

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBARR-WTW-P21060023F-1

FCC ID: RAS-MT7922A12L

Model No.: MT7922A12L

Received Date: 2022/3/16

Test Date: 2022/3/21 ~ 2022/3/28

Issued Date: 2022/4/6

Applicant: MediaTek Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

FCC Registration / 723255 / TW2022

Designation Number:

Approved by: _____, **Date:** 2022/4/6
May Chen / Manager

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Prepared by : Cherry Chuo / Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFBARR-WTW-P21060023F-1	Original release.	2022/4/6

1 Certificate

Product: 2TX 11ax (WiFi6E) BW160+BT/BLE Combo Card

Brand: MediaTek

Test Model: MT7922A12L

Sample Status: Engineering sample

Applicant: MediaTek Inc.

Test Date: 2022/3/21 ~ 2022/3/28

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

Measurement ANSI C63.10-2013

procedure: 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	NA	Refer to Note 1 below
15.247(a)(2)	6dB Bandwidth	NA	Refer to Note 1 below
15.247(d)	Conducted Out of Band Emissions	NA	Refer to Note 1 below
15.207	AC Power Conducted Emissions	NA	Refer to Note 1 below
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -3.3 dB at 197.88 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.2 dB at 7311.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

Note:

1. RF Output Power & Unwanted Emissions test items were performed for this addendum. The others testing data refer to original test report.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
3. This report is prepared for supplementary report.

2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.5 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.1 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	2TX 11ax (WiFi6E) BW160+BT/BLE Combo Card
Brand	MediaTek
Test Model	MT7922A12L
Status of EUT	Engineering sample
Power Supply Rating	3.3 Vdc from host equipment
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 only
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: up to 11 Mbps 802.11g: up to 54 Mbps 802.11n: up to 300 Mbps VHT20/40: up to 400 Mbps 802.11ax: up to 573.5 Mbps
Operating Frequency	2412 ~ 2472 MHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 13 802.11n (HT40), VHT40, 802.11ax (HE40): 9
Output Power	754.756 mW (28.78 dBm)

Note:

- This is a supplementary report of Report No.: RFBARR-WTW-P21060023. The differences between them are as below information:
 - ◆ Enable WiFi 6E 802.11a SISO mode through software change.
- According to above conditions, only verify output power & radiated emissions need to be performed. And all data are verified to meet the requirements.
- There are Bluetooth and WLAN (2.4GHz & 5GHz & 5.9GHz & 6GHz) technology used for the EUT.
- Simultaneously transmission condition.

Condition	Technology	
1	WLAN (5GHz)	Bluetooth
2	WLAN (6GHz)	Bluetooth
3	WLAN (5.9GHz)	Bluetooth

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

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

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Ant. Set	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type	Cable Length (mm)
1	Chain0	PSA	RFMTA340718EMLB302	3.18 4.92	2.4~2.4835 5.15~5.895	PIFA	i-pex(MHF)	200
	Chain1	PSA	RFMTA340718EMLB302	3.18 4.92	2.4~2.4835 5.15~5.895	PIFA	i-pex(MHF)	200
2	Chain0	PSA	RFMTA311020EMMB301	1.71 4.82 4.76 4.29 4.61 4.09	2.4~2.4835 5.15~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	i-pex(MHF)	200
	Chain1	PSA	RFMTA311020EMMB301	1.71 4.82 4.76 4.29 4.61 4.09	2.4~2.4835 5.15~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	i-pex(MHF)	200
3	Chain0	MSI	WA-P-LE-02-045 (Main)	2.24 2.68 3.01 -1.23 -1.96 -3.68	2.4~2.4835 5.15~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	IPEX-4L	190
	Chain1	MSI	WA-P-LE-02-046 (Aux)	-2.96 1.16 0.99 -2.31 -2.54 -7.44	2.4~2.4835 5.15~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	IPEX-4L	325
4	Chain0	PSA	RFPCA460632IMMB701	-13.20 -13.67 -13.67 -13.09	5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	Dipole	IPEX	320
	Chain1	PSA	RFPCA460632IMMB701	-13.20 -13.67 -13.67 -13.09	5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	Dipole	IPEX	320
5	Chain0	PSA	RFMTA421230IMMB701	-13.92 -13.91 -13.91 -14.46	5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	IPEX	300
	Chain1	PSA	RFMTA421230IMMB701	-13.92 -13.91 -13.91 -14.46	5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	IPEX	300

Note: Max. gain was selected for the final test.

2. The EUT incorporates a MIMO function:

2.4GHz Band				
MODULATION MODE	TX & RX CONFIGURATION		CDD mode	Beamforming mode
802.11b	2TX	2RX	Support	Not Support
802.11g	2TX	2RX	Support	Not Support
802.11n (HT20)	2TX	2RX	Support	Not Support
802.11n (HT40)	2TX	2RX	Support	Not Support
VHT20	2TX	2RX	Support	Not Support
VHT40	2TX	2RX	Support	Not Support
802.11ax (HE20)	2TX	2RX	Support	Not Support
802.11ax (HE40)	2TX	2RX	Support	Not Support
802.11ax (RU26/52/106/242/484)	2TX	2RX	Support	Not Support

Note:

1. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz), VHT mode for 20MHz (40MHz) and 802.11ax mode for 20MHz (40MHz), therefore the manufacturer will control the power for 802.11n/VHT mode is the same as the 802.11ax or more lower than it and investigated worst case to representative mode in test report.

3.3 Channel List

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

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

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

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

3.4 Test Mode Applicability and Tested Channel Detail

Worst Case:	1. In the original report, the EUT's PIFA antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Z-place. 2. Antenna Set 1 was selected as representative antenna for the test and its data was recorded in this report.
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Following channel(s) was (were) selected for the final test as listed below:

Test Item	Mode	Tested Channel	Modulation	Data Rate Parameter
Unwanted Emissions below 1 GHz	802.11b	1	DBPSK	1Mb/s
Unwanted Emissions above 1 GHz	802.11b	1, 6, 11, 12, 13	DBPSK	1Mb/s
	802.11g	6	BPSK	6Mb/s
	802.11ax (HE20)	6	BPSK	MCS0
	802.11ax (HE40)	6	BPSK	MCS0
RF Output Power	802.11b	1, 6, 11, 12, 13	DBPSK	1Mb/s
	802.11g	6	BPSK	6Mb/s
	802.11ax (HE20)	6	BPSK	MCS0
	802.11ax (HE40)	6	BPSK	MCS0

3.5 Duty Cycle of Test Signal

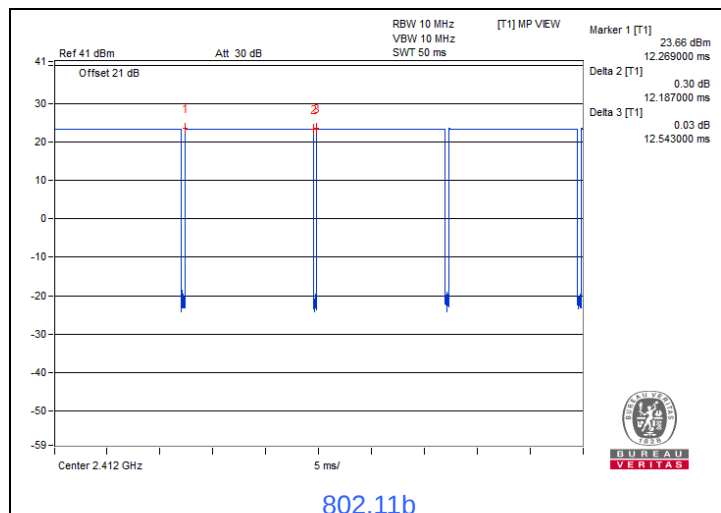
Duty cycle of test signal is $\geq 98\%$, duty factor is not required.
Duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11b: Duty cycle = $12.187 \text{ ms} / 12.543 \text{ ms} \times 100\% = 97.2\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.13 \text{ dB}$

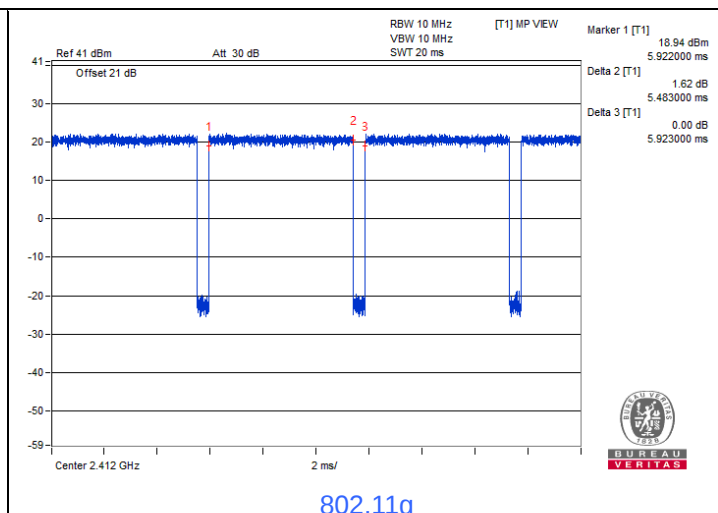
802.11g: Duty cycle = $5.483 \text{ ms} / 5.923 \text{ ms} \times 100\% = 92.6\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.34 \text{ dB}$

802.11ax (HE20): Duty cycle = $3.877 \text{ ms} / 4.345 \text{ ms} \times 100\% = 89.2\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.49 \text{ dB}$

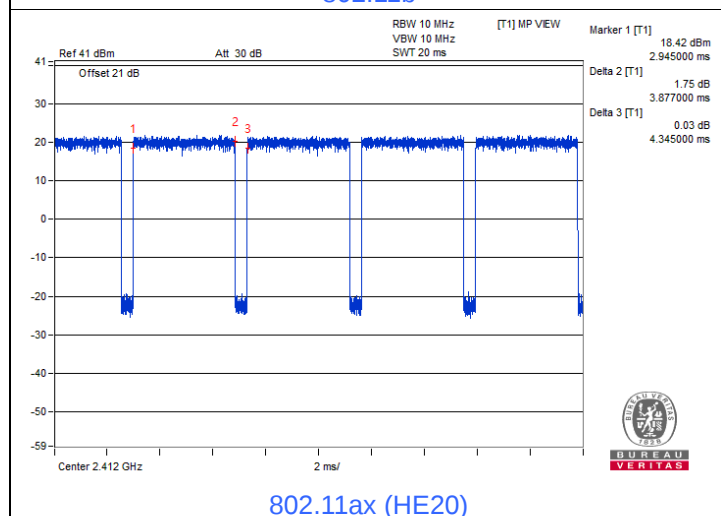
802.11ax (HE40): Duty cycle = $3.78 \text{ ms} / 4.37 \text{ ms} \times 100\% = 86.5\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.63 \text{ dB}$



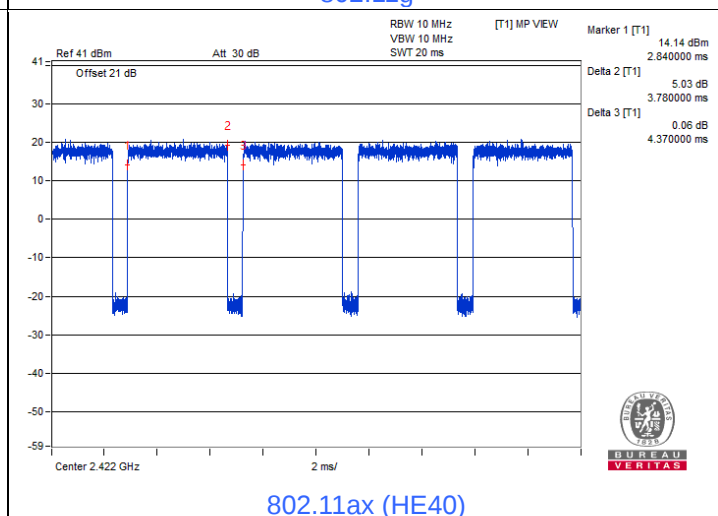
802.11b



802.11g



802.11ax (HE20)

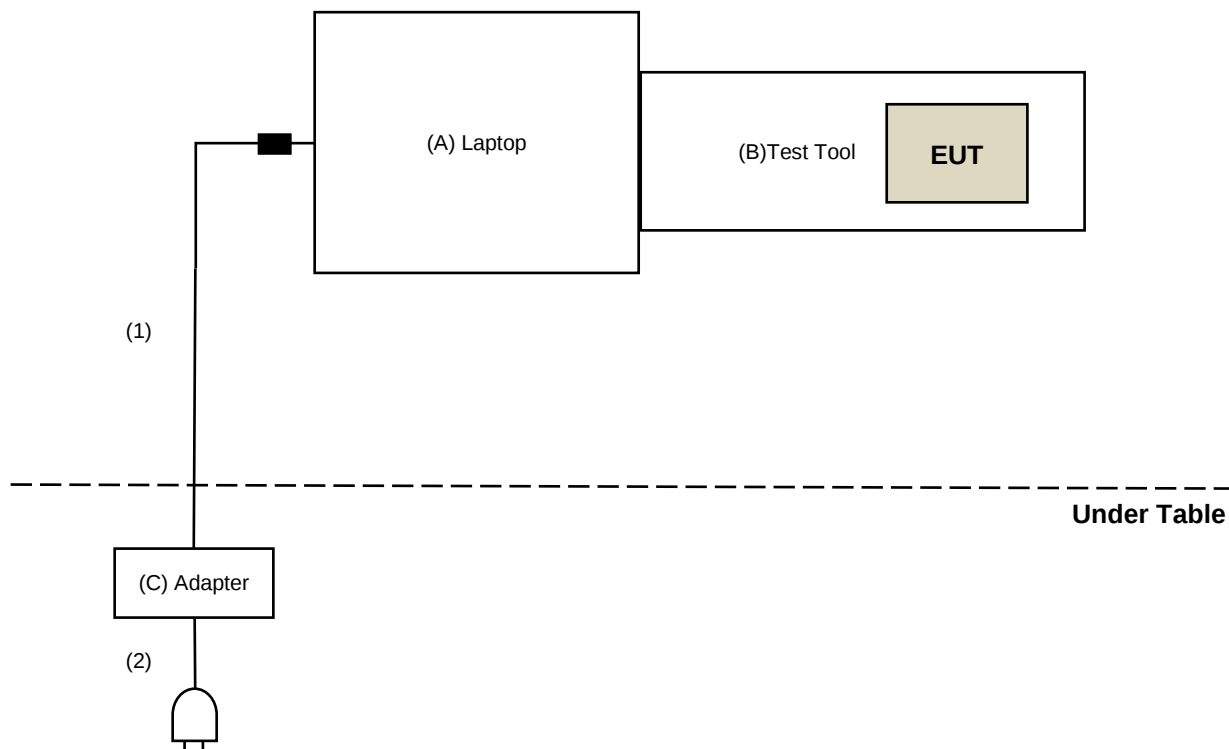


802.11ax (HE40)

3.6 Test Program Used and Operation Descriptions

Controlling software (MT7922 QA 0.0.2.55) 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	Laptop	DELL	E5430	HYV4VY1	DoC	Provided by Lab
B	Test Tool	Mediatek	MTK1849	N/A	N/A	Supplied by applicant
C	Adapter	Dell	LA65NS2-01	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Cable	1	1.8	No	1	Provided by Lab
2	AC Cable	1	1.8	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
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2021/4/13	2022/4/12
Power Meter Anritsu	ML2495A	1529002	2021/6/21	2022/6/20
Pulse Power Sensor Anritsu	MA2411B	1339443	2021/5/31	2022/5/30
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100964	2021/5/31	2022/5/30

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/3/24

4.2 Unwanted Emissions below 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
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	2022/1/10	2023/1/9
Loop Antenna TESEQ	HLA 6121	45745	2021/7/21	2022/7/20
Pre_Amplifier EMCI	EMC001340	980142	2021/5/24	2022/5/23
	EMC330N	980701	2022/3/8	2023/3/7
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2022/1/6	2023/1/5
		LOOPCAB-002	2022/1/6	2023/1/5
RF Coaxial Cable COMMATE/PEWC	8D	966-4-1	2022/3/8	2023/3/7
		966-4-2	2022/3/8	2023/3/7
		966-4-3	2022/3/8	2023/3/7
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY51210202	2021/11/19	2022/11/18
Trilog Broadband Antenna Schwarzbeck	VULB 9168	9168-406	2021/10/27	2022/10/26

Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2022/3/28

4.3 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-783	2021/11/14	2022/11/13
	BBHA 9170	9170-739	2021/11/14	2022/11/13
Pre_Amplifier EMCI	EMC 12630 SE	980638	2021/4/7	2022/4/6
	EMC184045SE	980387	2022/1/10	2023/1/9
RF Cable-Frequency Range : 1- 26.5GHz EMCI	EMC104-SM-SM-1200	160922	2021/12/24	2022/12/23
RF Cable-Frequency range: 1- 40GHz EMCI	EMC102-KM-KM-1200	160924	2022/1/10	2023/1/9
RF Coaxial Cable EMCI	EMC104-SM-SM-2000	180502	2021/4/26	2022/4/25
	EMC104-SM-SM-6000	210704	2021/11/9	2022/11/8
	EMC-KM-KM-4000	200214	2022/3/8	2023/3/7
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY51210202	2021/11/19	2022/11/18

Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2022/3/21

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 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 20 dB below the highest level of the desired power:

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

Notes:

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

5.3 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 20 dB below the highest level of the desired power:

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

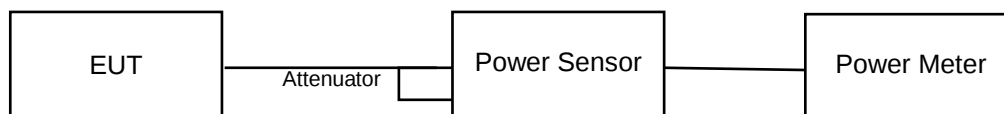
Notes:

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

Peak Power:

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

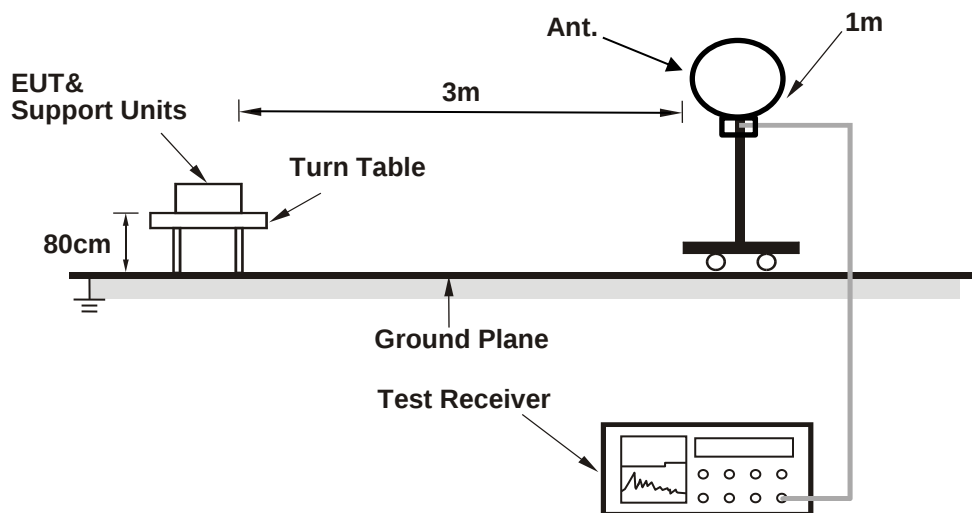
Average Power:

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.

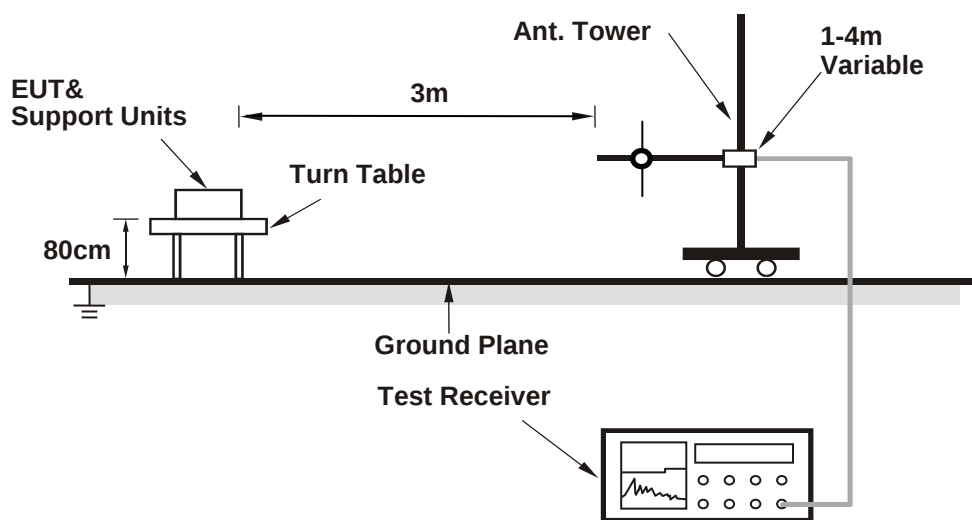
6.2 Unwanted Emissions below 1 GHz

6.2.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



6.2.2 Test Procedure

For Radiated emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Notes:

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

For Radiated emission above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

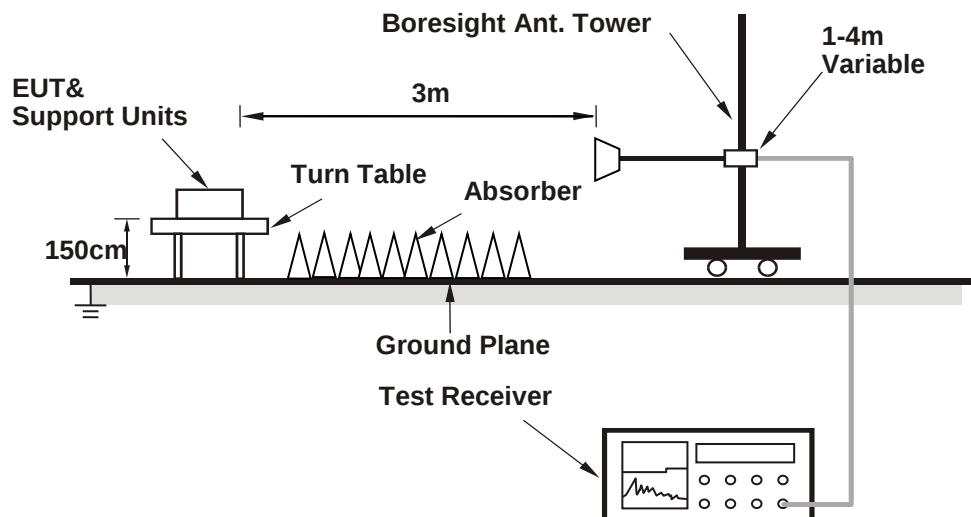
Notes:

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

6.3 Unwanted Emissions above 1 GHz

6.3.1 Test Setup

For Radiated emission above 1 GHz



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

6.3.2 Test Procedure

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

- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
- 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:	3.3 Vdc	Environmental Conditions:	25 °C, 60 % RH	Tested By:	Leon Dai
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For Peak Power

802.11b

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	23.25	23.26	423.185	26.27	30	Pass
6	2437	22.61	22.80	372.936	25.72	30	Pass
11	2462	22.37	20.34	280.727	24.48	30	Pass
12	2467	20.21	20.57	218.979	23.40	30	Pass
13	2472	16.53	16.77	92.512	19.66	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.18 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
6	2437	25.61	25.19	694.285	28.42	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.18 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
6	2437	25.92	25.61	754.756	28.78	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.18 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
6	2437	22.61	22.52	361.038	25.58	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.18 dBi < 6 dBi, so the output power limit shall not be reduced.

For Average Power

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	20.94	20.78	243.839	23.87
6	2437	20.39	20.33	217.29	23.37
11	2462	19.91	19.89	195.448	22.91
12	2467	17.93	18.21	128.309	21.08
13	2472	14.02	14.35	52.462	17.20

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
6	2437	20.66	20.77	235.811	23.73

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
6	2437	20.08	20.40	211.507	23.25

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
6	2437	17.44	17.49	111.567	20.48

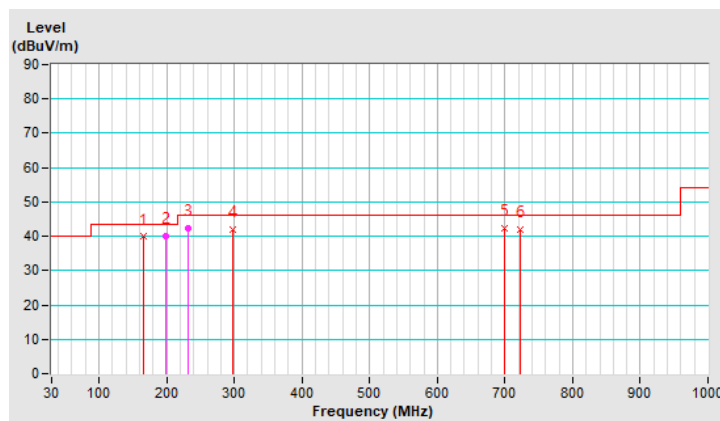
7.2 Unwanted Emissions below 1 GHz

RF Mode	TX 802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	22 °C, 62 % RH
Tested By	Sampson Chen		

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	166.02	39.9 QP	43.5	-3.6	2.00 H	213	51.8	-11.9
2	197.88	40.2 QP	43.5	-3.3	1.50 H	155	54.9	-14.7
3	232.68	42.5 QP	46.0	-3.5	1.00 H	261	56.2	-13.7
4	298.50	42.1 QP	46.0	-3.9	1.50 H	327	52.6	-10.5
5	698.82	42.5 QP	46.0	-3.5	1.50 H	200	42.8	-0.3
6	721.95	42.1 QP	46.0	-3.9	1.50 H	244	42.1	0.0

Remarks:

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

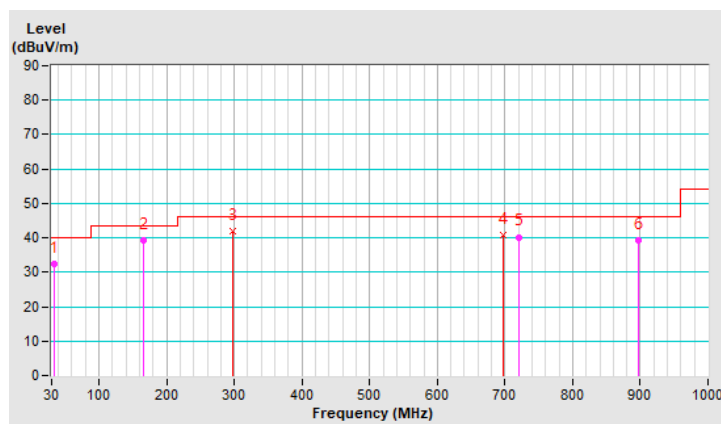


RF Mode	TX 802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	22 °C, 62 % RH
Tested By	Sampson Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	33.57	32.5 QP	40.0	-7.5	1.50 V	214	45.8	-13.3
2	166.23	39.1 QP	43.5	-4.4	1.50 V	317	51.1	-12.0
3	298.44	41.9 QP	46.0	-4.1	1.50 V	322	52.4	-10.5
4	698.19	40.8 QP	46.0	-5.2	1.00 V	184	41.1	-0.3
5	720.11	40.2 QP	46.0	-5.8	2.00 V	256	40.3	-0.1
6	896.21	39.2 QP	46.0	-6.8	1.00 V	288	35.6	3.6

Remarks:

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



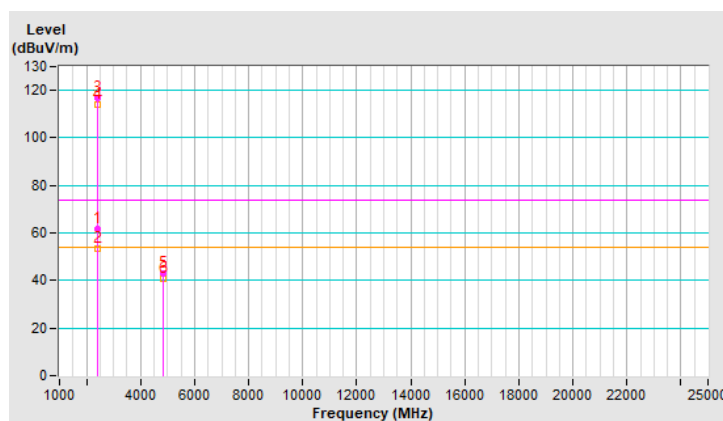
7.3 Unwanted Emissions above 1 GHz

RF Mode	TX 802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 100 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

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	61.8 PK	74.0	-12.2	2.95 H	252	66.3	-4.5
2	2390.00	53.5 AV	54.0	-0.5	2.95 H	252	58.0	-4.5
3	*2412.00	116.7 PK			2.95 H	252	121.2	-4.5
4	*2412.00	114.2 AV			2.95 H	252	118.7	-4.5
5	4824.00	42.9 PK	74.0	-31.1	2.32 H	75	42.9	0.0
6	4824.00	40.5 AV	54.0	-13.5	2.32 H	75	40.5	0.0

Remarks:

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

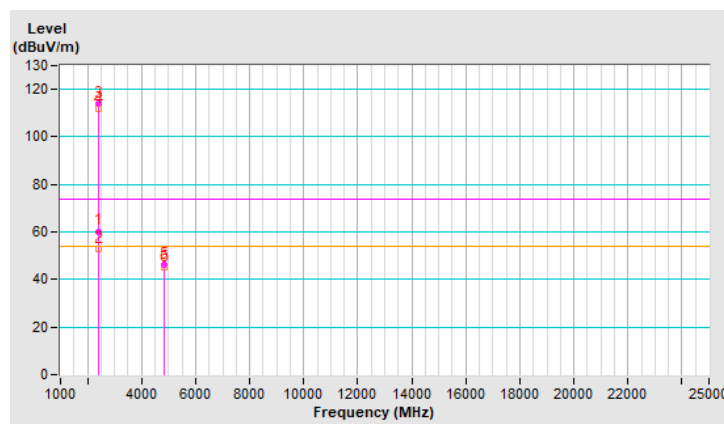


RF Mode	TX 802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 100 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.3 PK	74.0	-13.7	1.21 V	295	64.8	-4.5
2	2390.00	52.8 AV	54.0	-1.2	1.21 V	295	57.3	-4.5
3	*2412.00	114.0 PK			1.21 V	295	118.5	-4.5
4	*2412.00	111.8 AV			1.21 V	295	116.3	-4.5
5	4824.00	46.3 PK	74.0	-27.7	2.26 V	344	46.3	0.0
6	4824.00	45.3 AV	54.0	-8.7	2.26 V	344	45.3	0.0

Remarks:

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

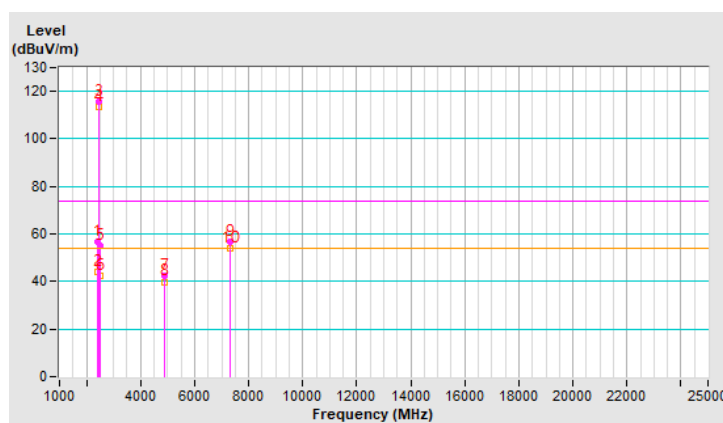


RF Mode	TX 802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 100 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	56.6 PK	74.0	-17.4	3.01 H	256	61.1	-4.5
2	2390.00	44.3 AV	54.0	-9.7	3.01 H	256	48.8	-4.5
3	*2437.00	115.6 PK			3.01 H	256	120.1	-4.5
4	*2437.00	113.3 AV			3.01 H	256	117.8	-4.5
5	2483.50	55.3 PK	74.0	-18.7	3.01 H	256	59.8	-4.5
6	2483.50	42.5 AV	54.0	-11.5	3.01 H	256	47.0	-4.5
7	4874.00	42.5 PK	74.0	-31.5	2.25 H	54	42.7	-0.2
8	4874.00	39.9 AV	54.0	-14.1	2.25 H	54	40.1	-0.2
9	7311.00	56.5 PK	74.0	-17.5	1.90 H	238	50.3	6.2
10	7311.00	53.8 AV	54.0	-0.2	1.90 H	238	47.6	6.2

Remarks:

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

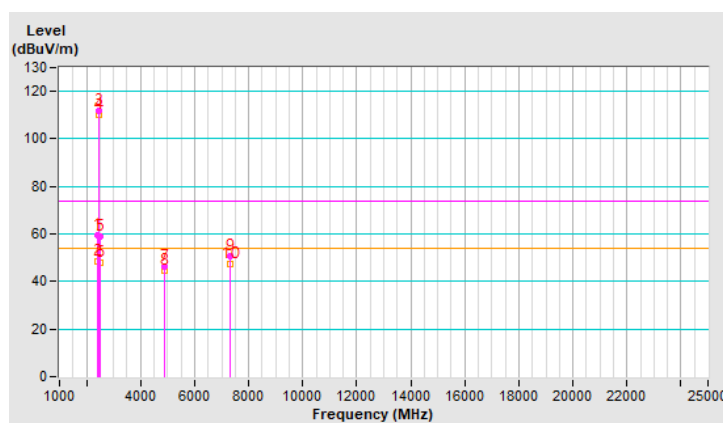


RF Mode	TX 802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 100 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.6 PK	74.0	-14.4	1.14 V	285	64.1	-4.5
2	2390.00	48.5 AV	54.0	-5.5	1.14 V	285	53.0	-4.5
3	*2437.00	112.0 PK			1.14 V	285	116.5	-4.5
4	*2437.00	110.1 AV			1.14 V	285	114.6	-4.5
5	2483.50	58.9 PK	74.0	-15.1	1.14 V	285	63.4	-4.5
6	2483.50	47.9 AV	54.0	-6.1	1.14 V	285	52.4	-4.5
7	4874.00	46.2 PK	74.0	-27.8	2.28 V	343	46.4	-0.2
8	4874.00	44.6 AV	54.0	-9.4	2.28 V	343	44.8	-0.2
9	7311.00	50.8 PK	74.0	-23.2	1.53 V	341	44.6	6.2
10	7311.00	47.2 AV	54.0	-6.8	1.53 V	341	41.0	6.2

Remarks:

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

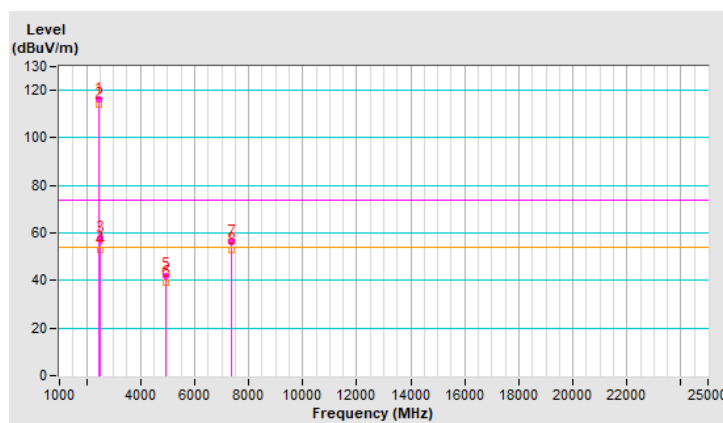


RF Mode	TX 802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 100 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	116.0 PK			3.30 H	227	120.5	-4.5
2	*2462.00	114.0 AV			3.30 H	227	118.5	-4.5
3	2483.50	57.8 PK	74.0	-16.2	3.30 H	227	62.3	-4.5
4	2483.50	53.1 AV	54.0	-0.9	3.30 H	227	57.6	-4.5
5	4924.00	42.1 PK	74.0	-31.9	2.13 H	68	42.1	0.0
6	4924.00	39.2 AV	54.0	-14.8	2.13 H	68	39.2	0.0
7	7386.00	56.1 PK	74.0	-17.9	1.99 H	254	49.6	6.5
8	7386.00	52.9 AV	54.0	-1.1	1.99 H	254	46.4	6.5

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.

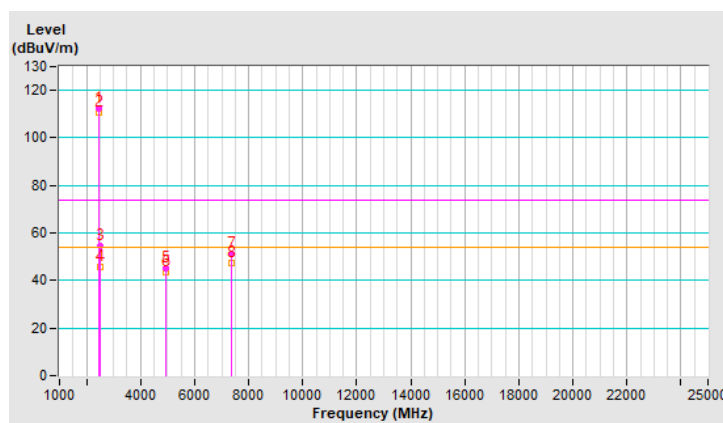


RF Mode	TX 802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 100 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

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	112.5 PK			1.19 V	303	117.0	-4.5
2	*2462.00	110.6 AV			1.19 V	303	115.1	-4.5
3	2483.50	54.3 PK	74.0	-19.7	1.19 V	303	58.8	-4.5
4	2483.50	45.5 AV	54.0	-8.5	1.19 V	303	50.0	-4.5
5	4924.00	45.4 PK	74.0	-28.6	2.31 V	357	45.4	0.0
6	4924.00	43.7 AV	54.0	-10.3	2.31 V	357	43.7	0.0
7	7386.00	51.0 PK	74.0	-23.0	1.50 V	332	44.5	6.5
8	7386.00	47.1 AV	54.0	-6.9	1.50 V	332	40.6	6.5

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.

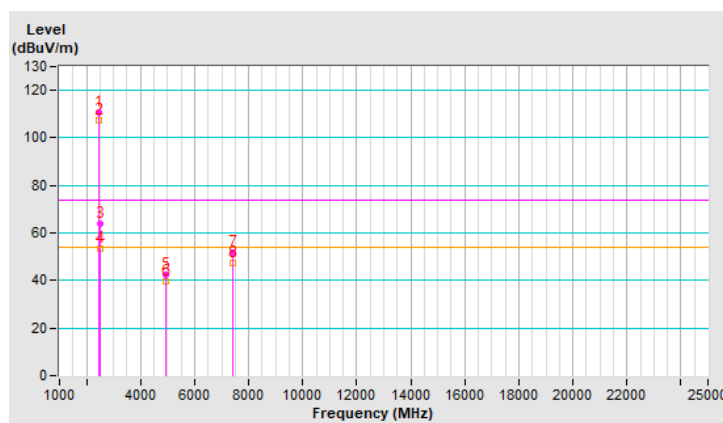


RF Mode	TX 802.11b	Channel	CH 12 : 2467 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 100 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	110.9 PK			2.54 H	54	115.4	-4.5
2	*2467.00	107.6 AV			2.54 H	54	112.1	-4.5
3	2485.00	64.0 PK	74.0	-10.0	2.54 H	54	68.5	-4.5
4	2485.00	53.5 AV	54.0	-0.5	2.54 H	54	58.0	-4.5
5	4934.00	42.4 PK	74.0	-31.6	2.15 H	78	42.4	0.0
6	4934.00	39.6 AV	54.0	-14.4	2.15 H	78	39.6	0.0
7	7401.00	51.6 PK	74.0	-22.4	2.02 H	261	45.1	6.5
8	7401.00	47.6 AV	54.0	-6.4	2.02 H	261	41.1	6.5

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.

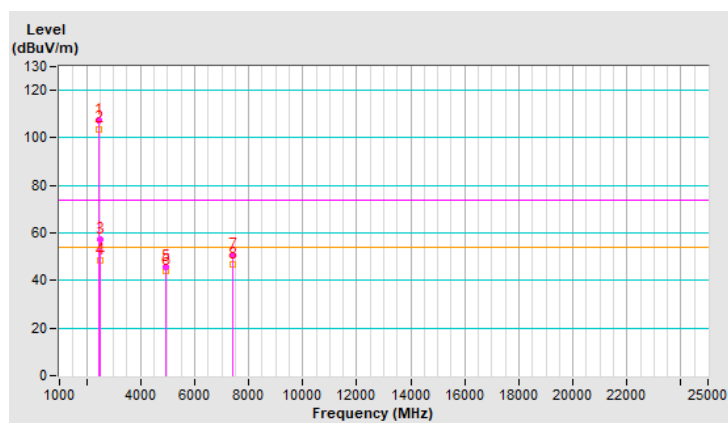


RF Mode	TX 802.11b	Channel	CH 12 : 2467 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 100 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	107.2 PK			1.49 V	38	111.7	-4.5
2	*2467.00	103.8 AV			1.49 V	38	108.3	-4.5
3	2483.50	57.3 PK	74.0	-16.7	1.49 V	38	61.8	-4.5
4	2483.50	48.2 AV	54.0	-5.8	1.49 V	38	52.7	-4.5
5	4934.00	45.8 PK	74.0	-28.2	2.30 V	360	45.8	0.0
6	4934.00	44.2 AV	54.0	-9.8	2.30 V	360	44.2	0.0
7	7401.00	50.8 PK	74.0	-23.2	1.55 V	319	44.3	6.5
8	7401.00	46.8 AV	54.0	-7.2	1.55 V	319	40.3	6.5

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.

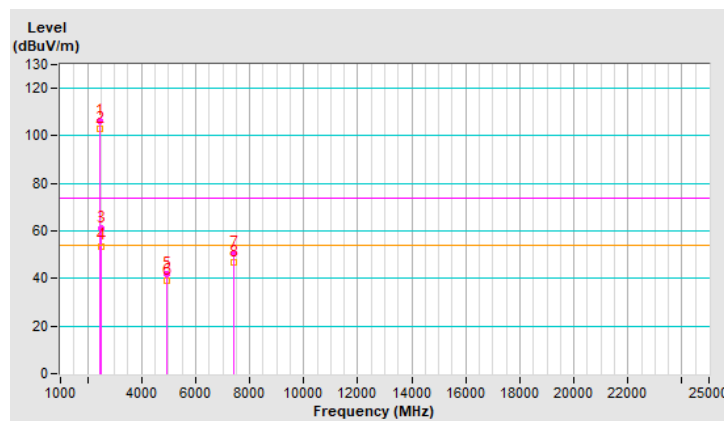


RF Mode	TX 802.11b	Channel	CH 13 : 2472 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 100 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	106.5 PK			2.53 H	55	111.0	-4.5
2	*2472.00	103.1 AV			2.53 H	55	107.6	-4.5
3	2483.50	61.0 PK	74.0	-13.0	2.53 H	360	65.5	-4.5
4	2483.50	53.7 AV	54.0	-0.3	2.53 H	360	58.2	-4.5
5	4944.00	41.9 PK	74.0	-32.1	2.18 H	74	41.8	0.1
6	4944.00	39.1 AV	54.0	-14.9	2.18 H	74	39.0	0.1
7	7416.00	50.8 PK	74.0	-23.2	2.03 H	261	44.3	6.5
8	7416.00	47.0 AV	54.0	-7.0	2.03 H	261	40.5	6.5

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.

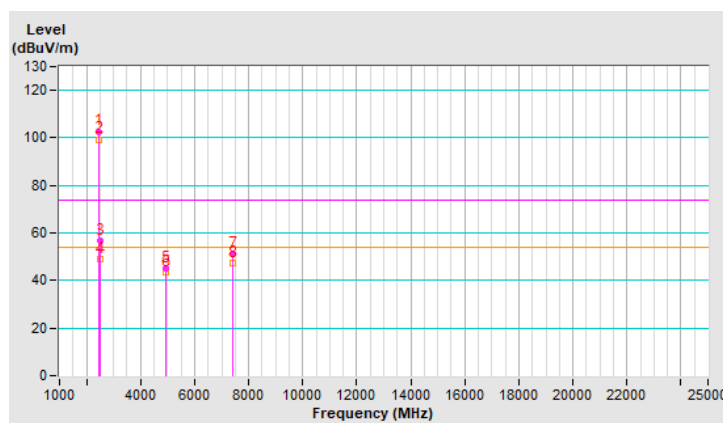


RF Mode	TX 802.11b	Channel	CH 13 : 2472 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 100 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	102.7 PK			1.48 V	37	107.2	-4.5
2	*2472.00	99.4 AV			1.48 V	37	103.9	-4.5
3	2483.50	56.8 PK	74.0	-17.2	1.48 V	37	61.3	-4.5
4	2483.50	49.0 AV	54.0	-5.0	1.48 V	37	53.5	-4.5
5	4944.00	45.0 PK	74.0	-29.0	2.33 V	360	44.9	0.1
6	4944.00	43.3 AV	54.0	-10.7	2.33 V	360	43.2	0.1
7	7416.00	51.2 PK	74.0	-22.8	1.51 V	318	44.7	6.5
8	7416.00	47.3 AV	54.0	-6.7	1.51 V	318	40.8	6.5

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.

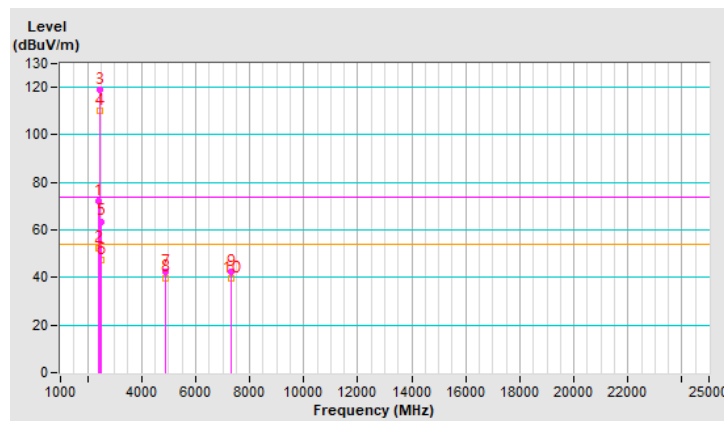


RF Mode	TX 802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

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	72.3 PK	74.0	-1.7	2.67 H	85	76.8	-4.5
2	2390.00	52.5 AV	54.0	-1.5	2.67 H	85	57.0	-4.5
3	*2437.00	118.8 PK			2.67 H	85	123.3	-4.5
4	*2437.00	110.1 AV			2.67 H	85	114.6	-4.5
5	2483.50	63.6 PK	74.0	-10.4	2.67 H	85	68.1	-4.5
6	2483.50	47.2 AV	54.0	-6.8	2.67 H	85	51.7	-4.5
7	4874.00	42.5 PK	74.0	-31.5	2.12 H	66	42.7	-0.2
8	4874.00	39.9 AV	54.0	-14.1	2.12 H	66	40.1	-0.2
9	7311.00	42.6 PK	74.0	-31.4	2.08 H	248	36.4	6.2
10	7311.00	39.8 AV	54.0	-14.2	2.08 H	248	33.6	6.2

Remarks:

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

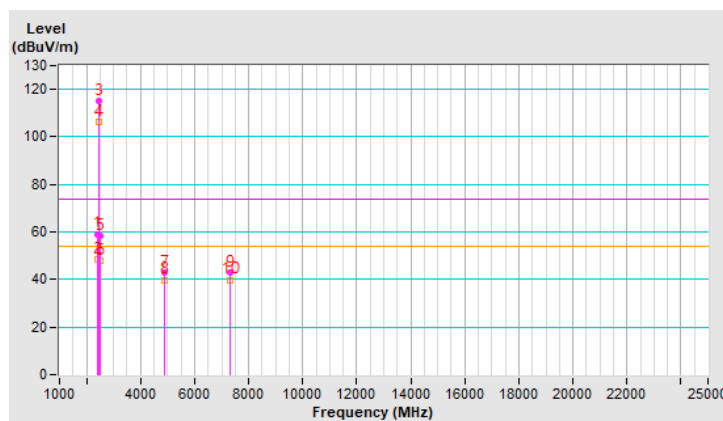


RF Mode	TX 802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.2 PK	74.0	-14.8	1.17 V	294	63.7	-4.5
2	2390.00	48.5 AV	54.0	-5.5	1.17 V	294	53.0	-4.5
3	*2437.00	115.1 PK			1.17 V	294	119.6	-4.5
4	*2437.00	106.5 AV			1.17 V	294	111.0	-4.5
5	2483.50	58.6 PK	74.0	-15.4	1.17 V	294	63.1	-4.5
6	2483.50	48.0 AV	54.0	-6.0	1.17 V	294	52.5	-4.5
7	4874.00	43.0 PK	74.0	-31.0	2.28 V	360	43.2	-0.2
8	4874.00	39.9 AV	54.0	-14.1	2.28 V	360	40.1	-0.2
9	7311.00	42.8 PK	74.0	-31.2	1.44 V	326	36.6	6.2
10	7311.00	39.9 AV	54.0	-14.1	1.44 V	326	33.7	6.2

Remarks:

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

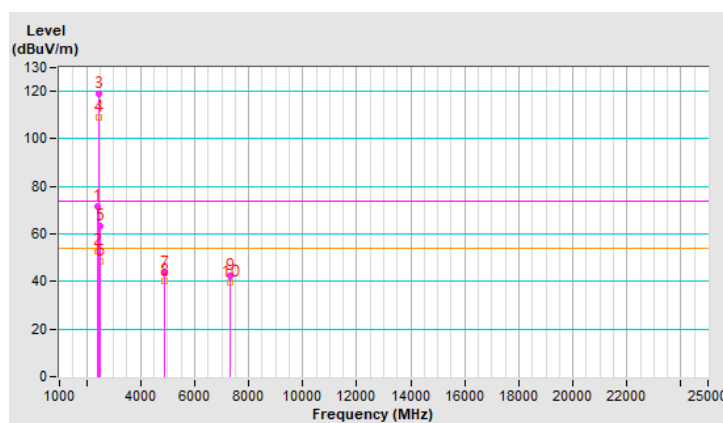


RF Mode	TX 802.11ax (HE20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 300 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

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	71.4 PK	74.0	-2.6	2.63 H	77	75.9	-4.5
2	2390.00	53.1 AV	54.0	-0.9	2.63 H	77	57.6	-4.5
3	*2437.00	119.2 PK			2.63 H	77	123.7	-4.5
4	*2437.00	108.8 AV			2.63 H	77	113.3	-4.5
5	2483.50	63.1 PK	74.0	-10.9	2.63 H	77	67.6	-4.5
6	2483.50	48.5 AV	54.0	-5.5	2.63 H	77	53.0	-4.5
7	4874.00	43.4 PK	74.0	-30.6	2.26 H	52	43.6	-0.2
8	4874.00	40.3 AV	54.0	-13.7	2.26 H	52	40.5	-0.2
9	7311.00	42.4 PK	74.0	-31.6	2.01 H	254	36.2	6.2
10	7311.00	39.7 AV	54.0	-14.3	2.01 H	254	33.5	6.2

Remarks:

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

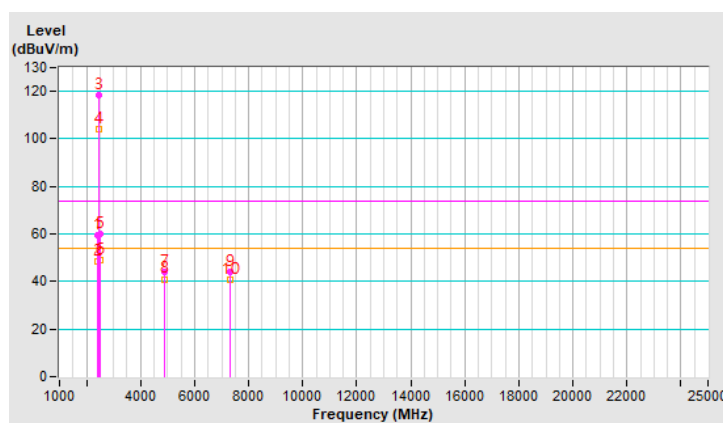


RF Mode	TX 802.11ax (HE20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 300 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.4 PK	74.0	-14.6	1.09 V	273	63.9	-4.5
2	2390.00	48.4 AV	54.0	-5.6	1.09 V	273	52.9	-4.5
3	*2437.00	118.4 PK			1.09 V	273	122.9	-4.5
4	*2437.00	104.3 AV			1.09 V	273	108.8	-4.5
5	2483.50	60.0 PK	74.0	-14.0	1.09 V	273	64.5	-4.5
6	2483.50	48.8 AV	54.0	-5.2	1.09 V	273	53.3	-4.5
7	4874.00	44.0 PK	74.0	-30.0	2.24 V	330	44.2	-0.2
8	4874.00	41.0 AV	54.0	-13.0	2.24 V	330	41.2	-0.2
9	7311.00	43.8 PK	74.0	-30.2	1.44 V	305	37.6	6.2
10	7311.00	40.5 AV	54.0	-13.5	1.44 V	305	34.3	6.2

Remarks:

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

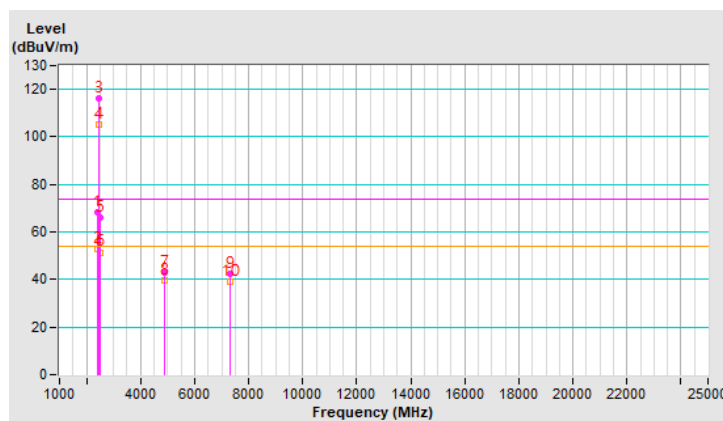


RF Mode	TX 802.11ax (HE40)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 300 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	68.4 PK	74.0	-5.6	2.54 H	64	72.9	-4.5
2	2390.00	53.1 AV	54.0	-0.9	2.54 H	64	57.6	-4.5
3	*2437.00	116.4 PK			2.54 H	64	120.9	-4.5
4	*2437.00	105.4 AV			2.54 H	64	109.9	-4.5
5	2483.50	66.3 PK	74.0	-7.7	2.54 H	64	70.8	-4.5
6	2483.50	51.5 AV	54.0	-2.5	2.54 H	64	56.0	-4.5
7	4874.00	42.7 PK	74.0	-31.3	2.07 H	65	42.9	-0.2
8	4874.00	39.7 AV	54.0	-14.3	2.07 H	65	39.9	-0.2
9	7311.00	42.5 PK	74.0	-31.5	2.02 H	268	36.3	6.2
10	7311.00	39.3 AV	54.0	-14.7	2.02 H	268	33.1	6.2

Remarks:

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

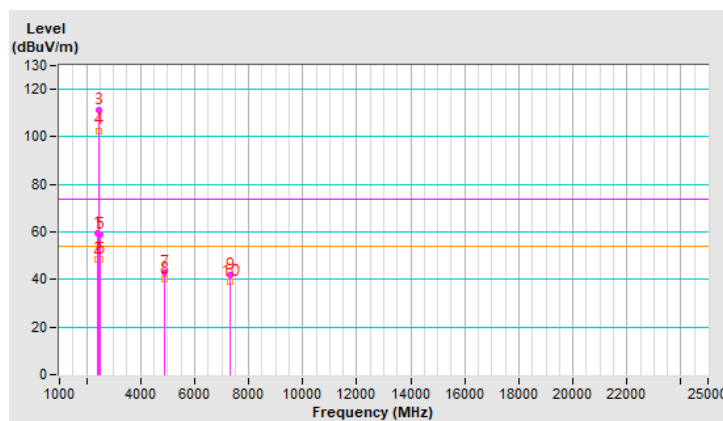


RF Mode	TX 802.11ax (HE40)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 300 Hz
Input Power (System)	120Vac, 60Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Vic Huang		

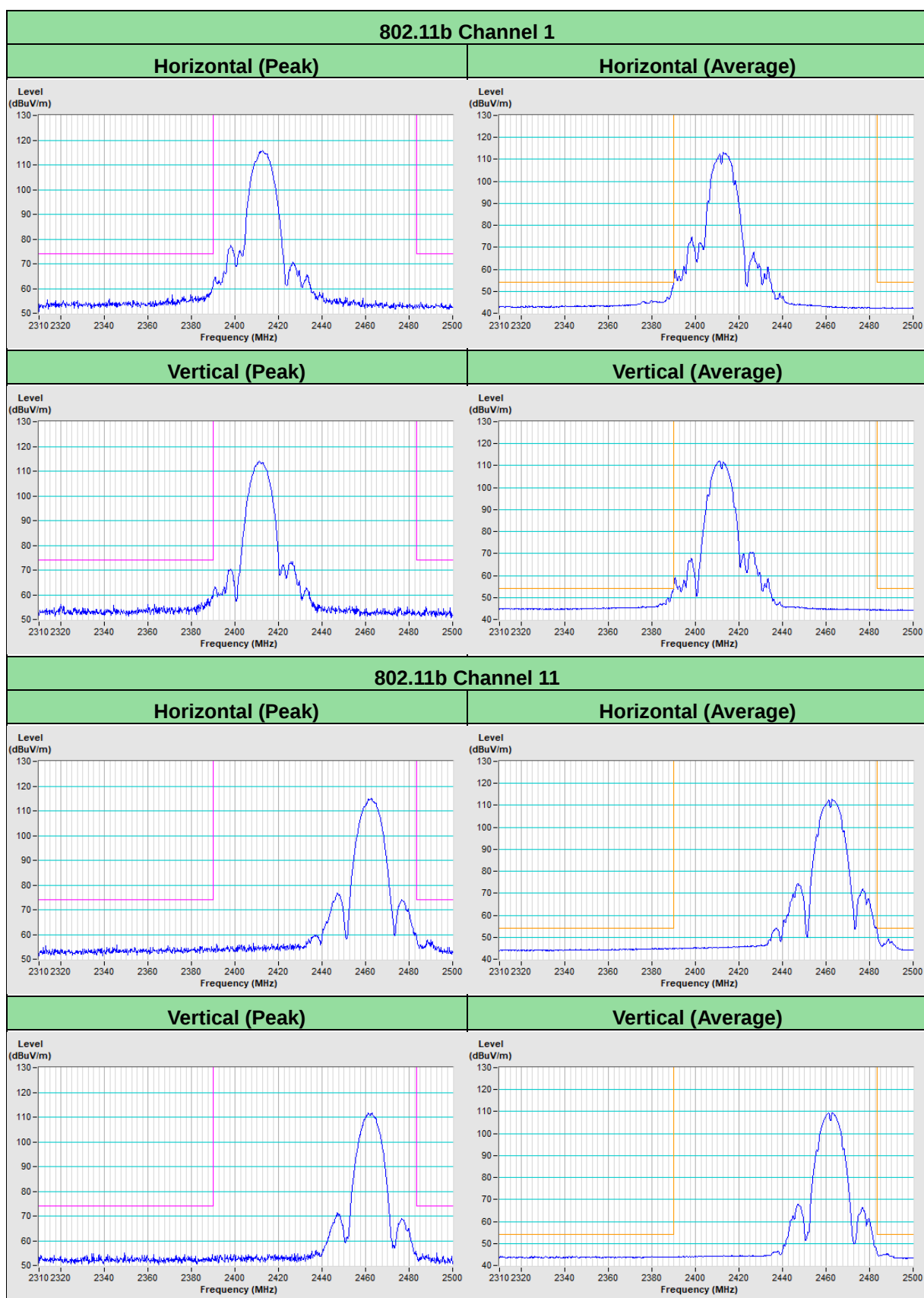
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.5 PK	74.0	-14.5	1.11 V	282	64.0	-4.5
2	2390.00	48.3 AV	54.0	-5.7	1.11 V	282	52.8	-4.5
3	*2437.00	111.0 PK			1.11 V	282	115.5	-4.5
4	*2437.00	102.7 AV			1.11 V	282	107.2	-4.5
5	2483.50	59.1 PK	74.0	-14.9	1.11 V	282	63.6	-4.5
6	2483.50	48.3 AV	54.0	-5.7	1.11 V	282	52.8	-4.5
7	4874.00	43.1 PK	74.0	-30.9	2.25 V	360	43.3	-0.2
8	4874.00	40.2 AV	54.0	-13.8	2.25 V	360	40.4	-0.2
9	7311.00	41.9 PK	74.0	-32.1	1.44 V	323	35.7	6.2
10	7311.00	39.1 AV	54.0	-14.9	1.44 V	323	32.9	6.2

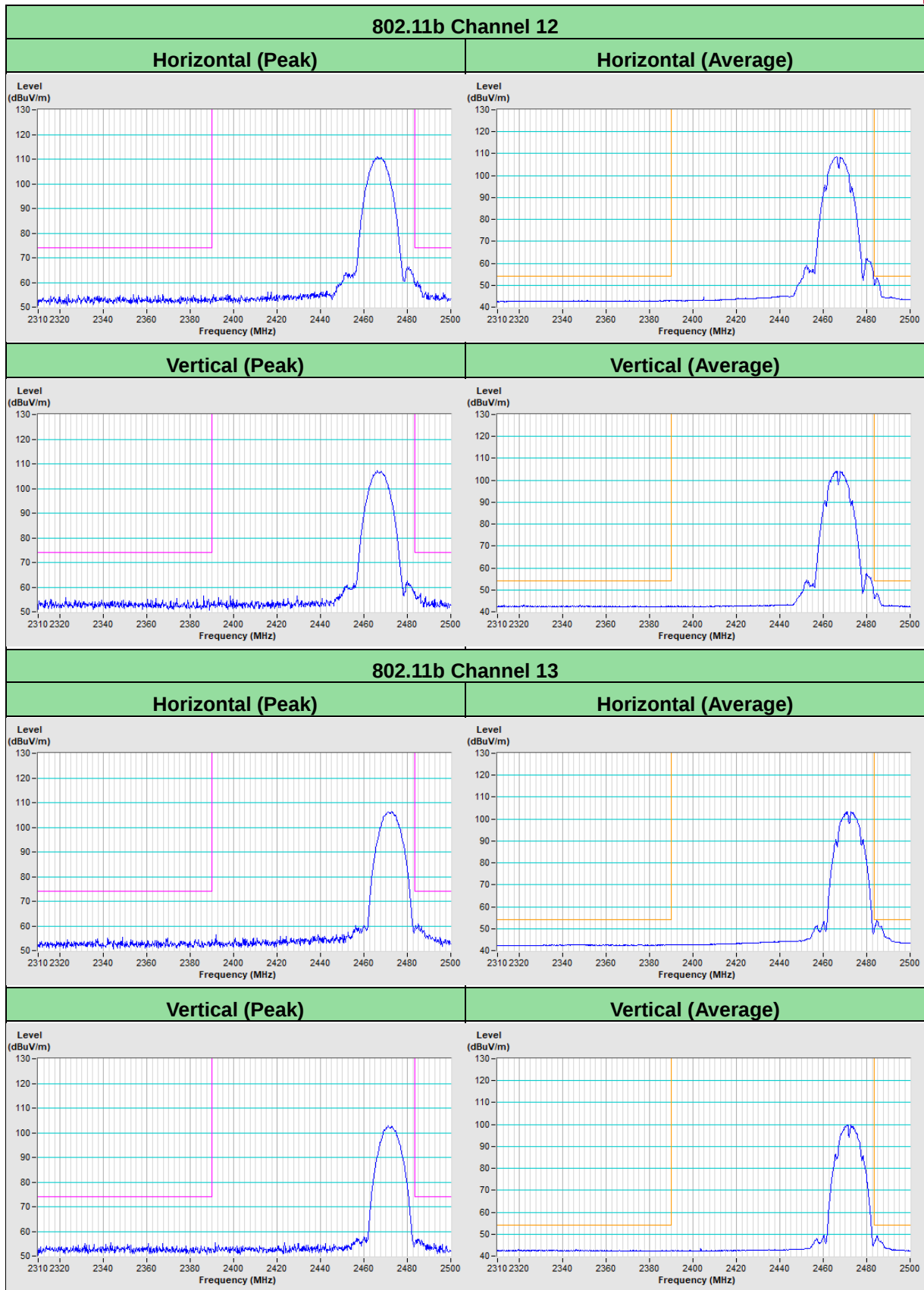
Remarks:

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.



Plot of Band Edge





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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Email: service.adt@bureauveritas.com

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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