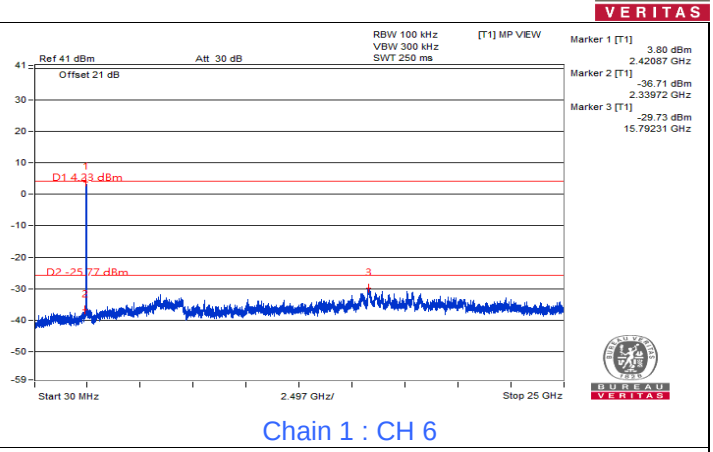
Chain 0 : CH 3 Band edge



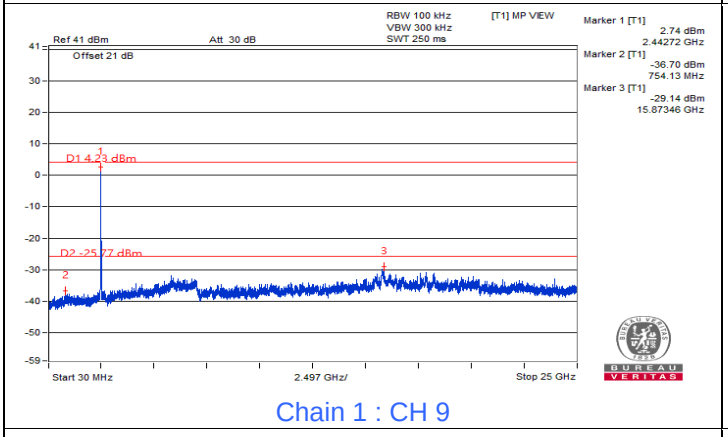
Chain 0 : CH 9 Band edge



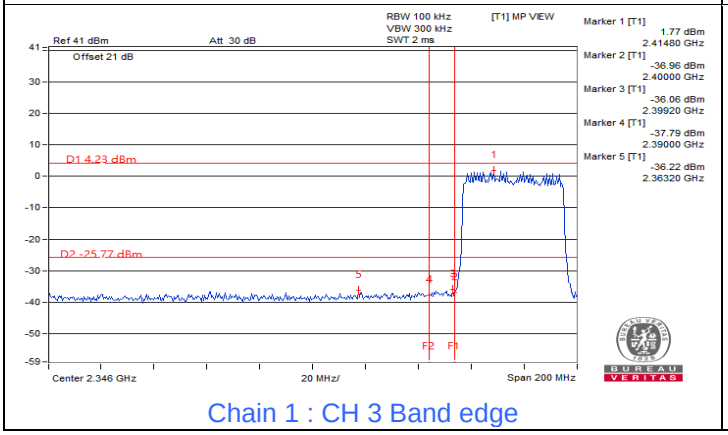
Chain 1 : CH 3



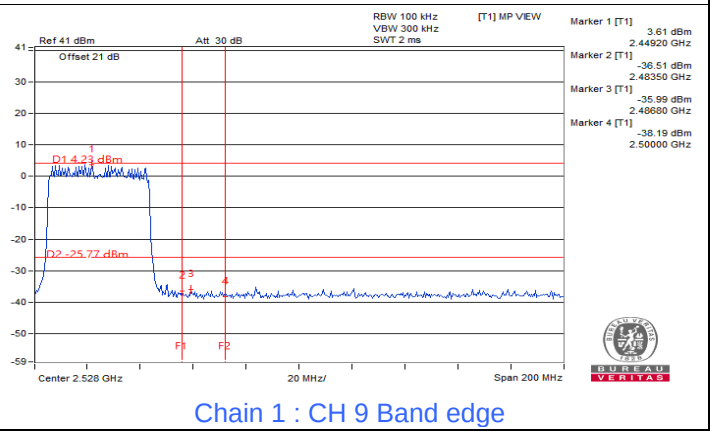
Chain 1 : CH 6



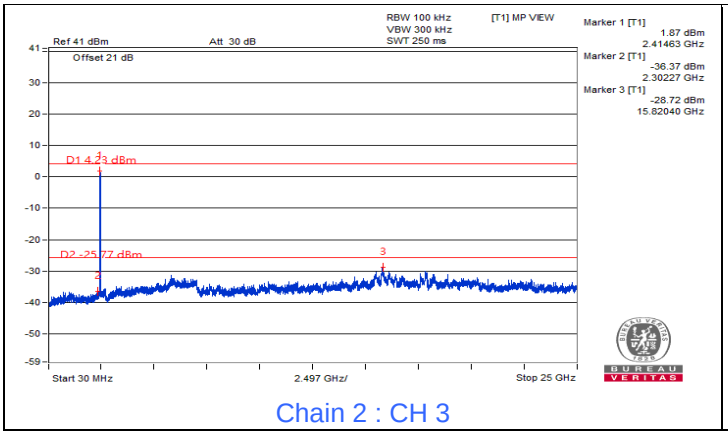
Chain 1 : CH 9



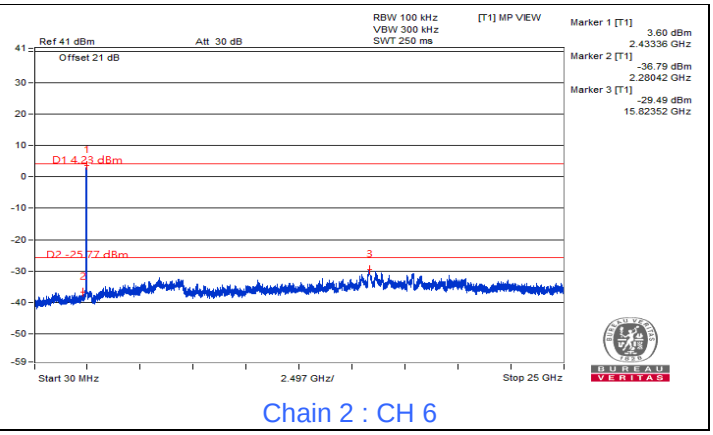
Chain 1 : CH 3 Band edge



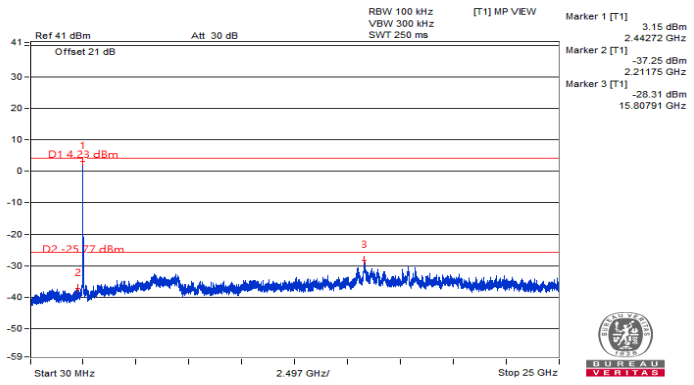
Chain 1 : CH 9 Band edge



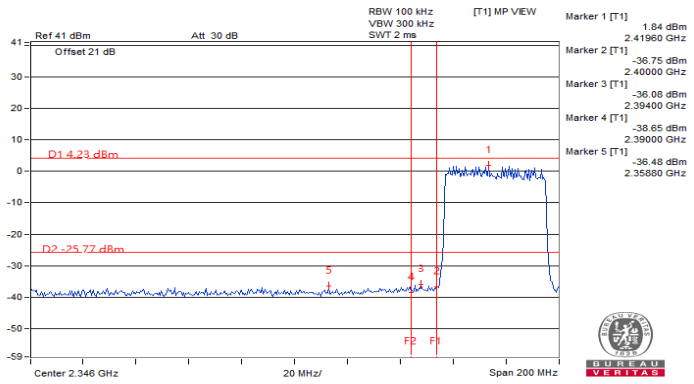
Chain 2 : CH 3



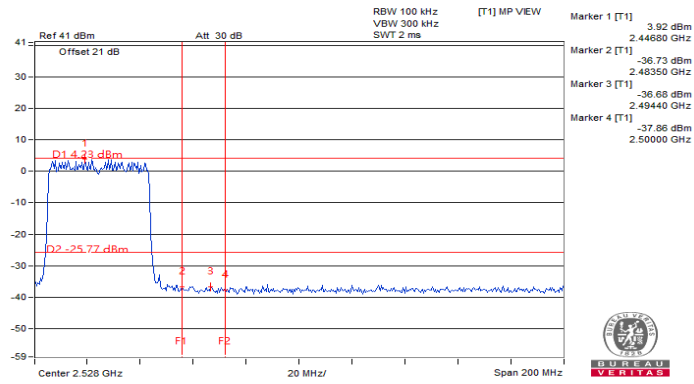
Chain 2 : CH 6



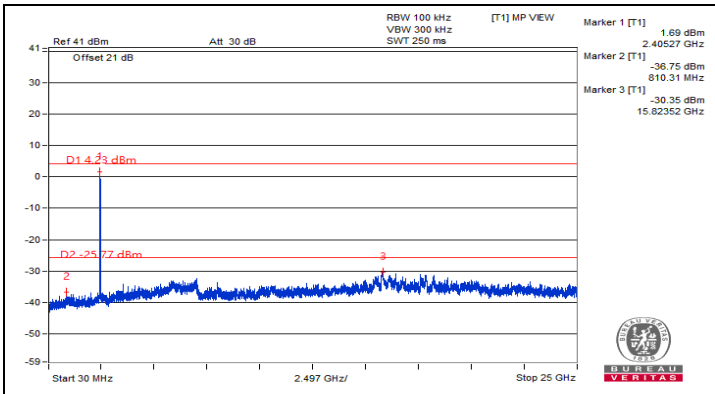
Chain 2 : CH 9



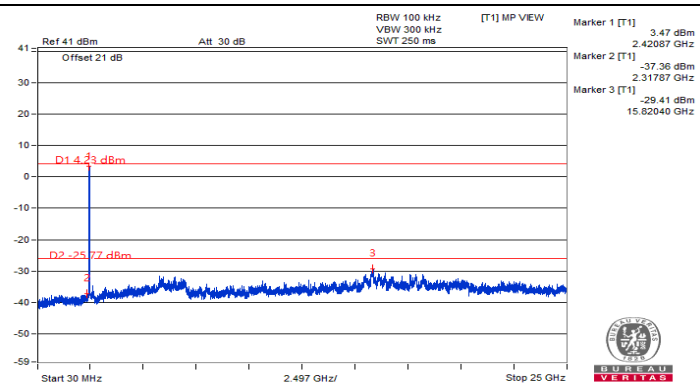
Chain 2 : CH 3 Band edge



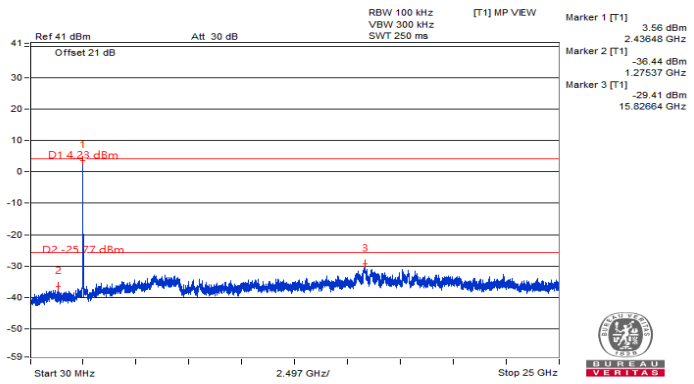
Chain 2 : CH 9 Band edge



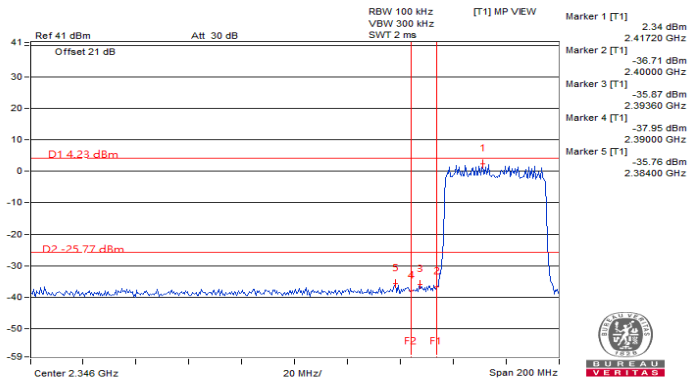
Chain 3 : CH 3



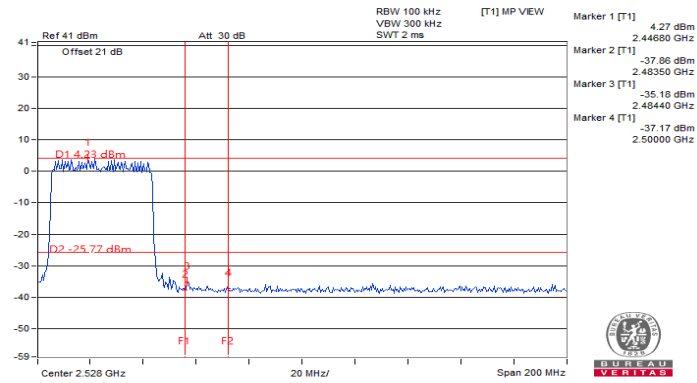
Chain 3 : CH 6



Chain 3 : CH 9



Chain 3 : CH 3 Band edge



Chain 3 : CH 9 Band edge

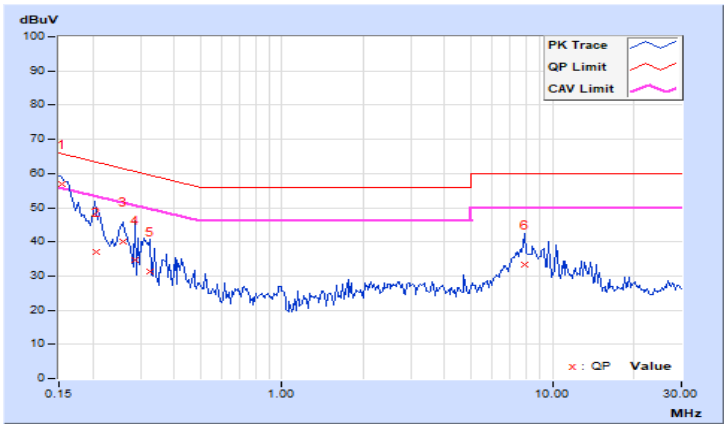
7.5 AC Power Conducted Emissions

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

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	**0.15371**	**10.07**	**46.74**	**26.82**	**56.81**	**36.89**	**65.80**	**55.80**	**-8.99**	**-18.91**
2	0.20489	10.08	27.06	19.61	37.14	29.69	63.41	53.41	-26.27	-23.72
3	0.25925	10.09	30.11	5.16	40.20	15.25	61.46	51.46	-21.26	-36.21
4	0.28681	10.09	24.51	5.68	34.60	15.77	60.62	50.62	-26.02	-34.85
5	0.32579	10.10	21.19	4.32	31.29	14.42	59.56	49.56	-28.27	-35.14
6	7.89029	10.63	22.62	15.53	33.25	26.16	60.00	50.00	-26.75	-23.84

Remarks:

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

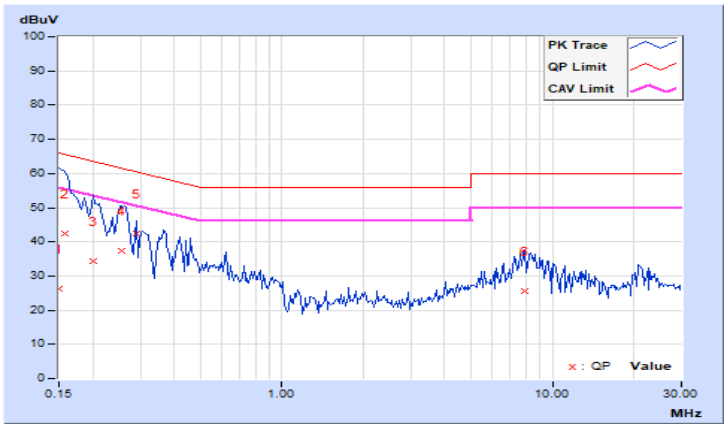


RF Mode	TX 802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Ryan Du		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15003	10.05	16.32	8.01	26.37	18.06	66.00	56.00	-39.63	-37.94
2	0.15787	10.05	32.39	6.23	42.44	16.28	65.58	55.58	-23.14	-39.30
3	0.20071	10.08	24.26	23.81	34.34	33.89	63.58	53.58	-29.24	-19.69
4	0.25559	10.09	27.21	20.24	37.30	30.33	61.57	51.57	-24.27	-21.24
5	0.29057	10.09	32.43	9.72	42.52	19.81	60.51	50.51	-17.99	-30.70
6	7.93352	10.56	15.01	7.65	25.57	18.21	60.00	50.00	-34.43	-31.79

Remarks:

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



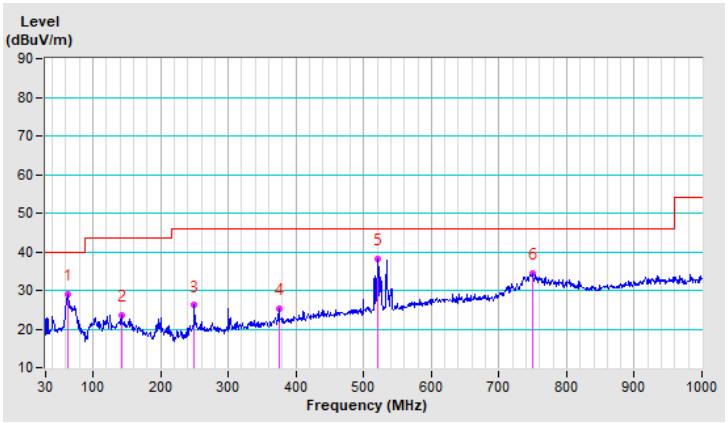
7.6 Unwanted Emissions below 1 GHz

RF Mode	TX 802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 65% RH
Tested By	Nelson Teng		

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	62.76	28.9 QP	40.0	-11.1	3.00 H	79	38.2	-9.3
2	143.32	23.7 QP	43.5	-19.8	1.50 H	275	31.9	-8.2
3	250.00	26.1 QP	46.0	-19.9	1.00 H	61	35.7	-9.6
4	375.00	25.4 QP	46.0	-20.6	1.00 H	149	31.3	-5.9
5	520.75	38.1 QP	46.0	-7.9	1.50 H	89	40.3	-2.2
6	750.37	34.5 QP	46.0	-11.5	2.00 H	334	32.1	2.4

Remarks:

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

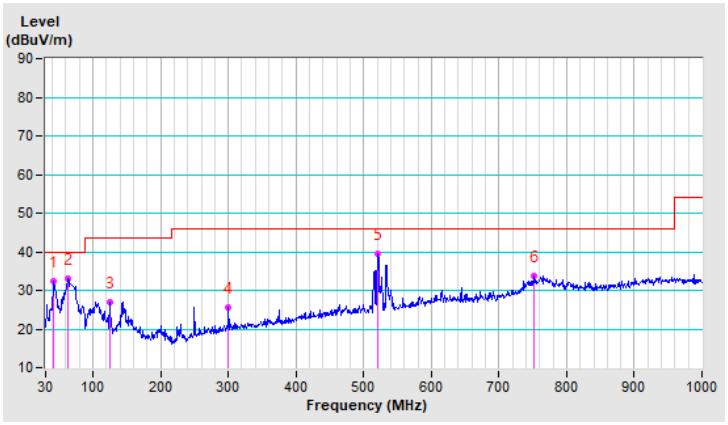


RF Mode	TX 802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 65% RH
Tested By	Nelson Teng		

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	42.05	32.4 QP	40.0	-7.6	1.00 V	227	40.8	-8.4
2	62.98	33.1 QP	40.0	-6.9	1.50 V	334	42.5	-9.4
3	124.99	27.1 QP	43.5	-16.4	1.50 V	360	36.8	-9.7
4	300.00	25.7 QP	46.0	-20.3	1.00 V	297	33.4	-7.7
5	**520.70**	**39.6 QP**	**46.0**	**-6.4**	**1.00 V**	**262**	**41.8**	**-2.2**
6	751.61	33.7 QP	46.0	-12.3	1.50 V	297	31.3	2.4

Remarks:

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



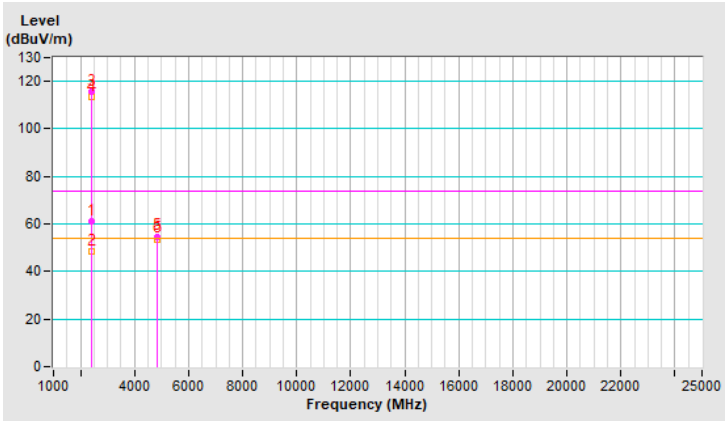
7.7 Unwanted Emissions above 1 GHz

RF Mode	TX 802.11b	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2388.96	60.9 PK	74.0	-13.1	1.77 H	218	61.7	-0.8
2	2388.96	48.7 AV	54.0	-5.3	1.77 H	218	49.5	-0.8
3	*2412.00	115.9 PK			3.04 H	256	116.7	-0.8
4	*2412.00	113.4 AV			3.04 H	256	114.2	-0.8
5	4824.00	54.8 PK	74.0	-19.2	2.21 H	310	50.9	3.9
6	4824.00	53.7 AV	54.0	-0.3	2.21 H	310	49.8	3.9

Remarks:

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

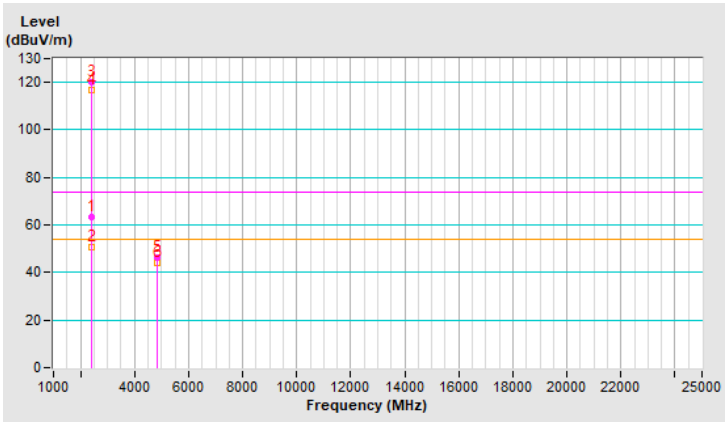


RF Mode	TX 802.11b	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	63.3 PK	74.0	-10.7	2.02 V	107	64.1	-0.8
2	2390.00	50.6 AV	54.0	-3.4	2.02 V	107	51.4	-0.8
3	*2412.00	120.1 PK			2.02 V	107	120.9	-0.8
4	*2412.00	116.9 AV			2.02 V	107	117.7	-0.8
5	4824.00	46.3 PK	74.0	-27.7	2.96 V	239	42.4	3.9
6	4824.00	43.8 AV	54.0	-10.2	2.96 V	239	39.9	3.9

Remarks:

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

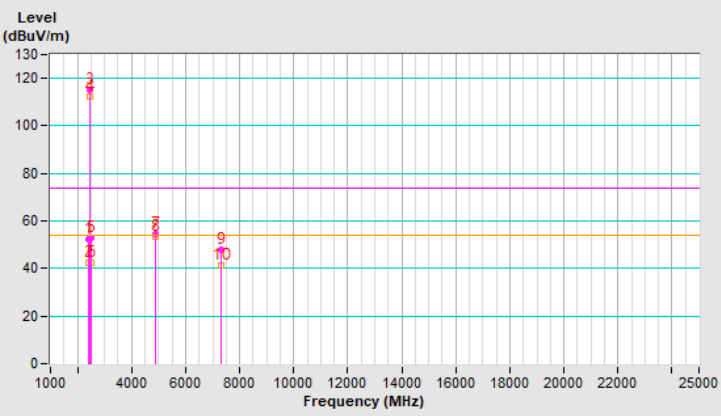


RF Mode	TX 802.11b	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	52.4 PK	74.0	-21.6	3.01 H	256	53.2	-0.8
2	2390.00	42.3 AV	54.0	-11.7	3.01 H	256	43.1	-0.8
3	*2437.00	114.9 PK			3.01 H	256	115.7	-0.8
4	*2437.00	112.5 AV			3.01 H	256	113.3	-0.8
5	2483.50	52.7 PK	74.0	-21.3	3.01 H	256	53.7	-1.0
6	2483.50	42.5 AV	54.0	-11.5	3.01 H	256	43.5	-1.0
7	4874.00	54.3 PK	74.0	-19.7	2.33 H	312	50.3	4.0
8	4874.00	53.6 AV	54.0	-0.4	2.33 H	312	49.6	4.0
9	7311.00	47.9 PK	74.0	-26.1	3.26 H	206	37.8	10.1
10	7311.00	41.3 AV	54.0	-12.7	3.26 H	206	31.2	10.1

Remarks:

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

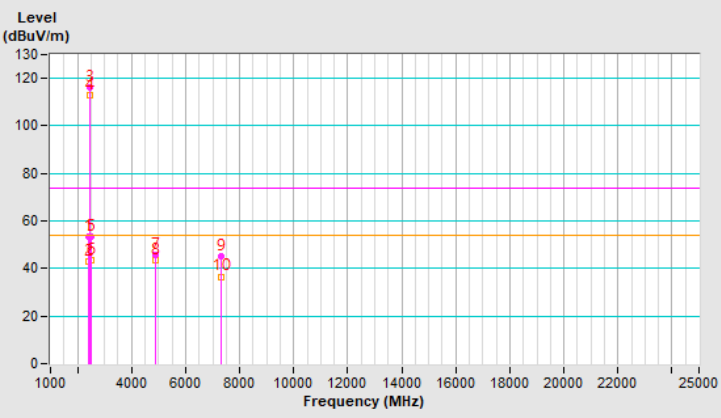


RF Mode	TX 802.11b	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	53.4 PK	74.0	-20.6	1.86 V	273	54.2	-0.8
2	2390.00	43.1 AV	54.0	-10.9	1.86 V	273	43.9	-0.8
3	*2437.00	116.1 PK			1.86 V	273	116.9	-0.8
4	*2437.00	113.0 AV			1.86 V	273	113.8	-0.8
5	2483.50	53.2 PK	74.0	-20.8	1.86 V	273	54.2	-1.0
6	2483.50	43.3 AV	54.0	-10.7	1.86 V	273	44.3	-1.0
7	4874.00	45.9 PK	74.0	-28.1	2.97 V	232	41.9	4.0
8	4874.00	43.6 AV	54.0	-10.4	2.97 V	232	39.6	4.0
9	7311.00	44.9 PK	74.0	-29.1	1.00 V	223	34.8	10.1
10	7311.00	36.6 AV	54.0	-17.4	1.00 V	223	26.5	10.1

Remarks:

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

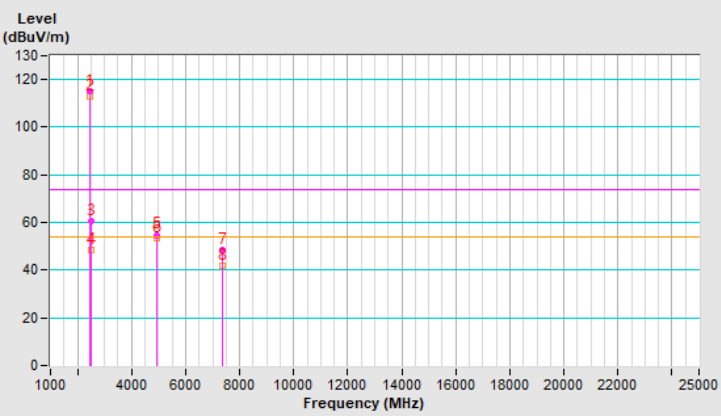


RF Mode	TX 802.11b	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2462.00	115.1 PK			3.04 H	250	116.0	-0.9
2	*2462.00	112.7 AV			3.04 H	250	113.6	-0.9
3	2483.50	60.4 PK	74.0	-13.6	3.04 H	250	61.4	-1.0
4	2483.50	48.3 AV	54.0	-5.7	3.04 H	250	49.3	-1.0
5	4924.00	54.8 PK	74.0	-19.2	2.22 H	308	50.8	4.0
6	4924.00	53.6 AV	54.0	-0.4	2.22 H	308	49.6	4.0
7	7386.00	48.6 PK	74.0	-25.4	3.29 H	211	38.4	10.2
8	7386.00	41.9 AV	54.0	-12.1	3.29 H	211	31.7	10.2

Remarks:

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

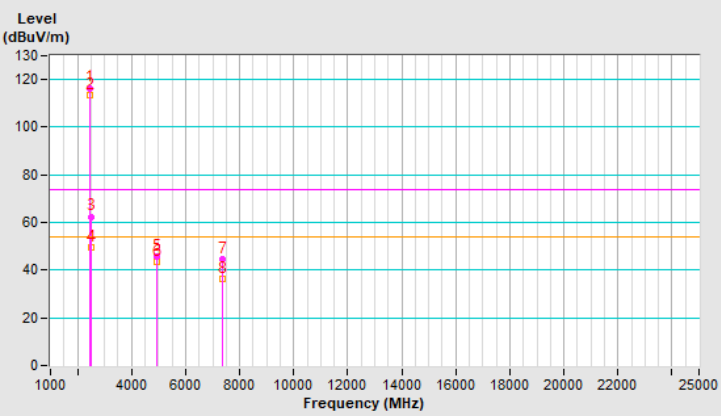


RF Mode	TX 802.11b	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	116.5 PK			1.85 V	260	117.4	-0.9
2	*2462.00	113.4 AV			1.85 V	260	114.3	-0.9
3	2483.50	62.5 PK	74.0	-11.5	1.85 V	260	63.5	-1.0
4	2483.50	49.8 AV	54.0	-4.2	1.85 V	260	50.8	-1.0
5	4924.00	45.7 PK	74.0	-28.3	2.97 V	228	41.7	4.0
6	4924.00	43.5 AV	54.0	-10.5	2.97 V	228	39.5	4.0
7	7386.00	44.6 PK	74.0	-29.4	1.00 V	221	34.4	10.2
8	7386.00	36.5 AV	54.0	-17.5	1.00 V	221	26.3	10.2

Remarks:

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

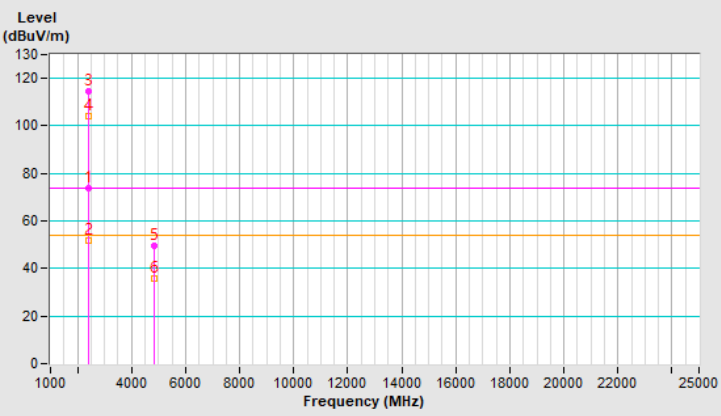


RF Mode	TX 802.11g	Channel	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	73.7 PK	74.0	-0.3	3.00 H	253	74.5	-0.8
2	2390.00	52.0 AV	54.0	-2.0	3.00 H	253	52.8	-0.8
3	*2412.00	114.7 PK			3.00 H	253	115.5	-0.8
4	*2412.00	104.3 AV			3.00 H	253	105.1	-0.8
5	4824.00	49.7 PK	74.0	-24.3	2.31 H	132	45.8	3.9
6	4824.00	35.8 AV	54.0	-18.2	2.31 H	132	31.9	3.9

Remarks:

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

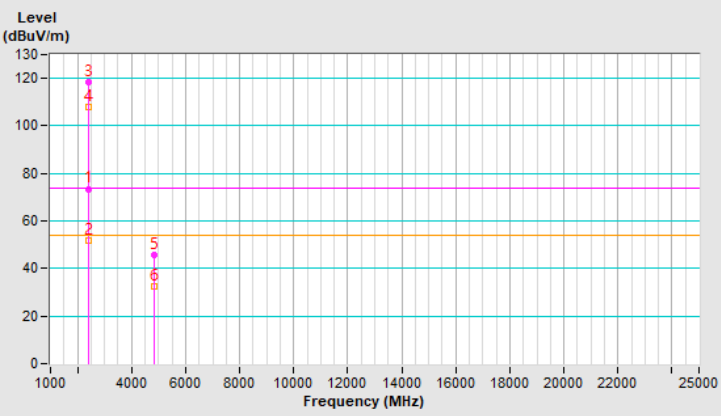


RF Mode	TX 802.11g	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	73.5 PK	74.0	-0.5	1.58 V	108	74.3	-0.8
2	2390.00	51.7 AV	54.0	-2.3	1.58 V	108	52.5	-0.8
3	*2412.00	118.3 PK			1.58 V	108	119.1	-0.8
4	*2412.00	107.8 AV			1.58 V	108	108.6	-0.8
5	4824.00	45.5 PK	74.0	-28.5	2.92 V	234	41.6	3.9
6	4824.00	32.6 AV	54.0	-21.4	2.92 V	234	28.7	3.9

Remarks:

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

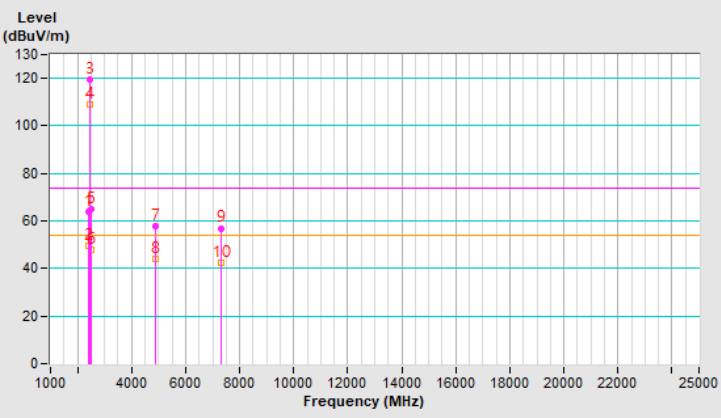


RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	64.0 PK	74.0	-10.0	2.79 H	80	64.8	-0.8
2	2390.00	49.5 AV	54.0	-4.5	2.79 H	80	50.3	-0.8
3	*2437.00	119.4 PK			2.79 H	80	120.2	-0.8
4	*2437.00	108.9 AV			2.79 H	80	109.7	-0.8
5	2483.50	65.0 PK	74.0	-9.0	2.79 H	80	66.0	-1.0
6	2483.50	47.7 AV	54.0	-6.3	2.79 H	80	48.7	-1.0
7	4874.00	57.7 PK	74.0	-16.3	2.30 H	130	53.7	4.0
8	4874.00	44.0 AV	54.0	-10.0	2.30 H	130	40.0	4.0
9	7311.00	57.0 PK	74.0	-17.0	2.17 H	39	46.9	10.1
10	7311.00	42.6 AV	54.0	-11.4	2.17 H	39	32.5	10.1

Remarks:

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

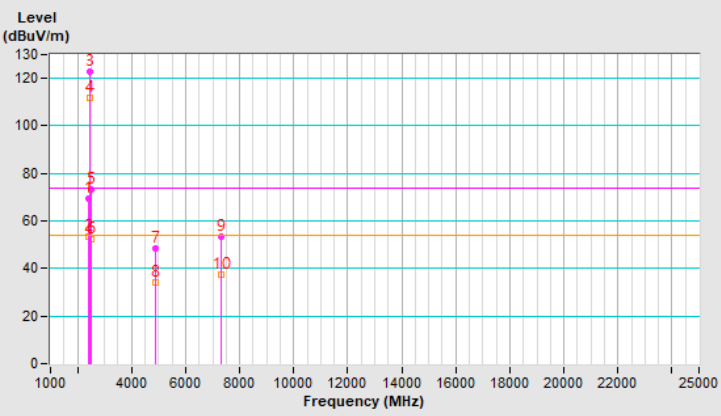


RF Mode	TX 802.11g	**Channel**	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	69.3 PK	74.0	-4.7	2.01 V	122	70.1	-0.8
2	2390.00	53.4 AV	54.0	-0.6	2.01 V	122	54.2	-0.8
3	*2437.00	122.6 PK			2.01 V	122	123.4	-0.8
4	*2437.00	111.9 AV			2.01 V	122	112.7	-0.8
5	2485.34	73.4 PK	74.0	-0.6	2.01 V	122	74.4	-1.0
6	2485.34	52.3 AV	54.0	-1.7	2.01 V	122	53.3	-1.0
7	4874.00	48.6 PK	74.0	-25.4	2.96 V	242	44.6	4.0
8	4874.00	34.1 AV	54.0	-19.9	2.96 V	242	30.1	4.0
9	7311.00	53.3 PK	74.0	-20.7	1.02 V	217	43.2	10.1
10	7311.00	37.6 AV	54.0	-16.4	1.02 V	217	27.5	10.1

Remarks:

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

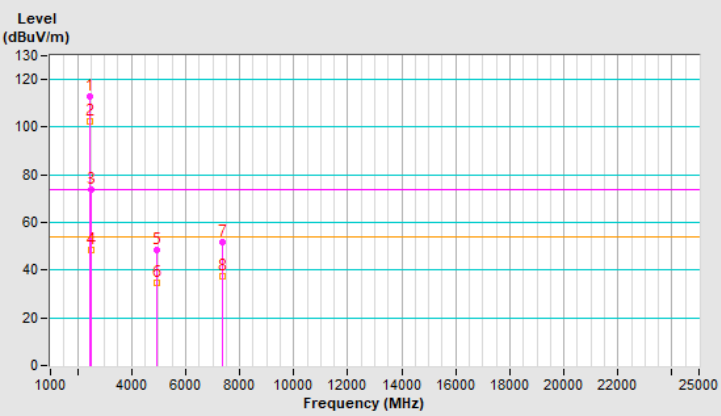


RF Mode	TX 802.11g	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2462.00	113.1 PK			1.08 H	66	114.0	-0.9
2	*2462.00	102.2 AV			1.08 H	66	103.1	-0.9
3	2483.50	73.7 PK	74.0	-0.3	1.08 H	66	74.7	-1.0
4	2483.50	48.2 AV	54.0	-5.8	1.08 H	66	49.2	-1.0
5	4924.00	48.2 PK	74.0	-25.8	2.32 H	128	44.2	4.0
6	4924.00	34.6 AV	54.0	-19.4	2.32 H	128	30.6	4.0
7	7386.00	51.6 PK	74.0	-22.4	2.19 H	44	41.4	10.2
8	7386.00	37.5 AV	54.0	-16.5	2.19 H	44	27.3	10.2

Remarks:

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

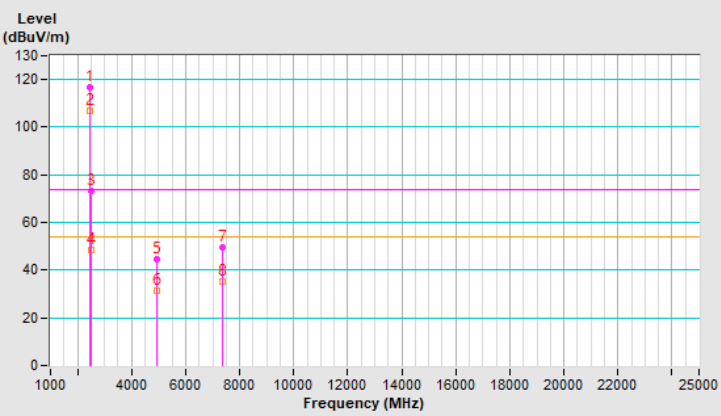


RF Mode	TX 802.11g	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	117.0 PK			1.52 V	106	117.9	-0.9
2	*2462.00	106.9 AV			1.52 V	106	107.8	-0.9
3	2483.50	73.1 PK	74.0	-0.9	1.52 V	106	74.1	-1.0
4	2483.50	48.7 AV	54.0	-5.3	1.52 V	106	49.7	-1.0
5	4924.00	44.6 PK	74.0	-29.4	2.99 V	247	40.6	4.0
6	4924.00	31.3 AV	54.0	-22.7	2.99 V	247	27.3	4.0
7	7386.00	49.7 PK	74.0	-24.3	1.02 V	211	39.5	10.2
8	7386.00	35.3 AV	54.0	-18.7	1.02 V	211	25.1	10.2

Remarks:

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

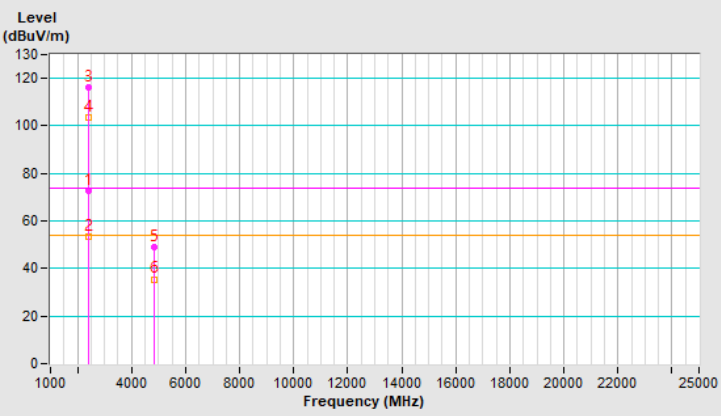


RF Mode	TX 802.11ax (HE20)	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2388.89	72.5 PK	74.0	-1.5	2.83 H	254	73.3	-0.8
2	2388.89	53.5 AV	54.0	-0.5	2.83 H	254	54.3	-0.8
3	*2412.00	116.0 PK			2.83 H	254	116.8	-0.8
4	*2412.00	103.4 AV			2.83 H	254	104.2	-0.8
5	4824.00	49.2 PK	74.0	-24.8	2.32 H	128	45.3	3.9
6	4824.00	35.5 AV	54.0	-18.5	2.32 H	128	31.6	3.9

Remarks:

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

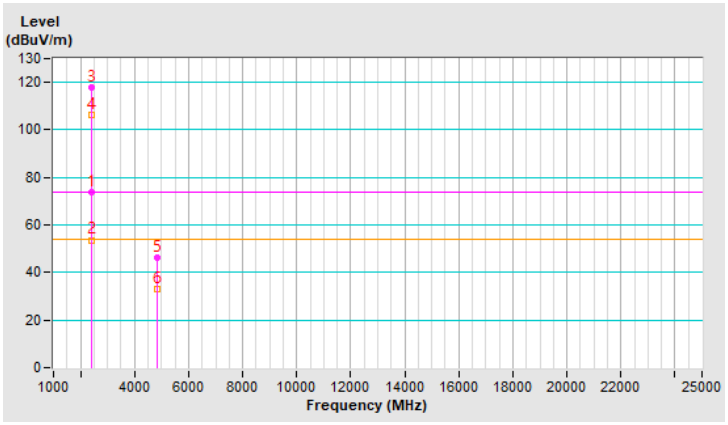


RF Mode	TX 802.11ax (HE20)	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2389.19	73.6 PK	74.0	-0.4	1.60 V	111	74.4	-0.8
2	2389.19	53.7 AV	54.0	-0.3	1.60 V	111	54.5	-0.8
3	*2412.00	117.8 PK			1.60 V	111	118.6	-0.8
4	*2412.00	106.1 AV			1.60 V	111	106.9	-0.8
5	4824.00	46.1 PK	74.0	-27.9	2.86 V	219	42.2	3.9
6	4824.00	33.0 AV	54.0	-21.0	2.86 V	219	29.1	3.9

Remarks:

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

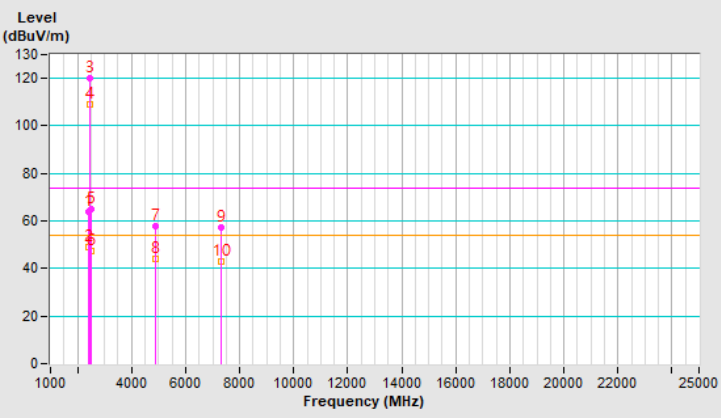


RF Mode	TX 802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	63.8 PK	74.0	-10.2	2.84 H	66	64.6	-0.8
2	2390.00	49.1 AV	54.0	-4.9	2.84 H	66	49.9	-0.8
3	*2437.00	120.1 PK			2.84 H	66	120.9	-0.8
4	*2437.00	109.3 AV			2.84 H	66	110.1	-0.8
5	2483.50	64.8 PK	74.0	-9.2	2.84 H	66	65.8	-1.0
6	2483.50	47.4 AV	54.0	-6.6	2.84 H	66	48.4	-1.0
7	4874.00	57.6 PK	74.0	-16.4	2.32 H	144	53.6	4.0
8	4874.00	44.1 AV	54.0	-9.9	2.32 H	144	40.1	4.0
9	7311.00	57.2 PK	74.0	-16.8	2.20 H	28	47.1	10.1
10	7311.00	43.1 AV	54.0	-10.9	2.20 H	28	33.0	10.1

Remarks:

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

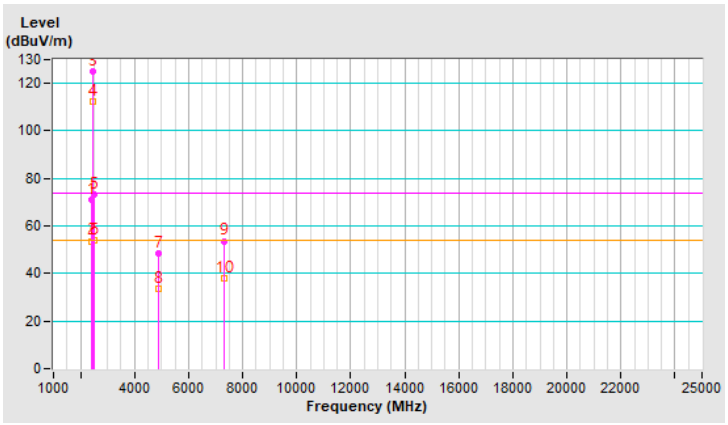


RF Mode	TX 802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	71.1 PK	74.0	-2.9	1.60 V	309	71.9	-0.8
2	2390.00	53.7 AV	54.0	-0.3	1.60 V	309	54.5	-0.8
3	*2437.00	125.2 PK			1.60 V	309	126.0	-0.8
4	*2437.00	112.3 AV			1.60 V	309	113.1	-0.8
5	2483.50	73.1 PK	74.0	-0.9	1.60 V	309	74.1	-1.0
6	**2483.50**	**53.8 AV**	**54.0**	**-0.2**	**1.60 V**	**309**	**54.8**	**-1.0**
7	4874.00	48.3 PK	74.0	-25.7	2.99 V	257	44.3	4.0
8	4874.00	33.7 AV	54.0	-20.3	2.99 V	257	29.7	4.0
9	7311.00	53.7 PK	74.0	-20.3	1.01 V	203	43.6	10.1
10	7311.00	38.1 AV	54.0	-15.9	1.01 V	203	28.0	10.1

Remarks:

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

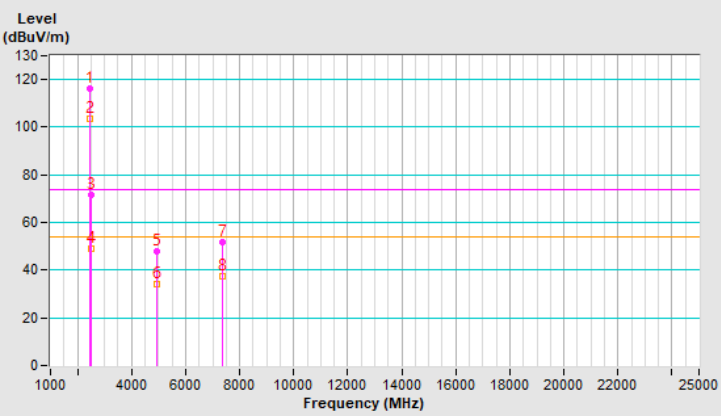


RF Mode	TX 802.11ax (HE20)	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	116.4 PK			2.83 H	260	117.3	-0.9
2	*2462.00	103.5 AV			2.83 H	260	104.4	-0.9
3	2484.24	71.7 PK	74.0	-2.3	2.83 H	260	72.7	-1.0
4	2484.24	49.1 AV	54.0	-4.9	2.83 H	260	50.1	-1.0
5	4924.00	48.1 PK	74.0	-25.9	2.33 H	117	44.1	4.0
6	4924.00	34.3 AV	54.0	-19.7	2.33 H	117	30.3	4.0
7	7386.00	51.7 PK	74.0	-22.3	2.24 H	59	41.5	10.2
8	7386.00	37.6 AV	54.0	-16.4	2.24 H	59	27.4	10.2

Remarks:

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

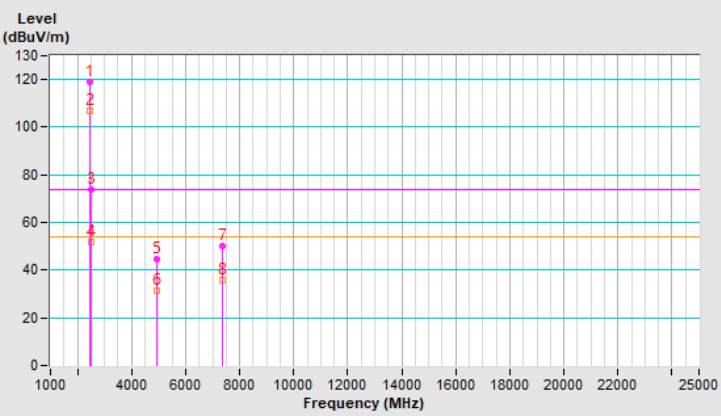


RF Mode	TX 802.11ax (HE20)	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	119.1 PK			1.56 V	310	120.0	-0.9
2	*2462.00	106.8 AV			1.56 V	310	107.7	-0.9
3	2484.26	73.6 PK	74.0	-0.4	1.56 V	310	74.6	-1.0
4	2484.26	52.0 AV	54.0	-2.0	1.56 V	310	53.0	-1.0
5	4924.00	44.5 PK	74.0	-29.5	2.98 V	236	40.5	4.0
6	4924.00	31.3 AV	54.0	-22.7	2.98 V	236	27.3	4.0
7	7386.00	50.0 PK	74.0	-24.0	1.00 V	218	39.8	10.2
8	7386.00	35.7 AV	54.0	-18.3	1.00 V	218	25.5	10.2

Remarks:

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

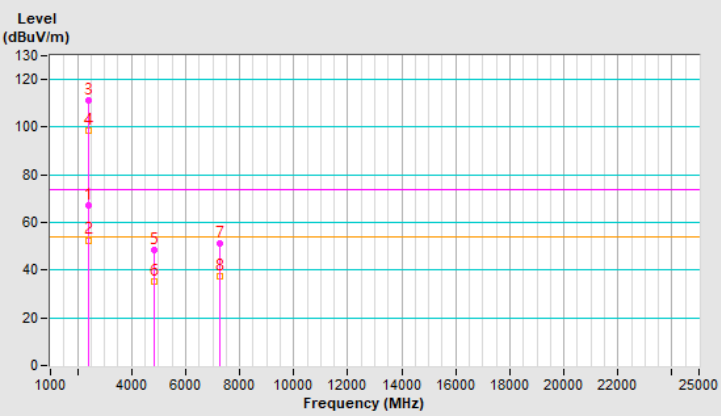


RF Mode	TX 802.11ax (HE40)	Channel	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2388.73	67.4 PK	74.0	-6.6	2.89 H	258	68.2	-0.8
2	2388.73	52.6 AV	54.0	-1.4	2.89 H	258	53.4	-0.8
3	*2422.00	111.4 PK			2.89 H	258	112.2	-0.8
4	*2422.00	98.5 AV			2.89 H	258	99.3	-0.8
5	4844.00	48.5 PK	74.0	-25.5	2.28 H	117	44.6	3.9
6	4844.00	35.1 AV	54.0	-18.9	2.28 H	117	31.2	3.9
7	7266.00	51.4 PK	74.0	-22.6	2.21 H	49	41.4	10.0
8	7266.00	37.3 AV	54.0	-16.7	2.21 H	49	27.3	10.0

Remarks:

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

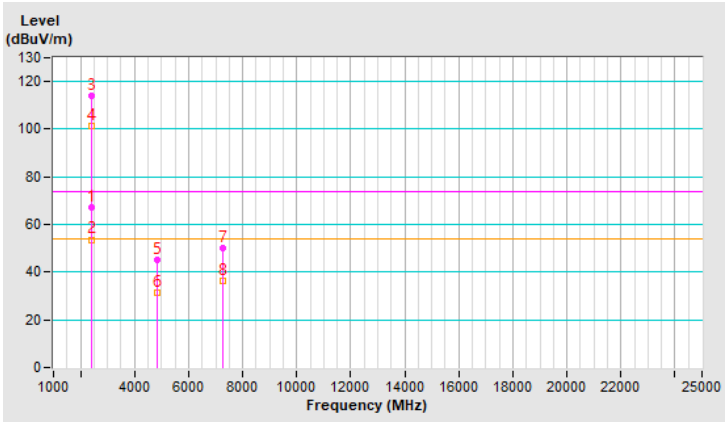


RF Mode	TX 802.11ax (HE40)	Channel	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2387.45	67.1 PK	74.0	-6.9	1.22 V	113	67.9	-0.8
2	2387.45	53.7 AV	54.0	-0.3	1.22 V	113	54.5	-0.8
3	*2422.00	114.2 PK			1.22 V	113	115.0	-0.8
4	*2422.00	101.3 AV			1.22 V	113	102.1	-0.8
5	4844.00	45.0 PK	74.0	-29.0	3.04 V	235	41.1	3.9
6	4844.00	31.5 AV	54.0	-22.5	3.04 V	235	27.6	3.9
7	7266.00	50.3 PK	74.0	-23.7	1.02 V	231	40.3	10.0
8	7266.00	36.1 AV	54.0	-17.9	1.02 V	231	26.1	10.0

Remarks:

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

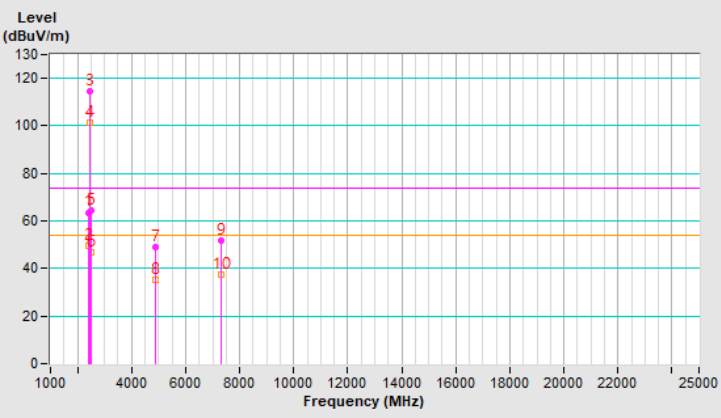


RF Mode	TX 802.11ax (HE40)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.6 PK	74.0	-10.4	2.91 H	255	64.4	-0.8
2	2390.00	49.4 AV	54.0	-4.6	2.91 H	255	50.2	-0.8
3	*2437.00	114.4 PK			2.91 H	255	115.2	-0.8
4	*2437.00	101.4 AV			2.91 H	255	102.2	-0.8
5	2483.50	64.6 PK	74.0	-9.4	2.91 H	255	65.6	-1.0
6	2483.50	46.9 AV	54.0	-7.1	2.91 H	255	47.9	-1.0
7	4874.00	48.9 PK	74.0	-25.1	2.33 H	140	44.9	4.0
8	4874.00	35.0 AV	54.0	-19.0	2.33 H	140	31.0	4.0
9	7311.00	51.6 PK	74.0	-22.4	2.14 H	41	41.5	10.1
10	7311.00	37.4 AV	54.0	-16.6	2.14 H	41	27.3	10.1

Remarks:

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

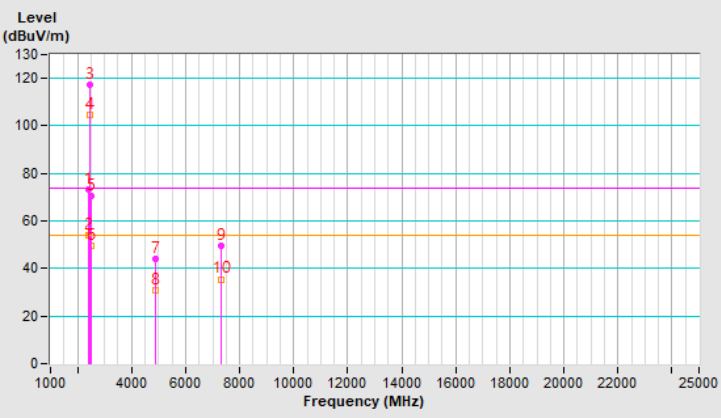


RF Mode	TX 802.11ax (HE40)	**Channel**	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	73.1 PK	74.0	-0.9	1.64 V	308	73.9	-0.8
2	**2390.00**	**53.8 AV**	**54.0**	**-0.2**	**1.64 V**	**308**	**54.6**	**-0.8**
3	*2437.00	117.1 PK			1.64 V	308	117.9	-0.8
4	*2437.00	104.6 AV			1.64 V	308	105.4	-0.8
5	2483.50	70.5 PK	74.0	-3.5	1.64 V	308	71.5	-1.0
6	2483.50	49.5 AV	54.0	-4.5	1.64 V	308	50.5	-1.0
7	4874.00	43.8 PK	74.0	-30.2	3.01 V	224	39.8	4.0
8	4874.00	30.9 AV	54.0	-23.1	3.01 V	224	26.9	4.0
9	7311.00	49.6 PK	74.0	-24.4	1.05 V	207	39.5	10.1
10	7311.00	35.5 AV	54.0	-18.5	1.05 V	207	25.4	10.1

Remarks:

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

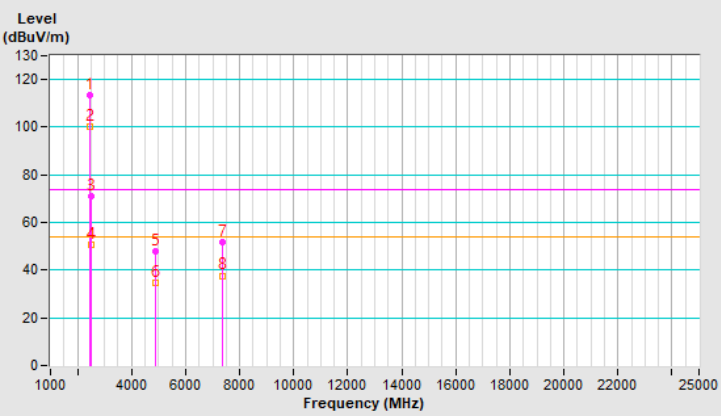


RF Mode	TX 802.11ax (HE40)	Channel	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	113.6 PK			3.02 H	251	114.5	-0.9
2	*2452.00	100.2 AV			3.02 H	251	101.1	-0.9
3	2486.24	71.1 PK	74.0	-2.9	3.02 H	251	72.1	-1.0
4	2486.24	50.8 AV	54.0	-3.2	3.02 H	251	51.8	-1.0
5	4904.00	48.1 PK	74.0	-25.9	2.38 H	127	44.2	3.9
6	4904.00	34.6 AV	54.0	-19.4	2.38 H	127	30.7	3.9
7	7356.00	51.9 PK	74.0	-22.1	2.23 H	39	41.8	10.1
8	7356.00	37.7 AV	54.0	-16.3	2.23 H	39	27.6	10.1

Remarks:

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

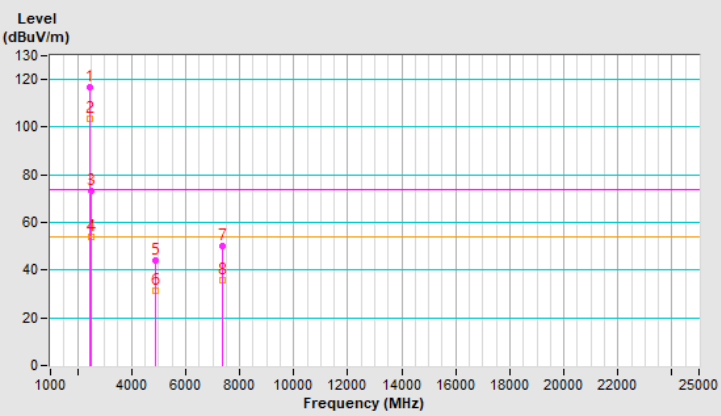


RF Mode	TX 802.11ax (HE40)	Channel	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	20°C, 70% RH
Tested By	Ryan Du		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	116.8 PK			1.56 V	311	117.7	-0.9
2	*2452.00	103.7 AV			1.56 V	311	104.6	-0.9
3	2486.17	73.3 PK	74.0	-0.7	1.56 V	311	74.3	-1.0
4	**2486.17**	**53.8 AV**	**54.0**	**-0.2**	**1.56 V**	**311**	**54.8**	**-1.0**
5	4904.00	44.3 PK	74.0	-29.7	2.96 V	238	40.4	3.9
6	4904.00	31.2 AV	54.0	-22.8	2.96 V	238	27.3	3.9
7	7356.00	50.0 PK	74.0	-24.0	1.04 V	224	39.9	10.1
8	7356.00	35.6 AV	54.0	-18.4	1.04 V	224	25.5	10.1

Remarks:

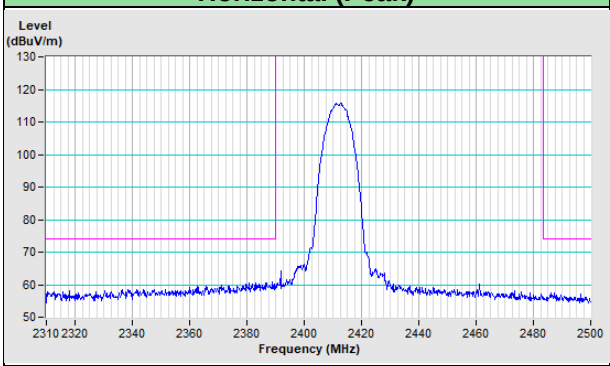
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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



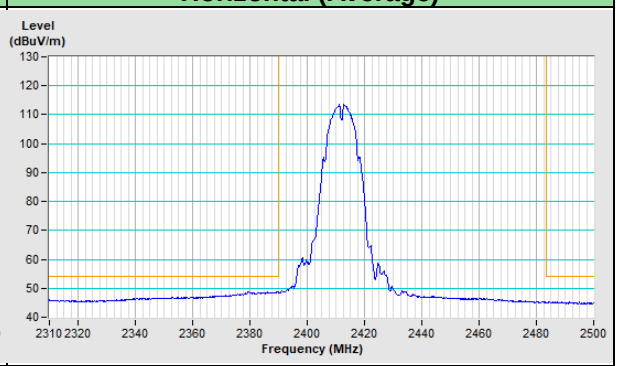
Plot of Band Edge

802.11b Channel 1

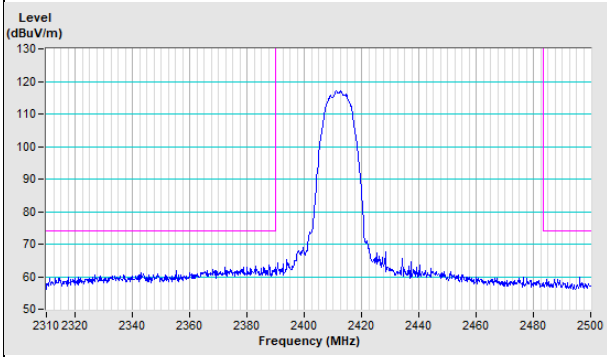
Horizontal (Peak)



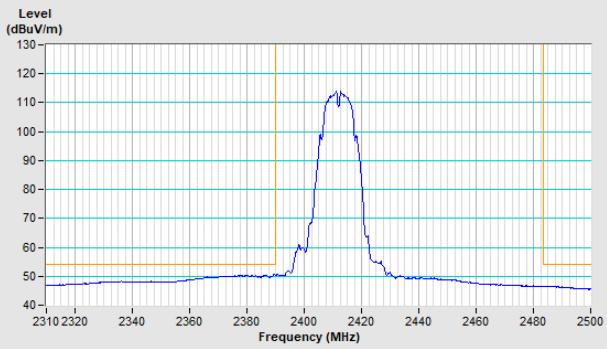
Horizontal (Average)



Vertical (Peak)

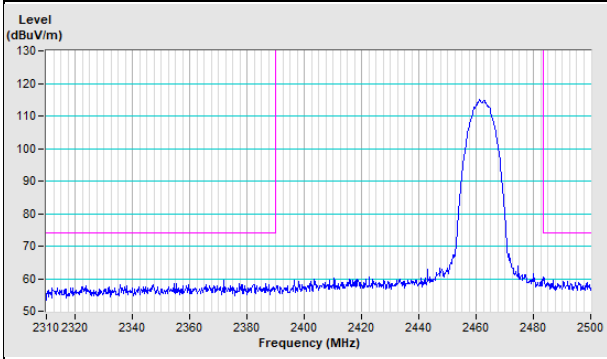


Vertical (Average)

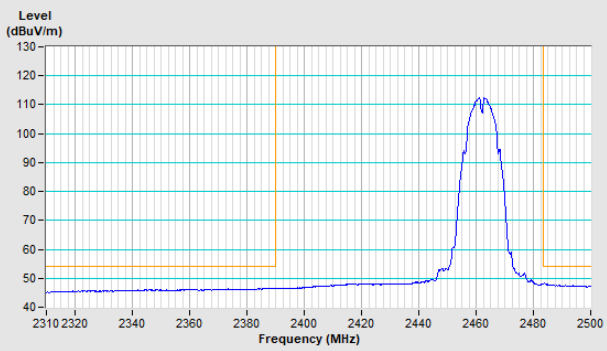


802.11b Channel 11

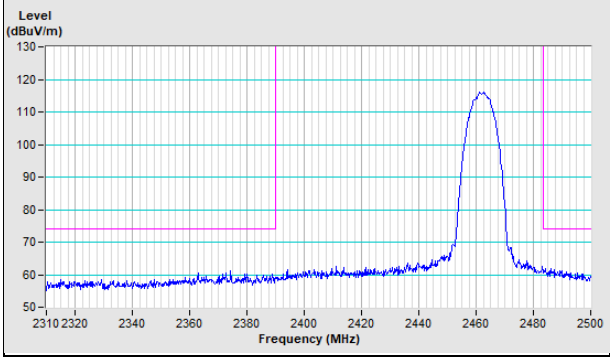
Horizontal (Peak)



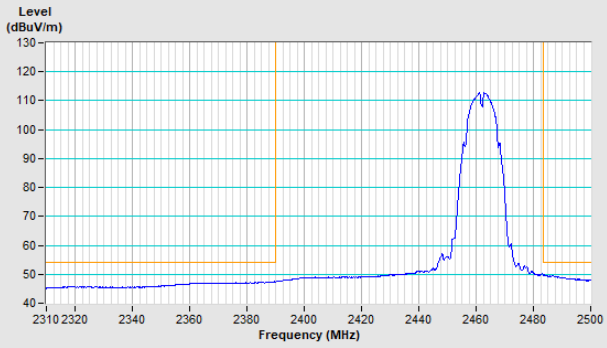
Horizontal (Average)



Vertical (Peak)

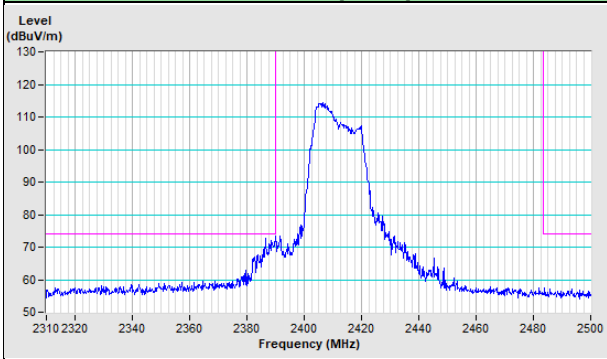


Vertical (Average)

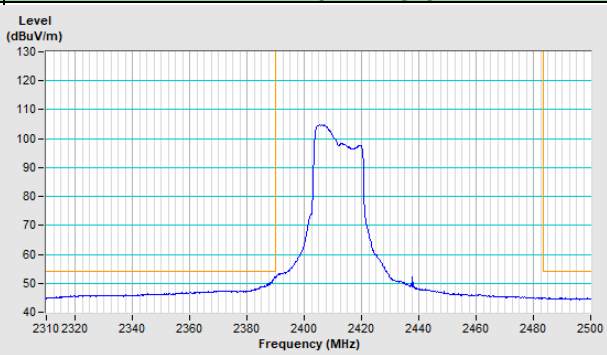


802.11g Channel 1

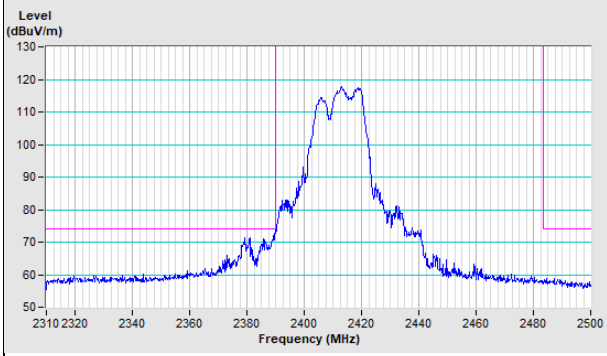
Horizontal (Peak)



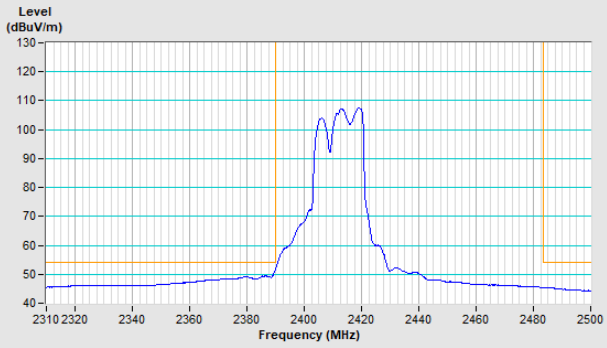
Horizontal (Average)



Vertical (Peak)

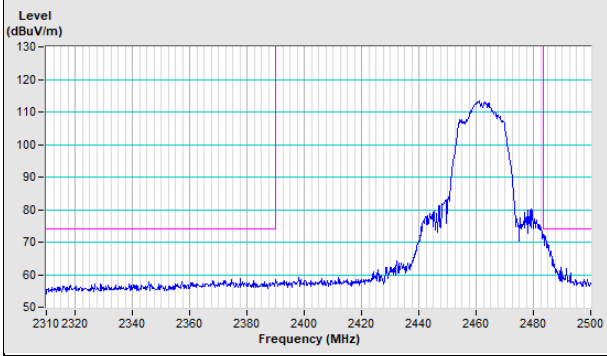


Vertical (Average)

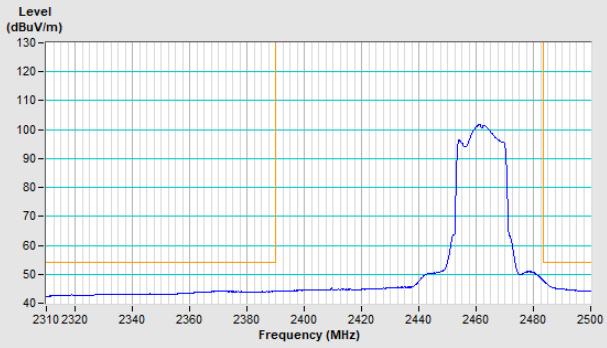


802.11g Channel 11

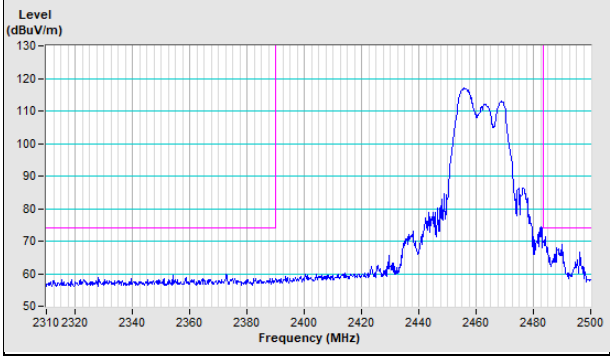
Horizontal (Peak)



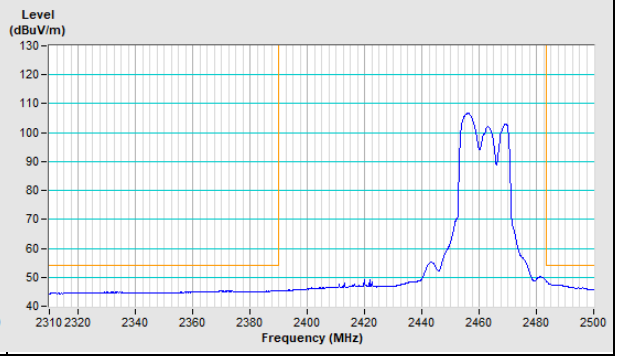
Horizontal (Average)



Vertical (Peak)

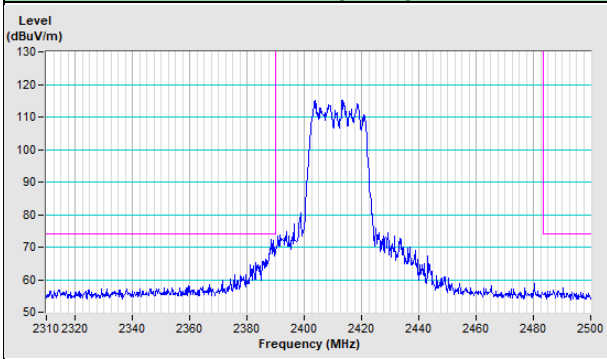


Vertical (Average)

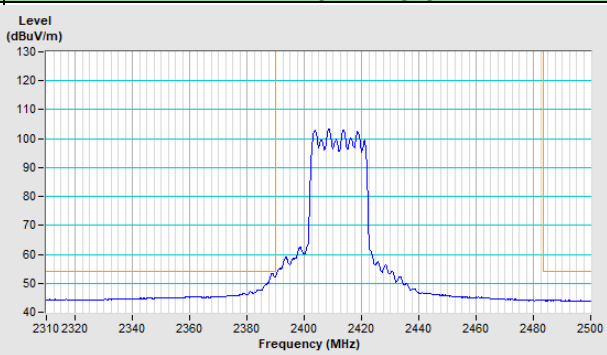


802.11ax (HE20) Channel 1

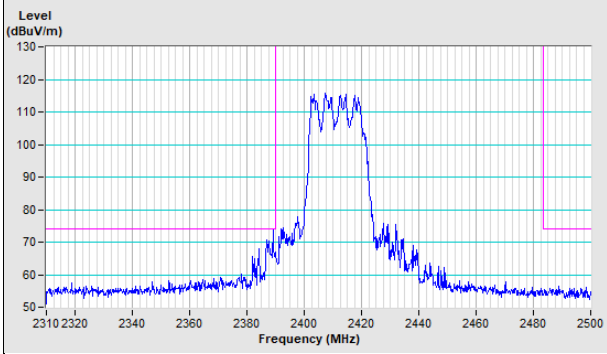
Horizontal (Peak)



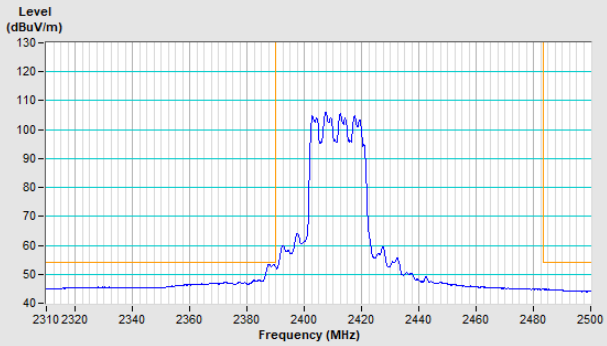
Horizontal (Average)



Vertical (Peak)

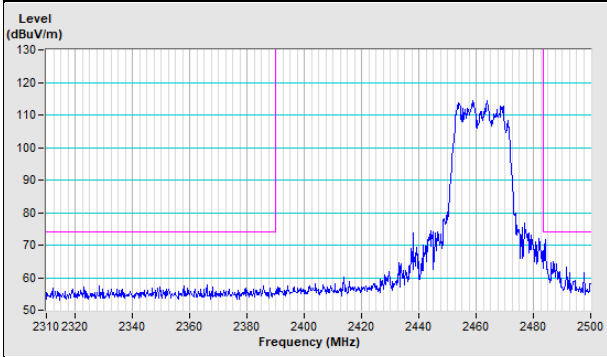


Vertical (Average)

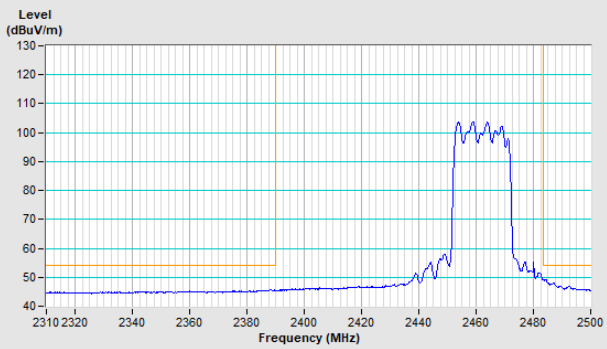


802.11ax (HE20) Channel 11

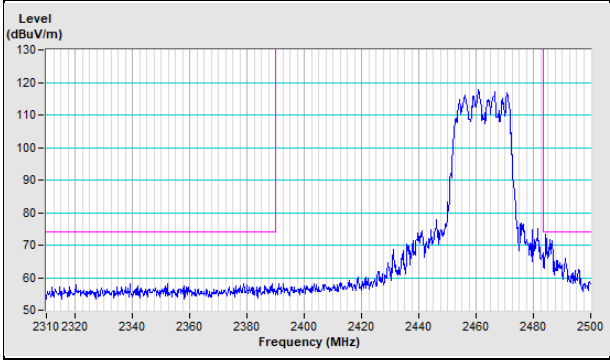
Horizontal (Peak)



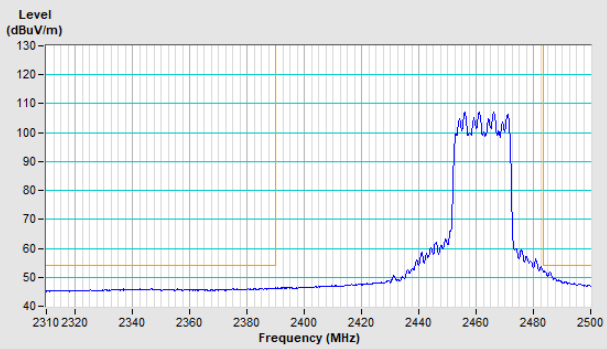
Horizontal (Average)



Vertical (Peak)

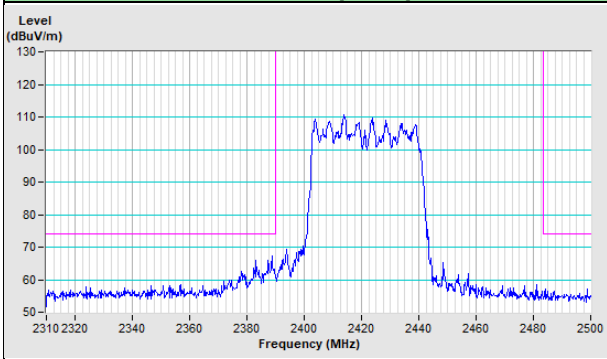


Vertical (Average)

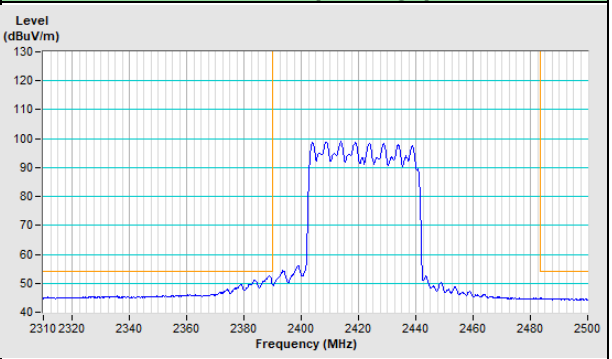


802.11ax (HE40) Channel 3

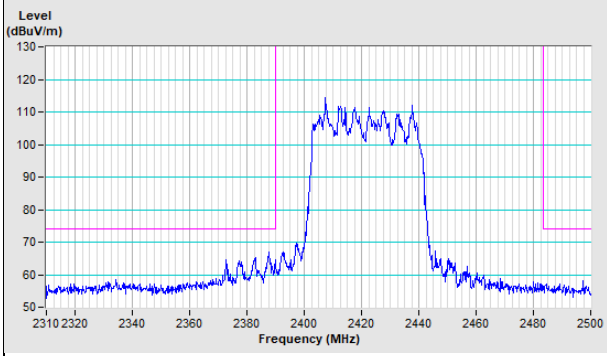
Horizontal (Peak)



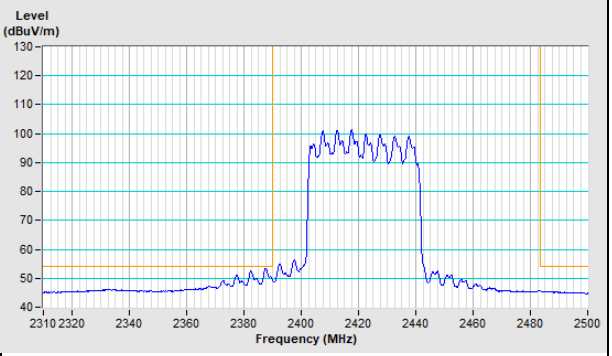
Horizontal (Average)



Vertical (Peak)

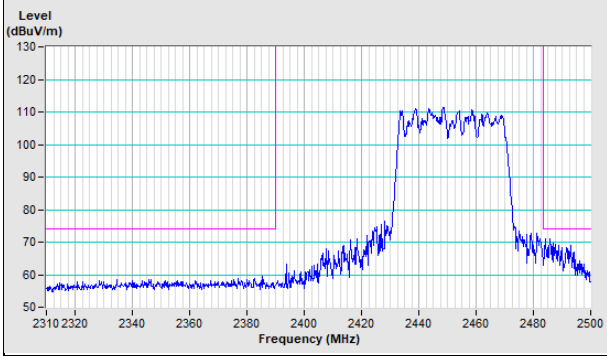


Vertical (Average)

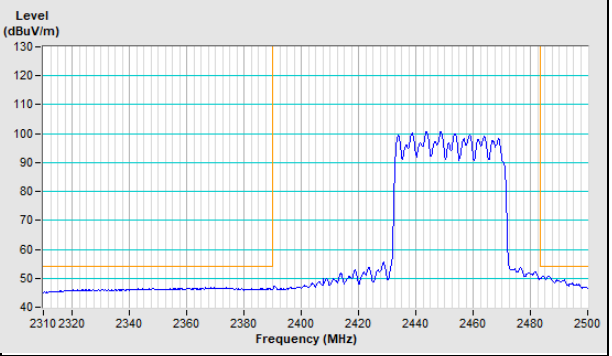


802.11ax (HE40) Channel 9

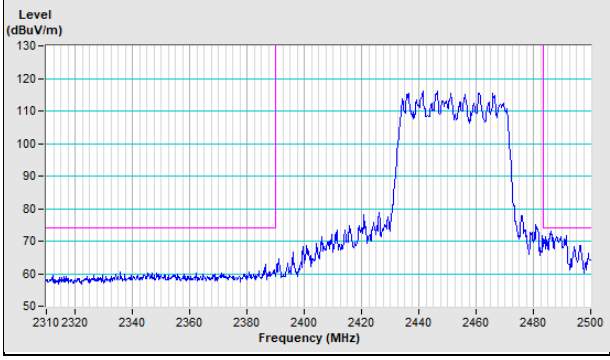
Horizontal (Peak)



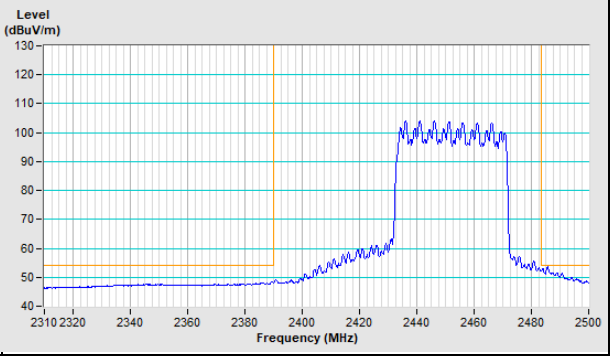
Horizontal (Average)



Vertical (Peak)



Vertical (Average)



8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

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

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

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

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