TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 15, Subpart C (Section 15.247)**
Report No.:	RFBCMA-WTW-P23030799
FCC ID:	RAXTMOG4AR
Product:	5G Gateway
Brand:	T-Mobile
Model No.:	TMO-G4AR
Received Date:	2023/3/15
Test Date:	2023/3/27 ~ 2023/4/28
Issued Date:	2023/5/23
Applicant:	Arcadyan Technology Corporation
Address:	No.8, Sec.2, Guangfu Rd.,Hsinchu City 30071, Taiwan, R.O.C.
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:** **2023/5/23**

May Chen / Manager

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Prepared by : Luna Yu / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBCMA-WTW-P23030799	Original release.	2023/5/23

1 Certificate

Product:	5G Gateway
Brand:	T-Mobile
Test Model:	TMO-G4AR
Sample Status:	Engineering sample
Applicant:	Arcadyan Technology Corporation
Test Date:	2023/3/27 ~ 2023/4/28
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 -4.15 dB at 0.45469 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -8.7 dB at 38.12 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.2 dB at 2483.50 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:

Parameter	Specification	Uncertainty (±)
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	5.1 dB
Unwanted Emissions above 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	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	5G Gateway
Brand	T-Mobile
Test Model	TMO-G4AR
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 VHT mode 1024QAM for OFDMA in 11ax mode
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: Up to 11 Mbps 802.11g: Up to 54 Mbps 802.11n: Up to 600 Mbps VHT: Up to 800 Mbps 802.11ax: Up to 1147.1 Mbps
Operating Frequency	2.412 GHz ~ 2.462 GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 11 802.11n (HT40), VHT40, 802.11ax (HE40): 7
Output Power	988.614 mW (29.95 dBm)

Note:

1. The EUT uses following accessories.

AC Adapter 1		
Brand	Model	Specification
LUCENT TRANS	1A78	AC Input: 100~240V, 1.2A, 50-60Hz DC Output: 5.0V 3.0A 15W, 9.0V 3.0A 27W, 12.0V 3.0A 36W, 15.0V 3.0A 45W, 20.0V 2.25A 45W DC Output Cable: 1.85 m, non-shielded cable, W/O ferrite core Plug: US
AC Adapter 2		
Brand	Model	Specification
MASS POWER	PD045E-C1C0AVU	AC Input: 100~240V, 1.0A, 50-60Hz DC Output: 5.0V 3.0A, 9.0V 3.0A, 12.0V 3.0A, 15.0V 3.0A, 20.0V 2.25A, 45W DC Output Cable: 1.8 m, non-shielded cable, W/O ferrite core Plug: US

2. There are Bluetooth, WLAN (2.4 GHz & 5 GHz), and WWAN (LTE + 5G nR) technology used for the EUT.
3. Simultaneously transmission condition.

Condition	Technology		
1	LTE	WLAN (2.4 GHz)	
2	5G nR	WLAN (2.4 GHz)	
3	LTE	WLAN (5 GHz)	Bluetooth
4	5G nR	WLAN (5 GHz)	Bluetooth
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.			

4. 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	Antenna Type	Connector Type	Cable Length (mm)
Wi-Fi + BT	Ant. 0	PSA	RFPCA261017IMLB403_A	1.77	2.4~2.4835 GHz	Dipole	ipex(MHF1)	171
				0.68	5.15~5.25 GHz			
				0.81	5.25~5.35 GHz			
				1.25	5.47~5.725 GHz			
				2.35	5.725~5.85 GHz			
	Ant. 1	PSA	RFPCA261013IMLB402_A	1.49	2.4~2.4835 GHz	Dipole	ipex(MHF1)	130
				0.42	5.15~5.25 GHz			
				1.01	5.25~5.35 GHz			
				1.68	5.47~5.725 GHz			
				2.14	5.725~5.85 GHz			
	Ant. 2	PSA	RFPCA261007IMLB402_A	1.33	2.4~2.4835 GHz	Dipole	ipex(MHF1)	75
				0.71	5.15~5.25 GHz			
				1.12	5.25~5.35 GHz			
				1.54	5.47~5.725 GHz			
				2.13	5.725~5.85 GHz			
	Ant. 3	PSA	RFPCA261008IMLB401_A	1.25	2.4~2.4835 GHz	Dipole	ipex(MHF1)	80
				0.58	5.15~5.25 GHz			
				1.23	5.25~5.35 GHz			
				1.49	5.47~5.725 GHz			
				2.32	5.725~5.85 GHz			
	BT+DFS(RX)	PSA	RFPCA261024IMLB401_A	4.72	2.4~2.4835 GHz	Dipole	ipex(MHF1)	245
				3.90	5.15~5.25 GHz			
				4.23	5.25~5.35 GHz			
				4.43	5.47~5.725 GHz			
				4.43	5.725~5.85 GHz			

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

2. The EUT incorporates a MIMO function:

2.4 GHz Band		
Modulation Mode	**TX & RX Configuration**	
802.11b	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/g modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), VHT mode for 20 MHz (40 MHz) and 802.11ax mode for 20 MHz (40 MHz), therefore the manufacturer will control the power for 802.11n/VHT mode is same as the 802.11ax mode or more lower than it and investigated worst case to representative mode in test report.

3.3 Channel List

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

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

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

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

3.4 Test Mode Applicability and Tested Channel Detail

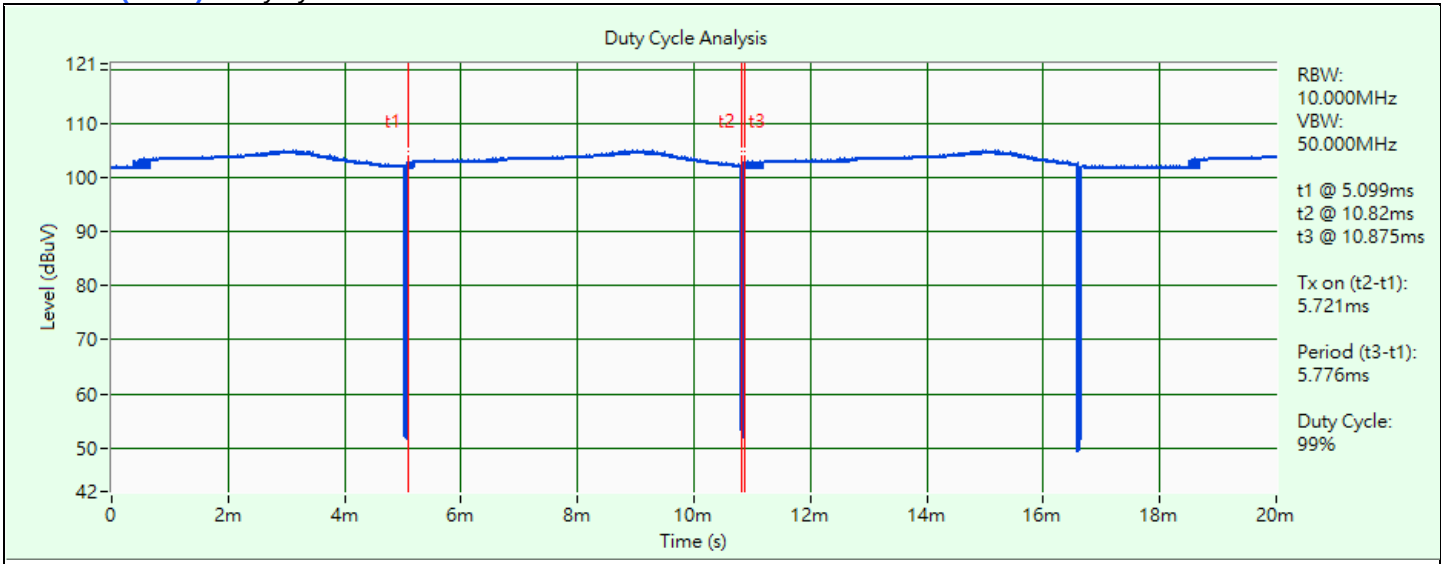
Pre-Scan:	1. EUT can be used in the following ways: X-axis / Y-axis / Z-axis. Pre-scan these ways and find the worst case as a representative test condition. 2. The AC Adapter has the following models: LUCENT TRANS 1A78 / MASS POWER PD045E-C1C0AVU. Pre-scan these models of AC Adapters and find the worst case as a representative test condition. 3. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
Worst Case:	1. X-axis / Y-axis / Z-axis Worst Condition: Y-axis 2. AC Adapter Worst Condition: LUCENT TRANS 1A78

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

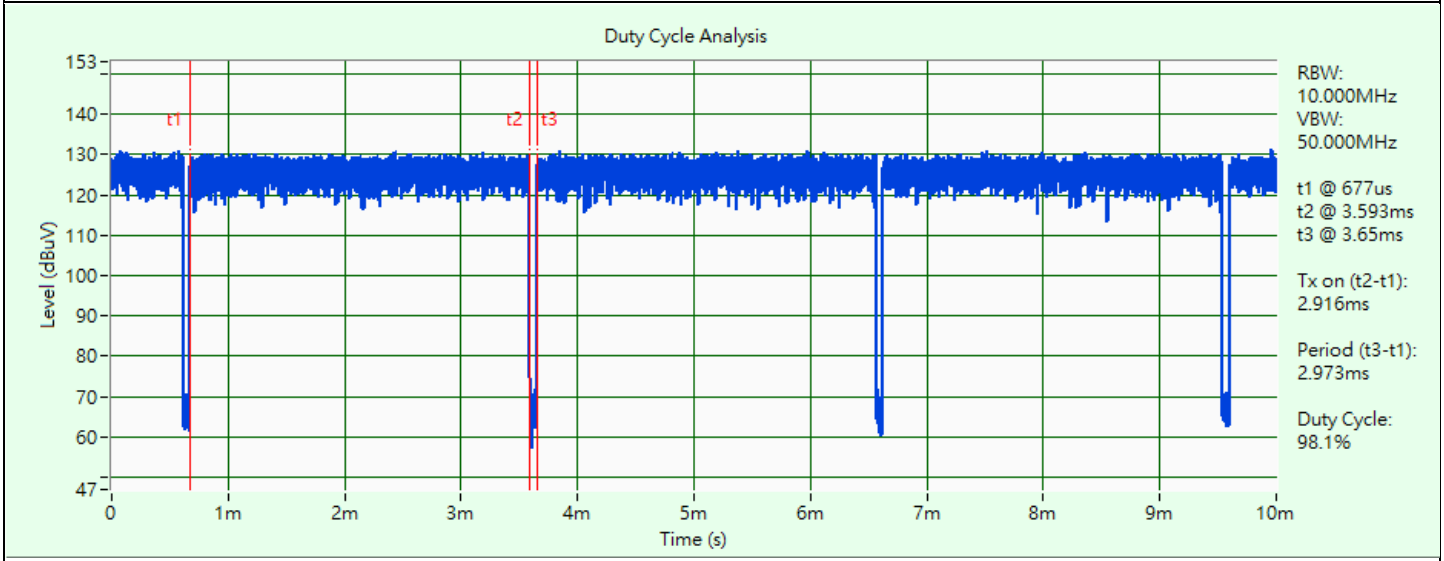
Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
	802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	VHT20	CDD & Beamforming	1, 6, 11	BPSK	MCS0
	VHT40	CDD & Beamforming	3, 6, 9	BPSK	MCS0
	802.11ax (HE20)	CDD & Beamforming	1, 6, 11	BPSK	MCS0
	802.11ax (HE40)	CDD & Beamforming	3, 6, 9	BPSK	MCS0
Power Spectral Density / 6 dB Bandwidth / Conducted Out of Band Emissions	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
	802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	802.11ax (HE20)	CDD	1, 6, 11	BPSK	MCS0
	802.11ax (HE40)	CDD	3, 6, 9	BPSK	MCS0
AC Power Conducted Emissions	802.11ax (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
Note: Partial RU (resource unit) reduction mechanisms are not supported.					

3.5 Duty Cycle of Test Signal

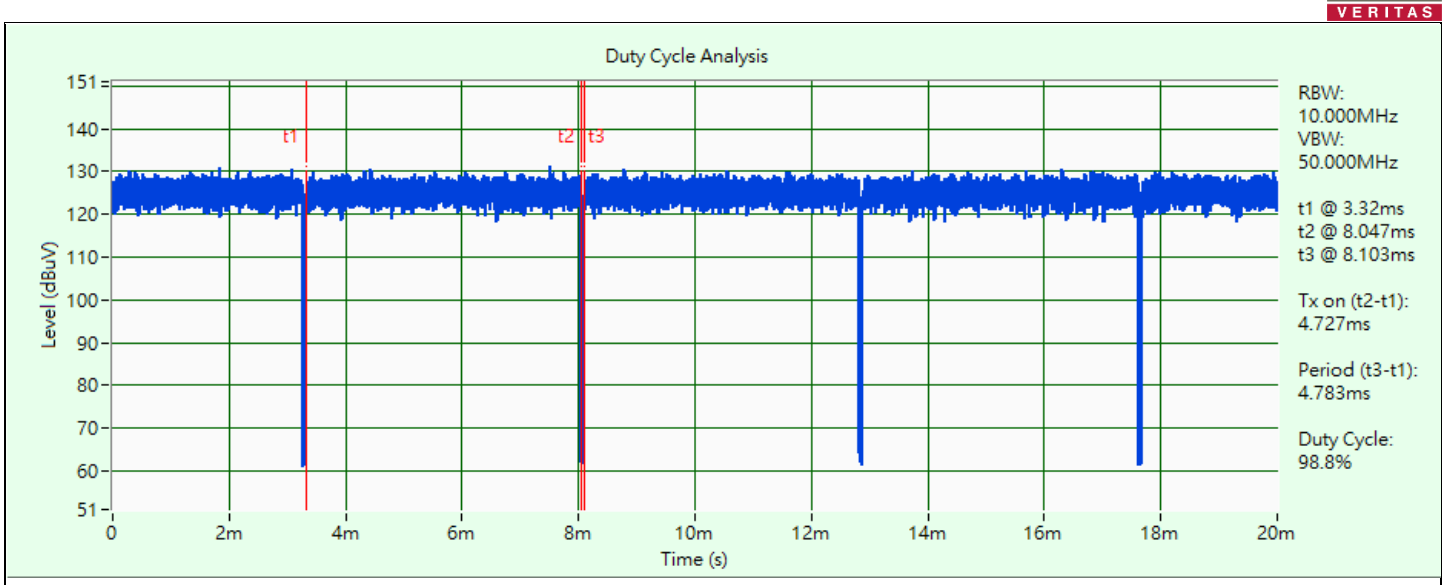
802.11b: Duty cycle = 5.721 ms / 5.776 ms x 100% = 99.0%
802.11g: Duty cycle = 2.916 ms / 2.973 ms x 100% = 98.1%
VHT20: Duty cycle = 4.727 ms / 4.783 ms x 100% = 98.8%
VHT40: Duty cycle = 2.86 ms / 2.917 ms x 100% = 98.0%
802.11ax (HE20): Duty cycle = 4.727 ms / 4.783 ms x 100% = 98.8%
802.11ax (HE40): Duty cycle = 2.86 ms / 2.917 ms x 100% = 98.0%



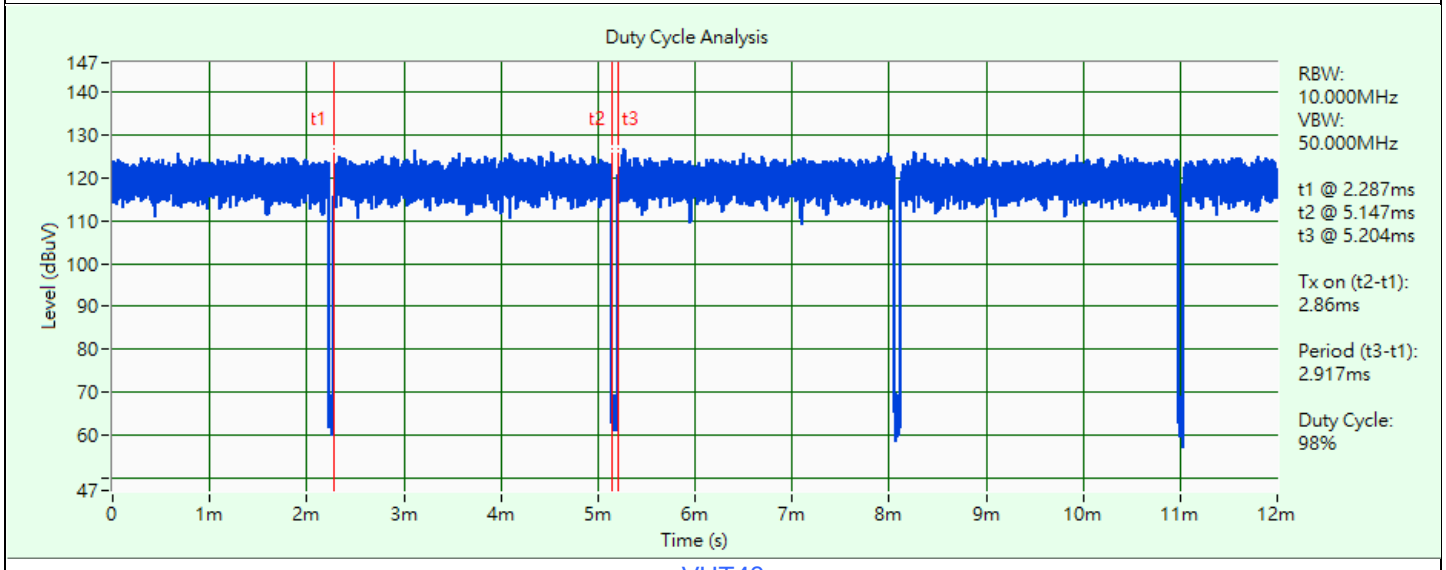
802.11b



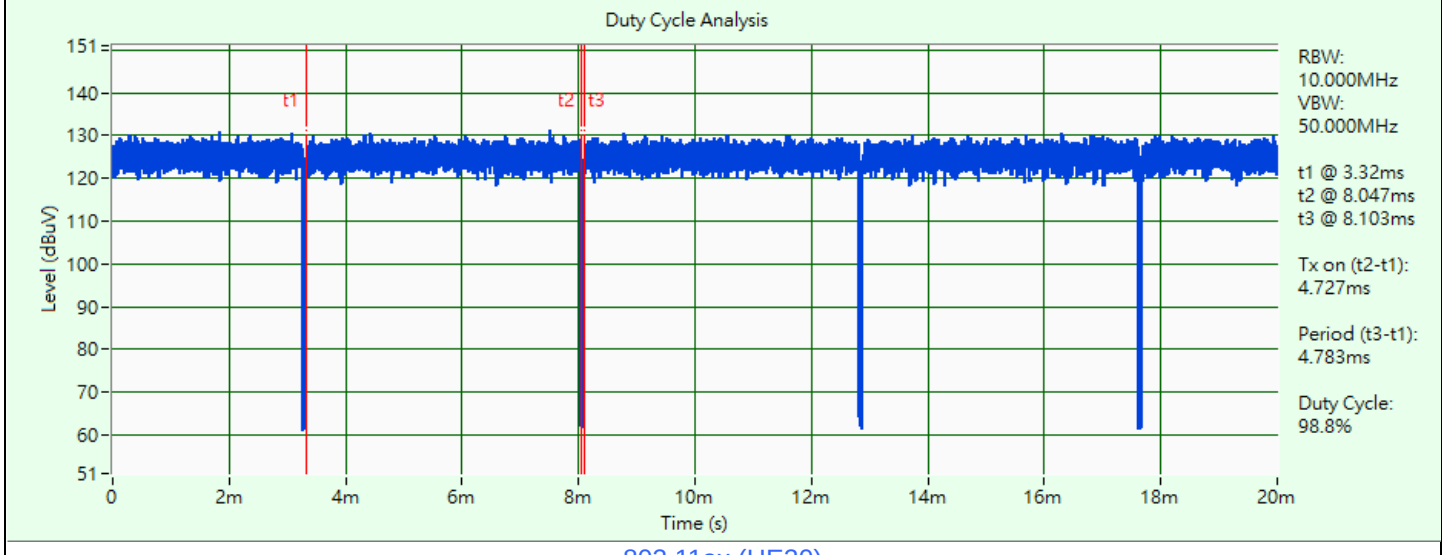
802.11g



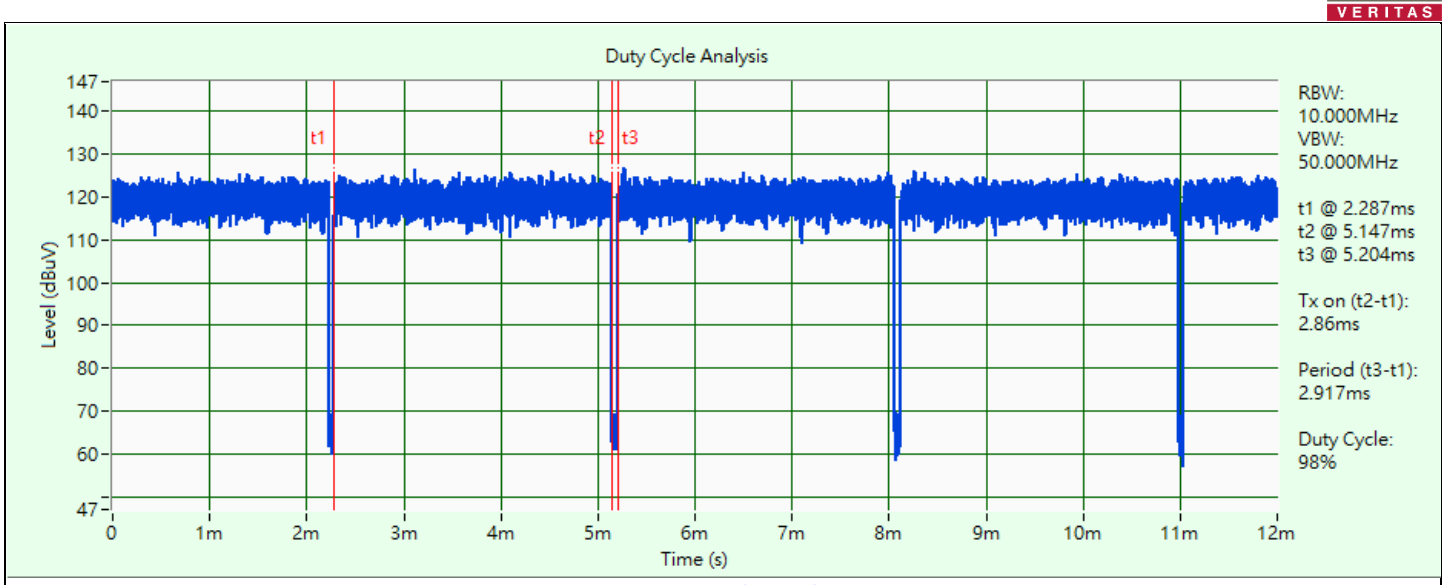
VHT20



VHT40



802.11ax (HE20)

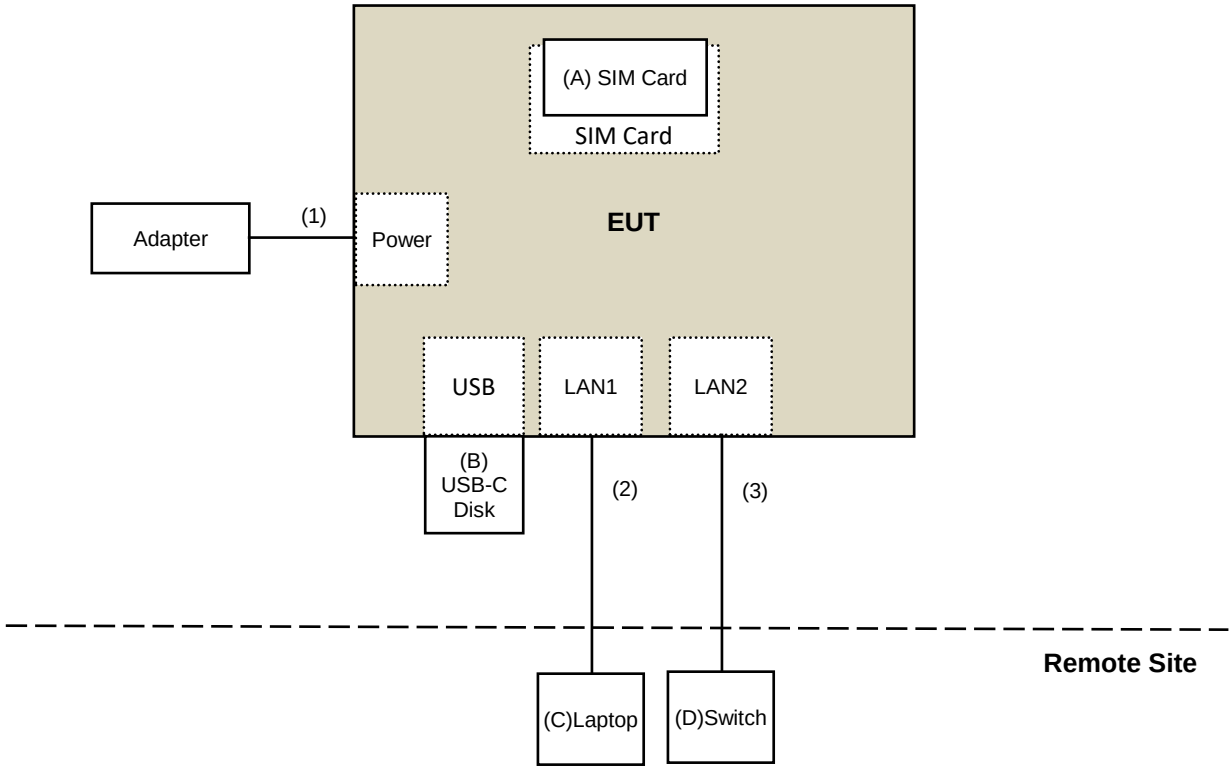


802.11ax (HE40)

3.6 Test Program Used and Operation Descriptions

Controlling software (package_UIv2.33_DLLv6.28_ap_29.2020.07.1554_SHA.695dcd7) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	SIM Card	KeysSight	E7515-10910	N/A	N/A	Provided by Lab
B	USB-C Disk	Silicon Power	SP064GBUC3C31V1K	N/A	N/A	Provided by Lab
C	Laptop	Lenovo	20U5S01X00 L14	PF-1ANPYA	N/A	Provided by Lab
D	Switch	D-Link	DGS-1005D	DR8WC92000523	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Cable	1	1.85	No	0	Supplied by applicant
2	RJ-45 Cable	1	10	No	0	Provided by Lab
3	RJ-45 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	2022/6/22	2023/6/21
Pulse Power Sensor Anritsu	MA2411B	1726434	2022/6/22	2023/6/21
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2023/3/27	2024/3/26

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/4/24

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2023/3/27	2024/3/26
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer Keysight	N9020B	MY60112409	2023/2/18	2024/2/17

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/4/24

4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

4.4 Conducted Out of Band Emissions

Refer to section 4.2 to get information of the instruments.

4.5 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance	N/A	EMC-01	2022/9/27	2023/9/26
Fixed attenuator STI	STI02-2200-10	005	2022/8/24	2023/8/23
LISN R&S	ESH3-Z5	848773/004	2022/10/18	2023/10/17
RF Coaxial Cable JYEBO	5D-FB	COCCAB-001	2022/8/24	2023/8/23
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A
TEST RECEIVER R&S	ESCS 30	847124/029	2022/10/14	2023/10/13

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2023/4/26

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bilog Antenna Schwarzbeck	VULB 9168	9168-0942	2022/10/20	2023/10/19
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-01	2022/12/28	2023/12/27
LOOP ANTENNA Electro-Metrics	EM-6879	264	2023/2/21	2024/2/20
Pre_Amplifier EMCI	EMC001340	980142	2022/6/2	2023/6/1
Pre_Amplifier(20M-3G) EMCI	EMC330N	980852	2023/2/20	2024/2/19
RF Coaxial Cable COMMATE/PEWC	8D	966-6-1	2023/4/6	2024/4/5
		966-6-2	2023/4/6	2024/4/5
		966-6-3	2023/4/6	2024/4/5
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2022/12/19	2023/12/18
		LOOPCAB-002	2022/12/19	2023/12/18
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer Keysight	N9020B	MY60112410	2023/3/6	2024/3/5
Test Receiver KEYSIGHT	N9038A	MY59050100	2022/6/20	2023/6/19

Notes:

1. The test was performed in 966 Chamber No. 6.
2. Tested Date: 2023/4/27 ~ 2023/4/28

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-2035	2022/11/13	2023/11/12
	BBHA 9170	BBHA9170519	2022/11/13	2023/11/12
LOOP ANTENNA Electro-Metrics	EM-6879	264	2023/2/21	2024/2/20
Pre_Amplifier EMCI	EMC001340	980142	2022/6/2	2023/6/1
	EMC12630SE	980385	2022/8/15	2023/8/14
	EMC184045SE	980387	2022/12/28	2023/12/27
RF Cable EMCI	EMC104-SM-SM-1300	210205	2022/5/10	2023/5/9
RF Cable-Frequency range: 1-40GHz EMCI	EMC102-KM-KM-1200	160924	2022/12/28	2023/12/27
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2023/2/20	2024/2/19
	EMC101G-KM-KM-10000	210708	2022/11/4	2023/11/3
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2022/12/19	2023/12/18
		LOOPCAB-002	2022/12/19	2023/12/18
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer Keysight	N9020B	MY60112410	2023/3/6	2024/3/5
Test Receiver KEYSIGHT	N9038A	MY59050100	2022/6/20	2023/6/19

Notes:

1. The test was performed in 966 Chamber No. 6.
2. Tested Date: 2023/3/27 ~ 2023/4/27

5 Limits of Test Items

5.1 RF Output Power

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

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

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

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

5.2 Power Spectral Density

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

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

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

5.5 AC Power Conducted Emissions

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

Notes:

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

5.6 Unwanted Emissions below 1 GHz

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

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

Notes:

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

5.7 Unwanted Emissions above 1 GHz

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

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

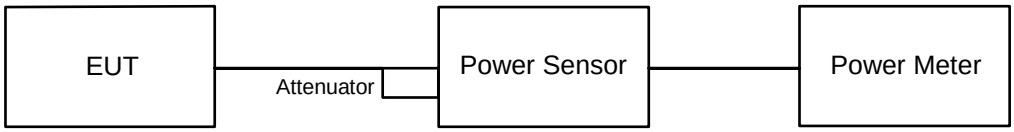
Notes:

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

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup

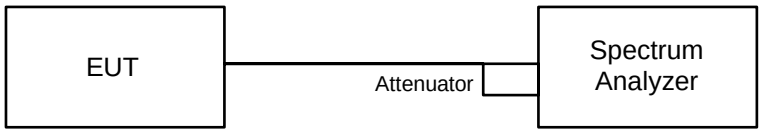


6.1.2 Test Procedure

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

6.2 Power Spectral Density

6.2.1 Test Setup

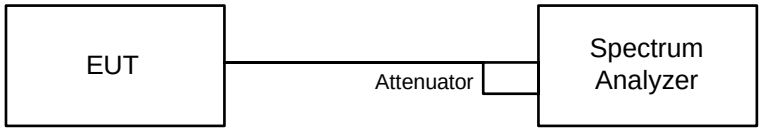


6.2.2 Test Procedure

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

6.3 6 dB Bandwidth

6.3.1 Test Setup

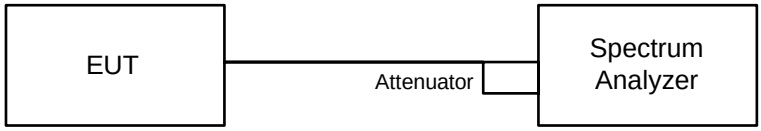


6.3.2 Test Procedure

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

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

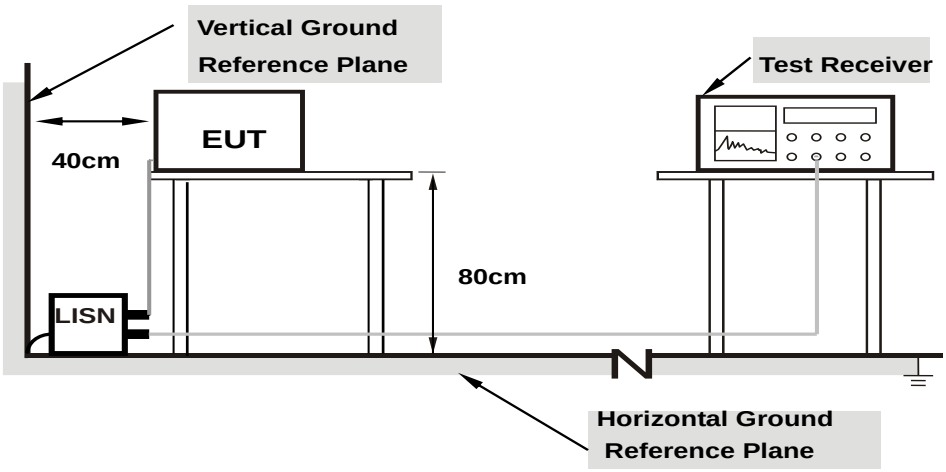
a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

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

6.5 AC Power Conducted Emissions

6.5.1 Test Setup



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

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

6.5.2 Test Procedure

a. The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.

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

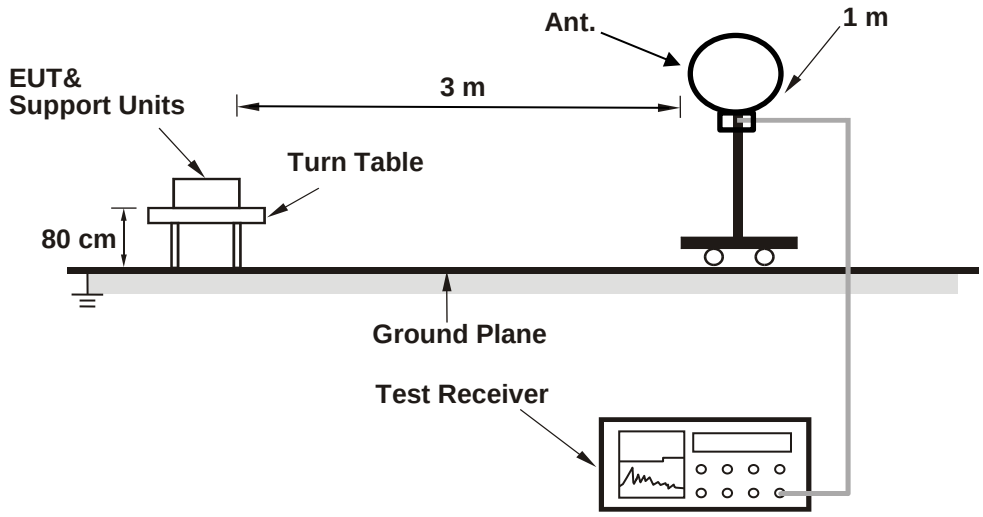
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

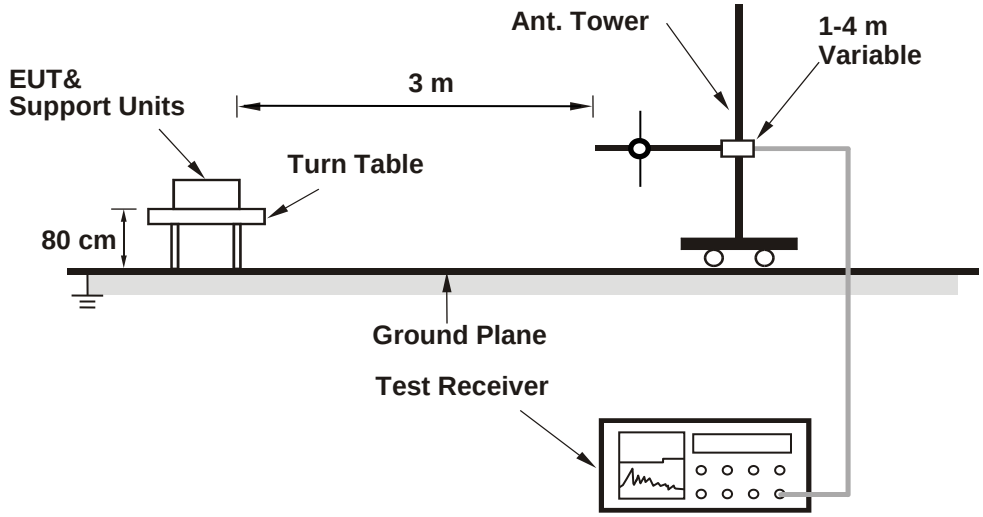
6.6 Unwanted Emissions below 1 GHz

6.6.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.6.2 Test Procedure

For Radiated emission below 30 MHz

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

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

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

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

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

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

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

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

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

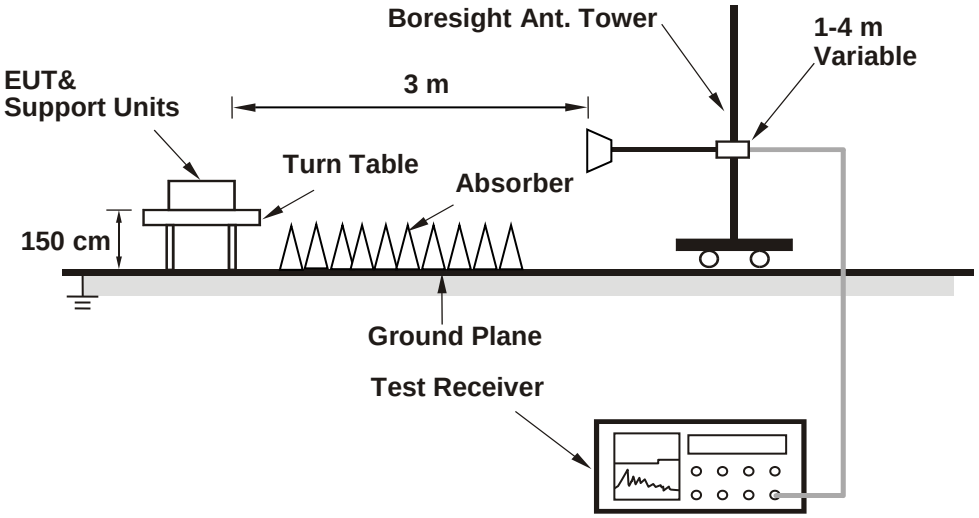
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Notes:

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

6.7 Unwanted Emissions above 1 GHz

6.7.1 Test Setup



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

6.7.2 Test Procedure

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

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

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

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

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

Notes:

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

7 Test Results of Test Item

7.1 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	22°C, 61% RH	Tested By:	Katina Lu

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	23.91	23.55	24.43	23.78	988.614	29.95	30	Pass
6	2437	23.89	23.79	23.90	23.82	970.699	29.87	30	Pass
11	2462	24.16	23.66	23.46	23.75	951.846	29.79	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 1.77 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	22.02	21.51	22.07	21.57	605.414	27.82	30	Pass
6	2437	23.89	23.53	23.84	23.89	957.339	29.81	30	Pass
11	2462	20.17	20.14	20.32	20.31	422.314	26.26	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 1.77 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	20.45	19.74	20.05	20.15	409.779	26.13	30	Pass
6	2437	23.51	23.45	23.49	23.57	896.565	29.53	30	Pass
11	2462	19.71	19.50	18.97	19.59	352.543	25.47	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 1.77 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	18.12	18.10	17.97	18.29	259.543	24.14	30	Pass
6	2437	20.56	20.87	20.37	20.79	464.786	26.67	30	Pass
9	2452	17.71	17.93	18.06	17.89	246.598	23.92	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 1.77 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	20.71	20.02	20.34	20.42	436.52	26.40	30	Pass
6	2437	23.78	23.66	23.75	23.78	946.973	29.76	30	Pass
11	2462	19.92	19.74	19.18	19.88	372.433	25.71	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 1.77 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	18.37	18.30	18.17	18.56	273.709	24.37	30	Pass
6	2437	20.78	21.14	20.62	21.03	491.802	26.92	30	Pass
9	2452	17.94	18.18	18.32	18.12	260.78	24.16	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 1.77 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	20.45	19.74	20.05	20.15	409.779	26.13	28.52	Pass
6	2437	21.98	21.79	21.87	22.04	622.54	27.94	28.52	Pass
11	2462	19.71	19.50	18.97	19.59	352.543	25.47	28.52	Pass

Notes:

1. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
2. The directional gain is 7.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(7.48-6) = 28.52 dBm.

VHT40 Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	18.12	18.10	17.97	18.29	259.543	24.14	28.52	Pass
6	2437	20.56	20.87	20.37	20.79	464.786	26.67	28.52	Pass
9	2452	17.71	17.93	18.06	17.89	246.598	23.92	28.52	Pass

Notes:

1. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
2. The directional gain is 7.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(7.48-6) = 28.52 dBm.

802.11ax (HE20) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	20.71	20.02	20.34	20.42	436.52	26.40	28.52	Pass
6	2437	22.08	21.95	22.04	22.13	641.372	28.07	28.52	Pass
11	2462	19.92	19.74	19.18	19.88	372.433	25.71	28.52	Pass

Notes:

1. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
2. The directional gain is 7.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(7.48-6) = 28.52 dBm.

802.11ax (HE40) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	18.37	18.30	18.17	18.56	273.709	24.37	28.52	Pass
6	2437	20.78	21.14	20.62	21.03	491.802	26.92	28.52	Pass
9	2452	17.94	18.18	18.32	18.12	260.78	24.16	28.52	Pass

Notes:

1. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
2. The directional gain is 7.48 dBi > 6 dBi, so the output power limit shall be reduced to 30-(7.48-6) = 28.52 dBm.

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	22°C, 61% RH	Tested By:	Katina Lu

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	-8.86	-9.42	-8.64	-8.71	-2.88	6.52	Pass
6	2437	-8.23	-8.05	-8.44	-8.30	-2.23	6.52	Pass
11	2462	-8.98	-9.45	-8.95	-8.84	-3.03	6.52	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 = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. The directional gain is 7.48 dBi > 6 dBi, so the power density limit shall be reduced to 8-(7.48-6) = 6.52 dBm/3kHz.

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	-13.04	-13.10	-12.15	-12.11	-6.55	6.52	Pass
6	2437	-10.83	-10.66	-10.27	-11.01	-4.66	6.52	Pass
11	2462	-14.78	-14.91	-15.03	-14.63	-8.81	6.52	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 = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. The directional gain is 7.48 dBi > 6 dBi, so the power density limit shall be reduced to 8-(7.48-6) = 6.52 dBm/3kHz.

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	-12.24	-11.47	-11.27	-11.79	-5.66	6.52	Pass
6	2437	-8.90	-9.10	-7.88	-9.80	-2.84	6.52	Pass
11	2462	-13.98	-12.91	-13.38	-13.26	-7.34	6.52	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 = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. The directional gain is 7.48 dBi > 6 dBi, so the power density limit shall be reduced to 8-(7.48-6) = 6.52 dBm/3kHz.

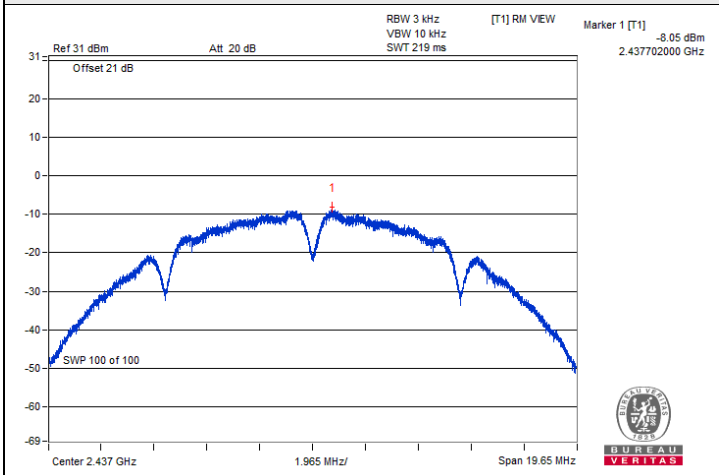
802.11ax (HE40)

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	-14.94	-15.72	-16.05	-16.47	-9.74	6.52	Pass
6	2437	-13.80	-16.05	-12.64	-13.29	-7.75	6.52	Pass
9	2452	-16.45	-16.17	-16.09	-15.81	-10.10	6.52	Pass

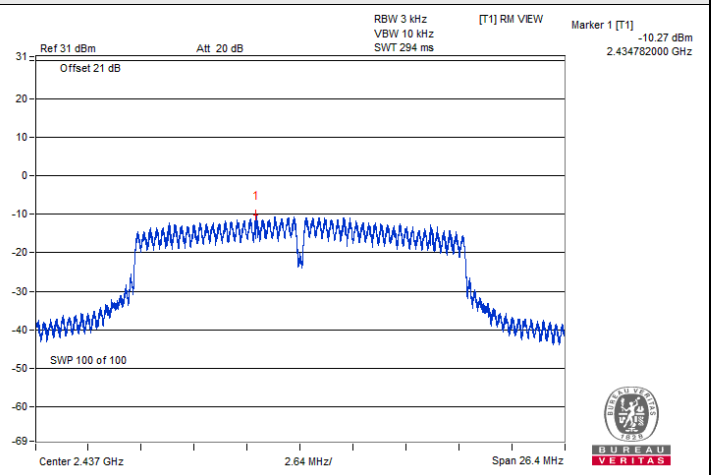
Notes:

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 = 10 log[(10$^{Chain0/20}$ + 10$^{Chain1/20}$ + 10$^{Chain2/20}$ + 10$^{Chain3/20}$)^2 / 4]
3. The directional gain is 7.48 dBi > 6 dBi, so the power density limit shall be reduced to 8-(7.48-6) = 6.52 dBm/3kHz.

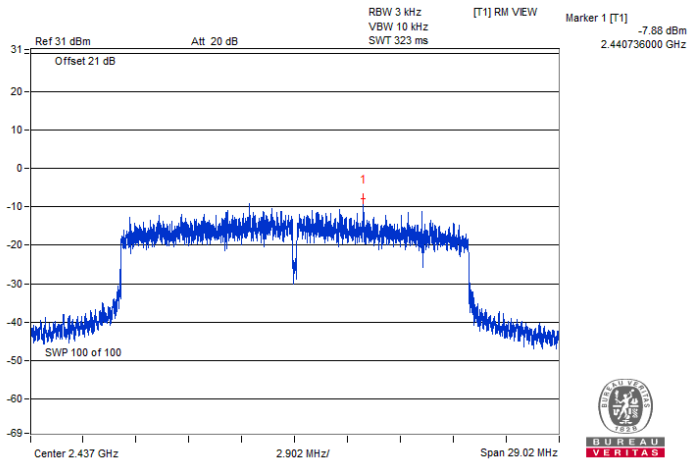
Spectrum Plot of Maximum Value



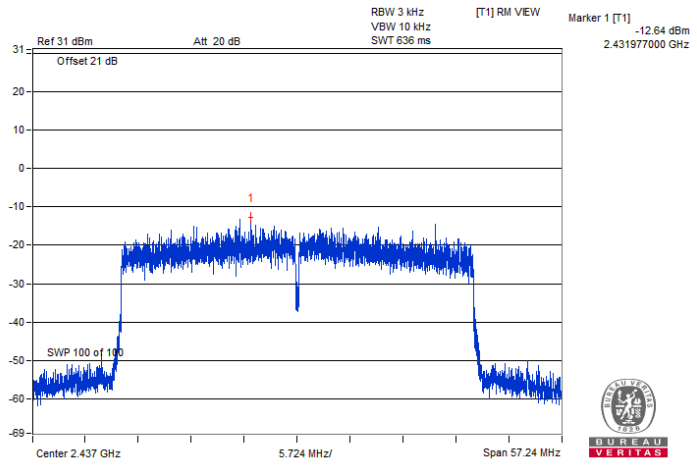
802.11b / Chain 1 : CH 6



802.11g / Chain 2 : CH 6



802.11ax (HE20) / Chain 2 : CH 6



802.11ax (HE40) / Chain 2 : CH 6

7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	22°C, 61% RH	Tested By:	Katina Lu

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	8.09	8.08	8.07	8.09	0.5	Pass
6	2437	8.10	8.10	8.11	8.07	0.5	Pass
11	2462	8.09	8.09	8.09	8.10	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	15.18	15.18	15.20	15.18	0.5	Pass
6	2437	15.19	15.20	15.20	15.19	0.5	Pass
11	2462	15.18	15.19	15.19	15.19	0.5	Pass

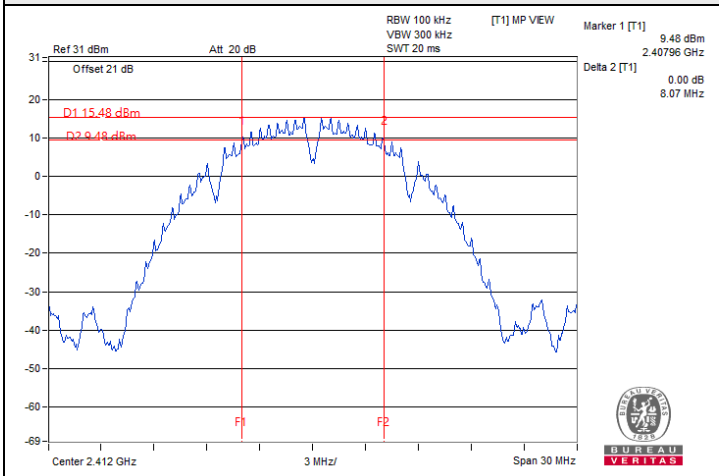
802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	18.60	18.33	17.87	18.31	0.5	Pass
6	2437	17.76	17.96	17.57	18.74	0.5	Pass
11	2462	17.94	17.61	17.78	18.66	0.5	Pass

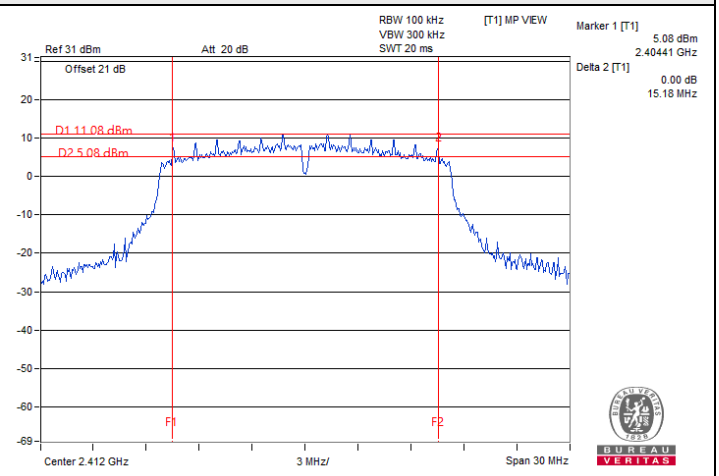
802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
3	2422	36.49	36.03	36.30	36.30	0.5	Pass
6	2437	37.44	37.06	36.62	36.49	0.5	Pass
9	2452	37.35	37.64	37.75	37.73	0.5	Pass

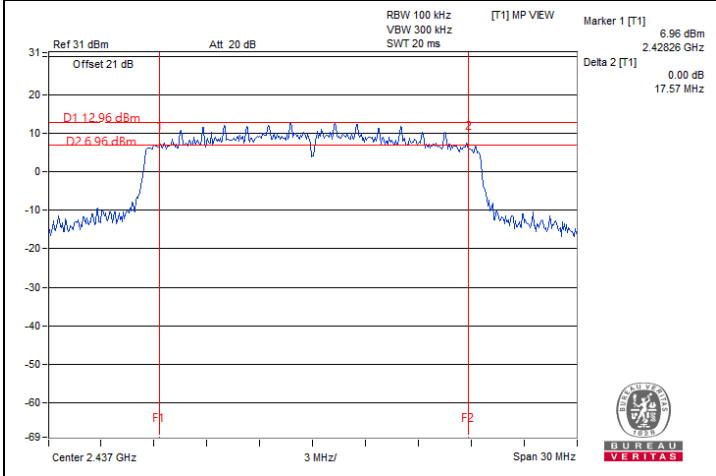
Spectrum Plot of Minimum Value



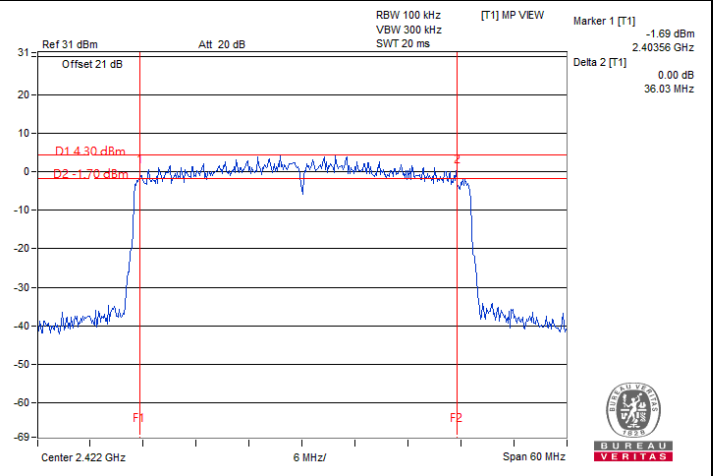
802.11b / Chain 2 : CH 1



802.11g / Chain 0 : CH 1



802.11ax (HE20) / Chain 2 : CH 6

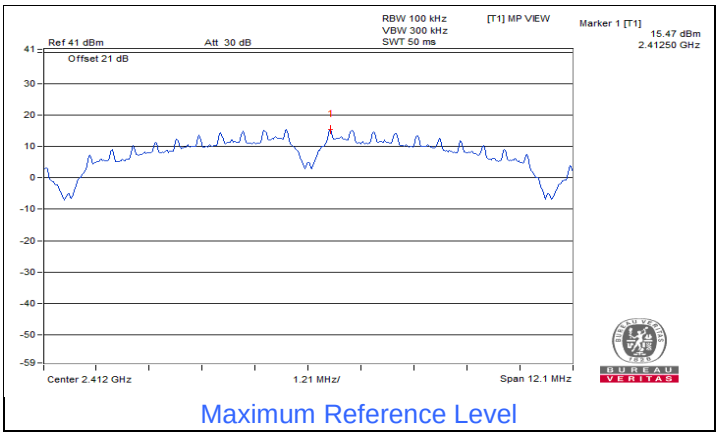


802.11ax (HE40) / Chain 1 : CH 3

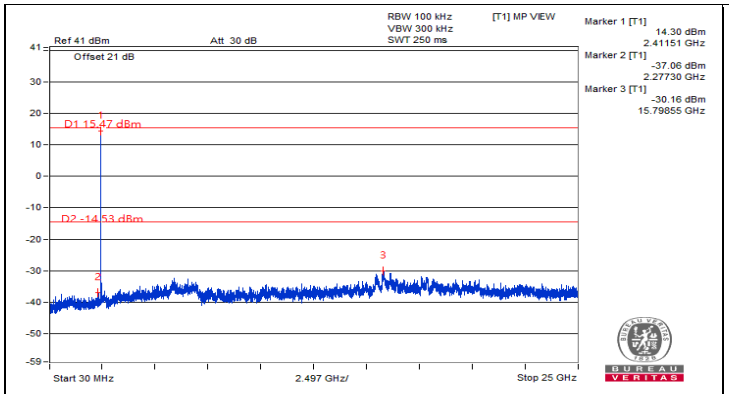
7.4 Conducted Out of Band Emissions

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	22°C, 61% RH	Tested By:	Katina Lu

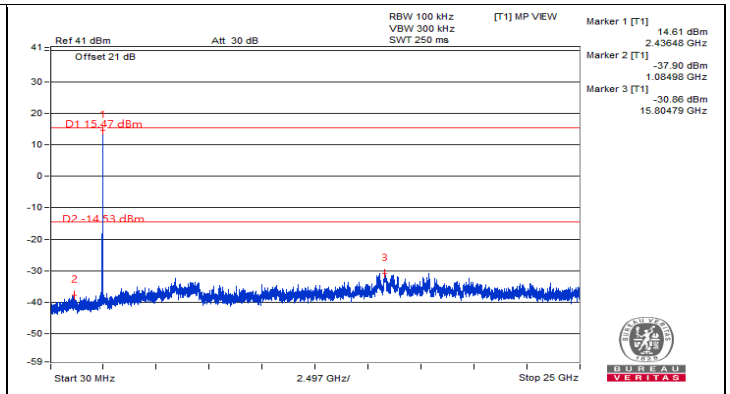
802.11b



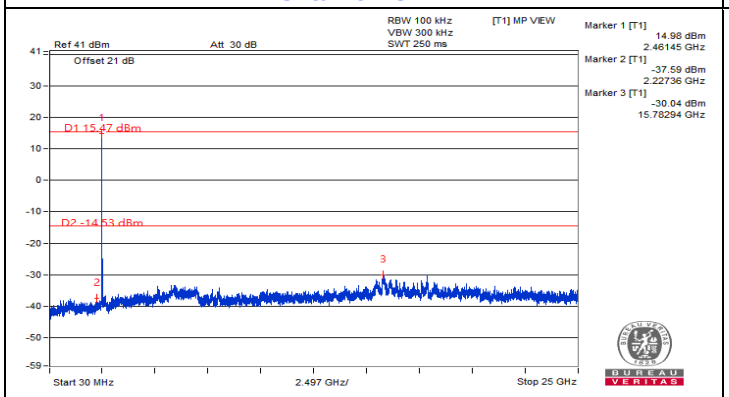
Maximum Reference Level



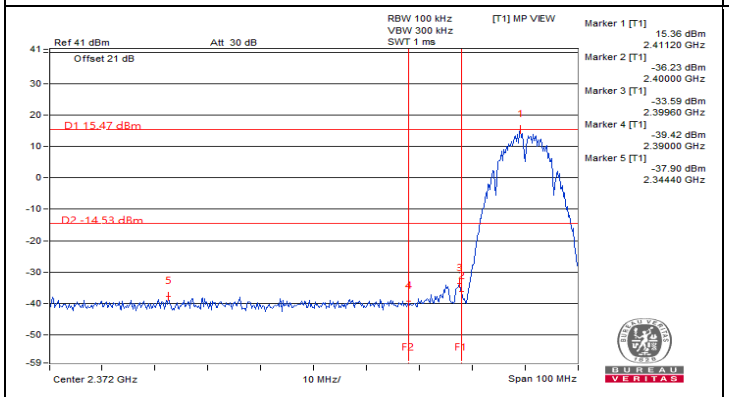
Chain 0 : CH 1



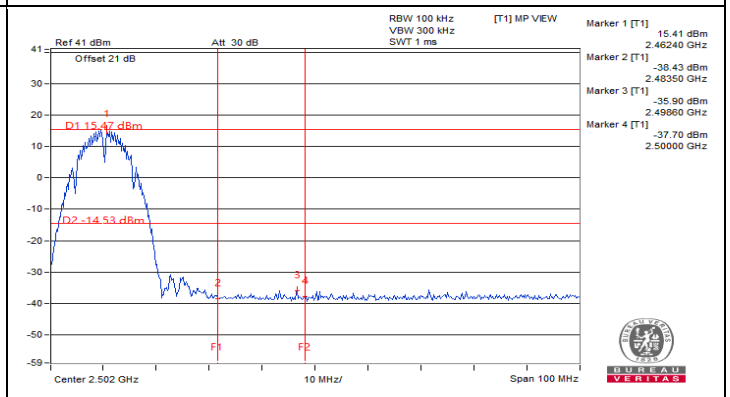
Chain 0 : CH 6



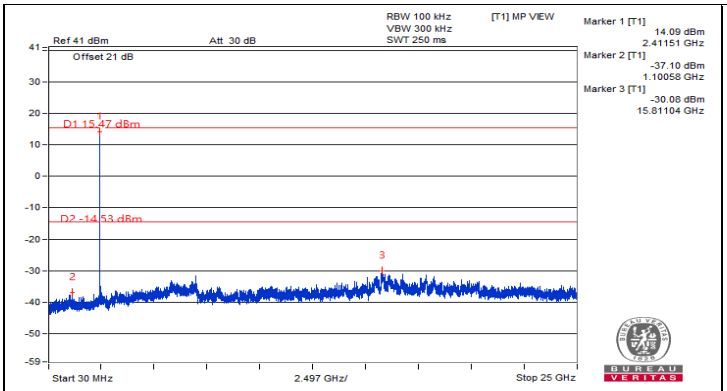
Chain 0 : CH 11



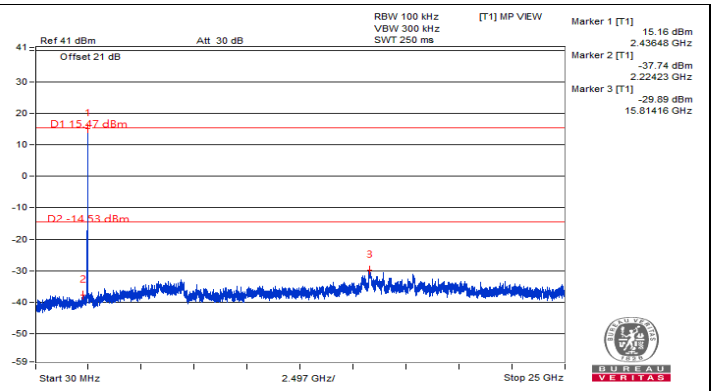
Chain 0 : CH 1 Band edge



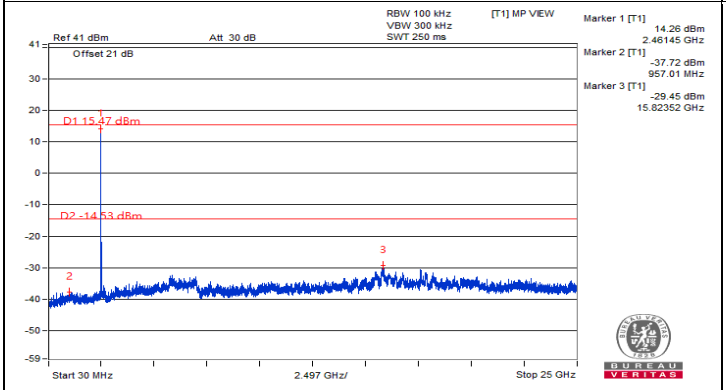
Chain 0 : CH 11 Band edge



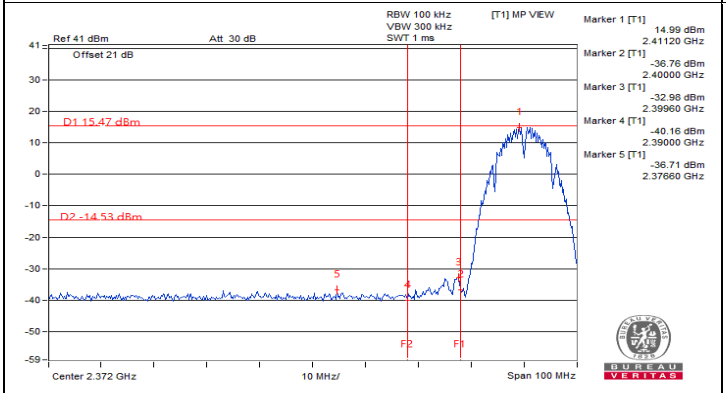
Chain 1 : CH 1



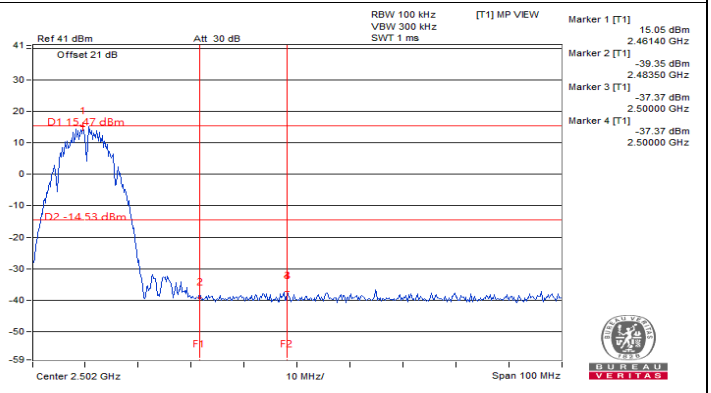
Chain 1 : CH 6



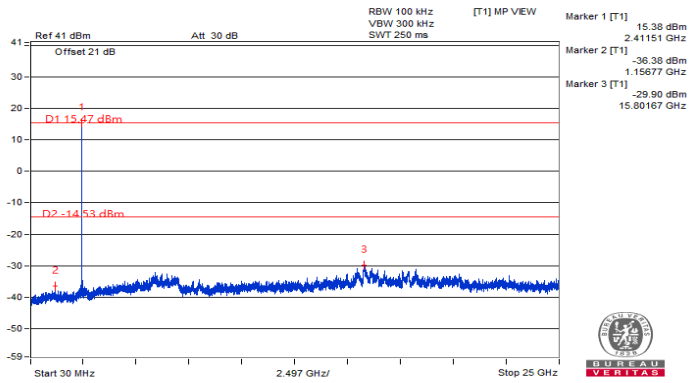
Chain 1 : CH 11



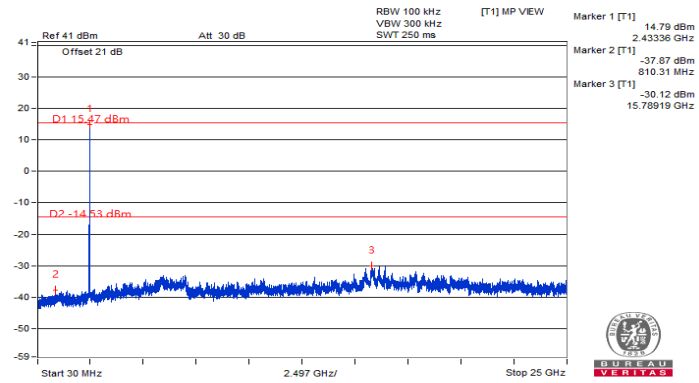
Chain 1 : CH 1 Band edge



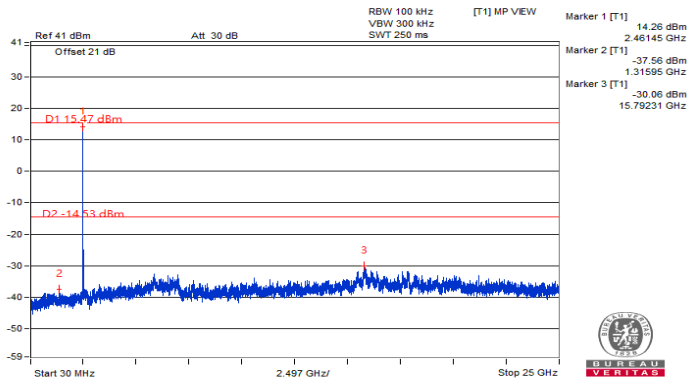
Chain 1 : CH 11 Band edge



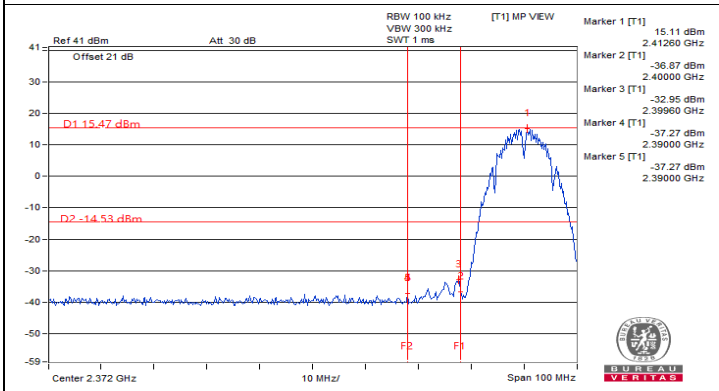
Chain 2 : CH 1



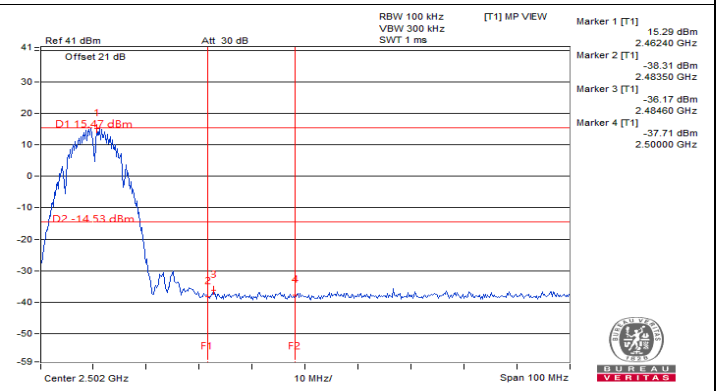
Chain 2 : CH 6



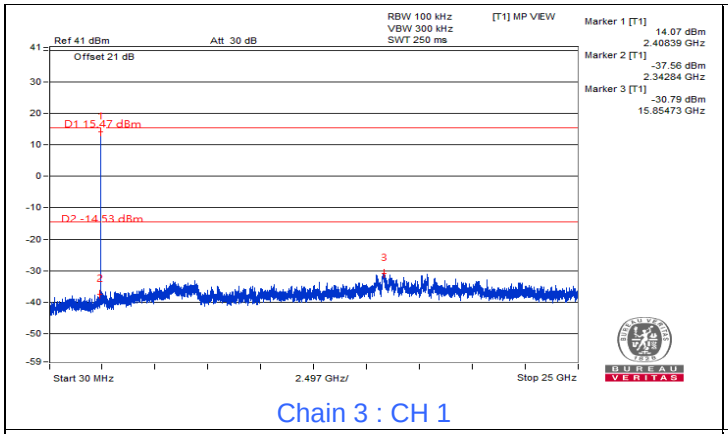
Chain 2 : CH 11



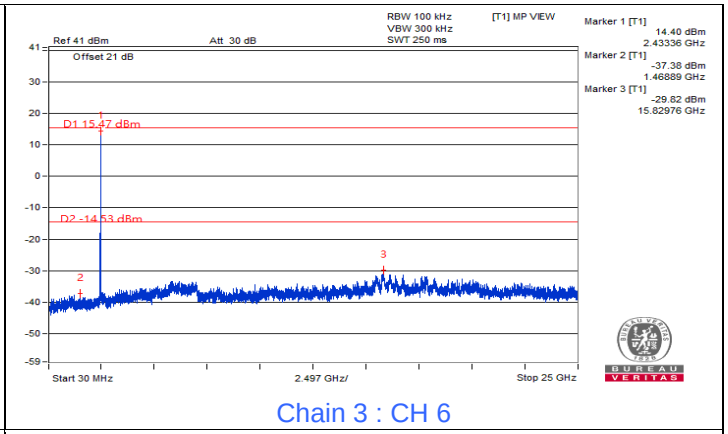
Chain 2 : CH 1 Band edge



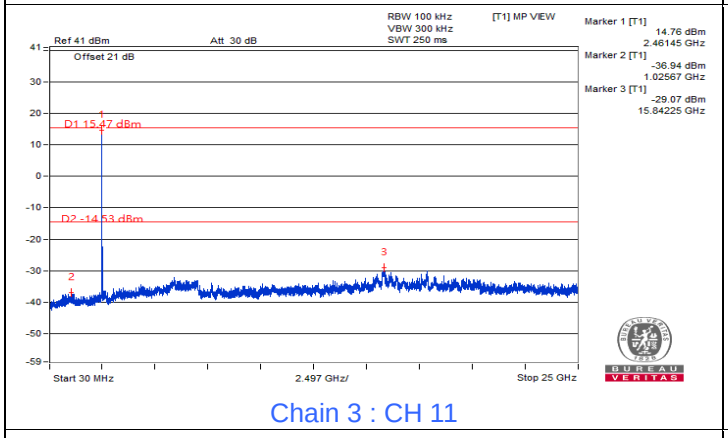
Chain 2 : CH 11 Band edge



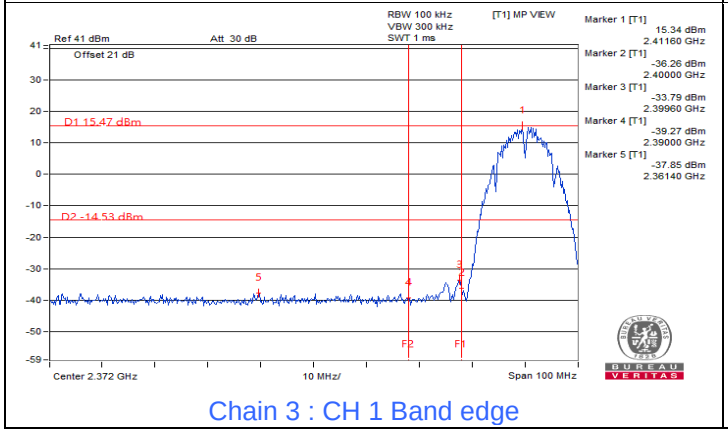
Chain 3 : CH 1



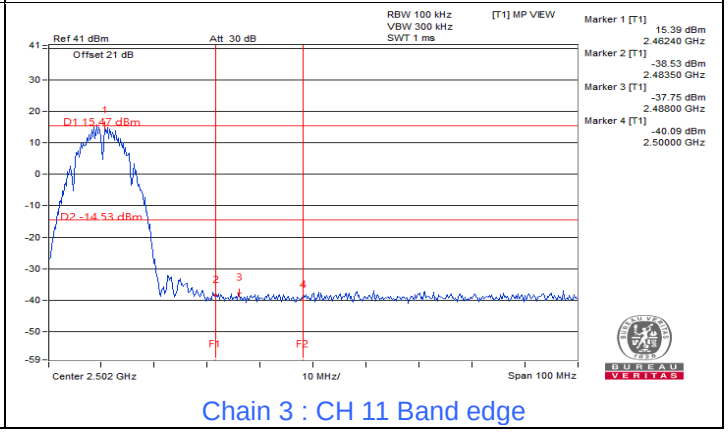
Chain 3 : CH 6



Chain 3 : CH 11

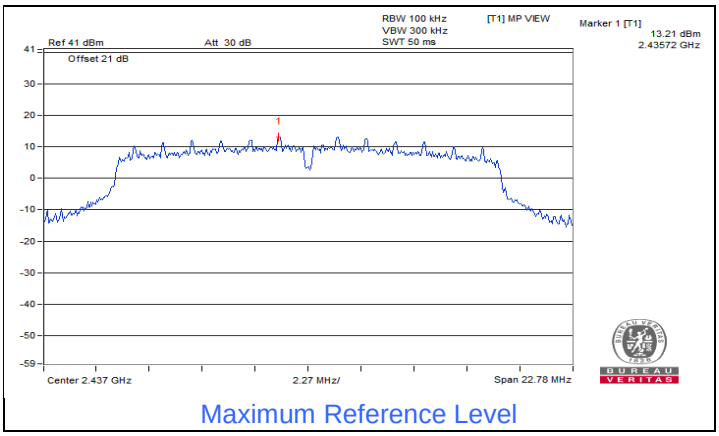


Chain 3 : CH 1 Band edge

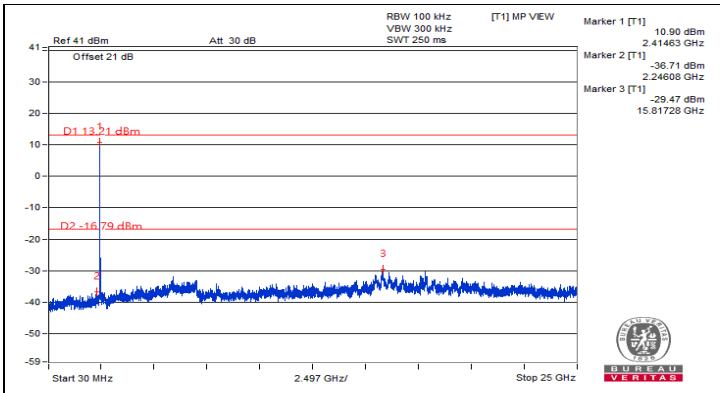


Chain 3 : CH 11 Band edge

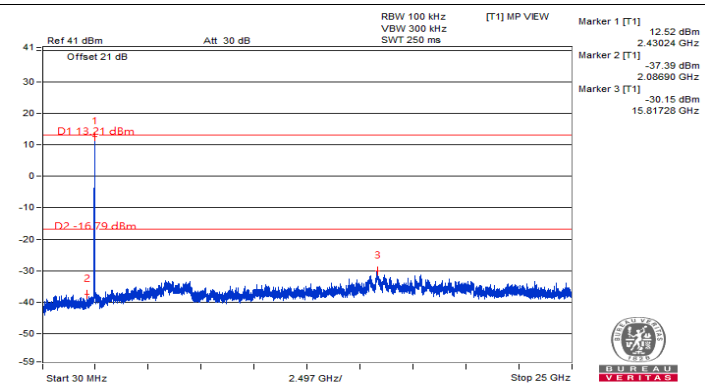
802.11g



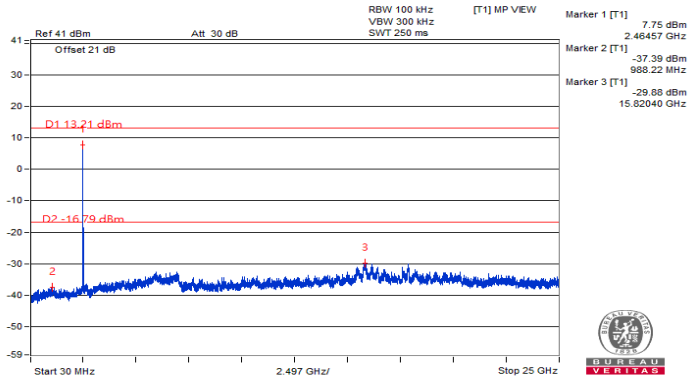
Maximum Reference Level



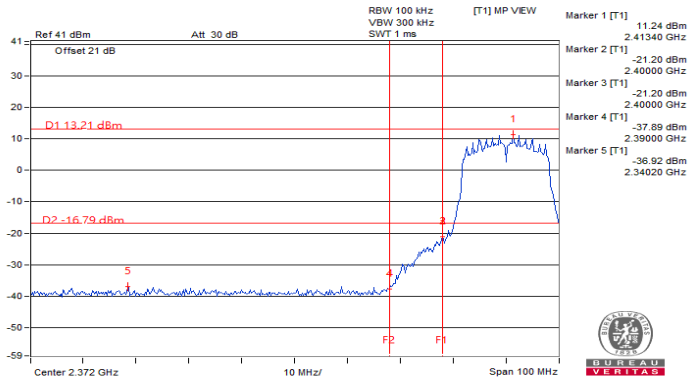
Chain 0 : CH 1



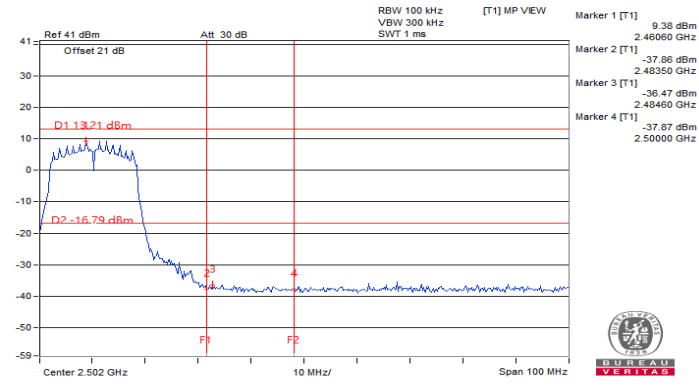
Chain 0 : CH 6



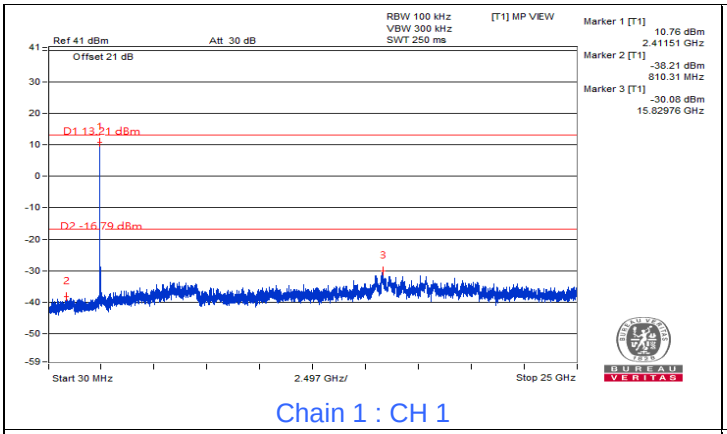
Chain 0 : CH 11



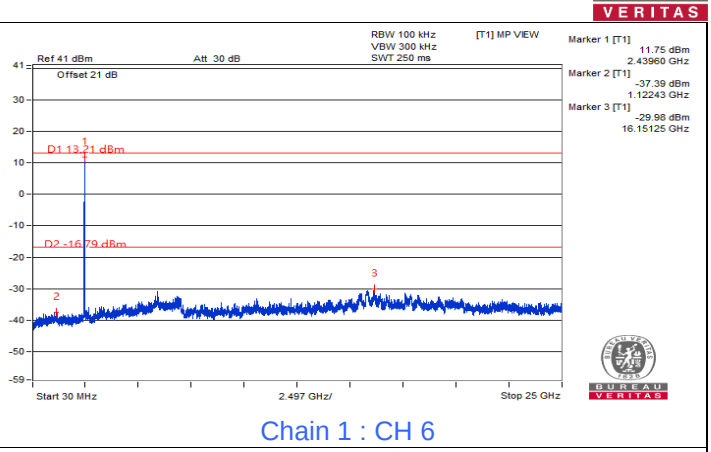
Chain 0 : CH 1 Band edge



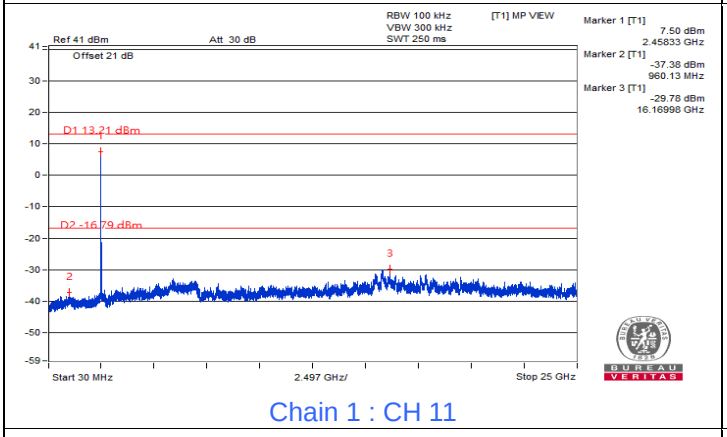
Chain 0 : CH 11 Band edge



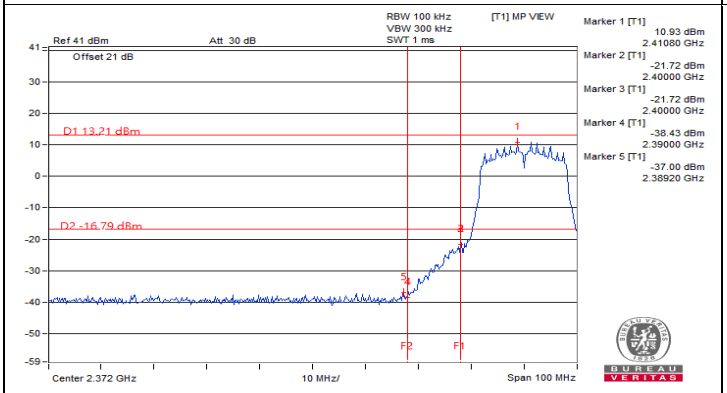
Chain 1 : CH 1



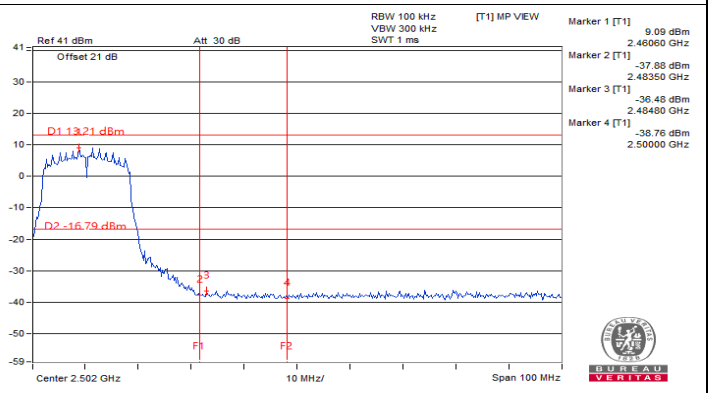
Chain 1 : CH 6



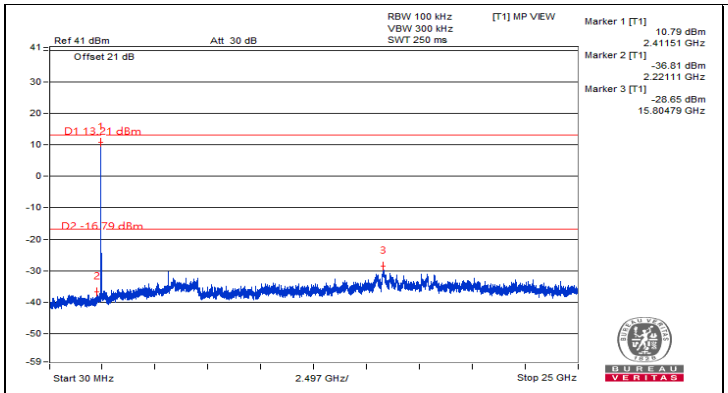
Chain 1 : CH 11



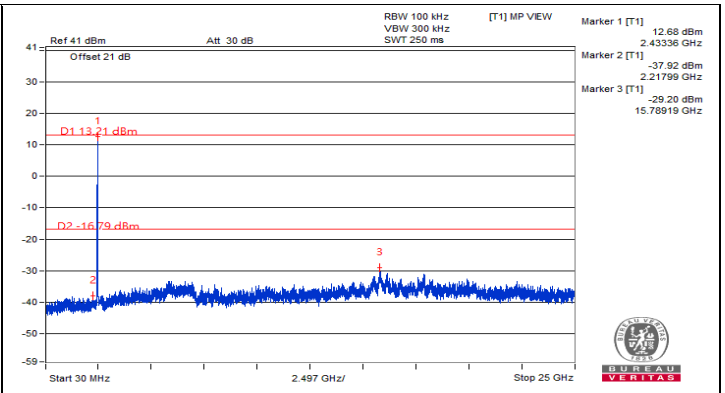
Chain 1 : CH 1 Band edge



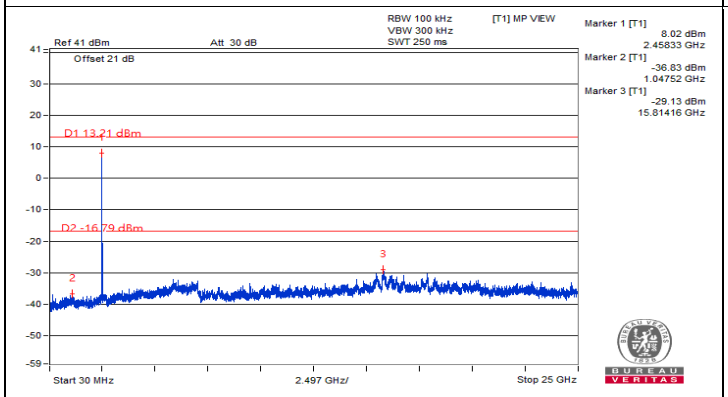
Chain 1 : CH 11 Band edge



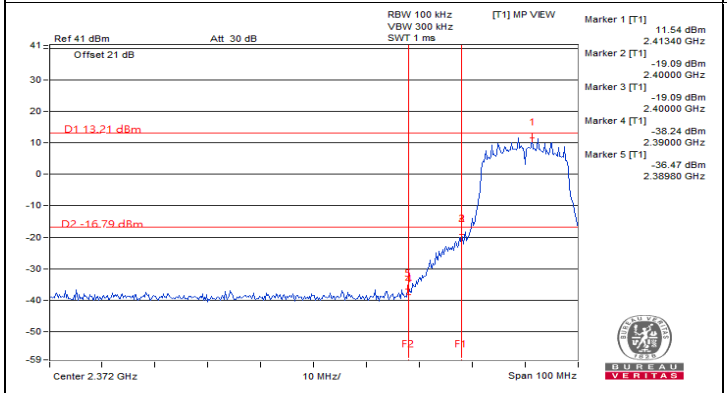
Chain 2 : CH 1



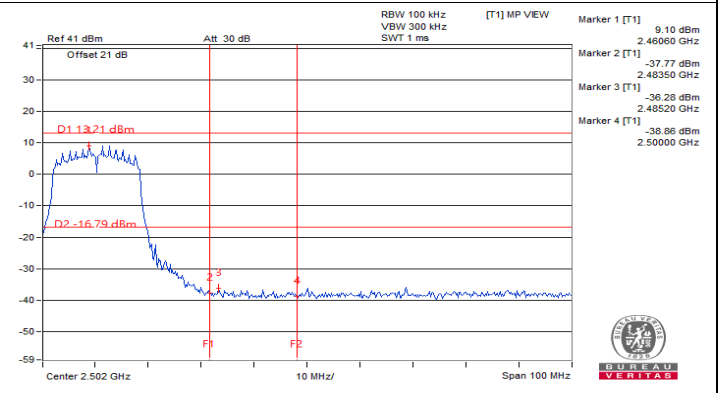
Chain 2 : CH 6



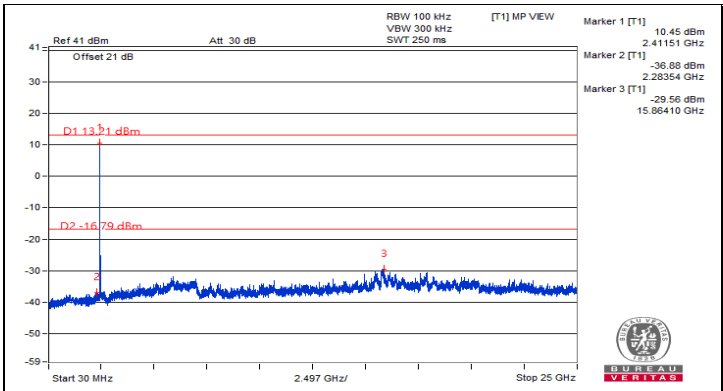
Chain 2 : CH 11



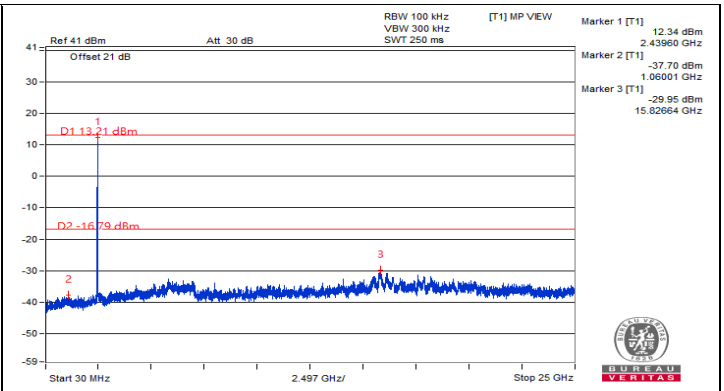
Chain 2 : CH 1 Band edge



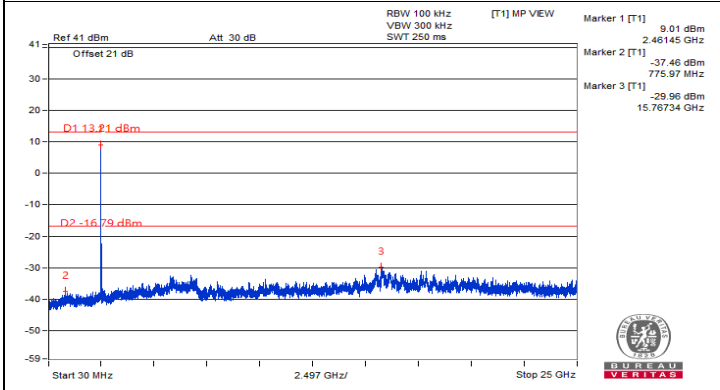
Chain 2 : CH 11 Band edge



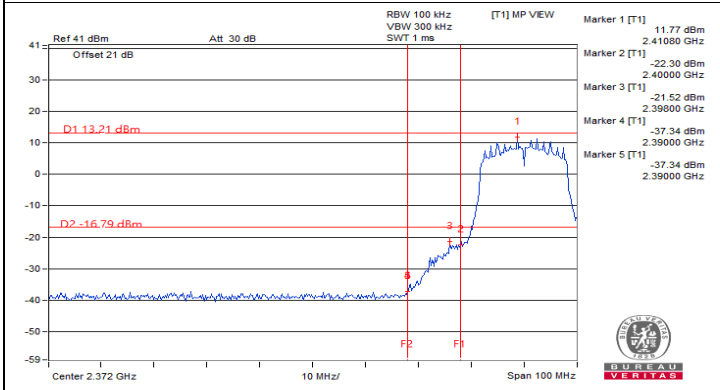
Chain 3 : CH 1



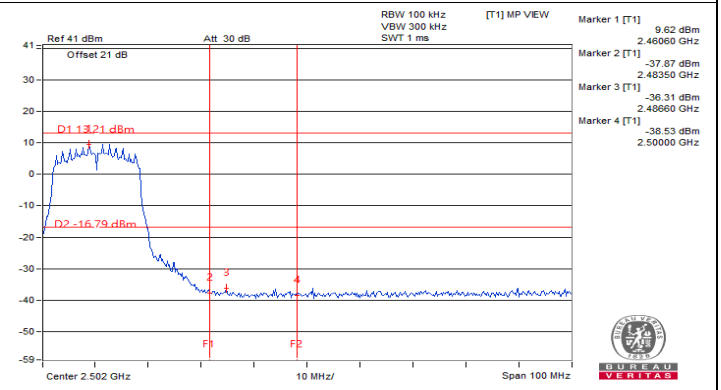
Chain 3 : CH 6



Chain 3 : CH 11

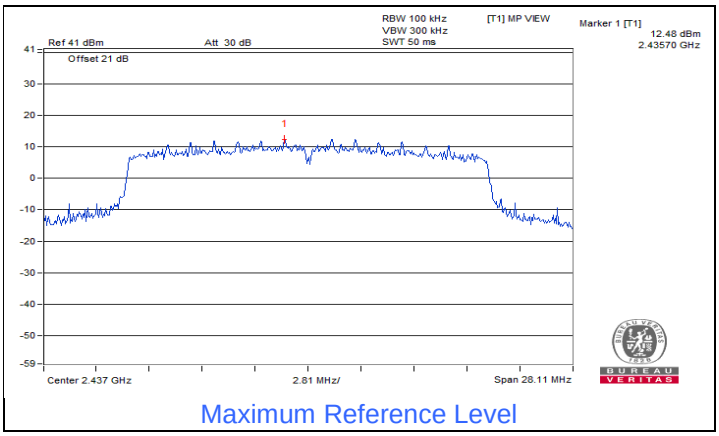


Chain 3 : CH 1 Band edge

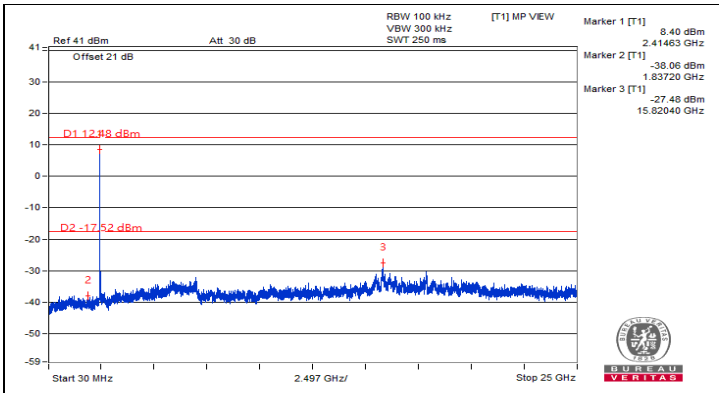


Chain 3 : CH 11 Band edge

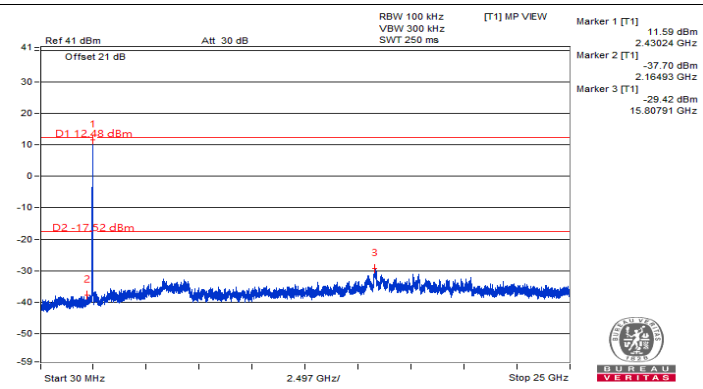
802.11ax (HE20)



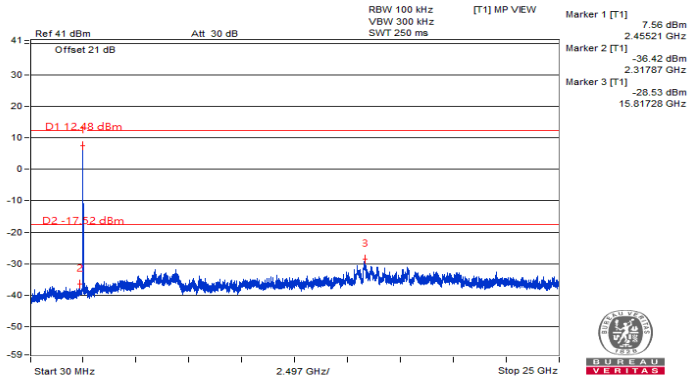
Maximum Reference Level



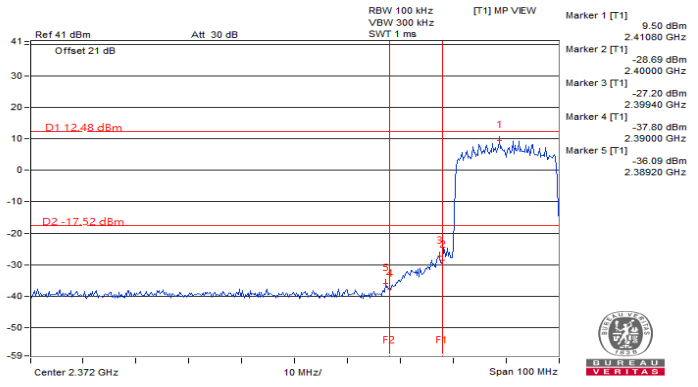
Chain 0 : CH 1



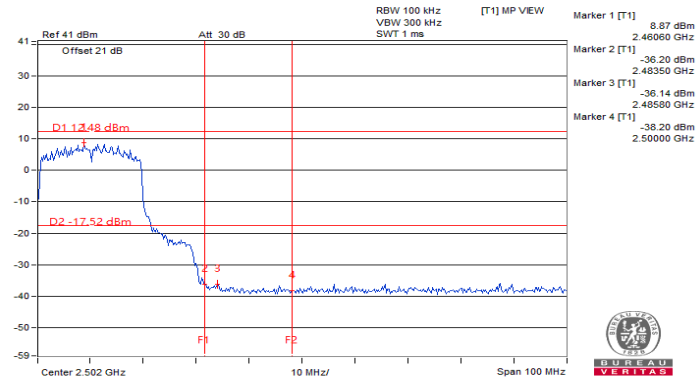
Chain 0 : CH 6



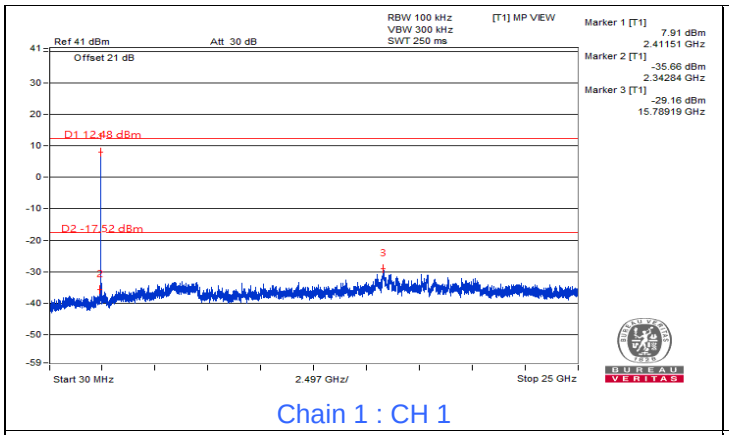
Chain 0 : CH 11



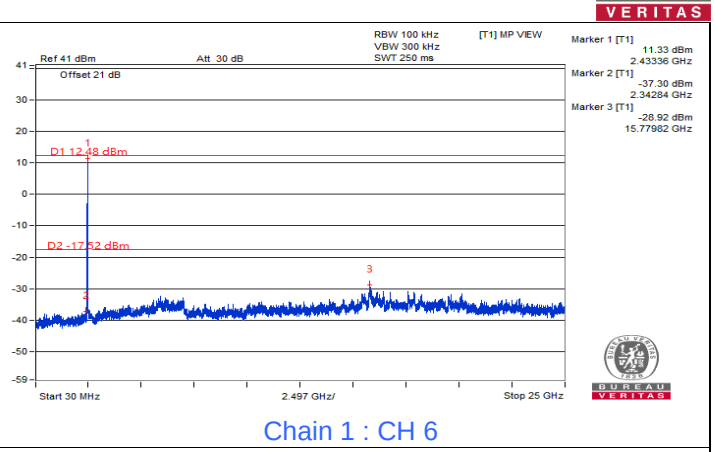
Chain 0 : CH 1 Band edge



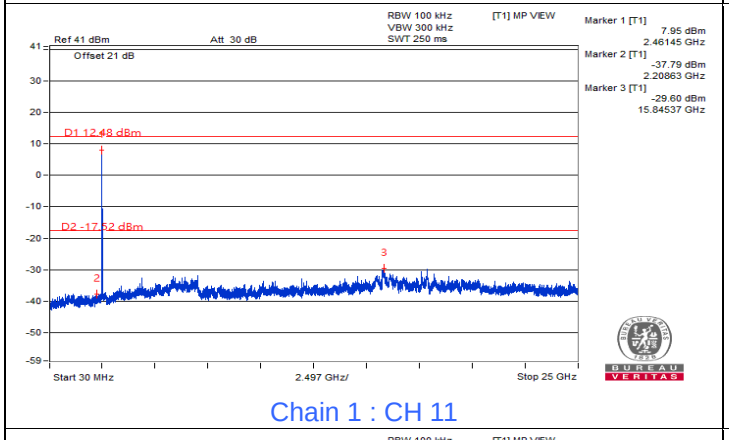
Chain 0 : CH 11 Band edge



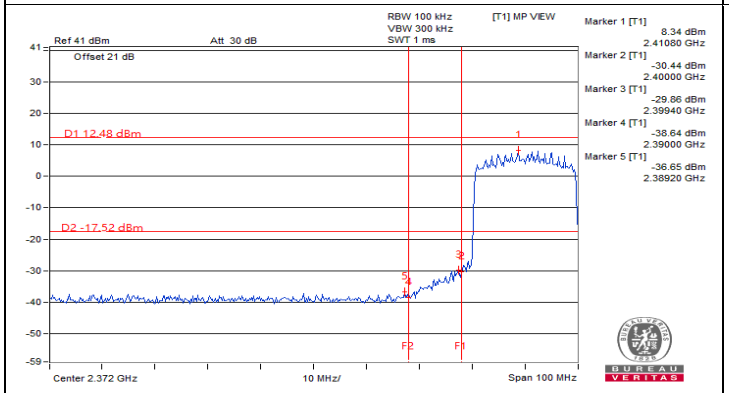
Chain 1 : CH 1



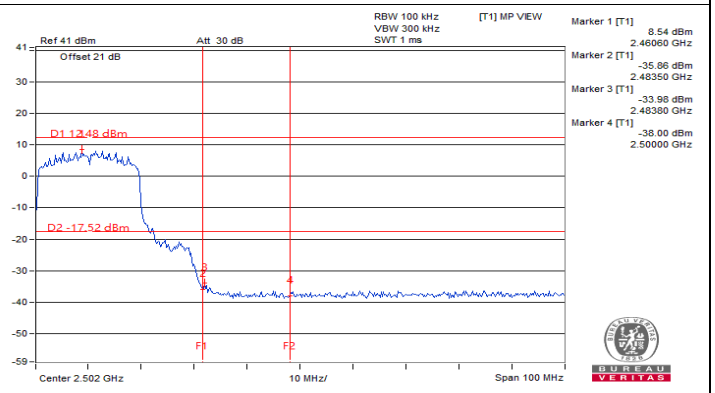
Chain 1 : CH 6



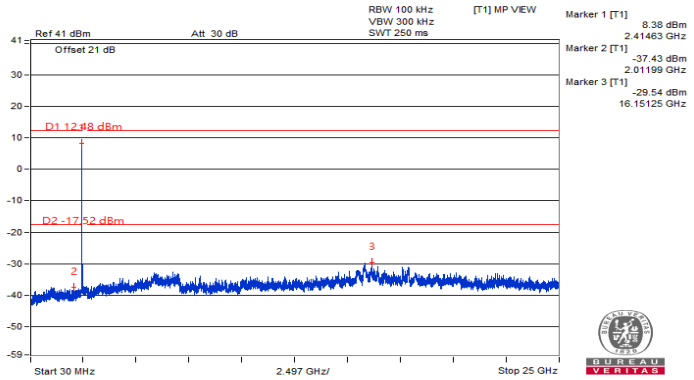
Chain 1 : CH 11



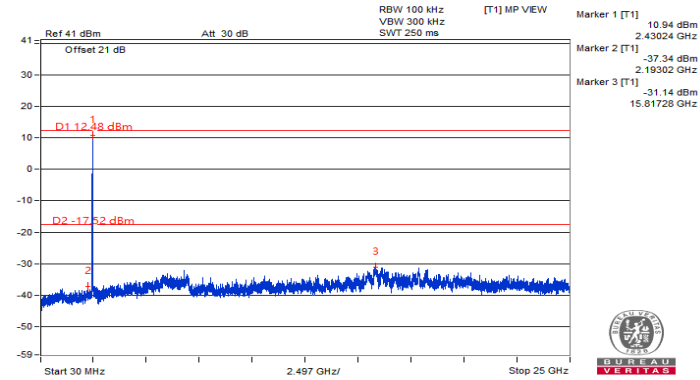
Chain 1 : CH 1 Band edge



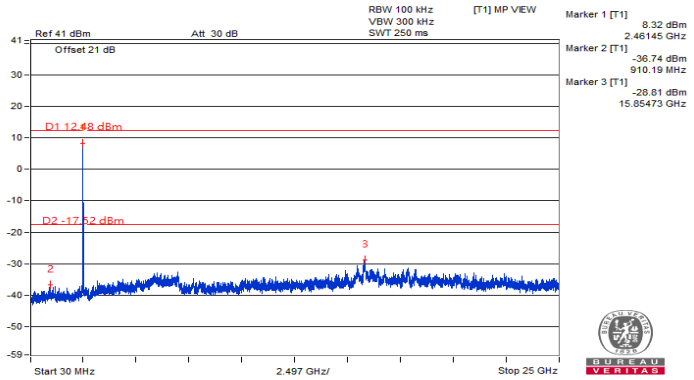
Chain 1 : CH 11 Band edge



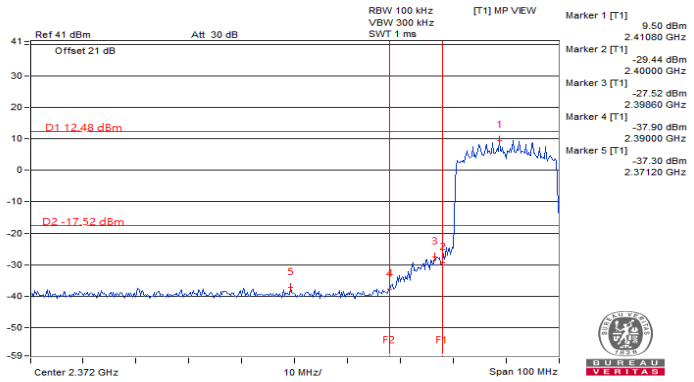
Chain 2 : CH 1



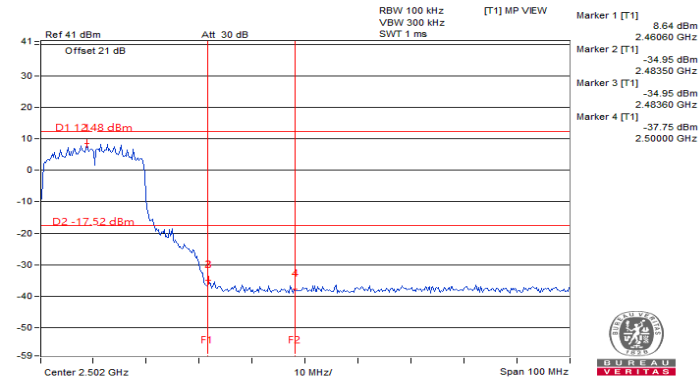
Chain 2 : CH 6



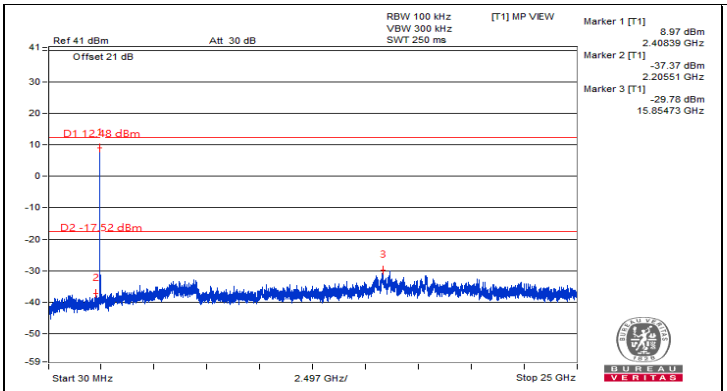
Chain 2 : CH 11



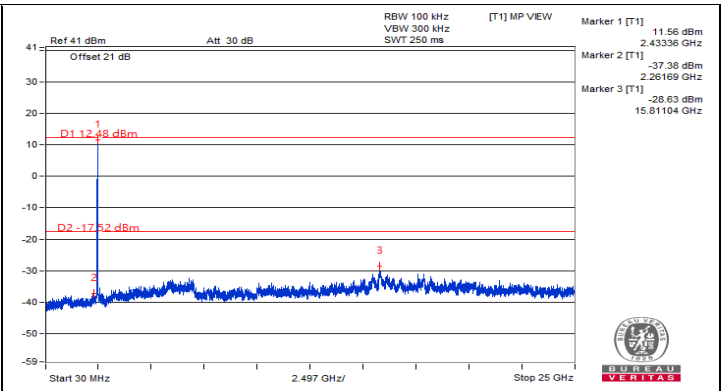
Chain 2 : CH 1 Band edge



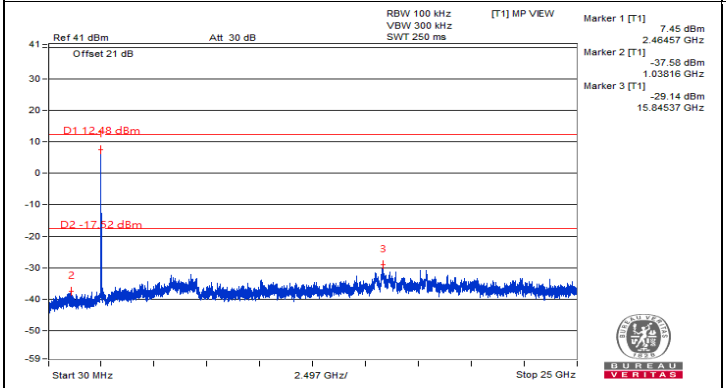
Chain 2 : CH 11 Band edge



Chain 3 : CH 1



Chain 3 : CH 6



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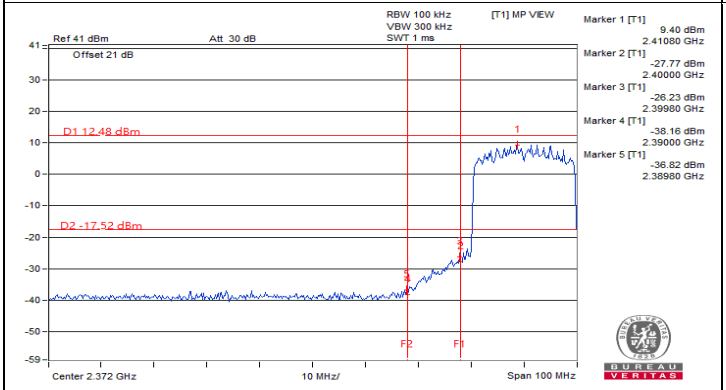
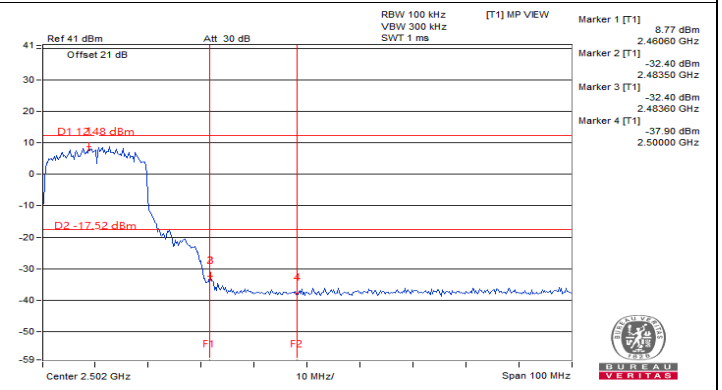
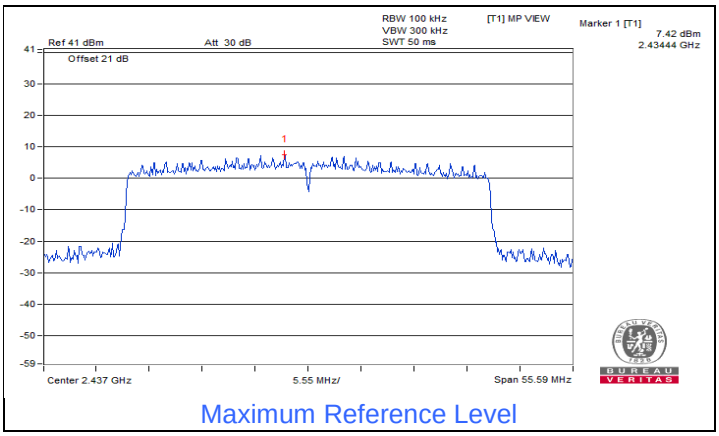


Chain 3 : CH 1 Band edge

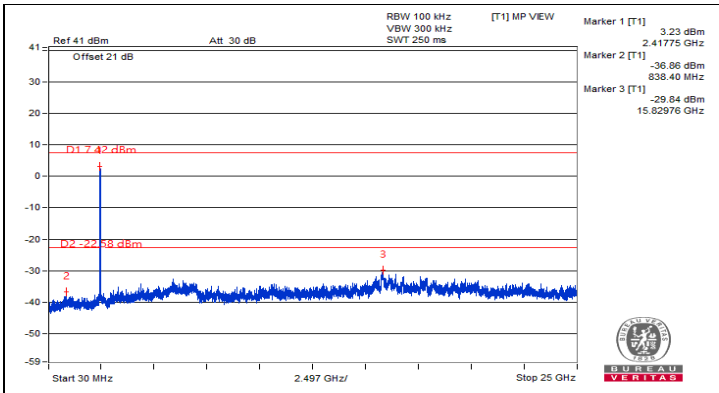


Chain 3 : CH 11 Band edge

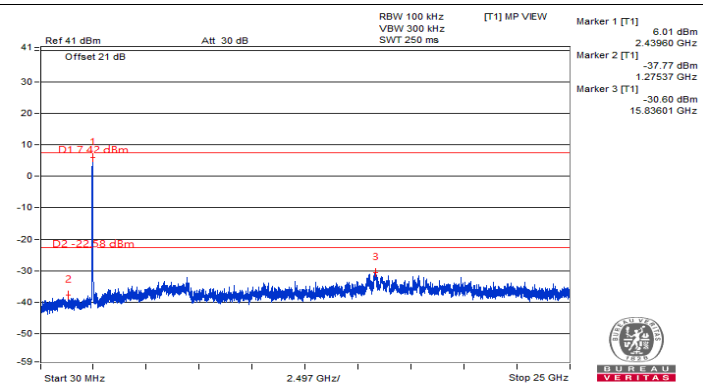
802.11ax (HE40)



Maximum Reference Level



Chain 0 : CH 3



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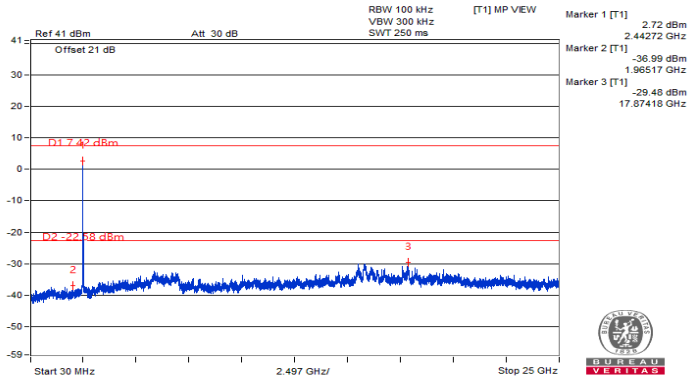
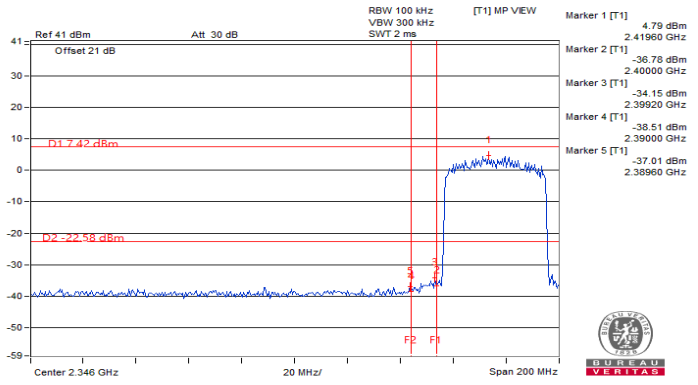
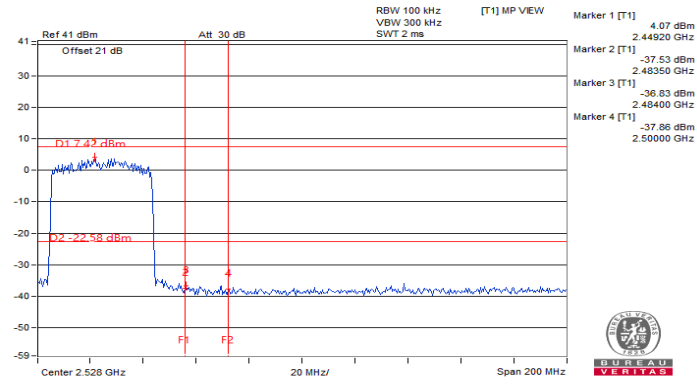


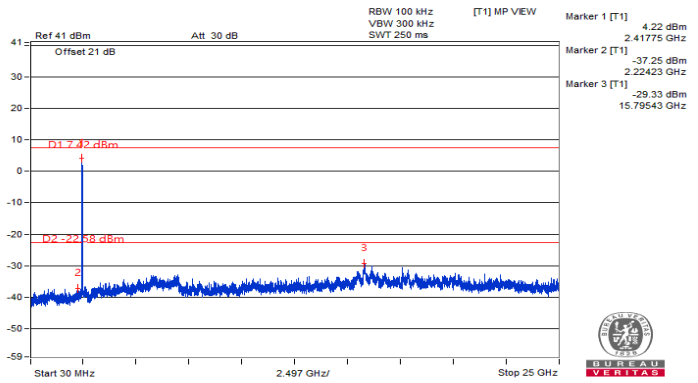
Chain 0 : CH 9



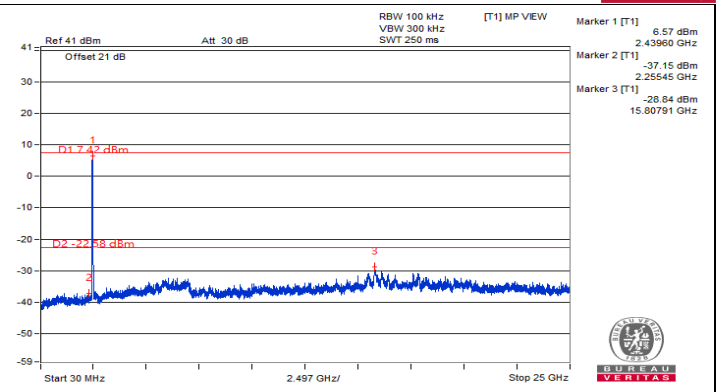
Chain 0 : CH 3 Band edge



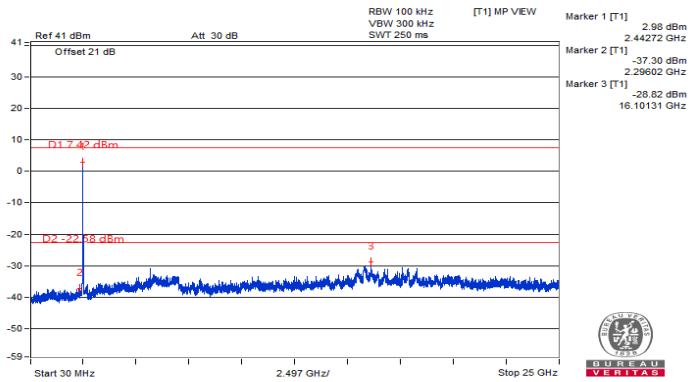
Chain 0 : CH 9 Band edge



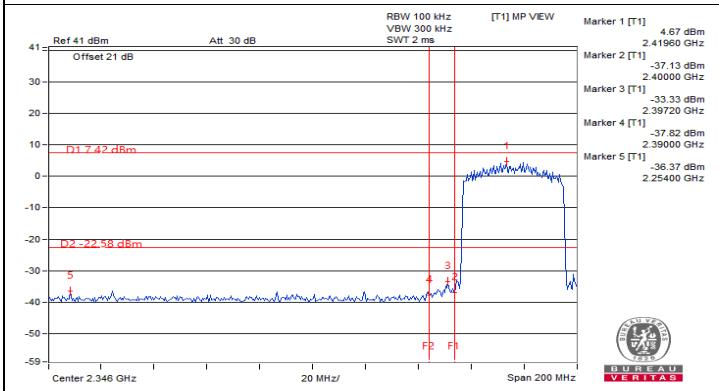
Chain 1 : CH 3



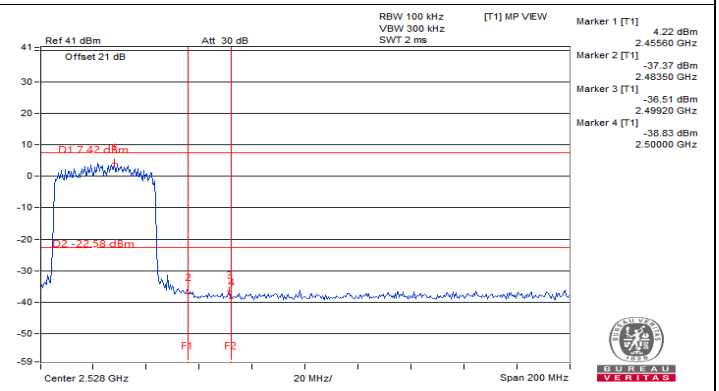
Chain 1 : CH 6



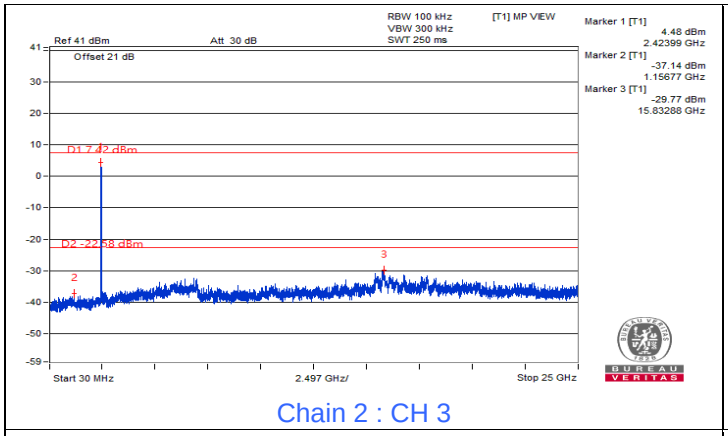
Chain 1 : CH 9



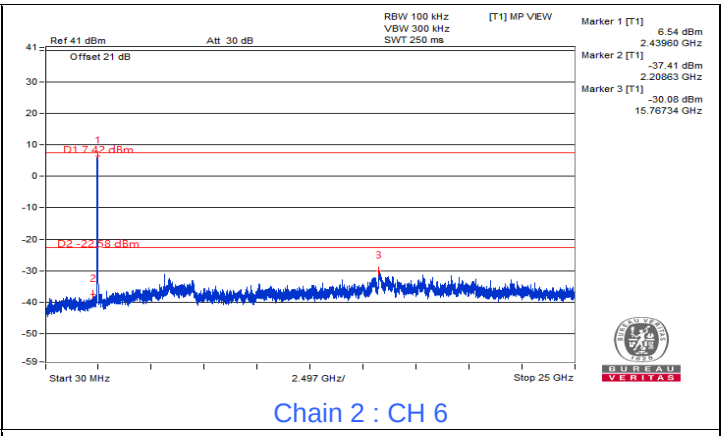
Chain 1 : CH 3 Band edge



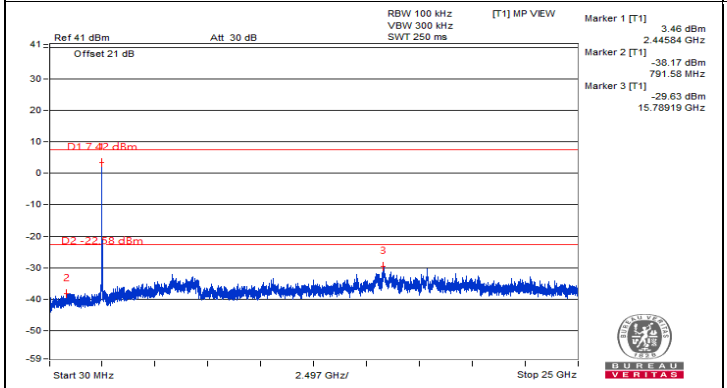
Chain 1 : CH 9 Band edge



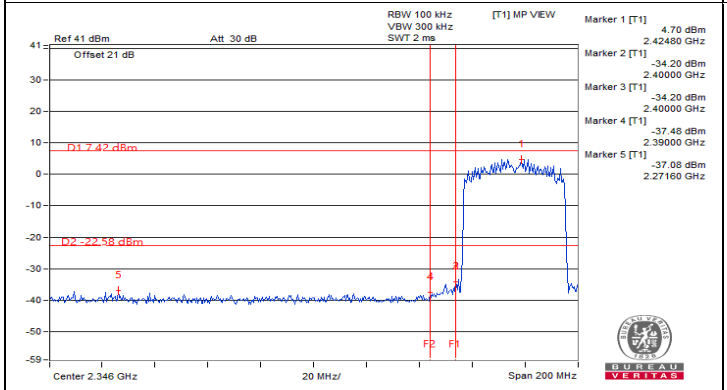
Chain 2 : CH 3



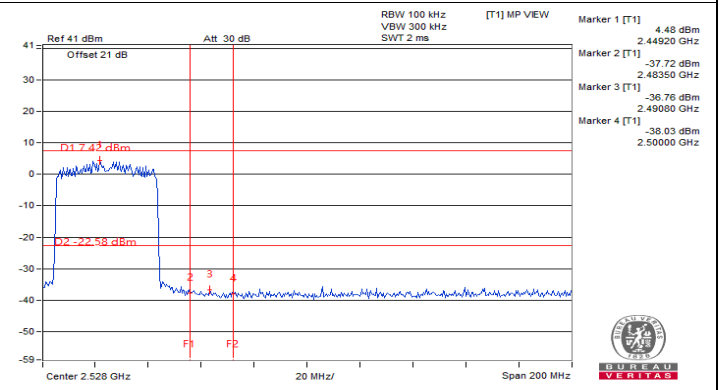
Chain 2 : CH 6



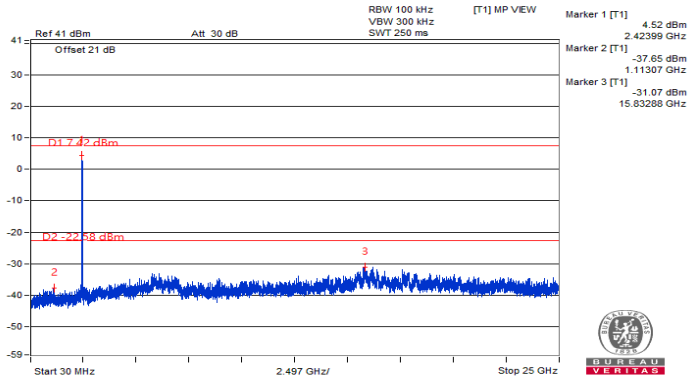
Chain 2 : CH 9



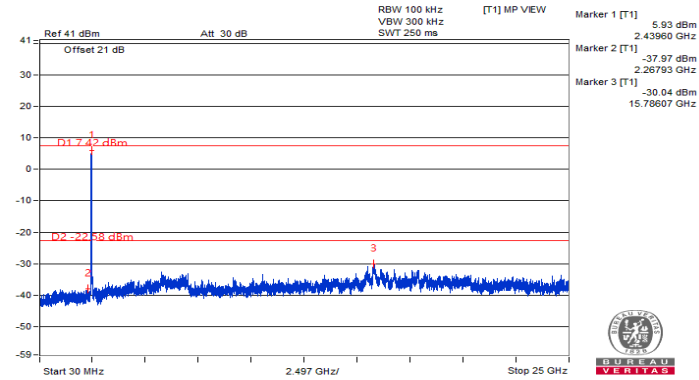
Chain 2 : CH 3 Band edge



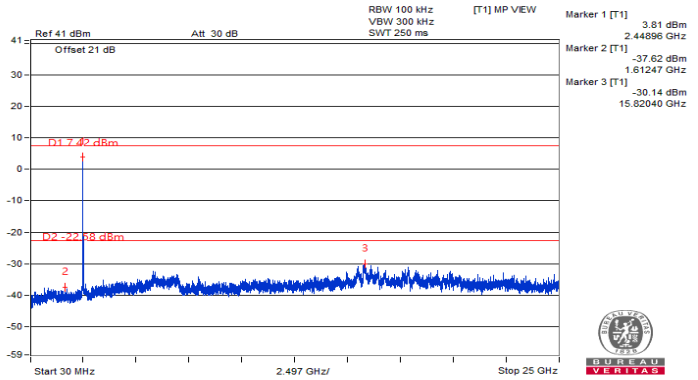
Chain 2 : CH 9 Band edge



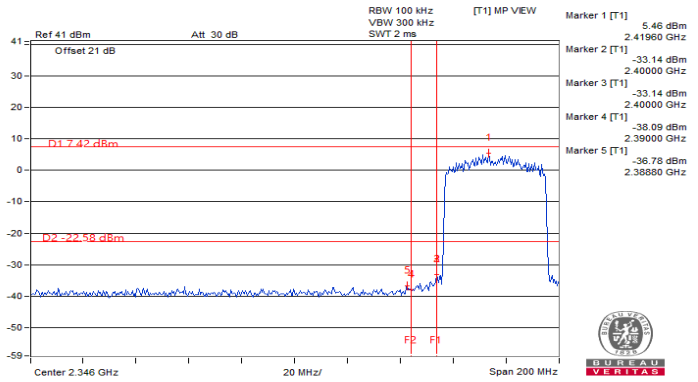
Chain 3 : CH 3



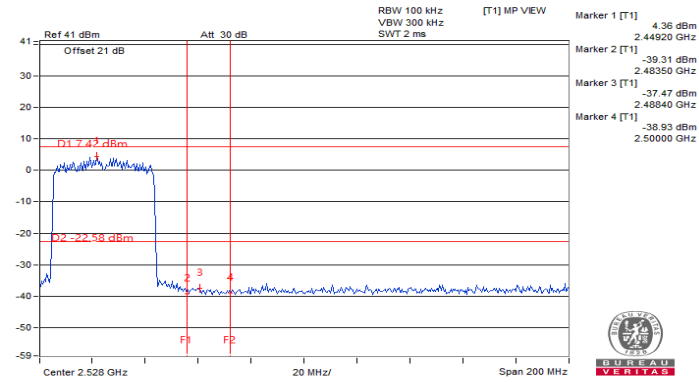
Chain 3 : CH 6



Chain 3 : CH 9



Chain 3 : CH 3 Band edge



Chain 3 : CH 9 Band edge

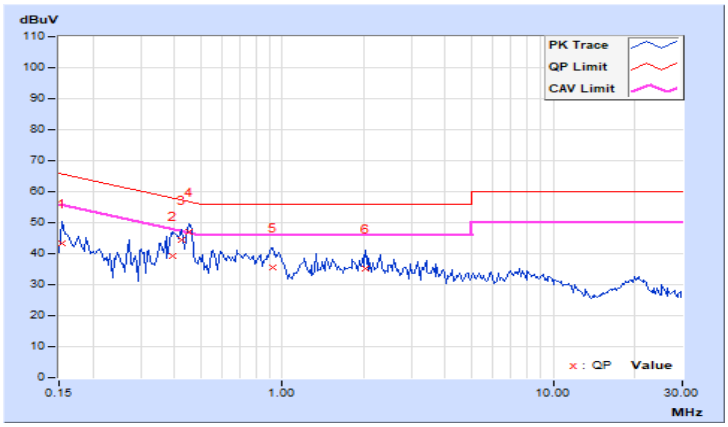
7.5 AC Power Conducted Emissions

RF Mode	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**	24°C, 66% RH
Tested By	Sampson Chen		

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	0.15391	9.98	33.28	21.29	43.26	31.27	65.79	55.79	-22.53	-24.52
2	0.39609	9.99	29.32	20.31	39.31	30.30	57.93	47.93	-18.62	-17.63
3	0.42734	9.99	34.63	30.83	44.62	40.82	57.30	47.30	-12.68	-6.48
4	**0.45469**	**9.99**	**36.96**	**32.65**	**46.95**	**42.64**	**56.79**	**46.79**	**-9.84**	**-4.15**
5	0.92734	10.03	25.53	16.28	35.56	26.31	56.00	46.00	-20.44	-19.69
6	2.03125	10.10	25.02	19.76	35.12	29.86	56.00	46.00	-20.88	-16.14

Remarks:

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

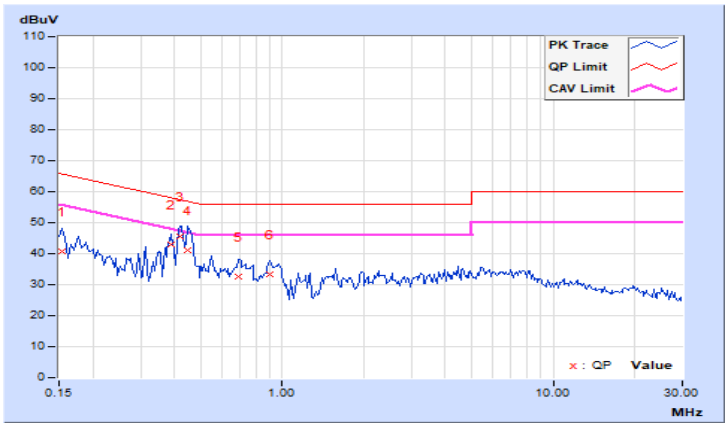


RF Mode	802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	24°C, 66% RH
Tested By	Sampson Chen		

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	0.15391	10.02	30.70	18.13	40.72	28.15	65.79	55.79	-25.07	-27.64
2	0.38828	10.04	32.96	31.31	43.00	41.35	58.10	48.10	-15.10	-6.75
3	0.41953	10.04	35.44	32.05	45.48	42.09	57.46	47.46	-11.98	-5.37
4	0.44688	10.04	30.94	25.43	40.98	35.47	56.93	46.93	-15.95	-11.46
5	0.69297	10.06	22.58	18.08	32.64	28.14	56.00	46.00	-23.36	-17.86
6	0.90000	10.07	23.23	15.56	33.30	25.63	56.00	46.00	-22.70	-20.37

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



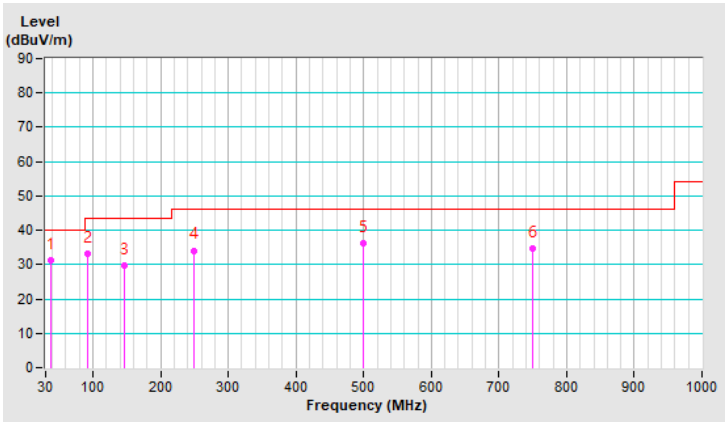
7.6 Unwanted Emissions below 1 GHz

RF Mode	802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23°C, 67% RH
Tested By	Nick Tsou		

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	**38.12**	**31.3 QP**	**40.0**	**-8.7**	**3.00 H**	**45**	**44.5**	**-13.2**
2	91.38	33.3 QP	43.5	-10.2	3.00 H	229	51.6	-18.3
3	147.10	29.8 QP	43.5	-13.7	1.00 H	96	42.3	-12.5
4	249.97	34.1 QP	46.0	-11.9	1.00 H	252	48.1	-14.0
5	499.99	36.3 QP	46.0	-9.7	1.50 H	212	43.7	-7.4
6	749.98	34.6 QP	46.0	-11.4	1.00 H	153	37.4	-2.8

Remarks:

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

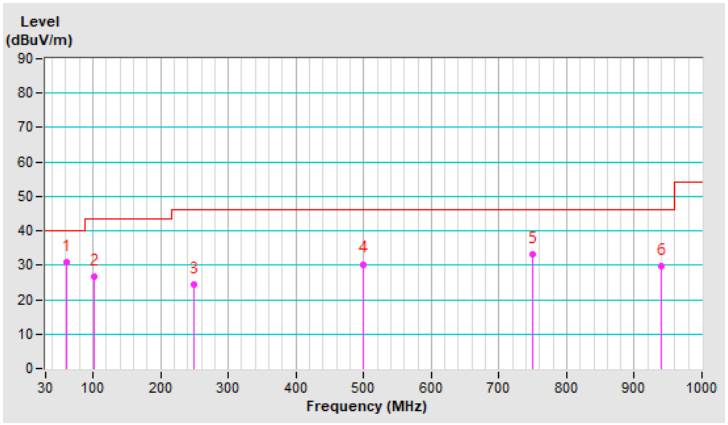


RF Mode	802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23°C, 67% RH
Tested By	Nick Tsou		

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	60.43	30.9 QP	40.0	-9.1	1.00 V	148	43.9	-13.0
2	101.54	26.8 QP	43.5	-16.7	1.00 V	200	43.7	-16.9
3	249.97	24.3 QP	46.0	-21.7	1.00 V	118	38.3	-14.0
4	499.99	30.3 QP	46.0	-15.7	2.00 V	114	37.7	-7.4
5	749.98	33.1 QP	46.0	-12.9	2.50 V	170	35.9	-2.8
6	939.62	29.8 QP	46.0	-16.2	3.00 V	55	29.9	-0.1

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 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.



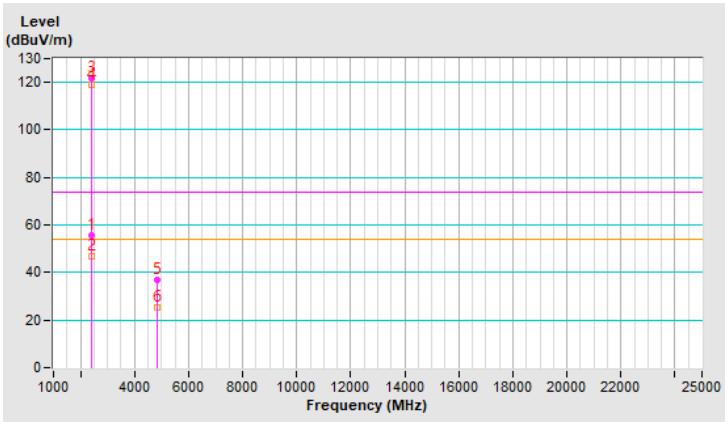
7.7 Unwanted Emissions above 1 GHz

RF Mode	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**	29°C, 75% RH
Tested By	Nick Tsou		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	55.4 PK	74.0	-18.6	1.45 H	11	59.5	-4.1
2	2390.00	46.9 AV	54.0	-7.1	1.45 H	11	51.0	-4.1
3	*2412.00	121.7 PK			1.45 H	11	125.7	-4.0
4	*2412.00	119.2 AV			1.45 H	11	123.2	-4.0
5	4824.00	37.0 PK	74.0	-37.0	2.12 H	187	33.8	3.2
6	4824.00	25.1 AV	54.0	-28.9	2.12 H	187	21.9	3.2

Remarks:

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

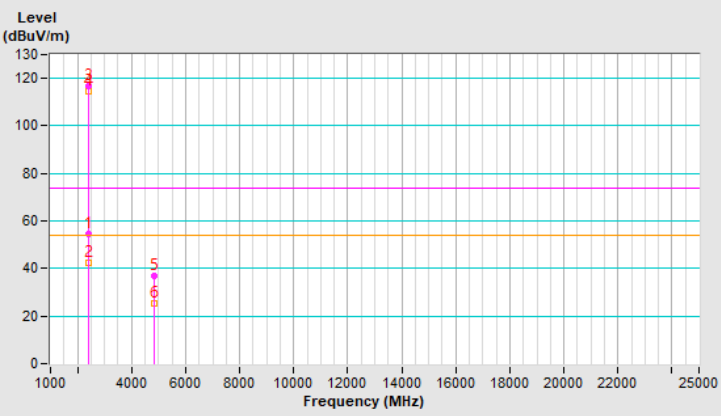


RF Mode	802.11b	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	29°C, 75% RH
Tested By	Nick Tsou		

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	54.3 PK	74.0	-19.7	1.16 V	242	58.4	-4.1
2	2390.00	42.4 AV	54.0	-11.6	1.16 V	242	46.5	-4.1
3	*2412.00	116.8 PK			1.16 V	242	120.8	-4.0
4	*2412.00	114.4 AV			1.16 V	242	118.4	-4.0
5	4824.00	36.9 PK	74.0	-37.1	1.59 V	333	33.7	3.2
6	4824.00	25.5 AV	54.0	-28.5	1.59 V	333	22.3	3.2

Remarks:

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

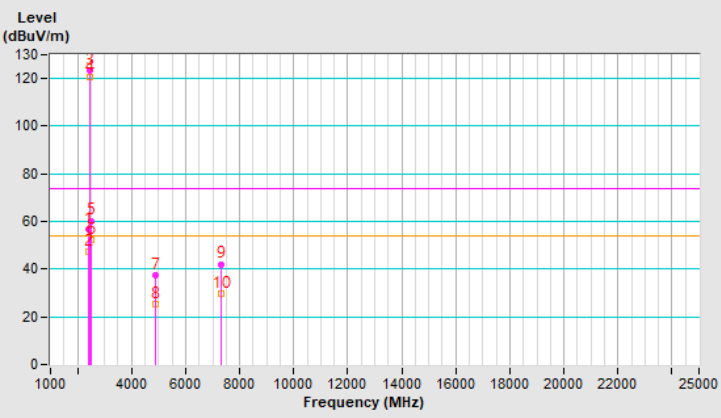


RF Mode	802.11b	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	56.7 PK	74.0	-17.3	1.24 H	16	60.8	-4.1
2	2390.00	47.3 AV	54.0	-6.7	1.24 H	16	51.4	-4.1
3	*2437.00	123.4 PK			1.24 H	16	127.3	-3.9
4	*2437.00	120.8 AV			1.24 H	16	124.7	-3.9
5	2483.50	60.3 PK	74.0	-13.7	1.24 H	16	64.2	-3.9
6	2483.50	52.5 AV	54.0	-1.5	1.24 H	16	56.4	-3.9
7	4874.00	37.6 PK	74.0	-36.4	2.15 H	177	34.4	3.2
8	4874.00	25.5 AV	54.0	-28.5	2.15 H	177	22.3	3.2
9	7311.00	42.1 PK	74.0	-31.9	2.33 H	185	31.6	10.5
10	7311.00	29.8 AV	54.0	-24.2	2.33 H	185	19.3	10.5

Remarks:

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

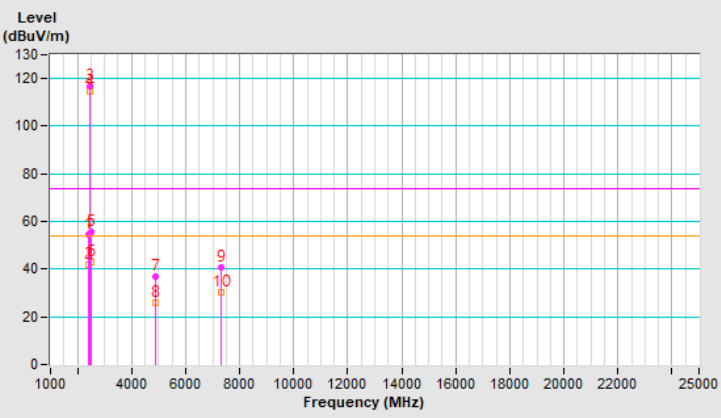


RF Mode	802.11b	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

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	54.6 PK	74.0	-19.4	1.74 V	217	58.7	-4.1
2	2390.00	41.9 AV	54.0	-12.1	1.74 V	217	46.0	-4.1
3	*2437.00	116.8 PK			1.74 V	217	120.7	-3.9
4	*2437.00	114.6 AV			1.74 V	217	118.5	-3.9
5	2483.50	55.5 PK	74.0	-18.5	1.74 V	217	59.4	-3.9
6	2483.50	43.0 AV	54.0	-11.0	1.74 V	217	46.9	-3.9
7	4874.00	37.1 PK	74.0	-36.9	1.65 V	324	33.9	3.2
8	4874.00	25.7 AV	54.0	-28.3	1.65 V	324	22.5	3.2
9	7311.00	40.8 PK	74.0	-33.2	1.61 V	255	30.3	10.5
10	7311.00	30.4 AV	54.0	-23.6	1.61 V	255	19.9	10.5

Remarks:

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

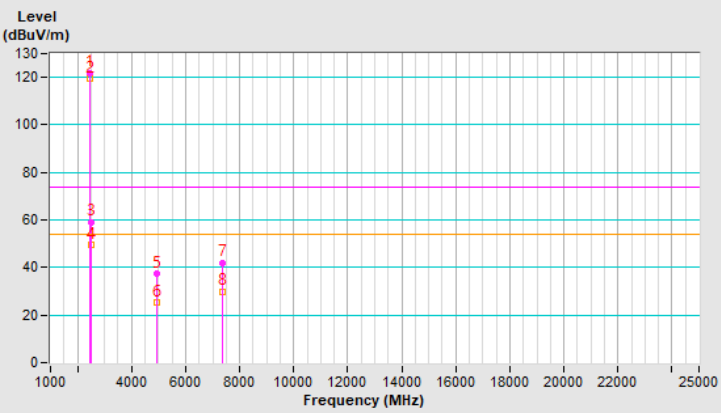


RF Mode	802.11b	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

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	122.0 PK			1.40 H	12	125.9	-3.9
2	*2462.00	119.5 AV			1.40 H	12	123.4	-3.9
3	2484.60	59.2 PK	74.0	-14.8	1.40 H	12	63.1	-3.9
4	2484.60	49.8 AV	54.0	-4.2	1.40 H	12	53.7	-3.9
5	4924.00	37.5 PK	74.0	-36.5	2.20 H	175	34.1	3.4
6	4924.00	25.3 AV	54.0	-28.7	2.20 H	175	21.9	3.4
7	7386.00	42.1 PK	74.0	-31.9	2.34 H	188	31.8	10.3
8	7386.00	30.0 AV	54.0	-24.0	2.34 H	188	19.7	10.3

Remarks:

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

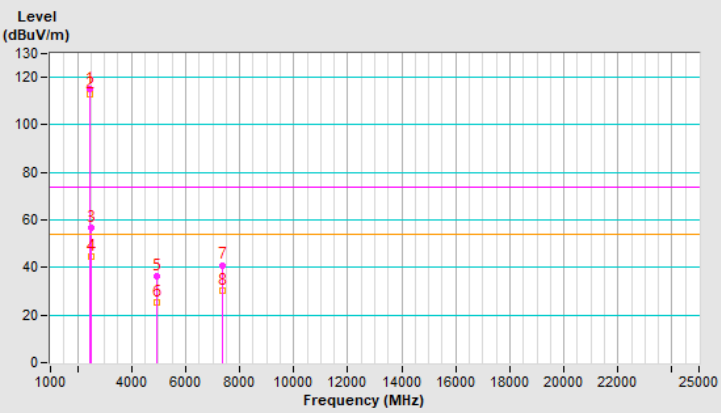


RF Mode	802.11b	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	114.9 PK			1.09 V	240	118.8	-3.9
2	*2462.00	112.7 AV			1.09 V	240	116.6	-3.9
3	2484.60	56.8 PK	74.0	-17.2	1.09 V	240	60.7	-3.9
4	2484.60	44.7 AV	54.0	-9.3	1.09 V	240	48.6	-3.9
5	4924.00	36.3 PK	74.0	-37.7	1.60 V	346	32.9	3.4
6	4924.00	25.1 AV	54.0	-28.9	1.60 V	346	21.7	3.4
7	7386.00	41.0 PK	74.0	-33.0	1.53 V	255	30.7	10.3
8	7386.00	30.3 AV	54.0	-23.7	1.53 V	255	20.0	10.3

Remarks:

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

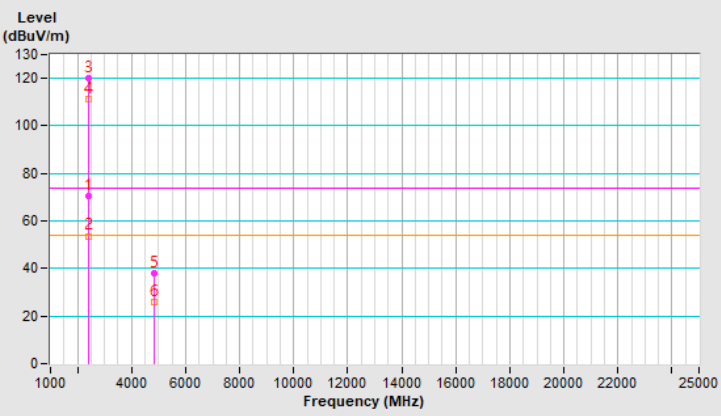


RF Mode	802.11g	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	29°C, 75% RH
Tested By	Nick Tsou		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	70.7 PK	74.0	-3.3	1.86 H	160	74.8	-4.1
2	2390.00	53.7 AV	54.0	-0.3	1.86 H	160	57.8	-4.1
3	*2412.00	120.1 PK			1.86 H	160	124.1	-4.0
4	*2412.00	111.3 AV			1.86 H	160	115.3	-4.0
5	4824.00	38.2 PK	74.0	-35.8	2.19 H	171	35.0	3.2
6	4824.00	26.0 AV	54.0	-28.0	2.19 H	171	22.8	3.2

Remarks:

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

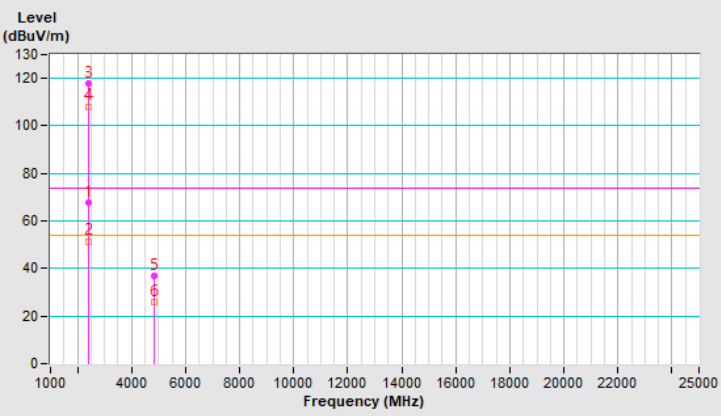


RF Mode	802.11g	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	29°C, 75% RH
Tested By	Nick Tsou		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	67.7 PK	74.0	-6.3	2.06 V	8	71.8	-4.1
2	2390.00	51.5 AV	54.0	-2.5	2.06 V	8	55.6	-4.1
3	*2412.00	117.8 PK			2.06 V	8	121.8	-4.0
4	*2412.00	108.2 AV			2.06 V	8	112.2	-4.0
5	4824.00	37.0 PK	74.0	-37.0	1.67 V	337	33.8	3.2
6	4824.00	25.7 AV	54.0	-28.3	1.67 V	337	22.5	3.2

Remarks:

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

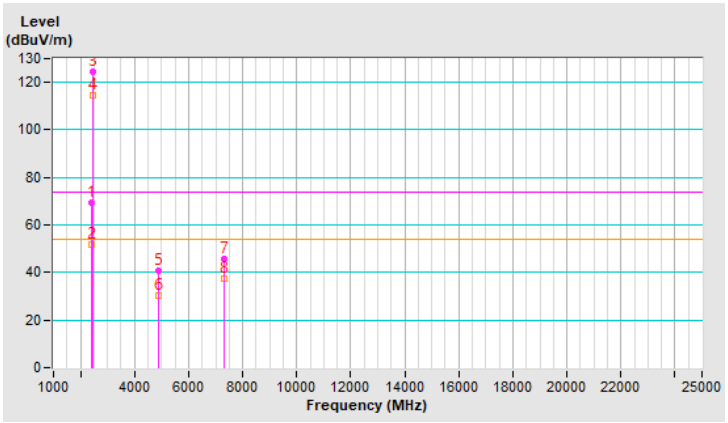


RF Mode	802.11g	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

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	69.5 PK	74.0	-4.5	1.68 H	164	73.6	-4.1
2	2390.00	51.8 AV	54.0	-2.2	1.68 H	164	55.9	-4.1
3	*2437.00	124.4 PK			1.68 H	164	128.3	-3.9
4	*2437.00	114.7 AV			1.68 H	164	118.6	-3.9
5	4874.00	40.6 PK	74.0	-33.4	2.19 H	335	37.4	3.2
6	4874.00	30.4 AV	54.0	-23.6	2.19 H	335	27.2	3.2
7	7311.00	45.9 PK	74.0	-28.1	3.17 H	150	35.4	10.5
8	7311.00	37.4 AV	54.0	-16.6	3.17 H	150	26.9	10.5

Remarks:

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

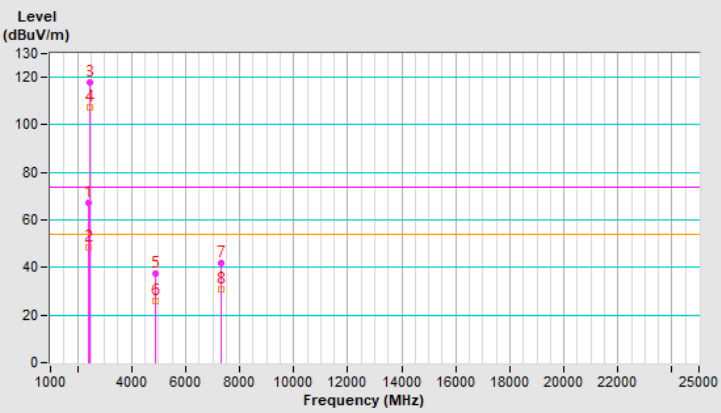


RF Mode	802.11g	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.2 PK	74.0	-6.8	2.11 V	38	71.3	-4.1
2	2390.00	48.5 AV	54.0	-5.5	2.11 V	38	52.6	-4.1
3	*2437.00	117.6 PK			2.11 V	38	121.5	-3.9
4	*2437.00	107.5 AV			2.11 V	38	111.4	-3.9
5	4874.00	37.2 PK	74.0	-36.8	1.66 V	337	34.0	3.2
6	4874.00	25.7 AV	54.0	-28.3	1.66 V	337	22.5	3.2
7	7311.00	41.6 PK	74.0	-32.4	1.56 V	262	31.1	10.5
8	7311.00	30.8 AV	54.0	-23.2	1.56 V	262	20.3	10.5

Remarks:

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

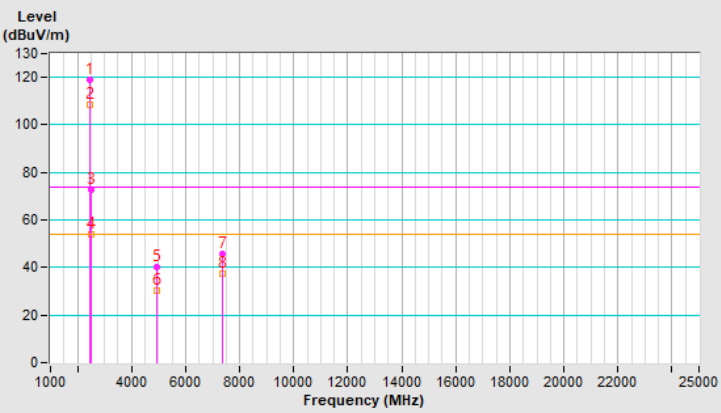


RF Mode	802.11g	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	29°C, 75% RH
Tested By	Nick Tsou		

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	119.0 PK			1.63 H	161	122.9	-3.9
2	*2462.00	108.4 AV			1.63 H	161	112.3	-3.9
3	2483.50	72.5 PK	74.0	-1.5	1.63 H	161	76.4	-3.9
4	**2483.50**	**53.8 AV**	**54.0**	**-0.2**	**1.63 H**	**161**	**57.7**	**-3.9**
5	4924.00	40.4 PK	74.0	-33.6	2.23 H	343	37.0	3.4
6	4924.00	30.4 AV	54.0	-23.6	2.23 H	343	27.0	3.4
7	7386.00	45.7 PK	74.0	-28.3	3.20 H	142	35.4	10.3
8	7386.00	37.3 AV	54.0	-16.7	3.20 H	142	27.0	10.3

Remarks:

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

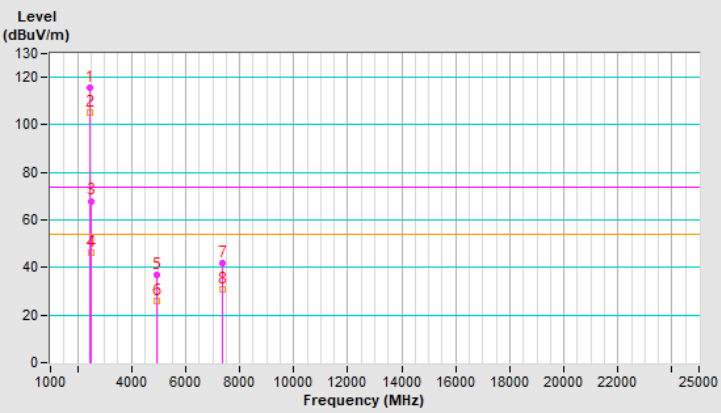


RF Mode	802.11g	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	115.9 PK			1.50 V	210	119.8	-3.9
2	*2462.00	105.3 AV			1.50 V	210	109.2	-3.9
3	2483.50	68.0 PK	74.0	-6.0	1.50 V	210	71.9	-3.9
4	2483.50	46.3 AV	54.0	-7.7	1.50 V	210	50.2	-3.9
5	4924.00	37.1 PK	74.0	-36.9	1.61 V	345	33.7	3.4
6	4924.00	25.7 AV	54.0	-28.3	1.61 V	345	22.3	3.4
7	7386.00	41.8 PK	74.0	-32.2	1.54 V	248	31.5	10.3
8	7386.00	30.8 AV	54.0	-23.2	1.54 V	248	20.5	10.3

Remarks:

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

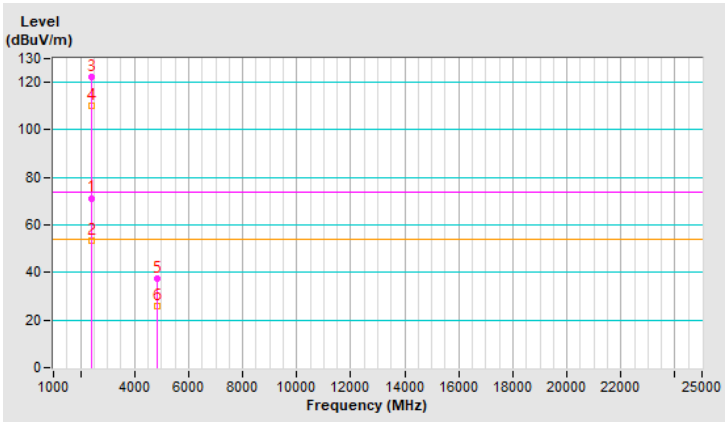


RF Mode	802.11ax (HE20)	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	29°C, 75% RH
Tested By	Nick Tsou		

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	71.3 PK	74.0	-2.7	2.14 H	168	75.4	-4.1
2	2390.00	53.6 AV	54.0	-0.4	2.14 H	168	57.7	-4.1
3	*2412.00	122.3 PK			2.14 H	168	126.3	-4.0
4	*2412.00	110.2 AV			2.14 H	168	114.2	-4.0
5	4824.00	37.2 PK	74.0	-36.8	2.05 H	302	34.0	3.2
6	4824.00	26.1 AV	54.0	-27.9	2.05 H	302	22.9	3.2

Remarks:

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

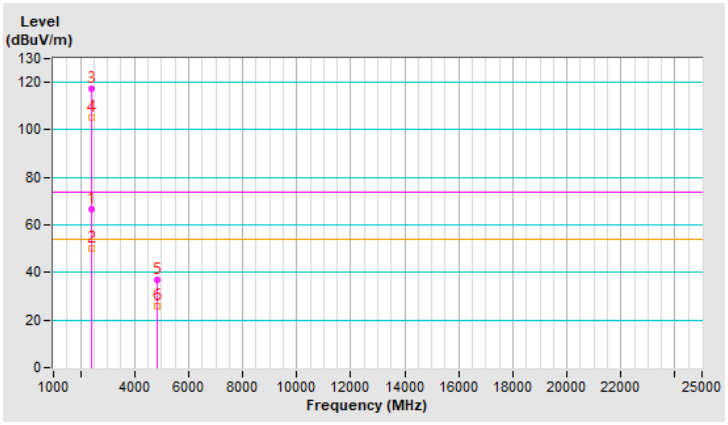


RF Mode	802.11ax (HE20)	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	29°C, 75% RH
Tested By	Nick Tsou		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	66.6 PK	74.0	-7.4	1.13 V	339	70.7	-4.1
2	2390.00	50.0 AV	54.0	-4.0	1.13 V	339	54.1	-4.1
3	*2412.00	117.3 PK			1.13 V	339	121.3	-4.0
4	*2412.00	105.3 AV			1.13 V	339	109.3	-4.0
5	4824.00	37.0 PK	74.0	-37.0	1.66 V	336	33.8	3.2
6	4824.00	25.8 AV	54.0	-28.2	1.66 V	336	22.6	3.2

Remarks:

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

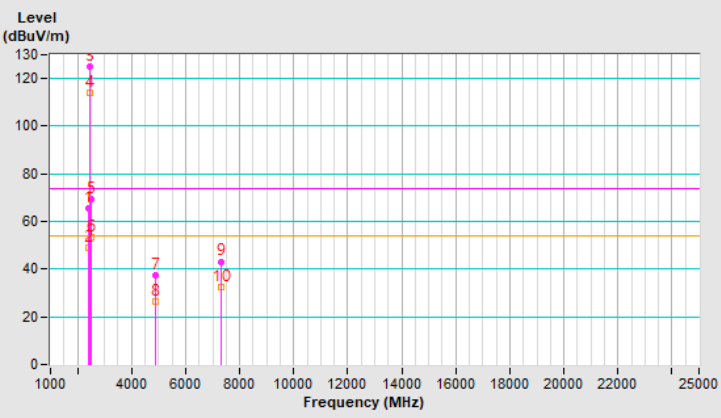


RF Mode	802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

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	65.4 PK	74.0	-8.6	2.57 H	168	69.5	-4.1
2	2390.00	49.1 AV	54.0	-4.9	2.57 H	168	53.2	-4.1
3	*2437.00	125.1 PK			2.57 H	168	129.0	-3.9
4	*2437.00	114.1 AV			2.57 H	168	118.0	-3.9
5	2485.60	69.2 PK	74.0	-4.8	2.57 H	168	73.1	-3.9
6	2485.60	53.3 AV	54.0	-0.7	2.57 H	168	57.2	-3.9
7	4874.00	37.2 PK	74.0	-36.8	2.00 H	313	34.0	3.2
8	4874.00	26.3 AV	54.0	-27.7	2.00 H	313	23.1	3.2
9	7311.00	43.2 PK	74.0	-30.8	2.94 H	333	32.7	10.5
10	7311.00	32.7 AV	54.0	-21.3	2.94 H	333	22.2	10.5

Remarks:

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

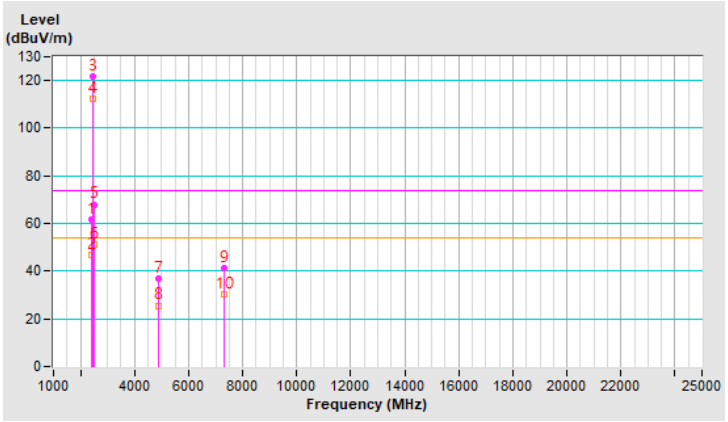


RF Mode	802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	29°C, 75% RH
Tested By	Nick Tsou		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	61.5 PK	74.0	-12.5	1.51 V	208	65.6	-4.1
2	2390.00	46.7 AV	54.0	-7.3	1.51 V	208	50.8	-4.1
3	*2437.00	121.6 PK			1.51 V	208	125.5	-3.9
4	*2437.00	112.3 AV			1.51 V	208	116.2	-3.9
5	2484.20	68.0 PK	74.0	-6.0	1.51 V	208	71.9	-3.9
6	2484.20	51.0 AV	54.0	-3.0	1.51 V	208	54.9	-3.9
7	4874.00	36.9 PK	74.0	-37.1	1.64 V	333	33.7	3.2
8	4874.00	25.6 AV	54.0	-28.4	1.64 V	333	22.4	3.2
9	7311.00	41.1 PK	74.0	-32.9	1.58 V	247	30.6	10.5
10	7311.00	30.5 AV	54.0	-23.5	1.58 V	247	20.0	10.5

Remarks:

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

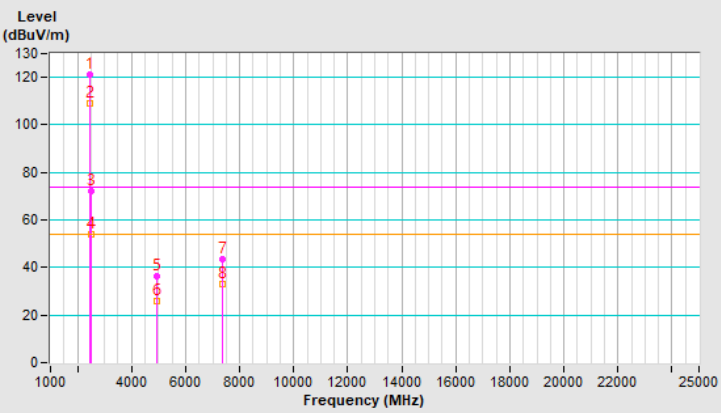


RF Mode	802.11ax (HE20)	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	29°C, 75% RH
Tested By	Nick Tsou		

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	121.2 PK			2.32 H	167	125.1	-3.9
2	*2462.00	109.1 AV			2.32 H	167	113.0	-3.9
3	2483.50	72.3 PK	74.0	-1.7	2.32 H	167	76.2	-3.9
4	**2483.50**	**53.8 AV**	**54.0**	**-0.2**	**2.32 H**	**167**	**57.7**	**-3.9**
5	4924.00	36.5 PK	74.0	-37.5	1.98 H	324	33.1	3.4
6	4924.00	25.8 AV	54.0	-28.2	1.98 H	324	22.4	3.4
7	7386.00	43.4 PK	74.0	-30.6	2.94 H	323	33.1	10.3
8	7386.00	32.8 AV	54.0	-21.2	2.94 H	323	22.5	10.3

Remarks:

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

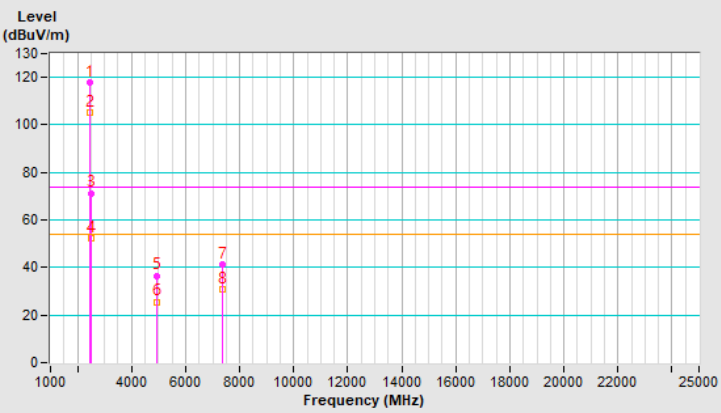


RF Mode	802.11ax (HE20)	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

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	117.7 PK			2.46 V	344	121.6	-3.9
2	*2462.00	105.4 AV			2.46 V	344	109.3	-3.9
3	2484.00	71.3 PK	74.0	-2.7	2.46 V	344	75.2	-3.9
4	2484.00	52.5 AV	54.0	-1.5	2.46 V	344	56.4	-3.9
5	4924.00	36.6 PK	74.0	-37.4	1.61 V	334	33.2	3.4
6	4924.00	25.6 AV	54.0	-28.4	1.61 V	334	22.2	3.4
7	7386.00	41.2 PK	74.0	-32.8	1.53 V	256	30.9	10.3
8	7386.00	30.9 AV	54.0	-23.1	1.53 V	256	20.6	10.3

Remarks:

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

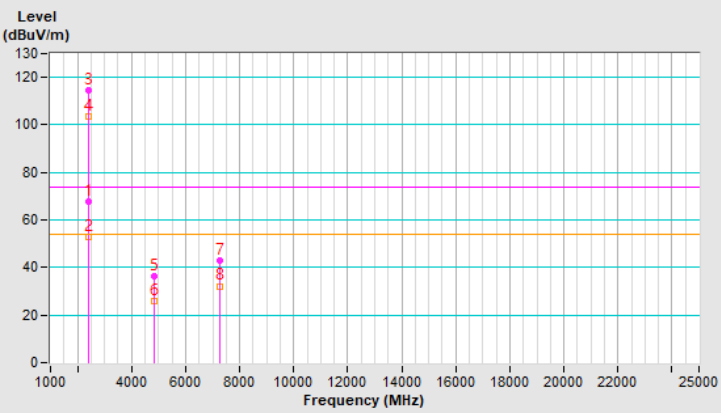


RF Mode	802.11ax (HE40)	Channel	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

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	2388.90	67.8 PK	74.0	-6.2	1.45 H	164	71.9	-4.1
2	2388.90	52.8 AV	54.0	-1.2	1.45 H	164	56.9	-4.1
3	*2422.00	114.6 PK			1.45 H	164	118.6	-4.0
4	*2422.00	103.6 AV			1.45 H	164	107.6	-4.0
5	4844.00	36.5 PK	74.0	-37.5	1.97 H	301	33.3	3.2
6	4844.00	25.8 AV	54.0	-28.2	1.97 H	301	22.6	3.2
7	7266.00	42.9 PK	74.0	-31.1	2.91 H	341	32.4	10.5
8	7266.00	32.2 AV	54.0	-21.8	2.91 H	341	21.7	10.5

Remarks:

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

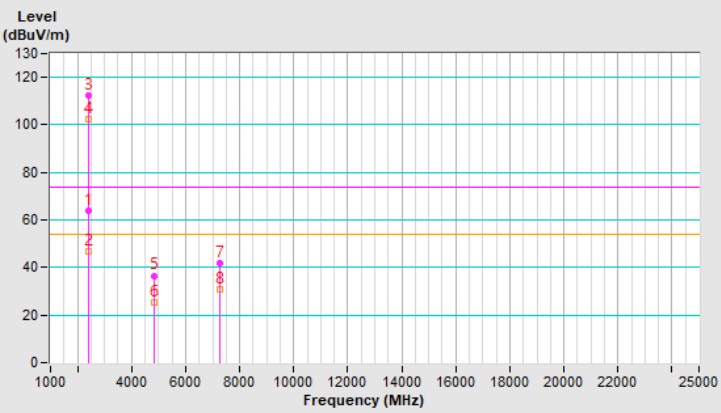


RF Mode	802.11ax (HE40)	Channel	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2388.90	64.0 PK	74.0	-10.0	1.50 V	8	68.1	-4.1
2	2388.90	46.8 AV	54.0	-7.2	1.50 V	8	50.9	-4.1
3	*2422.00	112.6 PK			1.50 V	8	116.6	-4.0
4	*2422.00	102.2 AV			1.50 V	8	106.2	-4.0
5	4844.00	36.6 PK	74.0	-37.4	1.60 V	349	33.4	3.2
6	4844.00	25.3 AV	54.0	-28.7	1.60 V	349	22.1	3.2
7	7266.00	41.6 PK	74.0	-32.4	1.60 V	258	31.1	10.5
8	7266.00	30.9 AV	54.0	-23.1	1.60 V	258	20.4	10.5

Remarks:

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

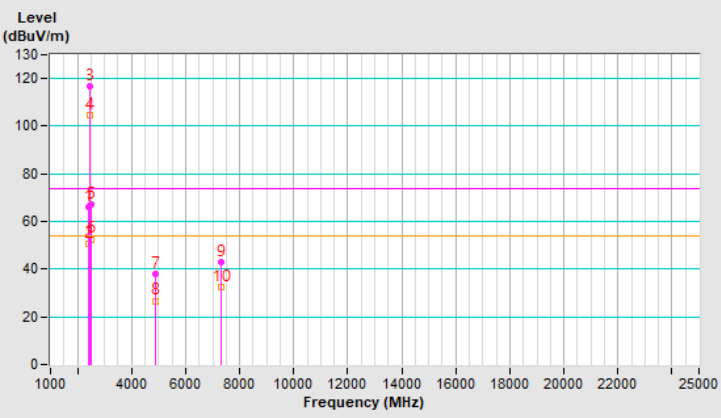


RF Mode	802.11ax (HE40)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

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	65.9 PK	74.0	-8.1	1.47 H	360	70.0	-4.1
2	2390.00	50.9 AV	54.0	-3.1	1.47 H	360	55.0	-4.1
3	*2437.00	116.6 PK			1.47 H	360	120.5	-3.9
4	*2437.00	104.7 AV			1.47 H	360	108.6	-3.9
5	2484.10	67.1 PK	74.0	-6.9	1.47 H	360	71.0	-3.9
6	2484.10	52.6 AV	54.0	-1.4	1.47 H	360	56.5	-3.9
7	4874.00	37.8 PK	74.0	-36.2	2.05 H	313	34.6	3.2
8	4874.00	26.7 AV	54.0	-27.3	2.05 H	313	23.5	3.2
9	7311.00	43.1 PK	74.0	-30.9	2.95 H	333	32.6	10.5
10	7311.00	32.6 AV	54.0	-21.4	2.95 H	333	22.1	10.5

Remarks:

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

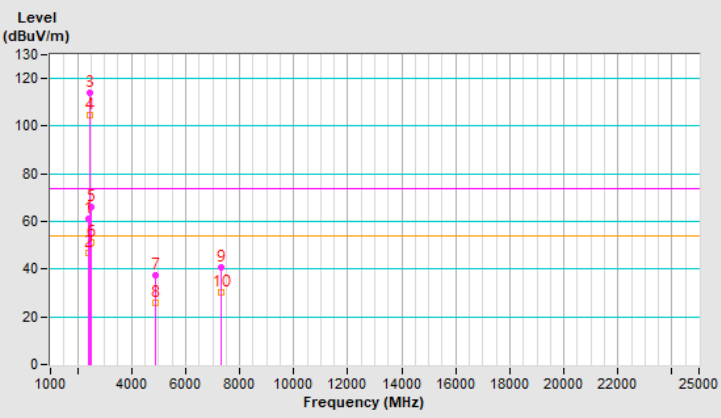


RF Mode	802.11ax (HE40)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	61.1 PK	74.0	-12.9	1.50 V	209	65.2	-4.1
2	2390.00	47.0 AV	54.0	-7.0	1.50 V	209	51.1	-4.1
3	*2437.00	114.2 PK			1.50 V	209	118.1	-3.9
4	*2437.00	104.5 AV			1.50 V	209	108.4	-3.9
5	2484.10	66.1 PK	74.0	-7.9	1.50 V	209	70.0	-3.9
6	2484.10	51.3 AV	54.0	-2.7	1.50 V	209	55.2	-3.9
7	4874.00	37.3 PK	74.0	-36.7	1.67 V	333	34.1	3.2
8	4874.00	26.0 AV	54.0	-28.0	1.67 V	333	22.8	3.2
9	7311.00	40.6 PK	74.0	-33.4	1.55 V	235	30.1	10.5
10	7311.00	30.1 AV	54.0	-23.9	1.55 V	235	19.6	10.5

Remarks:

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

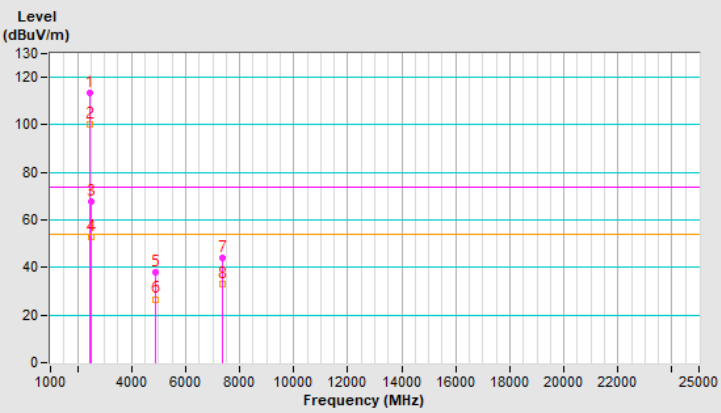


RF Mode	802.11ax (HE40)	Channel	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

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	113.2 PK			1.47 H	20	117.1	-3.9
2	*2452.00	100.2 AV			1.47 H	20	104.1	-3.9
3	2483.50	67.7 PK	74.0	-6.3	1.47 H	20	71.6	-3.9
4	2483.50	53.0 AV	54.0	-1.0	1.47 H	20	56.9	-3.9
5	4904.00	37.9 PK	74.0	-36.1	1.95 H	322	34.6	3.3
6	4904.00	26.7 AV	54.0	-27.3	1.95 H	322	23.4	3.3
7	7356.00	43.9 PK	74.0	-30.1	2.98 H	317	33.5	10.4
8	7356.00	33.2 AV	54.0	-20.8	2.98 H	317	22.8	10.4

Remarks:

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

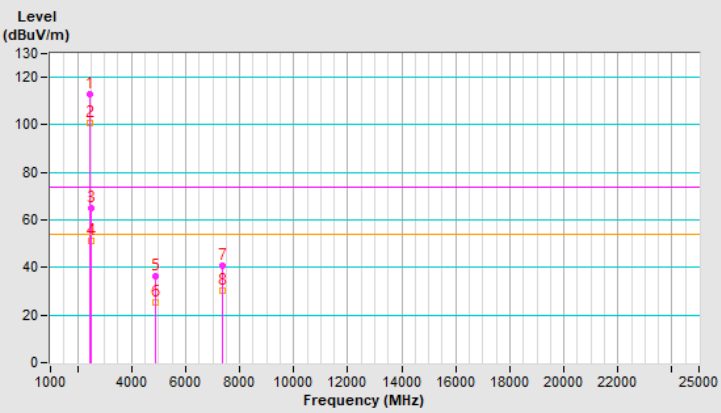


RF Mode	802.11ax (HE40)	Channel	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	29°C, 75% RH
Tested By	Nick Tsou		

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	112.8 PK			1.50 V	272	116.7	-3.9
2	*2452.00	101.0 AV			1.50 V	272	104.9	-3.9
3	2483.50	64.8 PK	74.0	-9.2	1.50 V	272	68.7	-3.9
4	2483.50	51.3 AV	54.0	-2.7	1.50 V	272	55.2	-3.9
5	4904.00	36.5 PK	74.0	-37.5	1.62 V	348	33.2	3.3
6	4904.00	25.3 AV	54.0	-28.7	1.62 V	348	22.0	3.3
7	7356.00	40.8 PK	74.0	-33.2	1.52 V	250	30.4	10.4
8	7356.00	30.5 AV	54.0	-23.5	1.52 V	250	20.1	10.4

Remarks:

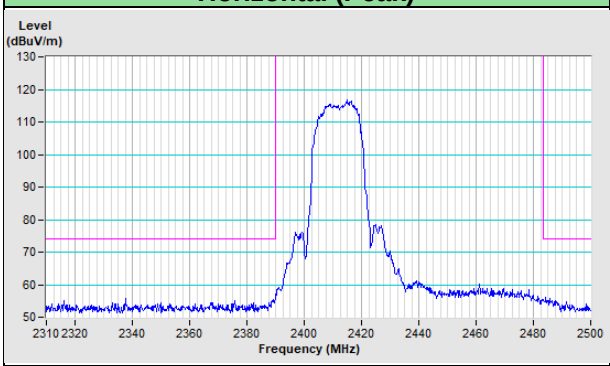
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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



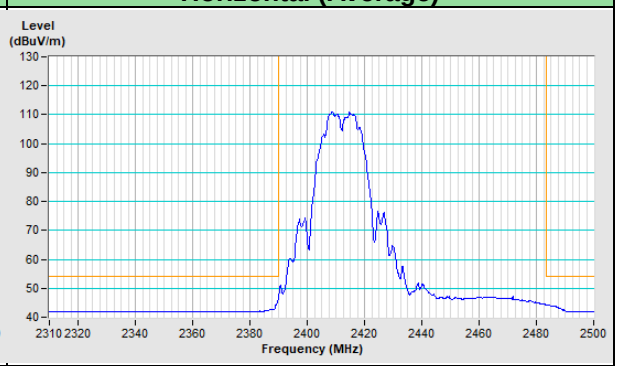
Plot of Band Edge

802.11b Channel 1

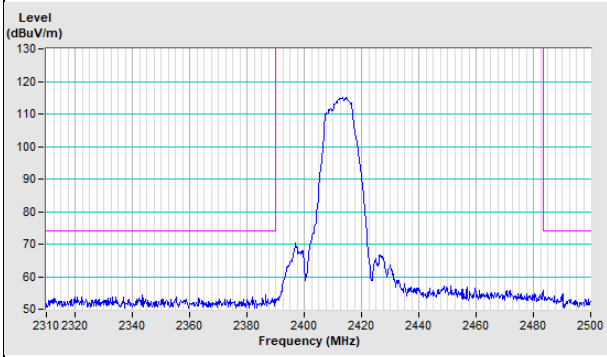
Horizontal (Peak)



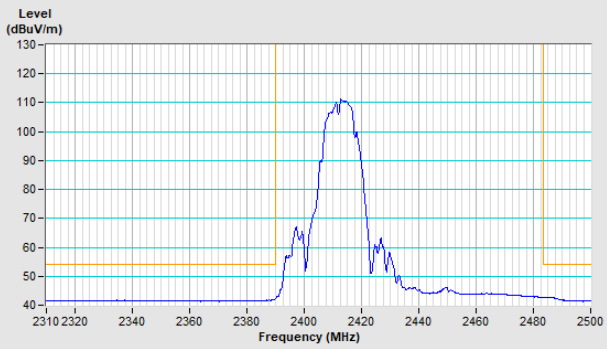
Horizontal (Average)



Vertical (Peak)

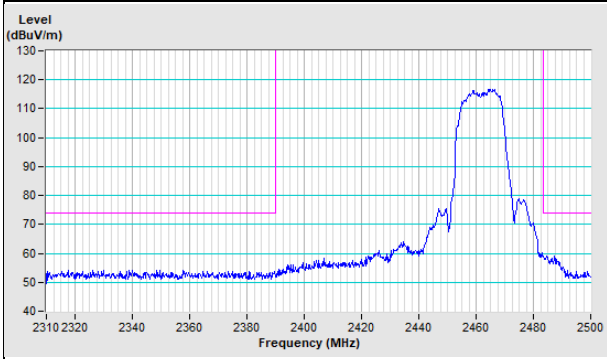


Vertical (Average)

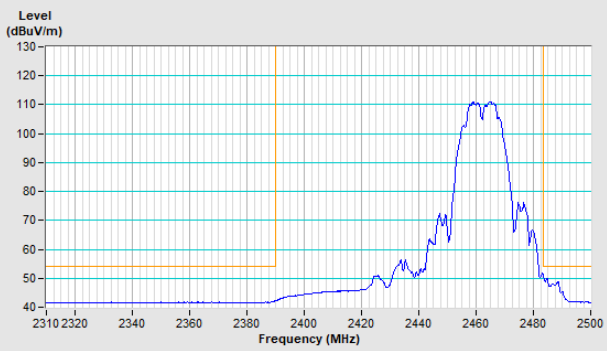


802.11b Channel 11

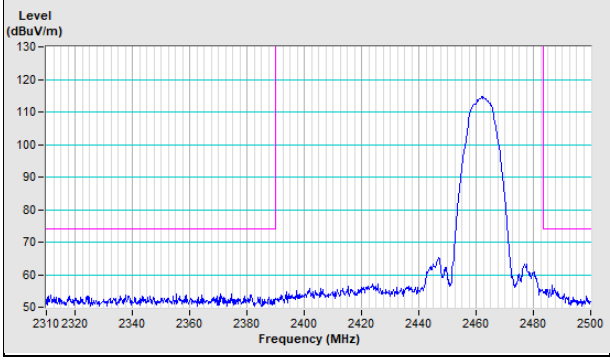
Horizontal (Peak)



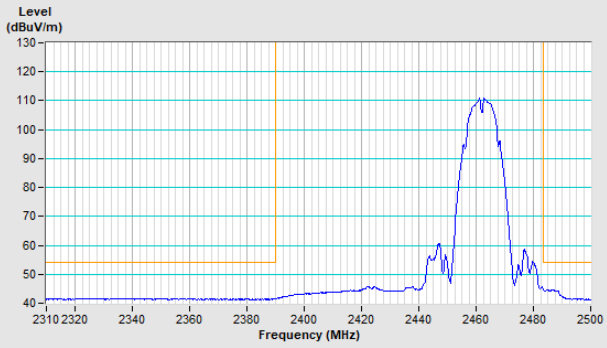
Horizontal (Average)



Vertical (Peak)

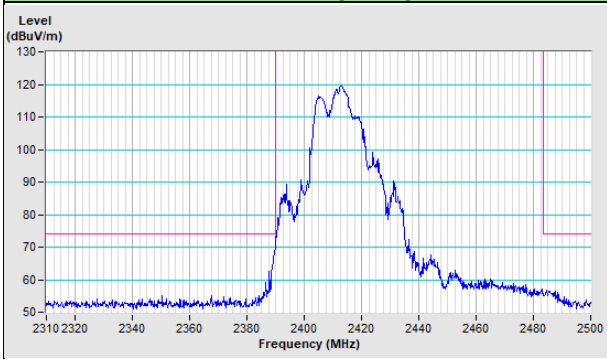


Vertical (Average)

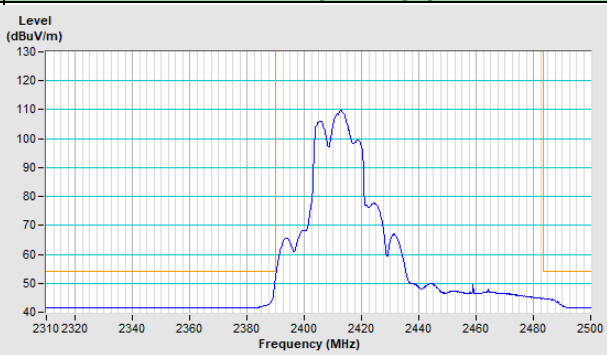


802.11g Channel 1

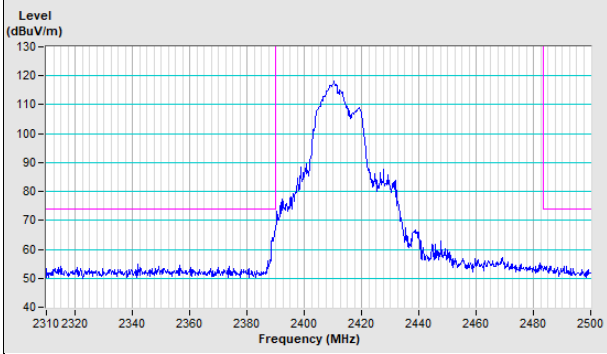
Horizontal (Peak)



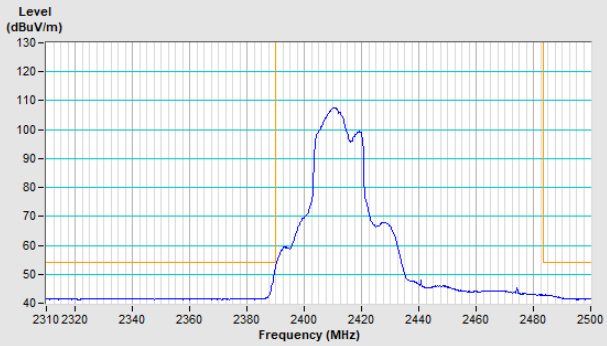
Horizontal (Average)



Vertical (Peak)

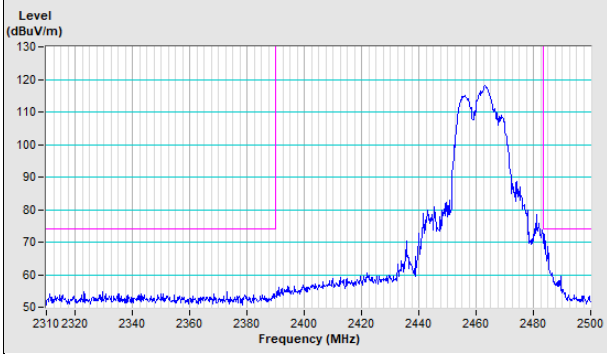


Vertical (Average)

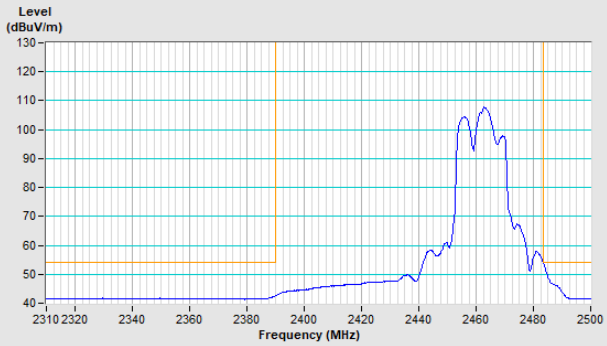


802.11g Channel 11

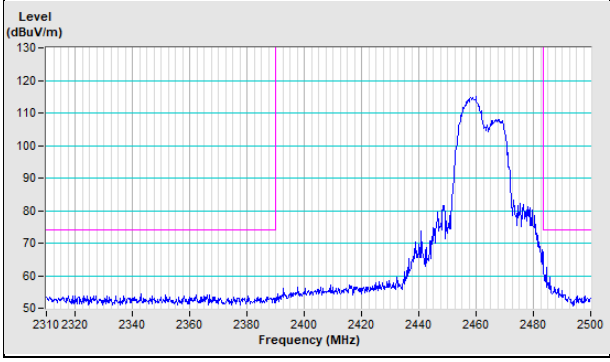
Horizontal (Peak)



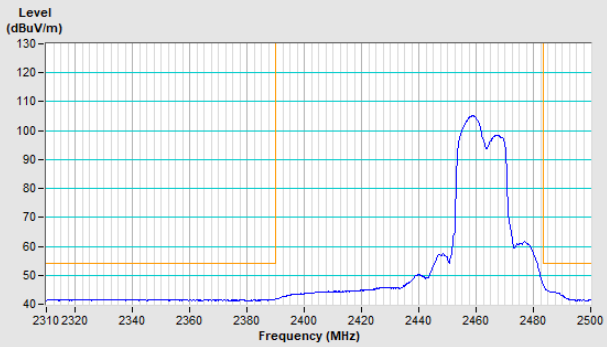
Horizontal (Average)



Vertical (Peak)

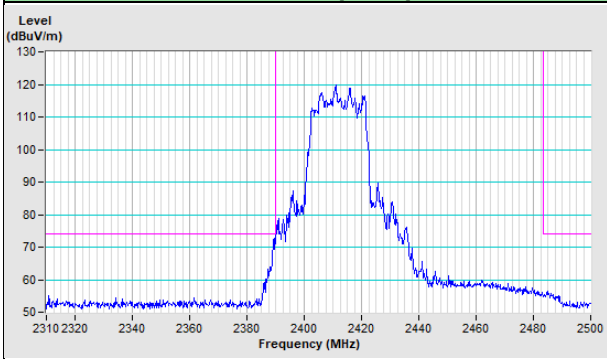


Vertical (Average)

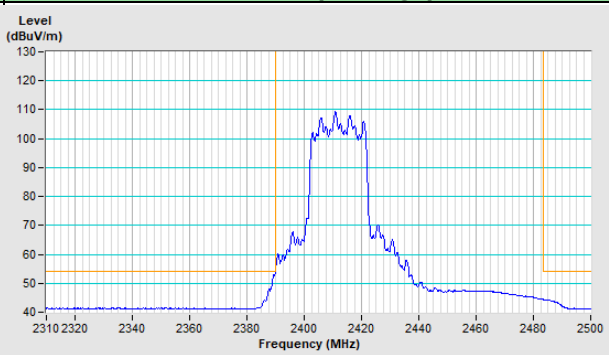


802.11ax (HE20) Channel 1

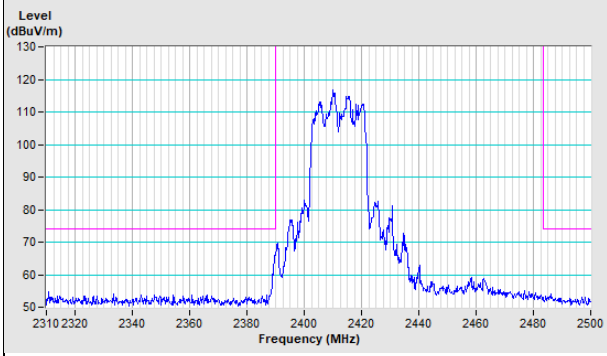
Horizontal (Peak)



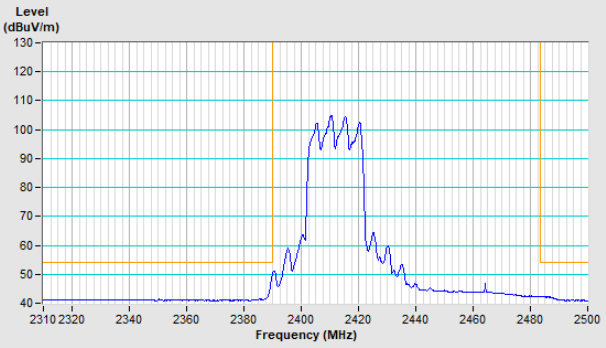
Horizontal (Average)



Vertical (Peak)

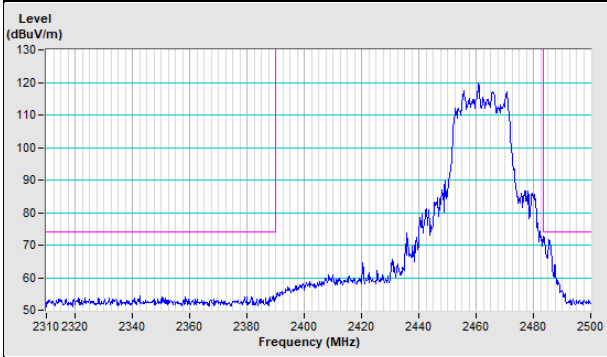


Vertical (Average)

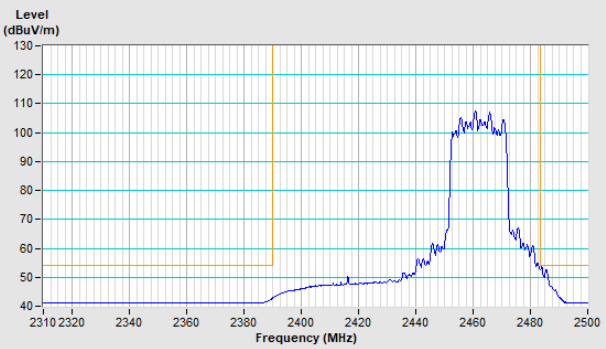


802.11ax (HE20) Channel 11

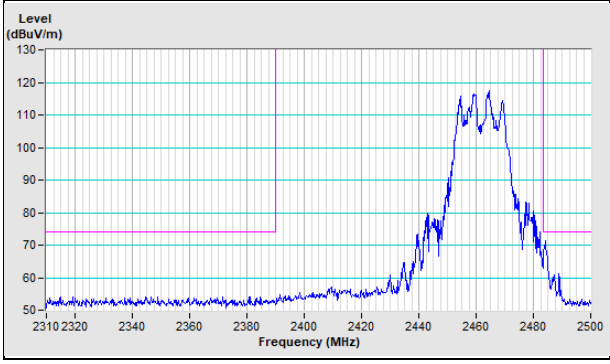
Horizontal (Peak)



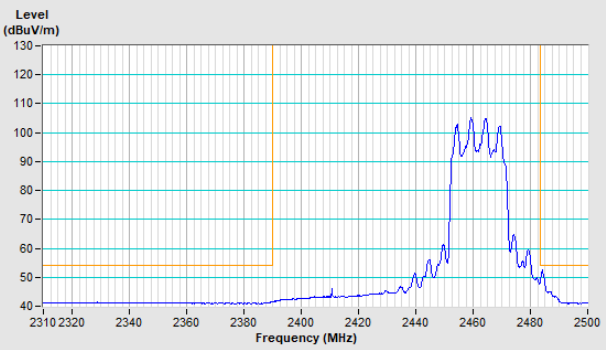
Horizontal (Average)



Vertical (Peak)

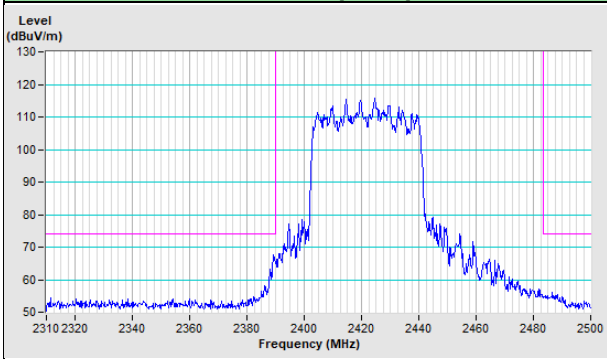


Vertical (Average)

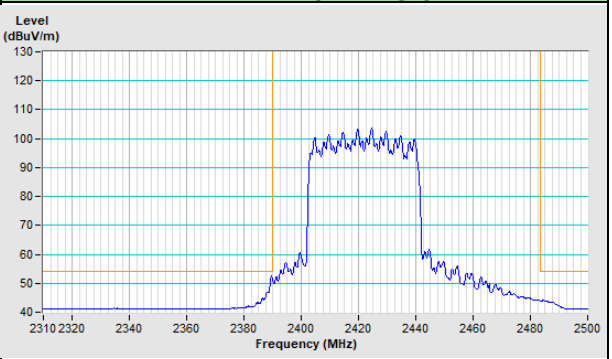


802.11ax (HE40) Channel 3

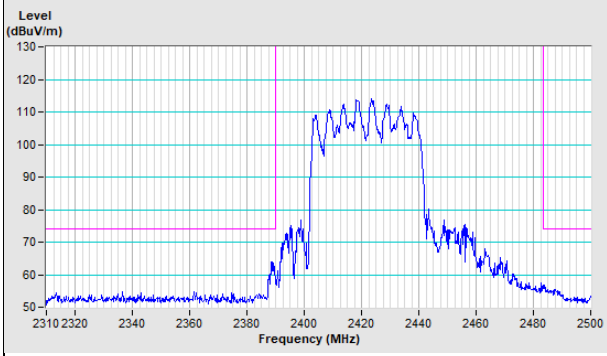
Horizontal (Peak)



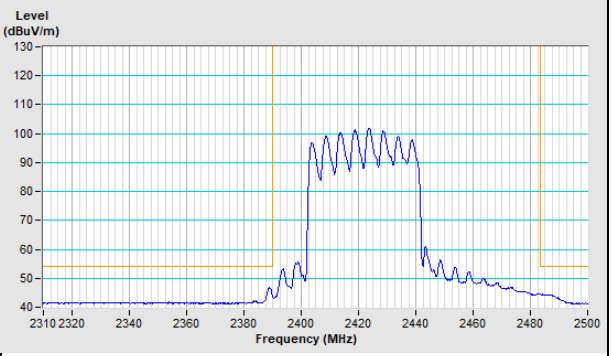
Horizontal (Average)



Vertical (Peak)

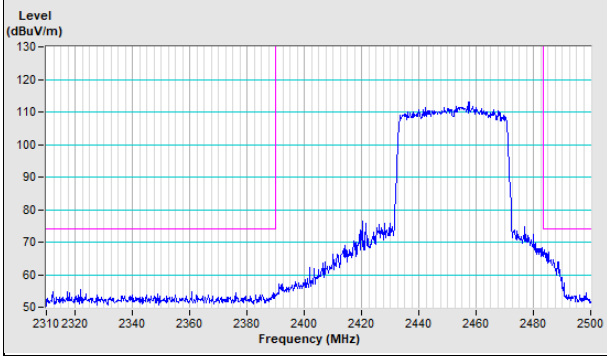


Vertical (Average)

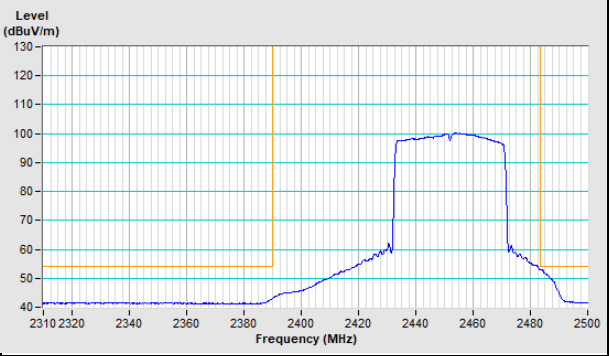


802.11ax (HE40) Channel 9

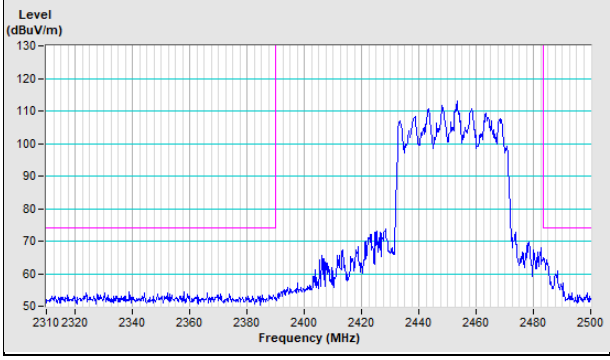
Horizontal (Peak)



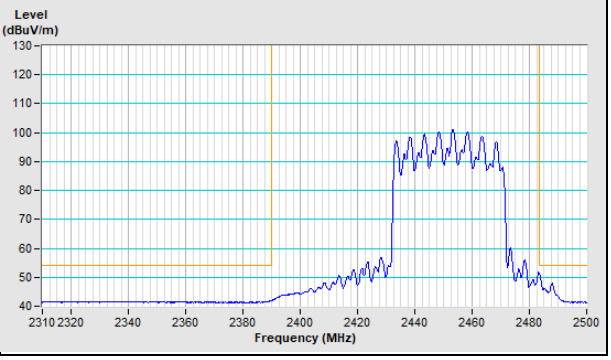
Horizontal (Average)



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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Web Site: http://ee.bureauveritas.com.tw

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

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