FCC Test Report
(2.4GHz WLAN)

Report No.:	RFBEIH-WTW-P21090617-3
FCC ID:	2AK5B-HB2
Test Model:	HB2LW1NA1
Received Date:	2021/9/14
Test Date:	2021/9/24 ~ 2021/10/13
Issued Date:	2021/12/14
Applicant:	Latch Systems, Inc.
Address:	508 West 26th Street Suite 6G New York, NY 10001 United States
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
FCC Registration / Designation Number:	198487 / TW2021

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RFBEIH-WTW-P21090617-3	Original release.	2021/12/14

1 Certificate of Conformity

Product:	Hub
Brand:	LATCH
Test Model:	HB2LW1NA1
Sample Status:	Engineering sample
Applicant:	Latch Systems, Inc.
Test Date:	2021/9/24 ~ 2021/10/13
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 : Annie Chang , **Date:** 2021/12/14

Annie Chang / Senior Specialist

Approved by : Jeremy Lin , **Date:** 2021/12/14

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 -15.65dB at 0.34922MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.32dB 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:
1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. For 2.4GHz 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.

2.1 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	3.00 dB
Conducted Emissions	9kHz ~ 40GHz	2.63 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	2.38 dB
	30MHz ~ 1GHz	5.70 dB
Radiated Emissions above 1 GHz	Above 1GHz	5.21 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Hub
Brand	LATCH
Test Model	HB2LW1NA1
Status of EUT	Engineering sample
Power Supply Rating	12Vdc from adapter or 7.5Vdc from battery
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
Operating Frequency	2412MHz ~ 2462MHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7
Output Power	841.634mW
Antenna Type	Ant. 1: Dipole Antenna with 2.5dBi gain Ant. 2: Dipole Antenna with 3.2dBi gain
Antenna Connector	I-PEX
Accessory Device	Adapter
Data Cable Supplied	N/A

Note:

1. 2.4GHz & 5GHz WLAN technologies cannot transmit at same time.
   WCDMA & LTE technologies cannot transmit at same time.
   WLAN, WWAN, Bluetooth & Zigbee technologies can transmit at same time.
2. The EUT provides 2 completed transmitter and 2 receiver.

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

3. The EUT was pre-tested with the following modes:
   - ✧ Operating Mode (EUT + Battery)
   - ✧ Operating + Charging Mode (EUT + Adapter)

   The worst emission level was found when the EUT tested under **Operating + Charging Mode (EUT + Adapter)**, therefore, only its test data was recorded in this report.
4. The EUT uses following adapter or battery.

Item	Adapter	Battery
Brand	APD	Simplo
Model	WB-24J12FU	NA50X
AC I/P Rating	100-240V, 50-60Hz, 0.7A	-
DC O/P Rating	12V, 2A	7.5V, 2500mAh, 18Wh
Power cord	AC 2 Pin, Non-shielded DC cable (1.5m)	-

5. 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.
6. 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

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

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 (HT40):

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≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	Operating + Charging Mode (EUT + Adapter)

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

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.

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)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

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)
-	802.11g	1 to 11	6	OFDM	BPSK	6

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)
-	802.11g	1 to 11	6	OFDM	BPSK	6

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)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

Test Condition:

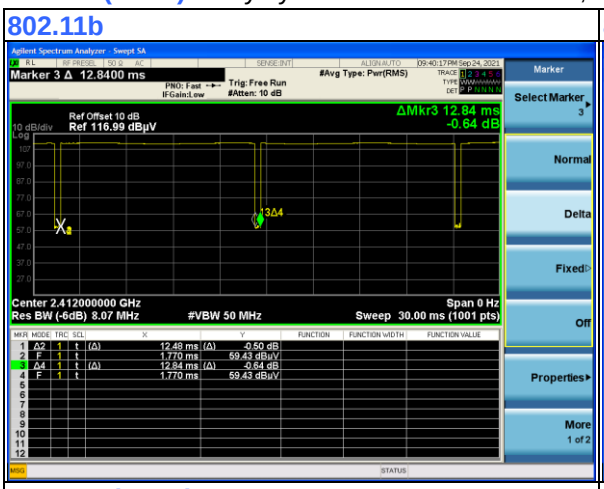
Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	23deg. C, 53%RH	120Vac, 60Hz	Jed Wu
RE<1G	23deg. C, 53%RH	120Vac, 60Hz	Jed Wu
PLC	25deg. C, 76%RH	120Vac, 60Hz	Dalen Dai
APCM	25deg. C, 60%RH	120Vac, 60Hz	Dalen Dai

3.3 Duty Cycle of Test Signal

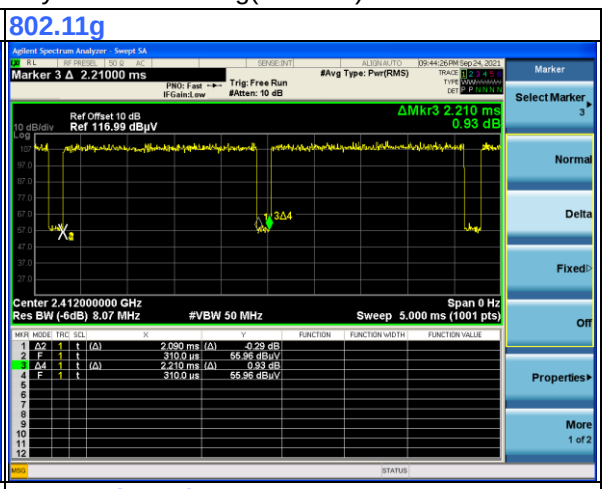
If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.

802.11b: Duty cycle = 12.48/12.84 = 0.972, Duty factor = 10 * log(1/0.972) = 0.12
802.11g: Duty cycle = 2.09/2.21 = 0.946, Duty factor = 10 * log(1/0.946) = 0.24
802.11n (HT20): Duty cycle = 1.945/2.145 = 0.907, Duty factor = 10 * log(1/0.907) = 0.43
802.11n (HT40): Duty cycle = 0.96/1.137 = 0.884, Duty factor = 10 * log(1/0.884) = 0.73

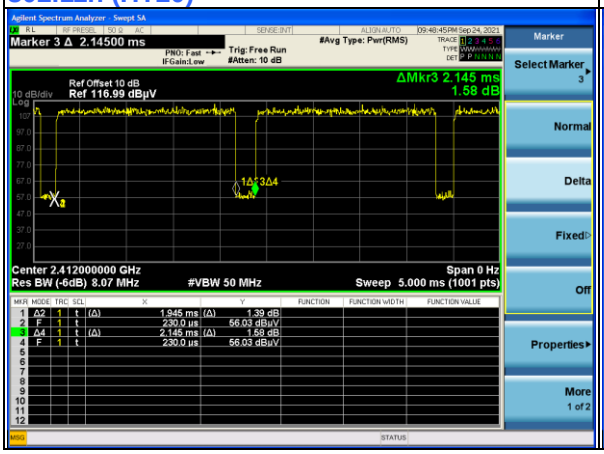
802.11b



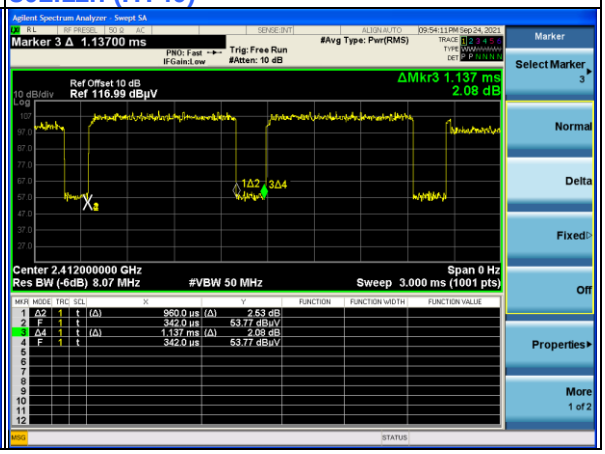
802.11g



802.11n (HT20)



802.11n (HT40)



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.	Notebook PC	Lenovo	81LG	PF1NF9V2	NA	Provided by Lab

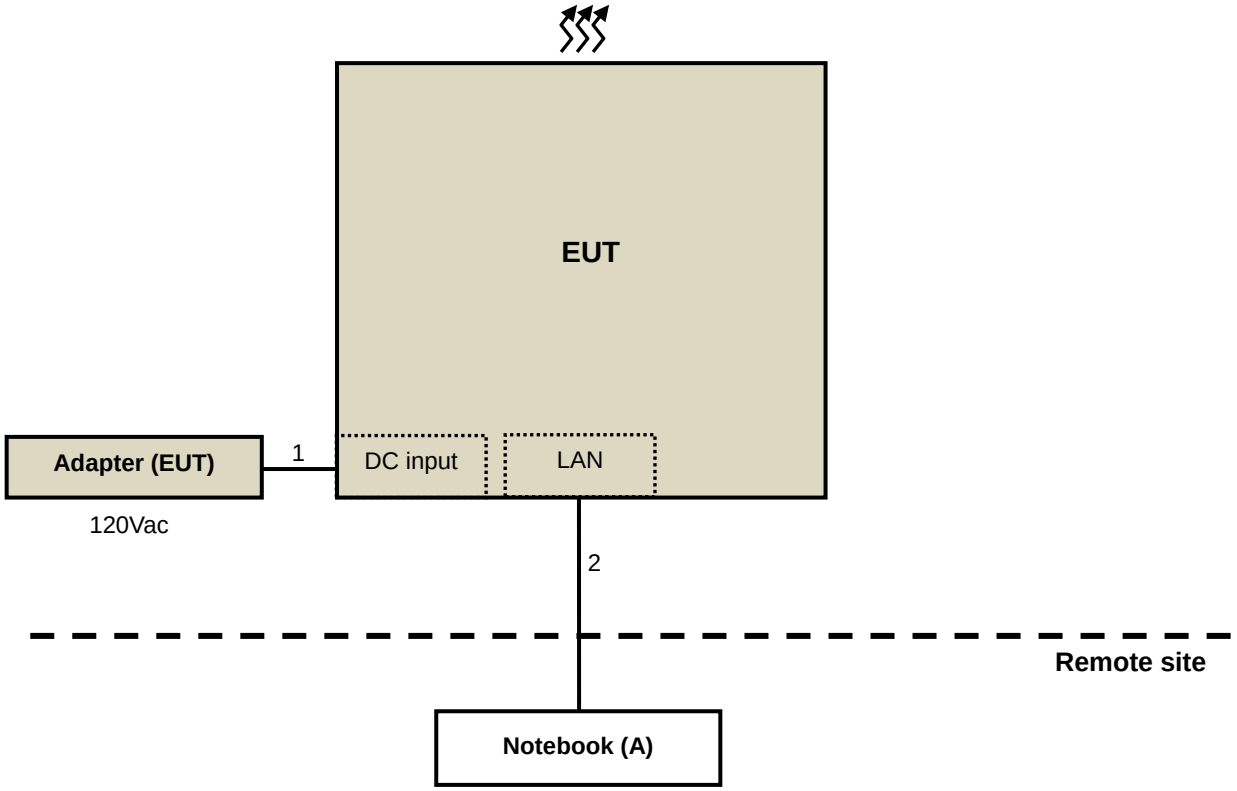
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as communication partners to transfer data.

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/ No)	Cores (Qty.)	Remarks
1.	DC cable	1	1.5	N	0	Supplied by applicant
2.	LAN cable	1	10	N	0	Provided by Lab (RJ45, Cat.5e)

Note: The core(s) is(are) originally attached to the cable(s).

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.	Calibrated Date	Calibrated Until
Test Receiver Agilent	N9038A	MY51210129	2021/3/12	2022/3/11
Software BVADT	ADT_Radiated_V8.7.08	NA	NA	NA
Software BVADT	ADT_RF Test Software V6.6.5.4	NA	NA	NA
Auto Control System(Antenna Tower, Table, Controller) ADT	SC100+AT100+TT100	0306	NA	NA
Pre_Amplifier EMCI	EMC001340	980269	2021/6/29	2022/6/28
LOOP ANTENNA EMCI	LPA600	270	2021/9/2	2023/9/1
RF Coaxial Cable Pacific	8D-FB	Cable-CH6-02	2021/7/13	2022/7/12
Pre_Amplifier HP	8447D	2432A03504	2021/2/18	2022/2/17
Bi-log Broadband Antenna Schwarzbeck	VULB9168	139	2020/11/6	2021/11/5
Attenuator Mini-Circuits	UNAT-5+	PAD-CH6-01	2021/7/13	2022/7/12
RF Coaxial Cable Pacific	8D-FB	Cable-CH6-02	2021/7/13	2022/7/12
Antenna(Horn) EMCO	3115	00028257	2020/11/22	2021/11/21
Test Receiver Agilent	N9038A	MY51210129	2021/3/12	2022/3/11
Pre-amplifier HP	8449B	3008A01201	2021/2/19	2022/2/18
RF Coaxial Cable HUBER SUHNER	SF-102	Cable-CH6-01	2021/7/8	2022/7/7
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	2021/5/28	2022/5/27
Fix tool for Boresight	BAF-01	5	NA	NA
Pre_Amplifier MITEQ	AMF-6F-260400-33-8P	892164	2021/2/19	2022/2/18
Antenna(Horn) Schwarzbeck	BBHA-9170	BBHA9170190	2020/11/22	2021/11/21
Spectrum Analyzer R&S	FSV40	101544	2021/5/24	2022/5/23
RF Coaxial Cable WOKEN	WC01	Cable-CH10-03	2021/7/8	2022/7/7
RF Coaxial Cable Rosnol	K1K50-UP0279-K1K50-3000	Cable-CH10(3m)-04	2021/7/8	2022/7/7
Highpass filter SUHNER	11SH10-7000/T18000-O/OP	SN 4	2021/5/28	2022/5/27

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 horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in LK - 966 chamber 1.
4. Tested Date: 2021/9/25 ~ 2021/9/29

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 detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

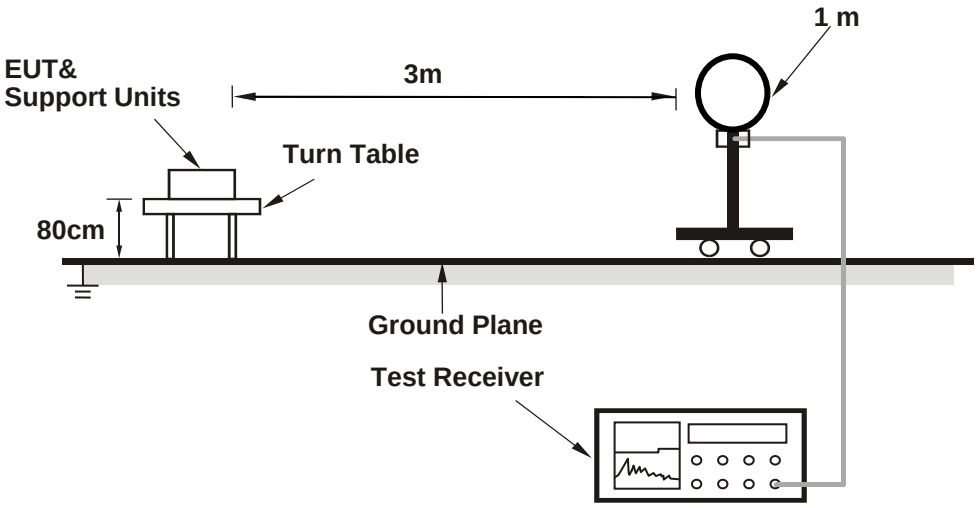
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz. (802.11b: RBW = 1MHz, VBW = 82Hz; 802.11g: RBW = 1MHz, VBW = 510Hz; 802.11n (HT20): RBW = 1MHz, VBW = 560Hz; 802.11n (HT40): RBW = 1MHz, VBW = 1.1kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

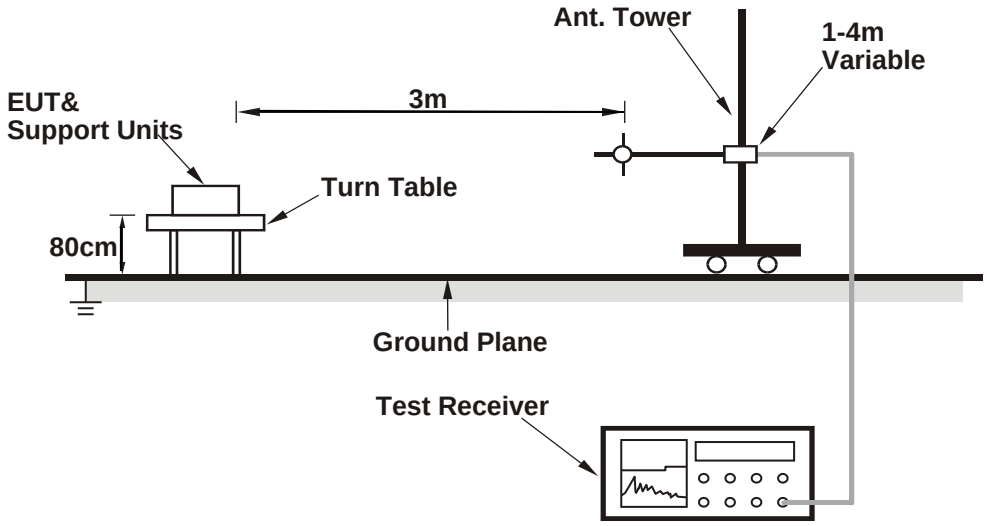
No deviation.

4.1.5 Test Setup

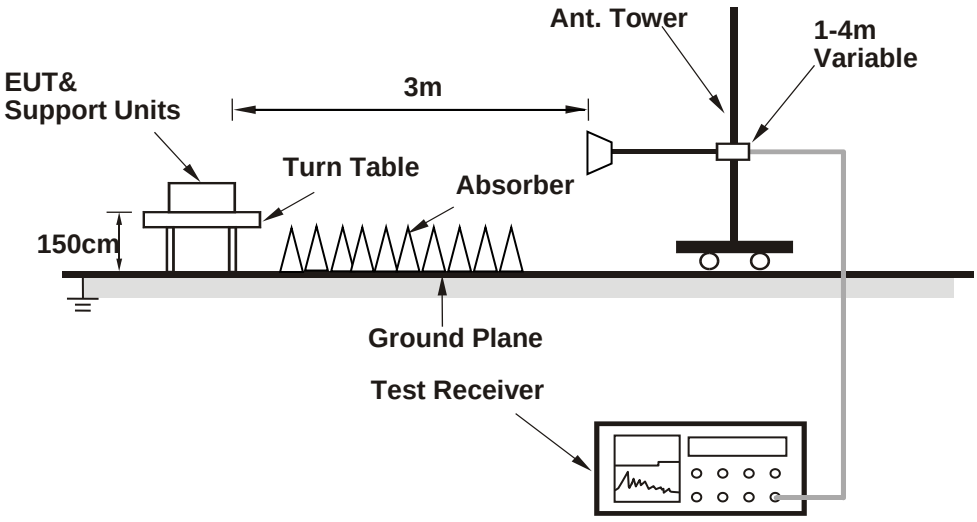
For Radiated emission below 30MHz



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. Placed the EUT on the testing table.
b. Prepared notebook to act as communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The necessary accessories enable the system in full functions.

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	57.40 PK	74.00	-16.60	1.50 H	137	59.68	-2.28
2	2390.00	47.59 AV	54.00	-6.41	1.50 H	137	49.87	-2.28
3	*2412.00	106.07 PK			1.50 H	137	108.26	-2.19
4	*2412.00	103.97 AV			1.50 H	137	106.16	-2.19
5	4824.00	50.85 PK	74.00	-23.15	2.26 H	66	45.19	5.66
6	4824.00	45.18 AV	54.00	-8.82	2.26 H	66	39.52	5.66
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	60.98 PK	74.00	-13.02	1.19 V	339	63.26	-2.28
2	2390.00	53.54 AV	54.00	-0.46	1.19 V	339	55.82	-2.28
3	*2412.00	114.40 PK			1.19 V	339	116.59	-2.19
4	*2412.00	112.12 AV			1.19 V	339	114.31	-2.19
5	4824.00	51.48 PK	74.00	-22.52	2.67 V	42	45.82	5.66
6	4824.00	45.03 AV	54.00	-8.97	2.67 V	42	39.37	5.66

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	109.50 PK			1.48 H	141	111.65	-2.15
2	*2437.00	107.25 AV			1.48 H	141	109.40	-2.15
3	4874.00	51.35 PK	74.00	-22.65	1.66 H	103	45.66	5.69
4	4874.00	46.10 AV	54.00	-7.90	1.66 H	103	40.41	5.69
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	116.87 PK			1.03 V	346	119.02	-2.15
2	*2437.00	114.48 AV			1.03 V	346	116.63	-2.15
3	4874.00	51.99 PK	74.00	-22.01	3.05 V	82	46.30	5.69
4	4874.00	46.95 AV	54.00	-7.05	3.05 V	82	41.26	5.69

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	108.51 PK			2.84 H	292	110.57	-2.06
2	*2462.00	106.47 AV			2.84 H	292	108.53	-2.06
3	2483.50	58.79 PK	74.00	-15.21	2.84 H	292	60.73	-1.94
4	2483.50	48.31 AV	54.00	-5.69	2.84 H	292	50.25	-1.94
5	4924.00	51.12 PK	74.00	-22.88	1.29 H	96	45.35	5.77
6	4924.00	45.40 AV	54.00	-8.60	1.29 H	96	39.63	5.77
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	116.48 PK			1.32 V	338	118.54	-2.06
2	*2462.00	114.15 AV			1.32 V	338	116.21	-2.06
3	2483.50	61.55 PK	74.00	-12.45	1.32 V	338	63.49	-1.94
4	2483.50	53.26 AV	54.00	-0.74	1.32 V	338	55.20	-1.94
5	4924.00	51.65 PK	74.00	-22.35	1.26 V	108	45.88	5.77
6	4924.00	46.60 AV	54.00	-7.40	1.26 V	108	40.83	5.77

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	65.96 PK	74.00	-8.04	1.31 H	172	68.24	-2.28
2	2390.00	51.13 AV	54.00	-2.87	1.31 H	172	53.41	-2.28
3	*2412.00	109.68 PK			1.31 H	172	111.87	-2.19
4	*2412.00	102.43 AV			1.31 H	172	104.62	-2.19
5	4824.00	48.86 PK	74.00	-25.14	1.54 H	52	43.20	5.66
6	4824.00	38.00 AV	54.00	-16.00	1.54 H	52	32.34	5.66
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	68.98 PK	74.00	-5.02	1.69 V	341	71.26	-2.28
2	2390.00	53.45 AV	54.00	-0.55	1.69 V	341	55.73	-2.28
3	*2412.00	115.42 PK			1.69 V	341	117.61	-2.19
4	*2412.00	107.82 AV			1.69 V	341	110.01	-2.19
5	4824.00	49.48 PK	74.00	-24.52	1.88 V	65	43.82	5.66
6	4824.00	38.59 AV	54.00	-15.41	1.88 V	65	32.93	5.66

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	60.00 PK	74.00	-14.00	2.70 H	142	62.28	-2.28
2	2390.00	49.06 AV	54.00	-4.94	2.70 H	142	51.34	-2.28
3	*2437.00	114.43 PK			2.70 H	142	116.58	-2.15
4	*2437.00	106.56 AV			2.70 H	142	108.71	-2.15
5	2483.50	61.66 PK	74.00	-12.34	2.70 H	142	63.60	-1.94
6	2483.50	49.96 AV	54.00	-4.04	2.70 H	142	51.90	-1.94
7	4874.00	47.61 PK	74.00	-26.39	1.61 H	89	41.92	5.69
8	4874.00	37.24 AV	54.00	-16.76	1.61 H	89	31.55	5.69
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	68.02 PK	74.00	-5.98	1.51 V	348	70.30	-2.28
2	2390.00	52.93 AV	54.00	-1.07	1.51 V	348	55.21	-2.28
3	*2437.00	120.81 PK			1.51 V	348	122.96	-2.15
4	*2437.00	113.46 AV			1.51 V	348	115.61	-2.15
5	2483.50	68.47 PK	74.00	-5.53	1.51 V	348	70.41	-1.94
6	2483.50	52.84 AV	54.00	-1.16	1.51 V	348	54.78	-1.94
7	4874.00	50.86 PK	74.00	-23.14	1.74 V	43	45.17	5.69
8	4874.00	39.83 AV	54.00	-14.17	1.74 V	43	34.14	5.69

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	106.46 PK			1.57 H	293	108.52	-2.06
2	*2462.00	99.22 AV			1.57 H	293	101.28	-2.06
3	2483.50	64.46 PK	74.00	-9.54	1.57 H	293	66.40	-1.94
4	2483.50	50.32 AV	54.00	-3.68	1.57 H	293	52.26	-1.94
5	4924.00	47.74 PK	74.00	-26.26	1.69 H	93	41.97	5.77
6	4924.00	37.21 AV	54.00	-16.79	1.69 H	93	31.44	5.77
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	113.50 PK			1.49 V	348	115.56	-2.06
2	*2462.00	106.62 AV			1.49 V	348	108.68	-2.06
3	2483.50	70.18 PK	74.00	-3.82	1.49 V	348	72.12	-1.94
4	2483.50	53.58 AV	54.00	-0.42	1.49 V	348	55.52	-1.94
5	4924.00	49.14 PK	74.00	-24.86	1.77 V	62	43.37	5.77
6	4924.00	37.61 AV	54.00	-16.39	1.77 V	62	31.84	5.77

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 (HT20)	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	60.07 PK	74.00	-13.93	2.27 H	137	62.35	-2.28
2	2390.00	49.27 AV	54.00	-4.73	2.27 H	137	51.55	-2.28
3	*2412.00	105.76 PK			2.27 H	137	107.95	-2.19
4	*2412.00	98.44 AV			2.27 H	137	100.63	-2.19
5	4824.00	46.62 PK	74.00	-27.38	1.47 H	103	40.96	5.66
6	4824.00	36.60 AV	54.00	-17.40	1.47 H	103	30.94	5.66
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	67.32 PK	74.00	-6.68	1.20 V	341	69.60	-2.28
2	2390.00	53.45 AV	54.00	-0.55	1.20 V	341	55.73	-2.28
3	*2412.00	113.51 PK			1.20 V	341	115.70	-2.19
4	*2412.00	106.21 AV			1.20 V	341	108.40	-2.19
5	4824.00	47.54 PK	74.00	-26.46	1.84 V	55	41.88	5.66
6	4824.00	37.35 AV	54.00	-16.65	1.84 V	55	31.69	5.66

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 (HT20)	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	60.67 PK	74.00	-13.33	2.70 H	142	62.95	-2.28
2	2390.00	49.20 AV	54.00	-4.80	2.70 H	142	51.48	-2.28
3	*2437.00	113.23 PK			2.70 H	142	115.38	-2.15
4	*2437.00	105.78 AV			2.70 H	142	107.93	-2.15
5	2483.50	62.42 PK	74.00	-11.58	2.70 H	142	64.36	-1.94
6	2483.50	49.93 AV	54.00	-4.07	2.70 H	142	51.87	-1.94
7	4874.00	46.78 PK	74.00	-27.22	1.99 H	104	41.09	5.69
8	4874.00	36.67 AV	54.00	-17.33	1.99 H	104	30.98	5.69
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	68.23 PK	74.00	-5.77	1.51 V	347	70.51	-2.28
2	2390.00	53.14 AV	54.00	-0.86	1.51 V	347	55.42	-2.28
3	*2437.00	120.01 PK			1.51 V	347	122.16	-2.15
4	*2437.00	112.90 AV			1.51 V	347	115.05	-2.15
5	2483.50	68.34 PK	74.00	-5.66	1.51 V	347	70.28	-1.94
6	2483.50	53.32 AV	54.00	-0.68	1.51 V	347	55.26	-1.94
7	4874.00	48.22 PK	74.00	-25.78	1.82 V	74	42.53	5.69
8	4874.00	37.44 AV	54.00	-16.56	1.82 V	74	31.75	5.69

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 (HT20)	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	105.65 PK			3.48 H	296	107.71	-2.06
2	*2462.00	98.47 AV			3.48 H	296	100.53	-2.06
3	2483.50	62.96 PK	74.00	-11.04	3.48 H	296	64.90	-1.94
4	2483.50	49.99 AV	54.00	-4.01	3.48 H	296	51.93	-1.94
5	4924.00	47.91 PK	74.00	-26.09	1.87 H	99	42.14	5.77
6	4924.00	37.41 AV	54.00	-16.59	1.87 H	99	31.64	5.77
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	113.46 PK			1.33 V	339	115.52	-2.06
2	*2462.00	106.07 AV			1.33 V	339	108.13	-2.06
3	2483.50	68.50 PK	74.00	-5.50	1.33 V	339	70.44	-1.94
4	2483.50	53.53 AV	54.00	-0.47	1.33 V	339	55.47	-1.94
5	4924.00	49.08 PK	74.00	-24.92	1.81 V	69	43.31	5.77
6	4924.00	37.87 AV	54.00	-16.13	1.81 V	69	32.10	5.77

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 (HT40)	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	50.83 PK	74.00	-23.17	1.15 H	171	53.11	-2.28
2	2390.00	50.55 AV	54.00	-3.45	1.15 H	171	52.83	-2.28
3	*2422.00	103.89 PK			1.15 H	171	106.06	-2.17
4	*2422.00	97.15 AV			1.15 H	171	99.32	-2.17
5	4844.00	47.45 PK	74.00	-26.55	1.85 H	88	41.76	5.69
6	4844.00	36.84 AV	54.00	-17.16	1.85 H	88	31.15	5.69
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	69.81 PK	74.00	-4.19	1.34 V	338	72.09	-2.28
2	2390.00	53.38 AV	54.00	-0.62	1.34 V	338	55.66	-2.28
3	*2422.00	110.25 PK			1.34 V	338	112.42	-2.17
4	*2422.00	102.93 AV			1.34 V	338	105.10	-2.17
5	4844.00	47.82 PK	74.00	-26.18	1.87 V	76	42.13	5.69
6	4844.00	37.24 AV	54.00	-16.76	1.87 V	76	31.55	5.69

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 (HT40)	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	57.65 PK	74.00	-16.35	2.71 H	142	59.93	-2.28
2	2390.00	47.23 AV	54.00	-6.77	2.71 H	142	49.51	-2.28
3	*2437.00	103.40 PK			2.71 H	142	105.55	-2.15
4	*2437.00	96.37 AV			2.71 H	142	98.52	-2.15
5	2483.50	58.08 PK	74.00	-15.92	2.71 H	142	60.02	-1.94
6	2483.50	47.43 AV	54.00	-6.57	2.71 H	142	49.37	-1.94
7	4874.00	46.66 PK	74.00	-27.34	1.77 H	93	40.97	5.69
8	4874.00	36.12 AV	54.00	-17.88	1.77 H	93	30.43	5.69
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	66.13 PK	74.00	-7.87	1.04 V	345	68.41	-2.28
2	2390.00	53.52 AV	54.00	-0.48	1.04 V	345	55.80	-2.28
3	*2437.00	109.89 PK			1.04 V	345	112.04	-2.15
4	*2437.00	102.79 AV			1.04 V	345	104.94	-2.15
5	2483.50	63.33 PK	74.00	-10.67	1.04 V	345	65.27	-1.94
6	2483.50	50.72 AV	54.00	-3.28	1.04 V	345	52.66	-1.94
7	4874.00	47.10 PK	74.00	-26.90	1.84 V	53	41.41	5.69
8	4874.00	36.87 AV	54.00	-17.13	1.84 V	53	31.18	5.69

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 (HT40)	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	102.95 PK			2.71 H	143	105.06	-2.11
2	*2452.00	95.48 AV			2.71 H	143	97.59	-2.11
3	2483.50	61.10 PK	74.00	-12.90	2.71 H	143	63.04	-1.94
4	2483.50	48.57 AV	54.00	-5.43	2.71 H	143	50.51	-1.94
5	4904.00	46.42 PK	74.00	-27.58	1.87 H	61	40.71	5.71
6	4904.00	36.17 AV	54.00	-17.83	1.87 H	61	30.46	5.71
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	110.75 PK			1.18 V	348	112.86	-2.11
2	*2452.00	102.71 AV			1.18 V	348	104.82	-2.11
3	2483.50	68.54 PK	74.00	-5.46	1.18 V	348	70.48	-1.94
4	**2483.50**	**53.68 AV**	**54.00**	**-0.32**	**1.18 V**	**348**	**55.62**	**-1.94**
5	4904.00	47.09 PK	74.00	-26.91	1.79 V	49	41.38	5.71
6	4904.00	37.48 AV	54.00	-16.52	1.79 V	49	31.77	5.71

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.

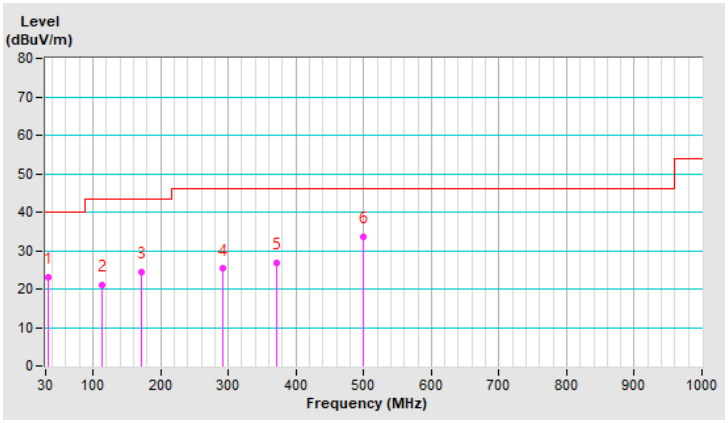
BELOW 1GHz WORST-CASE DATA

RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	34.70	23.02 QP	40.00	-16.98	1.49 H	98	31.48	-8.46
2	112.60	21.03 QP	43.50	-22.47	1.06 H	255	30.54	-9.51
3	171.33	24.51 QP	43.50	-18.99	1.75 H	245	30.95	-6.44
4	291.61	25.26 QP	46.00	-20.74	1.16 H	322	29.68	-4.42
5	371.10	26.91 QP	46.00	-19.09	1.98 H	255	29.48	-2.57
6	500.01	33.66 QP	46.00	-12.34	1.20 H	235	33.66	0.00

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
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.

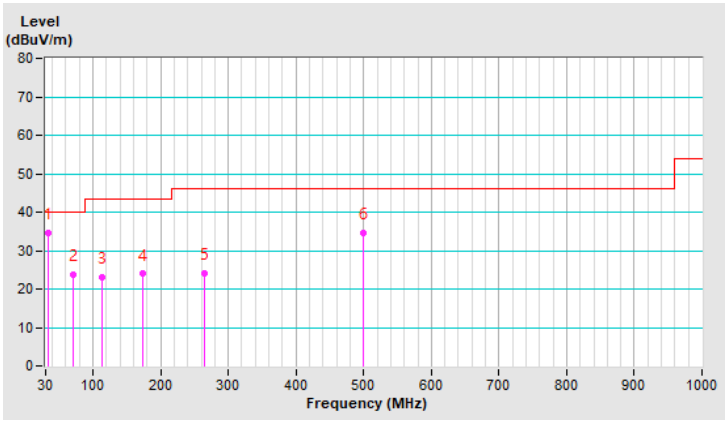


RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	34.32	34.68 QP	40.00	-5.32	1.87 V	220	43.17	-8.49
2	71.03	23.74 QP	40.00	-16.26	1.96 V	253	32.81	-9.07
3	113.13	23.07 QP	43.50	-20.43	1.20 V	25	32.55	-9.48
4	173.85	23.92 QP	43.50	-19.58	2.57 V	98	30.54	-6.62
5	264.50	24.20 QP	46.00	-21.80	1.32 V	258	29.81	-5.61
6	500.01	34.72 QP	46.00	-11.28	1.79 V	217	34.72	0.00

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
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.	Calibrated Date	Calibrated Until
Test Receiver R & S	ESCS 30	838251/021	2020/11/3	2021/11/2
LISN R&S	ENV216	101197	2021/6/23	2022/6/22
LISN R&S	ENV216	101195	2021/5/25	2022/5/24
LISN SCHWARZBECK	NNLK8129	8129229	2021/5/20	2022/5/19
DC LISN SCHWARZBECK	NNLK 8121	8121-808	2021/4/18	2022/4/17
LISN SCHWARZBECK	NNLK 8121	8121-731	2021/4/28	2022/4/27
LISN R&S	ENV216	101196	2021/4/26	2022/4/25
LISN EMCO	3825/2	9504-2359	2021/7/27	2022/7/26
LISN R&S	ESH3-Z6	844950/018	2021/7/25	2022/7/24
LISN EMCO	3825/2	9204-1964	2021/5/19	2022/5/18
DC LISN R&S	ESH3-Z6	100219	2021/7/25	2022/7/24
Coupling/Dcoupling Network SCHWARZBECK	CDNE-M2	00097	2021/5/6	2022/5/5
Coupling/Dcoupling Network SCHWARZBECK	CDNE-M3	00091	2021/5/6	2022/5/5
Coupling/Dcoupling Network TESEQ	CDN A201A	44601	2020/12/27	2021/12/26
RF Coaxial Cable Commate	5D-FB	Cable-CO3-01	2021/9/15	2022/9/14
Attenuator STI	STI02-2200-10	NO.3	2020/10/23	2021/10/22
50 ohms Terminator LYNICS	0900510	E1-01-300	2021/1/27	2022/1/26
50 ohms Terminator LYNICS	0900510	E1-01-301	2021/1/27	2022/1/26
Isolation Transformer Erika Fiedler	D-65396	017	2021/9/9	2022/9/8
Software BVADT	Cond_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 Linkou Conduction03
3. The VCCI Site Registration No. C-10274.
4. Tested Date: 2021/10/12

4.2.3 Test Procedures

a. 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.

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

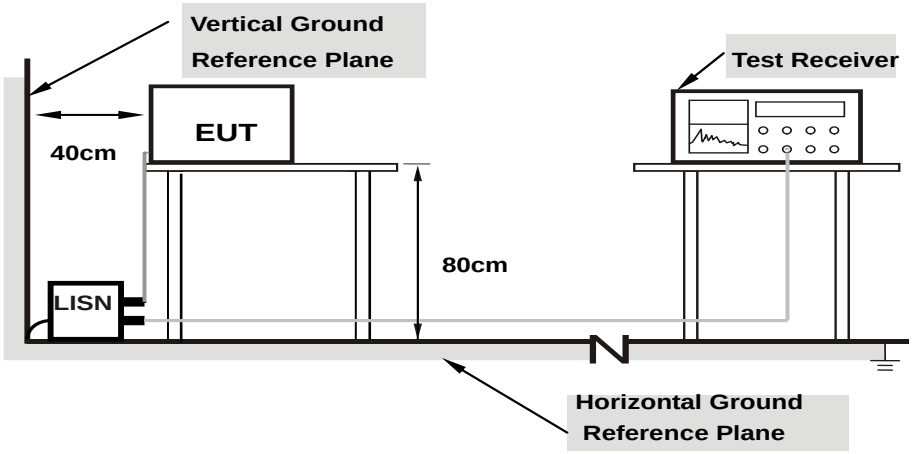
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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 Item 4.1.6.

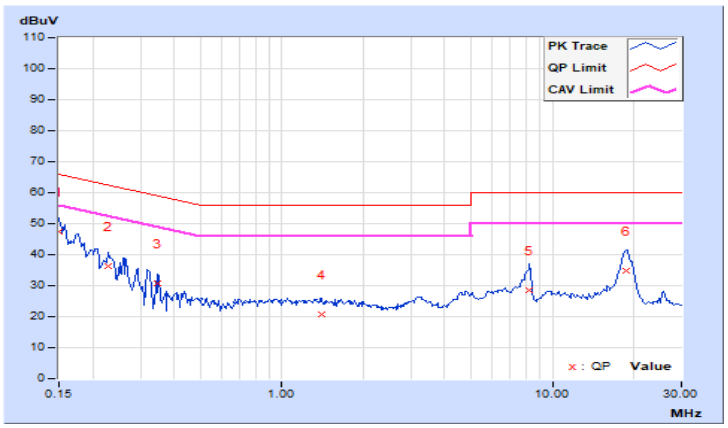
4.2.7 Test Results

RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.84	37.68	26.40	47.52	36.24	66.00	56.00	-18.48	-19.76
2	0.22812	9.85	26.35	15.88	36.20	25.73	62.52	52.52	-26.32	-26.79
3	0.34531	9.88	20.77	10.97	30.65	20.85	59.07	49.07	-28.42	-28.22
4	1.39844	10.00	10.79	3.50	20.79	13.50	56.00	46.00	-35.21	-32.50
5	8.23828	10.23	18.14	11.34	28.37	21.57	60.00	50.00	-31.63	-28.43
6	18.84766	10.33	24.31	19.11	34.64	29.44	60.00	50.00	-25.36	-20.56

Remarks:

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

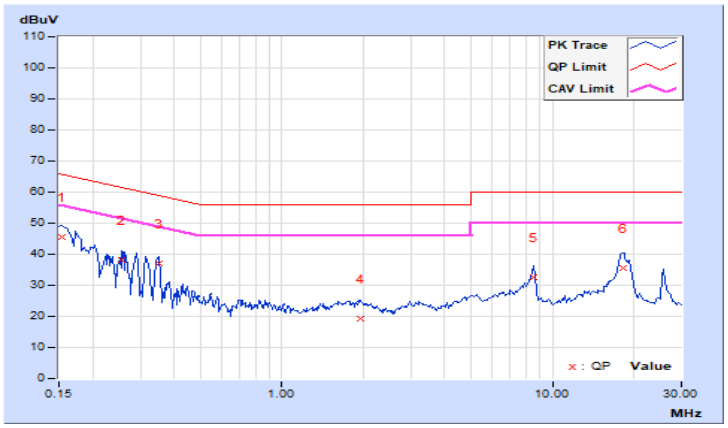


RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	9.82	35.80	24.18	45.62	34.00	65.79	55.79	-20.17	-21.79
2	0.25547	9.83	28.33	21.91	38.16	31.74	61.58	51.58	-23.42	-19.84
3	**0.34922**	**9.83**	**27.12**	**23.50**	**36.95**	**33.33**	**58.98**	**48.98**	**-22.03**	**-15.65**
4	1.95313	10.01	9.37	2.61	19.38	12.62	56.00	46.00	-36.62	-33.38
5	8.51172	10.21	22.41	14.80	32.62	25.01	60.00	50.00	-27.38	-24.99
6	18.28906	10.33	25.36	17.62	35.69	27.95	60.00	50.00	-24.31	-22.05

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

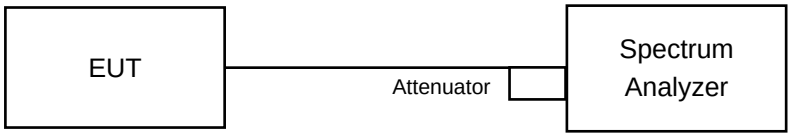


4.3 6dB Bandwidth Measurement

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

Description & Manufacturer	Model no.	Serial No.	Calibrated Date	Calibrated Until
Spectrum Analyzer R&S	FSV40	101042	2021/9/9	2022/9/8

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 LK - Oven
3. Tested Date: 2021/10/13

4.3.4 Test Procedure

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

4.3.5 Deviation fromTest 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	10.14	10.15	0.5	Pass
6	2437	10.14	10.15	0.5	Pass
11	2462	10.15	10.15	0.5	Pass

802.11g

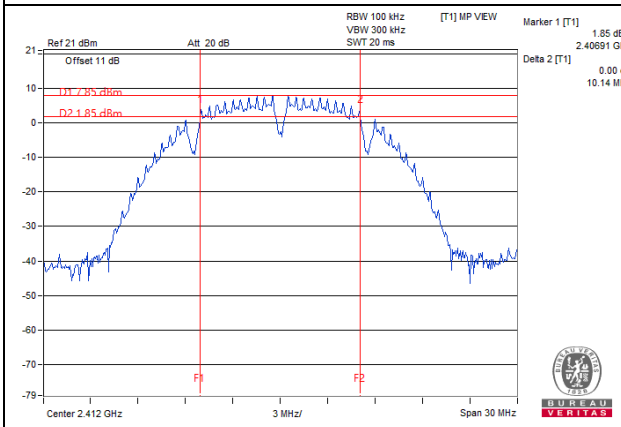
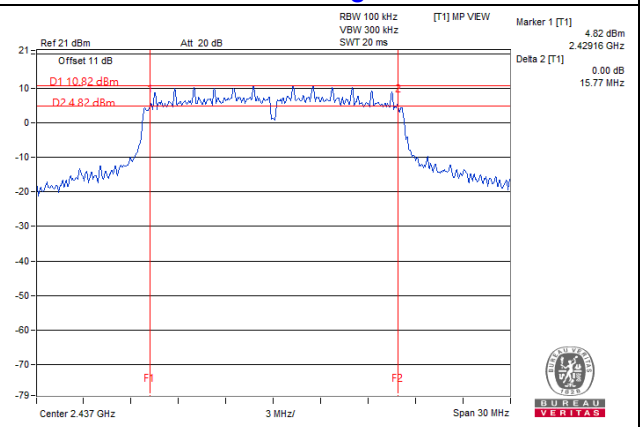
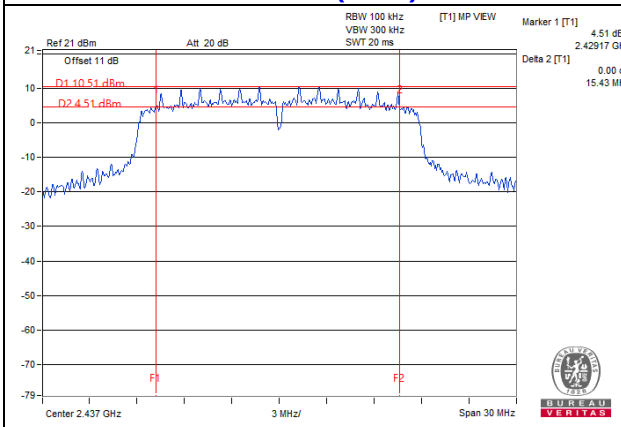
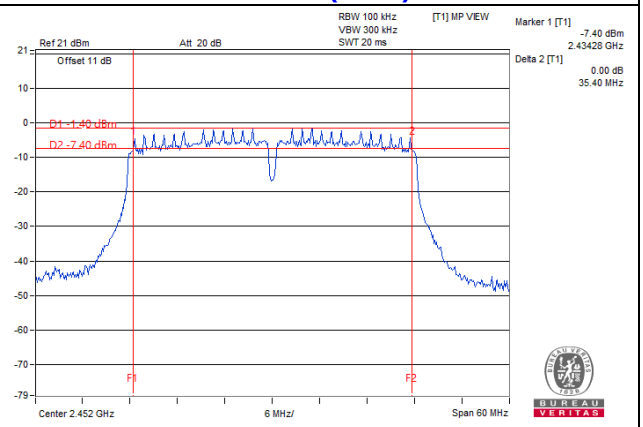
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.84	15.86	0.5	Pass
6	2437	15.77	15.95	0.5	Pass
11	2462	16.10	15.87	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	16.86	16.58	0.5	Pass
6	2437	16.28	15.43	0.5	Pass
11	2462	15.83	16.93	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	35.43	35.41	0.5	Pass
6	2437	35.42	35.4	0.5	Pass
9	2452	35.40	35.42	0.5	Pass

Spectrum Plot of Worst Value	
802.11b	**802.11g**
	
802.11n (HT20)	**802.11n (HT40)**
	

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

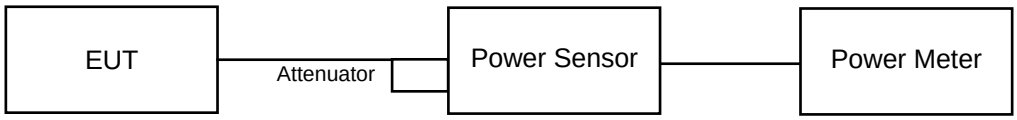
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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

Description & Manufacturer	Model no.	Serial No.	Calibrated Date	Calibrated Until
Pulse Power Sensor Anritsu	MA2411B	0738404	2021/4/15	2022/4/14
Peak Power meter Anritsu	ML2495A	0842014	2021/4/15	2022/4/14

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 LK - Oven
3. Tested Date: 2021/10/13

4.4.4 Test Procedures

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

Average power 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	18.72	18.89	151.919	21.82	30	Pass
6	2437	22.40	22.57	354.497	25.50	30	Pass
11	2462	21.08	21.33	264.064	24.22	30	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	23.61	23.82	470.605	26.73	30	Pass
6	2437	26.05	26.31	830.280	29.19	30	Pass
11	2462	21.67	21.86	300.354	24.78	30	Pass

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	20.94	21.08	252.398	24.02	30	Pass
6	2437	26.15	26.33	**841.634**	29.25	30	Pass
11	2462	21.18	21.29	265.806	24.25	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	21.69	21.80	298.927	24.76	30	Pass
6	2437	23.37	23.52	442.176	26.46	30	Pass
9	2452	21.45	21.67	286.529	24.57	30	Pass

FOR AVERAGE POWER

802.11b

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	16.70	16.94	96.205	19.83
6	2437	20.44	20.59	225.214	23.53
11	2462	19.17	19.41	169.901	22.30

802.11g

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	15.19	15.35	67.314	18.28
6	2437	21.13	21.36	266.491	24.26
11	2462	13.20	13.44	42.973	16.33

802.11n (HT20)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	12.97	13.15	40.469	16.07
6	2437	20.81	21.04	247.561	23.94
11	2462	13.16	13.29	42.032	16.24

802.11n (HT40)

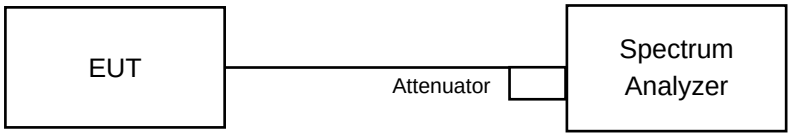
Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	12.77	12.96	38.693	15.88
6	2437	13.48	13.61	45.246	16.56
9	2452	12.50	12.63	36.106	15.58

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 4.3.3 to get information of above instrument.

4.5.4 Test Procedure

a. Set analyzer center frequency to DTS channel center frequency.
b. Set the span to 1.5 times the DTS bandwidth.
c. Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d. Set the VBW ≥ 3 × RBW.
e. Detector = peak.
f. Sweep time = auto couple.
g. Trace mode = max hold.
h. Allow trace to fully stabilize.
i. Use the peak marker function to determine the maximum amplitude level within the RBW.

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	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-5.62	3.01	-2.61	8	Pass
	6	2437	-2.37	3.01	0.64	8	Pass
	11	2462	-3.58	3.01	-0.57	8	Pass
1	1	2412	-6.31	3.01	-3.30	8	Pass
	6	2437	-3.10	3.01	-0.09	8	Pass
	11	2462	-4.02	3.01	-1.01	8	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[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2] = 5.87dBi < 6dBi, so the power density limit shall not be reduced.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-8.55	3.01	-5.54	8	Pass
	6	2437	-3.31	3.01	-0.30	8	Pass
	11	2462	-10.92	3.01	-7.91	8	Pass
1	1	2412	-8.39	3.01	-5.38	8	Pass
	6	2437	-2.94	3.01	0.07	8	Pass
	11	2462	-11.11	3.01	-8.10	8	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[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2] = 5.87dBi < 6dBi, so the power density limit shall not be reduced.

802.11n (HT20)

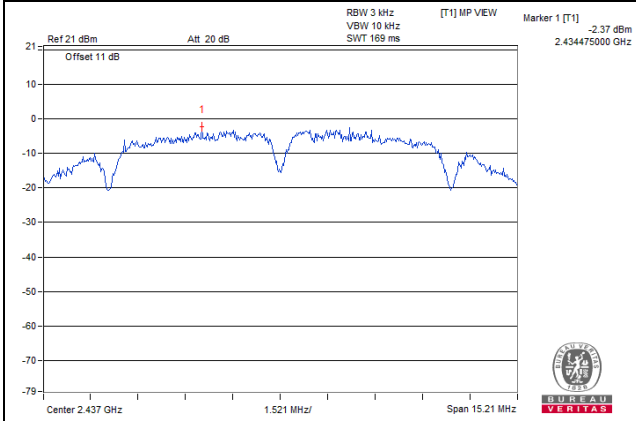
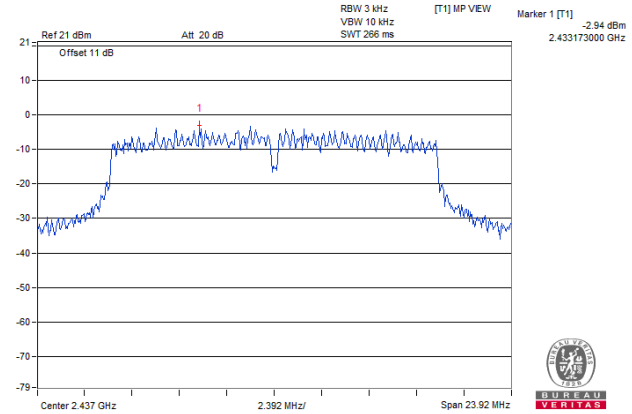
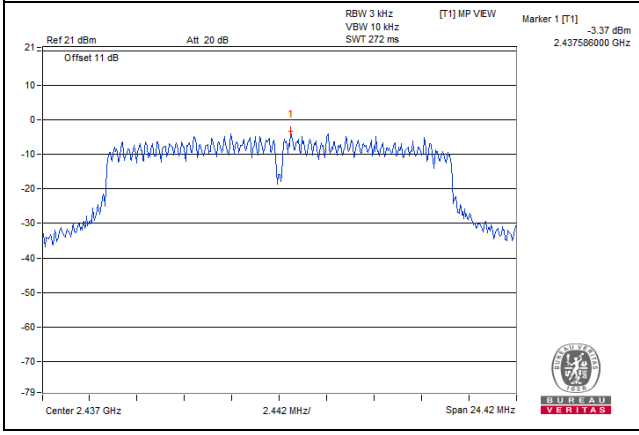
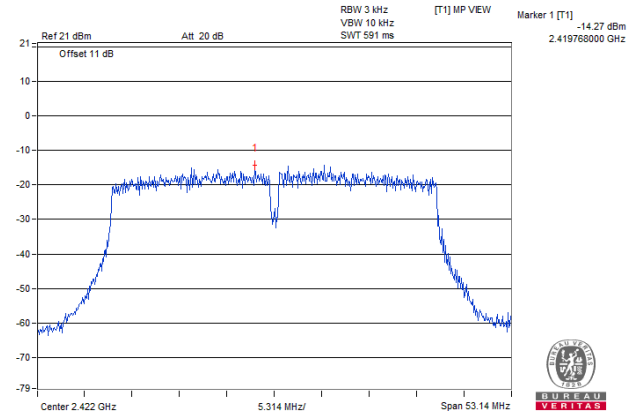
TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-12.32	3.01	-9.31	8	Pass
	6	2437	-3.37	3.01	-0.36	8	Pass
	11	2462	-11.64	3.01	-8.63	8	Pass
1	1	2412	-11.86	3.01	-8.85	8	Pass
	6	2437	-4.00	3.01	-0.99	8	Pass
	11	2462	-12.62	3.01	-9.61	8	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[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2] = 5.87dBi < 6dBi, so the power density limit shall not be reduced.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-14.27	3.01	-11.26	8	Pass
	6	2437	-15.25	3.01	-12.24	8	Pass
	9	2452	-15.76	3.01	-12.75	8	Pass
1	3	2422	-14.98	3.01	-11.97	8	Pass
	6	2437	-14.72	3.01	-11.71	8	Pass
	9	2452	-14.81	3.01	-11.80	8	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[$(10^{Chain0/20} + 10^{Chain1/20})^2$ / 2] = 5.87dBi < 6dBi, so the power density limit shall not be reduced.

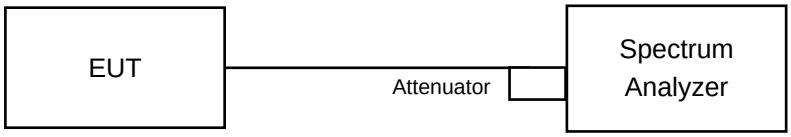
Spectrum Plot of Worst Value	
802.11b	**802.11g**
	
802.11n (HT20	**802.11n (HT40)**
	

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 4.3.3 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 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 OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 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

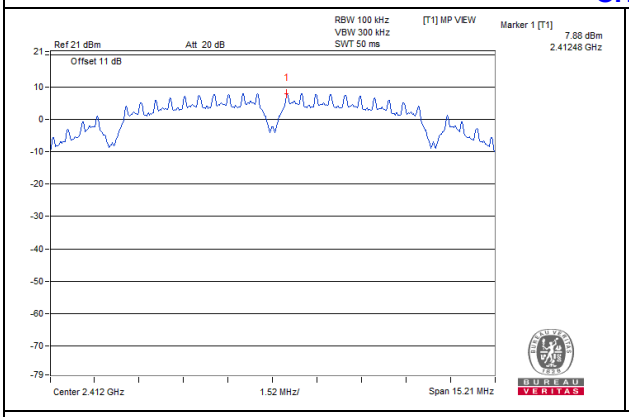
Same as Item 4.3.6

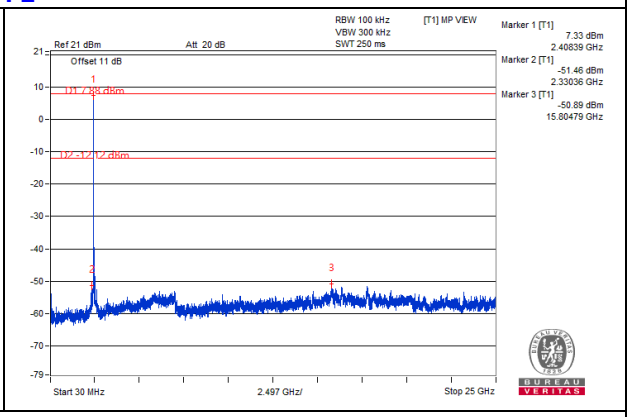
4.6.7 Test Results

The 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.

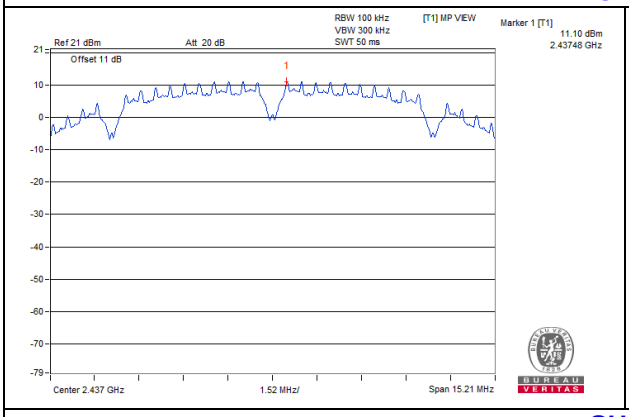
802.11b: Chain 0

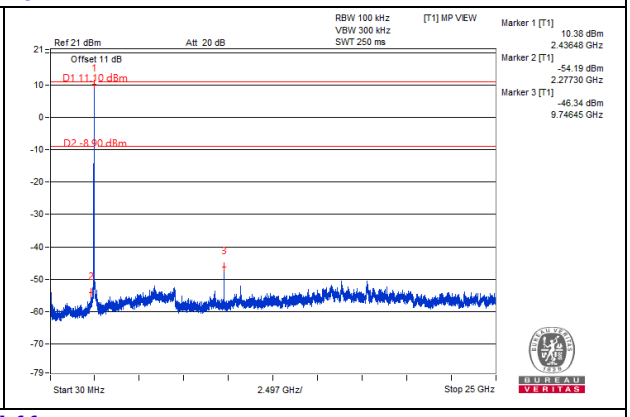
CH 1



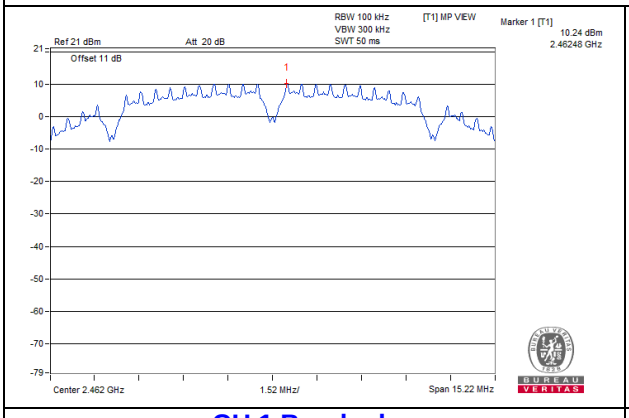


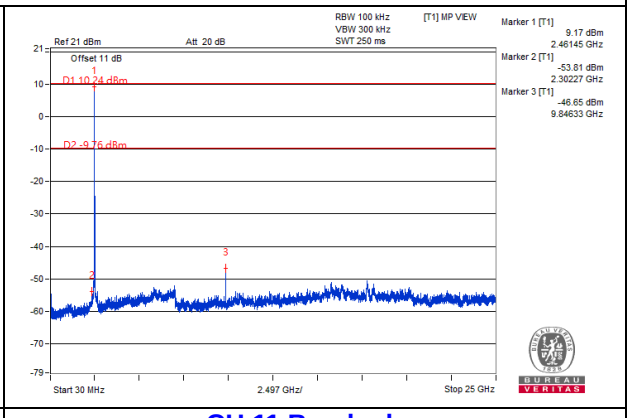
CH 6



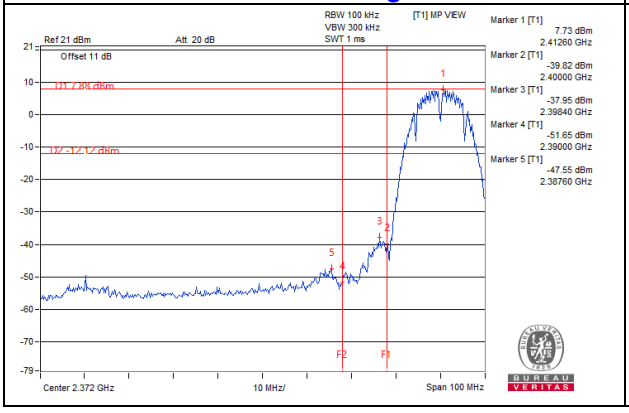


CH 11

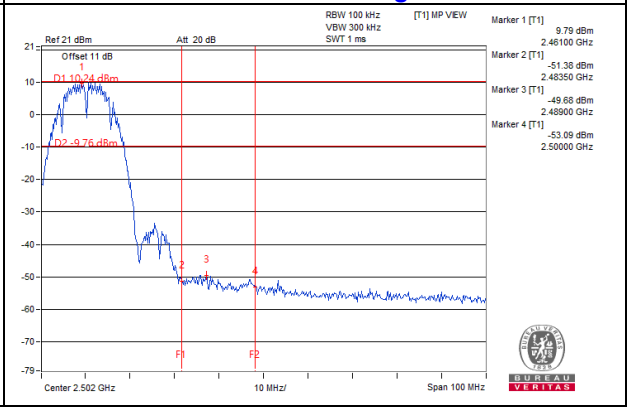




CH 1 Band edge

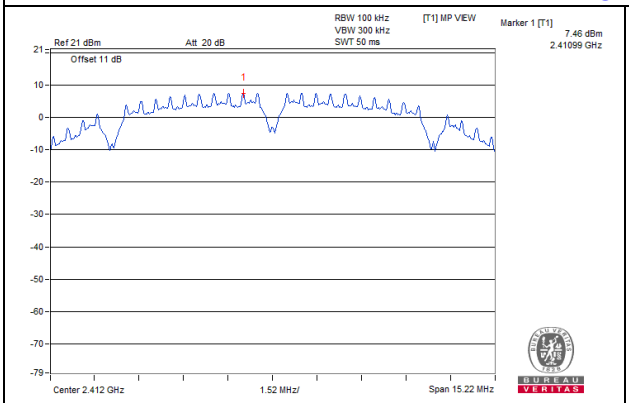


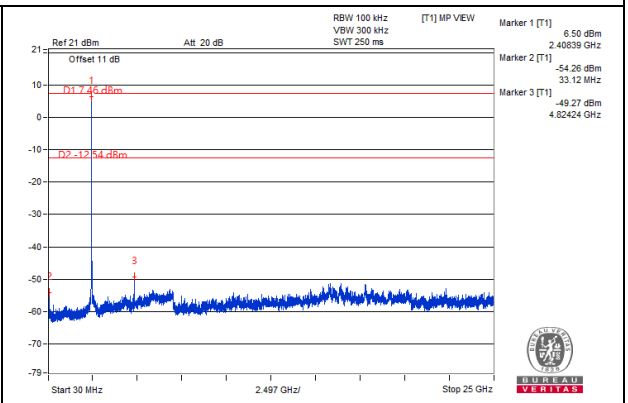
CH 11 Band edge



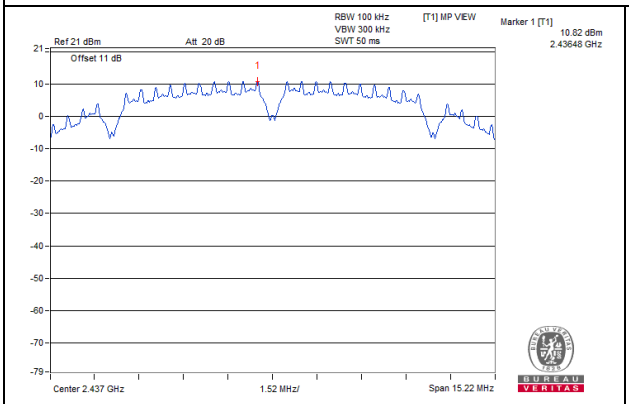
802.11b: Chain 1

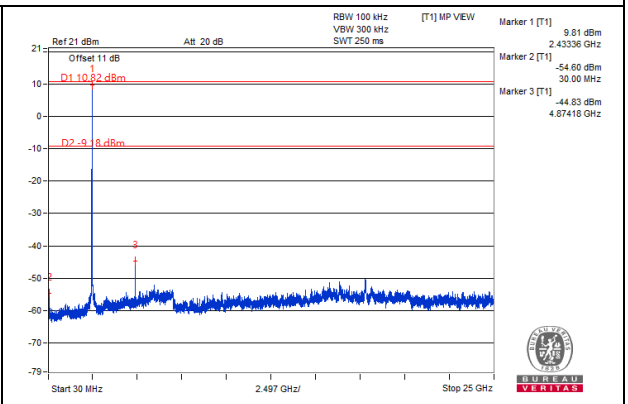
CH 1



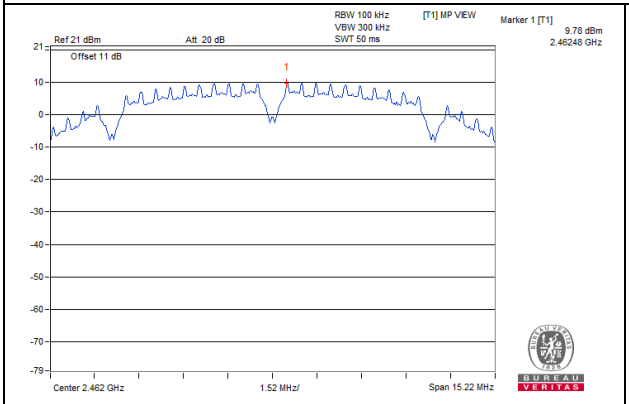


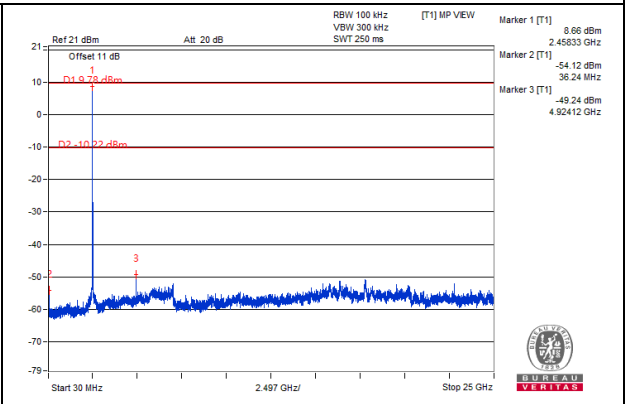
CH 6



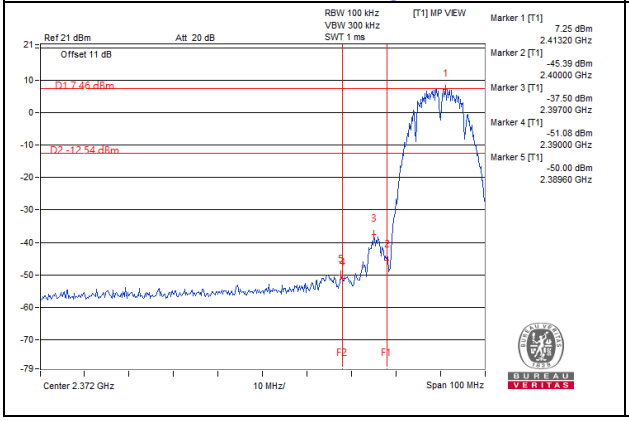


CH 11

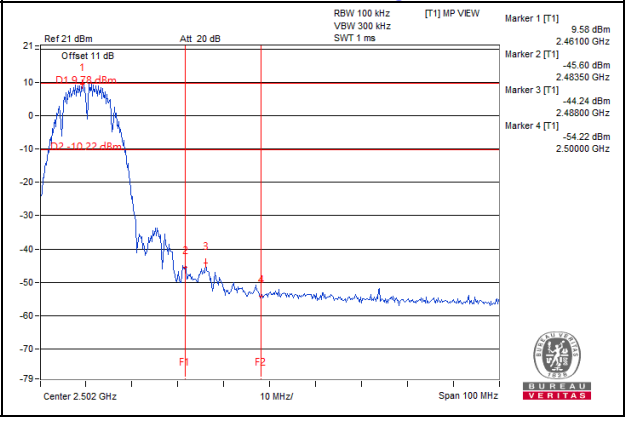




CH 1 Band edge

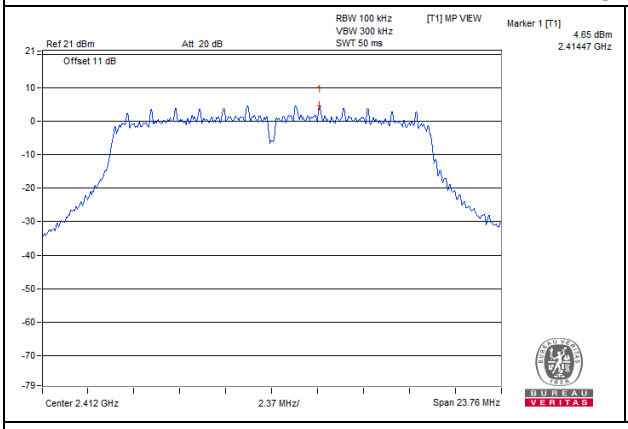


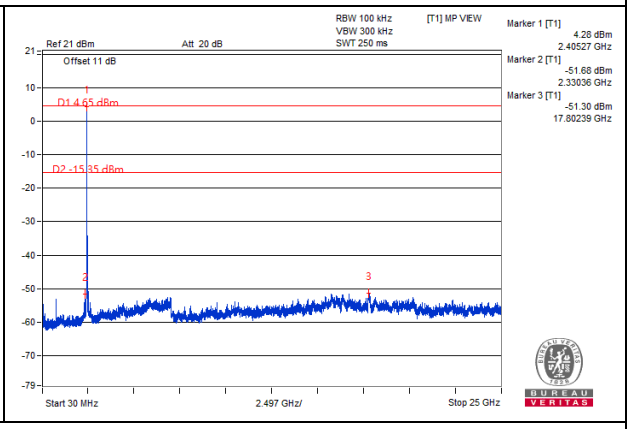
CH 11 Band edge



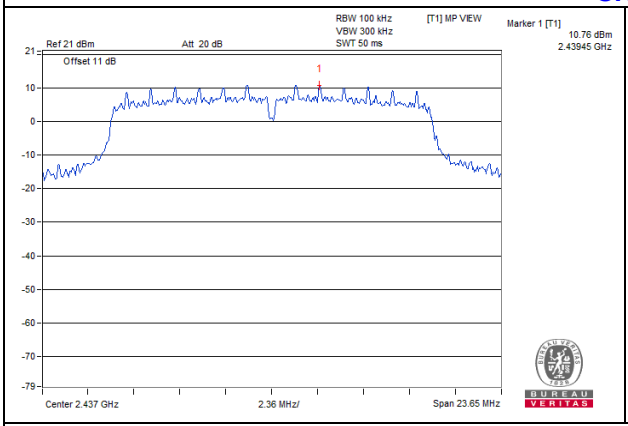
802.11g: Chain 0

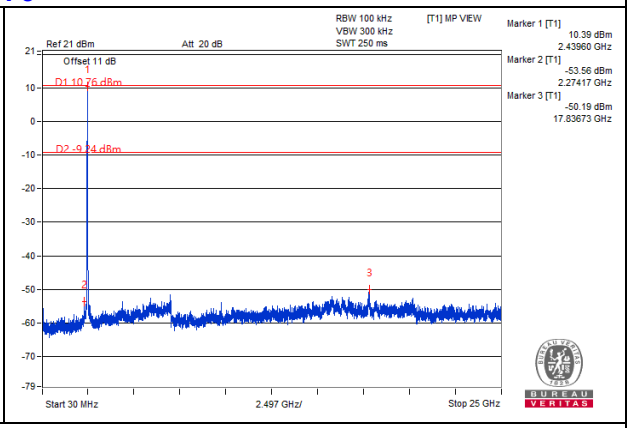
CH 1



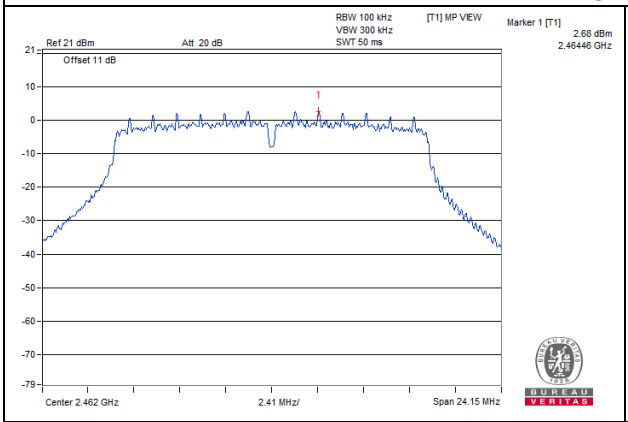


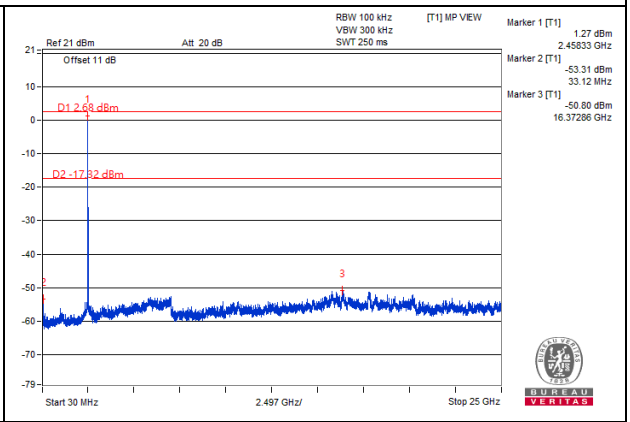
CH 6



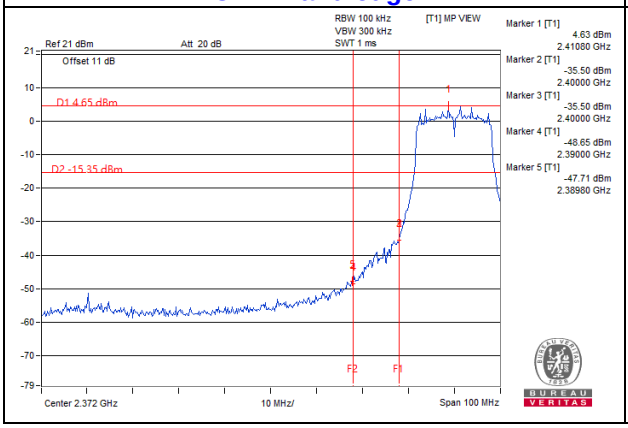


CH 11

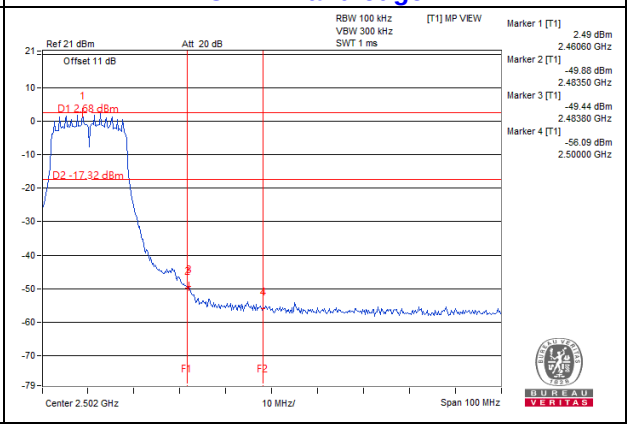




CH 1 Band edge

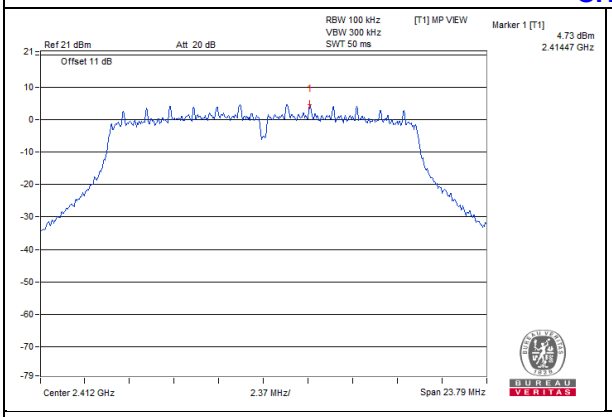


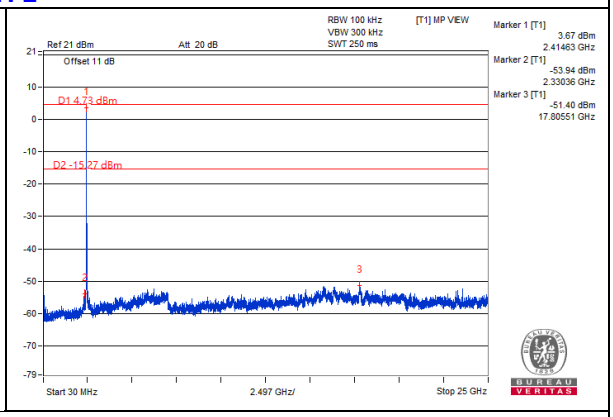
CH 11 Band edge



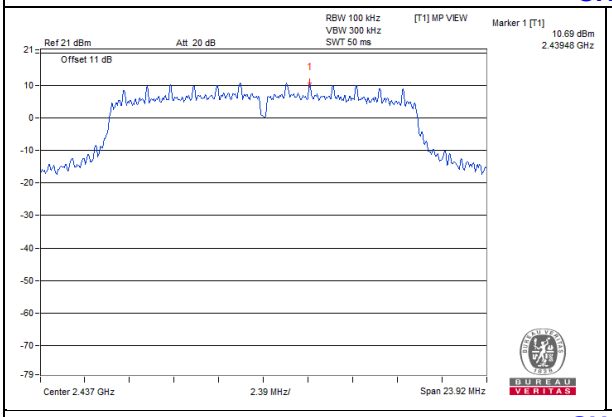
802.11g: Chain 1

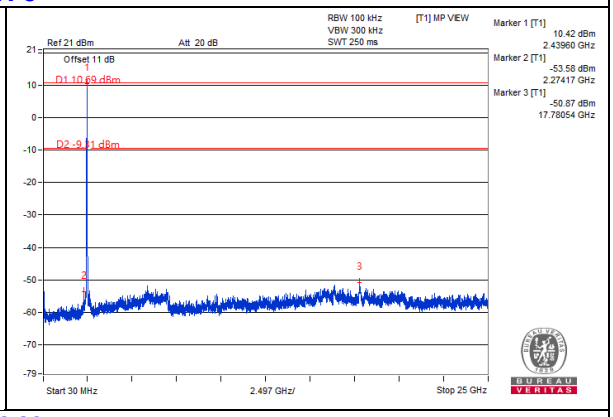
CH 1



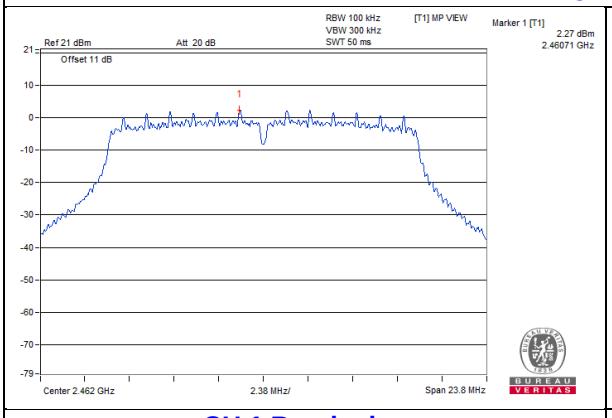


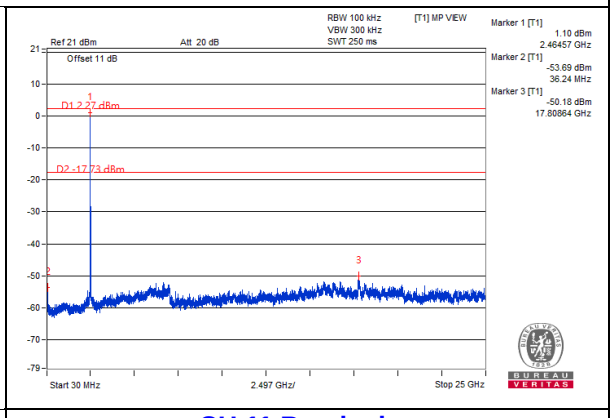
CH 6



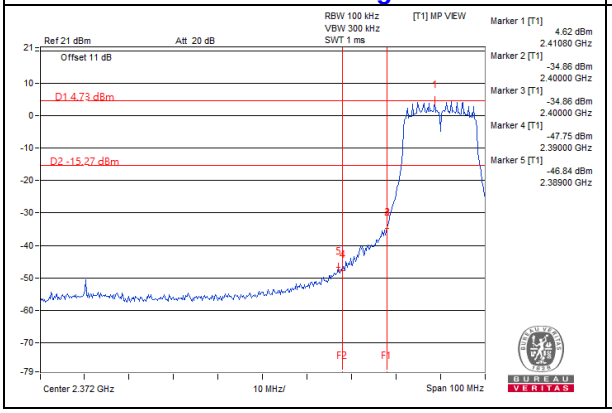


CH 11

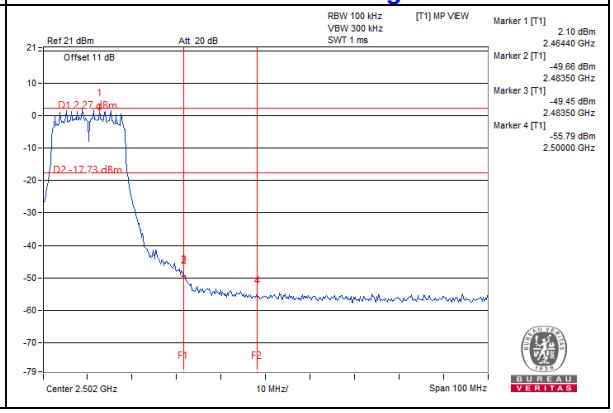




CH 1 Band edge

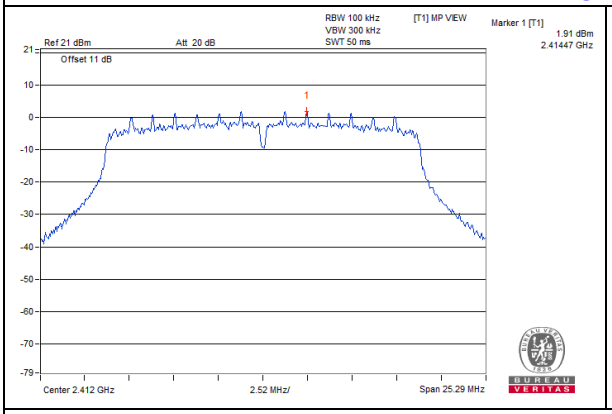


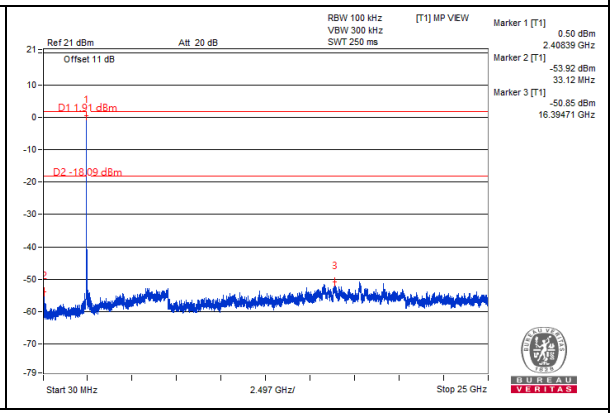
CH 11 Band edge



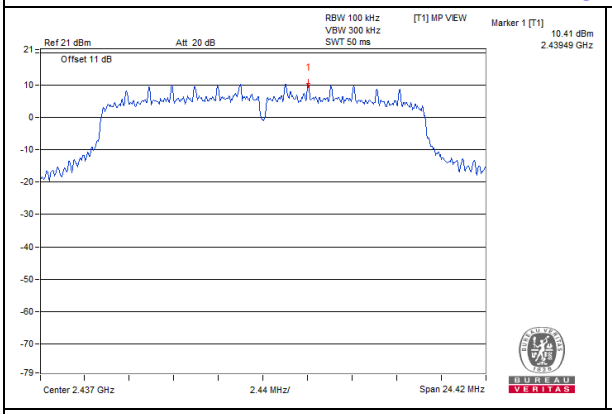
802.11n (HT20): Chain 0

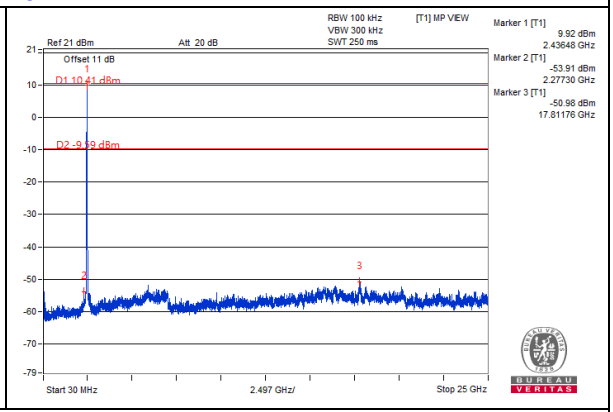
CH 1



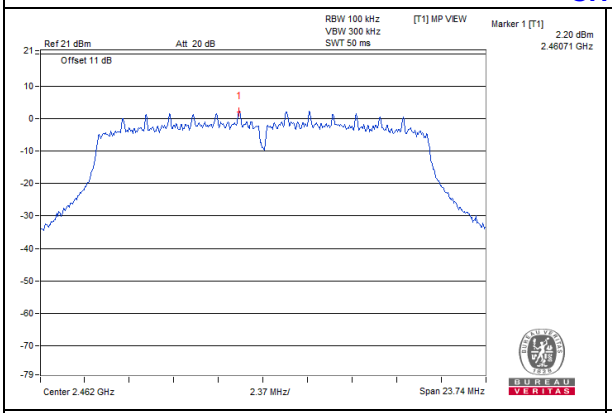


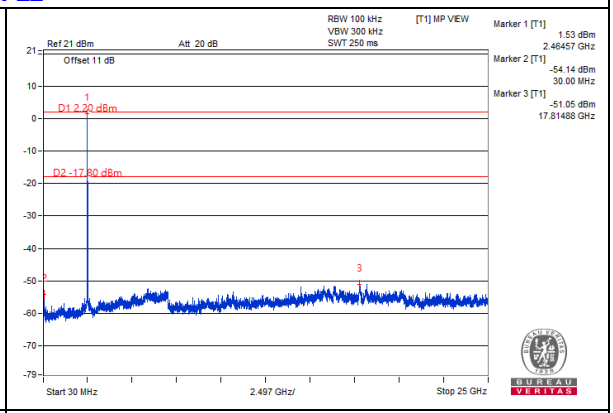
CH 6



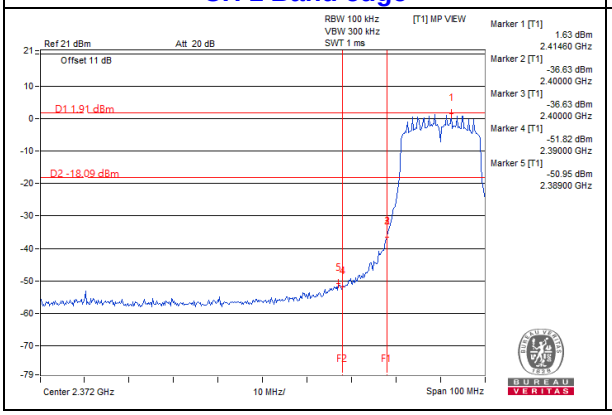


CH 11

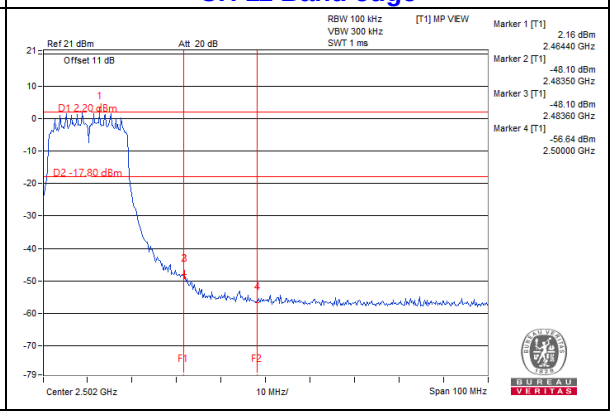




CH 1 Band edge

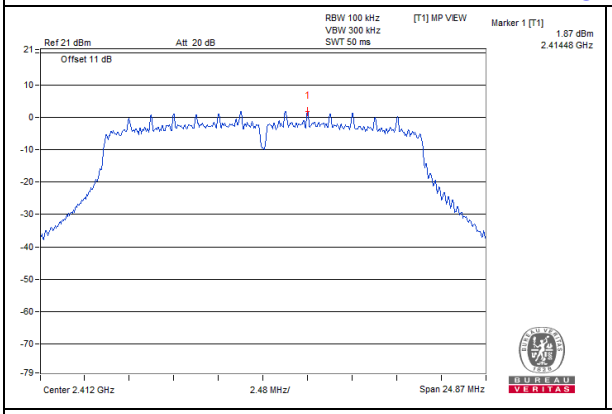


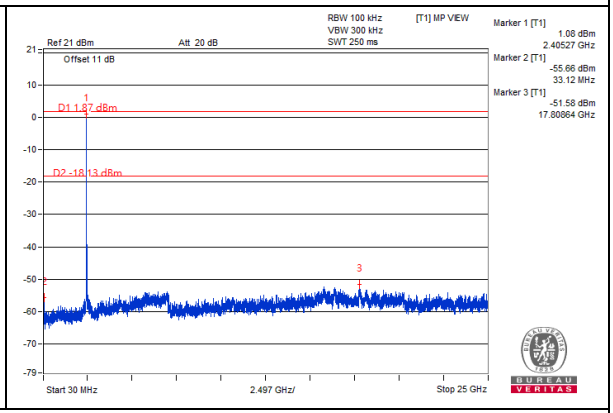
CH 11 Band edge



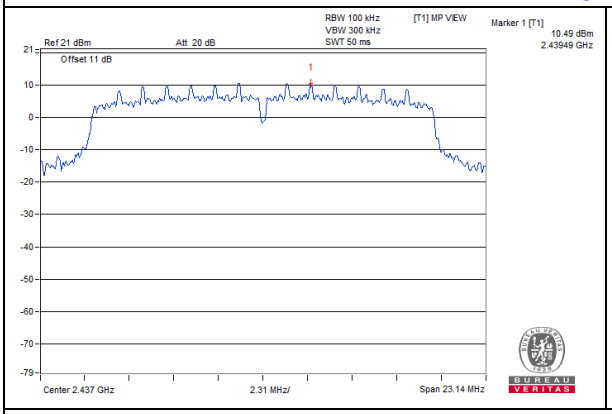
802.11n (HT20): Chain 1

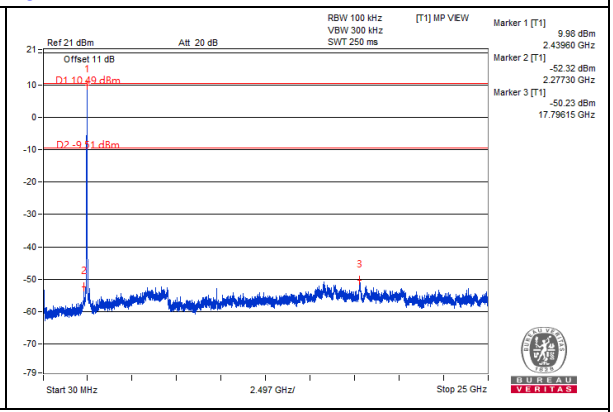
CH 1



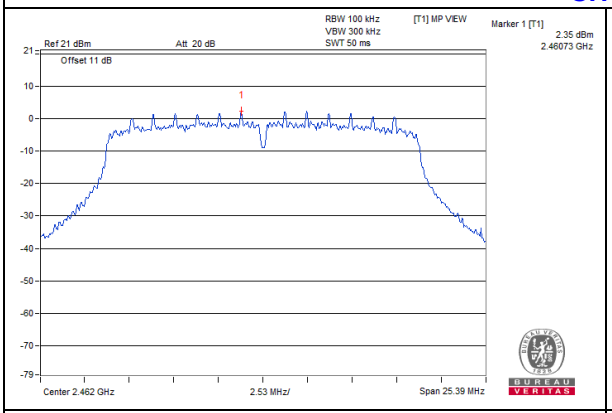


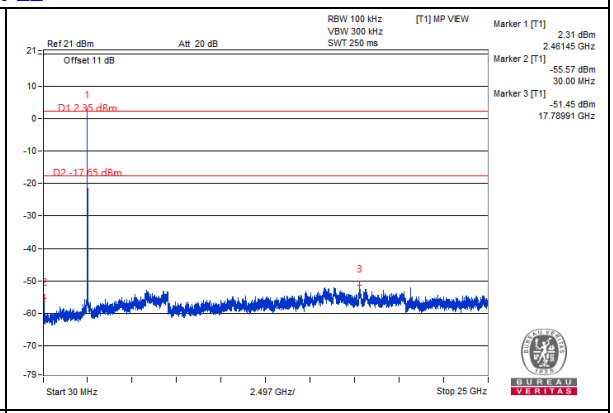
CH 6



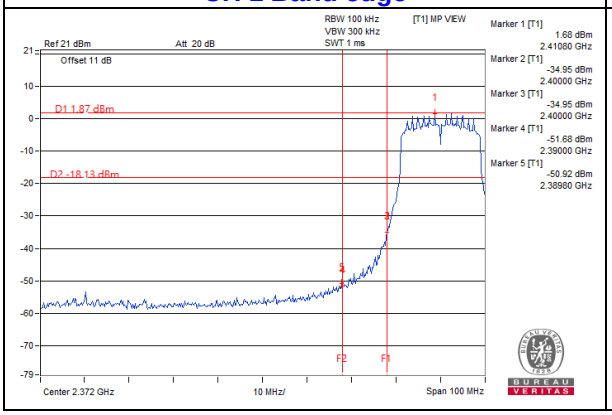


CH 11

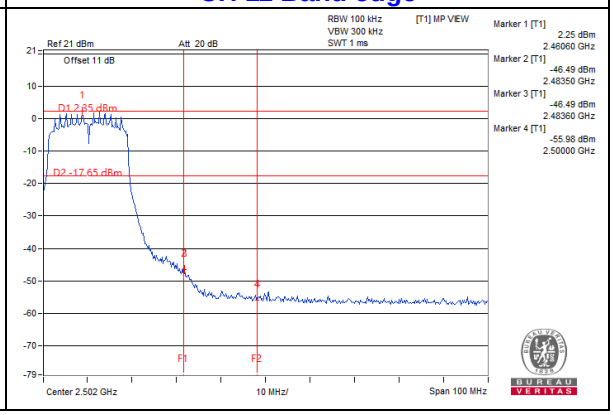




CH 1 Band edge

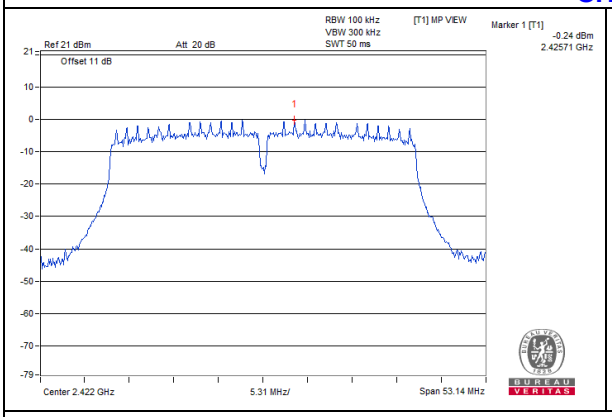


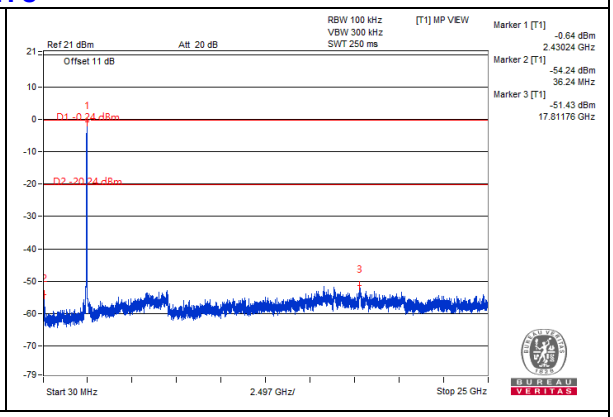
CH 11 Band edge



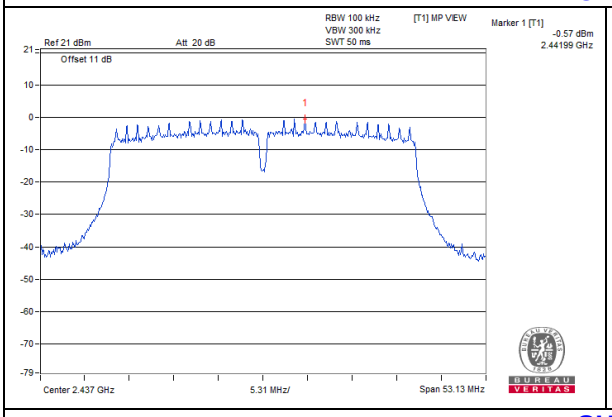
802.11n (HT40): Chain 0

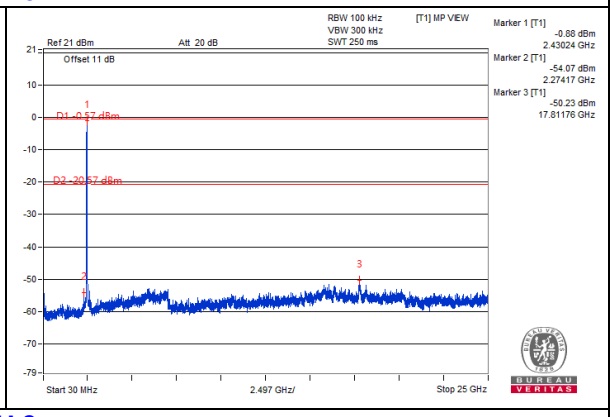
CH 3



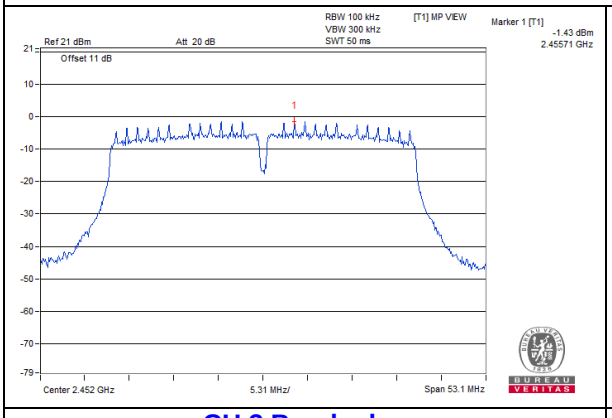


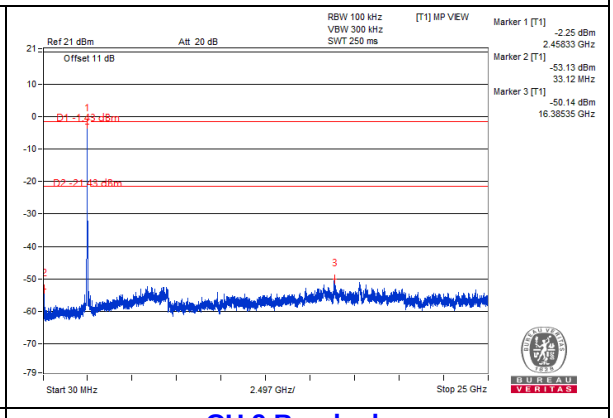
CH 6



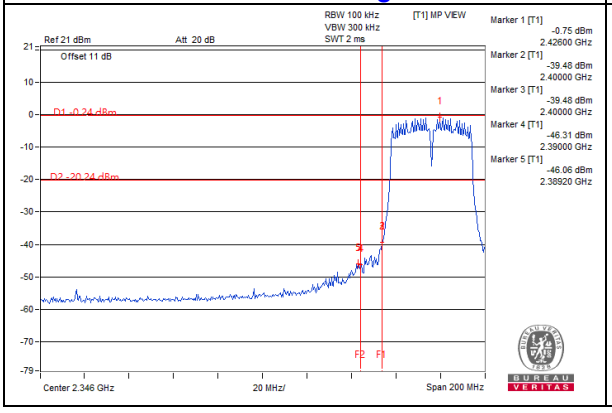


CH 9

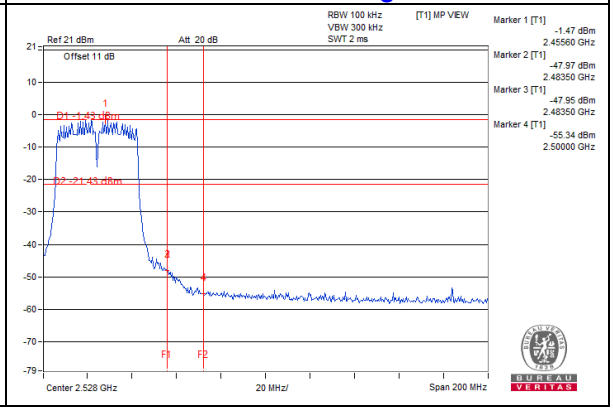




CH 3 Band edge

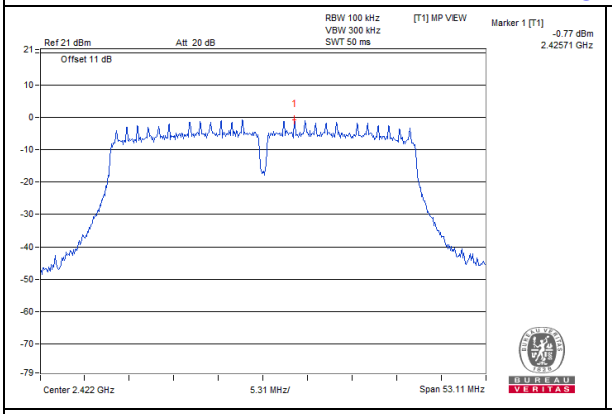


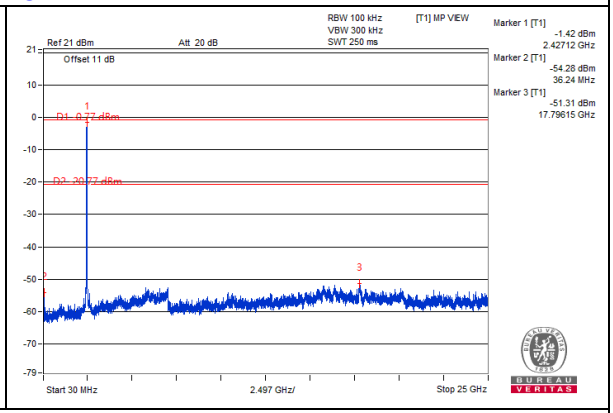
CH 9 Band edge



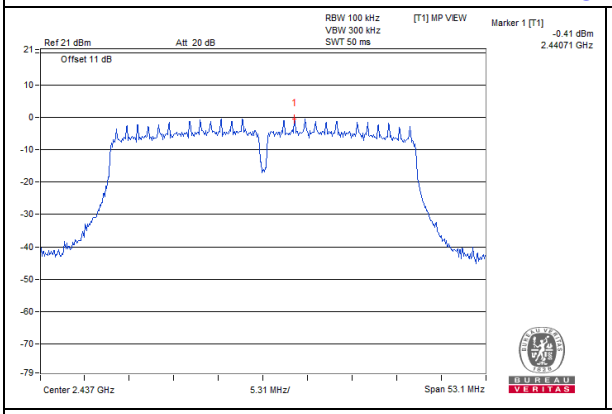
802.11n (HT40): Chain 1

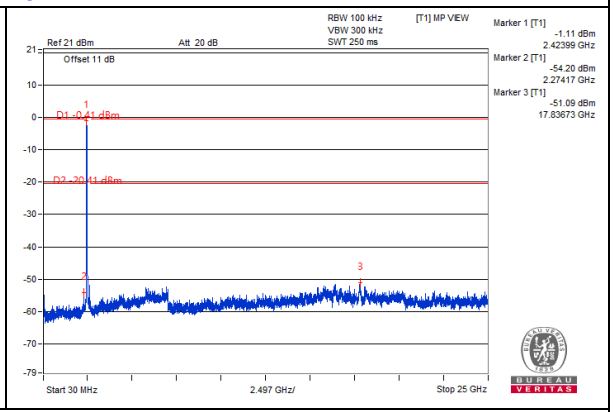
CH 3



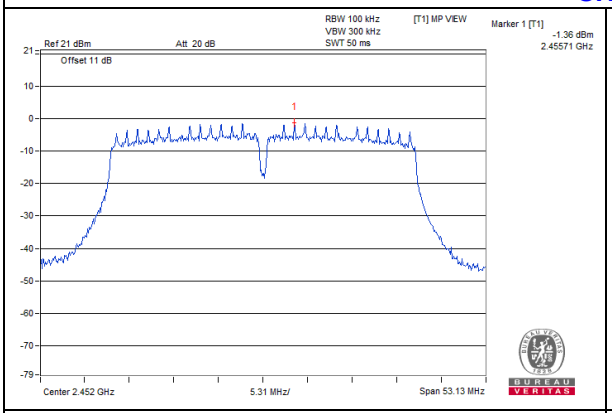


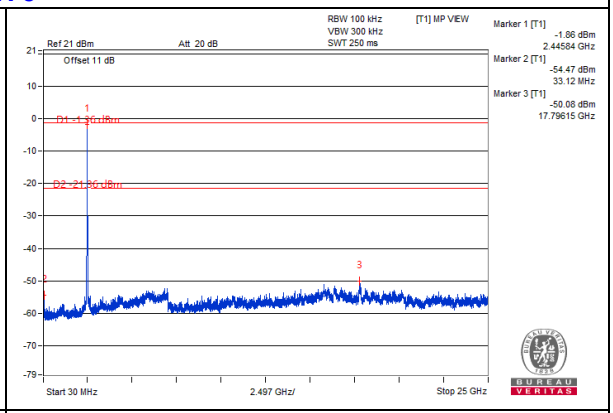
CH 6



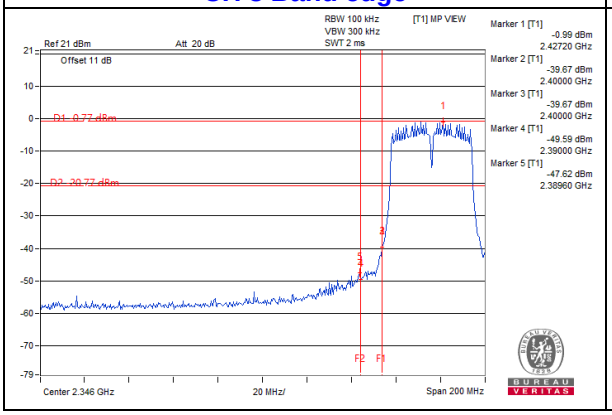


CH 9

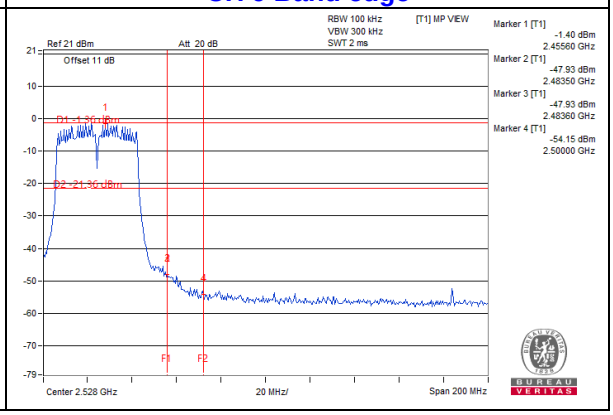




CH 3 Band edge



CH 9 Band edge



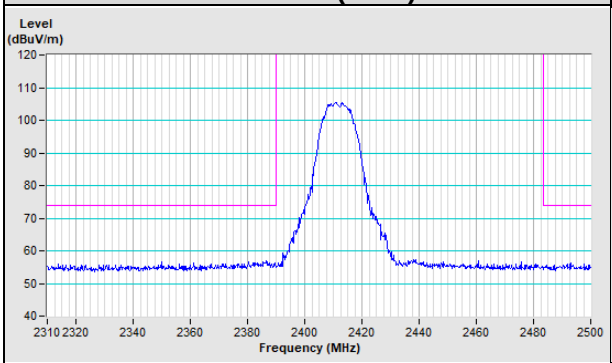
5 Pictures of Test Arrangements

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

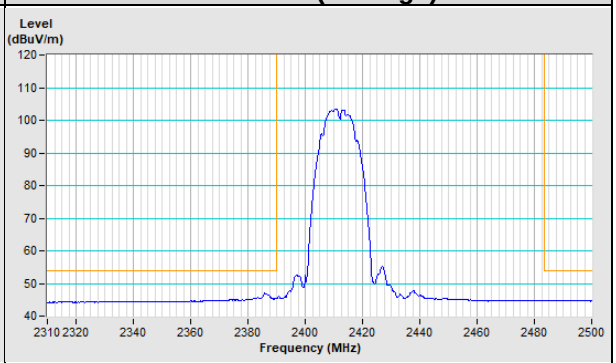
Annex A- Band Edge Measurement

802.11b Channel 1

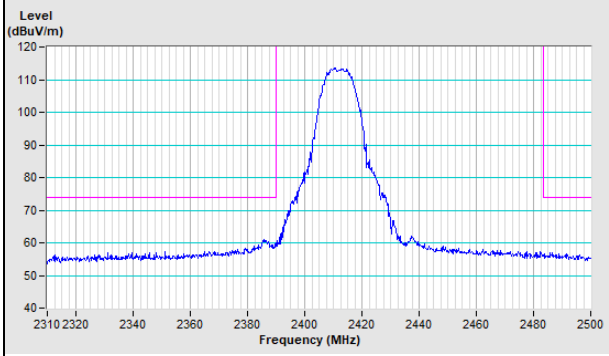
Horizontal (Peak)



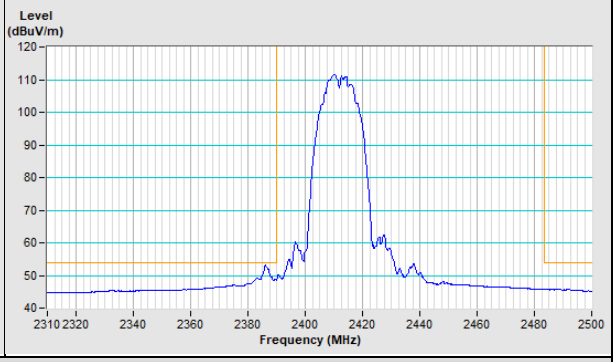
Horizontal (Average)



Vertical (Peak)

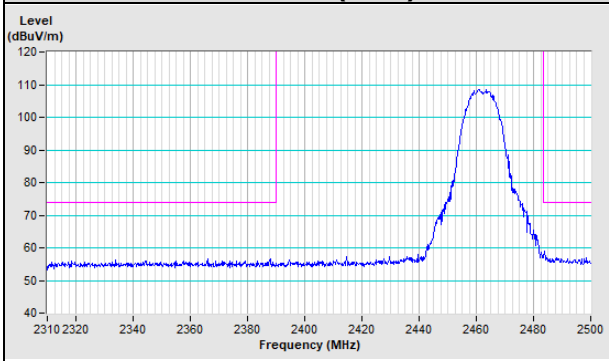


Vertical (Average)

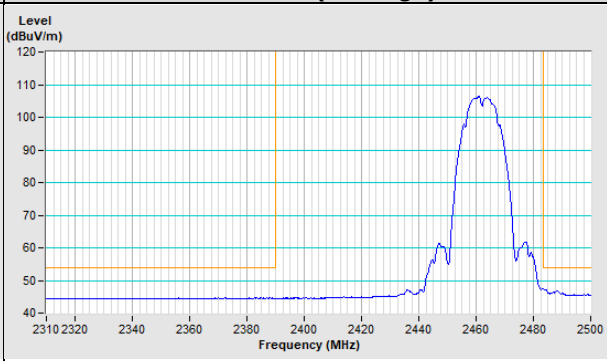


802.11b Channel 11

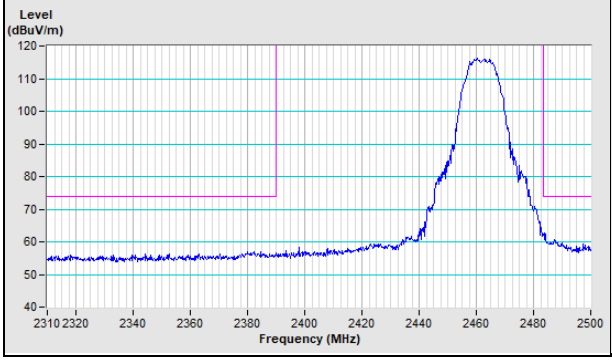
Horizontal (Peak)



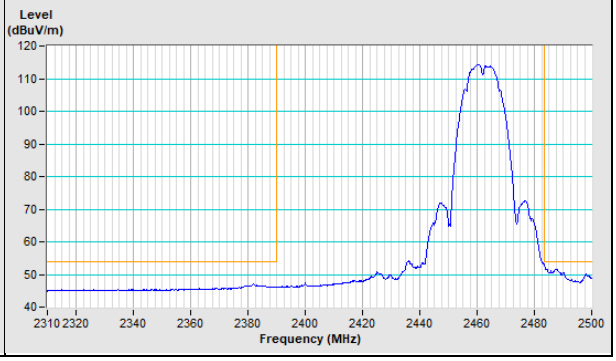
Horizontal (Average)



Vertical (Peak)

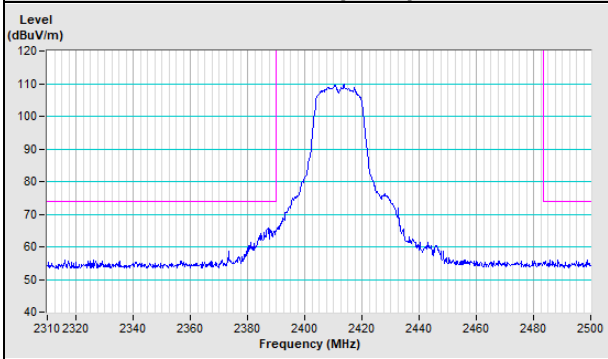


Vertical (Average)

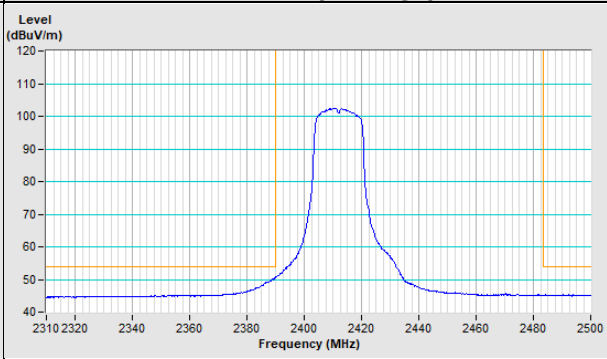


802.11g Channel 1

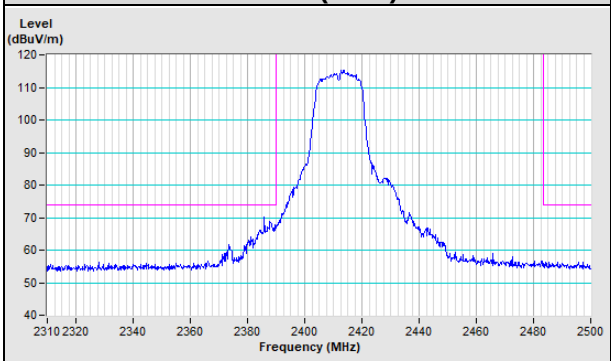
Horizontal (Peak)



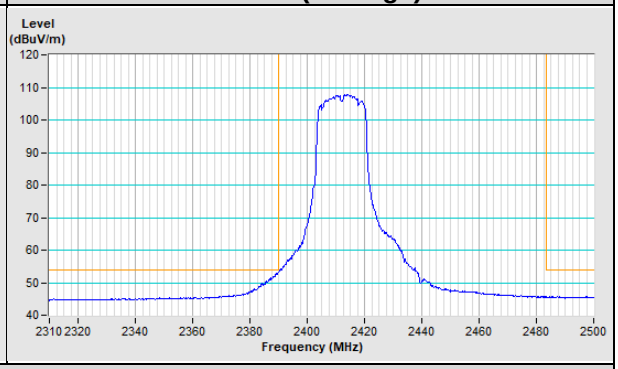
Horizontal (Average)



Vertical (Peak)

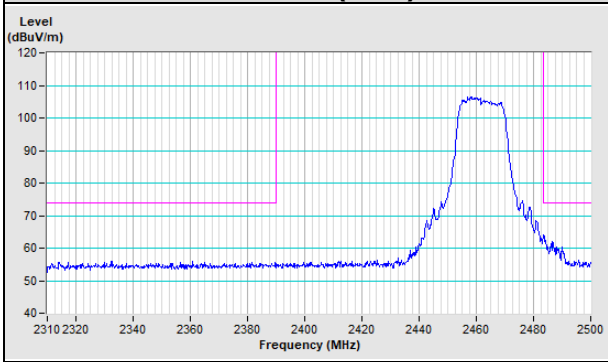


Vertical (Average)

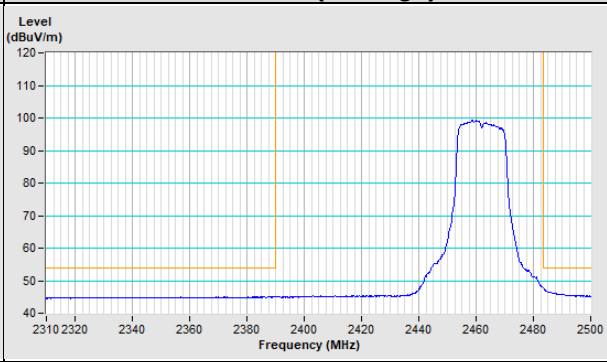


802.11g Channel 11

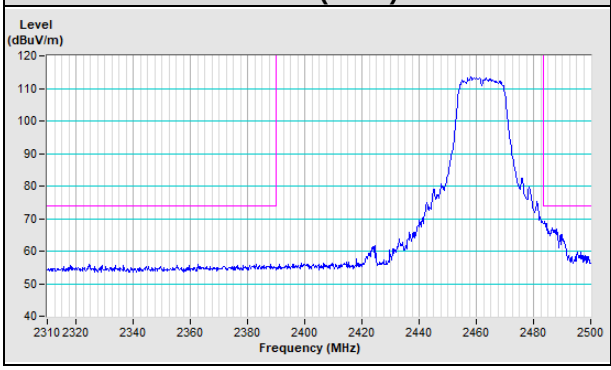
Horizontal (Peak)



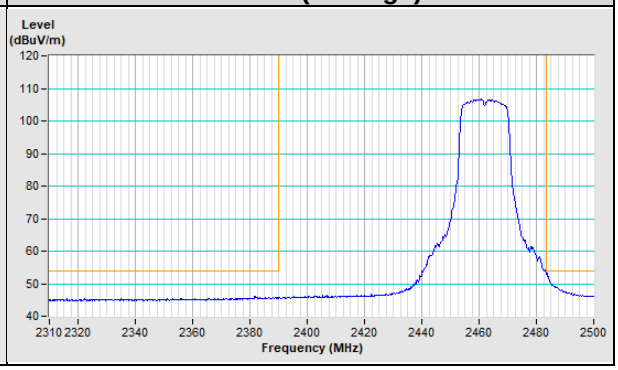
Horizontal (Average)



Vertical (Peak)

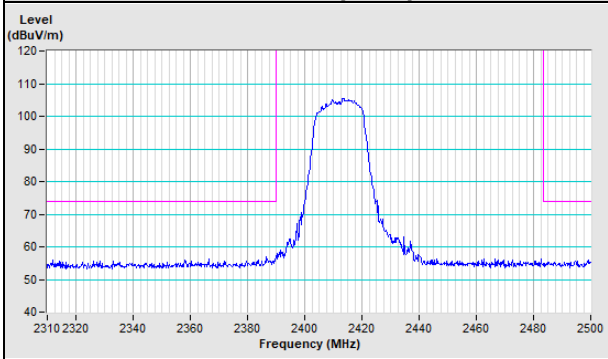


Vertical (Average)

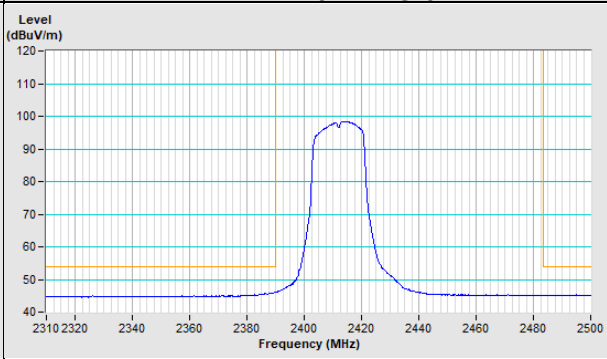


802.11n (HT20) Channel 1

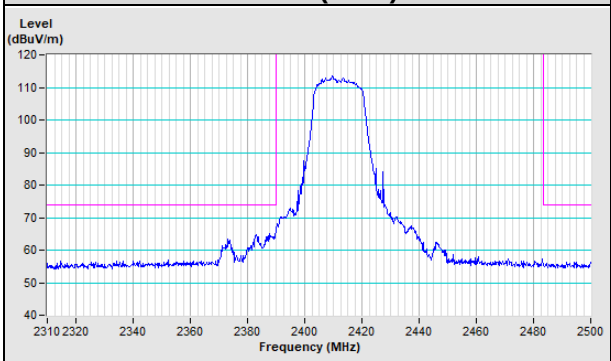
Horizontal (Peak)



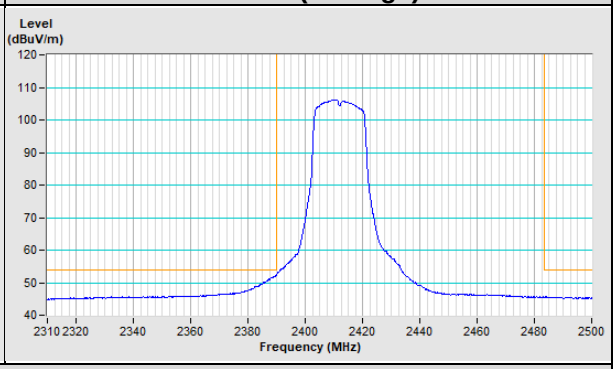
Horizontal (Average)



Vertical (Peak)

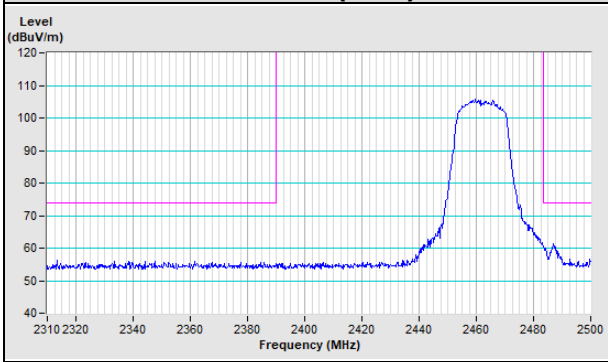


Vertical (Average)

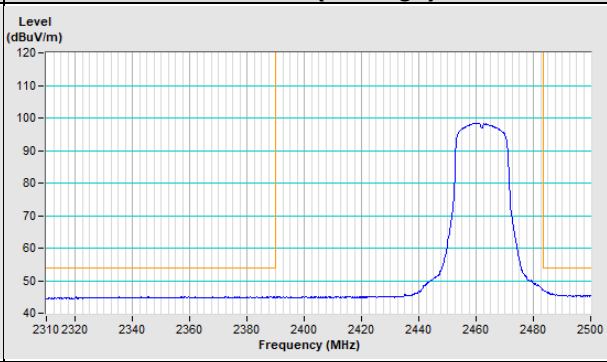


802.11n (HT20) Channel 11

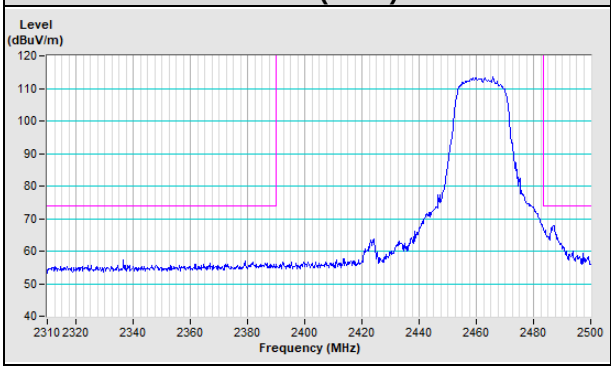
Horizontal (Peak)



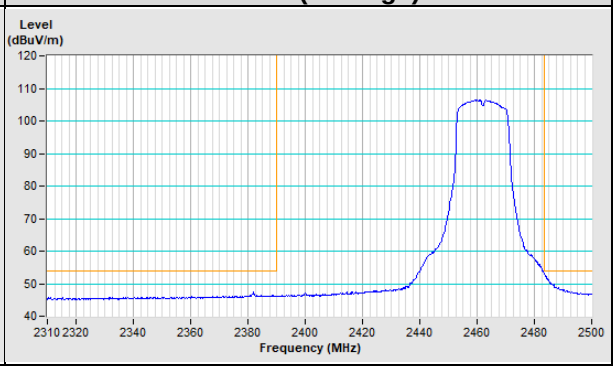
Horizontal (Average)



Vertical (Peak)

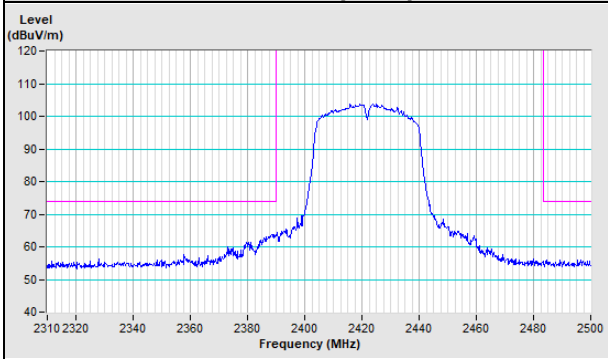


Vertical (Average)

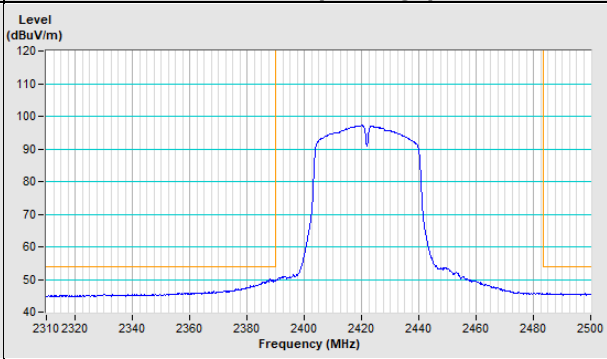


802.11n (HT40) Channel 3

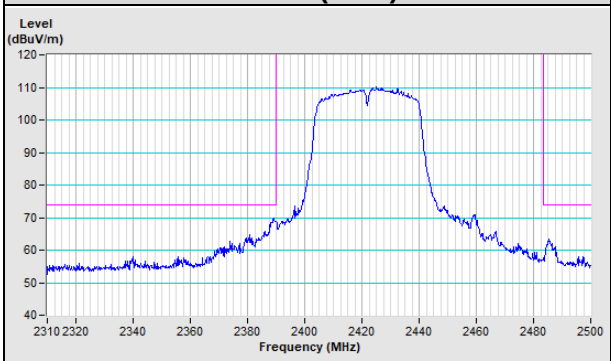
Horizontal (Peak)



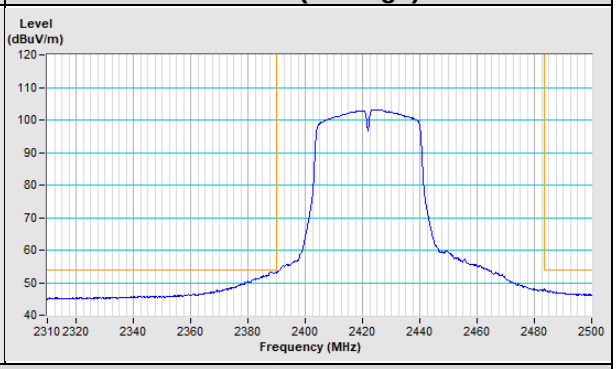
Horizontal (Average)



Vertical (Peak)

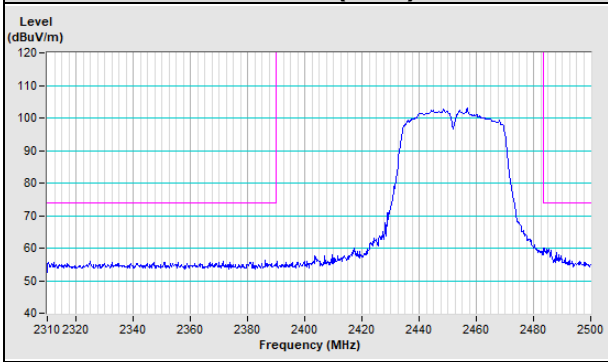


Vertical (Average)

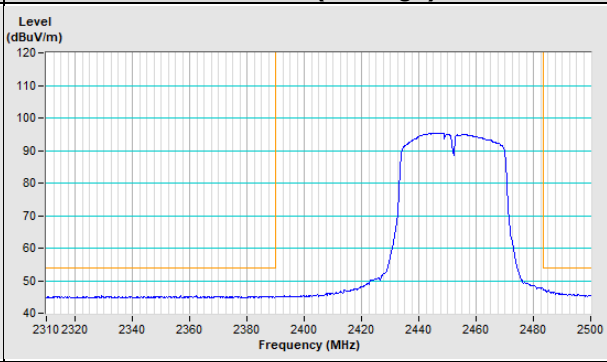


802.11n (HT40) Channel 9

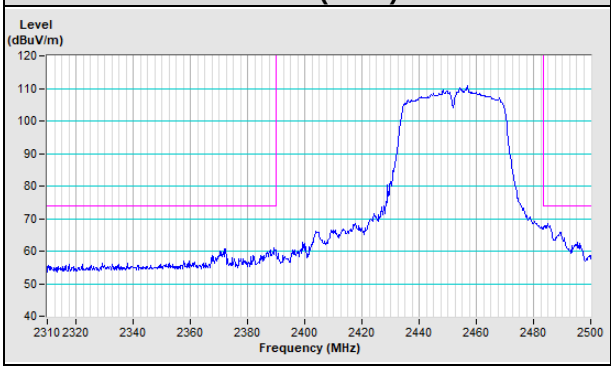
Horizontal (Peak)



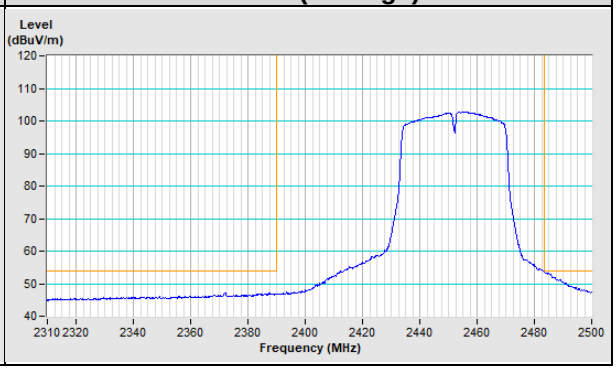
Horizontal (Average)



Vertical (Peak)



Vertical (Average)



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 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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