

# TEST REPORT

## CERTIFICATE OF CONFORMITY

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

**Report No.:** RFBEQF-WTW-P22100397

**FCC ID:** BEJNT-16T90R

**Product:** Notebook Computer

**Brand:** LG

**Model No.:** 16T90R, 16TD90R, 16TB90R, 16TG90R, 16T90R\*

(\* can be 0 to 9 or A to Z or blank denoting buyer request)

**Received Date:** 2022/10/19

**Test Date:** 2022/10/20 ~ 2022/11/16

**Issued Date:** 2022/12/7

**Applicant:** LG Electronics USA

**Address:** 111 Sylvan Avenue North Building Englewood Cliffs New Jersey United States

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan

**FCC Registration /** 788550 / TW0003

**Designation Number:**

**Approved by:** Jeremy Lin, **Date:** 2022/12/7  
Jeremy Lin / Project Engineer

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Prepared by : Celine Chou / Senior Specialist



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## Release Control Record

Issue No.	Description	Date Issued
RFBEQF-WTW-P22100397	Original release.	2022/12/7

## 1 Certificate

**Product:** Notebook Computer

**Brand:** LG

**Model No.:** 16T90R, 16TD90R, 16TB90R, 16TG90R, 16T90R\*  
(\* can be 0 to 9 or A to Z or blank denoting buyer request)

**Sample Status:** Engineering sample

**Applicant:** LG Electronics USA

**Test Date:** 2022/10/20 ~ 2022/11/16

**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 -4.51 dB at 0.18200 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -6.2 dB at 62.01 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.1 dB at 2483.50 MHz
15.203	Antenna Requirement	Pass	Antenna connector is I-PEX not a standard connector.

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

### 2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.79 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.59 dB
	30 MHz ~ 1 GHz	3.60 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 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	Notebook Computer
Brand	LG
Model No.	16T90R, 16TD90R, 16TB90R, 16TG90R, 16T90R* (* can be 0 to 9 or A to Z or blank denoting buyer request)
Status of EUT	Engineering sample
Power Supply Rating	7.74 Vdc (Battery) 5 Vdc / 9Vdc / 15Vdc / 20Vdc (Adapter)
Modulation Type	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ax: up to 573.5Mbps
Operating Frequency	2412 ~ 2472MHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), 802.11ax (HE20): 13 802.11n (HT40), 802.11ax (HE40): 9
Output Power	533.384 mW (27.27 dBm)

Note:

1. The following models are provided to this EUT. The model 16T90R was chosen for final test.

Brand	Model No.	Difference
LG	16T90R	For marketing purpose
	16TD90R	
	16TB90R	
	16TG90R	
	16T90R* (* can be 0 to 9 or A to Z or blank denoting buyer request)	

2. The EUT uses following accessories.

Product	Brand	Model	Description
Battery	LG	LBV7227E	7.74 Vdc, 80 Wh Typ. 10336 mAh
Adapter	LG	LP65WFC20P-NJ	I/P: 100-240 Vac, 50-60 Hz, 1.6 A O/P: (PDO) 5.0 Vdc, 3.0 A, 15.0 W or 9.0 Vdc, 3.0 A, 27.0 W or 15.0 Vdc, 3.0 A, 45.0 W or 20 Vdc, 3.25 A, 65 W (PPS) 5.0-20.0 Vdc, 3.25 A, Max 65.0 W
Type-C to Type-C Cable	Luxshare	L1LUC020-CS-H	2m/20V 5A/USB2.0/Black
Module	Intel	AX211D2W	-

3. The EUT support OFDMA and Partial RU mode, therefore partial RU combination were investigated and the worst case scenario was identified. (The worst case data were presented in section 3.4)

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.

NB:

Ant. Type	Brand	Ant.	Model	Antenna Peak Gain (dBi)					Connector
				2400-2483.5 MHz	5150-5250 MHz	5250-5350 MHz	5470-5725 MHz	5725-5850 MHz	
PIFA	CHILISIN	Main	DQ600111500 (BTEA00111525GC1A01)	2.76	0.30	0.07	2.87	0.32	I-PEX
		Aux.	DQ600111500 (BTEA00111525GC1A01)	1.02	2.35	2.30	2.07	0.81	
	Pulse	Main	DQ602119000 (TZ21190)	2.96	0.57	0.57	3.22	0.84	I-PEX
		Aux.	DQ602119000 (TZ21190)	1.33	2.77	2.77	2.15	1.39	

Tablet:

Ant. Type	Brand	Ant.	Model	Antenna Peak Gain (dBi)					Connector
				2400-2483.5 MHz	5150-5250 MHz	5250-5350 MHz	5470-5725 MHz	5725-5850 MHz	
PIFA	CHILISIN	Main	DQ600111500 (BTEA00111525GC1A01)	2.04	1.84	1.53	0.69	0.50	I-PEX
		Aux.	DQ600111500 (BTEA00111525GC1A01)	1.64	1.02	0.78	1.73	1.62	
	Pulse	Main	DQ602119000 (TZ21190)	2.68	2.38	1.65	1.02	1.11	I-PEX
		Aux.	DQ602119000 (TZ21190)	2.42	1.34	1.14	2.38	2.06	

\* The worst case (NB mode) with the largest antenna gain was chosen for final test.

\* 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	1TX	1RX
802.11g	1TX	1RX
802.11n (HT20)	2TX	1RX
802.11n (HT40)	2TX	1RX
802.11ax (HE20)	2TX	1RX
802.11ax (HE40)	2TX	1RX

Note: The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and HE20/HE40 on 802.11ax mode. Therefore the investigated worst case is the representative mode in test report



### 3.3 Channel List

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

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

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

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

### 3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	The EUT's antenna (PIFA) had been pre-tested on the positioned of NB mode and each 3 axis (X-axis/ Y-axis/ Z-axis) of Tablet Mode. Pre-scan these ways and find the worst case as a representative test condition.
Worst Case:	Worst Condition: The worst case was found when positioned on NB mode.

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

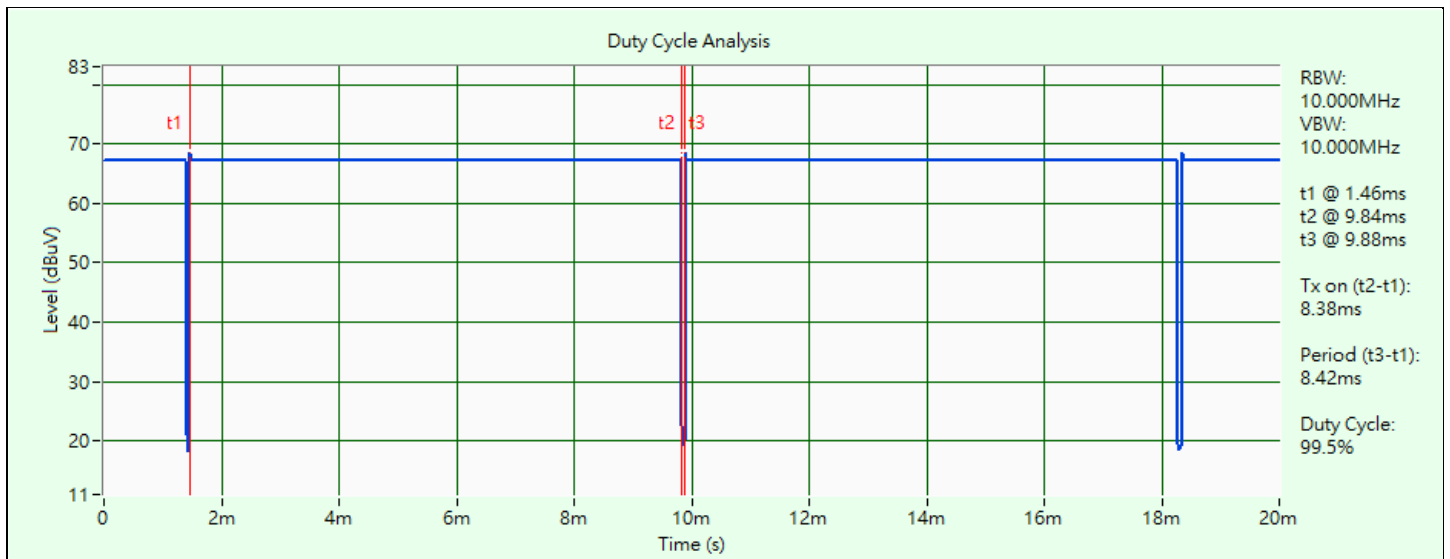
Test Item	Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	802.11b	1, 6, 11, 12, 13	DBPSK	1Mb/s
	802.11g	1, 6, 11, 12, 13	BPSK	6Mb/s
	802.11n (HT20)	1, 6, 11, 12, 13	BPSK	MCS0
	802.11n (HT40)	1, 6, 11, 12, 13	BPSK	MCS0
	802.11ax (HE20)	1, 6, 11, 12, 13	BPSK	MCS0
	802.11ax (HE40)	3, 6, 9, 10, 11	BPSK	MCS0
	20 MHz Preamble 802.11ax (RU26)	1, 13	BPSK	MCS0
	20 MHz Preamble 802.11ax (RU52)	1, 13	BPSK	MCS0
	20 MHz Preamble 802.11ax (RU106)	1, 13	BPSK	MCS0
40 MHz Preamble 802.11ax (RU242)	3, 11	BPSK	MCS0	
Power Spectral Density / 6 dB Bandwidth	802.11b	1, 6, 11, 12, 13	DBPSK	1Mb/s
	802.11g	1, 6, 11, 12, 13	BPSK	6Mb/s
	802.11ax (HE20)	1, 6, 11, 12, 13	BPSK	MCS0
	802.11ax (HE40)	3, 6, 9, 10, 11	BPSK	MCS0
	20 MHz Preamble 802.11ax (RU26)	1, 13	BPSK	MCS0
	20 MHz Preamble 802.11ax (RU52)	1, 13	BPSK	MCS0
	20 MHz Preamble 802.11ax (RU106)	1, 13	BPSK	MCS0
	40 MHz Preamble 802.11ax (RU242)	3, 11	BPSK	MCS0
Conducted Out of Band Emissions	802.11b	1, 6, 11, 12, 13	DBPSK	1Mb/s
	802.11g	1, 6, 11, 12, 13	BPSK	6Mb/s
	802.11ax (HE20)	1, 6, 11, 12, 13	BPSK	MCS0
	802.11ax (HE40)	3, 6, 9, 10, 11	BPSK	MCS0
AC Power Conducted Emissions	802.11ax (HE20)	6	BPSK	MCS0
Unwanted Emissions below 1 GHz	802.11ax (HE20)	6	BPSK	MCS0
Unwanted Emissions above 1 GHz	802.11b	1, 6, 11, 12, 13	DBPSK	1Mb/s
	802.11g	1, 6, 11, 12, 13	BPSK	6Mb/s
	802.11ax (HE20)	1, 6, 11, 12, 13	BPSK	MCS0
	802.11ax (HE40)	3, 6, 9, 10, 11	BPSK	MCS0
	20 MHz Preamble 802.11ax (RU26)	1, 13	BPSK	MCS0
	20 MHz Preamble 802.11ax (RU52)	1, 13	BPSK	MCS0
	20 MHz Preamble 802.11ax (RU106)	1, 13	BPSK	MCS0
	40 MHz Preamble 802.11ax (RU242)	3, 11	BPSK	MCS0

### 3.5 Duty Cycle of Test Signal

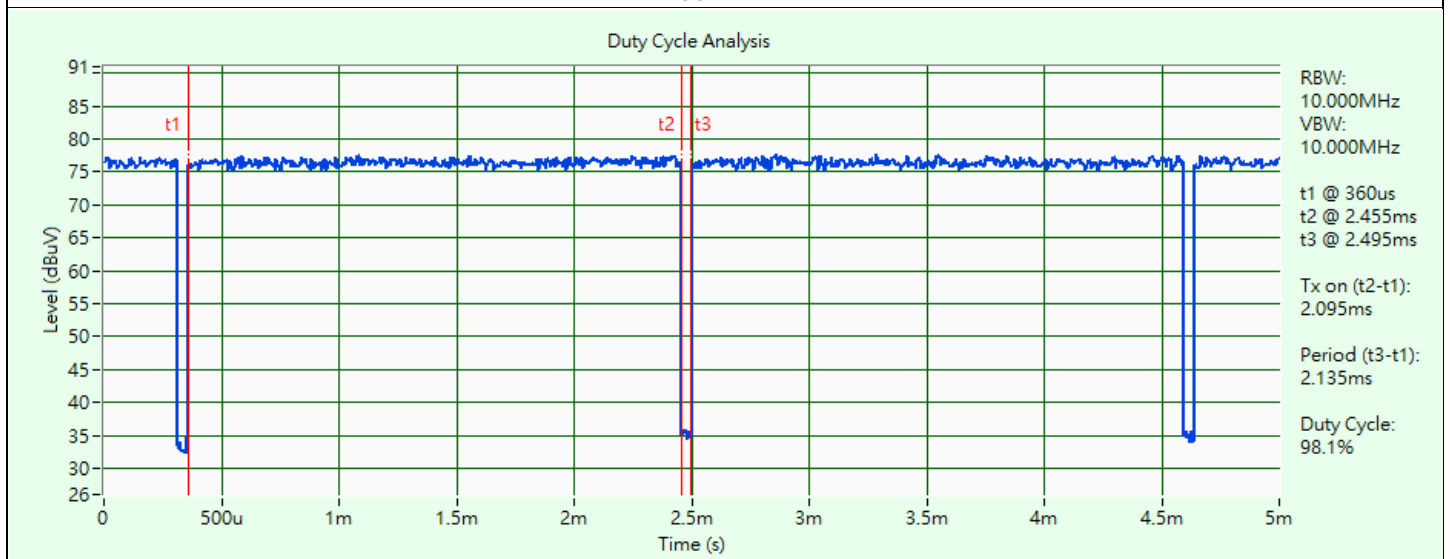
#### 1TX\_Chain 0

**802.11b:** Duty cycle = 8.38 ms / 8.42 ms x 100% = 99.5%

**802.11g:** Duty cycle = 2.095 ms / 2.135 ms x 100% = 98.1%



802.11b



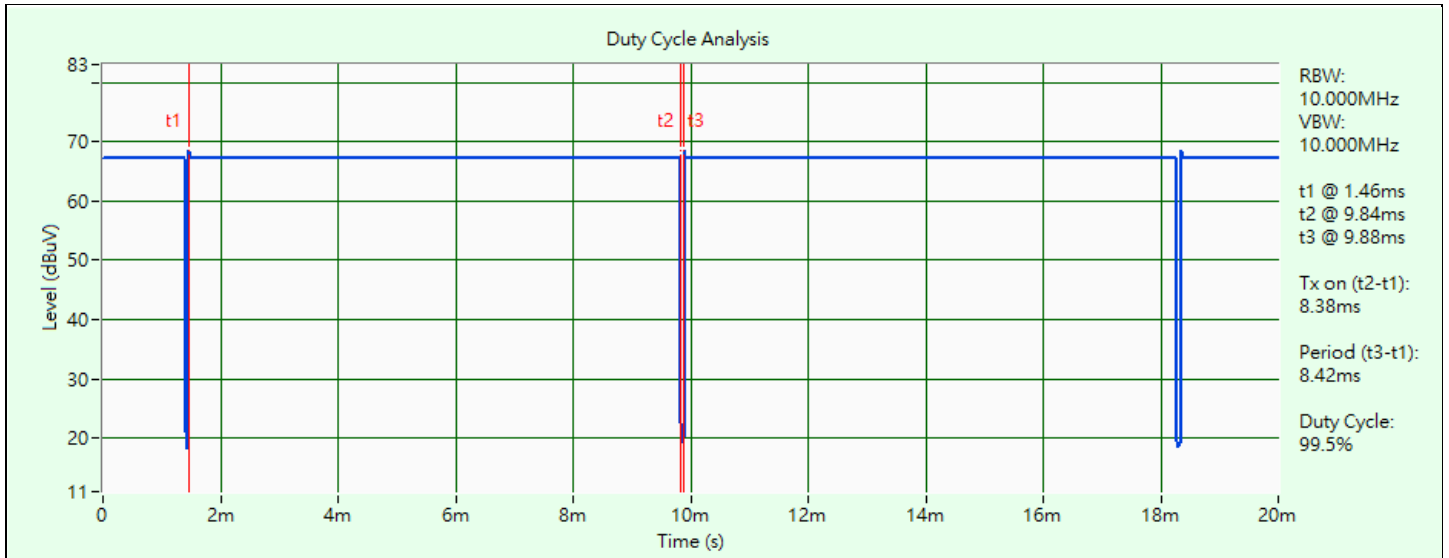
802.11g



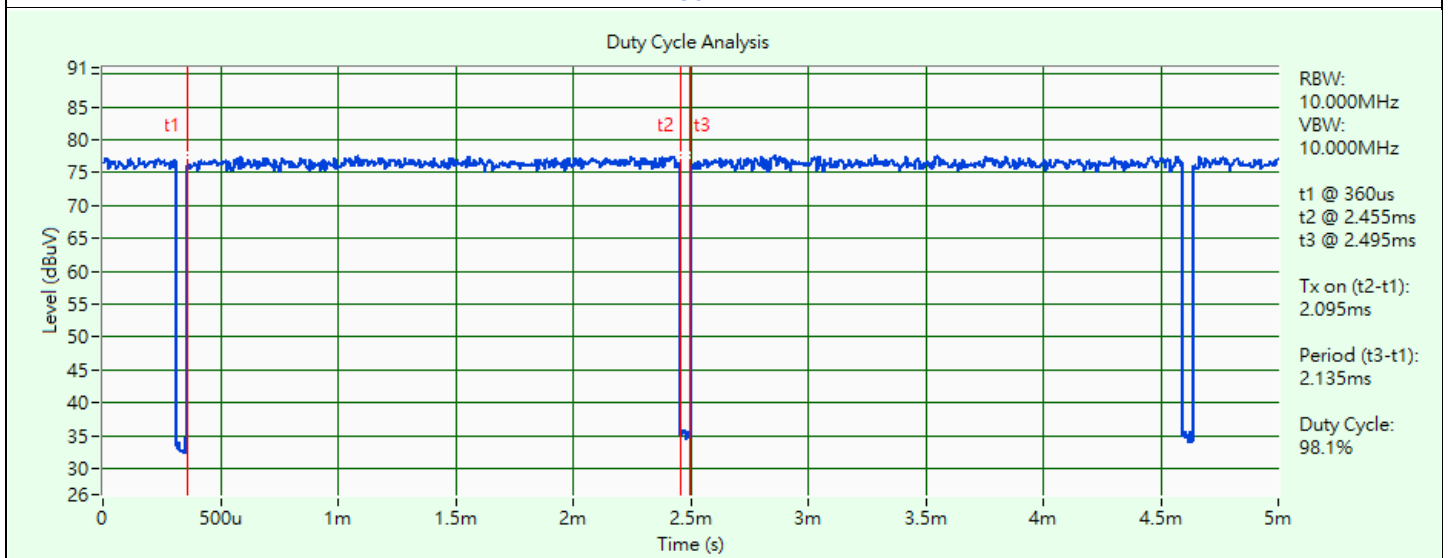
### 1TX\_Chain 1

**802.11b:** Duty cycle = 8.38 ms / 8.42 ms x 100% = 99.5%

**802.11g:** Duty cycle = 2.095 ms / 2.135 ms x 100% = 98.1%



802.11b

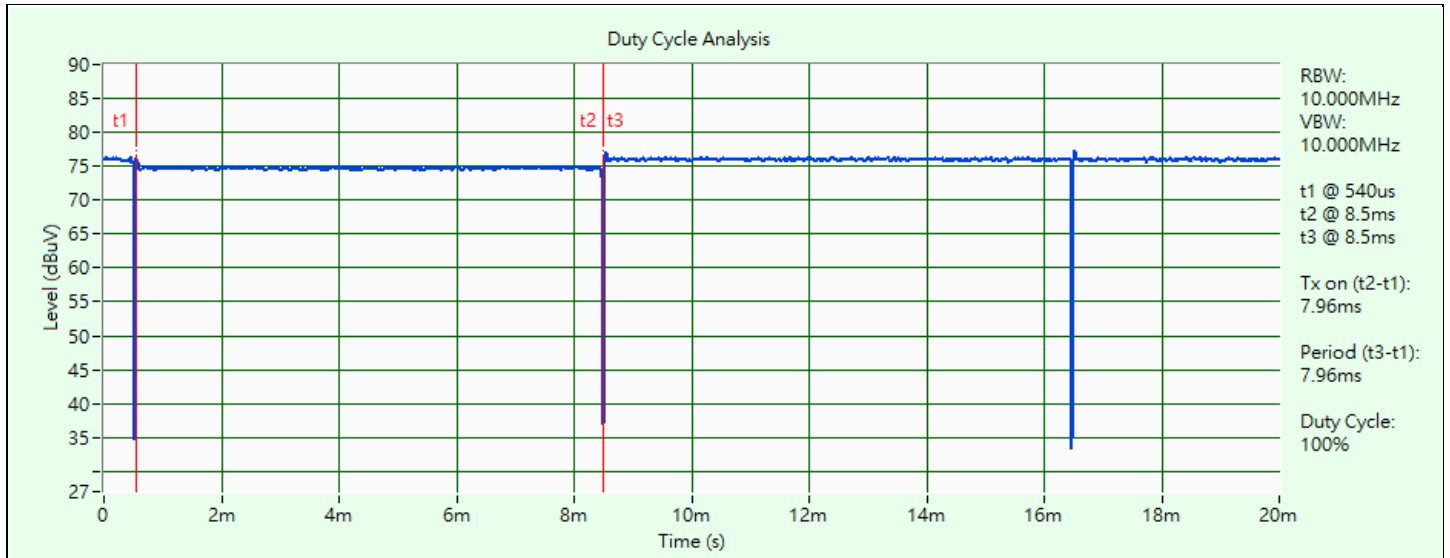


802.11g

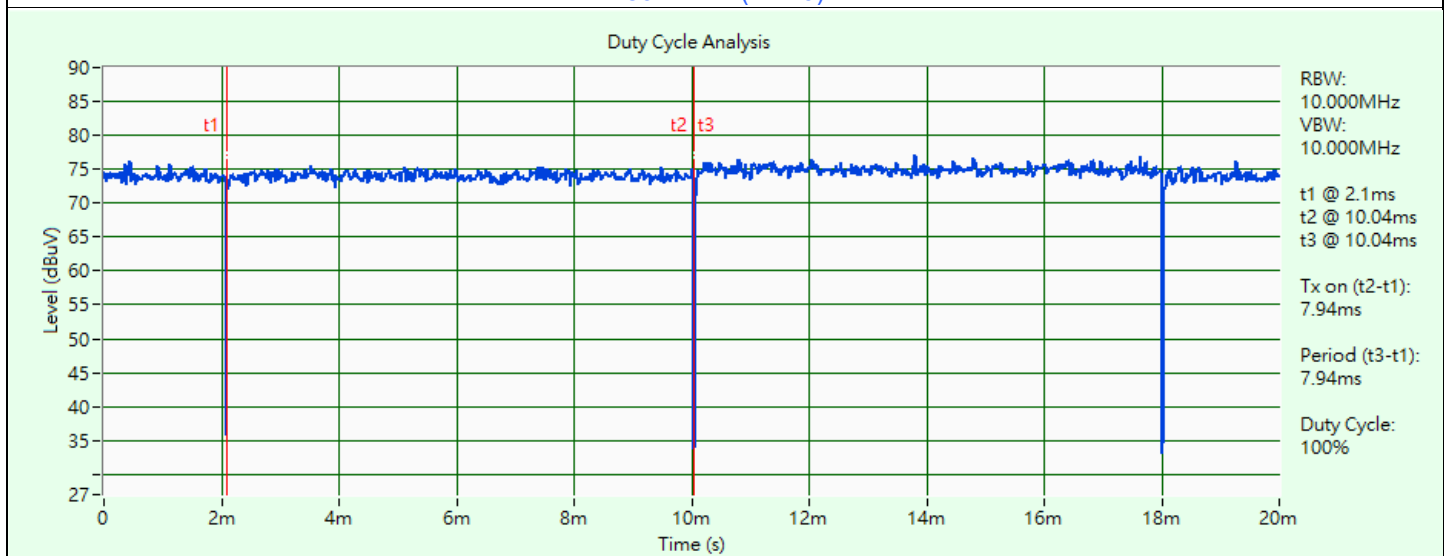
## 2TX

802.11ax (HE20): Duty cycle = 7.96 ms / 7.96 ms x 100% = 100.0%

802.11ax (HE40): Duty cycle = 7.94 ms / 7.94 ms x 100% = 100.0%



802.11ax (HE20)

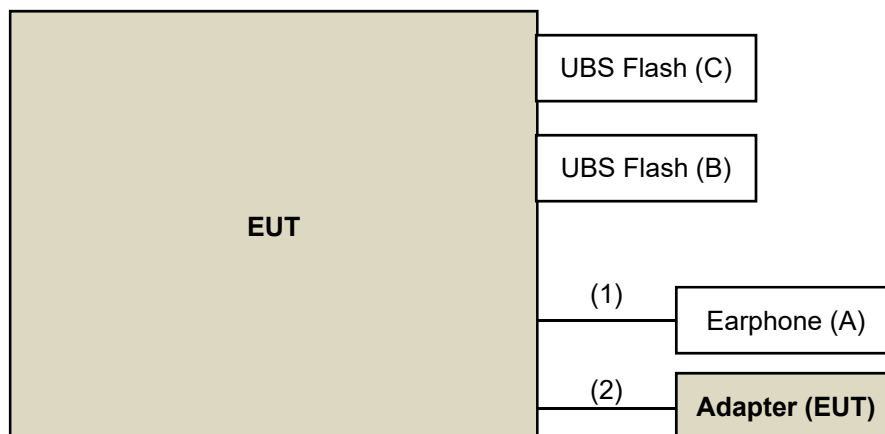


802.11ax (HE40)

### 3.6 Test Program Used and Operation Descriptions

Controlling software DRTU.02297.22.160.0 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	Earphone	APPLE	MB77PFEB	N/A	N/A	Provided by Lab
B	USB Flash	Sandisk	SDDDC3-032G	N/A	N/A	Provided by Lab
C	USB Flash	Sandisk	SDDDC3-032G	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	Earphone	1	1.8	N	0	Provided by Lab
2	Type-C to Type-C Cable	1	2.0	Y	0	Accessory of EUT

## 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
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	2022/1/18	2023/1/17
Power sensor Keysight	U2021XA	MY55380009	2022/3/23	2023/3/22
Wideband Power Sensor(N1923A) KEYSIGHT	N1923A	MY58020002	2022/1/17	2023/1/16

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/11/16

### 4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100979	2022/3/25	2023/3/24

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/11/16

### 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
DC-LISN SCHWARZBECK MESS- ELETRONIK	NNBM 8126G	8126G-069	2021/11/10	2022/11/9
LISN R&S	ESH2-Z5	100100	2022/2/17	2023/2/16
LISN Schwarzbeck	NNLK 8121	8121-731	2022/5/26	2023/5/25
RF Coaxial Cable WORKEN	5D-FB	Cable-cond2-01	2022/9/3	2023/9/2
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
Temperature&Humidity Meter Lufft	5098.00	Lf11015	2022/1/7	2023/1/6
Test Receiver R&S	ESR3	102783	2021/12/20	2022/12/19
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2022/8/31	2023/8/30

Notes:

1. The test was performed in HY - Conduction 2.
2. Tested Date: 2022/10/28



#### 4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn BV ADT	AT100	AT93021705	N/A	N/A
Bi_Log Antenna Schwarbeck	VULB9168	9168-160	2022/10/20	2023/10/19
Loop Antenna EMCI	EM-6879	269	2022/9/19	2023/9/18
Loop Antenna TESEQ	HLA 6121	45745	2022/7/27	2023/7/26
Pre-amplifier EMCI	EMC001340	980201	2022/9/23	2023/9/22
Preamplifier Agilent	8447D	2944A10638	2022/5/14	2023/5/13
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2022/1/15	2023/1/14
RF Coaxial Cable WOKEN	8D-FB	Cable-CH9-01	2022/5/14	2023/5/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101867	2022/1/7	2023/1/6
Test Receiver KEYSIGHT	N9038A	MY55420137	2022/4/27	2023/4/26
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2022/10/28

#### 4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn BV ADT	AT100	AT93021705	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	5	N/A	N/A
Horn Antenna Schwarzbeck	9120D	9120D-1169	2021/11/14	2022/11/13
	BBHA 9170	9170-480	2021/11/14	2022/11/13
		BBHA9170241	2021/10/26	2022/10/25
		BBHA9170243	2021/11/14	2022/11/13
Pre-Amplifier EMCI	EMC 184045	980116	2022/10/1	2023/9/30
Preamplifier Agilent	8449B	3008A02367	2022/2/16	2023/2/15
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2022/7/9	2023/7/8
	EMC102-KM-KM-3000	150929	2022/7/9	2023/7/8
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	2022/1/15	2023/1/14
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	2022/1/15	2023/1/14
RF FLITER MICRO-TRONICS	BRM17690	004	2022/1/10	2023/1/9
	BRM50716	060	2022/1/10	2023/1/9
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101867	2022/1/7	2023/1/6
Test Receiver KEYSIGHT	N9038A	MY55420137	2022/4/27	2023/4/26
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2022/10/20 ~ 2022/10/26

## 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  $\geq 40$  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 20 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 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).

## 5.7 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 20 dB below the highest level of the desired power:

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

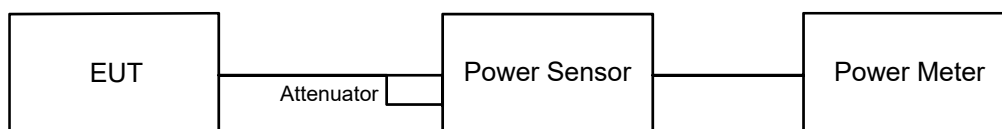
Notes:

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:

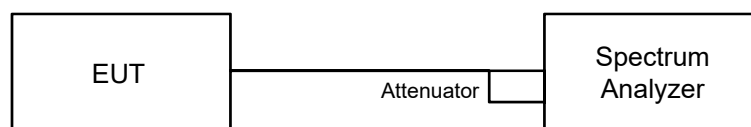
A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

##### 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 Power Spectral Density

#### 6.2.1 Test Setup

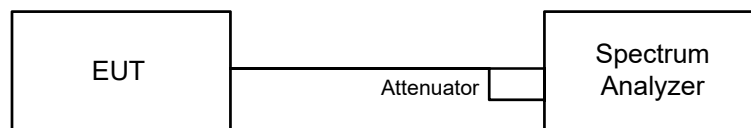


#### 6.2.2 Test Procedure

- a. Set analyzer center frequency to DTS channel center frequency.
- b. Set the span to 1.5 times the DTS bandwidth.
- c. Set the RBW to: 3 kHz.
- d. Set the VBW  $\geq 3 \times$  RBW.
- e. Detector = peak.
- f. Sweep time = auto couple.
- g. Trace mode = max hold.
- h. Allow trace to fully stabilize.
- i. Use the peak marker function to determine the maximum amplitude level within the RBW.

### 6.3 6 dB Bandwidth

#### 6.3.1 Test Setup

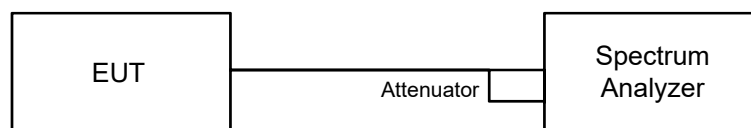


#### 6.3.2 Test Procedure

- Set resolution bandwidth (RBW) = 100 kHz.
- Set the video bandwidth (VBW)  $\geq 3 \times$  RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- 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

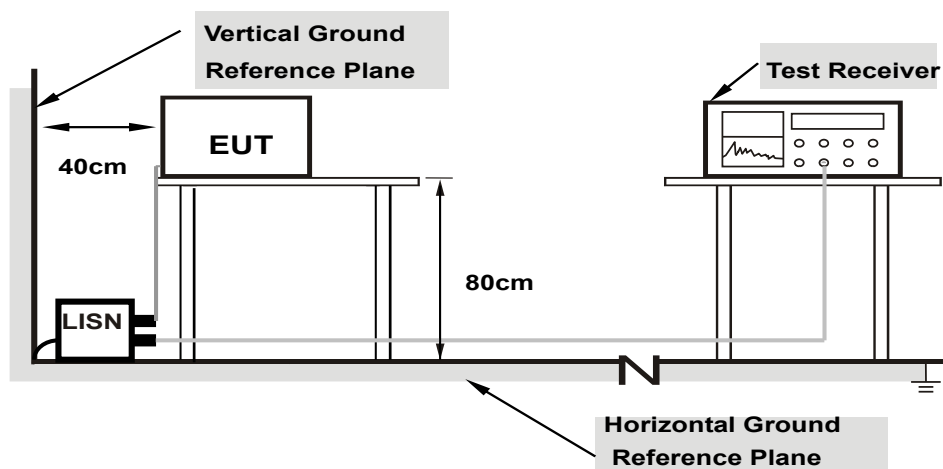
- Set the RBW = 100 kHz.
- Set the VBW  $\geq 300$  kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

##### MEASUREMENT PROCEDURE OOBE

- Set RBW = 100 kHz.
- Set VBW  $\geq 300$  kHz.
- Detector = peak.
- Sweep = auto couple.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- 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

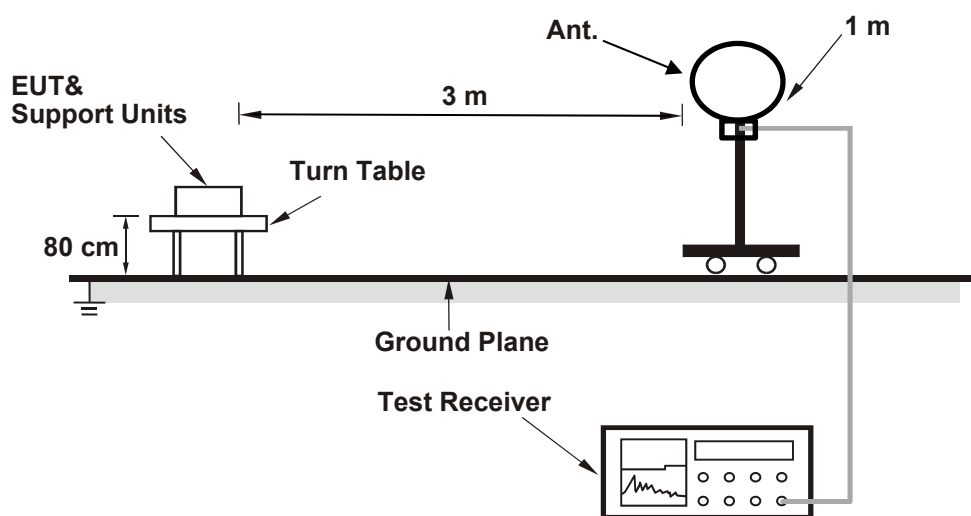
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The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

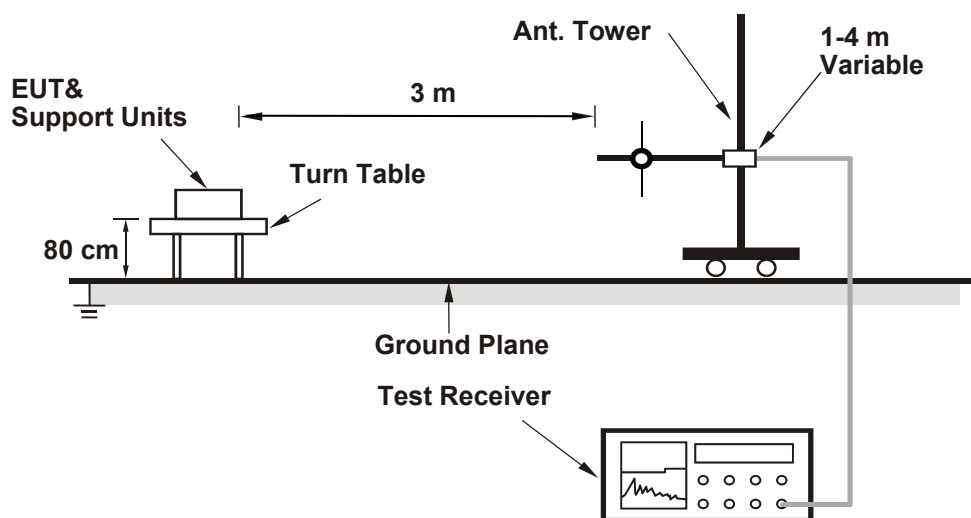
## 6.6 Unwanted Emissions below 1 GHz

### 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

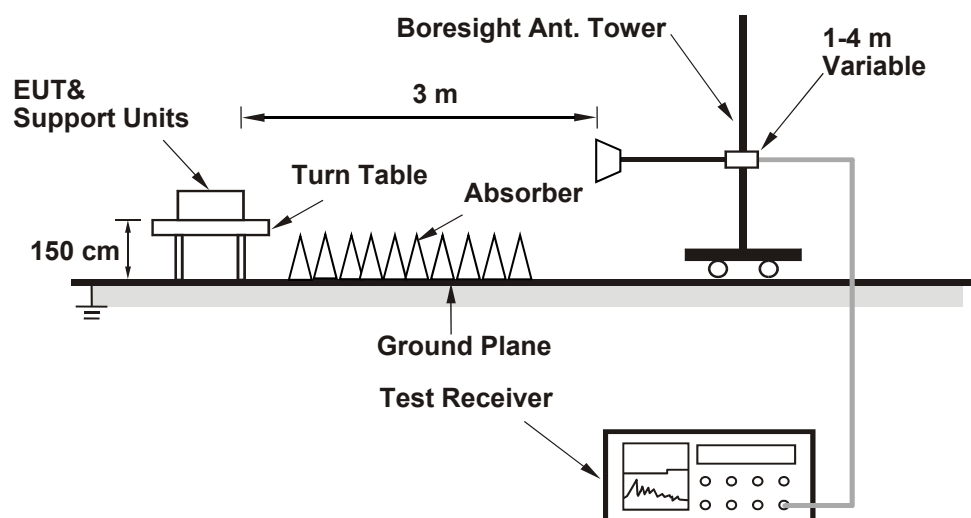
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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

- 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) and Average detection (AV) at frequency above 1 GHz.
- For fundamental and harmonic signal measurement, 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:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Alan Wu / Gary Lin
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#### 1TX\_Chain 0

#### For Peak Power

#### 802.11b

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
1	2412	126.474	21.02	30	Pass
6	2437	125.026	20.97	30	Pass
11	2462	121.619	20.85	30	Pass
12	2467	35.892	15.55	30	Pass
13	2472	24.099	13.82	30	Pass

Note: The antenna gain is 1.33 dBi < 6 dBi, so the output power limit shall not be reduced.

#### 802.11g

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
1	2412	209.411	23.21	30	Pass
6	2437	213.304	23.29	30	Pass
11	2462	208.449	23.19	30	Pass
12	2467	134.586	21.29	30	Pass
13	2472	69.823	18.44	30	Pass

Note: The antenna gain is 1.33 dBi < 6 dBi, so the output power limit shall not be reduced.

## For Average Power

### 802.11b

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	76.913	18.86
6	2437	76.736	18.85
11	2462	74.473	18.72
12	2467	22.336	13.49
13	2472	15.276	11.84

### 802.11g

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	77.804	18.91
6	2437	76.56	18.84
11	2462	77.446	18.89
12	2467	50.816	17.06
13	2472	20.749	13.17

**1TX\_Chain 1**  
**For Peak Power**  
**802.11b**

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
1	2412	138.676	21.42	30	Pass
6	2437	132.434	21.22	30	Pass
11	2462	136.144	21.34	30	Pass
12	2467	38.107	15.81	30	Pass
13	2472	26.002	14.15	30	Pass

Note: The antenna gain is 2.96 dBi < 6 dBi, so the output power limit shall not be reduced.

**802.11g**

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
1	2412	210.378	23.23	30	Pass
6	2437	196.336	22.93	30	Pass
11	2462	214.783	23.32	30	Pass
12	2467	148.936	21.73	30	Pass
13	2472	77.804	18.91	30	Pass

Note: The antenna gain is 2.96 dBi < 6 dBi, so the output power limit shall not be reduced.

For Average Power

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	77.804	18.91
6	2437	78.886	18.97
11	2462	78.163	18.93
12	2467	22.961	13.61
13	2472	16.331	12.13

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	78.163	18.93
6	2437	76.913	18.86
11	2462	77.804	18.91
12	2467	52.602	17.21
13	2472	21.979	13.42

**2TX**
**For Peak Power**
**802.11n (HT20)**

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	22.65	22.68	369.430	25.68	30	Pass
6	2437	22.67	22.69	370.707	25.69	30	Pass
11	2462	20.94	21.07	252.103	24.02	30	Pass
12	2467	18.66	18.72	147.925	21.70	30	Pass
13	2472	16.48	16.75	91.778	19.63	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.96 dBi < 6 dBi, so the output power limit shall not be reduced.

**802.11n (HT40)**

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	22.31	22.37	342.800	25.35	30	Pass
6	2437	24.23	24.29	533.384	27.27	30	Pass
9	2452	22.37	22.54	352.057	25.47	30	Pass
10	2457	19.27	19.76	179.152	22.53	30	Pass
11	2462	17.64	17.92	120.021	20.79	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.96 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				
1	2412	22.83	22.94	388.656	25.90	30	Pass
6	2437	22.69	22.73	373.280	25.72	30	Pass
11	2462	21.04	21.38	264.462	24.22	30	Pass
12	2467	19.02	19.23	163.552	22.14	30	Pass
13	2472	16.31	16.63	88.782	19.48	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.96 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				
3	2422	22.51	22.50	356.066	25.52	30	Pass
6	2437	24.02	24.25	518.421	27.15	30	Pass
9	2452	21.95	22.06	317.369	25.02	30	Pass
10	2457	19.11	19.49	170.391	22.31	30	Pass
11	2462	17.71	17.96	121.537	20.85	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.96 dBi < 6 dBi, so the output power limit shall not be reduced.

### 20 MHz Preamble 802.11ax (RU26)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	22.64	22.81	374.639	25.74	30	Pass
13	2472	16.13	16.27	83.385	19.21	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.96 dBi < 6 dBi, so the output power limit shall not be reduced.

### 20 MHz Preamble 802.11ax (RU52)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	22.44	22.69	361.168	25.58	30	Pass
13	2472	17.13	17.29	105.221	20.22	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.96 dBi < 6 dBi, so the output power limit shall not be reduced.

### 20 MHz Preamble 802.11ax (RU106)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	22.35	22.55	351.678	25.46	30	Pass
13	2472	17.01	16.98	100.123	20.01	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.96 dBi < 6 dBi, so the output power limit shall not be reduced.



#### 40 MHz Preamble 802.11ax (RU242)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	21.37	21.72	285.682	24.56	30	Pass
11	2462	13.93	14.28	51.509	17.12	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.96 dBi < 6 dBi, so the output power limit shall not be reduced.

### For Average Power

#### 802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	18.60	18.70	146.575	21.66
6	2437	18.69	18.83	150.344	21.77
11	2462	16.55	16.71	92.067	19.64
12	2467	14.21	14.32	53.403	17.28
13	2472	10.87	11.12	25.160	14.01

#### 802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
3	2422	15.98	16.17	81.028	19.09
6	2437	18.28	18.33	135.375	21.32
9	2452	15.93	15.99	78.893	18.97
10	2457	12.89	13.02	39.498	15.97
11	2462	10.85	11.13	25.134	14.00

#### 802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	18.69	18.83	150.344	21.77
6	2437	18.73	18.85	151.381	21.80
11	2462	16.62	16.81	93.893	19.73
12	2467	14.23	14.38	53.901	17.32
13	2472	10.93	11.15	25.420	14.05

#### 802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
3	2422	16.04	16.20	81.866	19.13
6	2437	18.11	18.14	129.877	21.14
9	2452	15.34	15.45	69.273	18.41
10	2457	12.75	12.77	37.760	15.77
11	2462	10.93	11.27	25.785	14.11

**20 MHz Preamble 802.11ax (RU26)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	18.17	18.66	139.066	21.43
13	2472	8.97	9.05	15.924	12.02

**20 MHz Preamble 802.11ax (RU52)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	18.25	18.46	136.98	21.37
13	2472	9.59	9.68	18.389	12.65

**20 MHz Preamble 802.11ax (RU106)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	18.21	18.51	137.179	21.37
13	2472	9.61	9.74	18.560	12.69

**40 MHz Preamble 802.11ax (RU242)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
3	2422	15.70	15.96	76.599	18.84
11	2462	7.85	8.02	12.434	10.95

## 7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Alan Wu / Gary Lin
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### 1TX\_Chain 0

#### 802.11b

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2412	-3.55	8.00	Pass
6	2437	-3.50	8.00	Pass
11	2462	-3.52	8.00	Pass
12	2467	-8.78	8.00	Pass
13	2472	-10.29	8.00	Pass

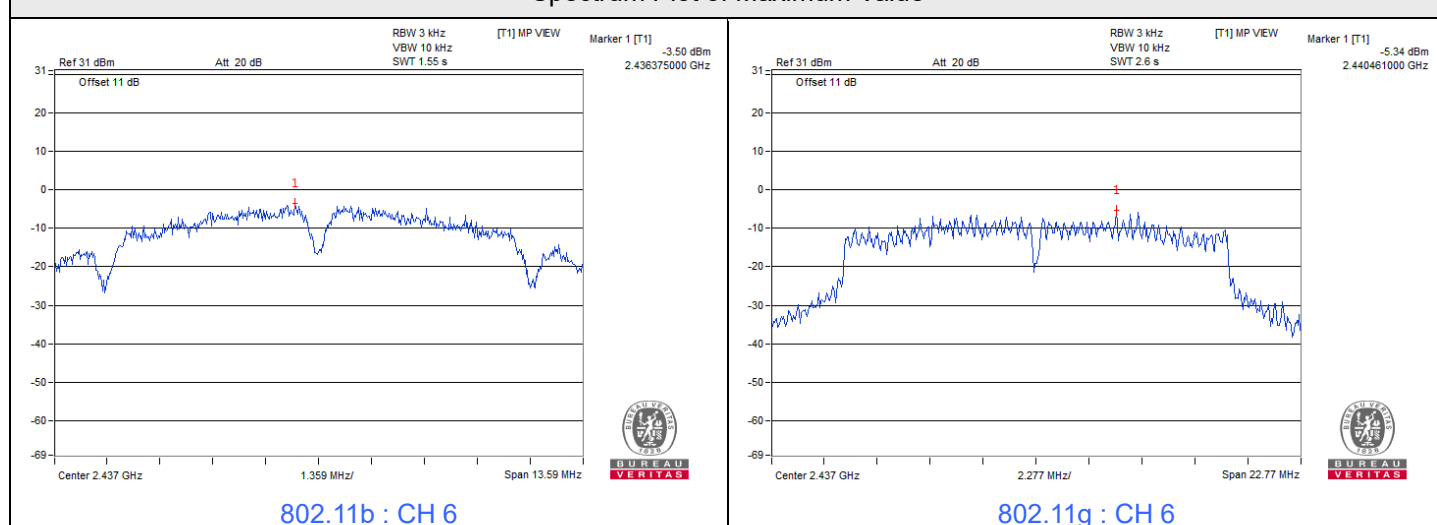
Note: The antenna gain is 1.33 dBi < 6 dBi, so the power density limit shall not be reduced.

#### 802.11g

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2412	-5.52	8.00	Pass
6	2437	-5.34	8.00	Pass
11	2462	-5.37	8.00	Pass
12	2467	-6.94	8.00	Pass
13	2472	-11.26	8.00	Pass

Note: The antenna gain is 1.33 dBi < 6 dBi, so the power density limit shall not be reduced.

Spectrum Plot of Maximum Value



1TX\_Chain 1

802.11b

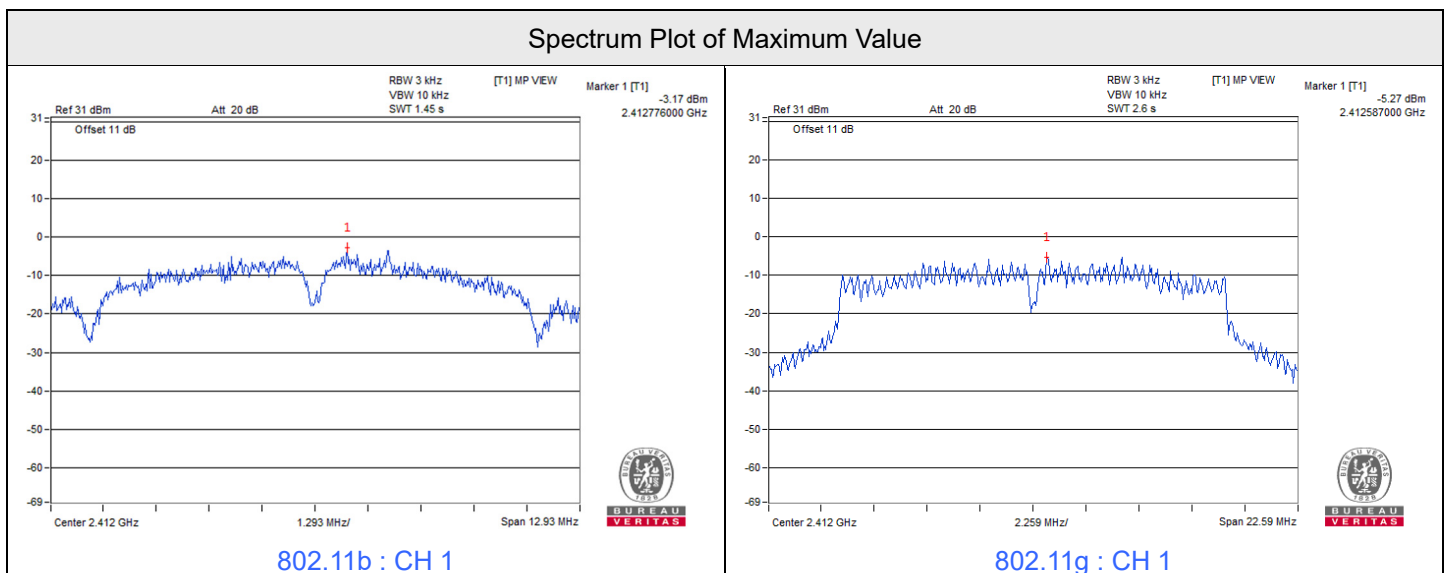
Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2412	-3.17	8.00	Pass
6	2437	-3.24	8.00	Pass
11	2462	-3.22	8.00	Pass
12	2467	-8.58	8.00	Pass
13	2472	-10.09	8.00	Pass

Note: The antenna gain is 2.96 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2412	-5.27	8.00	Pass
6	2437	-5.30	8.00	Pass
11	2462	-5.30	8.00	Pass
12	2467	-6.86	8.00	Pass
13	2472	-11.17	8.00	Pass

Note: The antenna gain is 2.96 dBi < 6 dBi, so the power density limit shall not be reduced.



## 2TX

### 802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
1	2412	-6.89	-6.66	-3.76	8.00	Pass
6	2437	-6.53	-6.50	-3.50	8.00	Pass
11	2462	-8.76	-8.57	-5.65	8.00	Pass
12	2467	-11.11	-11.02	-8.05	8.00	Pass
13	2472	-15.16	-15.04	-12.09	8.00	Pass

#### Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. The directional gain is 5.19 dBi < 6 dBi, so the power density limit shall not be reduced.

### 802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
3	2422	-10.78	-10.63	-7.69	8.00	Pass
6	2437	-9.22	-8.79	-5.99	8.00	Pass
9	2452	-11.89	-11.39	-8.62	8.00	Pass
10	2457	-15.40	-15.19	-12.28	8.00	Pass
11	2462	-17.27	-16.74	-13.99	8.00	Pass

#### Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. The directional gain is 5.19 dBi < 6 dBi, so the power density limit shall not be reduced.

### 20 MHz Preamble 802.11ax (RU26)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
1	2412	1.40	1.58	4.50	8.00	Pass
13	2472	-8.27	-8.22	-5.23	8.00	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. The directional gain is 5.19 dBi < 6 dBi, so the power density limit shall not be reduced.

### 20 MHz Preamble 802.11ax (RU52)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
1	2412	-2.00	-1.86	1.08	8.00	Pass
13	2472	-10.26	-10.11	-7.17	8.00	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. The directional gain is 5.19 dBi < 6 dBi, so the power density limit shall not be reduced.

### 20 MHz Preamble 802.11ax (RU106)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
1	2412	-3.93	-3.79	-0.85	8.00	Pass
13	2472	-13.76	-13.70	-10.72	8.00	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. The directional gain is 5.19 dBi < 6 dBi, so the power density limit shall not be reduced.

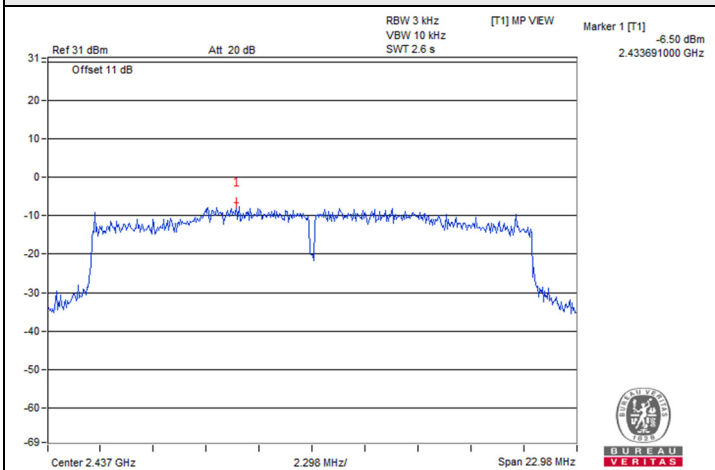
### 40 MHz Preamble 802.11ax (RU242)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
3	2422	-10.14	-9.72	-6.91	8.00	Pass
11	2462	-16.73	-16.48	-13.59	8.00	Pass

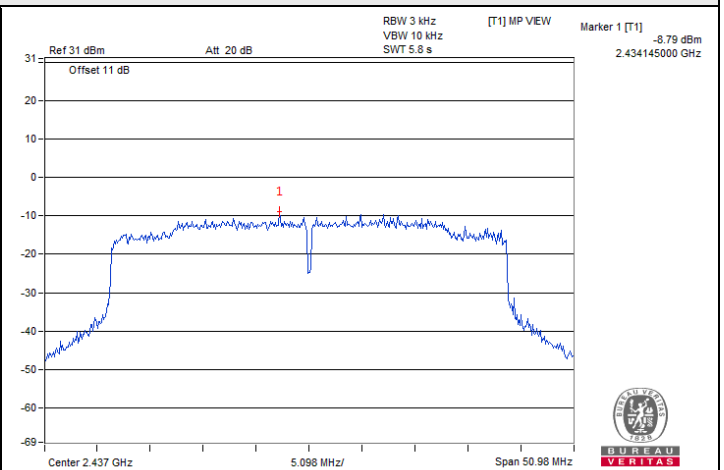
Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. The directional gain is 5.19 dBi < 6 dBi, so the power density limit shall not be reduced.

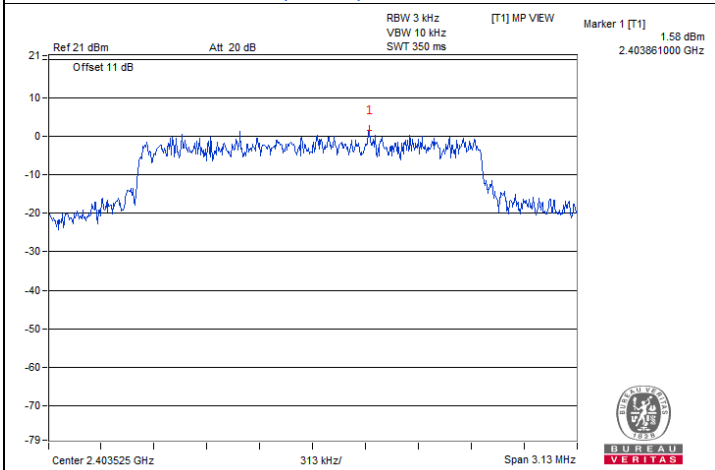
### Spectrum Plot of Maximum Value



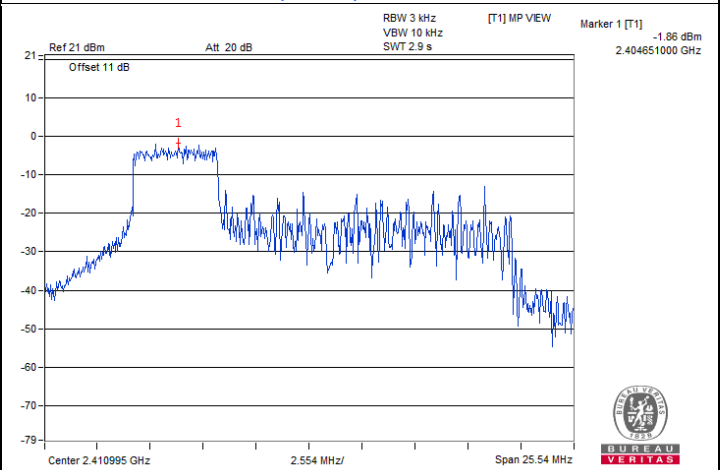
802.11ax (HE20) / Chain 1 : CH 6



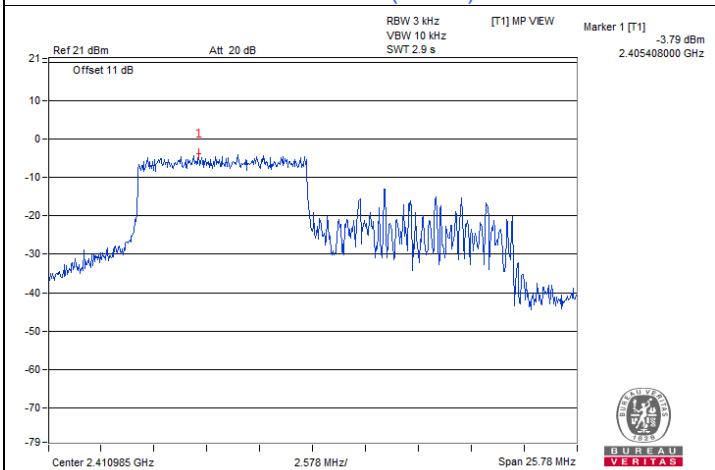
802.11ax (HE40) / Chain 1 : CH 6



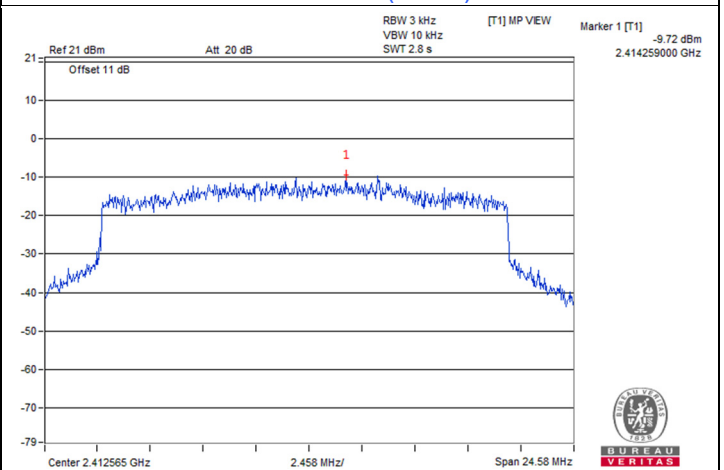
20 MHz Preamble 802.11ax (RU26) / Chain 1 : CH 1



20 MHz Preamble 802.11ax (RU52) / Chain 1 : CH 1



20 MHz Preamble 802.11ax (RU106) / Chain 1 : CH 1



40 MHz Preamble 802.11ax (RU242) / Chain 1 : CH 3



### 7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Alan Wu / Gary Lin
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#### 1TX\_Chain 0

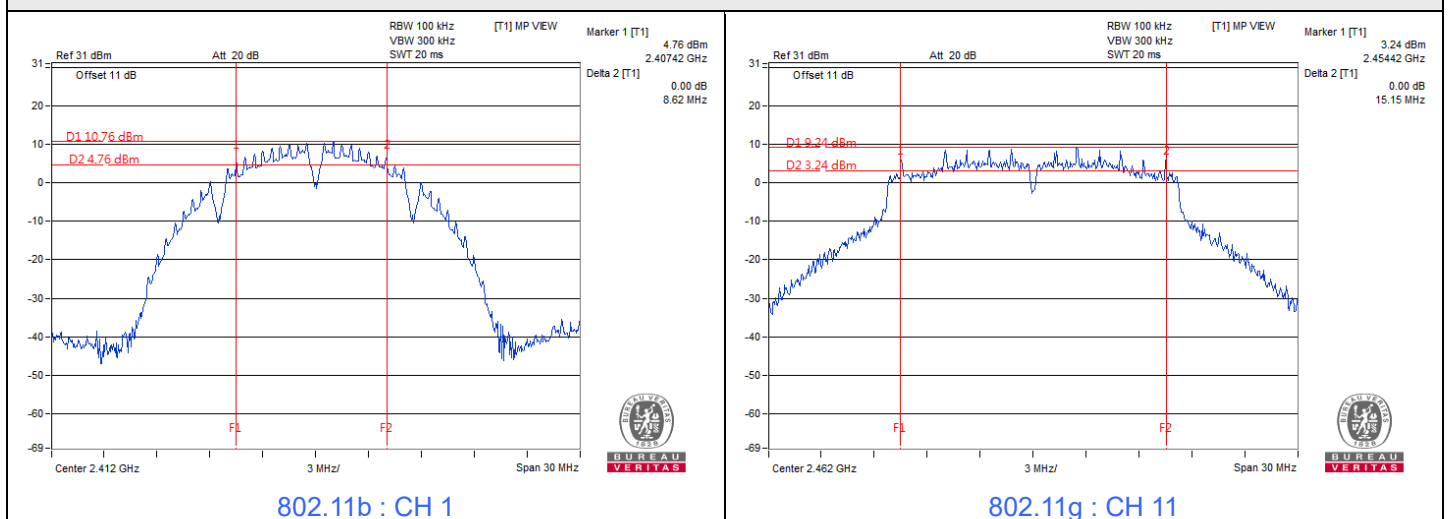
#### 802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2412	8.62	0.5	Pass
6	2437	9.06	0.5	Pass
11	2462	9.09	0.5	Pass
12	2467	9.08	0.5	Pass
13	2472	9.07	0.5	Pass

#### 802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2412	15.4	0.5	Pass
6	2437	15.18	0.5	Pass
11	2462	15.15	0.5	Pass
12	2467	15.19	0.5	Pass
13	2472	16.36	0.5	Pass

Spectrum Plot of Minimum Value



### 1TX\_Chain 1

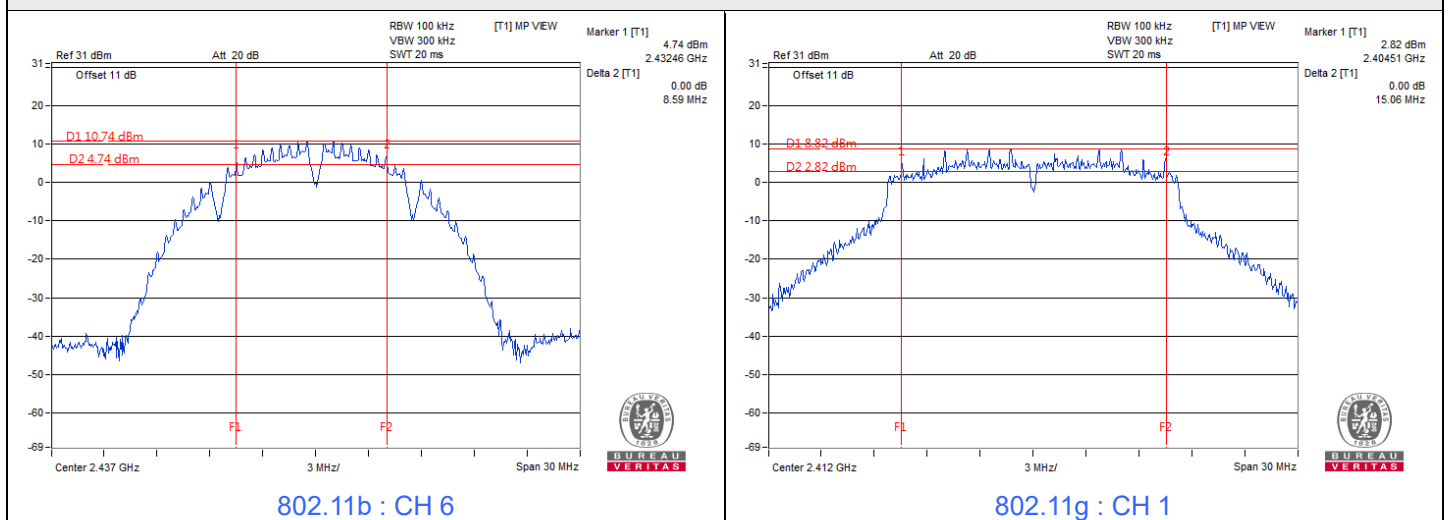
#### 802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2412	8.62	0.5	Pass
6	2437	8.59	0.5	Pass
11	2462	9.06	0.5	Pass
12	2467	9.05	0.5	Pass
13	2472	9.05	0.5	Pass

#### 802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2412	15.06	0.5	Pass
6	2437	15.35	0.5	Pass
11	2462	15.1	0.5	Pass
12	2467	15.18	0.5	Pass
13	2472	16.38	0.5	Pass

Spectrum Plot of Minimum Value



2TX

802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	17.01	17.67	0.5	Pass
6	2437	16.90	15.32	0.5	Pass
11	2462	15.57	16.85	0.5	Pass
12	2467	15.69	16.33	0.5	Pass
13	2472	18.06	17.65	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
3	2422	31.15	34.90	0.5	Pass
6	2437	32.84	33.99	0.5	Pass
9	2452	35.37	35.28	0.5	Pass
10	2457	34.79	35.23	0.5	Pass
11	2462	37.40	37.39	0.5	Pass

20 MHz Preamble 802.11ax (RU26)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	2.05	2.09	0.5	Pass
13	2472	2.03	2.03	0.5	Pass

20 MHz Preamble 802.11ax (RU52)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	17.09	17.03	0.5	Pass
13	2472	16.94	16.95	0.5	Pass

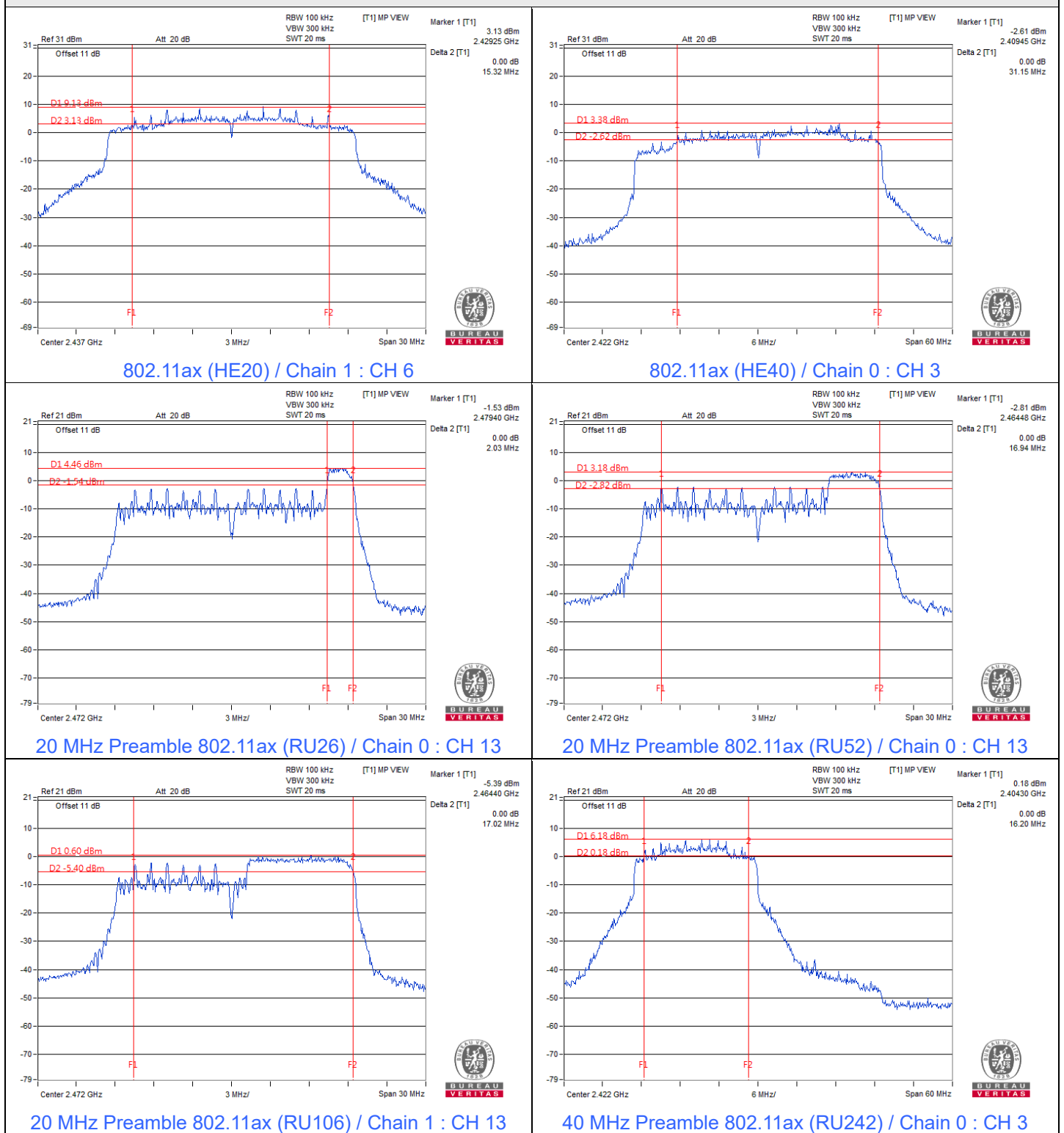
20 MHz Preamble 802.11ax (RU106)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	17.18	17.19	0.5	Pass
13	2472	17.05	17.02	0.5	Pass

40 MHz Preamble 802.11ax (RU242)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
3	2422	16.20	16.39	0.5	Pass
11	2462	18.55	18.50	0.5	Pass

Spectrum Plot of Minimum Value



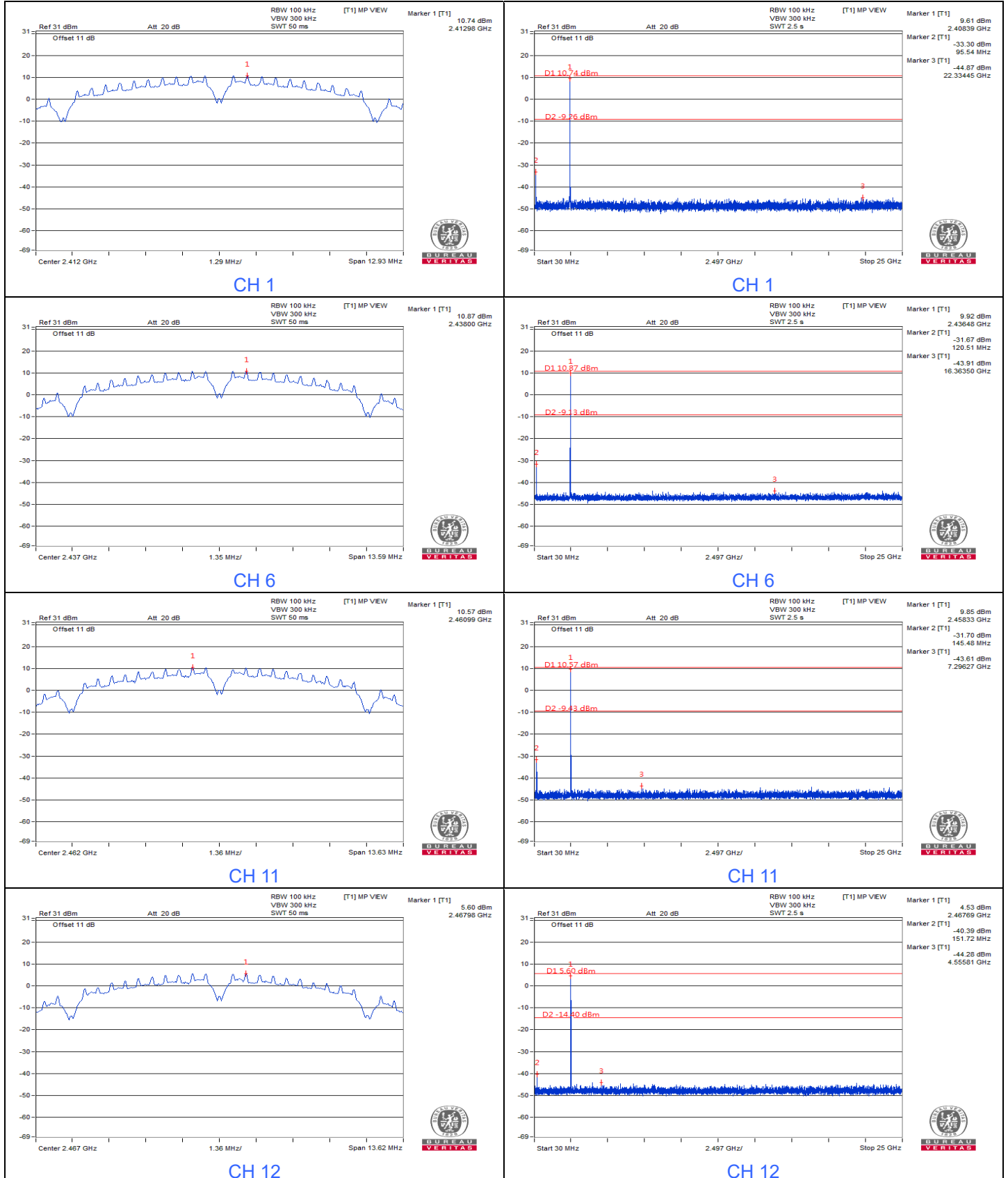


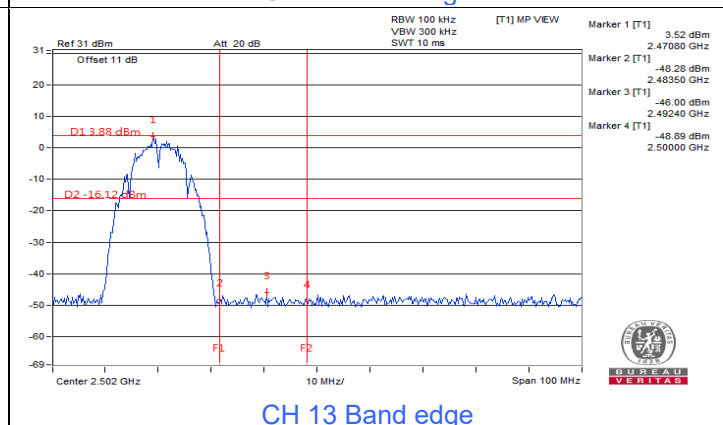
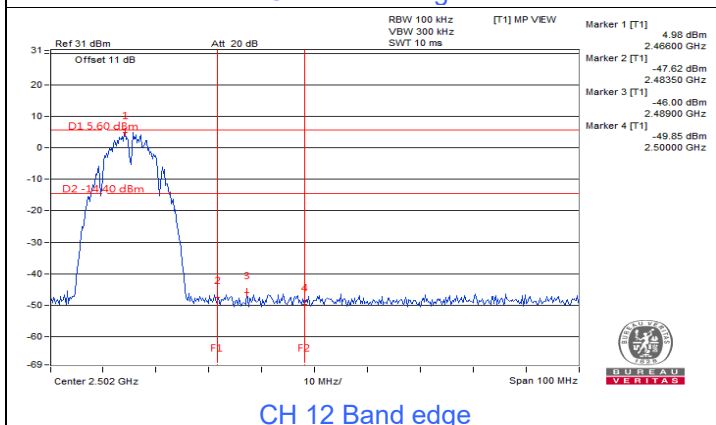
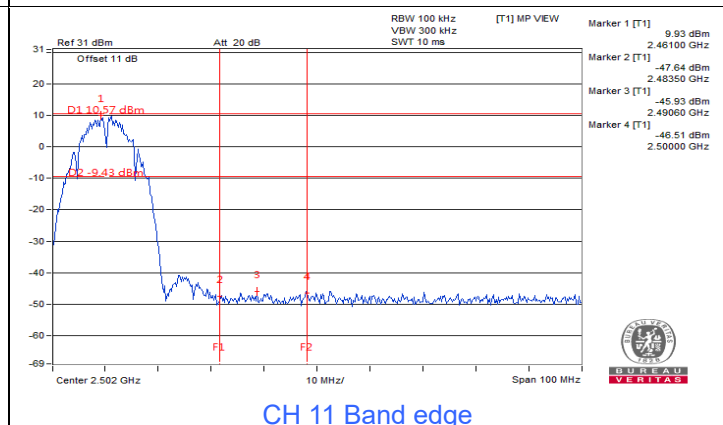
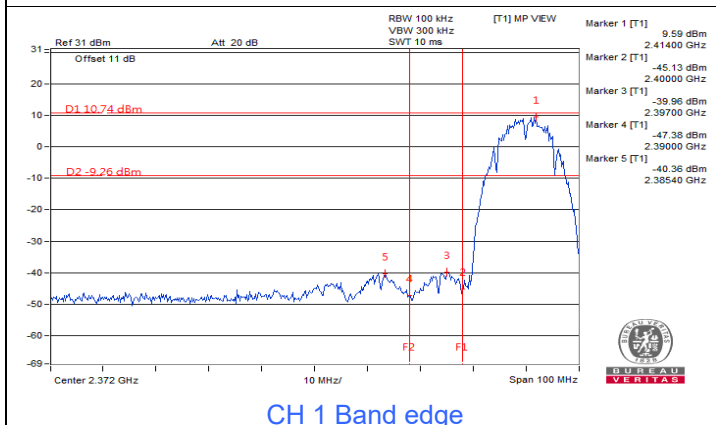
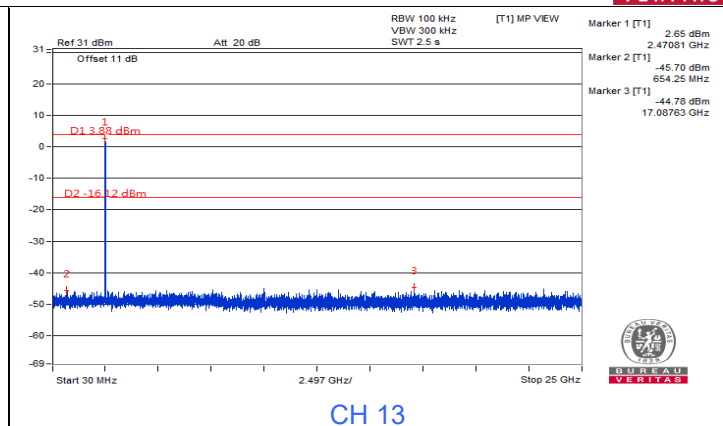
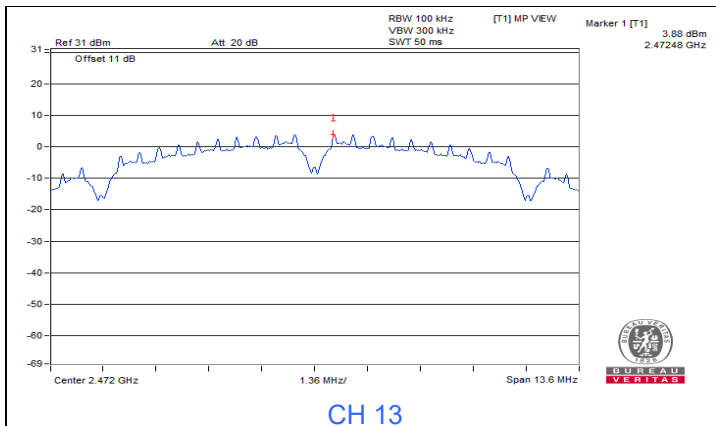
### 7.4 Conducted Out of Band Emissions

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Alan Wu / Gary Lin
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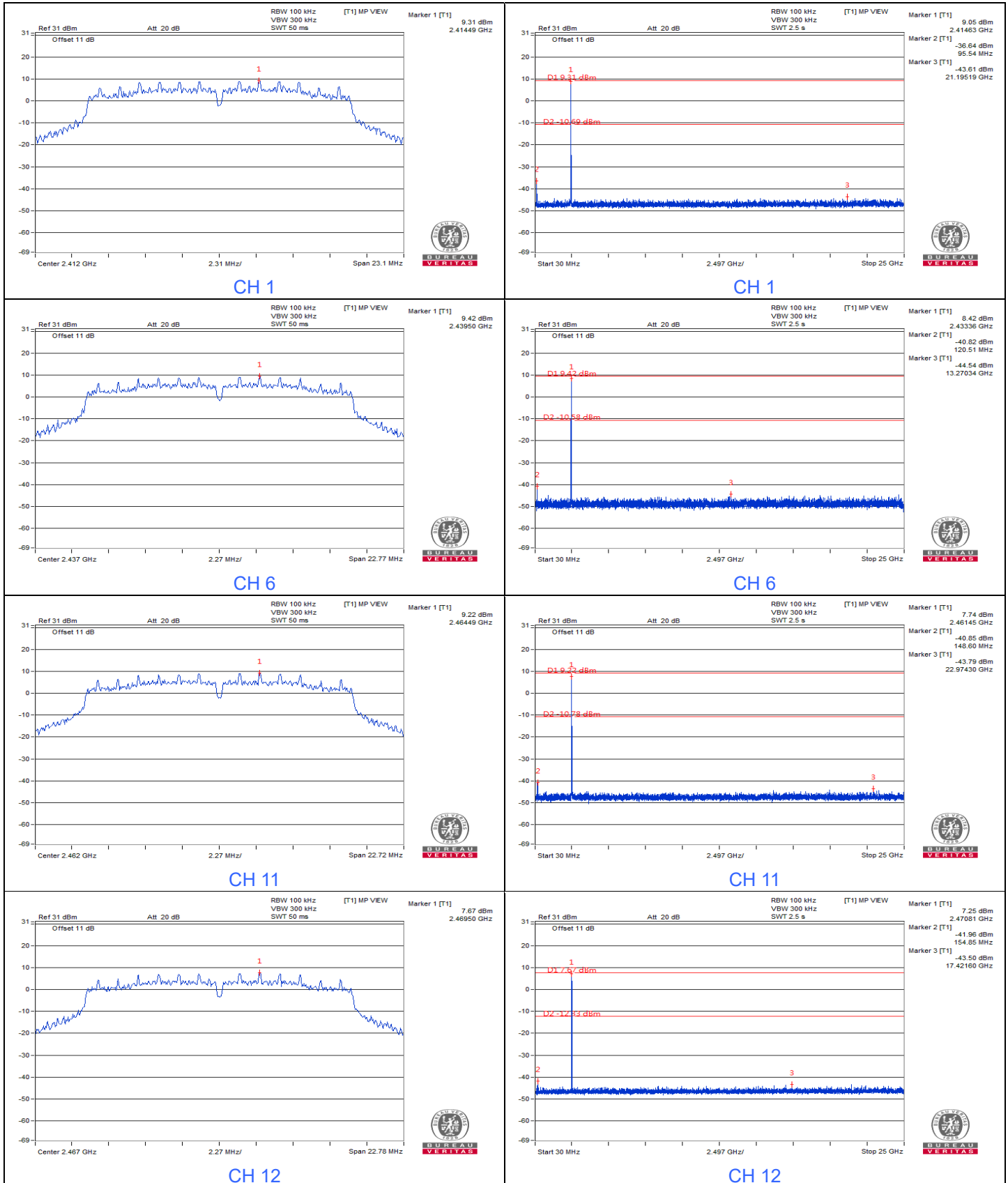
#### 1TX\_Chain 0

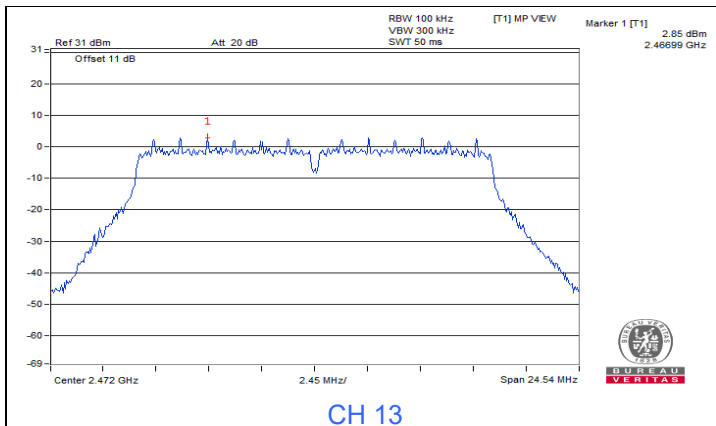
#### 802.11b



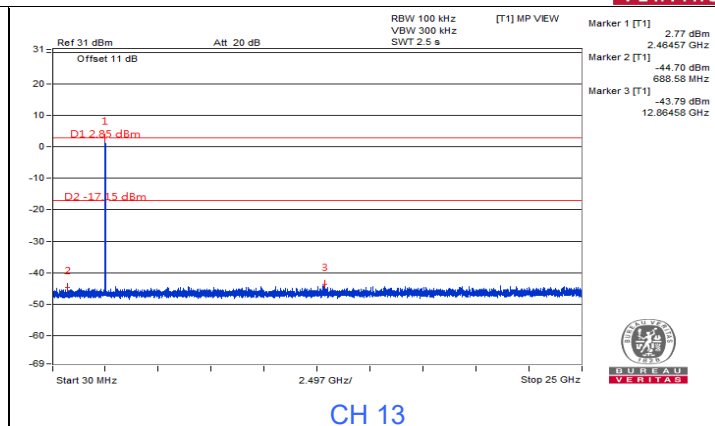


802.11g

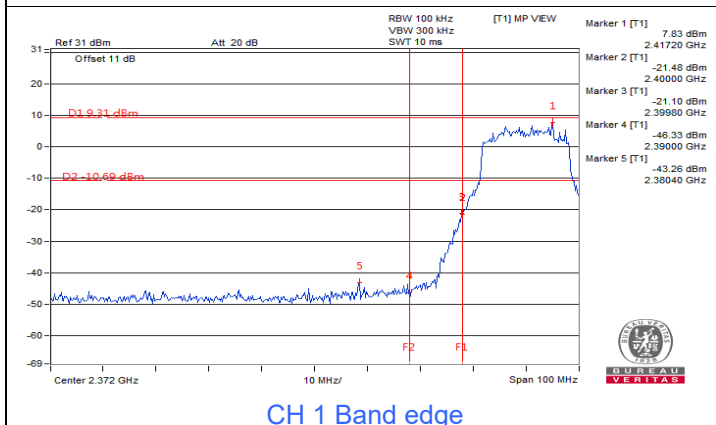




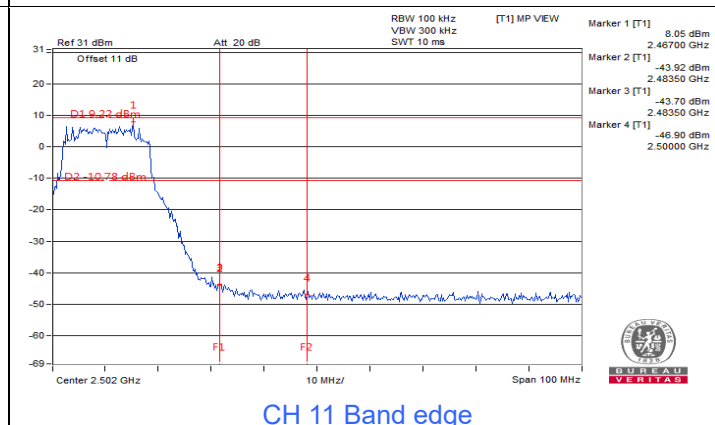
CH 13



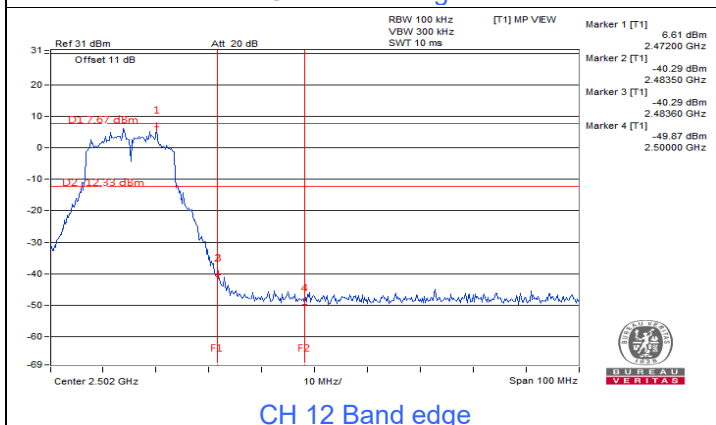
CH 13



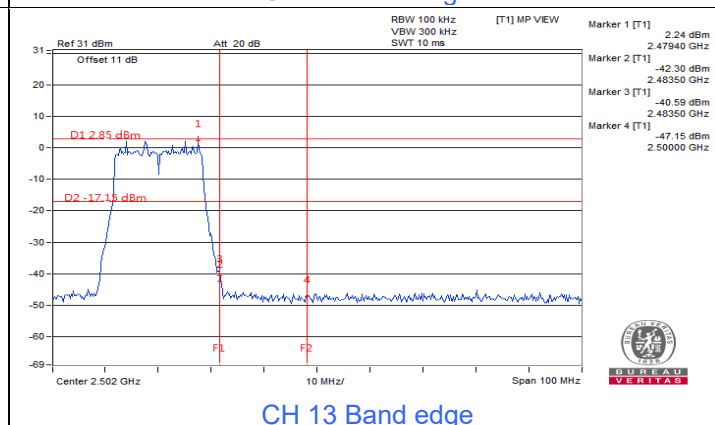
CH 1 Band edge



CH 11 Band edge



CH 12 Band edge



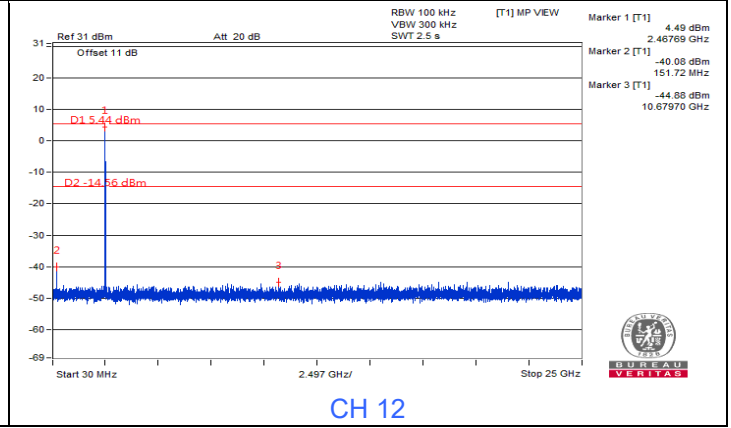
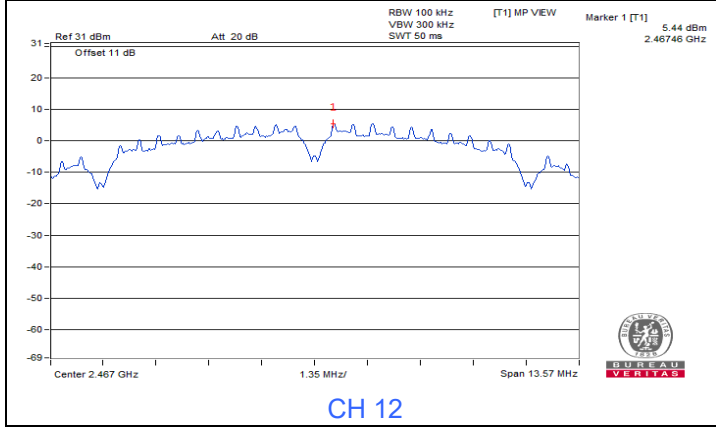
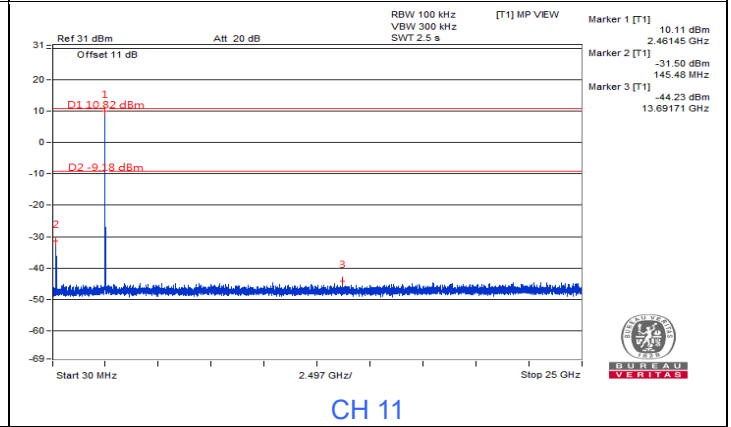
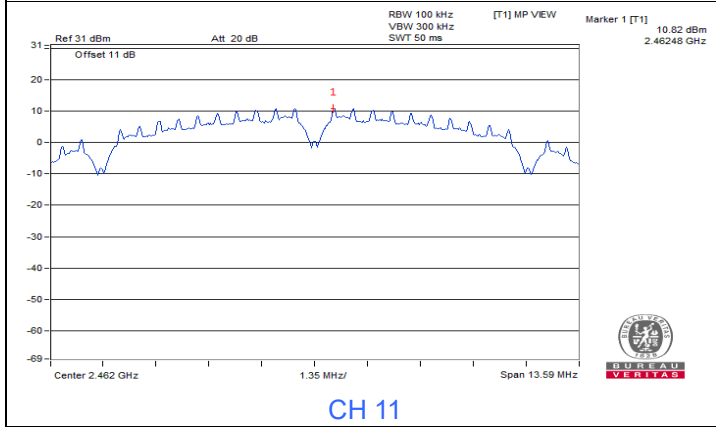
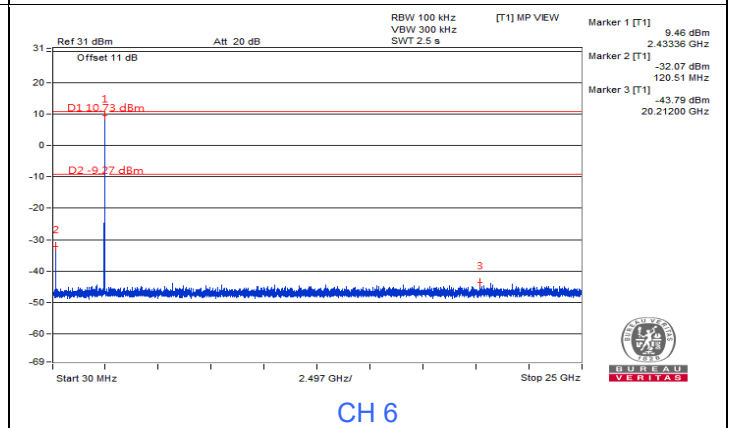
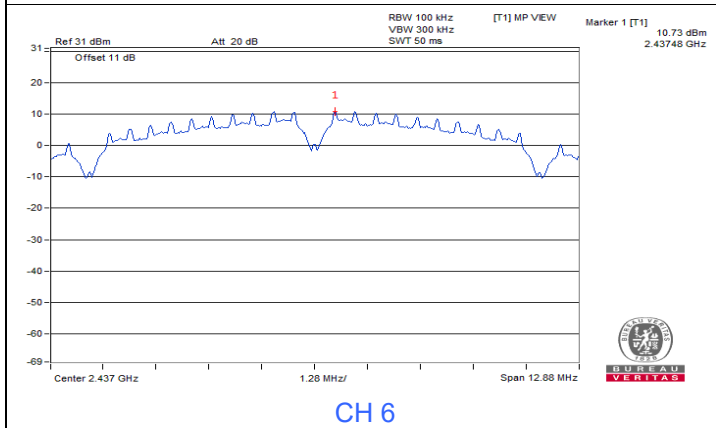
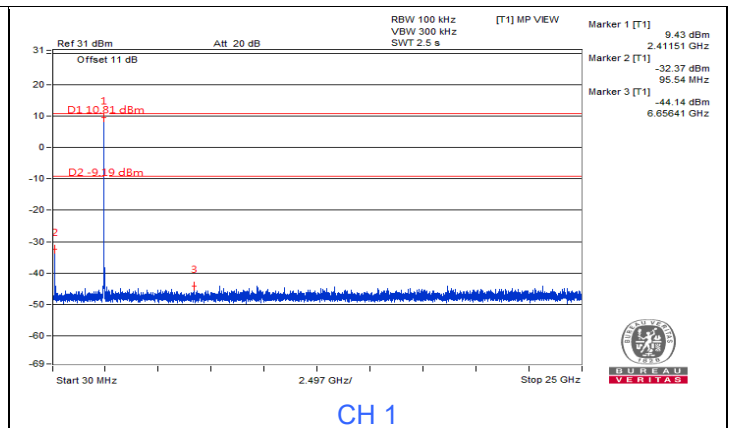
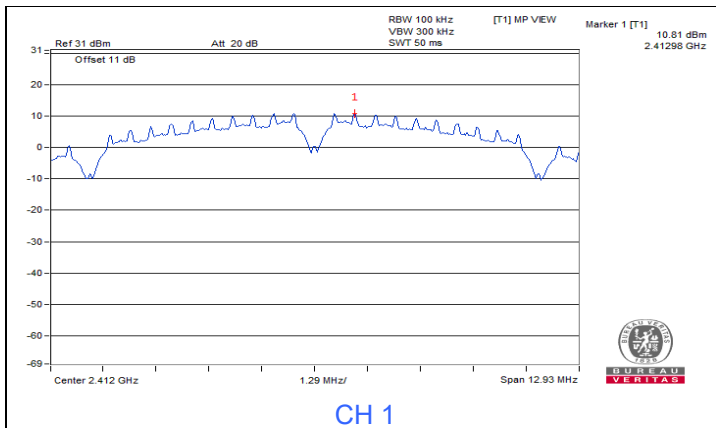
CH 13 Band edge

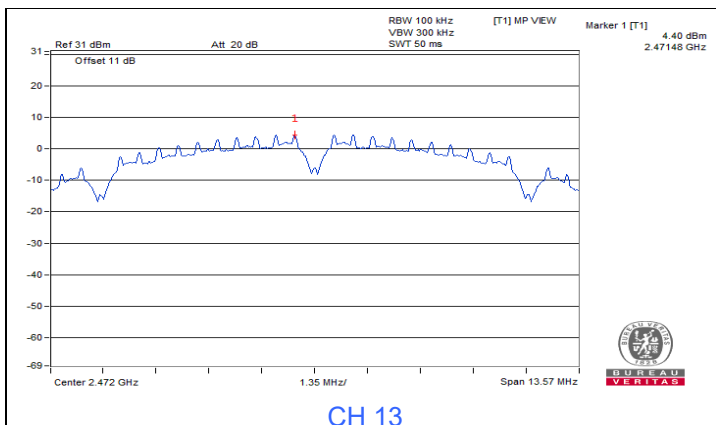




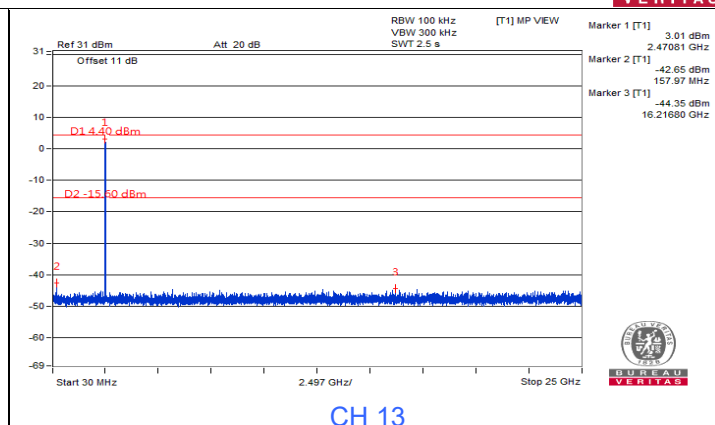
# 1TX\_Chain 1

## 802.11b

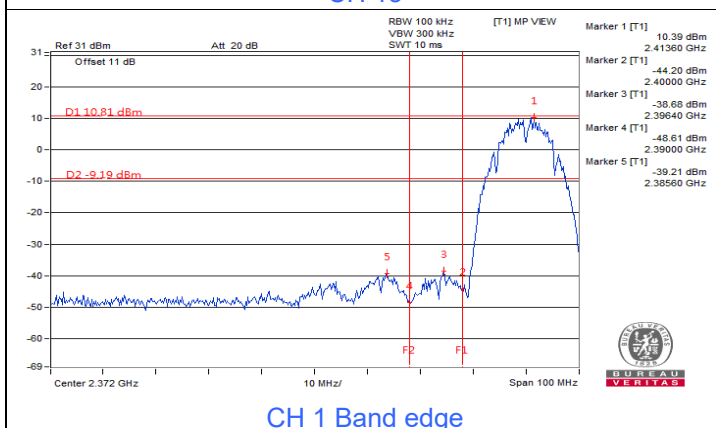




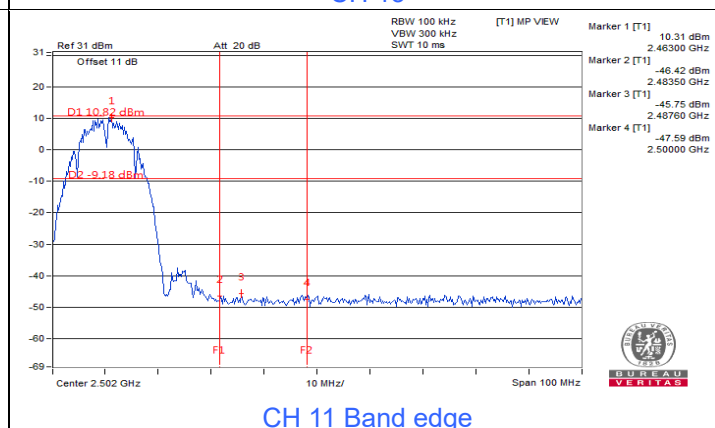
CH 13



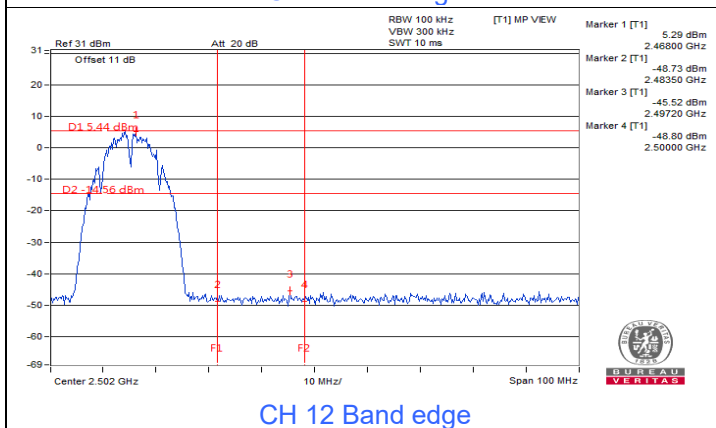
CH 13



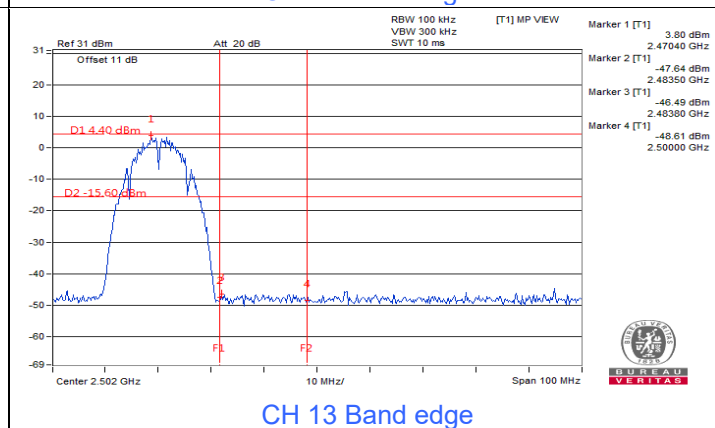
CH 1 Band edge



CH 11 Band edge



CH 12 Band edge

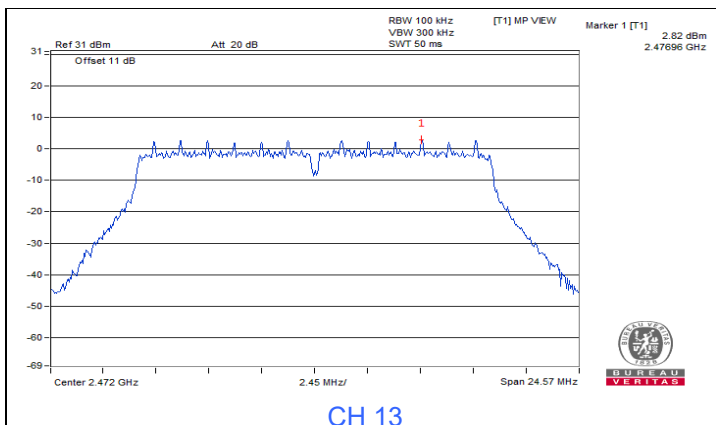


CH 13 Band edge

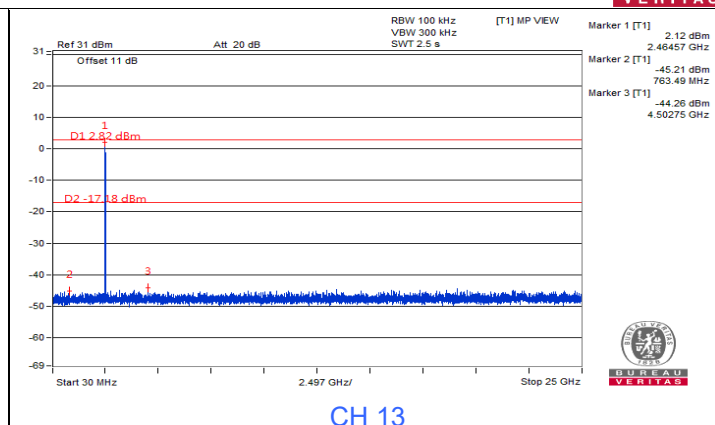


# 802.11g

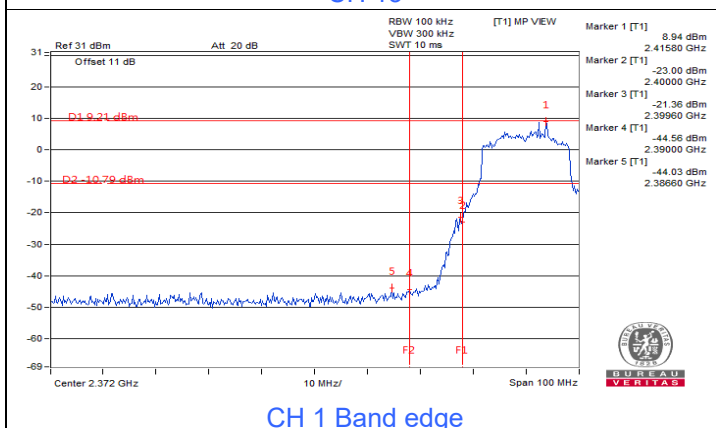




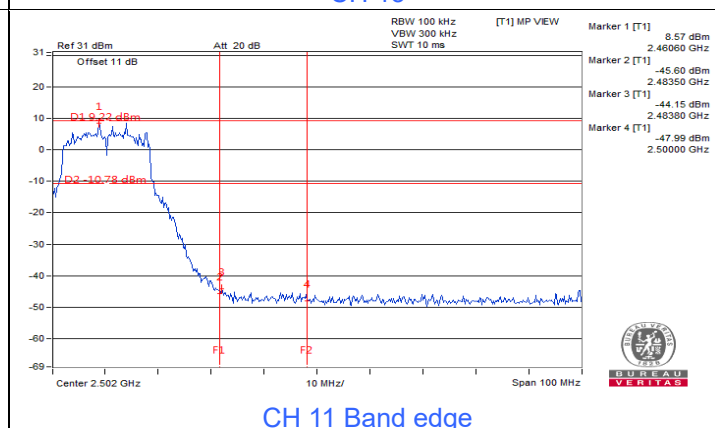
CH 13



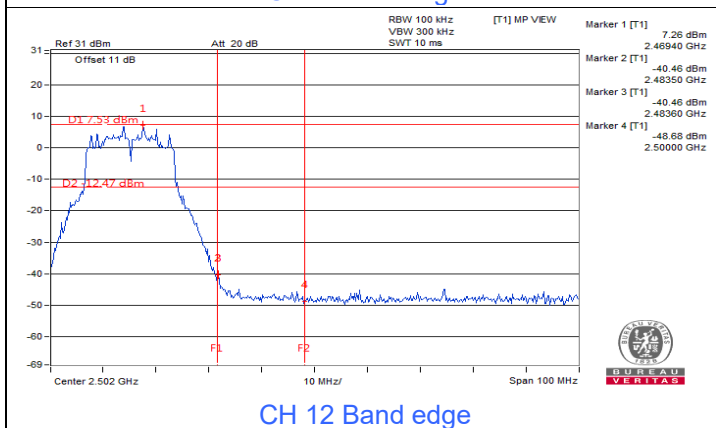
CH 13



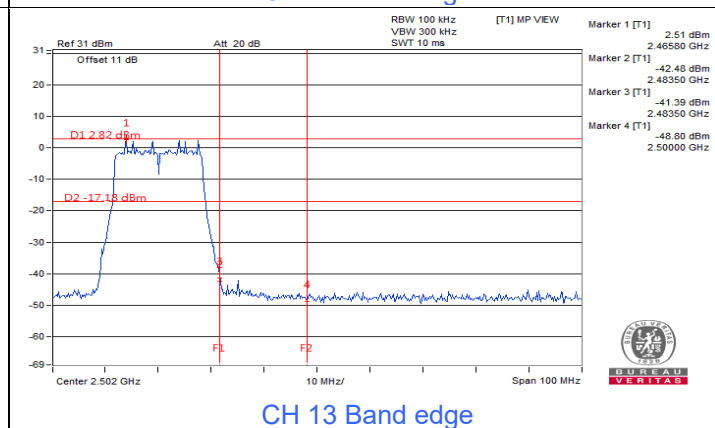
CH 1 Band edge



CH 11 Band edge



CH 12 Band edge

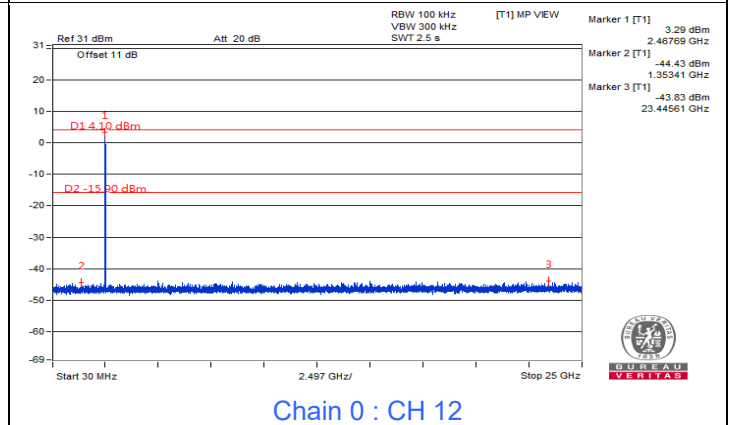
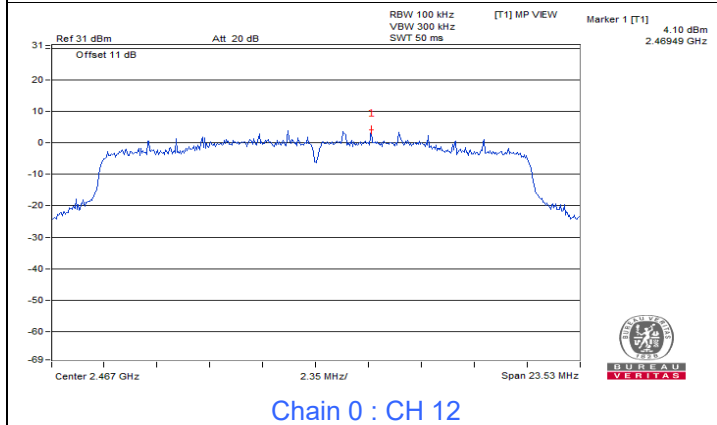
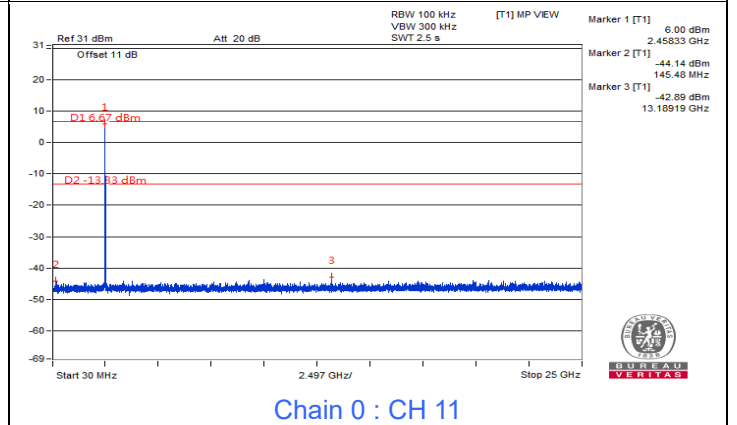
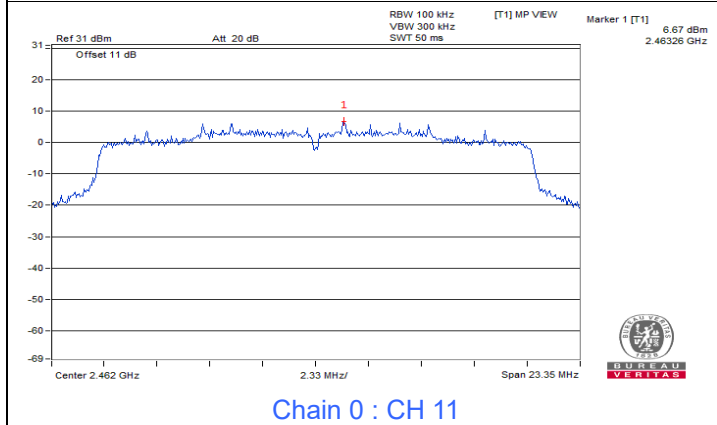
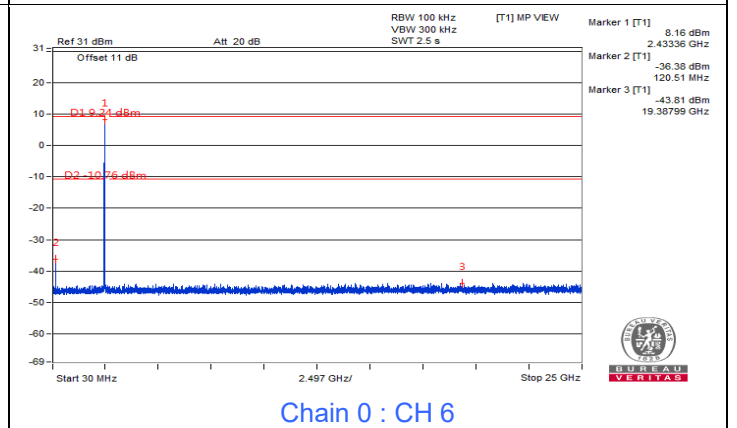
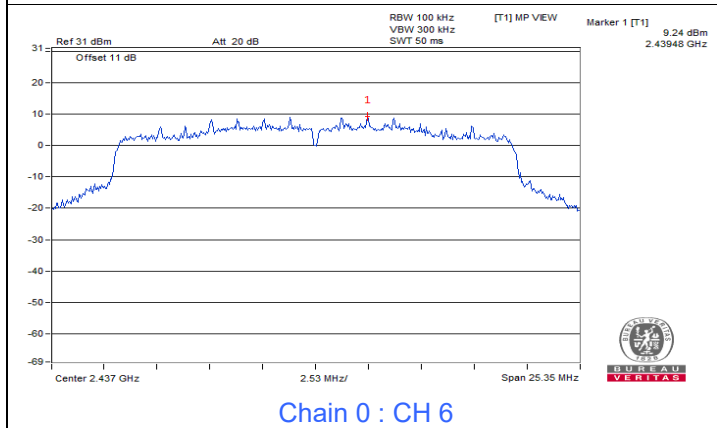
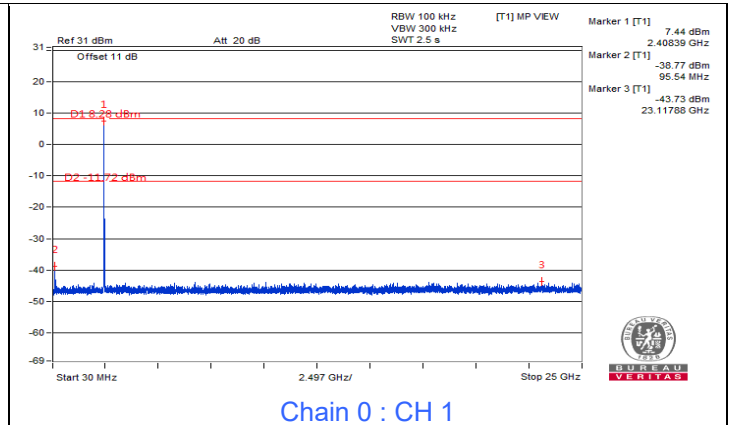
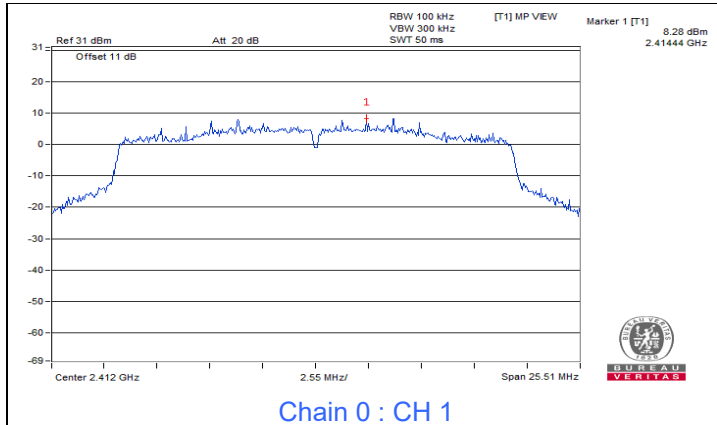


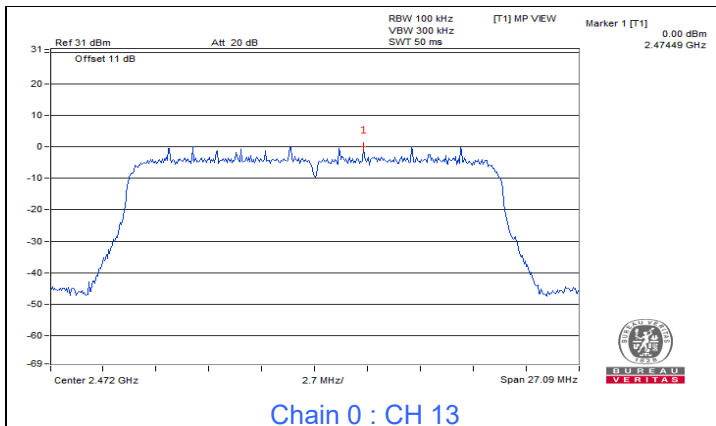
CH 13 Band edge



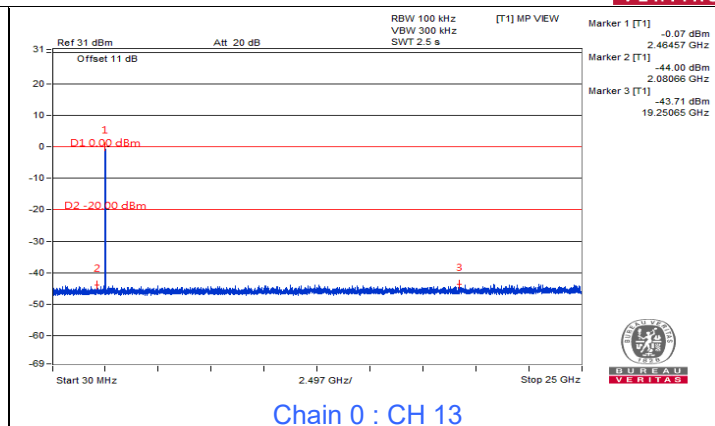
2TX

802.11ax (HE20)

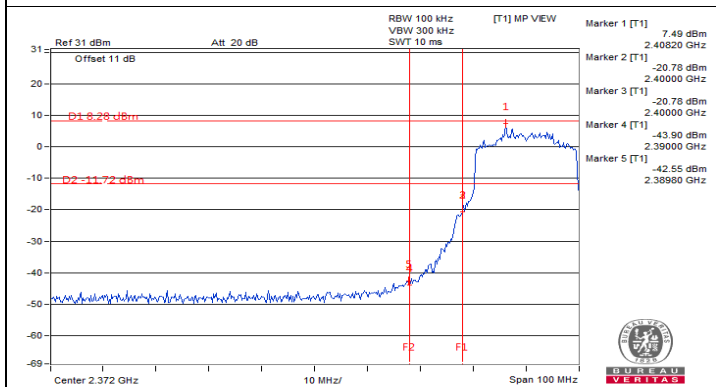




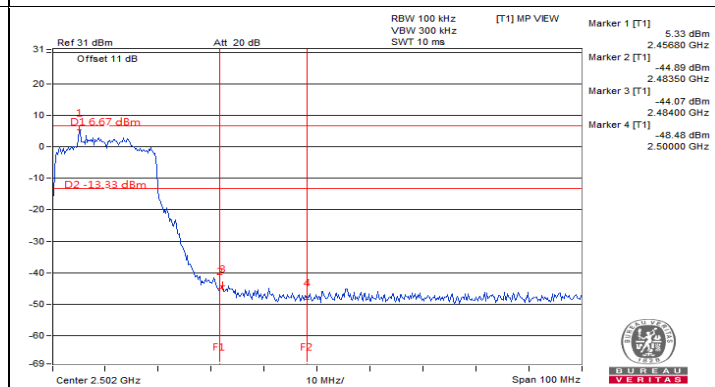
Chain 0 : CH 13



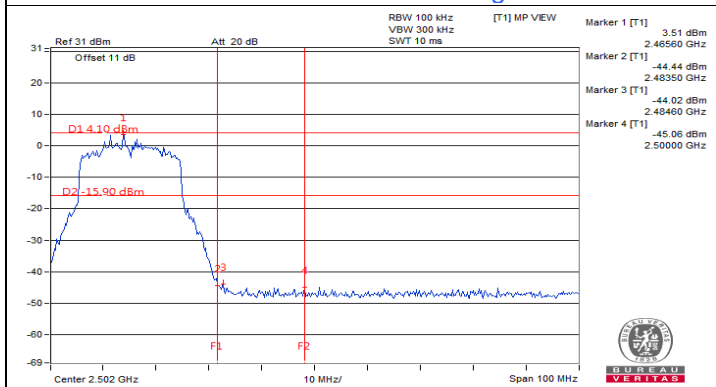
Chain 0 : CH 13



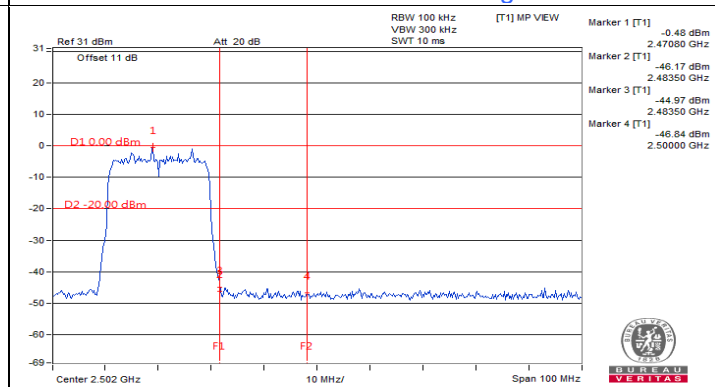
Chain 0 : CH 1 Band edge



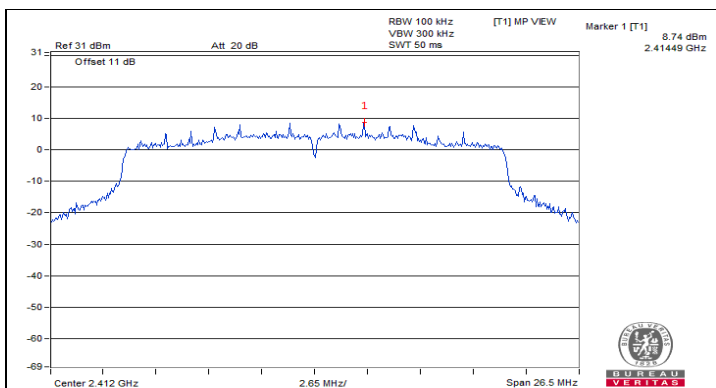
Chain 0 : CH 11 Band edge



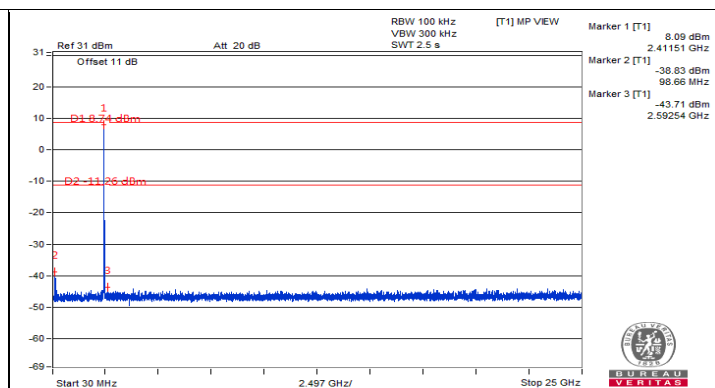
Chain 0 : CH 12 Band edge



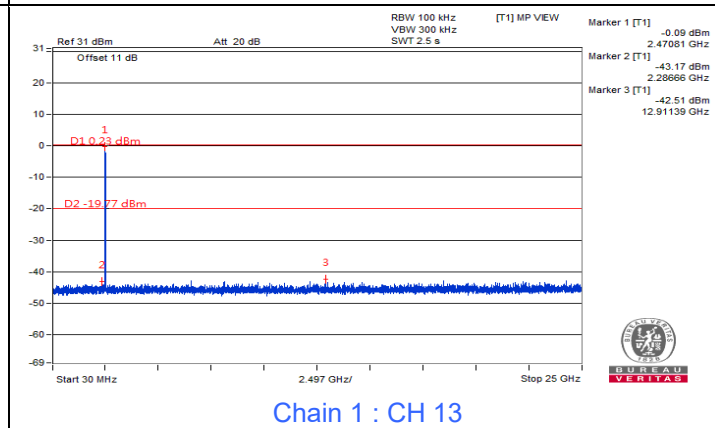
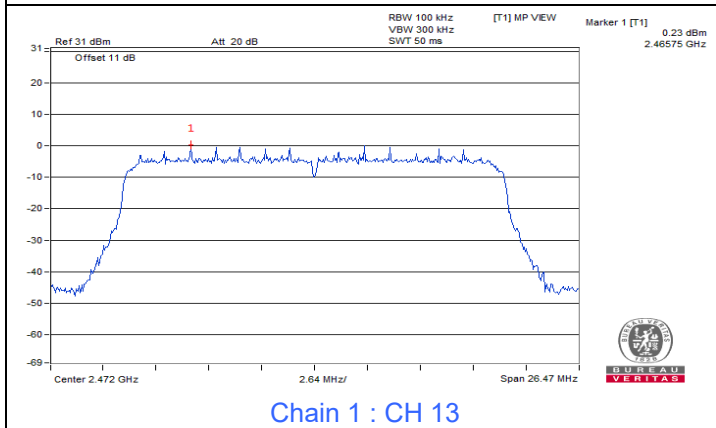
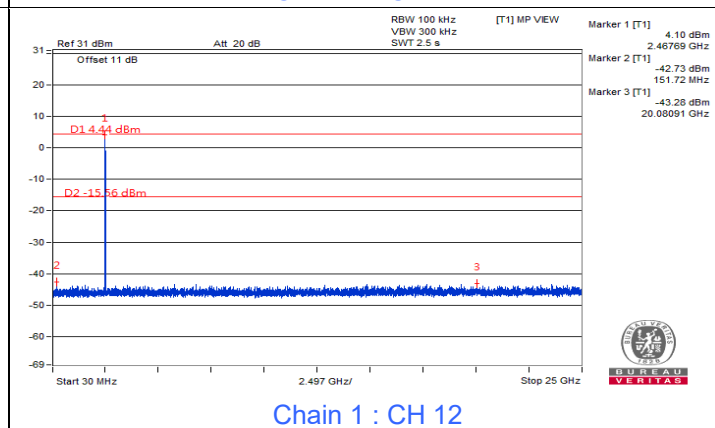
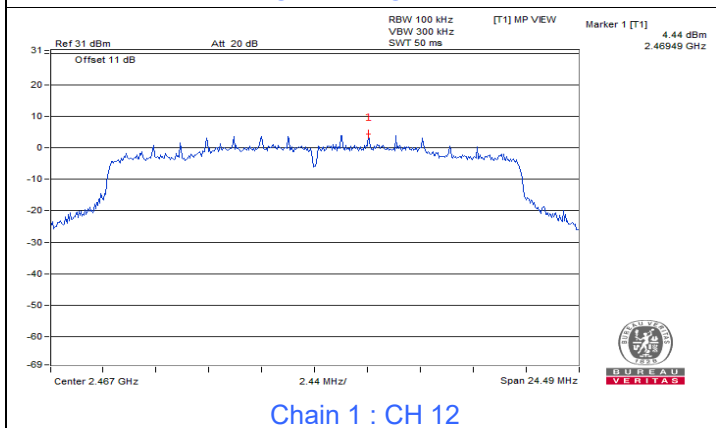
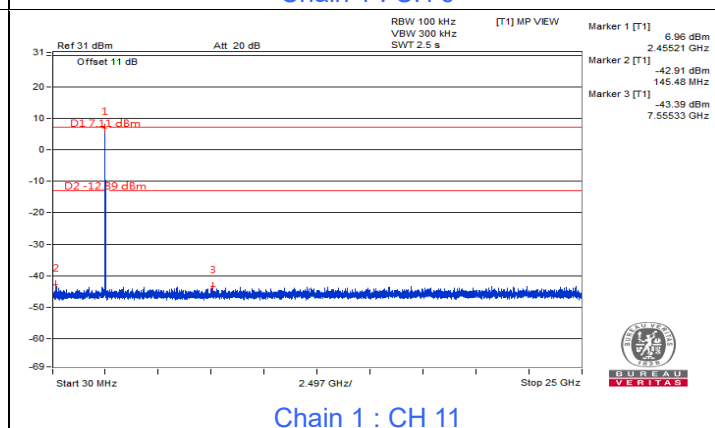
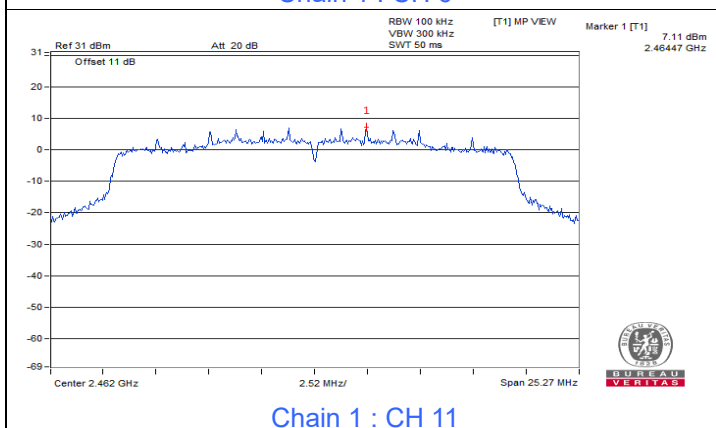
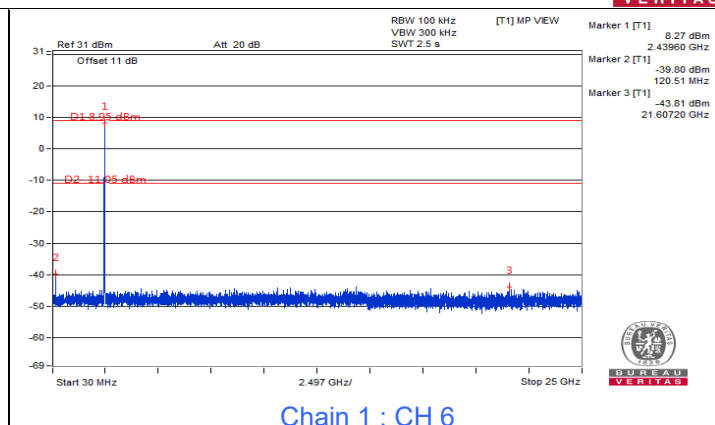
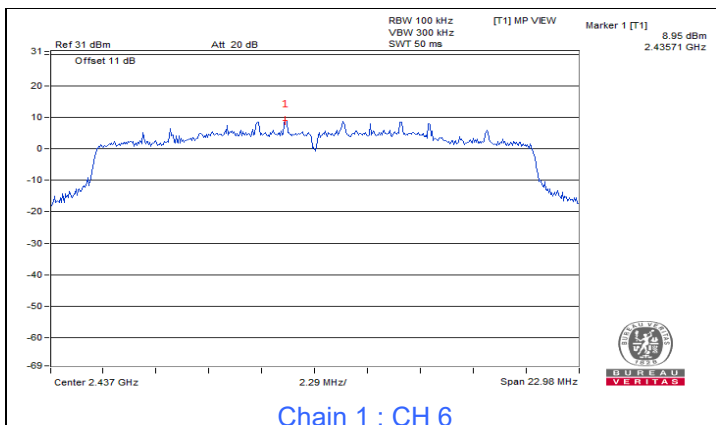
Chain 0 : CH 13 Band edge

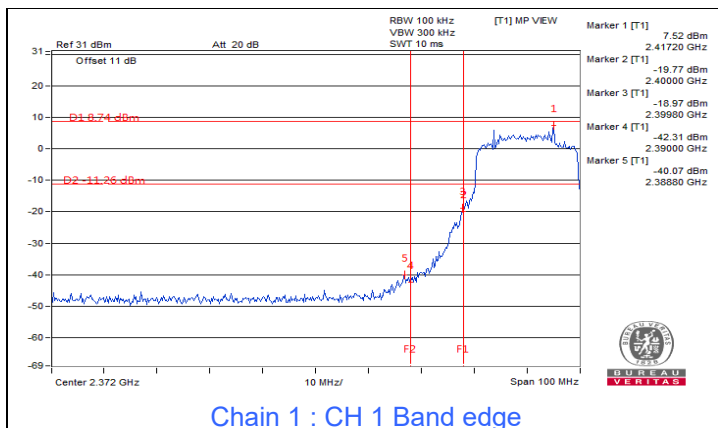


Chain 1 : CH 1

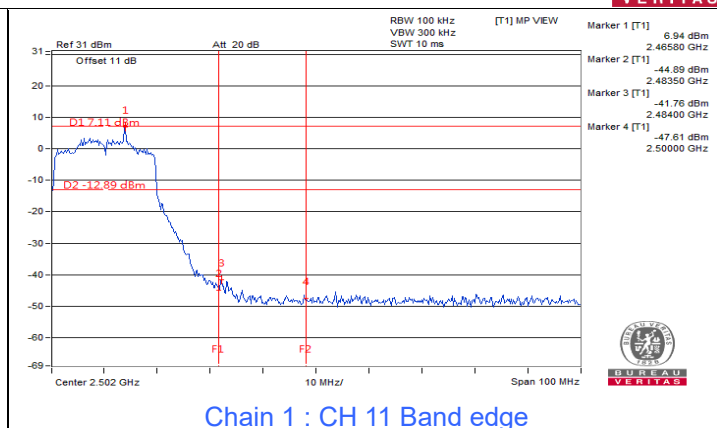


Chain 1 : CH 1

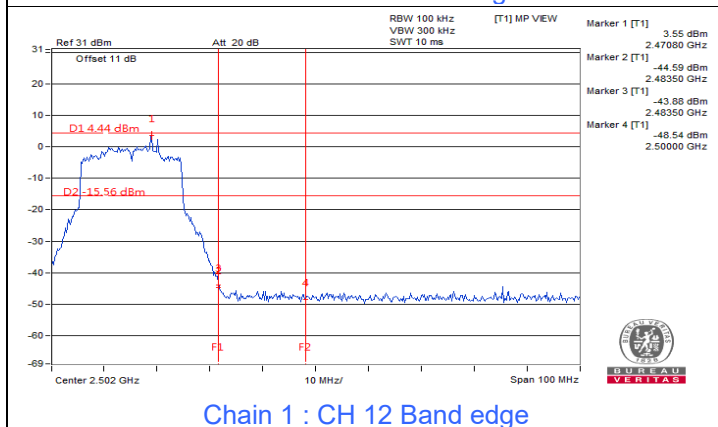




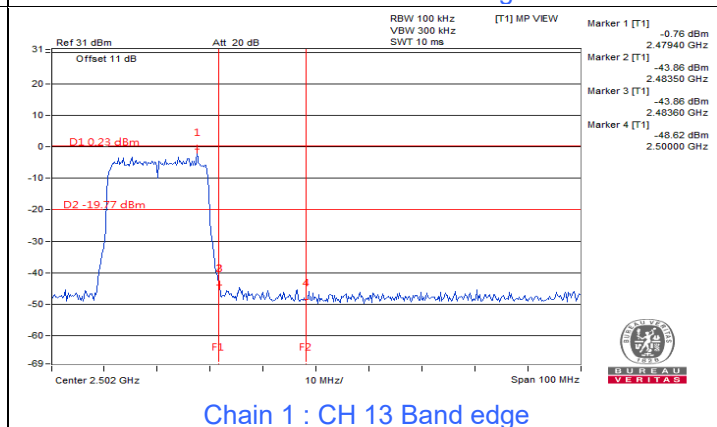
Chain 1 : CH 1 Band edge



Chain 1 : CH 11 Band edge



Chain 1 : CH 12 Band edge

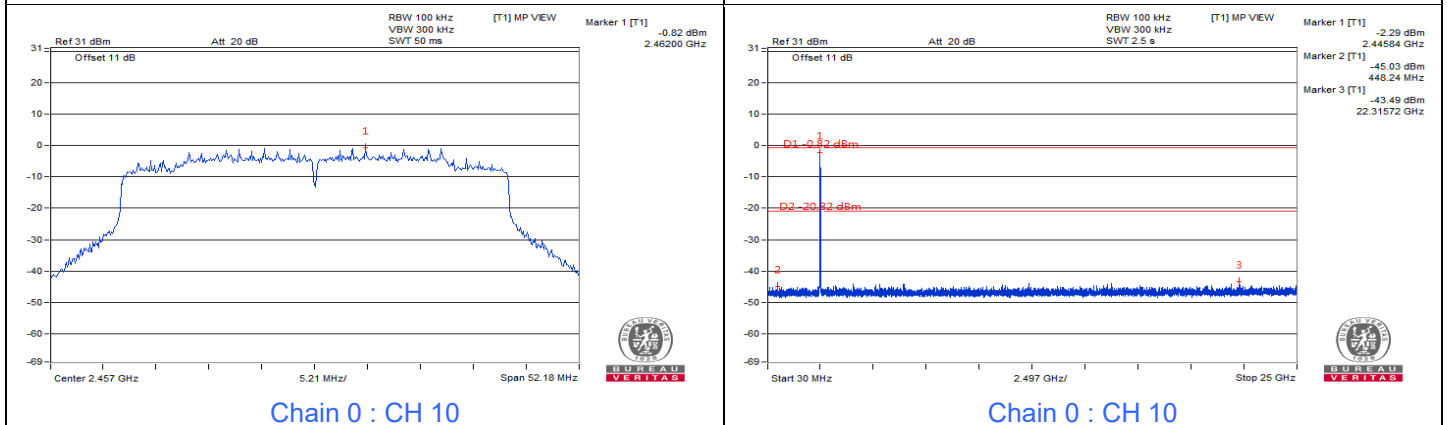
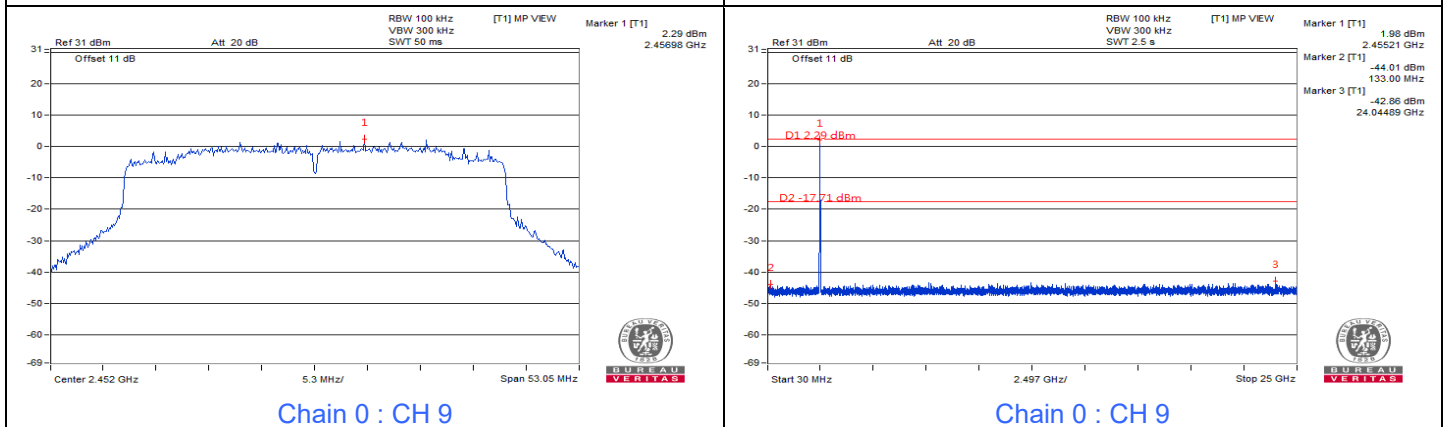
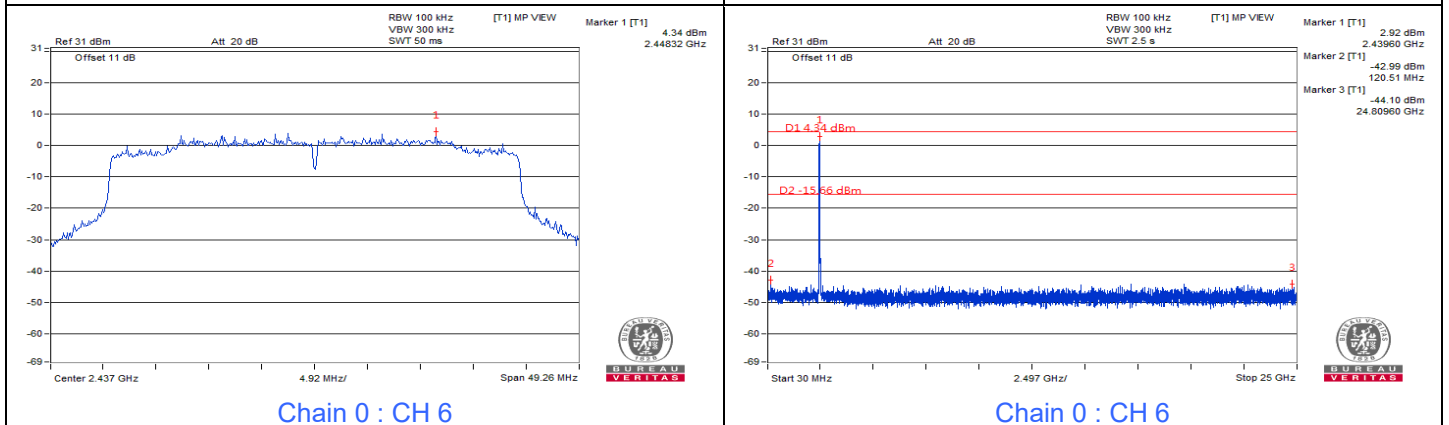
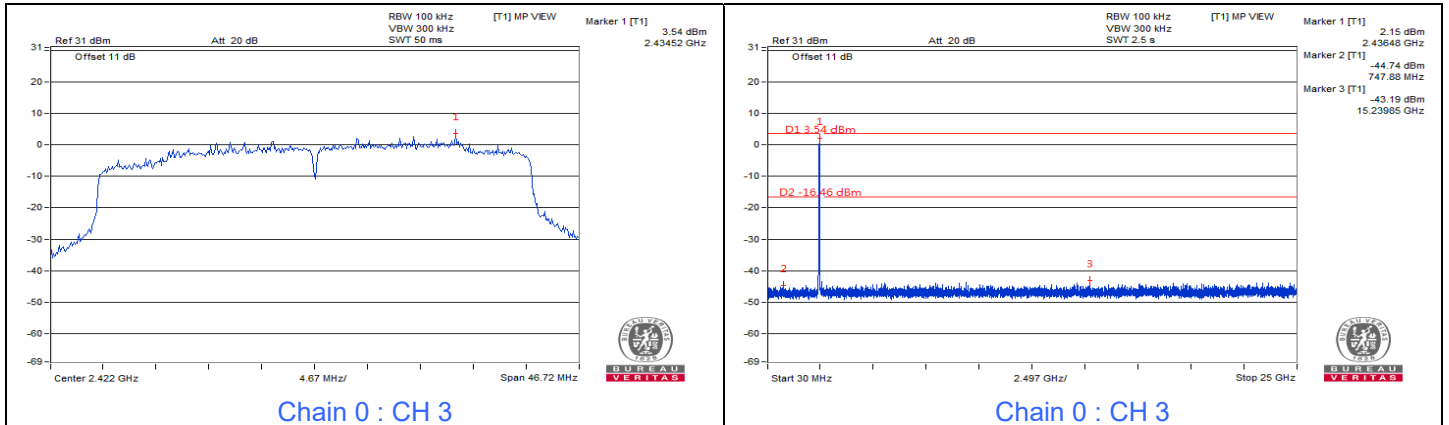


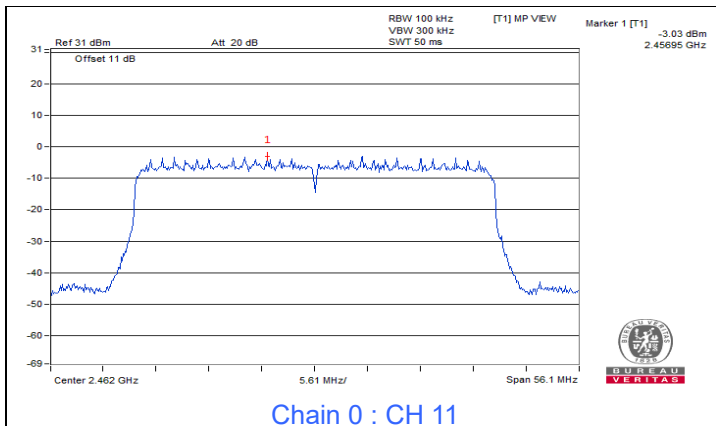
Chain 1 : CH 13 Band edge



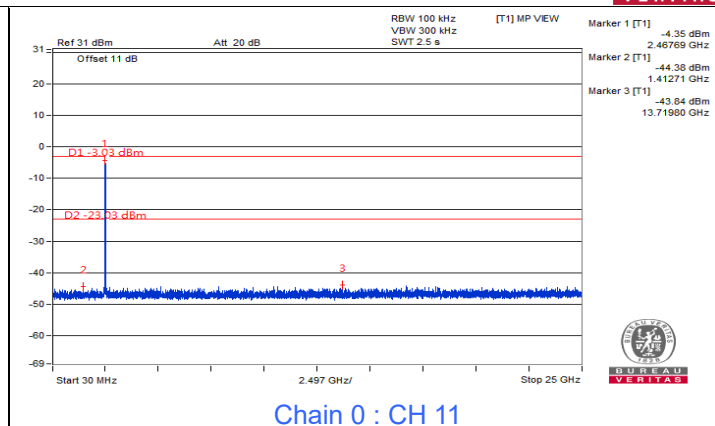


### 802.11ax (HE40)

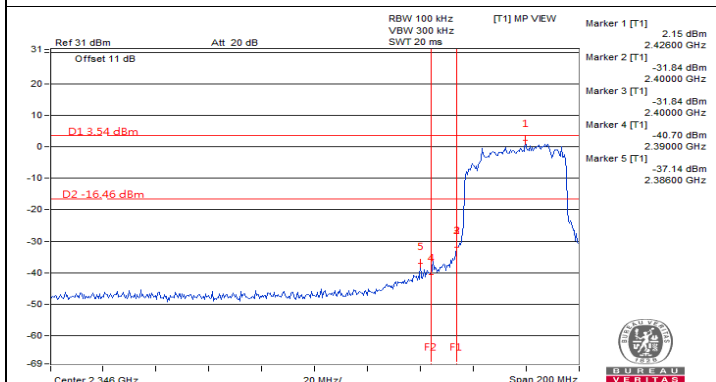




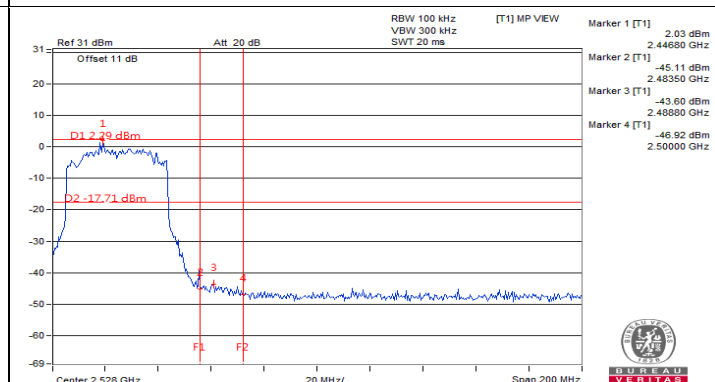
Chain 0 : CH 11



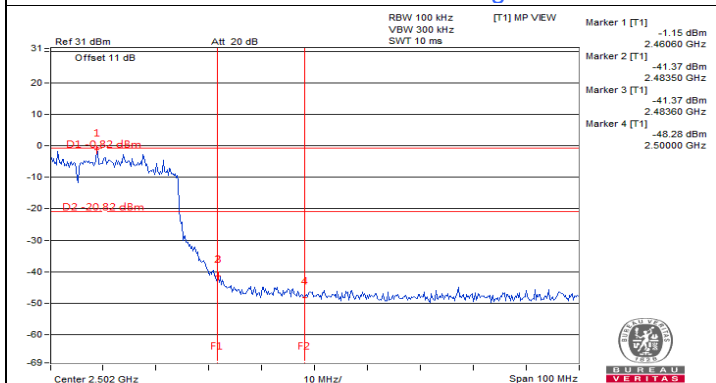
Chain 0 : CH 11



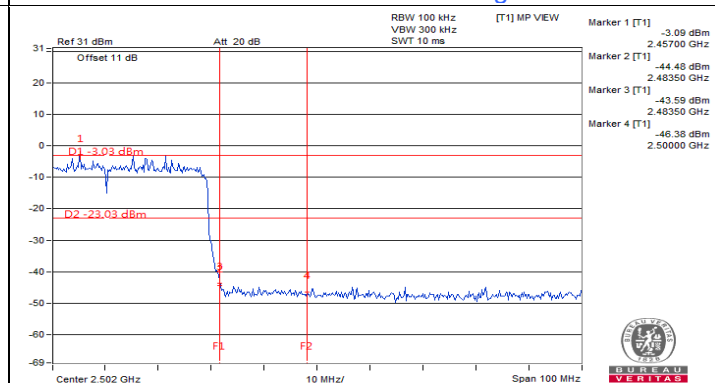
Chain 0 : CH 3 Band edge



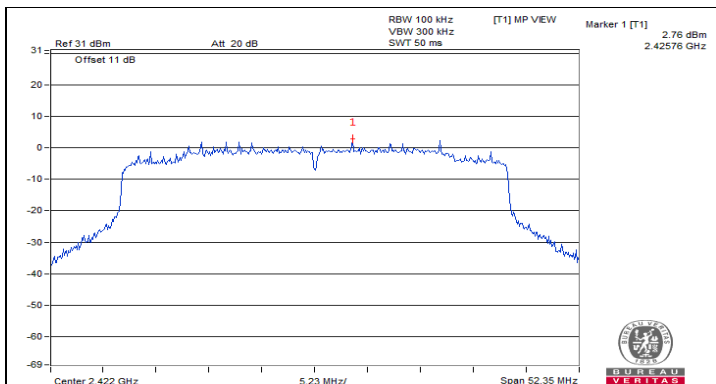
Chain 0 : CH 9 Band edge



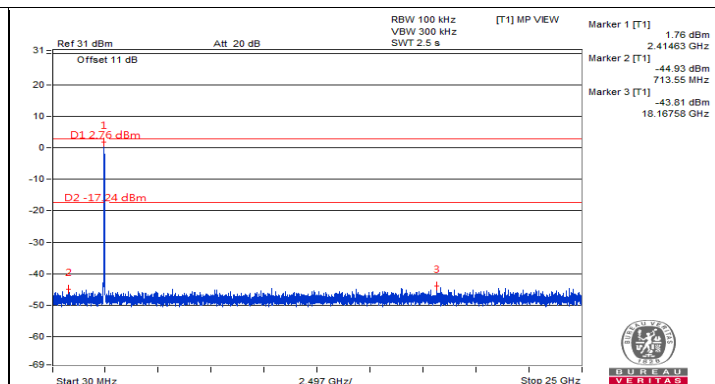
Chain 0 : CH 10 Band edge



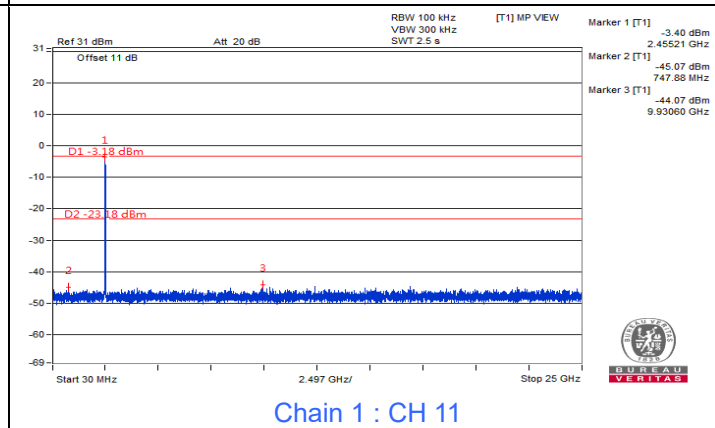
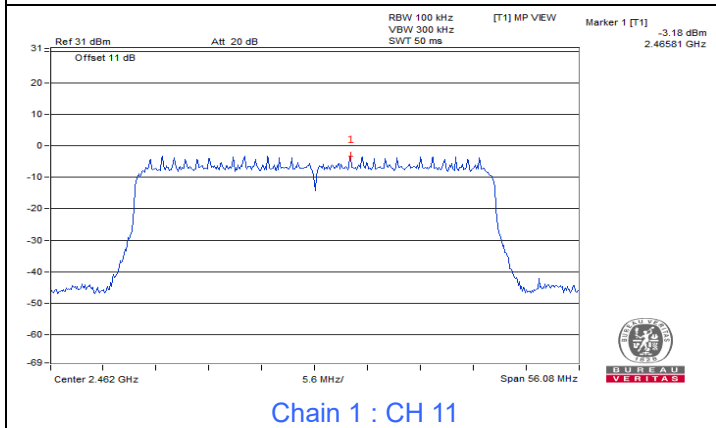
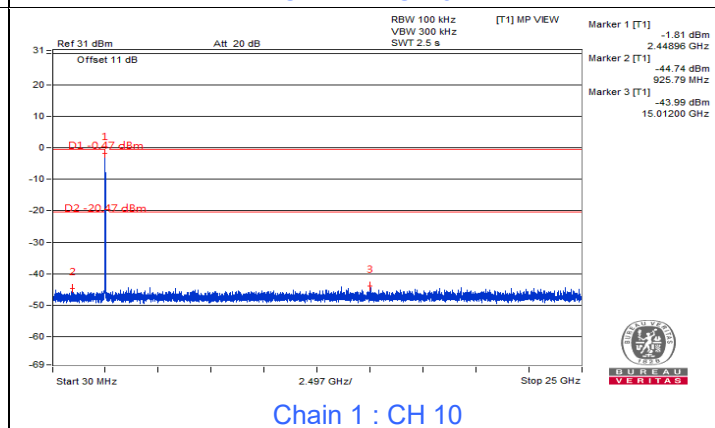
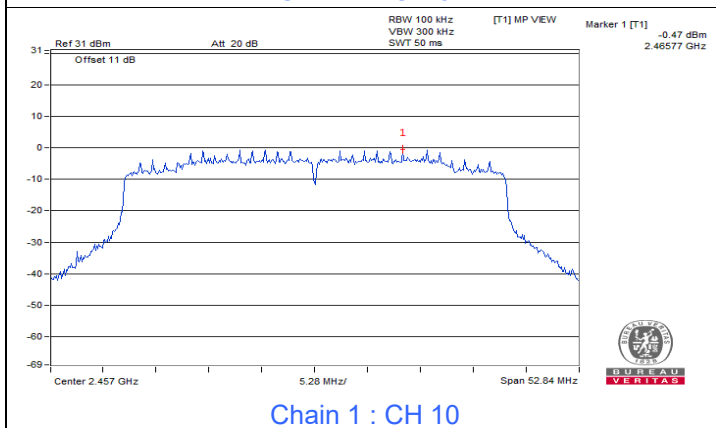
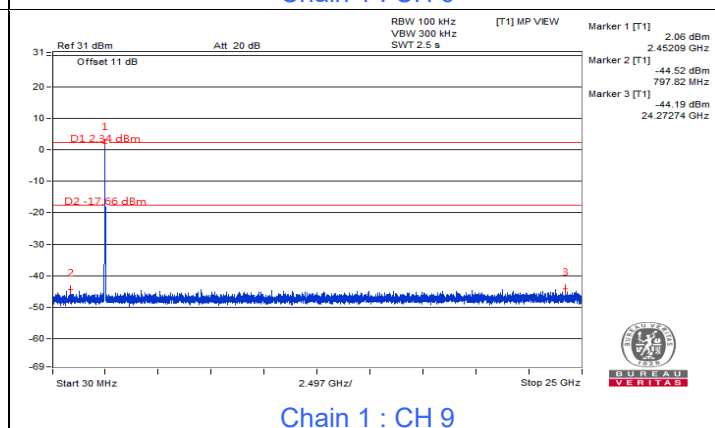
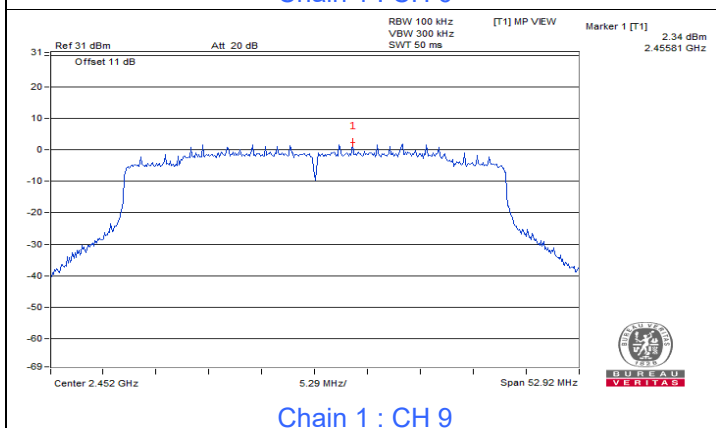
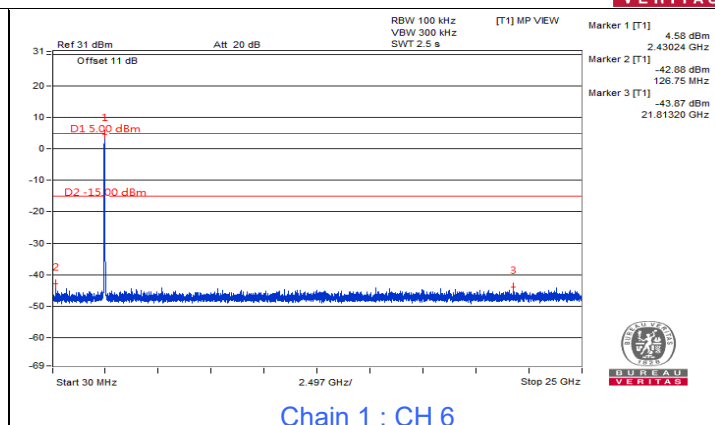
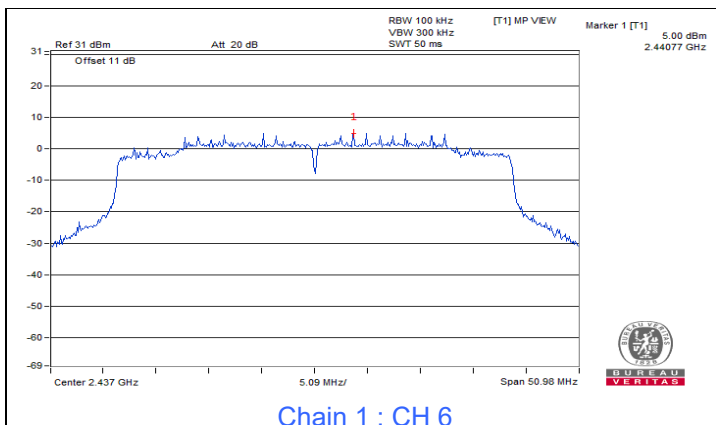
Chain 0 : CH 11 Band edge

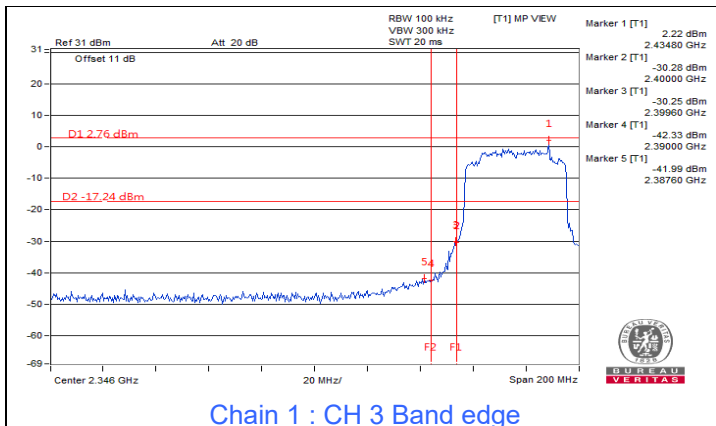


Chain 1 : CH 3

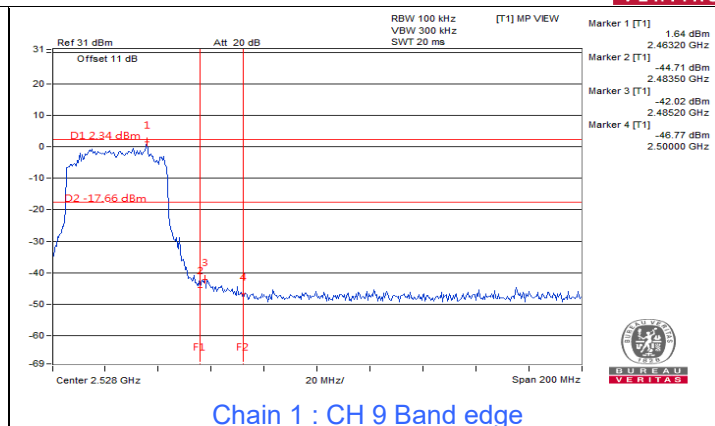


Chain 1 : CH 3

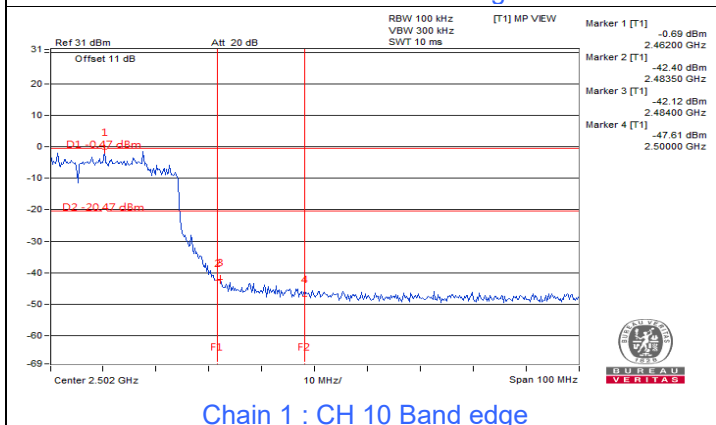




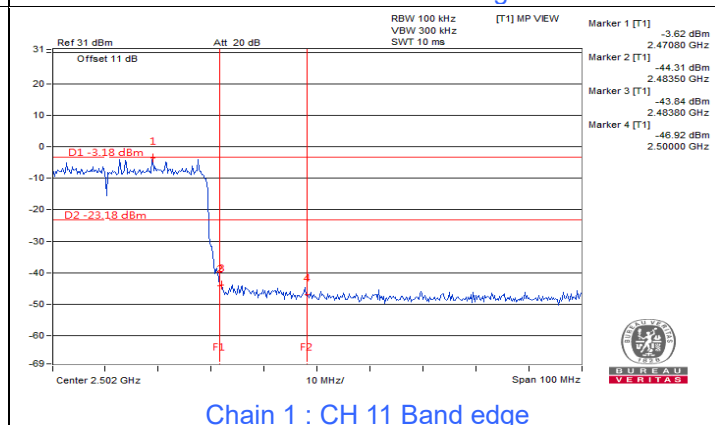
Chain 1 : CH 3 Band edge



Chain 1 : CH 9 Band edge



Chain 1 : CH 10 Band edge



Chain 1 : CH 11 Band edge

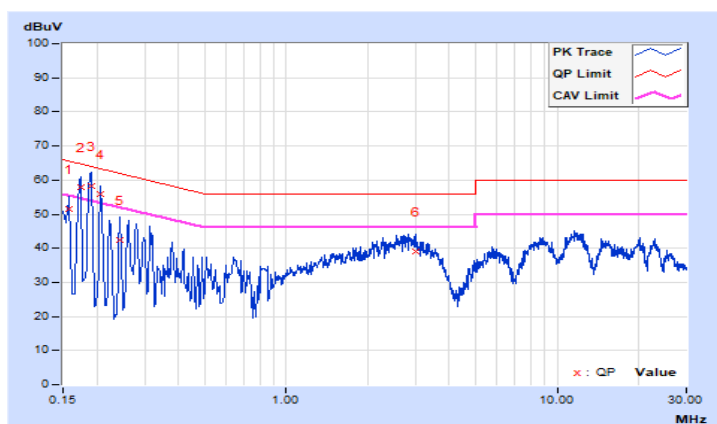
## 7.5 AC Power Conducted Emissions

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	25°C, 75% RH
Tested By	Rex Wang		

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	0.15800	10.19	41.27	22.71	51.46	32.90	65.57	55.57	-14.11	-22.67
2	0.17400	10.20	47.55	29.45	57.75	39.65	64.77	54.77	-7.02	-15.12
3	0.19000	10.21	48.03	31.47	58.24	41.68	64.04	54.04	-5.80	-12.36
4	0.20600	10.22	45.60	27.29	55.82	37.51	63.37	53.37	-7.55	-15.86
5	0.24200	10.23	32.15	14.03	42.38	24.26	62.03	52.03	-19.65	-27.77
6	2.99000	10.38	28.78	22.98	39.16	33.36	56.00	46.00	-16.84	-12.64

### 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

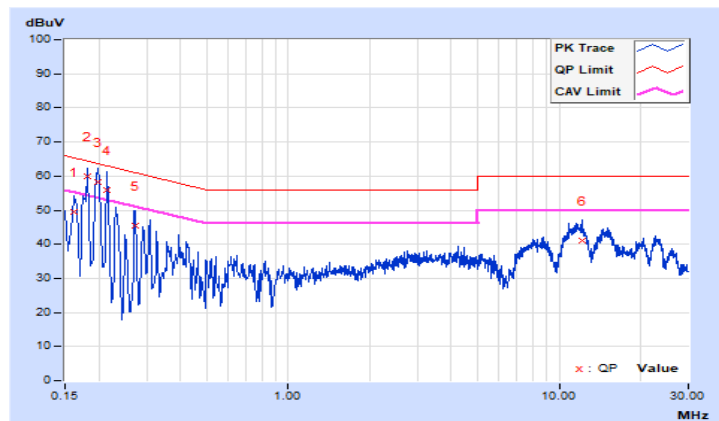


RF Mode	802.11ax (HE20)	Channel	CH 6 : 2437 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Rex Wang		

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	0.16200	10.19	39.15	22.65	49.34	32.84	65.36	55.36	-16.02	-22.52
<b>2</b>	<b>0.18200</b>	<b>10.20</b>	<b>49.68</b>	<b>31.47</b>	<b>59.88</b>	<b>41.67</b>	<b>64.39</b>	<b>54.39</b>	<b>-4.51</b>	<b>-12.72</b>
3	0.19780	10.21	48.18	32.08	58.39	42.29	63.70	53.70	-5.31	-11.41
4	0.21400	10.21	45.61	27.69	55.82	37.90	63.05	53.05	-7.23	-15.15
5	0.27135	10.22	35.21	17.49	45.43	27.71	61.08	51.08	-15.65	-23.37
6	12.16200	10.59	30.48	24.50	41.07	35.09	60.00	50.00	-18.93	-14.91

**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



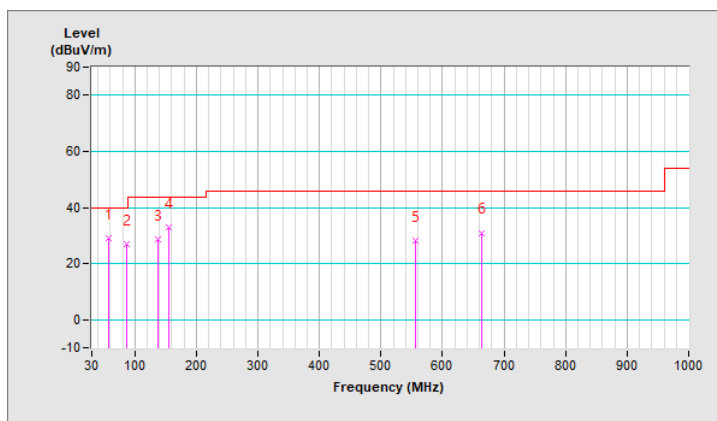
## 7.6 Unwanted Emissions below 1 GHz

<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	9 kHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	(QP) RB = 120kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Adair Peng		

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	57.16	29.0 QP	40.0	-11.0	1.50 H	222	38.4	-9.4
2	87.23	26.8 QP	40.0	-13.2	1.50 H	334	41.4	-14.6
3	137.67	28.6 QP	43.5	-14.9	1.00 H	232	37.9	-9.3
4	155.13	33.0 QP	43.5	-10.5	2.00 H	117	41.7	-8.7
5	555.74	28.0 QP	46.0	-18.0	1.00 H	145	29.5	-1.5
6	663.41	31.0 QP	46.0	-15.0	1.00 H	231	30.3	0.7

### Remarks:

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

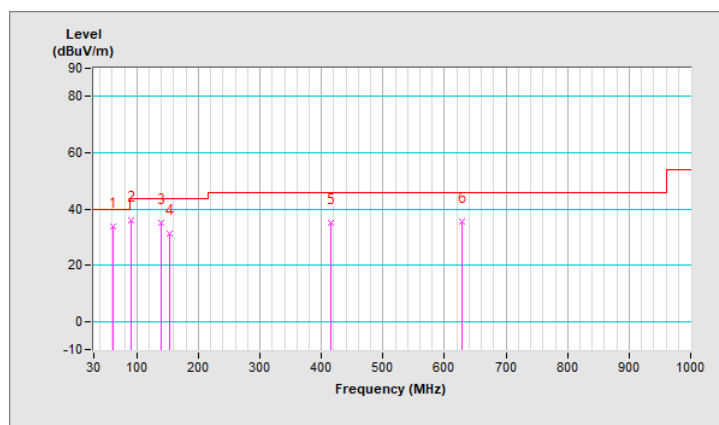


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	9 kHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	(QP) RB = 120kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Adair Peng		

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	62.01	33.8 QP	40.0	-6.2	1.00 V	196	43.8	-10.0
2	91.11	36.0 QP	43.5	-7.5	1.99 V	105	50.6	-14.6
3	138.64	35.0 QP	43.5	-8.5	1.99 V	116	44.3	-9.3
4	154.16	31.3 QP	43.5	-12.2	1.00 V	343	39.8	-8.5
5	415.09	35.0 QP	46.0	-11.0	1.00 V	212	39.4	-4.4
6	628.49	35.3 QP	46.0	-10.7	1.00 V	100	35.0	0.3

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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

<b>RF Mode</b>	802.11b	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Rex Wang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.1 PK	74.0	-14.9	3.69 H	81	25.2	33.9
2	2390.00	45.7 AV	54.0	-8.3	3.69 H	81	11.8	33.9
3	*2412.00	104.7 PK			3.69 H	81	70.9	33.8
4	*2412.00	100.7 AV			3.69 H	81	66.9	33.8
5	4824.00	51.3 PK	74.0	-22.7	3.71 H	83	40.4	10.9
6	4824.00	41.3 AV	54.0	-12.7	3.71 H	83	30.4	10.9
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	59.3 PK	74.0	-14.7	3.71 V	351	25.4	33.9
2	2390.00	45.7 AV	54.0	-8.3	3.71 V	351	11.8	33.9
3	*2412.00	110.2 PK			3.71 V	351	76.4	33.8
4	*2412.00	106.1 AV			3.71 V	351	72.3	33.8
5	4824.00	51.6 PK	74.0	-22.4	2.62 V	35	40.7	10.9
6	4824.00	41.5 AV	54.0	-12.5	2.62 V	35	30.6	10.9

### Remarks:

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

<b>RF Mode</b>	802.11b	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Rex Wang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	105.6 PK			2.91 H	132	71.8	33.8
2	*2437.00	101.3 AV			2.91 H	132	67.5	33.8
3	4874.00	50.8 PK	74.0	-23.2	3.08 H	91	39.7	11.1
4	4874.00	38.7 AV	54.0	-15.3	3.08 H	91	27.6	11.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	110.4 PK			3.67 V	355	76.6	33.8
2	*2437.00	106.6 AV			3.67 V	355	72.8	33.8
3	4874.00	51.9 PK	74.0	-22.1	2.66 V	35	40.8	11.1
4	4874.00	41.5 AV	54.0	-12.5	2.66 V	35	30.4	11.1

**Remarks:**

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



<b>RF Mode</b>	802.11b	<b>Channel</b>	CH 11 : 2462 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	105.2 PK			2.79 H	130	71.4	33.8
2	*2462.00	101.3 AV			2.79 H	130	67.5	33.8
3	2488.75	60.8 PK	74.0	-13.2	2.79 H	130	27.0	33.8
4	2488.75	51.3 AV	54.0	-2.7	2.79 H	130	17.5	33.8
5	4824.00	50.7 PK	74.0	-23.3	3.12 H	93	39.8	10.9
6	4824.00	38.8 AV	54.0	-15.2	3.12 H	93	27.9	10.9

**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	110.2 PK			3.59 V	349	76.4	33.8
2	*2462.00	106.1 AV			3.59 V	349	72.3	33.8
3	2488.75	62.1 PK	74.0	-11.9	3.59 V	349	28.3	33.8
<b>4</b>	<b>2488.75</b>	<b>53.8 AV</b>	<b>54.0</b>	<b>-0.2</b>	<b>3.59 V</b>	<b>349</b>	<b>20.0</b>	<b>33.8</b>
5	4924.00	51.9 PK	74.0	-22.1	2.64 V	33	40.8	11.1
6	4924.00	41.8 AV	54.0	-12.2	2.64 V	33	30.7	11.1

**Remarks:**

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



<b>RF Mode</b>	802.11b	<b>Channel</b>	CH 12 : 2467 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Rex Wang		

**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	99.7 PK			2.81 H	130	65.9	33.8
2	*2467.00	95.7 AV			2.81 H	130	61.9	33.8
3	2483.50	59.8 PK	74.0	-14.2	2.81 H	130	26.0	33.8
4	2483.50	49.3 AV	54.0	-4.7	2.81 H	130	15.5	33.8
5	4934.00	51.4 PK	74.0	-22.6	3.05 H	95	40.3	11.1
6	4934.00	39.1 AV	54.0	-14.9	3.05 H	95	28.0	11.1

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	104.2 PK			3.59 V	349	70.4	33.8
2	*2467.00	99.8 AV			3.59 V	349	66.0	33.8
3	2483.50	62.1 PK	74.0	-11.9	3.59 V	349	28.3	33.8
4	2483.50	53.4 AV	54.0	-0.6	3.59 V	349	19.6	33.8
5	4934.00	52.4 PK	74.0	-21.6	2.67 V	33	41.3	11.1
6	4934.00	41.9 AV	54.0	-12.1	2.67 V	33	30.8	11.1

**Remarks:**

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



<b>RF Mode</b>	802.11b	<b>Channel</b>	CH 13 : 2472 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	98.3 PK			2.80 H	133	64.5	33.8
2	*2472.00	93.9 AV			2.80 H	133	60.1	33.8
3	2486.70	60.2 PK	74.0	-13.8	2.80 H	133	26.4	33.8
4	2486.70	49.6 AV	54.0	-4.4	2.80 H	133	15.8	33.8
5	4944.00	51.1 PK	74.0	-22.9	3.13 H	96	40.1	11.0
6	4944.00	38.7 AV	54.0	-15.3	3.13 H	96	27.7	11.0

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	102.3 PK			3.61 V	350	68.5	33.8
2	*2472.00	98.1 AV			3.61 V	350	64.3	33.8
3	2486.70	61.9 PK	74.0	-12.1	3.61 V	350	28.1	33.8
4	2486.70	53.7 AV	54.0	-0.3	3.61 V	350	19.9	33.8
5	4944.00	51.5 PK	74.0	-22.5	2.65 V	33	40.5	11.0
6	4944.00	41.6 AV	54.0	-12.4	2.65 V	33	30.6	11.0

**Remarks:**

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



<b>RF Mode</b>	802.11g	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.9 PK	74.0	-13.1	2.82 H	129	27.0	33.9
2	2390.00	47.5 AV	54.0	-6.5	2.82 H	129	13.6	33.9
3	*2412.00	108.6 PK			2.82 H	129	74.8	33.8
4	*2412.00	98.1 AV			2.82 H	129	64.3	33.8
5	4824.00	50.8 PK	74.0	-23.2	3.09 H	105	39.9	10.9
6	4824.00	38.1 AV	54.0	-15.9	3.09 H	105	27.2	10.9

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	61.2 PK	74.0	-12.8	3.78 V	31	27.3	33.9
2	2390.00	47.7 AV	54.0	-6.3	3.78 V	31	13.8	33.9
3	*2412.00	112.4 PK			3.78 V	31	78.6	33.8
4	*2412.00	102.7 AV			3.78 V	31	68.9	33.8
5	4824.00	51.2 PK	74.0	-22.8	3.35 V	45	40.3	10.9
6	4824.00	38.6 AV	54.0	-15.4	3.35 V	45	27.7	10.9

**Remarks:**

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



<b>RF Mode</b>	802.11g	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	108.4 PK			2.82 H	131	74.6	33.8
2	*2437.00	98.2 AV			2.82 H	131	64.4	33.8
3	4874.00	51.2 PK	74.0	-22.8	3.01 H	100	40.1	11.1
4	4874.00	38.3 AV	54.0	-15.7	3.01 H	100	27.2	11.1

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	112.9 PK			3.73 V	33	79.1	33.8
2	*2437.00	102.9 AV			3.73 V	33	69.1	33.8
3	4874.00	51.6 PK	74.0	-22.4	3.39 V	43	40.5	11.1
4	4874.00	39.0 AV	54.0	-15.0	3.39 V	43	27.9	11.1

**Remarks:**

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



<b>RF Mode</b>	802.11g	<b>Channel</b>	CH 11 : 2462 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	107.5 PK			2.72 H	130	73.7	33.8
2	*2462.00	97.5 AV			2.72 H	130	63.7	33.8
3	2483.50	67.1 PK	74.0	-6.9	2.72 H	130	33.3	33.8
4	2483.50	52.0 AV	54.0	-2.0	2.72 H	130	18.2	33.8
5	4924.00	50.9 PK	74.0	-23.1	3.02 H	95	39.8	11.1
6	4924.00	38.2 AV	54.0	-15.8	3.02 H	95	27.1	11.1

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	112.3 PK			3.61 V	26	78.5	33.8
2	*2462.00	102.1 AV			3.61 V	26	68.3	33.8
3	2483.50	69.3 PK	74.0	-4.7	3.61 V	26	35.5	33.8
4	2483.50	52.7 AV	54.0	-1.3	3.61 V	26	18.9	33.8
5	4924.00	51.3 PK	74.0	-22.7	3.40 V	40	40.2	11.1
6	4924.00	38.6 AV	54.0	-15.4	3.40 V	40	27.5	11.1

**Remarks:**

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





<b>RF Mode</b>	802.11g	<b>Channel</b>	CH 12 : 2467 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	*2467.00	104.8 PK			2.78 H	133	71.0	33.8
2	*2467.00	94.5 AV			2.78 H	133	60.7	33.8
3	2483.50	63.9 PK	74.0	-10.1	2.78 H	133	30.1	33.8
4	2483.50	51.5 AV	54.0	-2.5	2.78 H	133	17.7	33.8
5	4934.00	50.8 PK	74.0	-23.2	3.15 H	99	39.7	11.1
6	4934.00	48.3 AV	54.0	-5.7	3.15 H	99	37.2	11.1

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBUV)	Correction Factor (dB/m)
1	*2467.00	109.6 PK			3.31 V	16	75.8	33.8
2	*2467.00	99.0 AV			3.31 V	16	65.2	33.8
3	2483.50	68.7 PK	74.0	-5.3	3.31 V	16	34.9	33.8
<b>4</b>	<b>2483.50</b>	<b>53.8 AV</b>	<b>54.0</b>	<b>-0.2</b>	<b>3.31 V</b>	<b>16</b>	<b>20.0</b>	<b>33.8</b>
5	4934.00	51.2 PK	74.0	-22.8	2.64 V	33	40.1	11.1
6	4934.00	38.7 AV	54.0	-15.3	2.64 V	33	27.6	11.1

**Remarks:**

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



<b>RF Mode</b>	802.11g	<b>Channel</b>	CH 13 : 2472 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	100.4 PK			2.77 H	132	66.6	33.8
2	*2472.00	89.7 AV			2.77 H	132	55.9	33.8
3	2483.50	66.4 PK	74.0	-7.6	2.77 H	132	32.6	33.8
4	2483.50	52.1 AV	54.0	-1.9	2.77 H	132	18.3	33.8
5	4944.00	51.1 PK	74.0	-22.9	3.05 H	103	40.1	11.0
6	4944.00	38.3 AV	54.0	-15.7	3.05 H	103	27.3	11.0

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	104.7 PK			3.33 V	15	70.9	33.8
2	*2472.00	94.5 AV			3.33 V	15	60.7	33.8
3	2483.50	72.3 PK	74.0	-1.7	3.33 V	15	38.5	33.8
4	2483.50	52.4 AV	54.0	-1.6	3.33 V	15	18.6	33.8
5	4944.00	51.5 PK	74.0	-22.5	2.67 V	34	40.5	11.0
6	4944.00	38.8 AV	54.0	-15.2	2.67 V	34	27.8	11.0

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**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	65.0 PK	74.0	-9.0	3.13 H	119	31.1	33.9
2	2390.00	49.9 AV	54.0	-4.1	3.13 H	119	16.0	33.9
3	*2412.00	109.7 PK			3.13 H	119	75.9	33.8
4	*2412.00	97.7 AV			3.13 H	119	63.9	33.8
5	4824.00	50.7 PK	74.0	-23.3	3.01 H	101	39.8	10.9
6	4824.00	37.5 AV	54.0	-16.5	3.01 H	101	26.6	10.9

**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	66.7 PK	74.0	-7.3	3.76 V	28	32.8	33.9
2	2390.00	51.5 AV	54.0	-2.5	3.76 V	28	17.6	33.9
3	*2412.00	114.2 PK			3.76 V	28	80.4	33.8
4	*2412.00	101.5 AV			3.76 V	28	67.7	33.8
5	4824.00	51.0 PK	74.0	-23.0	3.42 V	49	40.1	10.9
6	4824.00	37.9 AV	54.0	-16.1	3.42 V	49	27.0	10.9

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	110.9 PK			3.15 H	123	77.1	33.8
2	*2437.00	98.8 AV			3.15 H	123	65.0	33.8
3	4874.00	51.1 PK	74.0	-22.9	2.97 H	105	40.0	11.1
4	4874.00	38.1 AV	54.0	-15.9	2.97 H	105	27.0	11.1

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	114.9 PK			3.71 V	40	81.1	33.8
2	*2437.00	102.7 AV			3.71 V	40	68.9	33.8
3	4874.00	51.5 PK	74.0	-22.5	3.39 V	50	40.4	11.1
4	4874.00	38.5 AV	54.0	-15.5	3.39 V	50	27.4	11.1

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 11 : 2462 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**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	108.1 PK			3.19 H	120	74.3	33.8
2	*2462.00	96.0 AV			3.19 H	120	62.2	33.8
3	2483.50	62.5 PK	74.0	-11.5	3.19 H	120	28.7	33.8
4	2483.50	49.4 AV	54.0	-4.6	3.19 H	120	15.6	33.8
5	4924.00	51.0 PK	74.0	-23.0	3.08 H	97	39.9	11.1
6	4924.00	37.7 AV	54.0	-16.3	3.08 H	97	26.6	11.1

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	112.3 PK			3.65 V	45	78.5	33.8
2	*2462.00	100.1 AV			3.65 V	45	66.3	33.8
3	2483.50	67.9 PK	74.0	-6.1	3.65 V	45	34.1	33.8
4	2483.50	52.9 AV	54.0	-1.1	3.65 V	45	19.1	33.8
5	4924.00	51.2 PK	74.0	-22.8	3.40 V	49	40.1	11.1
6	4924.00	38.0 AV	54.0	-16.0	3.40 V	49	26.9	11.1

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 12 : 2467 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**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	106.0 PK			3.19 H	118	72.2	33.8
2	*2467.00	93.8 AV			3.19 H	118	60.0	33.8
3	2483.50	61.6 PK	74.0	-12.4	3.19 H	118	27.8	33.8
4	2483.50	49.4 AV	54.0	-4.6	3.19 H	118	15.6	33.8
5	4934.00	51.1 PK	74.0	-22.9	3.09 H	107	40.0	11.1
6	4934.00	37.8 AV	54.0	-16.2	3.09 H	107	26.7	11.1

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	110.3 PK			3.65 V	46	76.5	33.8
2	*2467.00	97.5 AV			3.65 V	46	63.7	33.8
3	2483.50	64.7 PK	74.0	-9.3	3.65 V	46	30.9	33.8
4	2483.50	52.0 AV	54.0	-2.0	3.65 V	46	18.2	33.8
5	4934.00	51.3 PK	74.0	-22.7	3.46 V	53	40.2	11.1
6	4934.00	38.1 AV	54.0	-15.9	3.46 V	53	27.0	11.1

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 13 : 2472 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**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	102.2 PK			3.11 H	126	68.4	33.8
2	*2472.00	89.3 AV			3.11 H	126	55.5	33.8
3	2483.50	60.3 PK	74.0	-13.7	3.11 H	126	26.5	33.8
4	2483.50	49.2 AV	54.0	-4.8	3.11 H	126	15.4	33.8
5	4944.00	50.7 PK	74.0	-23.3	2.92 H	104	39.7	11.0
6	4944.00	37.5 AV	54.0	-16.5	2.92 H	104	26.5	11.0

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	105.7 PK			3.62 V	43	71.9	33.8
2	*2472.00	93.4 AV			3.62 V	43	59.6	33.8
3	2483.50	63.4 PK	74.0	-10.6	3.62 V	43	29.6	33.8
4	2483.50	51.4 AV	54.0	-2.6	3.62 V	43	17.6	33.8
5	4944.00	51.0 PK	74.0	-23.0	3.42 V	55	40.0	11.0
6	4944.00	37.7 AV	54.0	-16.3	3.42 V	55	26.7	11.0

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 3 : 2422 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.9 PK	74.0	-10.1	3.20 H	125	30.0	33.9
2	2390.00	48.8 AV	54.0	-5.2	3.20 H	125	14.9	33.9
3	*2422.00	107.2 PK			3.20 H	125	73.4	33.8
4	*2422.00	93.7 AV			3.20 H	125	59.9	33.8
5	4844.00	51.0 PK	74.0	-23.0	2.93 H	97	40.0	11.0
6	4844.00	37.5 AV	54.0	-16.5	2.93 H	97	26.5	11.0

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.7 PK	74.0	-6.3	3.44 V	43	33.8	33.9
2	2390.00	51.9 AV	54.0	-2.1	3.44 V	43	18.0	33.9
3	*2422.00	111.0 PK			3.44 V	43	77.2	33.8
4	*2422.00	97.7 AV			3.44 V	43	63.9	33.8
5	4844.00	51.2 PK	74.0	-22.8	3.36 V	52	40.2	11.0
6	4844.00	37.8 AV	54.0	-16.2	3.36 V	52	26.8	11.0

**Remarks:**

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





<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 6 : 2437 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	108.6 PK			3.23 H	123	74.8	33.8
2	*2437.00	96.0 AV			3.23 H	123	62.2	33.8
3	2483.50	63.8 PK	74.0	-10.2	3.23 H	123	30.0	33.8
4	2483.50	50.1 AV	54.0	-3.9	3.23 H	123	16.3	33.8
5	4874.00	51.3 PK	74.0	-22.7	2.95 H	107	40.2	11.1
6	4874.00	37.9 AV	54.0	-16.1	2.95 H	107	26.8	11.1

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	113.1 PK			3.76 V	43	79.3	33.8
2	*2437.00	100.1 AV			3.76 V	43	66.3	33.8
3	2483.50	68.8 PK	74.0	-5.2	3.76 V	43	35.0	33.8
4	2483.50	53.5 AV	54.0	-0.5	3.76 V	43	19.7	33.8
5	4874.00	51.7 PK	74.0	-22.3	3.40 V	55	40.6	11.1
6	4874.00	38.2 AV	54.0	-15.8	3.40 V	55	27.1	11.1

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 9 : 2452 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**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	107.1 PK			3.23 H	128	73.3	33.8
2	*2452.00	93.6 AV			3.23 H	128	59.8	33.8
3	2483.50	64.3 PK	74.0	-9.7	3.23 H	128	30.5	33.8
4	2483.50	50.1 AV	54.0	-3.9	3.23 H	128	16.3	33.8
5	4904.00	51.1 PK	74.0	-22.9	2.93 H	96	40.0	11.1
6	4904.00	37.6 AV	54.0	-16.4	2.93 H	96	26.5	11.1

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	111.3 PK			3.67 V	46	77.5	33.8
2	*2452.00	97.9 AV			3.67 V	46	64.1	33.8
3	2483.50	68.4 PK	74.0	-5.6	3.67 V	46	34.6	33.8
4	2483.50	53.5 AV	54.0	-0.5	3.67 V	46	19.7	33.8
5	4904.00	51.3 PK	74.0	-22.7	3.46 V	52	40.2	11.1
6	4904.00	37.7 AV	54.0	-16.3	3.46 V	52	26.6	11.1

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 10 : 2457 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	104.1 PK			3.20 H	119	70.3	33.8
2	*2457.00	90.8 AV			3.20 H	119	57.0	33.8
3	2483.50	63.9 PK	74.0	-10.1	3.20 H	119	30.1	33.8
4	2483.50	50.2 AV	54.0	-3.8	3.20 H	119	16.4	33.8
5	4914.00	50.9 PK	74.0	-23.1	2.92 H	105	39.8	11.1
6	4914.00	37.4 AV	54.0	-16.6	2.92 H	105	26.3	11.1

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	108.0 PK			3.66 V	45	74.2	33.8
2	*2457.00	95.0 AV			3.66 V	45	61.2	33.8
3	2483.50	69.0 PK	74.0	-5.0	3.66 V	45	35.2	33.8
4	2483.50	53.3 AV	54.0	-0.7	3.66 V	45	19.5	33.8
5	4914.00	51.1 PK	74.0	-22.9	3.39 V	55	40.0	11.1
6	4914.00	37.5 AV	54.0	-16.5	3.39 V	55	26.4	11.1

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 11 : 2462 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24.1°C, 73.3% RH
<b>Tested By</b>	Rex Wang		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	102.1 PK			3.10 H	117	68.3	33.8
2	*2462.00	88.9 AV			3.10 H	117	55.1	33.8
3	2483.50	65.7 PK	74.0	-8.3	3.10 H	117	31.9	33.8
4	2483.50	50.7 AV	54.0	-3.3	3.10 H	117	16.9	33.8
5	4924.00	50.9 PK	74.0	-23.1	2.90 H	96	39.8	11.1
6	4924.00	37.4 AV	54.0	-16.6	2.90 H	96	26.3	11.1

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	105.4 PK			3.69 V	47	71.6	33.8
2	*2462.00	92.7 AV			3.69 V	47	58.9	33.8
3	2483.50	67.1 PK	74.0	-6.9	3.69 V	47	33.3	33.8
4	2483.50	53.1 AV	54.0	-0.9	3.69 V	47	19.3	33.8
5	4924.00	51.3 PK	74.0	-22.7	3.46 V	52	40.2	11.1
6	4924.00	37.6 AV	54.0	-16.4	3.46 V	52	26.5	11.1

**Remarks:**

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



<b>RF Mode</b>	20 MHz Preamble 802.11ax (RU26)	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Adair Peng		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.8 PK	74.0	-13.2	2.85 H	125	26.9	33.9
2	2390.00	45.1 AV	54.0	-8.9	2.85 H	125	11.2	33.9
3	*2412.00	117.3 PK			2.85 H	125	83.5	33.8
4	*2412.00	107.2 AV			2.85 H	125	73.4	33.8
5	4824.00	49.7 PK	74.0	-24.3	2.91 H	100	38.8	10.9
6	4824.00	37.4 AV	54.0	-16.6	2.91 H	100	26.5	10.9

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.3 PK	74.0	-11.7	3.86 V	29	28.4	33.9
2	2390.00	45.2 AV	54.0	-8.8	3.86 V	29	11.3	33.9
3	*2412.00	118.1 PK			3.86 V	29	84.3	33.8
4	*2412.00	109.1 AV			3.86 V	29	75.3	33.8
5	4824.00	51.2 PK	74.0	-22.8	3.44 V	55	40.3	10.9
6	4824.00	37.7 AV	54.0	-16.3	3.44 V	55	26.8	10.9

**Remarks:**

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

<b>RF Mode</b>	20 MHz Preamble 802.11ax (RU26)	<b>Channel</b>	CH 13 : 2472 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Adair Peng		

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	105.9 PK			2.77 H	75	72.1	33.8
2	*2472.00	95.1 AV			2.77 H	75	61.3	33.8
3	2483.50	67.3 PK	74.0	-6.7	2.77 H	75	33.5	33.8
4	2483.50	47.3 AV	54.0	-6.7	2.77 H	75	13.5	33.8
5	4944.00	51.0 PK	74.0	-23.0	2.92 H	83	40.0	11.0
6	4944.00	37.9 AV	54.0	-16.1	2.92 H	83	26.9	11.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	107.0 PK			3.64 V	29	73.2	33.8
2	*2472.00	96.5 AV			3.64 V	29	62.7	33.8
3	2483.50	65.1 PK	74.0	-8.9	3.64 V	29	31.3	33.8
4	2483.50	47.7 AV	54.0	-6.3	3.64 V	29	13.9	33.8
5	4944.00	51.3 PK	74.0	-22.7	3.48 V	62	40.3	11.0
6	4944.00	38.5 AV	54.0	-15.5	3.48 V	62	27.5	11.0

**Remarks:**

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



<b>RF Mode</b>	20 MHz Preamble 802.11ax (RU52)	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Adair Peng		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.7 PK	74.0	-13.3	2.85 H	125	26.8	33.9
2	2390.00	45.3 AV	54.0	-8.7	2.85 H	125	11.4	33.9
3	*2412.00	117.1 PK			2.85 H	125	83.3	33.8
4	*2412.00	104.9 AV			2.85 H	125	71.1	33.8
5	4824.00	51.0 PK	74.0	-23.0	2.99 H	95	40.1	10.9
6	4824.00	37.6 AV	54.0	-16.4	2.99 H	95	26.7	10.9

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.4 PK	74.0	-11.6	3.86 V	29	28.5	33.9
2	2390.00	45.4 AV	54.0	-8.6	3.86 V	29	11.5	33.9
3	*2412.00	118.1 PK			3.86 V	29	84.3	33.8
4	*2412.00	107.1 AV			3.86 V	29	73.3	33.8
5	4824.00	51.2 PK	74.0	-22.8	3.46 V	59	40.3	10.9
6	4824.00	37.8 AV	54.0	-16.2	3.46 V	59	26.9	10.9

**Remarks:**

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



<b>RF Mode</b>	20 MHz Preamble 802.11ax (RU52)	<b>Channel</b>	CH 13 : 2472 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Adair Peng		

**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	107.1 PK			2.82 H	69	73.3	33.8
2	*2472.00	94.3 AV			2.82 H	69	60.5	33.8
3	2483.50	70.7 PK	74.0	-3.3	2.82 H	69	36.9	33.8
4	2483.50	47.4 AV	54.0	-6.6	2.82 H	69	13.6	33.8
5	4944.00	51.2 PK	74.0	-22.8	2.97 H	89	40.2	11.0
6	4944.00	38.0 AV	54.0	-16.0	2.97 H	89	27.0	11.0

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	108.4 PK			3.65 V	48	74.6	33.8
2	*2472.00	95.3 AV			3.65 V	48	61.5	33.8
3	2483.50	65.8 PK	74.0	-8.2	3.65 V	48	32.0	33.8
4	2483.50	47.9 AV	54.0	-6.1	3.65 V	48	14.1	33.8
5	4944.00	51.5 PK	74.0	-22.5	3.49 V	66	40.5	11.0
6	4944.00	38.3 AV	54.0	-15.7	3.49 V	66	27.3	11.0

**Remarks:**

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





<b>RF Mode</b>	20 MHz Preamble 802.11ax (RU106)	<b>Channel</b>	CH 1 : 2412 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Adair Peng		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.1 PK	74.0	-13.9	2.82 H	128	26.2	33.9
2	2390.00	46.1 AV	54.0	-7.9	2.82 H	128	12.2	33.9
3	*2412.00	113.4 PK			2.82 H	128	79.6	33.8
4	*2412.00	101.6 AV			2.82 H	128	67.8	33.8
5	4824.00	50.4 PK	74.0	-23.6	2.95 H	93	39.5	10.9
6	4824.00	37.5 AV	54.0	-16.5	2.95 H	93	26.6	10.9

**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	64.4 PK	74.0	-9.6	3.86 V	30	30.5	33.9
2	2390.00	46.4 AV	54.0	-7.6	3.86 V	30	12.5	33.9
3	*2412.00	117.1 PK			3.86 V	30	83.3	33.8
4	*2412.00	104.0 AV			3.86 V	30	70.2	33.8
5	4824.00	50.7 PK	74.0	-23.3	3.47 V	53	39.8	10.9
6	4824.00	37.6 AV	54.0	-16.4	3.47 V	53	26.7	10.9

**Remarks:**

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



<b>RF Mode</b>	20 MHz Preamble 802.11ax (RU106)	<b>Channel</b>	CH 13 : 2472 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Adair Peng		

**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	103.9 PK			2.82 H	72	70.1	33.8
2	*2472.00	90.6 AV			2.82 H	72	56.8	33.8
3	2483.50	68.4 PK	74.0	-5.6	2.82 H	72	34.6	33.8
4	2483.50	47.1 AV	54.0	-6.9	2.82 H	72	13.3	33.8
5	4944.00	51.3 PK	74.0	-22.7	2.95 H	94	40.3	11.0
6	4944.00	37.6 AV	54.0	-16.4	2.95 H	94	26.6	11.0

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	104.6 PK			3.65 V	47	70.8	33.8
2	*2472.00	92.6 AV			3.65 V	47	58.8	33.8
3	2483.50	65.1 PK	74.0	-8.9	3.65 V	47	31.3	33.8
4	2483.50	47.8 AV	54.0	-6.2	3.65 V	47	14.0	33.8
5	4944.00	51.6 PK	74.0	-22.4	3.46 V	62	40.6	11.0
6	4944.00	37.9 AV	54.0	-16.1	3.46 V	62	26.9	11.0

**Remarks:**

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



<b>RF Mode</b>	40 MHz Preamble 802.11ax (RU242)	<b>Channel</b>	CH 3 : 2422 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Adair Peng		

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.1 PK	74.0	-14.9	2.80 H	125	25.2	33.9
2	2390.00	46.2 AV	54.0	-7.8	2.80 H	125	12.3	33.9
3	*2422.00	108.7 PK			2.80 H	125	74.9	33.8
4	*2422.00	96.6 AV			2.80 H	125	62.8	33.8
5	4844.00	51.0 PK	74.0	-23.0	2.91 H	86	40.0	11.0
6	4844.00	37.7 AV	54.0	-16.3	2.91 H	86	26.7	11.0

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.5 PK	74.0	-14.5	3.37 V	27	25.6	33.9
2	2390.00	46.7 AV	54.0	-7.3	3.37 V	27	12.8	33.9
3	*2422.00	111.6 PK			3.37 V	27	77.8	33.8
4	*2422.00	99.4 AV			3.37 V	27	65.6	33.8
5	4844.00	51.5 PK	74.0	-22.5	3.46 V	55	40.5	11.0
6	4844.00	37.8 AV	54.0	-16.2	3.46 V	55	26.8	11.0

**Remarks:**

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

<b>RF Mode</b>	40 MHz Preamble 802.11ax (RU242)	<b>Channel</b>	CH 11 : 2462 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67.2% RH
<b>Tested By</b>	Adair Peng		

**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	100.6 PK			3.03 H	130	66.8	33.8
2	*2462.00	89.0 AV			3.03 H	130	55.2	33.8
3	2483.50	71.8 PK	74.0	-2.2	3.03 H	130	38.0	33.8
4	2483.50	47.8 AV	54.0	-6.2	3.03 H	130	14.0	33.8
5	4924.00	50.7 PK	74.0	-23.3	3.10 H	94	39.6	11.1
6	4924.00	37.7 AV	54.0	-16.3	3.10 H	94	26.6	11.1

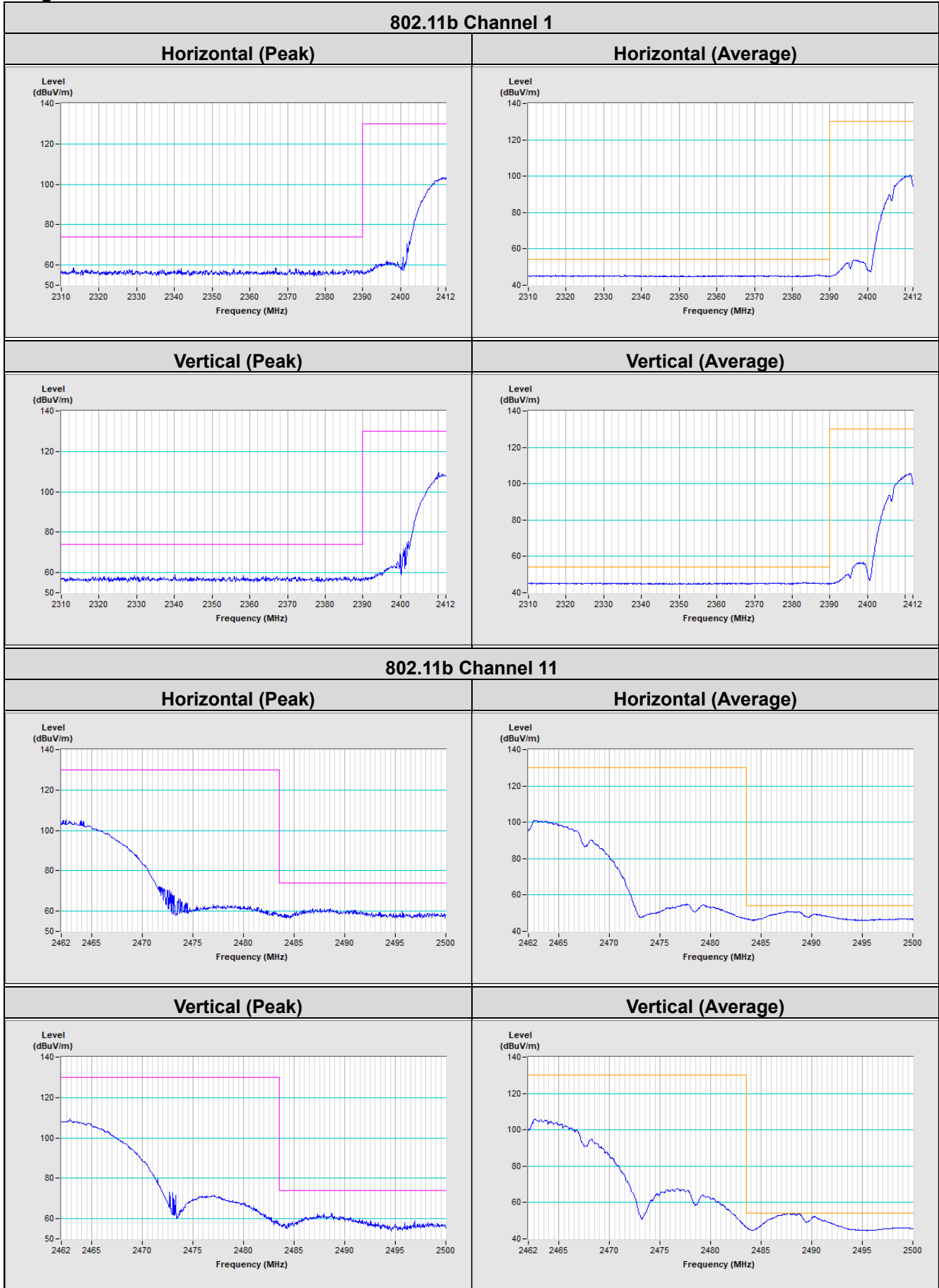
**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	102.9 PK			3.25 V	1	69.1	33.8
2	*2462.00	90.4 AV			3.25 V	1	56.6	33.8
<b>3</b>	<b>2483.50</b>	<b>73.9 PK</b>	<b>74.0</b>	<b>-0.1</b>	<b>3.25 V</b>	<b>1</b>	<b>40.1</b>	<b>33.8</b>
4	2483.50	51.4 AV	54.0	-2.6	3.25 V	1	17.6	33.8
5	4924.00	50.9 PK	74.0	-23.1	3.44 V	50	39.8	11.1
6	4924.00	37.8 AV	54.0	-16.2	3.44 V	50	26.7	11.1

**Remarks:**

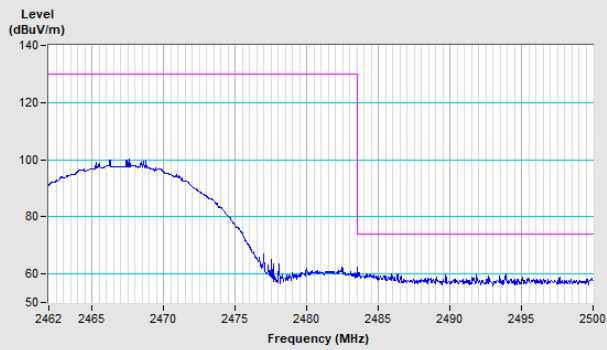
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency,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

**Band Edge**

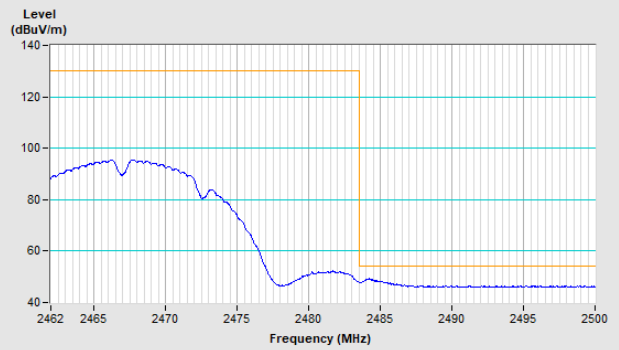


### 802.11b Channel 12

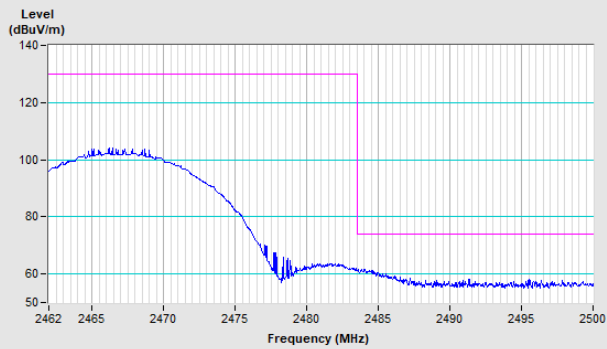
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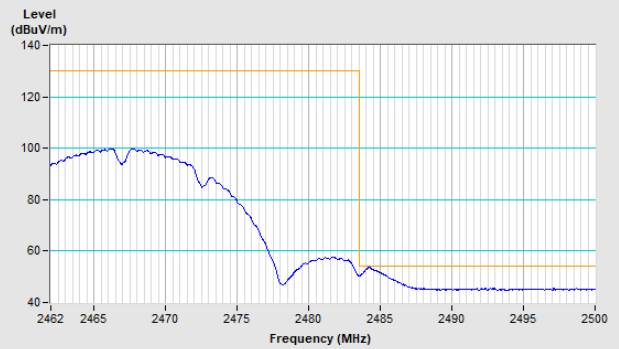
#### Horizontal (Average)



#### Vertical (Peak)

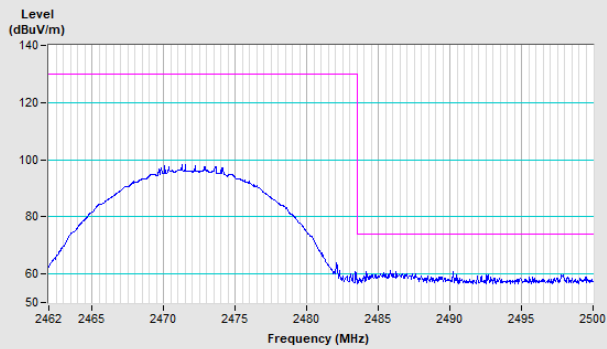


#### Vertical (Average)

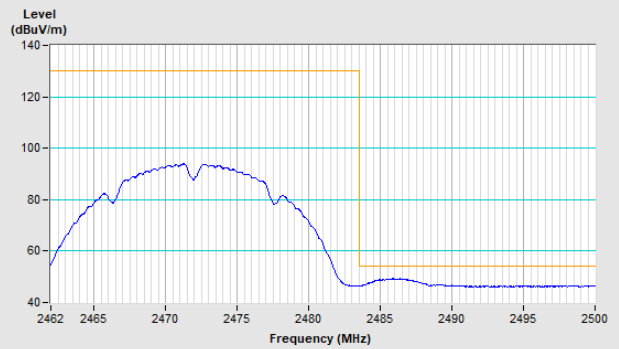


### 802.11b Channel 13

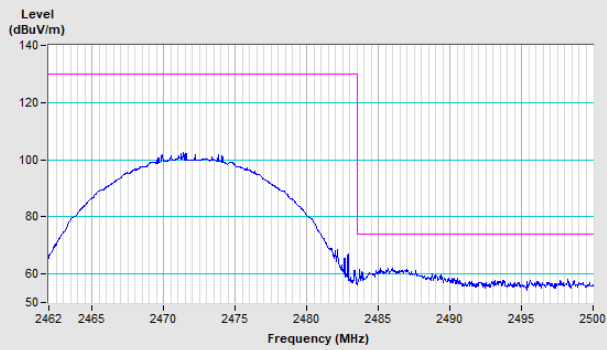
#### Horizontal (Peak)



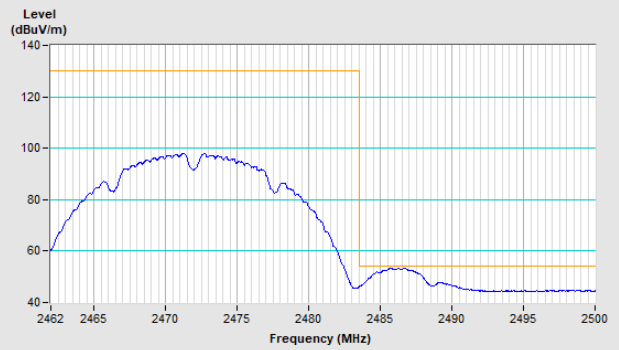
#### Horizontal (Average)



#### Vertical (Peak)

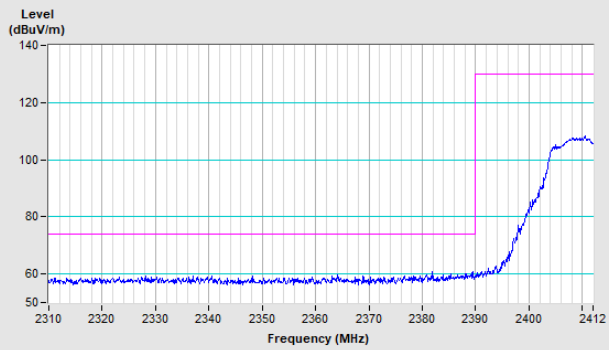


#### Vertical (Average)

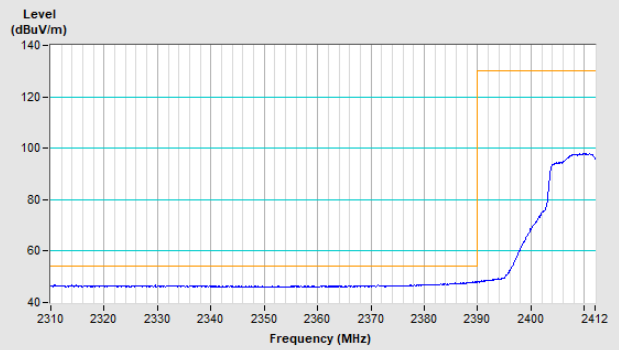


### 802.11g Channel 1

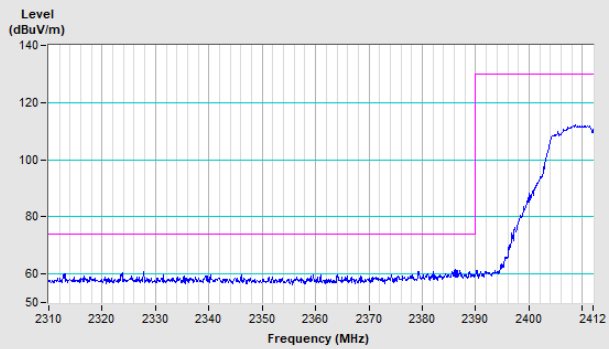
#### Horizontal (Peak)



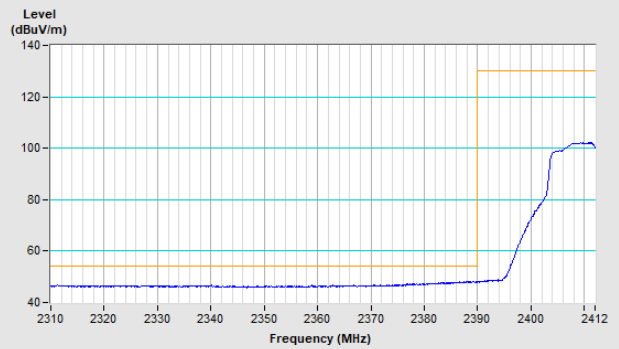
#### Horizontal (Average)



#### Vertical (Peak)

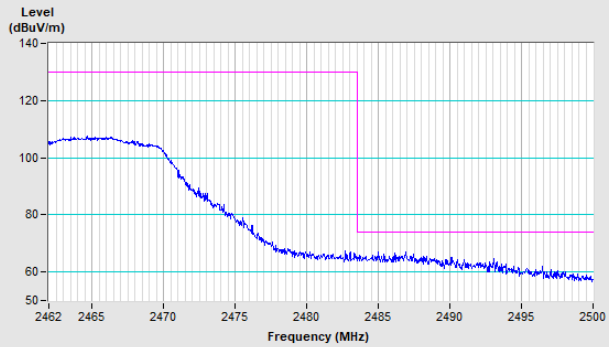


#### Vertical (Average)

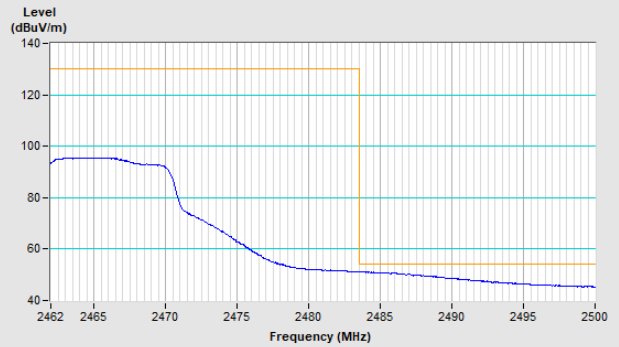


### 802.11g Channel 11

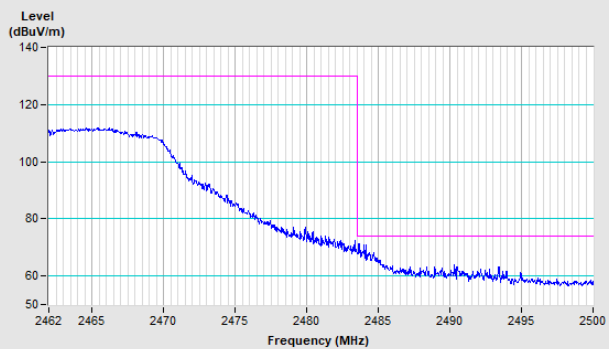
#### Horizontal (Peak)



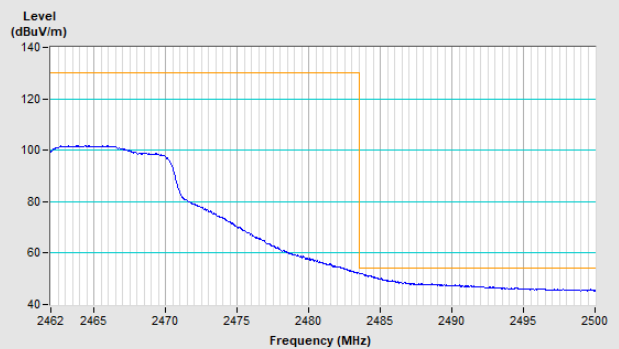
#### Horizontal (Average)



#### Vertical (Peak)

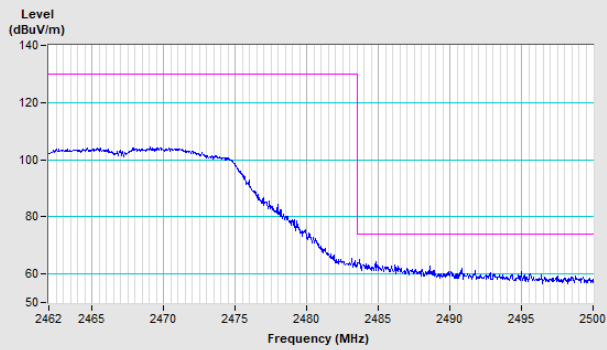


#### Vertical (Average)

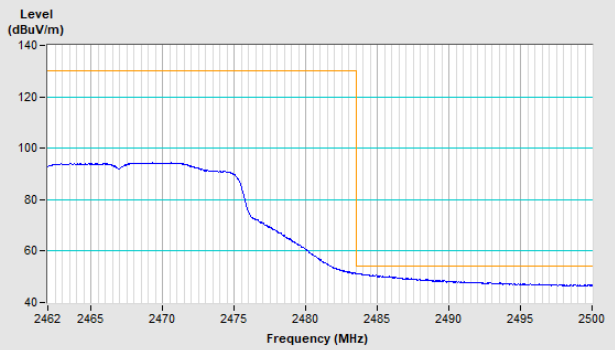


### 802.11g Channel 12

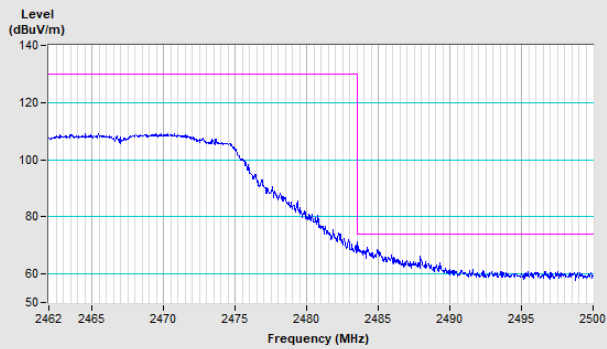
#### Horizontal (Peak)



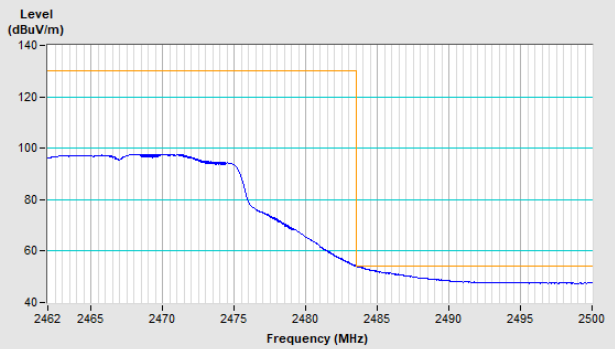
#### Horizontal (Average)



#### Vertical (Peak)

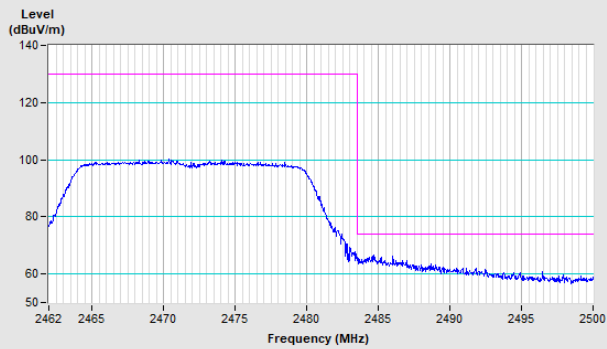


#### Vertical (Average)

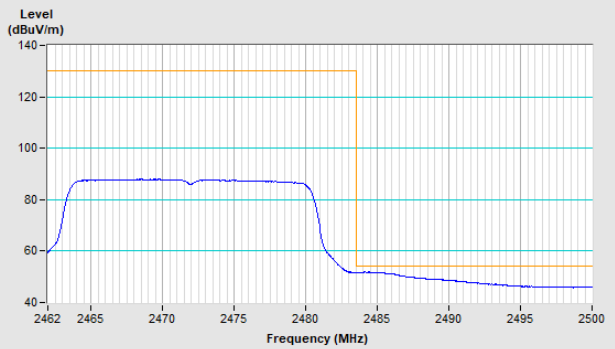


### 802.11g Channel 13

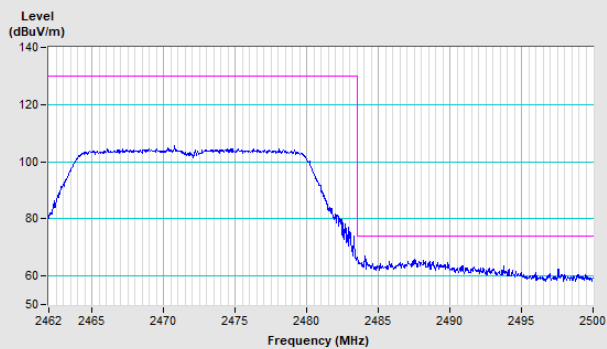
#### Horizontal (Peak)



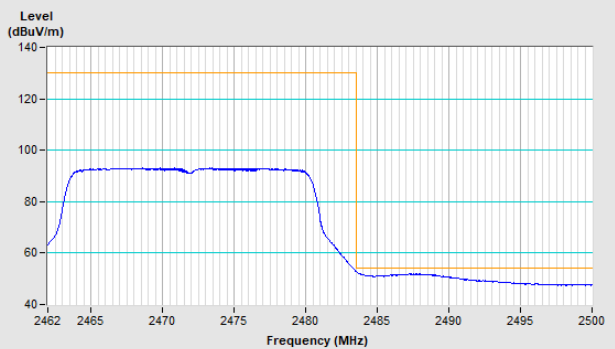
#### Horizontal (Average)



#### Vertical (Peak)



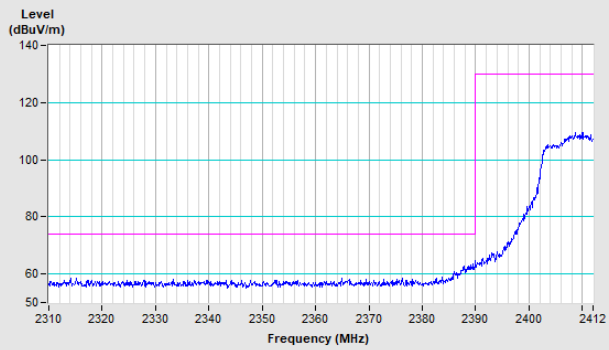
#### Vertical (Average)



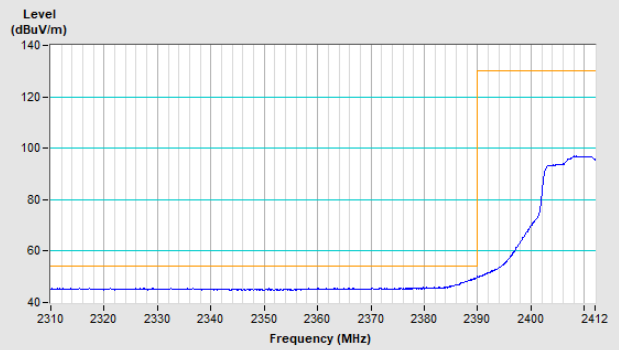


### 802.11ax (HE20) Channel 1

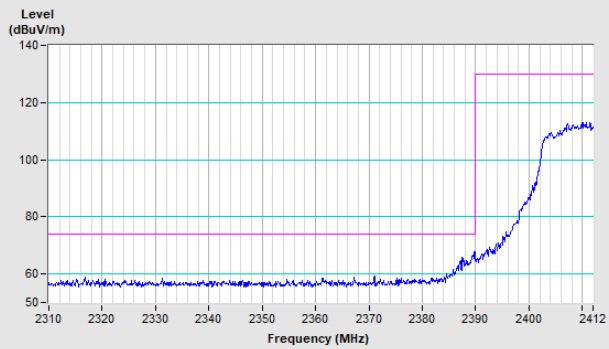
#### Horizontal (Peak)



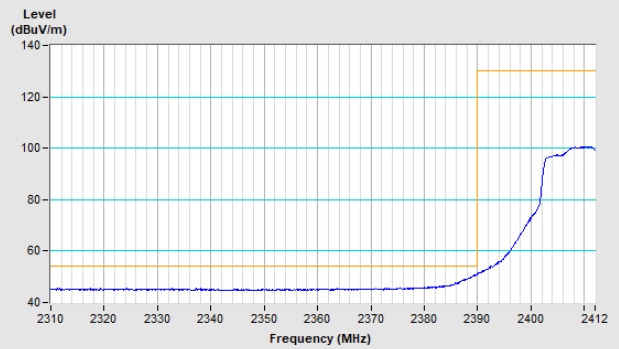
#### Horizontal (Average)



#### Vertical (Peak)

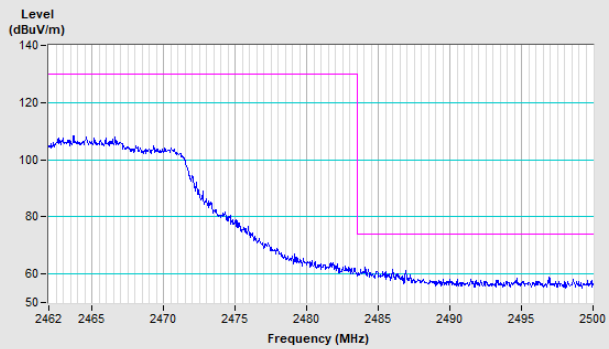


#### Vertical (Average)

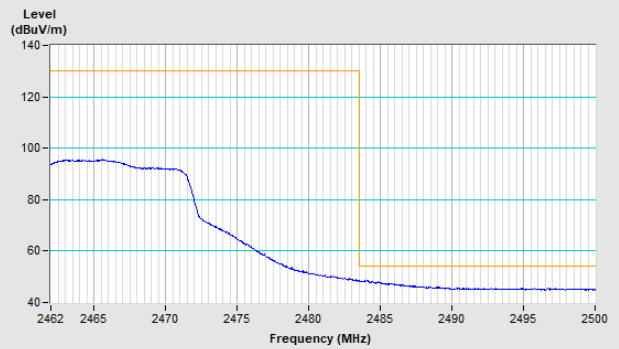


### 802.11ax (HE20) Channel 11

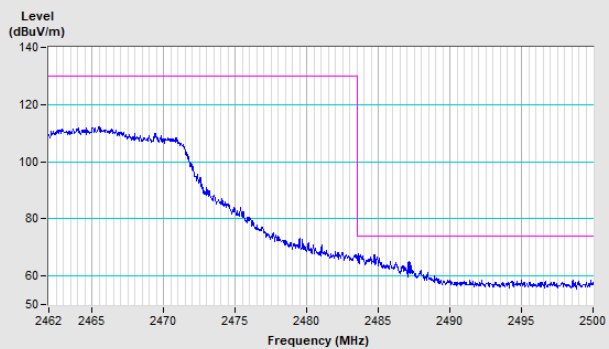
#### Horizontal (Peak)



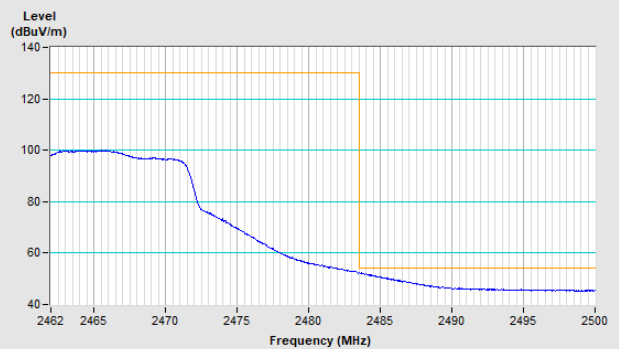
#### Horizontal (Average)



#### Vertical (Peak)

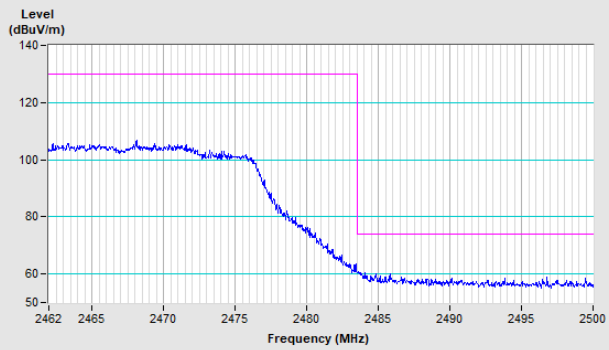


#### Vertical (Average)

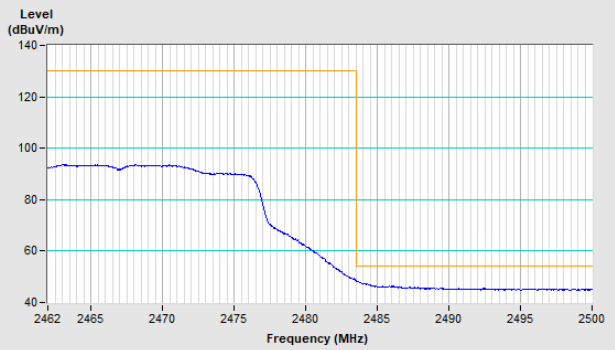


### 802.11ax (HE20) Channel 12

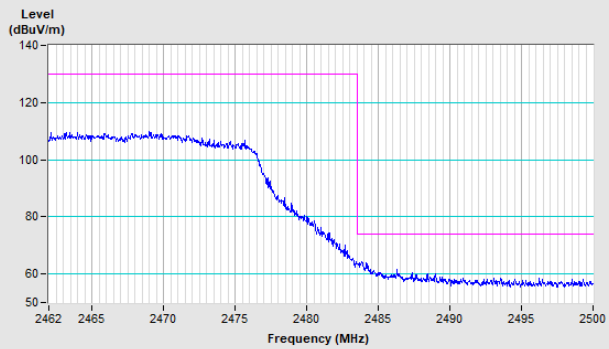
#### Horizontal (Peak)



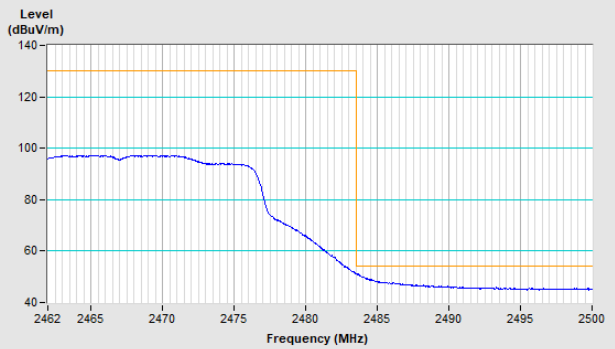
#### Horizontal (Average)



#### Vertical (Peak)

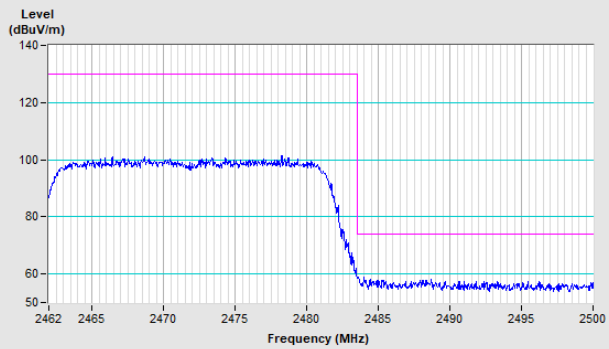


#### Vertical (Average)

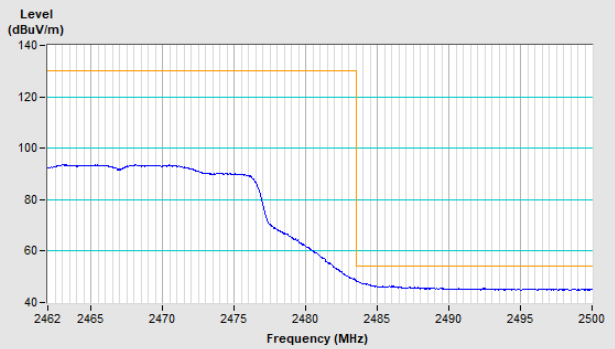


### 802.11ax (HE20) Channel 13

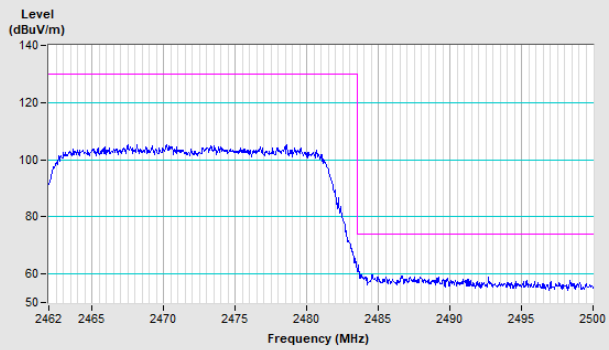
#### Horizontal (Peak)



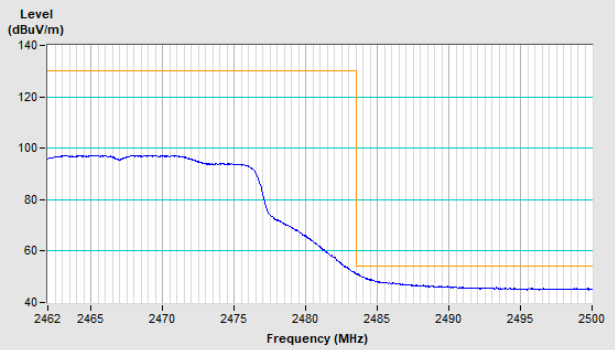
#### Horizontal (Average)



#### Vertical (Peak)

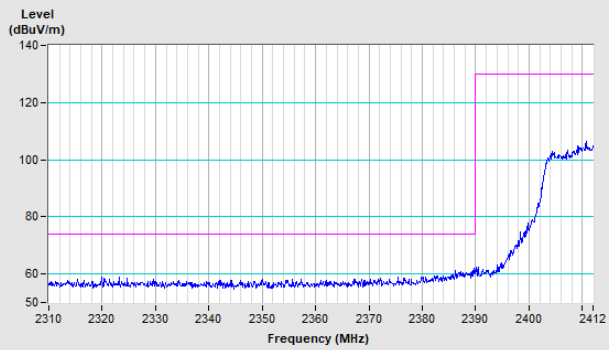


#### Vertical (Average)

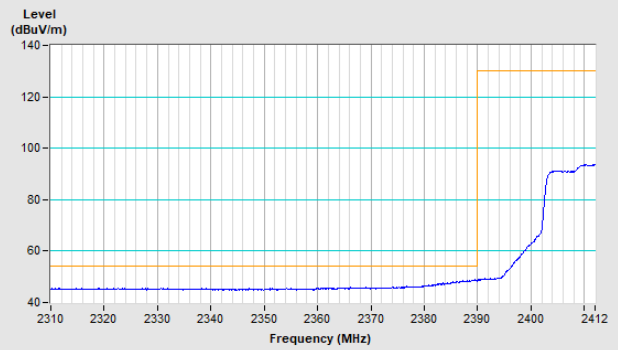


### 802.11ax (HE40) Channel 3

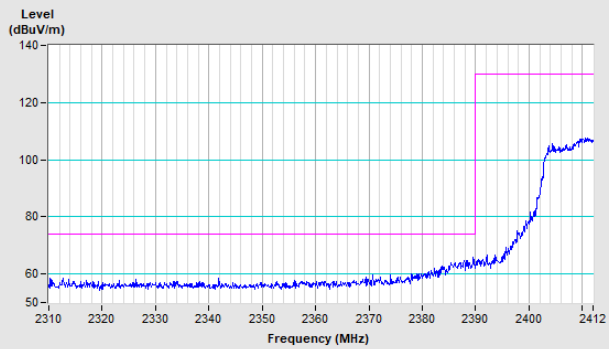
#### Horizontal (Peak)



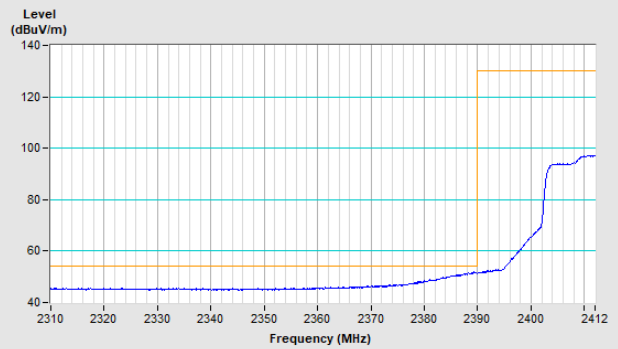
#### Horizontal (Average)



#### Vertical (Peak)

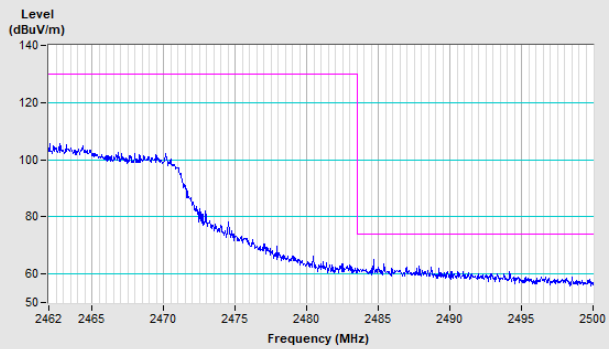


#### Vertical (Average)

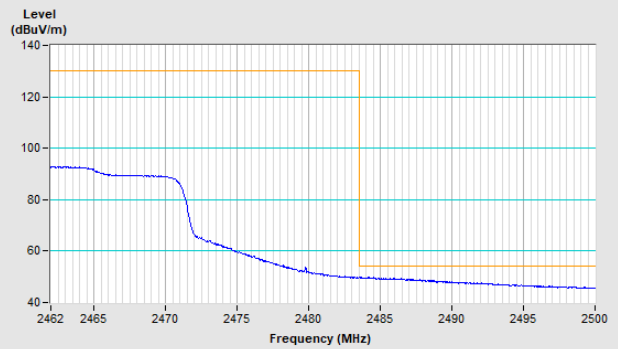


### 802.11ax (HE40) Channel 9

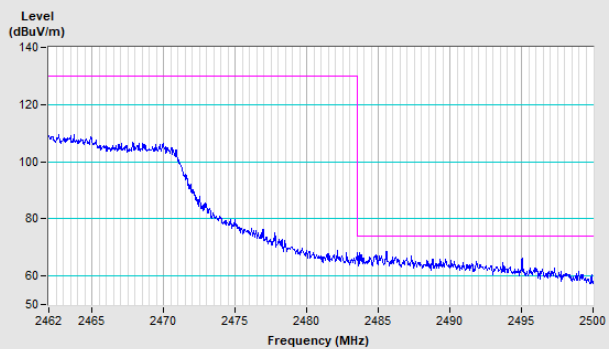
#### Horizontal (Peak)



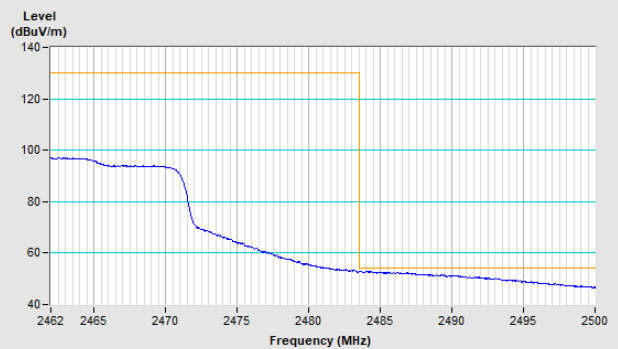
#### Horizontal (Average)

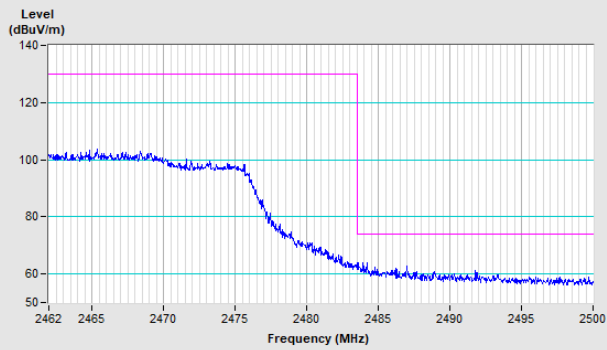
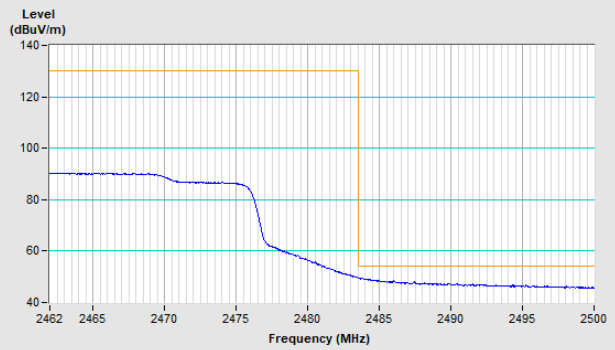
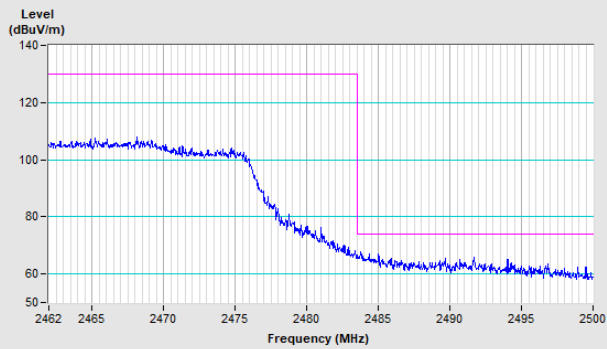
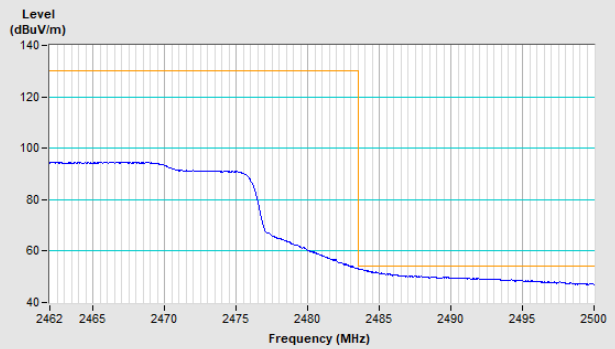
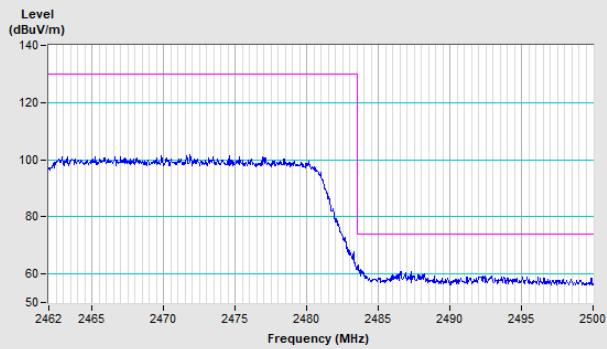
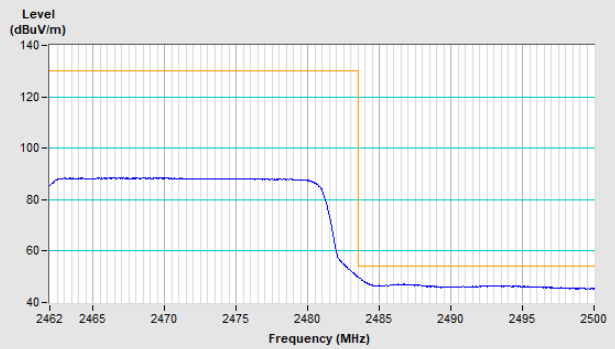
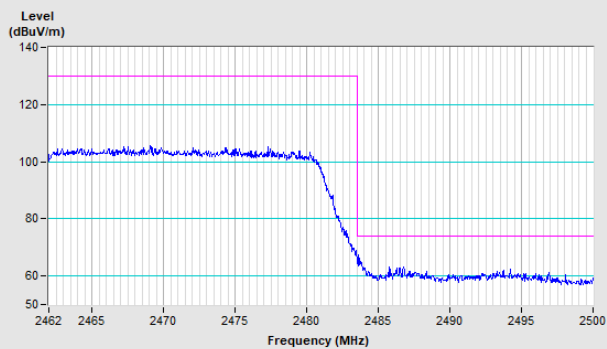
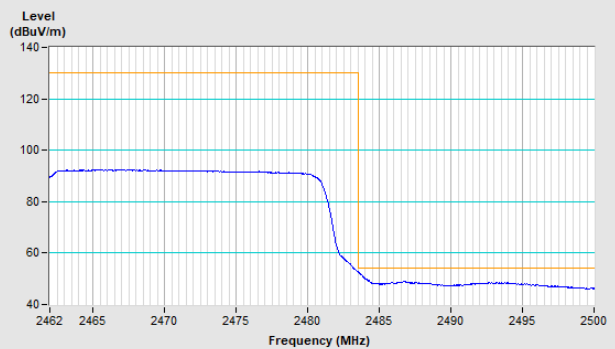


#### Vertical (Peak)



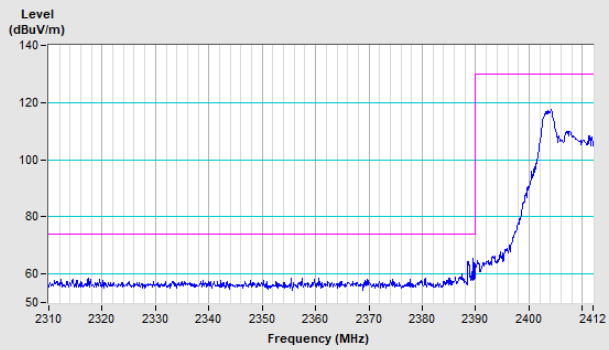
#### Vertical (Average)



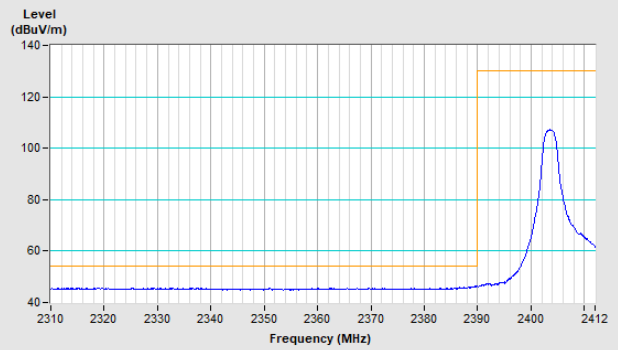
**802.11ax (HE40) Channel 10****Horizontal (Peak)****Horizontal (Average)****Vertical (Peak)****Vertical (Average)****802.11ax (HE40) Channel 11****Horizontal (Peak)****Horizontal (Average)****Vertical (Peak)****Vertical (Average)**

### 20 MHz Preamble 802.11ax (RU26) Channel 1

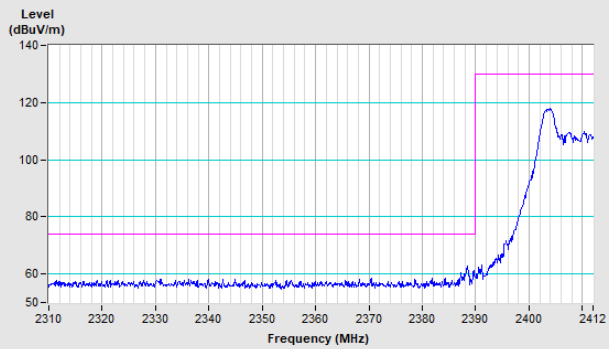
#### Horizontal (Peak)



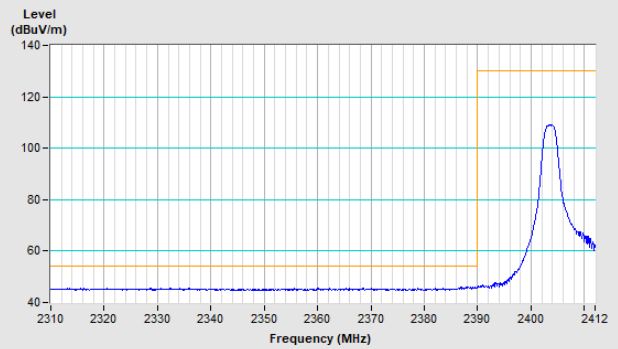
#### Horizontal (Average)



#### Vertical (Peak)

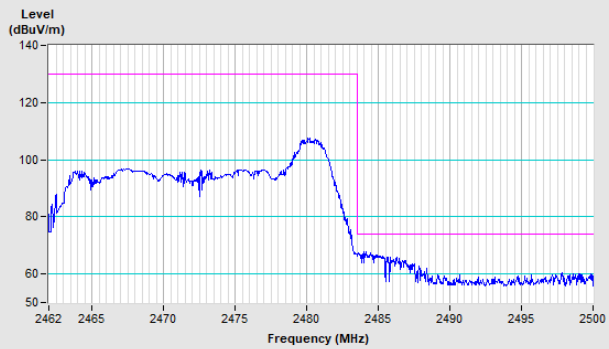


#### Vertical (Average)

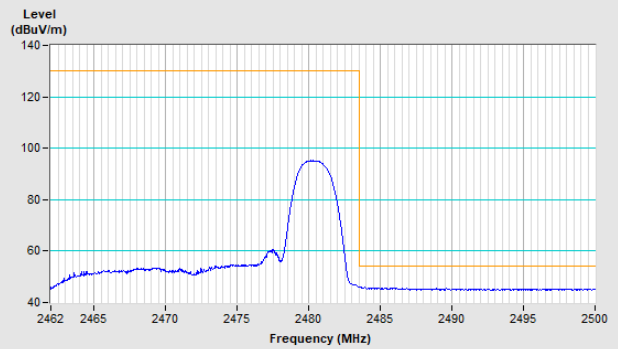


### 20 MHz Preamble 802.11ax (RU26) Channel 13

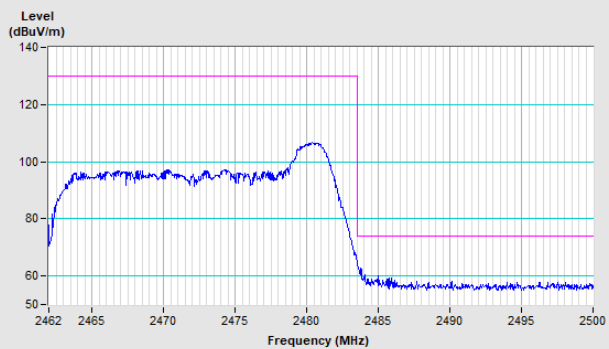
#### Horizontal (Peak)



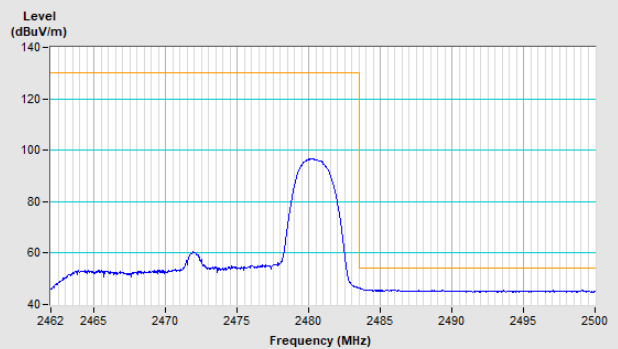
#### Horizontal (Average)



#### Vertical (Peak)

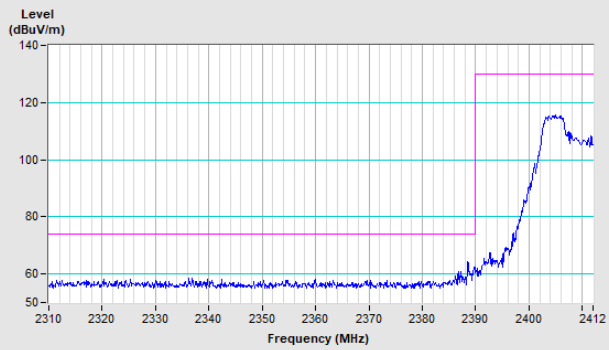


#### Vertical (Average)

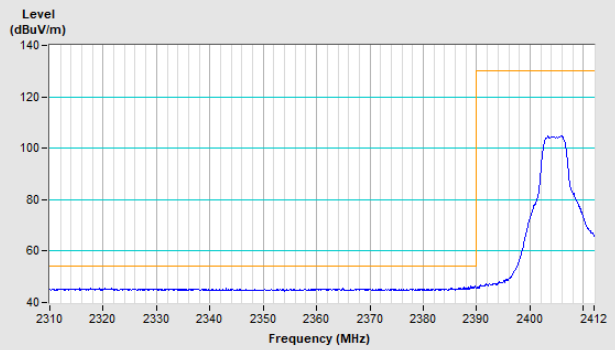


### 20 MHz Preamble 802.11ax (RU52) Channel 1

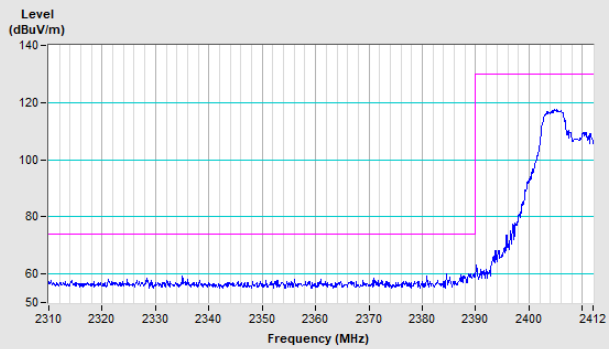
#### Horizontal (Peak)



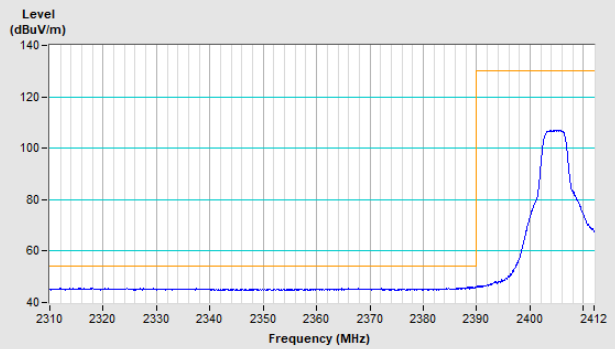
#### Horizontal (Average)



#### Vertical (Peak)

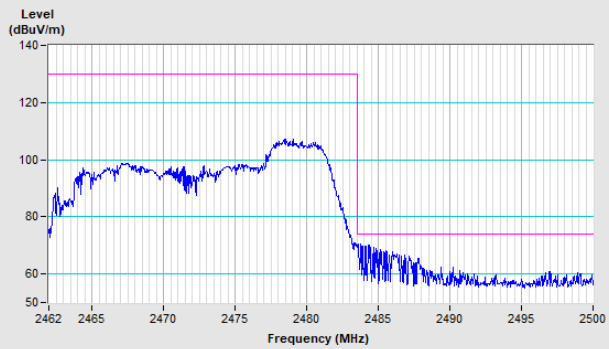


#### Vertical (Average)

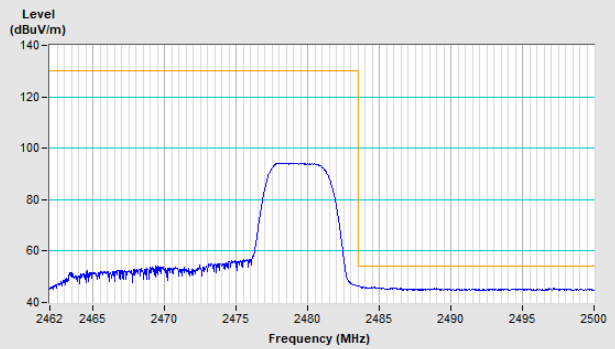


### 20 MHz Preamble 802.11ax (RU52) Channel 13

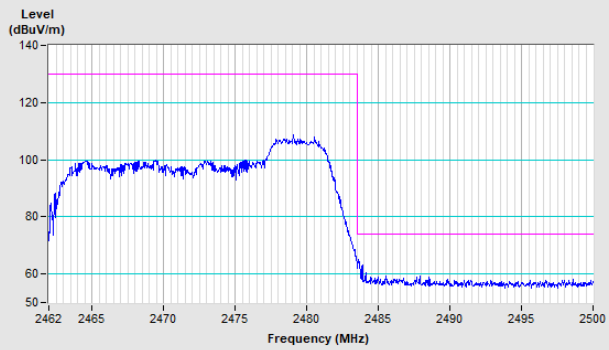
#### Horizontal (Peak)



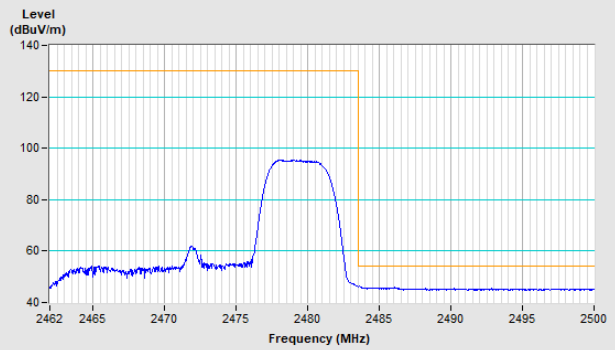
#### Horizontal (Average)



#### Vertical (Peak)

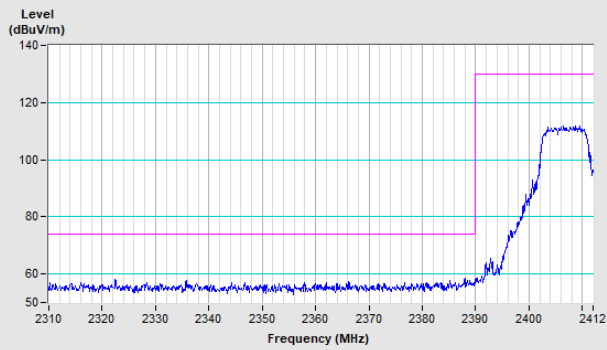


#### Vertical (Average)

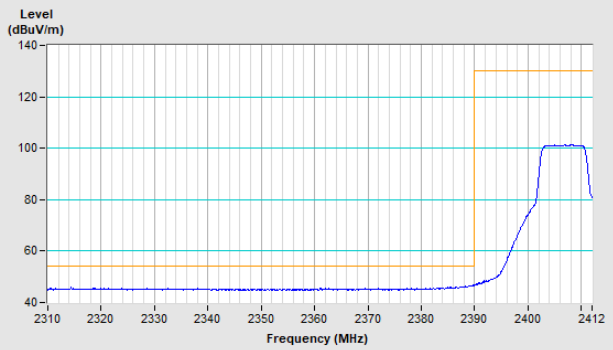


### 20 MHz Preamble 802.11ax (RU106) Channel 1

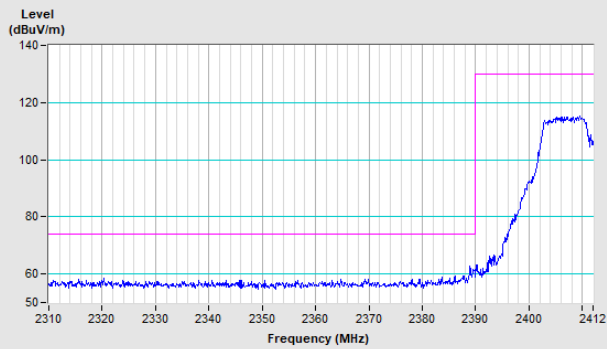
Horizontal (Peak)



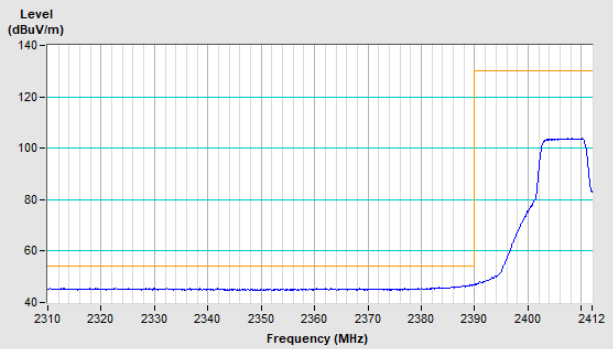
Horizontal (Average)



Vertical (Peak)

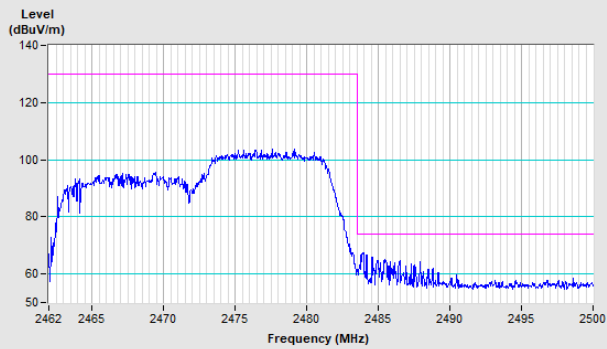


Vertical (Average)

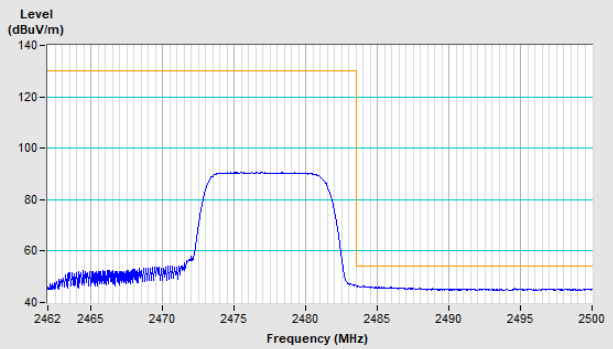


### 20 MHz Preamble 802.11ax (RU106) Channel 13

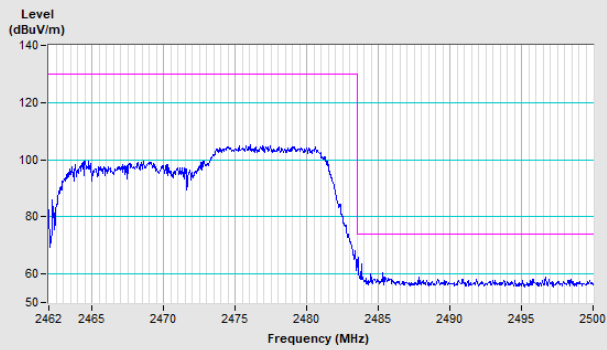
Horizontal (Peak)



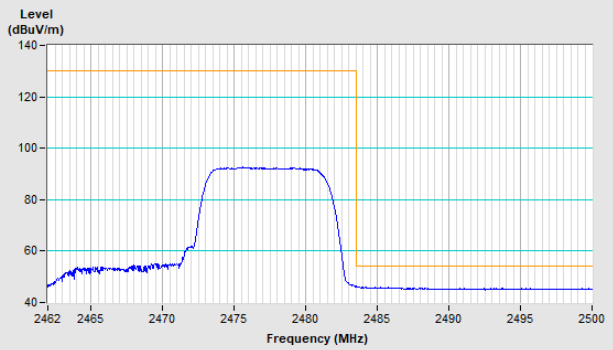
Horizontal (Average)



Vertical (Peak)

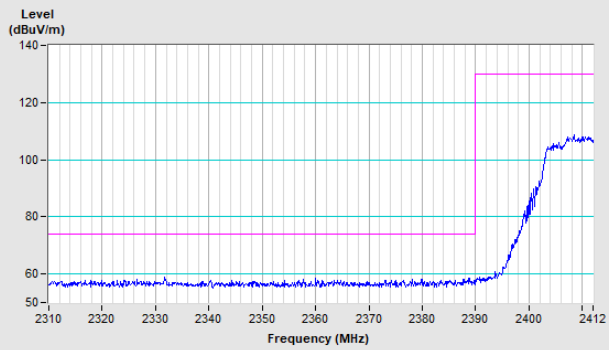


Vertical (Average)

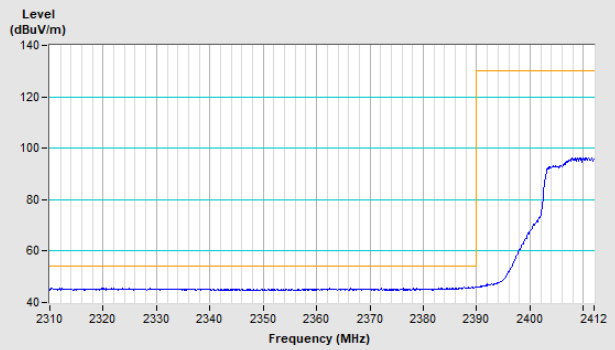


### 40 MHz Preamble 802.11ax (RU242) Channel 3

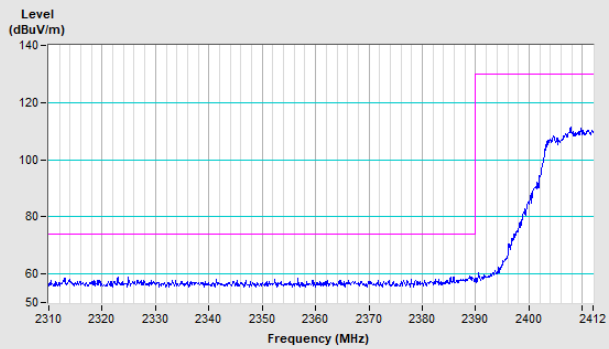
Horizontal (Peak)



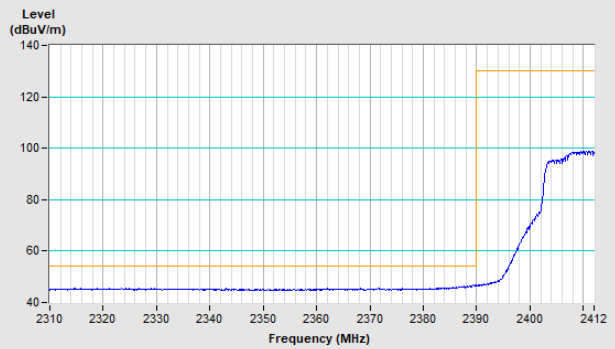
Horizontal (Average)



Vertical (Peak)

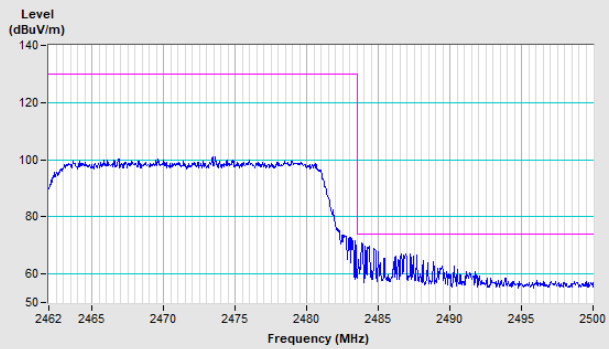


Vertical (Average)

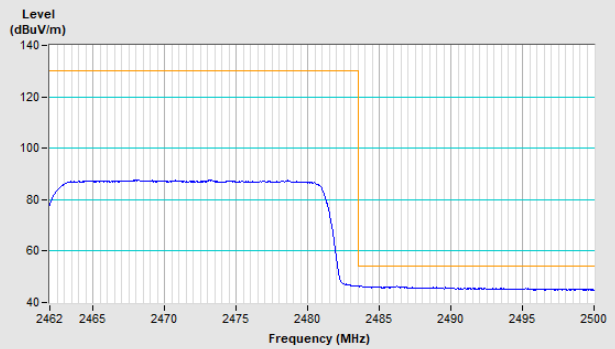


### 40 MHz Preamble 802.11ax (RU242) Channel 11

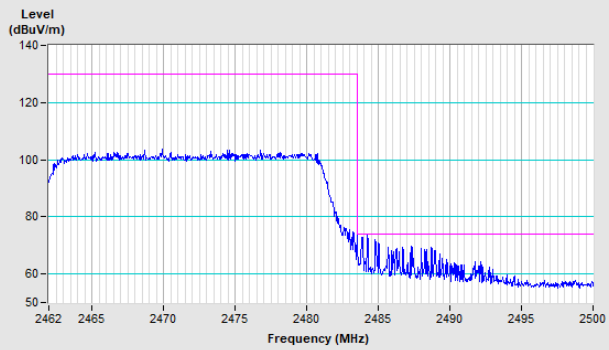
Horizontal (Peak)



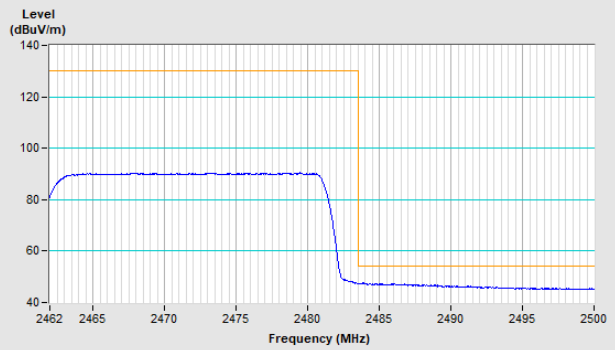
Horizontal (Average)



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.

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

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