TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBEIU-WTW-P23010256

FCC ID: 2AUS4-NFH1

Product: Video conferencing device

Brand: neat.

Model No.: NF-H1

Received Date: 2023/1/11

Test Date: 2023/1/13 ~ 2023/5/18

Issued Date: 2023/7/4

Applicant: Neatframe Limited

Address: Cannon Green 27 Bush Lane, London, EC4R0AA, UK

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. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

FCC Registration / Designation Number: 198487 / TW2021

Approved by: Jeremy Lin , **Date:** 2023/7/4

Jeremy Lin / Project Engineer

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Prepared by : Annie Chang / Senior Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBEIU-WTW-P23010256	Original release.	2023/7/4

1 Certificate

Product:	Video conferencing device
Brand:	neat.
Test Model:	NF-H1
Sample Status:	Engineering sample
Applicant:	Neatframe Limited
Test Date:	2023/1/13 ~ 2023/5/18
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 -12.41 dB at 7.60339 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -3.2 dB at 113.67 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -1.0 dB at 2483.50 MHz
15.203	Antenna Requirement	Pass	No antenna connector is used.

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

2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.63 dB
AC Power Conducted Emissions	150 kHz ~ 30 MHz	3.00 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	2.38 dB
	30 MHz ~ 1 GHz	5.7 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 6 GHz	4.83 dB
	6 GHz ~ 18 GHz	5.37 dB
	18 GHz ~ 40 GHz	5.24 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	Video conferencing device
Brand	neat.
Test Model	NF-H1
Status of EUT	Engineering sample
Power Supply Rating	AC I/P: 100-240Vac, 50/60Hz
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in VHT mode 1024QAM for OFDMA in 11ax mode only
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	Up to 573.5 Mbps
Operating Frequency	2.412 GHz ~ 2.462 GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 11 802.11n (HT40), VHT40, 802.11ax (HE40): 7
Output Power	461.114 mW (26.64 dBm)

Note:

1. The EUT uses following accessories.

Item	Brand	Model	Specification
Neat Pen	neat.	NF-H2	-
LAN Cable	-	-	Shielded 5m
Power cord	-	-	Non-shielded 3m

2. There are Bluetooth and WLAN (2.4 GHz & 5 GHz) technology used for the EUT.
3. WLAN 2.4 GHz & WLAN 5 GHz & Bluetooth technology cannot transmit at same time.
4. The EUT doesn’t support Partial RU mode.
5. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna No.	Gain (dBi)		Antenna Type	Connector Type
	Max.	Min.		
1	3.91	0.79	PCB Dipole	ipex(MHF)
2	3.01	-0.73	PCB Dipole	ipex(MHF)

* 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	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
Note: The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), VHT mode for 20 MHz (40 MHz) and 802.11ax mode for 20 MHz (40 MHz), therefore the manufacturer will control the power for 802.11n/VHT mode is same as the 802.11ax mode or more lower than it and investigated worst case to representative mode in test report.		

3.3 Channel List

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

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

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

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

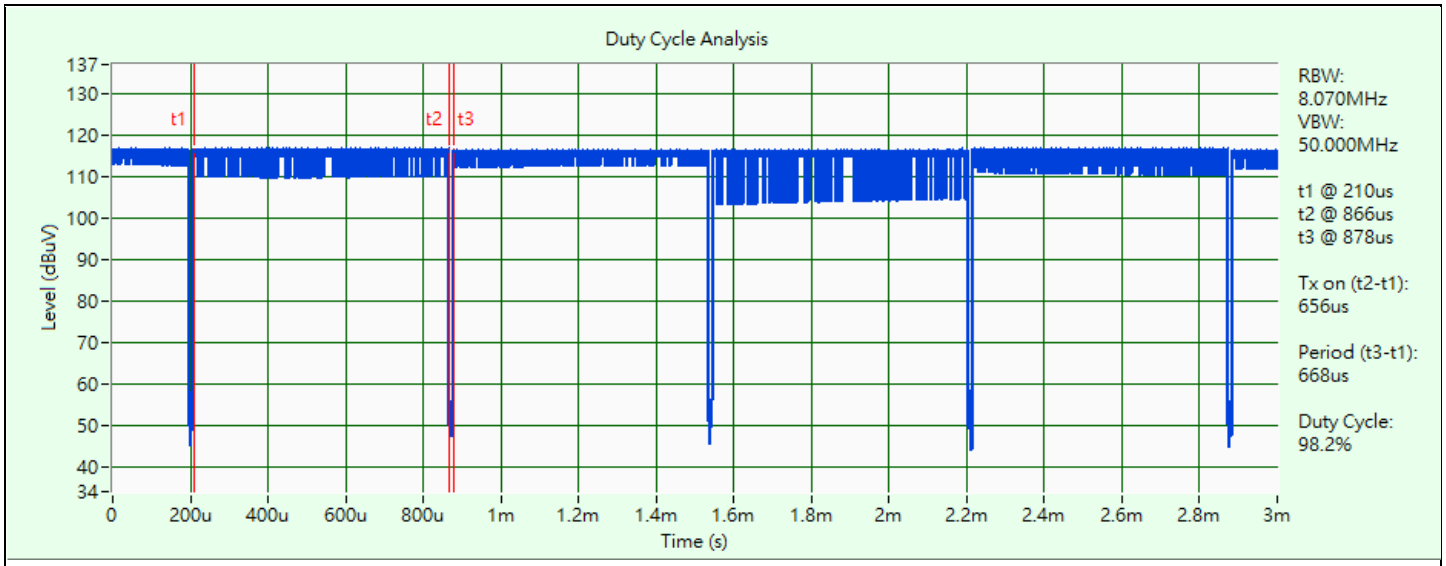
3.4 Test Mode Applicability and Tested Channel Detail

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

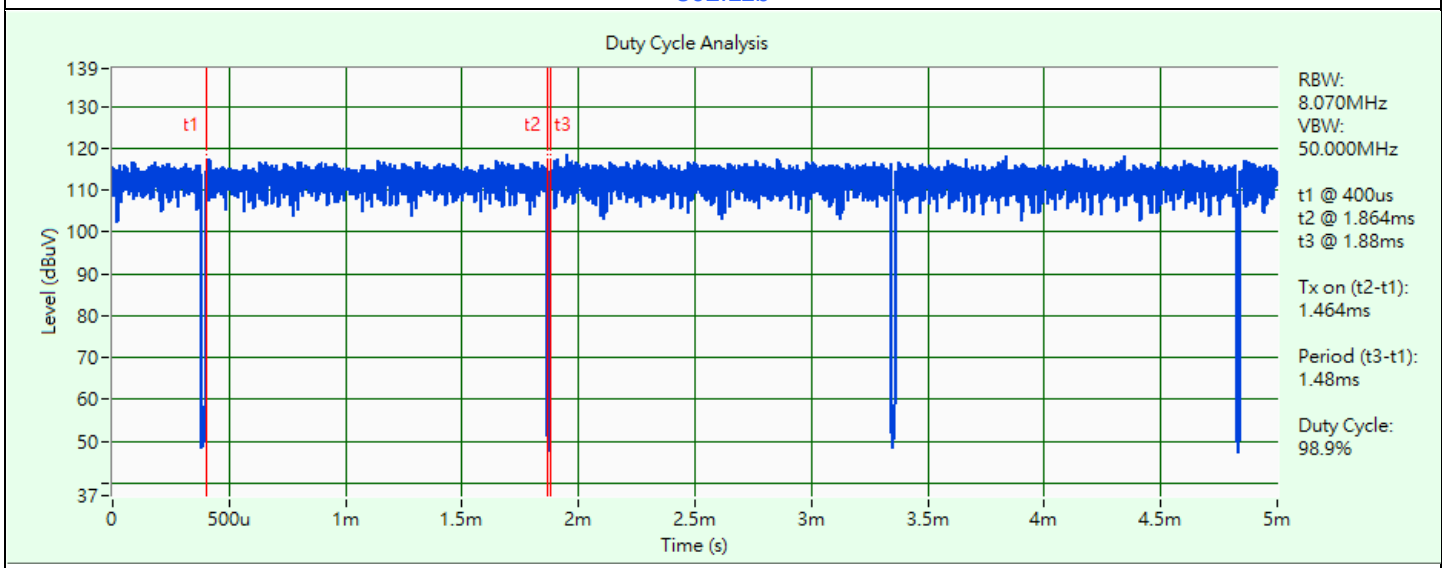
Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
	802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	VHT20	CDD	1, 6, 11	BPSK	MCS0
	VHT40	CDD	3, 6, 9	BPSK	MCS0
	802.11ax (HE20)	CDD	1, 6, 11	BPSK	MCS0
	802.11ax (HE40)	CDD	3, 6, 9	BPSK	MCS0
6 dB Bandwidth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

3.5 Duty Cycle of Test Signal

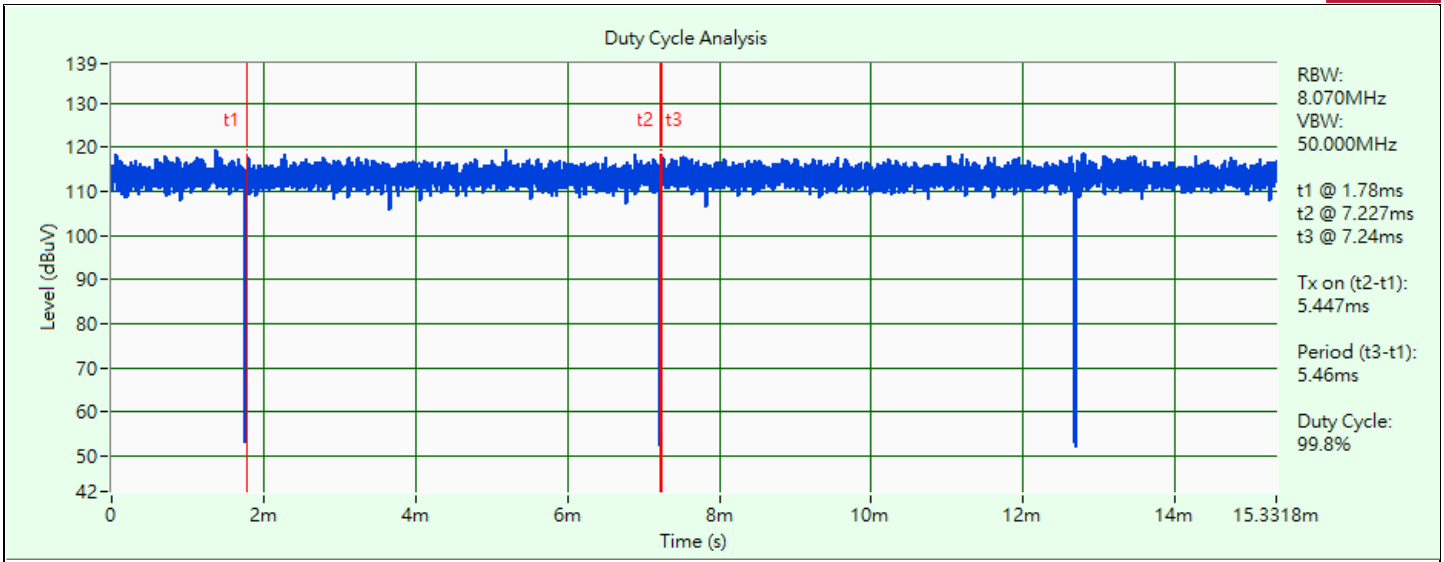
802.11b: Duty cycle = 0.656 ms / 0.668 ms x 100% = 98.2%
802.11g: Duty cycle = 1.464 ms / 1.48 ms x 100% = 98.9%
802.11ax (HE20): Duty cycle = 5.447 ms / 5.46 ms x 100% = 99.8%
802.11ax (HE40): Duty cycle = 5.446 ms / 5.46 ms x 100% = 99.7%



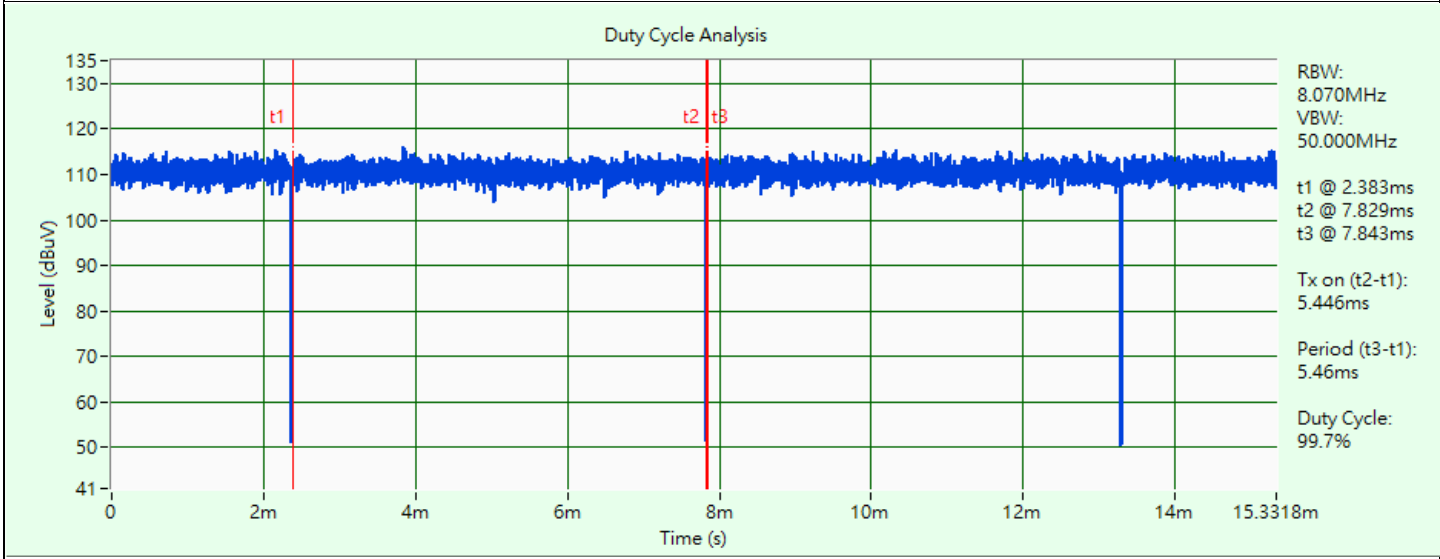
802.11b



802.11g



802.11ax (HE20)

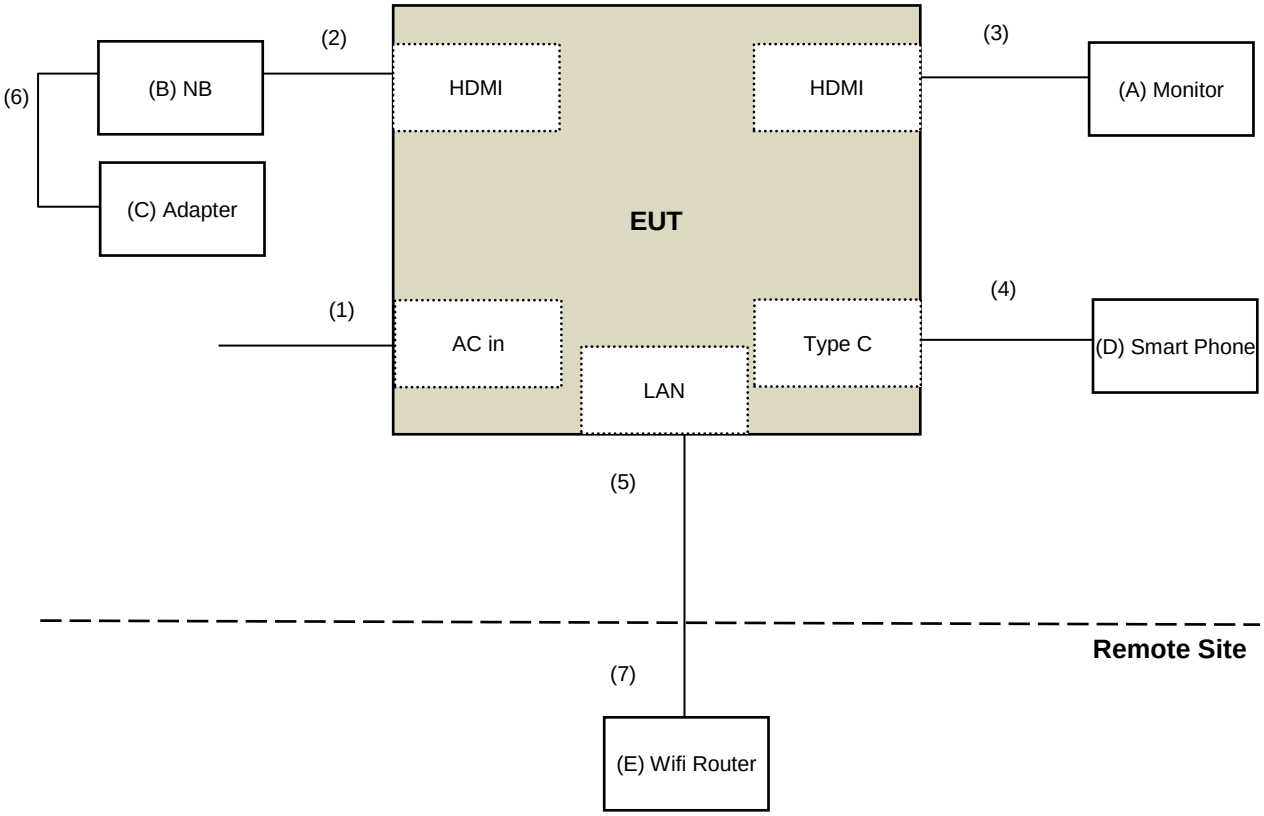


802.11ax (HE40)

3.6 Test Program Used and Operation Descriptions

Controlling software (QRCT 4.0.204.0) 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	Monitor	ASUS	PA279CV	M7LMTF235956	DoC	Provided by Lab
B	NB	LENOVO	IdeaPad 5 15ITL05	N/A	N/A	Provided by Lab
C	Adapter	LENOVO	ADLX65CLGU2A	N/A	N/A	Provided by Lab
D	Smart Phone	Samsung	Galaxy A50	N/A	N/A	Provided by Lab
E	Wifi Router	NETGEAR	R6350	58E798B00017E	DoC	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	AC Power Cable	1	3	N	0	Supplied by applicant
2	HDMI Cable	1	2	Y	0	Provided by Lab
3	HDMI Cable	1	2	Y	0	Provided by Lab
4	Type-C Cable	1	1	Y	0	Provided by Lab
5	LAN Cable	1	5	Y	0	Supplied by applicant
6	DC Cable	1	1.8	Y	0	Provided by Lab
7	LAN Cable	1	10	N	0	Provided by Lab

4 Test Instruments

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

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
MIMO Power measurement Test set (4X4) KEYSIGHT	U2021XA	U2021XA_001	2022/6/13	2023/6/12
MXG Vector Signal Generator KEYSIGHT	N5182B	MY53052658	2022/5/9	2023/5/8
Peak Power meter Anritsu	ML2495A	0842014	2022/4/27	2023/4/26
Pulse Power Sensor Anritsu	MA2411B	0738404	2022/4/27	2023/4/26
Signal Analyzer R&S	FSV40	101042	2022/9/5	2023/9/4
		101544	2022/5/9	2023/5/8
Spectrum Analyzer KEYSIGHT	N9030A	MY54490260	2022/7/14	2023/7/13
Temperature & Humidity Chamber TERCHY	MHU-225AU	920409	2022/6/27	2023/6/26
Voltage Meter FLUKE	179	89610322	2022/10/3	2023/10/2

Notes:

1. The test was performed in LK - Oven
2. Tested Date: 2023/2/1

4.2 Power Spectral Density

Refer to section 4.1 to get information of the instruments.

4.3 6 dB Bandwidth

Refer to section 4.1 to get information of the instruments.

4.4 Conducted Out of Band Emissions

Refer to section 4.1 to get information of the instruments.

4.5 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal LYNICS	0900510	E1-011285	2022/9/19	2023/9/18
		E1-011286	2022/9/19	2023/9/18
50 Ohms Terminator LYNICS	0900510	E1-01-305	2023/2/13	2024/2/12
DC LISN R&S	ESH3-Z6	100219	2022/8/2	2023/8/1
		844950/018	2022/8/2	2023/8/1
DC LISN Schwarzbeck	NNLK 8121	8121-808	2023/5/2	2024/5/1
EMI Test Receiver R&S	ESR3	102412	2022/12/21	2023/12/20
Fixed Attenuator STI	STI02-2200-10	NO.4	2022/9/2	2023/9/1
High Voltage Probe Schwarzbeck	TK9420	00982	2022/12/14	2023/12/13
Isolation Transformer Erika Fiedler	D-65396	017	2022/9/8	2023/9/7
LISN R&S	ENV216	101196	2022/5/24	2023/5/23
LISN Schwarzbeck	NNLK 8121	8121-00759	2022/8/18	2023/8/17
		8121-731	2022/5/26	2023/5/25
	NNLK8129	8129229	2022/6/8	2023/6/7
	NSLK 8128	8128-244	2022/11/8	2023/11/7
RF Coaxial Cable Commate	5D-FB	Cable-CO5-01	2023/1/19	2024/1/18
Software BVADT	Cond_V7.3.7.4	N/A	N/A	N/A

Notes:

1. The test was performed in Linkou Conduction 5.
2. Tested Date: 2023/5/18

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
* LOOP ANTENNA EMCI	LPA600	270	2021/9/2	2023/9/1
Bi_Log Antenna Schwarzbeck	VULB 9168	137	2022/10/21	2023/10/20
Coupling/Dcoupling Network Schwarzbeck	CDNE-M2	00097	2022/6/1	2023/5/31
	CDNE-M3	00091	2022/6/1	2023/5/31
MXE EMI Receiver Agilent	N9038A	MY51210129	2023/3/24	2024/3/23
		MY51210137	2022/6/9	2023/6/8
Pre_Amplifier EMCI	EMC001340	980269	2022/6/28	2023/6/27
Pre_Amplifier HP	8447D	2432A03504	2023/2/16	2024/2/15
RF Coaxial Cable Pacific	8D-FB	Cable-CH6-02	2022/6/30	2023/6/29
Signal Analyzer R&S	FSV40	101544	2023/5/9	2024/5/8
Software BVADT	Radiated_V7.7.1.1.1	N/A	N/A	N/A
	Radiated_V8.7.08	N/A	N/A	N/A
Tower ADT	AT100	0306	N/A	N/A
Turn Table ADT	TT100	0306	N/A	N/A

Notes:

1. * The calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA
2. The test was performed in Linkou 966 Chamber 6 (CH 6).
3. Tested Date: 2023/5/18

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Band Pass Filter MICRO-TRONICS	BRM17690	005	2022/5/26	2023/5/25
Boresight antenna tower fixture BV	BAF-02	6	N/A	N/A
High Pass Filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	2022/5/26	2023/5/25
Horn Antenna EMCO	3115	00028257	2022/11/13	2023/11/12
Horn Antenna ETS-Lindgren	3117-PA	00215857	2022/11/13	2023/11/12
Horn Antenna Schwarzbeck	BBHA 9170	212	2022/10/20	2023/10/19
MXE EMI Receiver Agilent	N9038A	MY51210129	2022/4/8	2023/4/7
		MY51210137	2022/6/9	2023/6/8
Notch Filter MICRO-TRONICS	BRC50703-01	010	2022/5/26	2023/5/25
Pre-amplifier HP	8449B	3008A01201	2022/2/17	2023/2/16
Pre-amplifier (18GHz-40GHz) EMCI	EMC184045B	980175	2022/9/3	2023/9/2
Pre_Amplifier EMCI	EMC0126545	980076	2022/2/17	2023/2/16
	EMC184045B	980235	2022/2/17	2023/2/16
RF Coaxial Cable EM	EM102-KMKM-3.5+1M	EM102-KMKM-3.5+1M-01	2022/7/7	2023/7/6
RF Coaxial Cable EMCI	EMC104	190801	2022/9/20	2023/9/19
		190804	2022/9/20	2023/9/19
RF Coaxial Cable HUBER SUHNER	SF-104	Cable-CH6-01	2022/9/20	2023/9/19
Signal Analyzer R&S	FSV40	101042	2022/9/5	2023/9/4
		101544	2022/5/9	2023/5/8
Software BVADT	Radiated_V7.7.1.1.1	N/A	N/A	N/A
	Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	101042	2022/9/5	2023/9/4
Test Receiver Agilent	N9038A	MY51210129	2022/4/8	2023/4/7
		MY51210137	2022/6/9	2023/6/8
Tower ADT	AT100	0306	N/A	N/A
Turn Table ADT	TT100	0306	N/A	N/A

Notes:

1. The test was performed in Linkou 966 Chamber 6 (CH 6).
2. Tested Date: 2023/1/13 ~ 2023/1/16

5 Limits of Test Items

5.1 RF Output Power

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

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

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

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

5.2 Power Spectral Density

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

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

Below 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

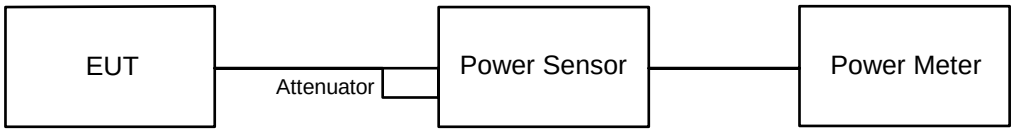
Notes:

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



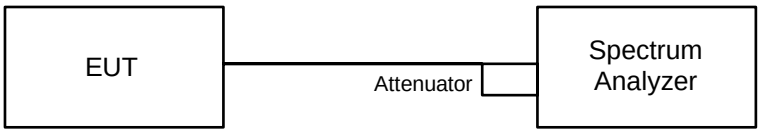
6.1.2 Test Procedure

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

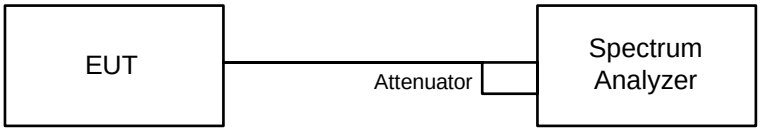


6.2.2 Test Procedure

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 ≥ 3 × 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

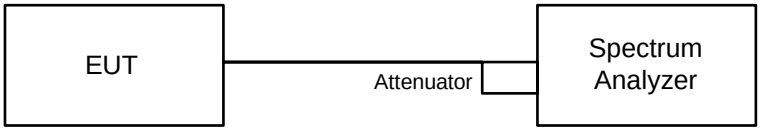


6.3.2 Test Procedure

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

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

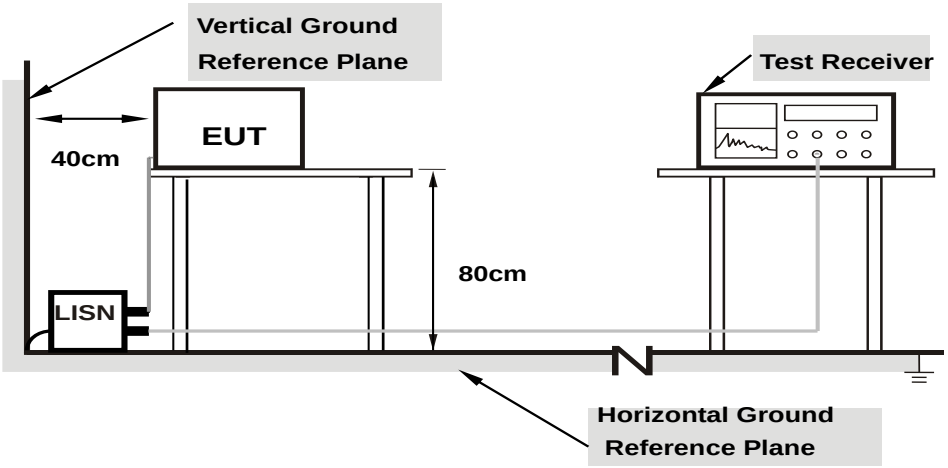
a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

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

6.5 AC Power Conducted Emissions

6.5.1 Test Setup



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

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

6.5.2 Test Procedure

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

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

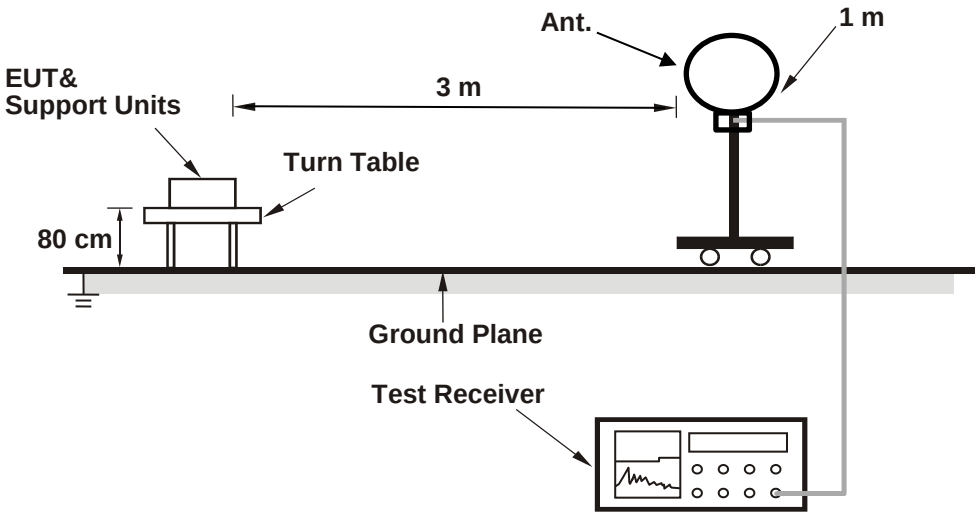
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

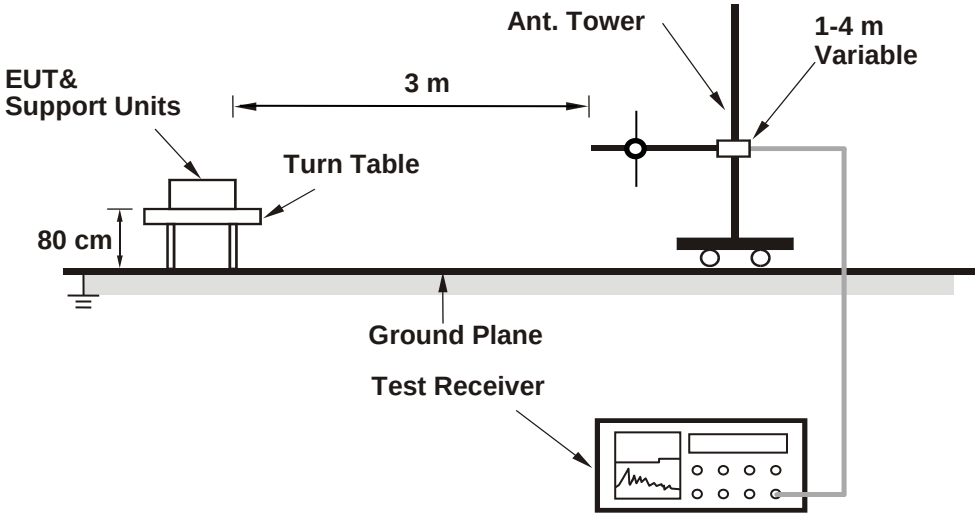
6.6 Unwanted Emissions below 1 GHz

6.6.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.6.2 Test Procedure

For Radiated emission below 30 MHz

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

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

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

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

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

Notes:

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

For Radiated emission above 30 MHz

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

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

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

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

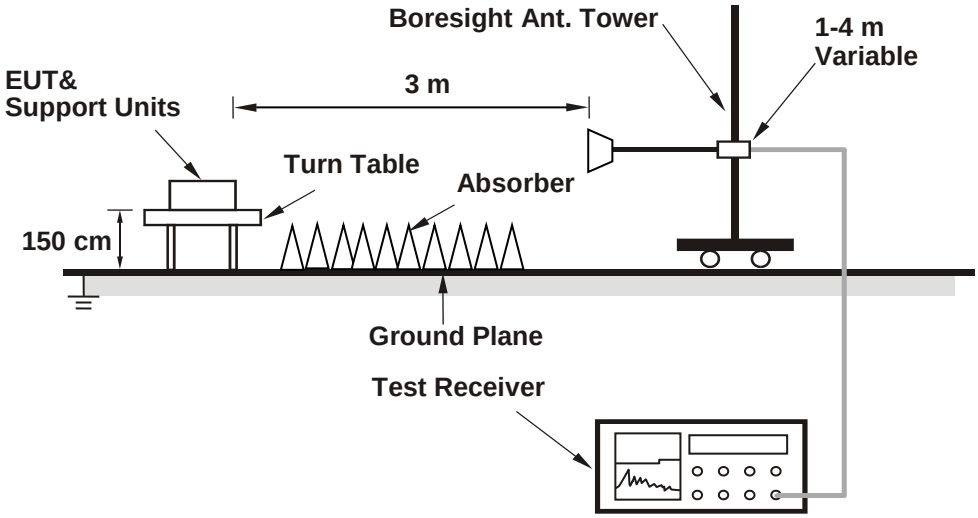
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Notes:

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

6.7 Unwanted Emissions above 1 GHz

6.7.1 Test Setup



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

6.7.2 Test Procedure

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

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

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

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

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

Notes:

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

7 Test Results of Test Item

7.1 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan

For Peak Power

802.11b

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	19.93	19.44	186.303	22.70	30	Pass
6	2437	20.22	19.26	189.53	22.78	30	Pass
11	2462	19.95	19.38	185.551	22.68	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.91 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	23.23	22.32	380.986	25.81	30	Pass
6	2437	23.35	22.29	385.706	25.86	30	Pass
11	2462	22.91	22.34	366.83	25.64	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.91 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT20

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	22.98	22.42	373.192	25.72	30	Pass
6	2437	23.17	22.98	406.101	26.09	30	Pass
11	2462	23.16	23.04	408.387	26.11	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.91 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT40

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	22.61	21.97	339.788	25.31	30	Pass
6	2437	24.05	22.64	437.751	26.41	30	Pass
9	2452	22.42	21.30	309.479	24.91	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.91 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	23.22	22.61	392.284	25.94	30	Pass
6	2437	23.41	23.13	424.87	26.28	30	Pass
11	2462	23.32	23.22	424.677	26.28	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.91 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	22.78	22.16	354.108	25.49	30	Pass
6	2437	24.28	22.86	461.114	26.64	30	Pass
9	2452	22.57	21.49	321.646	25.07	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.91 dBi < 6 dBi, so the output power limit shall not be reduced.

For Average Power

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	17.38	16.89	103.567	20.15
6	2437	17.71	16.58	104.519	20.19
11	2462	17.41	16.79	102.834	20.12

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	16.22	15.46	77.035	18.87
6	2437	16.51	15.43	79.685	19.01
11	2462	16.16	15.55	77.197	18.88

VHT20

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	15.88	15.08	70.936	18.51
6	2437	16.14	15.13	73.699	18.67
11	2462	15.95	15.32	73.396	18.66

VHT40

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
3	2422	15.05	14.05	57.399	17.59
6	2437	16.56	15.57	81.348	19.10
9	2452	14.55	13.98	53.514	17.28

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
1	2412	16.09	15.33	74.764	18.74
6	2437	16.39	15.37	77.986	18.92
11	2462	16.12	15.53	76.653	18.85

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Average Power (mW)	Total Average Power (dBm)
		Chain 0	Chain 1		
3	2422	15.27	14.29	60.505	17.82
6	2437	16.76	15.75	85.008	19.29
9	2452	14.70	14.13	55.394	17.43

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	1	2412	-8.25	3.01	-5.24	7.52	Pass
	6	2437	-8.34	3.01	-5.33	7.52	Pass
	11	2462	-7.85	3.01	-4.84	7.52	Pass
Chain 1	1	2412	-7.95	3.01	-4.94	7.52	Pass
	6	2437	-7.16	3.01	-4.15	7.52	Pass
	11	2462	-7.92	3.01	-4.91	7.52	Pass

Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2]
3. The directional gain is 6.48 dBi > 6 dBi, so the power density limit shall be reduced to 8-(6.48-6) = 7.52 dBm/3kHz.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	1	2412	-9.7	3.01	-6.69	7.52	Pass
	6	2437	-9.13	3.01	-6.12	7.52	Pass
	11	2462	-10.02	3.01	-7.01	7.52	Pass
Chain 1	1	2412	-9.66	3.01	-6.65	7.52	Pass
	6	2437	-6.92	3.01	-3.91	7.52	Pass
	11	2462	-9.35	3.01	-6.34	7.52	Pass

Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2]
3. The directional gain is 6.48 dBi > 6 dBi, so the power density limit shall be reduced to 8-(6.48-6) = 7.52 dBm/3kHz.

802.11ax (HE20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	1	2412	-10.94	3.01	-7.93	7.52	Pass
	6	2437	-11.19	3.01	-8.18	7.52	Pass
	11	2462	-10.8	3.01	-7.79	7.52	Pass
Chain 1	1	2412	-10.88	3.01	-7.87	7.52	Pass
	6	2437	-11.31	3.01	-8.3	7.52	Pass
	11	2462	-11.47	3.01	-8.46	7.52	Pass

Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2]
3. The directional gain is 6.48 dBi > 6 dBi, so the power density limit shall be reduced to 8-(6.48-6) = 7.52 dBm/3kHz.

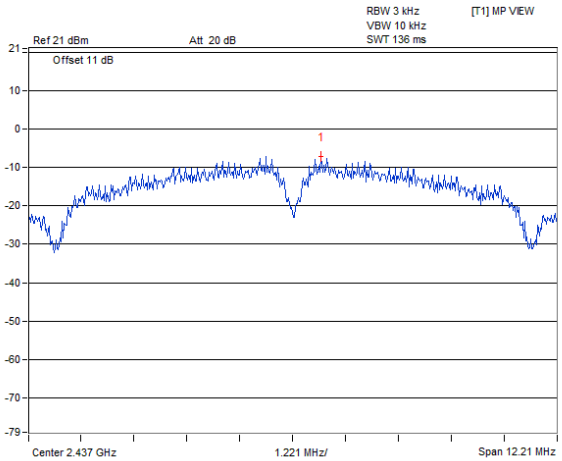
802.11ax (HE40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	3	2422	-14.34	3.01	-11.33	7.52	Pass
	6	2437	-12.34	3.01	-9.33	7.52	Pass
	9	2452	-14.97	3.01	-11.96	7.52	Pass
Chain 1	3	2422	-15.67	3.01	-12.66	7.52	Pass
	6	2437	-14.62	3.01	-11.61	7.52	Pass
	9	2452	-14.45	3.01	-11.44	7.52	Pass

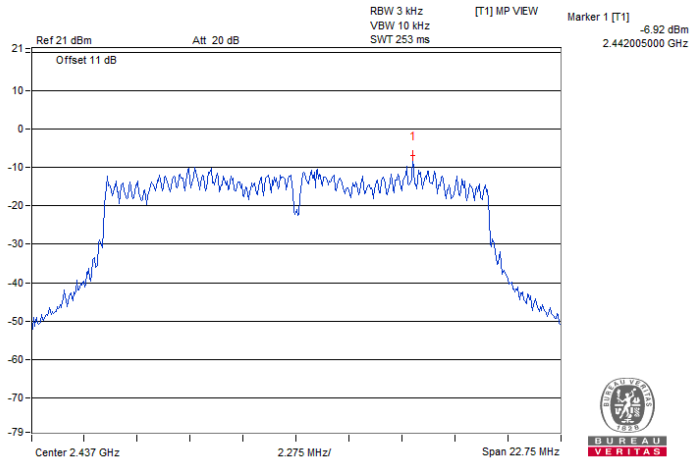
Notes:

1. Method E) 2) c) Measure and add 10 log(NANT) dB of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2]
3. The directional gain is 6.48 dBi > 6 dBi, so the power density limit shall be reduced to 8-(6.48-6) = 7.52 dBm/3kHz.

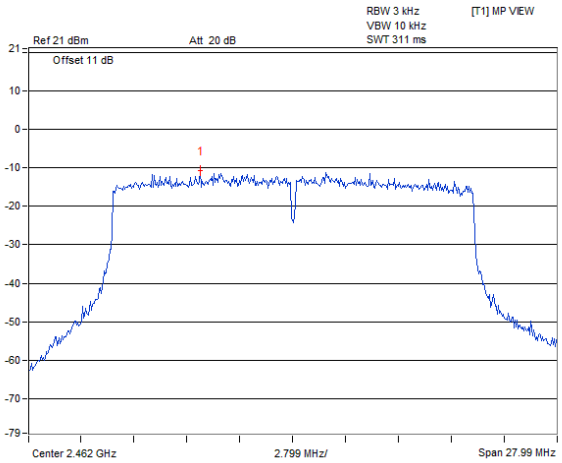
Spectrum Plot of Maximum Value



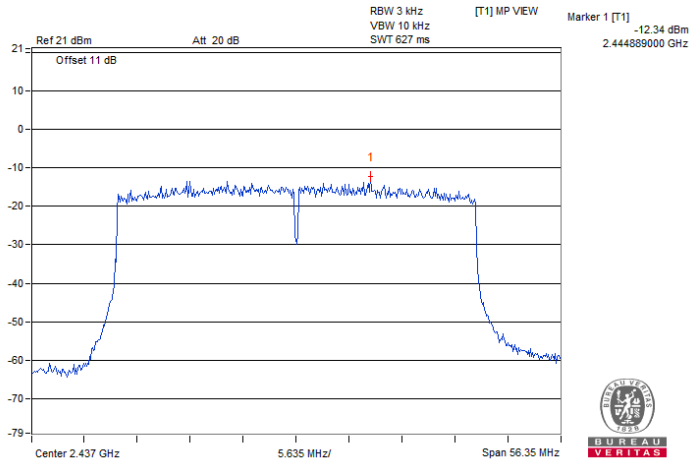
802.11b / Chain 1 : CH 6



802.11g / Chain 1 : CH 6



802.11ax (HE20) / Chain 0 : CH 11



802.11ax (HE40) / Chain 0 : CH 6

7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	8.13	7.61	0.5	Pass
6	2437	8.11	8.14	0.5	Pass
11	2462	7.63	8.13	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	16.13	15.17	0.5	Pass
6	2437	16.34	15.17	0.5	Pass
11	2462	16.10	15.15	0.5	Pass

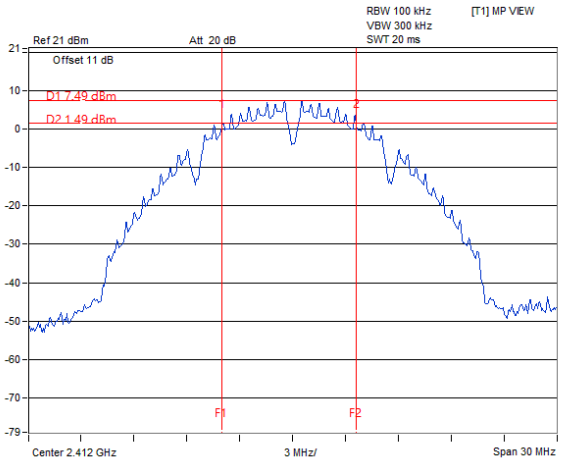
802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	18.77	18.54	0.5	Pass
6	2437	18.68	18.74	0.5	Pass
11	2462	18.66	18.60	0.5	Pass

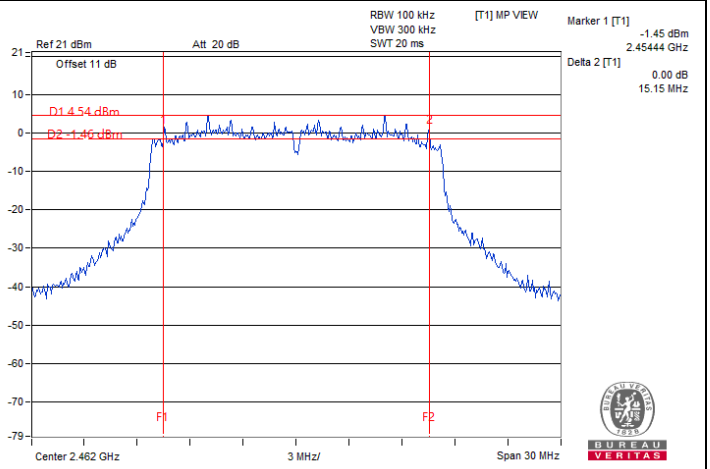
802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
3	2422	37.77	37.79	0.5	Pass
6	2437	37.57	37.63	0.5	Pass
9	2452	37.43	36.43	0.5	Pass

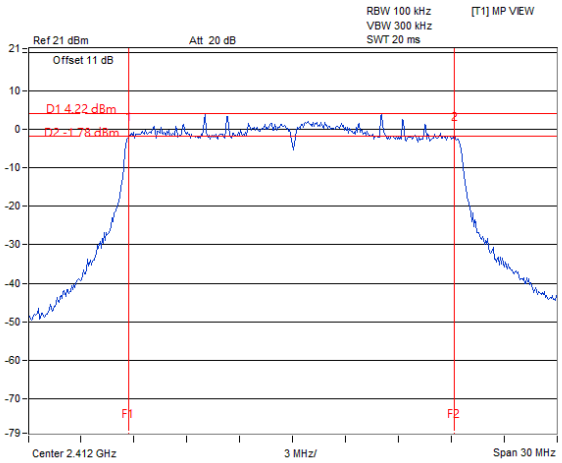
Spectrum Plot of Minimum Value



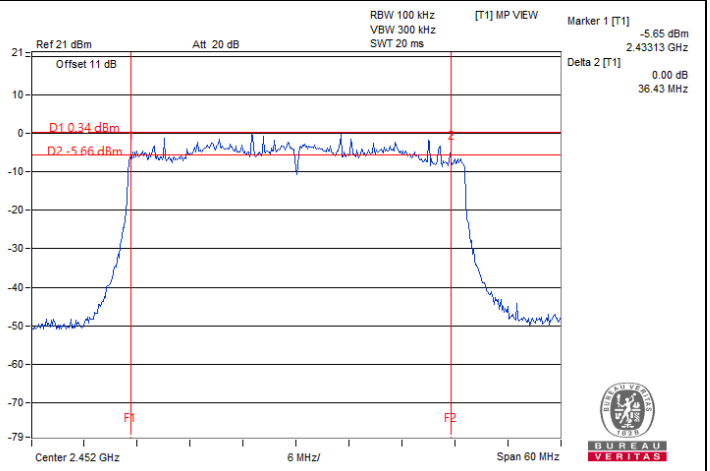
802.11b / Chain 1 : CH 1



802.11g / Chain 1 : CH 11



802.11ax (HE20) / Chain 1 : CH 1

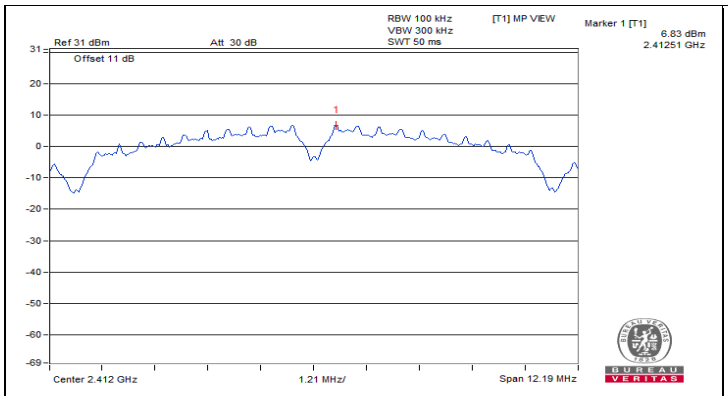


802.11ax (HE40) / Chain 1 : CH 9

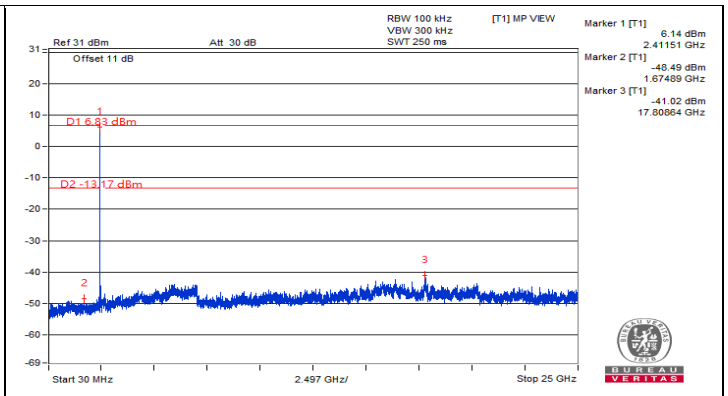
7.4 Conducted Out of Band Emissions

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan

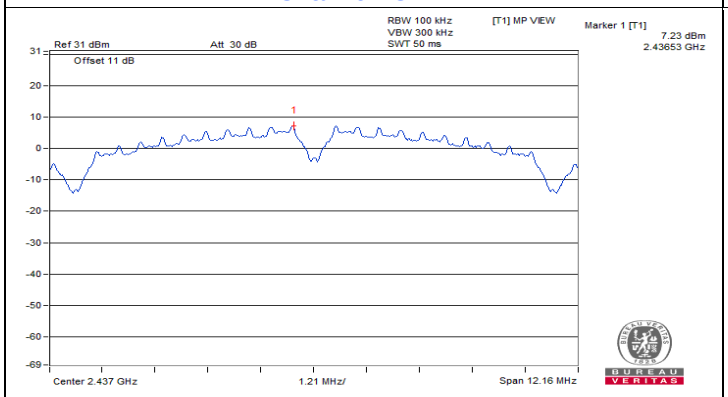
802.11b



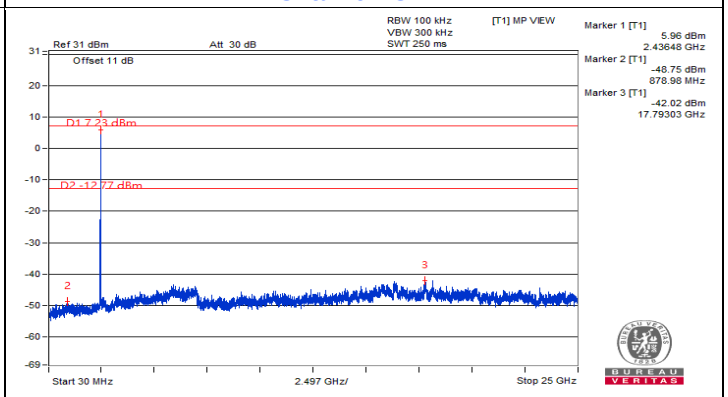
Chain 0 : CH 1



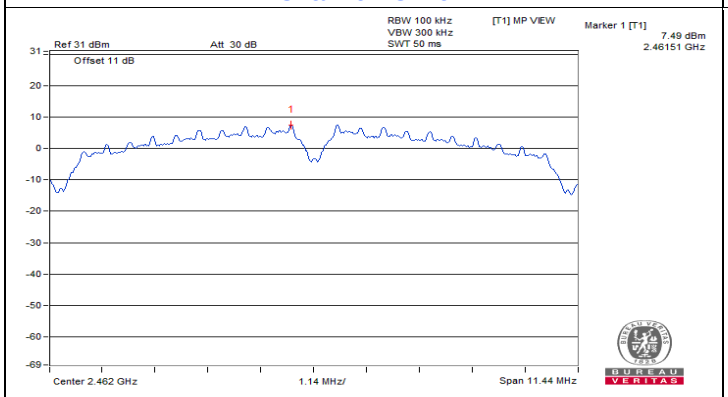
Chain 0 : CH 1



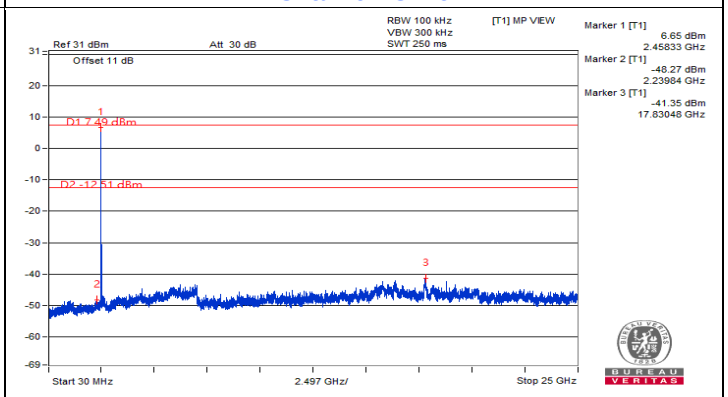
Chain 0 : CH 6



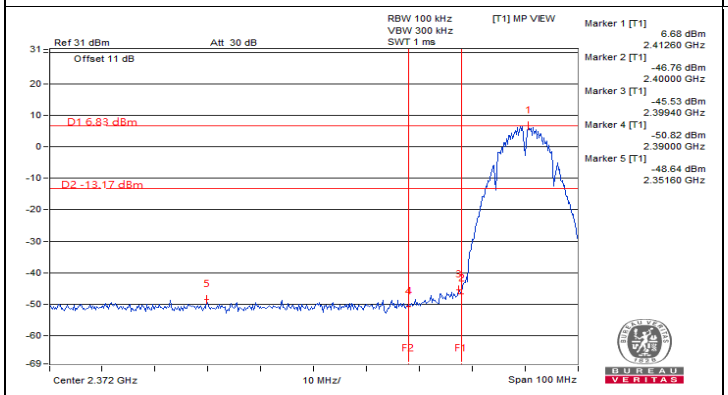
Chain 0 : CH 6



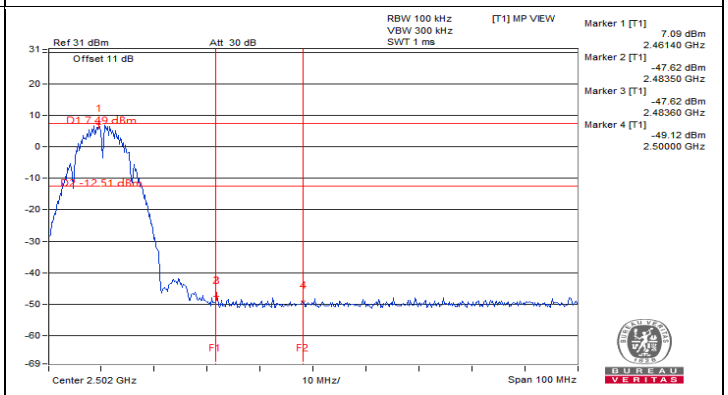
Chain 0 : CH 11



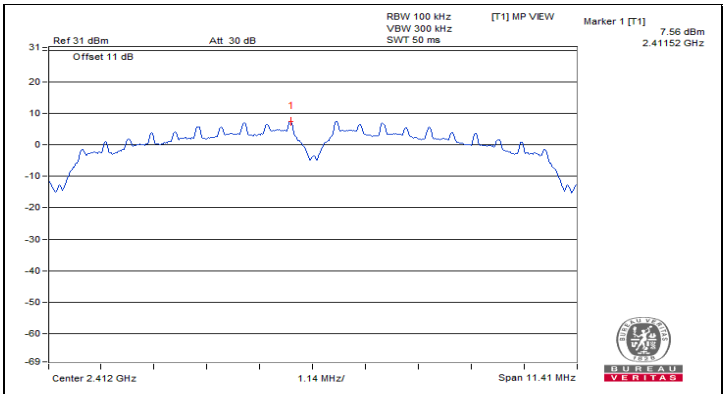
Chain 0 : CH 11



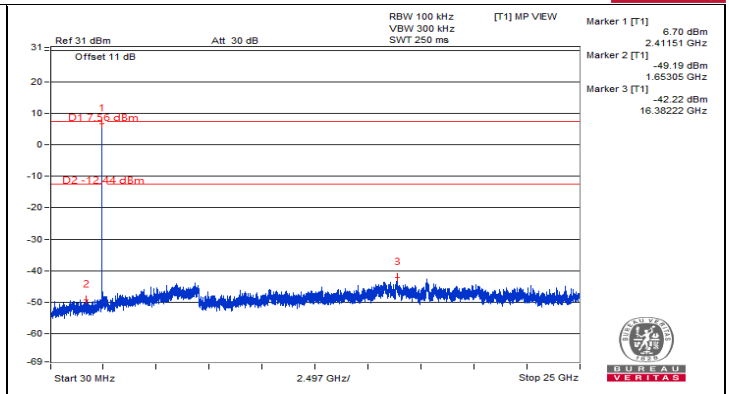
Chain 0 : CH 1 Band edge



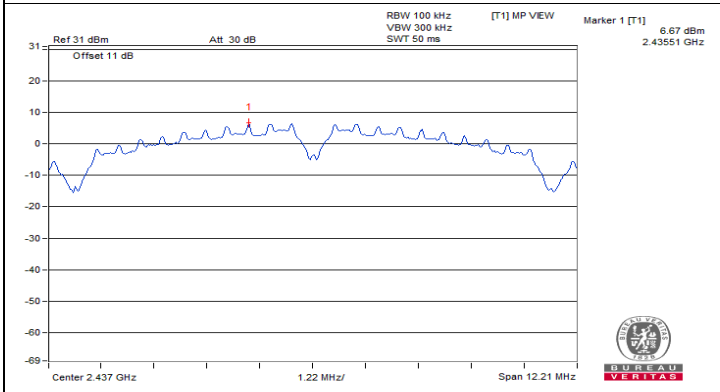
Chain 0 : CH 11 Band edge



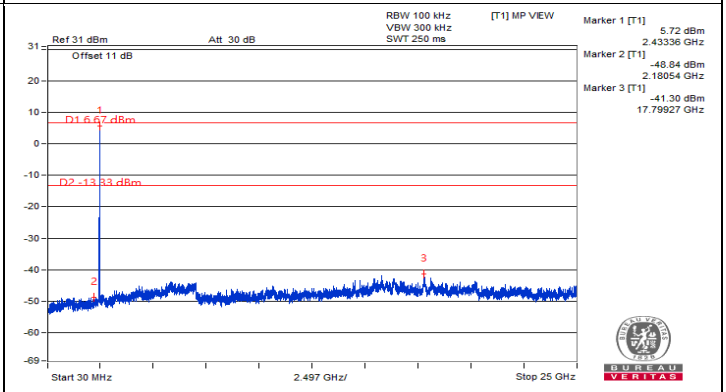
Chain 1 : CH 1



Chain 1 : CH 1



Chain 1 : CH 6



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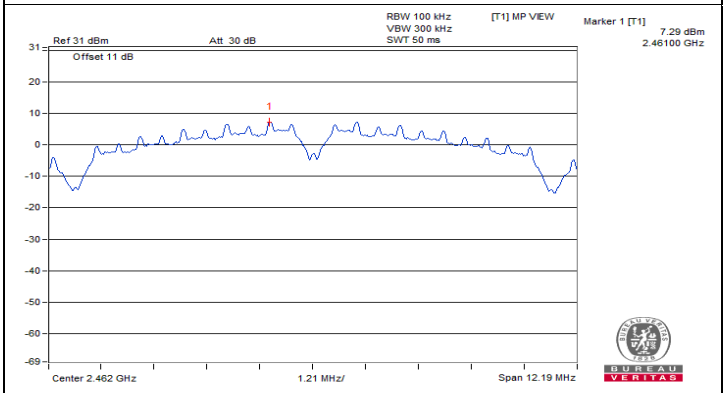

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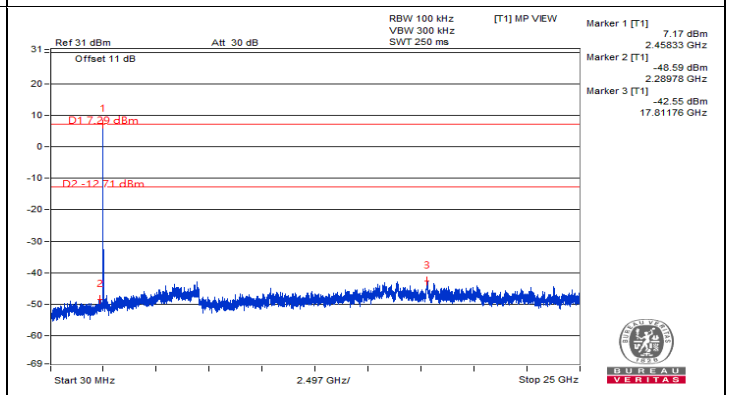
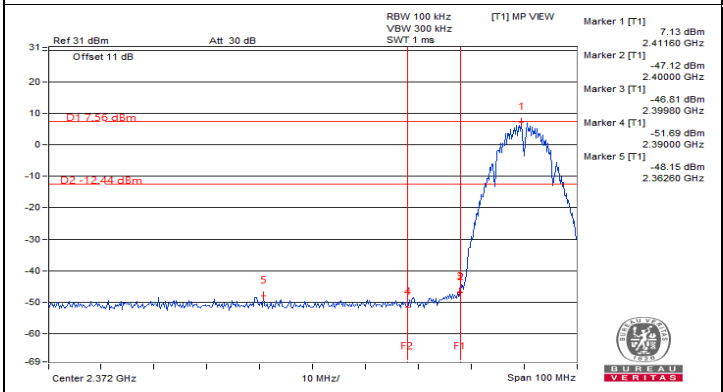
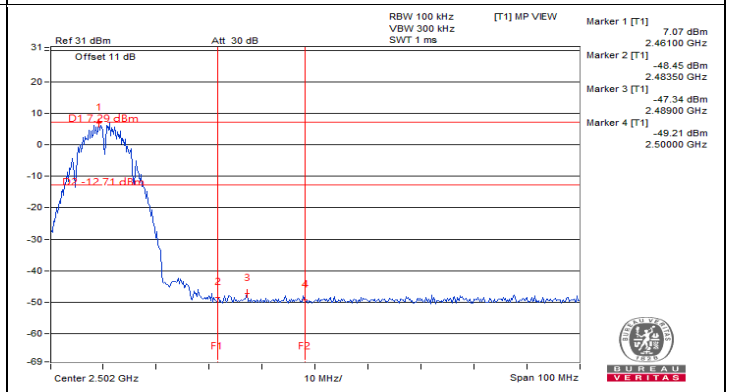


Chain 1 : CH 11

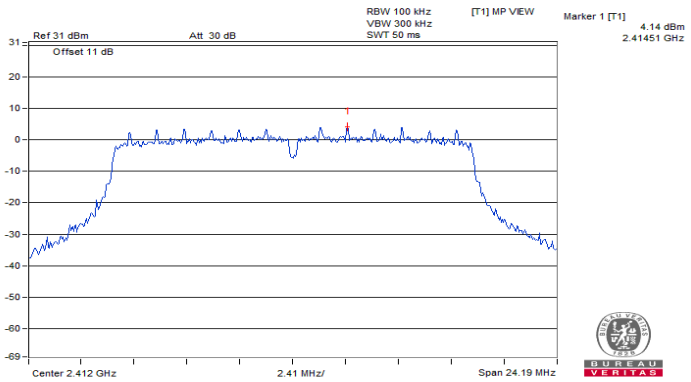


Chain 1 : CH 1 Band edge

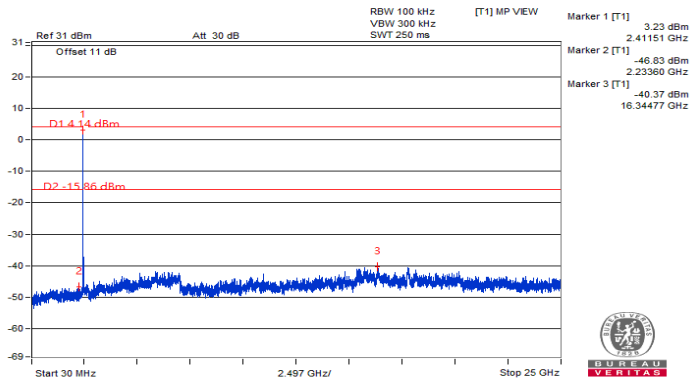


Chain 1 : CH 11 Band edge

802.11g



Chain 0 : CH 1



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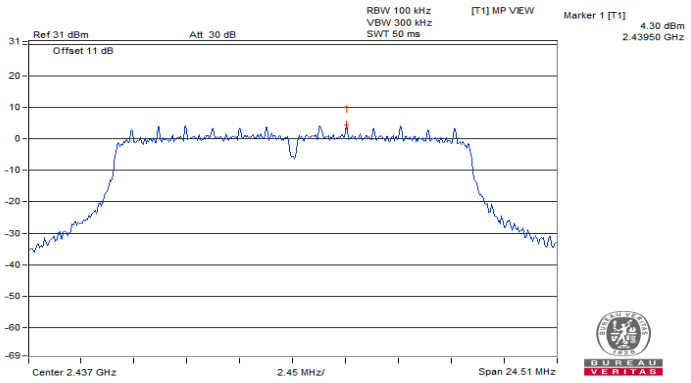

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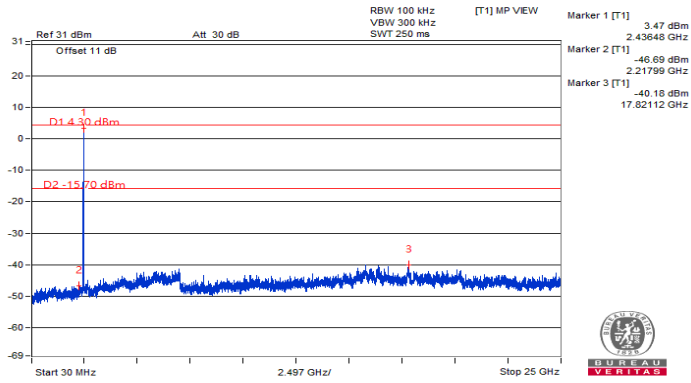

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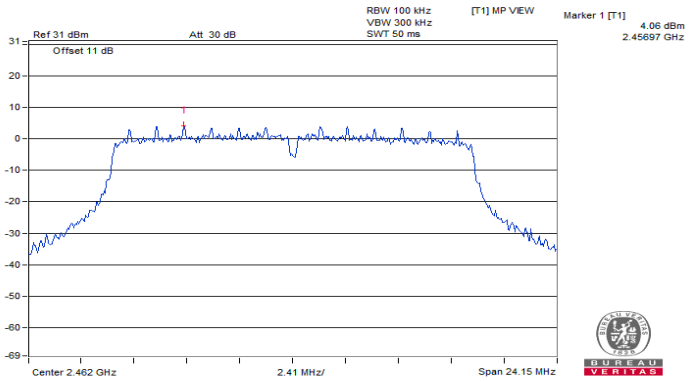

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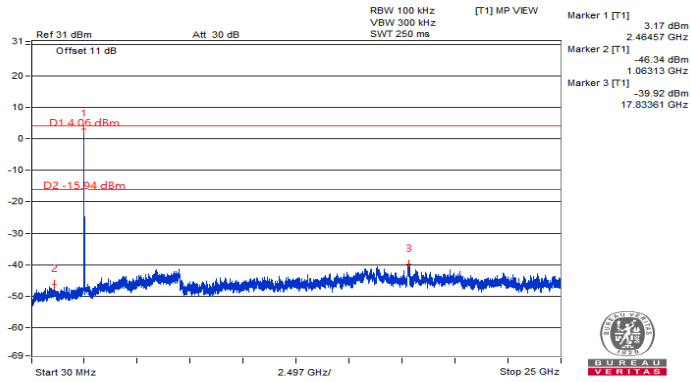

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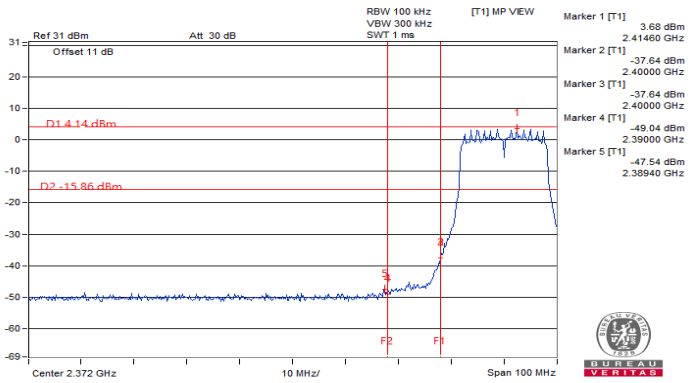
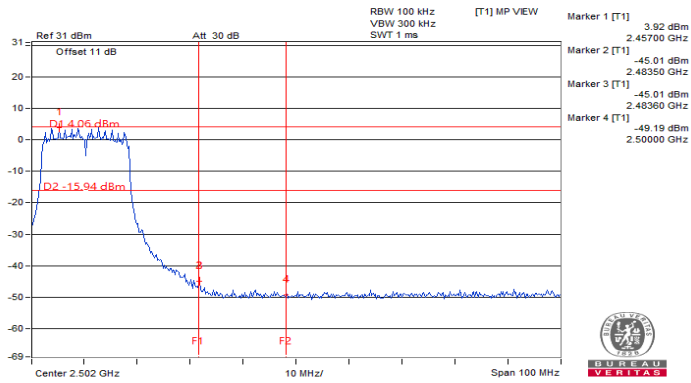
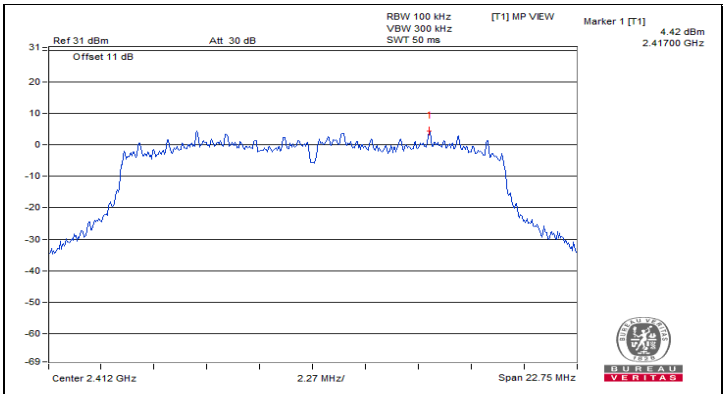


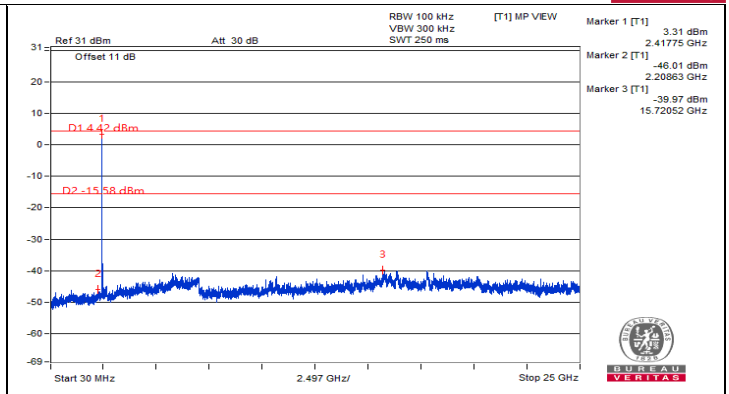
Chain 0 : CH 1 Band edge



Chain 0 : CH 11 Band edge



Chain 1 : CH 1



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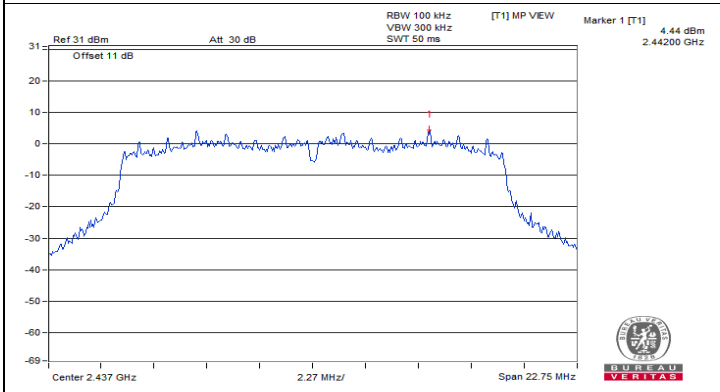
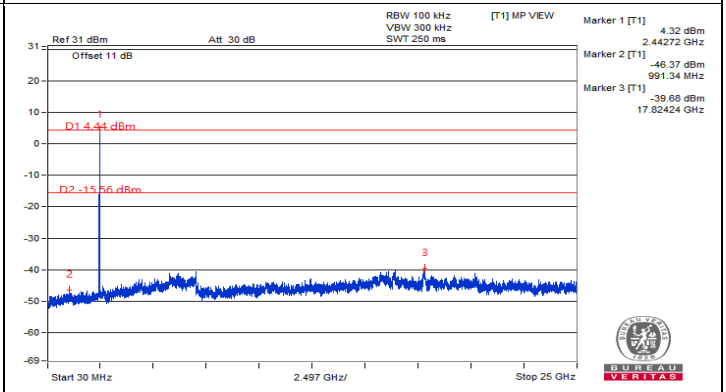
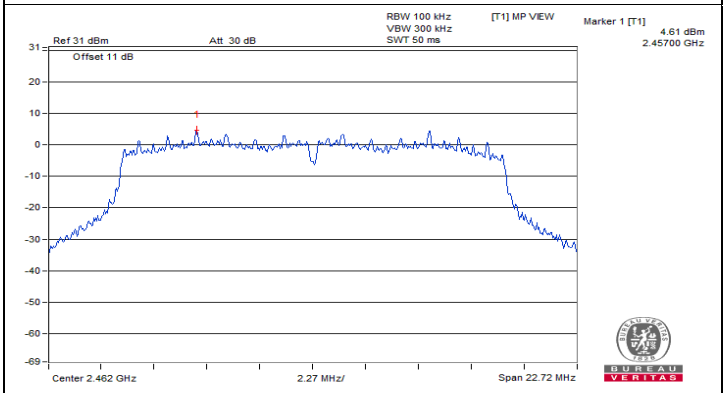


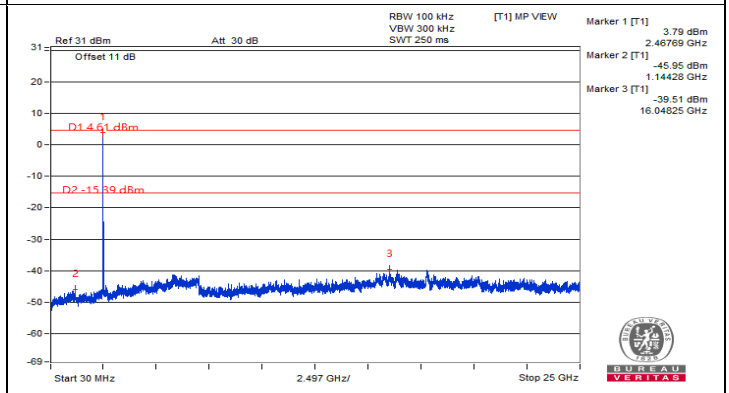
Chain 1 : CH 6



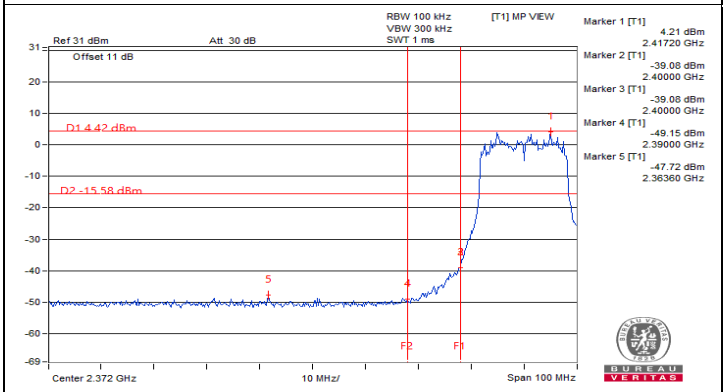
Chain 1 : CH 6



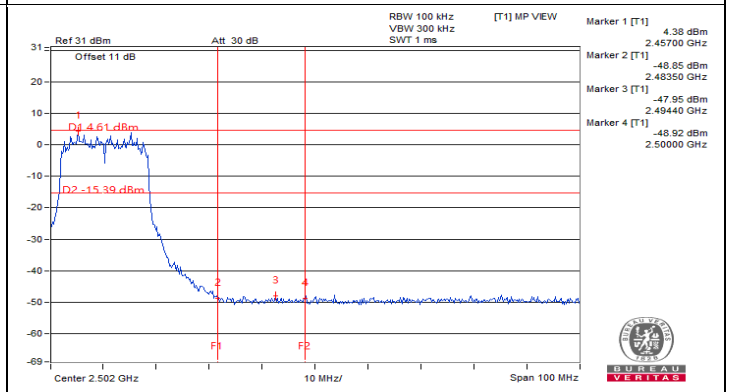
Chain 1 : CH 11



Chain 1 : CH 11

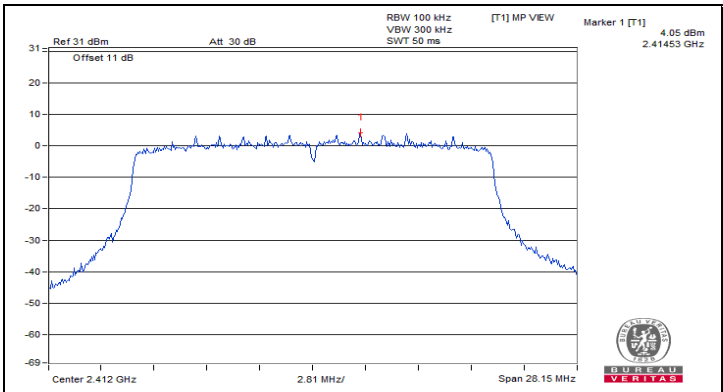


Chain 1 : CH 1 Band edge

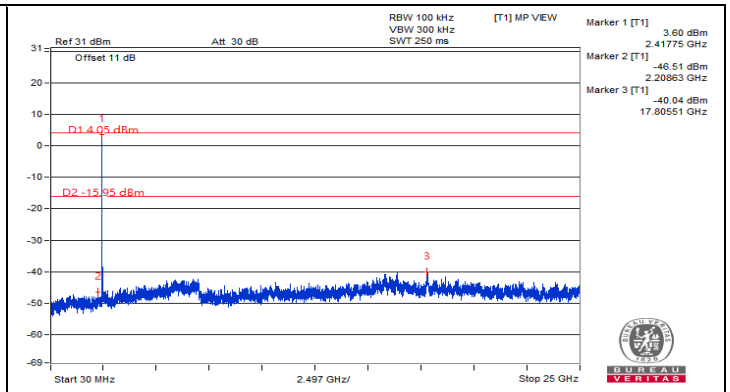


Chain 1 : CH 11 Band edge

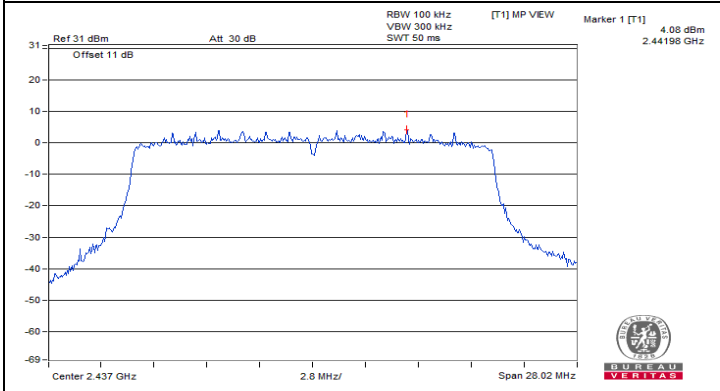
802.11ax (HE20)



Chain 0 : CH 1



Chain 0 : CH 1



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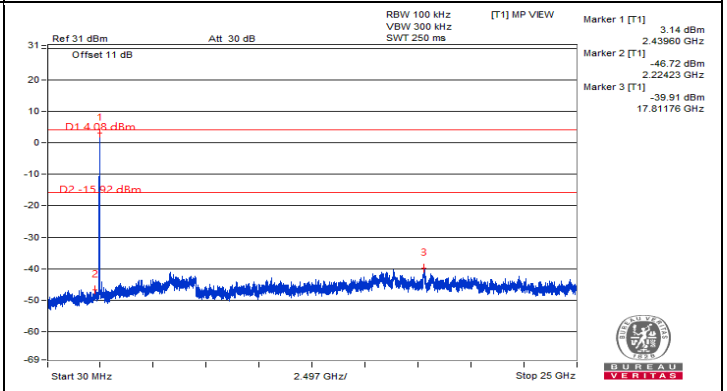

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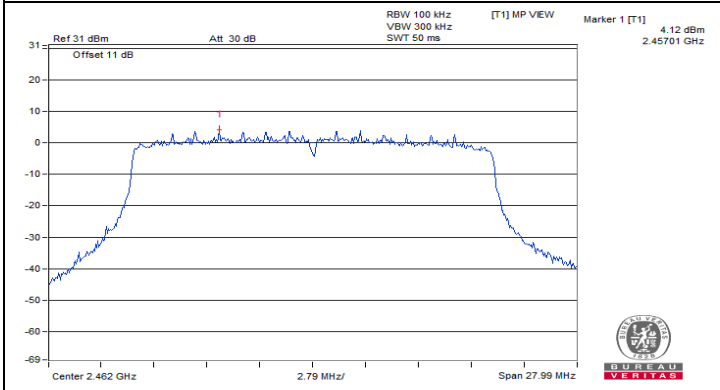
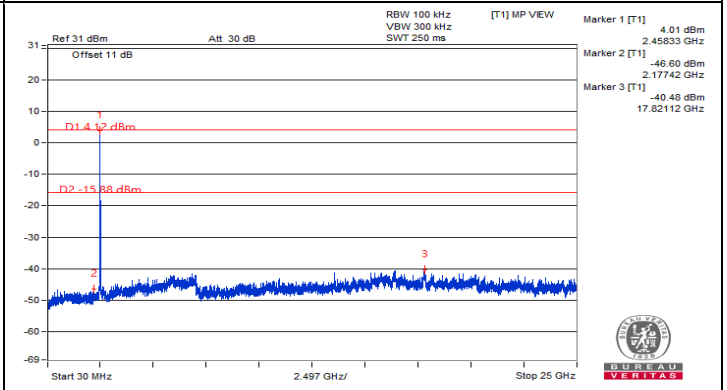
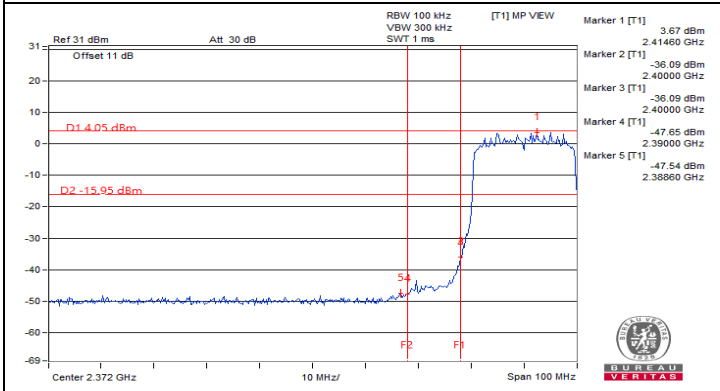


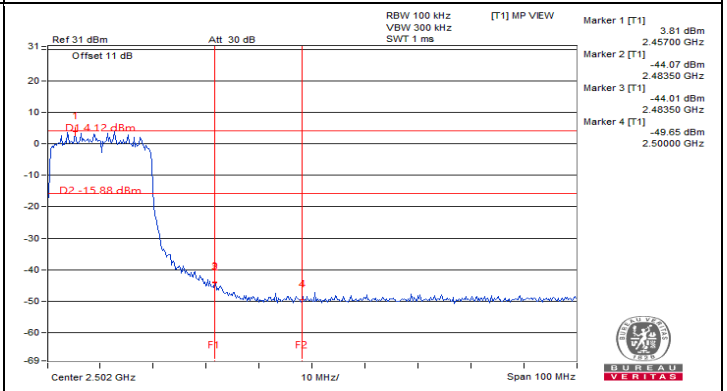
Chain 0 : CH 11



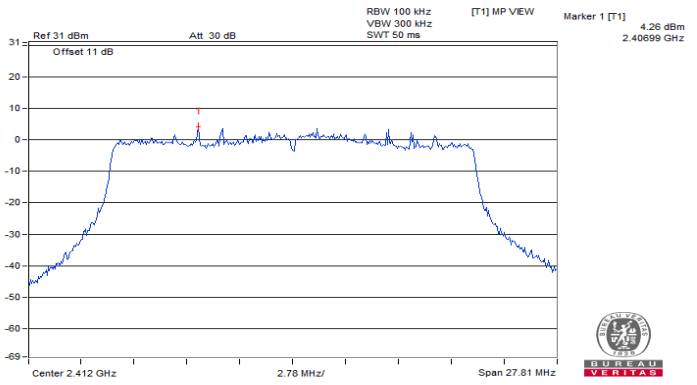
Chain 0 : CH 11



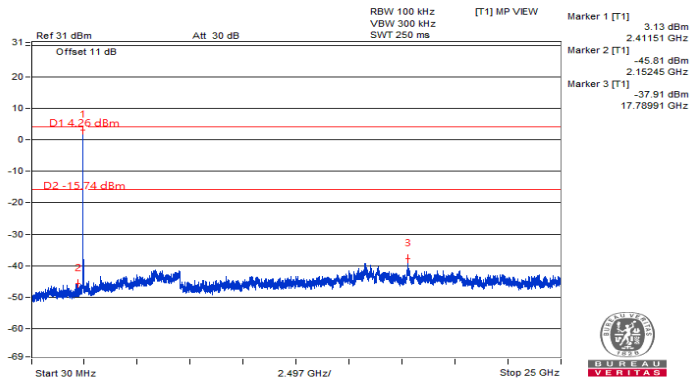
Chain 0 : CH 1 Band edge



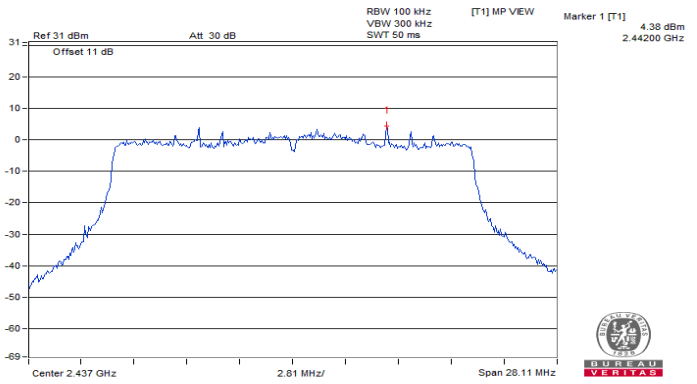
Chain 0 : CH 11 Band edge



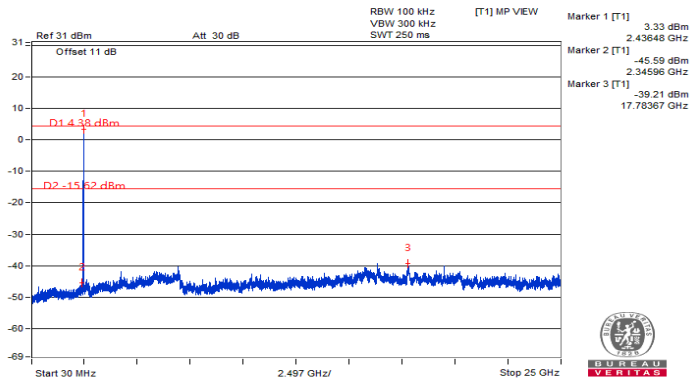
Chain 1 : CH 1



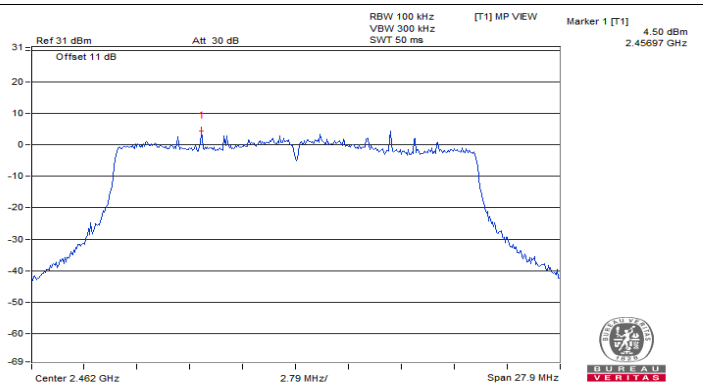
Chain 1 : CH 1



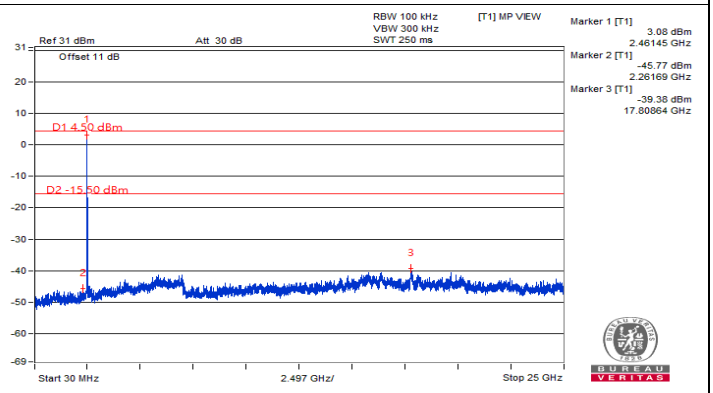
Chain 1 : CH 6



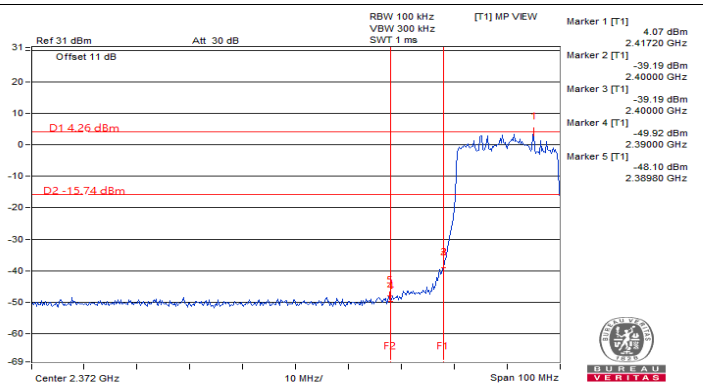
Chain 1 : CH 6



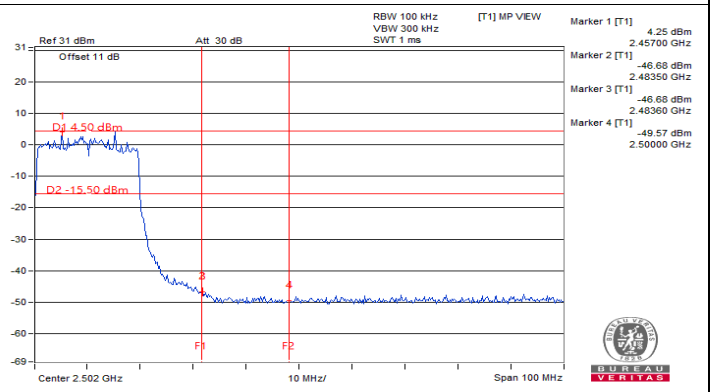
Chain 1 : CH 11



Chain 1 : CH 11

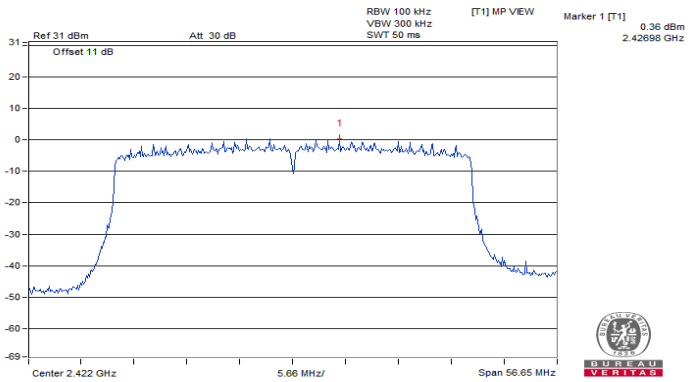


Chain 1 : CH 1 Band edge

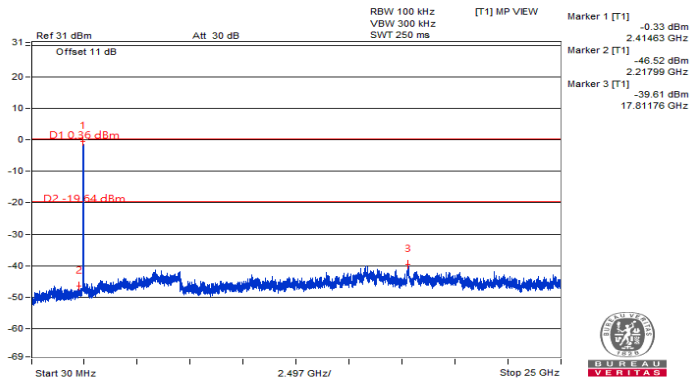


Chain 1 : CH 11 Band edge

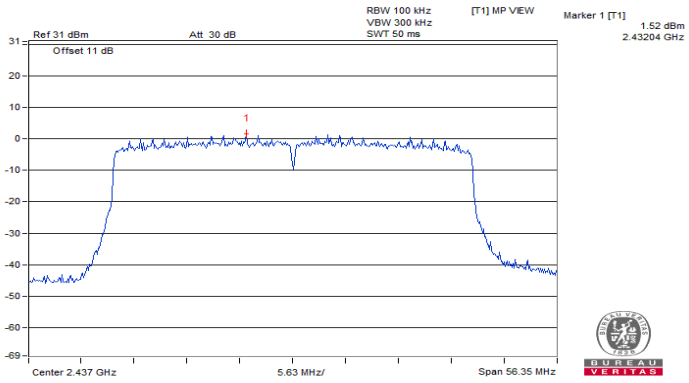
802.11ax (HE40)



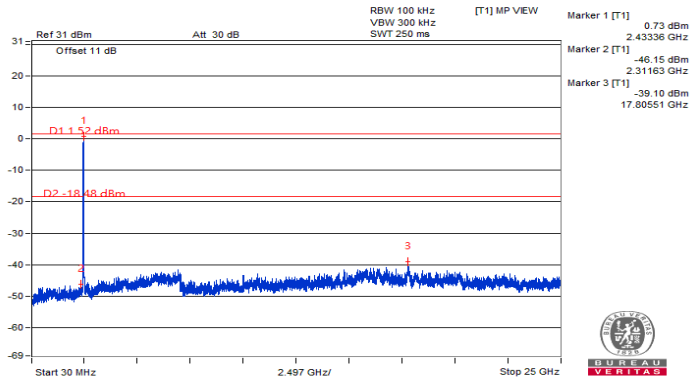
Chain 0 : CH 3



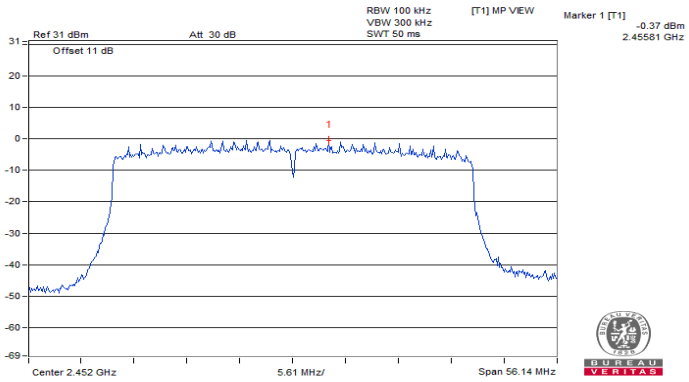
Chain 0 : CH 3



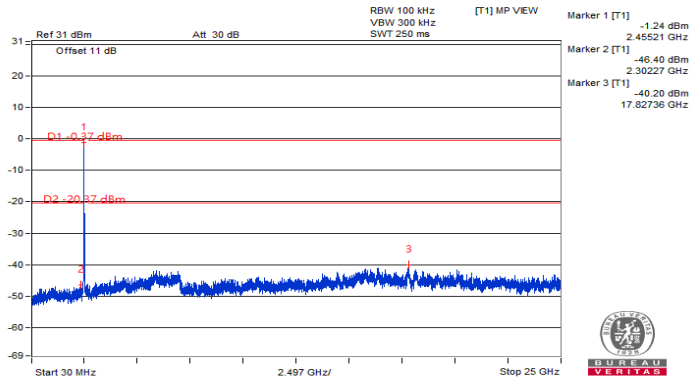
Chain 0 : CH 6



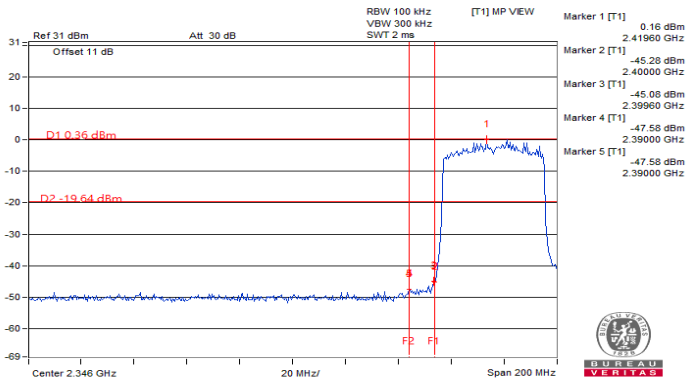
Chain 0 : CH 6



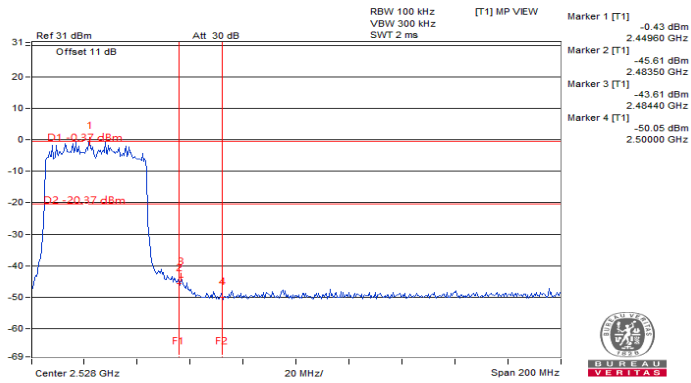
Chain 0 : CH 9



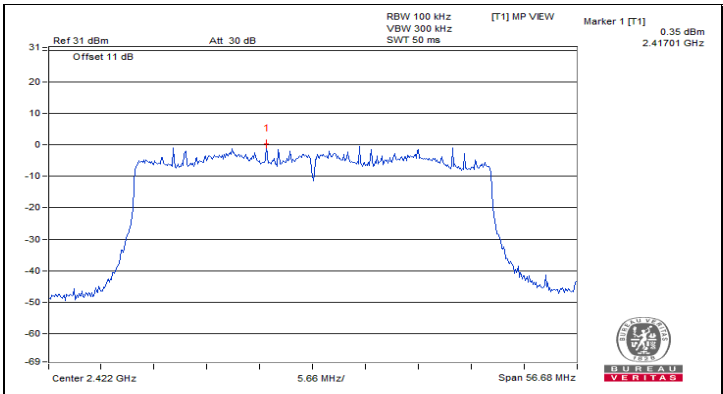
Chain 0 : CH 9



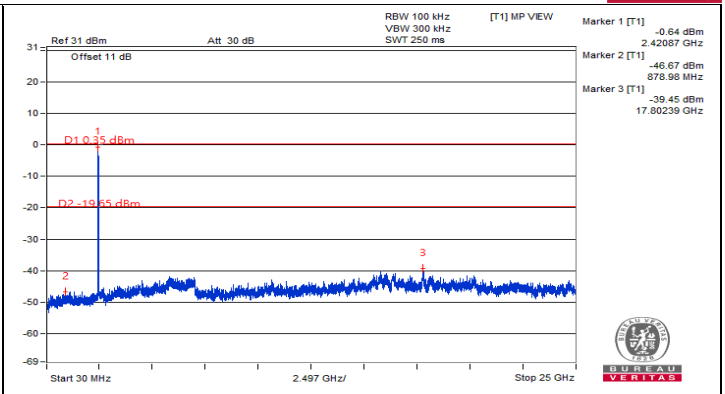
Chain 0 : CH 3 Band edge



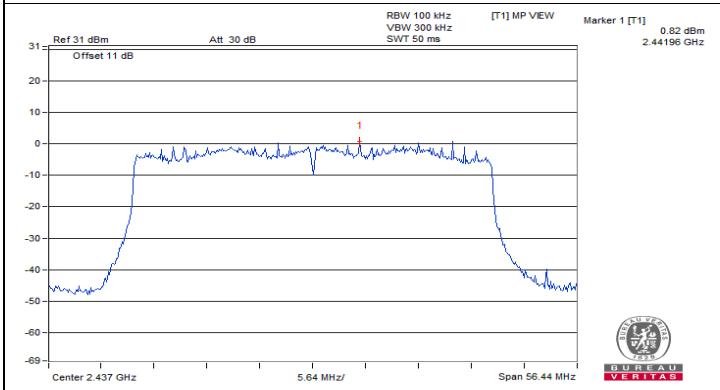
Chain 0 : CH 9 Band edge



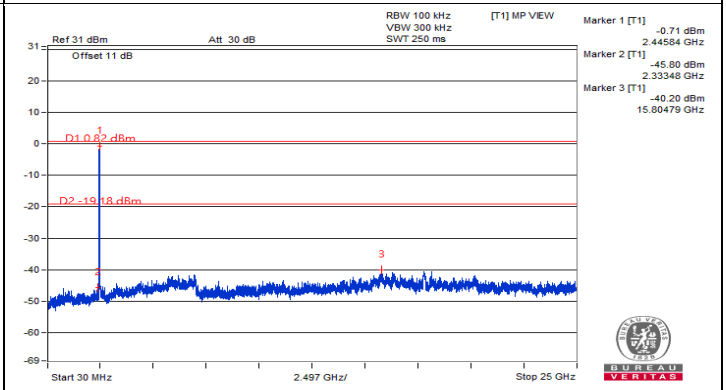
Chain 1 : CH 3



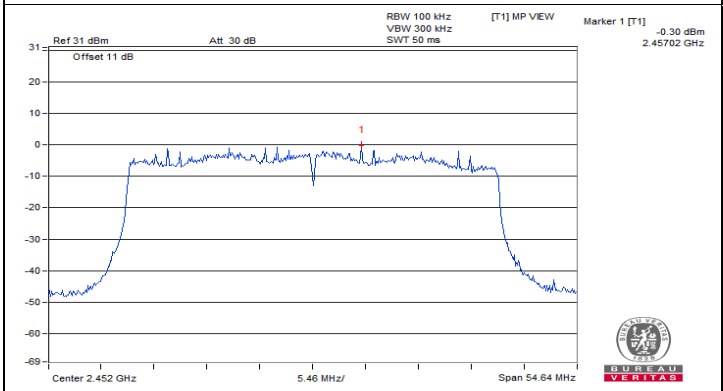
Chain 1 : CH 3



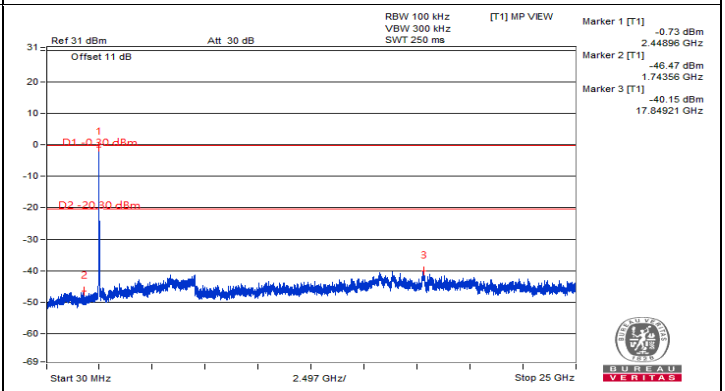
Chain 1 : CH 6



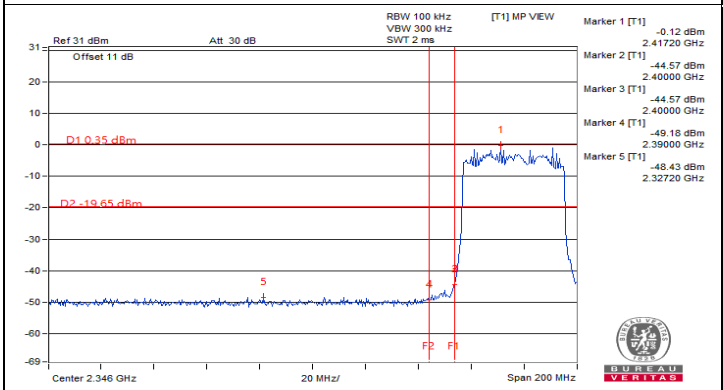
Chain 1 : CH 6



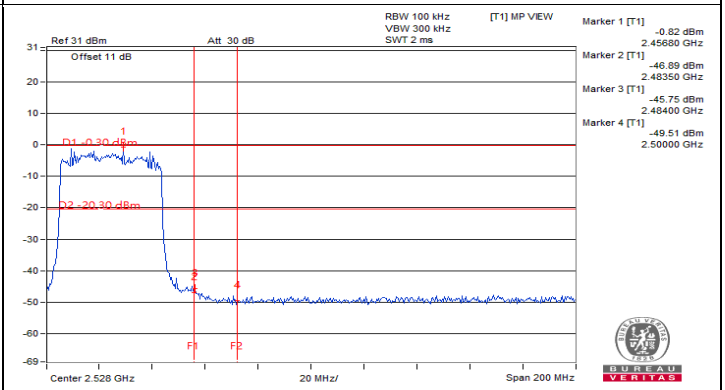
Chain 1 : CH 9



Chain 1 : CH 9



Chain 1 : CH 3 Band edge



Chain 1 : CH 9 Band edge

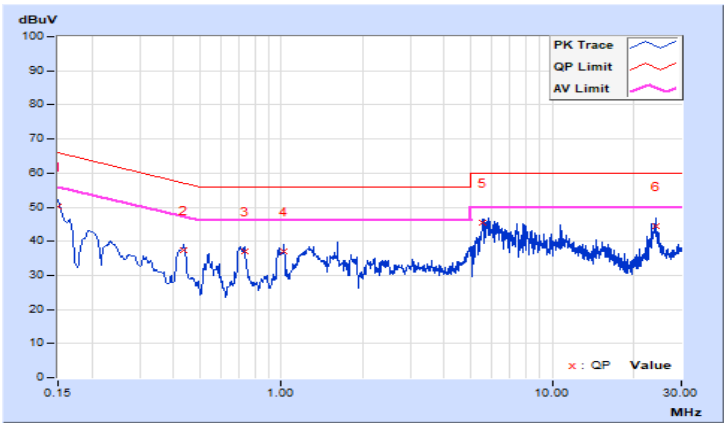
7.5 AC Power Conducted Emissions

RF Mode	802.11ax (HE40)	**Channel**	CH 6：2437 MHz
Frequency Range	150kHz ~ 30MHz	**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	Jed Wu		

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	0.15000	10.04	40.19	29.98	50.23	40.02	66.00	56.00	-15.77	-15.98
2	0.43845	10.10	27.32	19.36	37.42	29.46	57.09	47.09	-19.67	-17.63
3	0.73042	10.12	26.75	18.19	36.87	28.31	56.00	46.00	-19.13	-17.69
4	1.02771	10.14	26.97	15.67	37.11	25.81	56.00	46.00	-18.89	-20.19
5	5.54726	10.26	35.06	25.71	45.32	35.97	60.00	50.00	-14.68	-14.03
6	24.02901	10.52	33.80	26.08	44.32	36.60	60.00	50.00	-15.68	-13.40

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

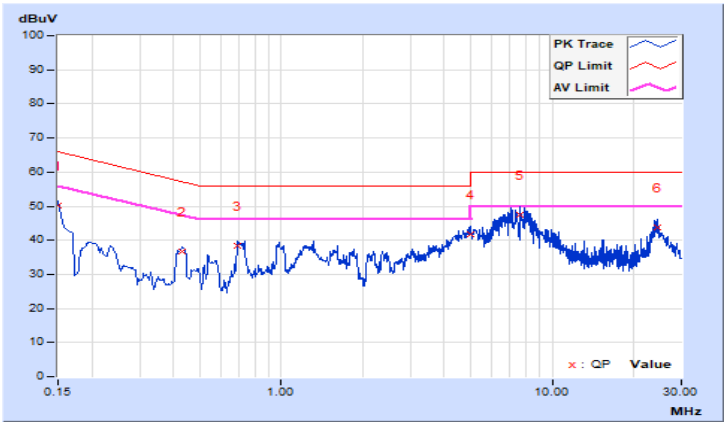


RF Mode	802.11ax (HE40)	Channel	CH 6：2437 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Jed Wu		

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	0.15000	10.04	40.25	30.35	50.29	40.39	66.00	56.00	-15.71	-15.61
2	0.43009	10.10	26.47	17.69	36.57	27.79	57.25	47.25	-20.68	-19.46
3	0.69154	10.12	28.28	19.83	38.40	29.95	56.00	46.00	-17.60	-16.05
4	4.97581	10.24	31.60	21.13	41.84	31.37	56.00	46.00	-14.16	-14.63
5	**7.60339**	**10.31**	**37.28**	**25.54**	**47.59**	**35.85**	**60.00**	**50.00**	**-12.41**	**-14.15**
6	24.49027	10.51	33.31	26.35	43.82	36.86	60.00	50.00	-16.18	-13.14

Remarks:

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



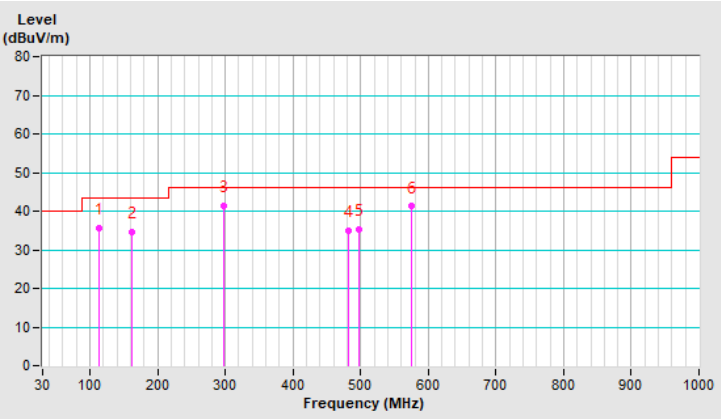
7.6 Unwanted Emissions below 1 GHz

RF Mode	802.11ax (HE40)	**Channel**	CH 6：2437 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 73% RH
Tested By	William Su		

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	113.66	35.6 QP	43.5	-7.9	2.55 H	145	47.3	-11.7
2	162.79	34.7 QP	43.5	-8.8	1.23 H	219	42.9	-8.2
3	296.99	41.3 QP	46.0	-4.7	2.61 H	320	47.6	-6.3
4	482.12	34.9 QP	46.0	-11.1	2.11 H	244	36.9	-2.0
5	497.73	35.4 QP	46.0	-10.6	1.54 H	127	37.2	-1.8
6	575.62	41.2 QP	46.0	-4.8	1.19 H	238	41.0	0.2

Remarks:

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

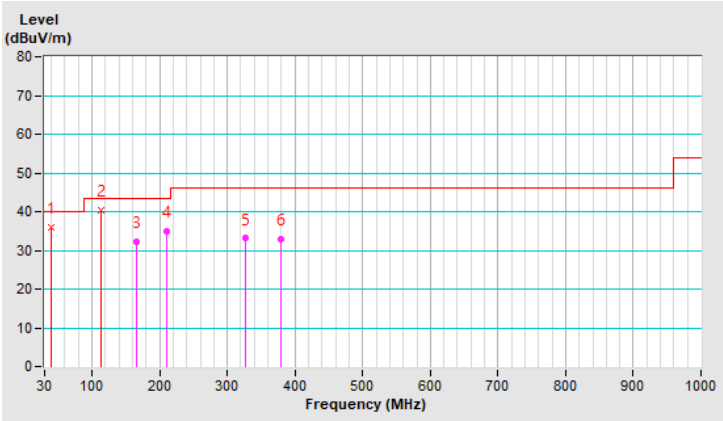


RF Mode	802.11ax (HE40)	**Channel**	CH 6：2437 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 73% RH
Tested By	William Su		

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	39.98	36.0 QP	40.0	-4.0	1.15 V	360	45.5	-9.5
2	**113.67**	**40.3 QP**	**43.5**	**-3.2**	**1.26 V**	**0**	**52.0**	**-11.7**
3	165.90	32.2 QP	43.5	-11.3	1.34 V	276	40.7	-8.5
4	210.42	34.9 QP	43.5	-8.6	1.48 V	360	45.7	-10.8
5	327.16	33.1 QP	46.0	-12.9	1.51 V	266	38.4	-5.3
6	379.39	32.9 QP	46.0	-13.1	1.68 V	191	37.2	-4.3

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

RF Mode	802.11b	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

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	50.5 PK	74.0	-23.5	1.35 H	284	48.4	2.1
2	2390.00	41.3 AV	54.0	-12.7	1.35 H	284	39.2	2.1
3	*2412.00	109.1 PK			1.35 H	284	106.7	2.4
4	*2412.00	107.2 AV			1.35 H	284	104.8	2.4
5	4824.00	51.1 PK	74.0	-22.9	1.20 H	256	38.9	12.2
6	4824.00	39.9 AV	54.0	-14.1	1.20 H	256	27.7	12.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	53.1 PK	74.0	-20.9	2.12 V	165	51.0	2.1
2	2390.00	42.8 AV	54.0	-11.2	2.12 V	165	40.7	2.1
3	*2412.00	111.7 PK			2.12 V	165	109.3	2.4
4	*2412.00	110.0 AV			2.12 V	165	107.6	2.4
5	4824.00	51.2 PK	74.0	-22.8	2.56 V	154	39.0	12.2
6	4824.00	40.3 AV	54.0	-13.7	2.56 V	154	28.1	12.2

Remarks:

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

RF Mode	802.11b	**Channel**	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

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	108.5 PK			1.36 H	292	106.1	2.4
2	*2437.00	106.6 AV			1.36 H	292	104.2	2.4
3	4874.00	51.9 PK	74.0	-22.1	1.19 H	264	39.3	12.6
4	4874.00	40.9 AV	54.0	-13.1	1.19 H	264	28.3	12.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2437.00	111.1 PK			2.11 V	173	108.7	2.4
2	*2437.00	109.3 AV			2.11 V	173	106.9	2.4
3	4874.00	52.2 PK	74.0	-21.8	2.57 V	162	39.6	12.6
4	4874.00	41.3 AV	54.0	-12.7	2.57 V	162	28.7	12.6

Remarks:

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

RF Mode	802.11b	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

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	109.4 PK			1.14 H	276	106.9	2.5
2	*2462.00	107.7 AV			1.14 H	276	105.2	2.5
3	2483.50	52.8 PK	74.0	-21.2	1.14 H	276	50.3	2.5
4	2483.50	42.7 AV	54.0	-11.3	1.14 H	276	40.2	2.5
5	4924.00	51.5 PK	74.0	-22.5	1.00 H	248	38.8	12.7
6	4924.00	40.6 AV	54.0	-13.4	1.00 H	248	27.9	12.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2462.00	111.9 PK			1.92 V	173	109.4	2.5
2	*2462.00	110.1 AV			1.92 V	173	107.6	2.5
3	2483.50	53.2 PK	74.0	-20.8	1.92 V	173	50.7	2.5
4	2483.50	43.8 AV	54.0	-10.2	1.92 V	173	41.3	2.5
5	4924.00	51.8 PK	74.0	-22.2	2.35 V	146	39.1	12.7
6	4924.00	40.9 AV	54.0	-13.1	2.35 V	146	28.2	12.7

Remarks:

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

RF Mode	802.11g	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	56.9 PK	74.0	-17.1	1.36 H	283	54.8	2.1
2	2390.00	45.9 AV	54.0	-8.1	1.36 H	283	43.8	2.1
3	*2412.00	109.6 PK			1.36 H	283	107.2	2.4
4	*2412.00	102.4 AV			1.36 H	283	100.0	2.4
5	4824.00	51.4 PK	74.0	-22.6	1.21 H	257	39.2	12.2
6	4824.00	40.5 AV	54.0	-13.5	1.21 H	257	28.3	12.2
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	59.1 PK	74.0	-14.9	2.11 V	166	57.0	2.1
2	2390.00	47.0 AV	54.0	-7.0	2.11 V	166	44.9	2.1
3	*2412.00	112.2 PK			2.11 V	166	109.8	2.4
4	*2412.00	105.2 AV			2.11 V	166	102.8	2.4
5	4824.00	51.7 PK	74.0	-22.3	2.55 V	153	39.5	12.2
6	4824.00	40.8 AV	54.0	-13.2	2.55 V	153	28.6	12.2

Remarks:

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

RF Mode	802.11g	**Channel**	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2437.00	109.7 PK			1.18 H	292	107.3	2.4
2	*2437.00	102.9 AV			1.18 H	292	100.5	2.4
3	4874.00	51.9 PK	74.0	-22.1	1.03 H	264	39.3	12.6
4	4874.00	41.0 AV	54.0	-13.0	1.03 H	264	28.4	12.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2437.00	112.3 PK			1.95 V	173	109.9	2.4
2	*2437.00	104.8 AV			1.95 V	173	102.4	2.4
3	4874.00	52.2 PK	74.0	-21.8	2.39 V	162	39.6	12.6
4	4874.00	41.3 AV	54.0	-12.7	2.39 V	162	28.7	12.6

Remarks:

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

RF Mode	802.11g	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

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	111.0 PK			1.16 H	276	108.5	2.5
2	*2462.00	103.9 AV			1.16 H	276	101.4	2.5
3	2483.50	59.5 PK	74.0	-14.5	1.16 H	276	57.0	2.5
4	2483.50	48.1 AV	54.0	-5.9	1.16 H	276	45.6	2.5
5	4924.00	52.6 PK	74.0	-21.4	1.01 H	264	39.9	12.7
6	4924.00	41.7 AV	54.0	-12.3	1.01 H	264	29.0	12.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2462.00	113.0 PK			1.93 V	173	110.5	2.5
2	*2462.00	105.5 AV			1.93 V	173	103.0	2.5
3	2483.50	61.7 PK	74.0	-12.3	1.93 V	173	59.2	2.5
4	2483.50	50.0 AV	54.0	-4.0	1.93 V	173	47.5	2.5
5	4924.00	52.9 PK	74.0	-21.1	2.37 V	146	40.2	12.7
6	4924.00	42.0 AV	54.0	-12.0	2.37 V	146	29.3	12.7

Remarks:

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

RF Mode	802.11ax (HE20)	**Channel**	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

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	59.8 PK	74.0	-14.2	1.69 H	177	57.7	2.1
2	2390.00	48.1 AV	54.0	-5.9	1.69 H	177	46.0	2.1
3	*2412.00	112.5 PK			1.69 H	177	110.1	2.4
4	*2412.00	101.6 AV			1.69 H	177	99.2	2.4
5	4824.00	53.7 PK	74.0	-20.3	1.54 H	165	41.5	12.2
6	4824.00	42.8 AV	54.0	-11.2	1.54 H	165	30.6	12.2
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	61.6 PK	74.0	-12.4	1.40 V	74	59.5	2.1
2	2390.00	49.4 AV	54.0	-4.6	1.40 V	74	47.3	2.1
3	*2412.00	114.5 PK			1.40 V	74	112.1	2.4
4	*2412.00	103.7 AV			1.40 V	74	101.3	2.4
5	4824.00	54.0 PK	74.0	-20.0	1.84 V	47	41.8	12.2
6	4824.00	43.1 AV	54.0	-10.9	1.84 V	47	30.9	12.2

Remarks:

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

RF Mode	802.11ax (HE20)	**Channel**	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2437.00	111.9 PK			1.19 H	175	109.5	2.4
2	*2437.00	101.0 AV			1.19 H	175	98.6	2.4
3	4874.00	54.7 PK	74.0	-19.3	1.04 H	163	42.1	12.6
4	4874.00	43.8 AV	54.0	-10.2	1.04 H	163	31.2	12.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2437.00	113.9 PK			1.90 V	72	111.5	2.4
2	*2437.00	103.2 AV			1.90 V	72	100.8	2.4
3	4874.00	55.0 PK	74.0	-19.0	2.34 V	45	42.4	12.6
4	4874.00	44.1 AV	54.0	-9.9	2.34 V	45	31.5	12.6

Remarks:

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

RF Mode	802.11ax (HE20)	**Channel**	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

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	111.2 PK			3.09 H	240	108.7	2.5
2	*2462.00	100.7 AV			3.09 H	240	98.2	2.5
3	2483.50	61.6 PK	74.0	-12.4	3.09 H	240	59.1	2.5
4	2483.50	47.8 AV	54.0	-6.2	3.09 H	240	45.3	2.5
5	4924.00	51.9 PK	74.0	-22.1	2.94 H	228	40.1	11.8
6	4924.00	41.0 AV	54.0	-13.0	2.94 H	228	29.2	11.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2462.00	113.2 PK			2.40 V	137	110.7	2.5
2	*2462.00	102.8 AV			2.40 V	137	100.3	2.5
3	2483.50	63.7 PK	74.0	-10.3	2.40 V	137	61.2	2.5
4	2483.50	50.5 AV	54.0	-3.5	2.40 V	137	48.0	2.5
5	4924.00	53.1 PK	74.0	-20.9	3.24 V	110	40.4	12.7
6	4924.00	42.2 AV	54.0	-11.8	3.24 V	110	29.5	12.7

Remarks:

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

RF Mode	802.11ax (HE40)	**Channel**	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

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	66.5 PK	74.0	-7.5	2.18 H	267	64.4	2.1
2	2390.00	52.1 AV	54.0	-1.9	2.18 H	267	50.0	2.1
3	*2422.00	111.5 PK			2.18 H	267	109.2	2.3
4	*2422.00	100.7 AV			2.18 H	267	98.4	2.3
5	4844.00	52.8 PK	74.0	-21.2	2.03 H	255	40.3	12.5
6	4844.00	41.9 AV	54.0	-12.1	2.03 H	255	29.4	12.5
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	67.4 PK	74.0	-6.6	1.89 V	164	65.3	2.1
2	2390.00	52.5 AV	54.0	-1.5	1.89 V	164	50.4	2.1
3	*2422.00	113.2 PK			1.89 V	164	110.9	2.3
4	*2422.00	101.4 AV			1.89 V	164	99.1	2.3
5	4844.00	53.1 PK	74.0	-20.9	2.33 V	137	40.6	12.5
6	4844.00	42.2 AV	54.0	-11.8	2.33 V	137	29.7	12.5

Remarks:

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

RF Mode	802.11ax (HE40)	**Channel**	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2437.00	111.9 PK			2.17 H	267	109.5	2.4
2	*2437.00	101.0 AV			2.17 H	267	98.6	2.4
3	4874.00	53.5 PK	74.0	-20.5	2.02 H	255	40.9	12.6
4	4874.00	42.6 AV	54.0	-11.4	2.02 H	255	30.0	12.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2437.00	113.9 PK			1.88 V	164	111.5	2.4
2	*2437.00	102.9 AV			1.88 V	164	100.5	2.4
3	4874.00	53.8 PK	74.0	-20.2	2.32 V	137	41.2	12.6
4	4874.00	42.9 AV	54.0	-11.1	2.32 V	137	30.3	12.6

Remarks:

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

RF Mode	802.11ax (HE40)	**Channel**	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	18.4°C, 63.7% RH
Tested By	Jed Wu		

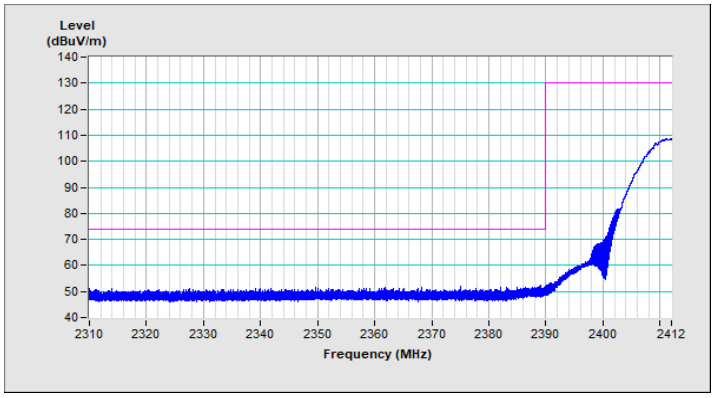
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2452.00	109.7 PK			2.15 H	266	107.2	2.5
2	*2452.00	99.1 AV			2.15 H	266	96.6	2.5
3	2483.50	61.8 PK	74.0	-12.2	2.15 H	266	59.3	2.5
4	2483.50	50.2 AV	54.0	-3.8	2.15 H	266	47.7	2.5
5	4904.00	51.5 PK	74.0	-22.5	2.00 H	254	38.8	12.7
6	4904.00	40.6 AV	54.0	-13.4	2.00 H	254	27.9	12.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	*2452.00	111.9 PK			1.86 V	164	109.4	2.5
2	*2452.00	101.0 AV			1.86 V	164	98.5	2.5
3	2483.50	64.3 PK	74.0	-9.7	1.86 V	164	61.8	2.5
4	**2483.50**	**53.0 AV**	**54.0**	**-1.0**	**1.86 V**	**164**	**50.5**	**2.5**
5	4904.00	51.8 PK	74.0	-22.2	2.30 V	137	39.1	12.7
6	4904.00	40.9 AV	54.0	-13.1	2.30 V	137	28.2	12.7

Remarks:

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

Plot of Band Edge

802.11b Channel 1



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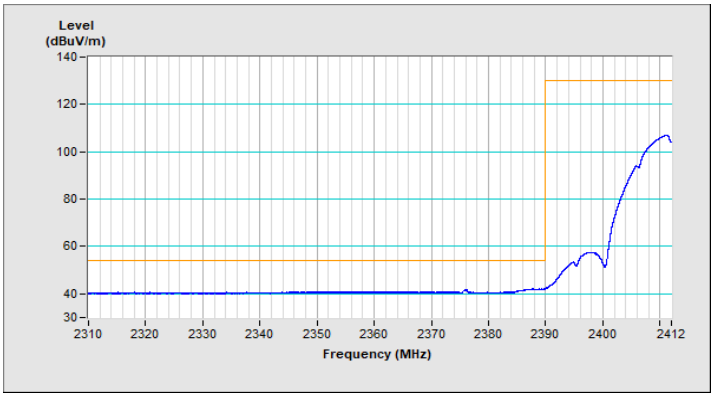

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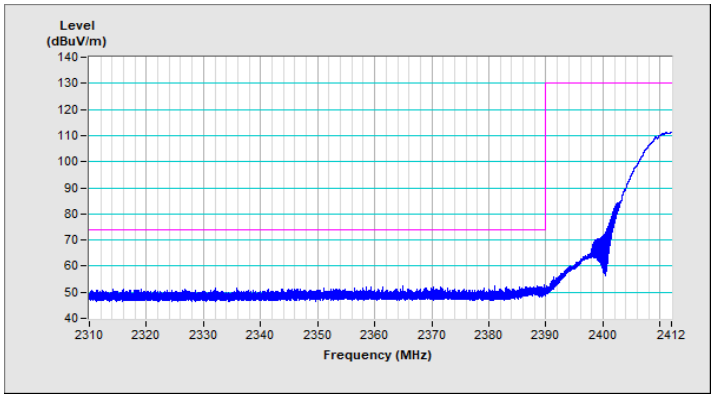

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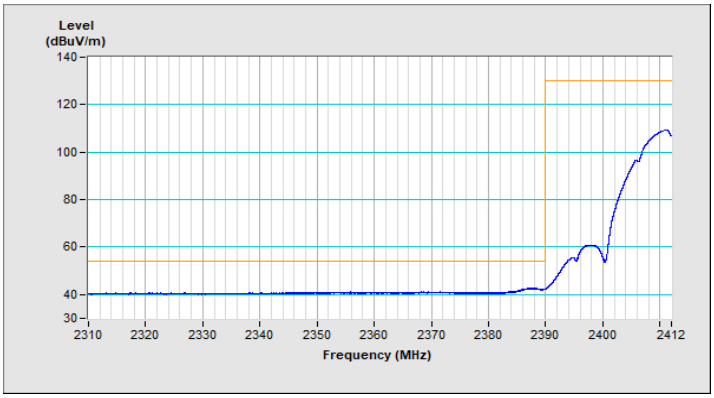

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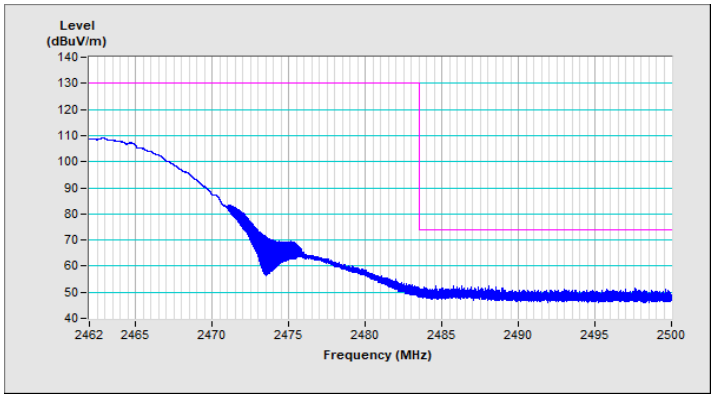
802.11b Channel 11



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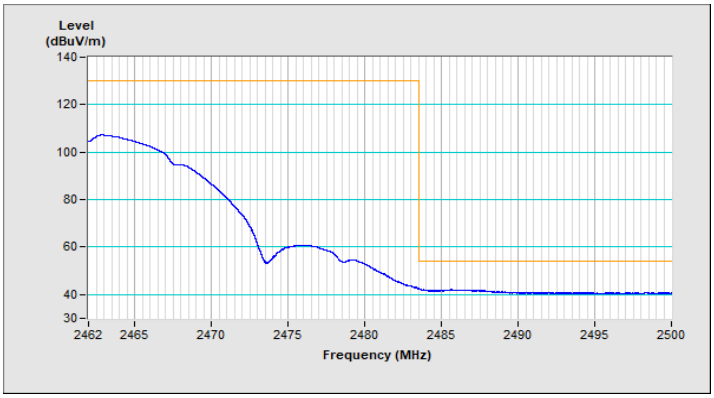

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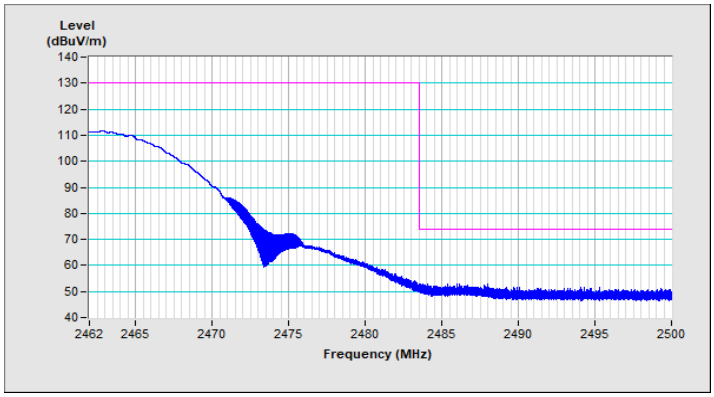

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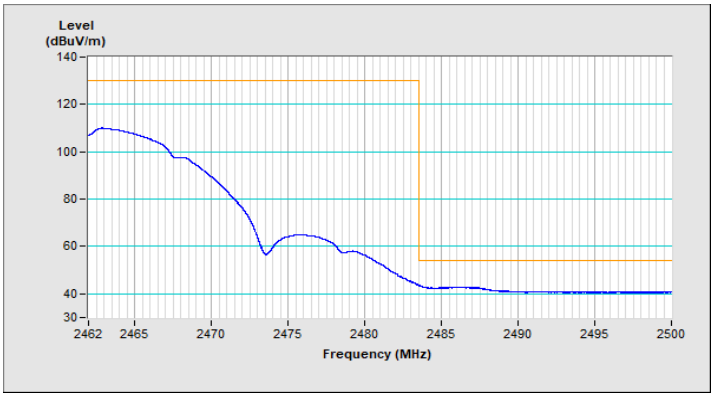

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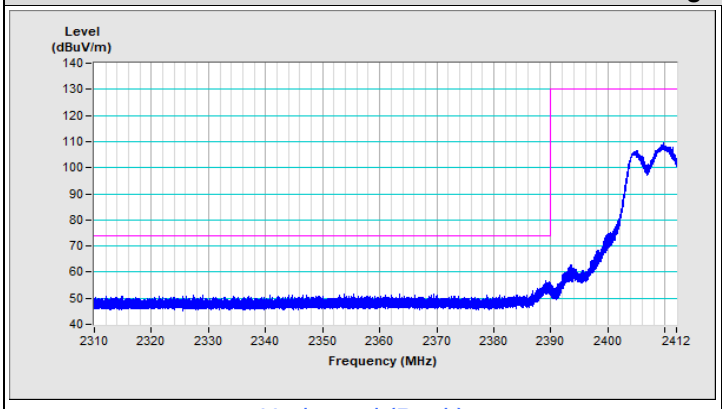
802.11g Channel 1



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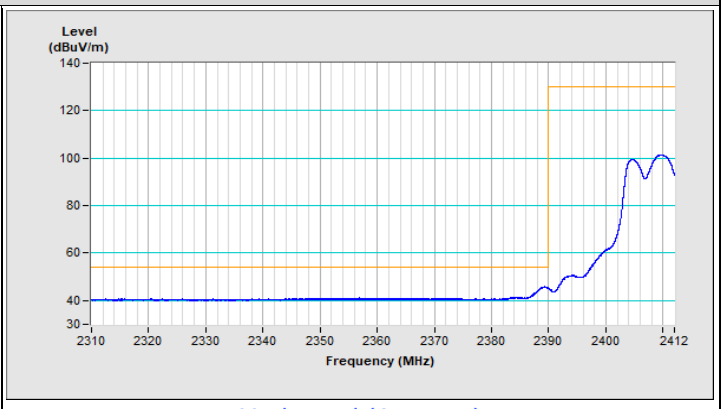

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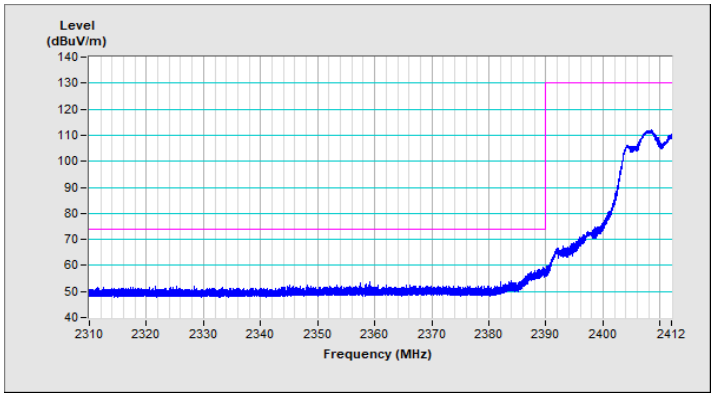

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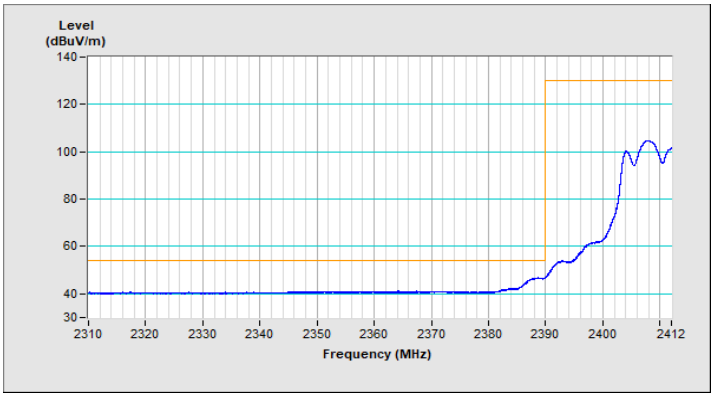

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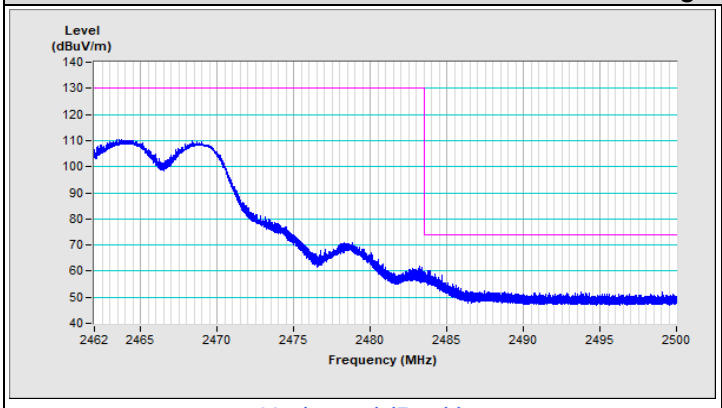
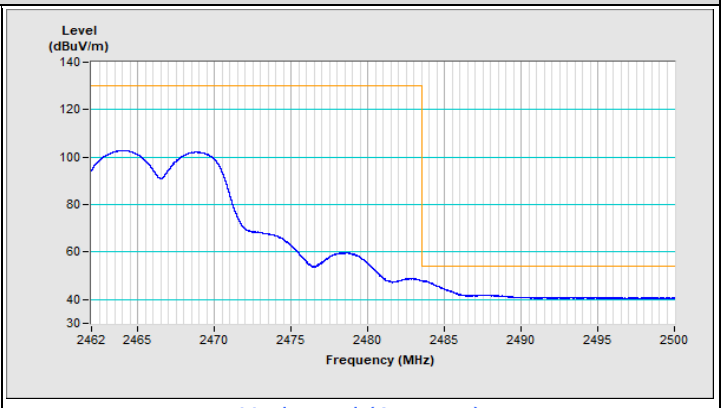
802.11g Channel 11



Horizontal (Peak)



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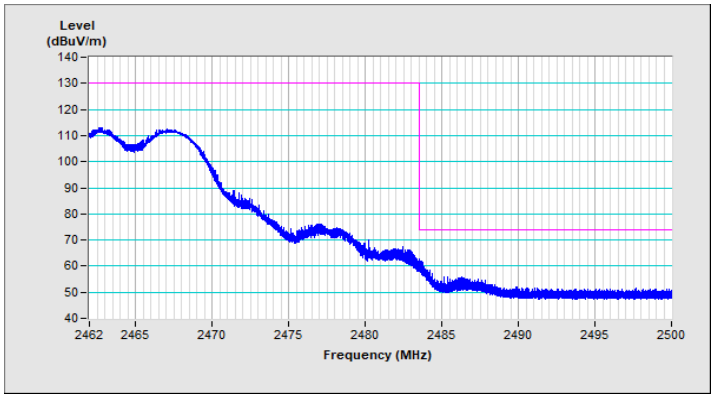
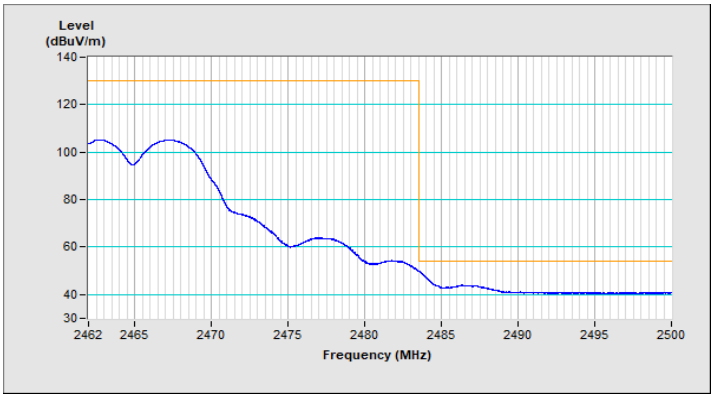
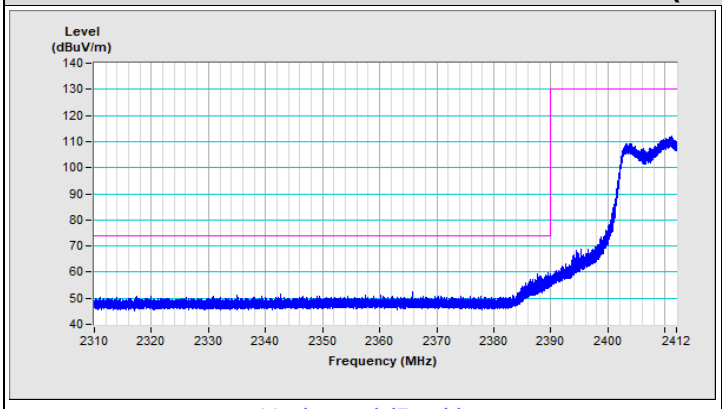


Vertical (Peak)

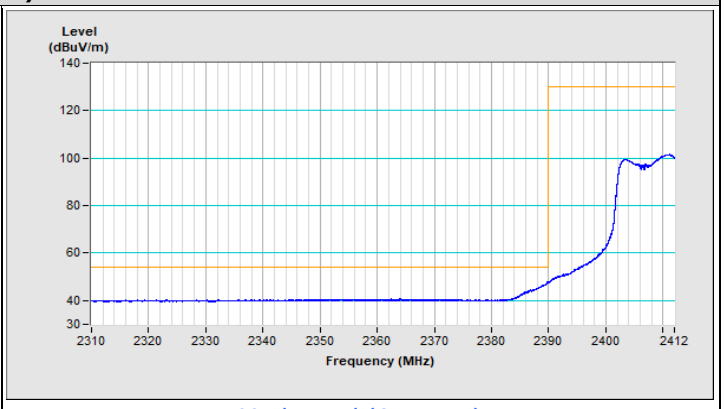


Vertical (Average)

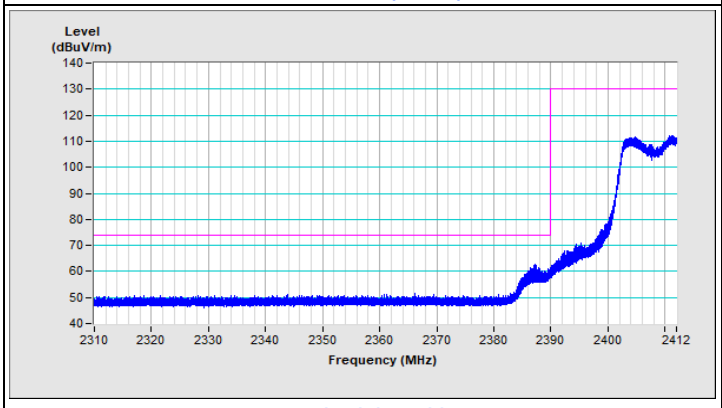
802.11ax (HE20) Channel 1



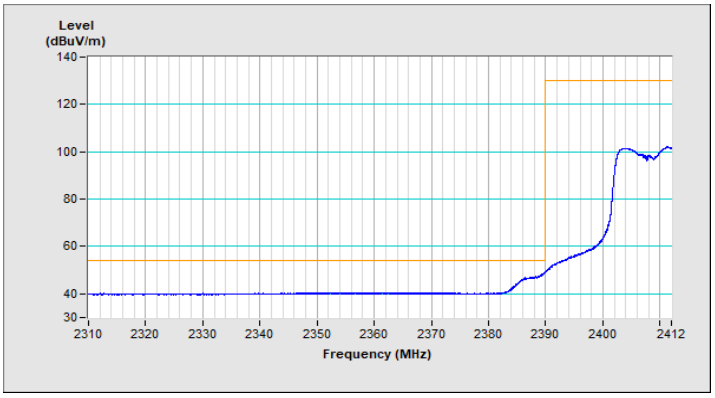
Horizontal (Peak)



Horizontal (Average)

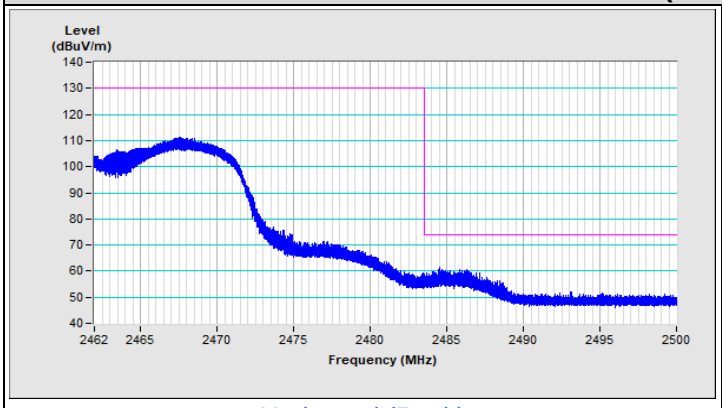


Vertical (Peak)

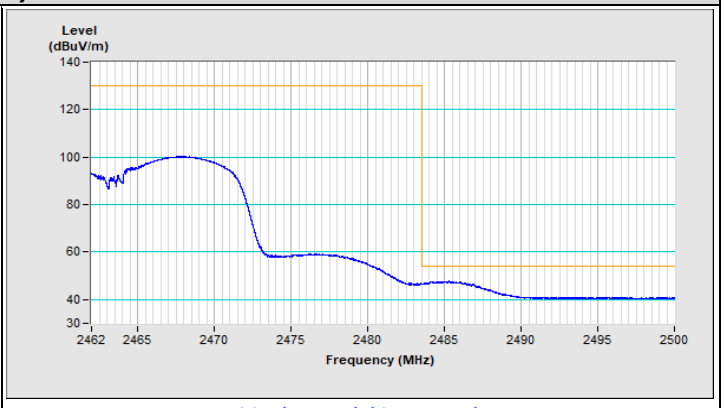


Vertical (Average)

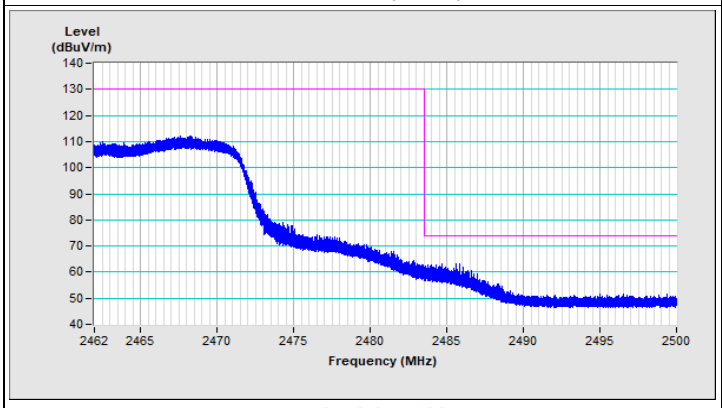
802.11ax (HE20) Channel 11



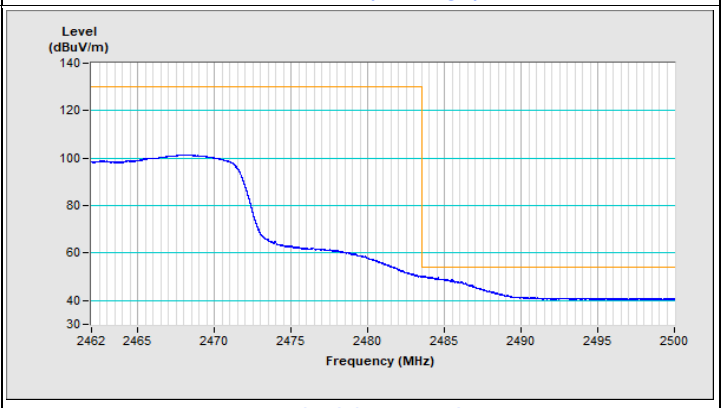
Horizontal (Peak)



Horizontal (Average)

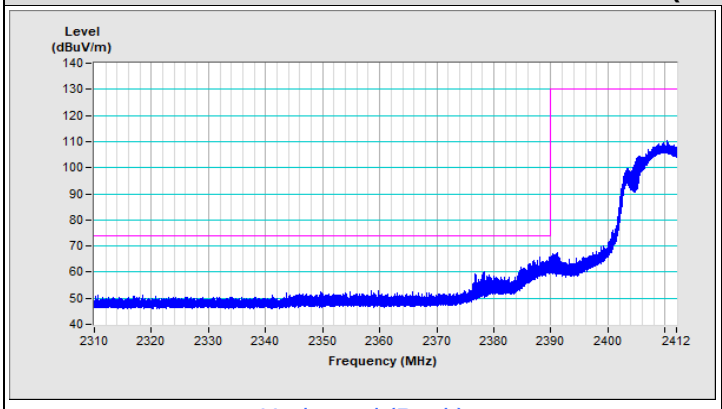


Vertical (Peak)

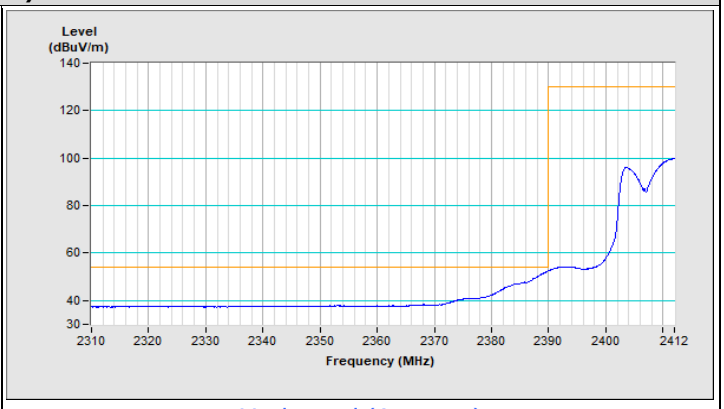


Vertical (Average)

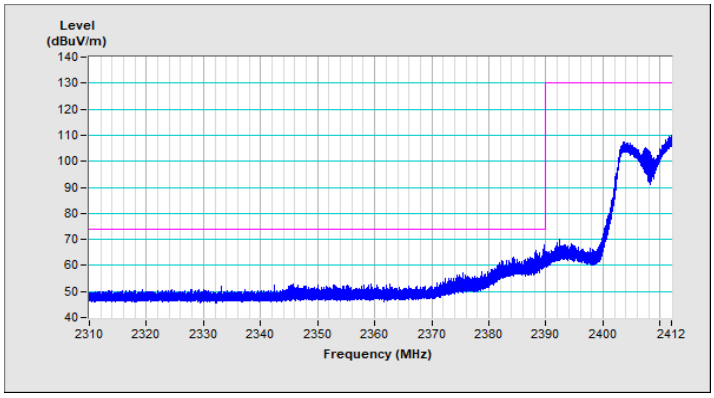
802.11ax (HE40) Channel 3



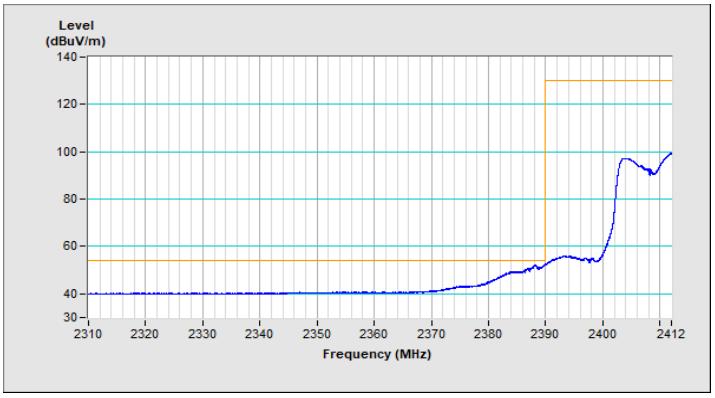
Horizontal (Peak)



Horizontal (Average)

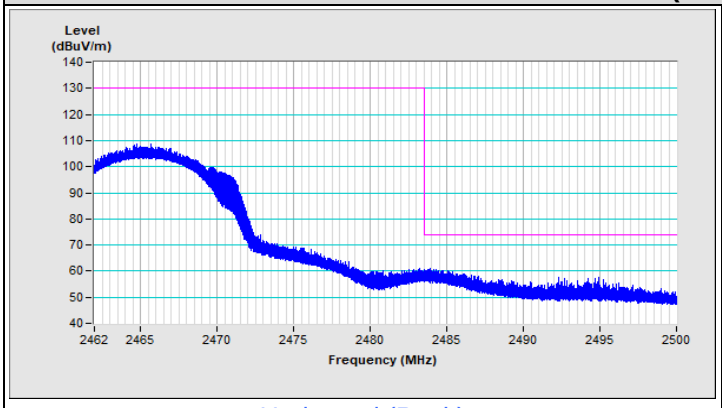


Vertical (Peak)

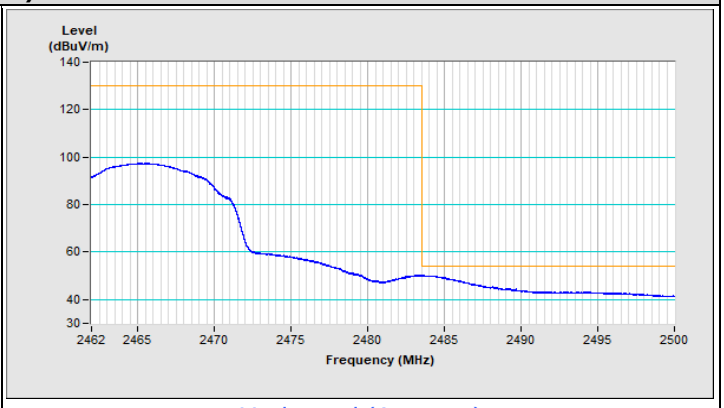


Vertical (Average)

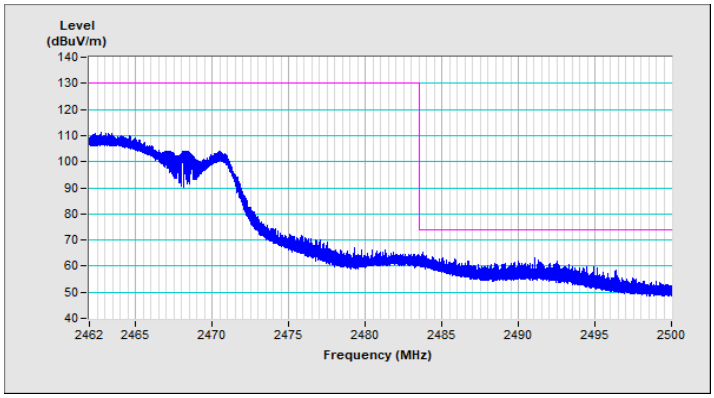
802.11ax (HE40) Channel 9



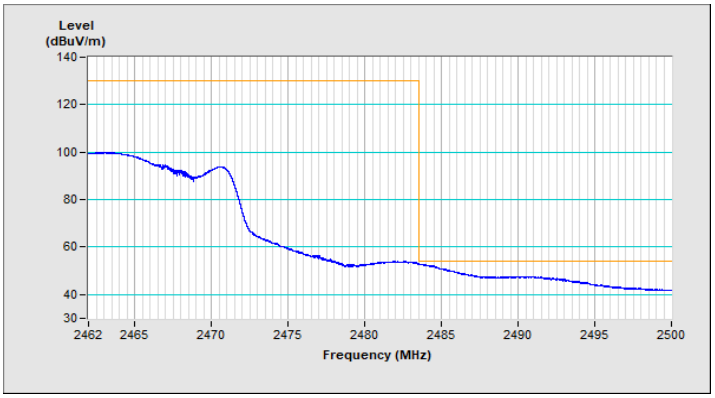
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



Vertical (Average)

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

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

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

Lin Kou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@bureauveritas.com
Web Site: http://ee.bureauveritas.com.tw

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

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