

FCC Test Report

Report No.: RFBCIB-WTW-P21090618

FCC ID: 2AA3N-TTR02

Test Model: PLTN-TTR01-2

Received Date: Sep. 15, 2021

Test Date: Sep. 24 ~ Oct. 20, 2021

Issued Date: Nov. 01, 2021

Applicant: Peloton Interactive Inc.

Address: 125 W 25th Street, 11th Floor, New York, NY, 10001, USA

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

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

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

FCC Registration / 788550 / TW0003
Designation Number:



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.

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	8
3.2.1 Test Mode Applicability and Tested Channel Detail	9
3.3 Duty Cycle of Test Signal	11
3.4 Description of Support Units	12
3.4.1 Configuration of System under Test	12
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	16
4.1.5 Test Setup	17
4.1.6 EUT Operating Conditions	18
4.1.7 Test Results	19
4.2 Conducted Emission Measurement	35
4.2.1 Limits of Conducted Emission Measurement	35
4.2.2 Test Instruments	35
4.2.3 Test Procedures	36
4.2.4 Deviation from Test Standard	36
4.2.5 Test Setup	36
4.2.6 EUT Operating Conditions	36
4.2.7 Test Results	37
4.3 6dB Bandwidth Measurement	41
4.3.1 Limits of 6dB Bandwidth Measurement	41
4.3.2 Test Setup	41
4.3.3 Test Instruments	41
4.3.4 Test Procedure	41
4.3.5 Deviation from Test Standard	41
4.3.6 EUT Operating Conditions	41
4.3.7 Test Result	42
4.4 Conducted Output Power Measurement	44
4.4.1 Limits of Conducted Output Power Measurement	44
4.4.2 Test Setup	44
4.4.3 Test Instruments	44
4.4.4 Test Procedures	44
4.4.5 Deviation from Test Standard	44
4.4.6 EUT Operating Conditions	44
4.4.7 Test Results	45
4.5 Power Spectral Density Measurement	47
4.5.1 Limits of Power Spectral Density Measurement	47
4.5.2 Test Setup	47
4.5.3 Test Instruments	47
4.5.4 Test Procedure	47
4.5.5 Deviation from Test Standard	47
4.5.6 EUT Operating Condition	47

4.5.7 Test Results	48
4.6 Conducted Out of Band Emission Measurement.....	51
4.6.1 Limits of Conducted Out of Band Emission Measurement	51
4.6.2 Test Setup.....	51
4.6.3 Test Instruments	51
4.6.4 Test Procedure	51
4.6.5 Deviation from Test Standard	51
4.6.6 EUT Operating Condition	51
4.6.7 Test Results	51
Annex A- Band Edge Measurement.....	60
5 Pictures of Test Arrangements.....	64
Appendix – Information of the Testing Laboratories	66

Release Control Record

Issue No.	Description	Date Issued
RFBCIB-WTW-P21090618	Original release	Nov. 01, 2021

1 Certificate of Conformity

Product: Peloton Tablet

Brand: PELOTON

Test Model: PLTN-TTR01-2

Sample Status: Engineering sample

Applicant: Peloton Interactive Inc.

Test Date: Sep. 24 ~ Oct. 20, 2021

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 : , **Date:** Nov. 01, 2021
Polly Chien / Specialist

Approved by : , **Date:** Nov. 01, 2021
Bruce Chen / Senior 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 -9.64dB at 0.21256MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -3.2dB at 4874.00MHz.
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(MHF) not a standard connector.

Note:

1. 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.
2. 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) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.59 dB
	200MHz ~ 1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Peloton Tablet
Brand	PELOTON
Test Model	PLTN-TTR01-2
Sample Status	Engineering sample
Power Supply Rating	20Vdc from adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11n (VHT20/40): up to 400Mbps
Operating Frequency	2412 ~ 2462MHz
Number of Channel	802.11b, 802.11g, 802.11n (VHT20), 802.11n (VHT20): 11 802.11n (VHT40), 802.11n (VHT40): 7
Output Power	219.305mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	NA
Cable Supplied	NA

Note:

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

Modulation Mode	TX Function
802.11b	2TX
802.11g	2TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX
802.11n (VHT20)	2TX
802.11n (VHT40)	2TX

2. The EUT consumes power from the following adapters (Support units).

Adapter 1	
Brand	PELOTON
Model	FSP065-APDC8R01
Input Power	100-240Vac, 50-60Hz, 1.7A
Output Power	5Vdc, 3A or 9Vdc, 3A or 20Vdc, 3.25A, 65W Max.
Power Line	AC: 1.7m non-shielded power cable without core DC: 1.5m non-shielded power cable without core attached on adapter

Adapter 2	
Brand	PELTON
Model	A20-065N5A
Input Power	100-240Vac, 50-60Hz, 1.7A
Output Power	5Vdc, 3A or 9Vdc, 3A or 20Vdc, 3.25A, 65W Max.
Power Line	AC: 1.7m non-shielded power cable without core DC: 1.5m non-shielded power cable without core attached on adapter

* After the pretesting, the adapter 1 is found to be the worst case test mode and chosen for final test.

3. The following antennas were provided to the EUT.

Ant. No.	Brand	Model	Type	Connector	Gain (dBi)	
					2.4G	5G
Main	Peloton	UI8(Topaz)	PIFA	i-pex(MHF)	-0.19	0.58
AUX	Peloton	UI8(Topaz)	PIFA	i-pex(MHF)	0.28	2.34

*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. Spurious emission of the simultaneous operation mode as below and the test data please refer to report no.: RFBCIB-WTW-P21090618-7.

No	Mode
1	WLAN 2.4GHz + WLAN 5GHz
2	BT + WLAN 5GHz
3	ANT+ + WLAN 5GHz

3.2 Description of Test Modes

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

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

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

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
A	√	√	√	√	EUT + Adapter
B	-	√	√	-	EUT + Exercise Bike + Adapter

Where RE $\geq$ 1G: Radiated Emission above 1GHz & Bandedge Measurement
PLC: Power Line Conducted Emission

RE<1G: Radiated Emission below 1GHz
APCM: Antenna Port Conducted Measurement

Note:

- For radiated emission (below 1GHz) and power line conducted emission test items chosen the worst maximum fundamental emission level channel.
- "-" means no effect.

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)	TX Function
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	2TX
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	2TX
A	802.11n (VHT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	2TX
A	802.11n (VHT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0	2TX

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)	TX Function
A, B	802.11g	1 to 11	6	OFDM	BPSK	6.0	2TX

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)	TX Function
A, B	802.11g	1 to 11	6	OFDM	BPSK	6.0	2TX

Antenna Port Conducted 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)	TX Function
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	2TX
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	2TX
A	802.11n (VHT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	2TX
A	802.11n (VHT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0	2TX

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	22 deg. C, 66% RH	120Vac, 60Hz	Rex Wang
RE<1G	19 deg. C, 66% RH	120Vac, 60Hz	Rex Wang
PLC	25 deg. C, 75% RH	120Vac, 60Hz	Rex Wang
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Wayne Lin

3.3 Duty Cycle of Test Signal

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

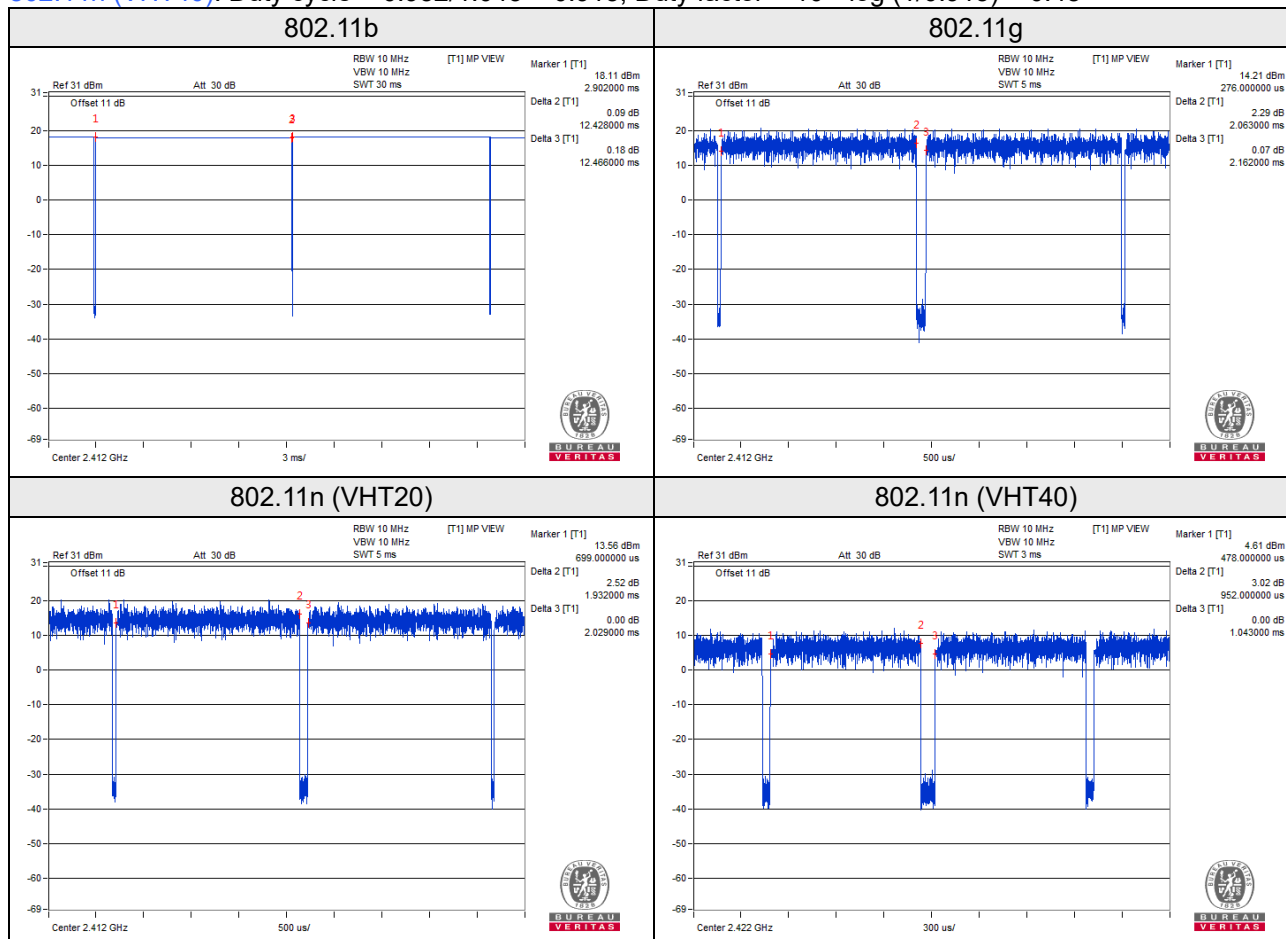
Duty cycle of test signal is $< 98\%$, duty factor is required.

802.11b: Duty cycle = $12.428/12.466 = 0.997$

802.11g: Duty cycle = $2.063/2.162 = 0.954$, Duty factor = $10 * \log(1/0.954) = 0.20$

802.11n (VHT20): Duty cycle = $1.932/2.029 = 0.952$, Duty factor = $10 * \log(1/0.952) = 0.21$

802.11n (VHT40): Duty cycle = $0.952/1.043 = 0.913$, Duty factor = $10 * \log(1/0.913) = 0.48$



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.

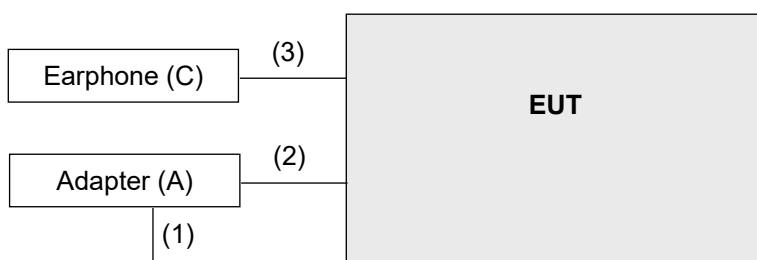
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Adapter	PELTON	FSP065-APDC8R01	NA	NA	Provided by manufacturer
B.	Peloton Bike	PELTON	PL-02	NA	NA	Provided by manufacturer
C.	Earphone	APPLE	MB770FEB	NA	NA	-

Note: All power cords of the above support units are non-shielded (1.8m).

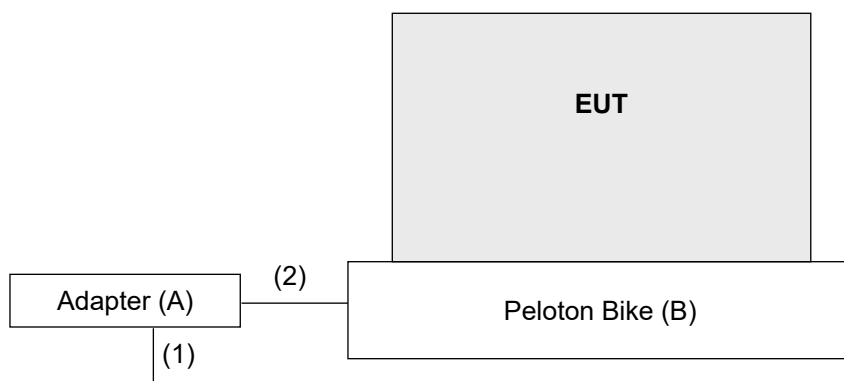
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	AC Power cable	1	1.7	N	0	Provided by manufacturer
2.	DC Power cable	1	1.5	N	0	Provided by manufacturer
3.	Earphone cable	1	1.2	Y	0	-

3.4.1 Configuration of System under Test

Test Mode A



Test Mode B



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
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 09, 2021	Apr. 08, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 10, 2021	Jun. 09, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 06, 2020	Nov. 05, 2021
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 22, 2020	Nov. 21, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jun. 05, 2021	Jun. 04, 2022
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 17, 2021	Feb. 16, 2022
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM80 00	CABLE-CH9-02 (248780+171006)	Jan. 16, 2021	Jan. 15, 2022
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jan. 16, 2021	Jan. 15, 2022
RF signal cable Woken	8D-FB	Cable-CH9-01	Jun. 05, 2021	Jun. 04, 2022
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	Jan. 19, 2021	Jan. 18, 2022
Wideband Power Sensor KEYSIGHT	N1923A	MY58020002	Jan. 11, 2021	Jan. 10, 2022

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 Chamber 9.

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:

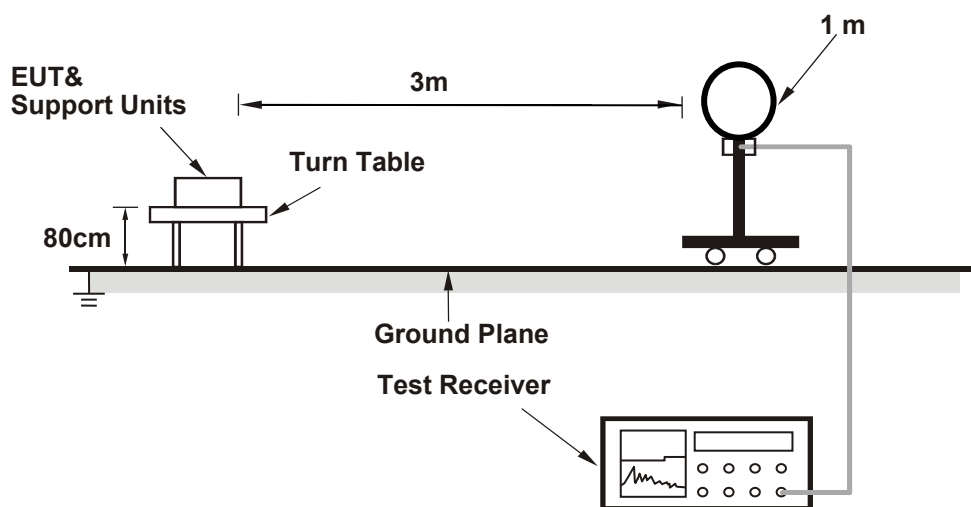
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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;
802.11n (VHT20): RBW = 1MHz, VBW = 1kHz; 802.11n (VHT40): RBW = 1MHz, VBW = 3kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

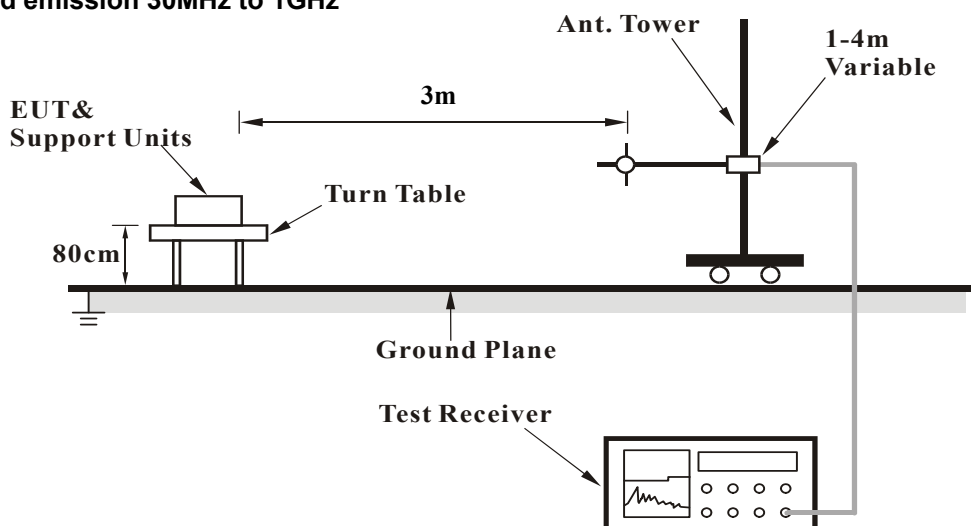
No deviation.

4.1.5 Test Setup

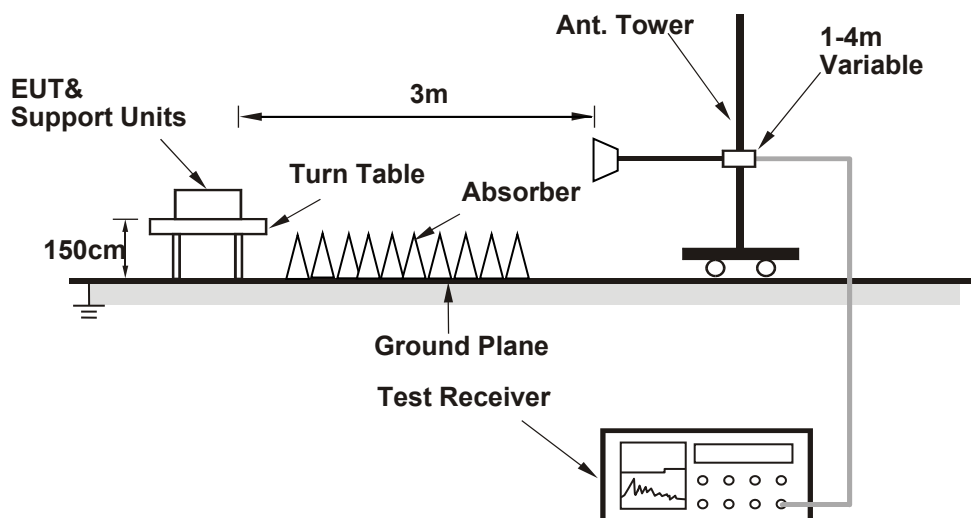
For Radiated emission below 30MHz



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 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	58.8 PK	74.0	-15.2	1.93 H	21	25.1	33.7
2	2390.00	46.4 AV	54.0	-7.6	1.93 H	21	12.7	33.7
3	*2412.00	110.6 PK			1.93 H	21	76.9	33.7
4	*2412.00	107.7 AV			1.93 H	21	74.0	33.7
5	4824.00	54.5 PK	74.0	-19.5	1.19 H	176	47.2	7.3
6	4824.00	50.3 AV	54.0	-3.7	1.19 H	176	43.0	7.3
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	58.7 PK	74.0	-15.3	2.86 V	217	25.0	33.7
2	2390.00	46.2 AV	54.0	-7.8	2.86 V	217	12.5	33.7
3	*2412.00	113.7 PK			2.86 V	217	80.0	33.7
4	*2412.00	110.7 AV			2.86 V	217	77.0	33.7
5	4824.00	54.7 PK	74.0	-19.3	1.15 V	92	47.4	7.3
6	4824.00	50.6 AV	54.0	-3.4	1.15 V	92	43.3	7.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	109.2 PK			1.73 H	21	75.6	33.6
2	*2437.00	106.1 AV			1.73 H	21	72.5	33.6
3	4874.00	54.5 PK	74.0	-19.5	1.35 H	178	47.2	7.3
4	4874.00	50.5 AV	54.0	-3.5	1.35 H	178	43.2	7.3
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	112.2 PK			2.79 V	217	78.6	33.6
2	*2437.00	109.2 AV			2.79 V	217	75.6	33.6
3	4874.00	55.3 PK	74.0	-18.7	1.00 V	94	48.0	7.3
4	4874.00	50.8 AV	54.0	-3.2	1.00 V	94	43.5	7.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	113.4 PK			1.55 H	34	79.7	33.7
2	*2462.00	110.5 AV			1.55 H	34	76.8	33.7
3	2483.50	59.2 PK	74.0	-14.8	1.55 H	34	25.5	33.7
4	2483.50	47.6 AV	54.0	-6.4	1.55 H	34	13.9	33.7
5	4924.00	53.5 PK	74.0	-20.5	1.46 H	46	46.2	7.3
6	4924.00	49.1 AV	54.0	-4.9	1.46 H	46	41.8	7.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	115.4 PK			2.71 V	160	81.7	33.7
2	*2462.00	112.5 AV			2.71 V	160	78.8	33.7
3	2483.50	59.0 PK	74.0	-15.0	2.71 V	160	25.3	33.7
4	2483.50	47.8 AV	54.0	-6.2	2.71 V	160	14.1	33.7
5	4924.00	53.9 PK	74.0	-20.1	1.16 V	92	46.6	7.3
6	4924.00	50.5 AV	54.0	-3.5	1.16 V	92	43.2	7.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	64.9 PK	74.0	-9.1	2.27 H	31	31.2	33.7
2	2390.00	48.5 AV	54.0	-5.5	2.27 H	31	14.8	33.7
3	*2412.00	108.4 PK			2.27 H	31	74.7	33.7
4	*2412.00	99.0 AV			2.27 H	31	65.3	33.7
5	4824.00	48.9 PK	74.0	-25.1	1.32 H	172	41.6	7.3
6	4824.00	35.8 AV	54.0	-18.2	1.32 H	172	28.5	7.3
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	69.5 PK	74.0	-4.5	2.82 V	219	35.8	33.7
2	2390.00	50.7 AV	54.0	-3.3	2.82 V	219	17.0	33.7
3	*2412.00	111.0 PK			2.82 V	219	77.3	33.7
4	*2412.00	101.1 AV			2.82 V	219	67.4	33.7
5	4824.00	49.8 PK	74.0	-24.2	1.11 V	95	42.5	7.3
6	4824.00	36.0 AV	54.0	-18.0	1.11 V	95	28.7	7.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	2390.00	62.5 PK	74.0	-11.5	1.75 H	33	28.8	33.7
2	2390.00	48.6 AV	54.0	-5.4	1.75 H	33	14.9	33.7
3	*2437.00	114.3 PK			1.75 H	33	80.7	33.6
4	*2437.00	104.9 AV			1.75 H	33	71.3	33.6
5	2483.50	60.8 PK	74.0	-13.2	1.75 H	33	27.1	33.7
6	2483.50	49.2 AV	54.0	-4.8	1.75 H	33	15.5	33.7
7	4874.00	50.1 PK	74.0	-23.9	1.37 H	181	42.8	7.3
8	4874.00	38.0 AV	54.0	-16.0	1.37 H	181	30.7	7.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	64.6 PK	74.0	-9.4	2.70 V	221	30.9	33.7
2	2390.00	50.7 AV	54.0	-3.3	2.70 V	221	17.0	33.7
3	*2437.00	115.6 PK			2.70 V	221	82.0	33.6
4	*2437.00	106.3 AV			2.70 V	221	72.7	33.6
5	2483.50	59.7 PK	74.0	-14.3	2.70 V	221	26.0	33.7
6	2483.50	49.1 AV	54.0	-4.9	2.70 V	221	15.4	33.7
7	4874.00	50.7 PK	74.0	-23.3	1.13 V	88	43.4	7.3
8	4874.00	39.5 AV	54.0	-14.5	1.13 V	88	32.2	7.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	109.3 PK			2.15 H	32	75.6	33.7
2	*2462.00	100.2 AV			2.15 H	32	66.5	33.7
3	2483.50	63.2 PK	74.0	-10.8	2.15 H	32	29.5	33.7
4	2483.50	50.1 AV	54.0	-3.9	2.15 H	32	16.4	33.7
5	4924.00	48.8 PK	74.0	-25.2	1.23 H	169	41.5	7.3
6	4924.00	35.9 AV	54.0	-18.1	1.23 H	169	28.6	7.3
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	111.6 PK			2.68 V	220	77.9	33.7
2	*2462.00	102.1 AV			2.68 V	220	68.4	33.7
3	2483.50	66.2 PK	74.0	-7.8	2.68 V	220	32.5	33.7
4	2483.50	50.7 AV	54.0	-3.3	2.68 V	220	17.0	33.7
5	4924.00	49.6 PK	74.0	-24.4	1.22 V	95	42.3	7.3
6	4924.00	36.2 AV	54.0	-17.8	1.22 V	95	28.9	7.3

Remarks:

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

RF Mode	TX 802.11n (VHT20)	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	66.3 PK	74.0	-7.7	2.21 H	31	32.6	33.7
2	2390.00	50.6 AV	54.0	-3.4	2.21 H	31	16.9	33.7
3	*2412.00	108.3 PK			2.21 H	31	74.6	33.7
4	*2412.00	98.8 AV			2.21 H	31	65.1	33.7
5	4824.00	49.9 PK	74.0	-24.1	1.26 H	178	42.6	7.3
6	4824.00	35.6 AV	54.0	-18.4	1.26 H	178	28.3	7.3
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	68.3 PK	74.0	-5.7	2.57 V	220	34.6	33.7
2	2390.00	50.7 AV	54.0	-3.3	2.57 V	220	17.0	33.7
3	*2412.00	110.0 PK			2.57 V	220	76.3	33.7
4	*2412.00	99.8 AV			2.57 V	220	66.1	33.7
5	4824.00	50.6 PK	74.0	-23.4	1.10 V	90	43.3	7.3
6	4824.00	36.2 AV	54.0	-17.8	1.10 V	90	28.9	7.3

Remarks:

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

RF Mode	TX 802.11n (VHT20)	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	2390.00	65.5 PK	74.0	-8.5	1.57 H	35	31.8	33.7
2	2390.00	48.1 AV	54.0	-5.9	1.57 H	35	14.4	33.7
3	*2437.00	112.1 PK			1.57 H	35	78.5	33.6
4	*2437.00	103.4 AV			1.57 H	35	69.8	33.6
5	2483.50	60.3 PK	74.0	-13.7	1.57 H	35	26.6	33.7
6	2483.50	48.7 AV	54.0	-5.3	1.57 H	35	15.0	33.7
7	4874.00	50.8 PK	74.0	-23.2	1.33 H	177	43.5	7.3
8	4874.00	37.7 AV	54.0	-16.3	1.33 H	177	30.4	7.3

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	66.9 PK	74.0	-7.1	2.83 V	220	33.2	33.7
2	2390.00	50.7 AV	54.0	-3.3	2.83 V	220	17.0	33.7
3	*2437.00	115.4 PK			2.83 V	220	81.8	33.6
4	*2437.00	106.0 AV			2.83 V	220	72.4	33.6
5	2483.50	59.9 PK	74.0	-14.1	2.83 V	220	26.2	33.7
6	2483.50	48.8 AV	54.0	-5.2	2.83 V	220	15.1	33.7
7	4874.00	50.1 PK	74.0	-23.9	1.17 V	98	42.8	7.3
8	4874.00	39.7 AV	54.0	-14.3	1.17 V	98	32.4	7.3

Remarks:

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

RF Mode	TX 802.11n (VHT20)	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	107.0 PK			1.75 H	33	73.3	33.7
2	*2462.00	97.7 AV			1.75 H	33	64.0	33.7
3	2483.50	64.1 PK	74.0	-9.9	1.75 H	33	30.4	33.7
4	2483.50	50.3 AV	54.0	-3.7	1.75 H	33	16.6	33.7
5	4924.00	48.7 PK	74.0	-25.3	1.22 H	70	41.4	7.3
6	4924.00	34.8 AV	54.0	-19.2	1.22 H	70	27.5	7.3
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	109.9 PK			2.64 V	220	76.2	33.7
2	*2462.00	100.1 AV			2.64 V	220	66.4	33.7
3	2483.50	64.5 PK	74.0	-9.5	2.64 V	220	30.8	33.7
4	2483.50	50.6 AV	54.0	-3.4	2.64 V	220	16.9	33.7
5	4924.00	48.9 PK	74.0	-25.1	1.19 V	92	41.6	7.3
6	4924.00	35.1 AV	54.0	-18.9	1.19 V	92	27.8	7.3

Remarks:

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

RF Mode	TX 802.11n (VHT40)	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	61.7 PK	74.0	-12.3	2.08 H	52	28.0	33.7
2	2390.00	48.7 AV	54.0	-5.3	2.08 H	52	15.0	33.7
3	*2422.00	100.2 PK			2.08 H	52	66.5	33.7
4	*2422.00	91.1 AV			2.08 H	52	57.4	33.7
5	4844.00	48.9 PK	74.0	-25.1	1.36 H	174	41.6	7.3
6	4844.00	35.3 AV	54.0	-18.7	1.36 H	174	28.0	7.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.2 PK	74.0	-10.8	2.43 V	222	29.5	33.7
2	2390.00	50.5 AV	54.0	-3.5	2.43 V	222	16.8	33.7
3	*2422.00	104.1 PK			2.43 V	222	70.4	33.7
4	*2422.00	94.1 AV			2.43 V	222	60.4	33.7
5	4844.00	49.5 PK	74.0	-24.5	1.13 V	94	42.2	7.3
6	4844.00	35.6 AV	54.0	-18.4	1.13 V	94	28.3	7.3

Remarks:

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

RF Mode	TX 802.11n (VHT40)	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	2390.00	59.8 PK	74.0	-14.2	1.80 H	35	26.1	33.7
2	2390.00	47.4 AV	54.0	-6.6	1.80 H	35	13.7	33.7
3	*2437.00	101.9 PK			1.80 H	35	68.3	33.6
4	*2437.00	92.6 AV			1.80 H	35	59.0	33.6
5	2483.50	58.5 PK	74.0	-15.5	1.80 H	35	24.8	33.7
6	2483.50	48.3 AV	54.0	-5.7	1.80 H	35	14.6	33.7
7	4874.00	48.1 PK	74.0	-25.9	1.36 H	174	40.8	7.3
8	4874.00	34.8 AV	54.0	-19.2	1.36 H	174	27.5	7.3
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	65.3 PK	74.0	-8.7	2.76 V	221	31.6	33.7
2	2390.00	50.4 AV	54.0	-3.6	2.76 V	221	16.7	33.7
3	*2437.00	105.8 PK			2.76 V	221	72.2	33.6
4	*2437.00	95.6 AV			2.76 V	221	62.0	33.6
5	2483.50	58.8 PK	74.0	-15.2	2.76 V	221	25.1	33.7
6	2483.50	48.8 AV	54.0	-5.2	2.76 V	221	15.1	33.7
7	4874.00	49.1 PK	74.0	-24.9	1.12 V	97	41.8	7.3
8	4874.00	35.1 AV	54.0	-18.9	1.12 V	97	27.8	7.3

Remarks:

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

RF Mode	TX 802.11n (VHT40)	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	102.5 PK			2.17 H	31	68.8	33.7
2	*2452.00	93.6 AV			2.17 H	31	59.9	33.7
3	2483.50	58.8 PK	74.0	-15.2	2.17 H	31	25.1	33.7
4	2483.50	48.5 AV	54.0	-5.5	2.17 H	31	14.8	33.7
5	4904.00	48.2 PK	74.0	-25.8	1.44 H	56	41.0	7.2
6	4904.00	34.8 AV	54.0	-19.2	1.44 H	56	27.6	7.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	105.0 PK			2.77 V	151	71.3	33.7
2	*2452.00	95.2 AV			2.77 V	151	61.5	33.7
3	2483.50	61.4 PK	74.0	-12.6	2.77 V	151	27.7	33.7
4	2483.50	50.7 AV	54.0	-3.3	2.77 V	151	17.0	33.7
5	4904.00	48.5 PK	74.0	-25.5	1.09 V	103	41.3	7.2
6	4904.00	35.1 AV	54.0	-18.9	1.09 V	103	27.9	7.2

Remarks:

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

Below 1GHz worst-case data:

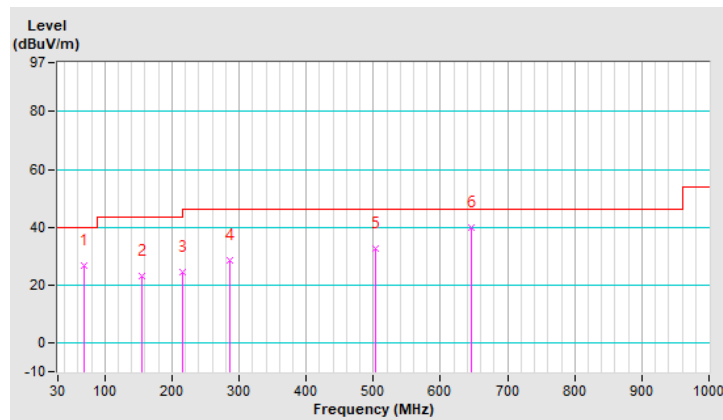
802.11g

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

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	69.77	26.9 QP	40.0	-13.1	1.00 H	227	37.8	-10.9
2	156.10	22.9 QP	43.5	-20.6	1.50 H	113	31.4	-8.5
3	215.27	24.3 QP	43.5	-19.2	1.00 H	195	35.3	-11.0
4	287.05	28.5 QP	46.0	-17.5	1.00 H	166	35.6	-7.1
5	502.39	32.7 QP	46.0	-13.3	1.25 H	196	35.0	-2.3
6	645.95	39.9 QP	46.0	-6.1	1.00 H	40	39.2	0.7

Remarks:

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

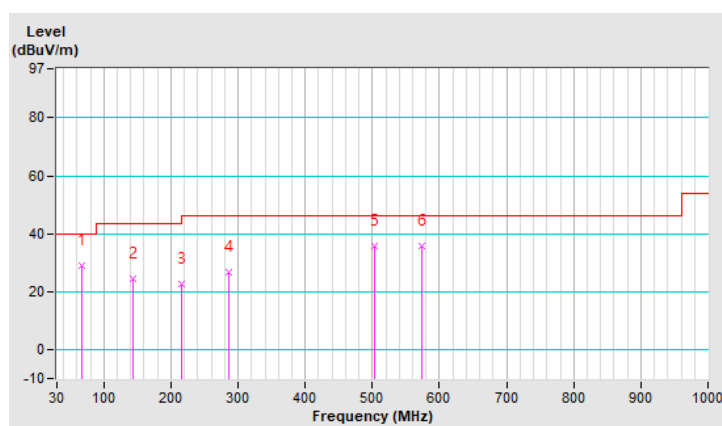


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

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	67.83	29.1 QP	40.0	-10.9	2.00 V	342	39.5	-10.4
2	143.49	24.6 QP	43.5	-18.9	1.00 V	120	33.5	-8.9
3	215.27	22.7 QP	43.5	-20.8	1.50 V	232	33.7	-11.0
4	287.05	26.8 QP	46.0	-19.2	1.25 V	308	33.9	-7.1
5	502.39	36.0 QP	46.0	-10.0	1.00 V	303	38.3	-2.3
6	574.17	35.8 QP	46.0	-10.2	1.00 V	230	36.7	-0.9

Remarks:

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

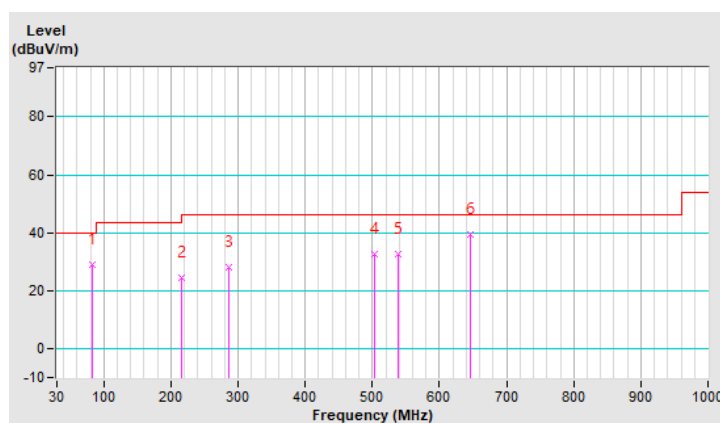


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

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	82.38	29.0 QP	40.0	-11.0	1.00 H	319	43.0	-14.0
2	215.27	24.3 QP	43.5	-19.2	2.00 H	232	35.3	-11.0
3	287.05	28.3 QP	46.0	-17.7	1.50 H	311	35.4	-7.1
4	502.39	32.6 QP	46.0	-13.4	1.00 H	120	34.9	-2.3
5	538.28	32.7 QP	46.0	-13.3	1.00 H	105	34.3	-1.6
6	645.95	39.5 QP	46.0	-6.5	1.50 H	194	38.8	0.7

Remarks:

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

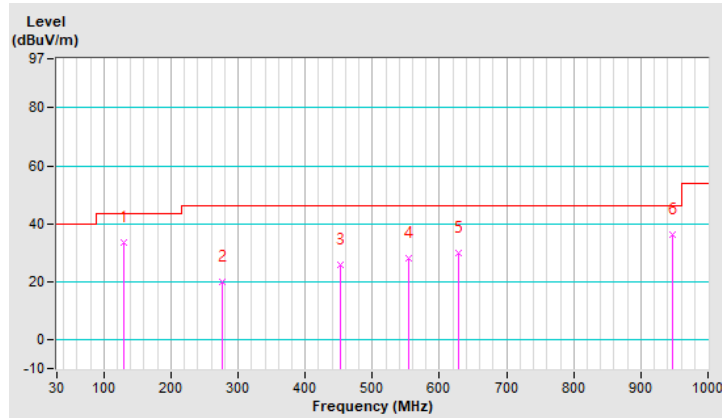


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

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	129.91	33.7 QP	43.5	-9.8	1.25 V	244	43.7	-10.0
2	277.35	20.0 QP	46.0	-26.0	1.00 V	107	27.3	-7.3
3	451.95	25.8 QP	46.0	-20.2	1.25 V	79	28.9	-3.1
4	554.77	28.2 QP	46.0	-17.8	1.25 V	335	29.6	-1.4
5	627.52	29.7 QP	46.0	-16.3	1.50 V	147	29.4	0.3
6	947.62	36.2 QP	46.0	-9.8	1.00 V	228	29.7	6.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	ESR3	102412	Jan. 29, 2021	Jan. 28, 2022
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2021	Sep. 03, 2022
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 28, 2021	Jan. 27, 2022
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ENV216	101196	Apr. 26, 2021	Apr. 25, 2022
Software ADT	BV ADT_Conf_ 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 2 (Conduction 2).

3. The VCCI Site Registration No. is C-12047.

4. Teste date: Sep. 30 ~ Oct. 20, 2021

4.2.3 Test Procedures

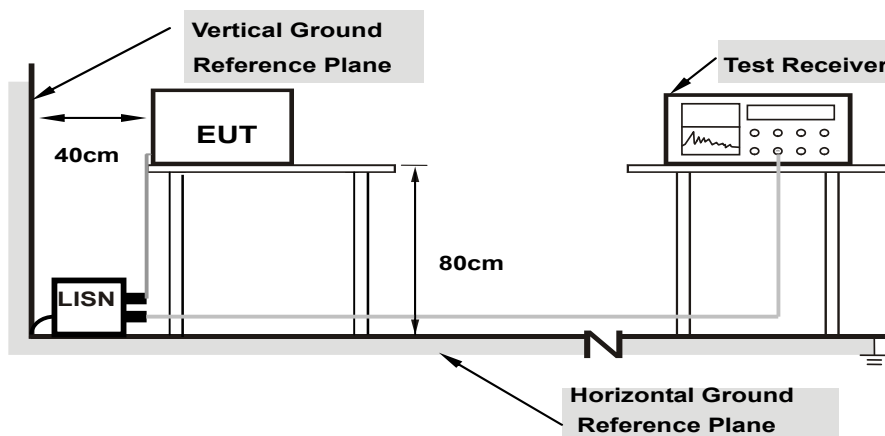
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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:

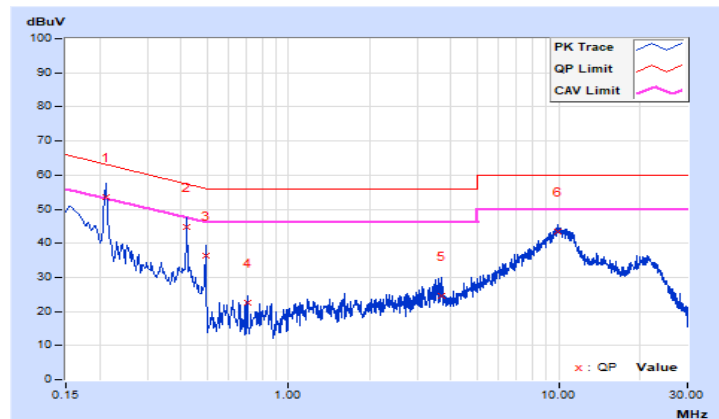
802.11g

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	0.21256	10.13	43.33	12.36	53.46	22.49	63.10	53.10	-9.64	-30.61
2	0.41979	10.14	34.64	11.92	44.78	22.06	57.45	47.45	-12.67	-25.39
3	0.49408	10.14	26.12	3.99	36.26	14.13	56.10	46.10	-19.84	-31.97
4	0.70332	10.16	12.44	0.32	22.60	10.48	56.00	46.00	-33.40	-35.52
5	3.67883	10.24	14.41	5.51	24.65	15.75	56.00	46.00	-31.35	-30.25
6	9.98525	10.33	33.03	24.65	43.36	34.98	60.00	50.00	-16.64	-15.02

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.

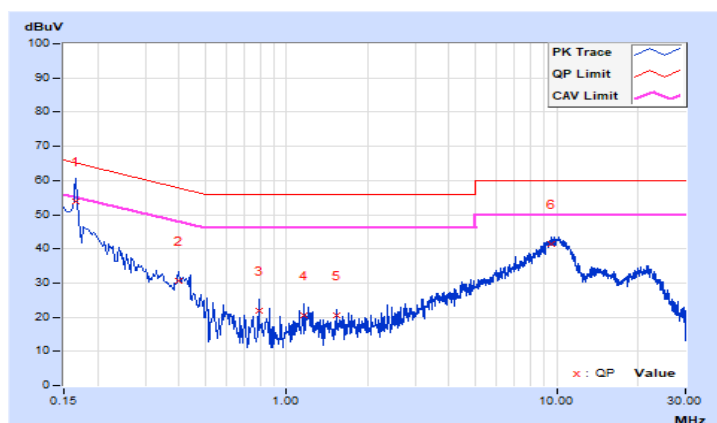


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	0.16564	10.12	43.64	19.02	53.76	29.14	65.18	55.18	-11.42	-26.04
2	0.40024	10.15	20.35	10.67	30.50	20.82	57.85	47.85	-27.35	-27.03
3	0.78934	10.17	11.79	0.27	21.96	10.44	56.00	46.00	-34.04	-35.56
4	1.15688	10.19	10.35	1.16	20.54	11.35	56.00	46.00	-35.46	-34.65
5	1.53615	10.20	10.23	2.15	20.43	12.35	56.00	46.00	-35.57	-33.65
6	9.51605	10.41	31.11	22.82	41.52	33.23	60.00	50.00	-18.48	-16.77

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.

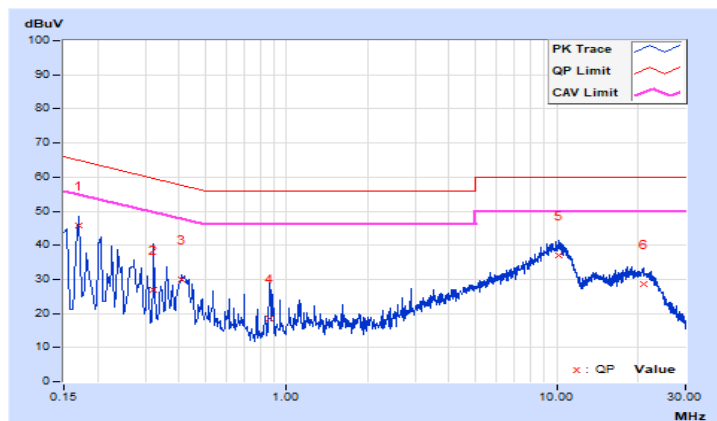


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.17000	10.12	35.63	17.86	45.75	27.98	64.96	54.96	-19.21	-26.98
2	0.32200	10.14	16.90	2.06	27.04	12.20	59.66	49.66	-32.62	-37.46
3	0.41000	10.14	19.82	12.20	29.96	22.34	57.65	47.65	-27.69	-25.31
4	0.87000	10.16	8.36	3.64	18.52	13.80	56.00	46.00	-37.48	-32.20
5	10.20600	10.33	26.56	20.45	36.89	30.78	60.00	50.00	-23.11	-19.22
6	20.93800	10.44	18.05	12.03	28.49	22.47	60.00	50.00	-31.51	-27.53

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.

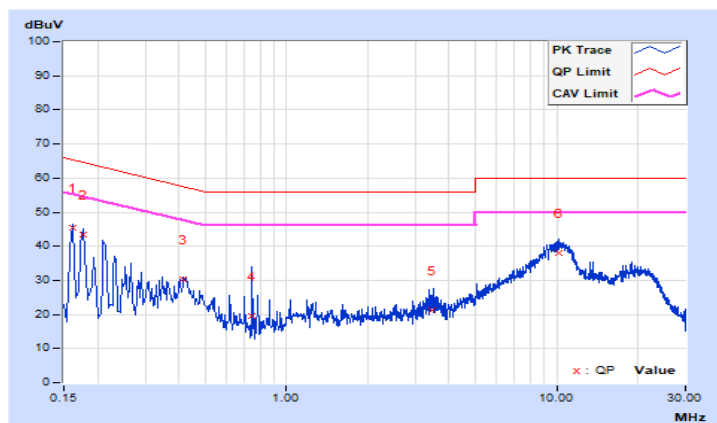


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.16200	10.12	35.23	19.77	45.35	29.89	65.36	55.36	-20.01	-25.47
2	0.17661	10.13	33.44	15.46	43.57	25.59	64.64	54.64	-21.07	-29.05
3	0.41400	10.15	20.10	13.12	30.25	23.27	57.57	47.57	-27.32	-24.30
4	0.74600	10.17	9.23	4.03	19.40	14.20	56.00	46.00	-36.60	-31.80
5	3.47400	10.26	11.03	2.89	21.29	13.15	56.00	46.00	-34.71	-32.85
6	10.13800	10.42	27.57	21.47	37.99	31.89	60.00	50.00	-22.01	-18.11

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.

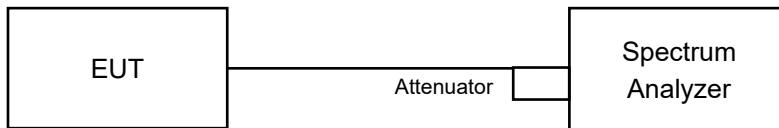


4.3 6dB Bandwidth Measurement

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

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	7.60	8.12	0.5	Pass
6	2437	8.59	8.14	0.5	Pass
11	2462	8.12	8.14	0.5	Pass

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	16.39	16.13	0.5	Pass
6	2437	16.46	16.42	0.5	Pass
11	2462	16.14	16.13	0.5	Pass

802.11n (VHT20)

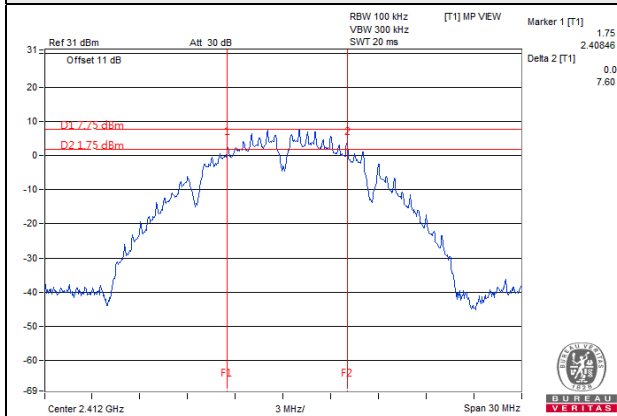
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	17.26	17.25	0.5	Pass
6	2437	17.69	17.68	0.5	Pass
11	2462	17.58	17.30	0.5	Pass

802.11n (VHT40)

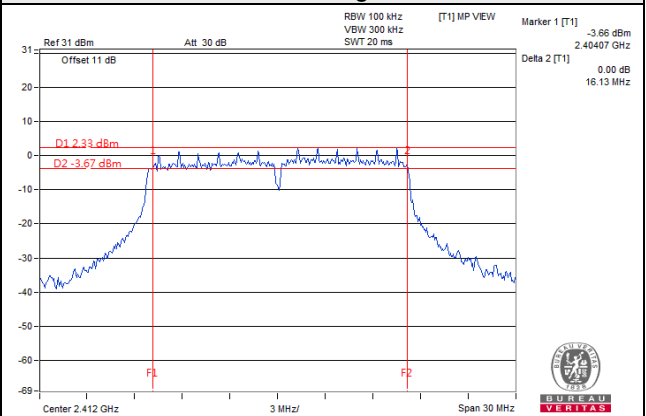
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	35.46	35.47	0.5	Pass
6	2437	36.53	36.51	0.5	Pass
9	2452	35.35	35.36	0.5	Pass

Spectrum Plot of Worst Value

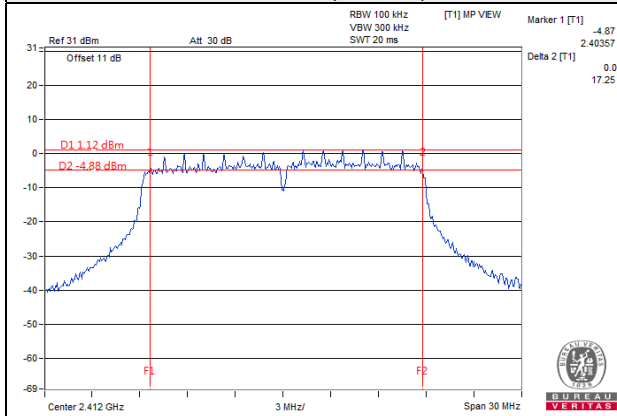
802.11b



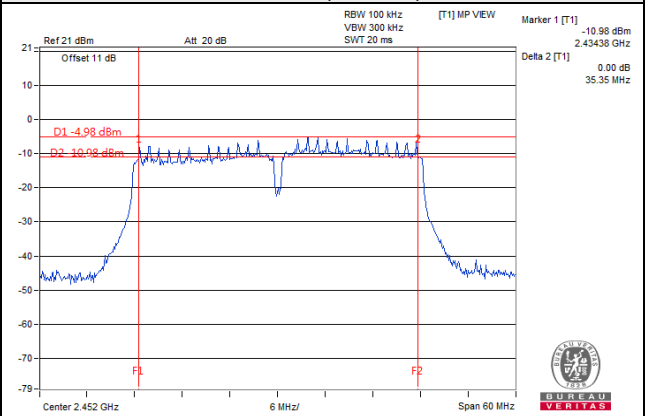
802.11g



802.11n (VHT20)



802.11n (VHT40)



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 (30dBm)

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

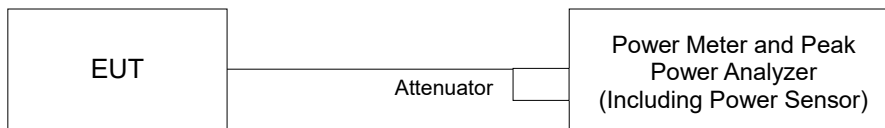
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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

For Peak Power

802.11b

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	17.51	17.34	110.564	20.44	30.00	Pass
6	2437	17.56	17.32	110.967	20.45	30.00	Pass
11	2462	17.77	17.68	118.455	20.74	30.00	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	20.44	20.36	219.305	23.41	30.00	Pass
6	2437	20.43	20.36	219.050	23.41	30.00	Pass
11	2462	20.42	20.35	218.547	23.40	30.00	Pass

802.11n (VHT20)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	20.54	20.17	217.232	23.37	30.00	Pass
6	2437	20.12	20.07	204.426	23.11	30.00	Pass
11	2462	20.18	19.96	203.315	23.08	30.00	Pass

802.11n (VHT40)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	16.33	16.23	84.930	19.29	30.00	Pass
6	2437	16.57	16.44	89.450	19.52	30.00	Pass
9	2452	16.65	16.52	91.113	19.60	30.00	Pass

For Average Power

802.11b

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	15.65	15.33	70.848	18.50
6	2437	15.68	15.41	71.736	18.56
11	2462	15.64	15.53	72.371	18.60

802.11g

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	13.59	13.52	45.347	16.57
6	2437	13.54	13.45	44.725	16.51
11	2462	13.51	13.45	44.570	16.49

802.11n (VHT20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	12.62	12.58	36.394	15.61
6	2437	12.36	12.68	35.754	15.53
11	2462	12.41	12.35	34.597	15.39

802.11n (VHT40)

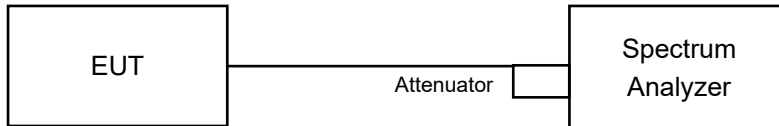
Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	8.05	7.96	12.634	11.02
6	2437	8.22	8.15	13.169	11.20
9	2452	8.08	7.86	12.536	10.98

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.

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

802.11b

TX chain	Channel	Frequency (MHz)	PSD (dBm/10kHz)	10 log (N=2) dB	Total PSD (dBm/10kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-9.55	3.01	-6.54	8.00	Pass
	6	2437	-9.47	3.01	-6.46	8.00	Pass
	11	2462	-9.53	3.01	-6.52	8.00	Pass
1	1	2412	-9.77	3.01	-6.76	8.00	Pass
	6	2437	-9.50	3.01	-6.49	8.00	Pass
	11	2462	-9.67	3.01	-6.66	8.00	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional Gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 3.06\text{dBi} < 6\text{dBi}$, so the power density limit not need to reduce.

802.11g

TX chain	Channel	Frequency (MHz)	PSD (dBm/10kHz)	10 log (N=2) dB	Total PSD (dBm/10kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-12.35	3.01	-9.34	8.00	Pass
	6	2437	-12.57	3.01	-9.56	8.00	Pass
	11	2462	-12.41	3.01	-9.40	8.00	Pass
1	1	2412	-12.13	3.01	-9.12	8.00	Pass
	6	2437	-12.57	3.01	-9.56	8.00	Pass
	11	2462	-12.33	3.01	-9.32	8.00	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional Gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 3.06\text{dBi} < 6\text{dBi}$, so the power density limit not need to reduce.

802.11n (VHT20)

TX chain	Channel	Frequency (MHz)	PSD (dBm/10kHz)	10 log (N=2) dB	Total PSD (dBm/10kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-13.42	3.01	-10.41	8.00	Pass
	6	2437	-13.56	3.01	-10.55	8.00	Pass
	11	2462	-13.53	3.01	-10.52	8.00	Pass
1	1	2412	-13.44	3.01	-10.43	8.00	Pass
	6	2437	-13.45	3.01	-10.44	8.00	Pass
	11	2462	-13.68	3.01	-10.67	8.00	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional Gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 3.06\text{dBi} < 6\text{dBi}$, so the power density limit not need to reduce.

802.11n (VHT40)

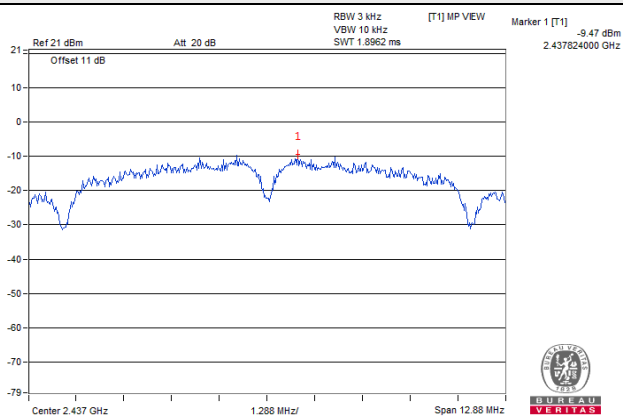
TX chain	Channel	Frequency (MHz)	PSD (dBm/10kHz)	10 log (N=2) dB	Total PSD (dBm/10kHz)	Limit (dBm/3kHz)	Pass / Fail
0	3	2422	-19.46	3.01	-16.45	8.00	Pass
	6	2437	-19.18	3.01	-16.17	8.00	Pass
	9	2452	-19.52	3.01	-16.51	8.00	Pass
1	3	2422	-19.36	3.01	-16.35	8.00	Pass
	6	2437	-19.43	3.01	-16.42	8.00	Pass
	9	2452	-19.44	3.01	-16.43	8.00	Pass

Note:

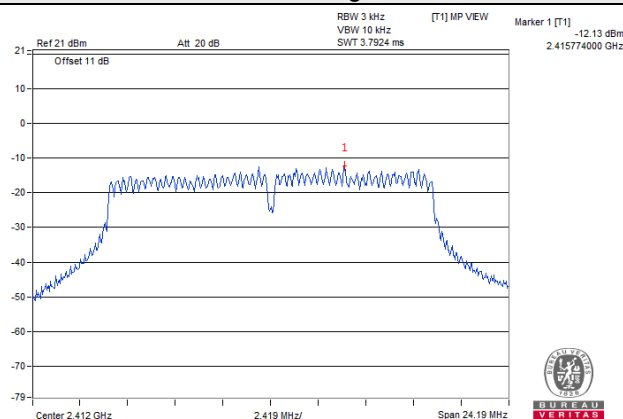
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional Gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 3.06\text{dBi} < 6\text{dBi}$, so the power density limit not need to reduce.

Spectrum Plot of Worst Value

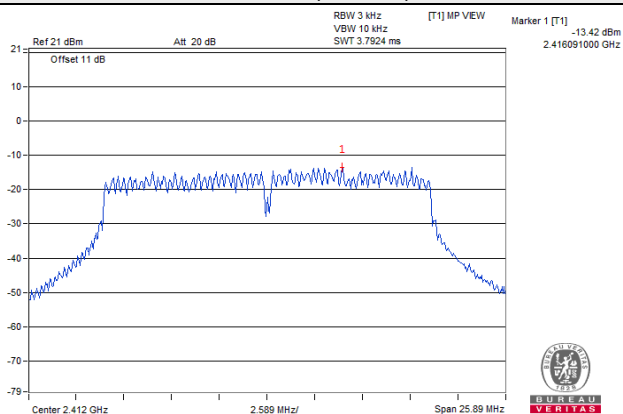
802.11b



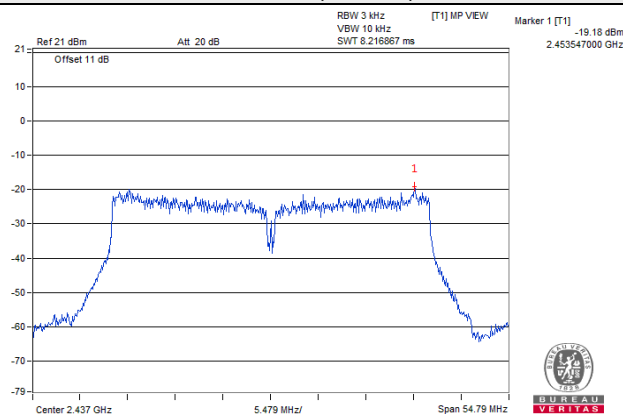
802.11g



802.11n (VHT20)



802.11n (VHT40)

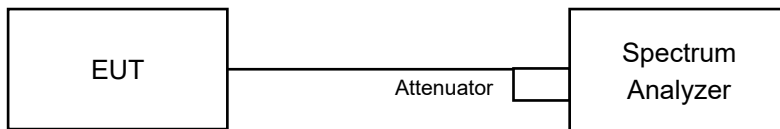


4.6 Conducted Out of Band Emission Measurement

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

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

MEASUREMENT PROCEDURE OOB

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Same as item 4.3.6

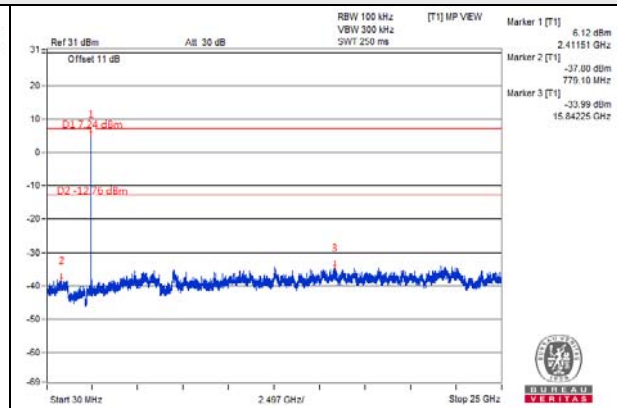
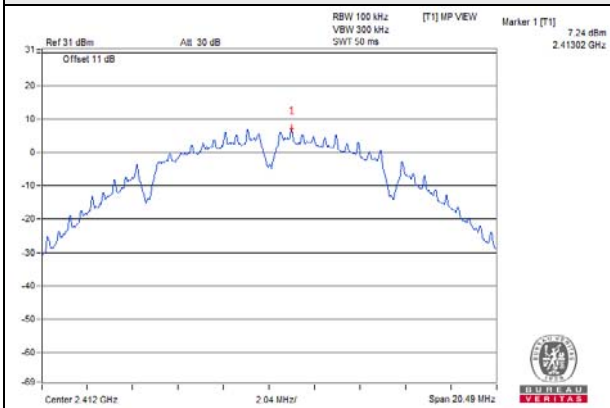
4.6.7 Test Results

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.

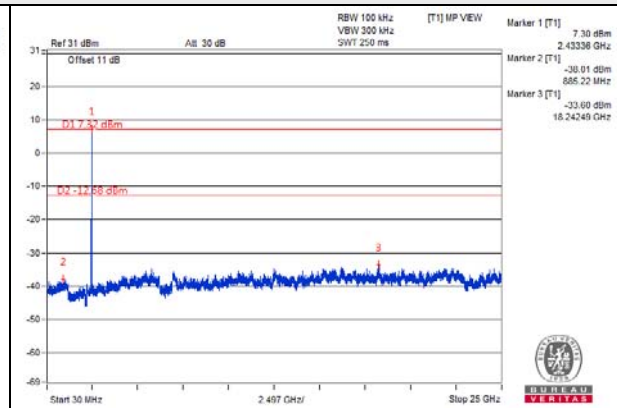
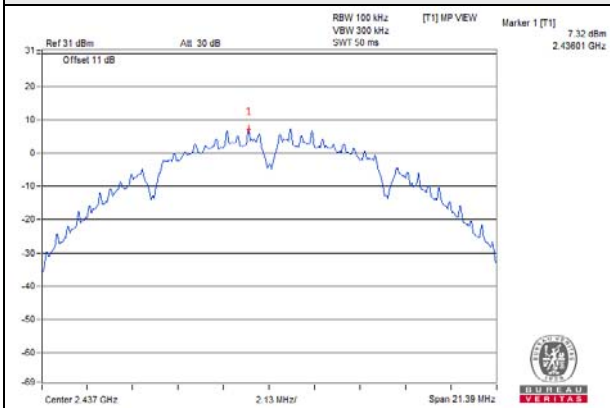
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b_Chain 0

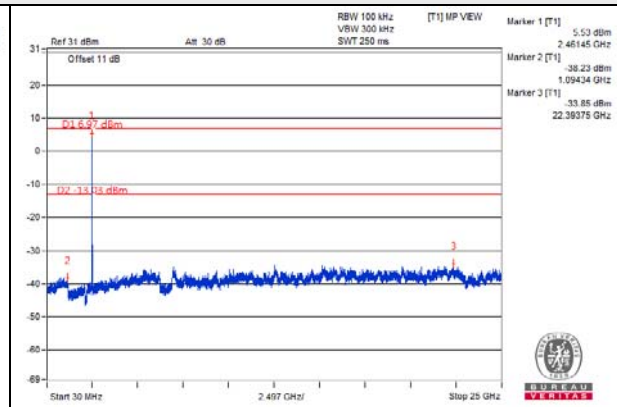
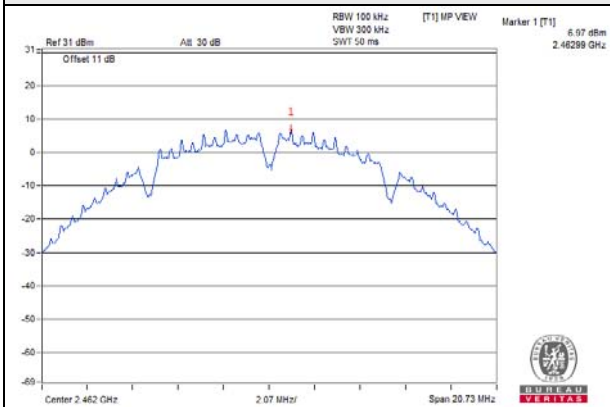
CH 1



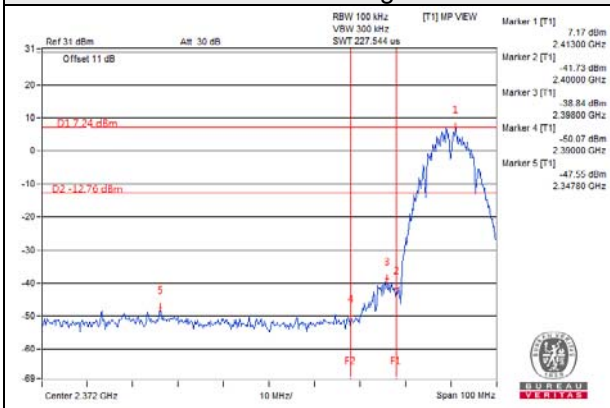
CH 6



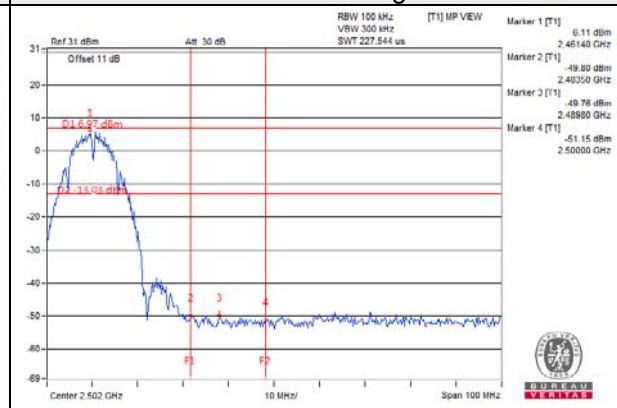
CH 11



CH 1 Band edge

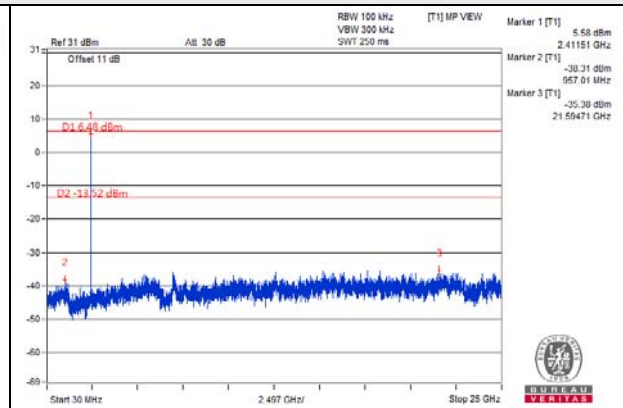
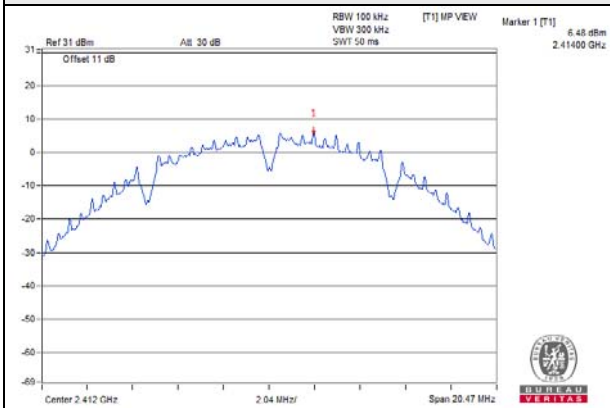


CH 11 Band edge

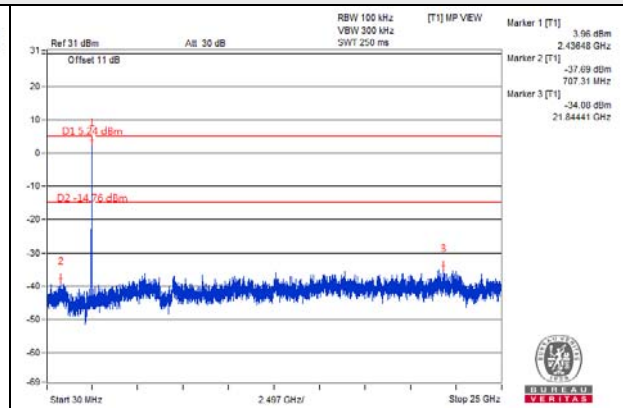
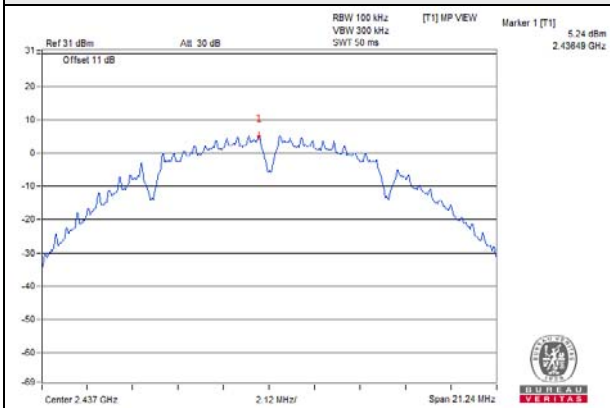


802.11b_Chain 1

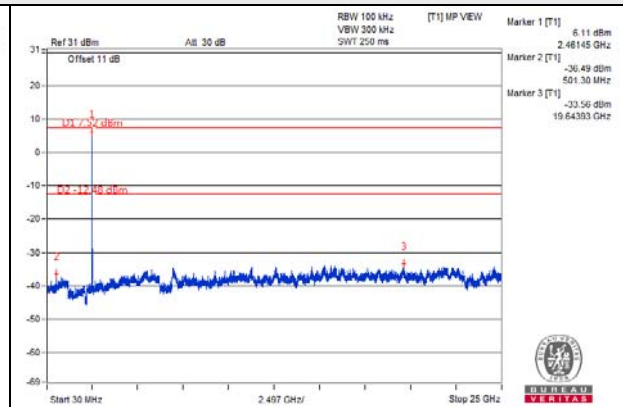
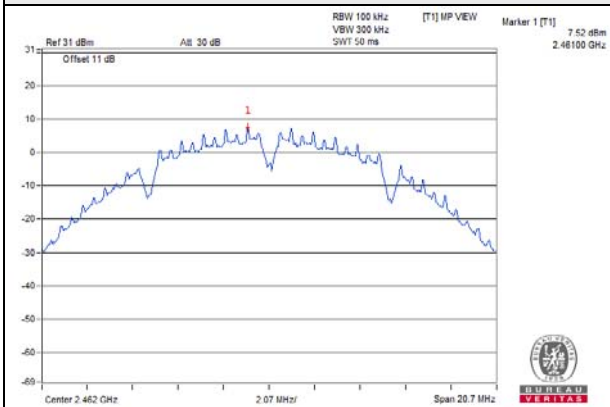
CH 1



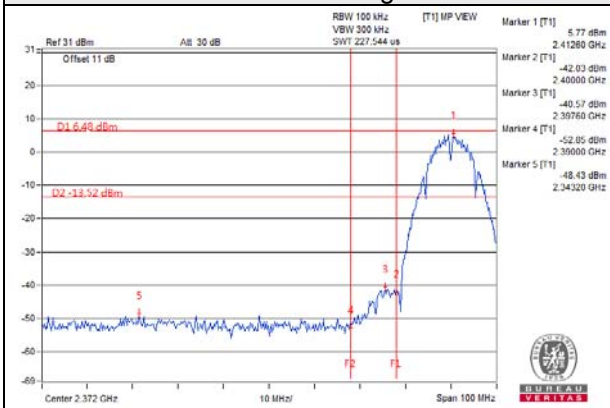
CH 6



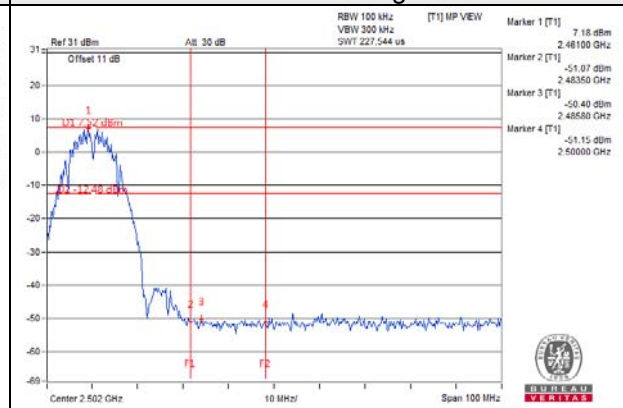
CH 11



CH 1 Band edge

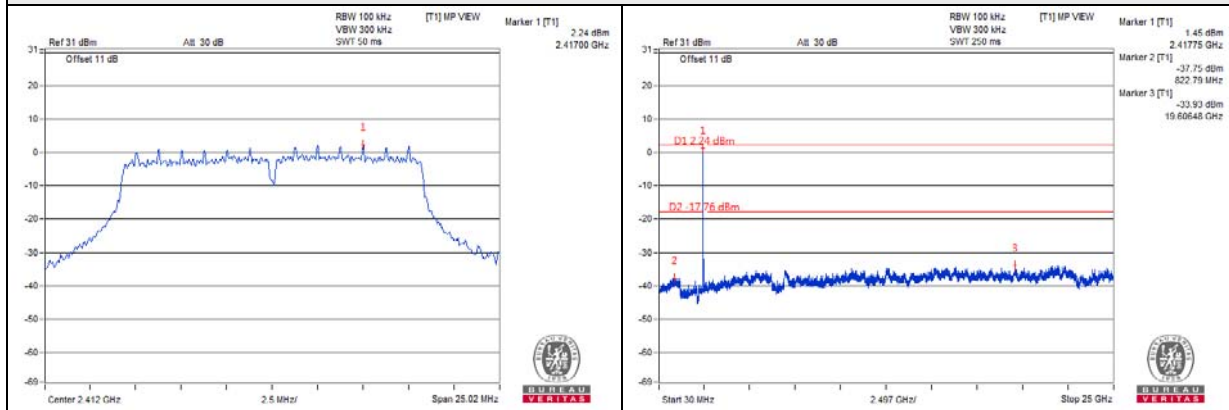


CH 11 Band edge

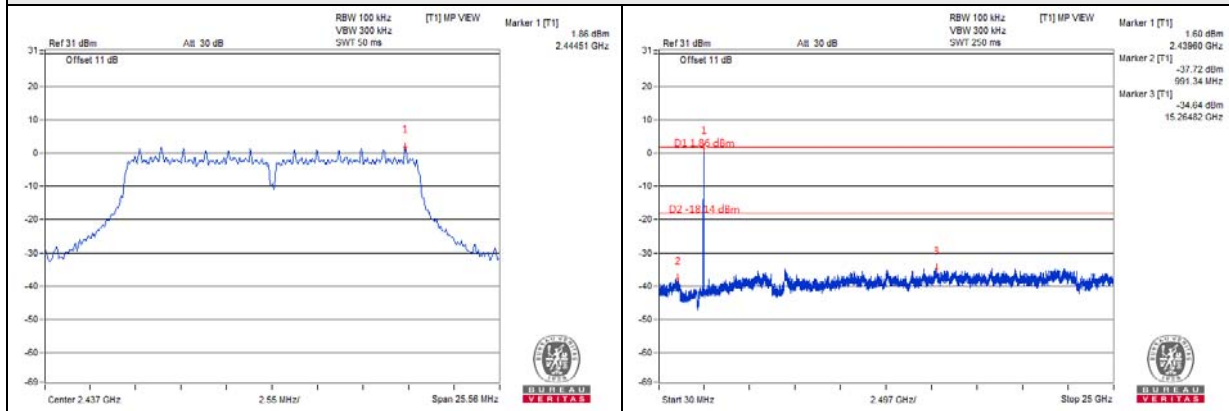


802.11g_Chain 0

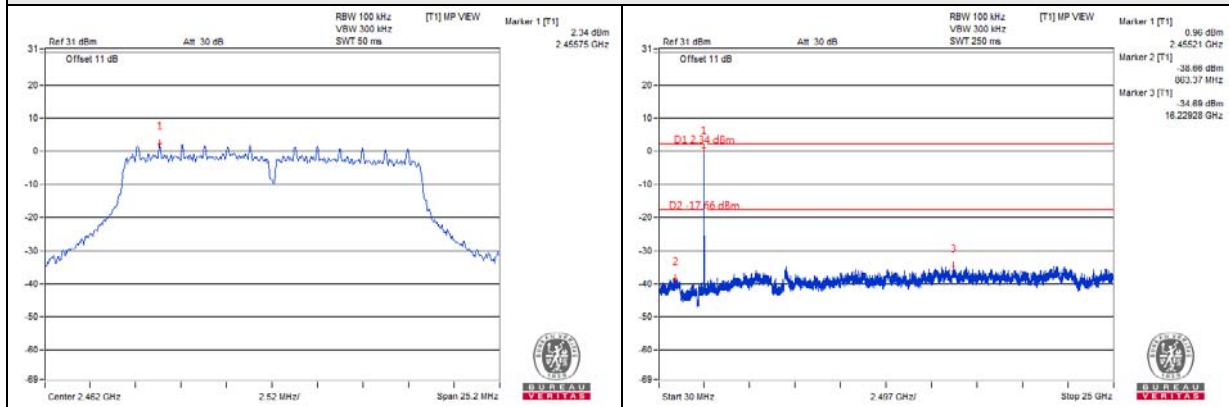
CH 1



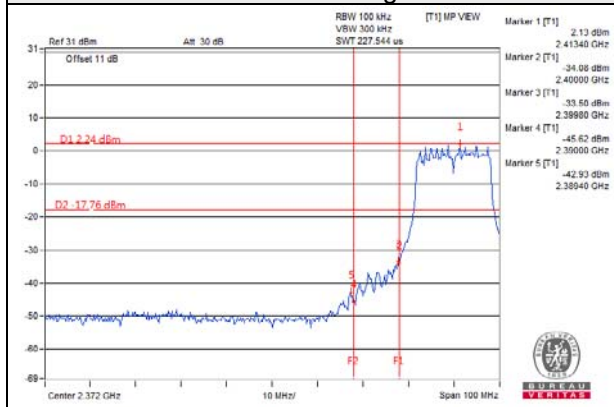
CH 6



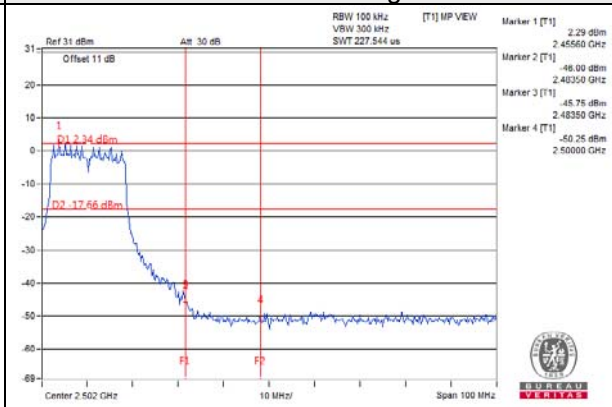
CH 11



CH 1 Band edge

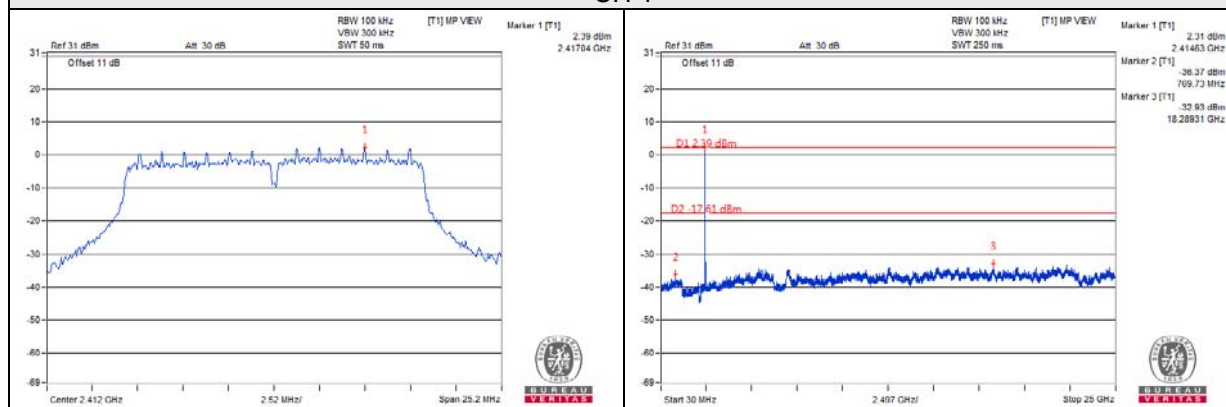


CH 11 Band edge

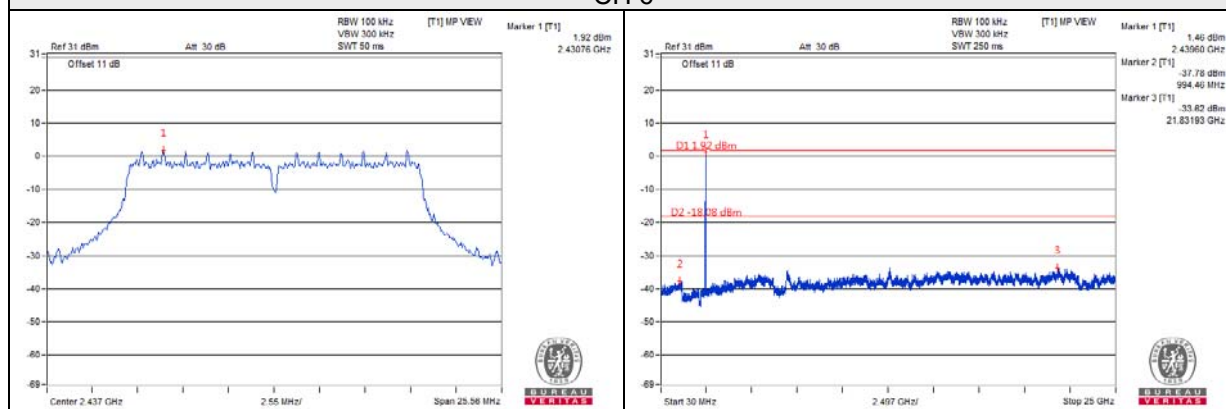


802.11g_Chain 1

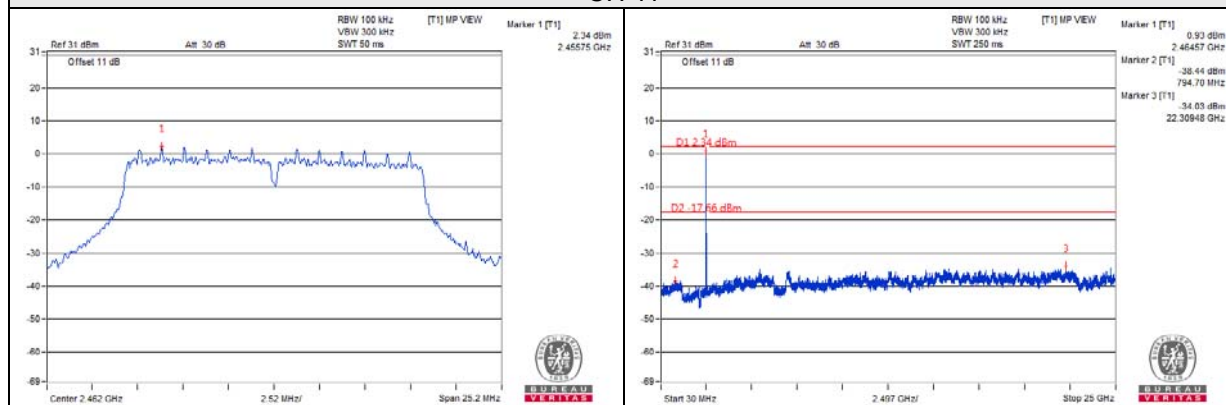
CH 1



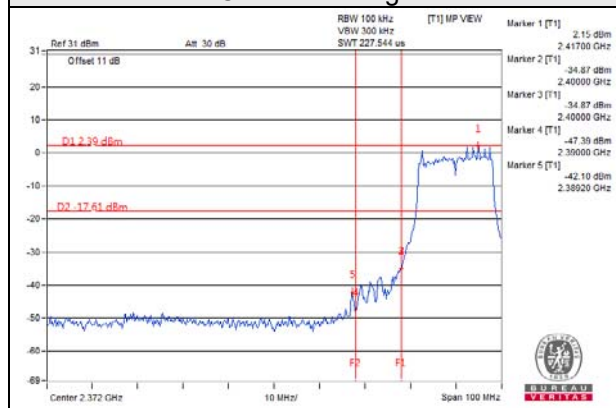
CH 6



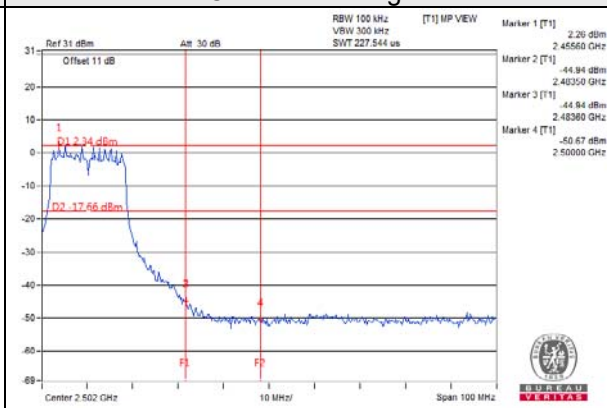
CH 11



CH 1 Band edge

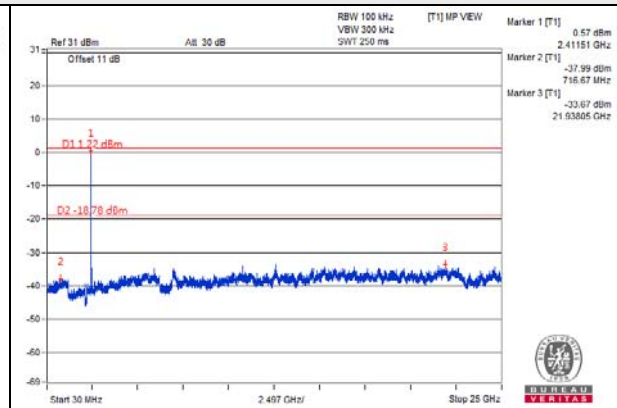
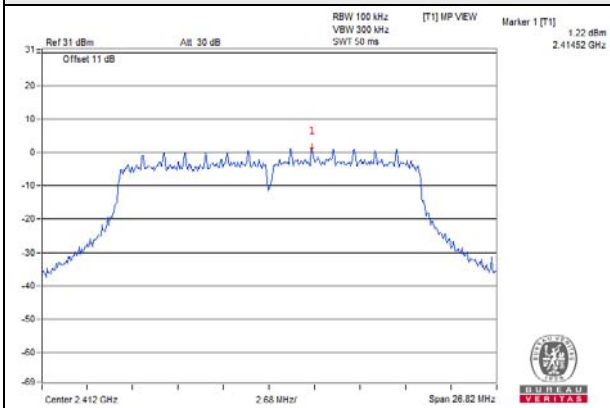


CH 11 Band edge

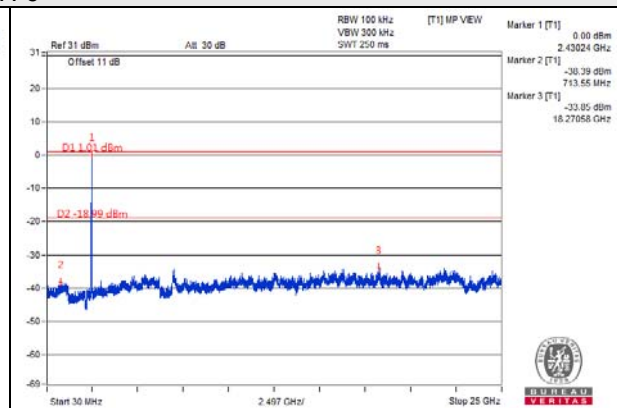
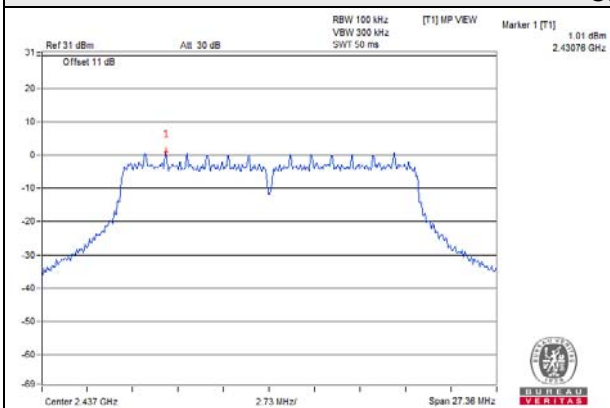


802.11n (VHT20)_Chain 0

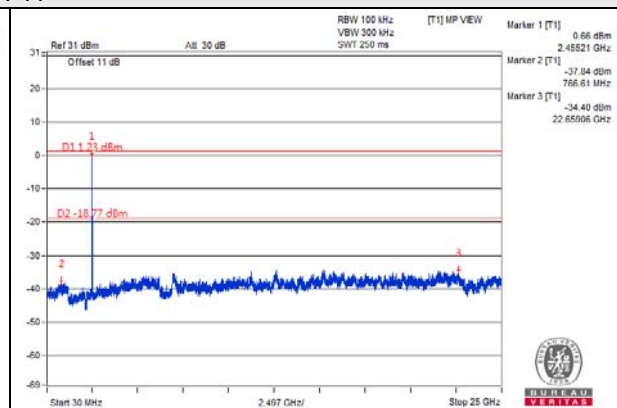
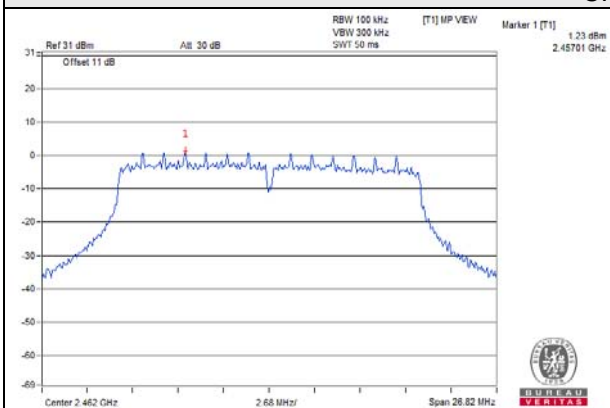
CH 1



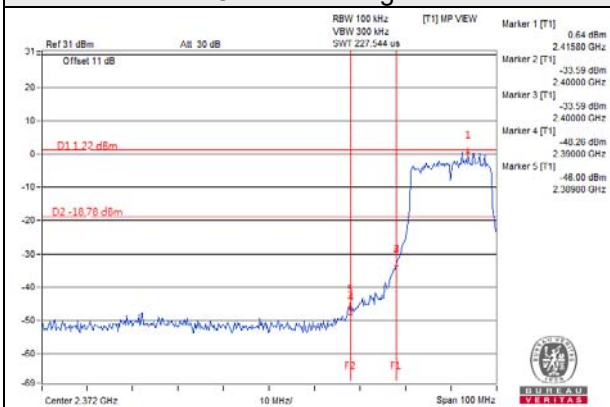
CH 6



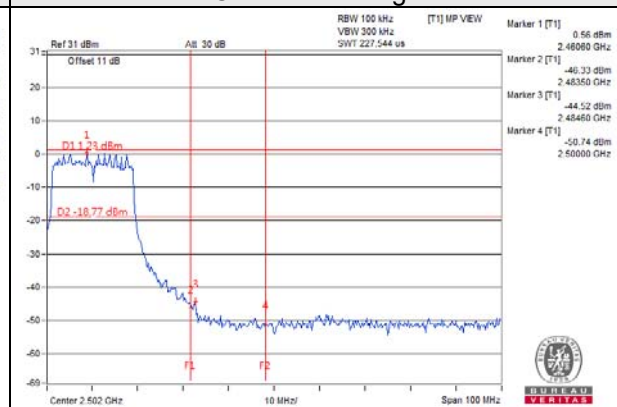
CH 11



CH 1 Band edge

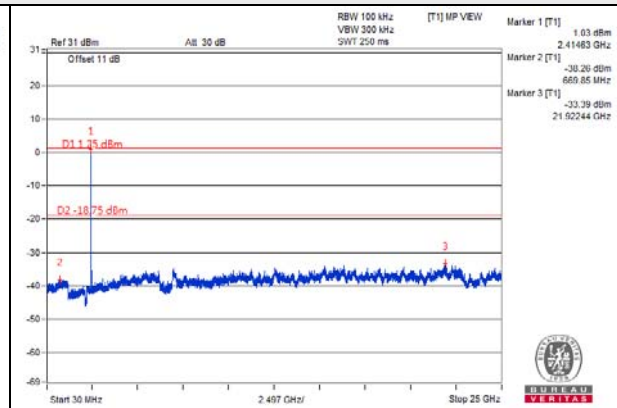
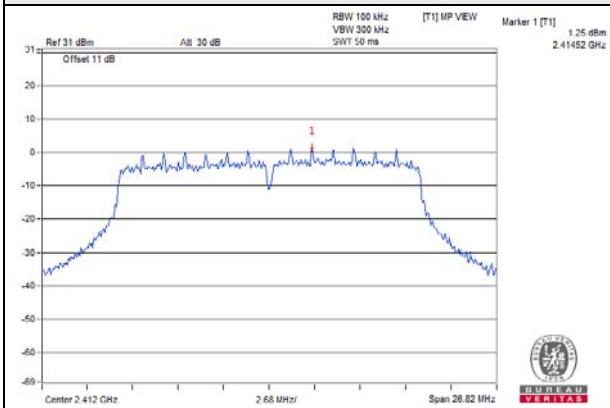


CH 11 Band edge

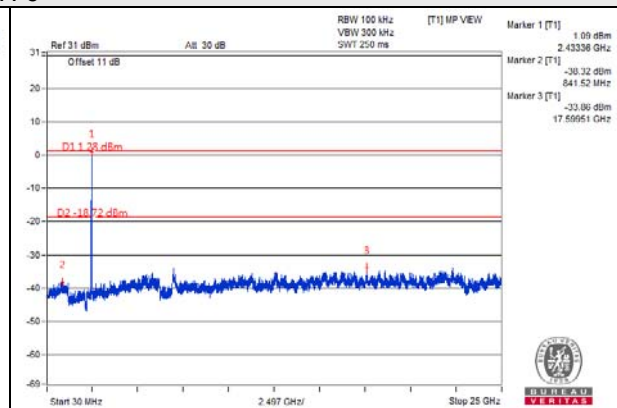
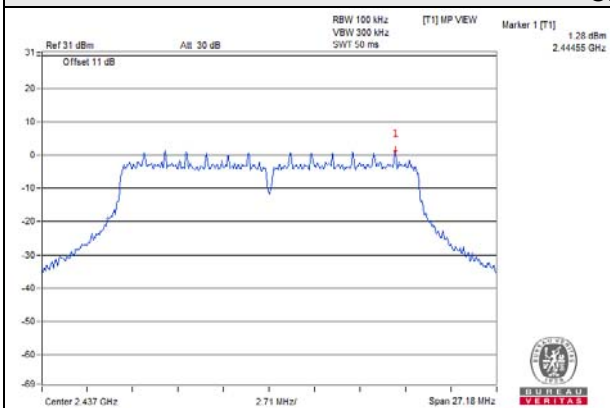


802.11n (VHT20)_Chain 1

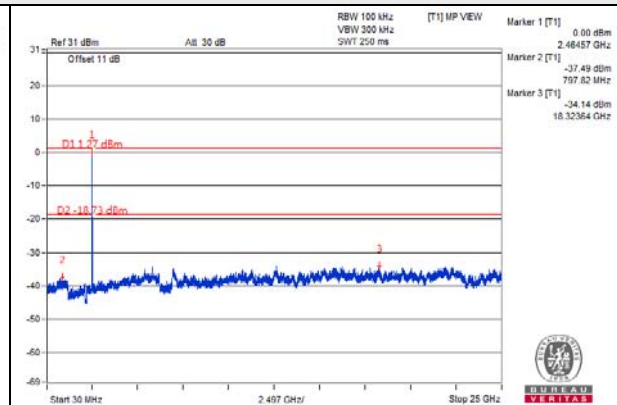
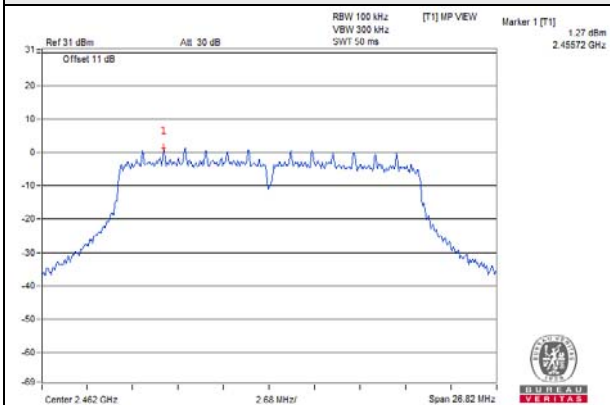
CH 1



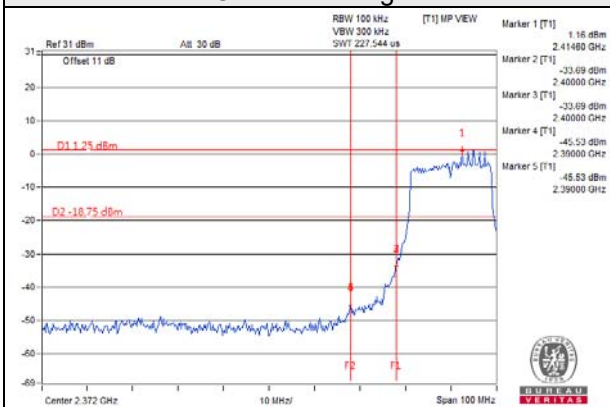
CH 6



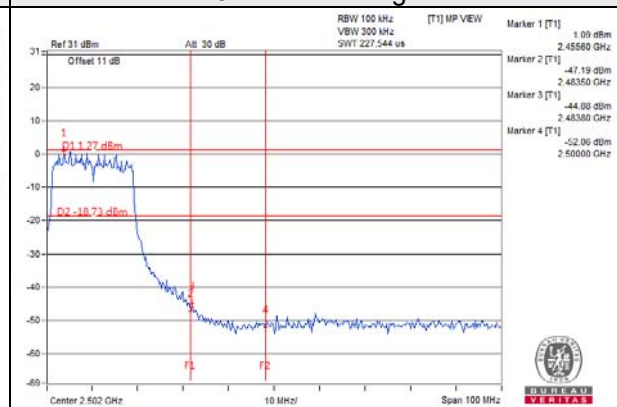
CH 11



CH 1 Band edge

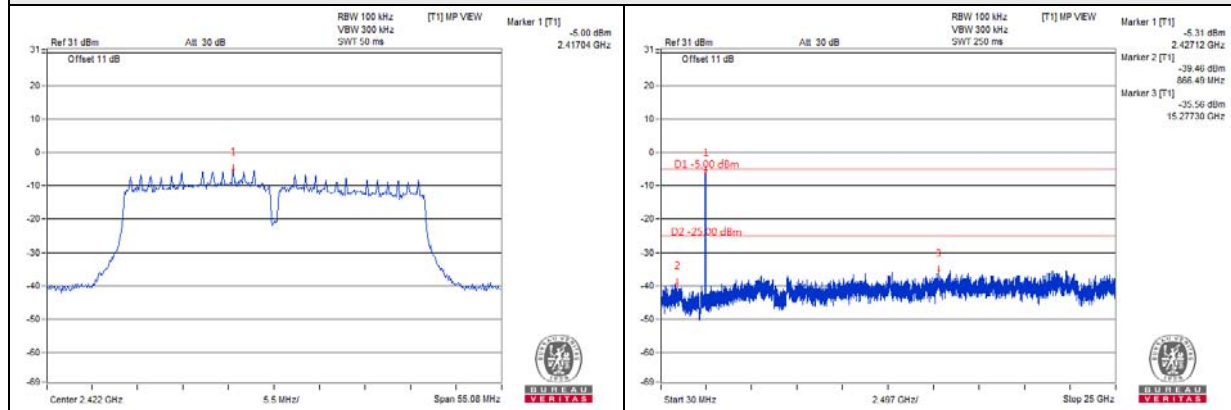


CH 11 Band edge

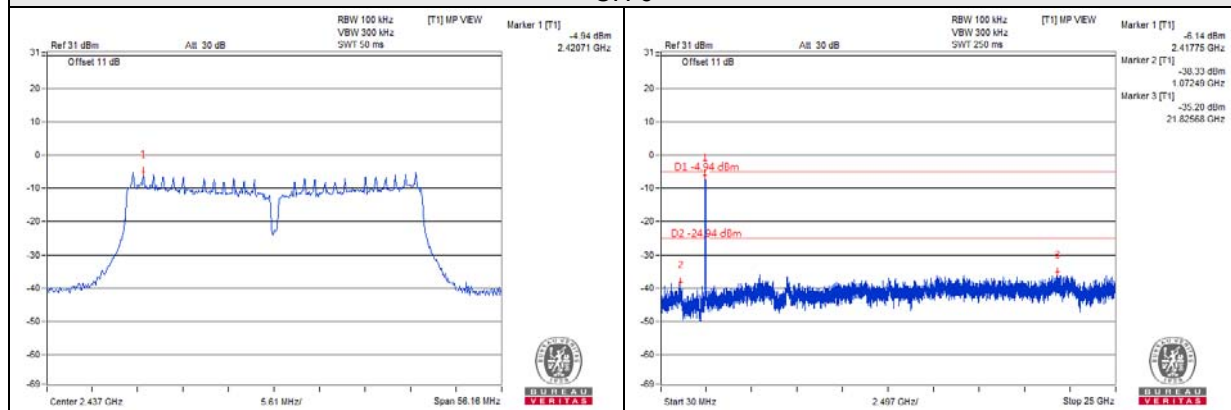


802.11n (VHT40)_Chain 0

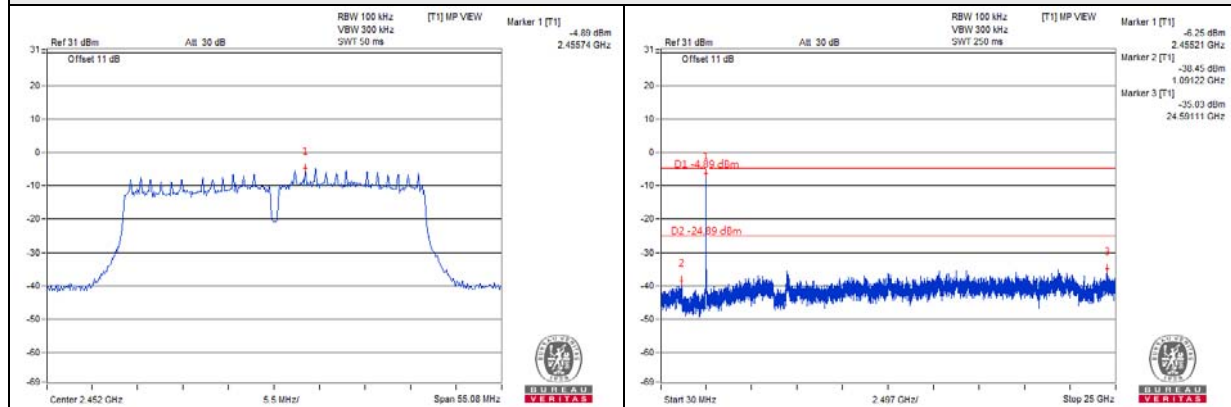
CH 3



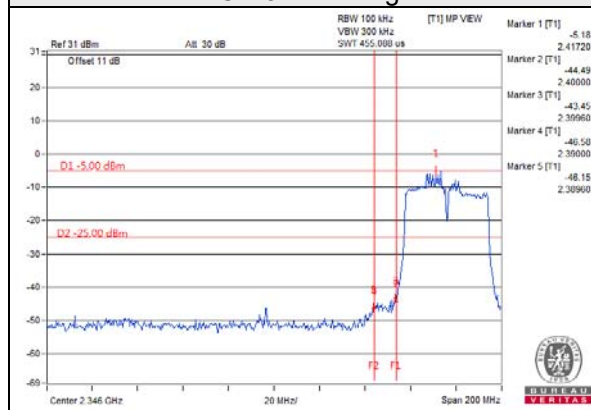
CH 6



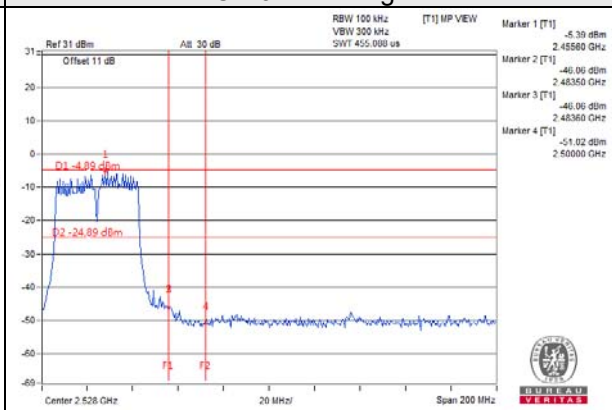
CH 9



CH 3 Band edge

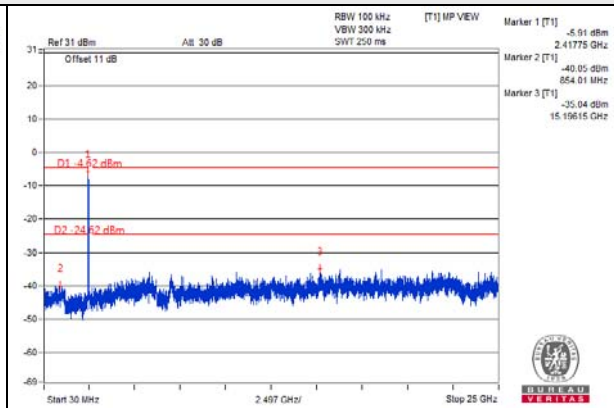
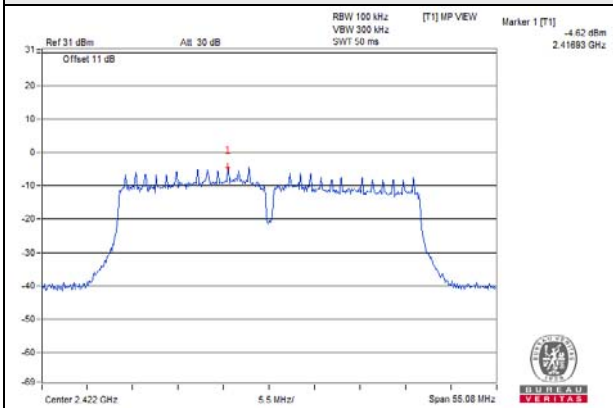


CH 9 Band edge

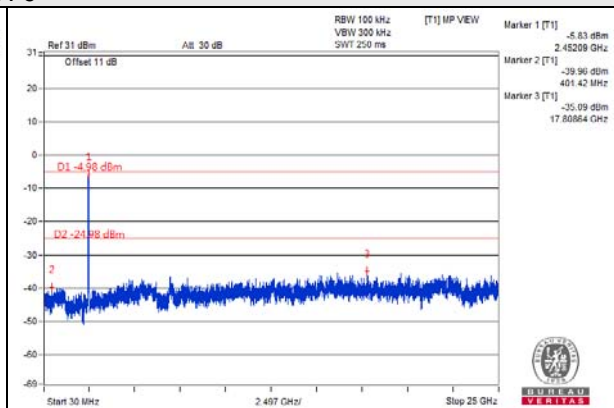
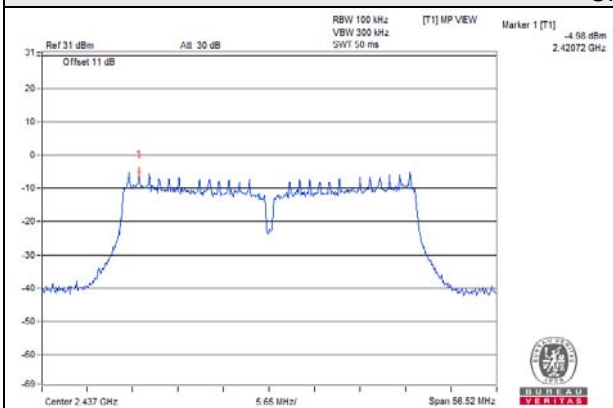


802.11n (VHT40)_Chain 1

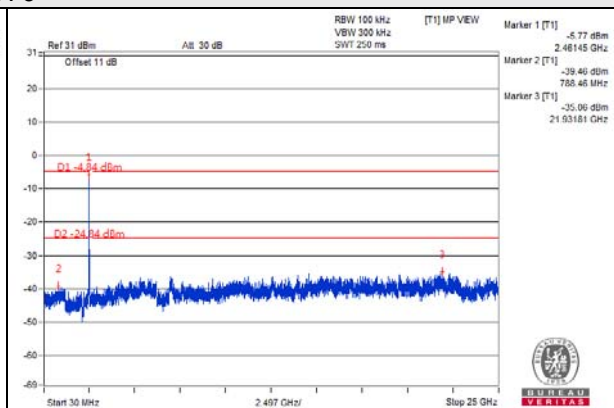
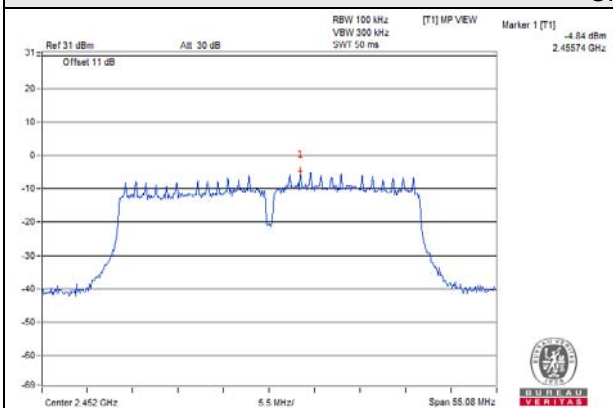
CH 3



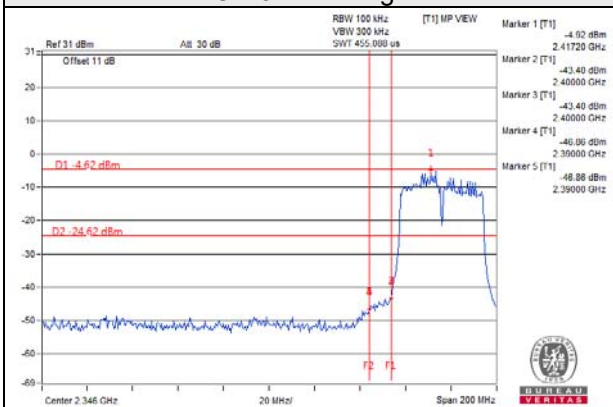
CH 6



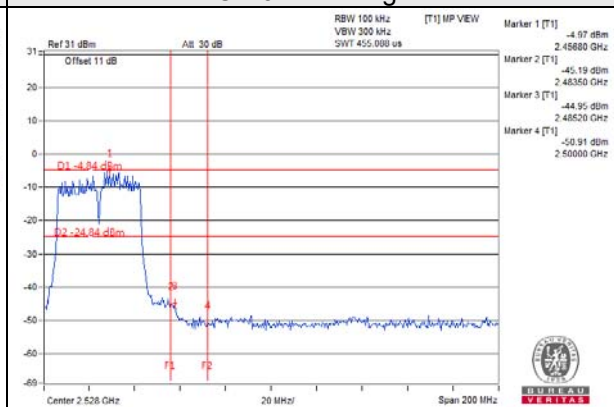
CH 9



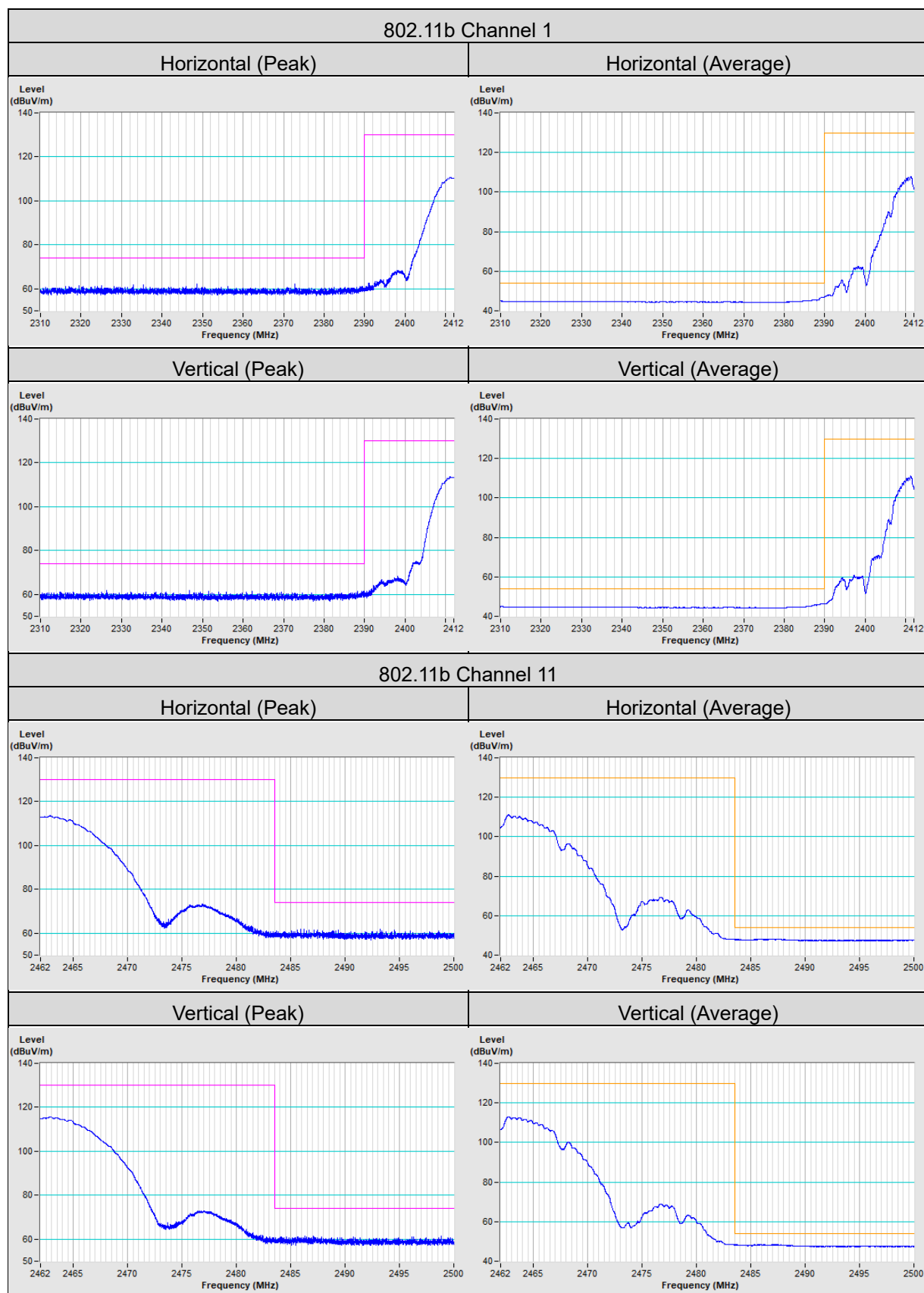
CH 3 Band edge

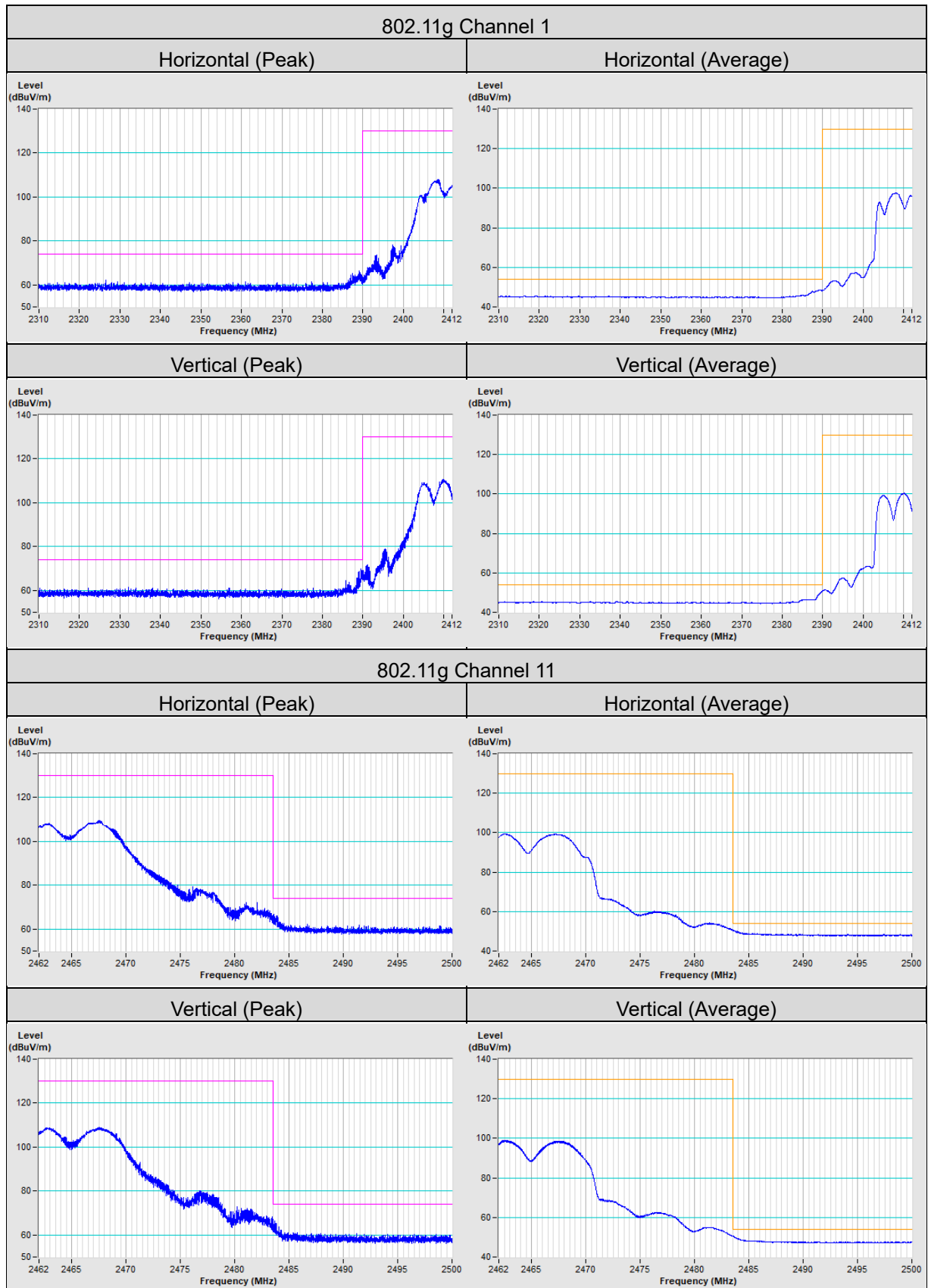


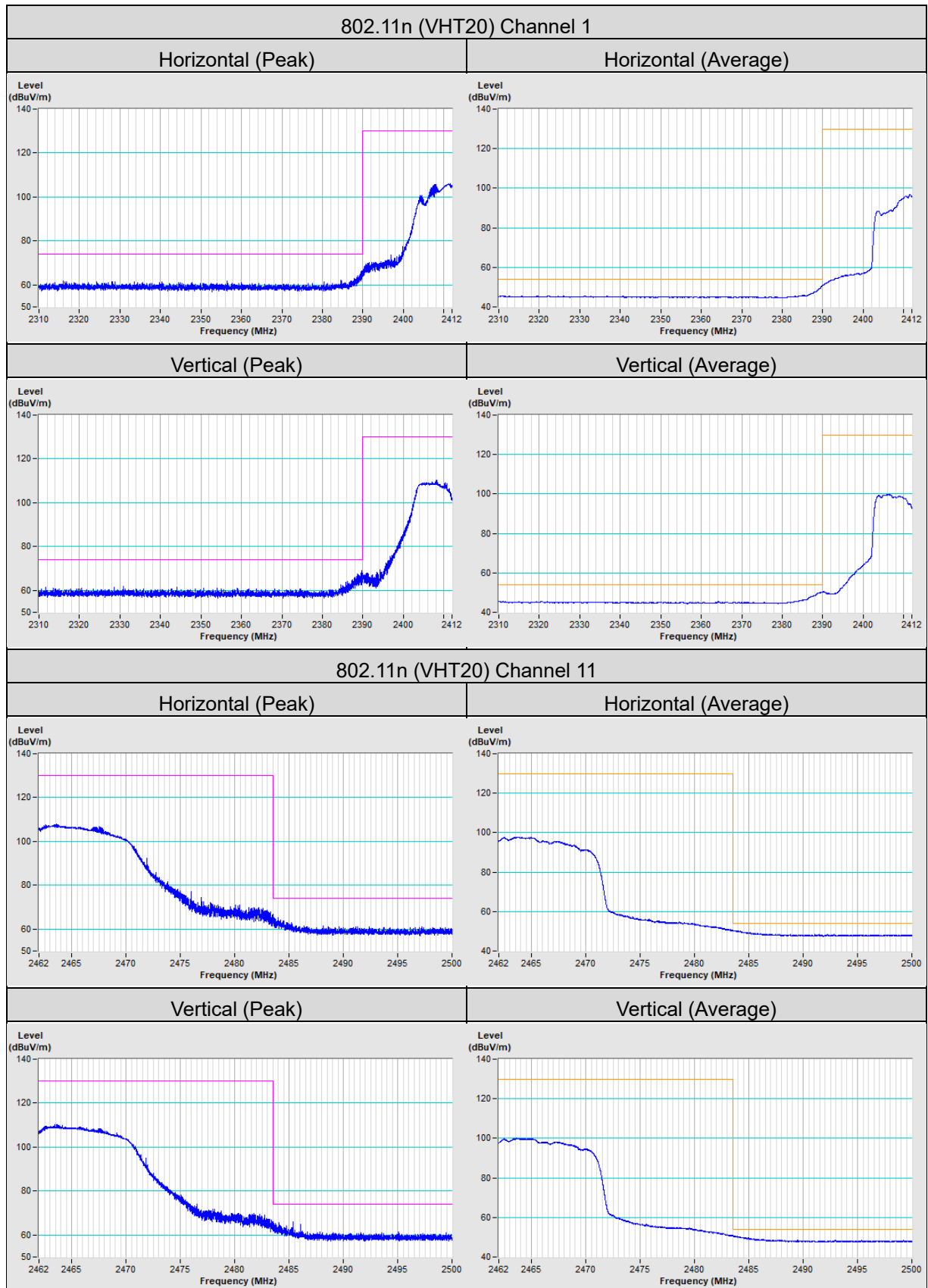
CH 9 Band edge

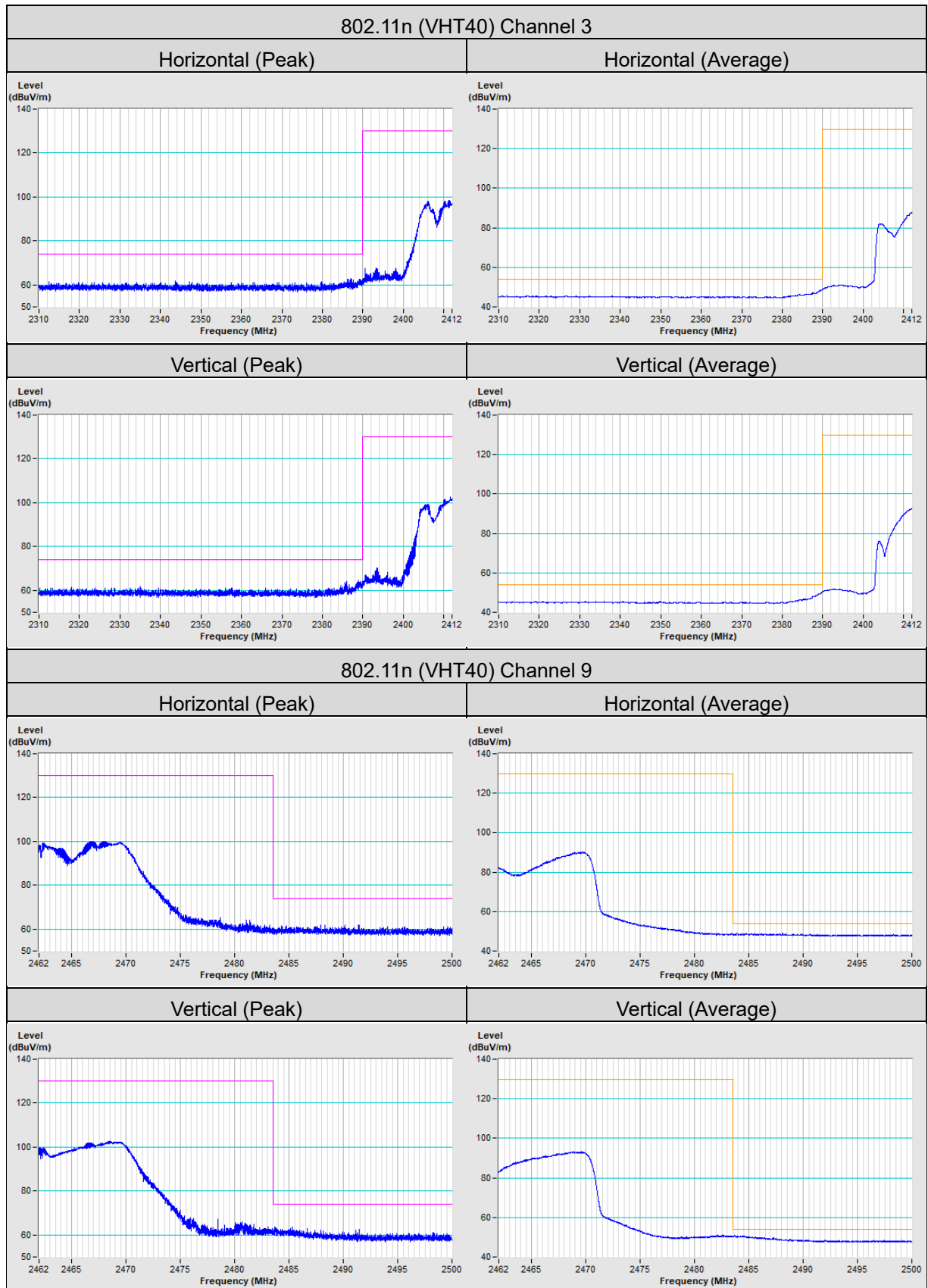


Annex A- Band Edge Measurement









5 Pictures of Test Arrangements

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



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:

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@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.

--- END ---