

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBHQZ-WTW-P26060674

FCC ID: 2AWHPR261

Product: Starlink Router

Brand: SPACEX, SPACEX, X, STARLINK

Model No.: UTR-261

Received Date: 2026/6/26

Test Date: 2026/7/14 ~ 2026/7/29

Issued Date: 2026/8/7

Applicant: Space Exploration Technologies Corp. (SPACEX)

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 723255 / TW2022

Designation Number:

Approved by:



, Date:

2026/8/7

Wen Yu / Assistant Manager

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Prepared by : Claire Kuan / Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFBHQZ-WTW-P26060674	Original release.	2026/8/7

1 Certificate

Product: Starlink Router

Brand: SPACEX, *SPACE X*, *X*, STARLINK

Test Model: UTR-261

Sample Status: Engineering sample

Applicant: Space Exploration Technologies Corp. (SPACEX)

Test Date: 2026/7/14 ~ 2026/7/29

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

Measurement procedure: ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024
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 -10.27 dB at 0.86094 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -4.5 dB at 88.95 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.4 dB at 2390.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
RF Output Power	-	1.1 dB
Power Spectral Density	-	1.3 dB
6 dB Bandwidth	-	1050.00 Hz
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.6 dB
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.4 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.0 dB
	18 GHz ~ 40 GHz	5.3 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description

Product	Starlink Router
Brand	SPACE X, STARLINK
Test Model	UTR-261
Status of EUT	Engineering sample
Input Rating	20Vdc, 1.5A : 15Vdc, 2A : 57Vdc, 0.5A
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in VHT mode 1024QAM for OFDMA in 11ax mode 4096QAM for OFDMA in 11be mode
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: up to 11 Mbps 802.11g: up to 54 Mbps 802.11n: up to 600 Mbps VHT: up to 800 Mbps 802.11ax: up to 1147.1 Mbps 802.11be: up to 1376.5 Mbps
Operating Frequency	2.412 GHz ~ 2.462 GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20), 802.11be (EHT20):11 802.11n (HT40), VHT40, 802.11ax (HE40), 802.11be (EHT40):7
Partial RU Mode	Not support
Channel Puncturing	Not support
Output Power	CDD: 534.579 mW (27.28 dBm) Beamforming: 468.849 mW (26.71 dBm)

Note:

1. The EUT uses following accessories.

Item	Brand	Model	Specification
AC Adapter	STARLINK	UTP-271L	AC Input: 100-240 Vac, 1.5A, 50/60Hz DC Output: 5.0 Vdc, 3.0A : 9.0 Vdc, 3.0A : 15.0 Vdc, 3.0A : 20.0 Vdc, 3.0A LPS
PoE Adapter	STARLINK	UTP-253L	AC Input: 100-240V~2.5A 50/60Hz DC Output: 57V, 1.75A(x2) LPS(MAX 195W)
AC Power Cable	STARLINK	-	Signal Line: 1.6m, non-shielded
RJ45 Cable 1	STARLINK	-	CAT5E: 2m, shielded
RJ45 Cable 2	STARLINK	-	CAT5E: 15m, shielded

2. There are WLAN (2.4 GHz & 5 GHz) technology used for the EUT.

3. Simultaneously transmission combination.

Condition	Technology	
1	WLAN (2.4 GHz)	WLAN (5 GHz)

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

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

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna NO.	RF Chain NO.	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type
1	0	3.6	2.4~2.4835	PCB	ipex(MHF)
2	1	4.04	2.4~2.4835	PCB	ipex(MHF)
3	2	3.43	2.4~2.4835	PCB	ipex(MHF)
4	3	3.38	2.4~2.4835	PCB	ipex(MHF)
5	0	1.17	5.15~5.25	PCB	ipex(MHF)
		1.31	5.25~5.35		
		2.29	5.47~5.725		
		0.81	5.725~5.85		
		1.32	5.85~5.895		
6	1	3.03	5.15~5.25	PCB	ipex(MHF)
		3.19	5.25~5.35		
		2.87	5.47~5.725		
		2.90	5.725~5.85		
		2.57	5.85~5.895		
7	2	2.83	5.15~5.25	PCB	ipex(MHF)
		2.89	5.25~5.35		
		2.52	5.47~5.725		
		2.13	5.725~5.85		
		1.72	5.85~5.895		
8	3	3.38	5.15~5.25	PCB	ipex(MHF)
		3.38	5.25~5.35		
		3.66	5.47~5.725		
		3.47	5.725~5.85		
		3.28	5.85~5.895		
9	4	1.86	5.15~5.25	PCB	ipex(MHF)
		2.20	5.25~5.35		
		3.44	5.47~5.725		
		1.56	5.725~5.85		
		2.22	5.85~5.895		

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

2. The directional gain table:

Frequency Range (GHz)	Directional Antenna Gain (dBi)
2.4~2.4835	6.11
5.15 ~ 5.25	5.73
5.725 ~ 5.85	5.91
5.85~5.895	5.90

3. The EUT incorporates a MIMO function:

2.4 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11b	4TX	4RX
802.11g	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
VHT20	4TX	4RX
VHT40	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11be (EHT20)	4TX	4RX
802.11be (EHT40)	4TX	4RX

Note:

1. All of modulation mode support beamforming function except 802.11b/g modulation mode.
2. The EUT support Beamforming and CDD mode.
3. The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), VHT mode for 20 MHz (40 MHz), 802.11ax mode for 20 MHz (40 MHz) and 802.11be mode for 20 MHz (40 MHz). Therefore the investigated worst case is the representative mode in test report.

3.3 Channel List

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20), 802.11be (EHT20):

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

7 channels are provided for 802.11n (HT40), VHT40, 802.11ax (HE40), 802.11be (EHT40):

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 has the following operations/ usages: AC Adapter(UTP-271L)/ POE(UTP-253L). Pre-scan these operations/ usages and find the worst case as a representative test condition. 2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
Worst Case:	1. POE/ AC Adapter Worst Condition:POE(UTP-253L)

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

Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
	802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	802.11be (EHT20)	CDD & Beamforming	1, 6, 11	BPSK	MCS0
	802.11be (EHT40)	CDD & Beamforming	3, 6, 9	BPSK	MCS0
Power Spectral Density	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
	802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	802.11be (EHT20)	CDD	1, 6, 11	BPSK	MCS0
	802.11be (EHT40)	CDD	3, 6, 9	BPSK	MCS0
6 dB Bandwidth / Conducted Out of Band Emissions	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
	802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	802.11be (EHT20)	CDD	1, 6, 11	BPSK	MCS0
	802.11be (EHT40)	CDD	3, 6, 9	BPSK	MCS0
AC Power Conducted Emissions	802.11b	CDD	1	DBPSK	1Mb/s
Unwanted Emissions below 1 GHz	802.11b	CDD	1	DBPSK	1Mb/s
Unwanted Emissions above 1 GHz	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
	802.11g	CDD	1, 6, 11	BPSK	6Mb/s
	802.11be (EHT20)	CDD	1, 6, 11	BPSK	MCS0
	802.11be (EHT40)	CDD	3, 6, 9	BPSK	MCS0

Note:

1. The EUT is designed to be positioned on the z-plane only.

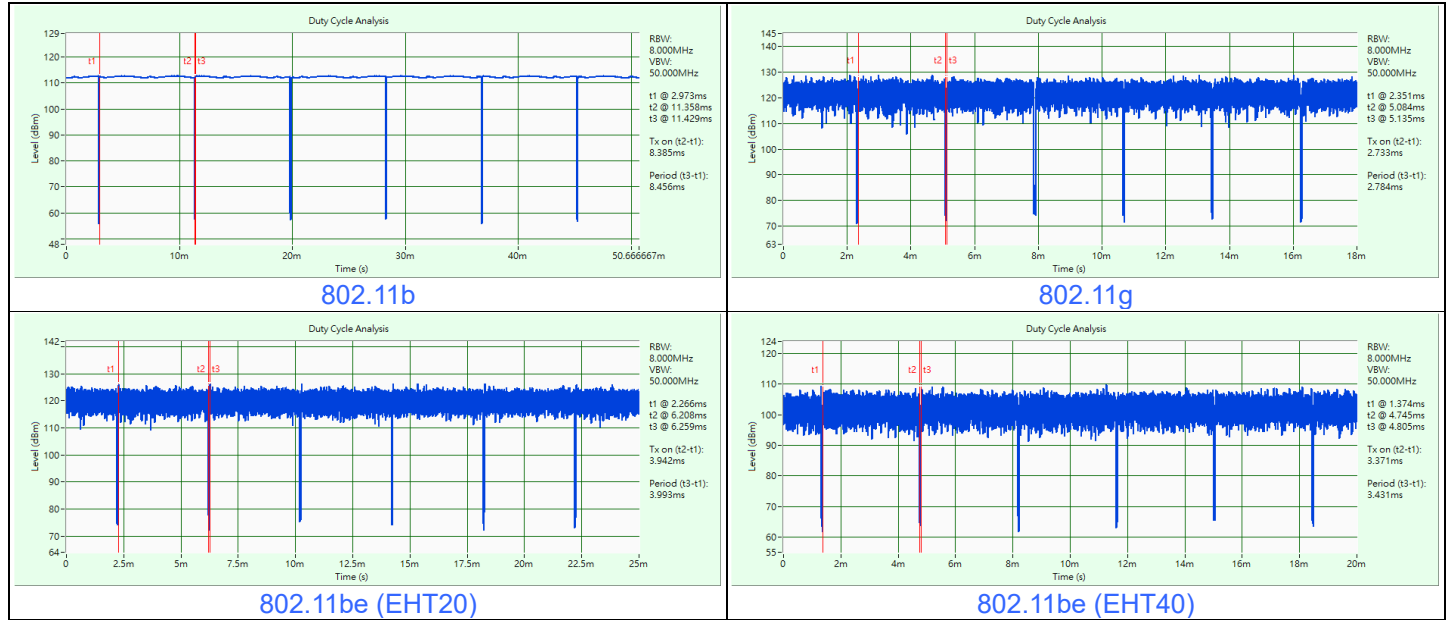
3.5 Duty Cycle of Test Signal

802.11b: Duty cycle = 8.385 ms / 8.456 ms x 100% = 99.2%

802.11g: Duty cycle = 2.733 ms / 2.784 ms x 100% = 98.2%

802.11be (EHT20): Duty cycle = 3.942 ms / 3.993 ms x 100% = 98.7%

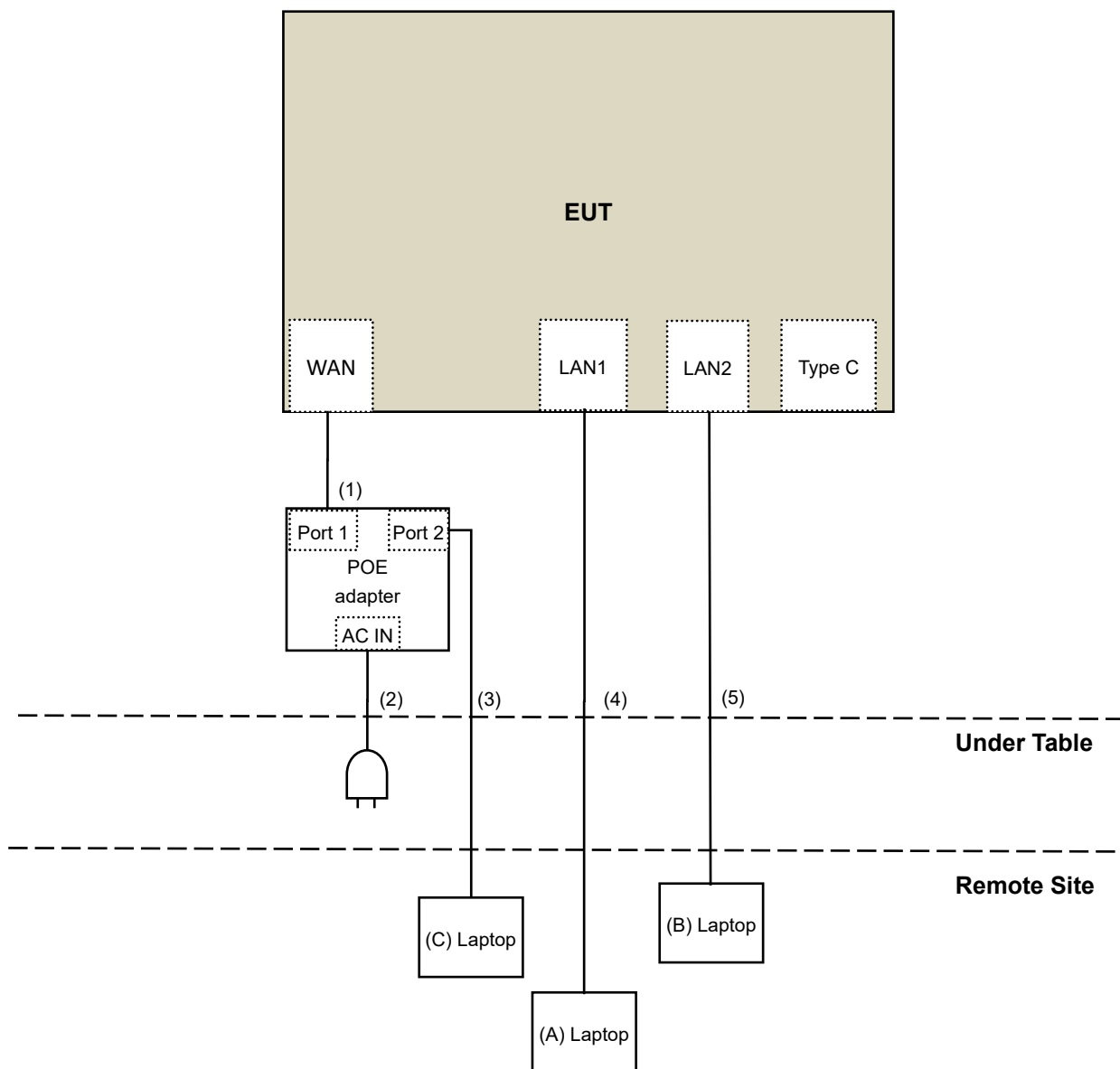
802.11be (EHT40): Duty cycle = 3.371 ms / 3.431 ms x 100% = 98.3%



3.6 Test Program Used and Operation Descriptions

Controlling software (QATool_20260409_mt76) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	Lenovo	81A4	YD02YN2A	PD93165N GU	Provided by Lab
B	Laptop	Lenovo	L480	RF1PRC03	N/A	Provided by Lab
C	Laptop	DELL	E6230	G94PSY1	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	1	2	Yes	0	Supplied by applicant
2	AC Power Cable	1	1.6	No	0	Supplied by applicant
3	RJ-45 Cable	1	15	Yes	0	Supplied by applicant
4	RJ-45 Cable	1	10	No	0	Provided by Lab
5	RJ-45 Cable	1	10	No	0	Provided by Lab

4 Test Instruments

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

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-20	00800A1K01A-20-02	2026/5/21	2027/5/20
Pulse Power Sensor Anritsu	MA2411B	1726433	2026/5/8	2027/5/7
RF Power Meter Anritsu	ML2496A	1529003	2026/6/15	2027/6/14

Notes:

1. The test was performed in HC - Oven room 2(Hsinchu).
2. Tested Date: 2026/7/22

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2026/5/21	2027/5/20
MXA Signal Analyzer Keysight	N9020B	MY60112408	2026/2/12	2027/2/11
Software	ADT_RF Test Software v8.5.6.4	N/A	N/A	N/A

Notes:

1. The test was performed in HC - Oven room 2(Hsinchu).
2. Tested Date: 2026/7/22

4.3 6 dB Bandwidth

Refer to section 4.2 to get the tested date and information of the instruments.

4.4 Conducted Out of Band Emissions

Refer to section 4.2 to get the tested date and information of the instruments.

4.5 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance Telegartner	50 ohm	3	2025/10/29	2026/10/28
EMI Test Receiver R&S	ESCS 30	100375	2026/5/20	2027/5/19
Fixed Attenuator STI	STI02-2200-10	005	2026/2/9	2027/2/8
LISN R&S	ESH3-Z5	835239/001	2026/3/30	2027/3/29
		848773/004	2025/10/3	2026/10/2
RF Coaxial Cable JYEBAO	5D-FB	COCCAB-001	2026/2/9	2027/2/8
Software BVADT	BVADT_Conc_V7.4.1.0	N/A	N/A	N/A

Notes:

1. The test was performed in HC - Conduction 1(Hsinchu).
2. Tested Date: 2026/7/29

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-361	2025/9/16	2026/9/15
Fix tool for Boresight antenna tower BV	FBA-01	FBA_SIP01	N/A	N/A
Fixed Attenuator Woken	00800N1G01A-05	00800N1G01A-05-003	2026/1/31	2027/1/30
Loop Antenna TESEQ	HLA 6121	63620	2025/10/20	2026/10/19
MXE EMI Receiver Agilent	N9038A	MY50010156	2026/6/22	2027/6/21
Preamplifier EMCI	EMC330N	980852	2026/1/31	2027/1/30
RF Coaxial Cable PEWC	8D	001	2026/1/31	2027/1/30
		966-3-2	2026/1/31	2027/1/30
		966-3-3	2026/1/31	2027/1/30
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in HC - 966 Chamber No. 3(Hsinchu).
2. Tested Date: 2026/7/29

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	N/A	N/A
Fix tool for Boresight antenna tower BV	FBA-01	FBA_SIP01	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-406	2025/11/9	2026/11/8
	BBHA 9170	9170-739	2025/11/9	2026/11/8
MXE EMI Receiver Agilent	N9038A	MY50010156	2026/6/22	2027/6/21
Preamplifier EMCI	EMC12630SE	980384	2026/1/10	2027/1/9
	EMC184045SE	980387	2025/8/7	2026/8/6
PXA Signal Analyzer Keysight	N9030B	MY57141948	2026/5/25	2027/5/24
RF Coaxial Cable EMCI	EMC102-KM-KM-1200	160924	2026/1/15	2027/1/14
	EMC102-KM-KM-4000	200214	2026/1/15	2027/1/14
	EMC104-SM-SM-1500	180504	2026/1/17	2027/1/16
	EMC104-SM-SM-2000	180601	2026/1/17	2027/1/16
	EMC104-SM-SM-6000	210201	2026/1/17	2027/1/16
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in HC - 966 Chamber No. 3(Hsinchu).
2. Tested Date: 2026/7/14

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	$2400/F(\text{kHz})$	300
0.490 ~ 1.705	$24000/F(\text{kHz})$	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

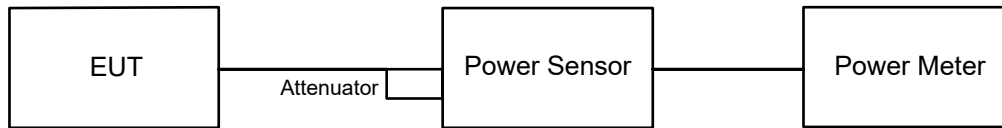
Notes:

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



Note: The correction factor has already been compensated by the instrument.

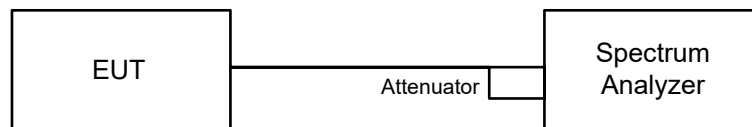
6.1.2 Test Procedure

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



Note: The correction factor has already been compensated by the instrument.

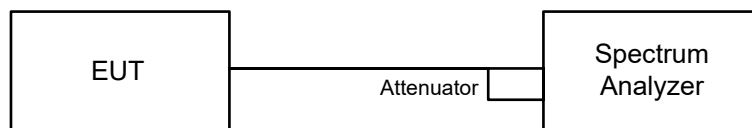
6.2.2 Test Procedure

- a. Measure the duty cycle (x).
- b. Set instrument center frequency to DTS channel center frequency.
- c. Set span to > 1.5 times the OBW.
- d. Set RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- e. Set VBW $\geq 3 \times \text{RBW}$.
- f. Detector = power averaging (RMS) or sample detector (when RMS not available).
- g. Ensure that the number of measurement points in the sweep $\geq 2 \times \text{span/RBW}$.
- 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



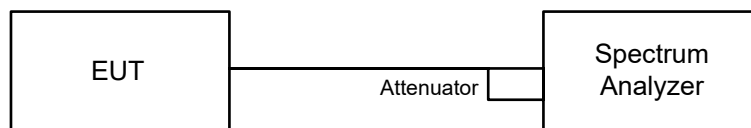
Note: The correction factor has already been compensated by the instrument.

6.3.2 Test Procedure

- a. Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- b. Set the VBW $\geq [3 \times \text{RBW}]$.
- c. Detector = peak.
- d. Trace mode = max-hold.
- e. Sweep = No faster than coupled (auto) time.
- f. Allow the trace to stabilize.
- g. Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-6 dB down amplitude”. If a marker is below this “-6 dB down amplitude” value, then it shall be as close as possible to this value.

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



Note: The correction factor has already been compensated by the instrument.

6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

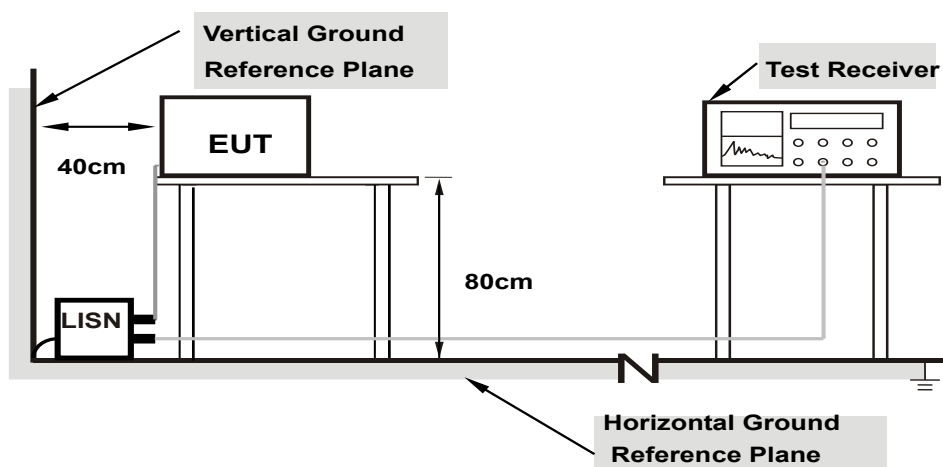
- Set instrument center frequency to DTS channel center frequency.
- Set the span to ≥ 1.5 times the DTS bandwidth.
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum PSD level.

MEASUREMENT PROCEDURE OOB

- Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.
- Set RBW = 100 kHz.
- Set VBW ≥ 300 kHz.
- Detector = peak.
- Sweep = No faster than coupled (auto) time.
- 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

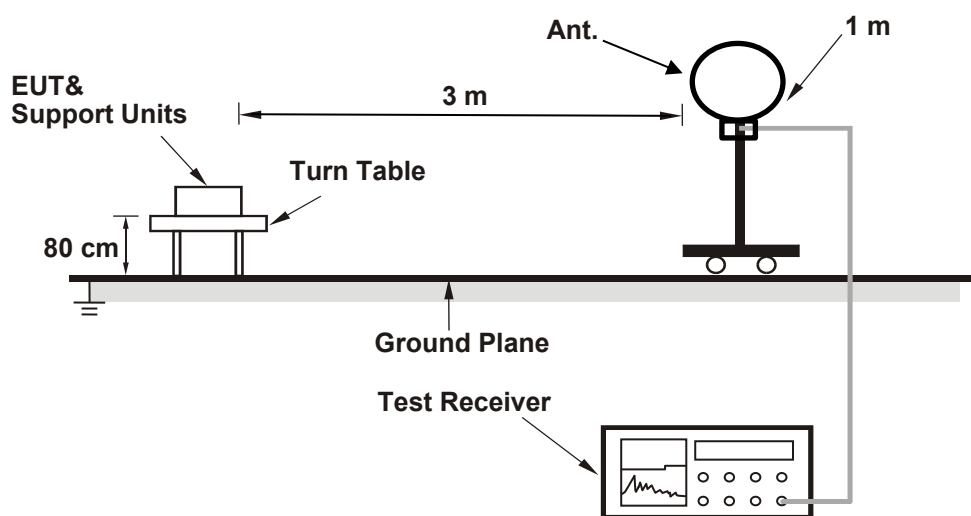
- Exploratory ac power-line conducted emission measurements: The EUT shall be operated on the mid channel and in the mode with highest output power unless the fundamental operates in the AC power-line emission test range then the EUT shall be operated in the range of typical modes of operation.
- The 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.

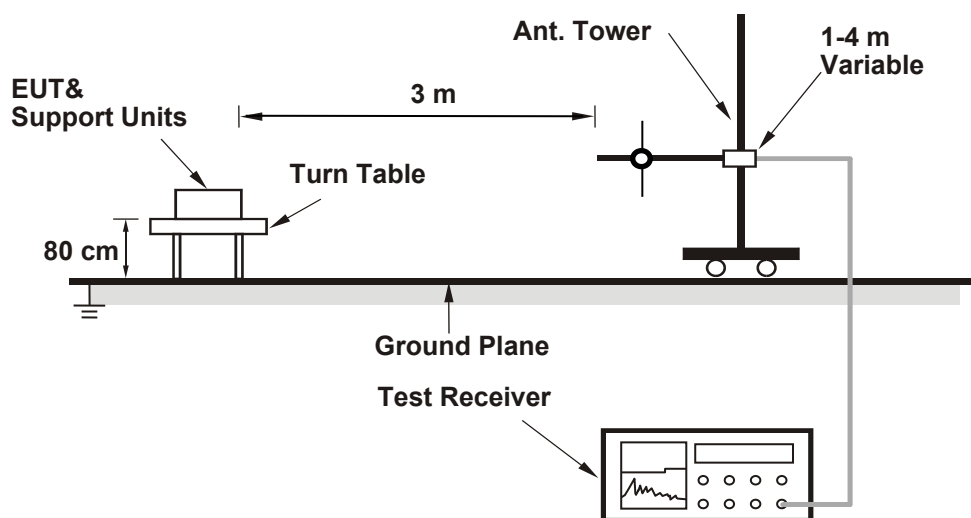
6.6 Unwanted Emissions below 1 GHz

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 (however, peak detector measurements may be used to determine compliance with QP requirements), 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

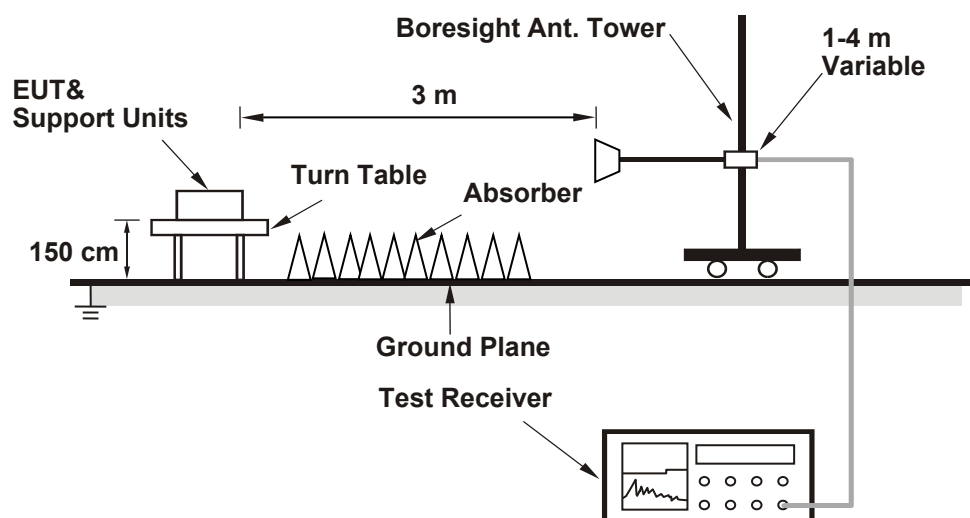
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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(QP) detect function, Average(AV) detect function, Peak(PK) detect function and specified bandwidth with maximum hold mode when the test frequencies less than or equal to 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 (however, peak detector measurements may be used to determine compliance with QP requirements).
2. All modes of operation were investigated and the worst-case emissions are reported.

6.7 Unwanted Emissions above 1 GHz

6.7.1 Test Setup



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

6.7.2 Test Procedure

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Notes:

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

7 Test Results of Test Item

7.1 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	26°C, 62% RH	Tested By:	Stars Liu
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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	Chain 2	Chain 3				
1	2412	21.52	21.13	21.36	21.01	534.579	27.28	30	Pass
6	2437	21.25	21.02	21.38	20.95	521.681	27.17	30	Pass
11	2462	20.12	20.01	20.45	19.75	408.356	26.11	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 4.04 dBi $\leq$ 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	Chain 2	Chain 3				
1	2412	18.34	17.91	18.09	17.93	256.539	24.09	30	Pass
6	2437	20.66	20.41	20.64	20.33	450.086	26.53	30	Pass
11	2462	19.06	18.71	18.98	18.67	307.528	24.88	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 4.04 dBi $\leq$ 6 dBi, so the output power limit shall not be reduced.

802.11be (EHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	18.05	17.57	17.81	17.73	240.662	23.81	30	Pass
6	2437	20.89	20.58	20.74	20.54	468.849	26.71	30	Pass
11	2462	18.64	18.42	18.67	18.37	284.944	24.55	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 4.04 dBi $\leq$ 6 dBi, so the output power limit shall not be reduced.

802.11be (EHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	18.24	17.85	18.02	17.83	251.695	24.01	30	Pass
6	2437	19.27	18.86	19.01	18.82	317.265	25.01	30	Pass
9	2452	17.89	17.71	17.92	17.63	240.425	23.81	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 4.04 dBi $\leq$ 6 dBi, so the output power limit shall not be reduced.

802.11be (EHT20) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	18.05	17.57	17.81	17.73	240.662	23.81	29.89	Pass
6	2437	20.89	20.58	20.74	20.54	468.849	26.71	29.89	Pass
11	2462	18.64	18.42	18.67	18.37	284.944	24.55	29.89	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. The directional gain is 6.11 dBi $>$ 6 dBi, so the output power limit shall be reduced to $30 - (6.11 - 6) = 29.89$ dBm.

802.11be (EHT40) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	18.24	17.85	18.02	17.83	251.695	24.01	29.89	Pass
6	2437	19.27	18.86	19.01	18.82	317.265	25.01	29.89	Pass
9	2452	17.89	17.71	17.92	17.63	240.425	23.81	29.89	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. The directional gain is 6.11 dBi $>$ 6 dBi, so the output power limit shall be reduced to $30 - (6.11 - 6) = 29.89$ dBm.

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	26°C, 62% RH	Tested By:	Stars Liu
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802.11b

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
1	2412	-9.58	-10.13	-10.68	-10.78	-4.24	7.89	Pass
6	2437	-9.84	-10.22	-10.48	-11.22	-4.39	7.89	Pass
11	2462	-10.61	-11.45	-11.09	-12.13	-5.26	7.89	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. The directional gain is 6.11 dBi > 6 dBi, so the power density limit shall be reduced to $8-(6.11-6) = 7.89$ dBm/3kHz.

802.11g

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
1	2412	-15.59	-16.45	-16.83	-16.58	-10.32	7.89	Pass
6	2437	-13.38	-13.93	-14.05	-14.33	-7.89	7.89	Pass
11	2462	-14.89	-15.52	-15.38	-15.79	-9.36	7.89	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. The directional gain is 6.11 dBi > 6 dBi, so the power density limit shall be reduced to $8-(6.11-6) = 7.89$ dBm/3kHz.

802.11be (EHT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
1	2412	-15.61	-18.21	-18.48	-18.54	-11.50	7.89	Pass
6	2437	-14.86	-15.27	-15.49	-15.39	-9.23	7.89	Pass
11	2462	-16.94	-17.32	-17.37	-17.92	-11.35	7.89	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. The directional gain is 6.11 dBi > 6 dBi, so the power density limit shall be reduced to $8-(6.11-6) = 7.89$ dBm/3kHz.

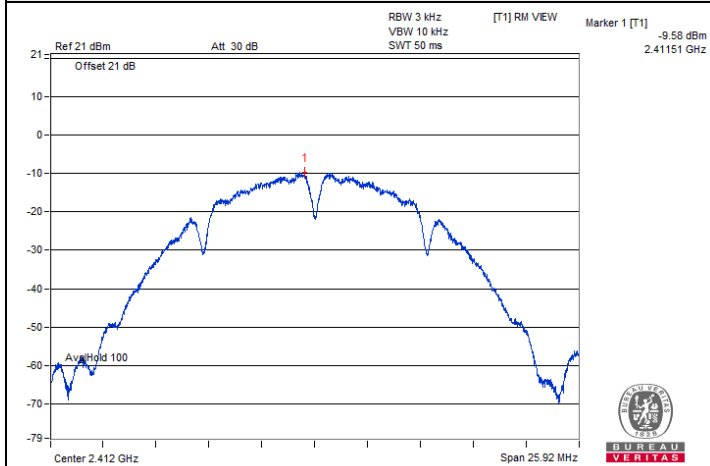
802.11be (EHT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
3	2422	-20.03	-20.57	-20.50	-21.03	-14.50	7.89	Pass
6	2437	-18.97	-19.53	-19.44	-19.93	-13.43	7.89	Pass
9	2452	-20.25	-20.55	-20.50	-21.10	-14.57	7.89	Pass

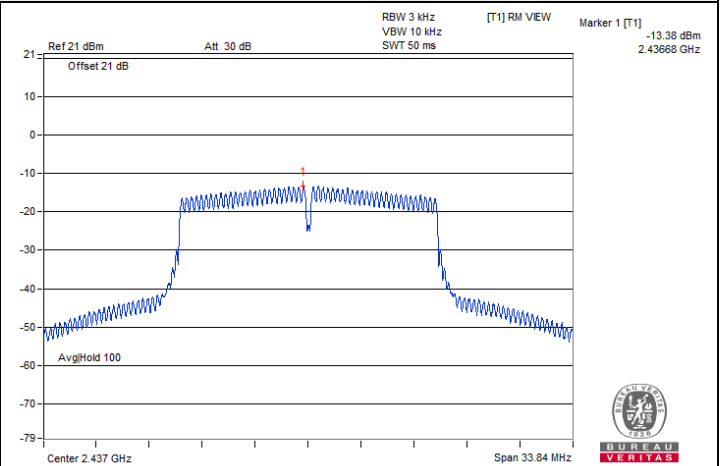
Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. The directional gain is 6.11 dBi > 6 dBi, so the power density limit shall be reduced to $8-(6.11-6) = 7.89$ dBm/3kHz.

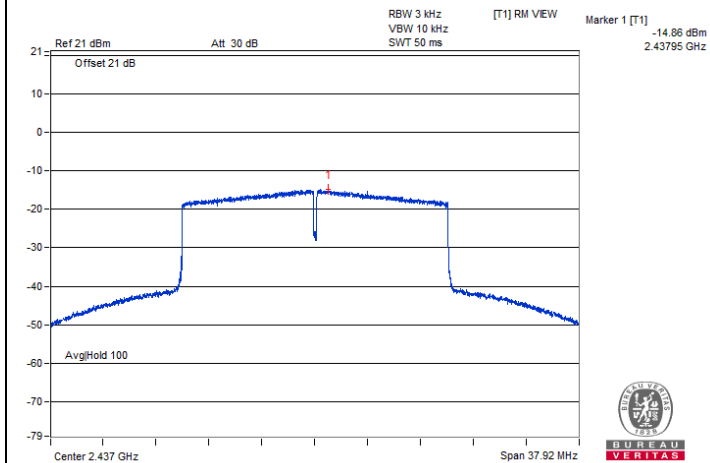
Spectrum Plot of Maximum Value



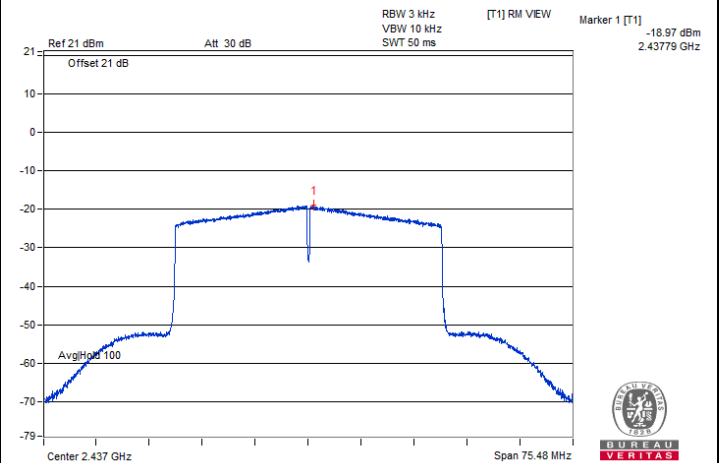
802.11b / Chain 0: CH 1



802.11g / Chain 0: CH 6



802.11be (EHT20) / Chain 0: CH 6



802.11be (EHT40) / Chain 0: CH 6

7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	26°C, 62% RH	Tested By:	Stars Liu
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802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	8.25	8.25	8.25	8.25	0.5	Pass
6	2437	8.25	8.25	8.25	8.25	0.5	Pass
11	2462	8.23	8.24	8.24	8.25	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	16.45	16.46	16.39	16.41	0.5	Pass
6	2437	16.41	16.49	16.44	16.41	0.5	Pass
11	2462	16.34	16.43	16.46	16.37	0.5	Pass

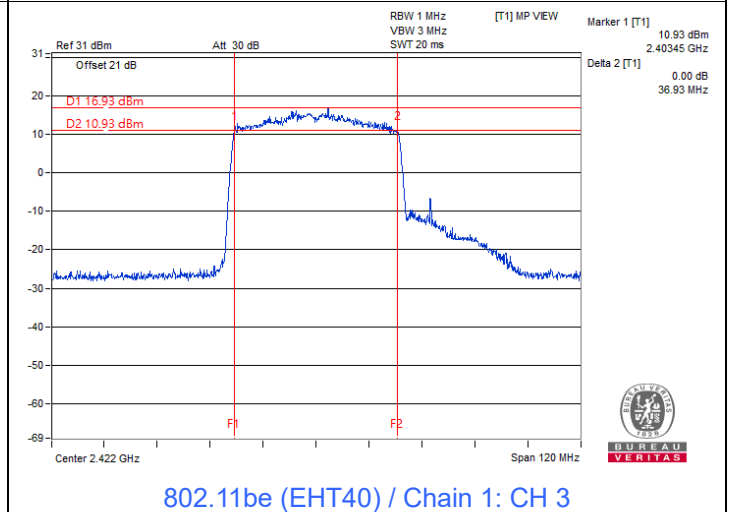
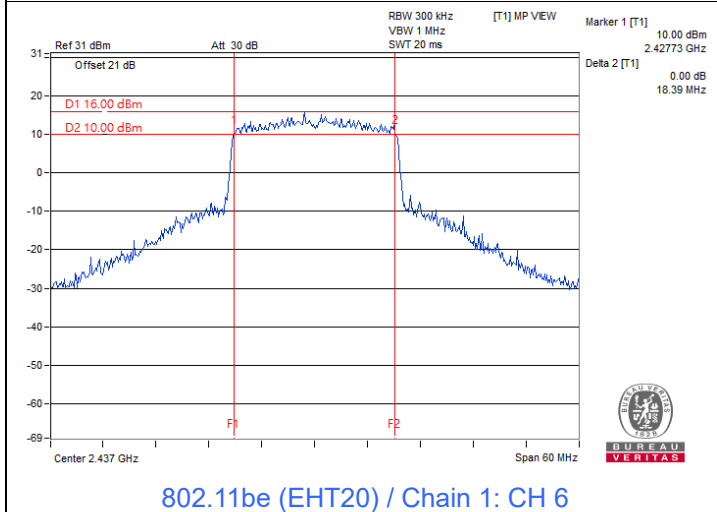
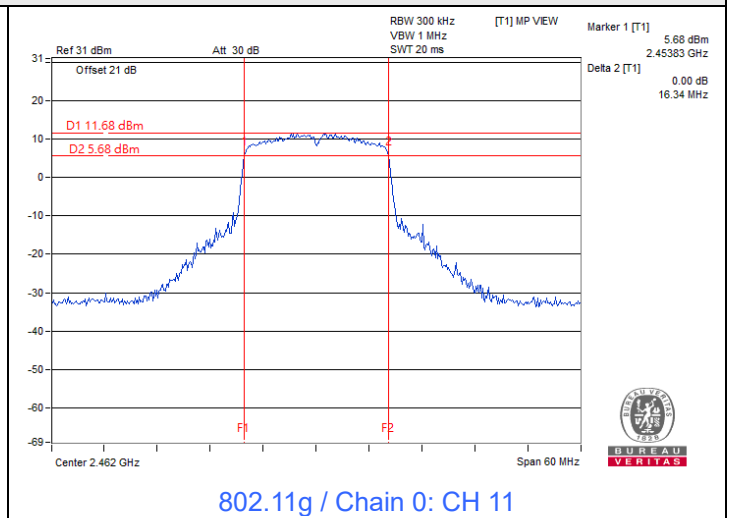
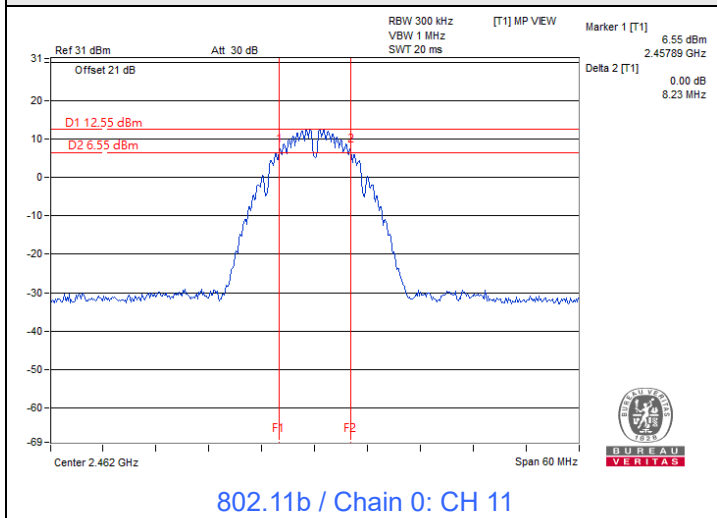
802.11be (EHT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	18.95	18.85	18.71	18.86	0.5	Pass
6	2437	18.91	18.39	18.79	18.84	0.5	Pass
11	2462	18.93	18.79	18.89	18.91	0.5	Pass

802.11be (EHT40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
3	2422	37.41	36.93	37.27	37.33	0.5	Pass
6	2437	37.03	37.26	37.47	37.52	0.5	Pass
9	2452	37.49	37.45	37.01	37.48	0.5	Pass

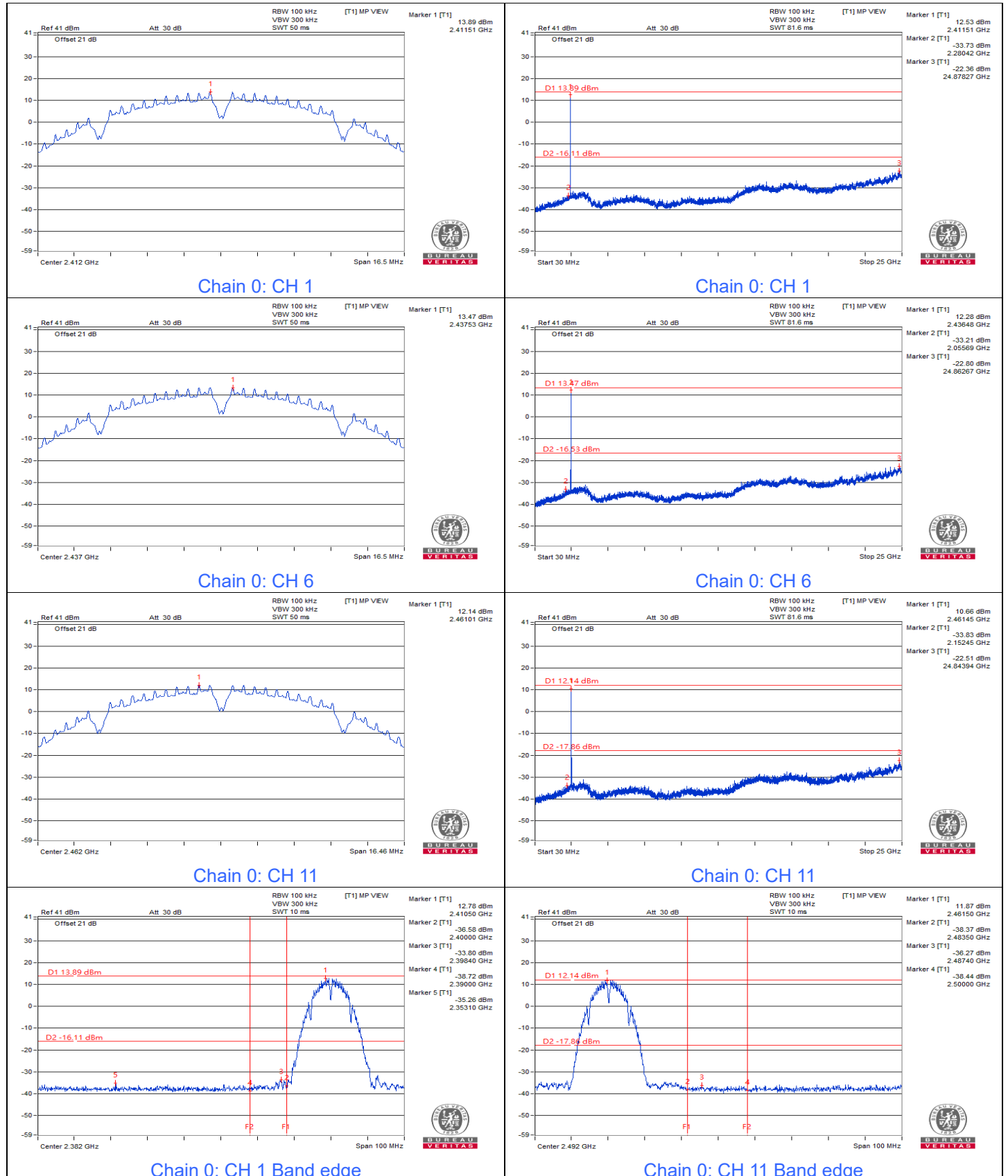
Spectrum Plot of Minimum Value

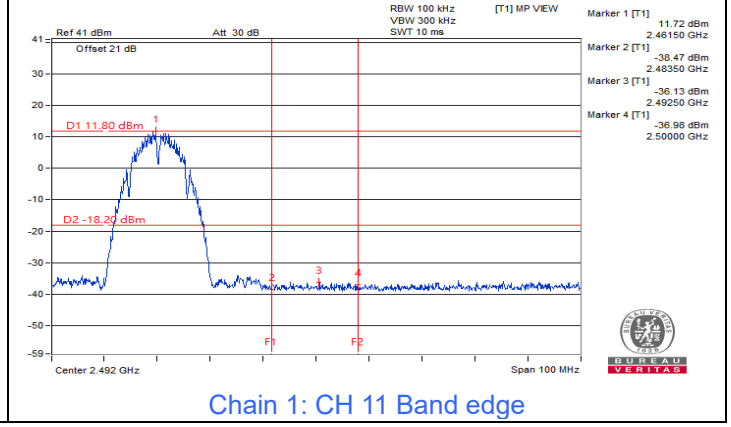
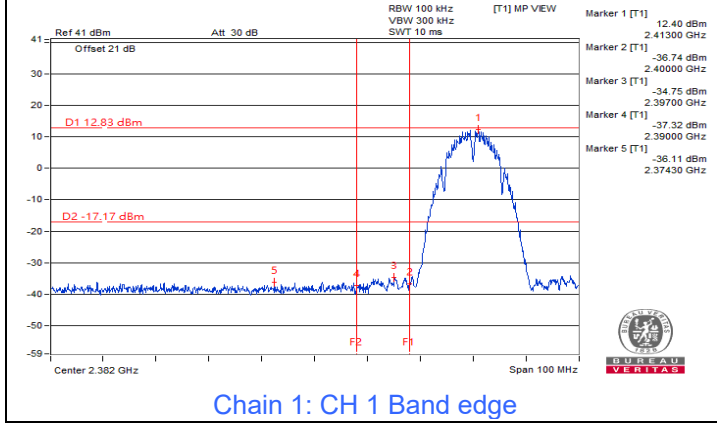
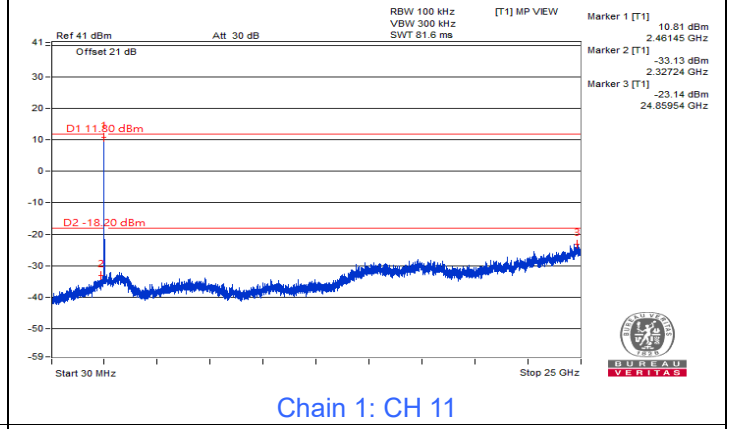
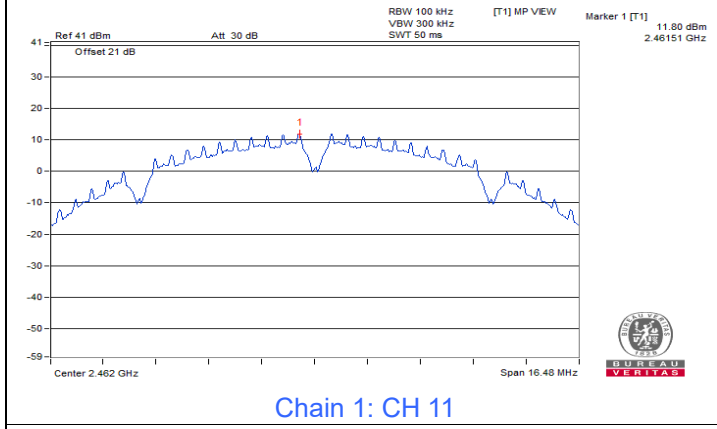
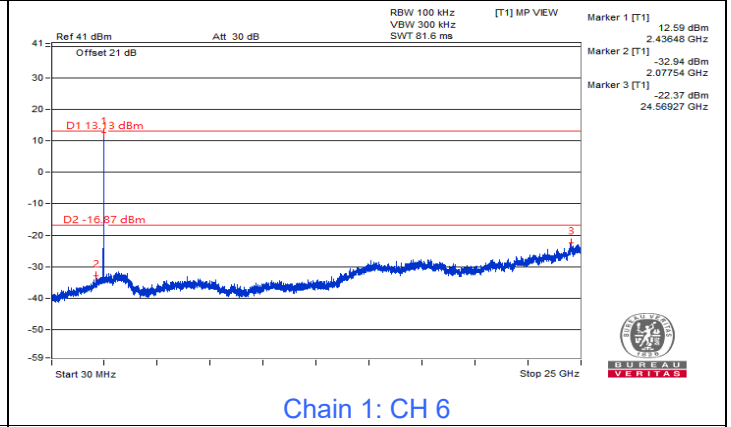
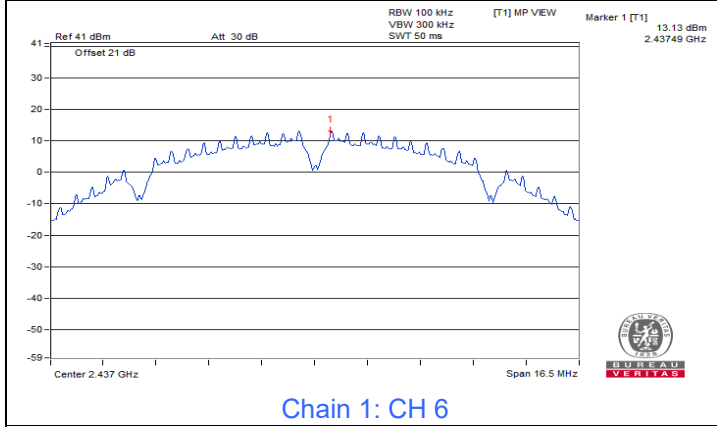
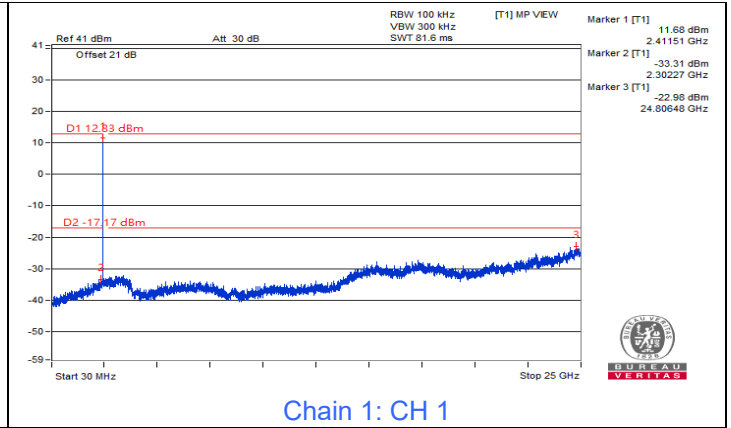
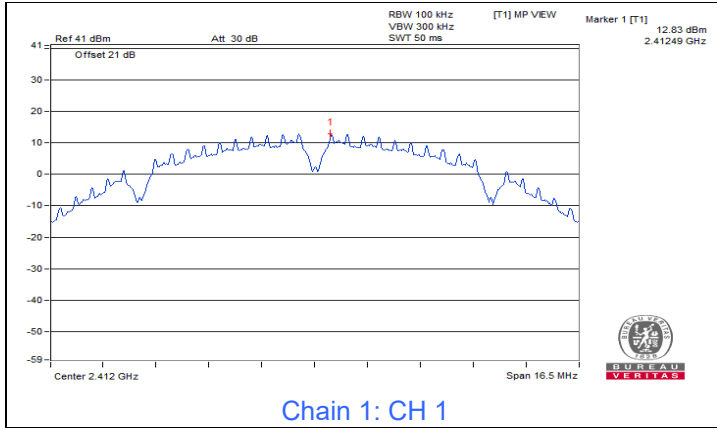


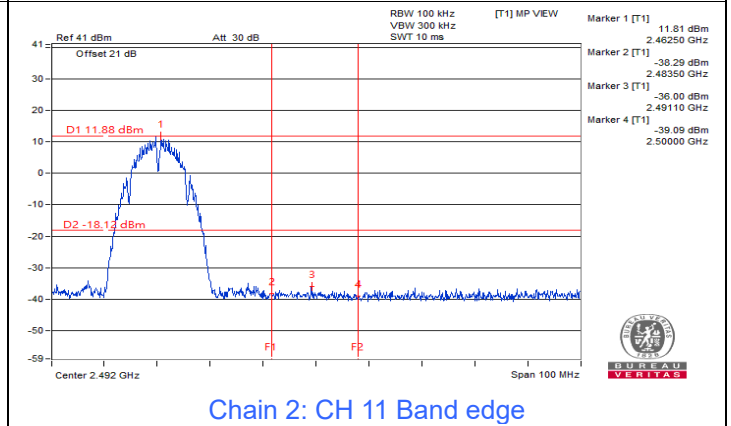
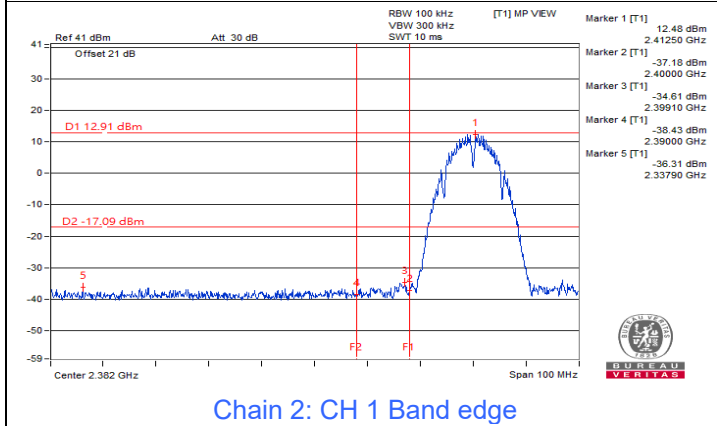
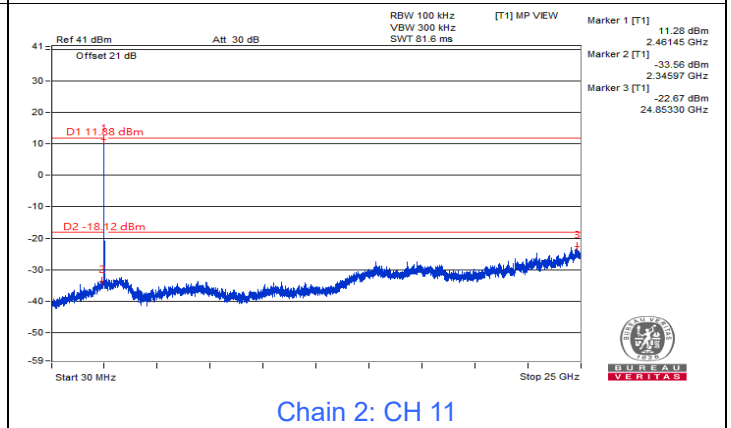
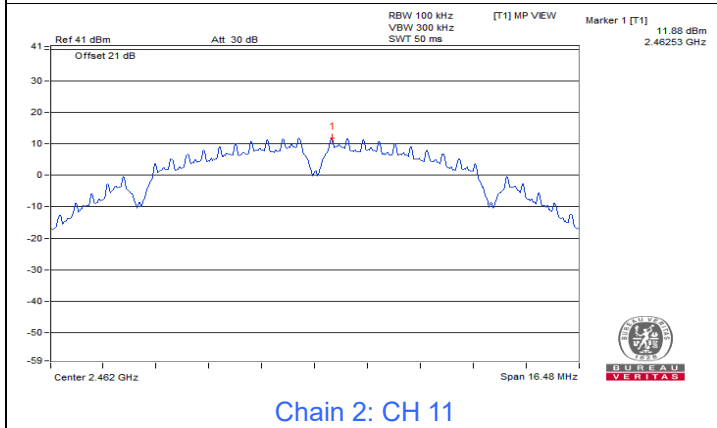
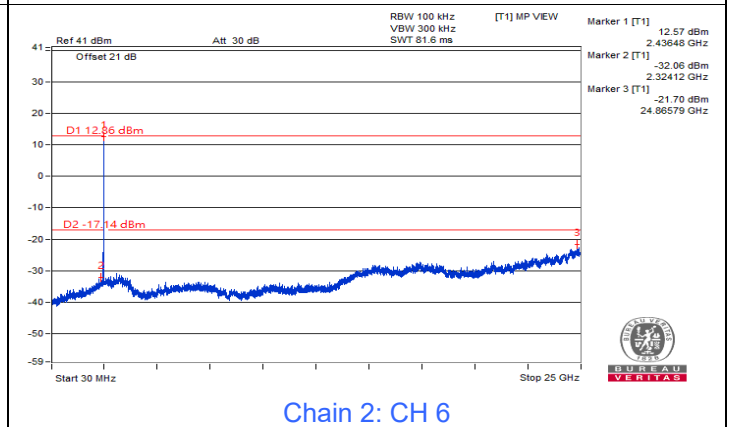
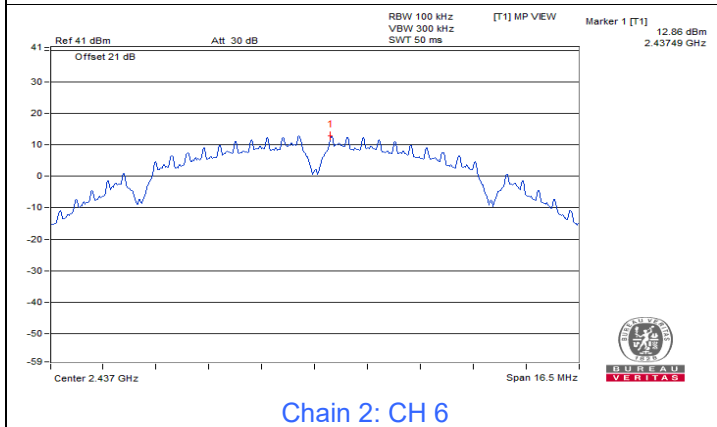
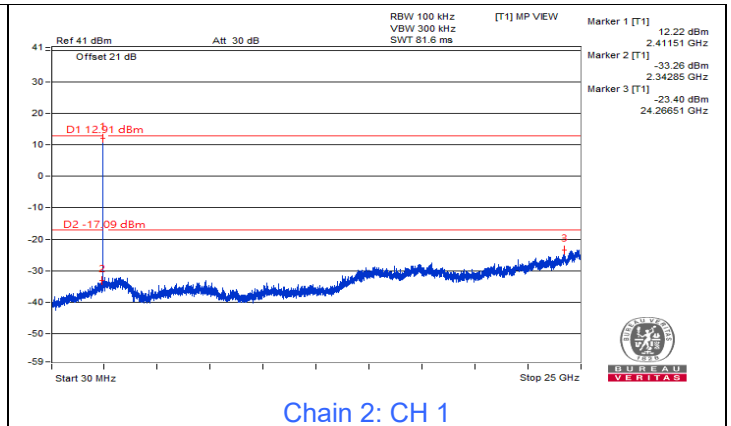
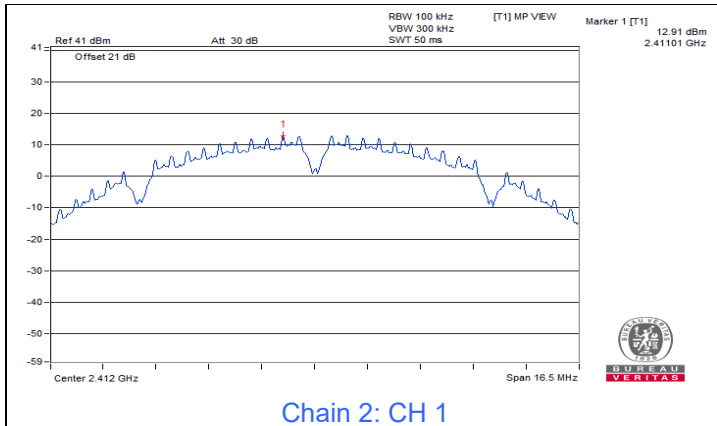
7.4 Conducted Out of Band Emissions

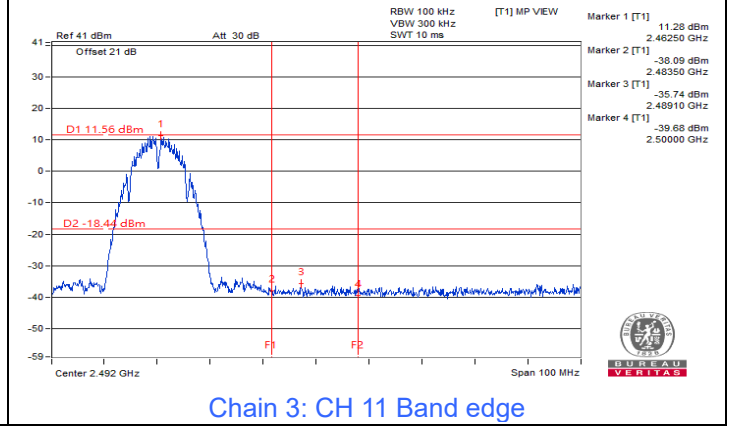
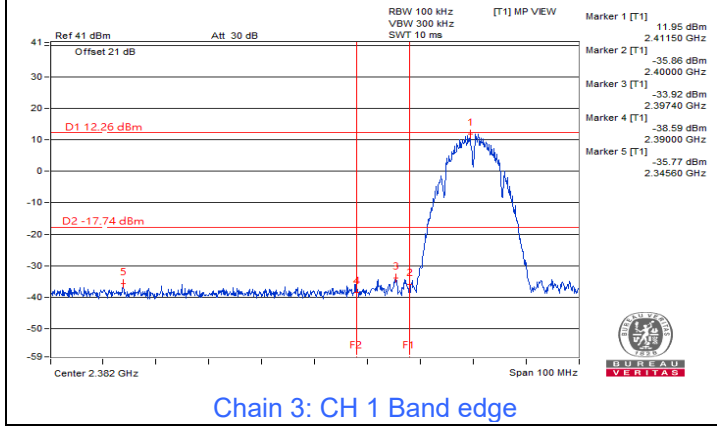
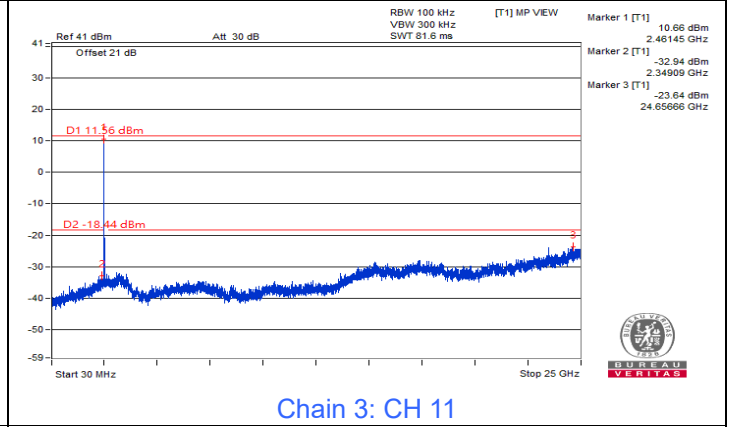
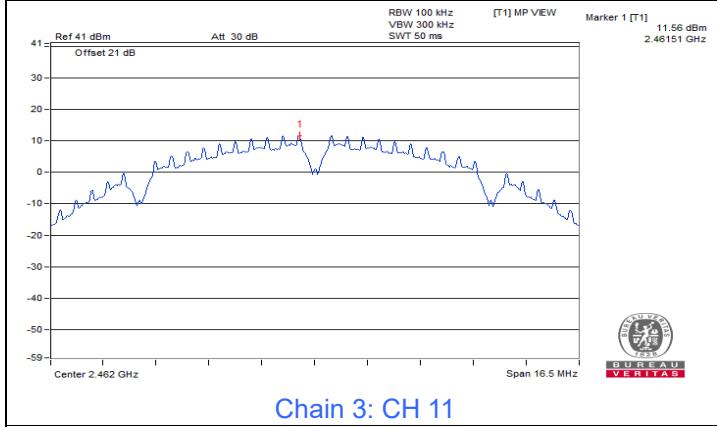
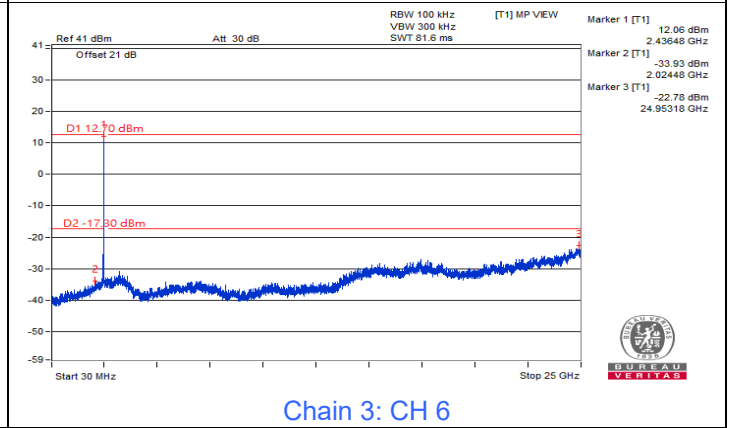
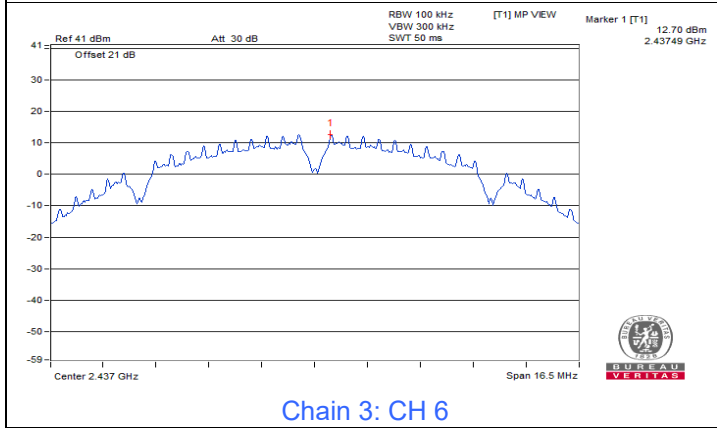
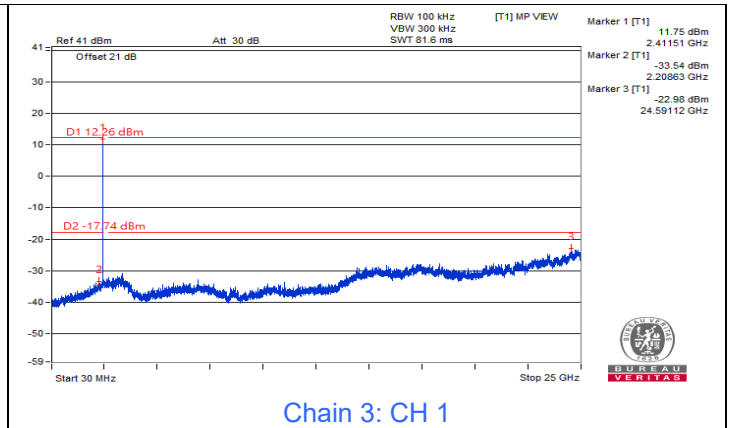
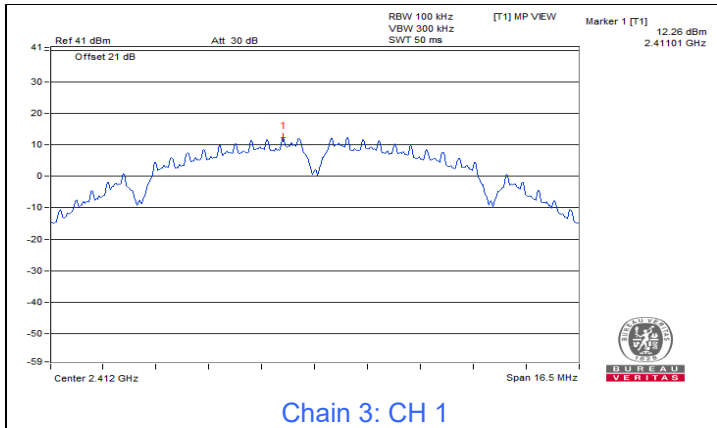
Input Power:	120 Vac, 60 Hz	Environmental Conditions:	26°C, 62% RH	Tested By:	Stars Liu
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802.11b

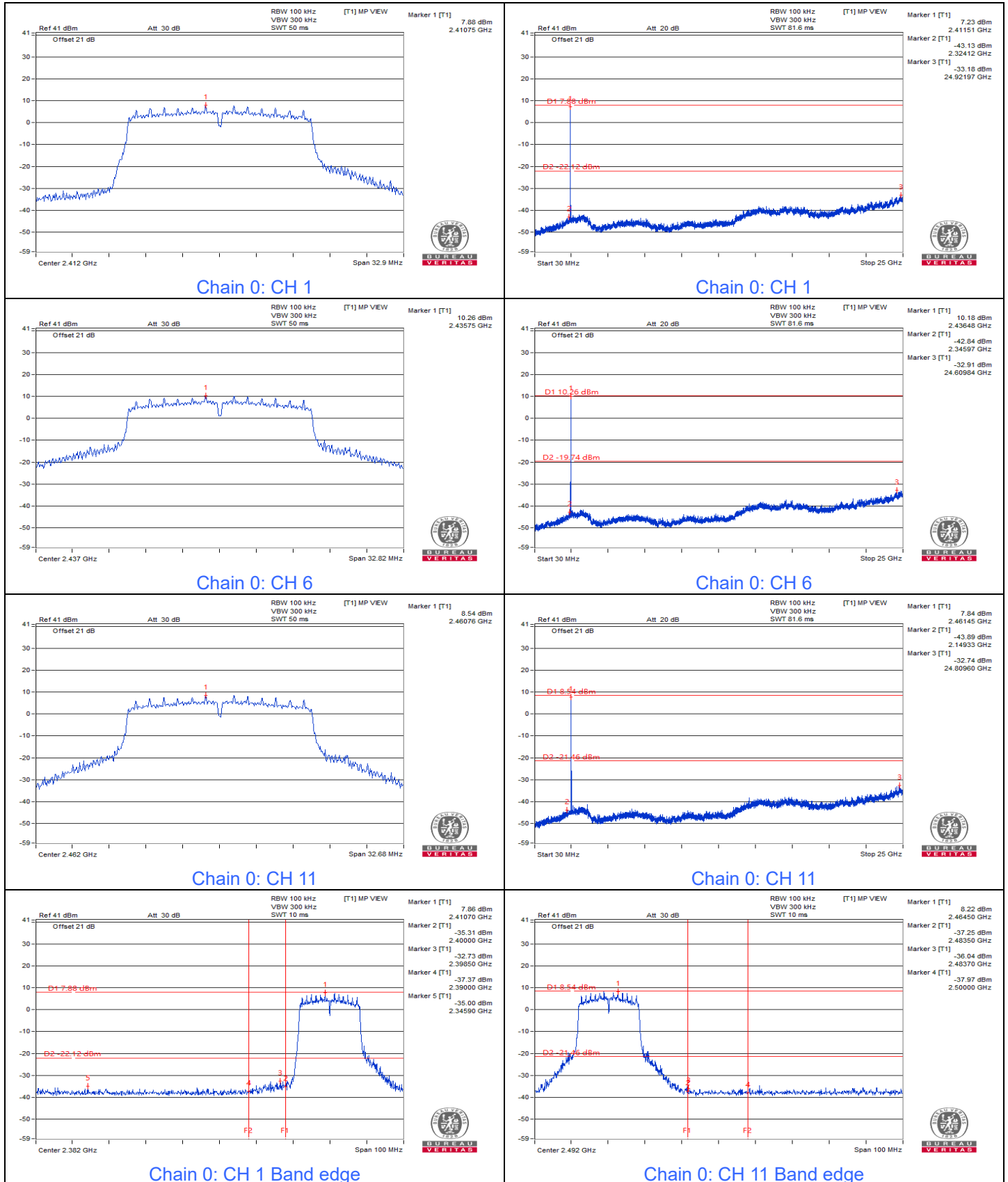


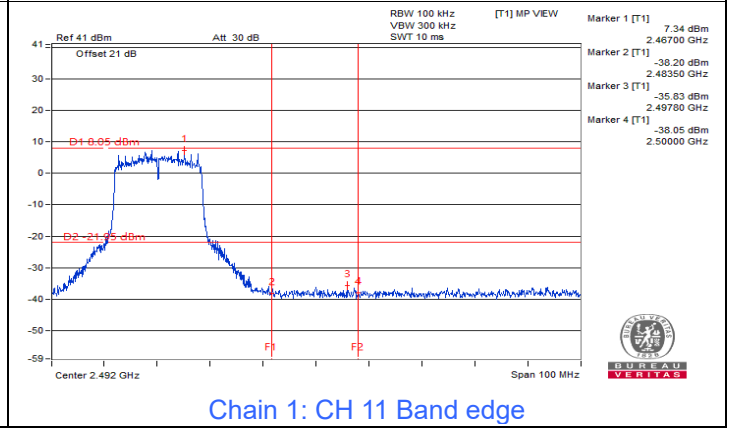
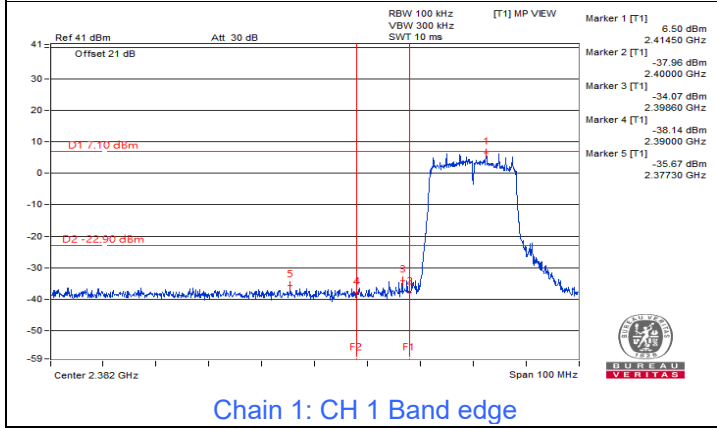
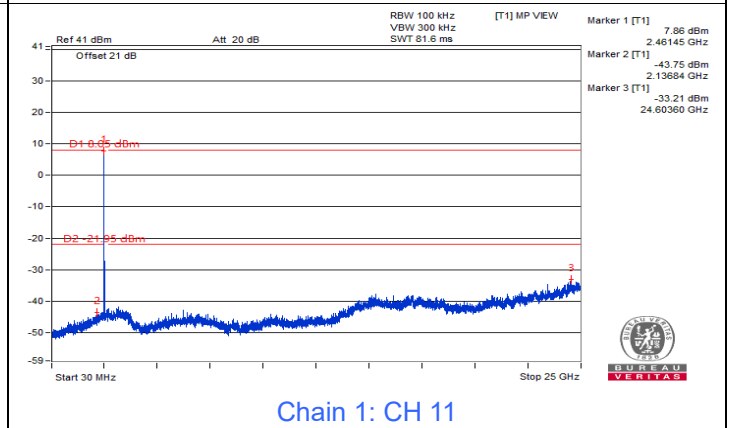
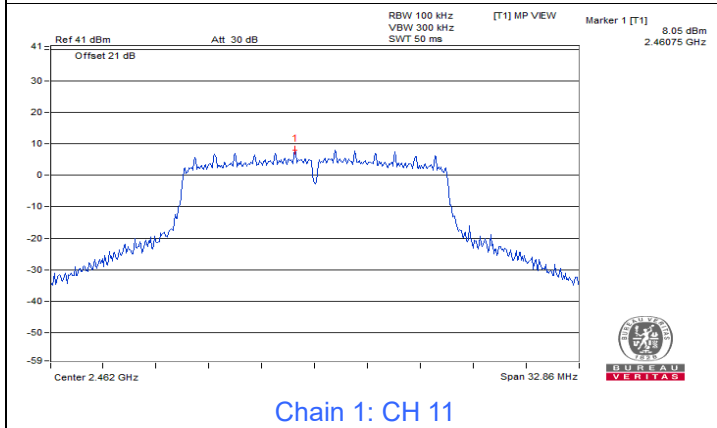
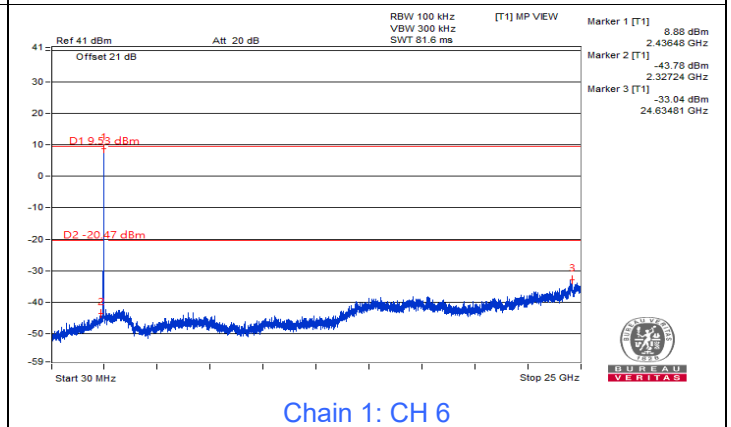
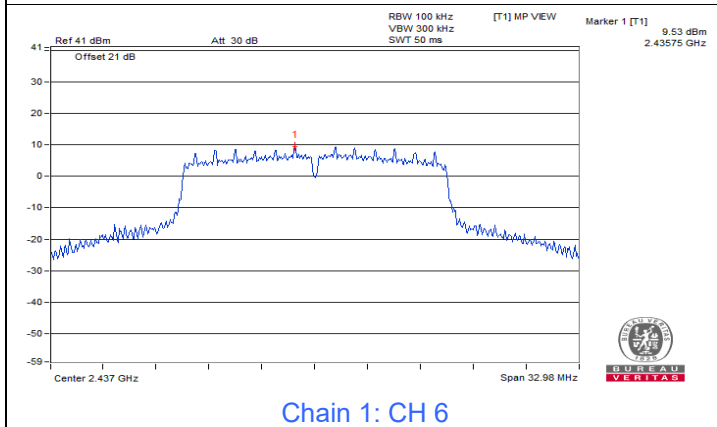
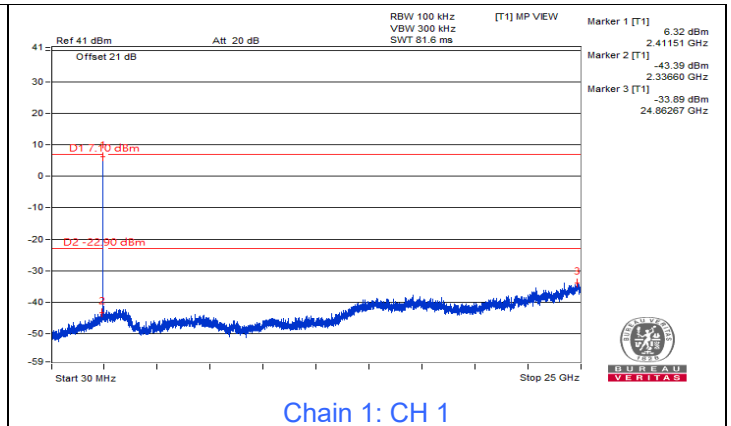
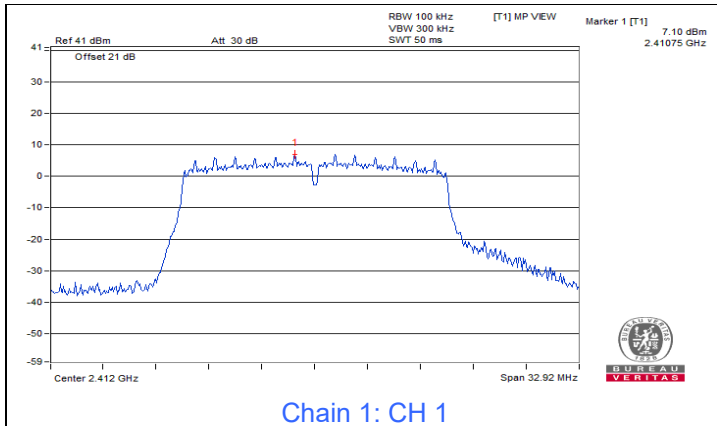


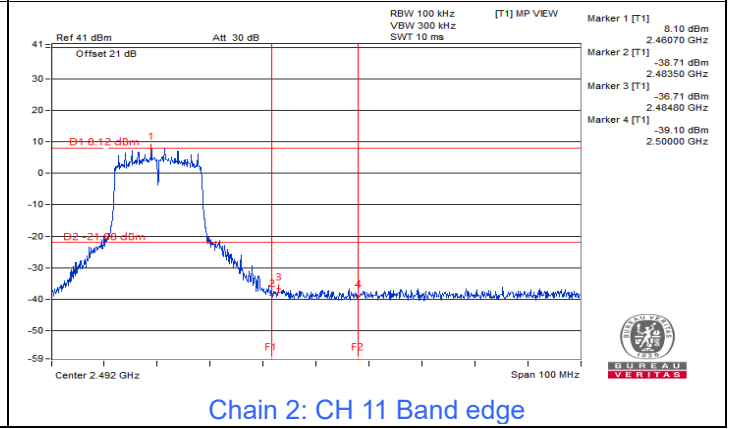
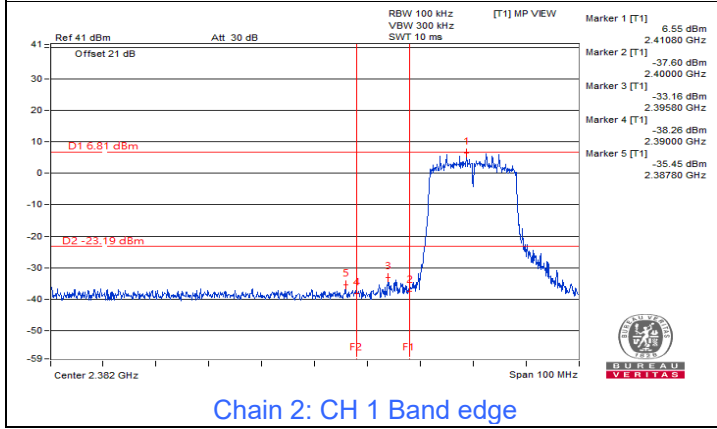
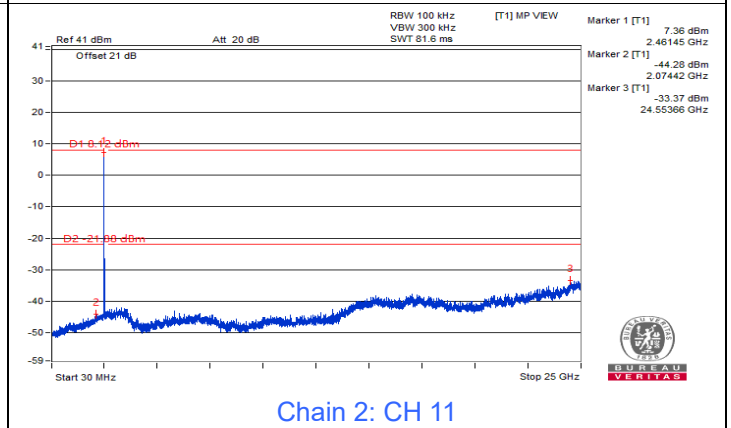
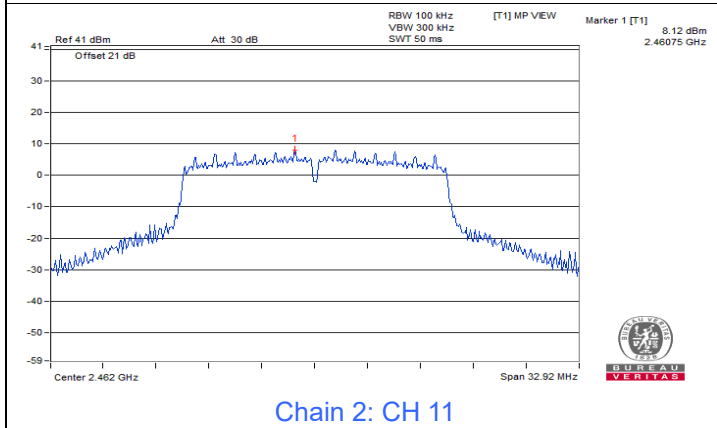
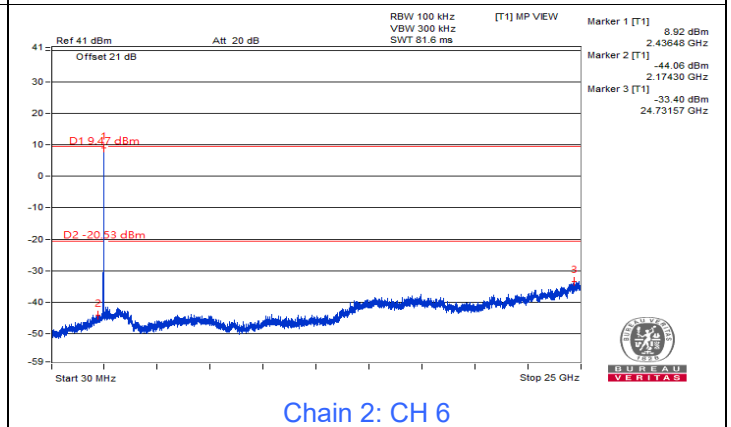
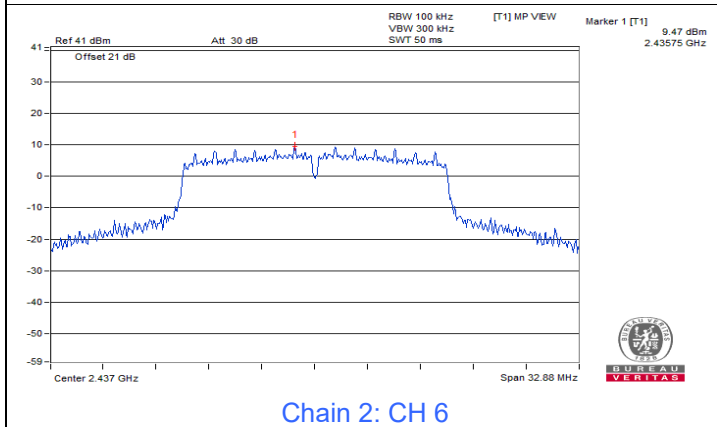
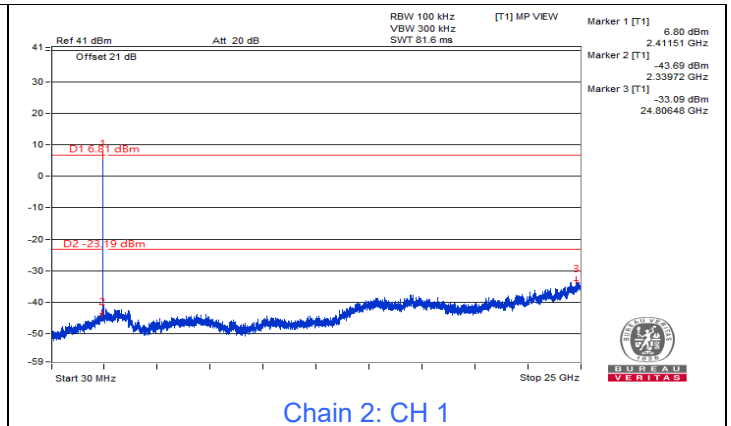
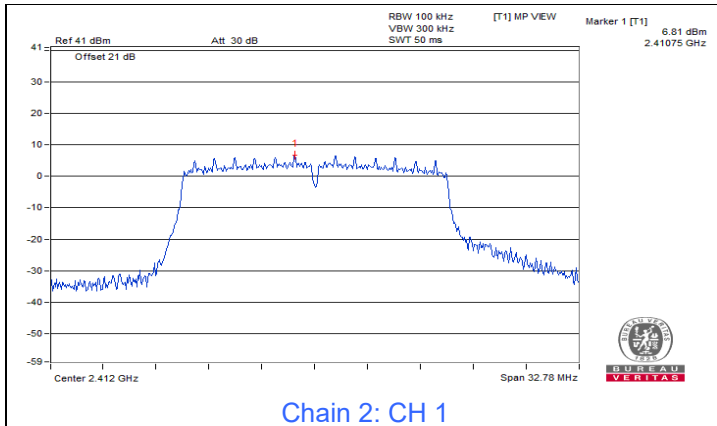


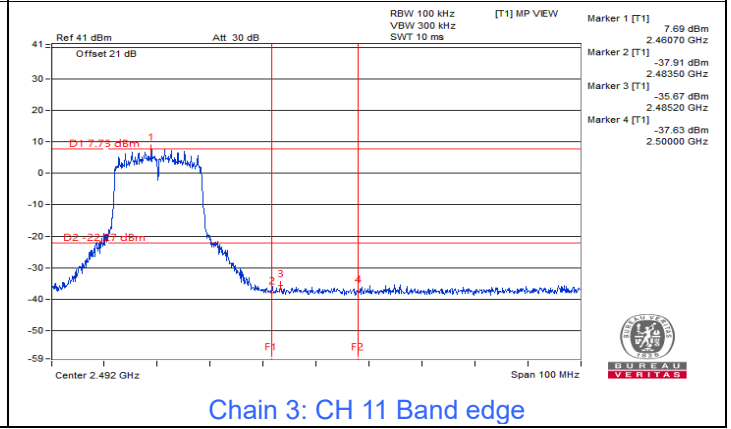
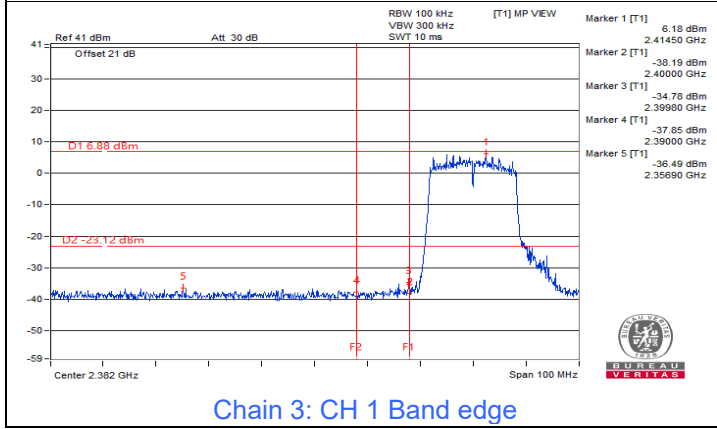
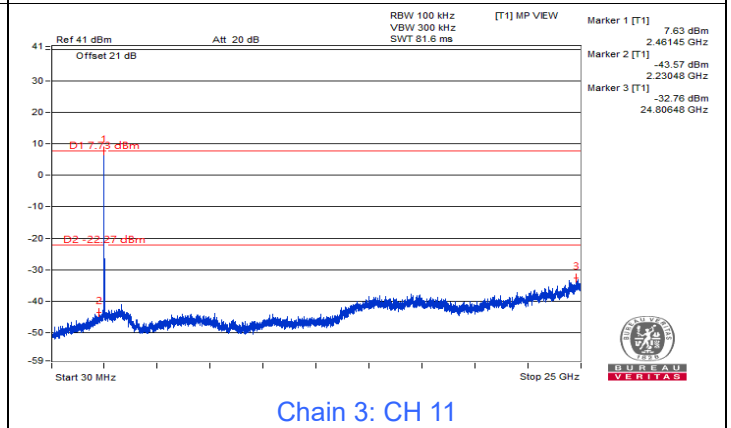
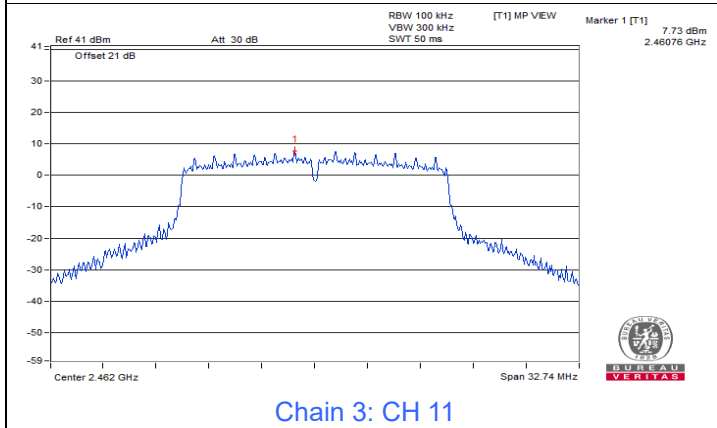
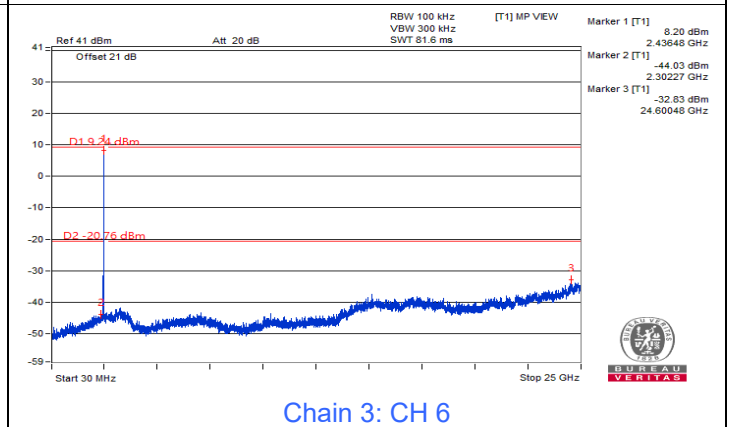
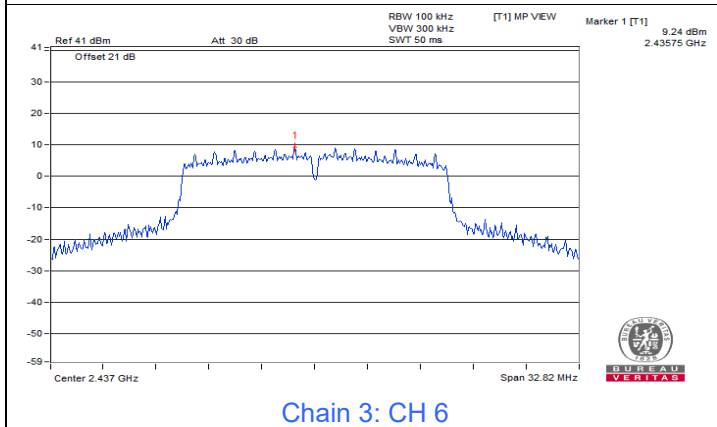
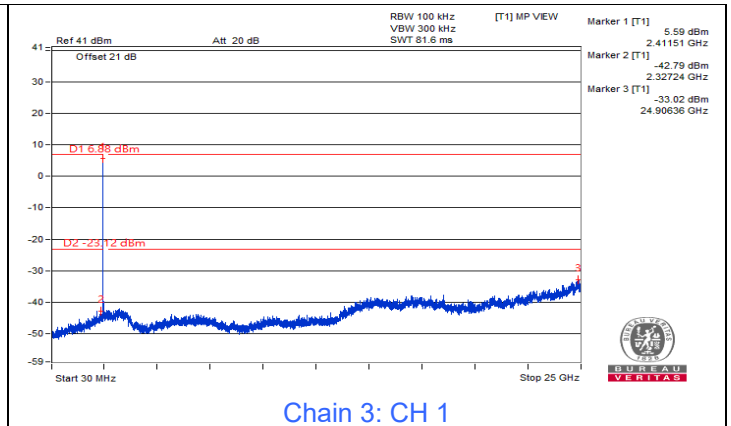
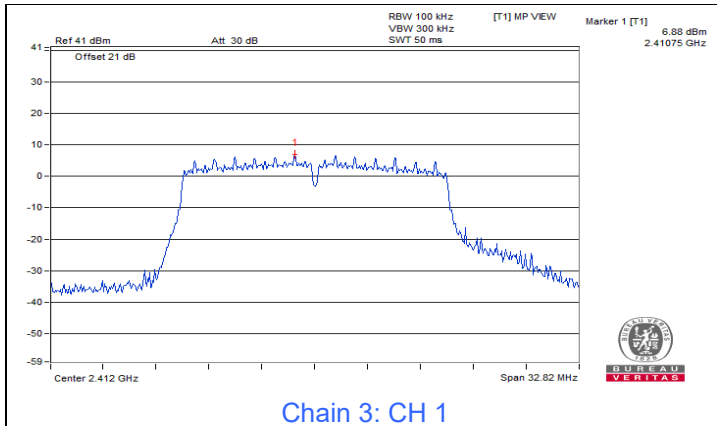


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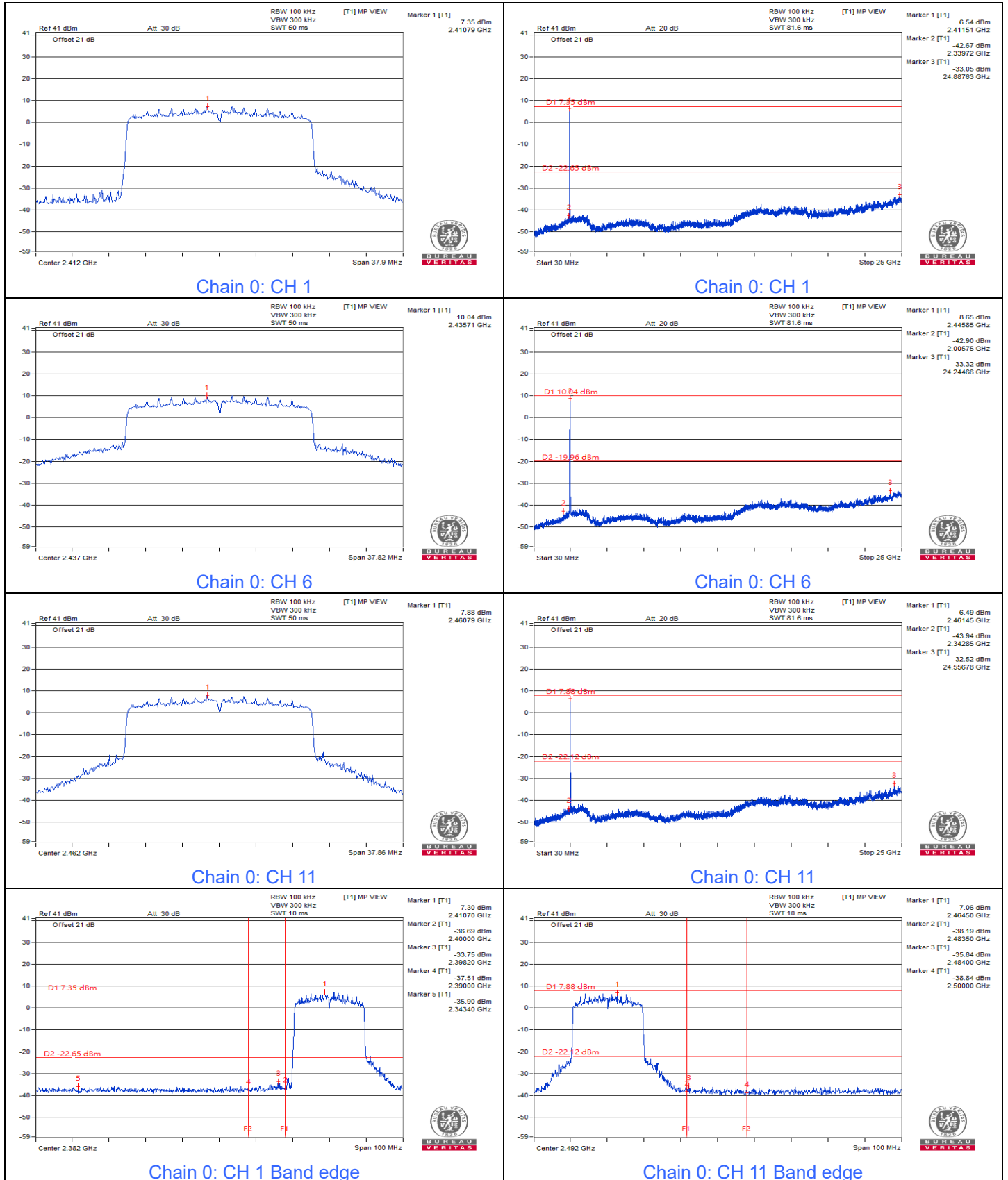


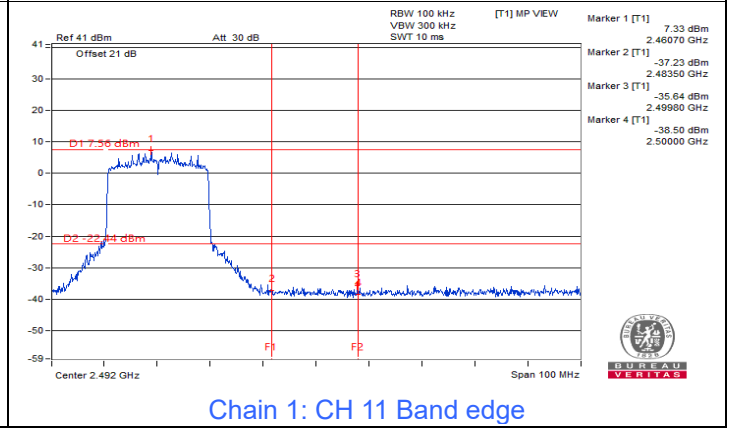
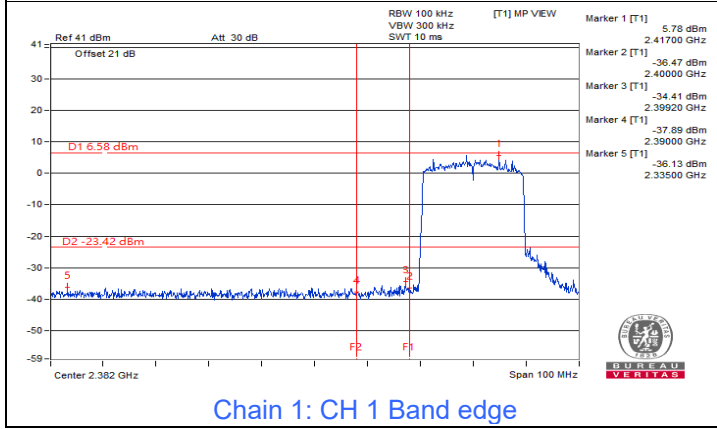
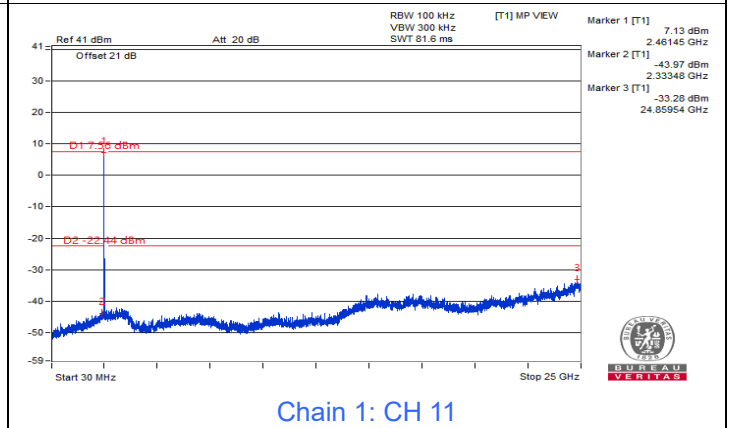
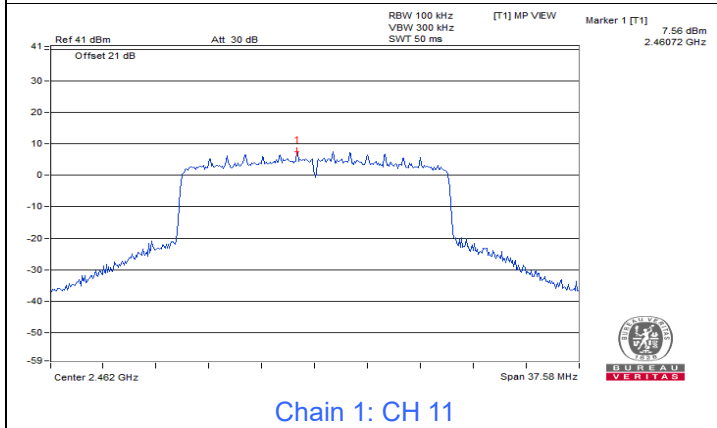
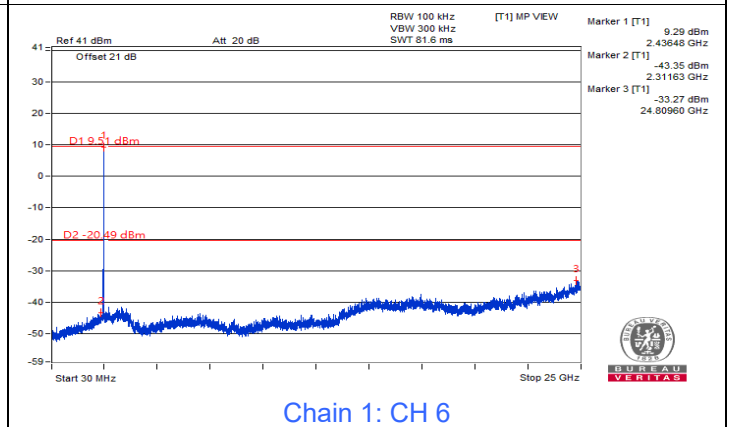
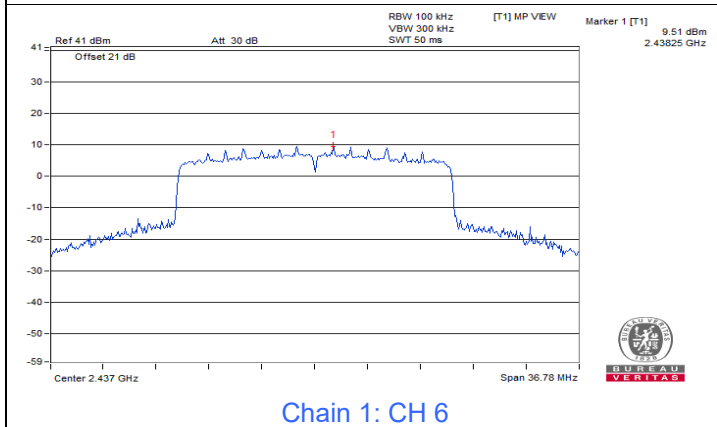
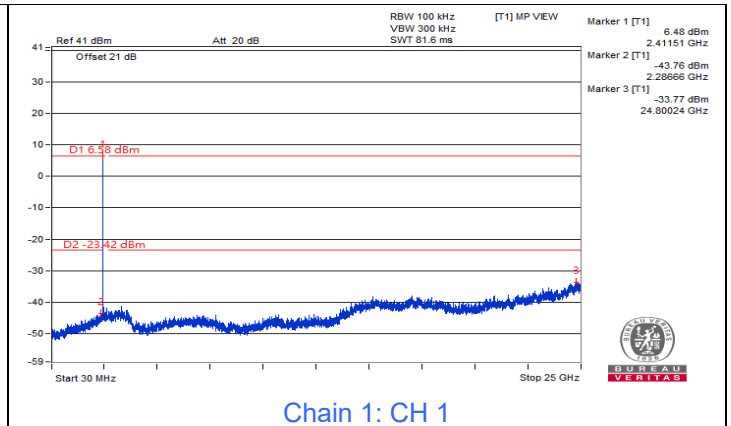
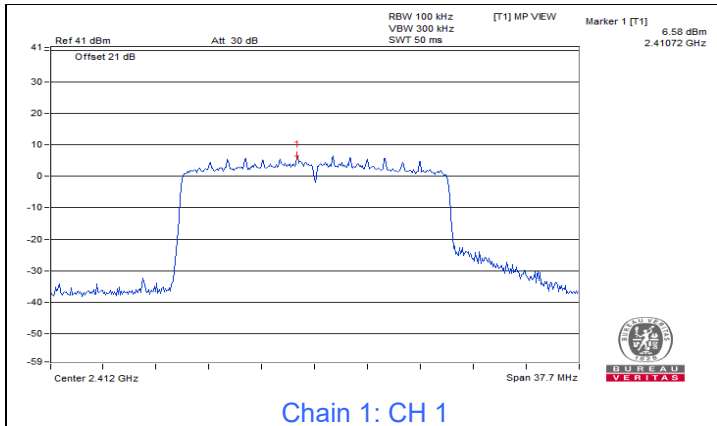


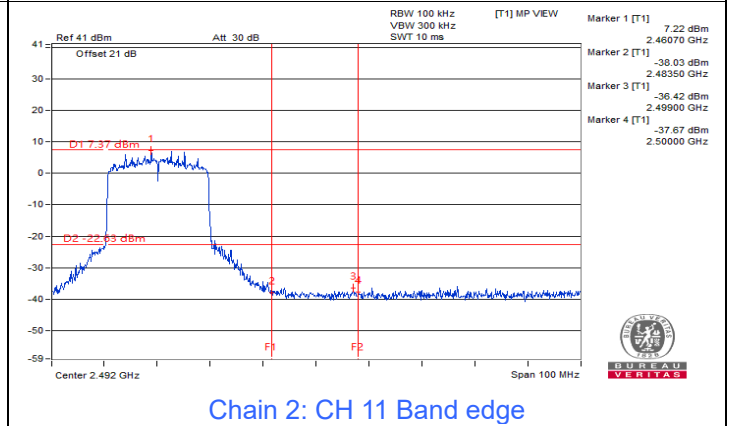
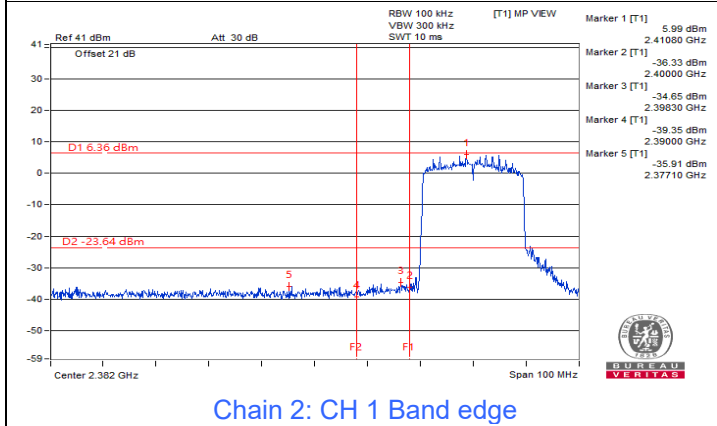
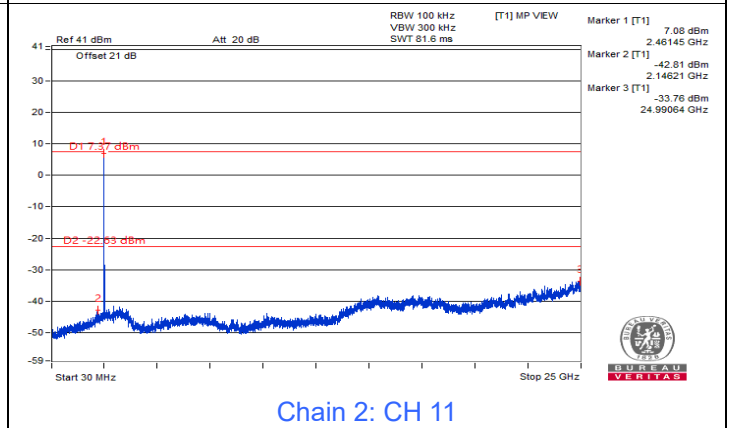
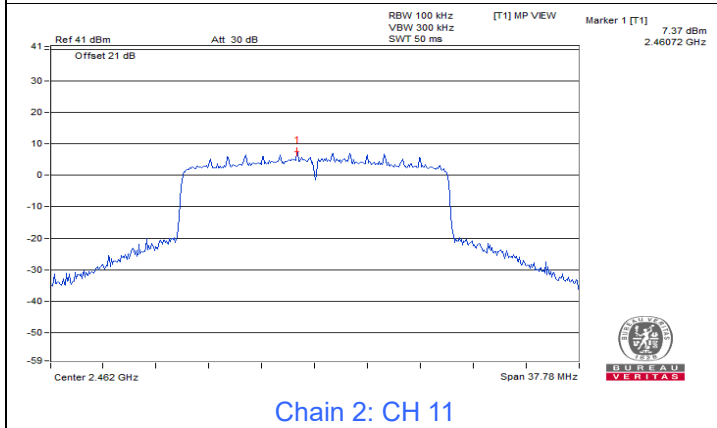
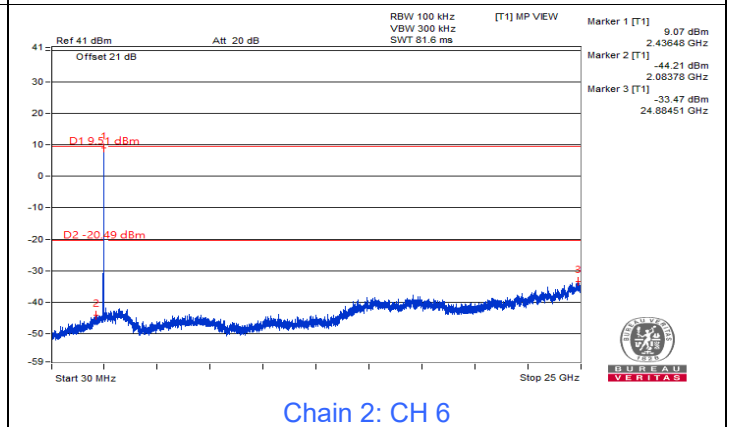
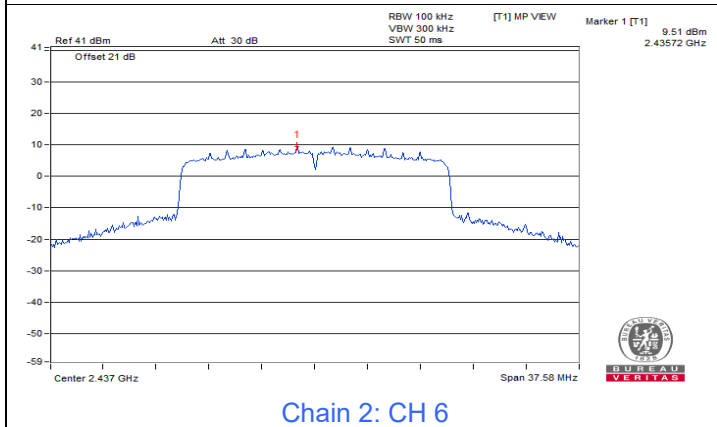
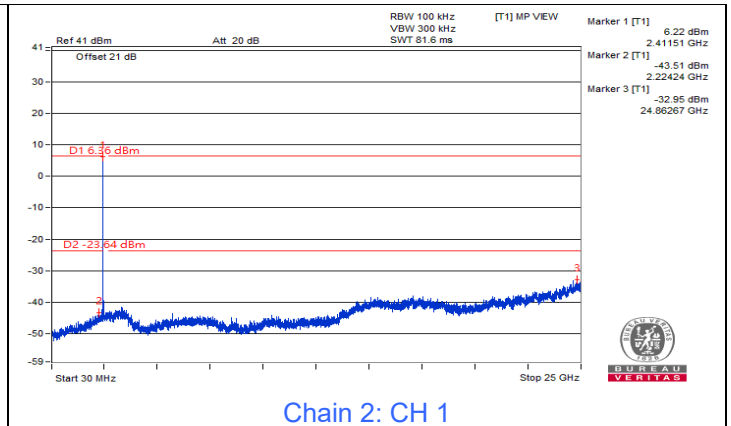
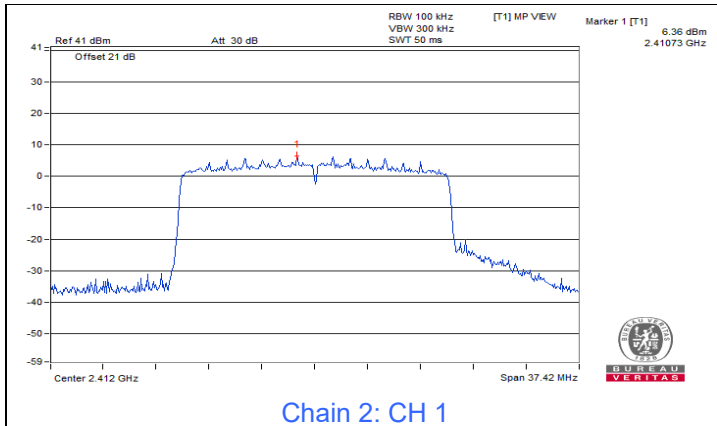


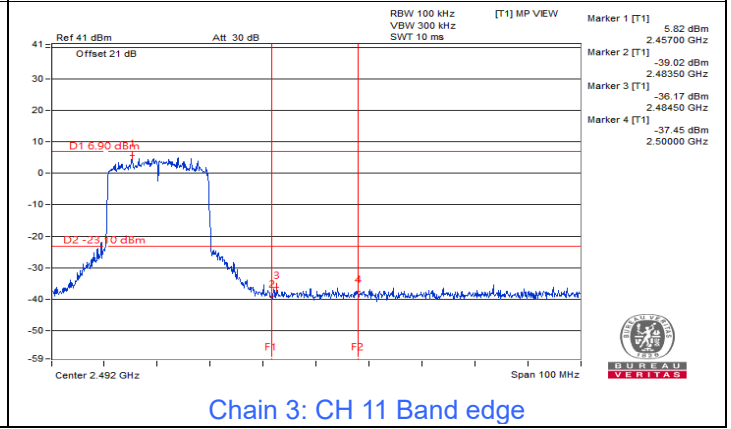
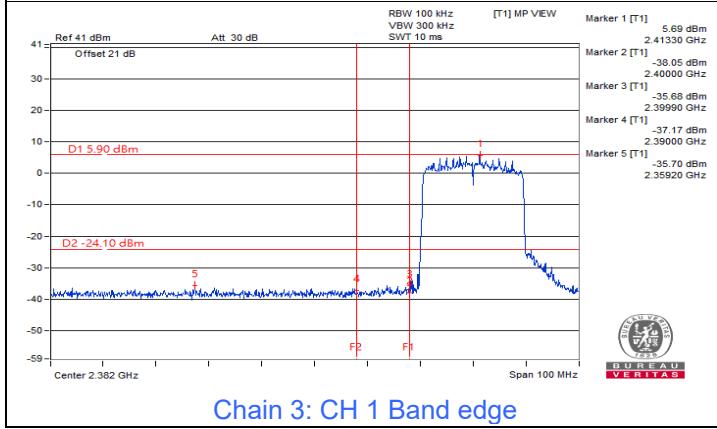
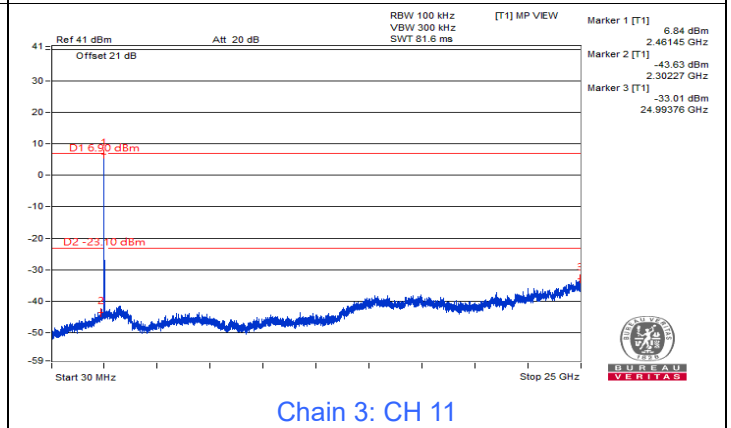
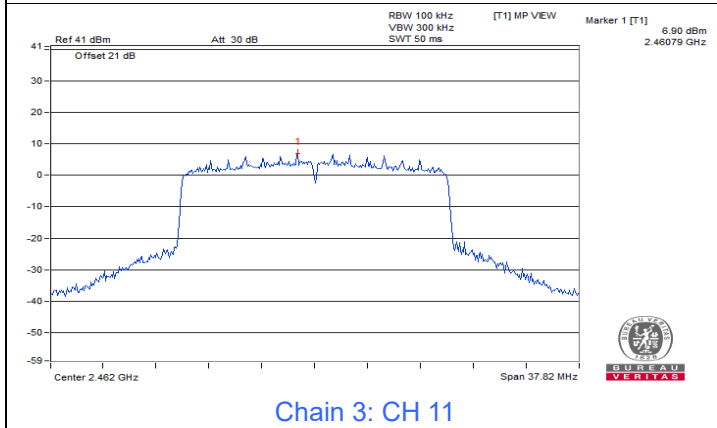
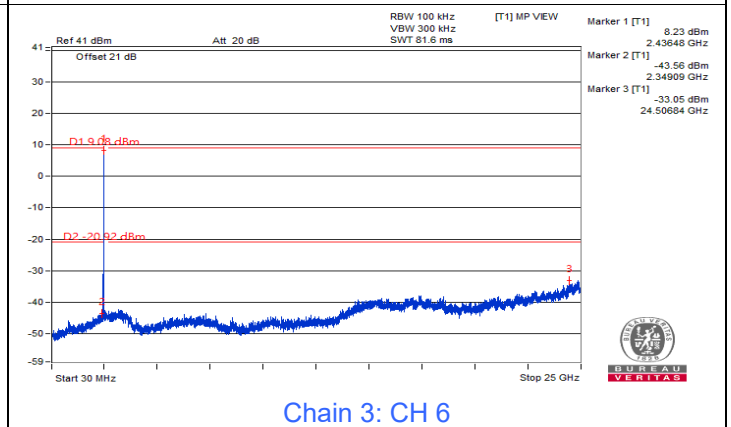
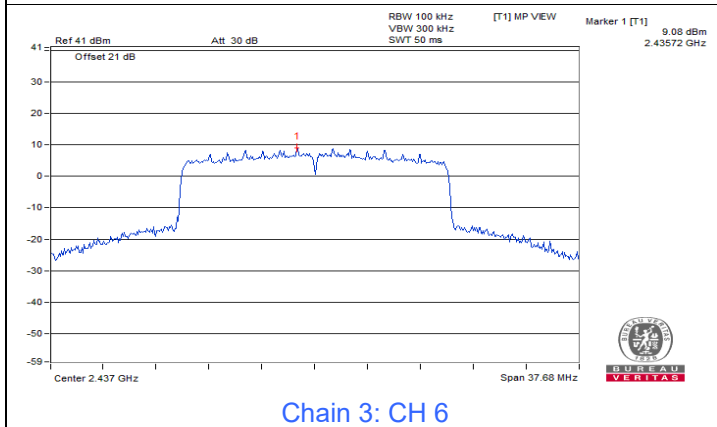
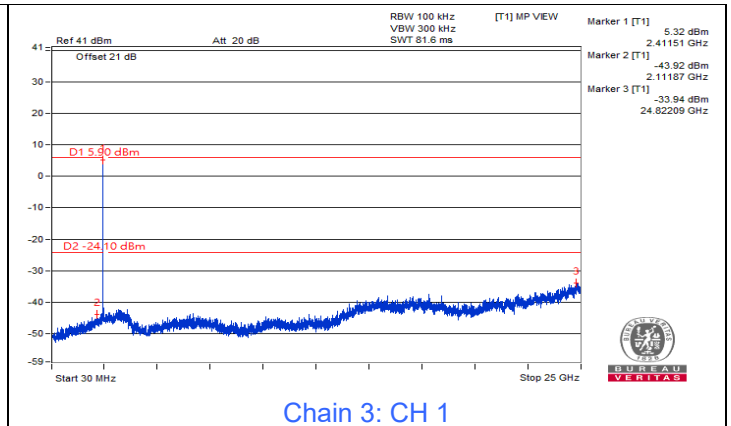
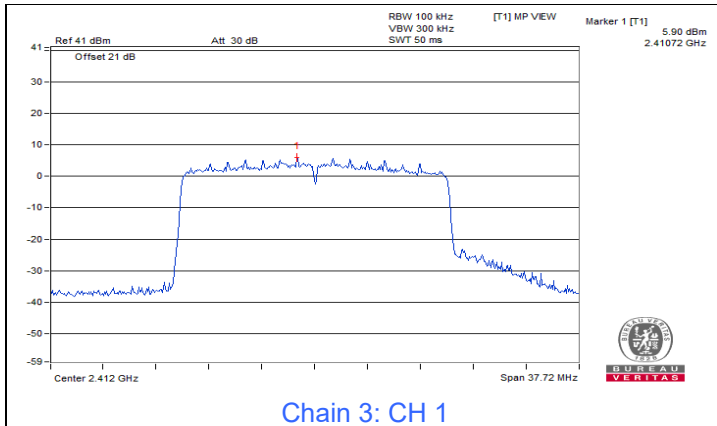


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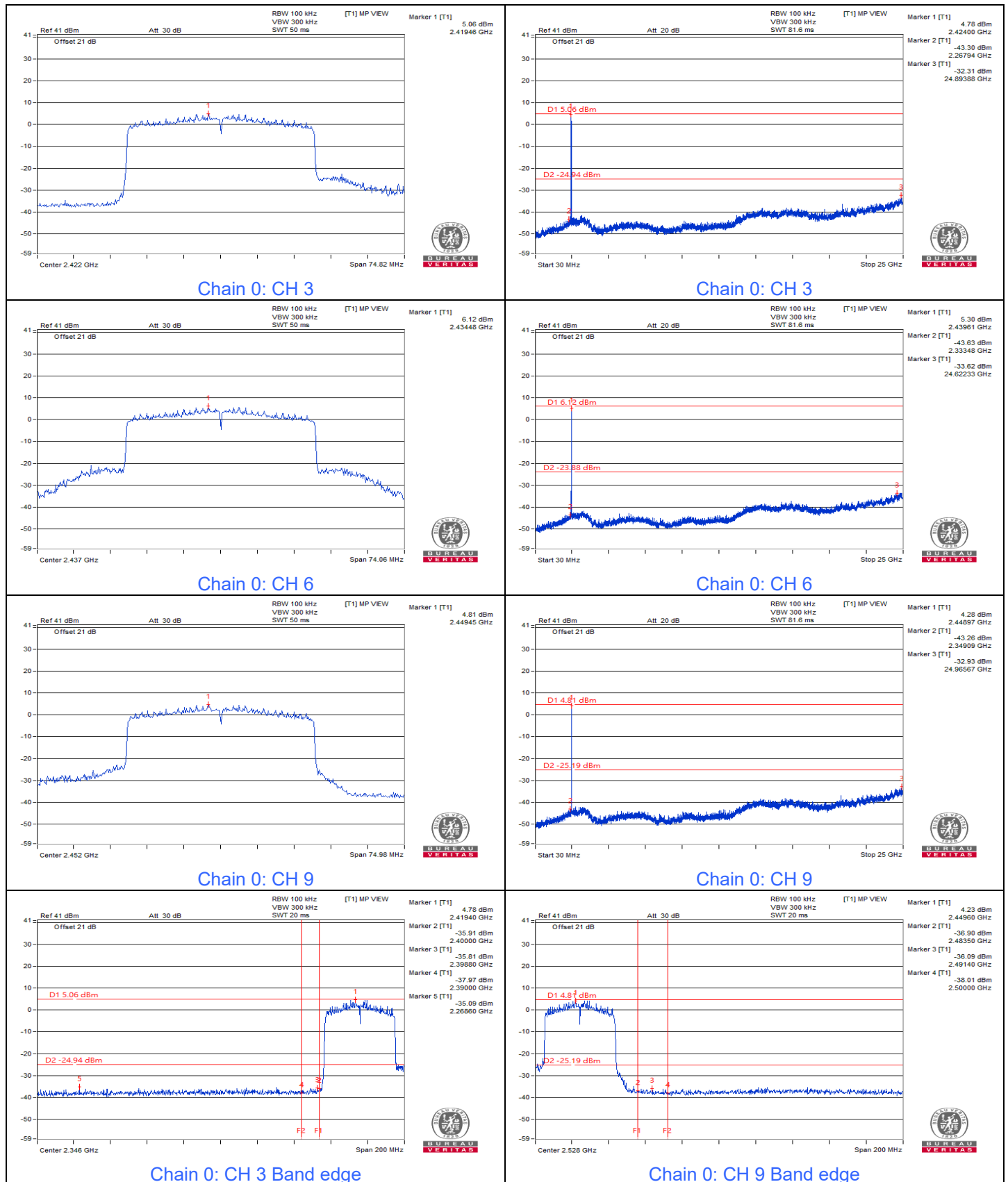


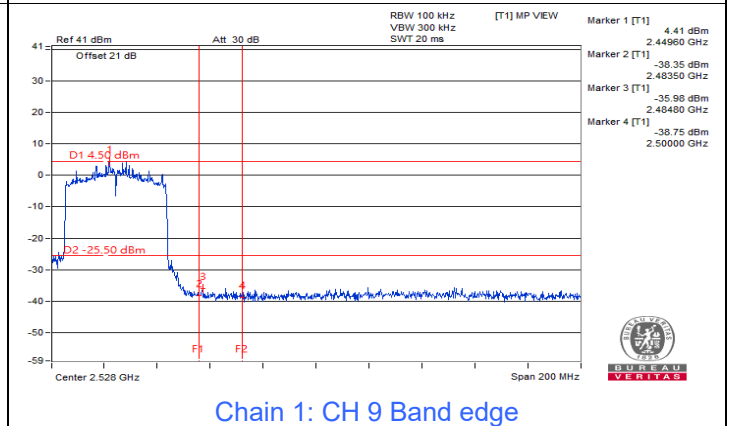
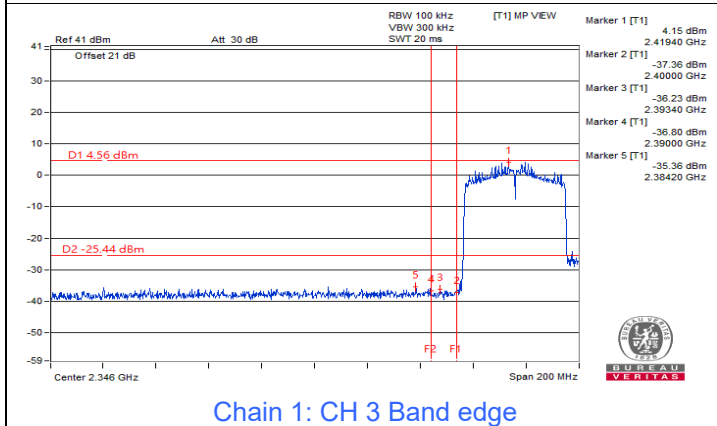
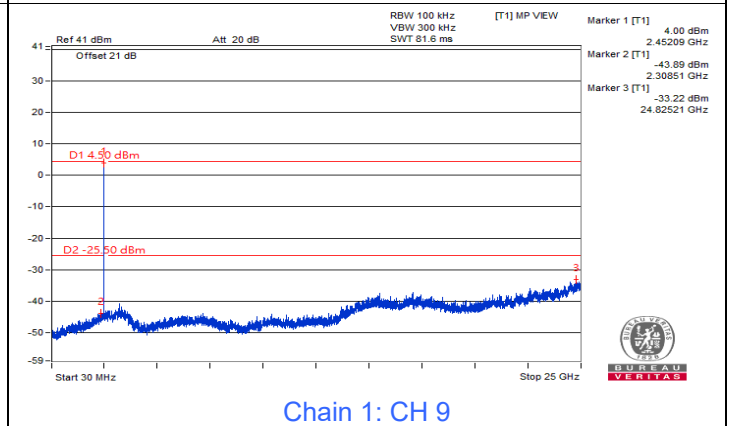
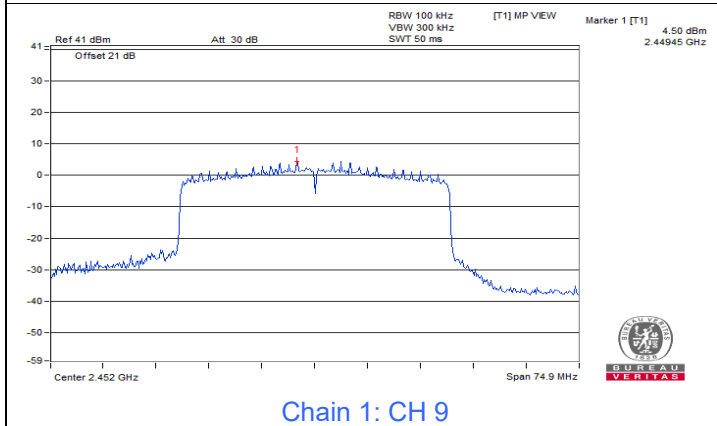
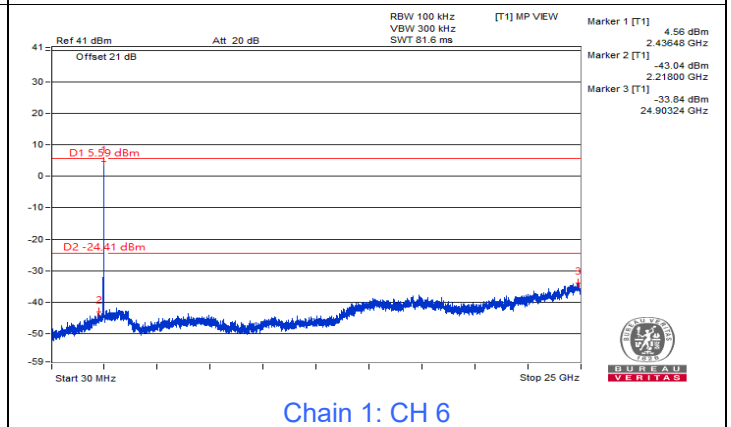
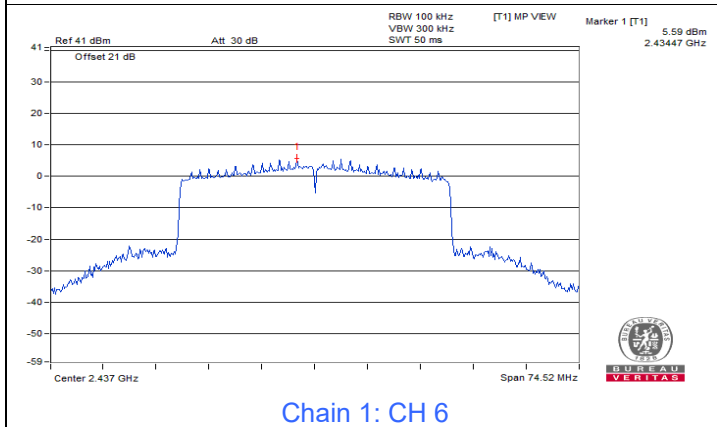
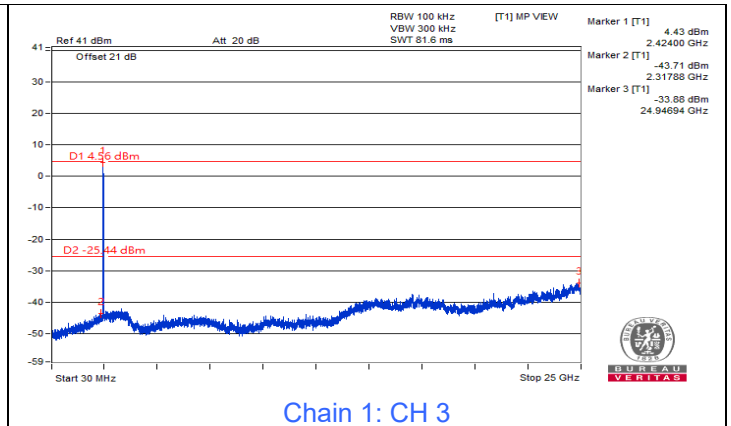
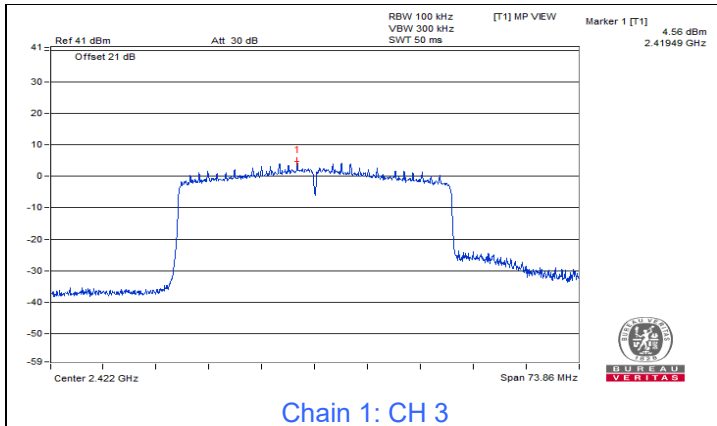


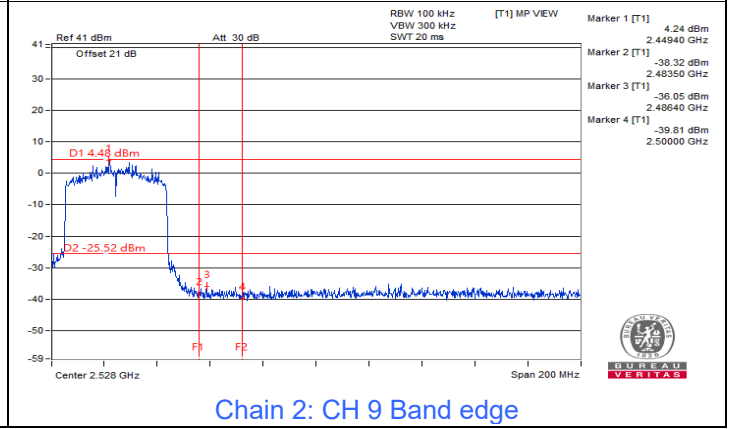
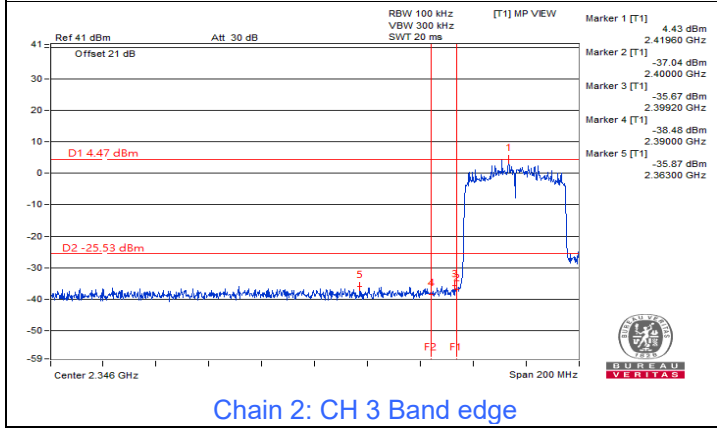
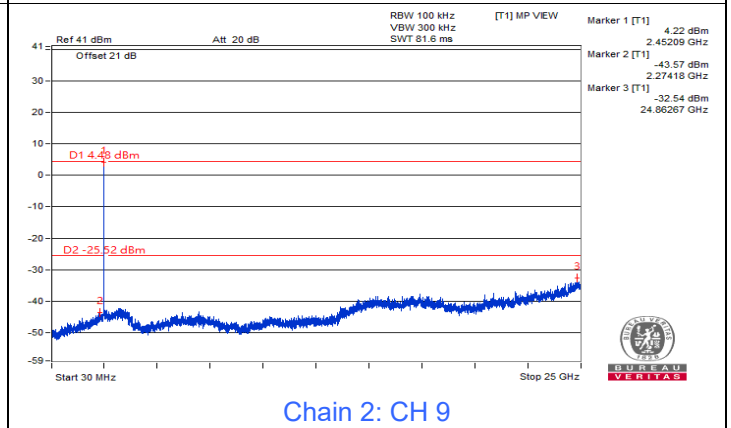
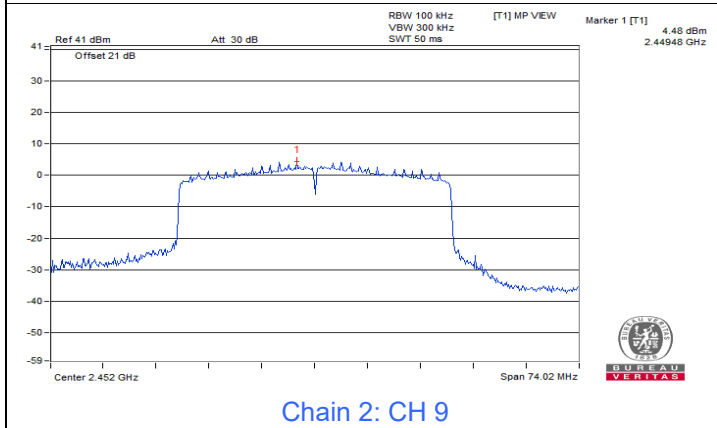
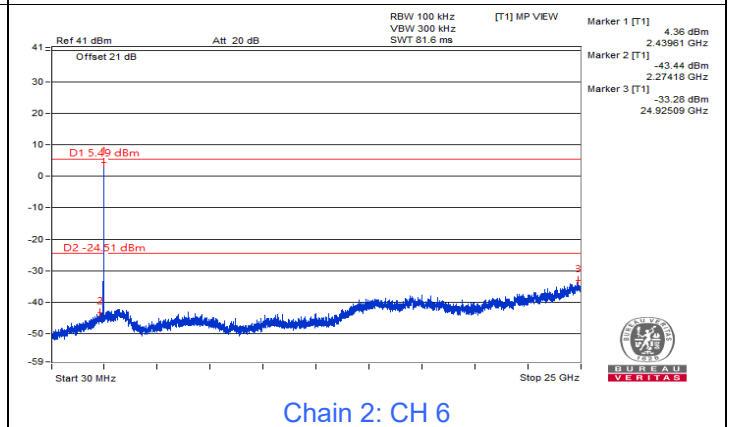
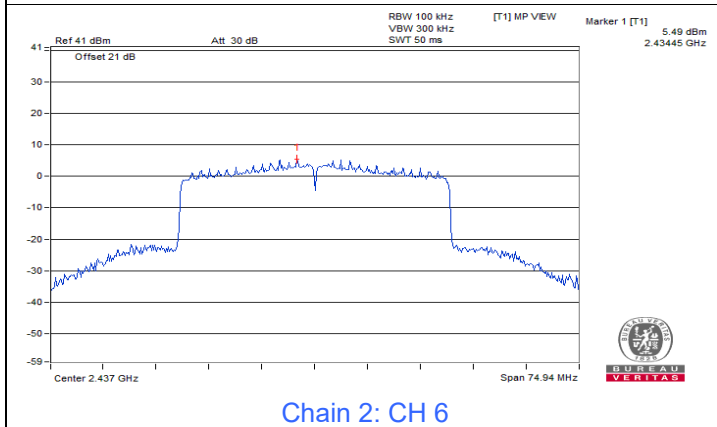
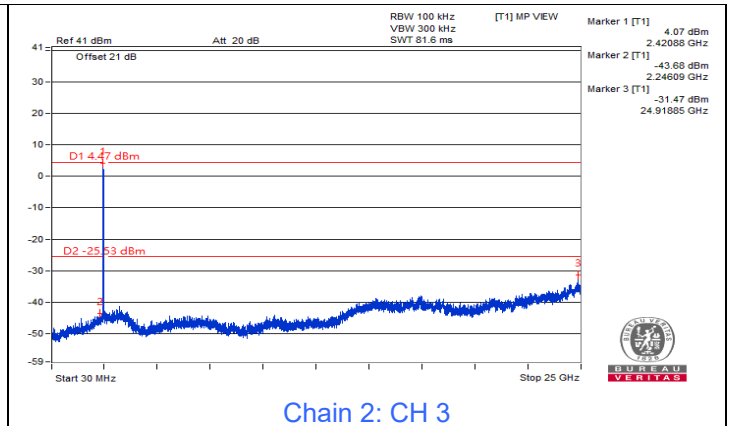
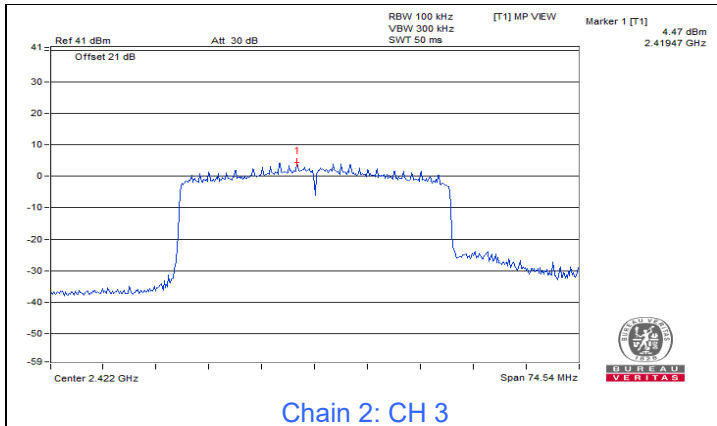


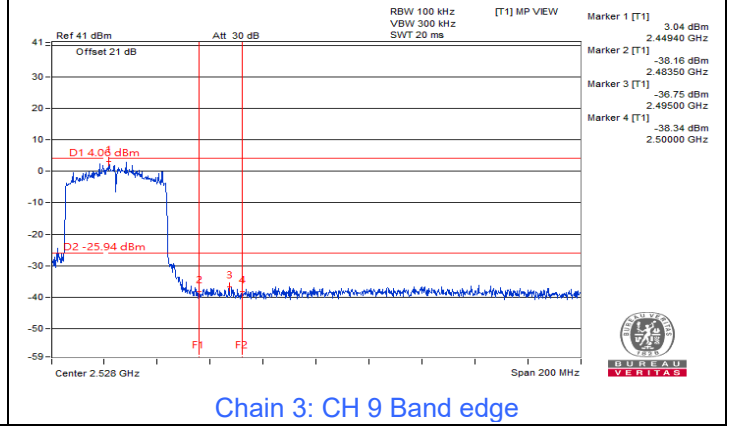
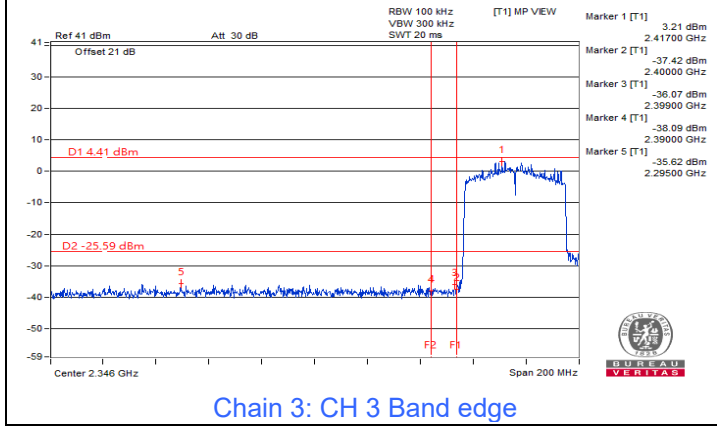
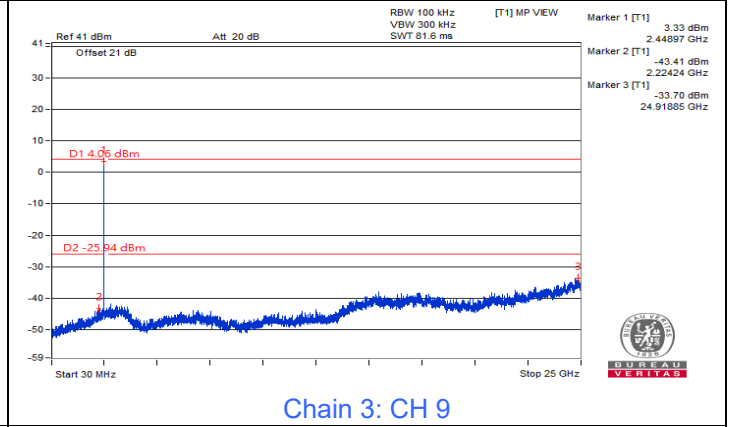
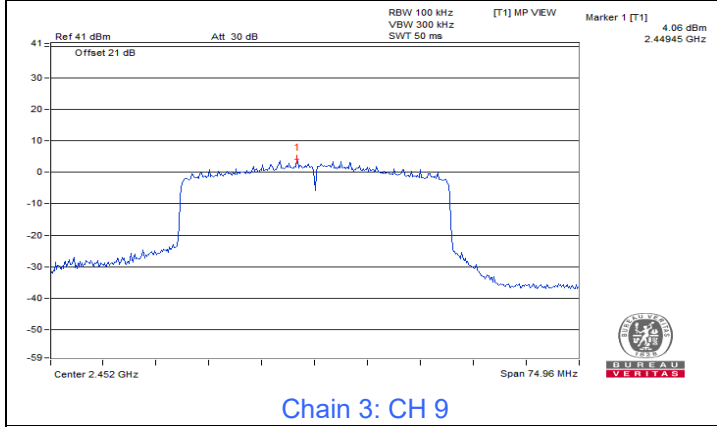
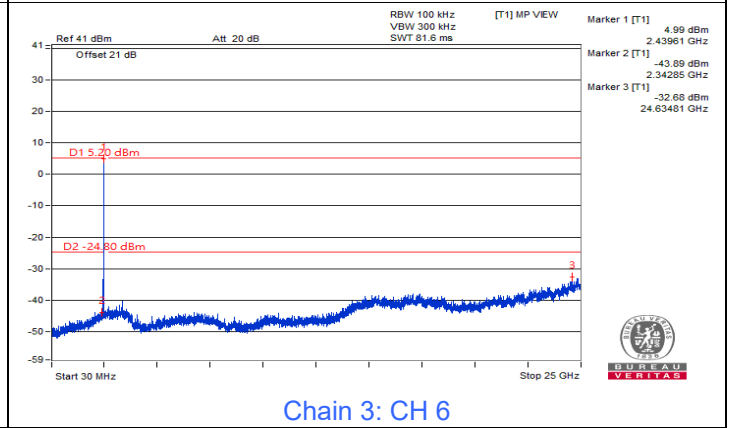
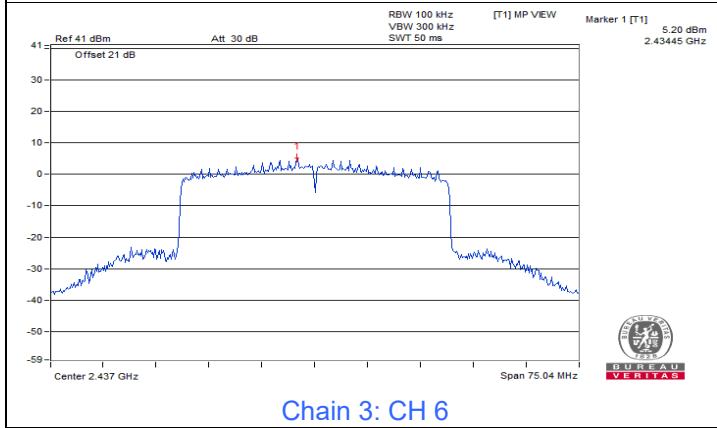
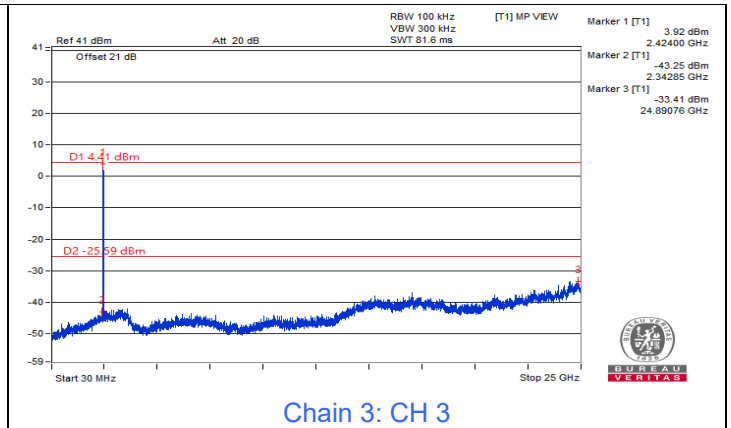
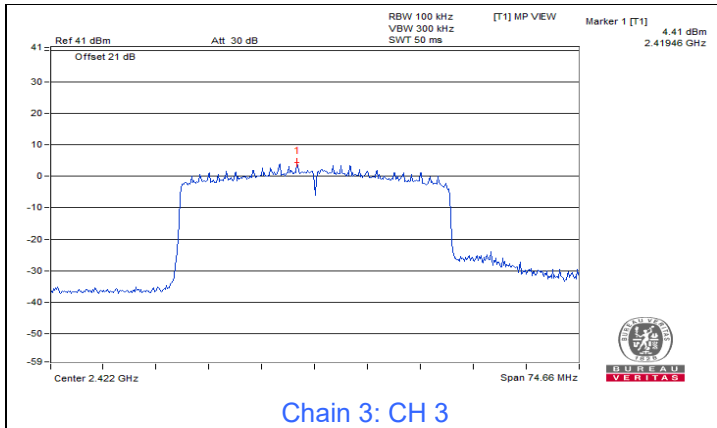


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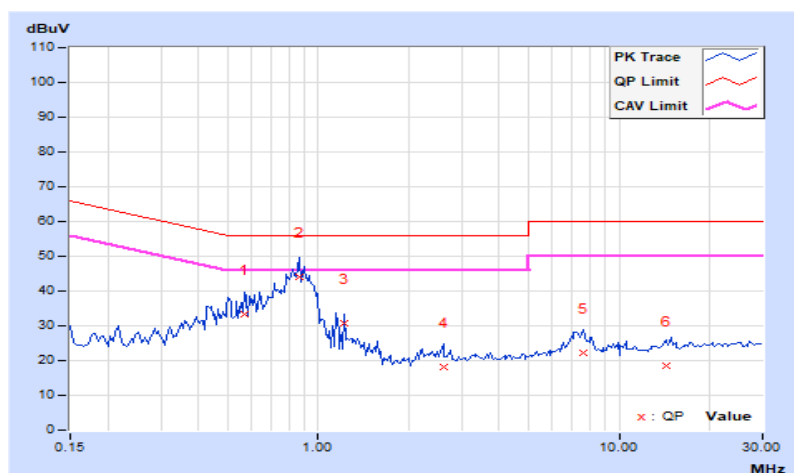
7.5 AC Power Conducted Emissions

RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Stars Liu		

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	0.56797	10.13	23.03	12.42	33.16	22.55	56.00	46.00	-22.84	-23.45
2	0.86094	10.19	33.78	23.25	43.97	33.44	56.00	46.00	-12.03	-12.56
3	1.21875	10.24	20.46	9.39	30.70	19.63	56.00	46.00	-25.30	-26.37
4	2.61328	10.35	7.89	-3.99	18.24	6.36	56.00	46.00	-37.76	-39.64
5	7.61328	10.76	11.44	1.81	22.20	12.57	60.00	50.00	-37.80	-37.43
6	14.33203	11.21	7.32	0.45	18.53	11.66	60.00	50.00	-41.47	-38.34

Remarks:

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



RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Stars Liu		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.00	14.75	1.65	24.75	11.65	66.00	56.00	-41.25	-44.35
2	0.50156	9.96	25.19	13.31	35.15	23.27	56.00	46.00	-20.85	-22.73
3	0.86094	10.00	35.73	23.17	45.73	33.17	56.00	46.00	-10.27	-12.83
4	1.35547	10.04	14.57	2.29	24.61	12.33	56.00	46.00	-31.39	-33.67
5	2.69531	10.13	3.53	-6.83	13.66	3.30	56.00	46.00	-42.34	-42.70
6	7.37891	10.44	12.34	2.55	22.78	12.99	60.00	50.00	-37.22	-37.01

Remarks:

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



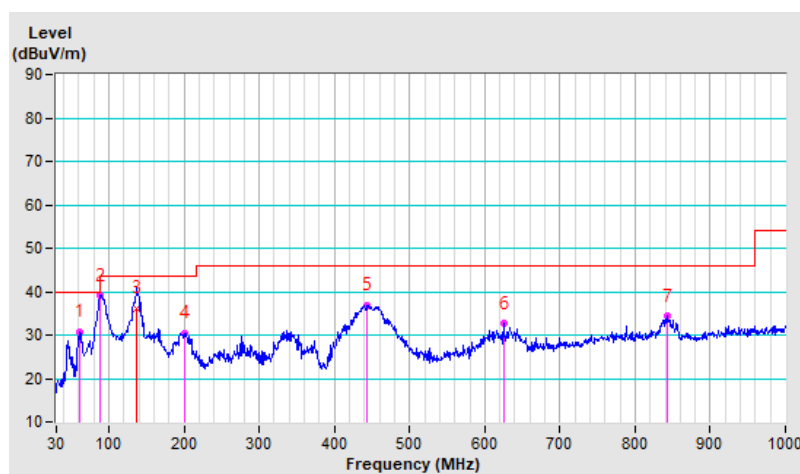
7.6 Unwanted Emissions below 1 GHz

RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	PK: RB=120 kHz, DET=Peak QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Owen Lee		

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	60.60	30.6 PK	40.0	-9.4	3.00 H	0	44.2	-13.6
2	88.95	39.0 PK	43.5	-4.5	2.00 H	6	57.6	-18.6
3	136.89	36.2 QP	43.5	-7.3	2.04 H	200	49.4	-13.2
4	200.19	30.5 PK	43.5	-13.0	1.00 H	263	46.3	-15.8
5	442.78	36.9 PK	46.0	-9.1	2.00 H	149	45.1	-8.2
6	625.07	32.6 PK	46.0	-13.4	1.00 H	119	37.0	-4.4
7	842.54	34.3 PK	46.0	-11.7	1.00 H	261	35.5	-1.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

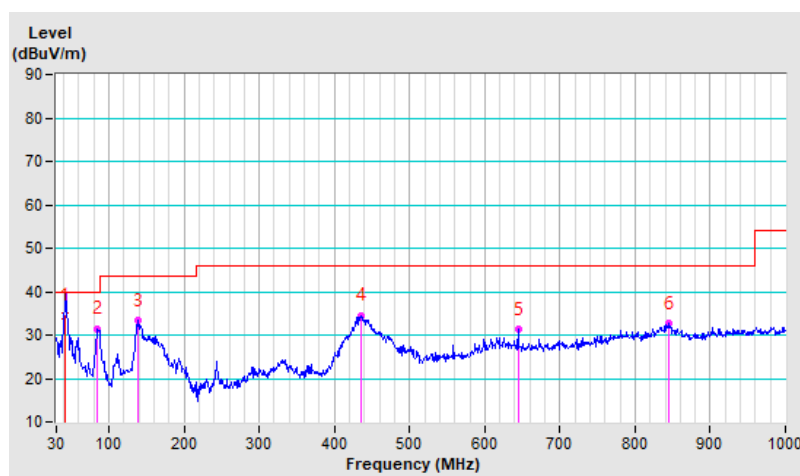


RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	PK: RB=120 kHz, DET=Peak QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Owen Lee		

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	42.51	34.4 QP	40.0	-5.6	1.00 V	118	47.4	-13.0
2	85.19	31.4 PK	40.0	-8.6	3.00 V	340	49.9	-18.5
3	139.17	33.3 PK	43.5	-10.2	3.00 V	176	46.3	-13.0
4	436.19	34.4 PK	46.0	-11.6	1.00 V	154	42.8	-8.4
5	644.35	31.2 PK	46.0	-14.8	1.00 V	182	35.2	-4.0
6	845.04	32.6 PK	46.0	-13.4	1.00 V	192	33.8	-1.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



7.7 Unwanted Emissions above 1 GHz

RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

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	58.6 PK	74.0	-15.4	3.21 H	153	60.6	-2.0
2	2390.00	49.9 AV	54.0	-4.1	3.21 H	153	51.9	-2.0
3	*2412.00	110.6 PK			3.21 H	153	112.7	-2.1
4	*2412.00	108.6 AV			3.21 H	153	110.7	-2.1
5	4824.00	46.2 PK	74.0	-27.8	2.18 H	10	44.1	2.1
6	4824.00	43.8 AV	54.0	-10.2	2.18 H	10	41.7	2.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.0 PK	74.0	-14.0	2.50 V	259	62.0	-2.0
2	2390.00	50.5 AV	54.0	-3.5	2.50 V	259	52.5	-2.0
3	*2412.00	118.2 PK			2.50 V	259	120.3	-2.1
4	*2412.00	116.2 AV			2.50 V	259	118.3	-2.1
5	4824.00	47.7 PK	74.0	-26.3	1.08 V	221	45.6	2.1
6	4824.00	46.3 AV	54.0	-7.7	1.08 V	221	44.2	2.1

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.

RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	55.9 PK	74.0	-18.1	3.94 H	152	57.9	-2.0
2	2390.00	44.4 AV	54.0	-9.6	3.94 H	152	46.4	-2.0
3	*2437.00	110.8 PK			3.94 H	152	112.9	-2.1
4	*2437.00	108.6 AV			3.94 H	152	110.7	-2.1
5	2483.50	55.4 PK	74.0	-18.6	3.94 H	152	57.8	-2.4
6	2483.50	43.6 AV	54.0	-10.4	3.94 H	152	46.0	-2.4
7	4874.00	46.7 PK	74.0	-27.3	2.16 H	9	44.3	2.4
8	4874.00	44.1 AV	54.0	-9.9	2.16 H	9	41.7	2.4
9	7311.00	45.2 PK	74.0	-28.8	1.98 H	99	37.8	7.4
10	7311.00	33.6 AV	54.0	-20.4	1.98 H	99	26.2	7.4
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	57.3 PK	74.0	-16.7	2.67 V	241	59.3	-2.0
2	2390.00	45.4 AV	54.0	-8.6	2.67 V	241	47.4	-2.0
3	*2437.00	118.2 PK			2.67 V	241	120.3	-2.1
4	*2437.00	115.8 AV			2.67 V	241	117.9	-2.1
5	2483.50	56.4 PK	74.0	-17.6	2.67 V	241	58.8	-2.4
6	2483.50	44.5 AV	54.0	-9.5	2.67 V	241	46.9	-2.4
7	4874.00	47.5 PK	74.0	-26.5	1.00 V	214	45.1	2.4
8	4874.00	46.2 AV	54.0	-7.8	1.00 V	214	43.8	2.4
9	7311.00	46.1 PK	74.0	-27.9	1.14 V	253	38.7	7.4
10	7311.00	34.3 AV	54.0	-19.7	1.14 V	253	26.9	7.4

Remarks:

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

RF Mode	802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	109.3 PK			3.31 H	165	111.7	-2.4
2	*2462.00	107.0 AV			3.31 H	165	109.4	-2.4
3	2483.50	57.9 PK	74.0	-16.1	3.31 H	165	60.3	-2.4
4	2483.50	47.8 AV	54.0	-6.2	3.31 H	165	50.2	-2.4
5	4924.00	45.6 PK	74.0	-28.4	2.28 H	34	43.1	2.5
6	4924.00	43.4 AV	54.0	-10.6	2.28 H	34	40.9	2.5
7	7386.00	45.1 PK	74.0	-28.9	1.94 H	111	37.4	7.7
8	7386.00	33.0 AV	54.0	-21.0	1.94 H	111	25.3	7.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	117.0 PK			2.47 V	249	119.4	-2.4
2	*2462.00	114.6 AV			2.47 V	249	117.0	-2.4
3	2483.50	61.4 PK	74.0	-12.6	2.47 V	249	63.8	-2.4
4	2483.50	53.1 AV	54.0	-0.9	2.47 V	249	55.5	-2.4
5	4924.00	47.1 PK	74.0	-26.9	1.36 V	200	44.6	2.5
6	4924.00	46.2 AV	54.0	-7.8	1.36 V	200	43.7	2.5
7	7386.00	46.7 PK	74.0	-27.3	1.30 V	214	39.0	7.7
8	7386.00	34.5 AV	54.0	-19.5	1.30 V	214	26.8	7.7

Remarks:

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

RF Mode	802.11g	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	71.4 PK	74.0	-2.6	2.71 H	177	73.4	-2.0
2	2390.00	48.5 AV	54.0	-5.5	2.71 H	177	50.5	-2.0
3	*2412.00	113.2 PK			2.71 H	177	115.3	-2.1
4	*2412.00	103.6 AV			2.71 H	177	105.7	-2.1
5	4824.00	41.8 PK	74.0	-32.2	1.96 H	28	39.7	2.1
6	4824.00	31.7 AV	54.0	-22.3	1.96 H	28	29.6	2.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	73.6 PK	74.0	-0.4	2.47 V	227	75.6	-2.0
2	2390.00	50.5 AV	54.0	-3.5	2.47 V	227	52.5	-2.0
3	*2412.00	117.5 PK			2.47 V	227	119.6	-2.1
4	*2412.00	108.0 AV			2.47 V	227	110.1	-2.1
5	4824.00	44.6 PK	74.0	-29.4	1.11 V	223	42.5	2.1
6	4824.00	33.9 AV	54.0	-20.1	1.11 V	223	31.8	2.1

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.

RF Mode	802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	65.1 PK	74.0	-8.9	3.54 H	192	67.1	-2.0
2	2390.00	47.1 AV	54.0	-6.9	3.54 H	192	49.1	-2.0
3	*2437.00	116.3 PK			3.54 H	192	118.4	-2.1
4	*2437.00	106.2 AV			3.54 H	192	108.3	-2.1
5	2483.50	64.0 PK	74.0	-10.0	3.54 H	192	66.4	-2.4
6	2483.50	47.8 AV	54.0	-6.2	3.54 H	192	50.2	-2.4
7	4874.00	42.0 PK	74.0	-32.0	2.08 H	33	39.6	2.4
8	4874.00	32.0 AV	54.0	-22.0	2.08 H	33	29.6	2.4
9	7311.00	45.0 PK	74.0	-29.0	1.81 H	53	37.6	7.4
10	7311.00	32.1 AV	54.0	-21.9	1.81 H	53	24.7	7.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	64.4 PK	74.0	-9.6	2.53 V	224	66.4	-2.0
2	2390.00	48.1 AV	54.0	-5.9	2.53 V	224	50.1	-2.0
3	*2437.00	119.5 PK			2.53 V	224	121.6	-2.1
4	*2437.00	110.5 AV			2.53 V	224	112.6	-2.1
5	2483.50	64.9 PK	74.0	-9.1	2.53 V	224	67.3	-2.4
6	2483.50	47.3 AV	54.0	-6.7	2.53 V	224	49.7	-2.4
7	4874.00	44.2 PK	74.0	-29.8	1.04 V	216	41.8	2.4
8	4874.00	34.1 AV	54.0	-19.9	1.04 V	216	31.7	2.4
9	7311.00	46.1 PK	74.0	-27.9	1.33 V	231	38.7	7.4
10	7311.00	33.5 AV	54.0	-20.5	1.33 V	231	26.1	7.4

Remarks:

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

RF Mode	802.11g	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

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	115.0 PK			3.62 H	175	117.4	-2.4
2	*2462.00	104.7 AV			3.62 H	175	107.1	-2.4
3	2483.50	71.2 PK	74.0	-2.8	3.62 H	175	73.6	-2.4
4	2483.50	49.2 AV	54.0	-4.8	3.62 H	175	51.6	-2.4
5	4924.00	42.0 PK	74.0	-32.0	1.96 H	27	39.5	2.5
6	4924.00	31.7 AV	54.0	-22.3	1.96 H	27	29.2	2.5
7	7386.00	44.5 PK	74.0	-29.5	1.73 H	30	36.8	7.7
8	7386.00	31.9 AV	54.0	-22.1	1.73 H	30	24.2	7.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	117.9 PK			2.75 V	222	120.3	-2.4
2	*2462.00	108.4 AV			2.75 V	222	110.8	-2.4
3	2483.50	72.3 PK	74.0	-1.7	2.75 V	222	74.7	-2.4
4	2483.50	49.7 AV	54.0	-4.3	2.75 V	222	52.1	-2.4
5	4924.00	44.2 PK	74.0	-29.8	1.08 V	203	41.7	2.5
6	4924.00	34.1 AV	54.0	-19.9	1.08 V	203	31.6	2.5
7	7386.00	45.5 PK	74.0	-28.5	1.30 V	234	37.8	7.7
8	7386.00	33.4 AV	54.0	-20.6	1.30 V	234	25.7	7.7

Remarks:

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

RF Mode	802.11be (EHT20)	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	72.1 PK	74.0	-1.9	3.82 H	172	74.1	-2.0
2	2390.00	49.9 AV	54.0	-4.1	3.82 H	172	51.9	-2.0
3	*2412.00	114.8 PK			3.82 H	172	116.9	-2.1
4	*2412.00	102.7 AV			3.82 H	172	104.8	-2.1
5	4824.00	42.4 PK	74.0	-31.6	2.03 H	29	40.3	2.1
6	4824.00	31.7 AV	54.0	-22.3	2.03 H	29	29.6	2.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	72.7 PK	74.0	-1.3	2.63 V	97	74.7	-2.0
2	2390.00	51.4 AV	54.0	-2.6	2.63 V	97	53.4	-2.0
3	*2412.00	118.1 PK			2.63 V	97	120.2	-2.1
4	*2412.00	106.3 AV			2.63 V	97	108.4	-2.1
5	4824.00	44.3 PK	74.0	-29.7	1.04 V	213	42.2	2.1
6	4824.00	34.0 AV	54.0	-20.0	1.04 V	213	31.9	2.1

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.

RF Mode	802.11be (EHT20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	65.1 PK	74.0	-8.9	3.85 H	171	67.1	-2.0
2	2390.00	47.9 AV	54.0	-6.1	3.85 H	171	49.9	-2.0
3	*2437.00	118.2 PK			3.85 H	171	120.3	-2.1
4	*2437.00	106.4 AV			3.85 H	171	108.5	-2.1
5	2483.50	70.3 PK	74.0	-3.7	3.85 H	171	72.7	-2.4
6	2483.50	49.1 AV	54.0	-4.9	3.85 H	171	51.5	-2.4
7	4874.00	42.7 PK	74.0	-31.3	2.04 H	13	40.3	2.4
8	4874.00	32.1 AV	54.0	-21.9	2.04 H	13	29.7	2.4
9	7311.00	45.3 PK	74.0	-28.7	1.76 H	41	37.9	7.4
10	7311.00	32.5 AV	54.0	-21.5	1.76 H	41	25.1	7.4
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	68.5 PK	74.0	-5.5	2.77 V	116	70.5	-2.0
2	2390.00	49.5 AV	54.0	-4.5	2.77 V	116	51.5	-2.0
3	*2437.00	120.1 PK			2.77 V	116	122.2	-2.1
4	*2437.00	109.3 AV			2.77 V	116	111.4	-2.1
5	2483.50	68.0 PK	74.0	-6.0	2.77 V	116	70.4	-2.4
6	2483.50	48.7 AV	54.0	-5.3	2.77 V	116	51.1	-2.4
7	4874.00	44.0 PK	74.0	-30.0	1.14 V	212	41.6	2.4
8	4874.00	33.9 AV	54.0	-20.1	1.14 V	212	31.5	2.4
9	7311.00	45.7 PK	74.0	-28.3	1.28 V	200	38.3	7.4
10	7311.00	33.2 AV	54.0	-20.8	1.28 V	200	25.8	7.4

Remarks:

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

RF Mode	802.11be (EHT20)	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

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	115.7 PK			3.13 H	181	118.1	-2.4
2	*2462.00	104.5 AV			3.13 H	181	106.9	-2.4
3	2483.50	72.1 PK	74.0	-1.9	3.13 H	181	74.5	-2.4
4	2483.50	52.4 AV	54.0	-1.6	3.13 H	181	54.8	-2.4
5	4924.00	41.9 PK	74.0	-32.1	2.03 H	28	39.4	2.5
6	4924.00	31.2 AV	54.0	-22.8	2.03 H	28	28.7	2.5
7	7386.00	45.1 PK	74.0	-28.9	1.72 H	47	37.4	7.7
8	7386.00	32.4 AV	54.0	-21.6	1.72 H	47	24.7	7.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	119.8 PK			2.68 V	108	122.2	-2.4
2	*2462.00	107.5 AV			2.68 V	108	109.9	-2.4
3	2483.50	72.6 PK	74.0	-1.4	2.68 V	108	75.0	-2.4
4	2483.50	51.9 AV	54.0	-2.1	2.68 V	108	54.3	-2.4
5	4924.00	44.5 PK	74.0	-29.5	1.19 V	201	42.0	2.5
6	4924.00	34.3 AV	54.0	-19.7	1.19 V	201	31.8	2.5
7	7386.00	45.4 PK	74.0	-28.6	1.35 V	202	37.7	7.7
8	7386.00	32.9 AV	54.0	-21.1	1.35 V	202	25.2	7.7

Remarks:

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

RF Mode	802.11be (EHT40)	Channel	CH 3 : 2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	69.2 PK	74.0	-4.8	3.96 H	175	71.2	-2.0
2	2390.00	50.3 AV	54.0	-3.7	3.96 H	175	52.3	-2.0
3	*2422.00	112.9 PK			3.96 H	175	115.0	-2.1
4	*2422.00	100.8 AV			3.96 H	175	102.9	-2.1
5	4844.00	42.2 PK	74.0	-31.8	2.05 H	5	40.0	2.2
6	4844.00	31.7 AV	54.0	-22.3	2.05 H	5	29.5	2.2
7	7266.00	45.7 PK	74.0	-28.3	1.82 H	26	38.1	7.6
8	7266.00	32.7 AV	54.0	-21.3	1.82 H	26	25.1	7.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	71.7 PK	74.0	-2.3	2.54 V	112	73.7	-2.0
2	2390.00	53.3 AV	54.0	-0.7	2.54 V	112	55.3	-2.0
3	*2422.00	116.6 PK			2.54 V	112	118.7	-2.1
4	*2422.00	104.7 AV			2.54 V	112	106.8	-2.1
5	4844.00	44.0 PK	74.0	-30.0	1.07 V	200	41.8	2.2
6	4844.00	34.0 AV	54.0	-20.0	1.07 V	200	31.8	2.2
7	7266.00	45.9 PK	74.0	-28.1	1.38 V	207	38.3	7.6
8	7266.00	33.0 AV	54.0	-21.0	1.38 V	207	25.4	7.6

Remarks:

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

RF Mode	802.11be (EHT40)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	70.5 PK	74.0	-3.5	3.34 H	170	72.5	-2.0
2	2390.00	51.9 AV	54.0	-2.1	3.34 H	170	53.9	-2.0
3	*2437.00	115.2 PK			3.34 H	170	117.3	-2.1
4	*2437.00	102.8 AV			3.34 H	170	104.9	-2.1
5	2483.50	70.3 PK	74.0	-3.7	3.34 H	170	72.7	-2.4
6	2483.50	52.2 AV	54.0	-1.8	3.34 H	170	54.6	-2.4
7	4874.00	42.6 PK	74.0	-31.4	2.01 H	17	40.2	2.4
8	4874.00	32.1 AV	54.0	-21.9	2.01 H	17	29.7	2.4
9	7311.00	46.3 PK	74.0	-27.7	1.82 H	59	38.9	7.4
10	7311.00	33.0 AV	54.0	-21.0	1.82 H	59	25.6	7.4
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	73.0 PK	74.0	-1.0	2.55 V	114	75.0	-2.0
2	2390.00	52.7 AV	54.0	-1.3	2.55 V	114	54.7	-2.0
3	*2437.00	117.0 PK			2.55 V	114	119.1	-2.1
4	*2437.00	105.2 AV			2.55 V	114	107.3	-2.1
5	2483.50	70.8 PK	74.0	-3.2	2.55 V	114	73.2	-2.4
6	2483.50	50.4 AV	54.0	-3.6	2.55 V	114	52.8	-2.4
7	4874.00	43.6 PK	74.0	-30.4	1.06 V	217	41.2	2.4
8	4874.00	33.4 AV	54.0	-20.6	1.06 V	217	31.0	2.4
9	7311.00	45.5 PK	74.0	-28.5	1.32 V	226	38.1	7.4
10	7311.00	32.8 AV	54.0	-21.2	1.32 V	226	25.4	7.4

Remarks:

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

RF Mode	802.11be (EHT40)	Channel	CH 9 : 2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 71% RH
Tested By	Stars Liu		

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	112.9 PK			3.54 H	177	115.1	-2.2
2	*2452.00	101.7 AV			3.54 H	177	103.9	-2.2
3	2483.50	69.9 PK	74.0	-4.1	3.54 H	177	72.3	-2.4
4	2483.50	51.6 AV	54.0	-2.4	3.54 H	177	54.0	-2.4
5	4904.00	41.8 PK	74.0	-32.2	2.04 H	30	39.3	2.5
6	4904.00	31.3 AV	54.0	-22.7	2.04 H	30	28.8	2.5
7	7356.00	45.0 PK	74.0	-29.0	1.86 H	45	37.5	7.5
8	7356.00	32.4 AV	54.0	-21.6	1.86 H	45	24.9	7.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	116.5 PK			2.68 V	117	118.7	-2.2
2	*2452.00	104.5 AV			2.68 V	117	106.7	-2.2
3	2483.50	68.2 PK	74.0	-5.8	2.62 V	111	70.6	-2.4
4	2483.50	52.8 AV	54.0	-1.2	2.62 V	111	55.2	-2.4
5	4904.00	44.8 PK	74.0	-29.2	1.00 V	204	42.3	2.5
6	4904.00	34.1 AV	54.0	-19.9	1.00 V	204	31.6	2.5
7	7356.00	45.5 PK	74.0	-28.5	1.34 V	214	38.0	7.5
8	7356.00	32.7 AV	54.0	-21.3	1.34 V	214	25.2	7.5

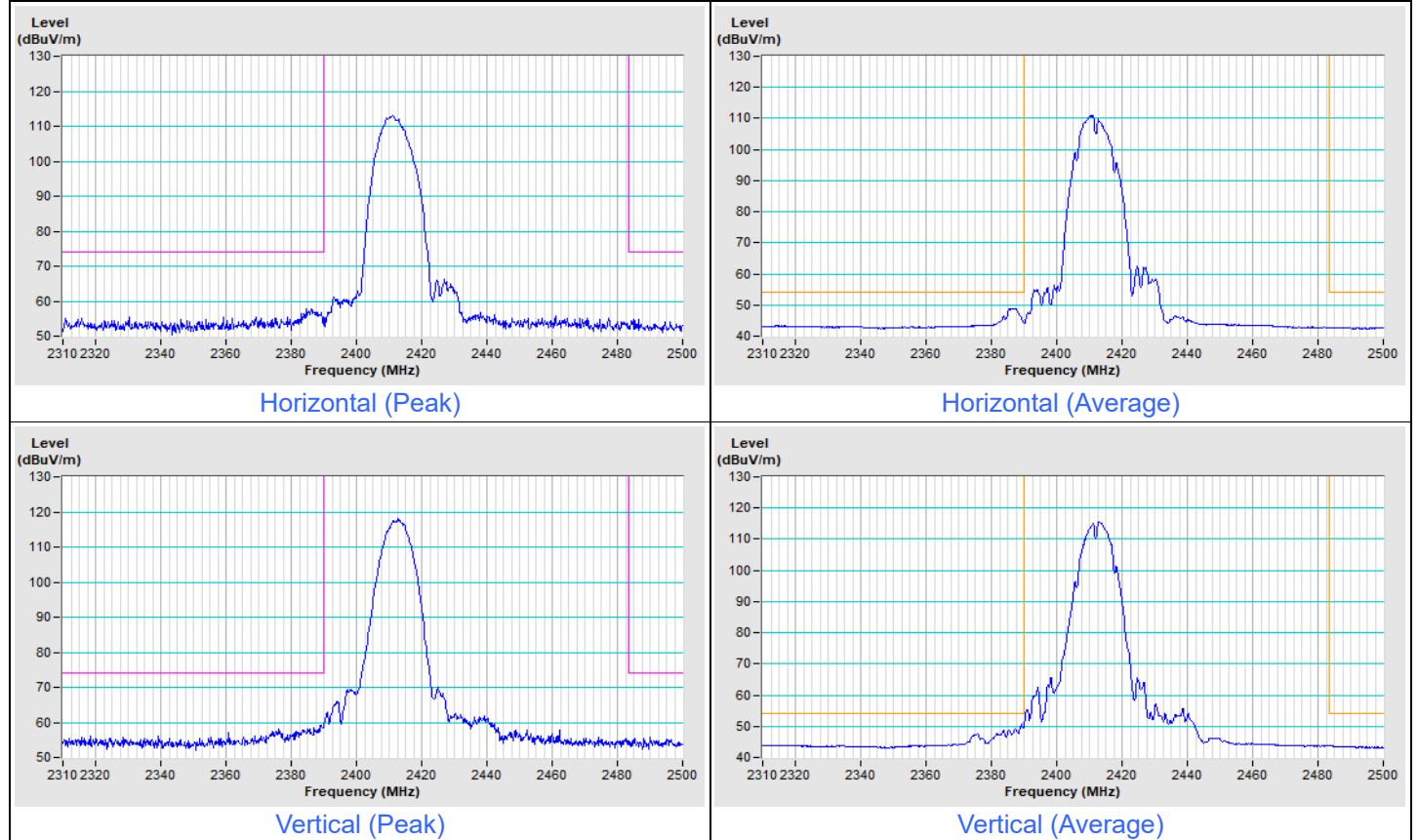
Remarks:

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

Plot of Band Edge

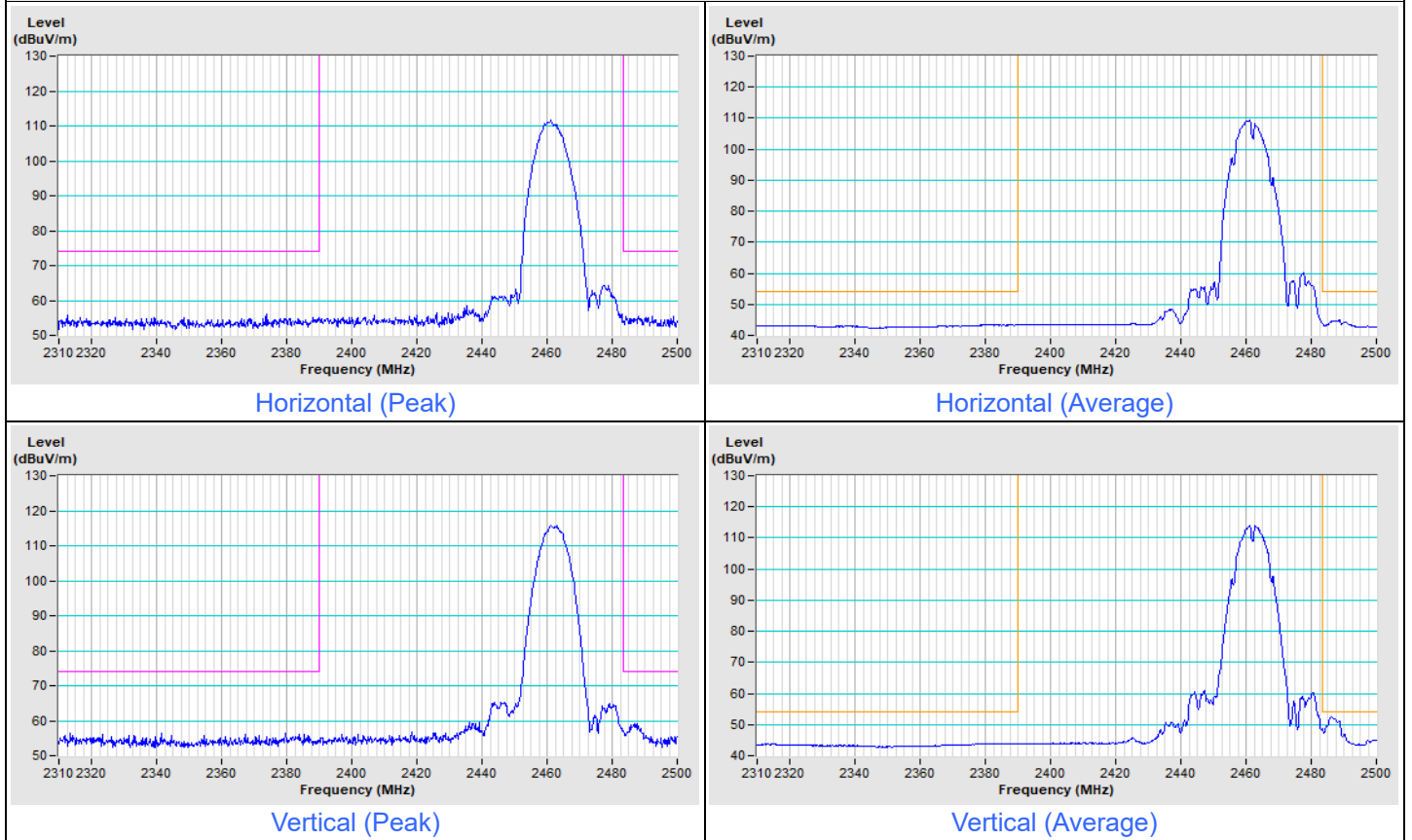
Frequency Range	2.31 GHz ~ 2.412 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11b Channel 1



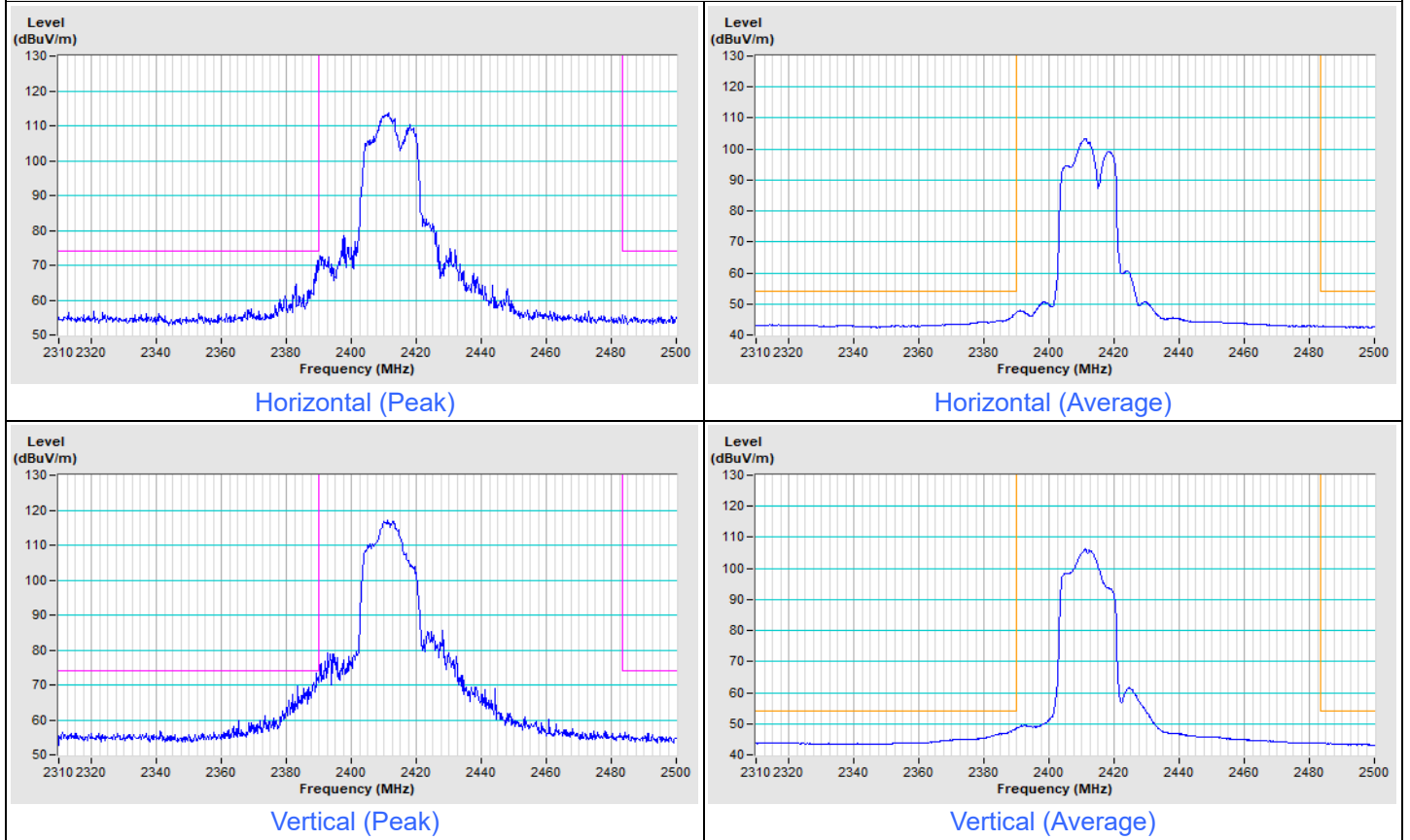
Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11b Channel 11



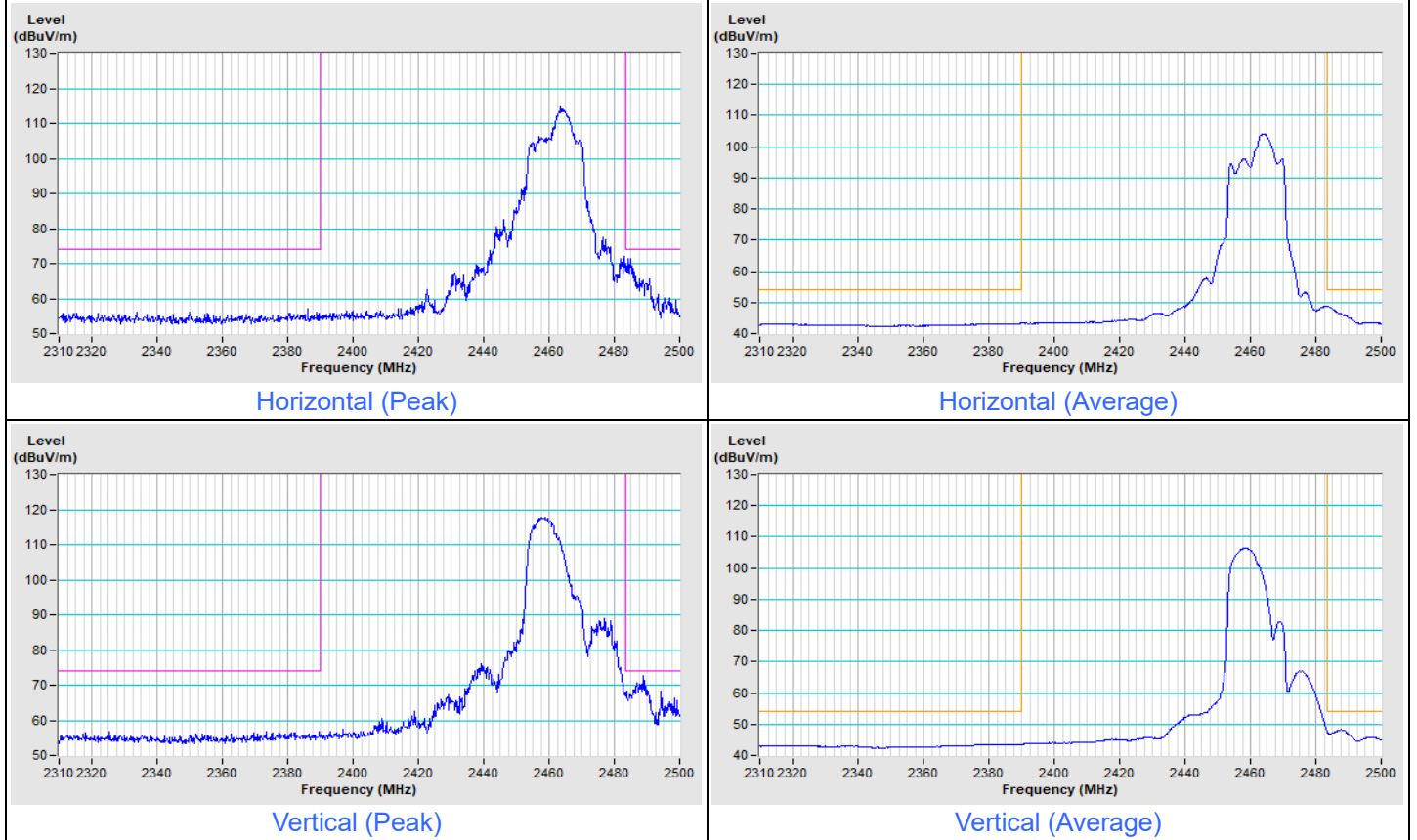
Frequency Range	2.31 GHz ~ 2.412 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11g Channel 1



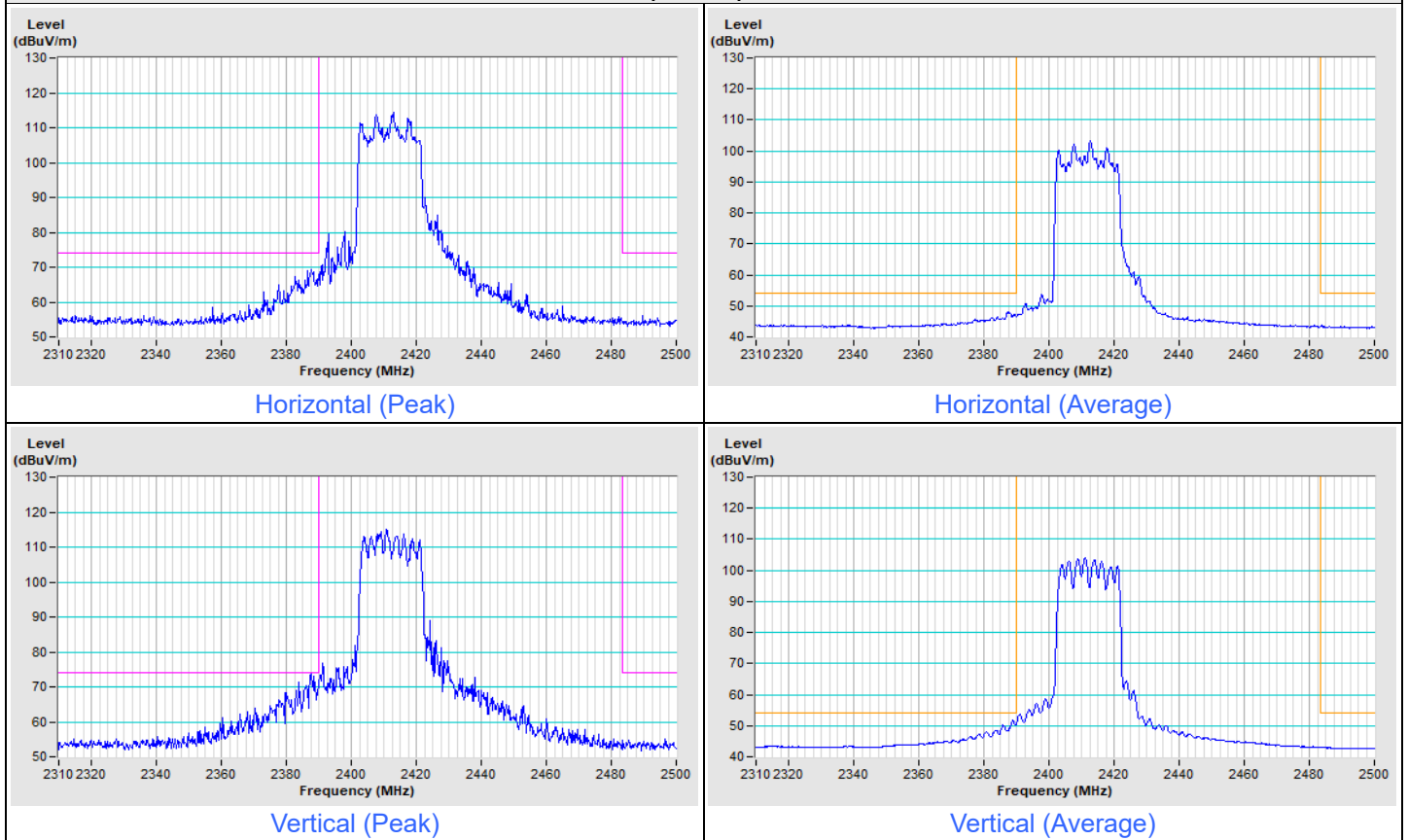
Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11g Channel 11



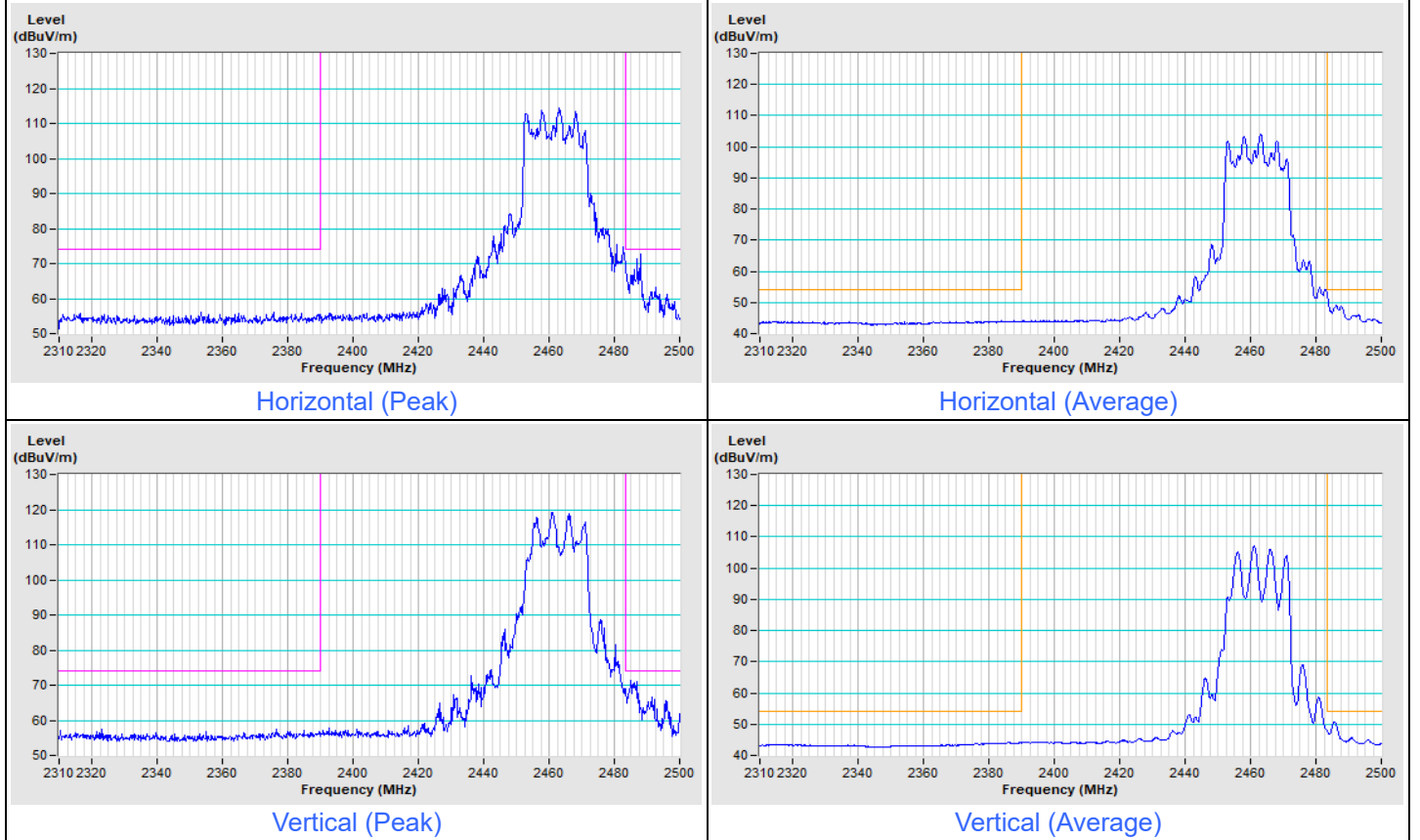
Frequency Range	2.31 GHz ~ 2.412 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11be (EHT20) Channel 1



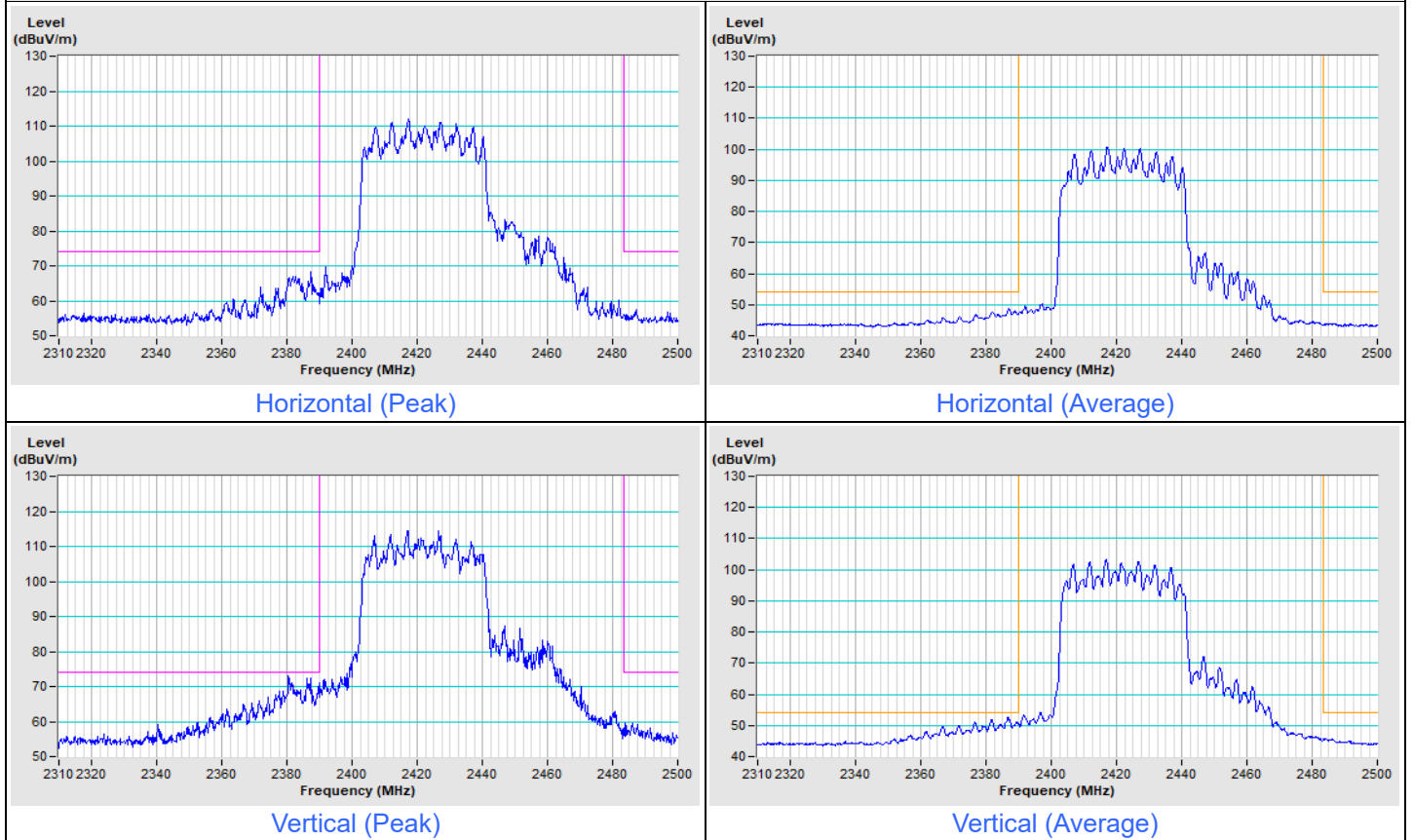
Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11be (EHT20) Channel 11



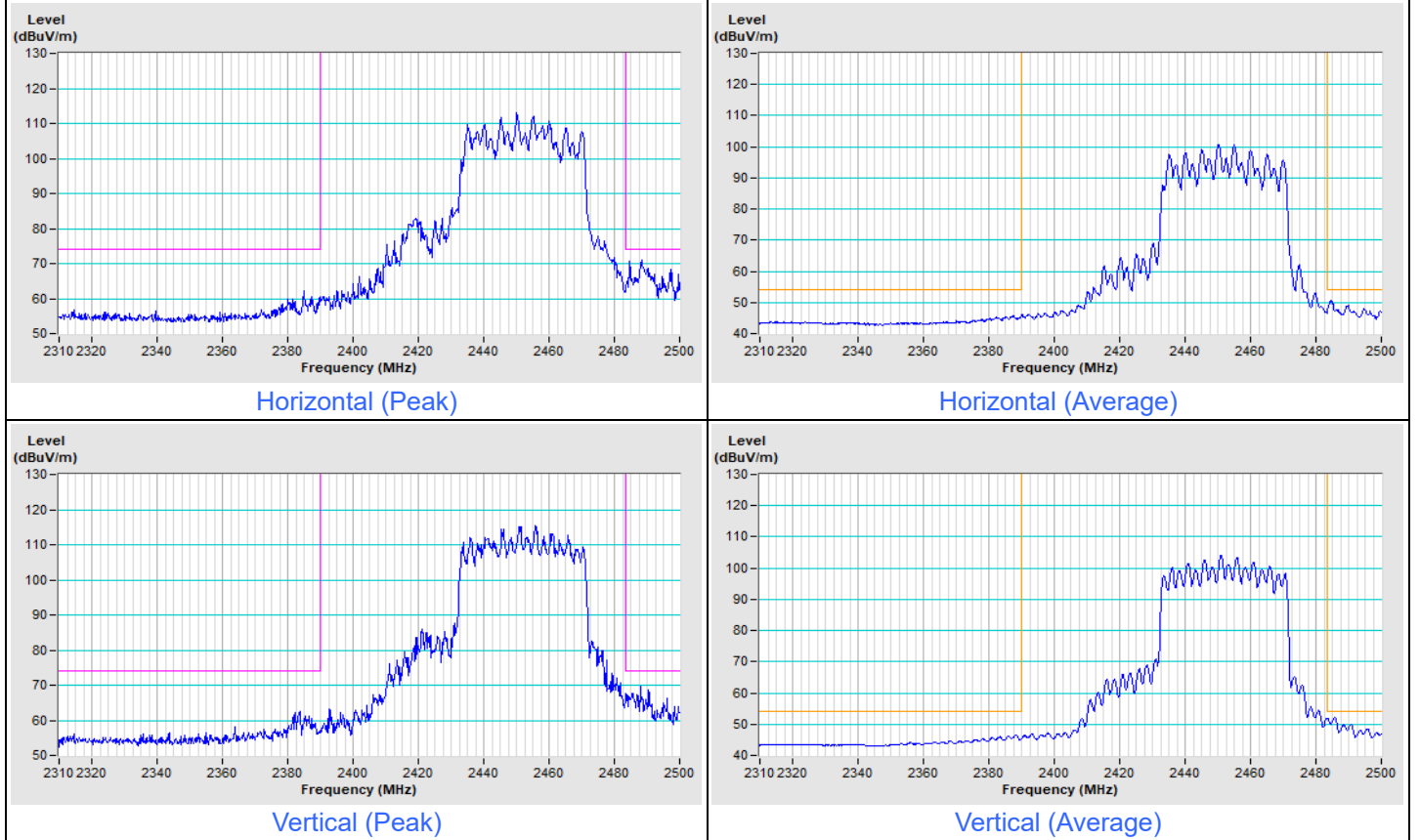
Frequency Range	2.31 GHz ~ 2.412 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11be (EHT40) Channel 3



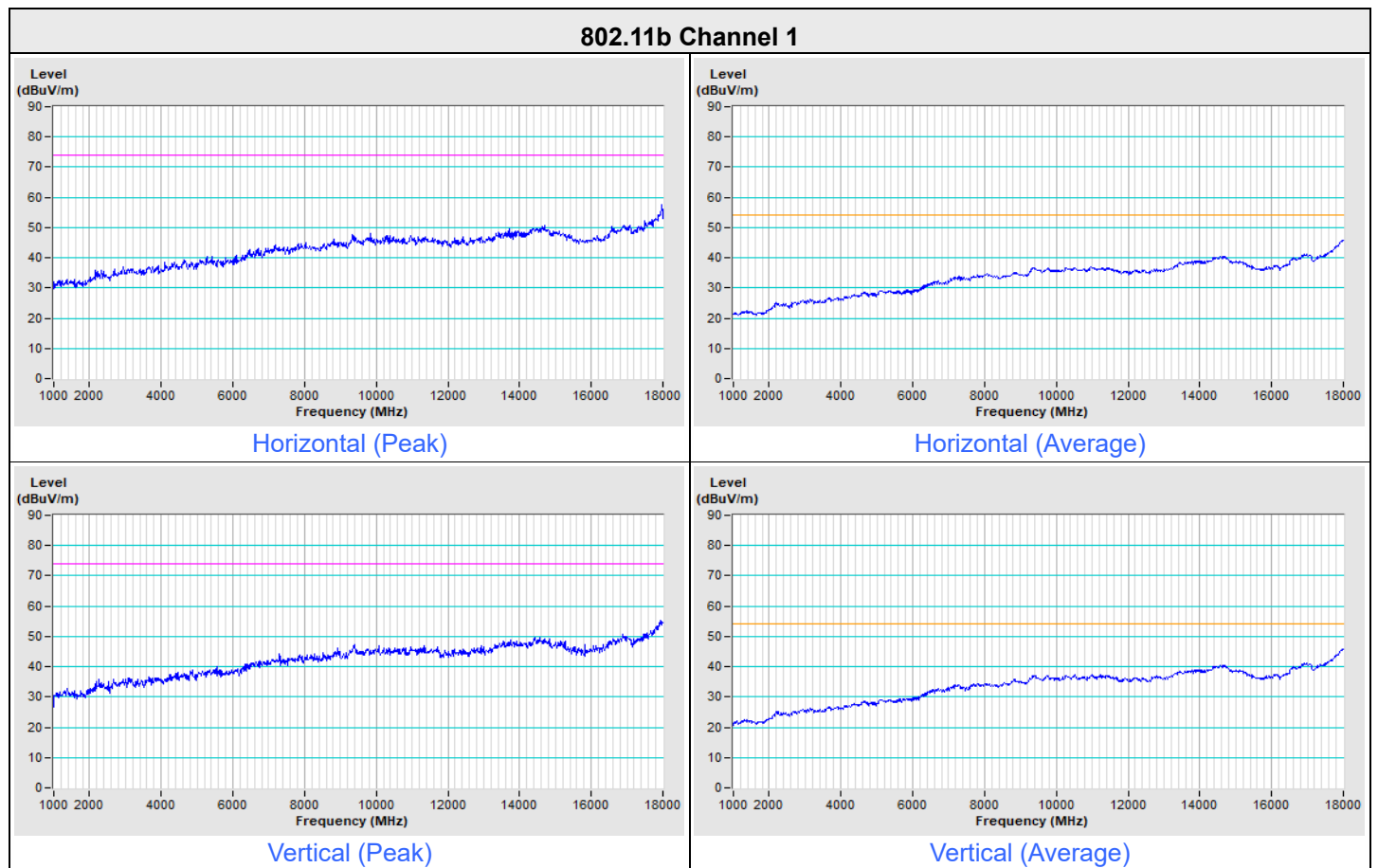
Frequency Range	2.462 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11be (EHT40) Channel 9



Plot of Other Emission

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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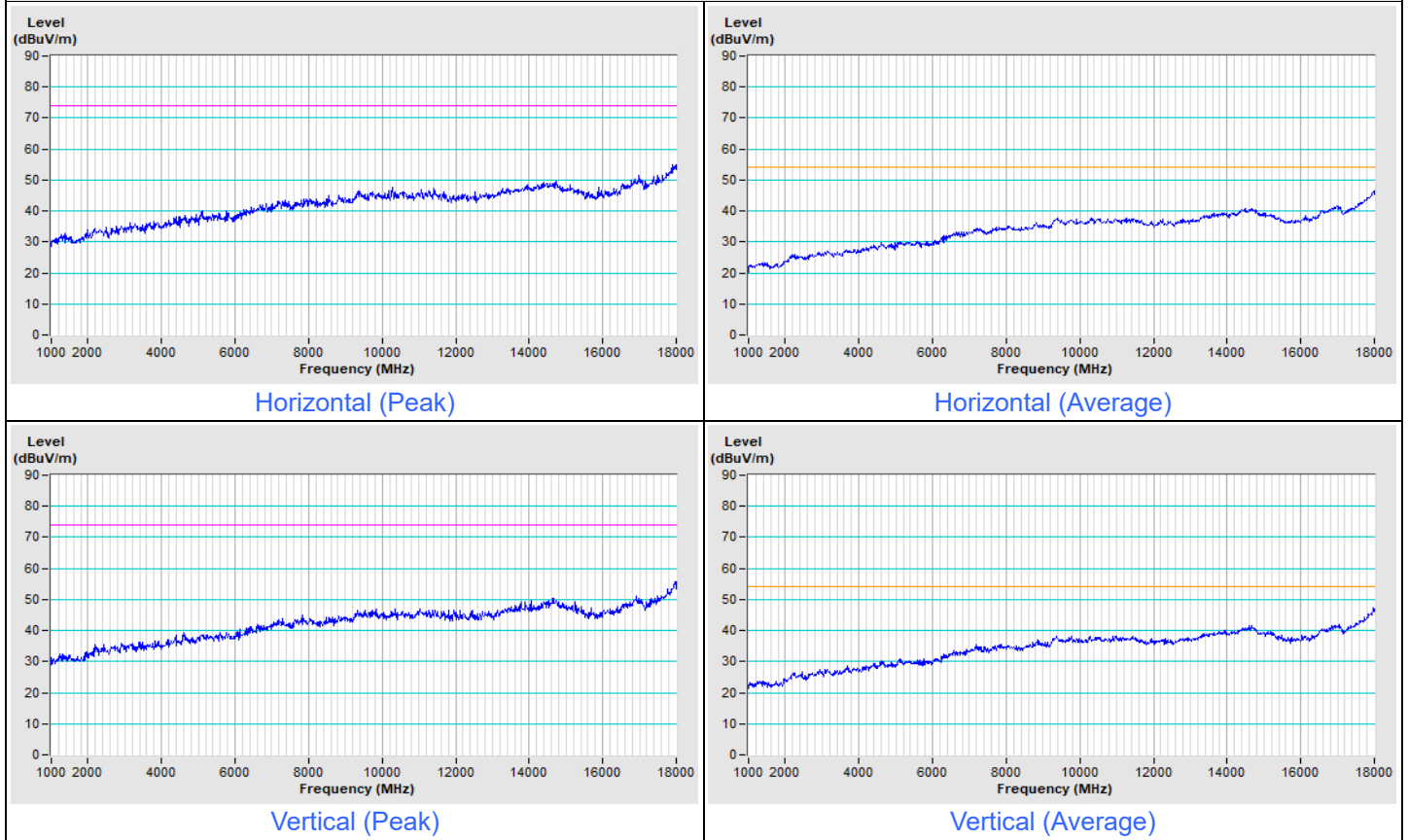


Notes:

1. For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.
2. The frequency range 18 GHz ~ 25 GHz: After investigation, no any emissions were found to exist, therefore they are not recorded in this report.

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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802.11g Channel 6

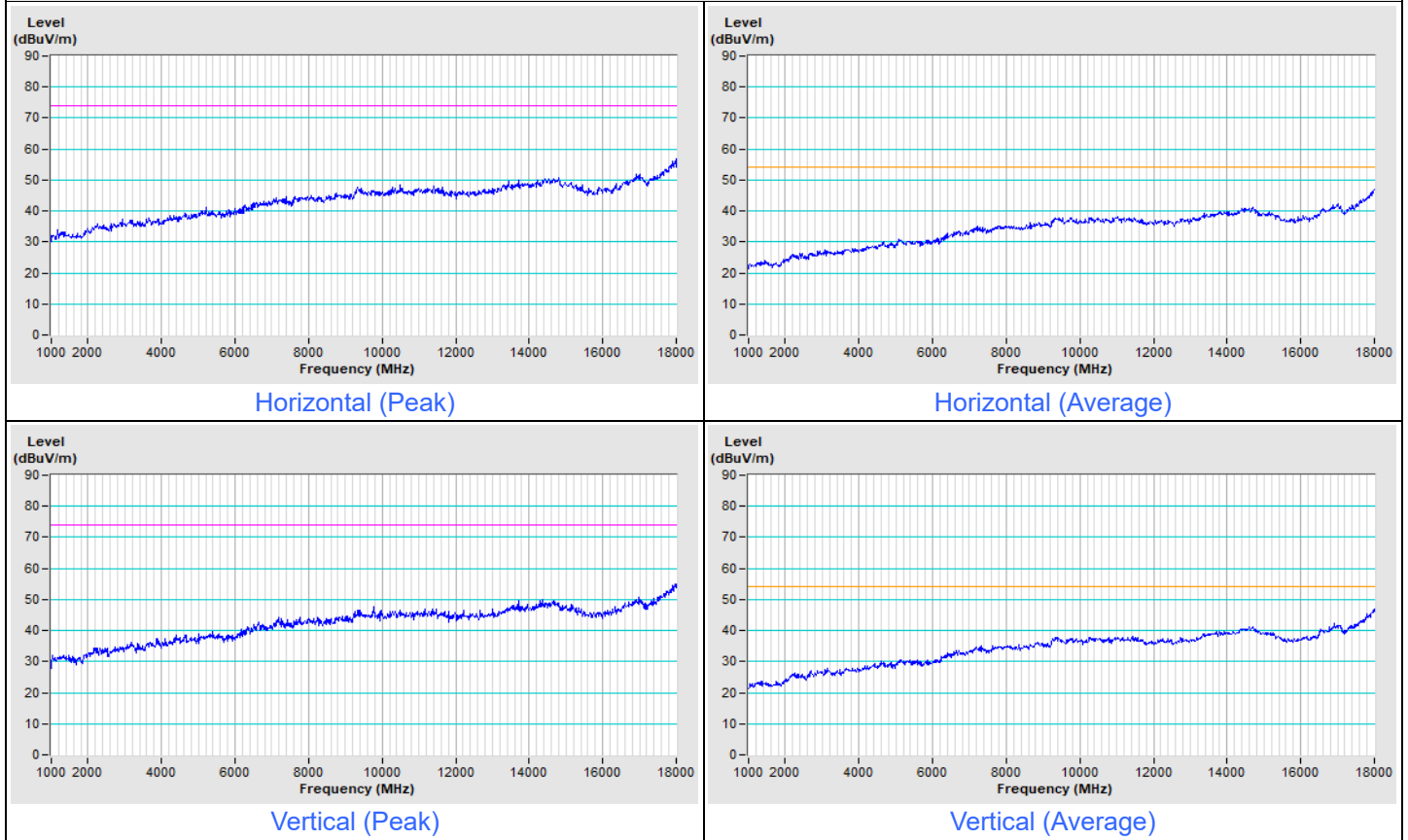


Notes:

1. For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.
2. The frequency range 18 GHz ~ 25 GHz: After investigation, no any emissions were found to exist, therefore they are not recorded in this report.

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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802.11be (EHT20) Channel 11

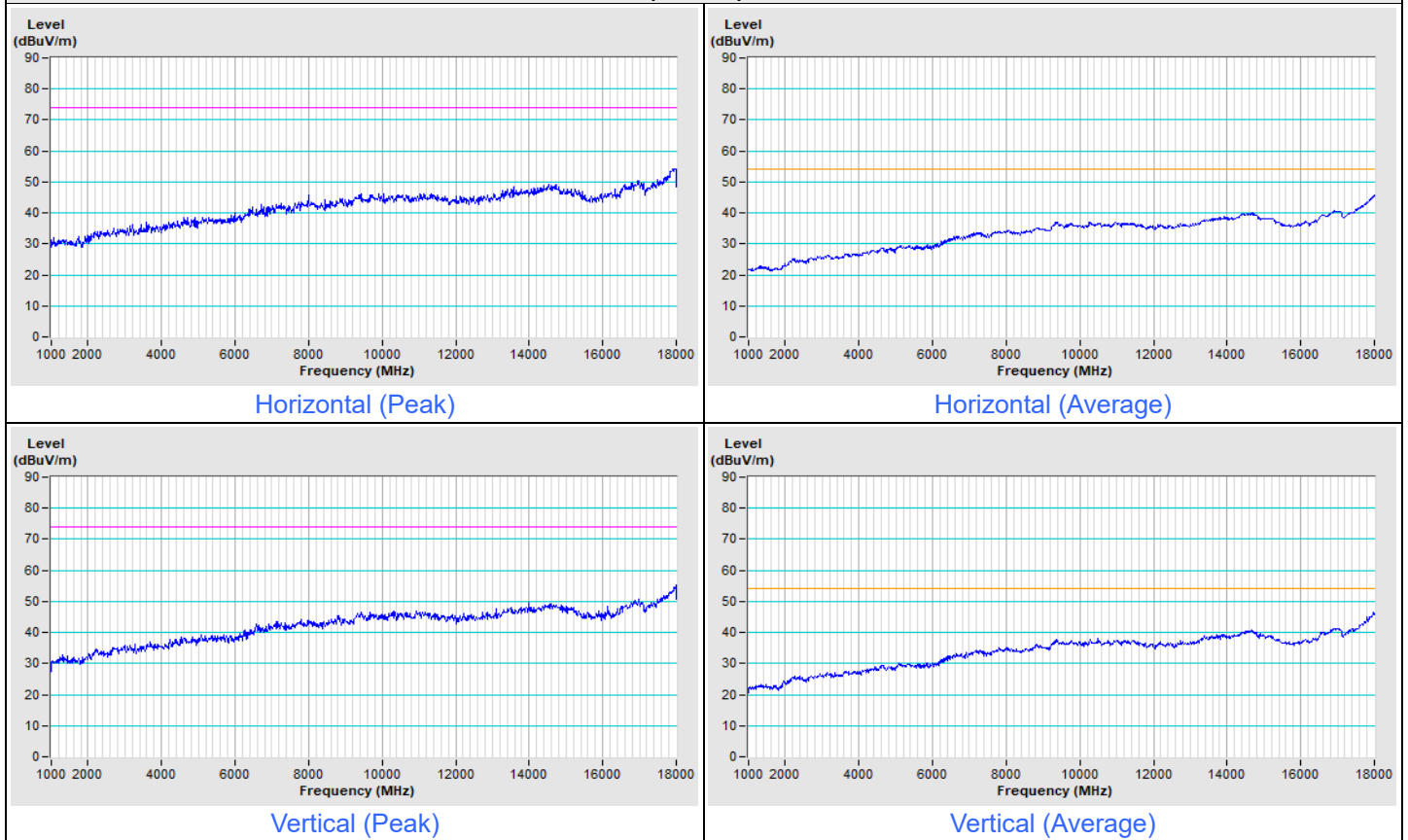


Notes:

1. For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.
2. The frequency range 18 GHz ~ 25 GHz: After investigation, no any emissions were found to exist, therefore they are not recorded in this report.

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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802.11be (EHT40) Channel 9



Notes:

1. For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.
2. The frequency range 18 GHz ~ 25 GHz: After investigation, no any emissions were found to exist, therefore they are not recorded in this report.

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

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

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

Lin Kou EMC/RF Lab

Tel: 886-(0)2-26052180

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-(0)3-6668565 (SIP)

Tel: 886-(0)3-5120595 (WD)

Hwa Ya EMC/RF/Safety/SAR Lab & Wenming EMC/RF Lab

Tel: 886-(0)3-3183232

Email: service.adt@bureauveritas.com

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

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

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