

FCC Test Report

Report No.: RFBEQF-WTW-P22010505

FCC ID: BEJNT-16T90Q

Test Model: 16T90Q

Series Model: 16TD90Q, 16TG90Q, 16TB90Q (refer to item 3.1 for more details)

Received Date: Jan. 04, 2022

Test Date: Feb. 02 ~ Feb. 21, 2022

Issued Date: Mar. 07, 2022

Applicant: LG Electronics USA

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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(1):
FCC Registration /
Designation Number(2): 281270 / TW0032



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Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Modification Record	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Description of Test Modes	9
3.2.1 Test Mode Applicability and Tested Channel Detail	10
3.3 Duty Cycle of Test Signal	12
3.4 Description of Support Units	13
3.4.1 Configuration of System under Test	13
3.5 General Description of Applied Standards and References	13
4 Test Types and Results	14
4.1 Radiated Emission and Bandedge Measurement	14
4.1.1 Limits of Radiated Emission and Bandedge Measurement	14
4.1.2 Test Instruments	15
4.1.3 Test Procedures	16
4.1.4 Deviation from Test Standard	17
4.1.5 Test Setup	17
4.1.6 EUT Operating Conditions	18
4.1.7 Test Results	19
4.2 Conducted Emission Measurement	49
4.2.1 Limits of Conducted Emission Measurement	49
4.2.2 Test Instruments	49
4.2.3 Test Procedures	50
4.2.4 Deviation from Test Standard	50
4.2.5 Test Setup	50
4.2.6 EUT Operating Conditions	50
4.2.7 Test Results	51
4.3 6dB Bandwidth Measurement	53
4.3.1 Limits of 6dB Bandwidth Measurement	53
4.3.2 Test Setup	53
4.3.3 Test Instruments	53
4.3.4 Test Procedure	53
4.3.5 Deviation from Test Standard	53
4.3.6 EUT Operating Conditions	53
4.3.7 Test Result	54
4.4 Conducted Output Power Measurement	57
4.4.1 Limits of Conducted Output Power Measurement	57
4.4.2 Test Setup	57
4.4.3 Test Instruments	57
4.4.4 Test Procedures	57
4.4.5 Deviation from Test Standard	57
4.4.6 EUT Operating Conditions	57
4.4.7 Test Results	58
4.5 Power Spectral Density Measurement	64
4.5.1 Limits of Power Spectral Density Measurement	64
4.5.2 Test Setup	64
4.5.3 Test Instruments	64
4.5.4 Test Procedure	64
4.5.5 Deviation from Test Standard	64
4.5.6 EUT Operating Condition	64

4.5.7 Test Results	65
4.6 Conducted Out of Band Emission Measurement.....	73
4.6.1 Limits of Conducted Out of Band Emission Measurement	73
4.6.2 Test Setup.....	73
4.6.3 Test Instruments	73
4.6.4 Test Procedure	73
4.6.5 Deviation from Test Standard	73
4.6.6 EUT Operating Condition	73
4.6.7 Test Results	73
5 Pictures of Test Arrangements.....	90
Annex A- Band Edge Measurement.....	91
Appendix – Information of the Testing Laboratories	104

Release Control Record

Issue No.	Description	Date Issued
RFBEQF-WTW-P22010505	Original release.	Mar. 07, 2022

1 Certificate of Conformity

Product: Notebook Computer

Brand: LG

Test Model: 16T90Q

Series Model: 16TD90Q, 16TG90Q, 16TB90Q (refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant: LG Electronics USA

Test Date: Feb. 02 ~ Feb. 21, 2022

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)
ANSI C63.10:2013

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.

Prepared by : Polly Chien , **Date:** Mar. 07, 2022
Polly Chien / Specialist

Approved by : Jeremy Lin , **Date:** Mar. 07, 2022
Jeremy Lin / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -19.00dB at 0.15400MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.56dB at 2483.50MHz.
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	Pass	Meet the requirement of limit.
15.247(b)	Conducted power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is I-PEX not a standard connector.

Note:

- For 2.4G band compliance with rule 15.247(d) of the band-edge items, the test plots were recorded in Annex A. Test Procedures refer to report 4.1.3.
- 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	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.00 dB
	30MHz ~ 200MHz	2.91 dB
	200MHz ~ 1000MHz	2.93 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	1.76 dB
	18GHz ~ 40GHz	1.77 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Notebook Computer
Brand	LG
Test Model	16T90Q
Series Model	16TD90Q, 16TG90Q, 16TB90Q
Model Difference	For marketing purpose
Sample Status	Engineering sample
Power Supply Rating	7.74 Vdc (Battery) 5 Vdc / 15Vdc / 9Vdc / 20Vdc (Adapter)
Modulation Type	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ax: up to 573.5Mbps
Operating Frequency	2412~2472MHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), 802.11ax (HE20): 13 802.11n (HT40), 802.11ax (HE40): 9
Output Power	1TX: 247.742mW 2TX: 464.751mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Refer to Note
Cable Supplied	Refer to Note

Note:

1. The EUT contains following accessory devices.

Product	Brand	Model	Description
Battery	LG	LBV7227E	Rating: 7.74V, 80Wh, 10336mAh Rated :9891mAh
Adapter	LG	ADT-65DSU-D03-2	I/P: 100-240Vac, 50-60Hz, 1.6A O/P: 20Vdc, 3.25A, 65W (USB-PD) 5.0Vdc, 3.0A, 15.0W or 9.0Vdc, 3.0A, 27.0 W or 15.0Vdc, 3.0A, 45.0W Power cord: 1.5m 1.47m
Module	Intel	AX211D2W	

2. The antenna used in this EUT is listed as below table:

NB:

Ant. Type	Brand	Ant.	Model	Antenna Peak Gain (dBi)					Connector
				2400-2483.5MHz	5150-5250MHz	5250-5350MHz	5470-5725MHz	5725-5850MHz	
PIFA	CHILISIN	Main	DQ600111500 (BTEA00111525GC1A01)	2.76	0.30	0.07	2.87	0.32	I-PEX
		Aux.	DQ600111500 (BTEA00111525GC1A01)	1.02	2.35	2.30	2.07	0.81	
	Pulse	Main	DQ602119000 (TZ21190)	3.16	0.57	0.57	3.22	0.84	I-PEX
		Aux.	DQ602119000 (TZ21190)	1.33	2.77	2.77	2.15	1.39	

Tablet:

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

* The NB mode has the largest antenna and was chosen for final test.

3. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

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

Modulation Mode	TX Function
802.11b	1TX
802.11g	1TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX
802.11ax (HE20)	2TX
802.11ax (HE40)	2TX

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and HE20/HE40 on 802.11ax mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

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

3.2 Description of Test Modes

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

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

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

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where RE $\geq$ 1G: Radiated Emission above 1GHz & Bandedge Measurement
 RE<1G: Radiated Emission below 1GHz
 PLC: Power Line Conducted Emission
 APCM: Antenna Port Conducted Measurement

Note: Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst r maximum power channel for final testing.

Radiated Emission Test (Above 1GHz):

- ☒ 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).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)	Remark
-	802.11b	1 to 13	1, 6, 11, 12, 13	DSSS	DBPSK	1.0	-
-	802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.0	-
-	802.11ax (HE20)	1 to 13	1, 6, 11, 12, 13	OFDMA	BPSK	MCS0	-
-	802.11ax (HE40)	3 to 11	3, 6, 9, 10, 11	OFDMA	BPSK	MCS0	-
-	802.11ax (HE20) RU	1 to 13	1, 13	OFDMA	BPSK	MCS0	-
-	802.11ax (HE40) RU	3 to 11	3, 11	OFDMA	BPSK	MCS0	-

Radiated Emission Test (Below 1GHz):

- ☒ 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).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)	Remark
-	802.11ax (HE20)	1 to 13	6	OFDMA	BPSK	MCS0	-

Power Line Conducted Emission Test:

- ☒ 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).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)	Remark
-	802.11ax (HE20)	1 to 13	6	OFDMA	BPSK	MCS0	-

Conducted Emission Measurement:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ 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).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11b	1 to 13	1, 6, 11, 12, 13	DSSS	DBPSK	1.0
-	802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.5
-	802.11n (HT40)	3 to 11	3, 6, 9, 10, 11	OFDM	BPSK	13.5
-	802.11ax (HE20)	1 to 13	1, 6, 11, 12, 13	OFDMA	BPSK	MCS0
-	802.11ax (HE40)	3 to 11	3, 6, 9, 10, 11	OFDMA	BPSK	MCS0
-	802.11ax (HE20) RU	1 to 13	1, 13	OFDMA	BPSK	MCS0
-	802.11ax (HE40) RU	3 to 11	3, 11	OFDMA	BPSK	MCS0

Power Spectral Density, Bandwidth and Conducted Out of Band Emission Measurement:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ 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).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11b	1 to 13	1, 6, 11, 12, 13	DSSS	DBPSK	1.0
-	802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.0
-	802.11ax (HE20)	1 to 13	1, 6, 11, 12, 13	OFDMA	BPSK	MCS0
-	802.11ax (HE40)	3 to 11	3, 6, 9, 10, 11	OFDMA	BPSK	MCS0

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	23 deg. C, 68% RH 26 deg. C, 66% RH	120Vac, 60Hz	Wade Huang, Randy Wu
RE<1G	26 deg. C, 66% RH	120Vac, 60Hz	Randy Wu
PLC	23 deg. C, 67% RH	120Vac, 60Hz	Adair Peng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Frank Liu

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is > 98 %, duty factor is not required.

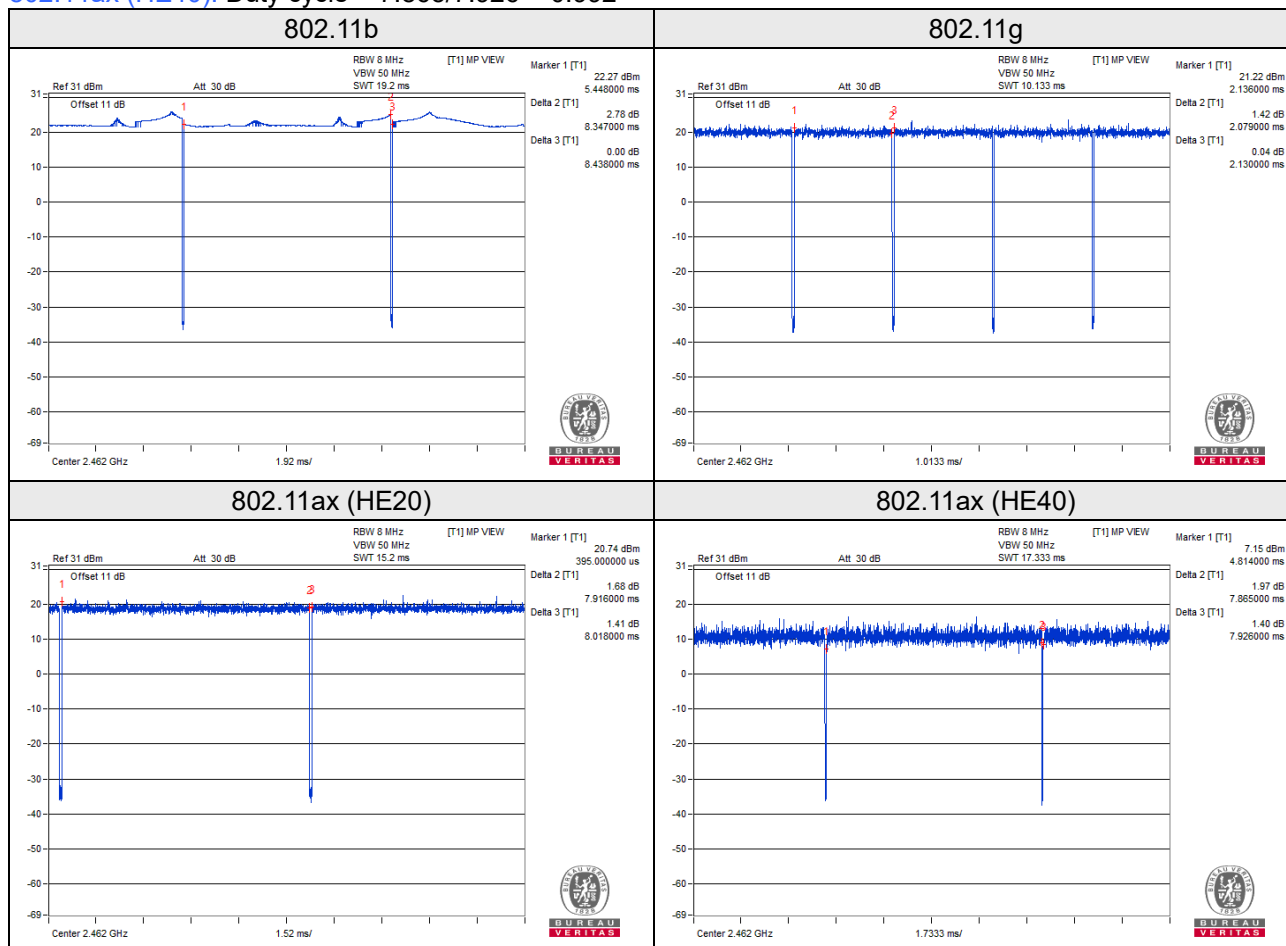
Duty cycle of test signal is < 98 %, duty factor is required.

802.11b: Duty cycle = $8.347/8.438 = 0.989$

802.11g: Duty cycle = $2.079/ 2.130 = 0.976$, Duty factor = $10 * \log(1/0.976) = 0.11$

802.11ax (HE20): Duty cycle = $7.916/8.018 = 0.987$

802.11ax (HE40): Duty cycle = $7.865/7.926 = 0.992$

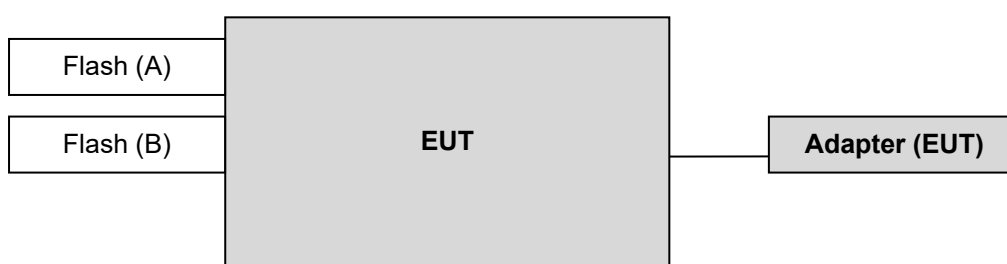


3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Flash	SanDisk	SDDDC3-032G	05	NA	Type-C
B.	Flash	HP	v250W	01	NA	Type-A

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

Test standard:

FCC Part 15, Subpart C (15.247)

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

References Test Guidance:

KDB 558074 D01 15.247 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB 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

Note:

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 1000MHz, 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 20dB under any condition of modulation.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSV40	100979	Mar. 29, 2021	Mar. 28, 2022
Test Receiver Rohde & Schwarz	ESR3	102782	Dec. 10, 2021	Dec. 09, 2022
Spectrum Analyzer Rohde & Schwarz	FSW43	101582	Apr. 01, 2021	Mar. 31, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-1213	Oct. 27, 2021	Oct. 26, 2022
HORN Antenna RF SPIN	DRH18-E	210103A18E	Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	9170-1048	Nov. 14, 2021	Nov. 13, 2022
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier EMCI	EMC330N	980782	Jan. 17, 2022	Jan. 16, 2023
Preamplifier EMCI	EMC118A45SE	980808	Dec. 30, 2021	Dec. 29, 2022
Preamplifier EMCI	EMC184045SE	980788	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC104-SM-SM-(9 000+2000+1000)	201243+ 201231+ 210102	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMCCFD400-NM-N M-(9000+300+500)	201236+ 201235+ 201233	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC101G-KM-KM- (5000+3000+2000)	201260+201257+201254	Jan. 17, 2022	Jan. 16, 2023
Software BV ADT	ADT_Radiated_V7. 6.15.9.5	NA	NA	NA
Antenna Tower Max-Full	MFT-151SS-0.5T	NA	NA	NA
Turn Table Max-Full	MF-7802BS	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208674	NA	NA
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	Jan. 18, 2022	Jan. 17, 2023
Wideband Power Sensor KEYSIGHT	N1923A	MY58020002	Jan. 17, 2022	Jan. 16, 2023
PXA Signal Analyzer KEYSIGHT	N9030B	MY57140938	Mar. 09, 2021	Mar. 08, 2022
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in WM Chamber 8.

4.1.3 Test Procedures

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) 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.
- f. The test-receiver system was set to peak and average detect 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.

Note:

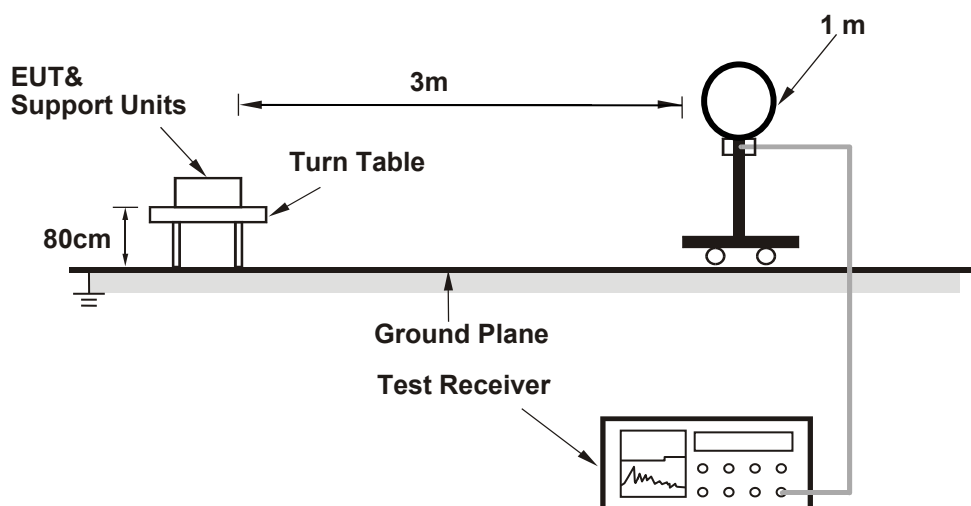
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
(802.11b: RBW = 1MHz, VBW = 10Hz; 802.11g: RBW = 1MHz, VBW = 1kHz;
802.11ax (HE20): RBW = 1MHz, VBW = 10Hz; 802.11ax (HE40): RBW = 1MHz, VBW = 10Hz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

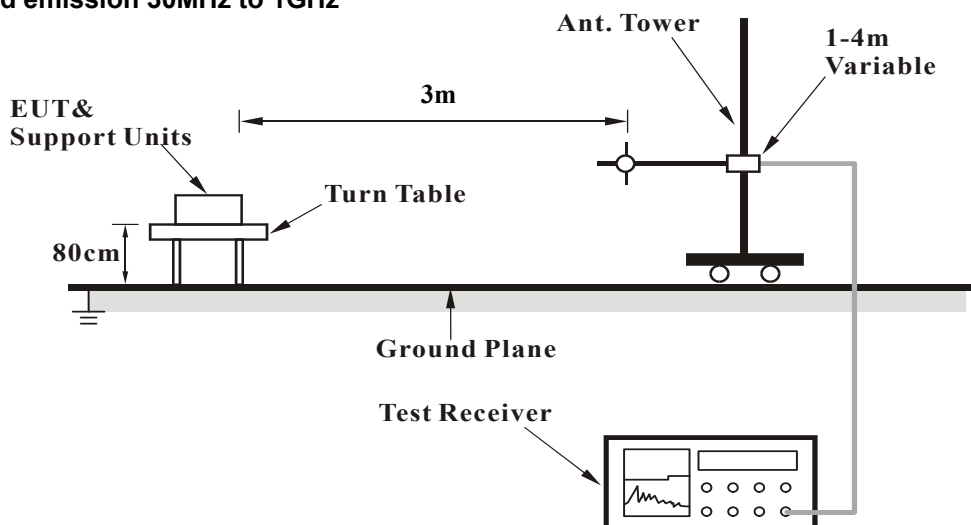
No deviation.

4.1.5 Test Setup

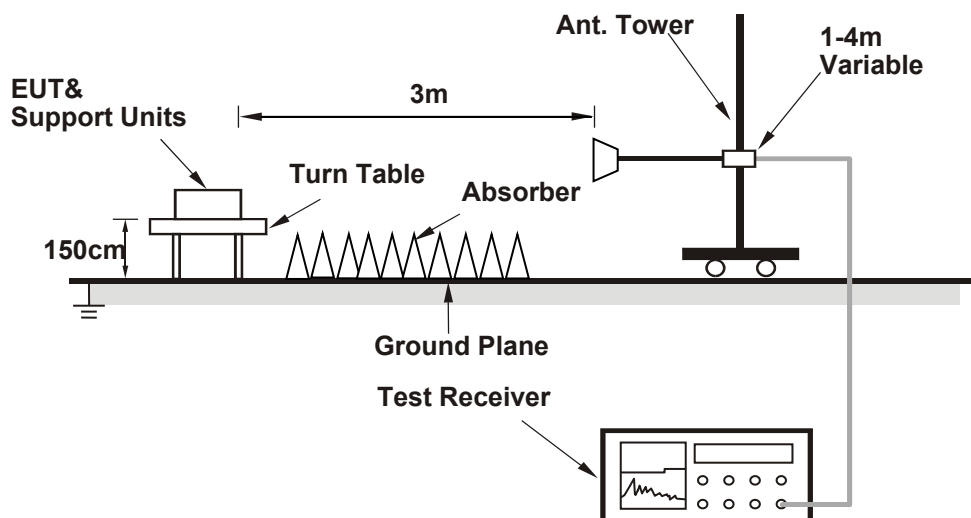
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- a. Set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz worst-Case data:

RF Mode	TX 802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	57.37 PK	74.00	-16.63	1.48 H	89	25.44	31.93
2	2390.00	44.82 AV	54.00	-9.18	1.48 H	89	12.89	31.93
3	*2412.00	105.54 PK			1.48 H	89	73.65	31.89
4	*2412.00	100.74 AV			1.48 H	89	68.85	31.89
5	4824.00	46.31 PK	74.00	-27.69	2.28 H	291	44.22	2.09
6	4824.00	38.52 AV	54.00	-15.48	2.28 H	291	36.43	2.09
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	57.63 PK	74.00	-16.37	3.84 V	18	25.70	31.93
2	2390.00	44.59 AV	54.00	-9.41	3.84 V	18	12.66	31.93
3	*2412.00	111.22 PK			3.84 V	18	79.33	31.89
4	*2412.00	106.33 AV			3.84 V	18	74.44	31.89
5	4824.00	52.09 PK	74.00	-21.91	2.48 V	29	50.00	2.09
6	4824.00	47.22 AV	54.00	-6.78	2.48 V	29	45.13	2.09

Remarks:

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

RF Mode	TX 802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	105.03 PK			1.44 H	94	73.20	31.83
2	*2437.00	100.44 AV			1.44 H	94	68.61	31.83
3	4874.00	48.24 PK	74.00	-25.76	2.61 H	312	46.12	2.12
4	4874.00	37.24 AV	54.00	-16.76	2.61 H	312	35.12	2.12
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	111.12 PK			3.79 V	14	79.29	31.83
2	*2437.00	106.46 AV			3.79 V	14	74.63	31.83
3	4874.00	50.44 PK	74.00	-23.56	2.61 V	26	48.32	2.12
4	4874.00	44.59 AV	54.00	-9.41	2.61 V	26	42.47	2.12

Remarks:

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

RF Mode	TX 802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	104.34 PK			1.39 H	81	72.51	31.83
2	*2462.00	99.82 AV			1.39 H	81	67.99	31.83
3	2483.50	57.85 PK	74.00	-16.15	1.39 H	81	25.98	31.87
4	2483.50	44.85 AV	54.00	-9.15	1.39 H	81	12.98	31.87
5	4924.00	45.82 PK	74.00	-28.18	2.37 H	303	43.64	2.18
6	4924.00	35.83 AV	54.00	-18.17	2.37 H	303	33.65	2.18
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	110.54 PK			3.27 V	13	78.71	31.83
2	*2462.00	106.48 AV			3.27 V	13	74.65	31.83
3	2488.68	59.38 PK	74.00	-14.62	3.27 V	13	27.50	31.88
4	2488.68	48.46 AV	54.00	-5.54	3.27 V	13	16.58	31.88
5	4924.00	46.64 PK	74.00	-27.36	2.86 V	25	44.46	2.18
6	4924.00	38.73 AV	54.00	-15.27	2.86 V	25	36.55	2.18

Remarks:

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

RF Mode	TX 802.11b	Channel	CH 12 : 2467 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	104.18 PK			1.67 H	81	72.34	31.84
2	*2467.00	99.54 AV			1.67 H	81	67.70	31.84
3	2484.37	58.99 PK	74.00	-15.01	1.67 H	81	27.12	31.87
4	2484.37	48.71 AV	54.00	-5.29	1.67 H	81	16.84	31.87
5	4934.00	45.55 PK	74.00	-28.45	2.44 H	281	43.35	2.20
6	4934.00	34.22 AV	54.00	-19.78	2.44 H	281	32.02	2.20
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	110.45 PK			3.29 V	12	78.61	31.84
2	*2467.00	106.42 AV			3.29 V	12	74.58	31.84
3	2484.72	60.72 PK	74.00	-13.28	3.29 V	12	28.85	31.87
4	2484.72	52.86 AV	54.00	-1.14	3.29 V	12	20.99	31.87
5	4934.00	46.05 PK	74.00	-27.95	2.74 V	30	43.85	2.20
6	4934.00	35.79 AV	54.00	-18.21	2.74 V	30	33.59	2.20

Remarks:

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

RF Mode	TX 802.11b	Channel	CH 13 : 2472 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	102.88 PK			1.66 H	79	71.03	31.85
2	*2472.00	98.68 AV			1.66 H	79	66.83	31.85
3	2483.50	58.56 PK	74.00	-15.44	1.66 H	79	26.69	31.87
4	2483.50	48.11 AV	54.00	-5.89	1.66 H	79	16.24	31.87
5	4944.00	45.69 PK	74.00	-28.31	2.57 H	277	43.46	2.23
6	4944.00	34.34 AV	54.00	-19.66	2.57 H	277	32.11	2.23
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	108.55 PK			3.66 V	346	76.70	31.85
2	*2472.00	103.68 AV			3.66 V	346	71.83	31.85
3	2485.86	62.93 PK	74.00	-11.07	3.66 V	346	31.06	31.87
4	2485.86	53.31 AV	54.00	-0.69	3.66 V	346	21.44	31.87
5	4944.00	45.86 PK	74.00	-28.14	2.51 V	28	43.63	2.23
6	4944.00	34.75 AV	54.00	-19.25	2.51 V	28	32.52	2.23

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 1 : 2412 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	57.22 PK	74.00	-16.78	1.73 H	81	25.29	31.93
2	2390.00	45.66 AV	54.00	-8.34	1.73 H	81	13.73	31.93
3	*2412.00	106.98 PK			1.73 H	81	75.09	31.89
4	*2412.00	96.60 AV			1.73 H	81	64.71	31.89
5	4824.00	47.23 PK	74.00	-26.77	2.43 H	269	45.14	2.09
6	4824.00	34.92 AV	54.00	-19.08	2.43 H	269	32.83	2.09
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	60.07 PK	74.00	-13.93	3.86 V	9	28.14	31.93
2	2390.00	47.88 AV	54.00	-6.12	3.86 V	9	15.95	31.93
3	*2412.00	112.28 PK			3.86 V	9	80.39	31.89
4	*2412.00	102.40 AV			3.86 V	9	70.51	31.89
5	4824.00	48.46 PK	74.00	-25.54	2.81 V	30	46.37	2.09
6	4824.00	36.64 AV	54.00	-17.36	2.81 V	30	34.55	2.09

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	106.07 PK			1.98 H	99	74.24	31.83
2	*2437.00	96.71 AV			1.98 H	99	64.88	31.83
3	4874.00	47.03 PK	74.00	-26.97	2.11 H	253	44.91	2.12
4	4874.00	34.69 AV	54.00	-19.31	2.11 H	253	32.57	2.12
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	112.33 PK			3.77 V	12	80.50	31.83
2	*2437.00	102.75 AV			3.77 V	12	70.92	31.83
3	4874.00	47.60 PK	74.00	-26.40	2.90 V	46	45.48	2.12
4	4874.00	36.68 AV	54.00	-17.32	2.90 V	46	34.56	2.12

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 11 : 2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	105.07 PK			1.64 H	79	73.24	31.83
2	*2462.00	95.02 AV			1.64 H	79	63.19	31.83
3	2483.50	64.36 PK	74.00	-9.64	1.64 H	79	32.49	31.87
4	2483.50	47.34 AV	54.00	-6.66	1.64 H	79	15.47	31.87
5	4924.00	47.10 PK	74.00	-26.90	2.45 H	261	44.92	2.18
6	4924.00	34.71 AV	54.00	-19.29	2.45 H	261	32.53	2.18
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	112.25 PK			3.72 V	17	80.42	31.83
2	*2462.00	102.42 AV			3.72 V	17	70.59	31.83
3	2483.50	70.46 PK	74.00	-3.54	3.72 V	17	38.59	31.87
4	2483.50	52.88 AV	54.00	-1.12	3.72 V	17	21.01	31.87
5	4924.00	47.46 PK	74.00	-26.54	2.71 V	66	45.28	2.18
6	4924.00	36.51 AV	54.00	-17.49	2.71 V	66	34.33	2.18

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 12 : 2467 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	103.25 PK			1.65 H	78	71.41	31.84
2	*2467.00	93.40 AV			1.65 H	78	61.56	31.84
3	2483.50	60.79 PK	74.00	-13.21	1.65 H	78	28.92	31.87
4	2483.50	46.75 AV	54.00	-7.25	1.65 H	78	14.88	31.87
5	4934.00	47.01 PK	74.00	-26.99	2.51 H	263	44.81	2.20
6	4934.00	34.69 AV	54.00	-19.31	2.51 H	263	32.49	2.20
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	109.06 PK			3.67 V	14	77.22	31.84
2	*2467.00	99.65 AV			3.67 V	14	67.81	31.84
3	2483.50	68.68 PK	74.00	-5.32	3.67 V	14	36.81	31.87
4	2483.50	53.36 AV	54.00	-0.64	3.67 V	14	21.49	31.87
5	4934.00	47.12 PK	74.00	-26.88	2.59 V	71	44.92	2.20
6	4934.00	36.17 AV	54.00	-17.83	2.59 V	71	33.97	2.20

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 13 : 2472 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	98.59 PK			1.69 H	76	66.74	31.85
2	*2472.00	88.55 AV			1.69 H	76	56.70	31.85
3	2483.50	65.98 PK	74.00	-8.02	1.69 H	76	34.11	31.87
4	2483.50	46.31 AV	54.00	-7.69	1.69 H	76	14.44	31.87
5	4944.00	46.76 PK	74.00	-27.24	2.66 H	251	44.53	2.23
6	4944.00	34.44 AV	54.00	-19.56	2.66 H	251	32.21	2.23
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	104.91 PK			3.66 V	14	73.06	31.85
2	*2472.00	94.94 AV			3.66 V	14	63.09	31.85
3	2483.50	73.22 PK	74.00	-0.78	3.66 V	14	41.35	31.87
4	2483.50	51.47 AV	54.00	-2.53	3.66 V	14	19.60	31.87
5	4944.00	46.84 PK	74.00	-27.16	2.63 V	83	44.61	2.23
6	4944.00	35.81 AV	54.00	-18.19	2.63 V	83	33.58	2.23

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.

Full RU

RF Mode	TX 802.11ax (HE20)	Channel	CH 1 : 2412 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.70 PK	74.00	-13.30	1.69 H	90	28.77	31.93
2	2390.00	48.35 AV	54.00	-5.65	1.69 H	90	16.42	31.93
3	*2412.00	108.85 PK			1.69 H	90	76.96	31.89
4	*2412.00	96.72 AV			1.69 H	90	64.83	31.89
5	4824.00	46.40 PK	74.00	-27.60	1.97 H	34	44.31	2.09
6	4824.00	34.71 AV	54.00	-19.29	1.97 H	34	32.62	2.09

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	65.73 PK	74.00	-8.27	3.87 V	12	33.80	31.93
2	2390.00	51.25 AV	54.00	-2.75	3.87 V	12	19.32	31.93
3	*2412.00	114.36 PK			3.87 V	12	82.47	31.89
4	*2412.00	101.62 AV			3.87 V	12	69.73	31.89
5	4824.00	47.92 PK	74.00	-26.08	2.42 V	31	45.83	2.09
6	4824.00	36.65 AV	54.00	-17.35	2.42 V	31	34.56	2.09

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 6 : 2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	109.41 PK			1.70 H	102	77.58	31.83
2	*2437.00	97.56 AV			1.70 H	102	65.73	31.83
3	4874.00	46.88 PK	74.00	-27.12	2.16 H	56	44.76	2.12
4	4874.00	35.10 AV	54.00	-18.90	2.16 H	56	32.98	2.12
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	114.57 PK			3.72 V	15	82.74	31.83
2	*2437.00	102.88 AV			3.72 V	15	71.05	31.83
3	4874.00	48.03 PK	74.00	-25.97	2.48 V	33	45.91	2.12
4	4874.00	37.16 AV	54.00	-16.84	2.48 V	33	35.04	2.12

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 11 : 2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	106.41 PK			1.96 H	100	74.58	31.83
2	*2462.00	93.67 AV			1.96 H	100	61.84	31.83
3	2483.50	62.37 PK	74.00	-11.63	1.96 H	100	30.50	31.87
4	2483.50	48.63 AV	54.00	-5.37	1.96 H	100	16.76	31.87
5	4924.00	46.61 PK	74.00	-27.39	2.51 H	91	44.43	2.18
6	4924.00	34.63 AV	54.00	-19.37	2.51 H	91	32.45	2.18
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	111.71 PK			3.64 V	15	79.88	31.83
2	*2462.00	99.23 AV			3.64 V	15	67.40	31.83
3	2483.50	67.65 PK	74.00	-6.35	3.64 V	15	35.78	31.87
4	2483.50	53.36 AV	54.00	-0.64	3.64 V	15	21.49	31.87
5	4924.00	46.76 PK	74.00	-27.24	2.61 V	44	44.58	2.18
6	4924.00	35.79 AV	54.00	-18.21	2.61 V	44	33.61	2.18

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 12 : 2467 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	103.24 PK			1.97 H	103	71.40	31.84
2	*2467.00	91.24 AV			1.97 H	103	59.40	31.84
3	2483.50	58.82 PK	74.00	-15.18	1.97 H	103	26.95	31.87
4	2483.50	46.50 AV	54.00	-7.50	1.97 H	103	14.63	31.87
5	4934.00	46.41 PK	74.00	-27.59	2.60 H	103	44.21	2.20
6	4934.00	34.43 AV	54.00	-19.57	2.60 H	103	32.23	2.20
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2467.00	109.89 PK			3.67 V	16	78.05	31.84
2	*2467.00	97.05 AV			3.67 V	16	65.21	31.84
3	2483.50	62.44 PK	74.00	-11.56	3.67 V	16	30.57	31.87
4	2483.50	50.20 AV	54.00	-3.80	3.67 V	16	18.33	31.87
5	4934.00	46.37 PK	74.00	-27.63	2.79 V	56	44.17	2.20
6	4934.00	34.78 AV	54.00	-19.22	2.79 V	56	32.58	2.20

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 13 : 2472 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	99.84 PK			1.94 H	101	67.99	31.85
2	*2472.00	86.56 AV			1.94 H	101	54.71	31.85
3	2483.50	65.49 PK	74.00	-8.51	1.94 H	101	33.62	31.87
4	2483.50	46.41 AV	54.00	-7.59	1.94 H	101	14.54	31.87
5	4944.00	35.91 PK	74.00	-38.09	2.55 H	97	33.68	2.23
6	4944.00	34.39 AV	54.00	-19.61	2.55 H	97	32.16	2.23
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	105.39 PK			3.71 V	17	73.54	31.85
2	*2472.00	92.55 AV			3.71 V	17	60.70	31.85
3	2483.50	71.88 PK	74.00	-2.12	3.71 V	17	40.01	31.87
4	2483.50	50.08 AV	54.00	-3.92	3.71 V	17	18.21	31.87
5	4944.00	46.29 PK	74.00	-27.71	2.64 V	51	44.06	2.23
6	4944.00	34.74 AV	54.00	-19.26	2.64 V	51	32.51	2.23

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 3 : 2422 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	62.35 PK	74.00	-11.65	1.83 H	84	30.42	31.93
2	2390.00	48.03 AV	54.00	-5.97	1.83 H	84	16.10	31.93
3	*2422.00	103.61 PK			1.83 H	84	71.73	31.88
4	*2422.00	90.63 AV			1.83 H	84	58.75	31.88
5	4844.00	46.78 PK	74.00	-27.22	2.63 H	101	44.68	2.10
6	4844.00	34.88 AV	54.00	-19.12	2.63 H	101	32.78	2.10
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	68.76 PK	74.00	-5.24	3.86 V	12	36.83	31.93
2	2390.00	53.31 AV	54.00	-0.69	3.86 V	12	21.38	31.93
3	*2422.00	109.42 PK			3.86 V	12	77.54	31.88
4	*2422.00	95.58 AV			3.86 V	12	63.70	31.88
5	4844.00	47.75 PK	74.00	-26.25	2.53 V	64	45.65	2.10
6	4844.00	35.41 AV	54.00	-18.59	2.53 V	64	33.31	2.10

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 6 : 2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	105.76 PK			1.74 H	80	73.93	31.83
2	*2437.00	93.06 AV			1.74 H	80	61.23	31.83
3	2483.50	61.68 PK	74.00	-12.32	1.74 H	80	29.81	31.87
4	2483.50	48.25 AV	54.00	-5.75	1.74 H	80	16.38	31.87
5	4874.00	47.05 PK	74.00	-26.95	2.55 H	97	44.93	2.12
6	4874.00	35.23 AV	54.00	-18.77	2.55 H	97	33.11	2.12
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	111.46 PK			3.74 V	15	79.63	31.83
2	*2437.00	98.23 AV			3.74 V	15	66.40	31.83
3	2483.50	69.16 PK	74.00	-4.84	3.74 V	15	37.29	31.87
4	2483.50	53.44 AV	54.00	-0.56	3.74 V	15	21.57	31.87
5	4874.00	47.93 PK	74.00	-26.07	2.45 V	77	45.81	2.12
6	4874.00	35.58 AV	54.00	-18.42	2.45 V	77	33.46	2.12

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 9 : 2452 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	103.77 PK			1.71 H	102	71.96	31.81
2	*2452.00	90.59 AV			1.71 H	102	58.78	31.81
3	2483.50	64.19 PK	74.00	-9.81	1.71 H	102	32.32	31.87
4	2483.50	48.21 AV	54.00	-5.79	1.71 H	102	16.34	31.87
5	4904.00	46.92 PK	74.00	-27.08	2.47 H	83	44.77	2.15
6	4904.00	35.13 AV	54.00	-18.87	2.47 H	83	32.98	2.15
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	108.75 PK			3.79 V	17	76.94	31.81
2	*2452.00	95.85 AV			3.79 V	17	64.04	31.81
3	2483.50	68.46 PK	74.00	-5.54	3.79 V	17	36.59	31.87
4	2483.50	53.23 AV	54.00	-0.77	3.79 V	17	21.36	31.87
5	4904.00	47.72 PK	74.00	-26.28	2.53 V	69	45.57	2.15
6	4904.00	35.40 AV	54.00	-18.60	2.53 V	69	33.25	2.15

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 10 : 2457 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	100.31 PK			1.74 H	89	68.49	31.82
2	*2457.00	87.30 AV			1.74 H	89	55.48	31.82
3	2483.50	61.64 PK	74.00	-12.36	1.74 H	89	29.77	31.87
4	2483.50	48.11 AV	54.00	-5.89	1.74 H	89	16.24	31.87
5	4914.00	46.07 PK	74.00	-27.93	2.51 H	92	43.90	2.17
6	4914.00	34.50 AV	54.00	-19.50	2.51 H	92	32.33	2.17
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	105.41 PK			3.31 V	13	73.59	31.82
2	*2457.00	92.98 AV			3.31 V	13	61.16	31.82
3	2483.50	66.94 PK	74.00	-7.06	3.31 V	13	35.07	31.87
4	2483.50	53.35 AV	54.00	-0.65	3.31 V	13	21.48	31.87
5	4914.00	46.32 PK	74.00	-27.68	2.47 V	77	44.15	2.17
6	4914.00	34.75 AV	54.00	-19.25	2.47 V	77	32.58	2.17

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 11 : 2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	96.80 PK			1.68 H	101	64.97	31.83
2	*2462.00	84.84 AV			1.68 H	101	53.01	31.83
3	2483.50	60.58 PK	74.00	-13.42	1.68 H	101	28.71	31.87
4	2483.50	47.55 AV	54.00	-6.45	1.68 H	101	15.68	31.87
5	4924.00	45.98 PK	74.00	-28.02	2.66 H	98	43.80	2.18
6	4924.00	34.37 AV	54.00	-19.63	2.66 H	98	32.19	2.18
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	102.61 PK			3.35 V	12	70.78	31.83
2	*2462.00	90.32 AV			3.35 V	12	58.49	31.83
3	2483.50	67.06 PK	74.00	-6.94	3.35 V	12	35.19	31.87
4	2483.50	51.67 AV	54.00	-2.33	3.35 V	12	19.80	31.87
5	4924.00	46.14 PK	74.00	-27.86	2.50 V	81	43.96	2.18
6	4924.00	34.59 AV	54.00	-19.41	2.50 V	81	32.41	2.18

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.

Partial RU

RF Mode	TX 802.11ax (HE20) (RU26)	Channel	CH 1 : 2412 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	61.08 PK	74.00	-12.92	1.63 H	258	29.15	31.93
2	2390.00	45.40 AV	54.00	-8.60	1.63 H	258	13.47	31.93
3	*2412.00	110.26 PK			1.63 H	258	78.37	31.89
4	*2412.00	102.11 AV			1.63 H	258	70.22	31.89
5	4824.00	46.18 PK	74.00	-27.82	1.69 H	273	44.09	2.09
6	4824.00	35.89 AV	54.00	-18.11	1.69 H	273	33.80	2.09
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.98 PK	74.00	-6.02	3.08 V	50	36.05	31.93
2	2390.00	46.63 AV	54.00	-7.37	3.08 V	50	14.70	31.93
3	*2412.00	113.90 PK			3.08 V	50	82.01	31.89
4	*2412.00	105.97 AV			3.08 V	50	74.08	31.89
5	4824.00	49.19 PK	74.00	-24.81	2.46 V	37	47.10	2.09
6	4824.00	40.43 AV	54.00	-13.57	2.46 V	37	38.34	2.09

Remarks:

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

RF Mode	TX 802.11ax (HE20) (RU26)	Channel	CH 13 : 2472 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	102.71 PK			1.85 H	298	70.86	31.85
2	*2472.00	90.80 AV			1.85 H	298	58.95	31.85
3	2483.50	63.24 PK	74.00	-10.76	1.85 H	298	31.37	31.87
4	2483.50	44.95 AV	54.00	-9.05	1.85 H	298	13.08	31.87
5	4944.00	44.38 PK	74.00	-29.62	1.66 H	233	42.15	2.23
6	4944.00	35.51 AV	54.00	-18.49	1.66 H	233	33.28	2.23
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	107.08 PK			3.18 V	327	75.23	31.85
2	*2472.00	95.64 AV			3.18 V	327	63.79	31.85
3	2483.50	64.88 PK	74.00	-9.12	3.18 V	327	33.01	31.87
4	2483.50	46.77 AV	54.00	-7.23	3.18 V	327	14.90	31.87
5	4944.00	46.07 PK	74.00	-27.93	1.67 V	296	43.84	2.23
6	4944.00	33.97 AV	54.00	-20.03	1.67 V	296	31.74	2.23

Remarks:

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

RF Mode	TX 802.11ax (HE20) (RU52)	Channel	CH 1 : 2412 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.32 PK	74.00	-10.68	1.95 H	269	31.39	31.93
2	2390.00	45.95 AV	54.00	-8.05	1.95 H	269	14.02	31.93
3	*2412.00	111.28 PK			1.95 H	269	79.39	31.89
4	*2412.00	99.70 AV			1.95 H	269	67.81	31.89
5	4824.00	46.18 PK	74.00	-27.82	1.66 H	248	44.09	2.09
6	4824.00	34.66 AV	54.00	-19.34	1.66 H	248	32.57	2.09
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.16 PK	74.00	-6.84	3.46 V	45	35.23	31.93
2	2390.00	46.93 AV	54.00	-7.07	3.46 V	45	15.00	31.93
3	*2412.00	113.11 PK			3.46 V	45	81.22	31.89
4	*2412.00	101.95 AV			3.46 V	45	70.06	31.89
5	4824.00	48.86 PK	74.00	-25.14	2.80 V	360	46.77	2.09
6	4824.00	38.89 AV	54.00	-15.11	2.80 V	360	36.80	2.09

Remarks:

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

RF Mode	TX 802.11ax (HE20) (RU26)	Channel	CH 13 : 2472 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	101.53 PK			1.80 H	298	69.68	31.85
2	*2472.00	88.57 AV			1.80 H	298	56.72	31.85
3	2483.50	66.43 PK	74.00	-7.57	1.80 H	298	34.56	31.87
4	2483.50	45.48 AV	54.00	-8.52	1.80 H	298	13.61	31.87
5	4944.00	45.56 PK	74.00	-28.44	1.72 H	244	43.33	2.23
6	4944.00	34.11 AV	54.00	-19.89	1.72 H	244	31.88	2.23
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	106.39 PK			3.10 V	326	74.54	31.85
2	*2472.00	93.20 AV			3.10 V	326	61.35	31.85
3	2483.50	65.63 PK	74.00	-8.37	3.10 V	326	33.76	31.87
4	2483.50	46.75 AV	54.00	-7.25	3.10 V	326	14.88	31.87
5	4944.00	45.79 PK	74.00	-28.21	1.72 V	255	43.56	2.23
6	4944.00	34.05 AV	54.00	-19.95	1.72 V	255	31.82	2.23

Remarks:

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

RF Mode	TX 802.11ax (HE20) (RU106)	Channel	CH 1 : 2412 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.06 PK	74.00	-13.94	2.66 H	297	28.13	31.93
2	2390.00	46.22 AV	54.00	-7.78	2.66 H	297	14.29	31.93
3	*2412.00	107.38 PK			2.66 H	297	75.49	31.89
4	*2412.00	95.00 AV			2.66 H	297	63.11	31.89
5	4824.00	46.82 PK	74.00	-27.18	1.66 H	284	44.73	2.09
6	4824.00	34.64 AV	54.00	-19.36	1.66 H	284	32.55	2.09
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	65.04 PK	74.00	-8.96	3.05 V	49	33.11	31.93
2	2390.00	48.83 AV	54.00	-5.17	3.05 V	49	16.90	31.93
3	*2412.00	112.35 PK			3.05 V	49	80.46	31.89
4	*2412.00	99.78 AV			3.05 V	49	67.89	31.89
5	4824.00	48.01 PK	74.00	-25.99	2.93 V	341	45.92	2.09
6	4824.00	36.41 AV	54.00	-17.59	2.93 V	341	34.32	2.09

Remarks:

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

RF Mode	TX 802.11ax (HE20) (RU106)	Channel	CH 13 : 2472 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	101.51 PK			2.09 H	298	69.66	31.85
2	*2472.00	88.45 AV			2.09 H	298	56.60	31.85
3	2483.50	63.68 PK	74.00	-10.32	2.09 H	298	31.81	31.87
4	2483.50	45.23 AV	54.00	-8.77	2.09 H	298	13.36	31.87
5	4944.00	45.85 PK	74.00	-28.15	1.78 H	271	43.62	2.23
6	4944.00	34.10 AV	54.00	-19.90	1.78 H	271	31.87	2.23
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2472.00	105.94 PK			3.17 V	327	74.09	31.85
2	*2472.00	93.36 AV			3.17 V	327	61.51	31.85
3	2483.50	66.25 PK	74.00	-7.75	3.17 V	327	34.38	31.87
4	2483.50	46.67 AV	54.00	-7.33	3.17 V	327	14.80	31.87
5	4944.00	45.15 PK	74.00	-28.85	1.66 V	213	42.92	2.23
6	4944.00	34.03 AV	54.00	-19.97	1.66 V	213	31.80	2.23

Remarks:

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

RF Mode	TX 802.11ax (HE40) (RU242)	Channel	CH 3 : 2422 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.17 PK	74.00	-13.83	2.42 H	68	28.24	31.93
2	2390.00	45.82 AV	54.00	-8.18	2.42 H	68	13.89	31.93
3	*2422.00	102.68 PK			2.42 H	68	70.80	31.88
4	*2422.00	91.10 AV			2.42 H	68	59.22	31.88
5	4844.00	46.47 PK	74.00	-27.53	2.42 H	288	44.37	2.10
6	4844.00	34.59 AV	54.00	-19.41	2.42 H	288	32.49	2.10

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	61.03 PK	74.00	-12.97	3.36 V	39	29.10	31.93
2	2390.00	47.69 AV	54.00	-6.31	3.36 V	39	15.76	31.93
3	*2422.00	103.38 PK			3.36 V	39	71.50	31.88
4	*2422.00	91.97 AV			3.36 V	39	60.09	31.88
5	4844.00	46.34 PK	74.00	-27.66	1.78 V	266	44.24	2.10
6	4844.00	35.48 AV	54.00	-18.52	1.78 V	266	33.38	2.10

Remarks:

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

RF Mode	TX 802.11ax (HE40) (RU242)	Channel	CH 11 : 2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

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	93.27 PK			2.60 H	261	61.44	31.83
2	*2462.00	81.45 AV			2.60 H	261	49.62	31.83
3	2483.50	66.33 PK	74.00	-7.67	2.60 H	261	34.46	31.87
4	2483.50	45.41 AV	54.00	-8.59	2.60 H	261	13.54	31.87
5	4924.00	45.22 PK	74.00	-28.78	1.82 H	214	43.04	2.18
6	4924.00	33.97 AV	54.00	-20.03	1.82 H	214	31.79	2.18
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	100.06 PK			3.20 V	324	68.23	31.83
2	*2462.00	86.58 AV			3.20 V	324	54.75	31.83
3	2483.50	69.15 PK	74.00	-4.85	3.20 V	324	37.28	31.87
4	2483.50	46.80 AV	54.00	-7.20	3.20 V	324	14.93	31.87
5	4924.00	46.48 PK	74.00	-27.52	1.72 V	254	44.30	2.18
6	4924.00	34.65 AV	54.00	-19.35	1.72 V	254	32.47	2.18

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.

Below 1GHz worst-case data:

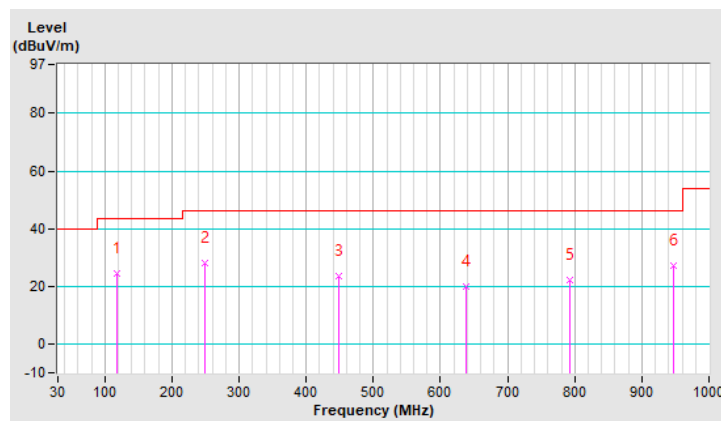
802.11ax (HE20)

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	118.57	24.61 QP	43.50	-18.89	1.99 H	228	45.18	-20.57
2	249.30	28.11 QP	46.00	-17.89	1.01 H	18	47.86	-19.75
3	448.93	23.43 QP	46.00	-22.57	1.01 H	2	37.46	-14.03
4	637.30	19.97 QP	46.00	-26.03	1.99 H	81	30.27	-10.30
5	793.35	22.28 QP	46.00	-23.72	1.01 H	78	30.29	-8.01
6	947.99	27.39 QP	46.00	-18.61	1.51 H	14	33.27	-5.88

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

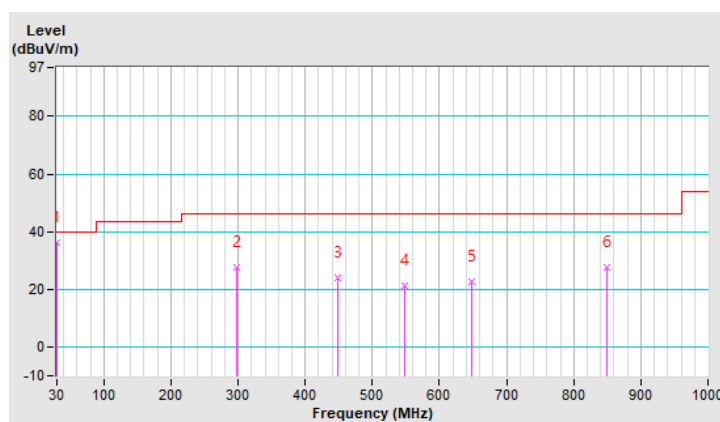


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.00	36.31 QP	40.00	-3.69	1.00 V	301	55.81	-19.50
2	297.10	27.77 QP	46.00	-18.23	1.49 V	116	45.89	-18.12
3	448.93	23.86 QP	46.00	-22.14	1.00 V	171	37.89	-14.03
4	548.74	21.36 QP	46.00	-24.64	1.00 V	47	33.67	-12.31
5	648.55	22.46 QP	46.00	-23.54	1.49 V	1	32.62	-10.16
6	849.58	27.52 QP	46.00	-18.48	1.99 V	19	34.54	-7.02

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

Note: 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 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 03, 2021	Dec. 02, 2022
RF signal cable Woken	5D-FB	Cable-cond1-01	Jan. 15, 2022	Jan. 14, 2023
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 25, 2021	Feb. 24, 2022
V-LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Sep. 07, 2021	Sep. 06, 2022
Software ADT	BV ADT_Conc_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1 (Conduction 1).
3. The VCCI Site Registration No. is C-12040.
4. Tested date: Feb. 09, 2022

4.2.3 Test Procedures

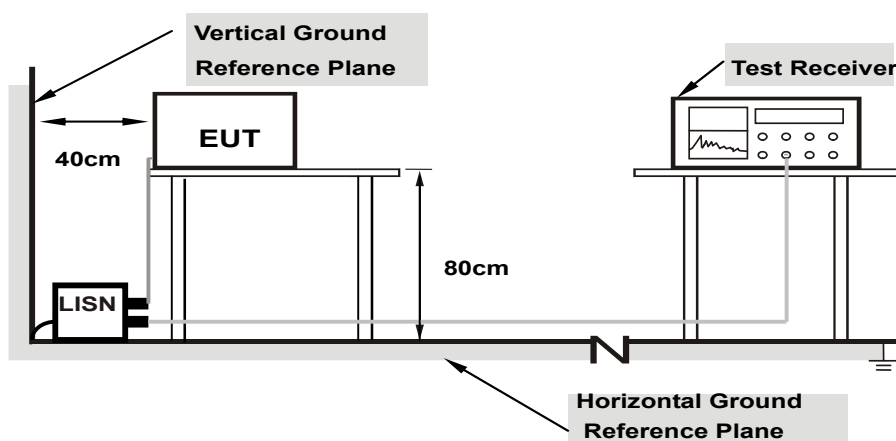
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 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).

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

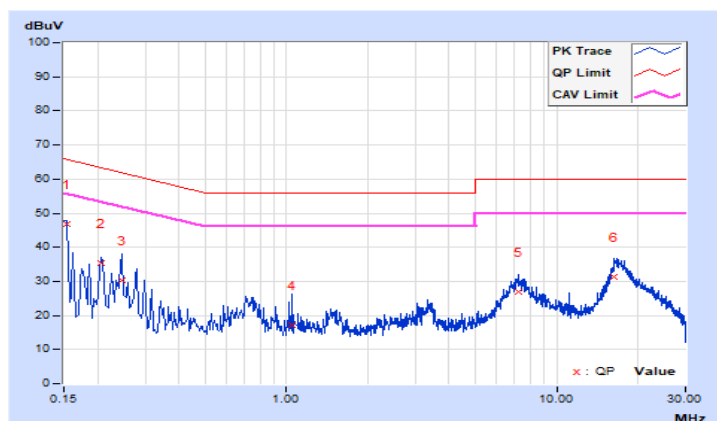
Worst-case data: 802.11ax (HE20)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.71	36.95	21.57	46.66	31.28	65.78	55.78	-19.12	-24.50
2	0.20600	9.72	25.49	11.88	35.21	21.60	63.37	53.37	-28.16	-31.77
3	0.24600	9.73	20.60	11.82	30.33	21.55	61.89	51.89	-31.56	-30.34
4	1.05000	9.77	7.54	1.36	17.31	11.13	56.00	46.00	-38.69	-34.87
5	7.20600	9.84	17.16	12.04	27.00	21.88	60.00	50.00	-33.00	-28.12
6	16.38600	9.85	21.45	16.39	31.30	26.24	60.00	50.00	-28.70	-23.76

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.

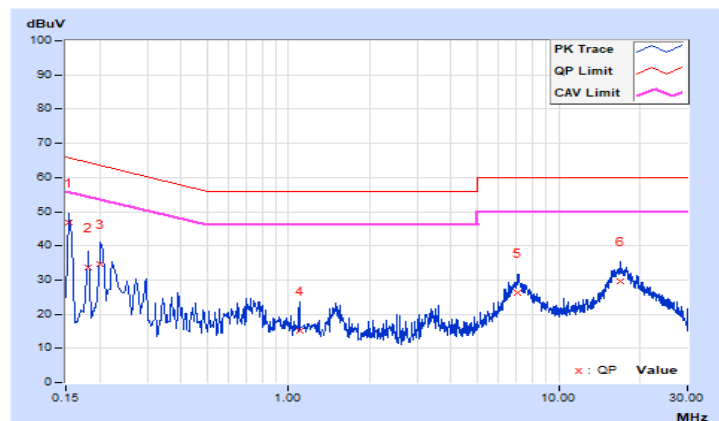


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.76	37.02	23.27	46.78	33.03	65.78	55.78	-19.00	-22.75
2	0.18200	9.77	24.02	5.36	33.79	15.13	64.39	54.39	-30.60	-39.26
3	0.20200	9.78	24.99	10.33	34.77	20.11	63.53	53.53	-28.76	-33.42
4	1.09800	9.83	5.45	1.22	15.28	11.05	56.00	46.00	-40.72	-34.95
5	7.03000	9.91	16.50	11.44	26.41	21.35	60.00	50.00	-33.59	-28.65
6	16.86200	9.99	19.67	14.57	29.66	24.56	60.00	50.00	-30.34	-25.44

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.

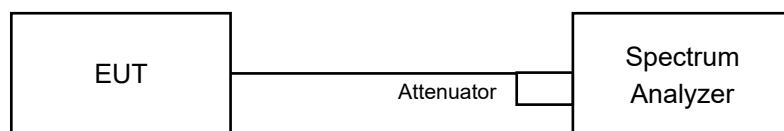


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

- Set resolution bandwidth (RBW) = 100kHz.
- 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.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Result

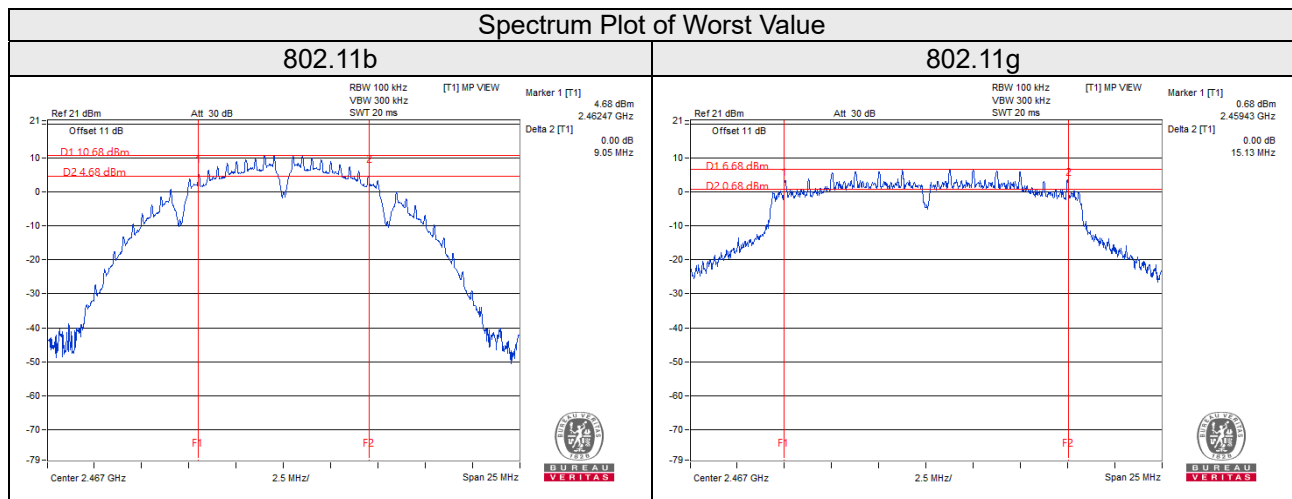
1TX: Chain 0

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	9.06	0.5	Pass
6	2437	9.07	0.5	Pass
11	2462	9.07	0.5	Pass
12	2467	9.05	0.5	Pass
13	2472	9.05	0.5	Pass

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	15.15	0.5	Pass
6	2437	15.15	0.5	Pass
11	2462	15.16	0.5	Pass
12	2467	15.13	0.5	Pass
13	2472	16.33	0.5	Pass



1TX: Chain 1

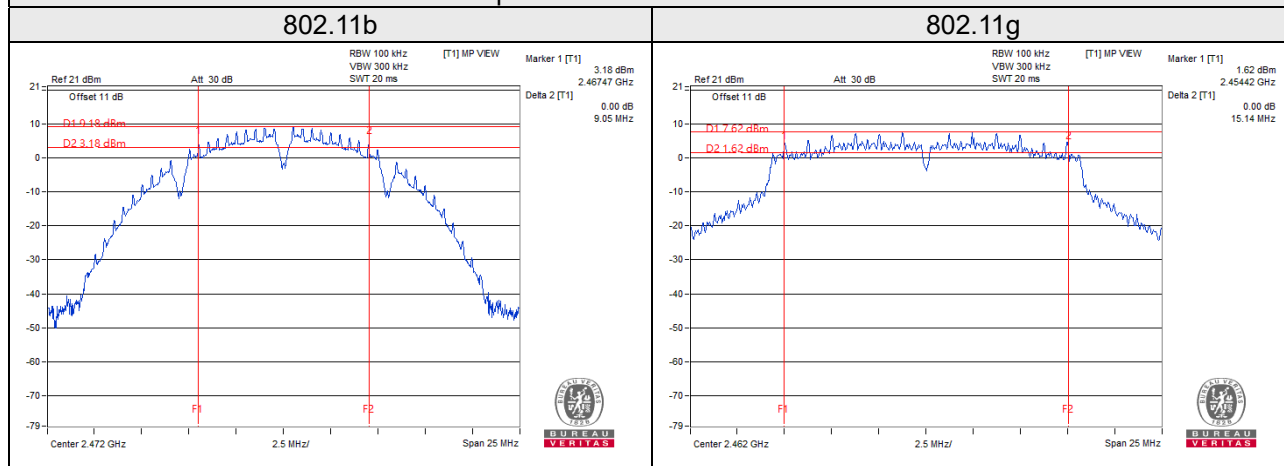
802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	9.06	0.5	Pass
6	2437	9.06	0.5	Pass
11	2462	9.07	0.5	Pass
12	2467	9.06	0.5	Pass
13	2472	9.05	0.5	Pass

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	15.15	0.5	Pass
6	2437	15.15	0.5	Pass
11	2462	15.14	0.5	Pass
12	2467	15.32	0.5	Pass
13	2472	16.33	0.5	Pass

Spectrum Plot of Worst Value



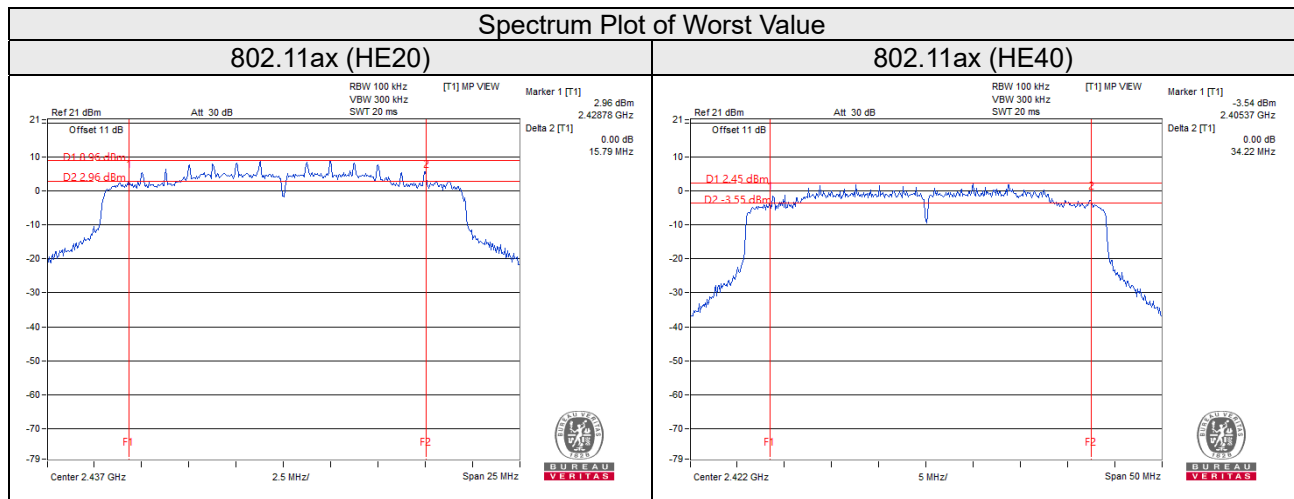
2TX

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	16.12	15.79	0.5	Pass
6	2437	15.79	16.51	0.5	Pass
11	2462	16.99	17.22	0.5	Pass
12	2467	16.16	16.98	0.5	Pass
13	2472	18.30	18.14	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	36.23	34.22	0.5	Pass
6	2437	36.29	35.36	0.5	Pass
9	2452	35.14	36.55	0.5	Pass
10	2457	34.63	36.05	0.5	Pass
11	2462	37.57	37.49	0.5	Pass



4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (20dBm)

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

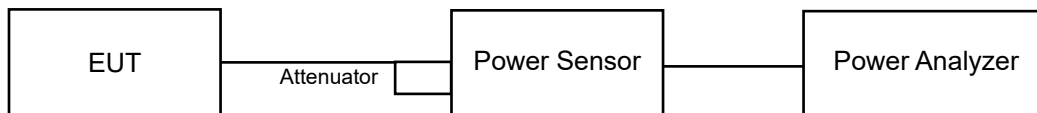
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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.

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

For Peak Power

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

For 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.

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as item 4.3.6.

4.4.7 Test Results

1TX: Chain 0

For Peak Power

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	132.739	21.23	30.00	Pass
6	2437	139.959	21.46	30.00	Pass
11	2462	141.906	21.52	30.00	Pass
12	2467	146.555	21.66	30.00	Pass
13	2472	111.173	20.46	30.00	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	179.061	22.53	30.00	Pass
6	2437	217.771	23.38	30.00	Pass
11	2462	226.464	23.55	30.00	Pass
12	2467	125.314	20.98	30.00	Pass
13	2472	50.350	17.02	30.00	Pass

For Average Power

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	86.497	19.37
6	2437	85.114	19.30
11	2462	86.298	19.36
12	2467	90.157	19.55
13	2472	64.269	18.08

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	77.804	18.91
6	2437	83.946	19.24
11	2462	83.368	19.21
12	2467	47.534	16.77
13	2472	19.454	12.89

1TX: Chain 1

For Peak Power

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	148.594	21.72	30.00	Pass
6	2437	151.008	21.79	30.00	Pass
11	2462	153.462	21.86	30.00	Pass
12	2467	144.877	21.61	30.00	Pass
13	2472	116.681	20.67	30.00	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	183.231	22.63	30.00	Pass
6	2437	233.346	23.68	30.00	Pass
11	2462	247.742	23.94	30.00	Pass
12	2467	134.896	21.30	30.00	Pass
13	2472	54.828	17.39	30.00	Pass

For Average Power

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	93.756	19.72
6	2437	93.541	19.71
11	2462	92.897	19.68
12	2467	92.683	19.67
13	2472	66.222	18.21

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	81.283	19.10
6	2437	92.470	19.66
11	2462	89.331	19.51
12	2467	51.168	17.09
13	2472	20.989	13.22

2TX

For Peak Power

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.63	22.80	373.778	25.73	30	Pass
6	2437	23.38	23.87	461.552	26.64	30	Pass
11	2462	20.59	20.92	238.146	23.77	30	Pass
12	2467	18.62	18.51	143.736	21.58	30	Pass
13	2472	16.18	16.27	83.860	19.24	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	21.40	21.79	289.046	24.61	30	Pass
6	2437	23.39	23.77	456.505	26.59	30	Pass
9	2452	21.56	21.85	296.328	24.72	30	Pass
10	2457	18.31	18.92	145.747	21.64	30	Pass
11	2462	17.09	17.30	104.871	20.21	30	Pass

Full RU

802.11ax (HE20)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.66	22.82	375.927	25.75	30	Pass
6	2437	23.41	23.90	464.751	26.67	30	Pass
11	2462	20.63	20.95	240.063	23.80	30	Pass
12	2467	18.66	18.56	145.231	21.62	30	Pass
13	2472	16.23	16.29	84.536	19.27	30	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	21.43	21.81	290.700	24.63	30	Pass
6	2437	23.41	23.82	460.271	26.63	30	Pass
9	2452	21.61	21.90	299.759	24.77	30	Pass
10	2457	18.36	18.97	147.435	21.69	30	Pass
11	2462	17.12	17.35	105.848	20.25	30	Pass

For Average Power

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	18.31	18.59	140.041	21.46
6	2437	19.52	19.57	180.110	22.56
11	2462	16.34	16.54	88.134	19.45
12	2467	14.06	14.18	51.650	17.13
13	2472	10.89	11.16	25.336	14.04

802.11n (HT40)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	15.81	15.97	77.643	18.90
6	2437	17.97	18.16	128.125	21.08
9	2452	15.83	16.13	79.303	18.99
10	2457	12.96	13.39	41.597	16.19
11	2462	10.98	11.03	25.208	14.02

Full RU

802.11ax (HE20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	18.33	18.61	140.688	21.48
6	2437	19.56	19.60	181.566	22.59
11	2462	16.39	16.58	89.050	19.50
12	2467	14.10	14.21	52.067	17.17
13	2472	10.93	11.18	25.510	14.07

802.11ax (HE40)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	15.83	16.02	78.277	18.94
6	2437	17.99	18.21	129.172	21.11
9	2452	15.88	16.15	79.936	19.03
10	2457	13.01	13.43	42.028	16.24
11	2462	11.01	11.08	25.442	14.06

Partial RU

2TX

RU26

For Peak Power

802.11ax (HE20)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.54	22.73	366.973	25.65	30	Pass
13	2472	16.17	16.19	82.991	19.19	30	Pass

For Average Power

802.11ax (HE20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	18.27	18.56	138.922	21.43
13	2472	8.98	9.04	15.924	12.02

RU52

For Peak Power

802.11ax (HE20)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.43	22.67	359.912	25.56	30	Pass
13	2472	17.11	17.20	103.885	20.17	30	Pass

For Average Power

802.11ax (HE20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	18.19	18.51	136.875	21.36
13	2472	9.64	9.75	18.645	12.71

RU106

For Peak Power

802.11ax (HE20)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.37	22.54	352.057	25.47	30	Pass
13	2472	17.02	17.08	101.401	20.06	30	Pass

For Average Power

802.11ax (HE20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	18.14	18.46	135.308	21.31
13	2472	9.62	9.76	18.625	12.70

RU242

For Peak Power

802.11ax (HE40)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	21.39	21.74	287.000	24.58	30	Pass
11	2462	17.04	17.26	103.793	20.16	30	Pass

For Average Power

802.11ax (HE40)

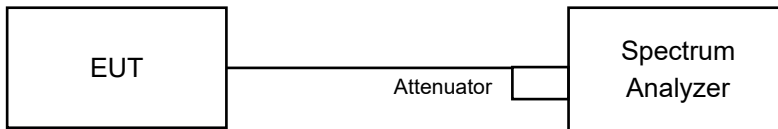
Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	15.76	15.97	77.207	18.88
11	2462	10.91	10.98	24.862	13.96

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm in any 3 kHz band during any time interval of continuous transmission.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

- Set analyzer center frequency to DTS channel center frequency.
- Set the span to 1.5 times the DTS bandwidth.
- Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- Set the VBW $\geq 3 \times \text{RBW}$.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as item 4.3.6.

4.5.7 Test Results

1TX: Chain 0

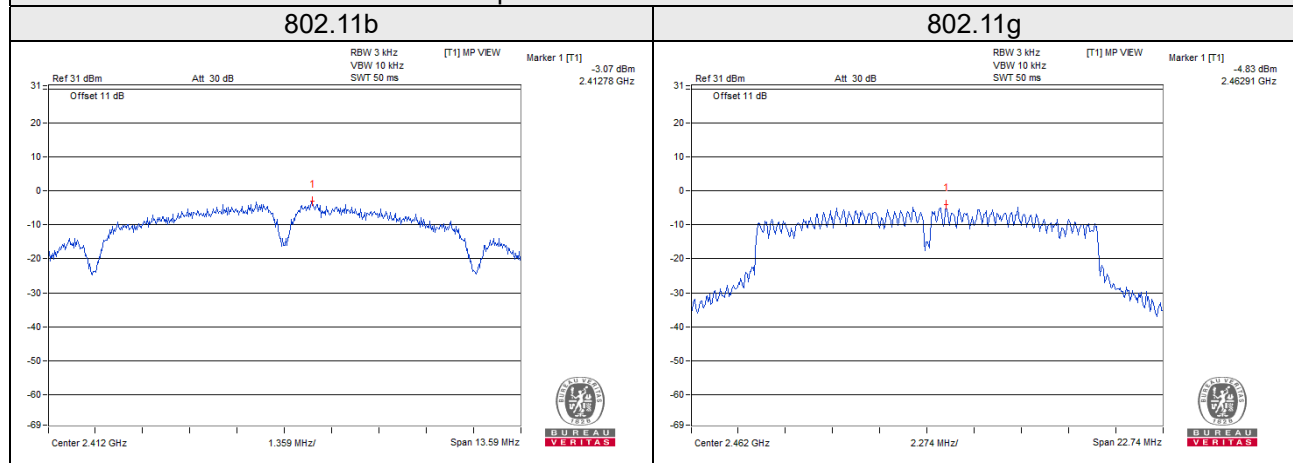
802.11b

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
1	2412	-3.07	8.00	Pass
6	2437	-3.09	8.00	Pass
11	2462	-3.11	8.00	Pass
12	2467	-3.15	8.00	Pass
13	2472	-4.78	8.00	Pass

802.11g

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
1	2412	-5.29	8.00	Pass
6	2437	-4.88	8.00	Pass
11	2462	-4.83	8.00	Pass
12	2467	-8.10	8.00	Pass
13	2472	-12.32	8.00	Pass

Spectrum Plot of Worst Value



1TX: Chain 1

802.11b

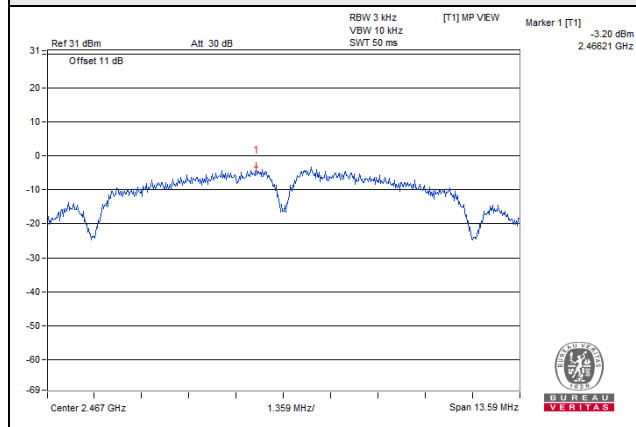
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
1	2412	-3.25	8.00	Pass
6	2437	-3.35	8.00	Pass
11	2462	-3.49	8.00	Pass
12	2467	-3.20	8.00	Pass
13	2472	-4.83	8.00	Pass

802.11g

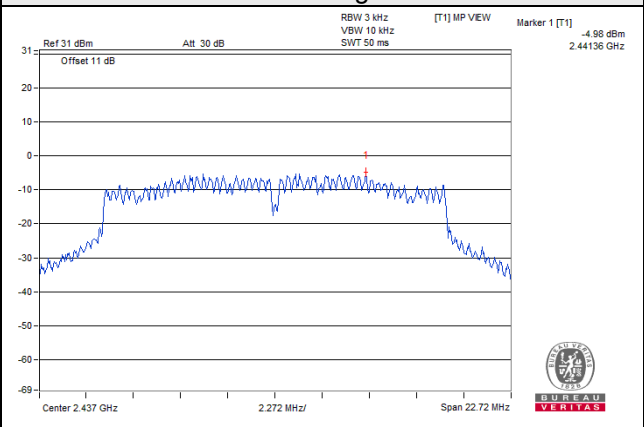
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
1	2412	-5.55	8.00	Pass
6	2437	-4.98	8.00	Pass
11	2462	-5.84	8.00	Pass
12	2467	-7.91	8.00	Pass
13	2472	-12.19	8.00	Pass

Spectrum Plot of Worst Value

802.11b



802.11g



Full RU 2TX

802.11ax (HE20)

TX chain	Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-6.73	3.01	-3.72	8.00	Pass
	6	2437	-6.26	3.01	-3.25	8.00	Pass
	11	2462	-8.64	3.01	-5.63	8.00	Pass
	12	2467	-10.54	3.01	-7.53	8.00	Pass
	13	2472	-14.68	3.01	-11.67	8.00	Pass
1	1	2412	-7.32	3.01	-4.31	8.00	Pass
	6	2437	-6.50	3.01	-3.49	8.00	Pass
	11	2462	-9.00	3.01	-5.99	8.00	Pass
	12	2467	-10.73	3.01	-7.72	8.00	Pass
	13	2472	-14.77	3.01	-11.76	8.00	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is measure value add 10 log (N_{ANT}) dB.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 5.30\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.

802.11ax (HE40)

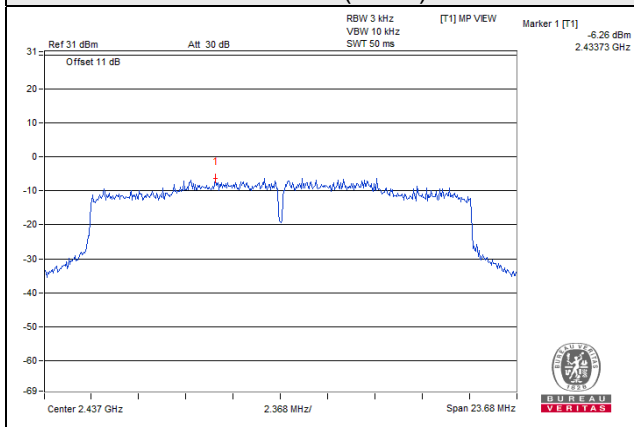
TX chain	Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	3	2422	-11.94	3.01	-8.93	8.00	Pass
	6	2437	-9.68	3.01	-6.67	8.00	Pass
	9	2452	-11.72	3.01	-8.71	8.00	Pass
	10	2457	-14.89	3.01	-11.88	8.00	Pass
	11	2462	-16.79	3.01	-13.78	8.00	Pass
1	3	2422	-12.05	3.01	-9.04	8.00	Pass
	6	2437	-9.71	3.01	-6.70	8.00	Pass
	9	2452	-11.74	3.01	-8.73	8.00	Pass
	10	2457	-15.32	3.01	-12.31	8.00	Pass
	11	2462	-16.88	3.01	-13.87	8.00	Pass

Note:

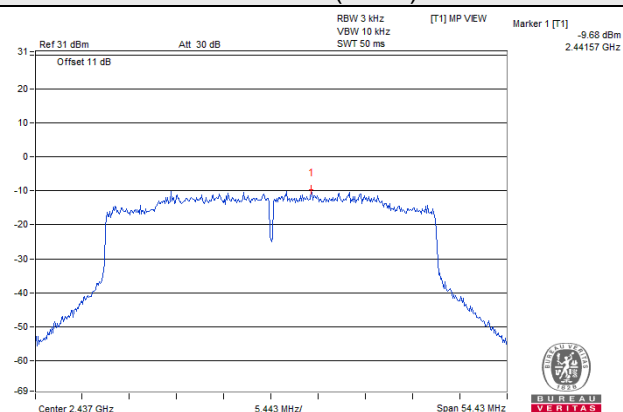
- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is measure value add 10 log (N_{ANT}) dB.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 5.30\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.

Spectrum Plot of Worst Value

802.11ax (HE20)



802.11ax (HE40)

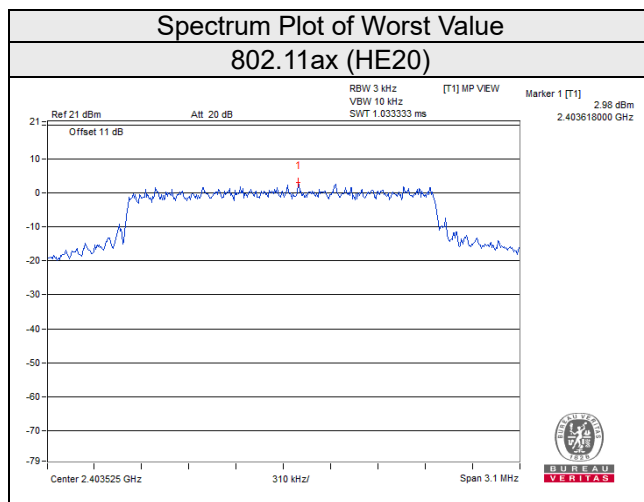


Partial RU
2TX
RU26
802.11ax (HE20)

TX chain	Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	2.98	3.01	5.99	8.00	Pass
	11	2462	-7.34	3.01	-4.33	8.00	Pass
1	1	2412	2.68	3.01	5.69	8.00	Pass
	11	2462	-6.76	3.01	-3.75	8.00	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is measure value add 10 log (N_{ANT}) dB.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 5.30\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.



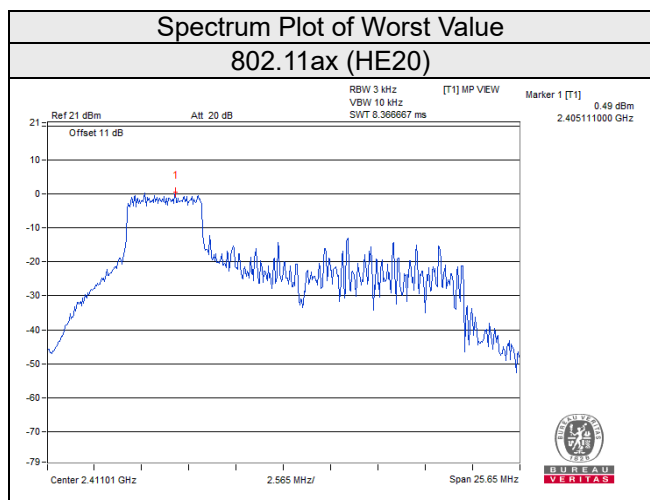
RU52

802.11ax (HE20)

TX chain	Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	0.49	3.01	3.50	8.00	Pass
	11	2462	-8.63	3.01	-5.62	8.00	Pass
1	1	2412	-0.51	3.01	2.50	8.00	Pass
	11	2462	-8.43	3.01	-5.42	8.00	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is measure value add 10 log (N_{ANT}) dB.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 5.30\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.



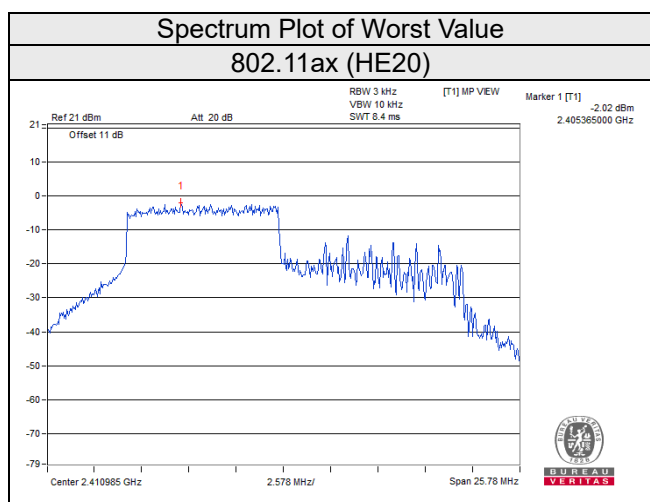
RU106

802.11ax (HE20)

TX chain	Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-2.22	3.01	0.79	8.00	Pass
	11	2462	-12.11	3.01	-9.10	8.00	Pass
1	1	2412	-2.02	3.01	0.99	8.00	Pass
	11	2462	-11.57	3.01	-8.56	8.00	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is measure value add $10 \log (N_{ANT})$ dB.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 5.30\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.



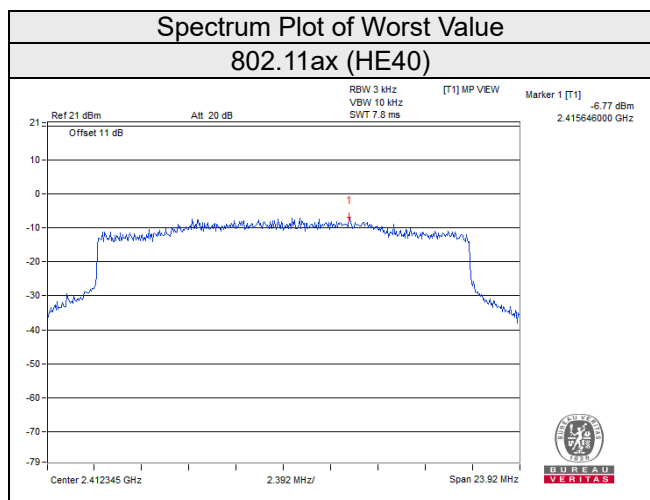
RU242

802.11ax (HE40)

TX chain	Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	3	2422	-6.77	3.01	-3.76	8.00	Pass
	11	2462	-12.71	3.01	-9.70	8.00	Pass
1	3	2422	-7.12	3.01	-4.11	8.00	Pass
	11	2462	-13.09	3.01	-10.08	8.00	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is measure value add $10 \log (N_{ANT})$ dB.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 5.08\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce. < 6 dBi, so the power spectral density limit is not reduced.

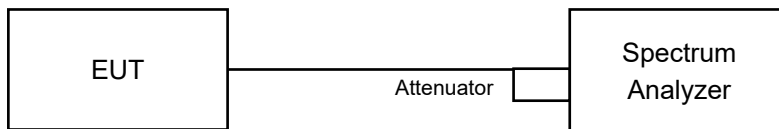


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

Below 20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOB

1. Set RBW = 100 kHz.
2. Set VBW $\geq$ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Same as item 4.3.6.

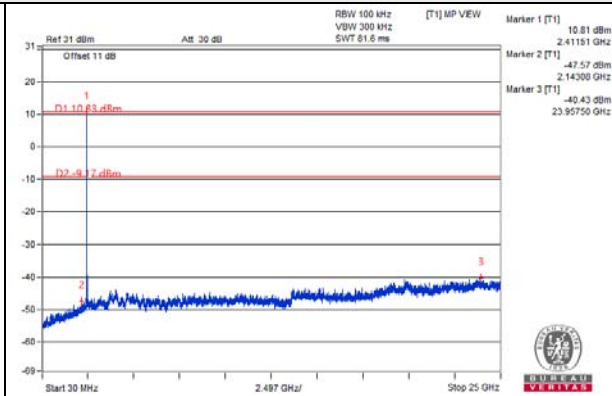
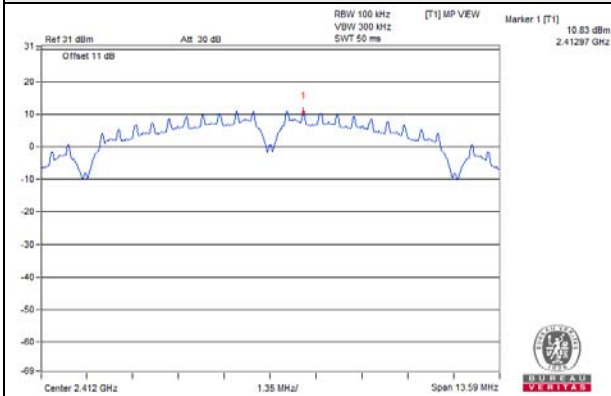
4.6.7 Test Results

The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.

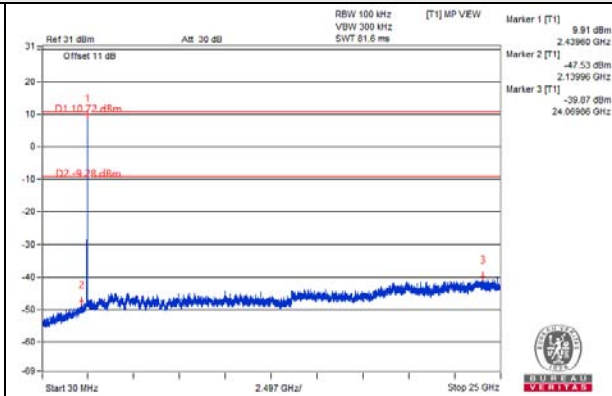
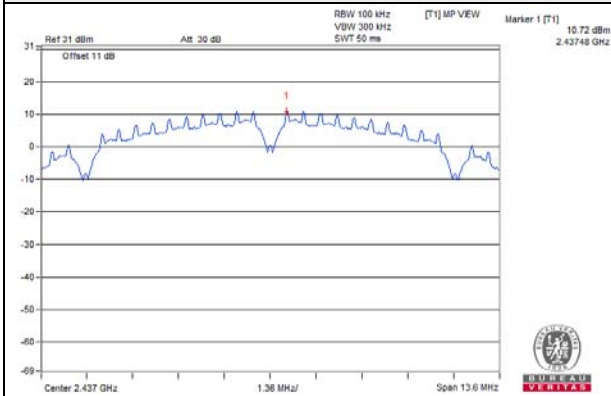
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

1TX
802.11b_Chain 0

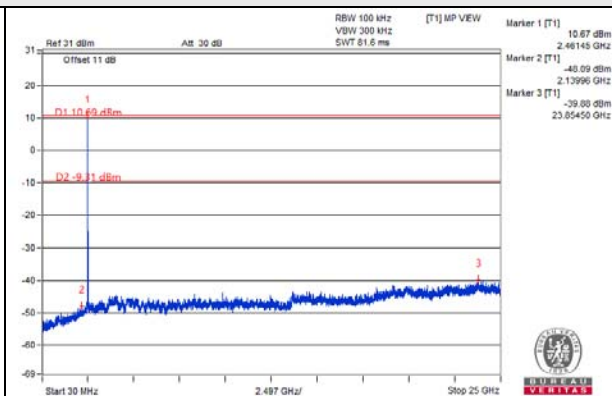
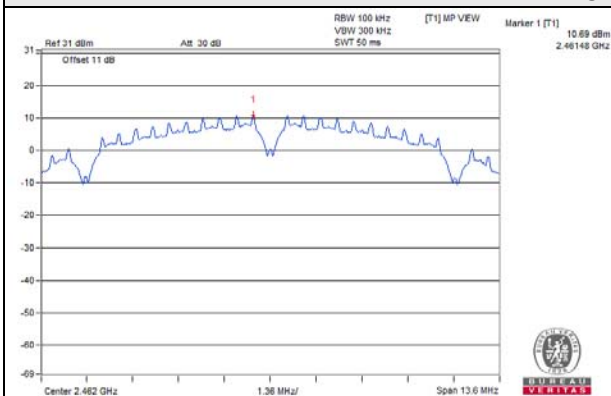
CH 1



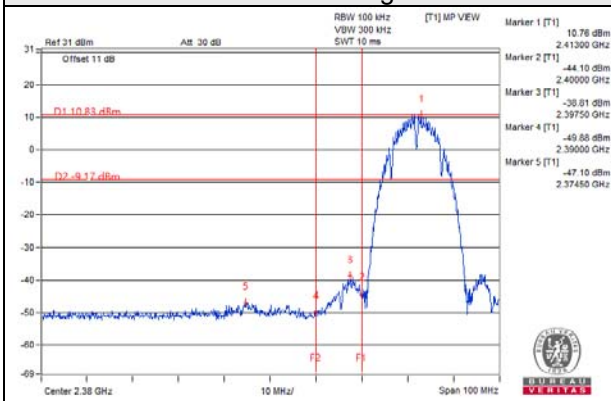
CH 6



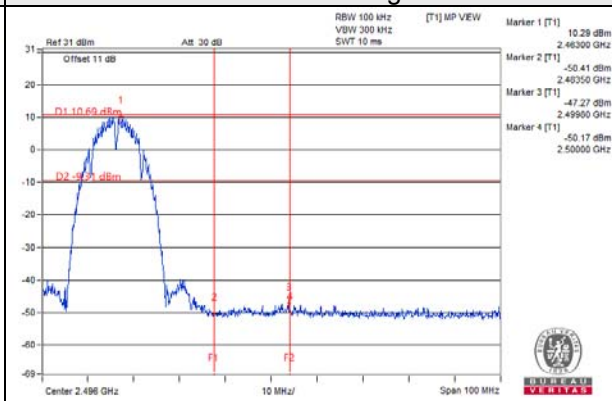
CH 11



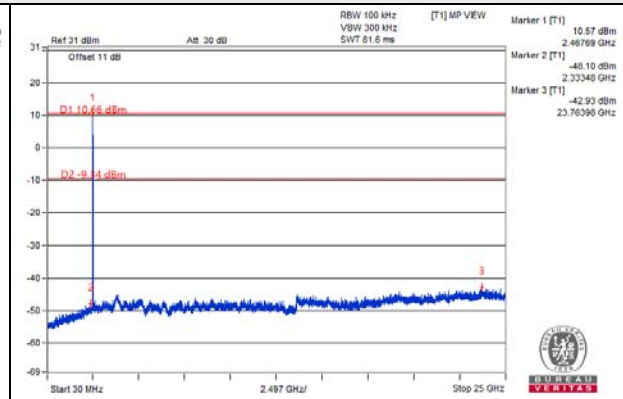
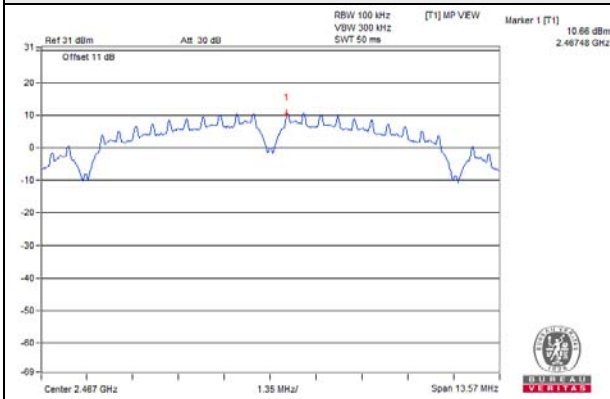
CH 1 Band edge



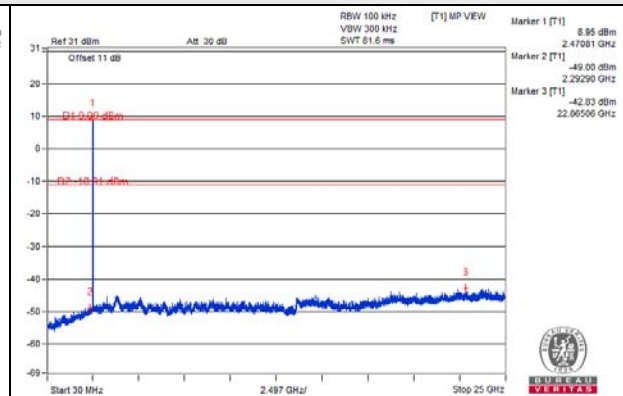
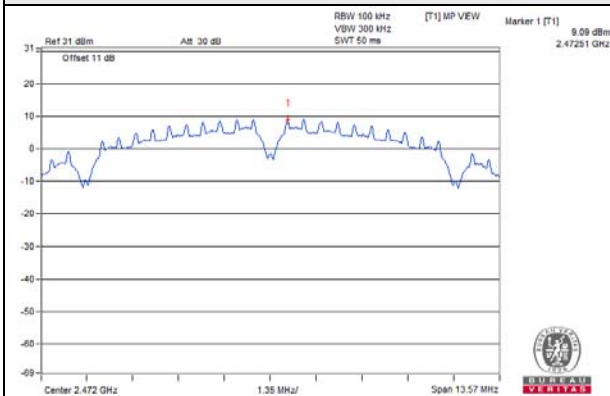
CH 11 Band edge



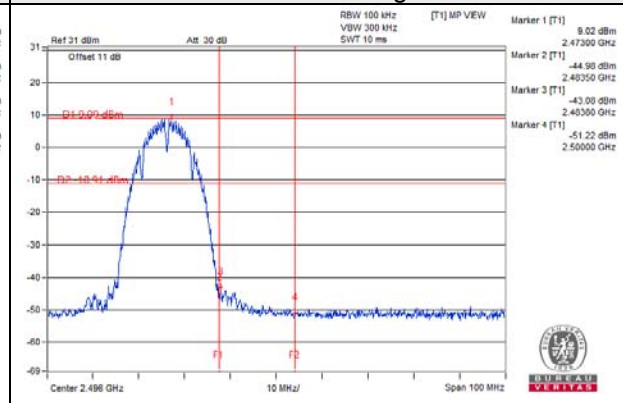
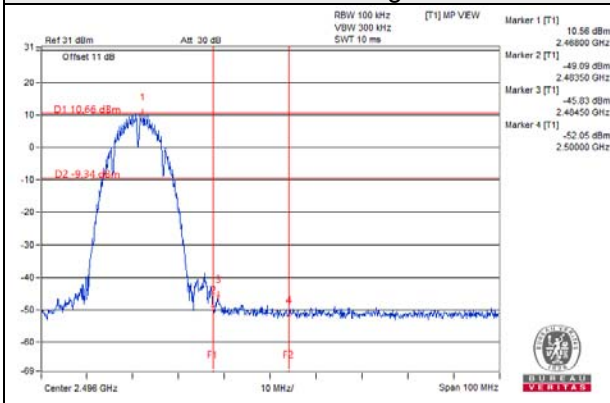
CH 12



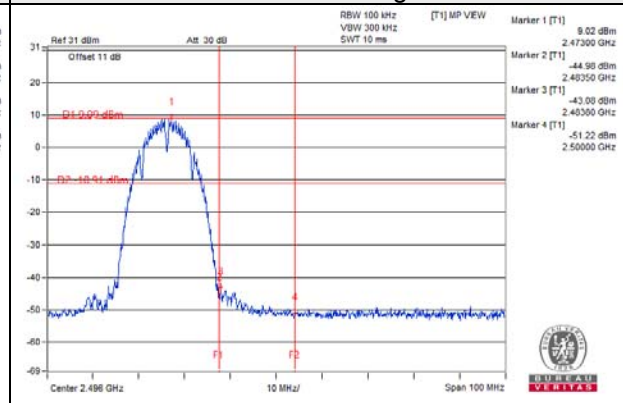
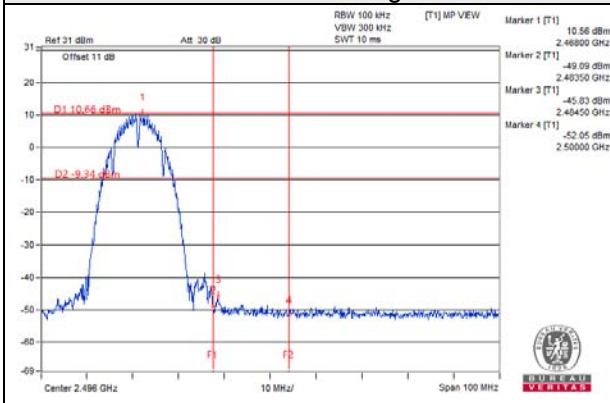
CH 13



CH 12 Band edge

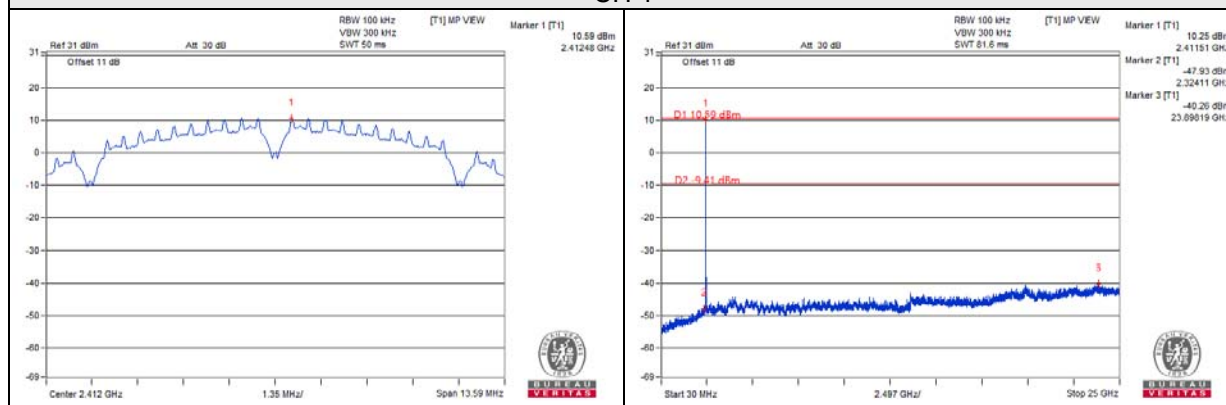


CH 13 Band edge

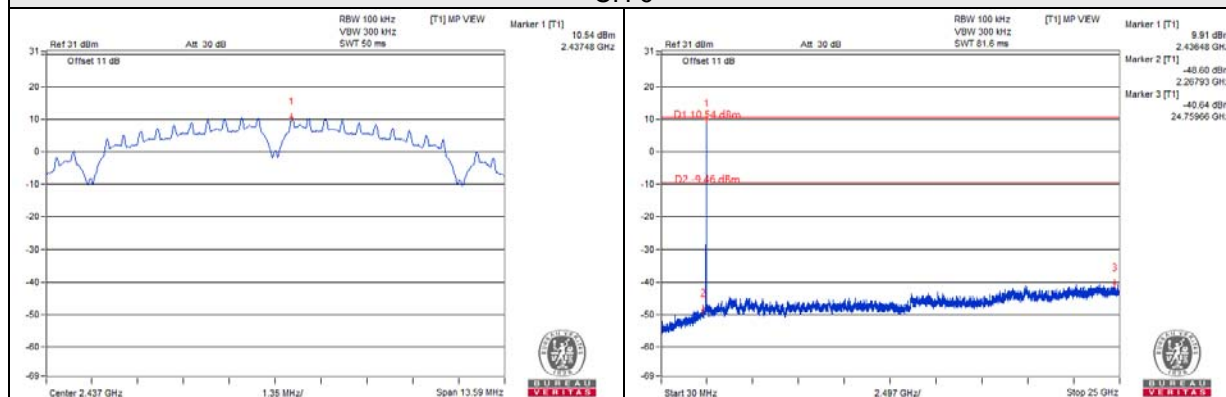


802.11b_Chain 1

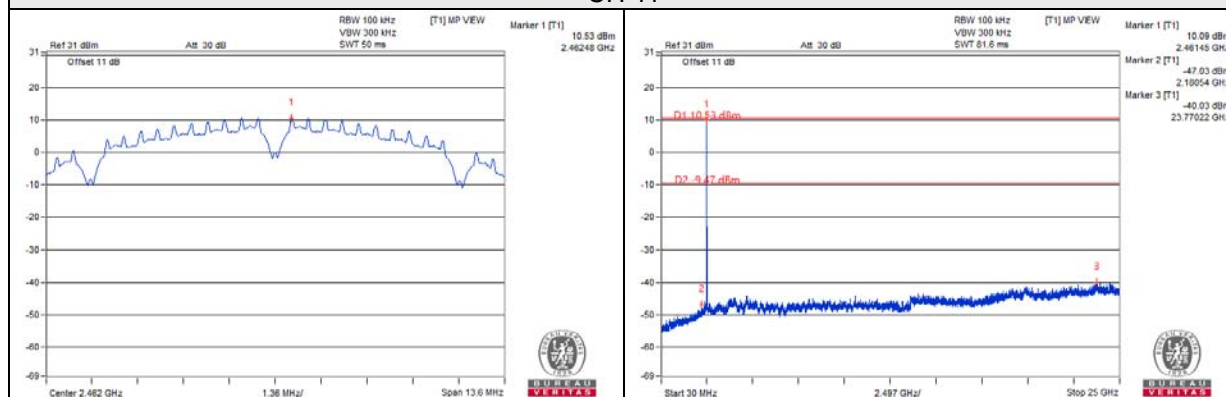
CH 1



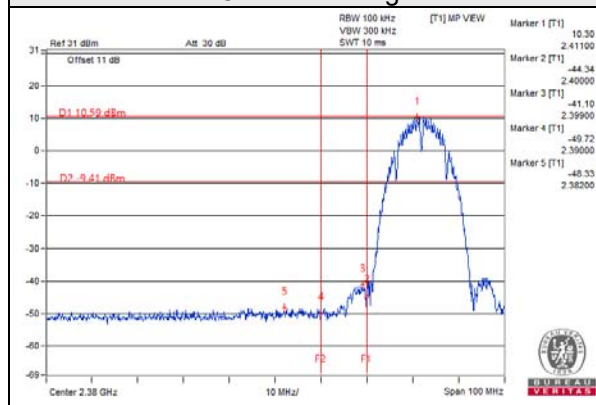
CH 6



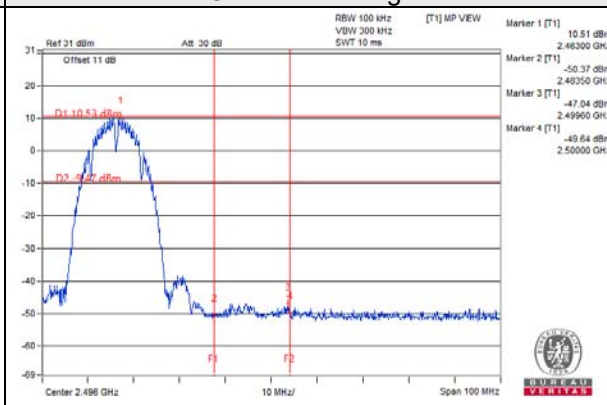
CH 11



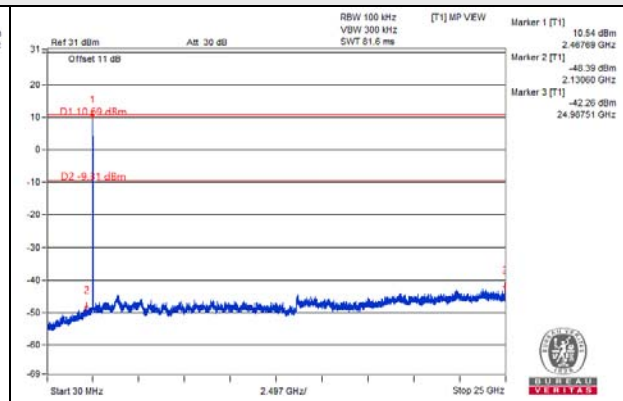
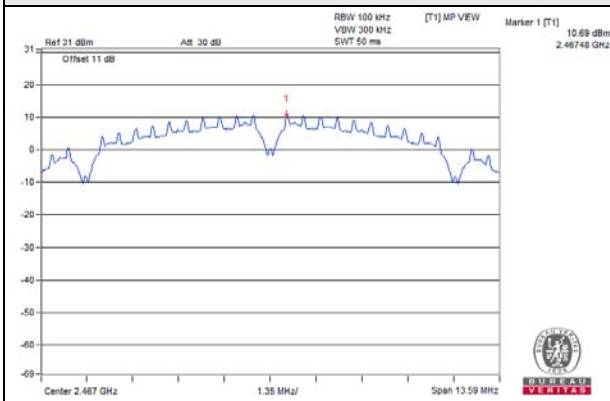
CH 1 Band edge



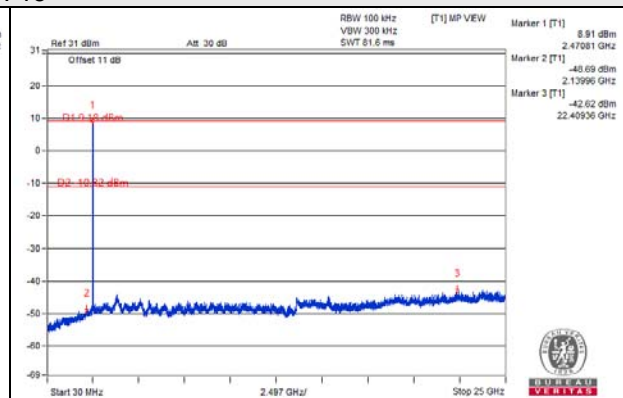
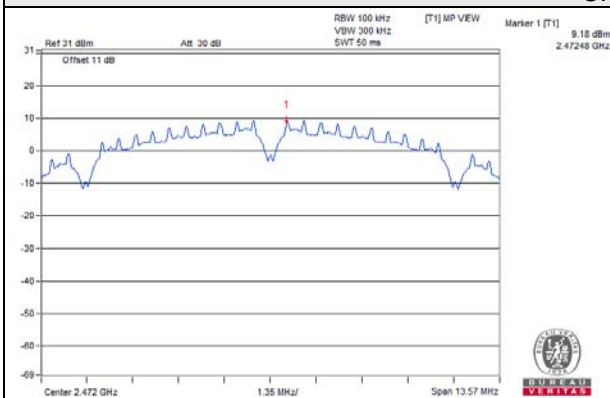
CH 11 Band edge



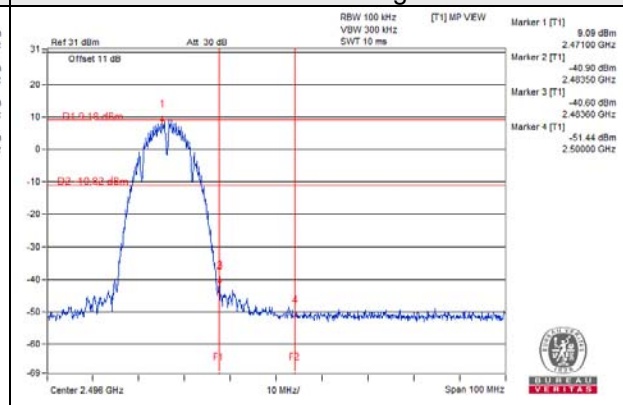
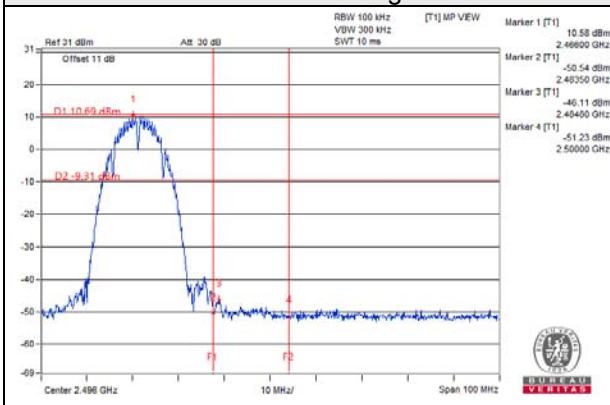
CH 12



CH 13

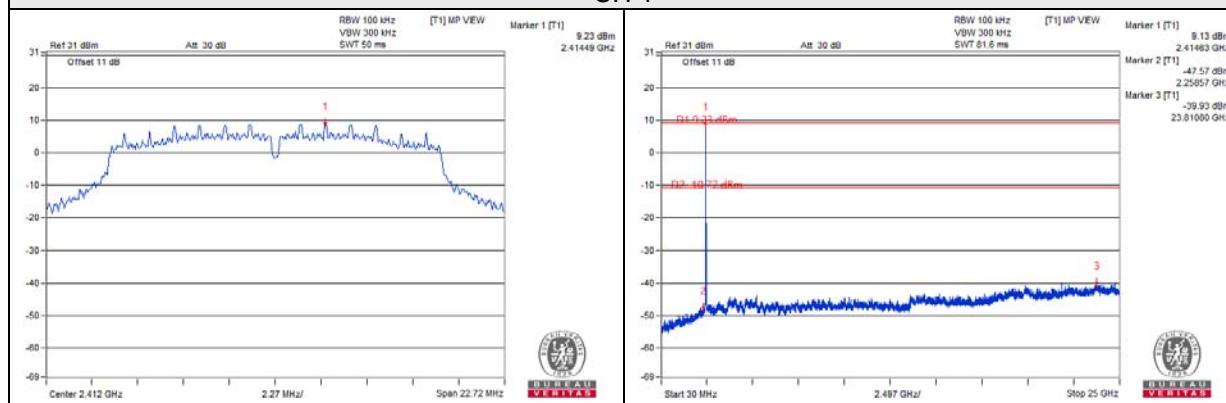


CH 12 Band edge

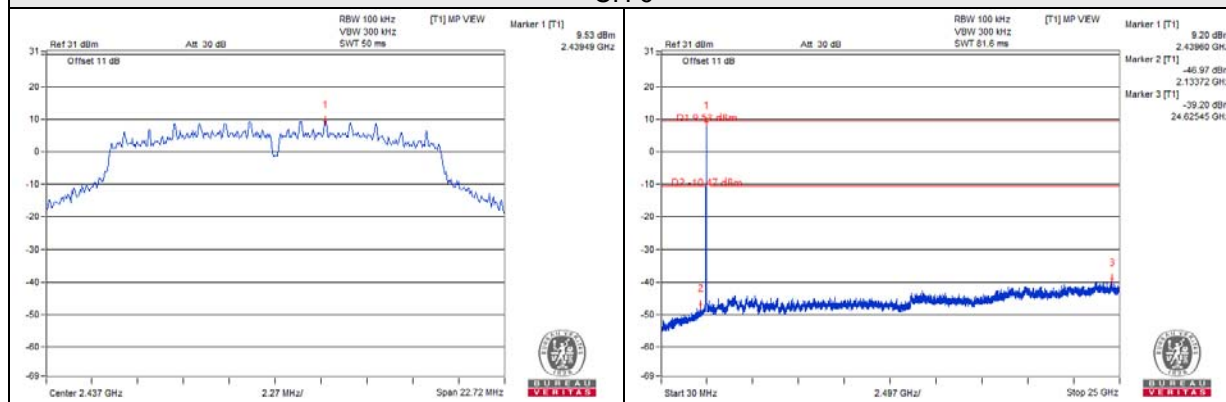


802.11g_Chain 0

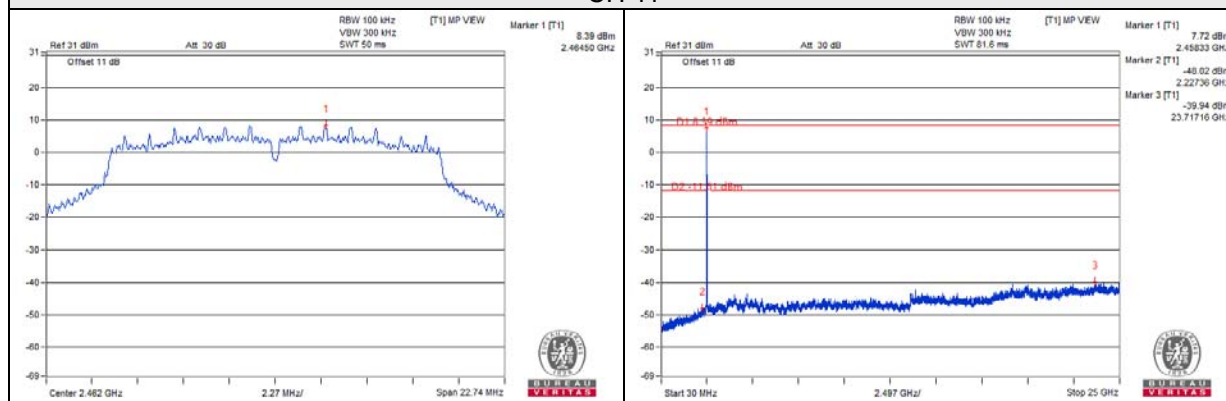
CH 1



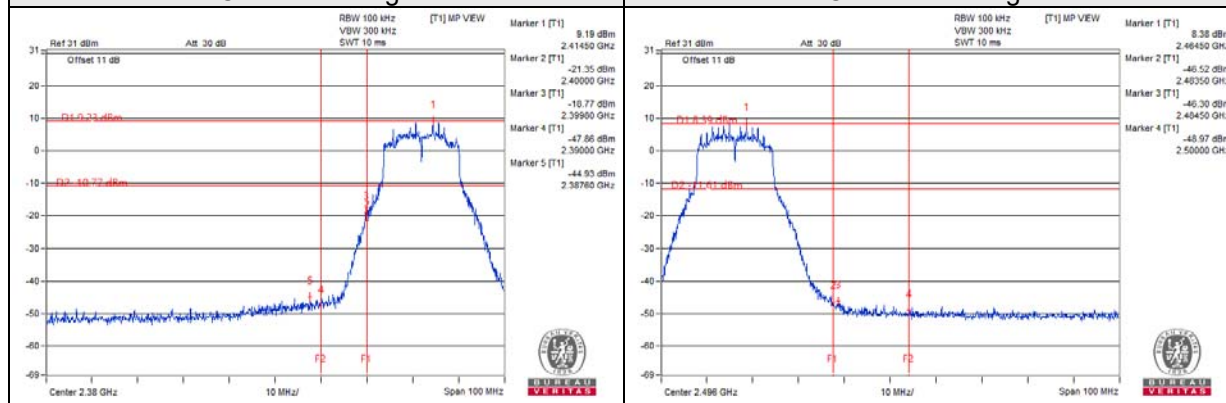
CH 6



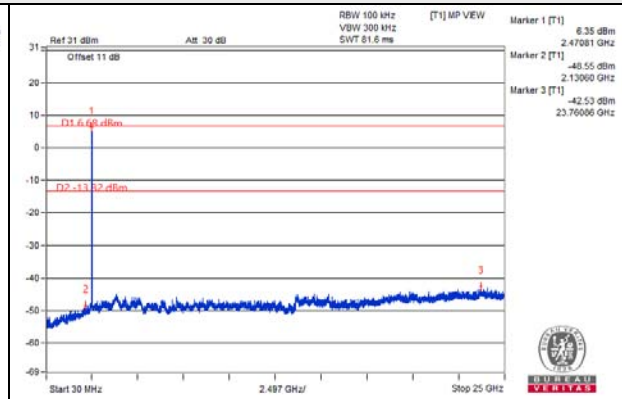
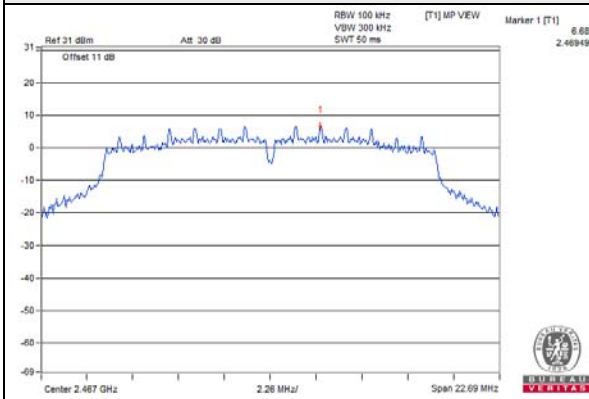
CH 11



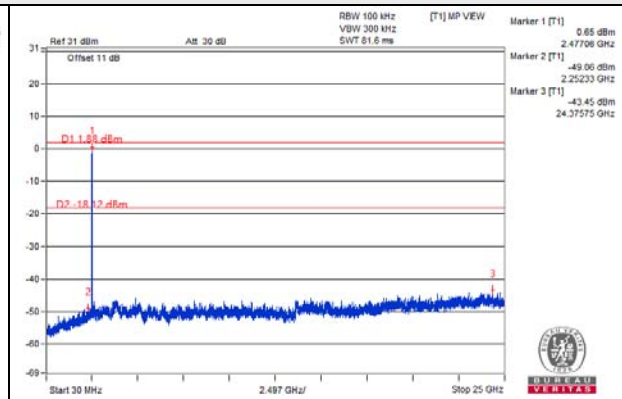
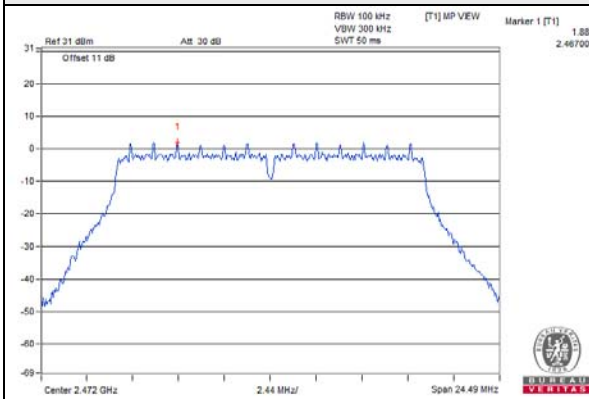
CH 1 Band edge



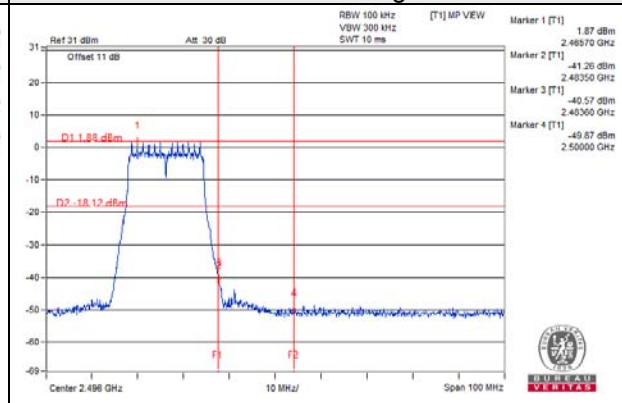
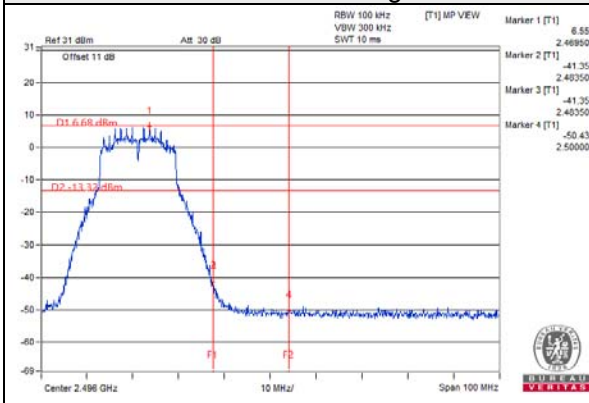
CH 12



CH 13

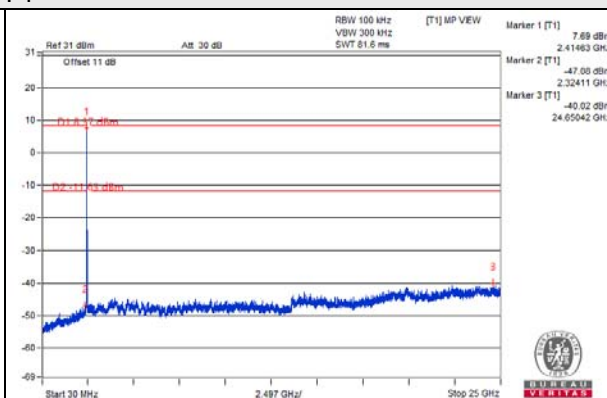
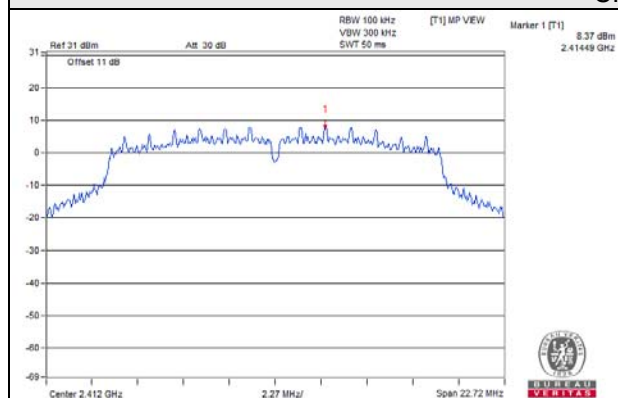


CH 12 Band edge

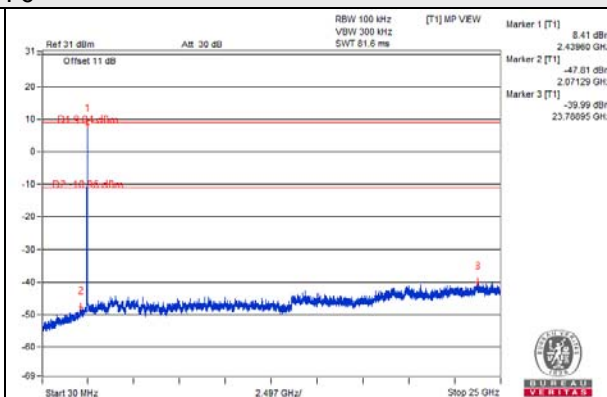
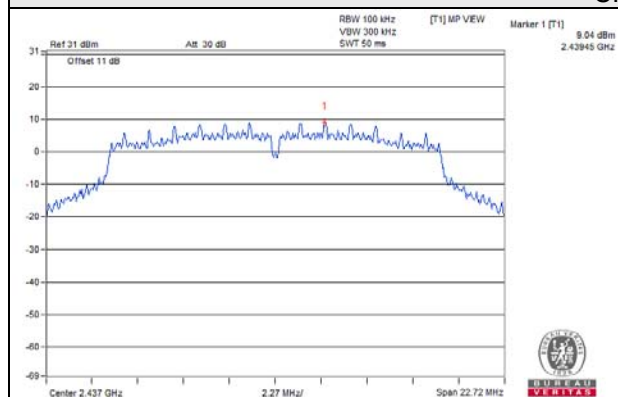


802.11g_Chain 1

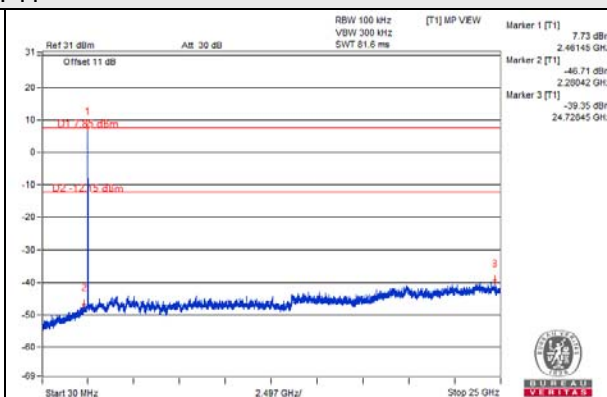
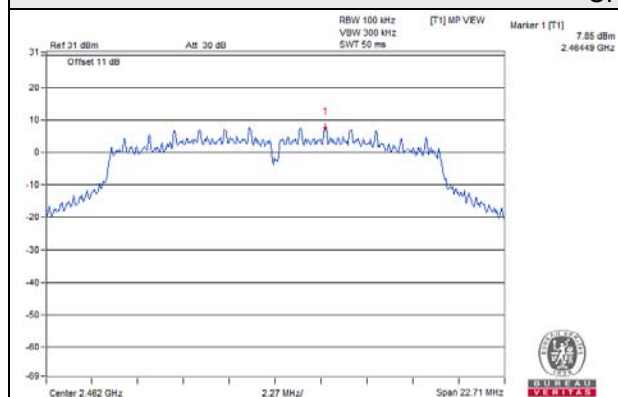
CH 1



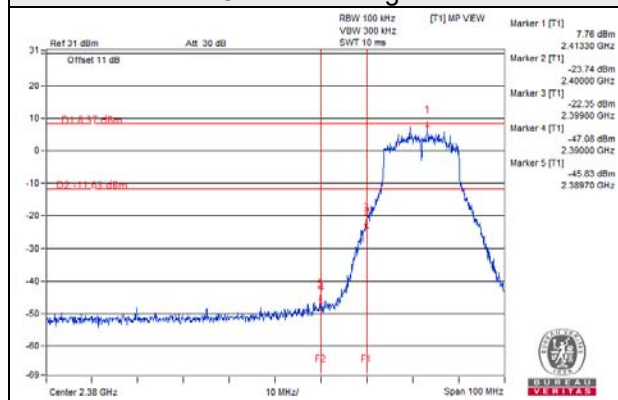
CH 6



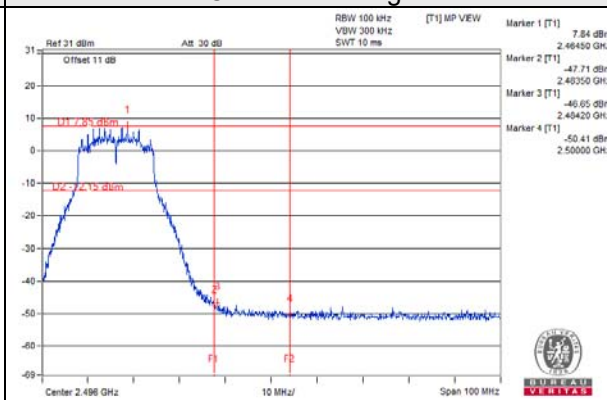
CH 11



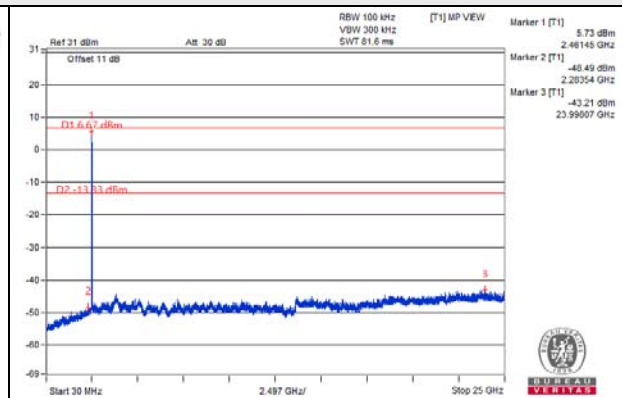
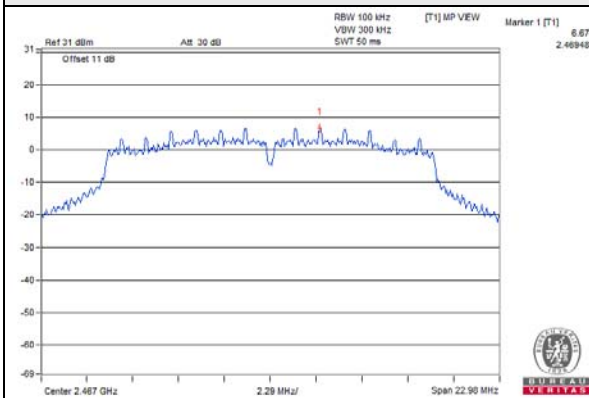
CH 1 Band edge



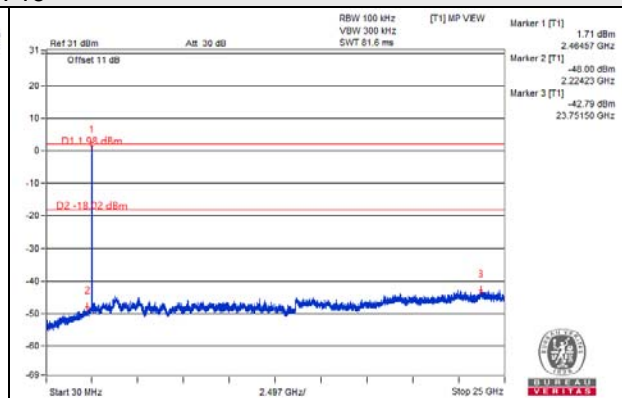
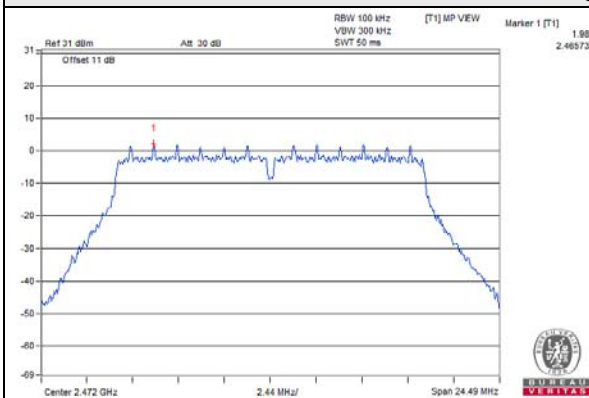
CH 11 Band edge



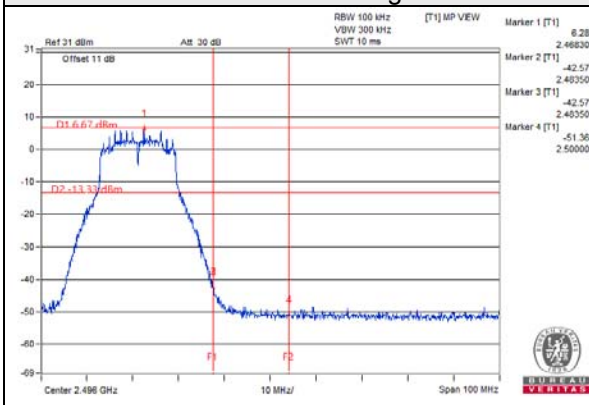
CH 12



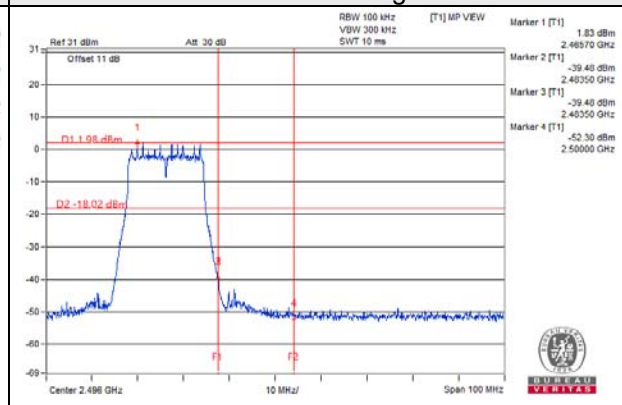
CH 13



CH 12 Band edge

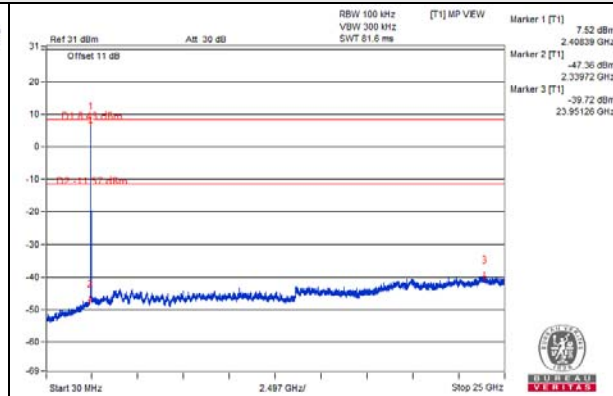
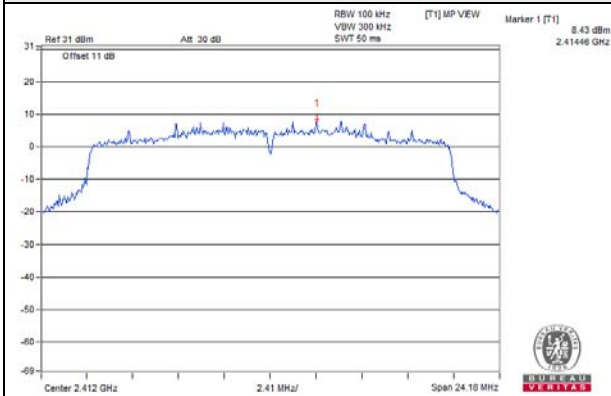


CH 13 Band edge

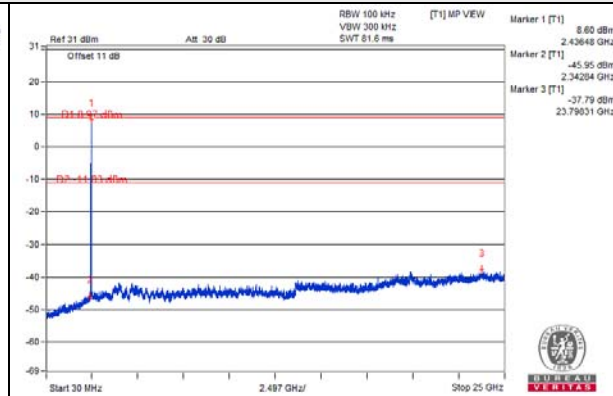
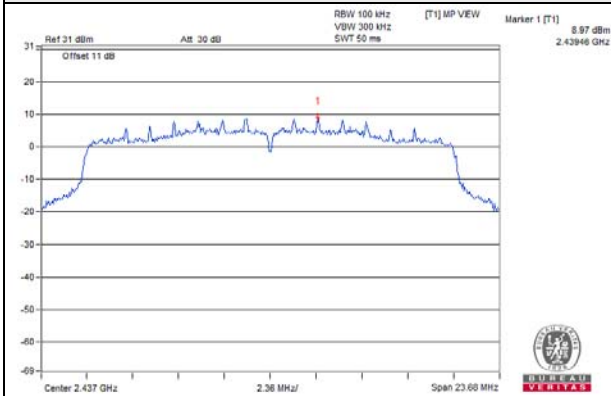


2TX
802.11ax (HE20)_Chain 0

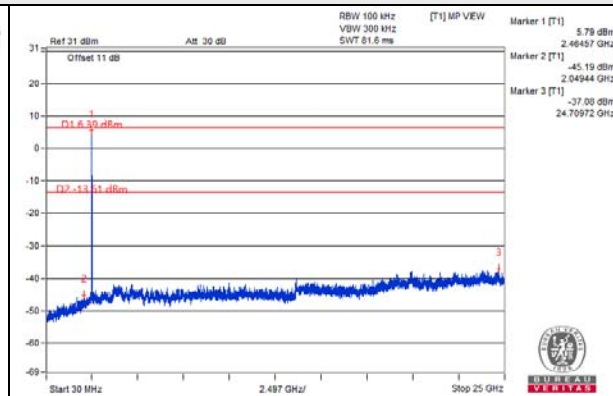
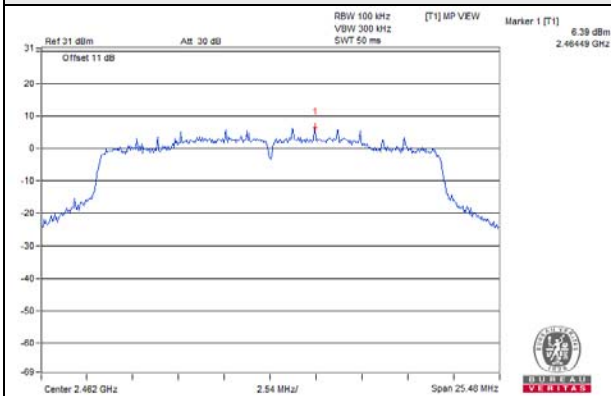
CH 1



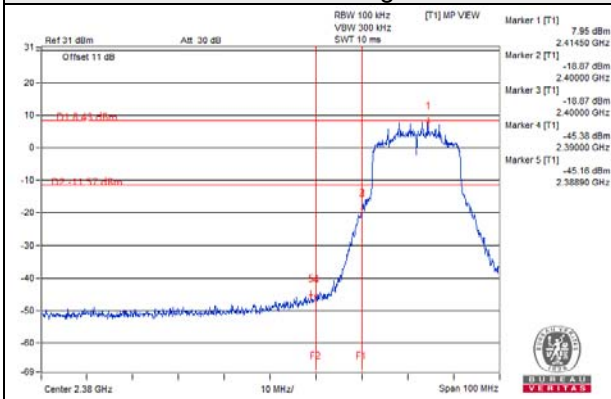
CH 6



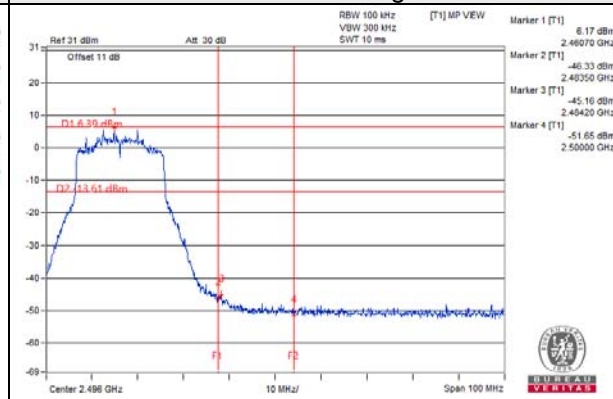
CH 11



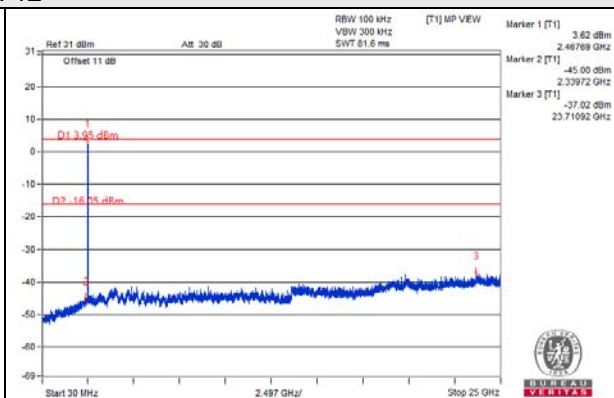
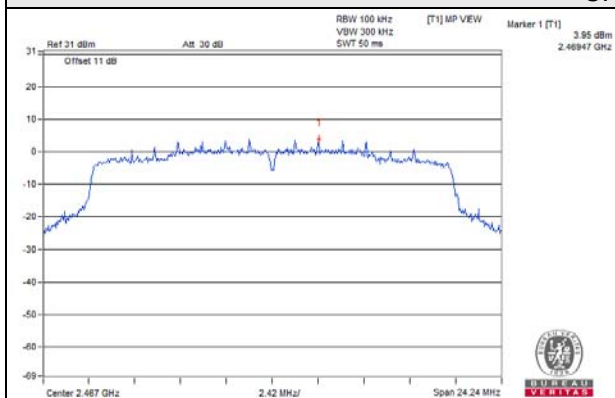
CH 1 Band edge



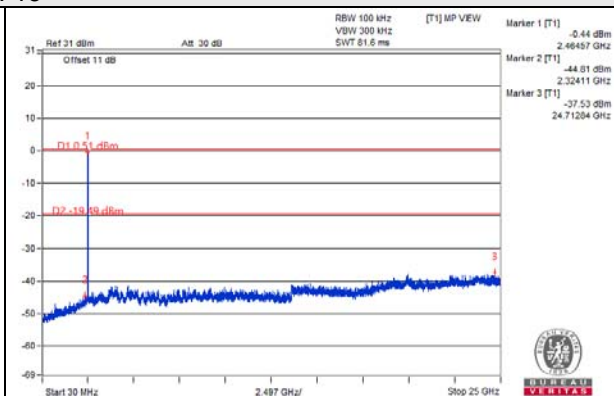
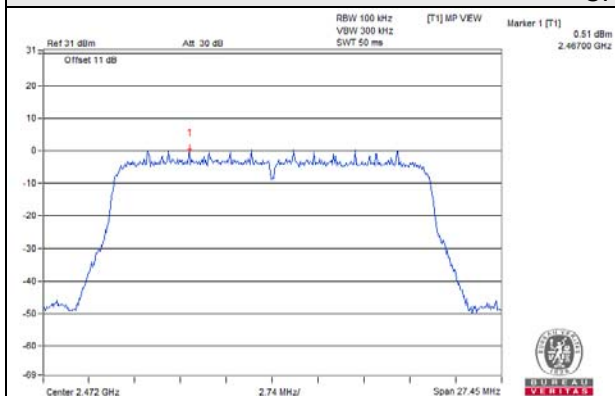
CH 11 Band edge



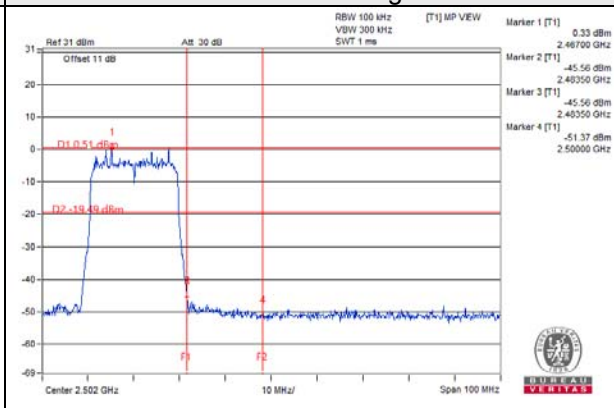
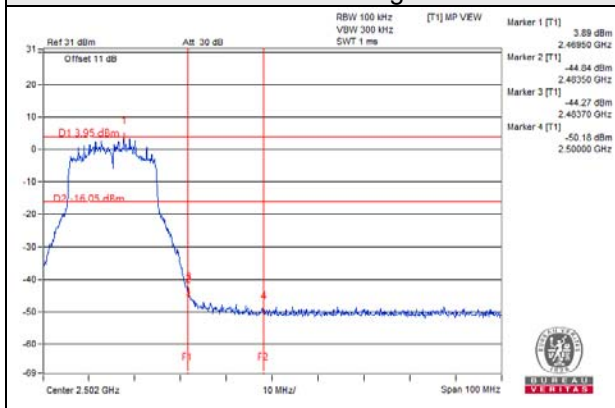
CH 12



CH 13

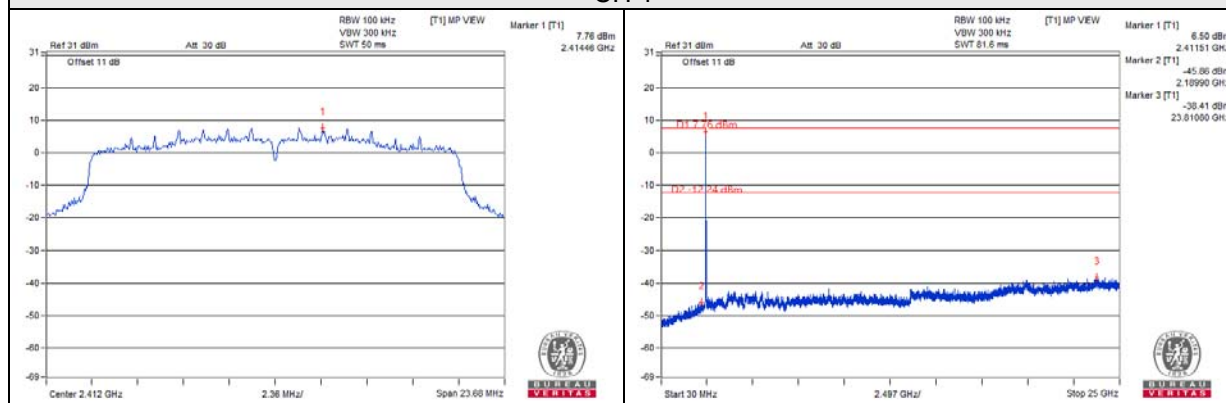


CH 12 Band edge

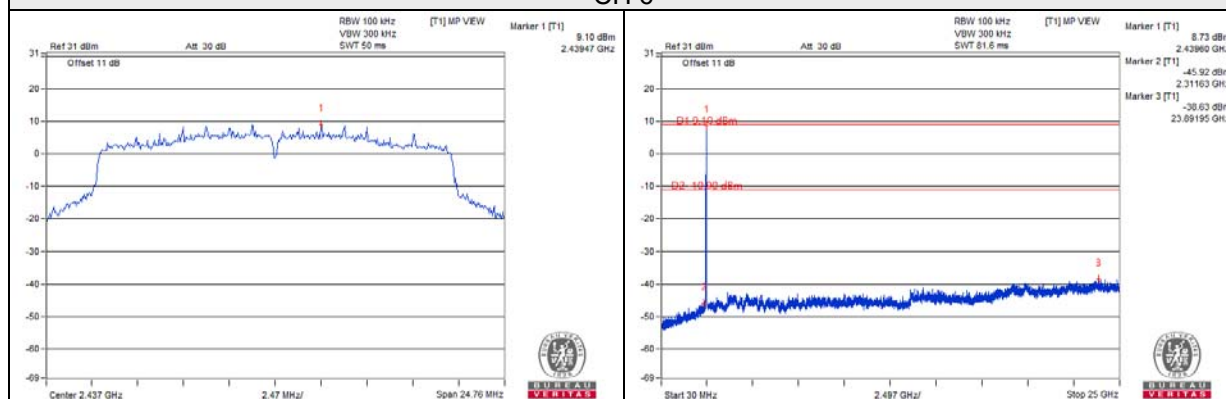


802.11ax (HE20)_Chain 1

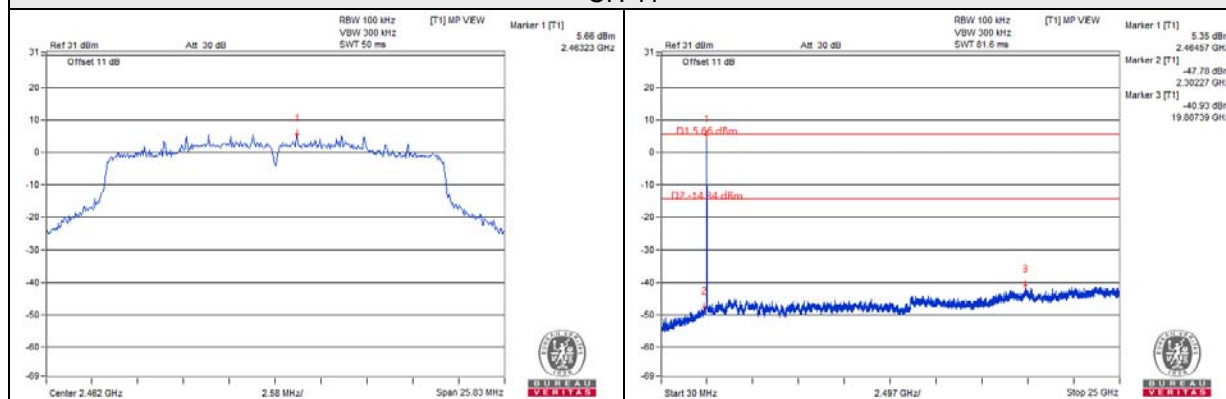
CH 1



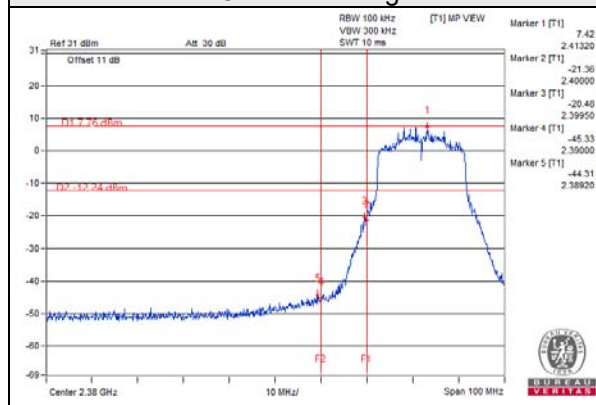
CH 6



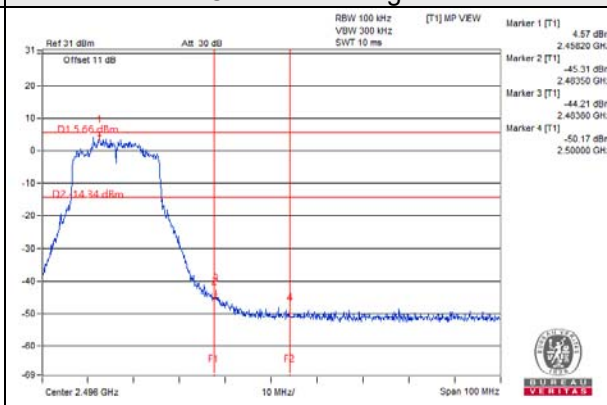
CH 11



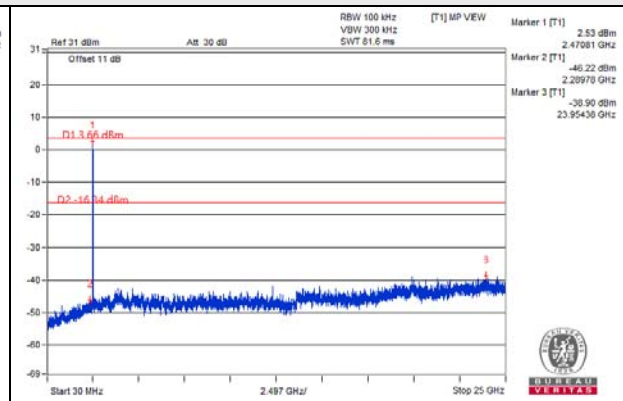
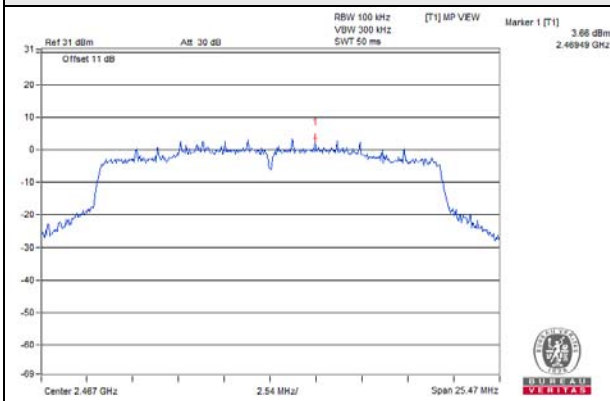
CH 1 Band edge



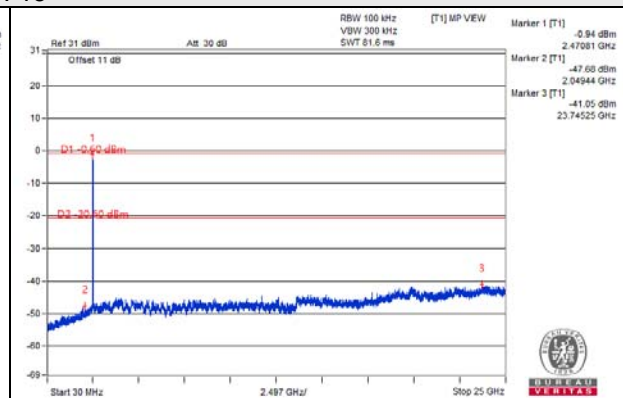
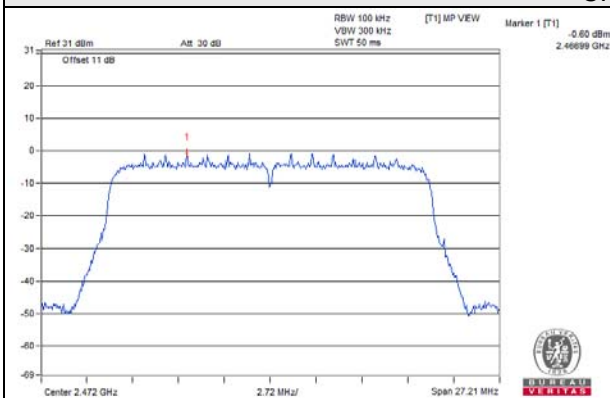
CH 11 Band edge



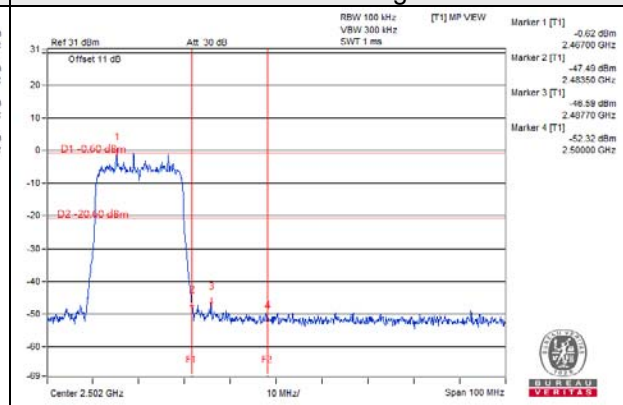
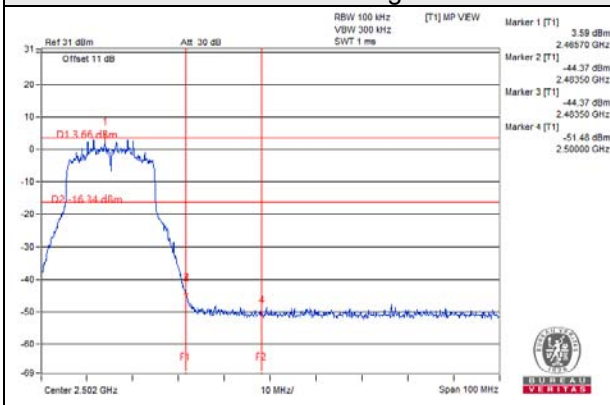
CH 12



CH 13

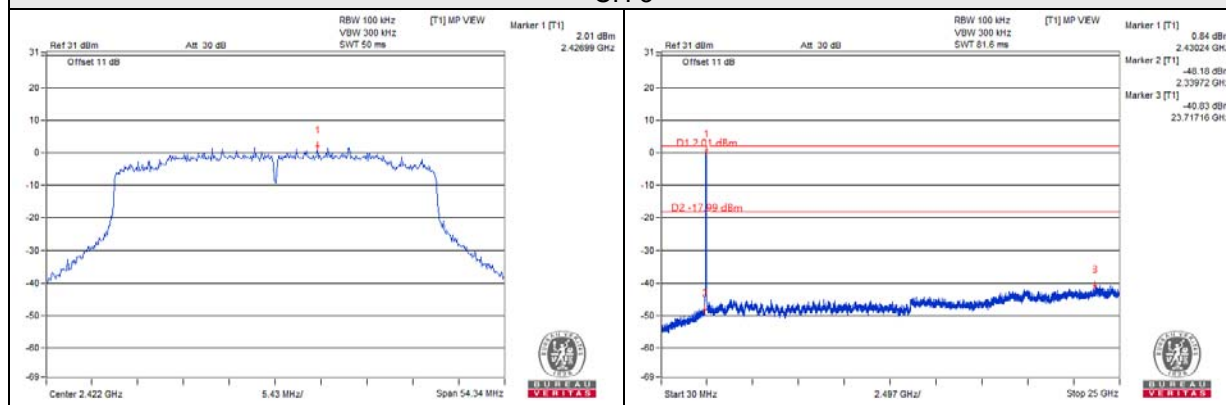


CH 12 Band edge

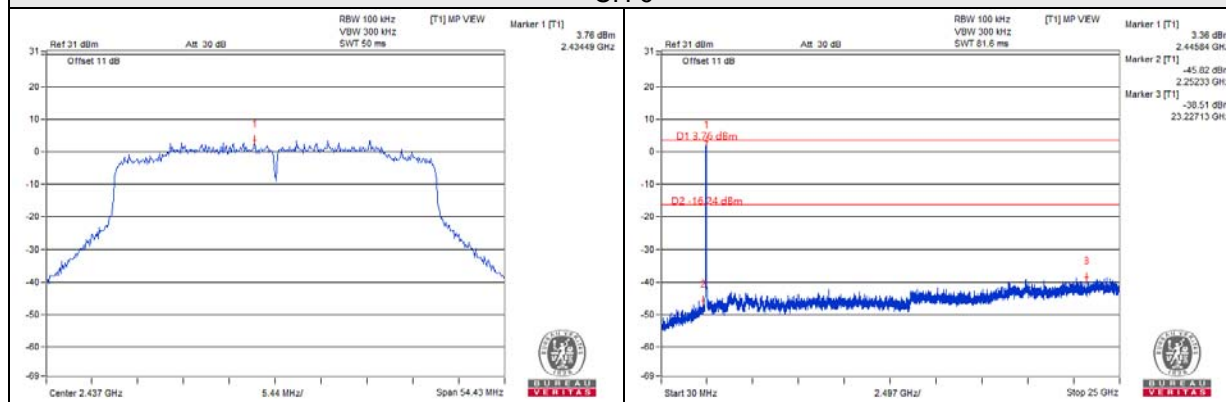


802.11ax (HE40)_Chain 0

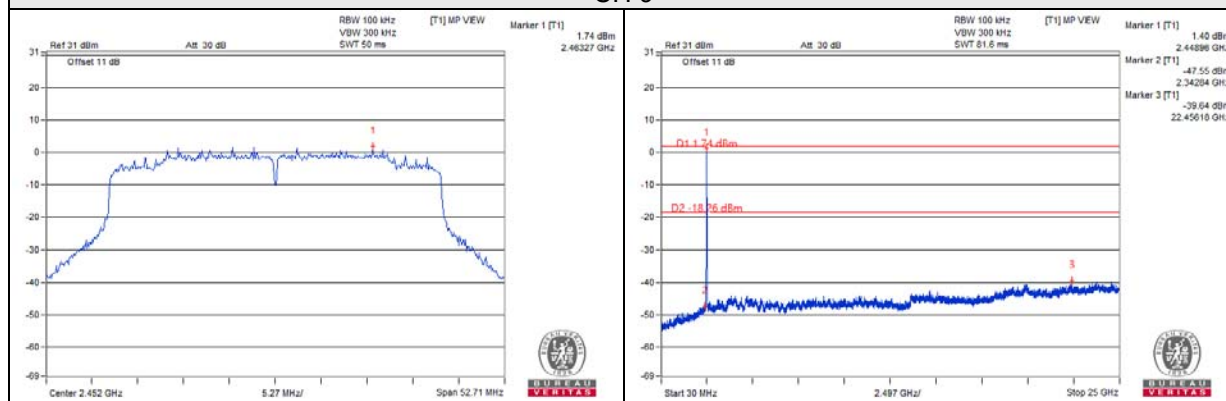
CH 3



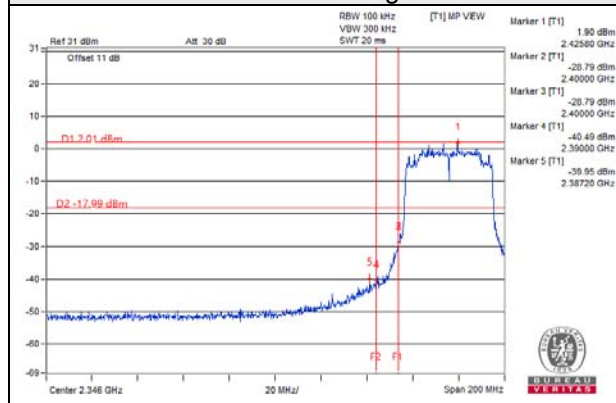
CH 6



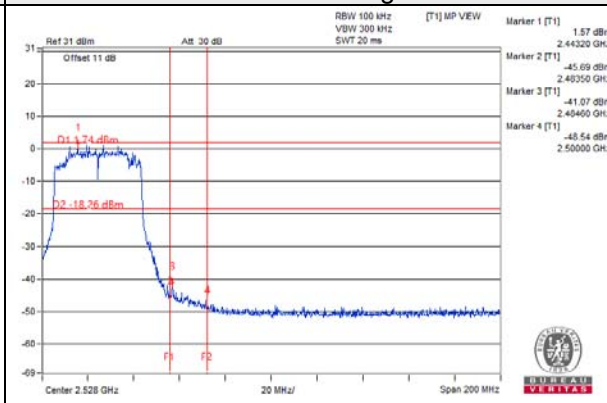
CH 9



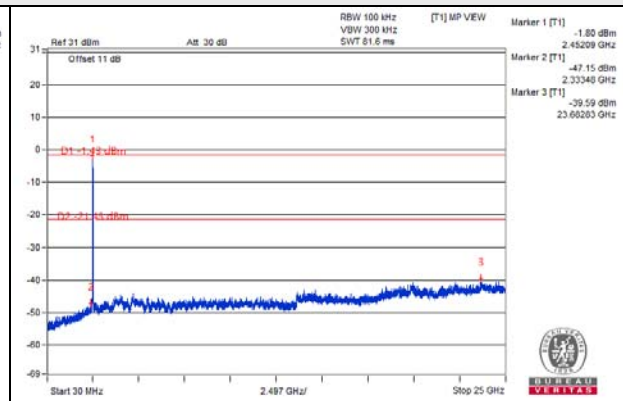
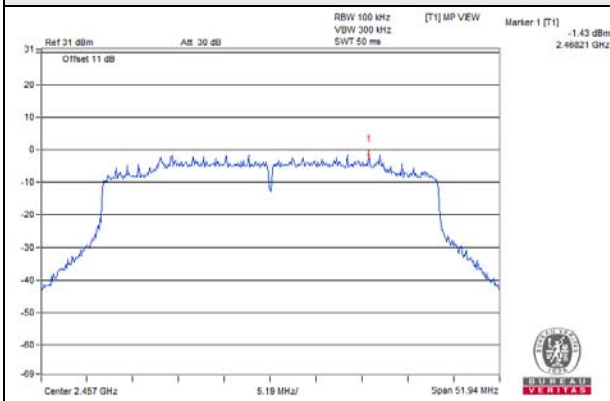
CH 3 Band edge



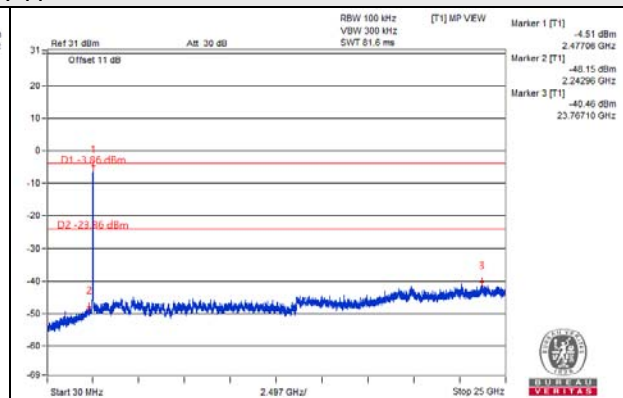
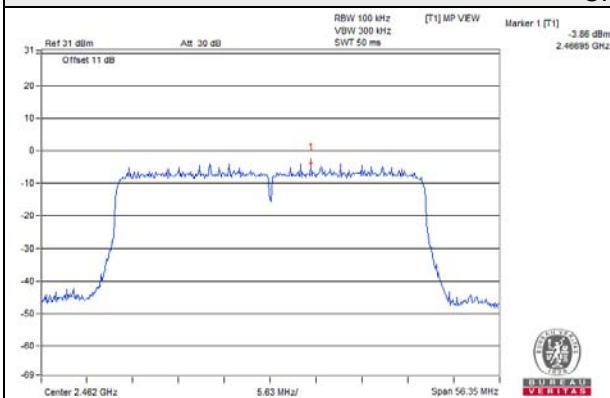
CH 9 Band edge



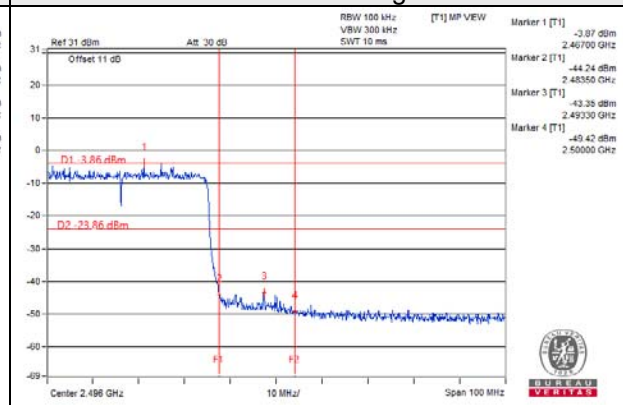
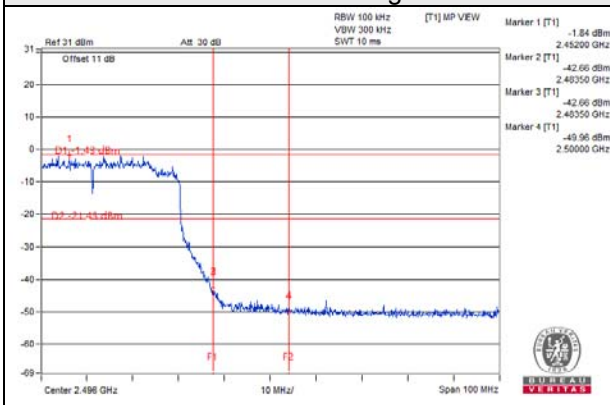
CH 10



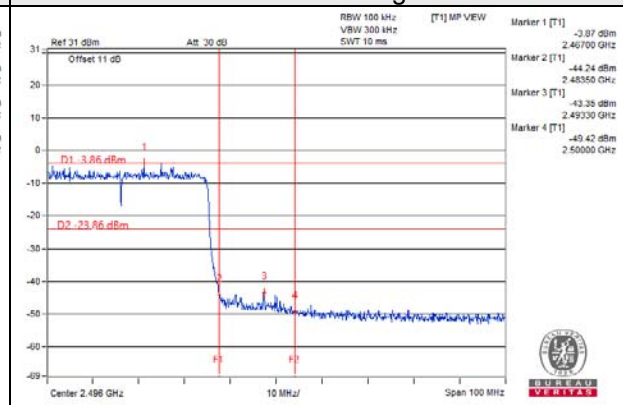
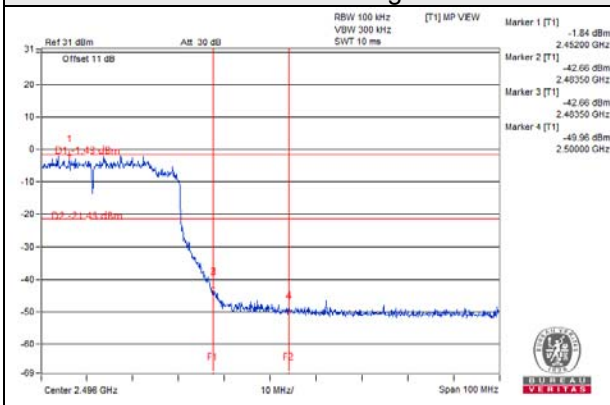
CH 11



CH 10 Band edge

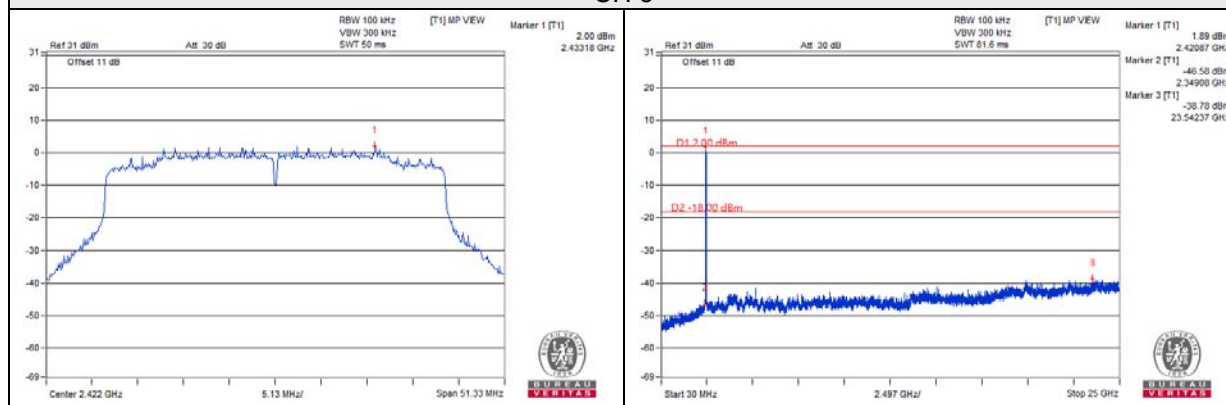


CH 11 Band edge

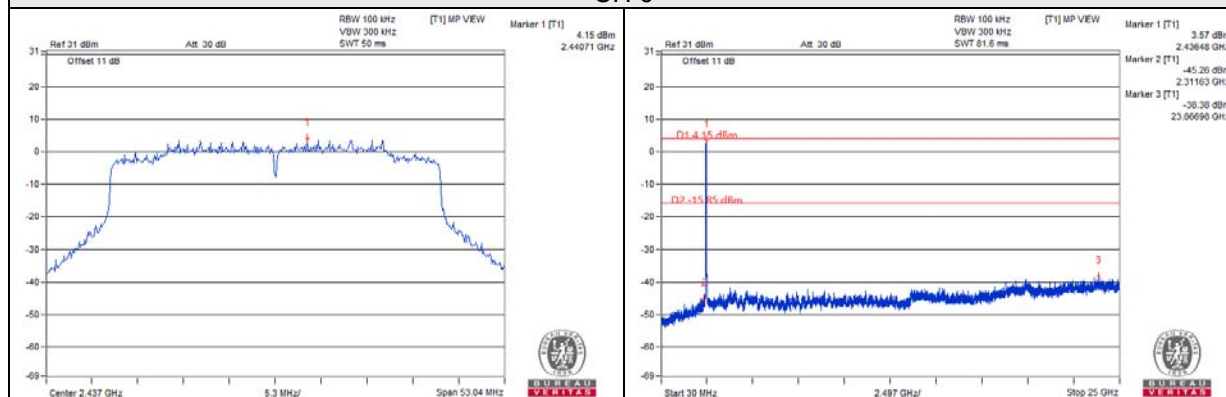


802.11ax (HE40)_Chain 1

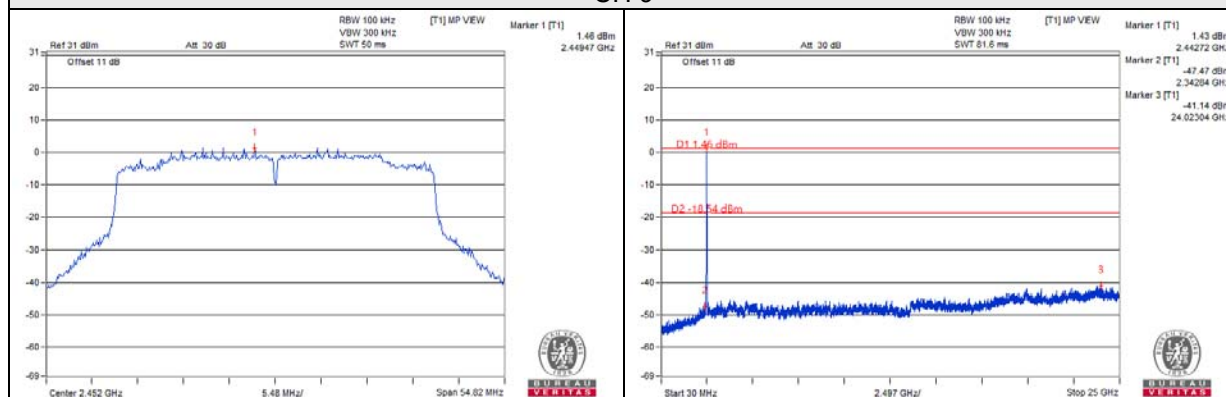
CH 3



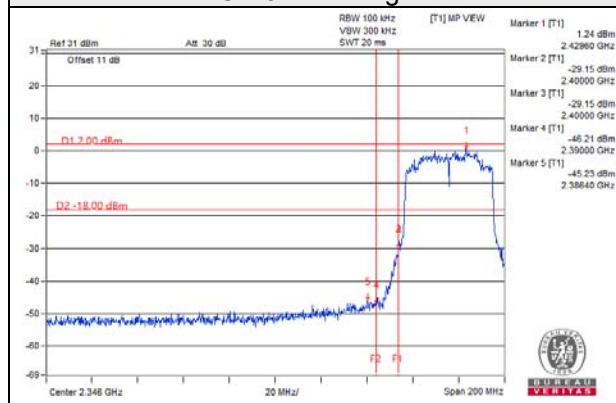
CH 6



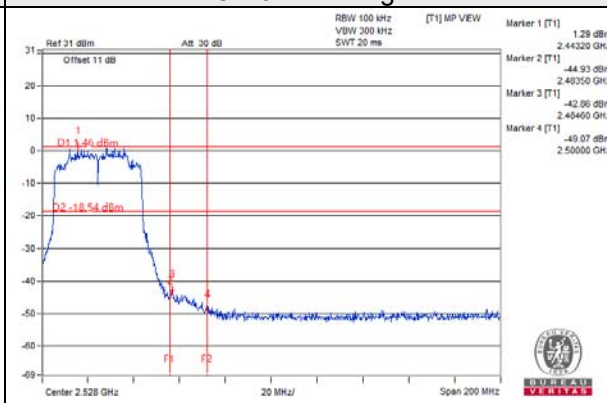
CH 9



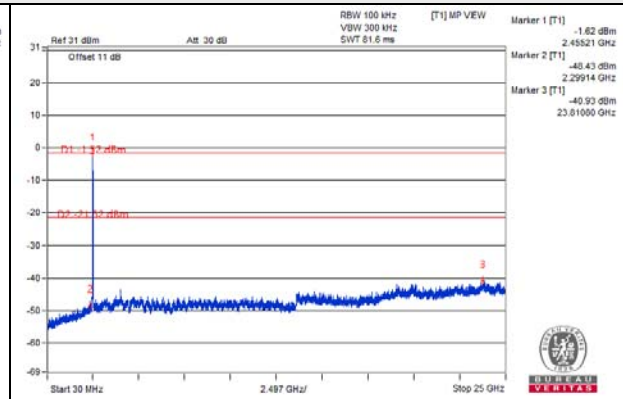
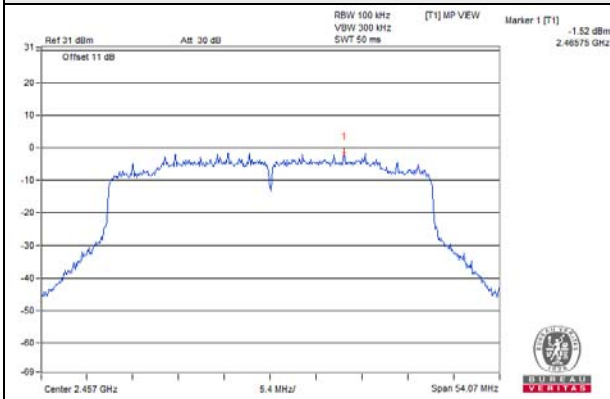
CH 3 Band edge



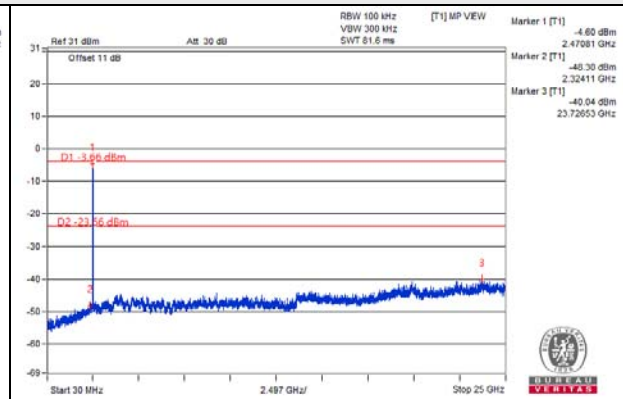
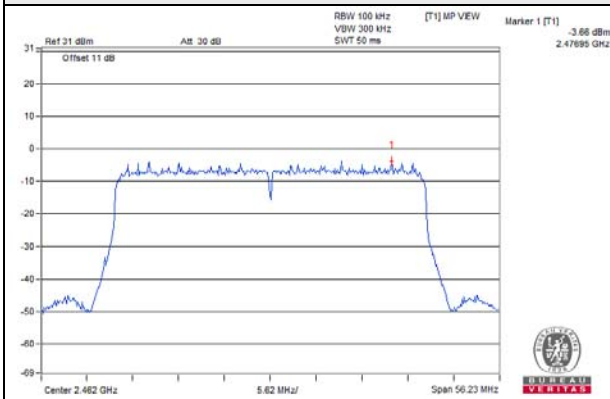
CH 9 Band edge



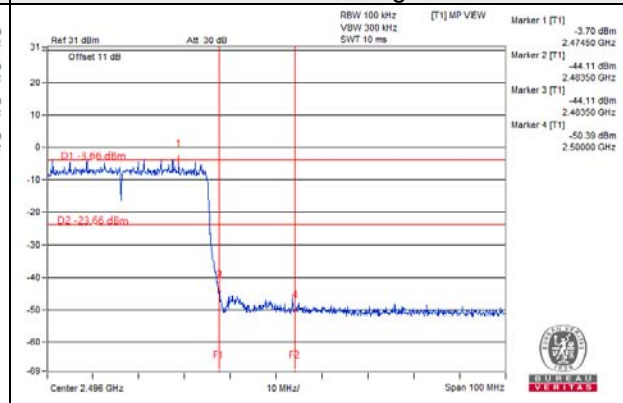
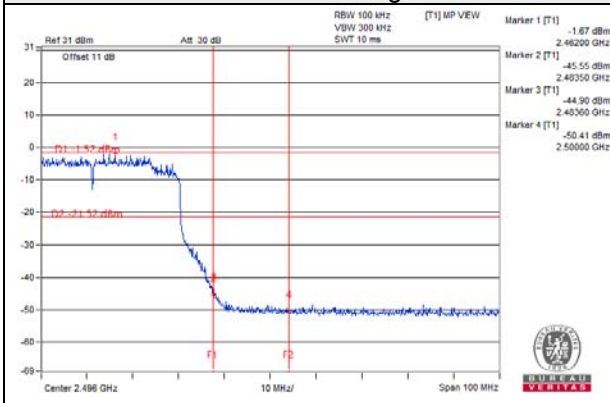
CH 10



CH 11



CH 10 Band edge

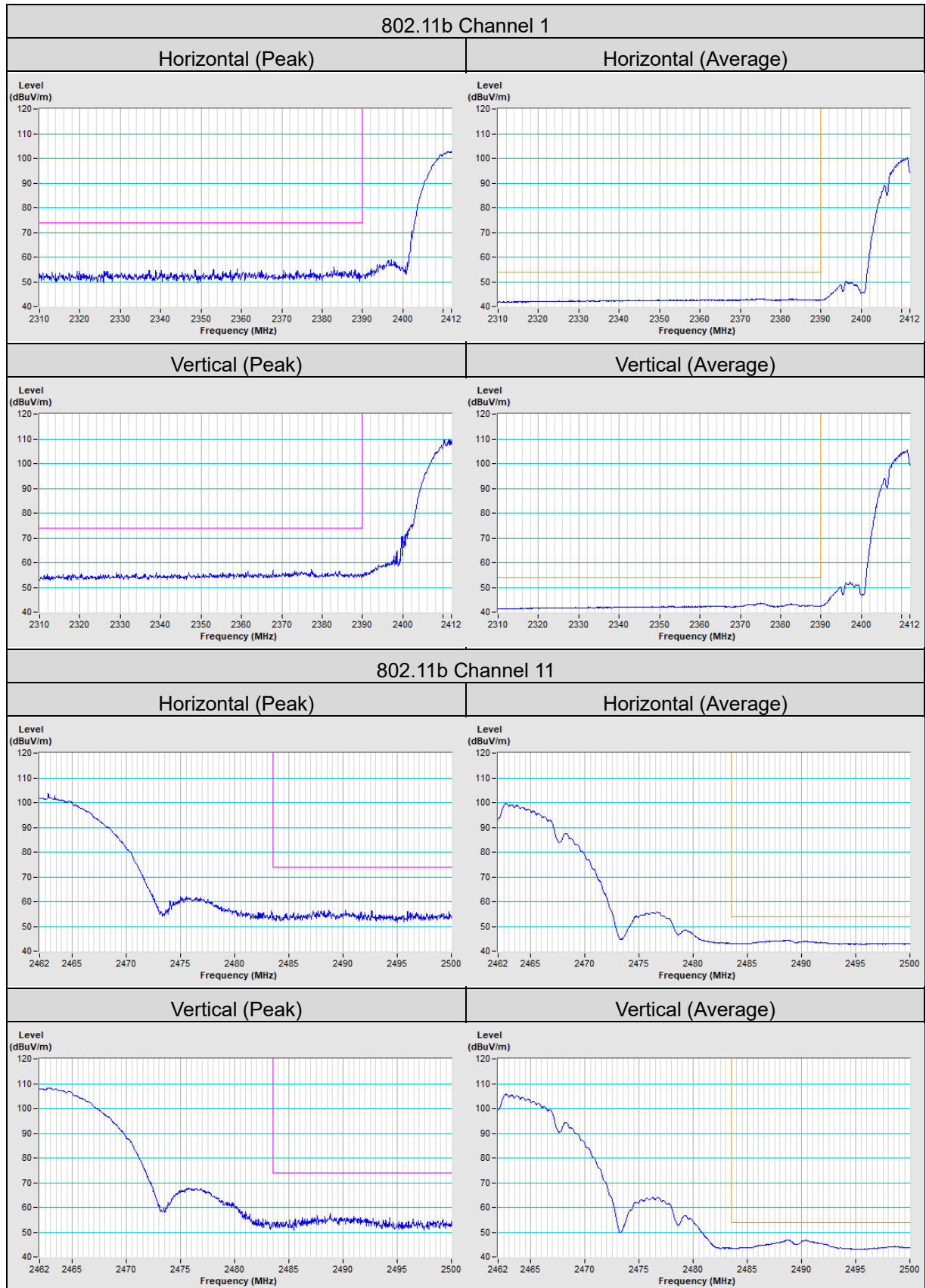


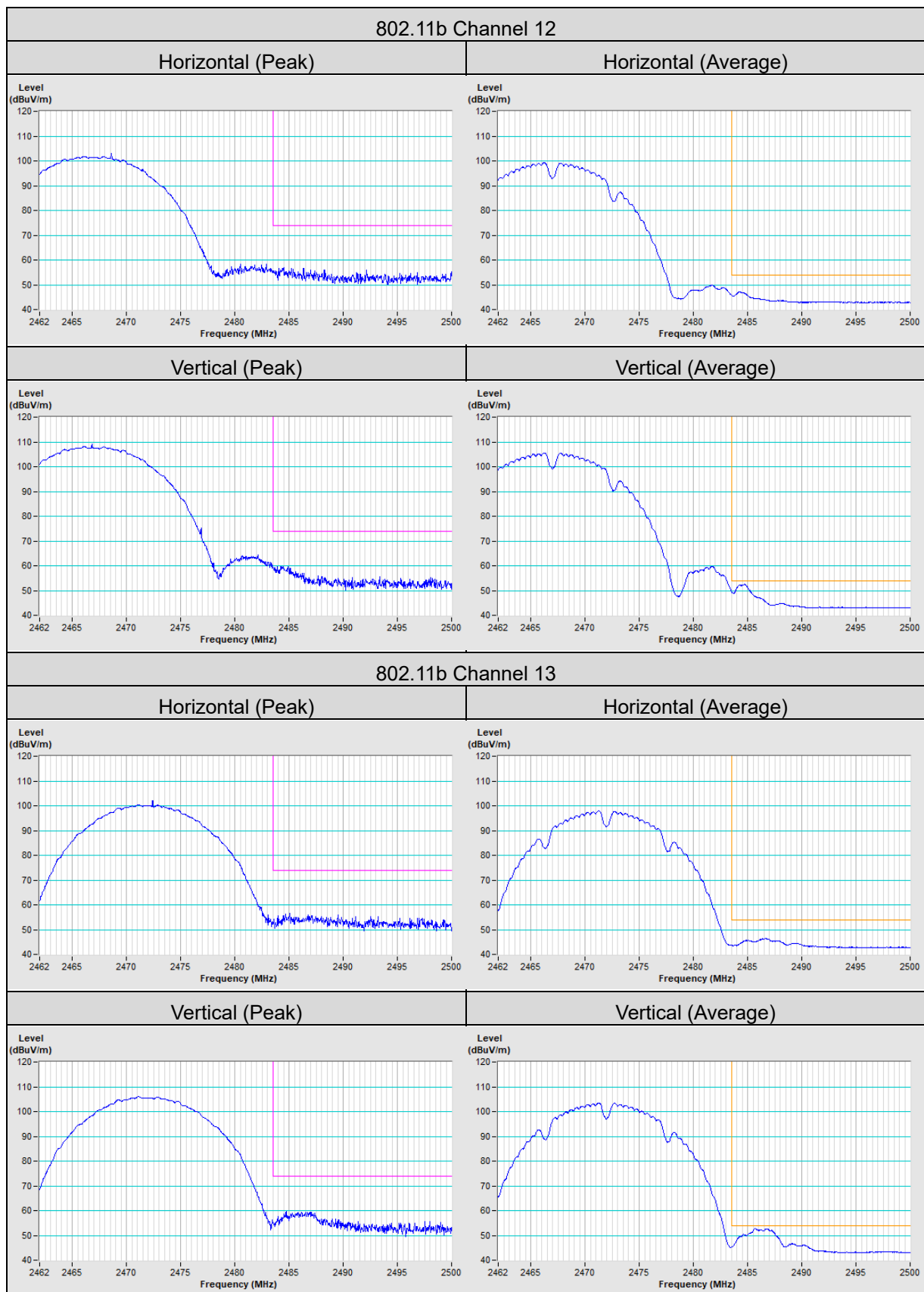
5 Pictures of Test Arrangements

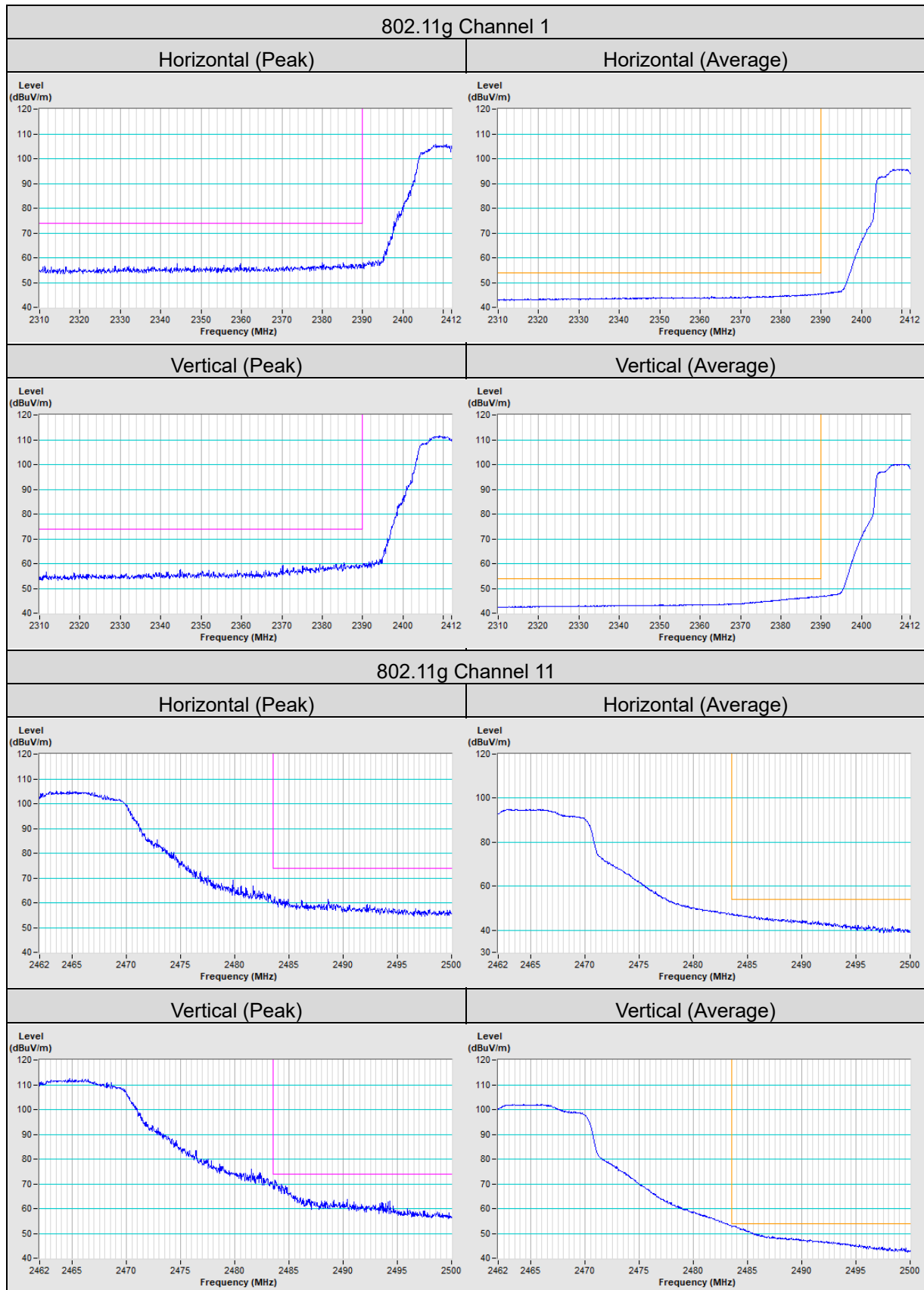
Please refer to the attached file (Test Setup Photo).

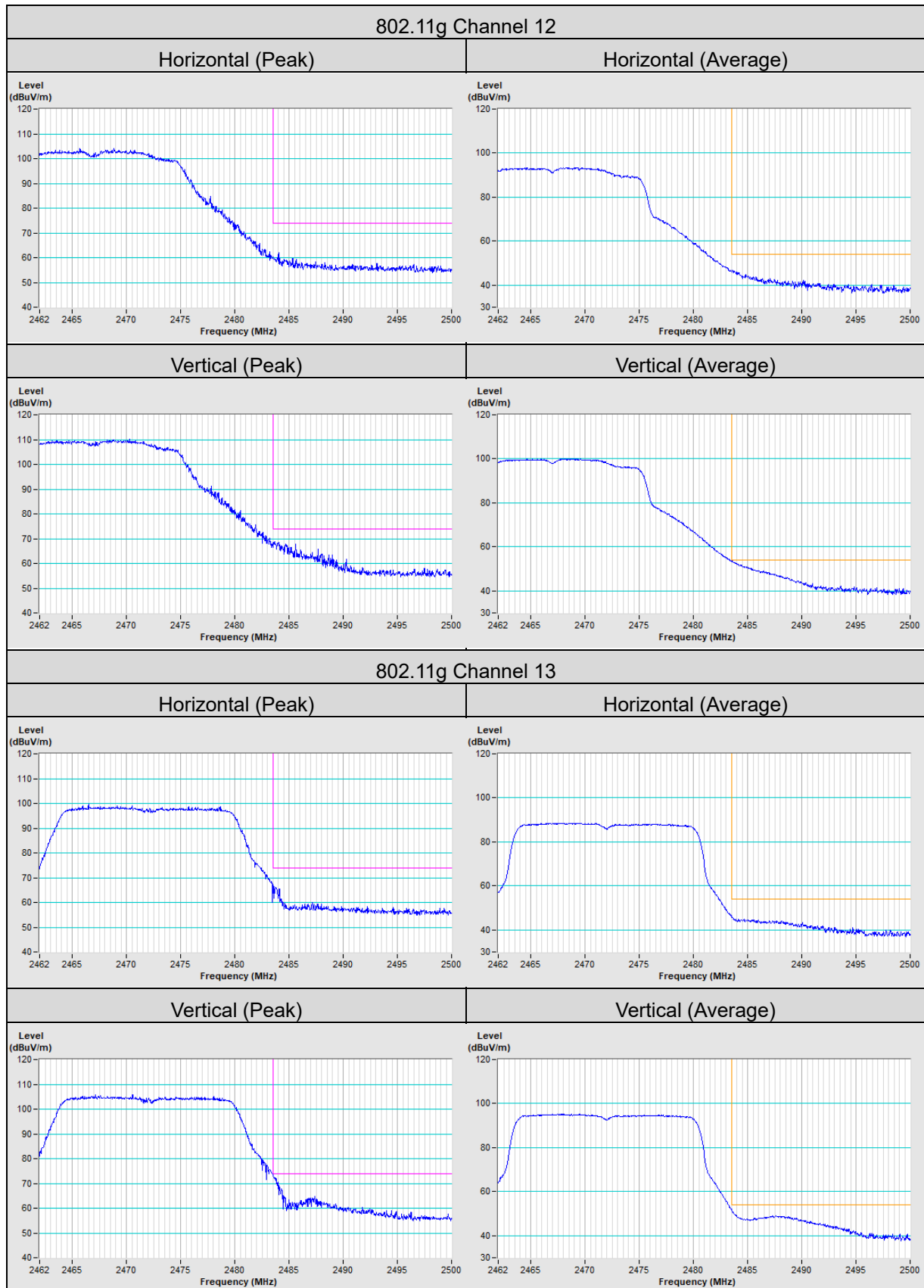
Annex A- Band Edge Measurement

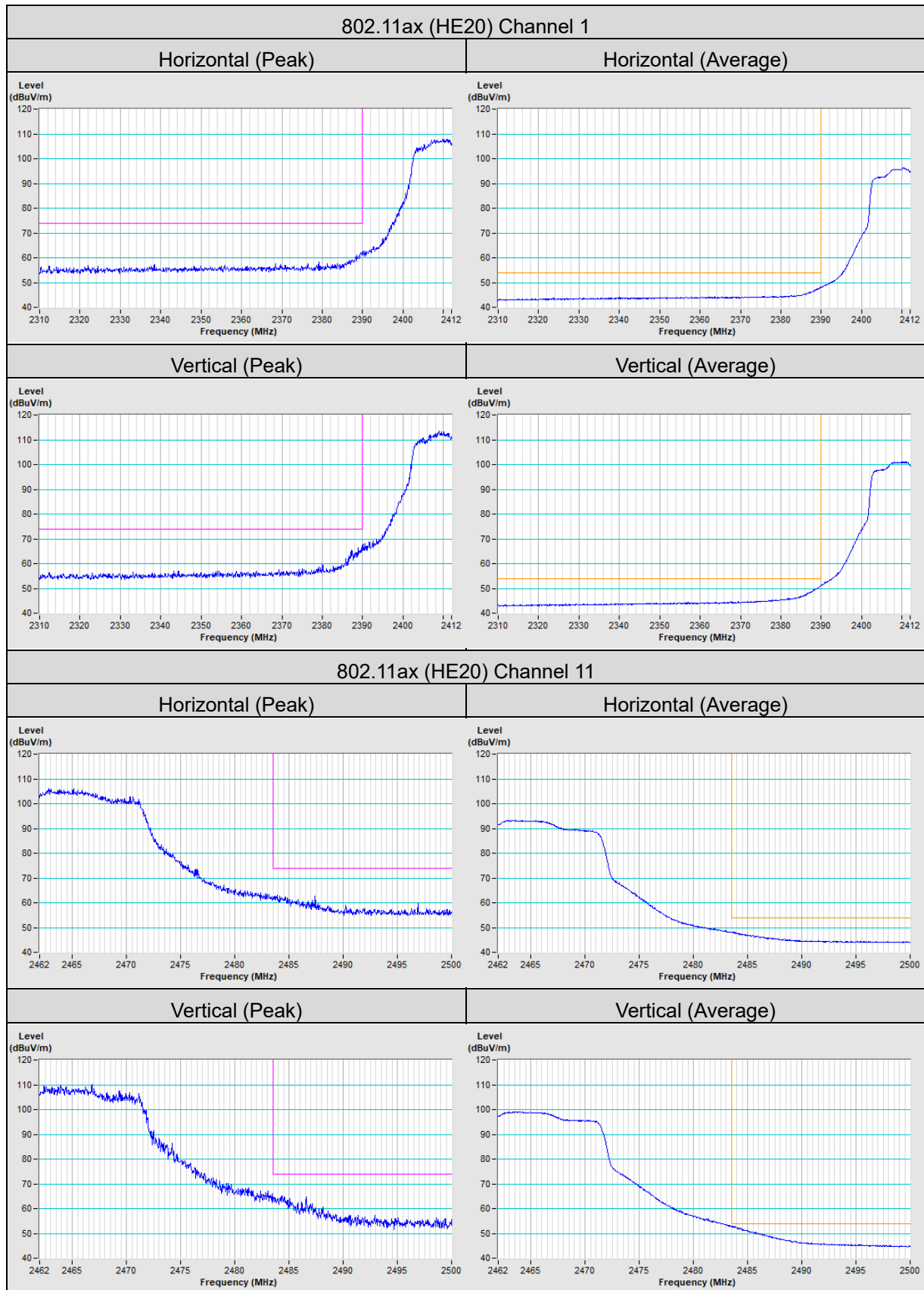
Full RU

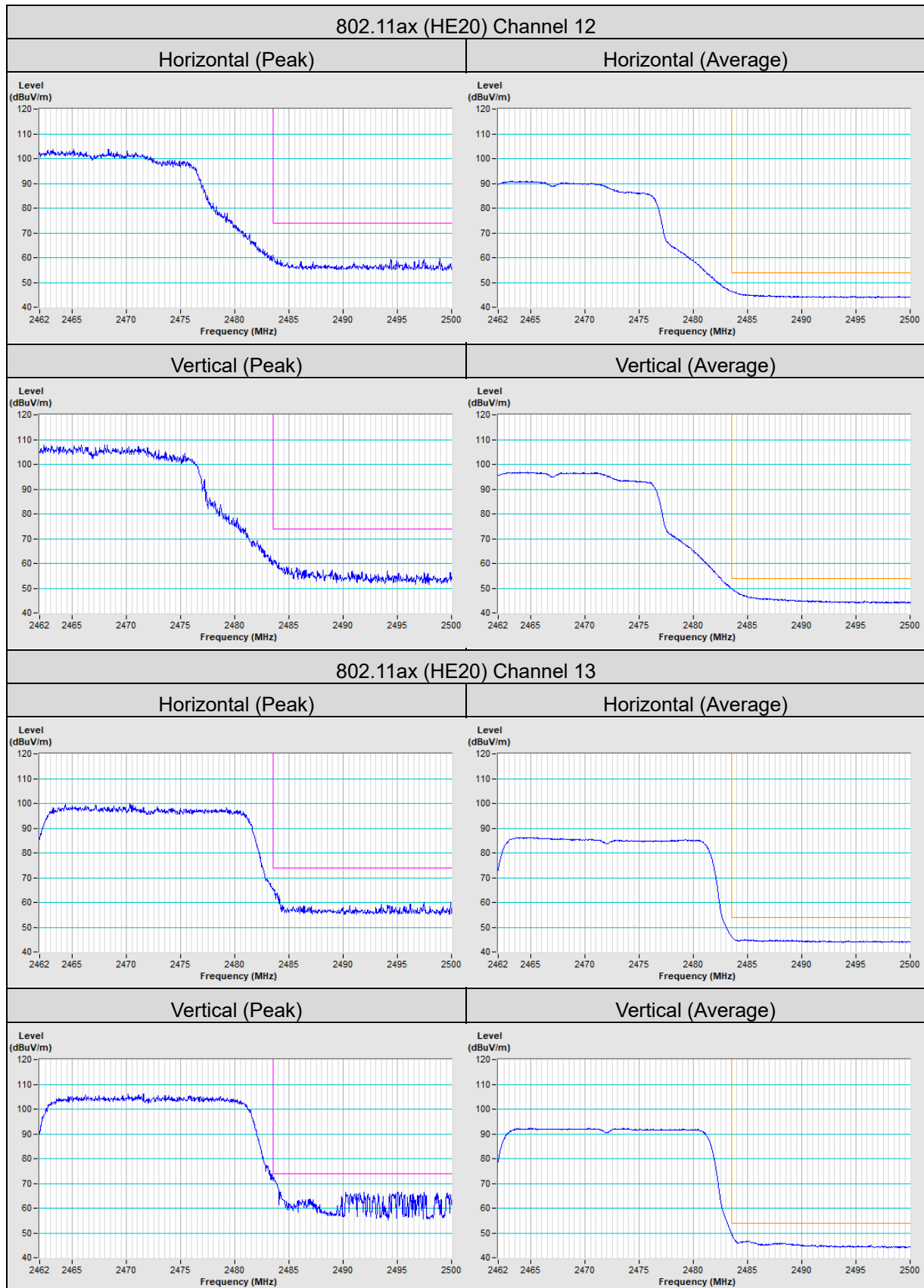






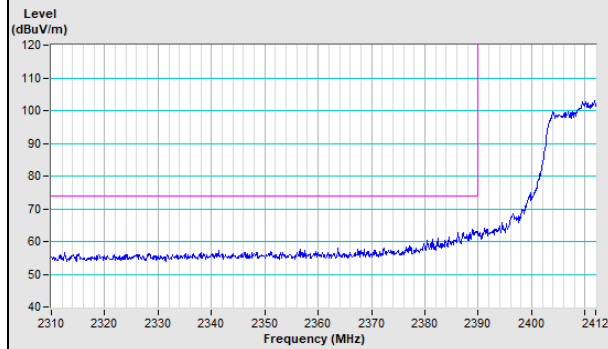




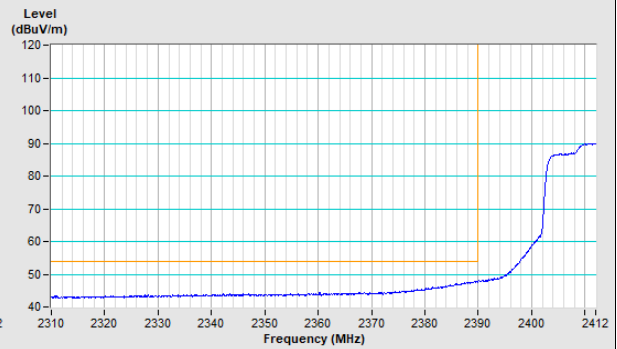


802.11ax (HE40) Channel 3

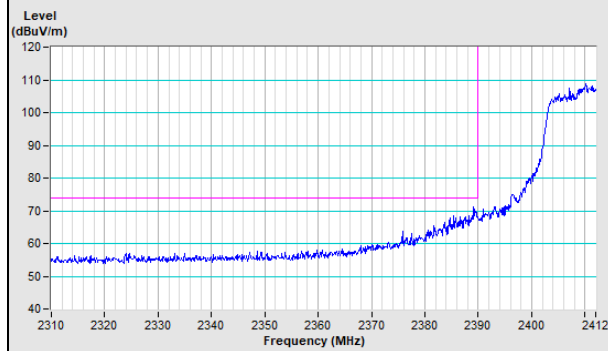
Horizontal (Peak)



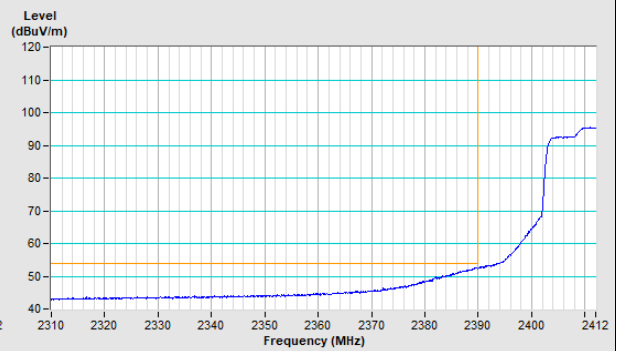
Horizontal (Average)



Vertical (Peak)

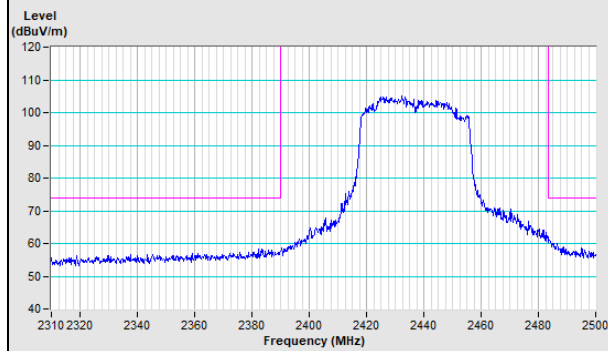


Vertical (Average)

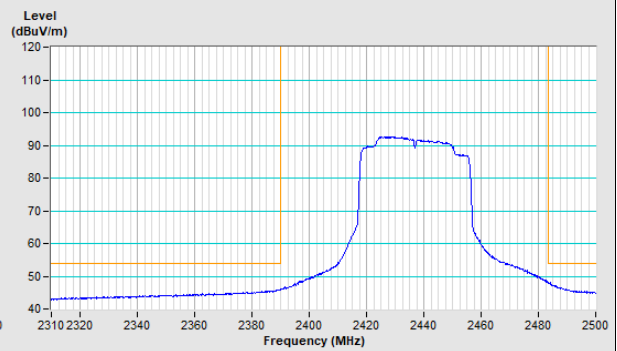


802.11ax (HE40) Channel 6

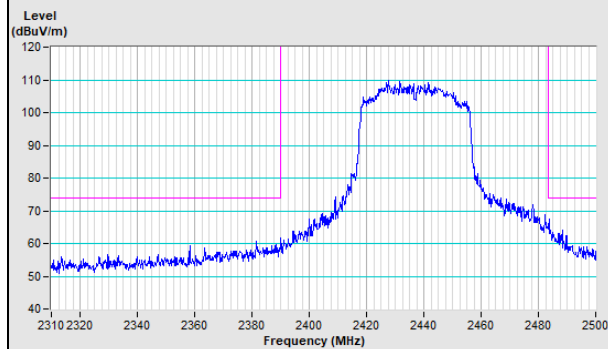
Horizontal (Peak)



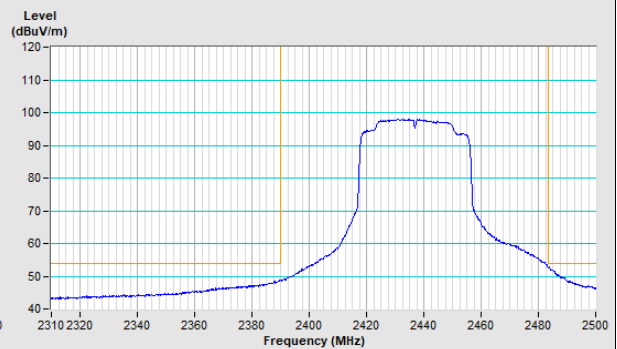
Horizontal (Average)

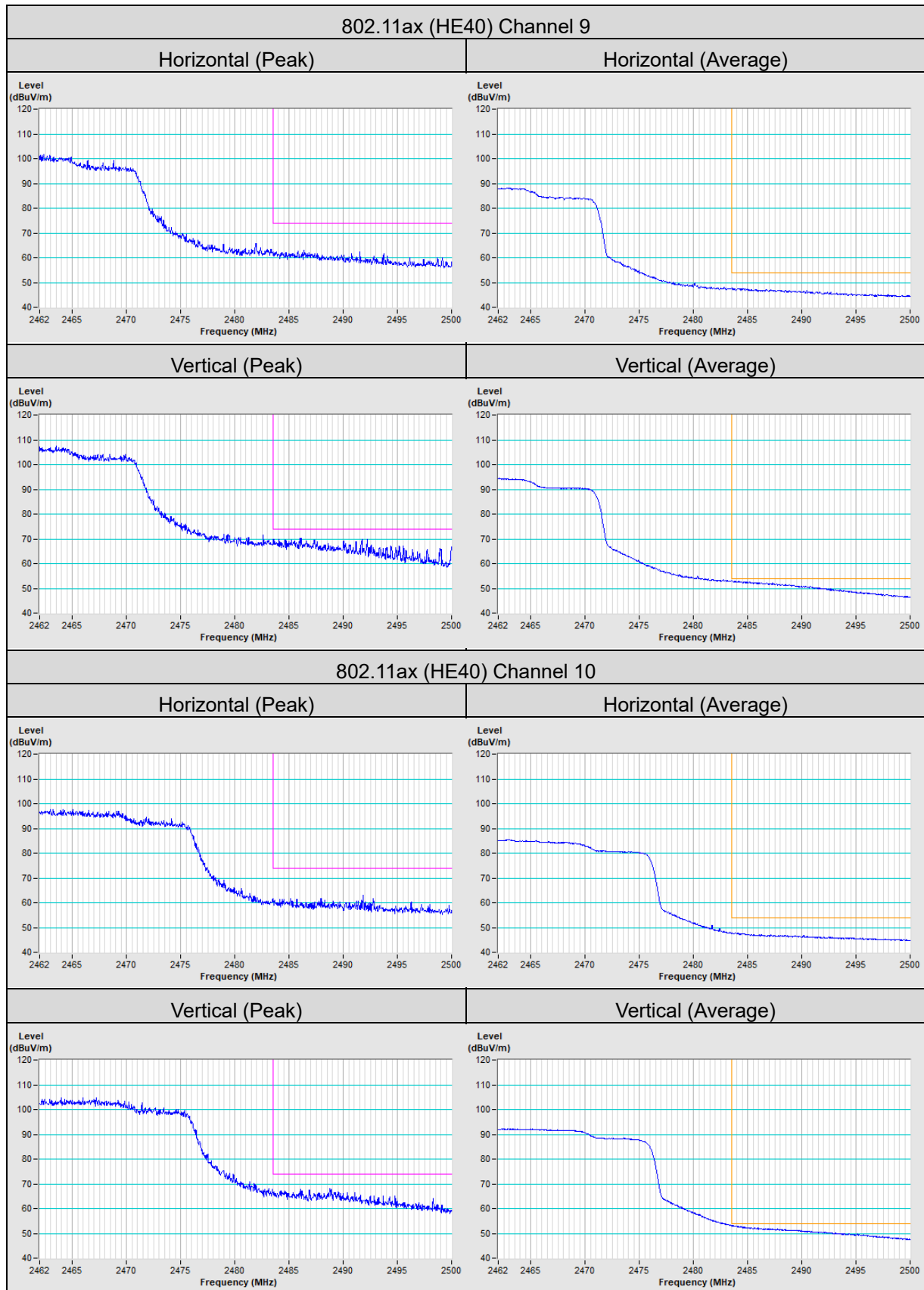


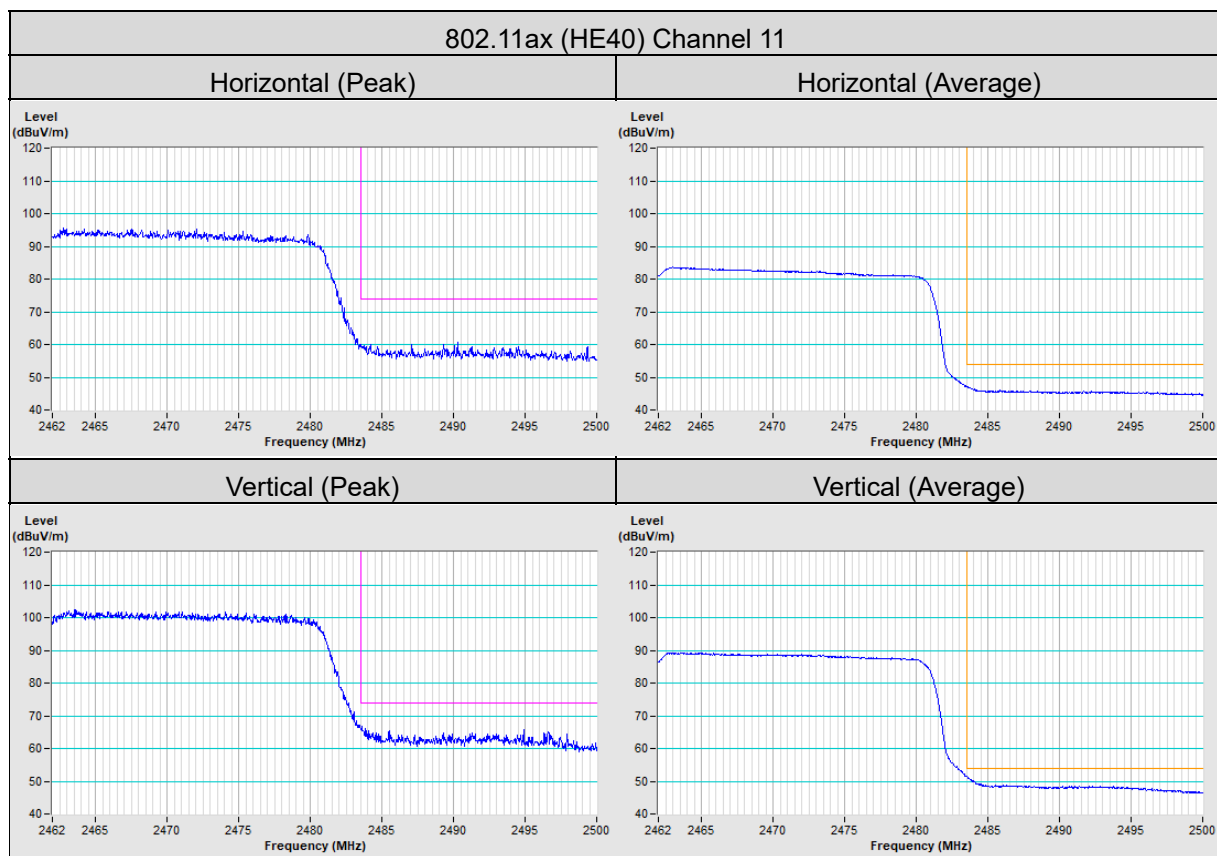
Vertical (Peak)



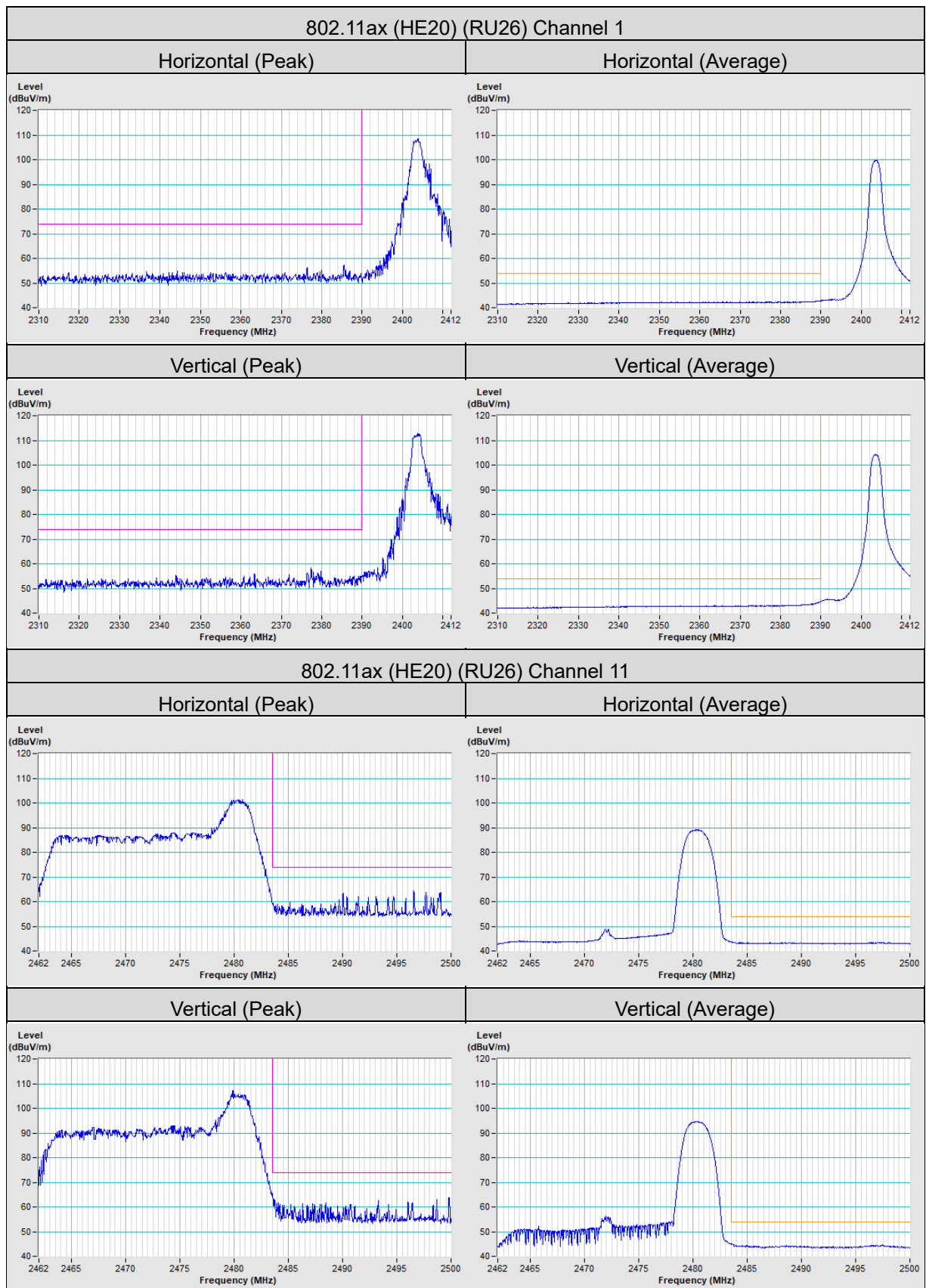
Vertical (Average)

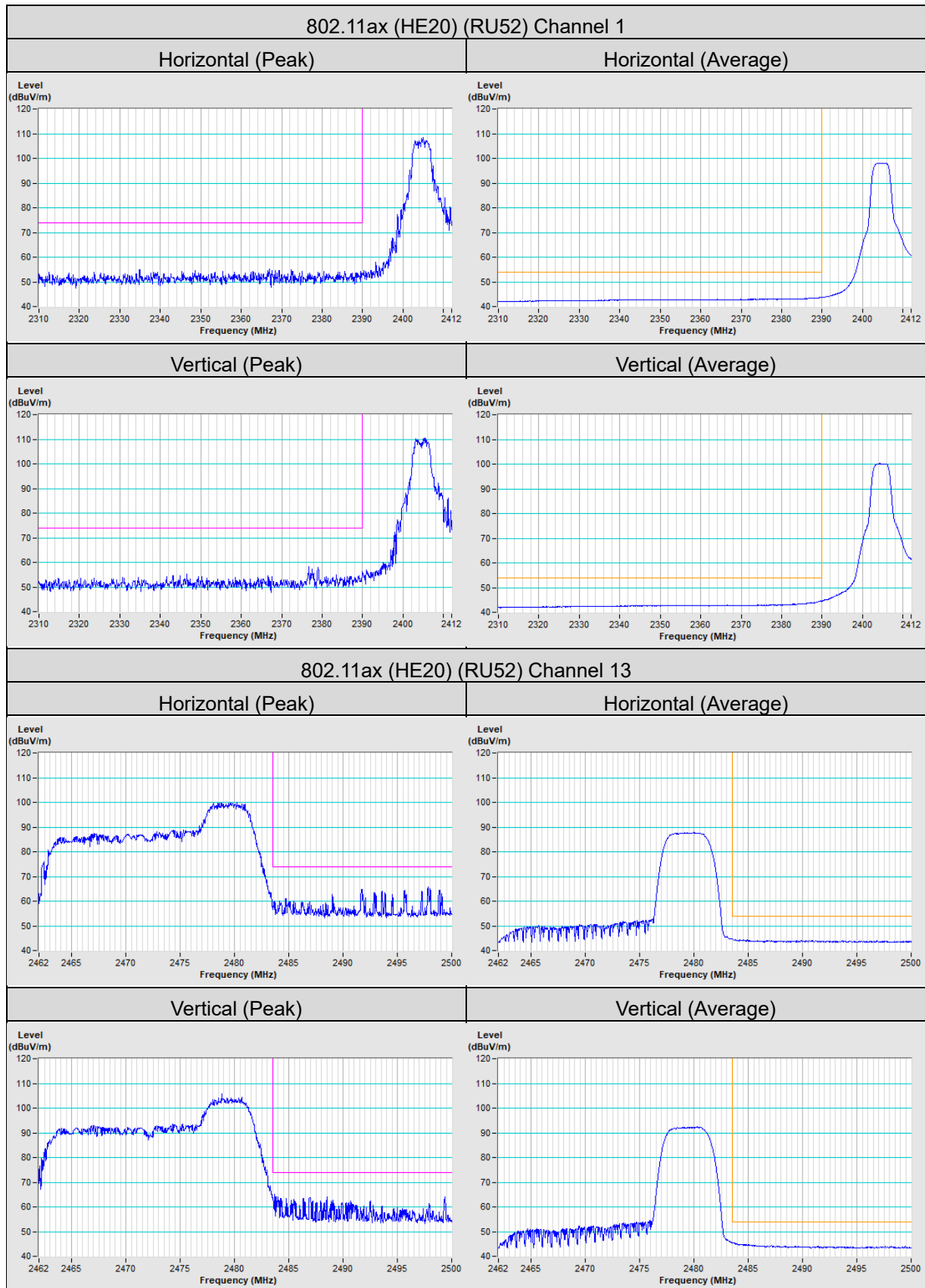


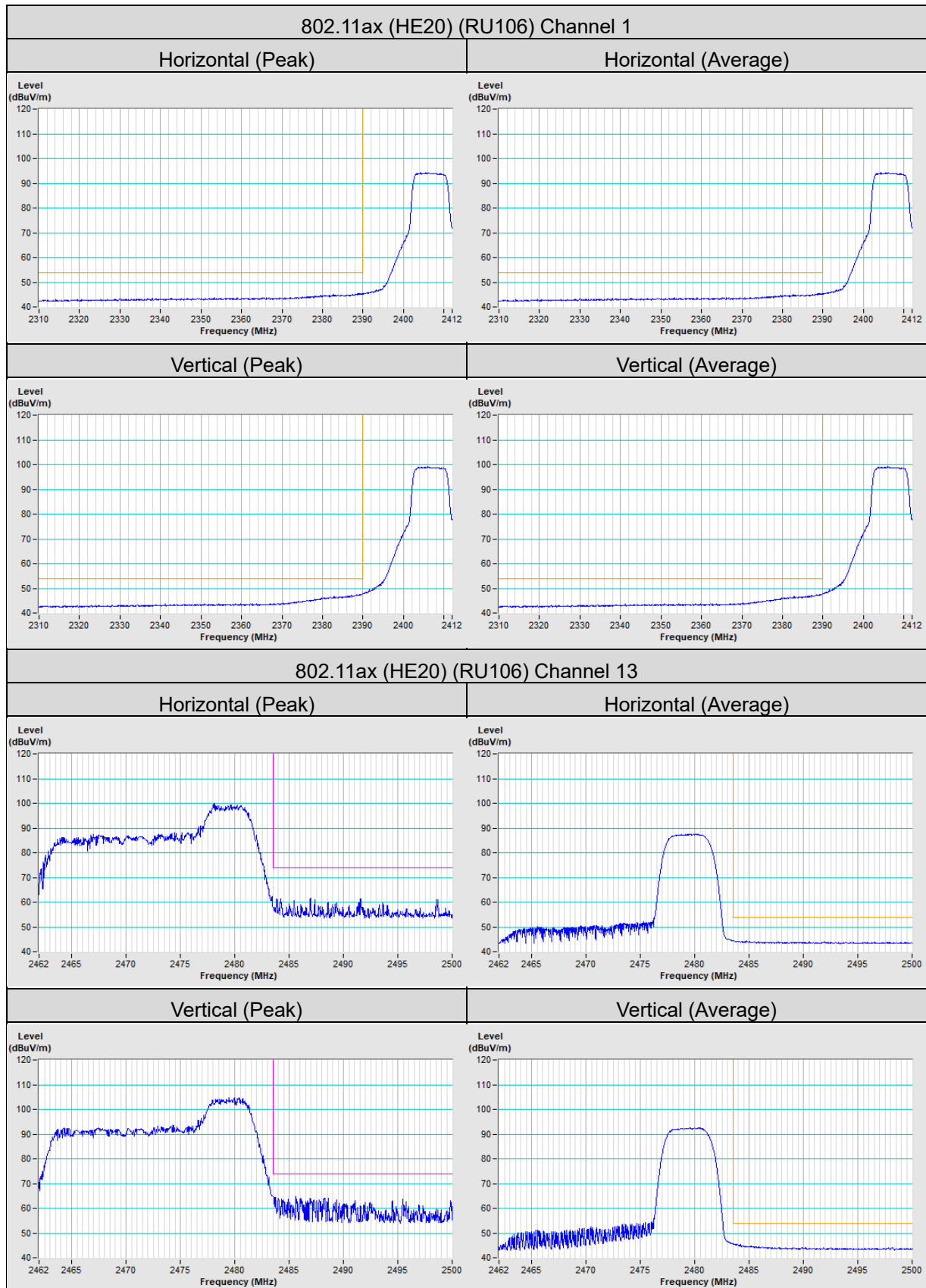


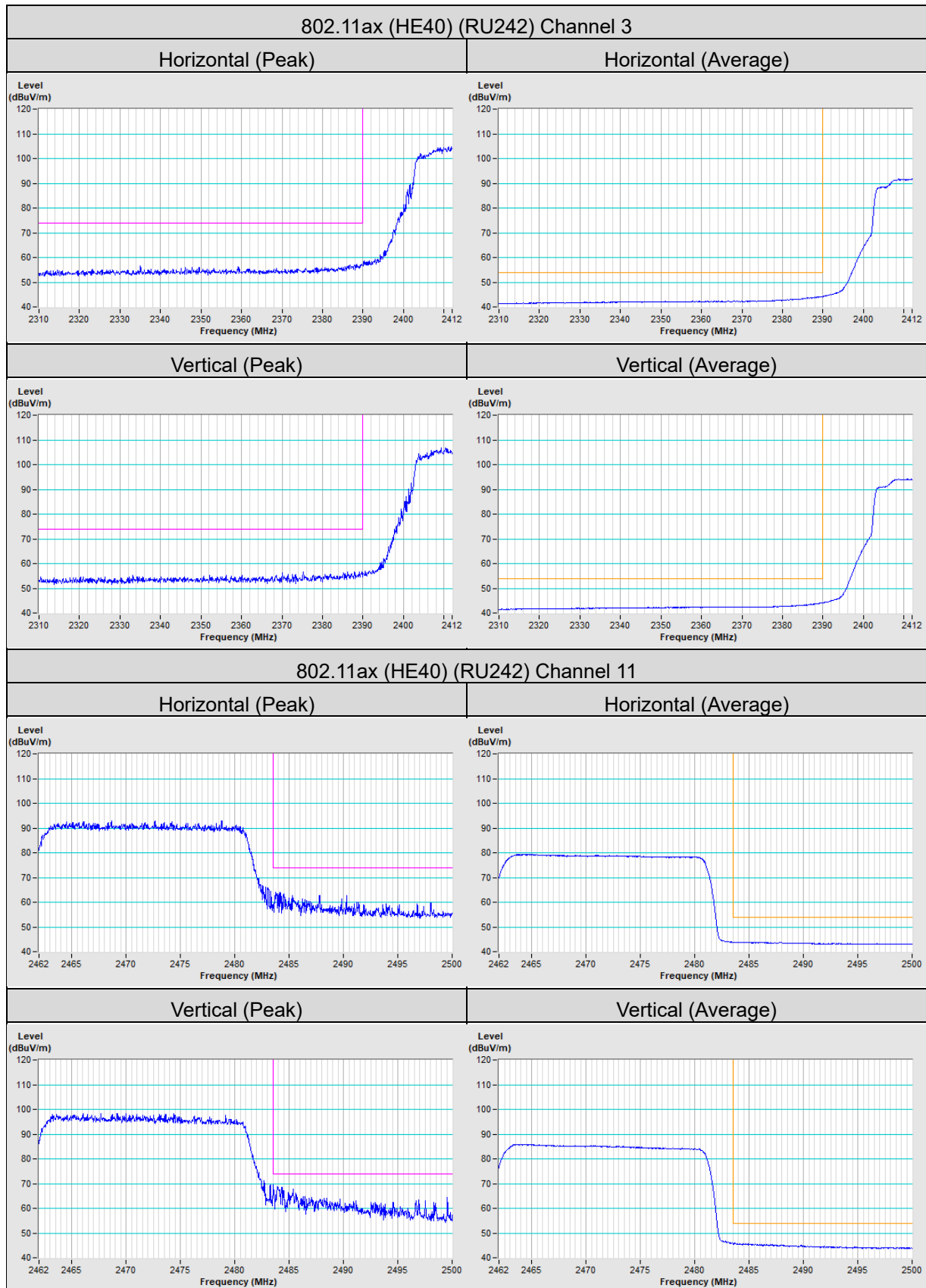


Partial RU









Appendix – 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 and approved according to ISO/IEC 17025.

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

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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