

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBGSN-WTW-P22060933

FCC ID: I4L-GRAX66

Model No.: GRAX66

Received Date: 2022/6/27

Test Date: 2022/7/8 ~ 2022/8/9

Issued Date: 2022/10/07

Applicant: Micro-Star International Co., Ltd.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003

Designation Number:

Approved by: _____

Jeremy Lin

Date: _____

2022/10/07

Jeremy Lin / Project Engineer

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Prepared by : Polly Chien / Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFBGSN-WTW-P22060933	Original release.	2022/10/07

1 Certificate

Product: RadiX AX6600 WiFi 6 Tri-Band Gaming Router

Brand: msi

Test Model: GRAX66

Sample Status: Identical Prototype

Applicant: Micro-Star International Co., Ltd.

Test Date: 2022/7/8 ~ 2022/8/9

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

Measurement ANSI C63.10-2013

procedure: KDB 558074 D01 15.247 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

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

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Standard / Clause	Test Item	Result	Remark
15.247(b)	RF Output Power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	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 -5.42 dB at 0.46600 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -4.3 dB at 50.37 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.5 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) (±)
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.79 dB
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.79 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	2.44 dB
	30 MHz ~ 1 GHz	2.95 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 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	RadiX AX6600 WiFi 6 Tri-Band Gaming Router
Brand	msi
Test Model	GRAX66
Series Model	N/A
Status of EUT	Identical Prototype
Power Supply Rating	12 Vdc (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/ 1 Mbps 802.11g: 54/ 48/ 36/ 24/ 18/ 12/ 9/ 6 Mbps 802.11n: up to 300Mbps VHT: up to 400Mbps 802.11ax: up to 573Mbps
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	CDD Mode 802.11b: 983.839 mW (29.93 dBm) 802.11g: 980.921 mW (29.92 dBm) NSS 1: 854.555 mW (29.32 dBm) NSS 2: 909.306 mW (29.59 dBm) Beamforming Mode NSS 1: 854.555 mW (29.32 dBm) NSS 2: 909.306 mW (29.59 dBm)

Note:

1. The EUT uses following accessories.

AC Adapter		
Brand	Model	Specification
CWT	2AEJ042FC	I/P: 100-240 Vac, 50/60Hz, 1.3A O/P: 12.0 Vdc, 3.5 A, 42.0W
Ethernet cable		
Brand	Model	Specification
NA	NA	Signal Line : 0.96M

2. Both of the 2.4GHz and 5GHz can transmit simultaneously
3. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

RF Chain NO.	Type	Connector	Brand	Model	Frequency Range (MHz)	Gain (dBi)				Directional Gain (dBi)		
						Chain 0	Chain 1	Chain 2	Chain 3	NSS 1	NSS 2	NSS 4
2G	Dipole	I-PEX	Wieson	Chain 0: ARY121-0307-001-00 Chain 1: ARY121-0307-003-00	2400 ~ 2483.5	2.05	2.07	-	-	4.24	1.97	-
5G_L				Chain 0: ARY121-0307-001-00 Chain 1: ARY121-0307-003-00	5150 ~ 5250	4.54	4.59	-	-	5.68	3.21	-
					5250 ~ 5350	4.60	4.65	-	-	5.69	3.54	-
5G_H				Chain 0: ARY121-0307-002-00 Chain 1: ARY121-0307-004-00	5470 ~ 5725	3.02	3.69	2.89	3.02	7.59	5.56	2.47
				Chain 2: ARY121-0307-005-00 Chain 3: ARY121-0307-006-00	5725 ~ 5850	3.01	2.88	3.72	3.27	6.99	4.91	2.33

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

2. The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

Modulation Mode	CDD Mode	Beamforming Mode	TX Function
802.11b	Support	Not Support	2TX
802.11g	Support	Not Support	2TX
802.11n (HT20)	Support	Not Support	2TX (NSS1 / NSS2)
802.11n (HT40)	Support	Not Support	2TX (NSS1 / NSS2)
VHT20	Support	Support	2TX (NSS1 / NSS2)
VHT40	Support	Support	2TX (NSS1 / NSS2)
802.11ax (HE20)	Support	Support	2TX (NSS1 / NSS2)
802.11ax (HE40)	Support	Support	2TX (NSS1 / NSS2)

Note:

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

3.3 Channel List

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

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

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

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

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. EUT can be used in the following ways: X-axis/ Z-axis. Pre-scan in these ways and find the worst case as a representative test condition.
Worst Case:	The worst case was found when positioned on X-axis.

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

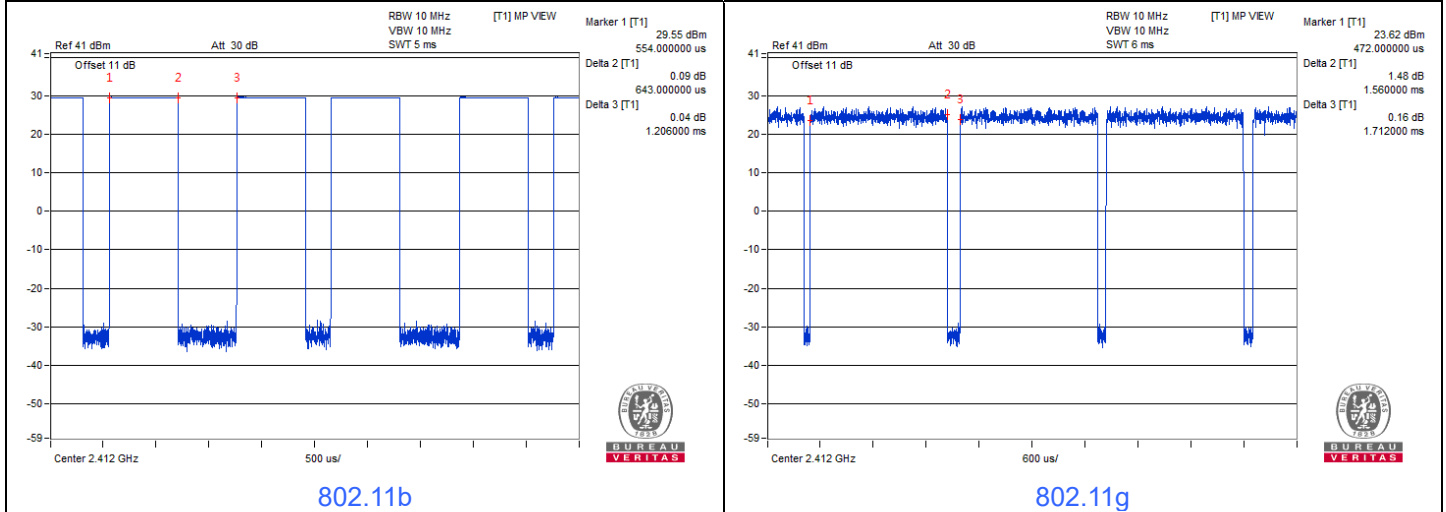
Test Item	NSS	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	NA	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
		802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	1, 2	802.11n (HT20)	CDD	1, 6, 11	BPSK	MCS0
		802.11n (HT40)	CDD	3, 6, 9	BPSK	MCS0
		VHT20	CDD & Beamforming	1, 6, 11	BPSK	MCS0
		VHT40	CDD & Beamforming	3, 6, 9	BPSK	MCS0
		802.11ax (HE20)	CDD & Beamforming	1, 6, 11	BPSK	MCS0
		802.11ax (HE40)	CDD & Beamforming	3, 6, 9	BPSK	MCS0
Power Spectral Density / 6 dB Bandwidth / Conducted Out of Band Emissions	NA	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
		802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	1, 2	802.11ax (HE20)	CDD	1, 6, 11	BPSK	MCS0
		802.11ax (HE40)	CDD	3, 6, 9	BPSK	MCS0
AC Power Conducted Emissions	NA	802.11b	CDD	6	DBPSK	1Mb/s
Unwanted Emissions below 1 GHz	NA	802.11b	CDD	6	DBPSK	1Mb/s
Unwanted Emissions above 1 GHz	NA	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
		802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	1, 2	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

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

802.11b: Duty cycle = $0.643 \text{ ms} / 1.206 \text{ ms} \times 100\% = 53.3\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 2.73 \text{ dB}$

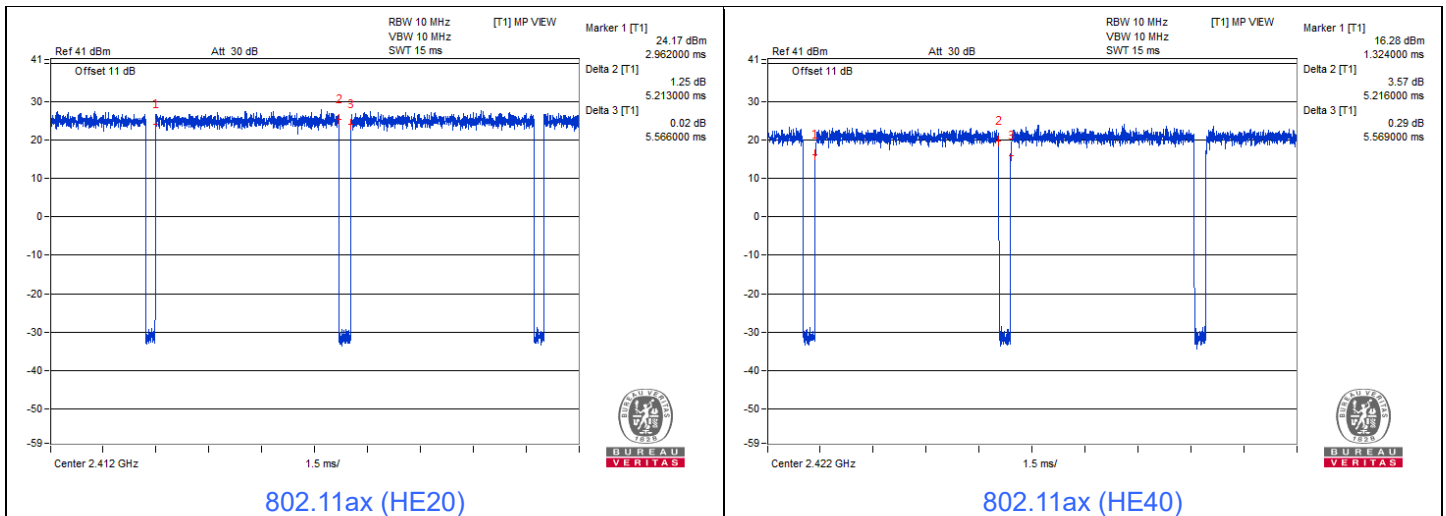
802.11g: Duty cycle = $1.56 \text{ ms} / 1.712 \text{ ms} \times 100\% = 91.1\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.40 \text{ dB}$



NSS 1

802.11ax (HE20): Duty cycle = $5.213 \text{ ms} / 5.566 \text{ ms} \times 100\% = 93.7\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.28 \text{ dB}$

802.11ax (HE40): Duty cycle = $5.216 \text{ ms} / 5.569 \text{ ms} \times 100\% = 93.7\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.28 \text{ dB}$

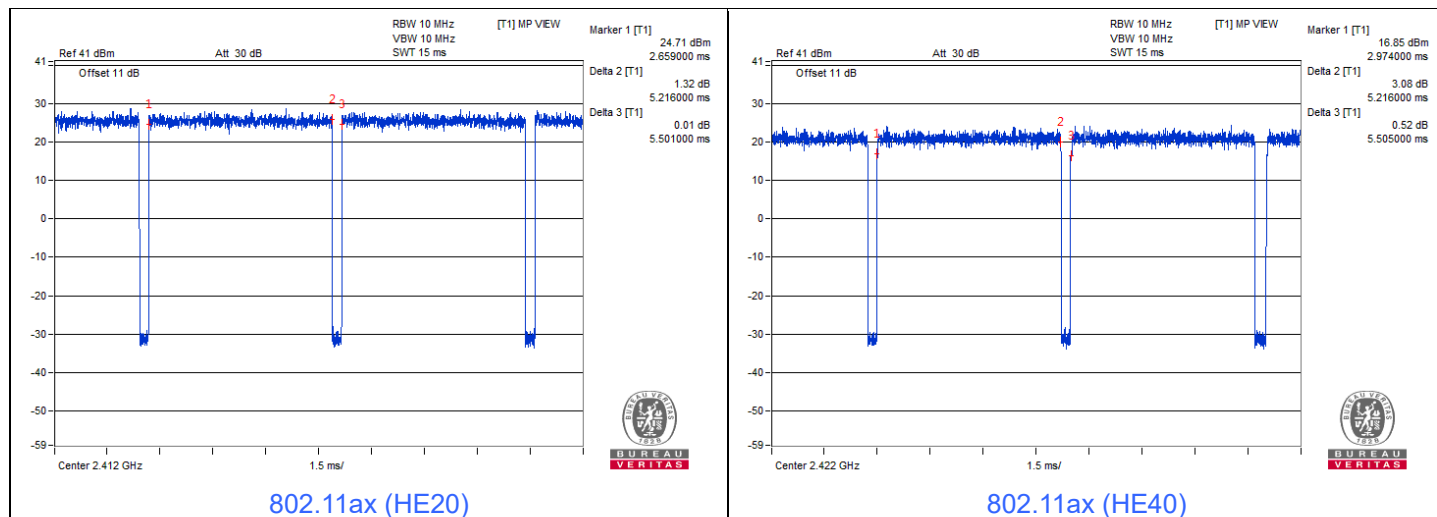


Duty cycle of test signal is $\geq 98\%$, duty factor is not required.
 Duty cycle of test signal is $< 98\%$, duty factor shall be considered.

NSS 2

802.11ax (HE20): Duty cycle = $5.216 \text{ ms} / 5.501 \text{ ms} \times 100\% = 94.8\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.23 \text{ dB}$

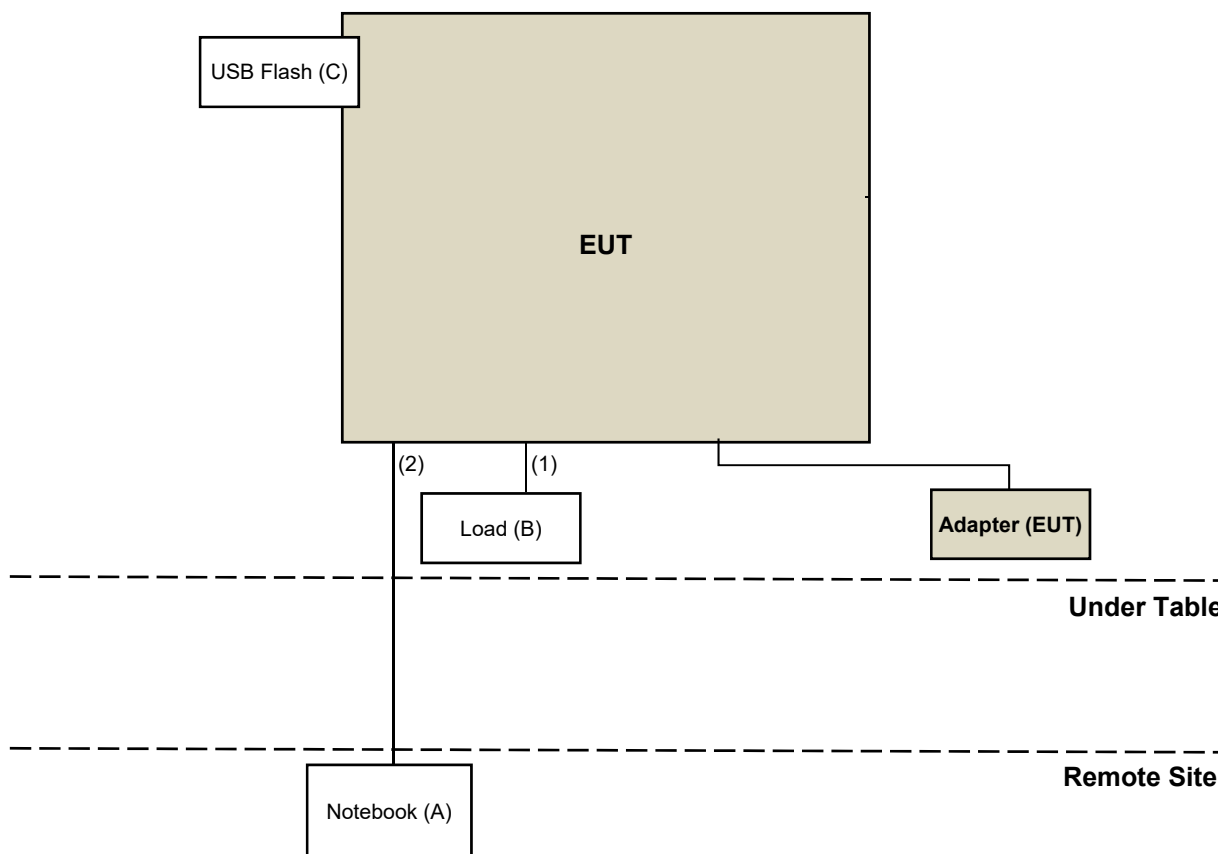
802.11ax (HE40): Duty cycle = $5.216 \text{ ms} / 5.501 \text{ ms} \times 100\% = 94.8\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.23 \text{ dB}$



3.6 P22060374-M01-R01 Test Program Used and Operation Descriptions

Controlling software Qualcomm Radio Control Tool Version 4.0.00192.0 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	Notebook	Lenovo	L440	R9-0GFJJK	N/A	Provided by Lab
B	Load	NA	NA	NA	NA	Provided by Lab
C	USB Flash	SanDisk	32G	NA	NA	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	4	1.5	NO	0	Provided by Lab
2	RJ-45 Cable	1	7	NO	0	Provided by Lab

4 Test Instruments

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

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
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: 2022/8/6 ~ 2022/8/9

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: 2022/8/6 ~ 2022/8/9

4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

4.4 Conducted Out of Band Emissions

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: 2022/8/6 ~ 2022/8/9

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
RF Coaxial Cable WORKEN	5D-FB	Cable-cond2-01	2021/9/4	2022/9/3
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
Test Receiver R&S	ESR3	102783	2021/12/20	2022/12/19
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2021/8/20	2022/8/19

Notes:

1. The test was performed in HY - Conduction 2.
2. Tested Date: 2022/7/30

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower &Turn Max-Full	MFA-440H	AT93021705	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB9168	9168-472	2021/10/28	2022/10/27
Loop Antenna EMCI	EM-6879	269	2021/9/16	2022/9/15
Loop Antenna TESEQ	HLA 6121	45745	2022/7/27	2023/7/26
Pre-Amplifier EMCI	EMC 330H	980112	2021/10/5	2022/10/4
Pre-amplifier EMCI	EMC001340	980201	2021/9/15	2022/9/14
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2022/1/15	2023/1/14
RF Coaxial Cable WORKEN	8D-FB	Cable-Ch10-01	2021/10/5	2022/10/4
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY51210203	2021/9/22	2022/9/21
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MG-7802	N/A	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2022/7/30

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Max-Full	MFA-440H	AT93021705	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	7	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-969	2021/11/14	2022/11/13
	BBHA 9170	148	2021/11/14	2022/11/13
Pre-Amplifier EMCI	EMC 012645	980115	2021/10/5	2022/10/4
	EMC 184045	980116	2021/10/5	2022/10/4
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2021/7/24 2022/7/9	2022/7/23 2023/7/8
	EMC102-KM-KM-3000	150929	2021/7/24 2022/7/9	2022/7/23 2023/7/8
	EMC104-SM-SM-8000	171005	2021/10/5	2022/10/4
RF Coaxial Cable HUBER SUHNER	SUCOFLEX 104	EMC104-SM-SM- 1000(140807)	2021/10/5	2022/10/4
RF FILTER MICRO-TRONICS	BRM17690	004	2022/1/10	2023/1/9
	BRM50716	060	2022/1/10	2023/1/9
Signal Analyzer Agilent	N9010A	MY52220314	2021/12/3	2022/12/2
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MG-7802	N/A	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2022/7/8 ~ 2022/8/3

5 Limits of Test Items

5.1 RF Output Power

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

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

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

5.2 Power Spectral Density

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

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

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

5.5 AC Power Conducted Emissions

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

Notes:

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

5.6 Unwanted Emissions below 1 GHz

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

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

Notes:

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

5.7 Unwanted Emissions above 1 GHz

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

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

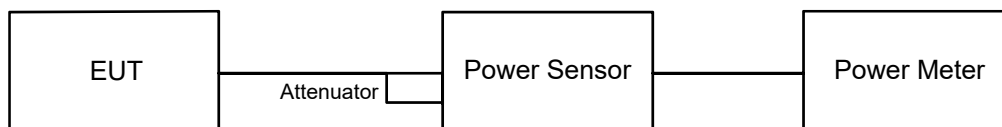
Notes:

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

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup



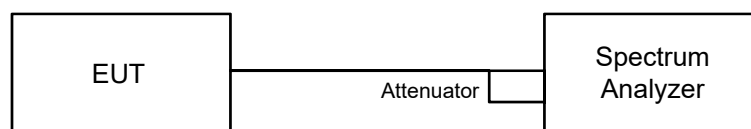
6.1.2 Test Procedure

Average Power:

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

6.2 Power Spectral Density

6.2.1 Test Setup



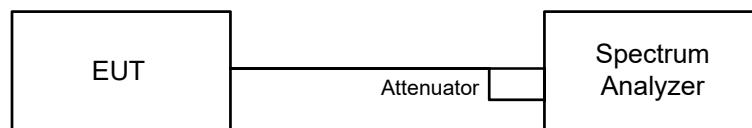
6.2.2 Test Procedure

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

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

6.3 6 dB Bandwidth

6.3.1 Test Setup

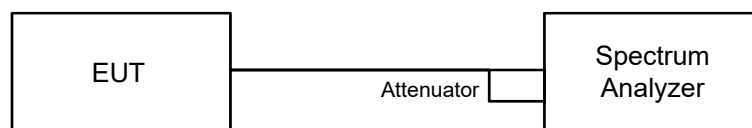


6.3.2 Test Procedure

- 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

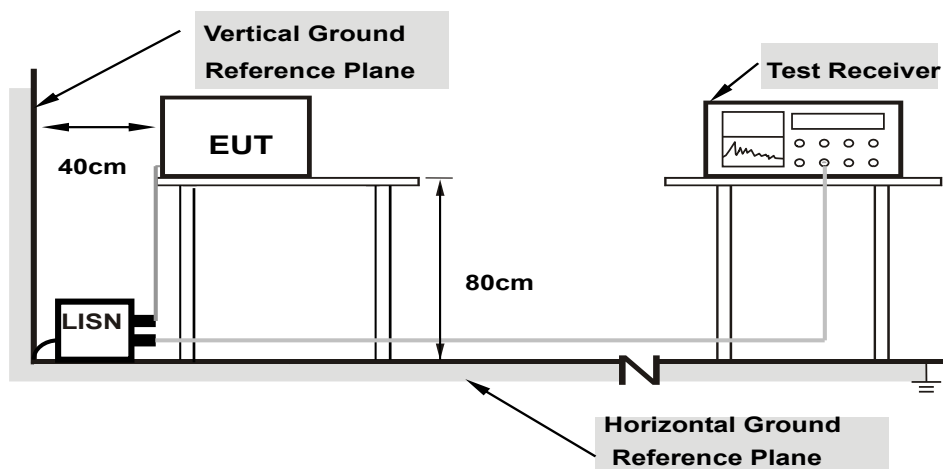
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

- Set RBW = 100 kHz.
- Set VBW ≥ 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

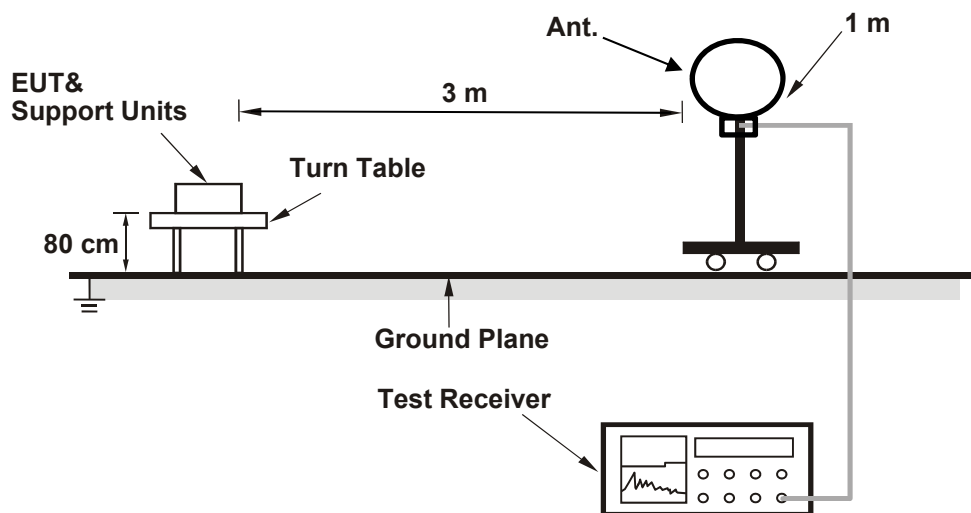
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The 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.

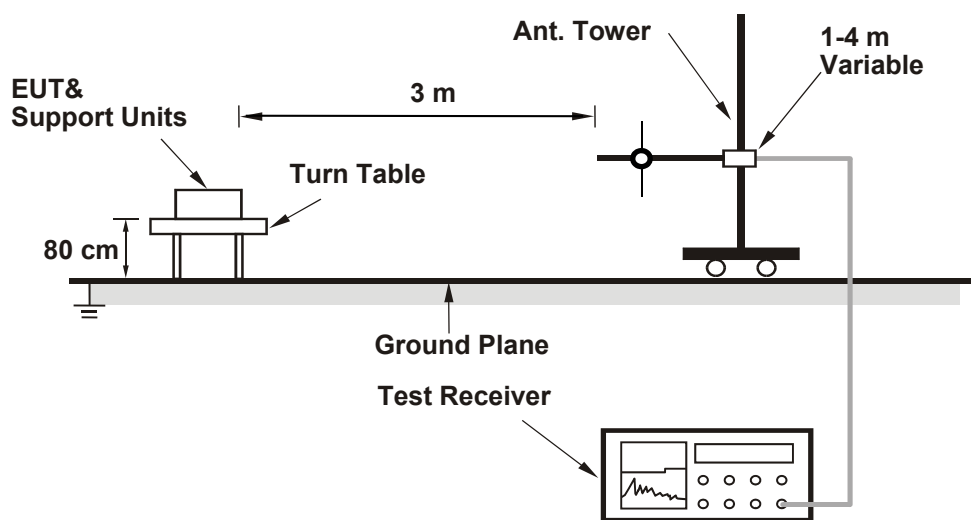
6.6 Unwanted Emissions below 1 GHz

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.

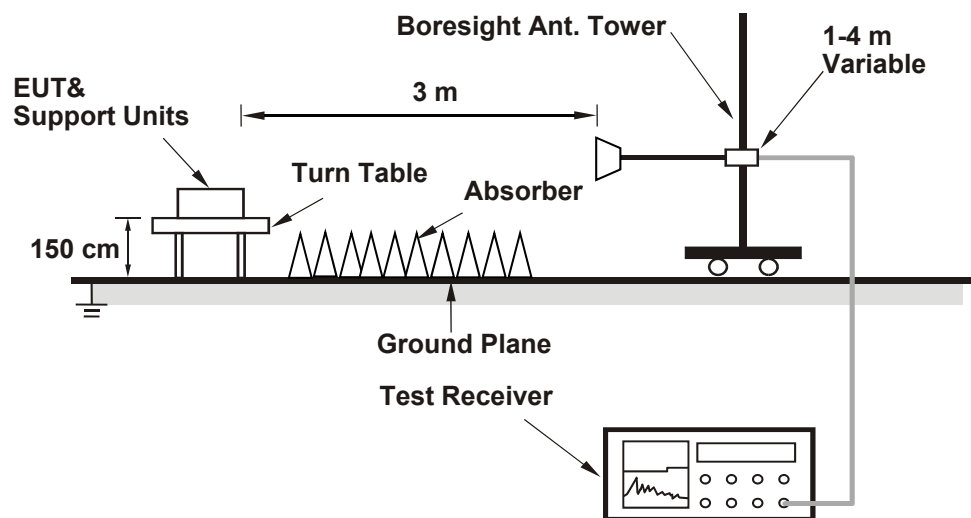
Notes:

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 Radiated emission above 1 GHz



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:	Wayne Lin
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802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	26.88	26.54	938.345	29.72	30	Pass
6	2437	27.10	26.73	983.839	29.93	30	Pass
11	2462	26.91	26.62	950.106	29.78	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.49	21.14	270.946	24.33	30	Pass
6	2437	27.00	26.81	980.921	29.92	30	Pass
11	2462	20.53	20.42	223.134	23.49	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

NSS 1

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.54	21.14	272.578	24.35	30	Pass
6	2437	26.34	26.08	836.035	29.22	30	Pass
11	2462	18.90	18.89	155.071	21.91	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	19.54	19.31	175.26	22.44	30	Pass
6	2437	24.42	24.17	537.91	27.31	30	Pass
9	2452	16.14	16.05	81.387	19.11	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT20

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.60	21.23	277.283	24.43	30	Pass
6	2437	26.40	26.14	847.666	29.28	30	Pass
11	2462	18.98	18.94	157.411	21.97	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT40

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	19.60	19.38	177.897	22.50	30	Pass
6	2437	24.55	24.30	554.255	27.44	30	Pass
9	2452	16.20	16.12	82.613	19.17	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.69	21.28	281.847	24.50	30	Pass
6	2437	26.44	26.17	854.555	29.32	30	Pass
11	2462	19.04	18.99	159.418	22.03	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	19.65	19.44	180.159	22.56	30	Pass
6	2437	24.70	24.42	571.815	27.57	30	Pass
9	2452	16.25	16.17	83.570	19.22	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT20 Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.60	21.23	277.283	24.43	30	Pass
6	2437	26.40	26.14	847.666	29.28	30	Pass
11	2462	18.98	18.94	157.411	21.97	30	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 4.24 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT40 Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	19.60	19.38	177.897	22.50	30	Pass
6	2437	24.55	24.30	554.255	27.44	30	Pass
9	2452	16.20	16.12	82.613	19.17	30	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 4.24 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.69	21.28	281.847	24.50	30	Pass
6	2437	26.44	26.17	854.555	29.32	30	Pass
11	2462	19.04	18.99	159.418	22.03	30	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 4.24 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	19.65	19.44	180.159	22.56	30	Pass
6	2437	24.70	24.42	571.815	27.57	30	Pass
9	2452	16.25	16.17	83.570	19.22	30	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 4.24 dBi < 6 dBi, so the output power limit shall not be reduced.

NSS 2

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.60	21.22	276.978	24.42	30	Pass
6	2437	26.58	26.31	882.551	29.46	30	Pass
11	2462	19.51	19.48	178.046	22.51	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	19.41	19.32	172.804	22.38	30	Pass
6	2437	24.63	24.35	562.672	27.50	30	Pass
9	2452	19.48	16.40	132.367	21.22	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT20

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.65	21.28	280.494	24.48	30	Pass
6	2437	26.62	26.37	892.709	29.51	30	Pass
11	2462	19.58	19.56	181.147	22.58	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT40

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	19.48	19.40	175.812	22.45	30	Pass
6	2437	24.76	24.47	579.125	27.63	30	Pass
9	2452	16.56	16.46	89.549	19.52	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.72	21.36	285.366	24.55	30	Pass
6	2437	26.70	26.45	909.306	29.59	30	Pass
11	2462	19.64	19.61	183.456	22.64	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	19.56	19.48	179.081	22.53	30	Pass
6	2437	24.90	24.59	596.769	27.76	30	Pass
9	2452	16.62	16.54	91.001	19.59	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 2.07 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT20 Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.65	21.28	280.494	24.48	30	Pass
6	2437	26.62	26.37	892.709	29.51	30	Pass
11	2462	19.58	19.56	181.147	22.58	30	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 1.97 dBi < 6 dBi, so the output power limit shall not be reduced.

VHT40 Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	19.48	19.40	175.812	22.45	30	Pass
6	2437	24.76	24.47	579.125	27.63	30	Pass
9	2452	16.56	16.46	89.549	19.52	30	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 1.97 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	21.72	21.36	285.366	24.55	30	Pass
6	2437	26.70	26.45	909.306	29.59	30	Pass
11	2462	19.64	19.61	183.456	22.64	30	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 1.97 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	19.56	19.48	179.081	22.53	30	Pass
6	2437	24.90	24.59	596.769	27.76	30	Pass
9	2452	16.62	16.54	91.001	19.59	30	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 1.97 dBi < 6 dBi, so the output power limit shall not be reduced.

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin
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802.11b

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
1	2412	-10.01	-10.40	2.73	-4.46	8.00	Pass
6	2437	-9.66	-10.24	2.73	-4.20	8.00	Pass
11	2462	-9.88	-10.34	2.73	-4.36	8.00	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 4.24 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
1	2412	-11.78	-12.20	0.40	-8.57	8.00	Pass
6	2437	-6.14	-6.25	0.40	-2.78	8.00	Pass
11	2462	-12.76	-12.85	0.40	-9.39	8.00	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 4.24 dBi < 6 dBi, so the power density limit shall not be reduced.

NSS 1

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
1	2412	-14.99	-15.60	0.28	-11.99	8.00	Pass
6	2437	-10.38	-10.94	0.28	-7.36	8.00	Pass
11	2462	-17.68	-18.38	0.28	-14.72	8.00	Pass

Notes:

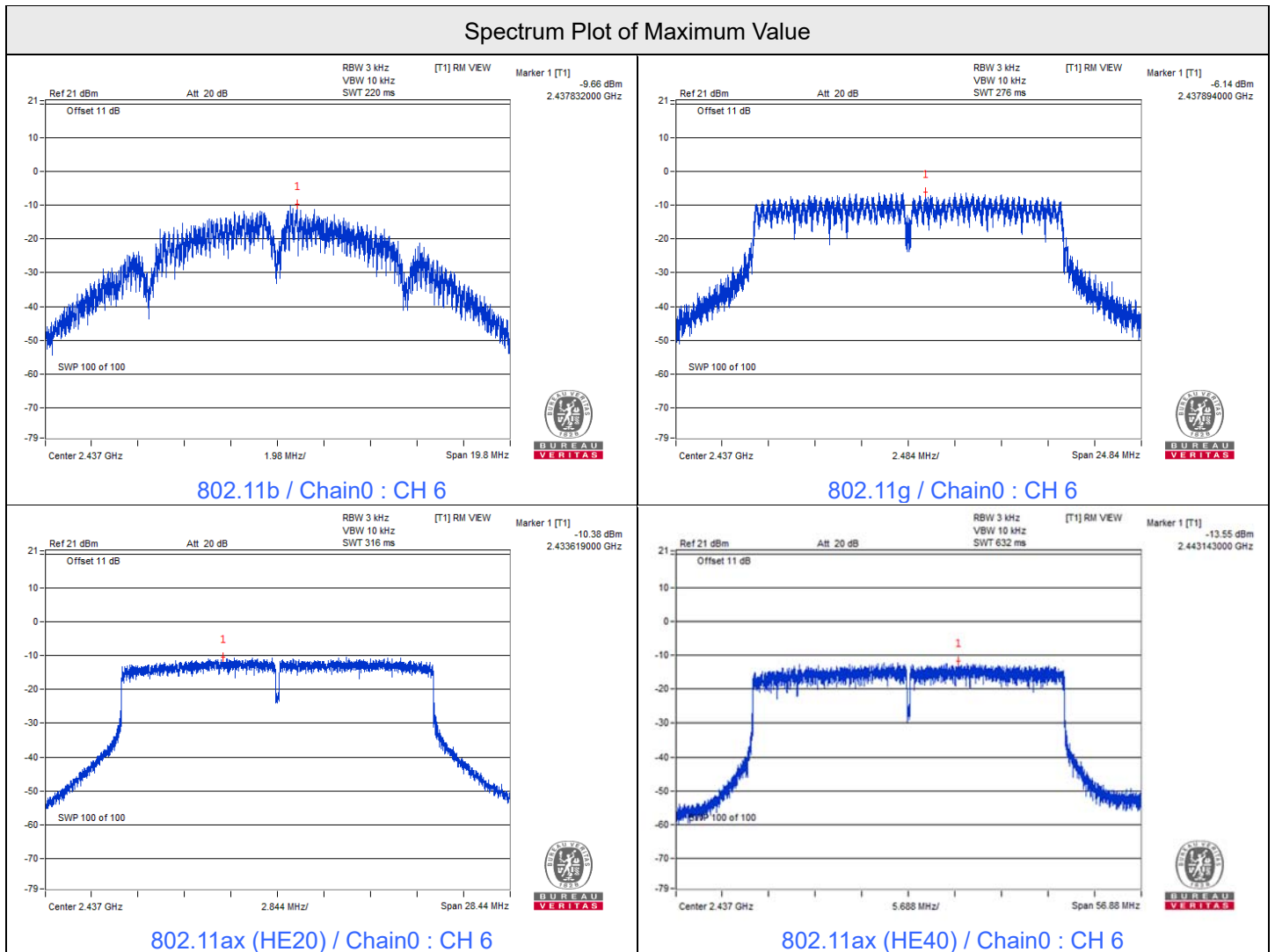
1. Please refer to 3.2 section for directional gain
2. The directional gain is 4.24 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
3	2422	-18.88	-19.01	0.28	-15.65	8.00	Pass
6	2437	-13.55	-13.70	0.28	-10.33	8.00	Pass
9	2452	-22.32	-22.06	0.28	-18.89	8.00	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 4.24 dBi < 6 dBi, so the power density limit shall not be reduced.



NSS 2

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
1	2412	-14.89	-15.68	0.23	-12.03	8.00	Pass
6	2437	-9.79	-10.11	0.23	-6.71	8.00	Pass
11	2462	-16.91	-17.49	0.23	-13.95	8.00	Pass

Notes:

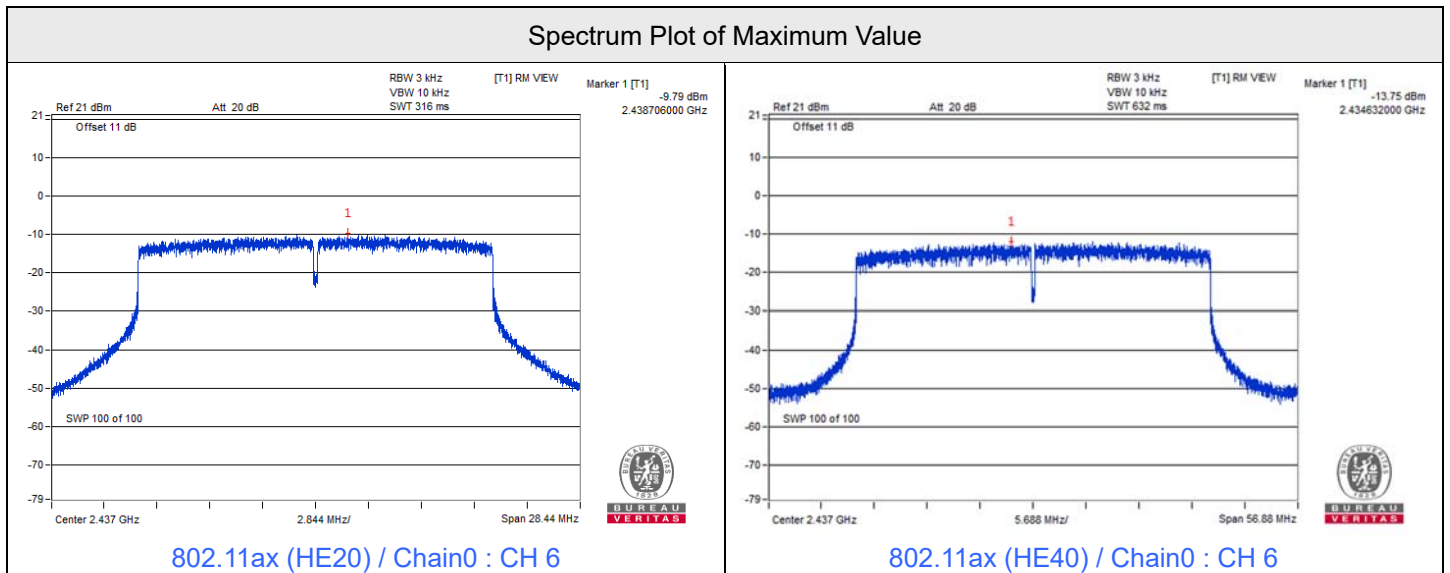
1. Please refer to 3.2 section for directional gain
2. The directional gain is 1.97 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)		Duty Factor (dB)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1				
3	2422	-19.26	-19.34	0.23	-16.06	8.00	Pass
6	2437	-13.75	-14.06	0.23	-10.66	8.00	Pass
9	2452	-22.24	-22.96	0.23	-19.34	8.00	Pass

Notes:

1. Please refer to 3.2 section for directional gain
2. The directional gain is 1.97 dBi < 6 dBi, so the power density limit shall not be reduced.



7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin
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802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	8.06	7.15	0.5	Pass
6	2437	7.12	7.59	0.5	Pass
11	2462	7.55	8.12	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	15.98	15.75	0.5	Pass
6	2437	15.70	15.80	0.5	Pass
11	2462	16.06	16.35	0.5	Pass

NSS 1

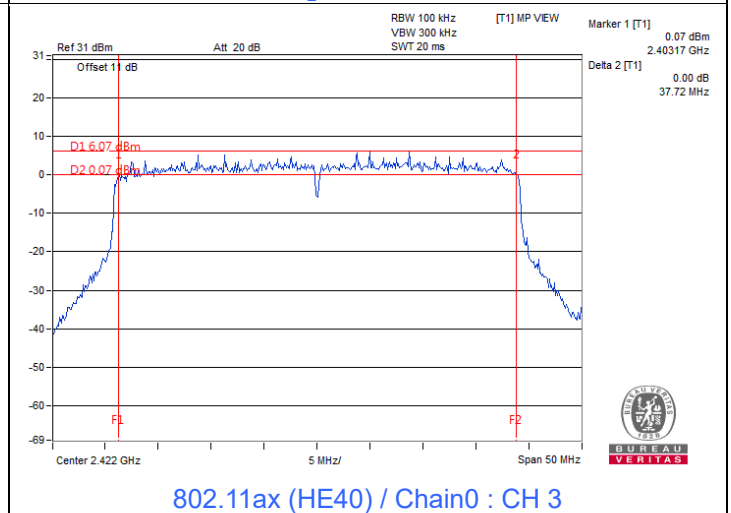
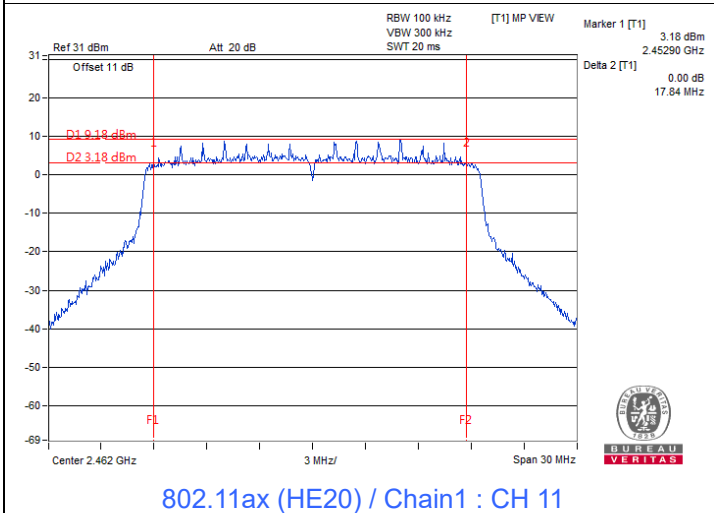
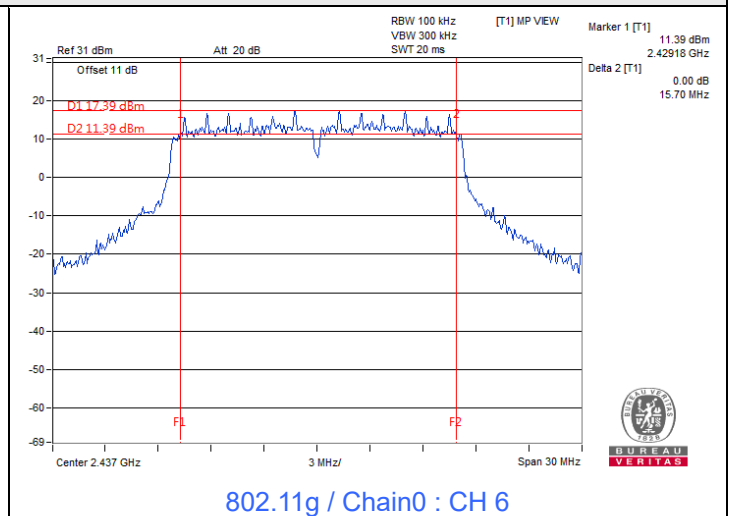
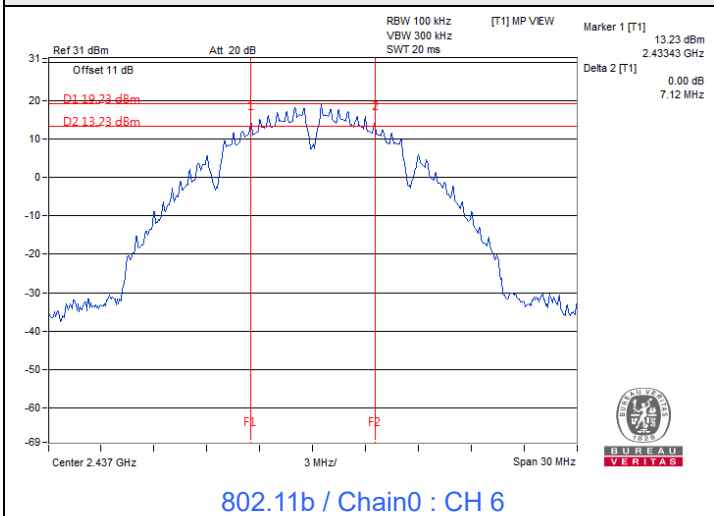
802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	18.36	18.36	0.5	Pass
6	2437	18.16	18.27	0.5	Pass
11	2462	18.34	17.84	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
3	2422	37.72	37.91	0.5	Pass
6	2437	37.82	37.89	0.5	Pass
9	2452	37.80	37.78	0.5	Pass

Spectrum Plot of Minimum Value



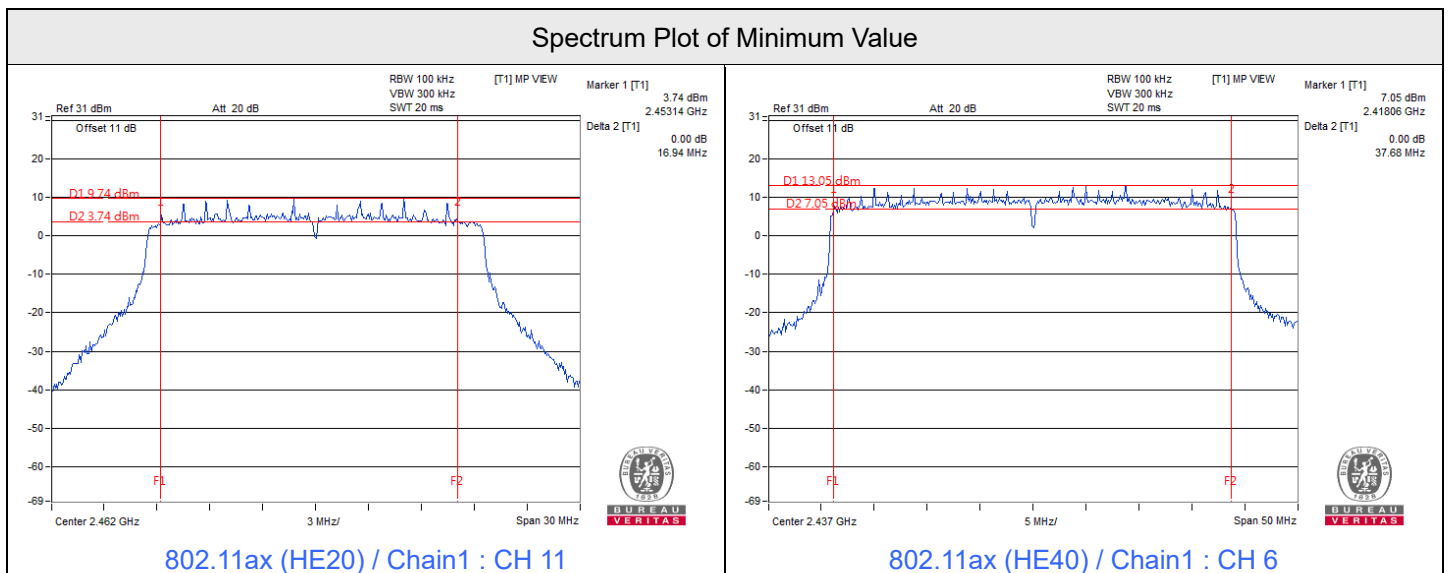
NSS 2

802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	18.43	17.22	0.5	Pass
6	2437	18.36	17.69	0.5	Pass
11	2462	18.10	16.94	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
3	2422	37.86	37.86	0.5	Pass
6	2437	38.02	37.68	0.5	Pass
9	2452	37.80	37.69	0.5	Pass

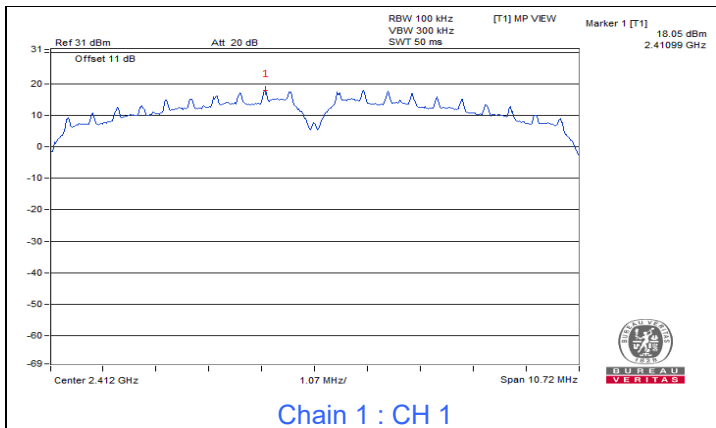


7.4 Conducted Out of Band Emissions

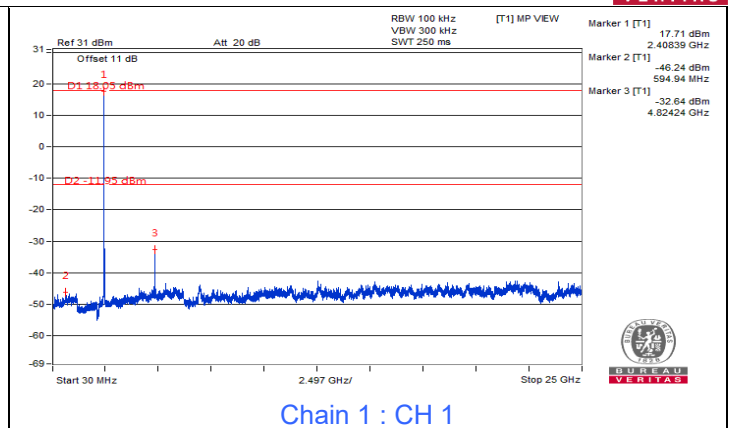
Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin
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802.11b

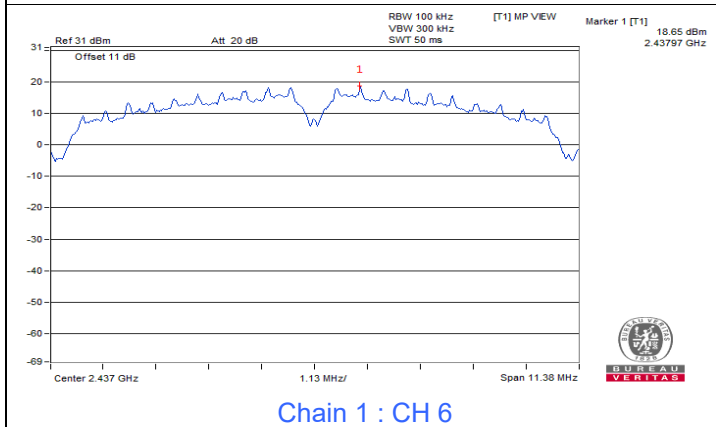




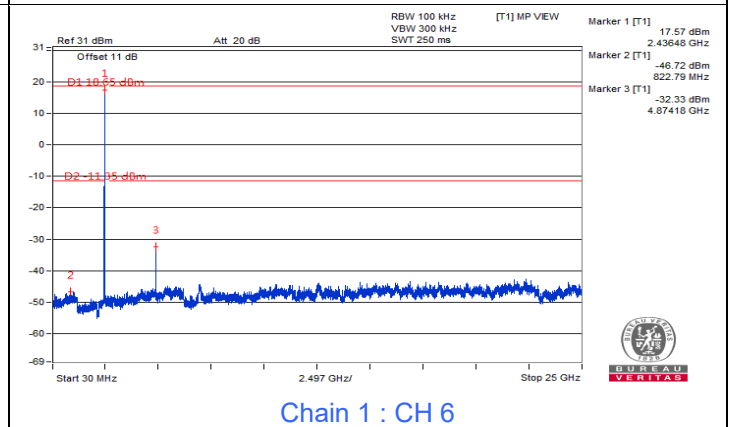
Chain 1 : CH 1



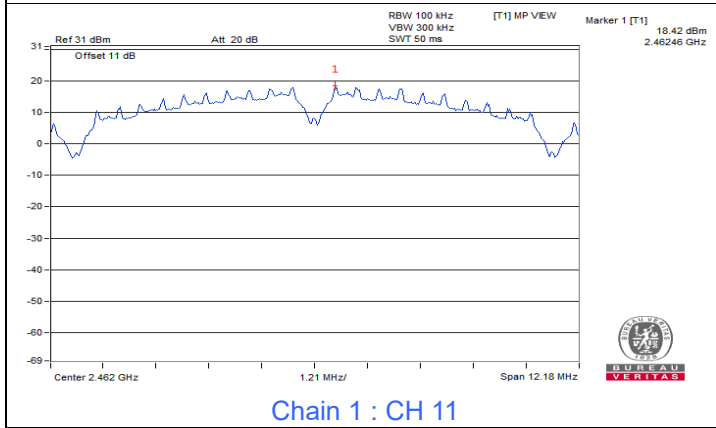
Chain 1 : CH 1



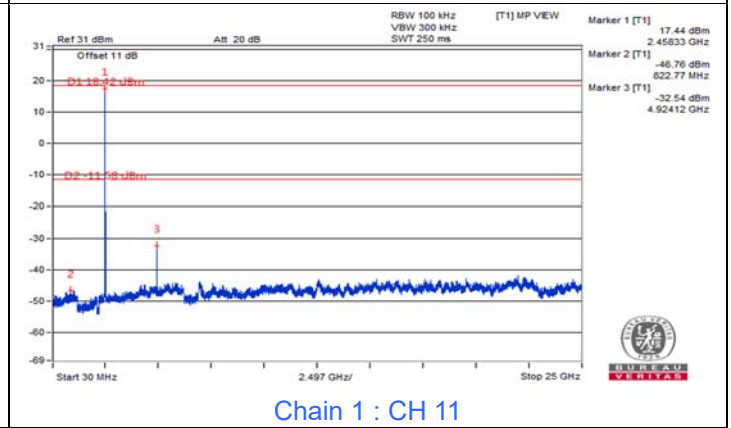
Chain 1 : CH 6



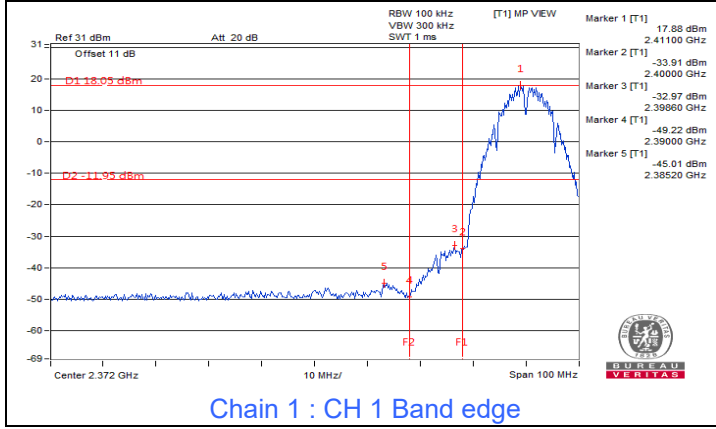
Chain 1 : CH 6



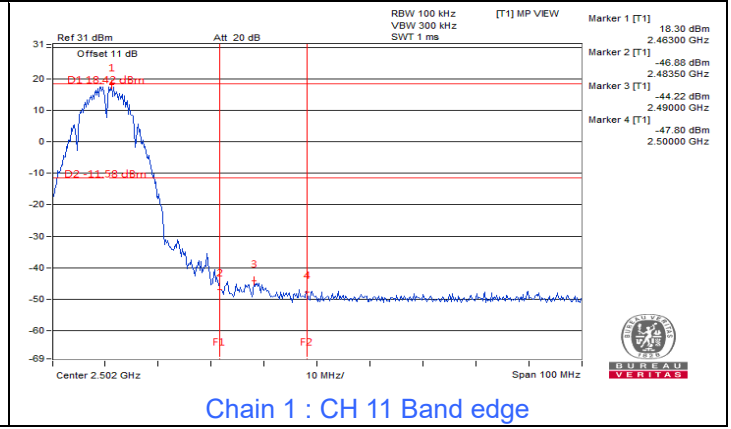
Chain 1 : CH 11



Chain 1 : CH 11

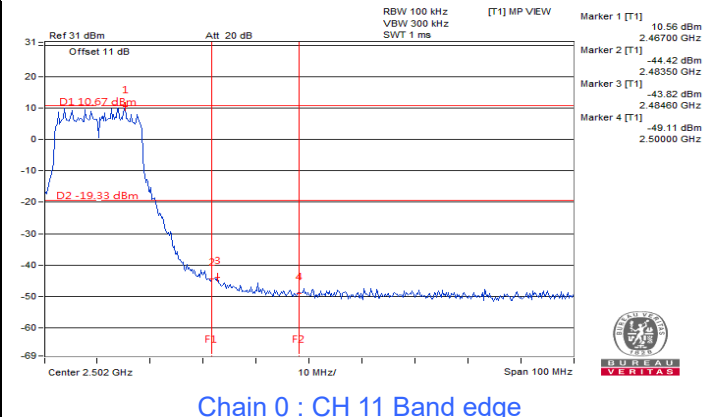
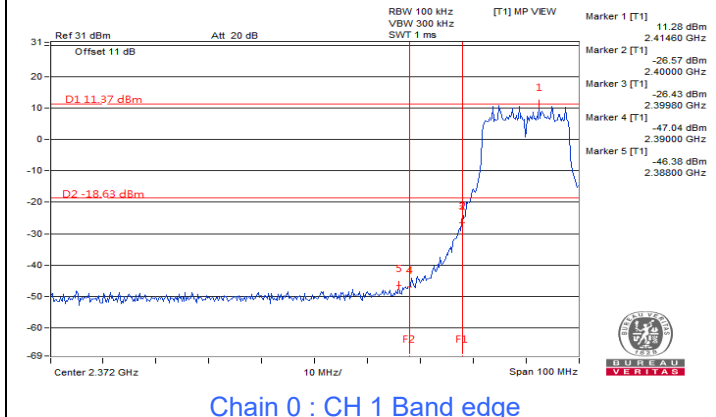
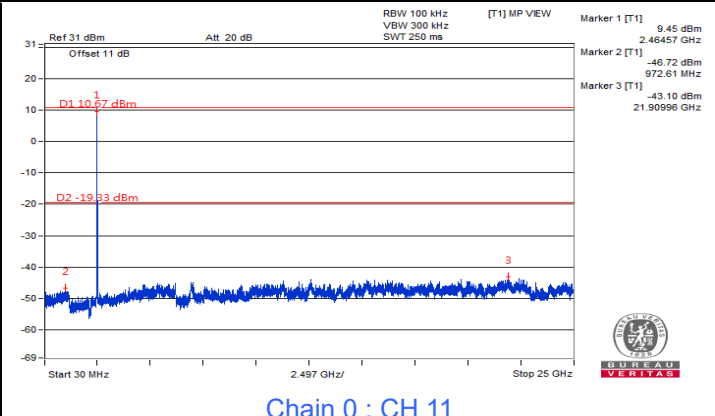
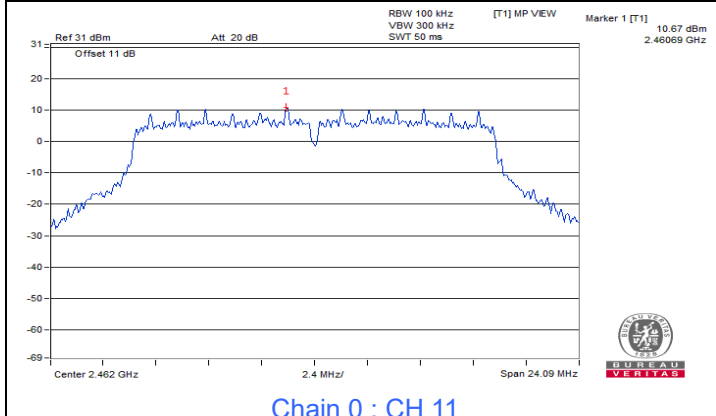
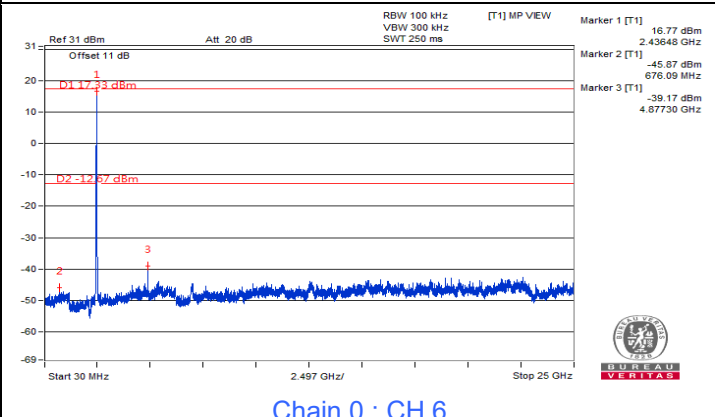
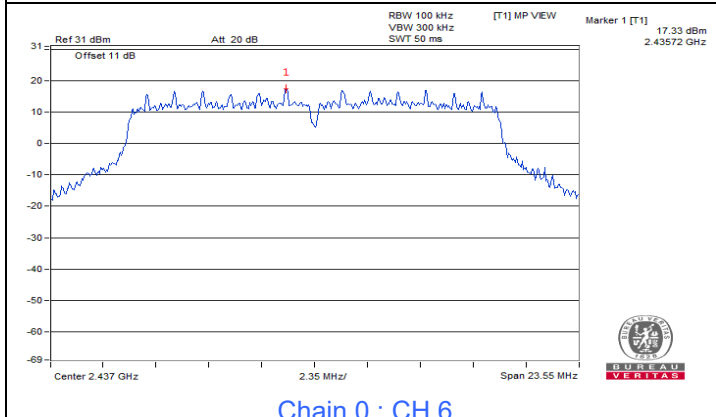
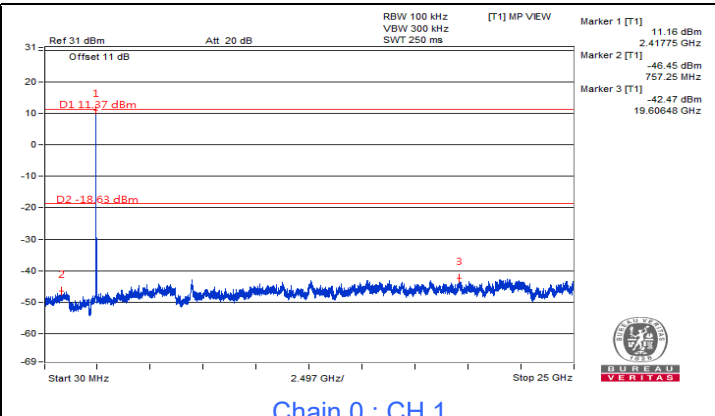
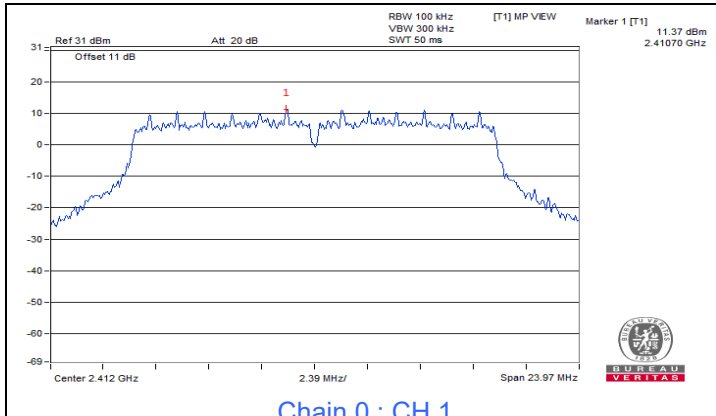


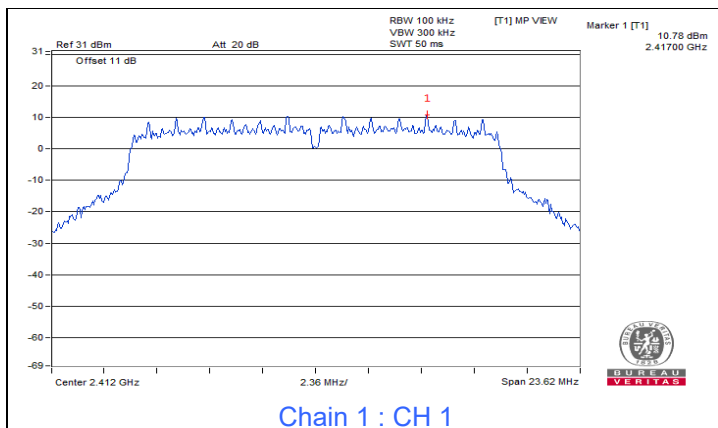
Chain 1 : CH 1 Band edge



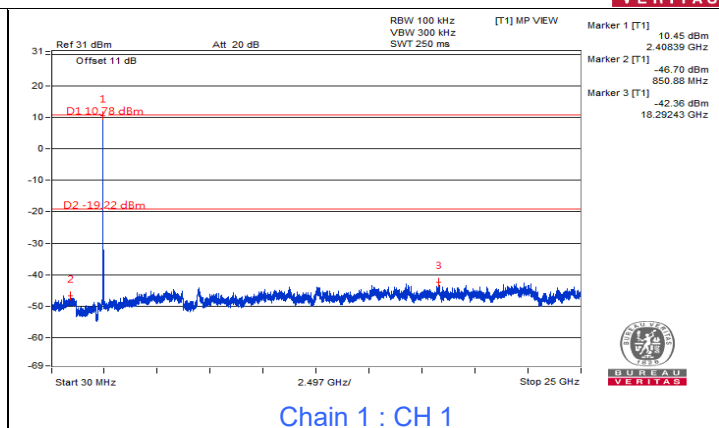
Chain 1 : CH 11 Band edge

802.11g

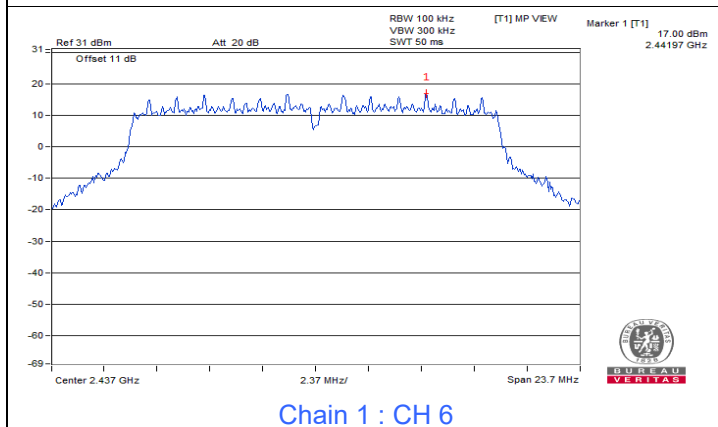




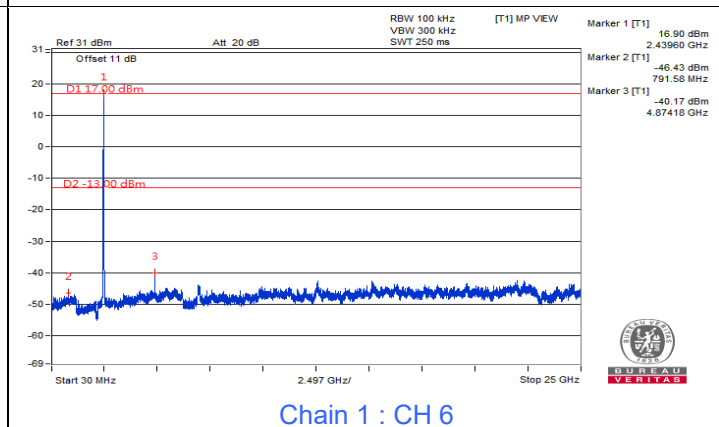
Chain 1 : CH 1



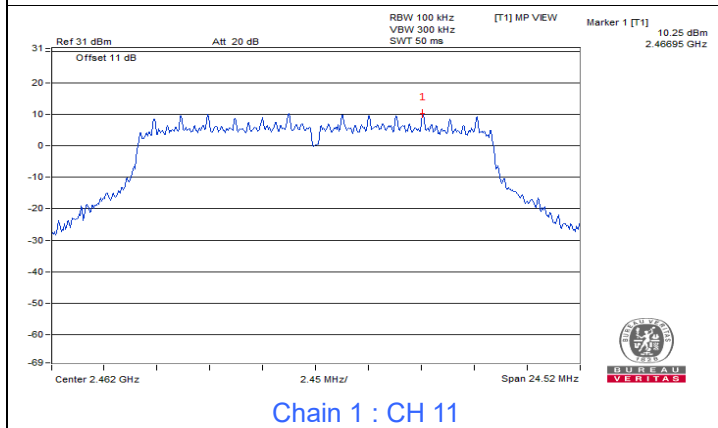
Chain 1 : CH 1



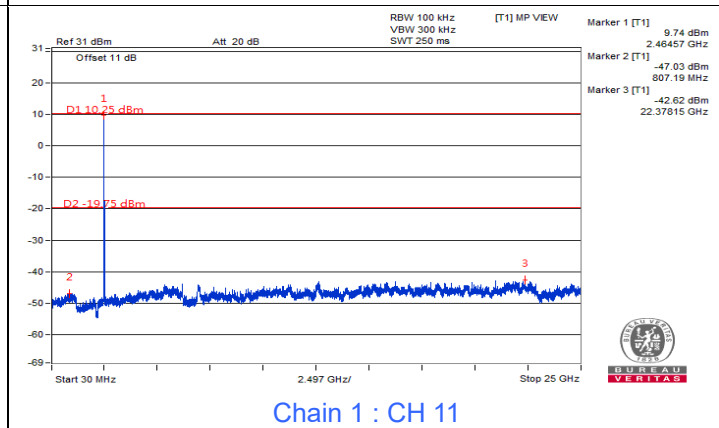
Chain 1 : CH 6



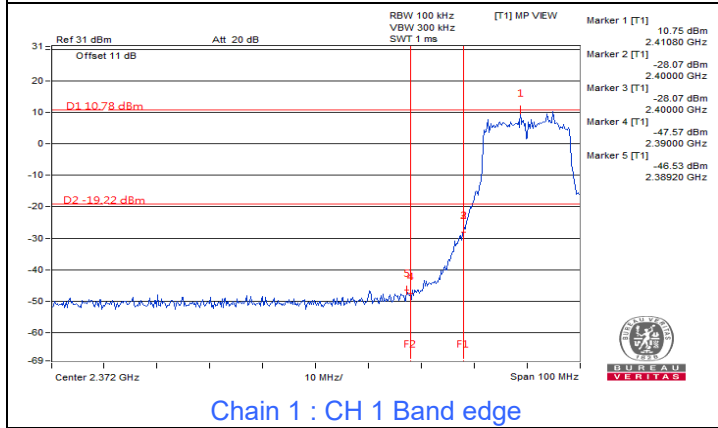
Chain 1 : CH 6



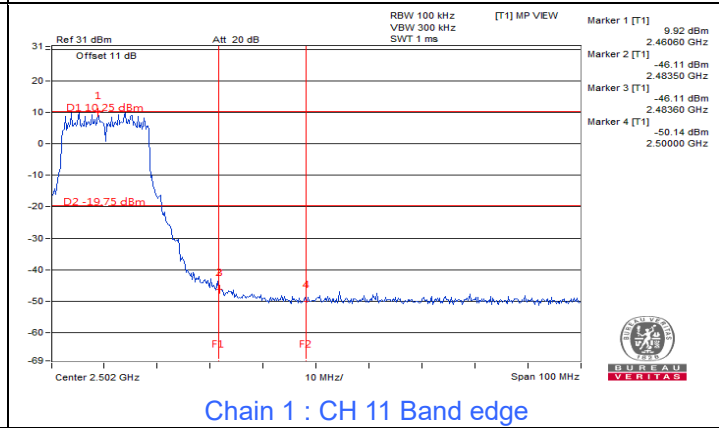
Chain 1 : CH 11



Chain 1 : CH 11



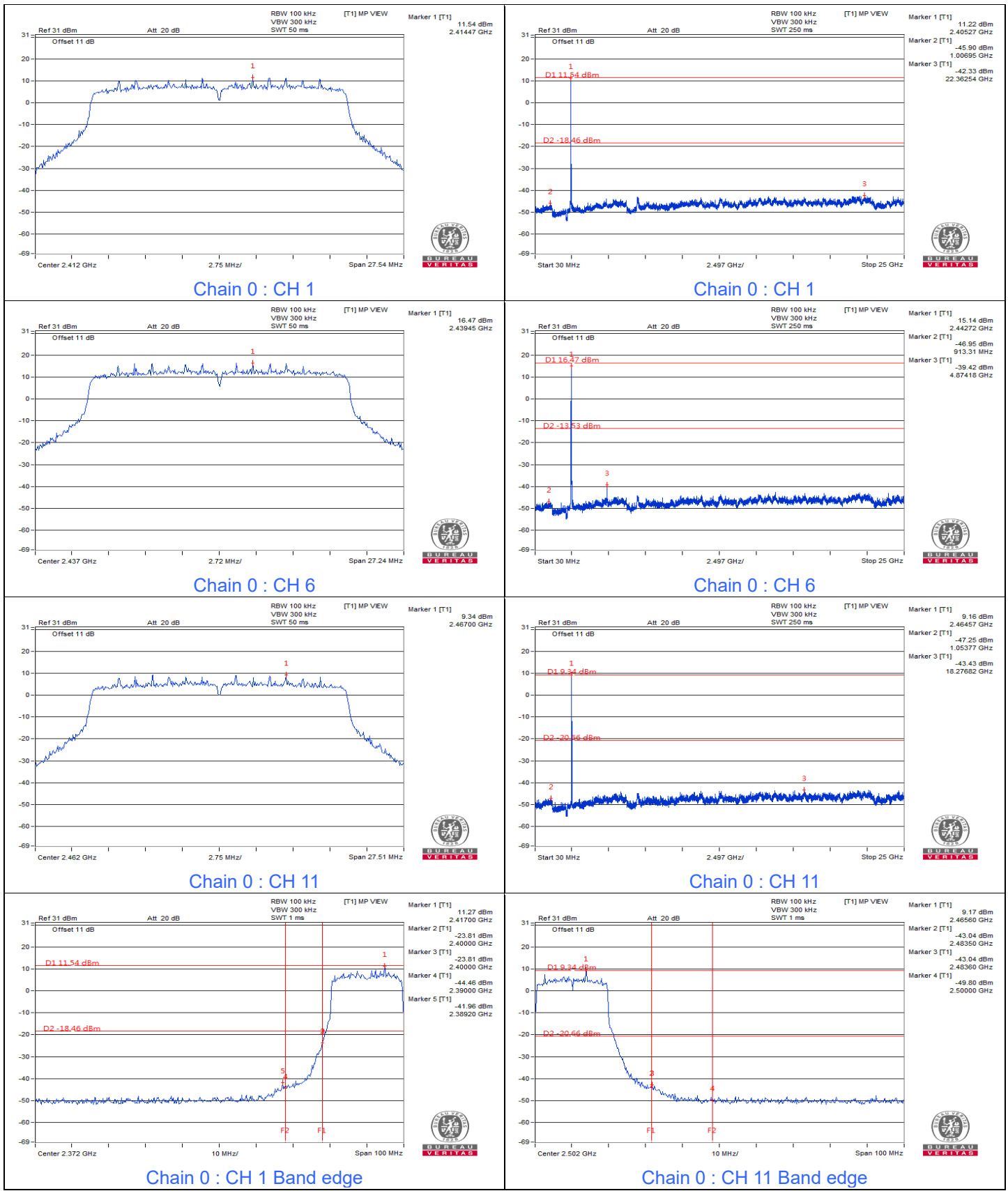
Chain 1 : CH 1 Band edge

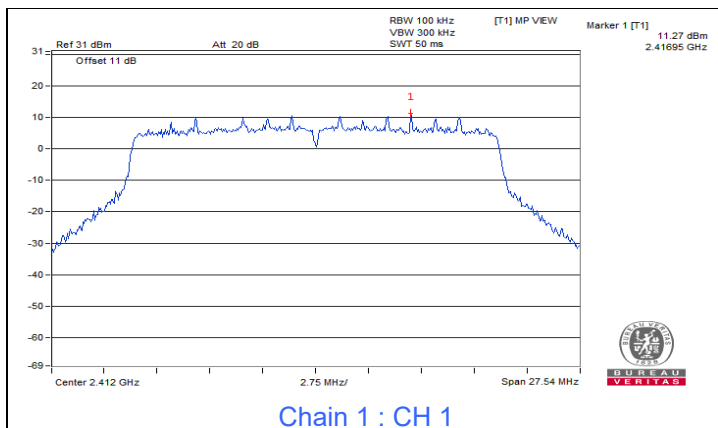


Chain 1 : CH 11 Band edge

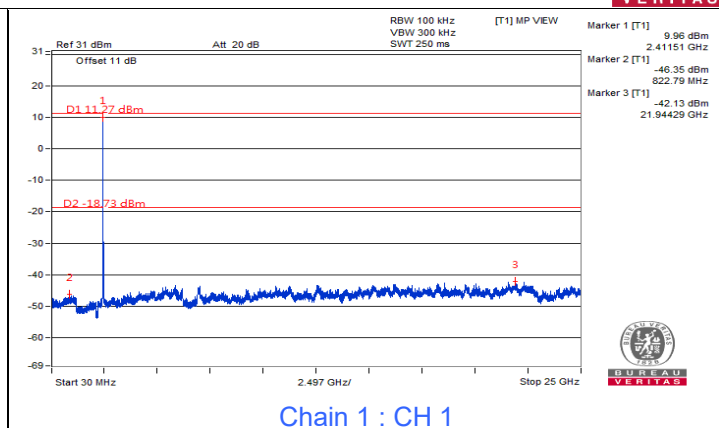
NSS 1

802.11ax (HE20)

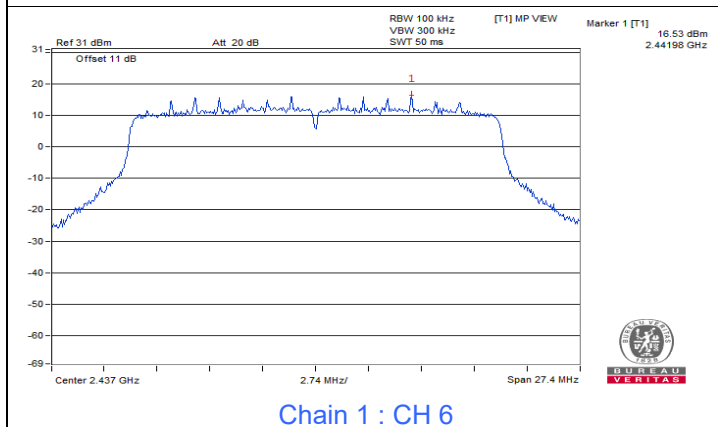




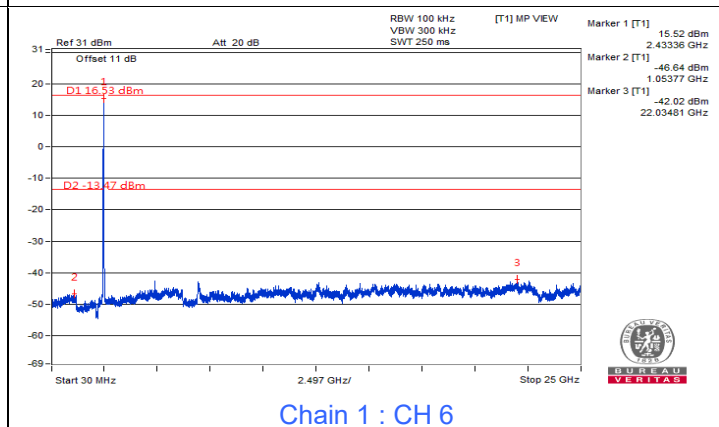
Chain 1 : CH 1



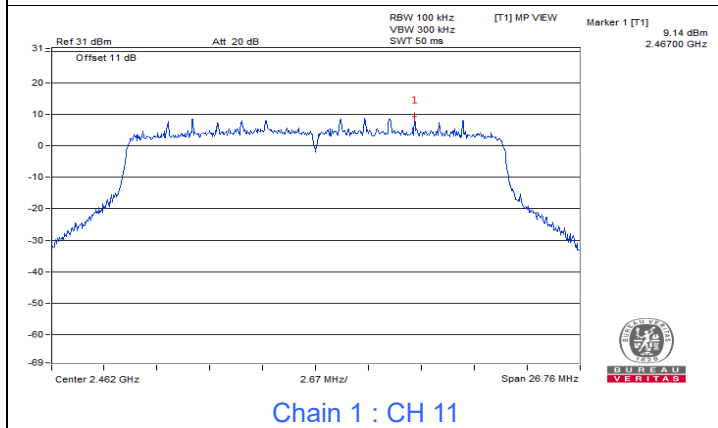
Chain 1 : CH 1



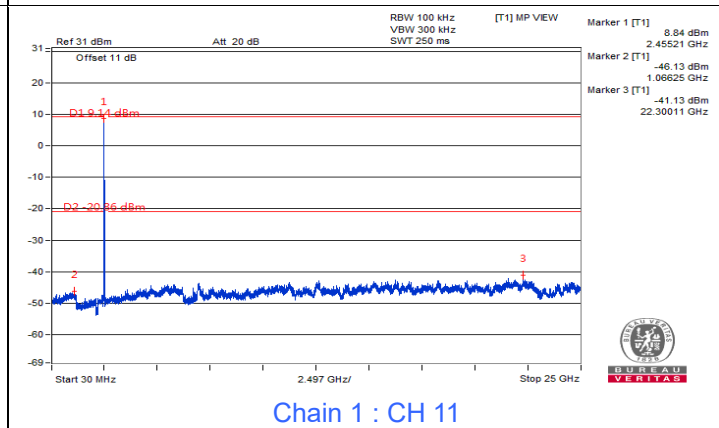
Chain 1 : CH 6



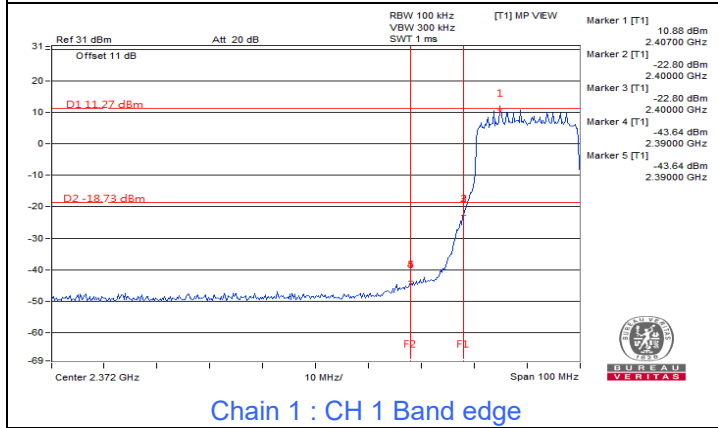
Chain 1 : CH 6



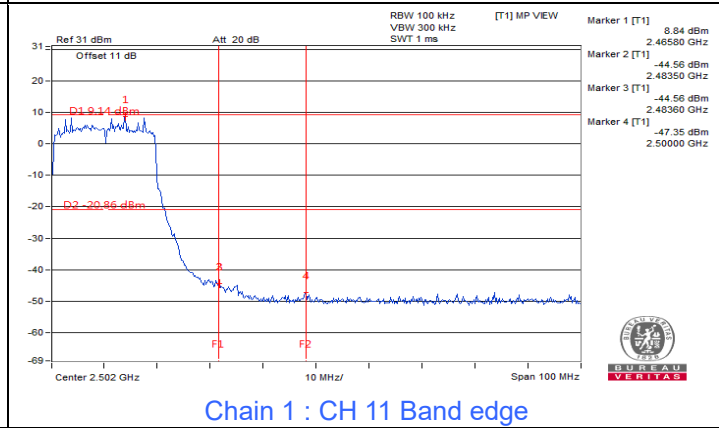
Chain 1 : CH 11



Chain 1 : CH 11



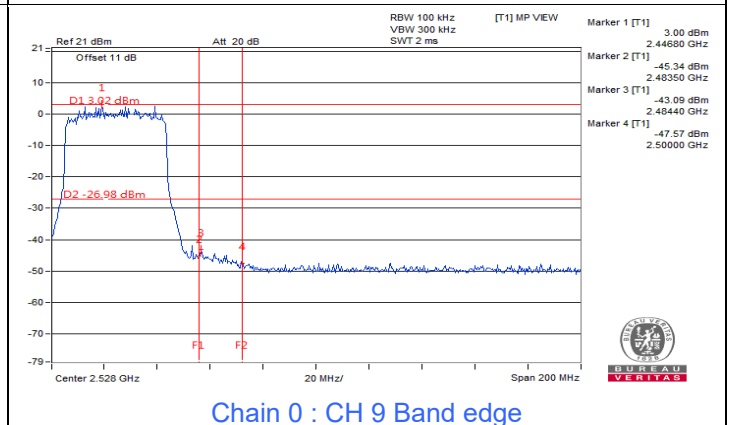
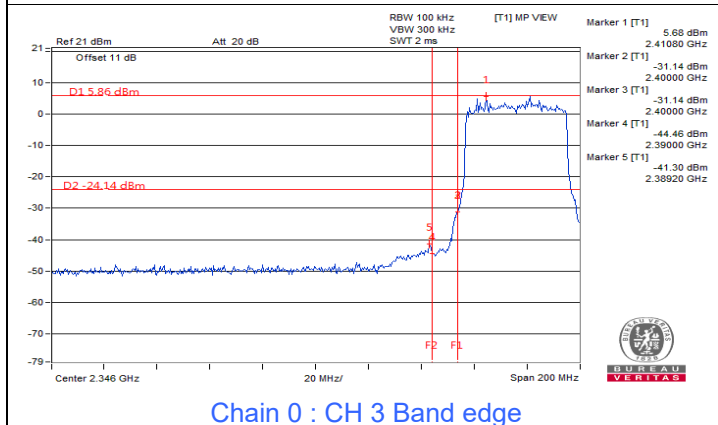
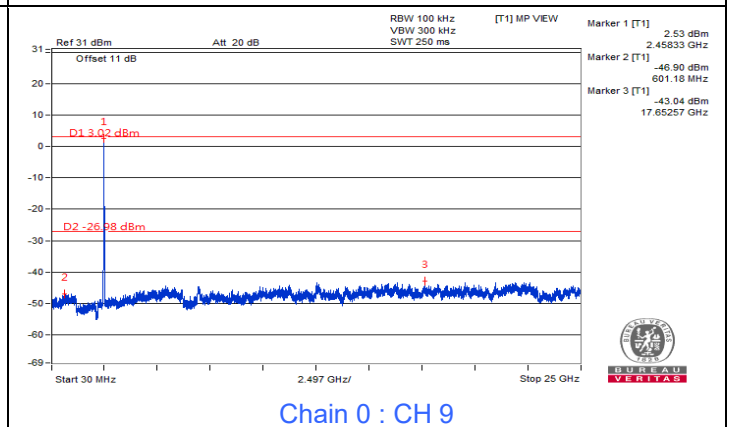
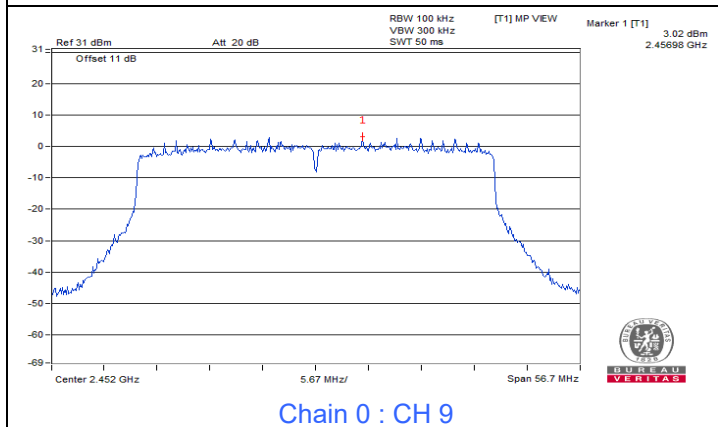
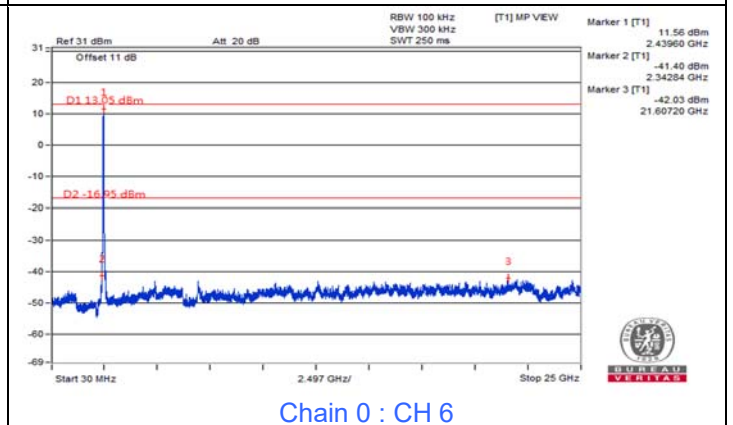
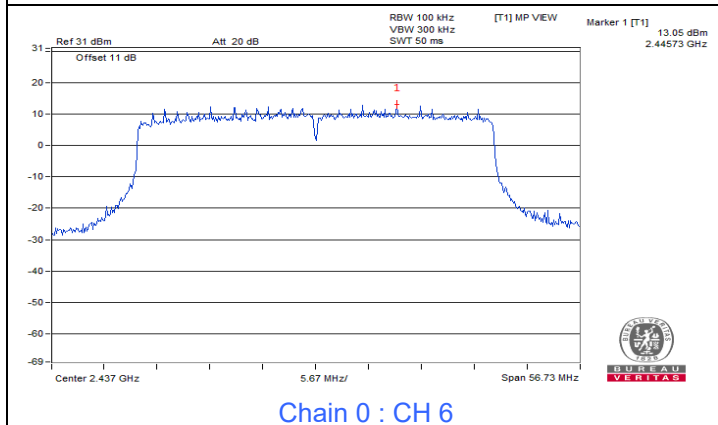
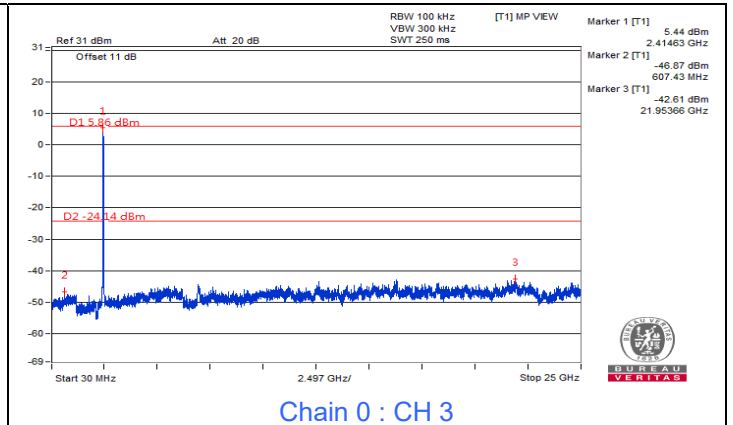
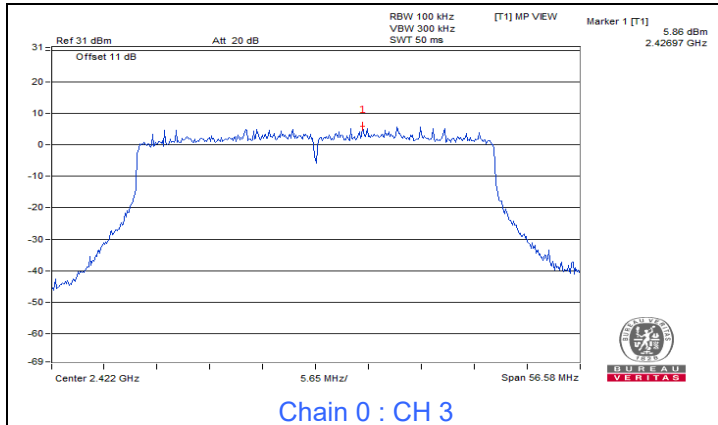
Chain 1 : CH 1 Band edge

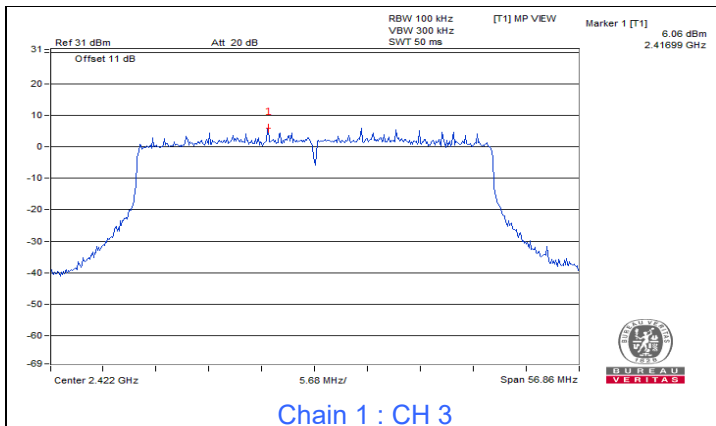


Chain 1 : CH 11 Band edge

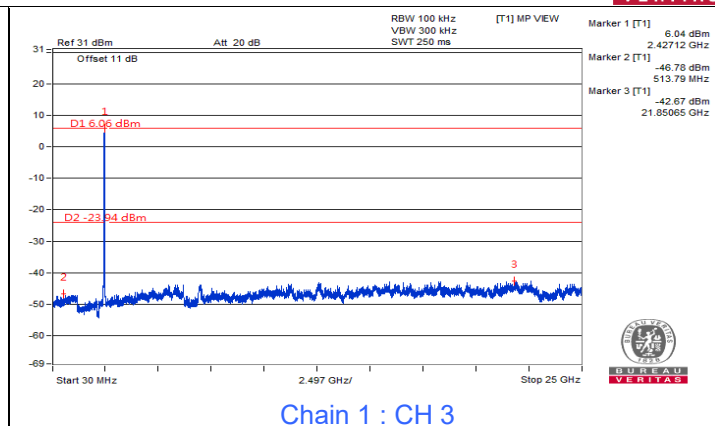


802.11ax (HE40)

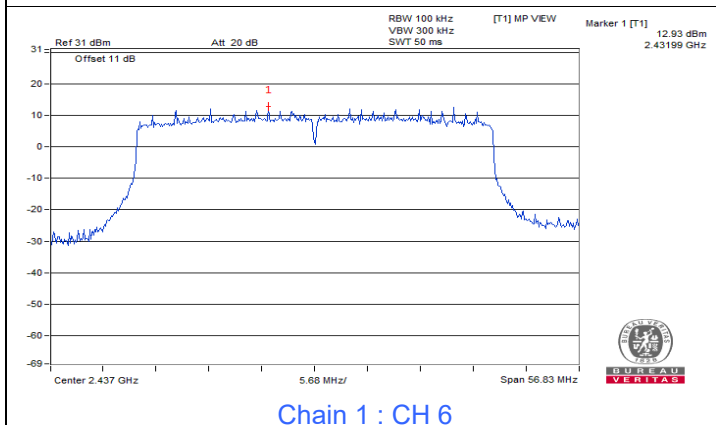




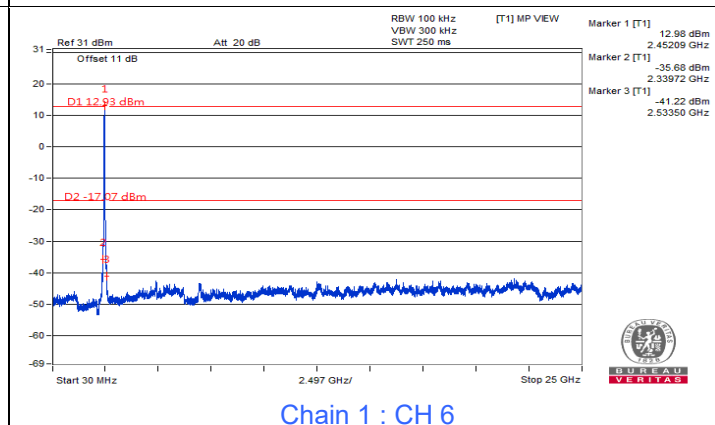
Chain 1 : CH 3



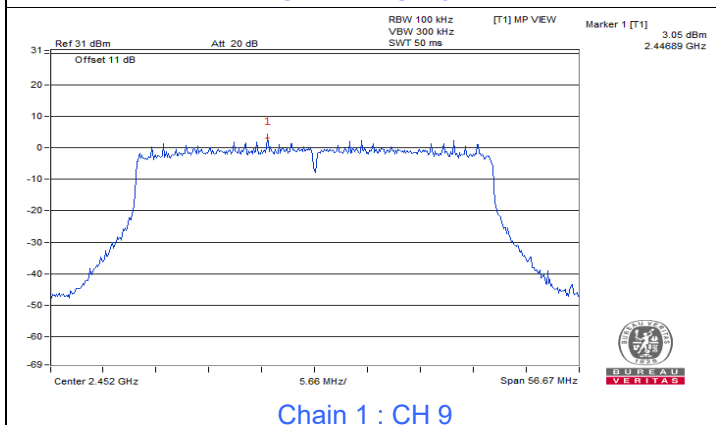
Chain 1 : CH 3



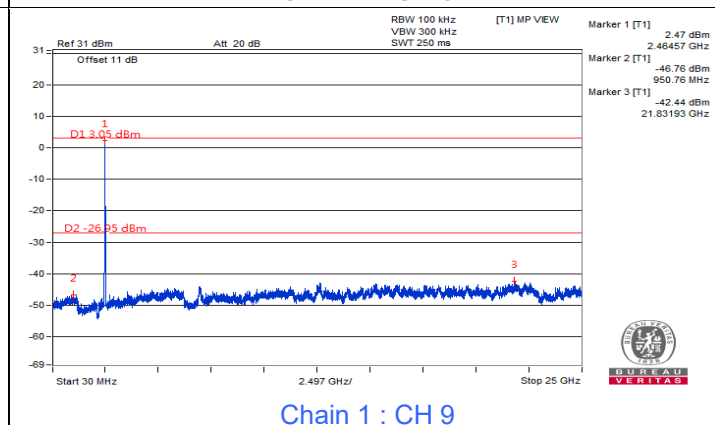
Chain 1 : CH 6



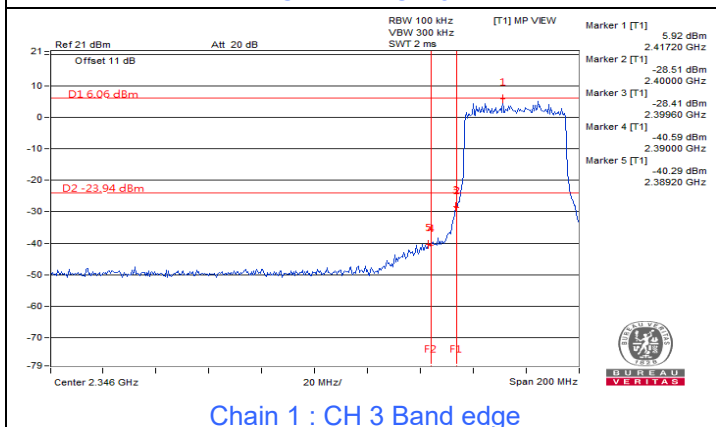
Chain 1 : CH 6



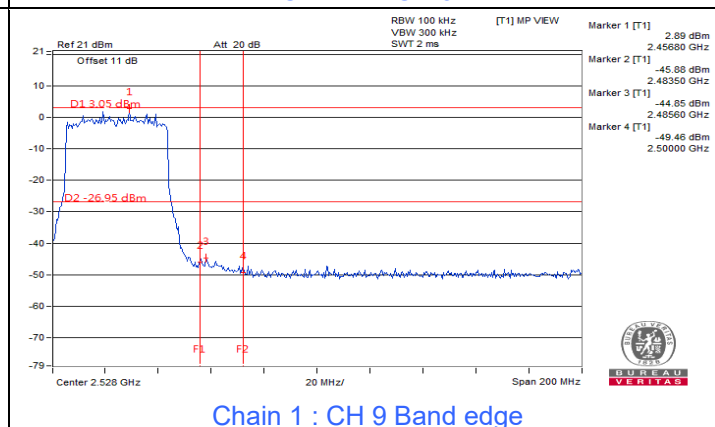
Chain 1 : CH 9



Chain 1 : CH 9



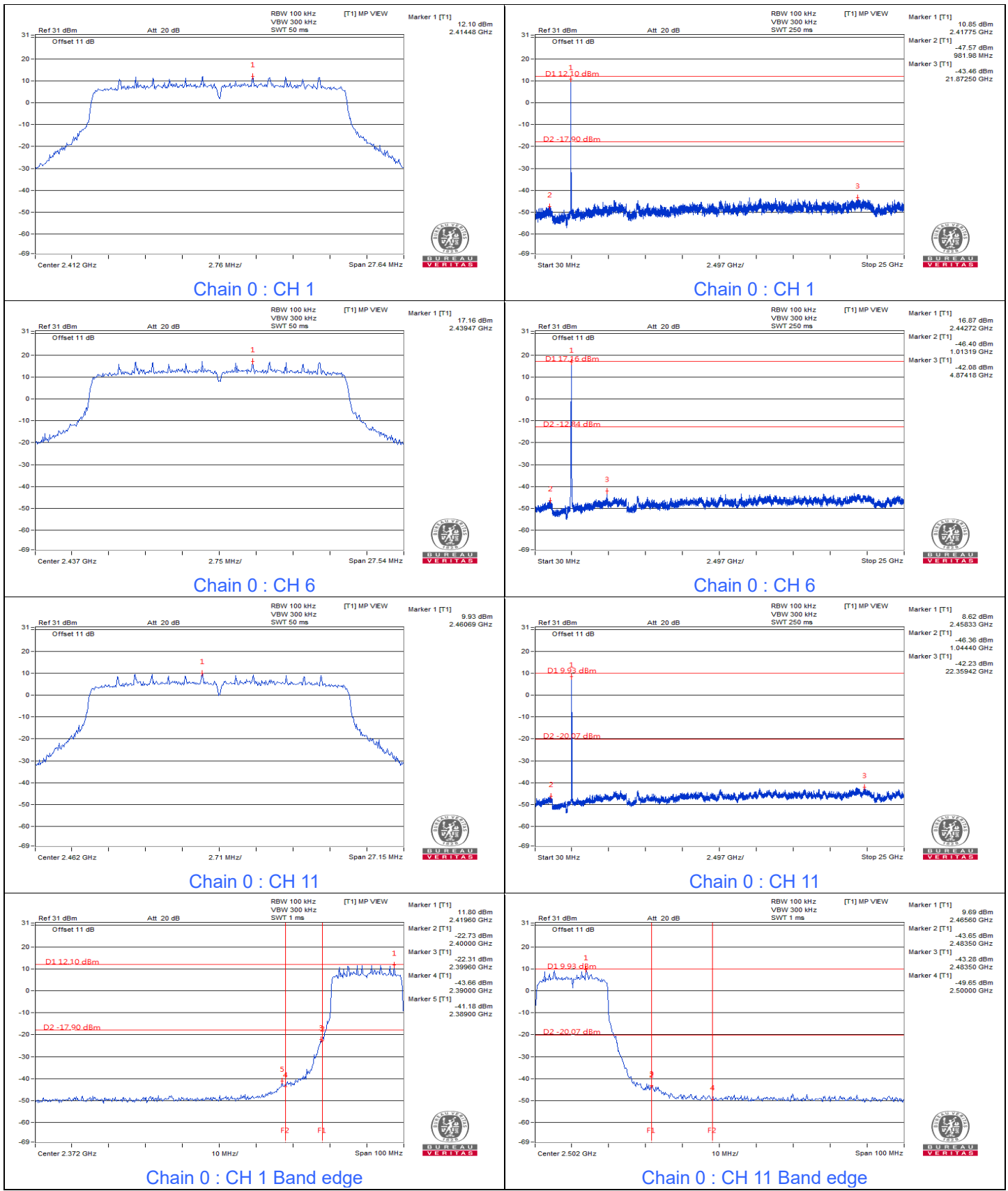
Chain 1 : CH 3 Band edge

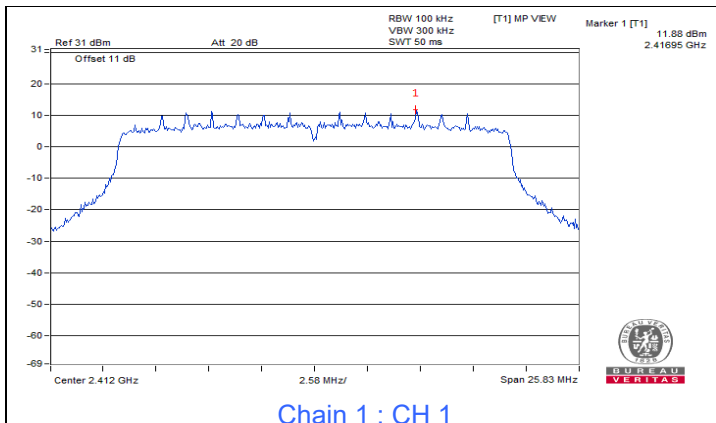


Chain 1 : CH 9 Band edge

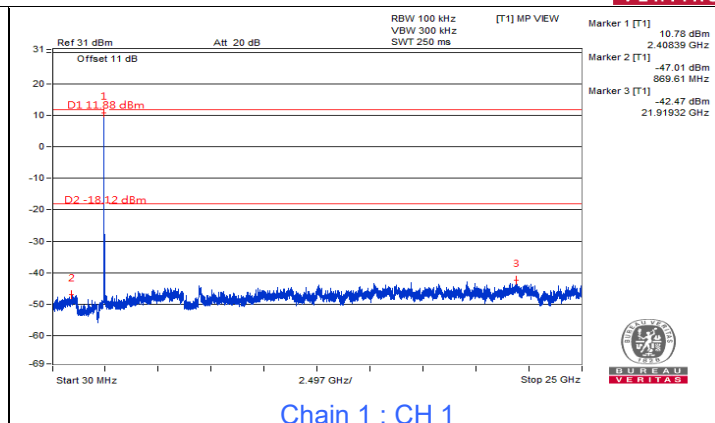
NSS 2

802.11ax (HE20)

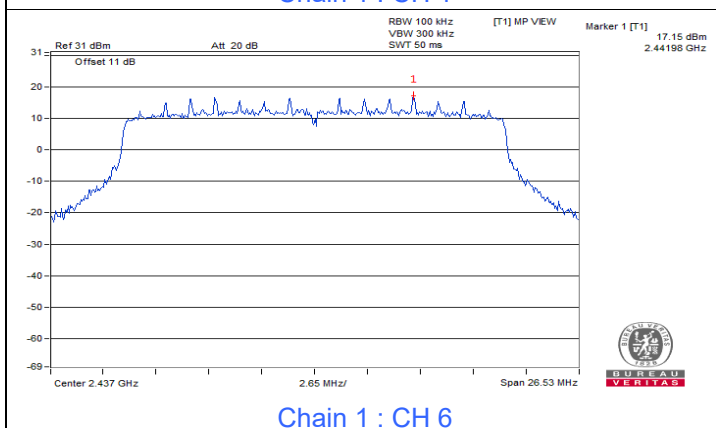




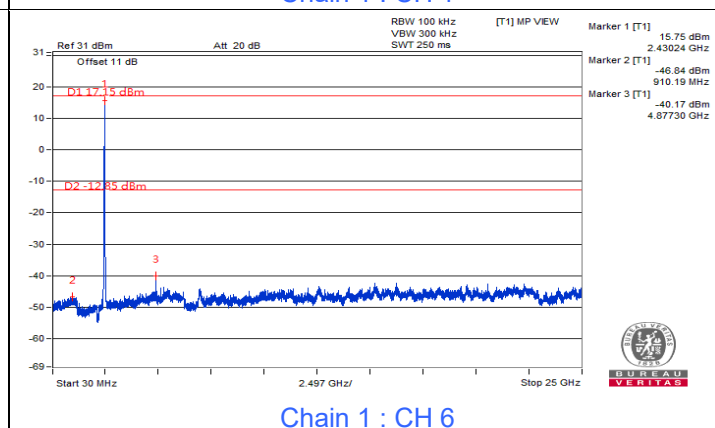
Chain 1 : CH 1



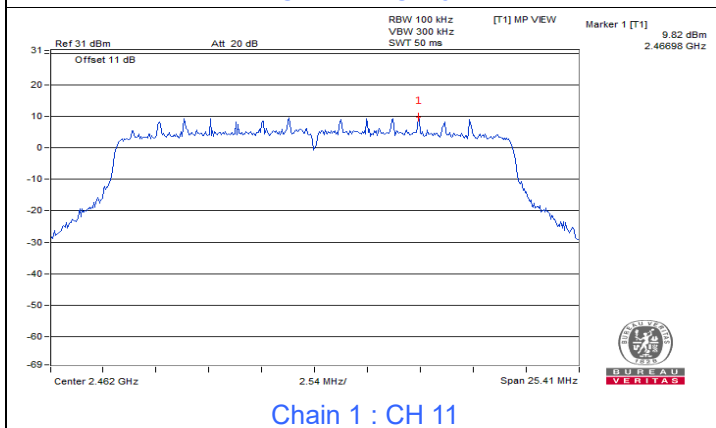
Chain 1 : CH 1



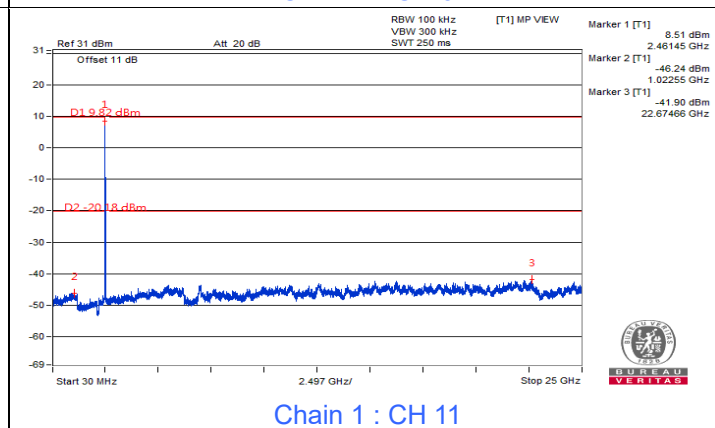
Chain 1 : CH 6



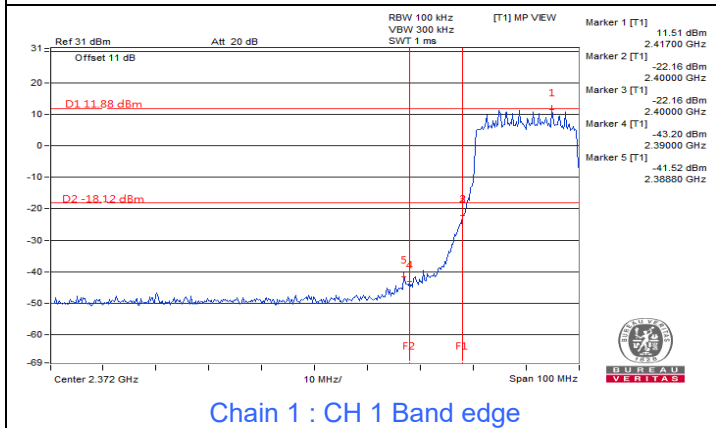
Chain 1 : CH 6



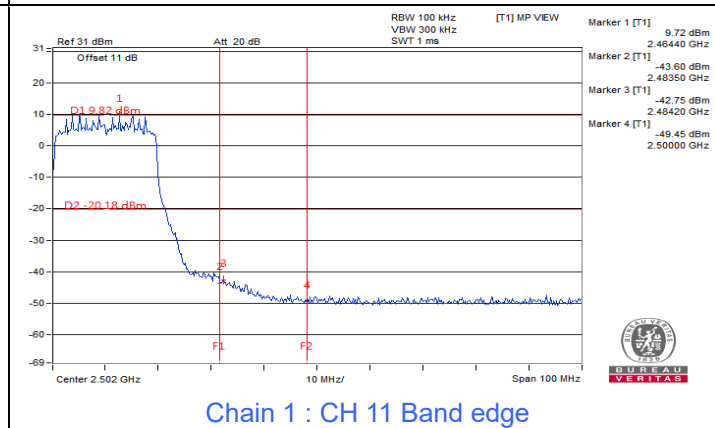
Chain 1 : CH 11



Chain 1 : CH 11

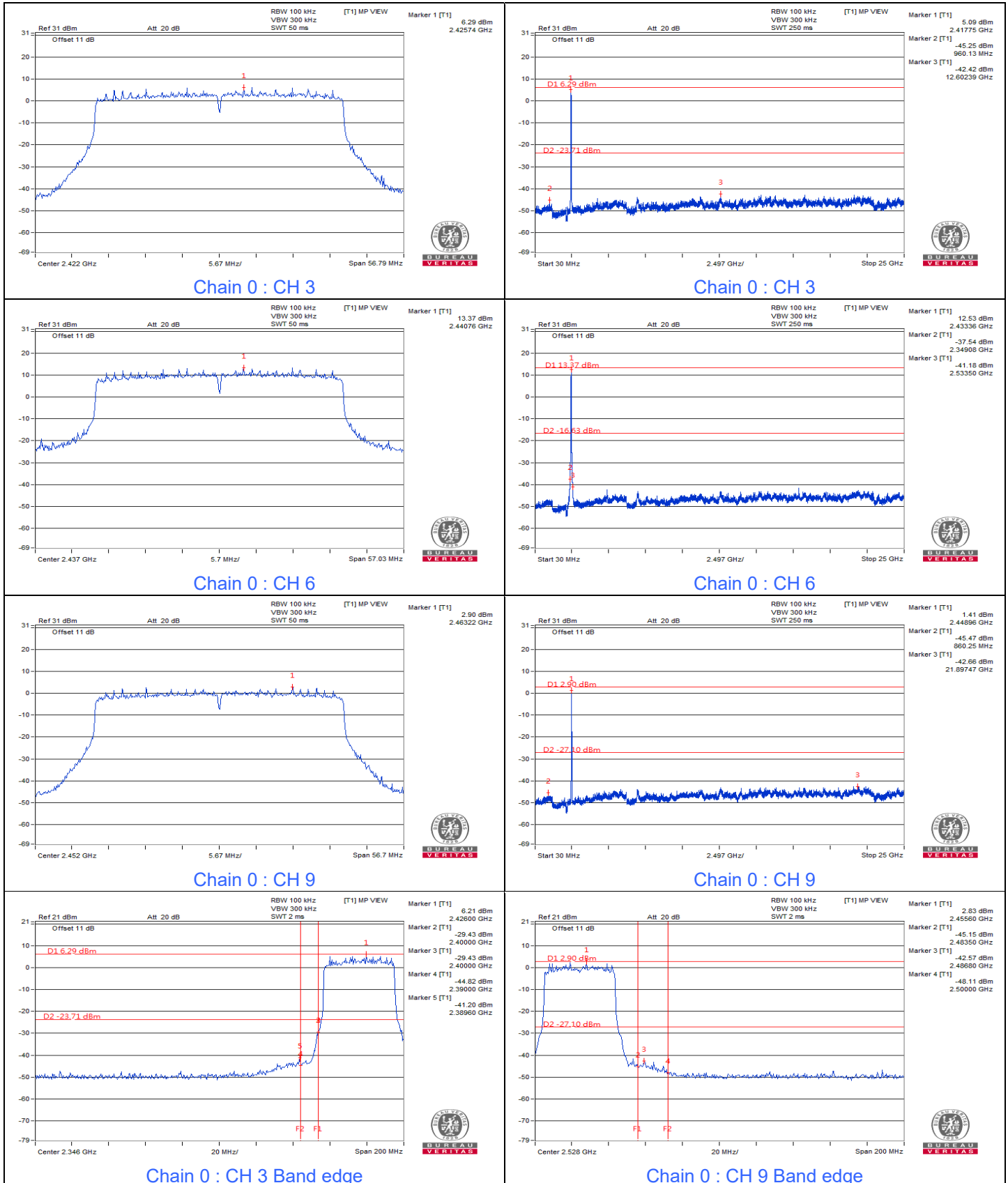


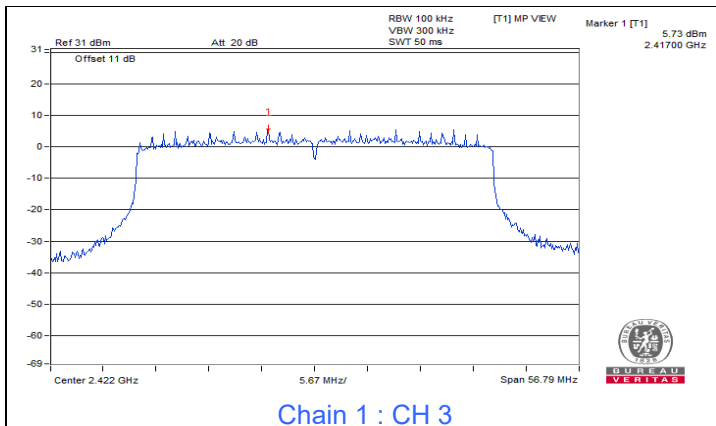
Chain 1 : CH 1 Band edge



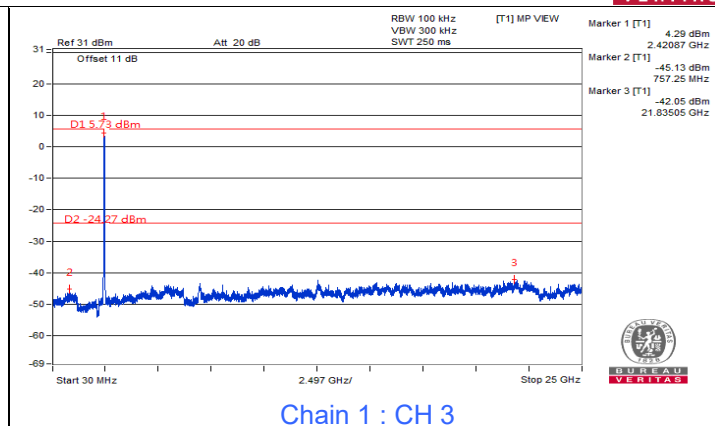
Chain 1 : CH 11 Band edge

802.11ax (HE40)

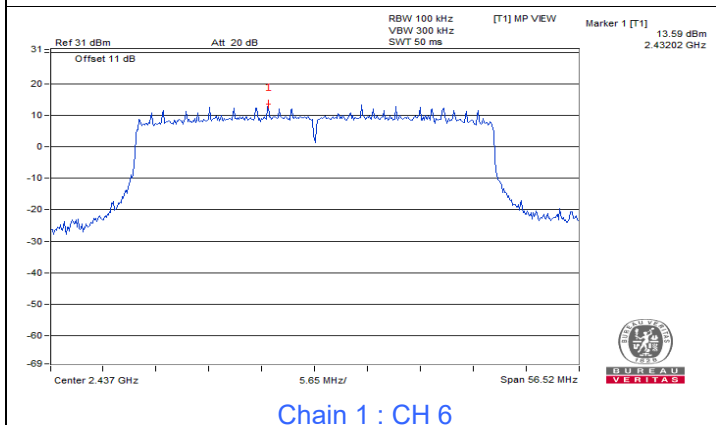




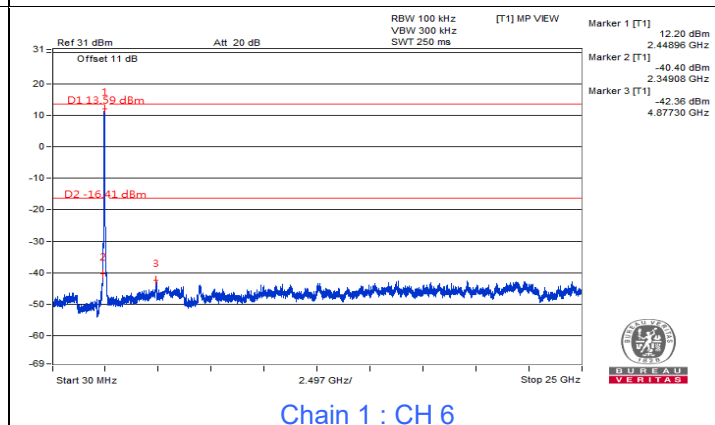
Chain 1 : CH 3



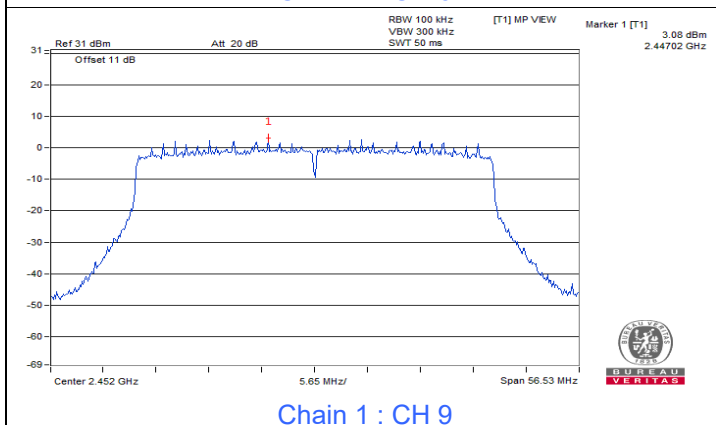
Chain 1 : CH 3



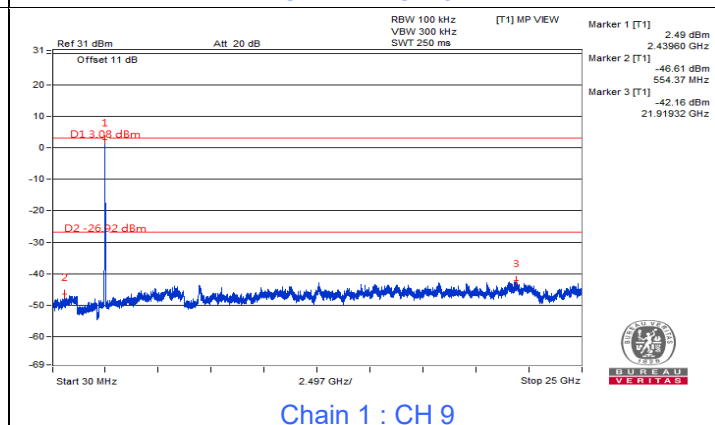
Chain 1 : CH 6



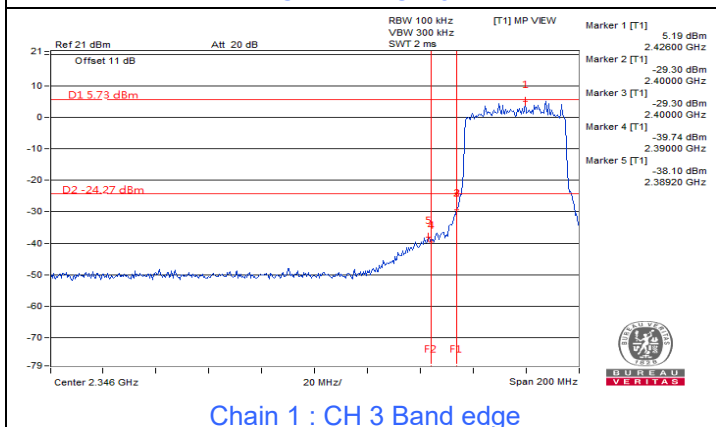
Chain 1 : CH 6



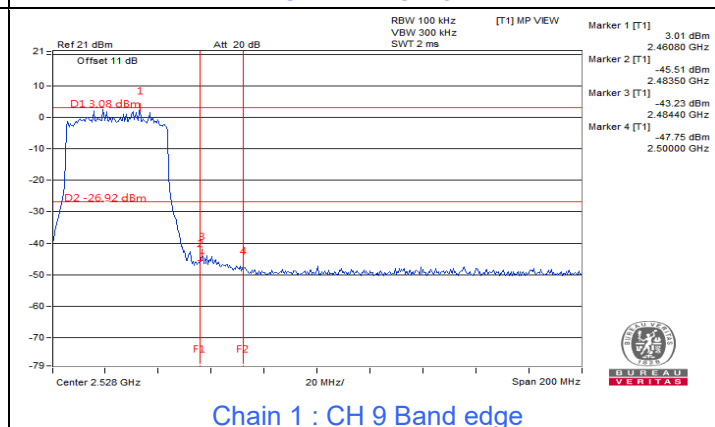
Chain 1 : CH 9



Chain 1 : CH 9



Chain 1 : CH 3 Band edge



Chain 1 : CH 9 Band edge

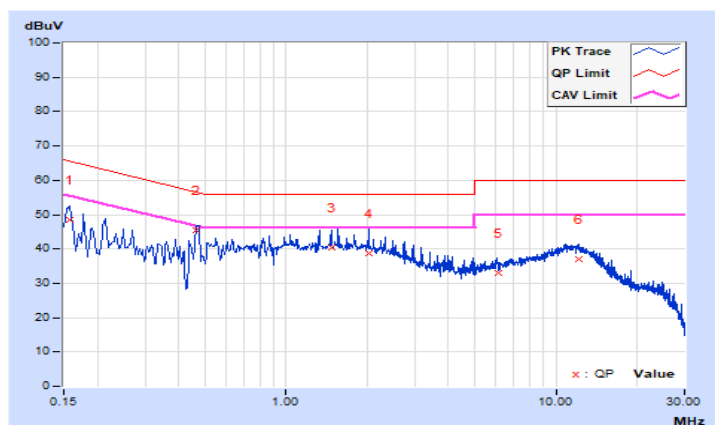
7.5 AC Power Conducted Emissions

RF Mode	TX 802.11b	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	22°C, 69% RH
Tested By	Thomas Cheng		

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	0.15770	10.13	38.37	20.57	48.50	30.70	65.58	55.58	-17.08	-24.88
2	0.46600	10.25	35.13	30.91	45.38	41.16	56.58	46.58	-11.20	-5.42
3	1.47000	10.33	29.98	22.38	40.31	32.71	56.00	46.00	-15.69	-13.29
4	2.02600	10.37	28.42	20.28	38.79	30.65	56.00	46.00	-17.21	-15.35
5	6.09000	10.42	22.52	14.30	32.94	24.72	60.00	50.00	-27.06	-25.28
6	12.10200	10.49	26.69	20.68	37.18	31.17	60.00	50.00	-22.82	-18.83

Remarks:

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

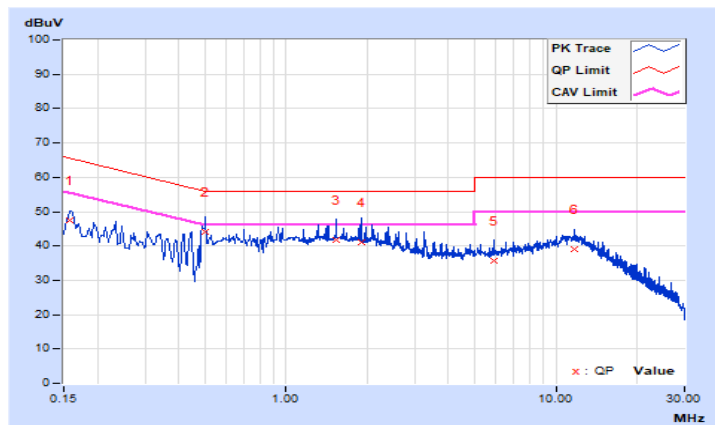


RF Mode	TX 802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Thomas Cheng		

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	0.15770	10.15	37.37	24.87	47.52	35.02	65.58	55.58	-18.06	-20.56
2	0.50200	10.27	33.71	24.96	43.98	35.23	56.00	46.00	-12.02	-10.77
3	1.53400	10.34	31.29	24.90	41.63	35.24	56.00	46.00	-14.37	-10.76
4	1.90200	10.36	30.79	23.49	41.15	33.85	56.00	46.00	-14.85	-12.15
5	5.89800	10.43	25.26	17.61	35.69	28.04	60.00	50.00	-24.31	-21.96
6	11.79000	10.55	28.39	21.93	38.94	32.48	60.00	50.00	-21.06	-17.52

Remarks:

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



7.6 Unwanted Emissions below 1 GHz

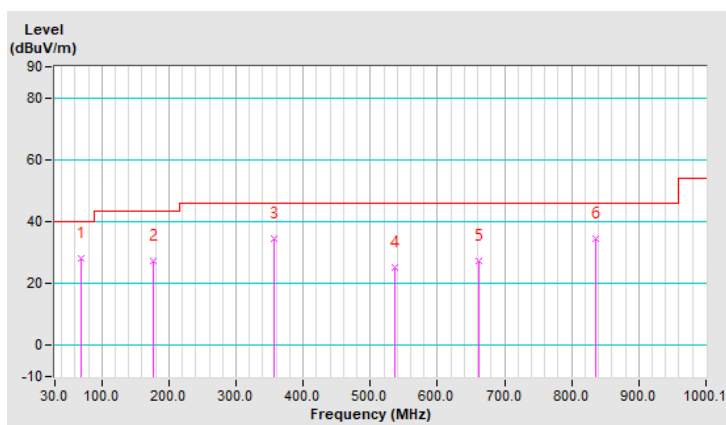
RF Mode	TX 802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	68.80	28.3 QP	40.0	-11.7	1.44 H	155	43.2	-14.9
2	177.46	27.2 QP	43.5	-16.3	2.62 H	100	41.2	-14.0
3	355.95	34.3 QP	46.0	-11.7	2.56 H	249	44.6	-10.3
4	537.36	25.3 QP	46.0	-20.7	2.20 H	84	30.8	-5.5
5	662.51	27.5 QP	46.0	-18.5	1.03 H	57	29.8	-2.3
6	836.15	34.4 QP	46.0	-11.6	2.12 H	122	33.3	1.1

Remarks:

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

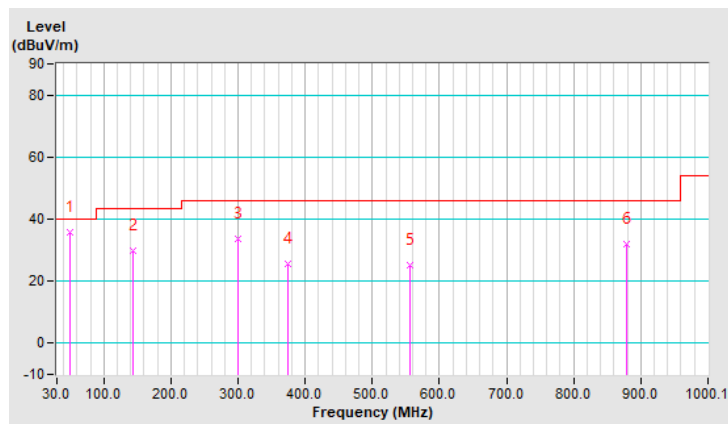


RF Mode	TX 802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	50.37	35.7 QP	40.0	-4.3	1.82 V	145	48.3	-12.6
2	143.50	30.0 QP	43.5	-13.5	2.98 V	354	42.3	-12.3
3	300.66	33.8 QP	46.0	-12.2	3.40 V	306	45.9	-12.1
4	373.42	25.8 QP	46.0	-20.2	1.40 V	11	35.5	-9.7
5	556.76	25.3 QP	46.0	-20.7	1.98 V	125	30.3	-5.0
6	877.87	32.1 QP	46.0	-13.9	1.18 V	273	30.7	1.4

Remarks:

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



7.7 Unwanted Emissions above 1 GHz

RF Mode	TX 802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	56.5 PK	74.0	-17.5	1.24 H	255	25.6	30.9
2	2390.00	45.2 AV	54.0	-8.8	1.24 H	255	14.3	30.9
3	*2412.00	107.2 PK			1.24 H	255	76.3	30.9
4	*2412.00	104.9 AV			1.24 H	255	74.0	30.9
5	4824.00	40.3 PK	74.0	-33.7	1.80 H	110	56.1	-15.8
6	4824.00	31.1 AV	54.0	-22.9	1.80 H	110	46.9	-15.8

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	2390.00	56.6 PK	74.0	-17.4	1.23 V	250	25.7	30.9
2	2390.00	46.1 AV	54.0	-7.9	1.23 V	250	15.2	30.9
3	*2412.00	118.2 PK			1.23 V	250	87.3	30.9
4	*2412.00	116.0 AV			1.23 V	250	85.1	30.9
5	4824.00	40.7 PK	74.0	-33.3	3.61 V	235	56.5	-15.8
6	4824.00	31.5 AV	54.0	-22.5	3.61 V	235	47.3	-15.8

Remarks:

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



RF Mode	TX 802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	107.1 PK			1.20 H	259	76.2	30.9
2	*2437.00	103.9 AV			1.20 H	259	73.0	30.9
3	4874.00	40.3 PK	74.0	-33.7	2.48 H	290	56.2	-15.9
4	4874.00	31.0 AV	54.0	-23.0	2.48 H	290	46.9	-15.9

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	*2437.00	118.6 PK			1.13 V	254	87.7	30.9
2	*2437.00	116.5 AV			1.13 V	254	85.6	30.9
3	4874.00	40.6 PK	74.0	-33.4	2.81 V	72	56.5	-15.9
4	4874.00	31.9 AV	54.0	-22.1	2.81 V	72	47.8	-15.9

Remarks:

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



RF Mode	TX 802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 2 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	107.0 PK			1.19 H	257	76.1	30.9
2	*2462.00	104.6 AV			1.19 H	257	73.7	30.9
3	2483.50	56.3 PK	74.0	-17.7	1.19 H	257	25.5	30.8
4	2483.50	45.5 AV	54.0	-8.5	1.19 H	257	14.7	30.8
5	4924.00	40.4 PK	74.0	-33.6	2.80 H	89	56.4	-16.0
6	4924.00	30.8 AV	54.0	-23.2	2.80 H	89	46.8	-16.0

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	*2462.00	118.4 PK			1.23 V	242	87.5	30.9
2	*2462.00	116.3 AV			1.23 V	242	85.4	30.9
3	2483.50	57.5 PK	74.0	-16.5	1.23 V	242	26.7	30.8
4	2483.50	48.0 AV	54.0	-6.0	1.23 V	242	17.2	30.8
5	4924.00	41.1 PK	74.0	-32.9	2.40 V	320	57.1	-16.0
6	4924.00	31.6 AV	54.0	-22.4	2.40 V	320	47.6	-16.0

Remarks:

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



RF Mode	TX 802.11g	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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	56.3 PK	74.0	-17.7	1.00 H	246	25.4	30.9
2	2390.00	46.0 AV	54.0	-8.0	1.00 H	246	15.1	30.9
3	*2412.00	106.0 PK			1.00 H	246	75.1	30.9
4	*2412.00	97.7 AV			1.00 H	246	66.8	30.9
5	4824.00	40.8 PK	74.0	-33.2	2.81 H	329	56.6	-15.8
6	4824.00	31.3 AV	54.0	-22.7	2.81 H	329	47.1	-15.8

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	2390.00	61.0 PK	74.0	-13.0	1.18 V	226	30.1	30.9
2	2390.00	51.7 AV	54.0	-2.3	1.18 V	226	20.8	30.9
3	*2412.00	116.3 PK			1.18 V	226	85.4	30.9
4	*2412.00	108.1 AV			1.18 V	226	77.2	30.9
5	4824.00	41.4 PK	74.0	-32.6	1.34 V	3	57.2	-15.8
6	4824.00	31.5 AV	54.0	-22.5	1.34 V	3	47.3	-15.8

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	111.3 PK			1.01 H	245	80.4	30.9
2	*2437.00	103.5 AV			1.01 H	245	72.6	30.9
3	4874.00	40.7 PK	74.0	-33.3	1.33 H	337	56.6	-15.9
4	4874.00	31.1 AV	54.0	-22.9	1.33 H	337	47.0	-15.9
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	*2437.00	121.7 PK			1.12 V	227	90.8	30.9
2	*2437.00	114.4 AV			1.12 V	227	83.5	30.9
3	4874.00	41.6 PK	74.0	-32.4	1.93 V	288	57.5	-15.9
4	4874.00	31.3 AV	54.0	-22.7	1.93 V	288	47.2	-15.9

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	105.1 PK			1.16 H	246	74.2	30.9
2	*2462.00	97.0 AV			1.16 H	246	66.1	30.9
3	2483.50	57.8 PK	74.0	-16.2	1.16 H	246	27.0	30.8
4	2483.50	46.7 AV	54.0	-7.3	1.16 H	246	15.9	30.8
5	4924.00	40.6 PK	74.0	-33.4	3.85 H	124	56.6	-16.0
6	4924.00	31.5 AV	54.0	-22.5	3.85 H	124	47.5	-16.0

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	*2462.00	115.5 PK			1.07 V	229	84.6	30.9
2	*2462.00	107.5 AV			1.07 V	229	76.6	30.9
3	2483.50	65.1 PK	74.0	-8.9	1.07 V	229	34.3	30.8
4	2483.50	53.2 AV	54.0	-0.8	1.07 V	229	22.4	30.8
5	4924.00	41.0 PK	74.0	-33.0	3.59 V	237	57.0	-16.0
6	4924.00	32.2 AV	54.0	-21.8	3.59 V	237	48.2	-16.0

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.

NSS 1

RF Mode	TX 802.11ax (HE20)	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	57.2 PK	74.0	-16.8	1.30 H	244	26.3	30.9
2	2390.00	46.5 AV	54.0	-7.5	1.30 H	244	15.6	30.9
3	*2412.00	109.0 PK			1.30 H	244	78.1	30.9
4	*2412.00	97.7 AV			1.30 H	244	66.8	30.9
5	4824.00	41.3 PK	74.0	-32.7	2.32 H	62	57.1	-15.8
6	4824.00	31.2 AV	54.0	-22.8	2.32 H	62	47.0	-15.8
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	2390.00	63.8 PK	74.0	-10.2	1.31 V	230	32.9	30.9
2	2390.00	53.0 AV	54.0	-1.0	1.31 V	230	22.1	30.9
3	*2412.00	119.1 PK			1.31 V	230	88.2	30.9
4	*2412.00	108.5 AV			1.31 V	230	77.6	30.9
5	4824.00	41.6 PK	74.0	-32.4	2.04 V	216	57.4	-15.8
6	4824.00	32.0 AV	54.0	-22.0	2.04 V	216	47.8	-15.8

Remarks:

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



RF Mode	TX 802.11ax (HE20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	114.1 PK			1.23 H	242	83.2	30.9
2	*2437.00	105.9 AV			1.23 H	242	75.0	30.9
3	4874.00	40.4 PK	74.0	-33.6	3.19 H	200	56.3	-15.9
4	4874.00	30.7 AV	54.0	-23.3	3.19 H	200	46.6	-15.9

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	*2437.00	124.4 PK			1.35 V	230	93.5	30.9
2	*2437.00	114.3 AV			1.35 V	230	83.4	30.9
3	4874.00	40.9 PK	74.0	-33.1	1.82 V	326	56.8	-15.9
4	4874.00	31.3 AV	54.0	-22.7	1.82 V	326	47.2	-15.9

Remarks:

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



RF Mode	TX 802.11ax (HE20)	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	105.8 PK			1.19 H	245	75.8	30.0
2	*2462.00	94.8 AV			1.19 H	245	64.8	30.0
3	2483.50	58.6 PK	74.0	-15.4	1.19 H	245	28.7	29.9
4	2483.50	47.3 AV	54.0	-6.7	1.19 H	245	17.4	29.9
5	4924.00	41.0 PK	74.0	-33.0	2.25 H	161	58.2	-17.2
6	4924.00	31.7 AV	54.0	-22.3	2.25 H	161	48.9	-17.2

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	*2462.00	117.5 PK			1.23 V	243	87.5	30.0
2	*2462.00	106.4 AV			1.23 V	243	76.4	30.0
3	2483.50	63.4 PK	74.0	-10.6	1.23 V	243	33.5	29.9
4	2483.50	53.5 AV	54.0	-0.5	1.23 V	243	23.6	29.9
5	4924.00	41.6 PK	74.0	-32.4	1.15 V	218	58.8	-17.2
6	4924.00	32.1 AV	54.0	-21.9	1.15 V	218	49.3	-17.2

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 3 : 2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	2385.00	58.2 PK	74.0	-15.8	1.28 H	251	28.3	29.9
2	2385.00	47.4 AV	54.0	-6.6	1.28 H	251	17.5	29.9
3	*2422.00	103.3 PK			1.28 H	251	73.4	29.9
4	*2422.00	92.4 AV			1.28 H	251	62.5	29.9
5	4844.00	40.3 PK	74.0	-33.7	3.40 H	182	57.5	-17.2
6	4844.00	30.1 AV	54.0	-23.9	3.40 H	182	47.3	-17.2
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	2386.00	64.5 PK	74.0	-9.5	1.25 V	12	34.6	29.9
2	2386.00	53.4 AV	54.0	-0.6	1.25 V	12	23.5	29.9
3	*2422.00	114.0 PK			1.25 V	12	84.1	29.9
4	*2422.00	103.4 AV			1.25 V	12	73.5	29.9
5	4844.00	40.5 PK	74.0	-33.5	1.79 V	181	57.7	-17.2
6	4844.00	30.4 AV	54.0	-23.6	1.79 V	181	47.6	-17.2

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	109.3 PK			1.23 H	248	78.4	30.9
2	*2437.00	97.8 AV			1.23 H	248	66.9	30.9
3	4874.00	40.9 PK	74.0	-33.1	2.96 H	6	56.8	-15.9
4	4874.00	31.1 AV	54.0	-22.9	2.96 H	6	47.0	-15.9
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	*2437.00	120.8 PK			1.54 V	38	89.9	30.9
2	*2437.00	109.2 AV			1.54 V	38	78.3	30.9
3	4874.00	41.2 PK	74.0	-32.8	1.66 V	88	57.1	-15.9
4	4874.00	31.4 AV	54.0	-22.6	1.66 V	88	47.3	-15.9

Remarks:

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



RF Mode	TX 802.11ax (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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	101.5 PK			1.43 H	246	71.5	30.0
2	*2452.00	88.8 AV			1.43 H	246	58.8	30.0
3	2483.50	58.0 PK	74.0	-16.0	1.43 H	246	28.1	29.9
4	2483.50	46.8 AV	54.0	-7.2	1.43 H	246	16.9	29.9
5	4904.00	41.2 PK	74.0	-32.8	2.35 H	277	58.3	-17.1
6	4904.00	30.8 AV	54.0	-23.2	2.35 H	277	47.9	-17.1

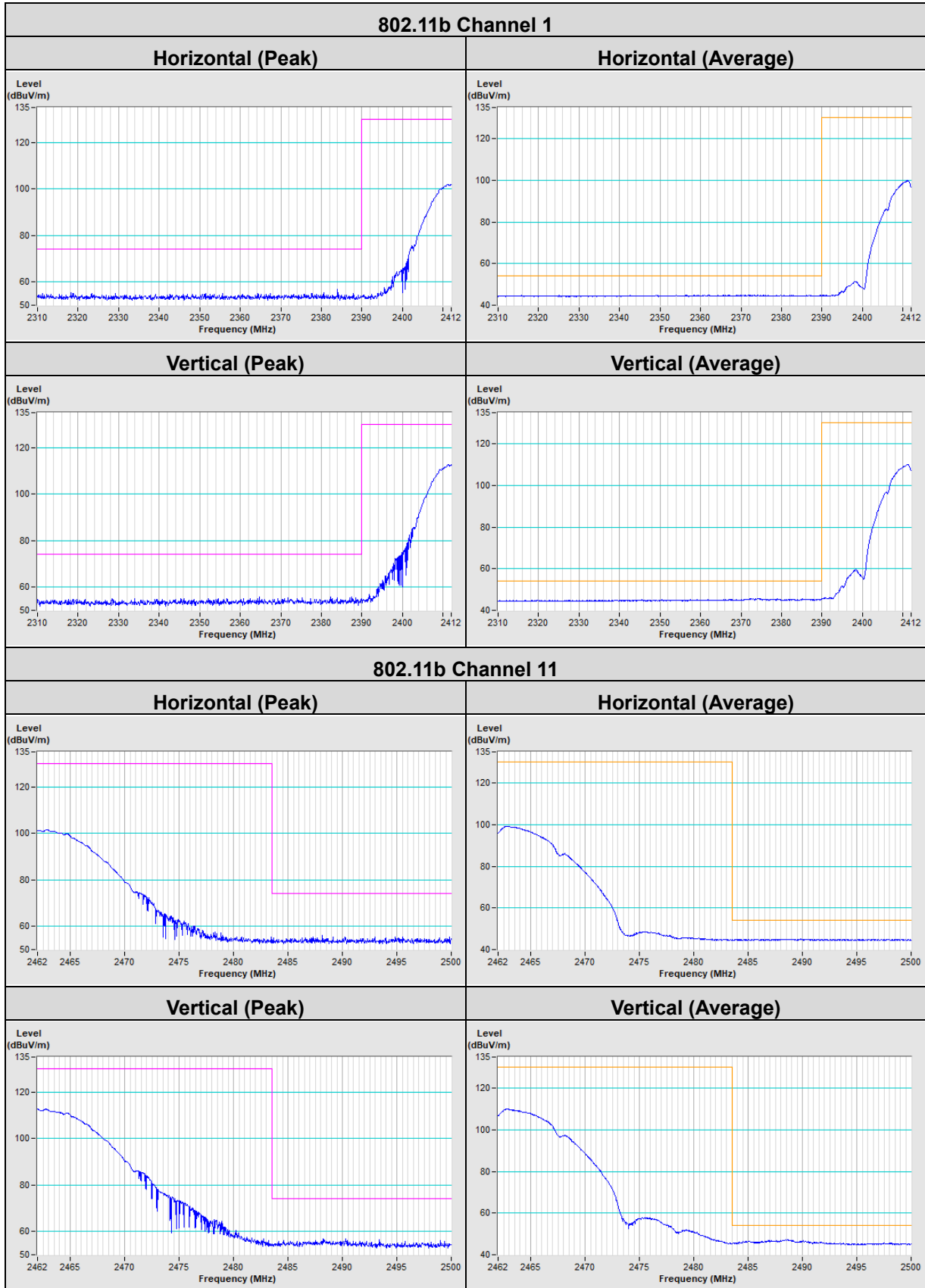
Antenna Polarity & Test Distance : Vertical at 3 m

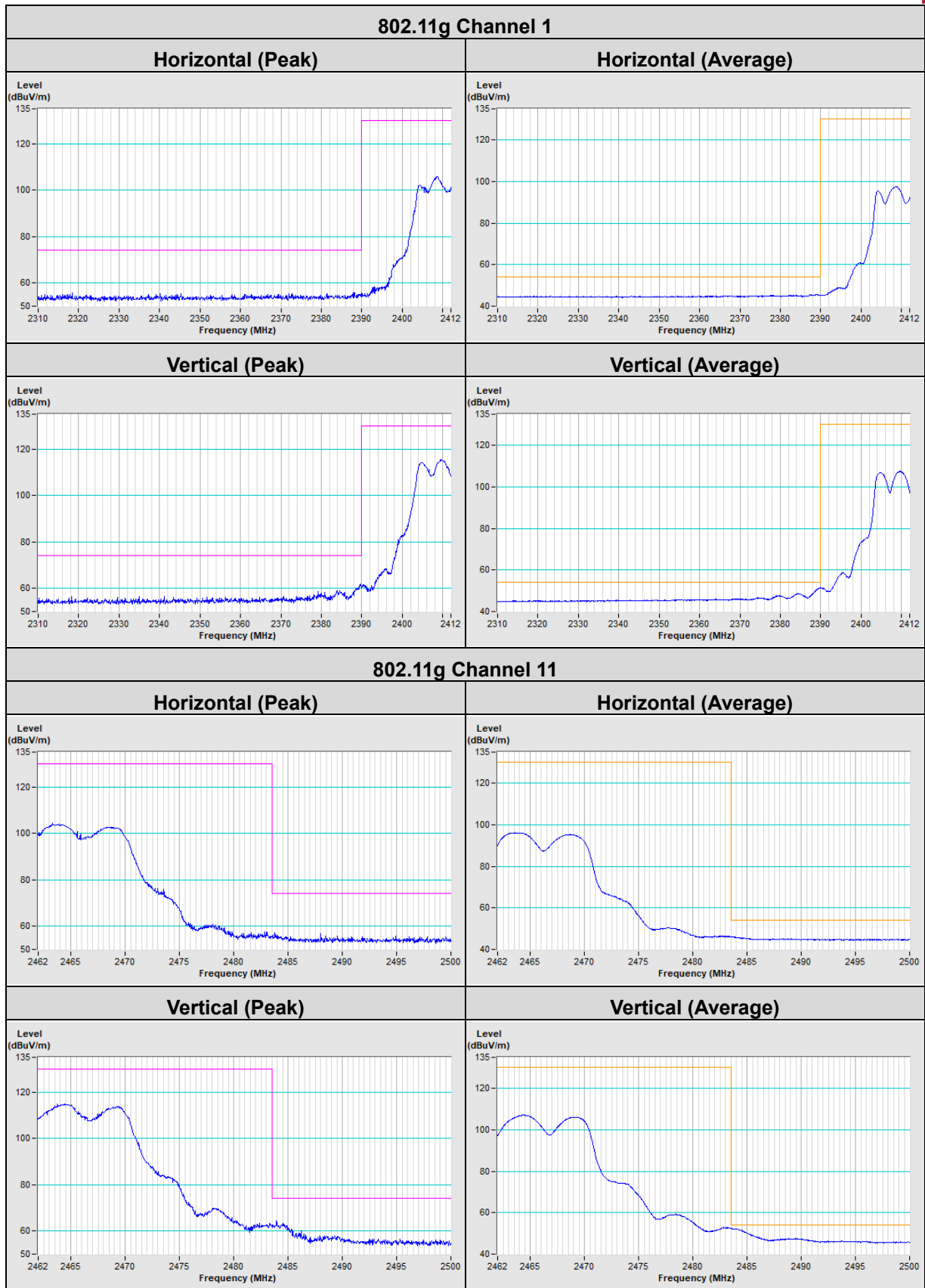
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1	*2452.00	113.6 PK			1.46 V	36	83.6	30.0
2	*2452.00	101.6 AV			1.46 V	36	71.6	30.0
3	2487.00	64.7 PK	74.0	-9.3	1.46 V	36	34.8	29.9
4	2487.00	53.4 AV	54.0	-0.6	1.46 V	36	23.5	29.9
5	4904.00	41.7 PK	74.0	-32.3	3.32 V	115	58.8	-17.1
6	4904.00	31.4 AV	54.0	-22.6	3.32 V	115	48.5	-17.1

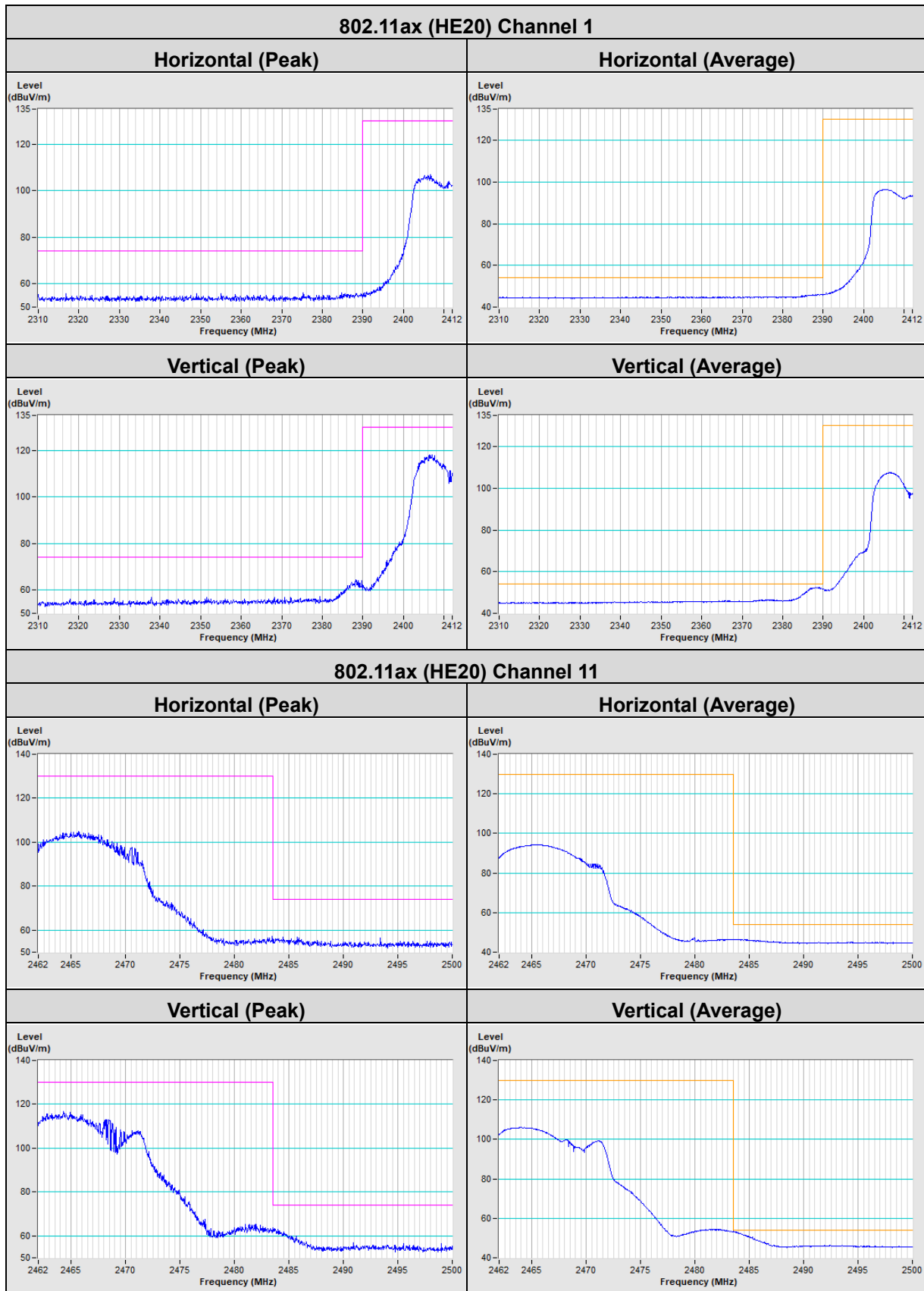
Remarks:

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

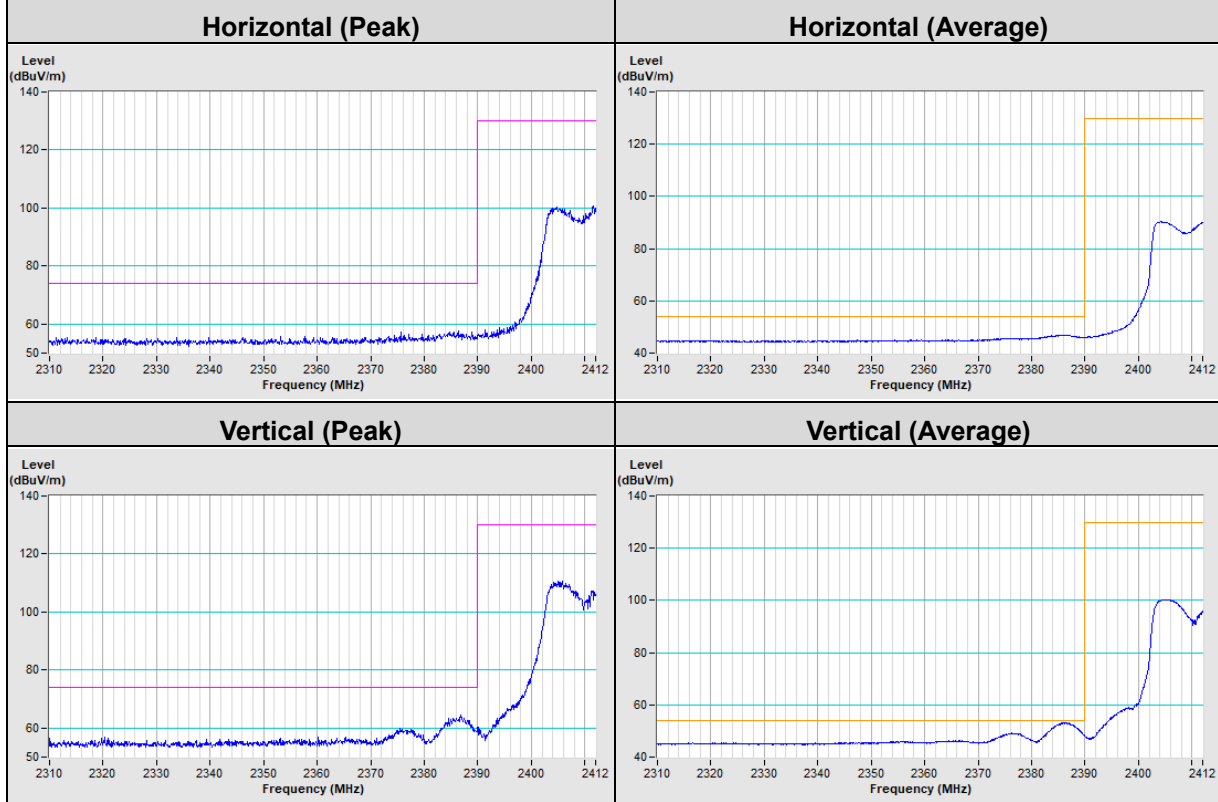
Plot of Band Edge



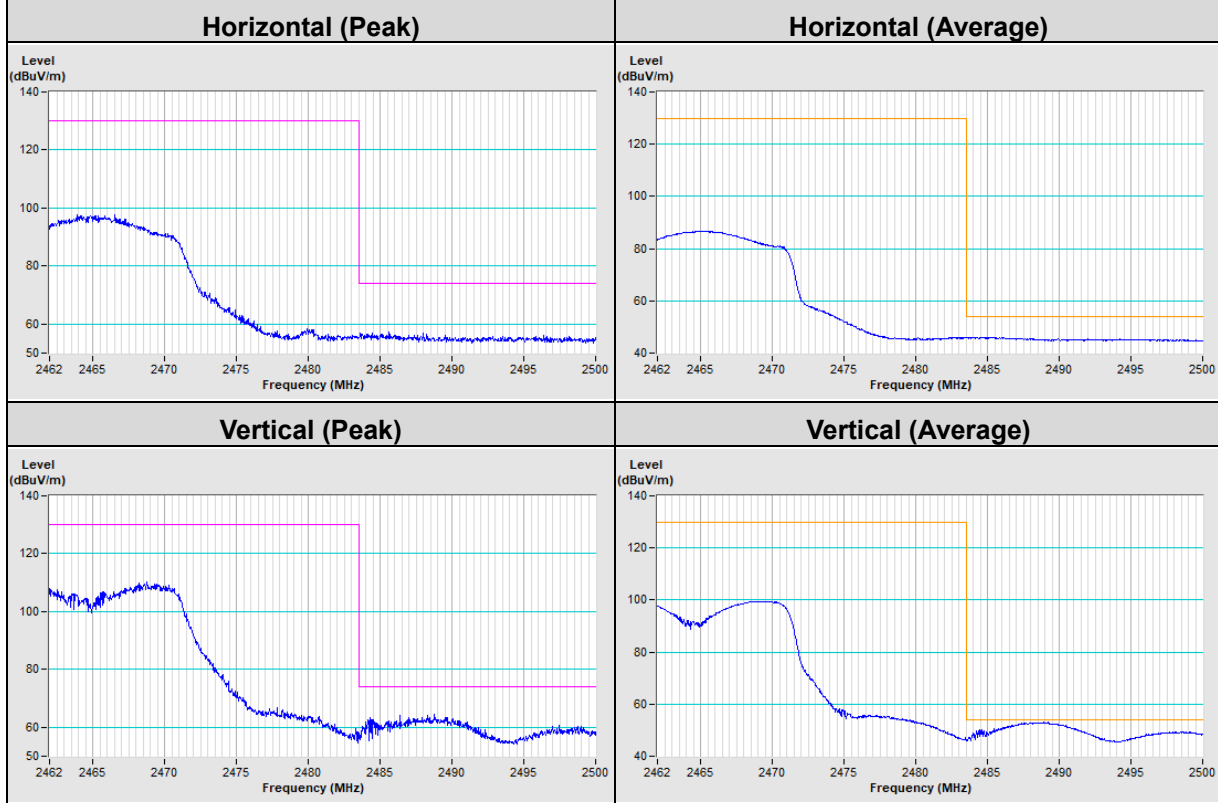




802.11ax (HE40) Channel 3



802.11ax (HE40) Channel 9



NSS 2

RF Mode	TX 802.11ax (HE20)	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	58.3 PK	74.0	-15.7	1.20 H	242	27.4	30.9
2	2390.00	48.5 AV	54.0	-5.5	1.20 H	242	17.6	30.9
3	*2412.00	108.5 PK			1.20 H	242	77.6	30.9
4	*2412.00	98.2 AV			1.20 H	242	67.3	30.9
5	4824.00	42.4 PK	74.0	-31.6	3.96 H	163	58.2	-15.8
6	4824.00	32.0 AV	54.0	-22.0	3.96 H	163	47.8	-15.8

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	2390.00	63.1 PK	74.0	-10.9	1.17 V	221	32.2	30.9
2	2390.00	52.4 AV	54.0	-1.6	1.17 V	221	21.5	30.9
3	*2412.00	117.4 PK			1.17 V	221	86.5	30.9
4	*2412.00	106.8 AV			1.17 V	221	75.9	30.9
5	4824.00	42.8 PK	74.0	-31.2	2.64 V	273	58.6	-15.8
6	4824.00	32.6 AV	54.0	-21.4	2.64 V	273	48.4	-15.8

Remarks:

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



RF Mode	TX 802.11ax (HE20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	114.1 PK			1.07 H	243	83.2	30.9
2	*2437.00	103.3 AV			1.07 H	243	72.4	30.9
3	4874.00	41.9 PK	74.0	-32.1	1.08 H	276	57.8	-15.9
4	4874.00	32.0 AV	54.0	-22.0	1.08 H	276	47.9	-15.9

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	*2437.00	122.2 PK			1.33 V	224	91.3	30.9
2	*2437.00	111.9 AV			1.33 V	224	81.0	30.9
3	4874.00	42.3 PK	74.0	-31.7	1.30 V	160	58.2	-15.9
4	4874.00	33.6 AV	54.0	-20.4	1.30 V	160	49.5	-15.9

Remarks:

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



RF Mode	TX 802.11ax (HE20)	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	106.6 PK			1.11 H	244	75.7	30.9
2	*2462.00	94.9 AV			1.11 H	244	64.0	30.9
3	2483.50	57.8 PK	74.0	-16.2	1.11 H	244	27.0	30.8
4	2483.50	47.7 AV	54.0	-6.3	1.11 H	244	16.9	30.8
5	4924.00	41.6 PK	74.0	-32.4	2.32 H	226	57.6	-16.0
6	4924.00	32.3 AV	54.0	-21.7	2.32 H	226	48.3	-16.0

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	*2462.00	115.3 PK			1.17 V	226	84.4	30.9
2	*2462.00	104.5 AV			1.17 V	226	73.6	30.9
3	2483.50	63.5 PK	74.0	-10.5	1.17 V	226	32.7	30.8
4	2483.50	53.3 AV	54.0	-0.7	1.17 V	226	22.5	30.8
5	4924.00	42.3 PK	74.0	-31.7	2.26 V	91	58.3	-16.0
6	4924.00	32.5 AV	54.0	-21.5	2.26 V	91	48.5	-16.0

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 3 : 2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	59.5 PK	74.0	-14.5	1.24 H	242	28.6	30.9
2	2390.00	48.6 AV	54.0	-5.4	1.24 H	242	17.7	30.9
3	*2422.00	102.8 PK			1.24 H	242	71.9	30.9
4	*2422.00	92.7 AV			1.24 H	242	61.8	30.9
5	4844.00	42.0 PK	74.0	-32.0	2.99 H	214	57.9	-15.9
6	4844.00	31.6 AV	54.0	-22.4	2.99 H	214	47.5	-15.9
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	62.5 PK	74.0	-11.5	1.07 V	216	31.6	30.9
2	2390.00	52.8 AV	54.0	-1.2	1.07 V	216	21.9	30.9
3	*2422.00	111.5 PK			1.07 V	216	80.6	30.9
4	*2422.00	101.3 AV			1.07 V	216	70.4	30.9
5	4844.00	42.9 PK	74.0	-31.1	1.02 V	77	58.8	-15.9
6	4844.00	32.3 AV	54.0	-21.7	1.02 V	77	48.2	-15.9

Remarks:

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



RF Mode	TX 802.11ax (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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	109.5 PK			1.09 H	244	78.6	30.9
2	*2437.00	98.9 AV			1.09 H	244	68.0	30.9
3	4874.00	42.3 PK	74.0	-31.7	2.03 H	145	58.2	-15.9
4	4874.00	32.4 AV	54.0	-21.6	2.03 H	145	48.3	-15.9

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	*2437.00	119.0 PK			1.32 V	224	88.1	30.9
2	*2437.00	108.8 AV			1.32 V	224	77.9	30.9
3	4874.00	43.0 PK	74.0	-31.0	1.20 V	154	58.9	-15.9
4	4874.00	33.5 AV	54.0	-20.5	1.20 V	154	49.4	-15.9

Remarks:

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



RF Mode	TX 802.11ax (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 = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 69% RH
Tested By	Thomas Cheng		

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	100.7 PK			1.24 H	244	69.8	30.9
2	*2452.00	89.3 AV			1.24 H	244	58.4	30.9
3	2483.50	58.9 PK	74.0	-15.1	1.24 H	244	28.1	30.8
4	2483.50	47.8 AV	54.0	-6.2	1.24 H	244	17.0	30.8
5	4904.00	42.2 PK	74.0	-31.8	2.87 H	241	58.1	-15.9
6	4904.00	32.3 AV	54.0	-21.7	2.87 H	241	48.2	-15.9

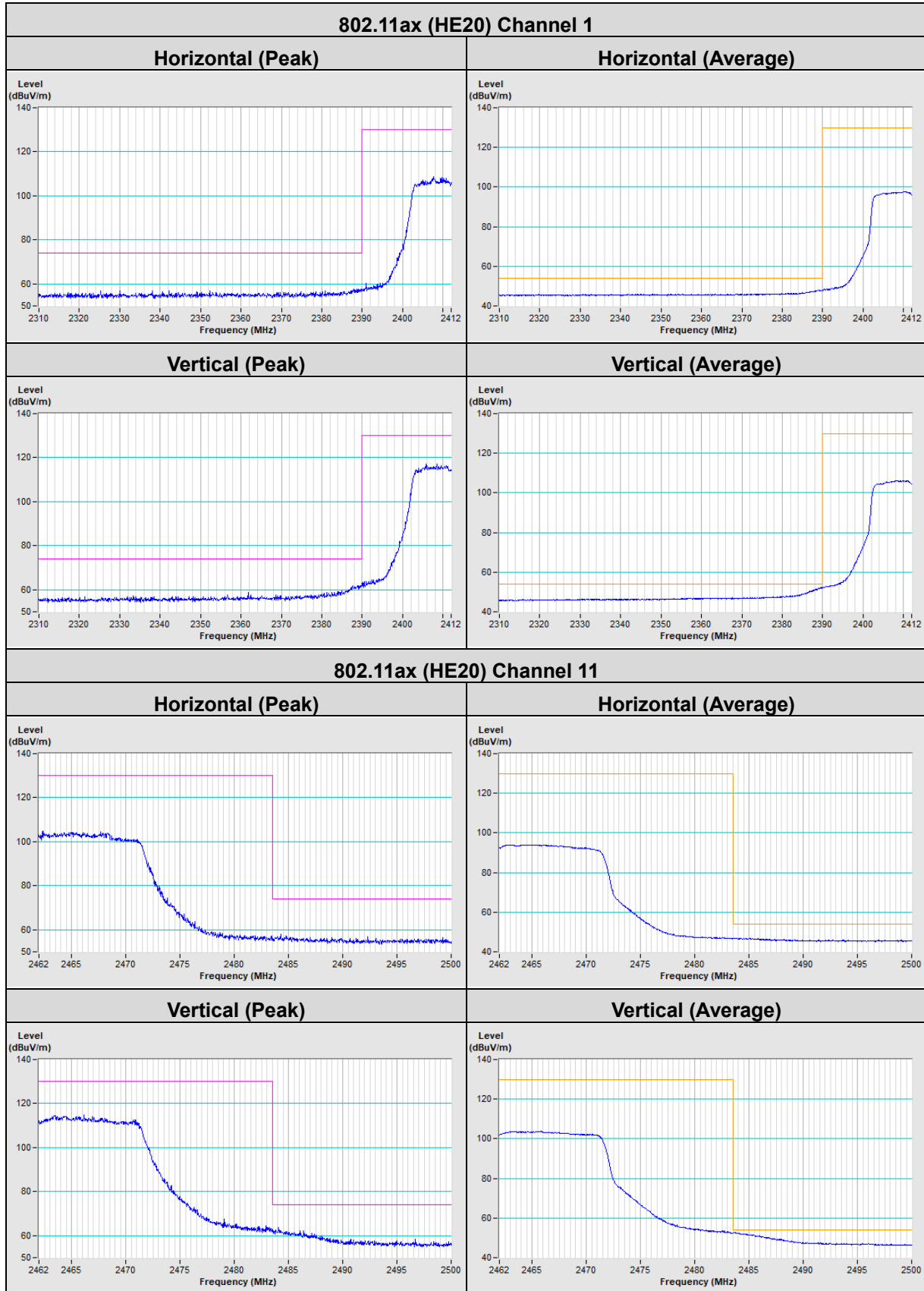
Antenna Polarity & Test Distance : Vertical at 3 m

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	*2452.00	109.9 PK			1.21 V	218	79.0	30.9
2	*2452.00	99.2 AV			1.21 V	218	68.3	30.9
3	2483.50	65.6 PK	74.0	-8.4	1.21 V	218	34.8	30.8
4	2483.50	53.1 AV	54.0	-0.9	1.21 V	218	22.3	30.8
5	4904.00	42.8 PK	74.0	-31.2	1.23 V	272	58.7	-15.9
6	4904.00	32.7 AV	54.0	-21.3	1.23 V	272	48.6	-15.9

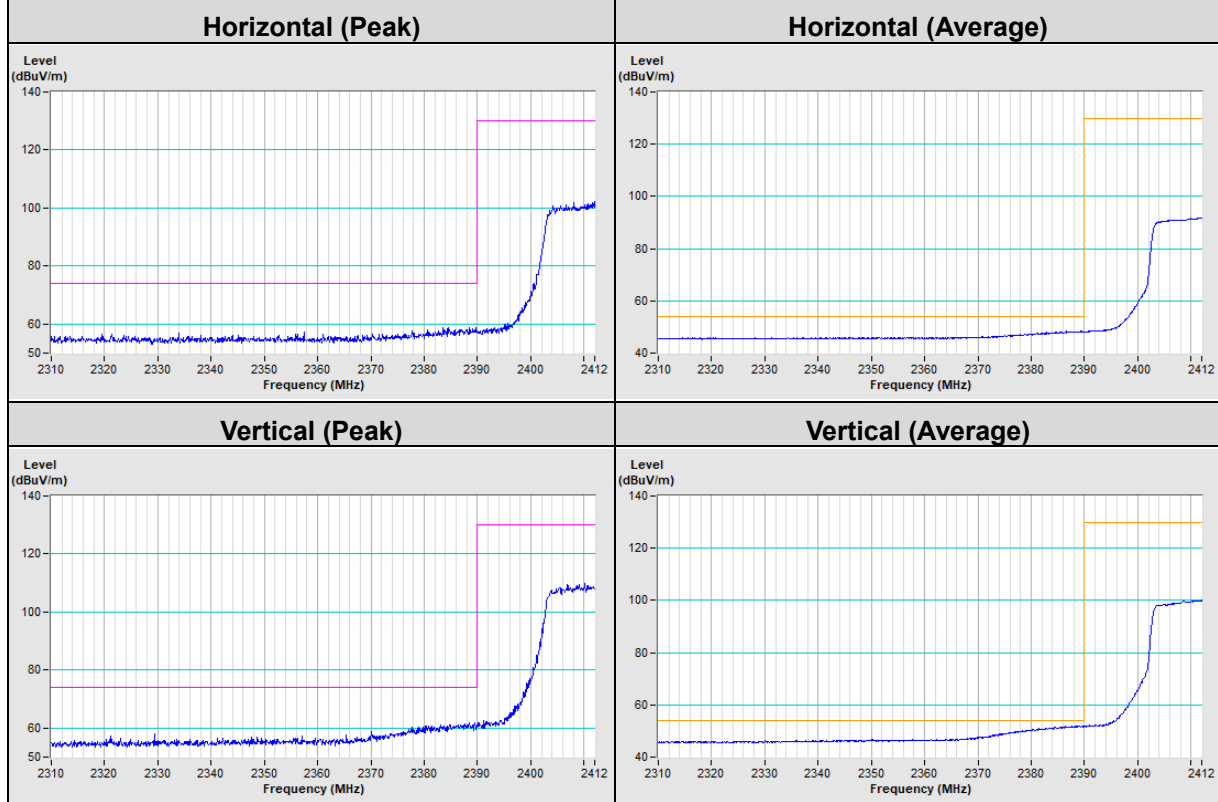
Remarks:

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.

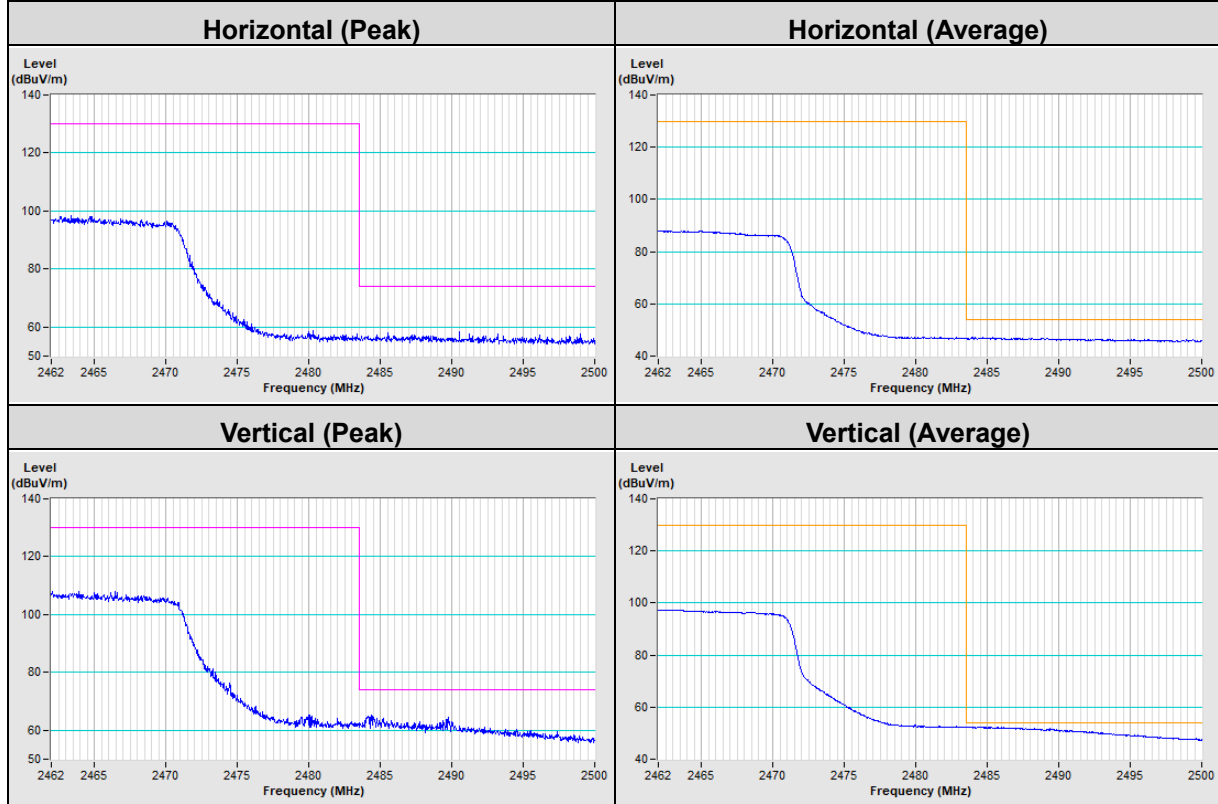
NSS 2 Plot of Band Edge



802.11ax (HE40) Channel 3



802.11ax (HE40) Channel 9



8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)



9 Information of the Testing Laboratories

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

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

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

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