

## FCC Test Report

**Report No.:** RF181001C14

**FCC ID:** A4RG020F

**Model Name:** G020F

**Received Date:** Oct. 01, 2018

**Test Date:** Oct. 18 ~ Nov. 14, 2018

**Issued Date:** Dec. 24, 2018

**Applicant:** Google LLC

**Address:** 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

**Test Location (1):** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**Test Location (2):** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

**FCC Registration / Designation Number (1):** 788550 / TW0003

**FCC Registration / Designation Number (2):** 198487 / TW2021



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### Release Control Record

Issue No.	Description	Date Issued
RF181001C14	Original release	Dec. 24, 2018

## 1 Certificate of Conformity

**Product:** Smartphone  
**Model Name:** G020F  
**Sample Status:** Identical Prototype  
**Applicant:** Google LLC  
**Test Date:** Oct. 18 ~ Nov. 14, 2018  
**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 :** Pettie Chen , **Date:** Dec. 24, 2018  
Pettie Chen / Senior Specialist

**Approved by :** Bruce Chen , **Date:** Dec. 24, 2018  
Bruce Chen / 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 -13.00dB at 0.51363MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.52dB 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	No antenna connector is used.

### 2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) ( $\pm$ )
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions	9kHz ~ 30MHz	2.38 dB
	30MHz ~ 1GHz	5.54 dB
	Above 1GHz	5.48 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

Product	Smartphone
Model Name	G020F
Sample Status	Identical Prototype
Power Supply Rating	3.85Vdc (Battery) 5Vdc or 9Vdc (Adapter) 5Vdc (Host equipment)
Modulation Type	CCK, DQPSK, DBPSK for DSSS 256QAM, 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/ac: up to 300Mbps
Operating Frequency	2412 ~ 2472MHz
Number of Channel	13
Output Power	380.211mW
Antenna Type	Refer to Note as below
Antenna Connector	Refer to Note as below
Accessory Device	Refer to Note as below
Cable Supplied	Refer to Note as below

Note:

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

Modulation Mode	TX Function
802.11b	1TX(SISO)/2TX(MIMO)
802.11g	1TX(SISO)/2TX(MIMO)
802.11n (HT20)	1TX(SISO)/2TX(MIMO)
802.11ac (VHT20)	1TX(SISO)/2TX(MIMO)

\* The modulation and bandwidth are similar for 802.11n mode for 20MHz and 802.11ac mode for 20MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

\* SISO mode and MIMO mode are presented in power output test item. For other test items, MIMO mode is the worst case for final tests after pretesting.

- There're 2 configurations for the EUT listed as below.
  - Main Sample: EUT + Battery 1
  - 2<sup>nd</sup> Sample: EUT + Battery 2
 After pre-tested with the EUT, only the worst configuration (main sample) was chosen for the final test.

- The EUT accessories list refers to EUT Photo.pdf.

- The following antennas were provided to the EUT.

No.	Type	Connector	Gain (dBi)
0	PIFA	NA	-0.1
1	PIFA	NA	-0.4

5. The worst configuration power mode is presented in the report as below. Please refer to SAR test report for more detail test mode.

Maximum Tune-up Power Mode				
Band		TX Antenna	WWAN Function	Body-Worn/Hotspot
WLAN	2.4G	Ant 0+1	WWAN-Off	Body-Worn/Hotspot

### 3.2 Description of Test Modes

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

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



### 3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

Note: 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 13	1, 6, 11, 12, 13	DSSS	DBPSK	1.0
-	802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.5

#### **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 13	1	OFDM	BPSK	6.0

#### **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 13	1	OFDM	BPSK	6.0

#### **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 13	1, 6, 11, 12, 13	DSSS	DBPSK	1.0
-	802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.5

**Test Condition:**

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	26 deg. C, 77% RH	120Vac, 60Hz	Dalen Dai
RE $<$ 1G	23 deg. C, 68% RH	120Vac, 60Hz	Dalen Dai
PLC	25 deg. C, 68% RH	120Vac, 60Hz	Jones Chang
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Chris Lin

**3.3 Duty Cycle of Test Signal**

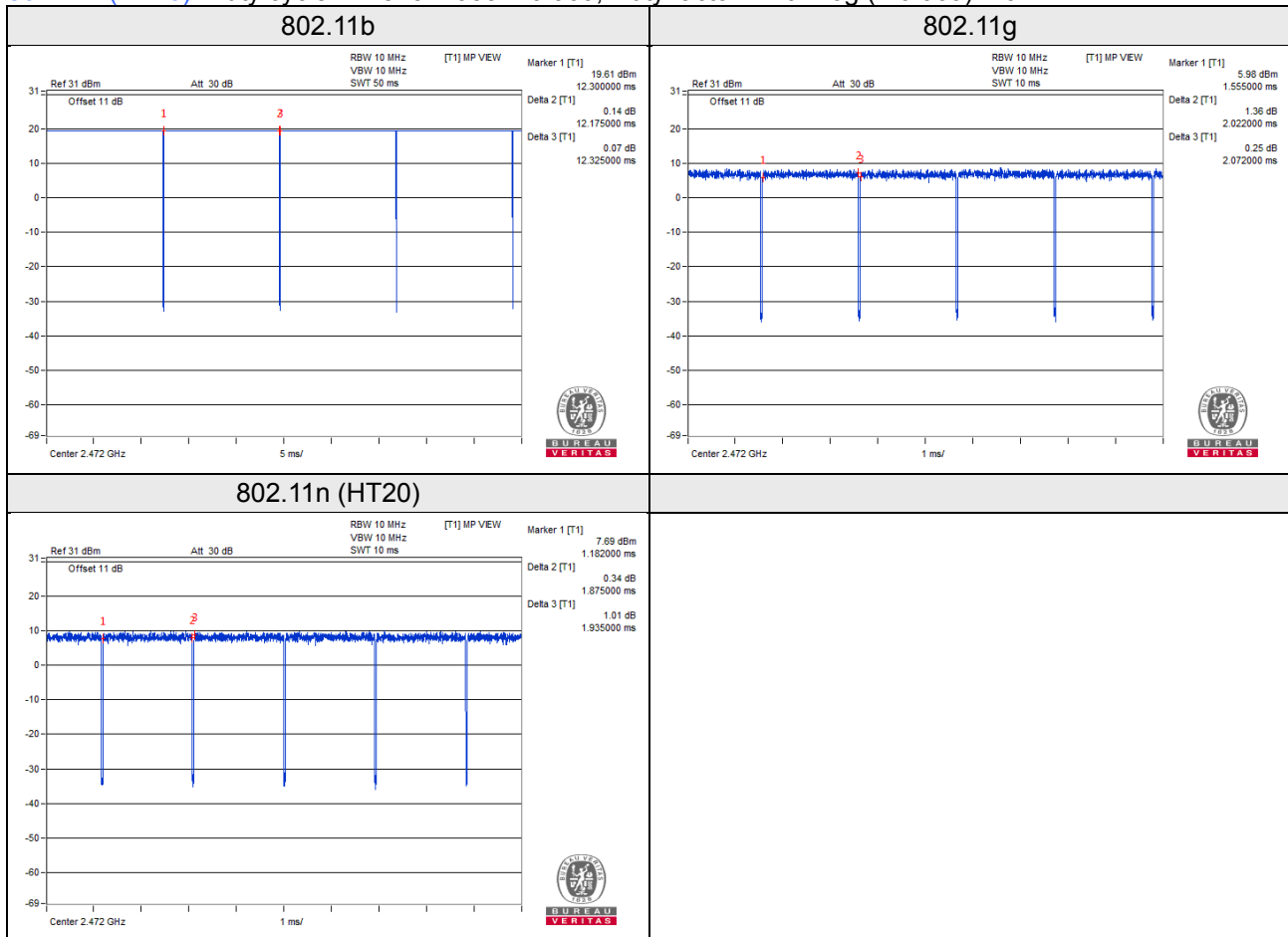
802.11b: Duty cycle of test signal is  $\geq 98\%$ .

802.11g, 802.11n (HT20): Duty cycle of test signal is  $< 98\%$ .

802.11b: Duty cycle =  $12.175/12.325 = 0.988$

802.11g: Duty cycle =  $2.022/2.072 = 0.976$ , Duty factor =  $10 * \log(1/0.976) = 0.11$

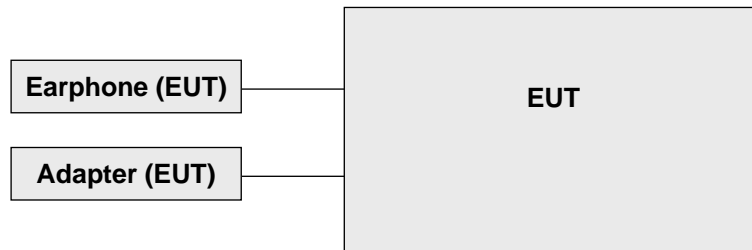
802.11n (HT20): Duty cycle =  $1.875/1.935 = 0.969$ , Duty factor =  $10 * \log(1/0.969) = 0.14$



### 3.4 Description of Support Units

The EUT has been tested as an independent unit.

#### 3.4.1 Configuration of System under Test



### 3.5 General Description of Applied Standards

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

**FCC Part 15, Subpart C (15.247)**

**KDB 558074 D01 15.247 Meas Guidance v05**

**KDB 662911 D01 Multiple Transmitter Output v02r01**

**ANSI C63.10-2013**

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

## 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
HP Preamplifier	8447D	2432A03504	Feb. 21, 2018	Feb. 20, 2019
HP Preamplifier	8449B	3008A01201	Feb. 22, 2018	Feb. 21, 2019
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Feb. 21, 2018	Feb. 20, 2019
Agilent TEST RECEIVER	N9038A	MY51210129	Feb. 06, 2018	Feb. 05, 2019
Schwarzbeck Antenna	VULB 9168	139	Dec. 29, 2017	Dec. 28, 2018
Schwarzbeck Antenna	VHBA 9123	480	May 19, 2017	May 18, 2019
Schwarzbeck Horn Antenna	BBHA-9170	212	Dec. 29, 2017	Dec. 28, 2018
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	Mar. 29, 2018	Mar. 28, 2019
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	Radiated_V7.6.15.9.5	NA	NA	NA
SUHNER RF cable With 4dB PAD	SF102	Cable-CH6-01	Aug. 13, 2018	Aug. 12, 2019
SUHNER RF cable With 3/4dB PAD	SF102	Cable-CH8-3.6m	Aug. 13, 2018	Aug. 12, 2019
KEYSIGHT MIMO Powermeasurement Test set	U2021XA	U2021XA-001	Jun. 04, 2018	Jun. 03, 2019
KEYSIGHT Spectrum Analyzer	N9030A	MY54490260	Aug. 03, 2018	Aug. 02, 2019
Loop Antenna EMCI	LPA600	270	Aug. 11, 2017	Aug. 10, 2019
EMCO Horn Antenna	3115	00028257	Mar. 29, 2018	Mar. 28, 2019
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
ROHDE & SCHWARZ Spectrum Analyzer	FSV40	101042	Sep. 27, 2018	Sep. 26, 2019
Anritsu Power Sensor	MA2411B	0738404	Apr. 26, 2018	Apr. 25, 2019
Anritsu Power Meter	ML2495A	0842014	Apr. 26, 2018	Apr. 25, 2019

- Note:
1. The calibration interval of the above test instruments is 12 months (24 months for Loop Antenna) 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 Lin Kou Chamber No. 6.
  4. The Industry Canada Reference No. 7450E-6.

### 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:

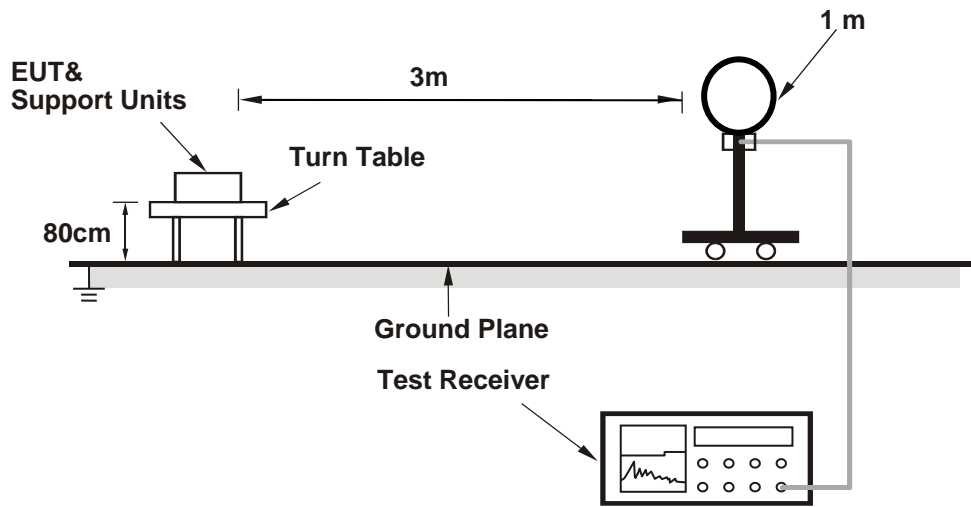
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

### 4.1.4 Deviation from Test Standard

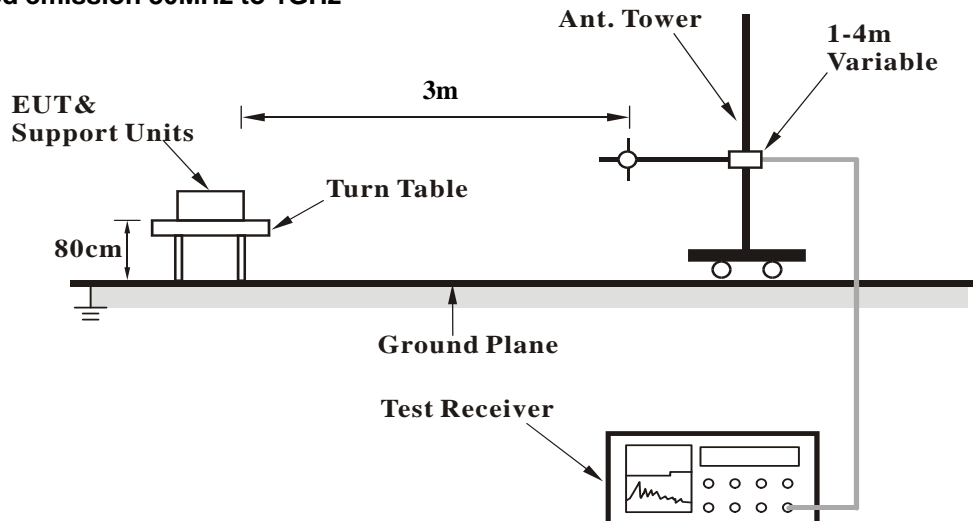
No deviation.

#### 4.1.5 Test Setup

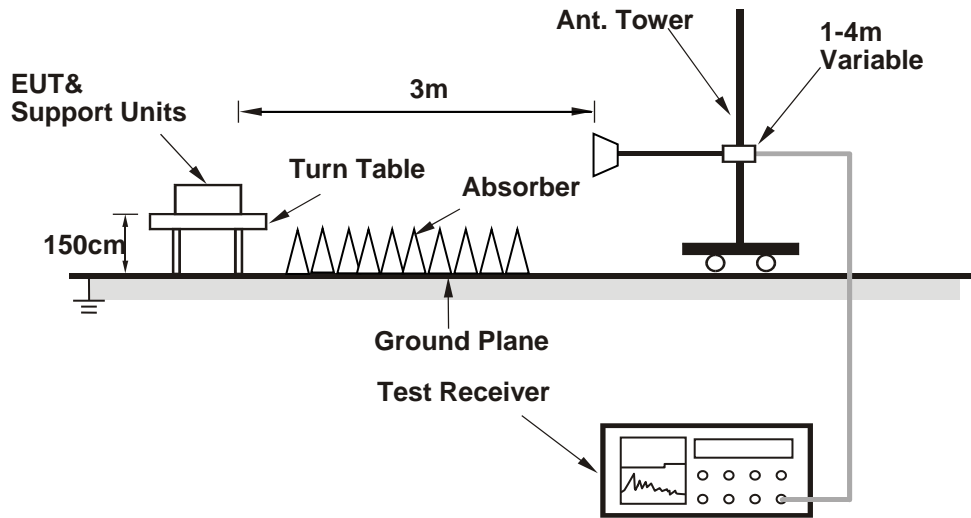
##### For Radiated emission below 30MHz



##### 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).

Test Mode	Duty Cycle (%)	RBW (PK)	VBW (PK)	RBW (Avg)	VBW (Avg)
802.11b	98.8	1MHz	3MHz	1MHz	10Hz
802.11g	97.6	1MHz	3MHz	1MHz	1kHz
802.11n(HT20)	96.9	1MHz	3MHz	1MHz	1kHz

**4.1.6 EUT Operating Conditions**

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



#### 4.1.7 Test Results for Fundamental and Harmonic above 1GHz

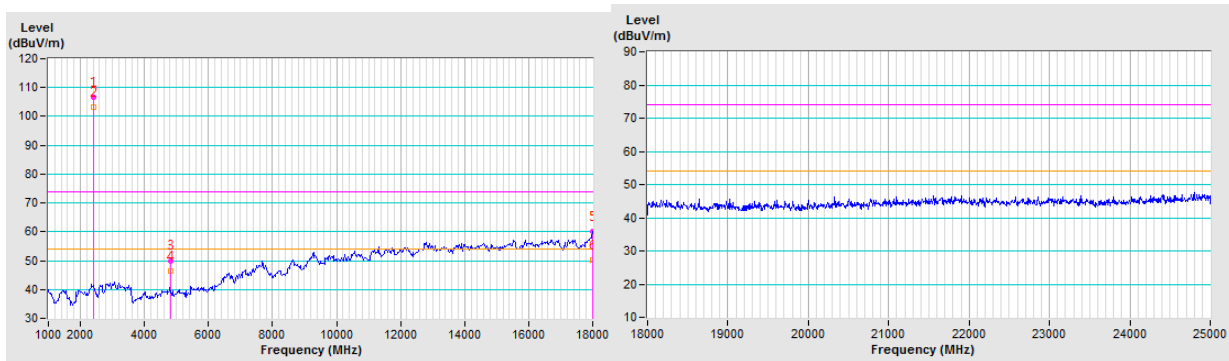
802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2412.00	106.80 PK			1.00 H	324	108.42	-1.62
2	*2412.00	103.22 AV			1.00 H	324	104.84	-1.62
3	4824.00	50.00 PK	74.00	-24.00	1.02 H	273	45.21	4.79
4	4824.00	46.44 AV	54.00	-7.56	1.02 H	273	41.65	4.79
5	18000.00	60.17 PK	74.00	-13.83	2.39 H	156	37.69	22.48
6	18000.00	50.27 AV	54.00	-3.73	2.39 H	156	27.79	22.48

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

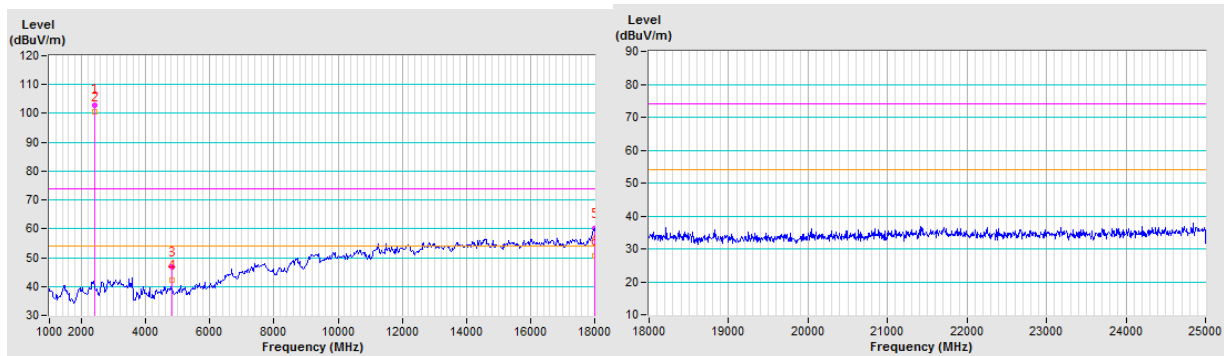


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2412.00	103.01 PK			3.18 V	187	104.63	-1.62
2	*2412.00	100.39 AV			3.18 V	187	102.01	-1.62
3	4824.00	46.90 PK	74.00	-27.10	3.78 V	230	42.11	4.79
4	4824.00	42.10 AV	54.00	-11.90	3.78 V	230	37.31	4.79
5	18000.00	59.99 PK	74.00	-14.01	1.71 V	351	37.51	22.48
6	18000.00	50.63 AV	54.00	-3.37	1.71 V	351	28.15	22.48

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

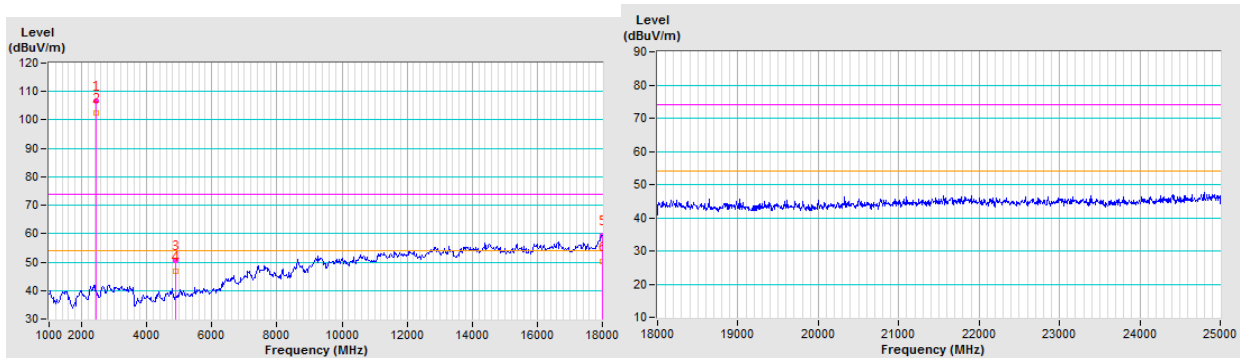


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2437.00	106.53 PK			1.03 H	327	108.27	-1.74
2	*2437.00	102.35 AV			1.03 H	327	104.09	-1.74
3	4874.00	50.50 PK	74.00	-23.50	1.05 H	277	45.63	4.87
4	4874.00	46.69 AV	54.00	-7.31	1.05 H	277	41.82	4.87
5	18000.00	59.45 PK	74.00	-14.55	2.43 H	147	36.97	22.48
6	18000.00	50.19 AV	54.00	-3.81	2.43 H	147	27.71	22.48

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

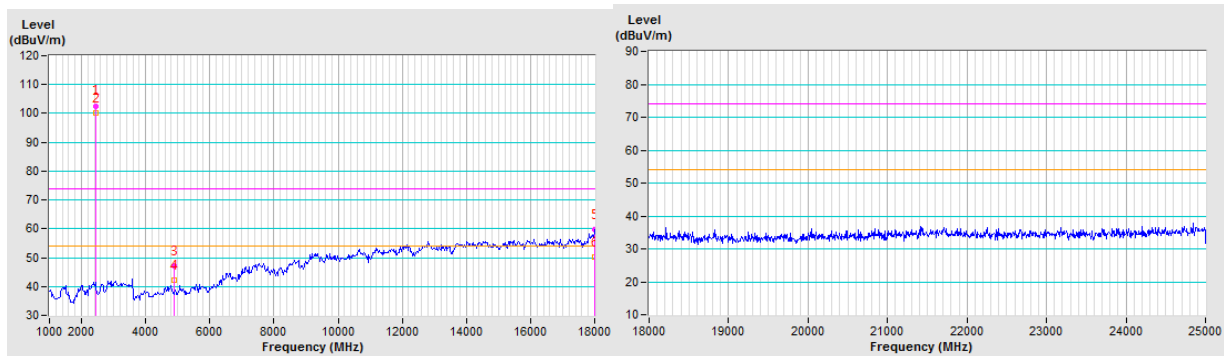


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2437.00	102.64 PK			3.22 V	187	104.38	-1.74
2	*2437.00	100.11 AV			3.22 V	187	101.85	-1.74
3	4874.00	47.17 PK	74.00	-26.83	3.81 V	234	42.30	4.87
4	4874.00	42.35 AV	54.00	-11.65	3.81 V	234	37.48	4.87
5	18000.00	59.63 PK	74.00	-14.37	1.59 V	344	37.15	22.48
6	18000.00	50.13 AV	54.00	-3.87	1.59 V	344	27.65	22.48

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

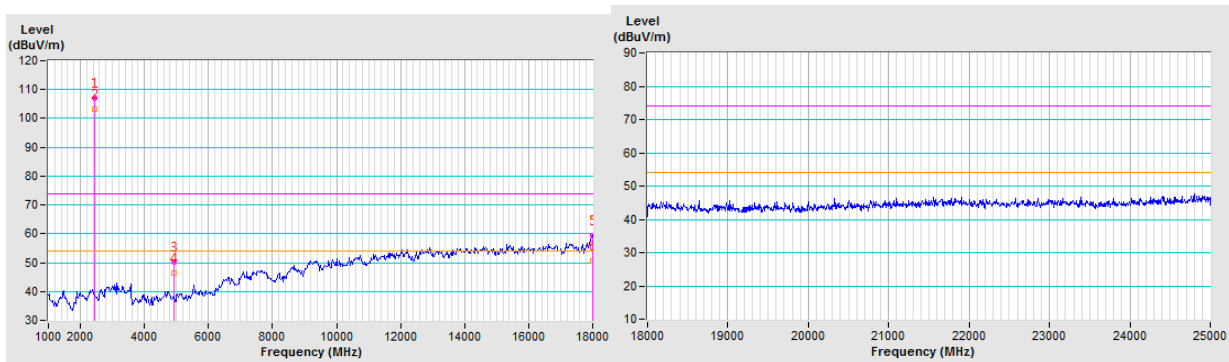


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	106.85 PK			1.00 H	231	108.47	-1.62
2	*2462.00	103.27 AV			1.00 H	231	104.89	-1.62
3	4924.00	50.18 PK	74.00	-23.82	1.07 H	277	45.38	4.80
4	4924.00	46.32 AV	54.00	-7.68	1.07 H	277	41.52	4.80
5	18000.00	59.32 PK	74.00	-14.68	2.33 H	150	36.84	22.48
6	18000.00	50.41 AV	54.00	-3.59	2.33 H	150	27.93	22.48

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

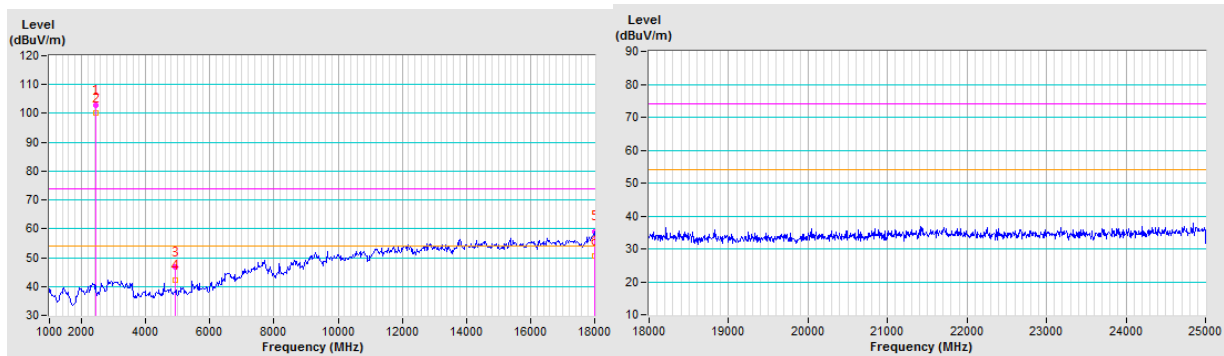


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	102.71 PK			3.27 V	151	104.33	-1.62
2	*2462.00	100.20 AV			3.27 V	151	101.82	-1.62
3	4924.00	46.86 PK	74.00	-27.14	3.89 V	227	42.06	4.80
4	4924.00	42.30 AV	54.00	-11.70	3.89 V	227	37.50	4.80
5	17983.00	59.17 PK	74.00	-14.83	1.63 V	339	37.13	22.04
6	17983.00	50.66 AV	54.00	-3.34	1.63 V	339	28.62	22.04

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

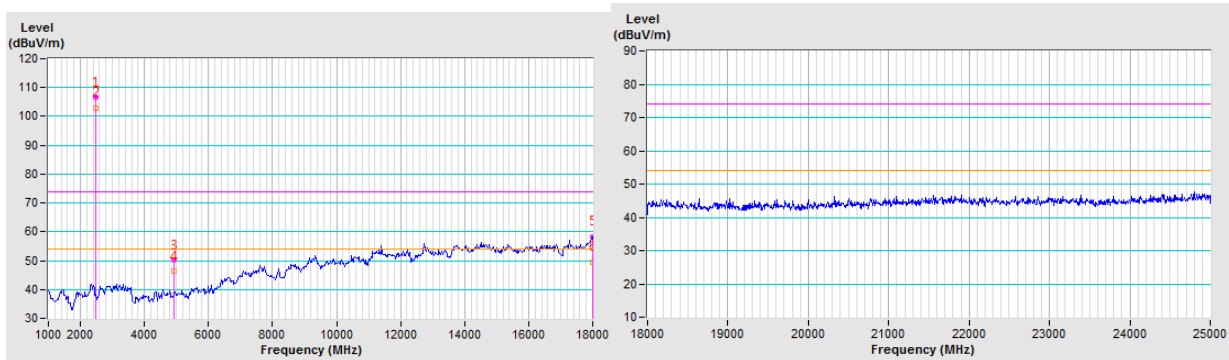


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2467.00	106.61 PK			1.02 H	233	108.17	-1.56
2	*2467.00	103.02 AV			1.02 H	233	104.58	-1.56
3	4934.00	50.07 PK	74.00	-23.93	1.09 H	271	45.30	4.77
4	4934.00	46.29 AV	54.00	-7.71	1.09 H	271	41.52	4.77
5	17983.00	58.37 PK	74.00	-15.63	2.59 H	134	36.33	22.04
6	17983.00	49.61 AV	54.00	-4.39	2.59 H	134	27.57	22.04

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

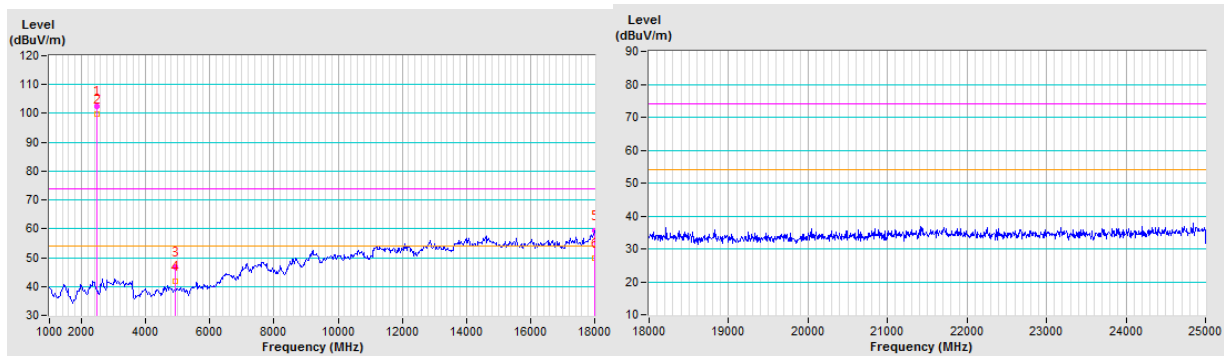


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2467.00	102.32 PK			3.22 V	163	103.88	-1.56
2	*2467.00	99.78 AV			3.22 V	163	101.34	-1.56
3	4934.00	46.73 PK	74.00	-27.27	3.81 V	233	41.96	4.77
4	4934.00	41.82 AV	54.00	-12.18	3.81 V	233	37.05	4.77
5	18000.00	59.40 PK	74.00	-14.60	1.46 V	355	36.92	22.48
6	18000.00	49.69 AV	54.00	-4.31	1.46 V	355	27.21	22.48

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency



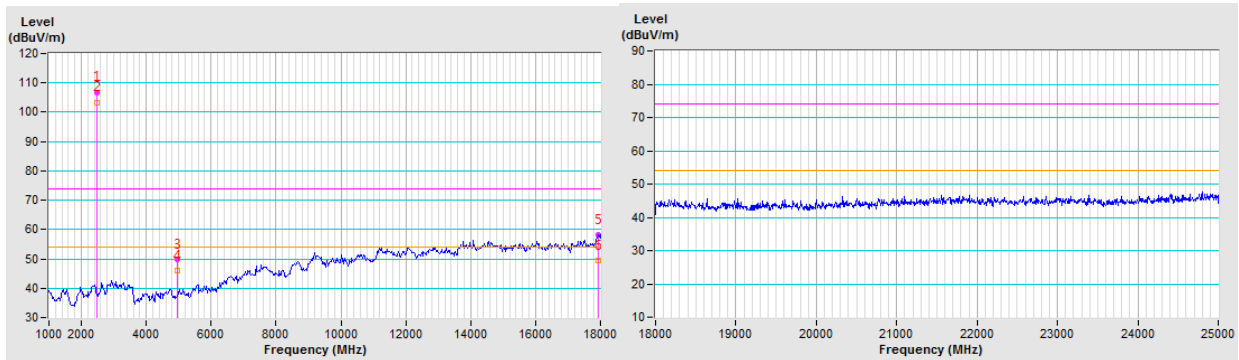


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2472.00	106.82 PK			1.01 H	228	108.31	-1.49
2	*2472.00	103.38 AV			1.01 H	228	104.87	-1.49
3	4944.00	49.92 PK	74.00	-24.08	1.07 H	264	45.18	4.74
4	4944.00	46.06 AV	54.00	-7.94	1.07 H	264	41.32	4.74
5	17915.00	58.17 PK	74.00	-15.83	2.53 H	140	37.87	20.30
6	17915.00	49.58 AV	54.00	-4.42	2.53 H	140	29.28	20.30

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

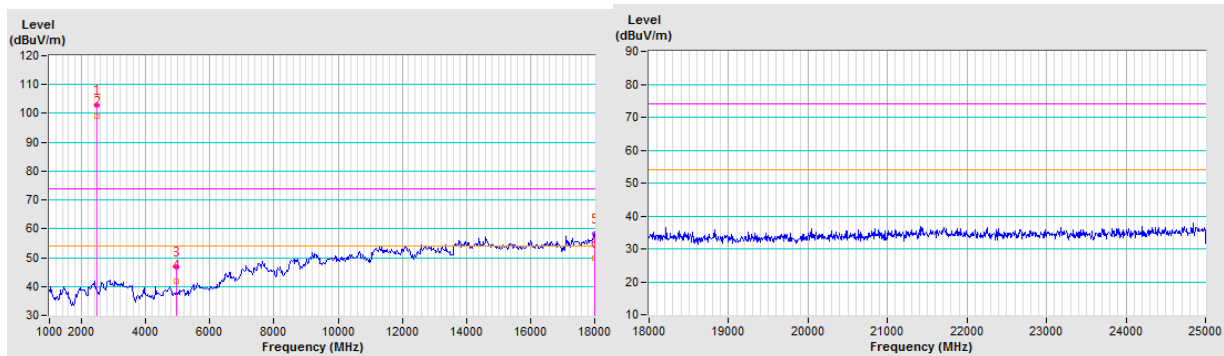


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2472.00	102.66 PK			3.15 V	154	104.15	-1.49
2	*2472.00	99.14 AV			3.15 V	154	100.63	-1.49
3	4944.00	46.62 PK	74.00	-27.38	3.76 V	237	41.88	4.74
4	4944.00	41.99 AV	54.00	-12.01	3.76 V	237	37.25	4.74
5	17983.00	58.24 PK	74.00	-15.76	1.52 V	349	36.20	22.04
6	17983.00	49.80 AV	54.00	-4.20	1.52 V	349	27.76	22.04

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency



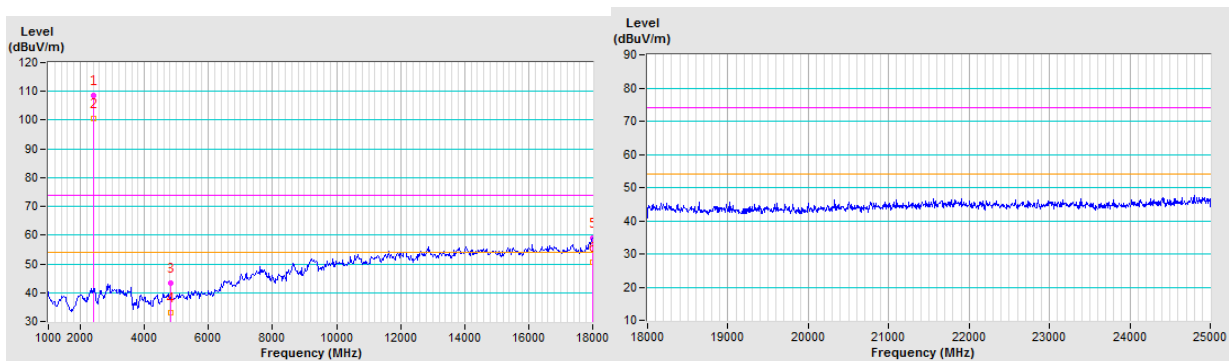
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CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2412.00	108.61 PK			1.00 H	232	110.23	-1.62
2	*2412.00	100.47 AV			1.00 H	232	102.09	-1.62
3	4824.00	43.40 PK	74.00	-30.60	1.36 H	295	38.61	4.79
4	4824.00	33.04 AV	54.00	-20.96	1.36 H	295	28.25	4.79
5	18000.00	58.89 PK	74.00	-15.11	2.40 H	168	36.41	22.48
6	18000.00	50.43 AV	54.00	-3.57	2.40 H	168	27.95	22.48

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
4. Margin value = Emission Level – Limit value
5. " \* " : Fundamental frequency

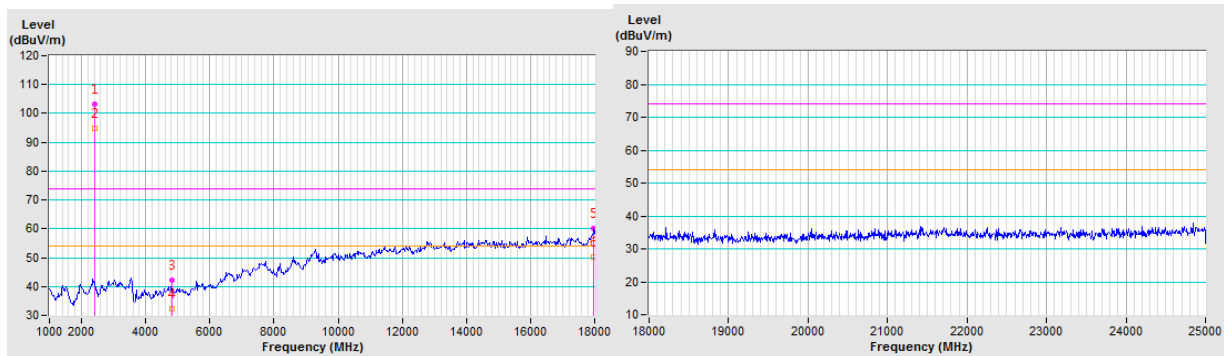


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2412.00	103.21 PK			3.27 V	177	104.83	-1.62
2	*2412.00	94.97 AV			3.27 V	177	96.59	-1.62
3	4824.00	42.32 PK	74.00	-31.68	3.66 V	221	37.53	4.79
4	4824.00	32.21 AV	54.00	-21.79	3.66 V	221	27.42	4.79
5	17966.00	60.04 PK	74.00	-13.96	1.58 V	341	38.44	21.60
6	17966.00	50.14 AV	54.00	-3.86	1.58 V	341	28.54	21.60

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

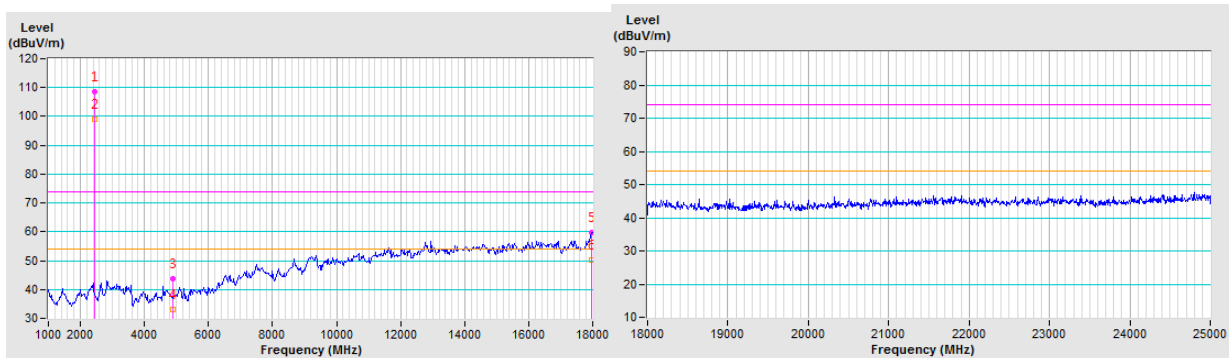


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2437.00	108.37 PK			1.02 H	234	110.11	-1.74
2	*2437.00	98.92 AV			1.02 H	234	100.66	-1.74
3	4874.00	43.57 PK	74.00	-30.43	1.40 H	297	38.70	4.87
4	4874.00	33.19 AV	54.00	-20.81	1.40 H	297	28.32	4.87
5	17966.00	59.66 PK	74.00	-14.34	2.45 H	157	38.06	21.60
6	17966.00	50.36 AV	54.00	-3.64	2.45 H	157	28.76	21.60

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

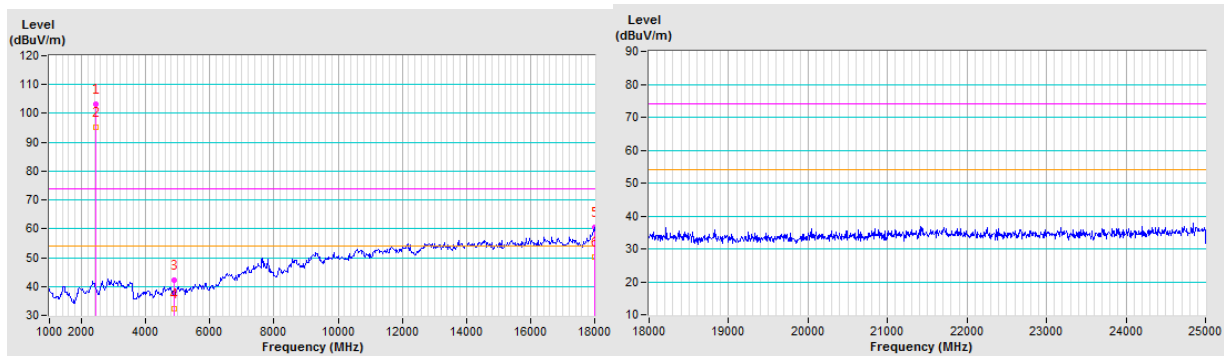


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2437.00	103.22 PK			3.22 V	180	104.96	-1.74
2	*2437.00	95.03 AV			3.22 V	180	96.77	-1.74
3	4874.00	42.32 PK	74.00	-31.68	3.70 V	229	37.45	4.87
4	4874.00	32.17 AV	54.00	-21.83	3.70 V	229	27.30	4.87
5	17983.00	60.38 PK	74.00	-13.62	1.55 V	350	38.34	22.04
6	17983.00	50.22 AV	54.00	-3.78	1.55 V	350	28.18	22.04

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

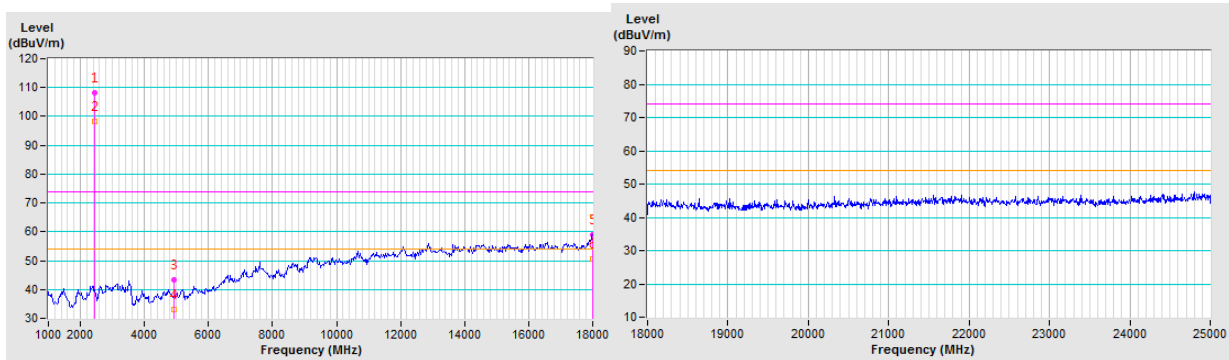


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	108.22 PK			1.00 H	232	109.84	-1.62
2	*2462.00	98.29 AV			1.00 H	232	99.91	-1.62
3	4924.00	43.35 PK	74.00	-30.65	1.49 H	287	38.55	4.80
4	4924.00	33.07 AV	54.00	-20.93	1.49 H	287	28.27	4.80
5	18000.00	59.03 PK	74.00	-14.97	2.38 H	142	36.55	22.48
6	18000.00	50.41 AV	54.00	-3.59	2.38 H	142	27.93	22.48

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
4. Margin value = Emission Level – Limit value
5. " \* " : Fundamental frequency

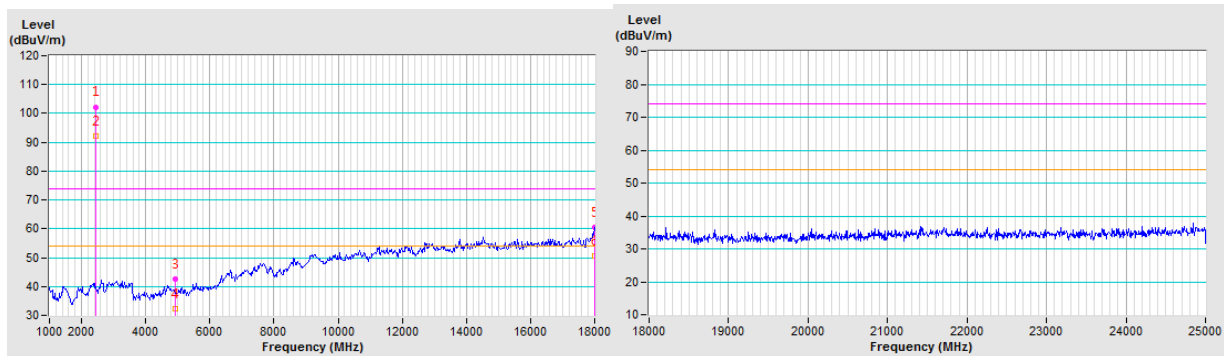


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	102.25 PK			3.16 V	185	103.87	-1.62
2	*2462.00	92.10 AV			3.16 V	185	93.72	-1.62
3	4924.00	42.57 PK	74.00	-31.43	3.74 V	232	37.77	4.80
4	4924.00	32.16 AV	54.00	-21.84	3.74 V	232	27.36	4.80
5	17983.00	60.64 PK	74.00	-13.36	1.60 V	345	38.60	22.04
6	17983.00	50.47 AV	54.00	-3.53	1.60 V	345	28.43	22.04

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency



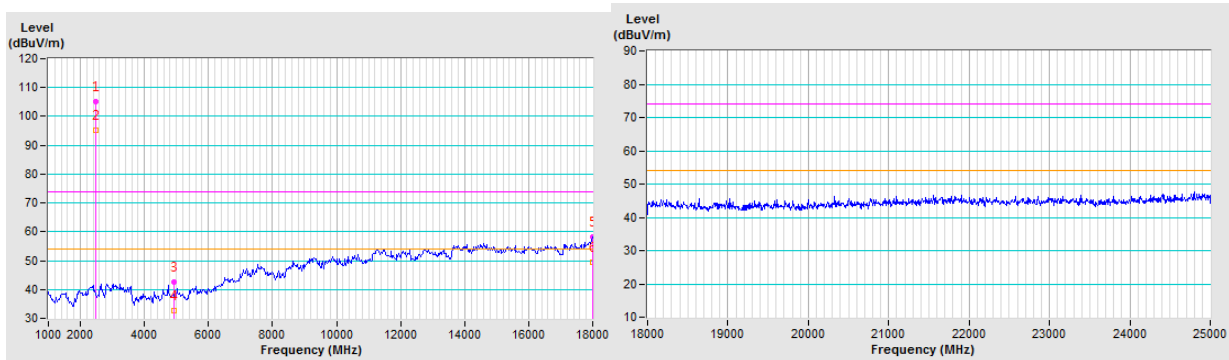


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2467.00	105.15 PK			1.03 H	235	106.71	-1.56
2	*2467.00	95.32 AV			1.03 H	235	96.88	-1.56
3	4934.00	42.73 PK	74.00	-31.27	1.40 H	293	37.96	4.77
4	4934.00	32.58 AV	54.00	-21.42	1.40 H	293	27.81	4.77
5	17983.00	58.30 PK	74.00	-15.70	2.44 H	151	36.26	22.04
6	17983.00	49.48 AV	54.00	-4.52	2.44 H	151	27.44	22.04

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

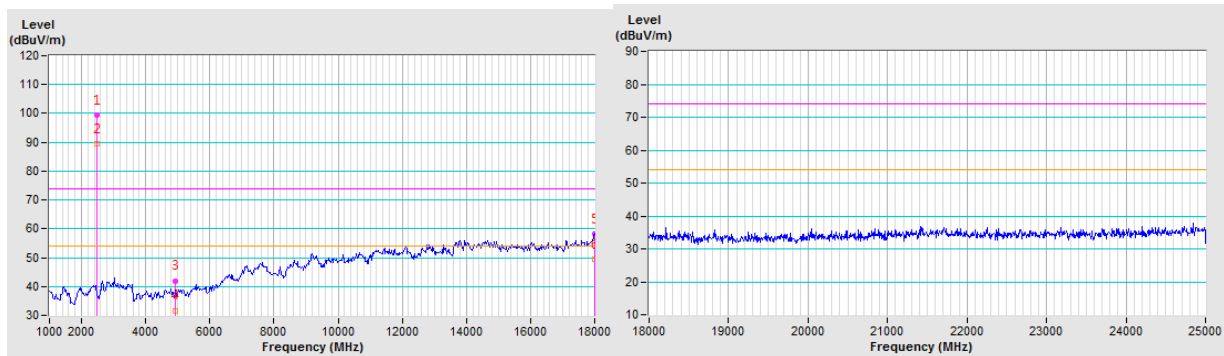


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2467.00	99.51 PK			3.20 V	192	101.07	-1.56
2	*2467.00	89.60 AV			3.20 V	192	91.16	-1.56
3	4934.00	42.01 PK	74.00	-31.99	3.77 V	225	37.24	4.77
4	4934.00	31.70 AV	54.00	-22.30	3.77 V	225	26.93	4.77
5	17983.00	58.31 PK	74.00	-15.69	1.43 V	352	36.27	22.04
6	17983.00	49.33 AV	54.00	-4.67	1.43 V	352	27.29	22.04

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

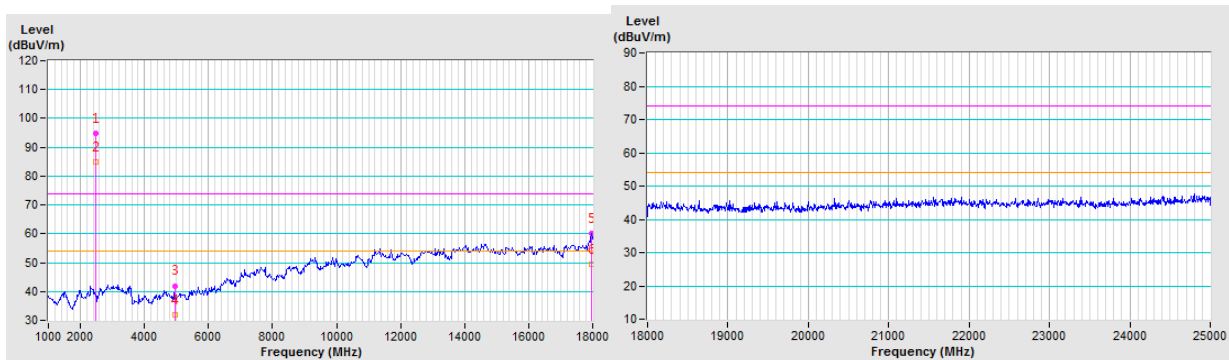


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2472.00	94.79 PK			1.01 H	229	96.28	-1.49
2	*2472.00	84.86 AV			1.01 H	229	86.35	-1.49
3	4944.00	41.99 PK	74.00	-32.01	1.32 H	290	37.25	4.74
4	4944.00	31.93 AV	54.00	-22.07	1.32 H	290	27.19	4.74
5	17949.00	60.25 PK	74.00	-13.75	2.38 H	145	39.07	21.18
6	17949.00	49.32 AV	54.00	-4.68	2.38 H	145	28.14	21.18

Remarks:

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

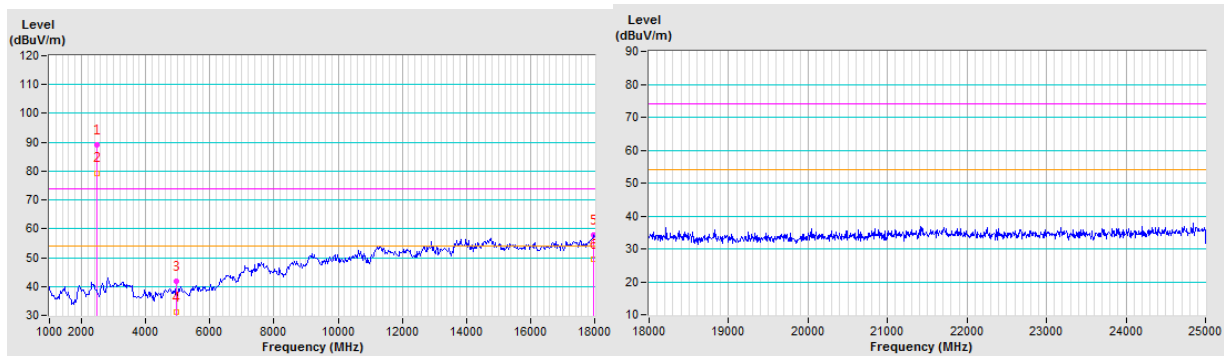


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2472.00	89.24 PK			3.16 V	184	90.73	-1.49
2	*2472.00	79.35 AV			3.16 V	184	80.84	-1.49
3	4944.00	41.86 PK	74.00	-32.14	3.73 V	217	37.12	4.74
4	4944.00	31.28 AV	54.00	-22.72	3.73 V	217	26.54	4.74
5	17966.00	57.96 PK	74.00	-16.04	1.27 V	341	36.36	21.60
6	17966.00	49.51 AV	54.00	-4.49	1.27 V	341	27.91	21.60

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency



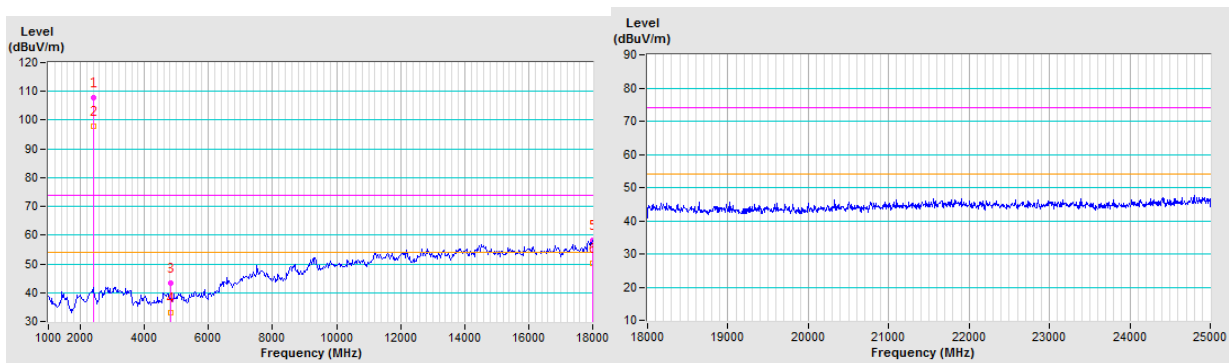
802.11n (HT20)

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2412.00	107.84 PK			1.00 H	233	109.46	-1.62
2	*2412.00	97.76 AV			1.00 H	233	99.38	-1.62
3	4824.00	43.34 PK	74.00	-30.66	1.29 H	291	38.55	4.79
4	4824.00	33.10 AV	54.00	-20.90	1.29 H	291	28.31	4.79
5	17983.00	58.06 PK	74.00	-15.94	2.42 H	146	36.02	22.04
6	17983.00	50.07 AV	54.00	-3.93	2.42 H	146	28.03	22.04

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

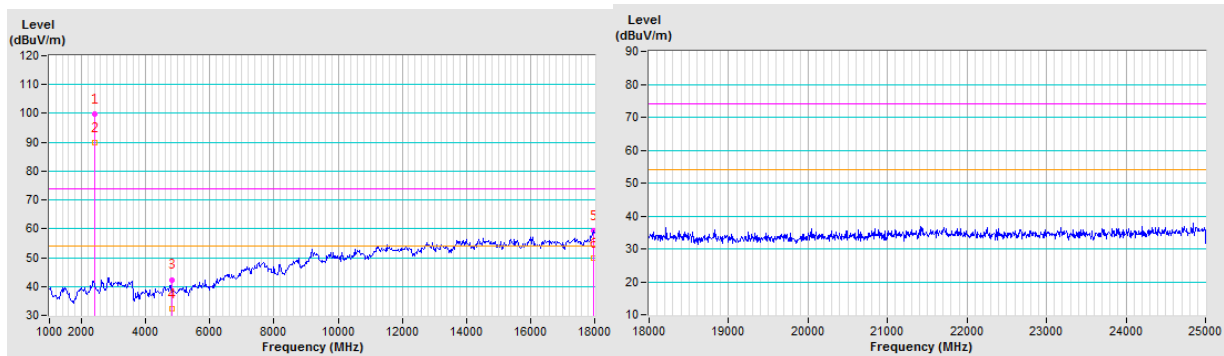


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2412.00	99.87 PK			3.11 V	169	101.49	-1.62
2	*2412.00	89.91 AV			3.11 V	169	91.53	-1.62
3	4824.00	42.39 PK	74.00	-31.61	3.79 V	228	37.60	4.79
4	4824.00	32.14 AV	54.00	-21.86	3.79 V	228	27.35	4.79
5	17949.00	59.44 PK	74.00	-14.56	1.58 V	349	38.26	21.18
6	17949.00	49.90 AV	54.00	-4.10	1.58 V	349	28.72	21.18

Remarks:

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

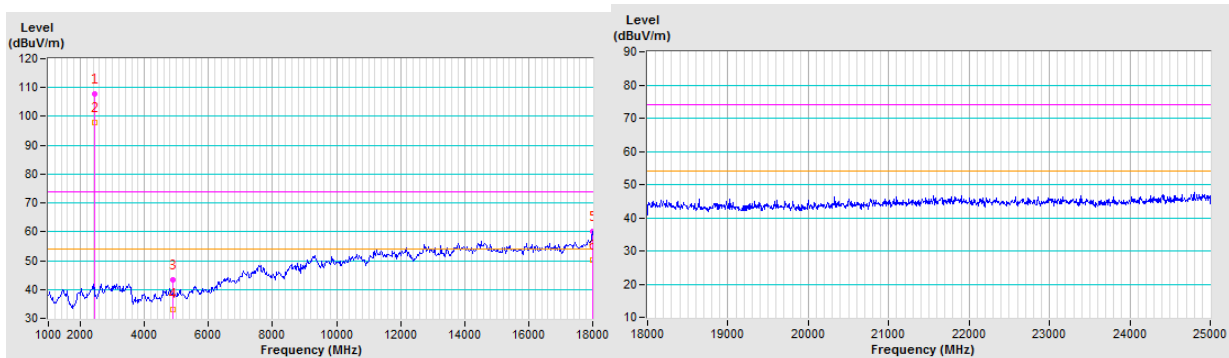


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2437.00	107.79 PK			1.04 H	231	109.53	-1.74
2	*2437.00	97.88 AV			1.04 H	231	99.62	-1.74
3	4874.00	43.35 PK	74.00	-30.65	1.22 H	296	38.48	4.87
4	4874.00	33.22 AV	54.00	-20.78	1.22 H	296	28.35	4.87
5	17983.00	60.16 PK	74.00	-13.84	2.37 H	151	38.12	22.04
6	17983.00	50.13 AV	54.00	-3.87	2.37 H	151	28.09	22.04

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
4. Margin value = Emission Level – Limit value
5. " \* " : Fundamental frequency

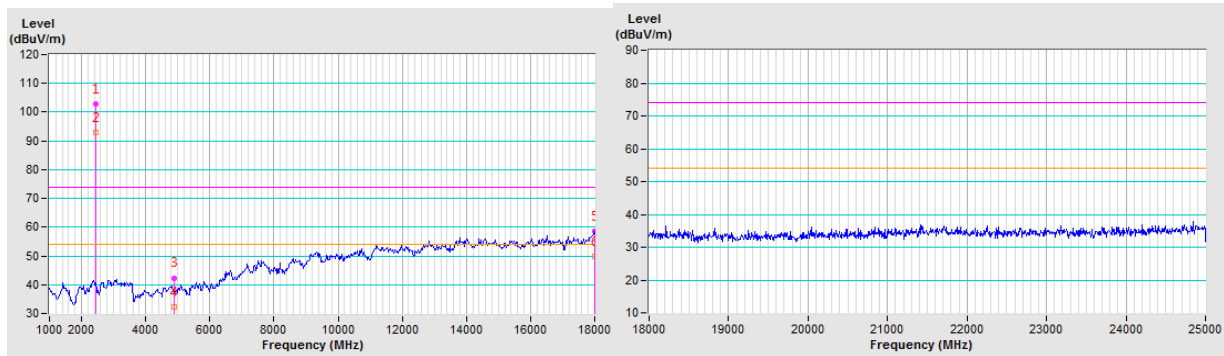


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2437.00	102.84 PK			3.19 V	188	104.58	-1.74
2	*2437.00	92.88 AV			3.19 V	188	94.62	-1.74
3	4874.00	42.39 PK	74.00	-31.61	3.82 V	215	37.52	4.87
4	4874.00	32.16 AV	54.00	-21.84	3.82 V	215	27.29	4.87
5	18000.00	58.59 PK	74.00	-15.41	1.52 V	340	36.11	22.48
6	18000.00	49.83 AV	54.00	-4.17	1.52 V	340	27.35	22.48

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency



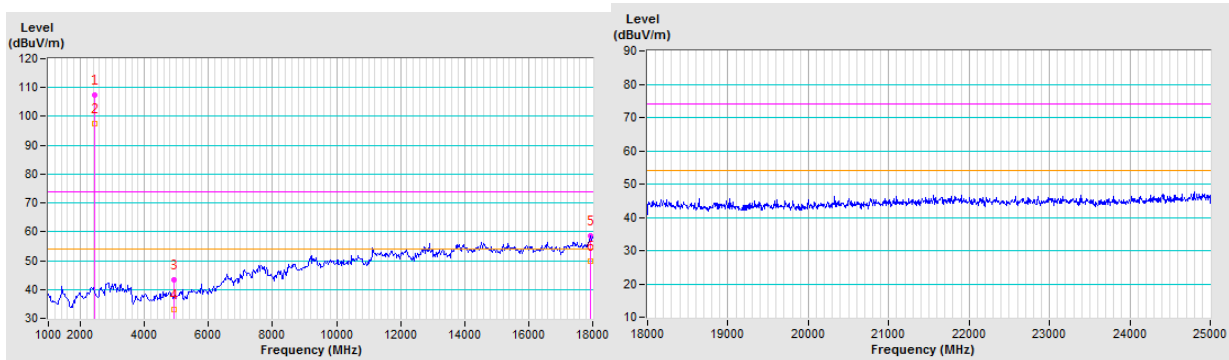


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	107.32 PK			1.02 H	232	108.94	-1.62
2	*2462.00	97.41 AV			1.02 H	232	99.03	-1.62
3	4924.00	43.19 PK	74.00	-30.81	1.31 H	288	38.39	4.80
4	4924.00	33.14 AV	54.00	-20.86	1.31 H	288	28.34	4.80
5	17915.00	58.46 PK	74.00	-15.54	2.43 H	157	38.16	20.30
6	17915.00	49.65 AV	54.00	-4.35	2.43 H	157	29.35	20.30

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

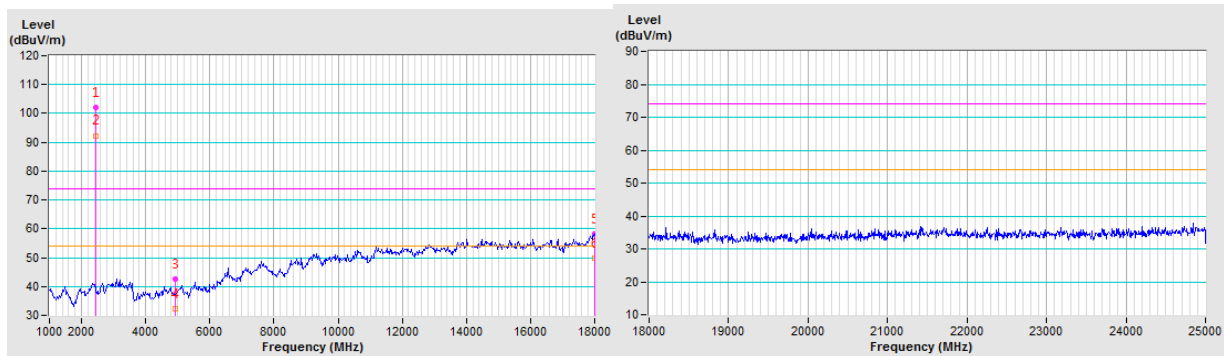


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	102.19 PK			3.21 V	182	103.81	-1.62
2	*2462.00	92.32 AV			3.21 V	182	93.94	-1.62
3	4924.00	42.40 PK	74.00	-31.60	3.80 V	220	37.60	4.80
4	4924.00	32.17 AV	54.00	-21.83	3.80 V	220	27.37	4.80
5	17983.00	58.11 PK	74.00	-15.89	1.44 V	339	36.07	22.04
6	17983.00	49.90 AV	54.00	-4.10	1.44 V	339	27.86	22.04

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

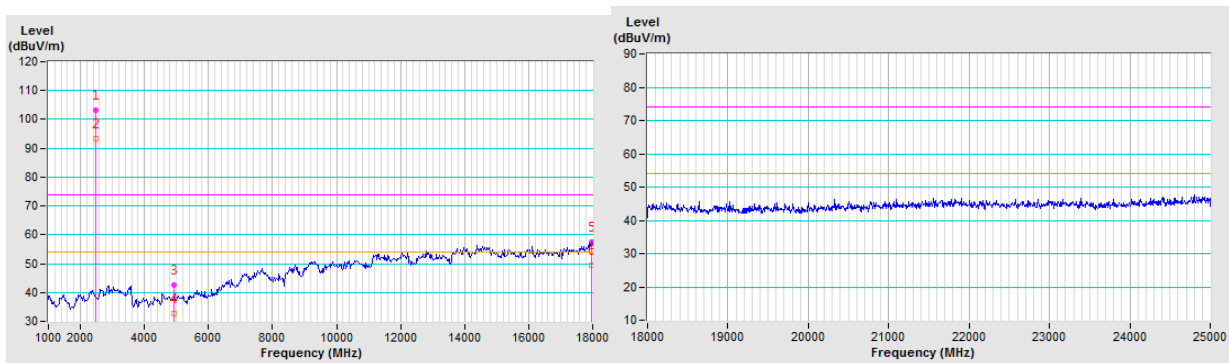


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2467.00	103.17 PK			1.00 H	232	104.73	-1.56
2	*2467.00	93.32 AV			1.00 H	232	94.88	-1.56
3	4934.00	42.73 PK	74.00	-31.27	1.33 H	295	37.96	4.77
4	4934.00	32.51 AV	54.00	-21.49	1.33 H	295	27.74	4.77
5	17966.00	57.43 PK	74.00	-16.57	2.29 H	126	35.83	21.60
6	17966.00	49.48 AV	54.00	-4.52	2.29 H	126	27.88	21.60

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

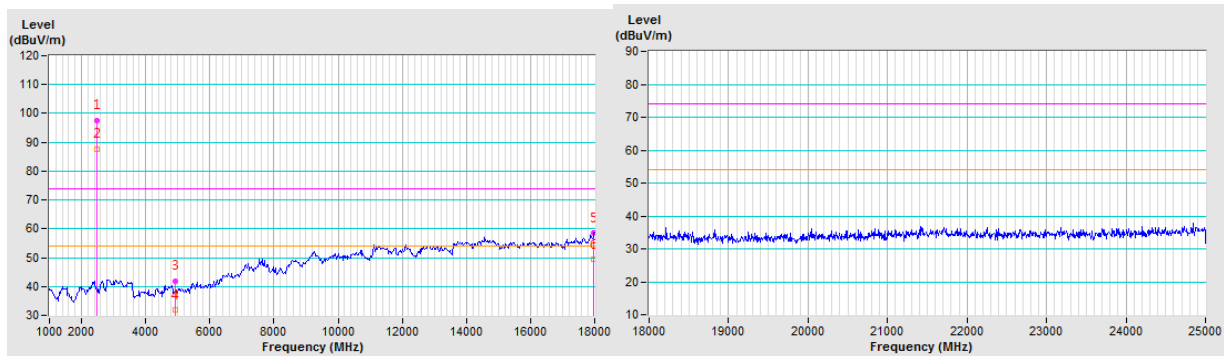


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2467.00	97.68 PK			3.16 V	202	99.24	-1.56
2	*2467.00	87.77 AV			3.16 V	202	89.33	-1.56
3	4934.00	41.98 PK	74.00	-32.02	3.77 V	221	37.21	4.77
4	4934.00	31.95 AV	54.00	-22.05	3.77 V	221	27.18	4.77
5	17966.00	58.63 PK	74.00	-15.37	1.44 V	335	37.03	21.60
6	17966.00	49.47 AV	54.00	-4.53	1.44 V	335	27.87	21.60

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency

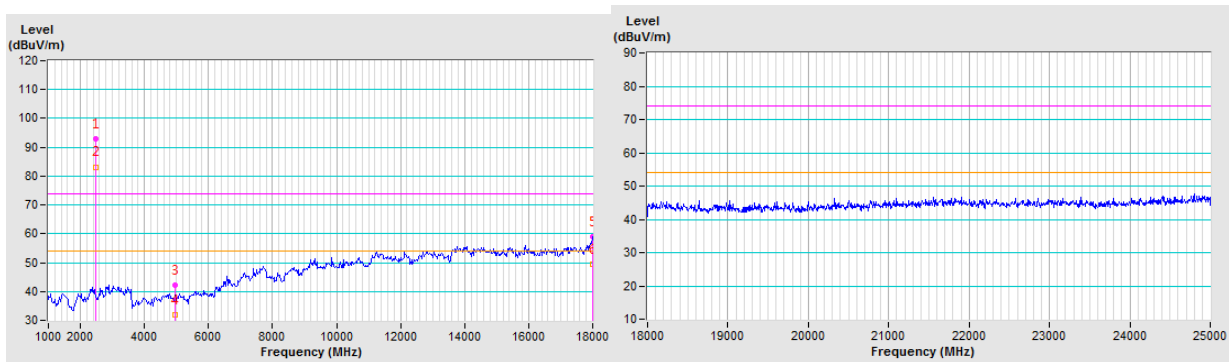


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2472.00	93.03 PK			1.02 H	230	94.52	-1.49
2	*2472.00	83.17 AV			1.02 H	230	84.66	-1.49
3	4944.00	42.25 PK	74.00	-31.75	1.35 H	298	37.51	4.74
4	4944.00	32.00 AV	54.00	-22.00	1.35 H	298	27.26	4.74
5	18000.00	58.93 PK	74.00	-15.07	2.36 H	140	36.45	22.48
6	18000.00	49.42 AV	54.00	-4.58	2.36 H	140	26.94	22.48

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
4. Margin value = Emission Level – Limit value
5. " \* " : Fundamental frequency

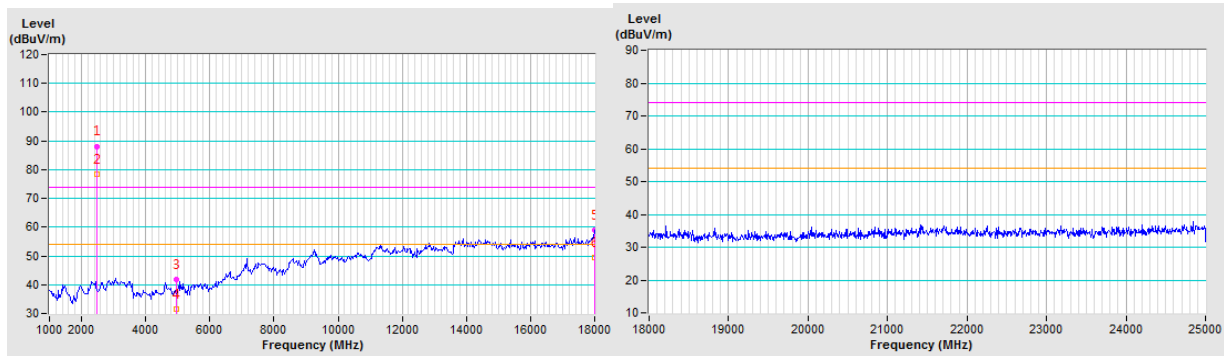


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2472.00	88.12 PK			3.22 V	195	89.61	-1.49
2	*2472.00	78.35 AV			3.22 V	195	79.84	-1.49
3	4944.00	41.82 PK	74.00	-32.18	3.80 V	215	37.08	4.74
4	4944.00	31.57 AV	54.00	-22.43	3.80 V	215	26.83	4.74
5	18000.00	58.93 PK	74.00	-15.07	1.53 V	347	36.45	22.48
6	18000.00	49.59 AV	54.00	-4.41	1.53 V	347	27.11	22.48

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
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency



#### 4.1.8 Test Results for Bandedge above 1GHz

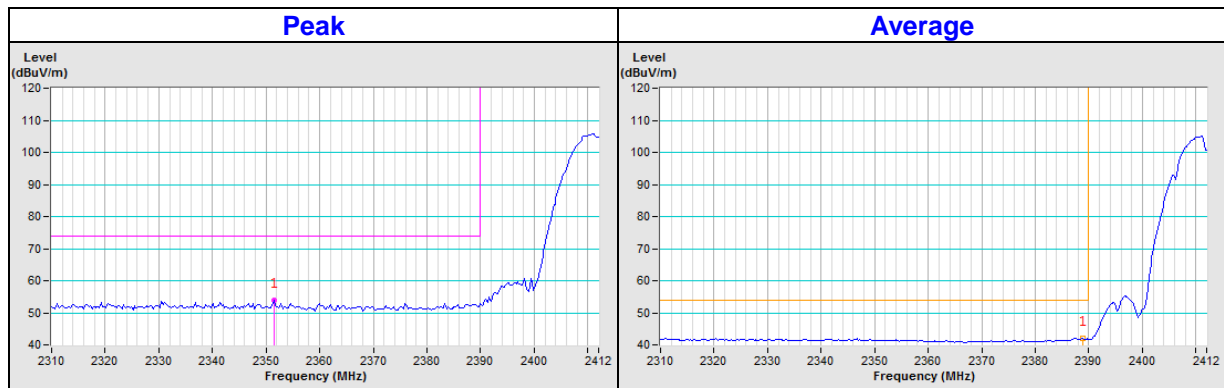
802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2310MHz ~ 2412MHz		Average (AV)

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)
PK.1	2351.42	53.88 PK	74.00	-20.12	1.00 H	324	55.07	-1.19
AV.1	2388.85	42.04 AV	54.00	-11.96	1.00 H	324	43.53	-1.49

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
4. Margin value = Emission Level – Limit value

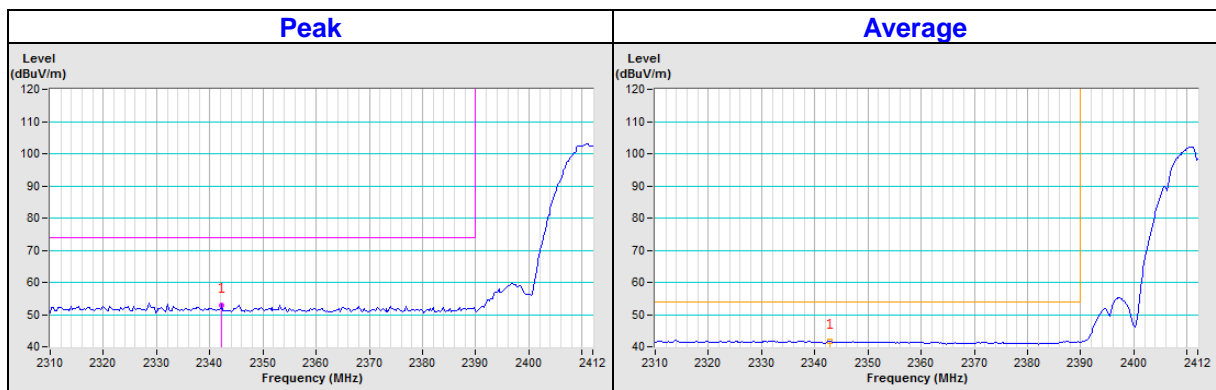


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	2310MHz ~ 2412MHz		

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)
PK.1	2342.30	53.05 PK	74.00	-20.95	3.18 V	187	54.23	-1.18
AV.1	2342.87	41.70 AV	54.00	-12.30	3.18 V	187	42.88	-1.18

Remarks:

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



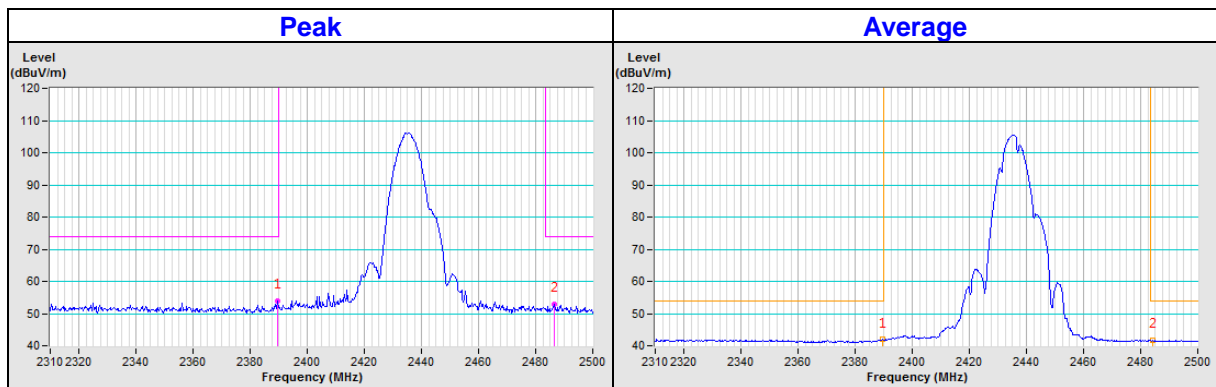


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2310MHz ~ 2500MHz		Average (AV)

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)
PK.1	2389.80	53.94 PK	74.00	-20.06	1.03 H	327	55.43	-1.49
PK.2	2486.70	53.02 PK	74.00	-20.98	1.03 H	327	54.29	-1.27
AV.1	2389.61	41.89 AV	54.00	-12.11	1.03 H	327	43.38	-1.49
AV.2	2484.42	41.77 AV	54.00	-12.23	1.03 H	327	43.08	-1.31

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
4. Margin value = Emission Level – Limit value

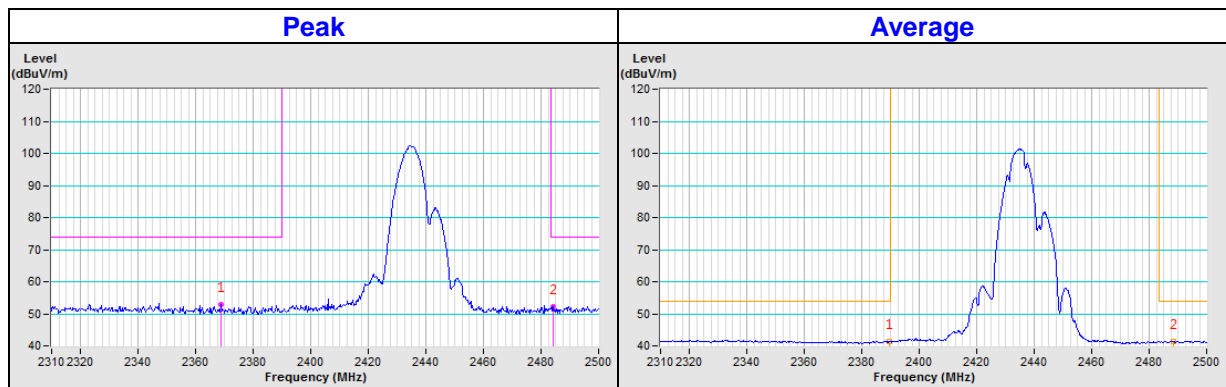


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2310MHz ~ 2500MHz		Average (AV)

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)
PK.1	2368.90	52.90 PK	74.00	-21.10	3.22 V	187	54.23	-1.33
PK.2	2484.23	52.37 PK	74.00	-21.63	3.22 V	187	53.68	-1.31
AV.1	2389.80	41.49 AV	54.00	-12.51	3.22 V	187	42.98	-1.49
AV.2	2488.60	41.52 AV	54.00	-12.48	3.22 V	187	42.76	-1.24

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
4. Margin value = Emission Level – Limit value

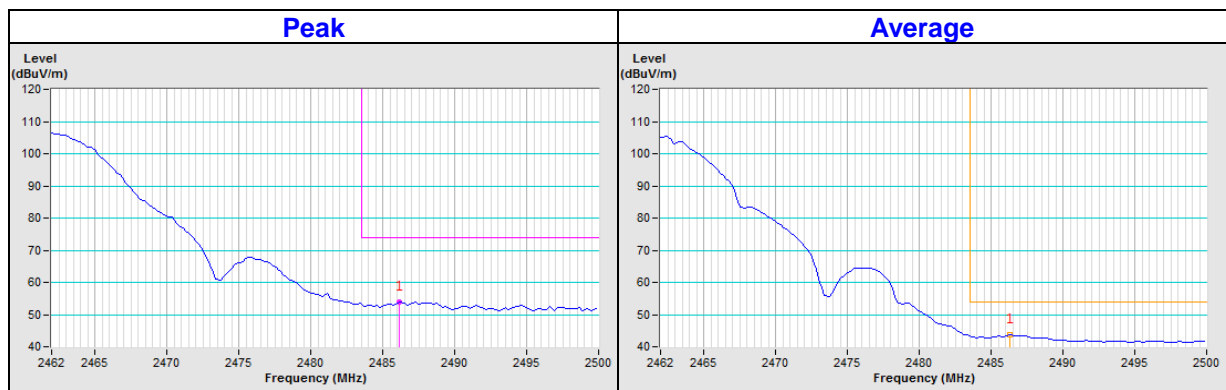


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2486.13	53.79 PK	74.00	-20.21	1.00 H	231	55.07	-1.28
AV.1	2486.32	43.57 AV	54.00	-10.43	1.00 H	231	44.85	-1.28

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
4. Margin value = Emission Level – Limit value

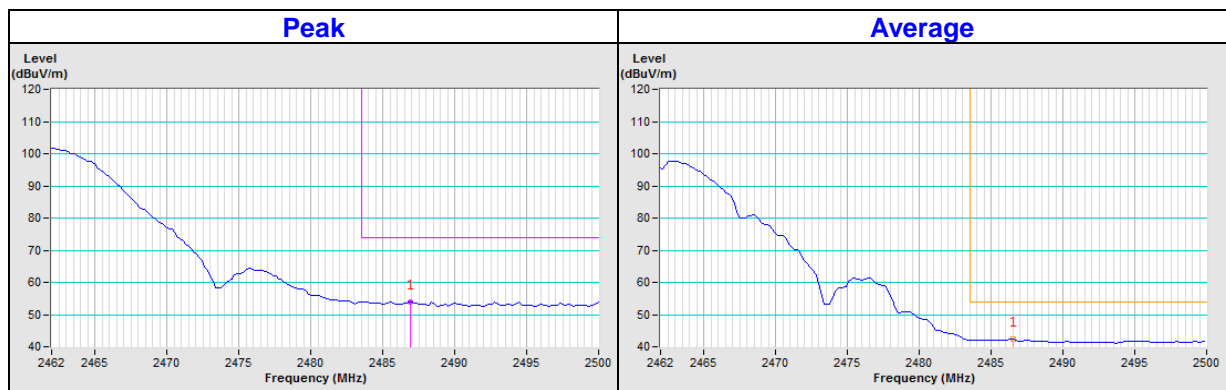


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	2462MHz ~ 2500MHz		

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)
PK.1	2486.89	54.04 PK	74.00	-19.96	3.27 V	151	55.31	-1.27
AV.1	2486.51	42.42 AV	54.00	-11.58	3.27 V	151	43.69	-1.27

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
4. Margin value = Emission Level – Limit value

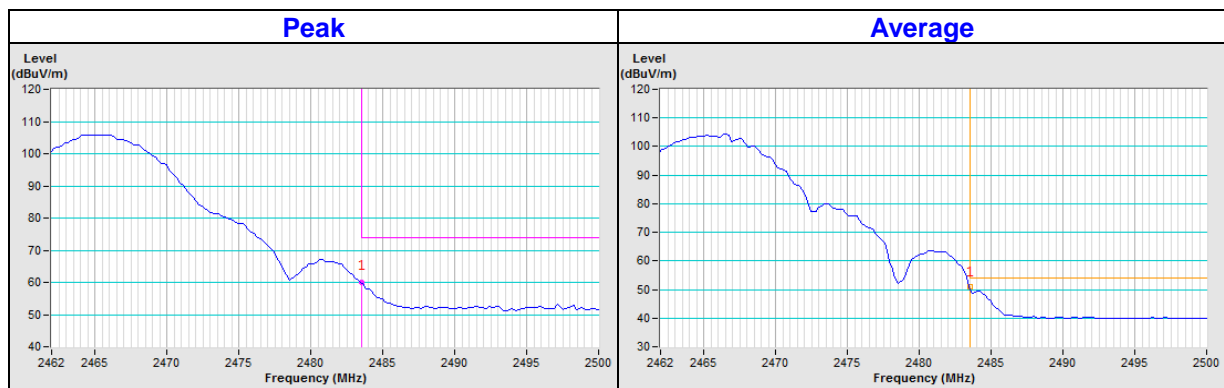


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2483.50	60.13 PK	74.00	-13.87	1.02 H	233	61.45	-1.32
AV.1	2483.50	50.90 AV	54.00	-3.10	1.02 H	233	52.22	-1.32

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
4. Margin value = Emission Level – Limit value

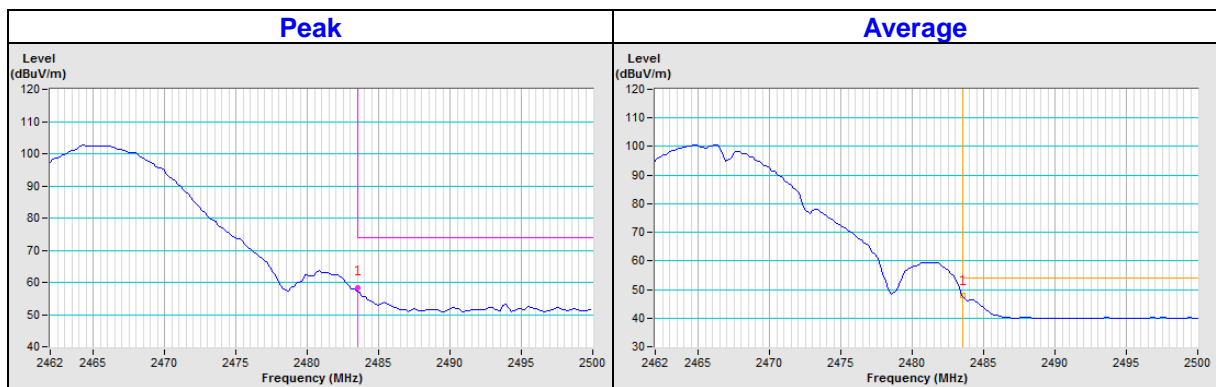


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2483.50	58.45 PK	74.00	-15.55	3.22 V	163	59.77	-1.32
AV.1	2483.50	47.97 AV	54.00	-6.03	3.22 V	163	49.29	-1.32

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
4. Margin value = Emission Level – Limit value

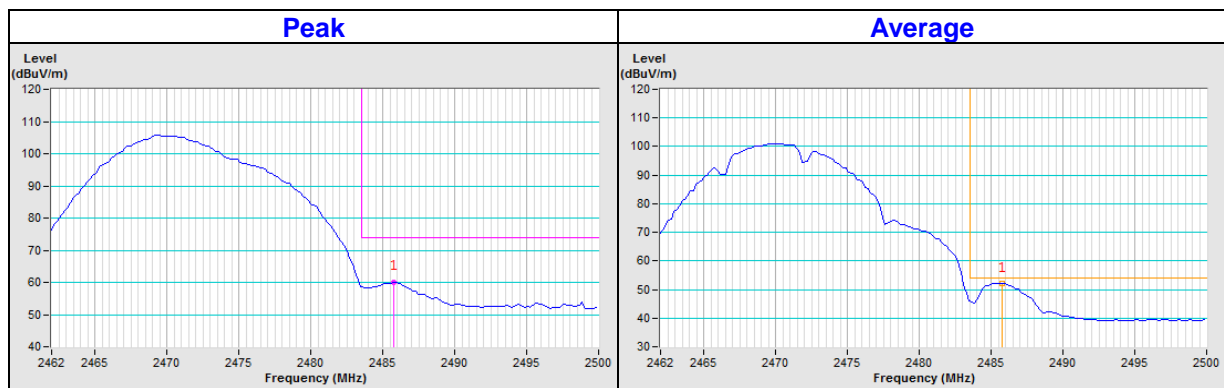


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2485.75	60.11 PK	74.00	-13.89	1.01 H	228	61.39	-1.28
AV.1	2485.75	52.27 AV	54.00	-1.73	1.01 H	228	53.55	-1.28

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
4. Margin value = Emission Level – Limit value

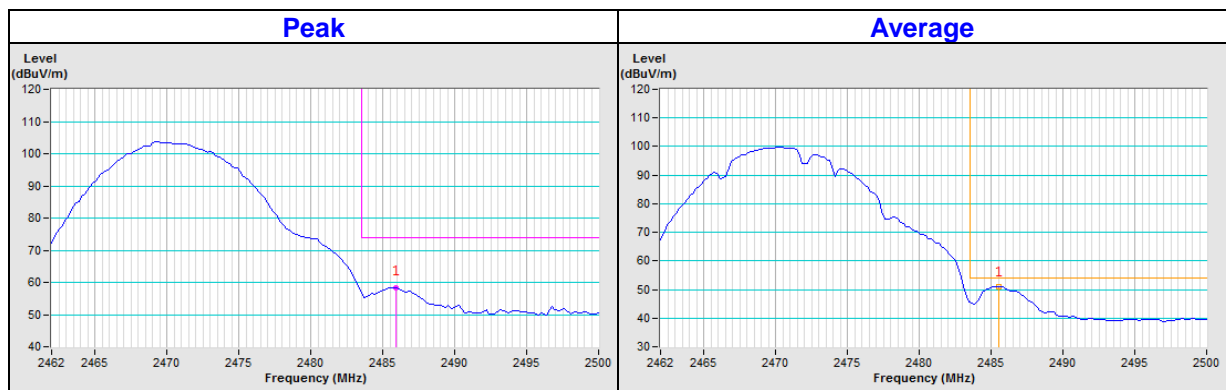


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	2462MHz ~ 2500MHz		

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)
PK.1	2485.94	58.46 PK	74.00	-15.54	3.15 V	154	59.74	-1.28
AV.1	2485.56	50.88 AV	54.00	-3.12	3.15 V	154	52.16	-1.28

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
4. Margin value = Emission Level – Limit value





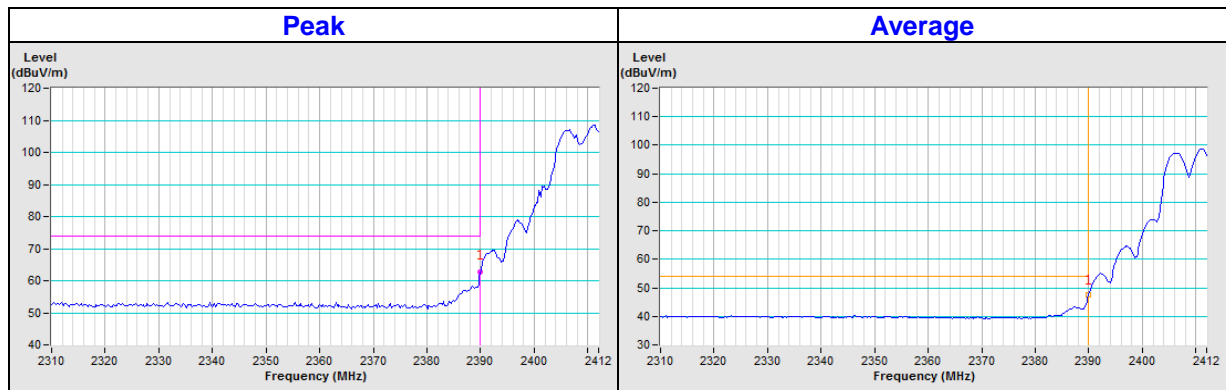
802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	2310MHz ~ 2412MHz		

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)
PK.1	2390.00	62.87 PK	74.00	-11.13	1.00 H	232	64.37	-1.50
AV.1	2390.00	47.38 AV	54.00	-6.62	1.00 H	232	48.88	-1.50

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
4. Margin value = Emission Level – Limit value

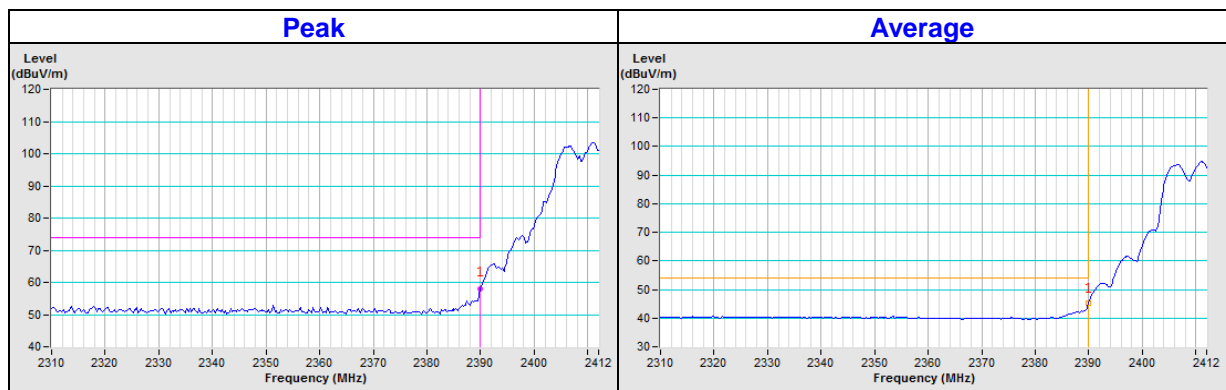


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	2310MHz ~ 2412MHz		

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)
PK.1	2390.00	57.95 PK	74.00	-16.05	3.27 V	177	59.45	-1.50
AV.1	2390.00	45.13 AV	54.00	-8.87	3.27 V	177	46.63	-1.50

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
4. Margin value = Emission Level – Limit value

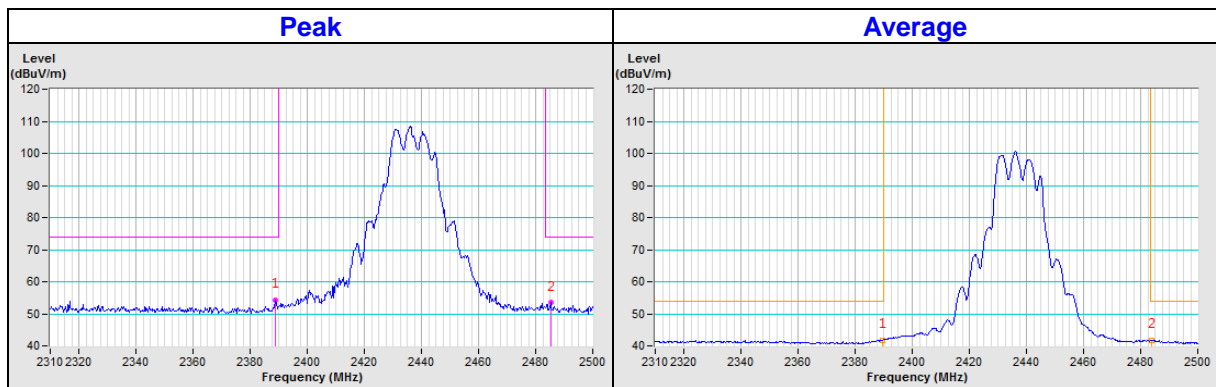


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	2310MHz ~ 2500MHz		

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)
PK.1	2388.85	54.19 PK	74.00	-19.81	1.02 H	234	55.68	-1.49
PK.2	2485.37	53.45 PK	74.00	-20.55	1.02 H	234	54.74	-1.29
AV.1	2389.80	41.85 AV	54.00	-12.15	1.02 H	234	43.34	-1.49
AV.2	2483.66	41.81 AV	54.00	-12.19	1.02 H	234	43.13	-1.32

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
4. Margin value = Emission Level – Limit value

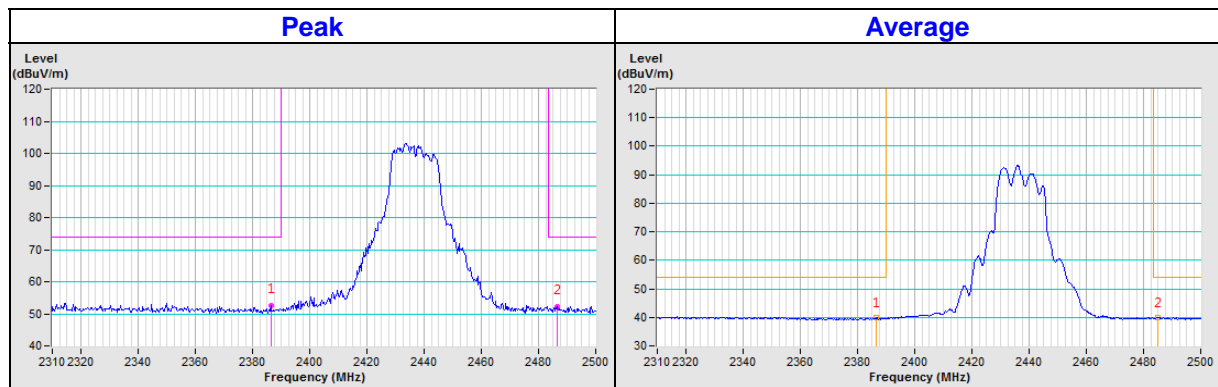


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2310MHz ~ 2500MHz		Average (AV)

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)
PK.1	2386.38	52.69 PK	74.00	-21.31	3.22 V	180	54.16	-1.47
PK.2	2486.51	52.31 PK	74.00	-21.69	3.22 V	180	53.58	-1.27
AV.1	2386.57	39.84 AV	54.00	-14.16	3.22 V	180	41.31	-1.47
AV.2	2484.99	39.97 AV	54.00	-14.03	3.22 V	180	41.27	-1.30

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
4. Margin value = Emission Level – Limit value

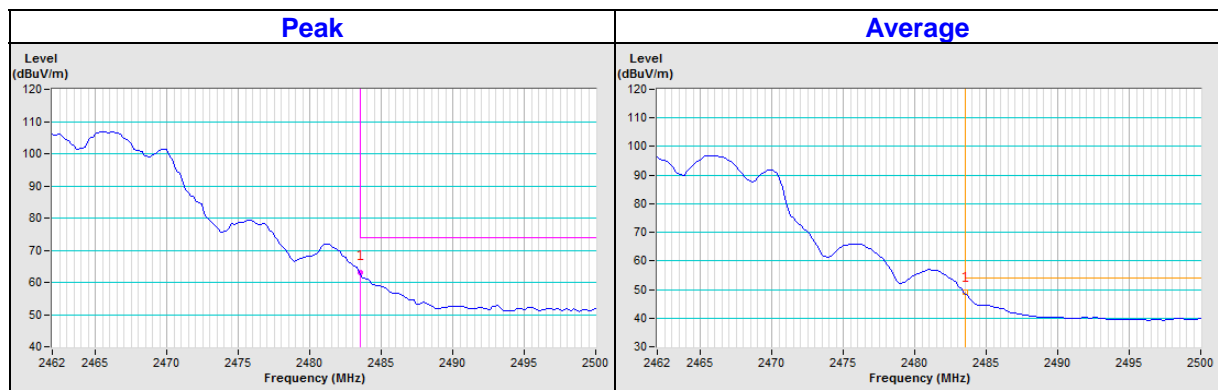


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2483.50	63.20 PK	74.00	-10.80	1.00 H	232	64.52	-1.32
AV.1	2483.50	48.92 AV	54.00	-5.08	1.00 H	232	50.24	-1.32

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
4. Margin value = Emission Level – Limit value

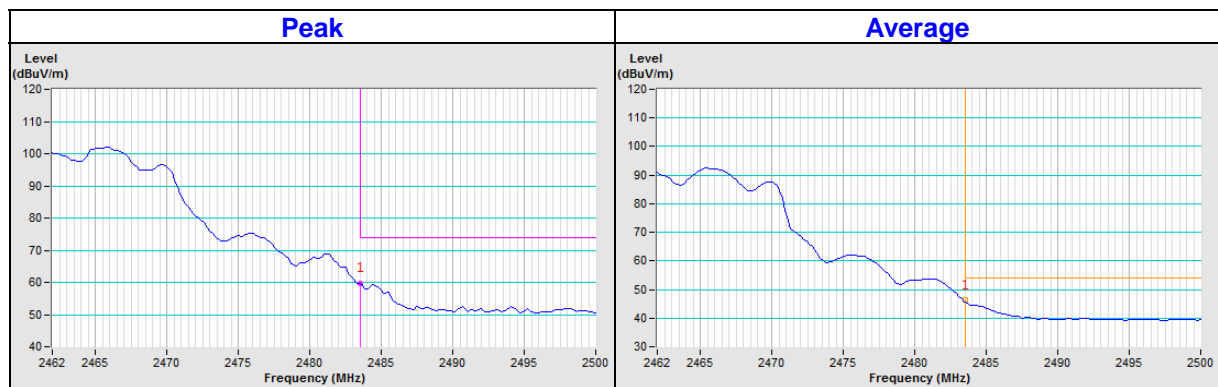


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	2462MHz ~ 2500MHz		

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)
PK.1	2483.50	59.50 PK	74.00	-14.50	3.16 V	185	60.82	-1.32
AV.1	2483.50	46.45 AV	54.00	-7.55	3.16 V	185	47.77	-1.32

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
4. Margin value = Emission Level – Limit value

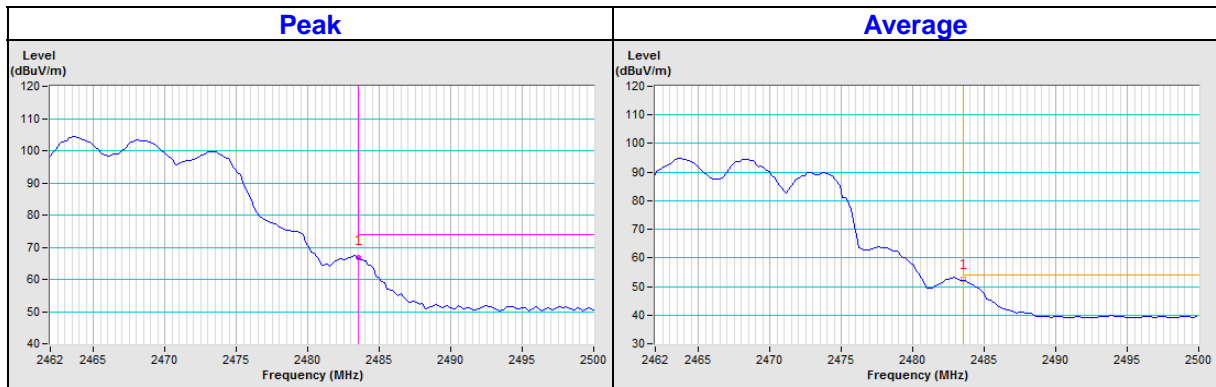


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2483.50	66.89 PK	74.00	-7.11	1.03 H	235	68.21	-1.32
AV.1	2483.50	52.39 AV	54.00	-1.61	1.03 H	235	53.71	-1.32

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
4. Margin value = Emission Level – Limit value

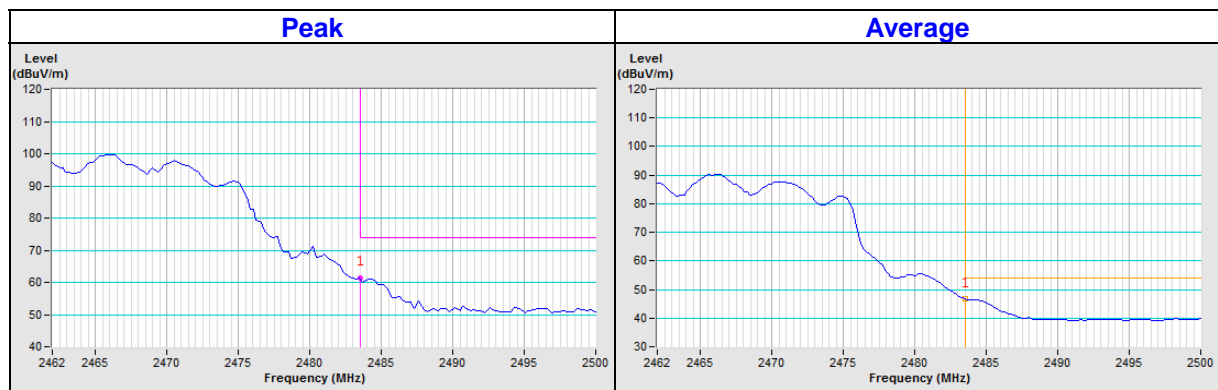


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2483.50	61.47 PK	74.00	-12.53	3.20 V	192	62.79	-1.32
AV.1	2483.50	46.97 AV	54.00	-7.03	3.20 V	192	48.29	-1.32

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
4. Margin value = Emission Level – Limit value



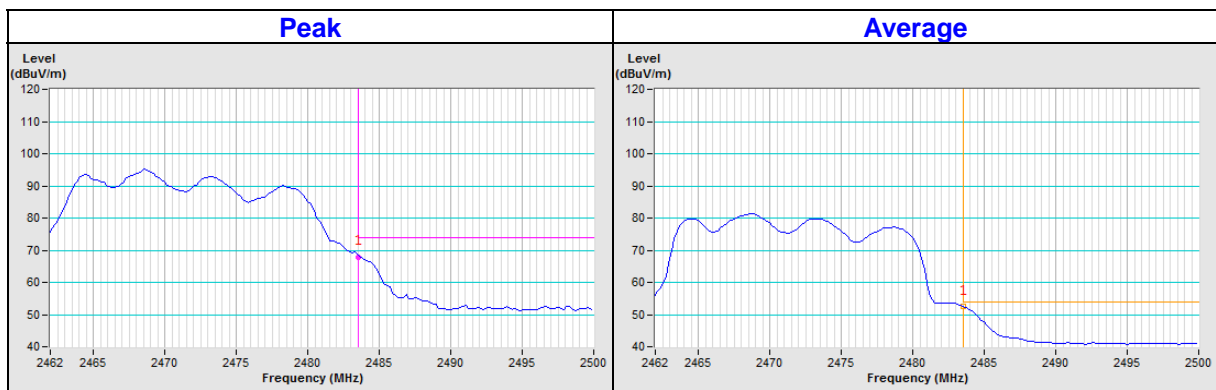


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2483.50	67.74 PK	74.00	-6.26	1.01 H	229	69.06	-1.32
AV.1	2483.50	52.43 AV	54.00	-1.57	1.01 H	229	53.75	-1.32

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
4. Margin value = Emission Level – Limit value

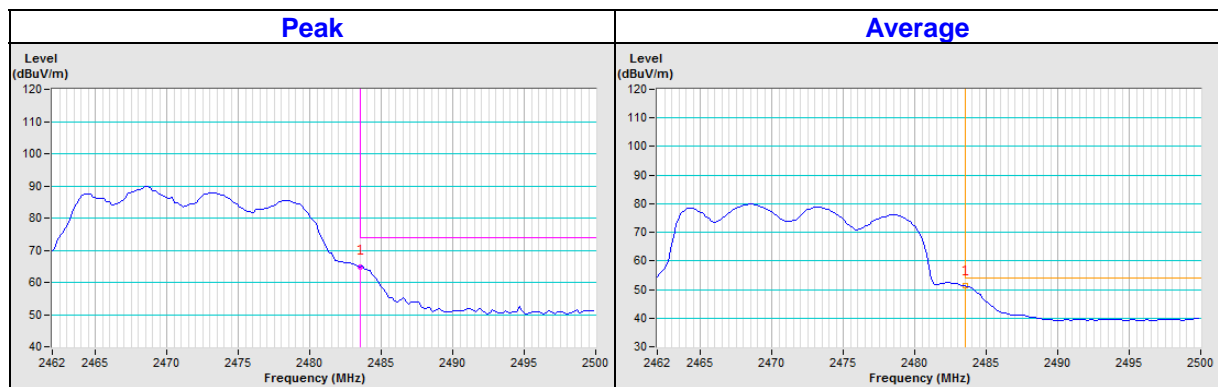


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2483.50	64.75 PK	74.00	-9.25	3.16 V	184	66.07	-1.32
AV.1	2483.50	51.17 AV	54.00	-2.83	3.16 V	184	52.49	-1.32

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
4. Margin value = Emission Level – Limit value



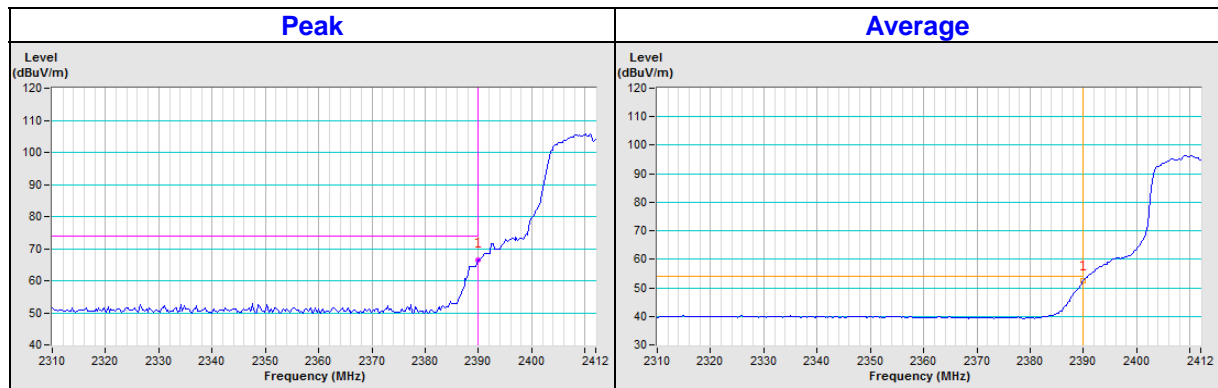
802.11n (HT20)

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2310MHz ~ 2412MHz		Average (AV)

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)
PK.1	2390.00	66.53 PK	74.00	-7.47	1.00 H	233	68.03	-1.50
AV.1	2390.00	52.32 AV	54.00	-1.68	1.00 H	233	53.82	-1.50

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
4. Margin value = Emission Level – Limit value

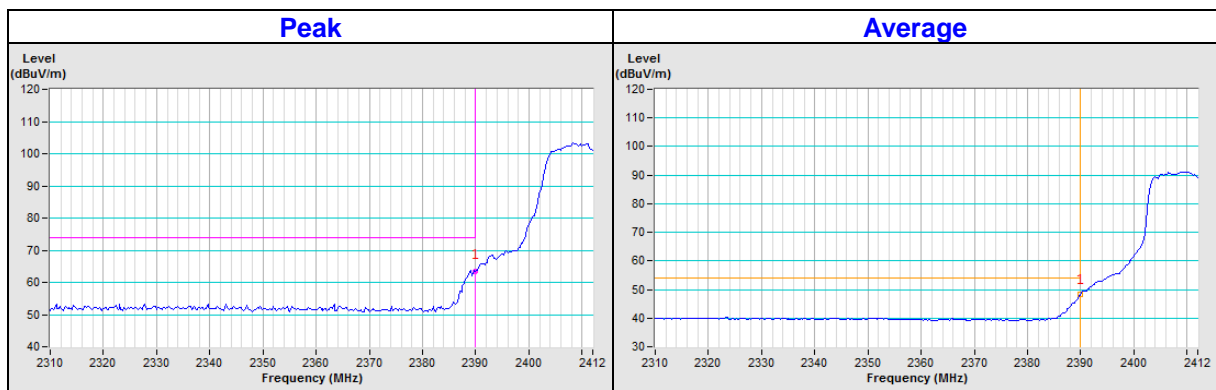


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	2310MHz ~ 2412MHz		

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)
PK.1	2390.00	63.55 PK	74.00	-10.45	3.11 V	169	65.05	-1.50
AV.1	2390.00	48.38 AV	54.00	-5.62	3.11 V	169	49.88	-1.50

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
4. Margin value = Emission Level – Limit value

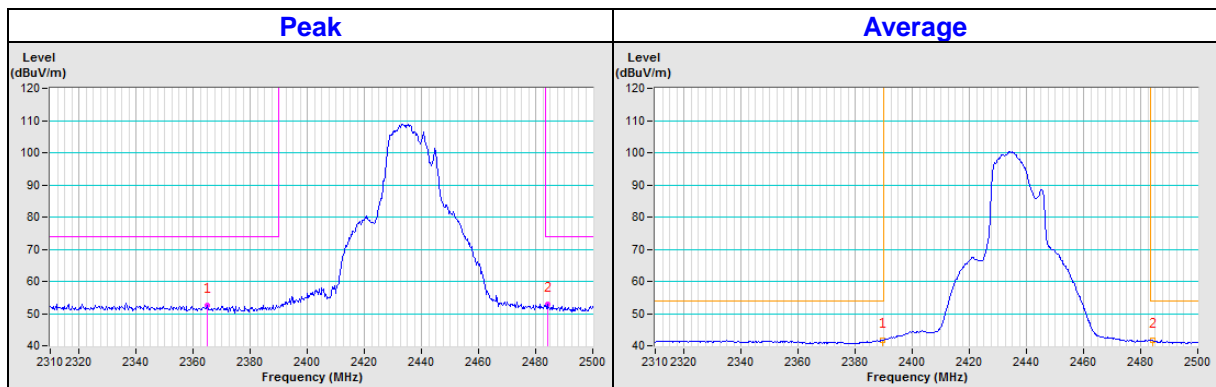


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2310MHz ~ 2500MHz		Average (AV)

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)
PK.1	2364.91	52.58 PK	74.00	-21.42	1.04 H	231	53.88	-1.30
PK.2	2484.23	52.92 PK	74.00	-21.08	1.04 H	231	54.23	-1.31
AV.1	2389.80	41.79 AV	54.00	-12.21	1.04 H	231	43.28	-1.49
AV.2	2484.42	41.63 AV	54.00	-12.37	1.04 H	231	42.94	-1.31

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
4. Margin value = Emission Level – Limit value

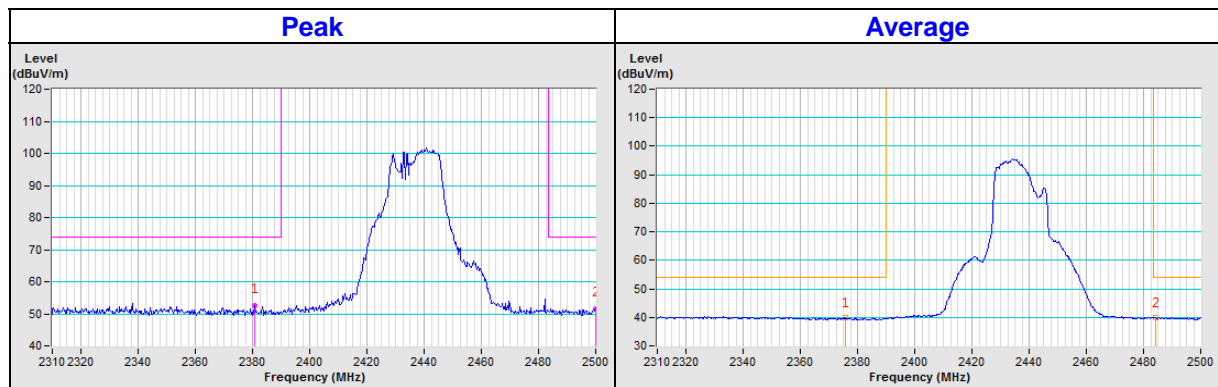


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2310MHz ~ 2500MHz		Average (AV)

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)
PK.1	2380.87	52.47 PK	74.00	-21.53	3.19 V	188	53.89	-1.42
PK.2	2499.81	51.67 PK	74.00	-22.33	3.19 V	188	52.75	-1.08
AV.1	2375.74	39.86 AV	54.00	-14.14	3.19 V	188	41.25	-1.39
AV.2	2484.23	40.00 AV	54.00	-14.00	3.19 V	188	41.31	-1.31

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
4. Margin value = Emission Level – Limit value

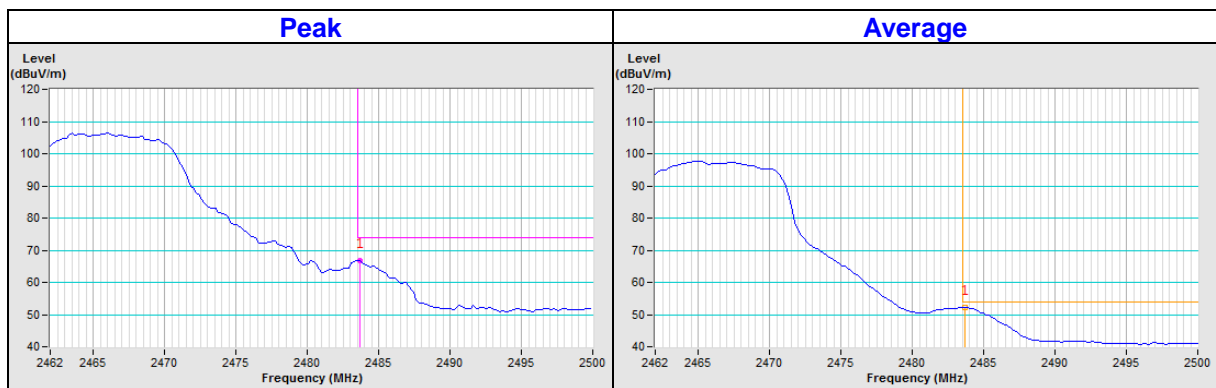


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2483.66	66.71 PK	74.00	-7.29	1.02 H	232	68.03	-1.32
AV.1	2483.66	52.28 AV	54.00	-1.72	1.02 H	232	53.60	-1.32

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
4. Margin value = Emission Level – Limit value

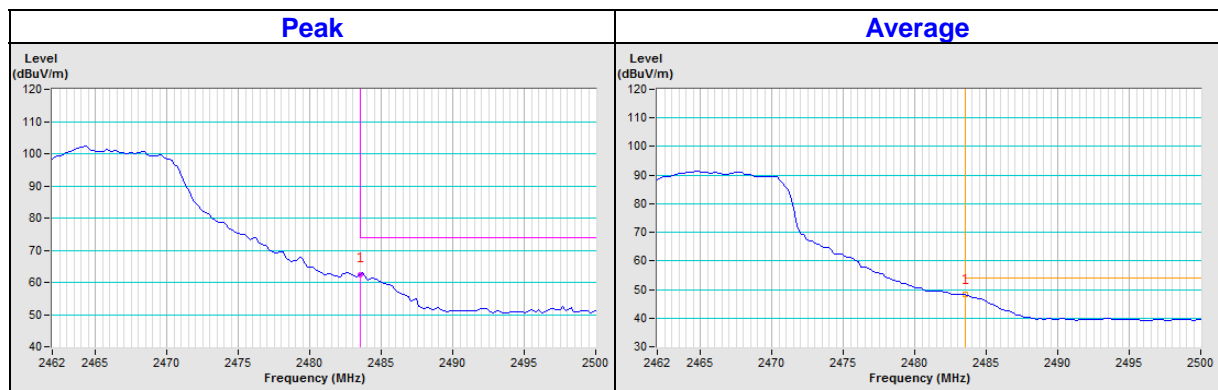


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	2462MHz ~ 2500MHz		

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)
PK.1	2483.50	62.35 PK	74.00	-11.65	3.21 V	182	63.67	-1.32
AV.1	2483.50	48.13 AV	54.00	-5.87	3.21 V	182	49.45	-1.32

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
4. Margin value = Emission Level – Limit value



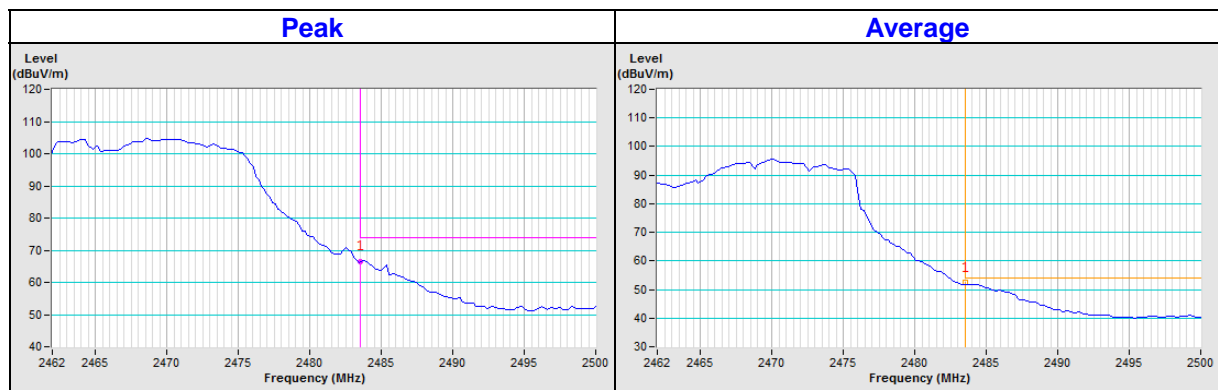


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2483.50	66.31 PK	74.00	-7.69	1.00 H	232	67.63	-1.32
AV.1	2483.50	52.41 AV	54.00	-1.59	1.00 H	232	53.73	-1.32

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
4. Margin value = Emission Level – Limit value

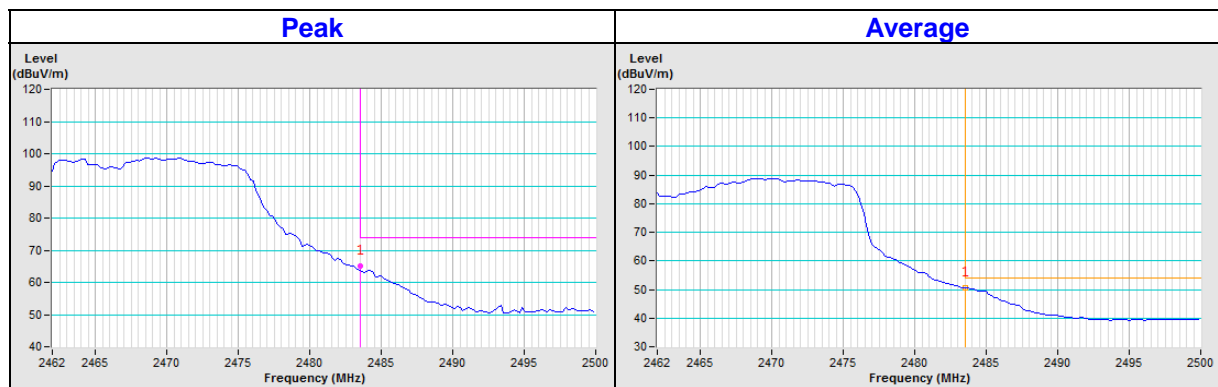


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2483.50	64.97 PK	74.00	-9.03	3.16 V	202	66.29	-1.32
AV.1	2483.50	50.76 AV	54.00	-3.24	3.16 V	202	52.08	-1.32

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
4. Margin value = Emission Level – Limit value

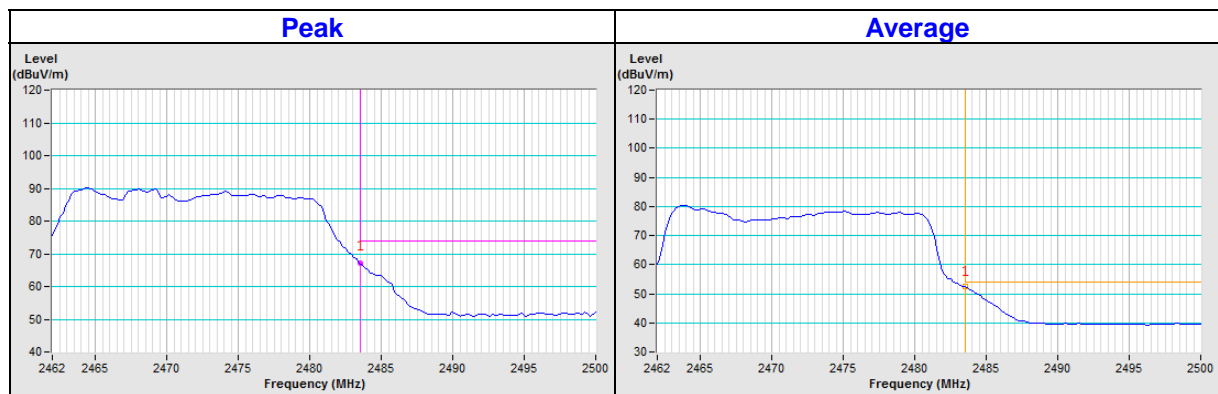


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	2462MHz ~ 2500MHz		Average (AV)

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)
PK.1	2483.50	67.16 PK	74.00	-6.84	1.02 H	230	68.48	-1.32
AV.1	2483.50	52.48 AV	54.00	-1.52	1.02 H	230	53.80	-1.32

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
4. Margin value = Emission Level – Limit value

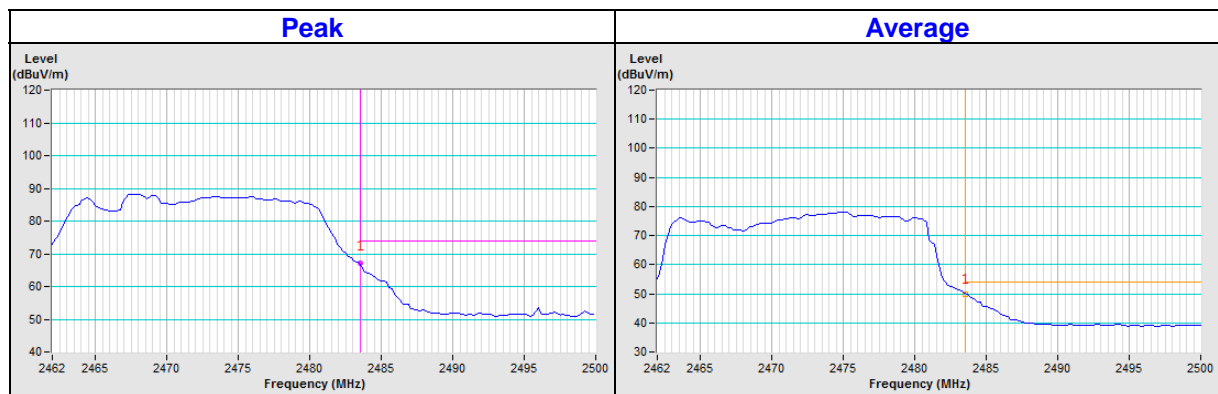


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	2462MHz ~ 2500MHz		

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)
PK.1	2483.50	67.06 PK	74.00	-6.94	3.22 V	195	68.38	-1.32
AV.1	2483.50	49.70 AV	54.00	-4.30	3.22 V	195	51.02	-1.32

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
4. Margin value = Emission Level – Limit value



**4.1.9 Test Results for below 1GHz**

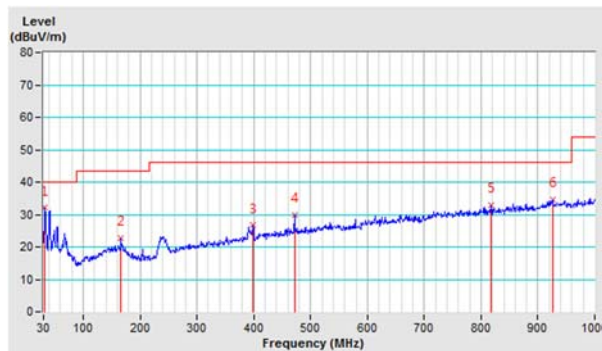
802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	32.67	32.09 PK	40.00	-7.91	1.36 H	30	40.73	-8.64
2	166.67	22.86 PK	43.50	-20.64	1.55 H	58	29.95	-7.09
3	398.79	26.65 PK	46.00	-19.35	1.53 H	264	30.04	-3.39
4	472.13	29.81 PK	46.00	-16.19	1.71 H	276	31.52	-1.71
5	817.11	32.88 PK	46.00	-13.12	1.98 H	163	28.33	4.55
6	925.65	34.71 PK	46.00	-11.29	1.14 H	166	28.39	6.32

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
6. The PK detector measurement value is much smaller than the limit QP value, so the pass is determined

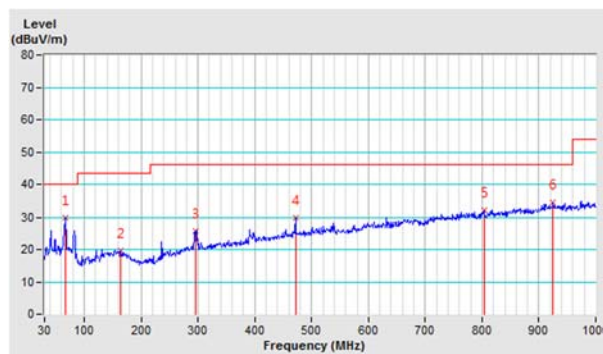


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	66.04	29.82 PK	40.00	-10.18	1.66 V	186	38.03	-8.21
2	164.39	19.77 PK	43.50	-23.73	1.91 V	70	26.75	-6.98
3	295.93	25.92 PK	46.00	-20.08	1.54 V	222	31.27	-5.35
4	472.13	29.91 PK	46.00	-16.09	2.13 V	260	31.62	-1.71
5	803.48	32.27 PK	46.00	-13.73	1.34 V	112	28.25	4.02
6	925.16	34.59 PK	46.00	-11.41	2.08 V	112	28.28	6.31

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
6. The PK detector measurement value is much smaller than the limit QP value, so the pass is determined



## 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	ESCS30	100291	Sep. 03, 2018	Sep. 02, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 26, 2018	Feb. 25, 2019
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_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 HwaYa Shielded Room 1.  
 3. The VCCI Site Registration No. is C-2040.

#### 4.2.3 Test Procedures

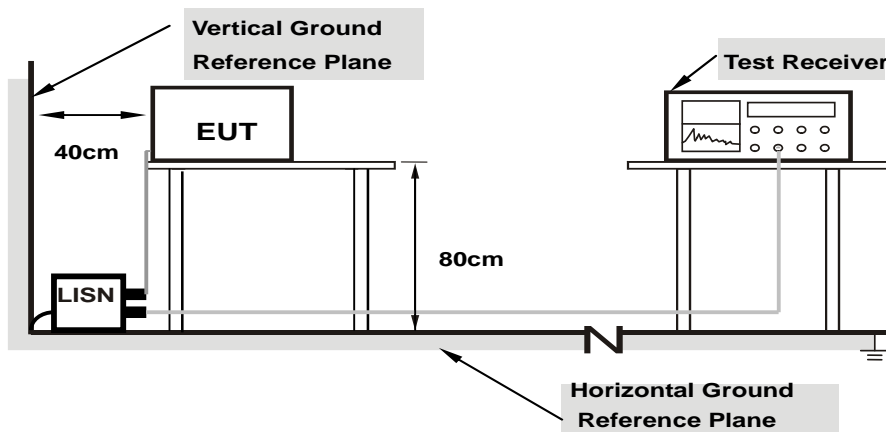
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

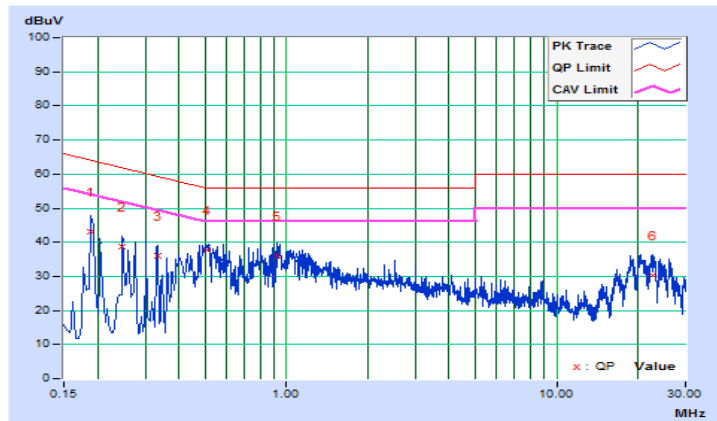
802.11g

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.18910	9.72	33.24	15.28	42.96	25.00	64.08
2	0.24775	9.73	29.15	9.59	38.88	19.32	61.83	51.83	-22.95	-32.51
3	0.33308	9.74	26.32	4.44	36.06	14.18	59.37	49.37	-23.31	-35.19
4	0.50581	9.74	27.98	11.95	37.72	21.69	56.00	46.00	-18.28	-24.31
5	0.92100	9.69	26.18	12.06	35.87	21.75	56.00	46.00	-20.13	-24.25
6	22.62077	9.96	20.27	5.44	30.23	15.40	60.00	50.00	-29.77	-34.60

Remarks:

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

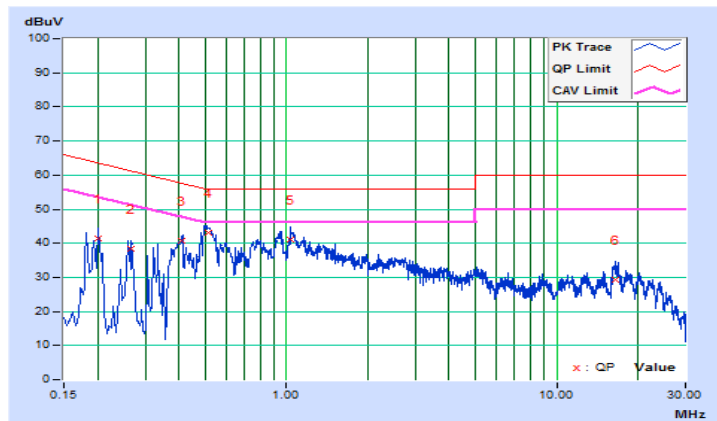


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.20084	9.73	31.63	16.15	41.36	25.88	63.58
2	0.26730	9.74	28.53	11.15	38.27	20.89	61.20	51.20	-22.93	-30.31
3	0.41124	9.75	30.87	13.62	40.62	23.37	57.62	47.62	-17.00	-24.25
<b>4</b>	<b>0.51363</b>	<b>9.74</b>	<b>33.26</b>	<b>16.52</b>	<b>43.00</b>	<b>26.26</b>	<b>56.00</b>	<b>46.00</b>	<b>-13.00</b>	<b>-19.74</b>
5	1.02975	9.72	31.40	16.66	41.12	26.38	56.00	46.00	-14.88	-19.62
6	16.46643	10.03	19.29	11.61	29.32	21.64	60.00	50.00	-30.68	-28.36

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.

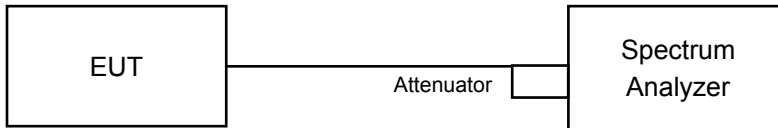


### 4.3 6dB Bandwidth Measurement

#### 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.	Cal. Date	Cal. Due
SPECTRUM ANALYZER R&S	FSP40	100041	Dec 12, 2017	Dec 11, 2018

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

#### 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	8.57	9.07	0.5	Pass
6	2437	9.08	8.59	0.5	Pass
11	2462	8.60	8.60	0.5	Pass
12	2467	8.62	9.07	0.5	Pass
13	2472	8.58	8.10	0.5	Pass

##### 802.11g

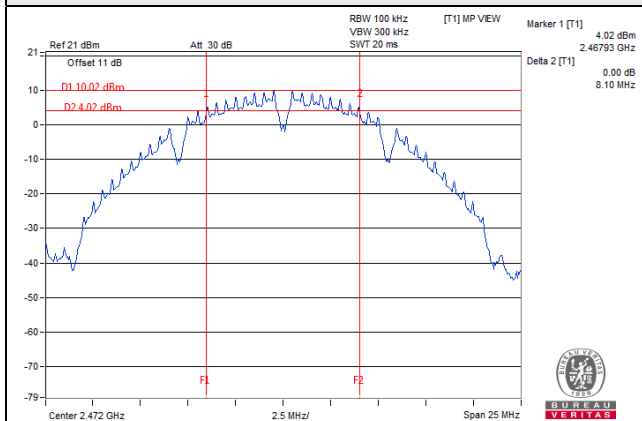
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.51	15.20	0.5	Pass
6	2437	15.82	16.34	0.5	Pass
11	2462	15.50	15.76	0.5	Pass
12	2467	15.48	16.09	0.5	Pass
13	2472	15.77	15.49	0.5	Pass

##### 802.11n (HT20)

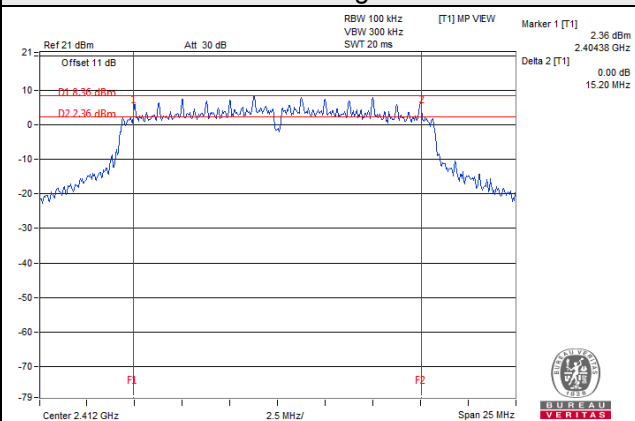
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.77	15.21	0.5	Pass
6	2437	16.04	16.99	0.5	Pass
11	2462	16.03	16.37	0.5	Pass
12	2467	16.14	16.97	0.5	Pass
13	2472	16.35	16.14	0.5	Pass

### Spectrum Plot of Worst Value

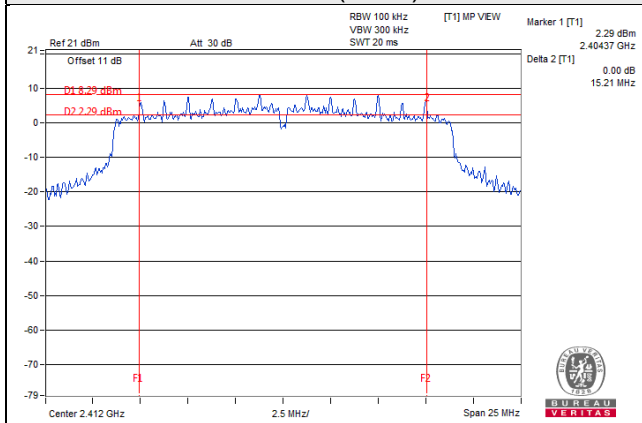
#### 802.11b



#### 802.11g



#### 802.11n (HT20)



#### 4.4 Conducted Output Power Measurement

##### 4.4.1 Limits of Conducted Output Power Measurement

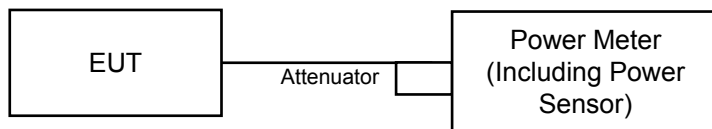
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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  $\geq 40$  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.	Cal. Date	Cal. Due
USB Wideband Power Meter (Including Power Sensor) KEYSIGHT	U2021XA	MY55050005/MY5519000 4/MY55190007/MY55210 005	Jul. 17, 2018	Jul. 16, 2019

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

##### 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

Ant. 0 (SISO)

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	141.579	21.51	30.00	Pass
6	2437	132.434	21.22	30.00	Pass
11	2462	137.404	21.38	30.00	Pass
12	2467	131.220	21.18	30.00	Pass
13	2472	134.276	21.28	30.00	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	144.212	21.59	30.00	Pass
6	2437	133.352	21.25	30.00	Pass
11	2462	143.549	21.57	30.00	Pass
12	2467	73.451	18.66	30.00	Pass
13	2472	8.241	9.16	30.00	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	168.655	22.27	30.00	Pass
6	2437	162.930	22.12	30.00	Pass
11	2462	158.855	22.01	30.00	Pass
12	2467	125.026	20.97	30.00	Pass
13	2472	15.101	11.79	30.00	Pass

Ant. 1 (SISO)

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	144.212	21.59	30.00	Pass
6	2437	157.398	21.97	30.00	Pass
11	2462	146.218	21.65	30.00	Pass
12	2467	164.437	22.16	30.00	Pass
13	2472	156.675	21.95	30.00	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	149.968	21.76	30.00	Pass
6	2437	180.302	22.56	30.00	Pass
11	2462	158.125	21.99	30.00	Pass
12	2467	88.308	19.46	30.00	Pass
13	2472	9.183	9.63	30.00	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	181.970	22.60	30.00	Pass
6	2437	209.411	23.21	30.00	Pass
11	2462	169.434	22.29	30.00	Pass
12	2467	136.773	21.36	30.00	Pass
13	2472	14.289	11.55	30.00	Pass



Ant. 0 + 1 (MIMO)

802.11b

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	21.62	21.70	293.122	24.67	30.00	Pass
6	2437	21.27	22.16	298.405	24.75	30.00	Pass
11	2462	21.44	21.67	286.209	24.57	30.00	Pass
12	2467	21.24	22.19	298.622	24.75	30.00	Pass
13	2472	21.44	22.04	299.272	24.76	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	21.61	21.93	300.832	24.78	30.00	Pass
6	2437	21.43	22.59	320.547	25.06	30.00	Pass
11	2462	21.71	22.02	307.473	24.88	30.00	Pass
12	2467	18.80	19.65	168.115	22.26	30.00	Pass
13	2472	9.17	9.79	17.788	12.50	30.00	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	22.29	22.71	356.072	25.52	30.00	Pass
6	2437	22.16	23.34	<b>380.211</b>	25.80	30.00	Pass
11	2462	22.12	22.49	340.349	25.32	30.00	Pass
12	2467	21.09	21.52	270.435	24.32	30.00	Pass
13	2472	11.85	11.64	29.899	14.76	30.00	Pass

For Average Power

Ant. 0 (SISO)

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	56.105	17.49
6	2437	56.105	17.49
11	2462	55.719	17.46
12	2467	52.723	17.22
13	2472	55.847	17.47

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	54.702	17.38
6	2437	56.234	17.50
11	2462	55.976	17.48
12	2467	30.061	14.78
13	2472	3.819	5.82

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	54.954	17.40
6	2437	55.976	17.48
11	2462	55.590	17.45
12	2467	47.424	16.76
13	2472	4.375	6.41

Ant. 1 (SISO)

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	54.450	17.36
6	2437	55.976	17.48
11	2462	54.954	17.40
12	2467	54.576	17.37
13	2472	53.456	17.28

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	53.580	17.29
6	2437	55.335	17.43
11	2462	54.702	17.38
12	2467	29.923	14.76
13	2472	3.784	5.78

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	54.075	17.33
6	2437	55.719	17.46
11	2462	55.335	17.43
12	2467	47.098	16.73
13	2472	4.335	6.37

Ant. 0 + 1 (MIMO)

802.11b

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	17.49	17.46	111.824	20.49
6	2437	17.49	17.45	111.695	20.48
11	2462	17.47	17.42	111.055	20.46
12	2467	17.30	17.46	109.422	20.39
13	2472	17.49	17.38	110.807	20.45

802.11g

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	17.41	17.35	109.406	20.39
6	2437	17.47	17.44	111.310	20.47
11	2462	17.45	17.41	110.671	20.44
12	2467	14.84	14.89	61.311	17.88
13	2472	5.85	5.76	7.613	8.82

802.11n (HT20)

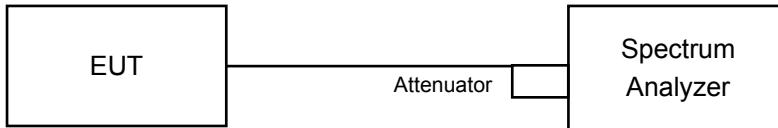
Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	17.47	17.38	110.549	20.44
6	2437	17.47	17.42	111.055	20.46
11	2462	17.43	17.39	110.163	20.42
12	2467	17.01	17.08	101.284	20.06
13	2472	6.46	6.41	8.801	9.45

## 4.5 Power Spectral Density Measurement

### 4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm.

### 4.5.2 Test Setup



### 4.5.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
SPECTRUM ANALYZER R&S	FSP40	100041	Dec 12, 2017	Dec 11, 2018

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 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/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-4.84	3.01	-1.83	8.00	Pass
	6	2437	-4.58	3.01	-1.57	8.00	Pass
	11	2462	-5.08	3.01	-2.07	8.00	Pass
	12	2467	-4.57	3.01	-1.56	8.00	Pass
	13	2472	-4.75	3.01	-1.74	8.00	Pass
1	1	2412	-4.38	3.01	-1.37	8.00	Pass
	6	2437	-4.05	3.01	-1.04	8.00	Pass
	11	2462	-4.85	3.01	-1.84	8.00	Pass
	12	2467	-3.52	3.01	-0.51	8.00	Pass
	13	2472	-4.48	3.01	-1.47	8.00	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 2.76\text{dBi} < 6\text{dBi}$ , so the power density limit no need to reduce.

##### 802.11g

TX chain	Channel	Frequency (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-7.70	3.01	-4.69	8.00	Pass
	6	2437	-8.77	3.01	-5.76	8.00	Pass
	11	2462	-7.83	3.01	-4.82	8.00	Pass
	12	2467	-10.21	3.01	-7.20	8.00	Pass
	13	2472	-20.84	3.01	-17.83	8.00	Pass
1	1	2412	-7.51	3.01	-4.50	8.00	Pass
	6	2437	-6.19	3.01	-3.18	8.00	Pass
	11	2462	-6.82	3.01	-3.81	8.00	Pass
	12	2467	-10.66	3.01	-7.65	8.00	Pass
	13	2472	-21.11	3.01	-18.10	8.00	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 2.76\text{dBi} < 6\text{dBi}$ , so the power density limit no need to reduce.

802.11n (HT20)

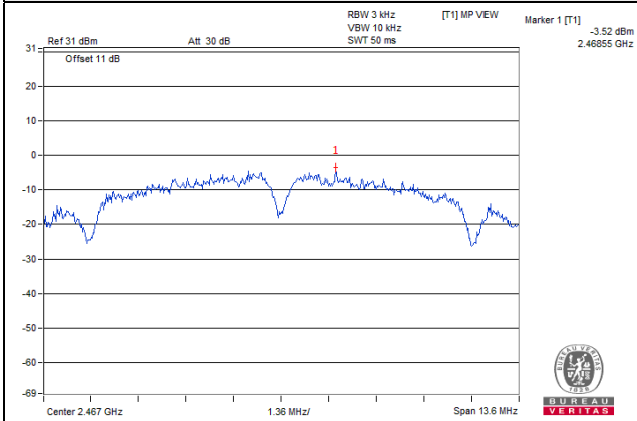
TX chain	Channel	Frequency (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-8.03	3.01	-5.02	8.00	Pass
	6	2437	-8.43	3.01	-5.42	8.00	Pass
	11	2462	-8.79	3.01	-5.78	8.00	Pass
	12	2467	-8.52	3.01	-5.51	8.00	Pass
	13	2472	-20.23	3.01	-17.22	8.00	Pass
1	1	2412	-7.79	3.01	-4.78	8.00	Pass
	6	2437	-7.46	3.01	-4.45	8.00	Pass
	11	2462	-6.07	3.01	-3.06	8.00	Pass
	12	2467	-8.17	3.01	-5.16	8.00	Pass
	13	2472	-19.96	3.01	-16.95	8.00	Pass

Note:

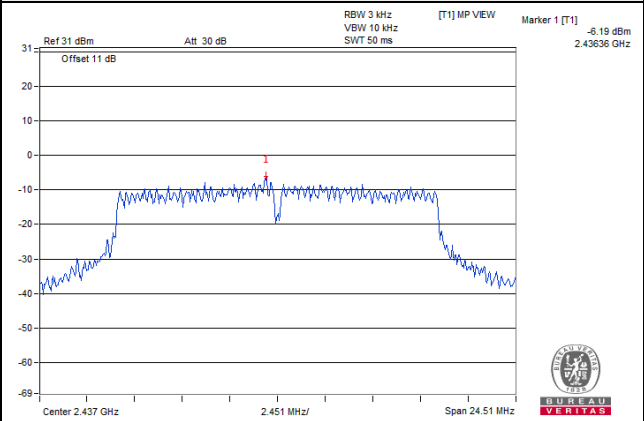
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 2.76\text{dBi} < 6\text{dBi}$ , so the power density limit no need to reduce.

### Spectrum Plot of Worst Value

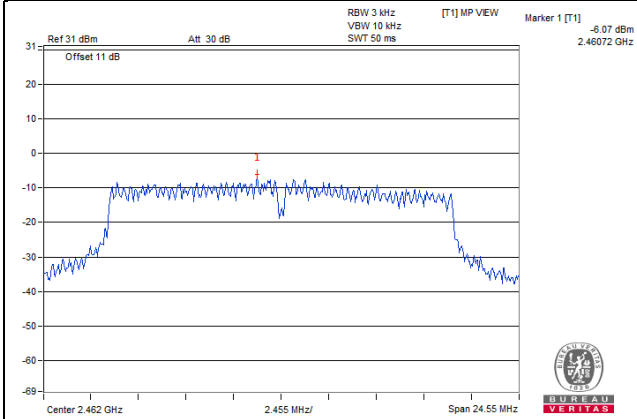
#### 802.11b



#### 802.11g



#### 802.11n (HT20)



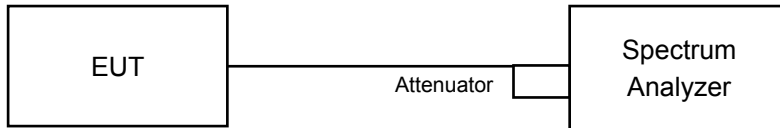


#### 4.6 Conducted Out of Band Emission Measurement

##### 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

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
SPECTRUM ANALYZER R&S	FSP40	100041	Dec 12, 2017	Dec 11, 2018

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

##### 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

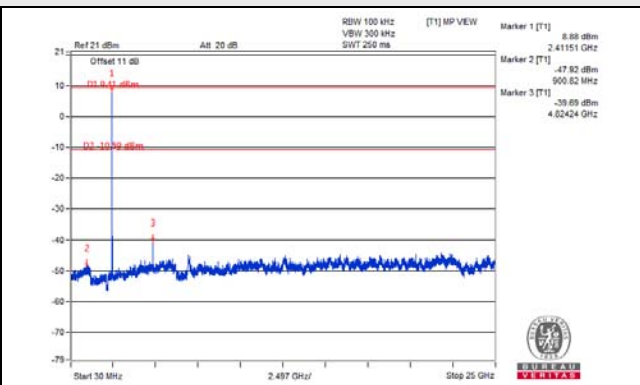
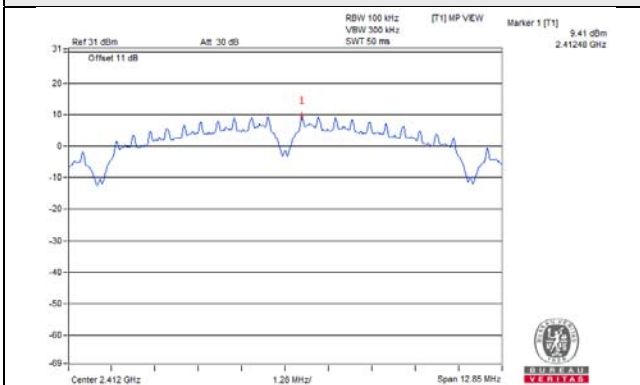
#### 4.6.7 Test Results

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

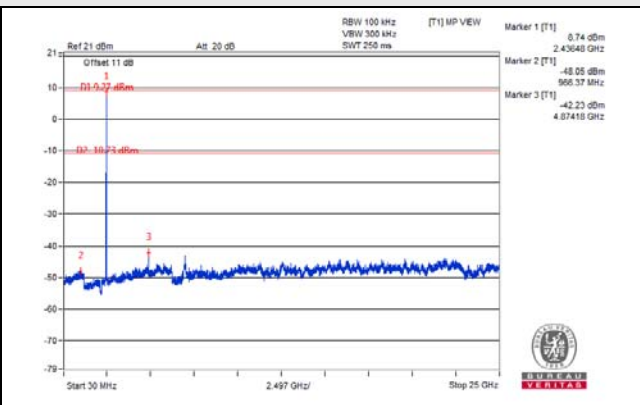
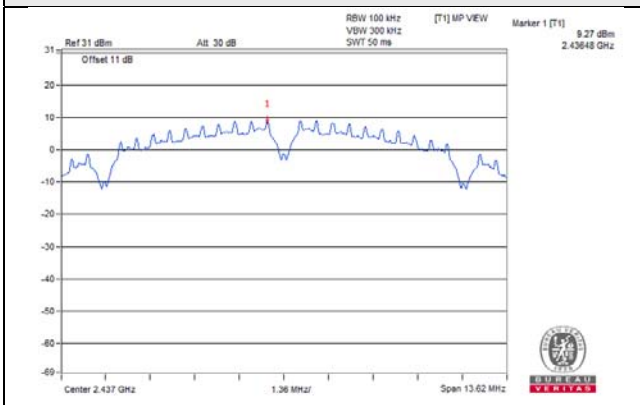
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b\_Chain 0

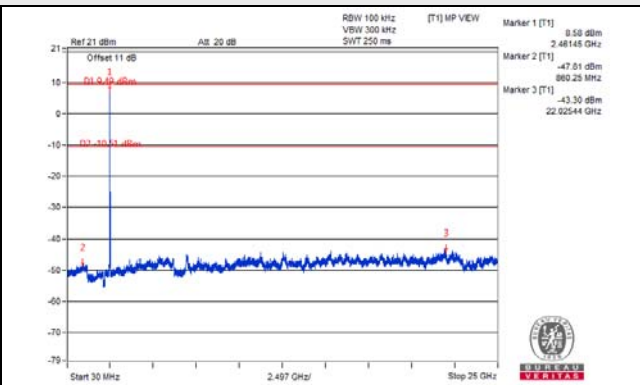
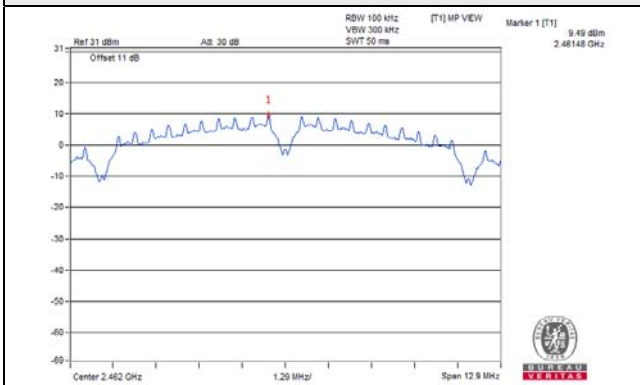
CH 1



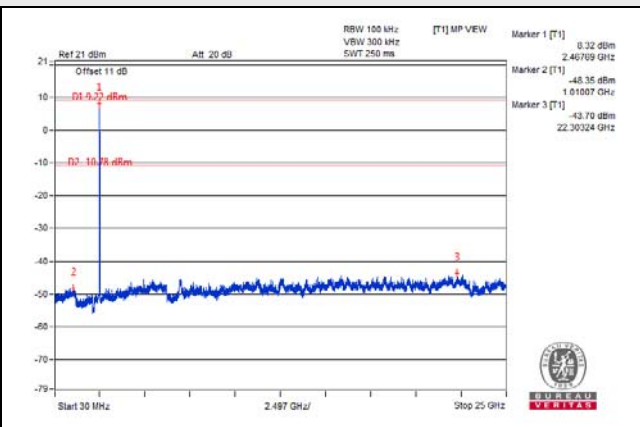
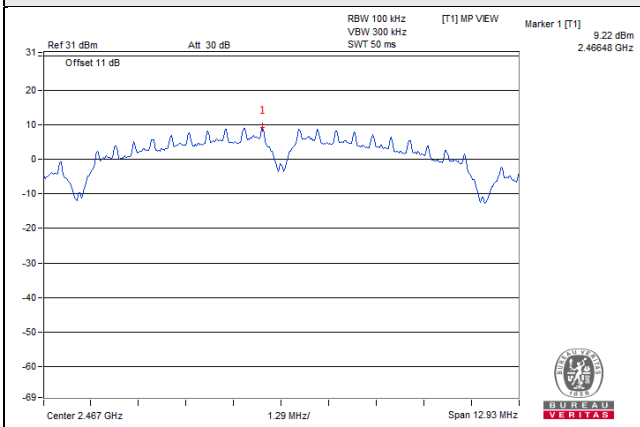
CH 6



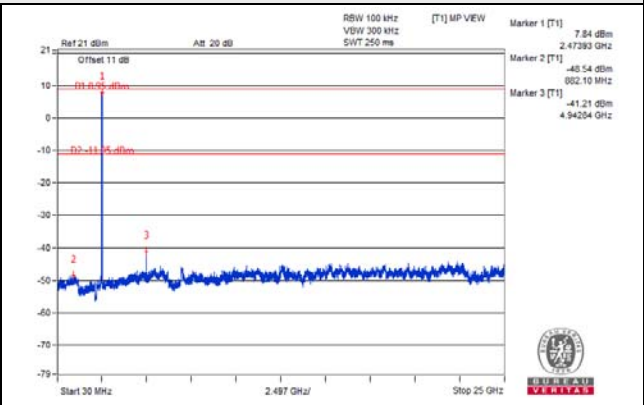
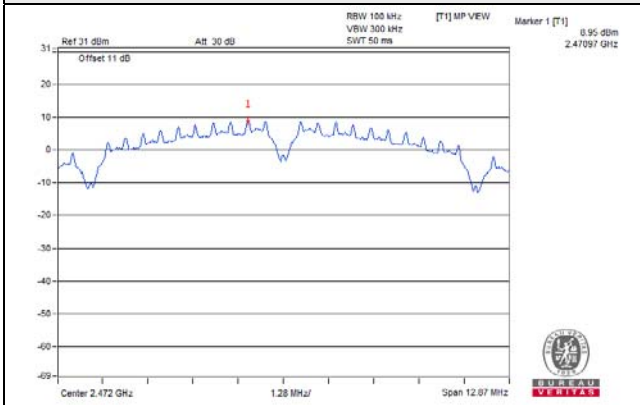
CH 11



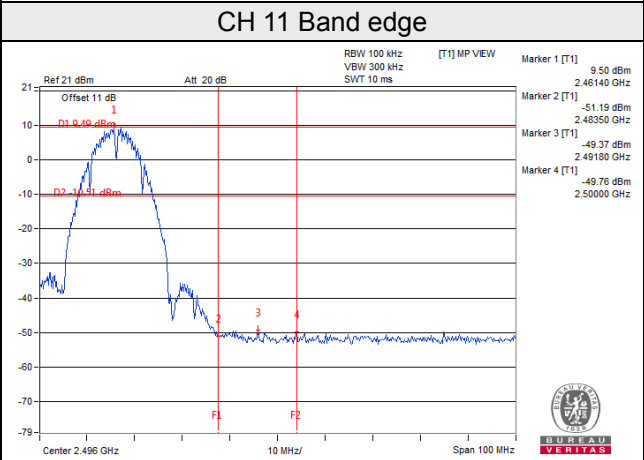
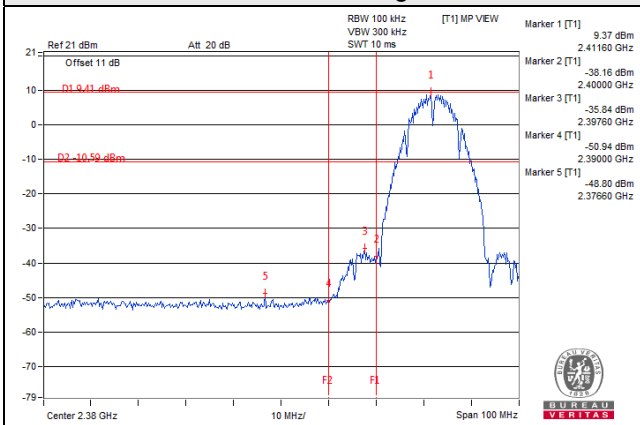
CH 12



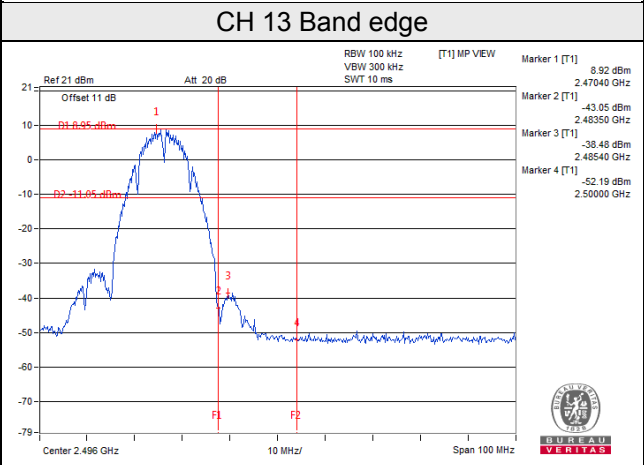
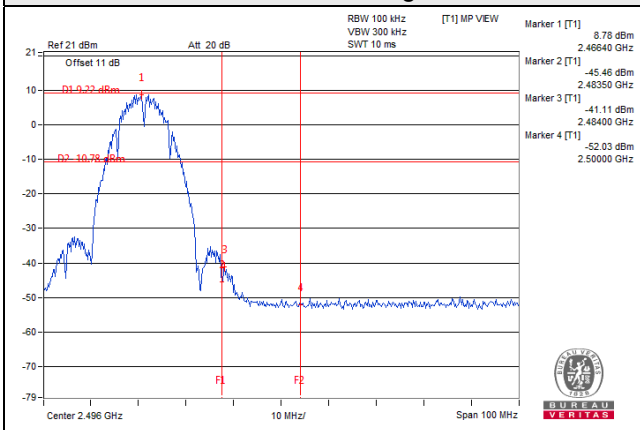
### CH 13



### CH 1 Band edge

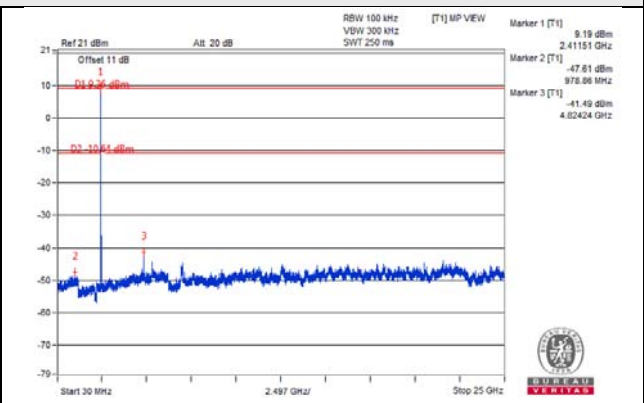
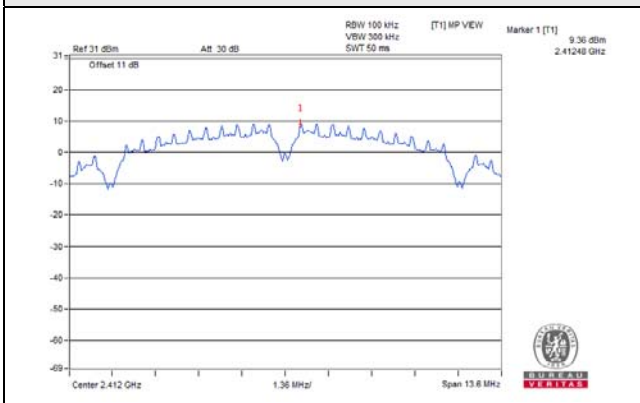


### CH 12 Band edge

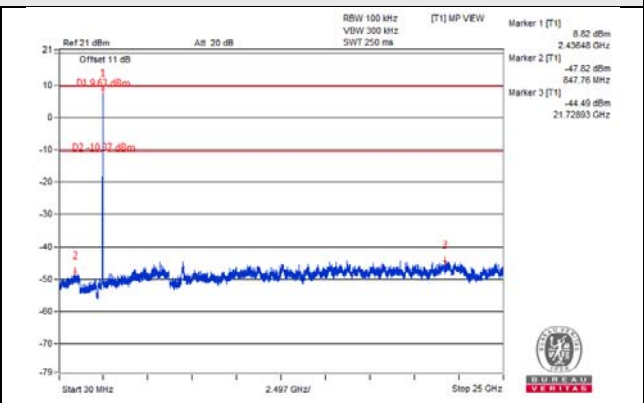
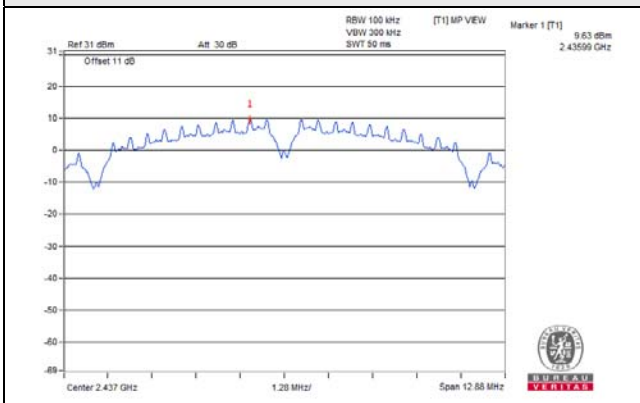


802.11b\_Chain 1

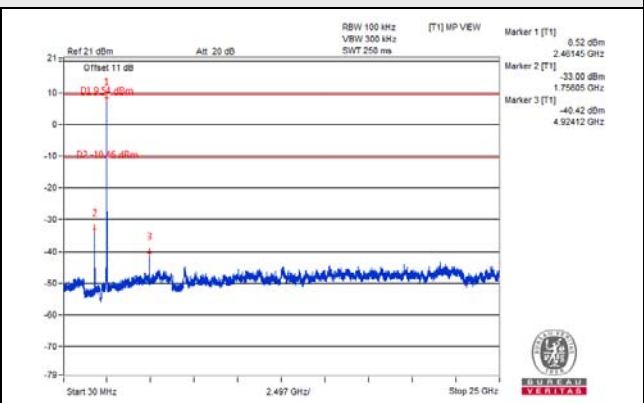
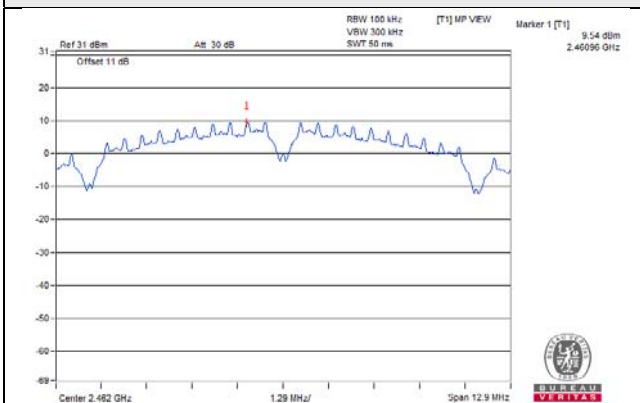
CH 1



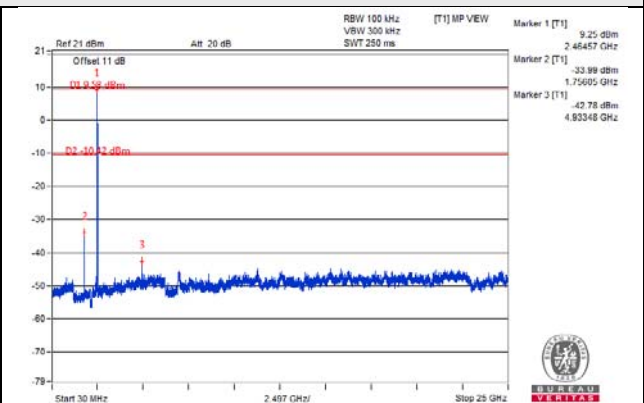
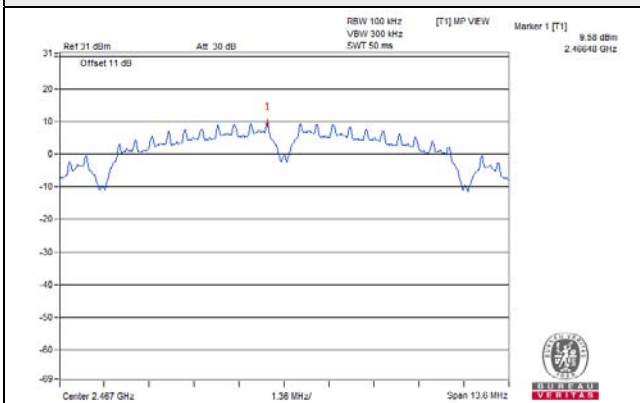
CH 6



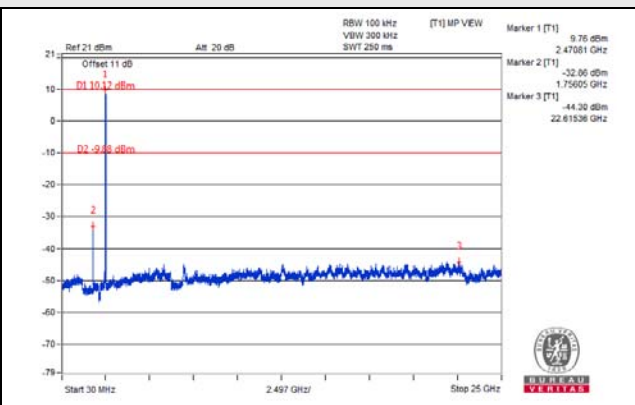
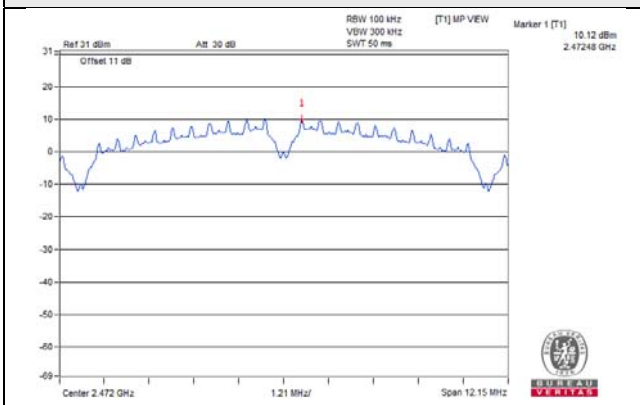
CH 11



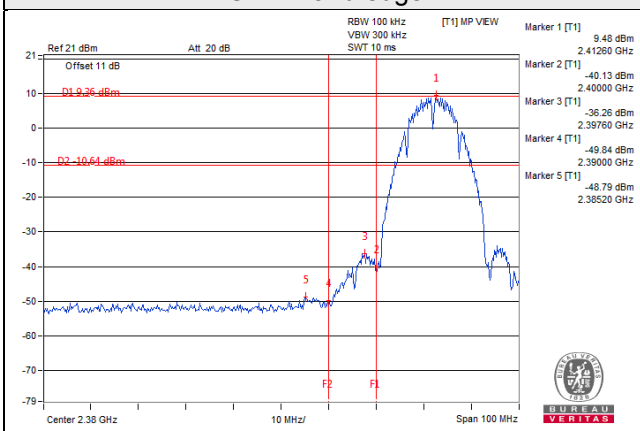
CH 12



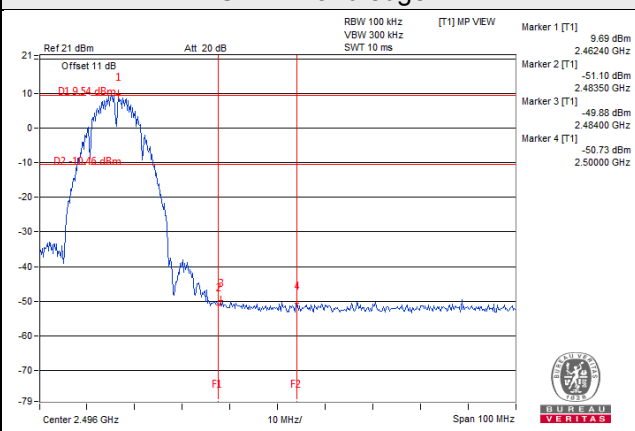
### CH 13



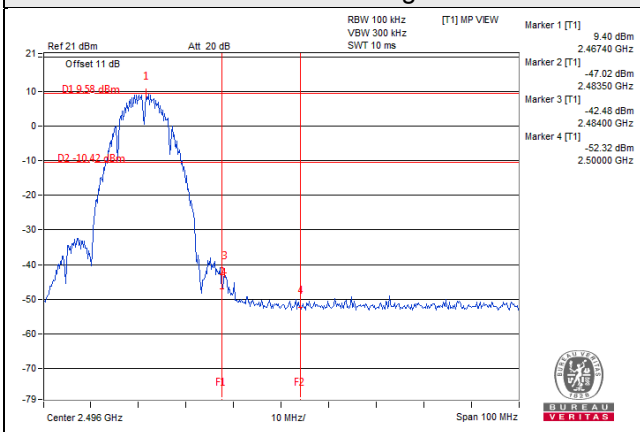
### CH 1 Band edge



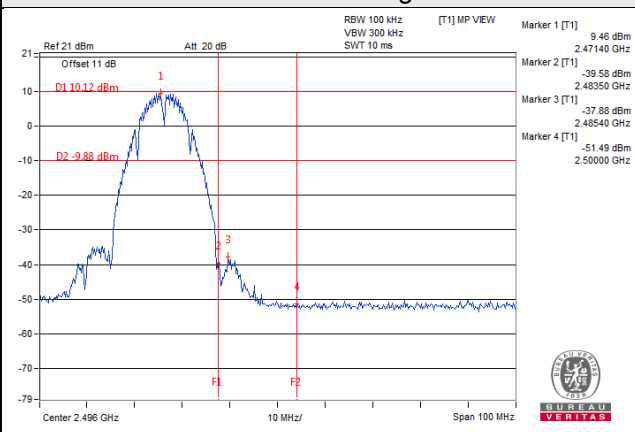
### CH 11 Band edge



### CH 12 Band edge

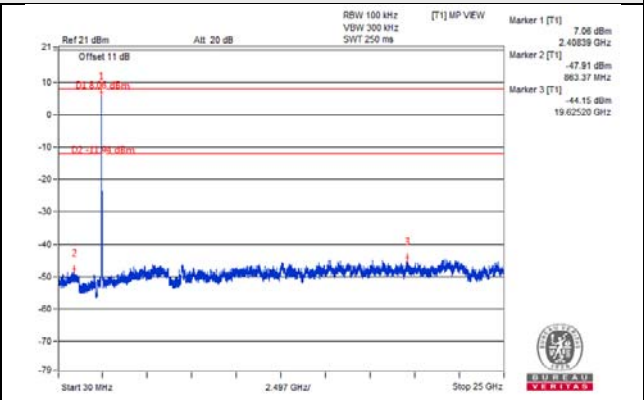
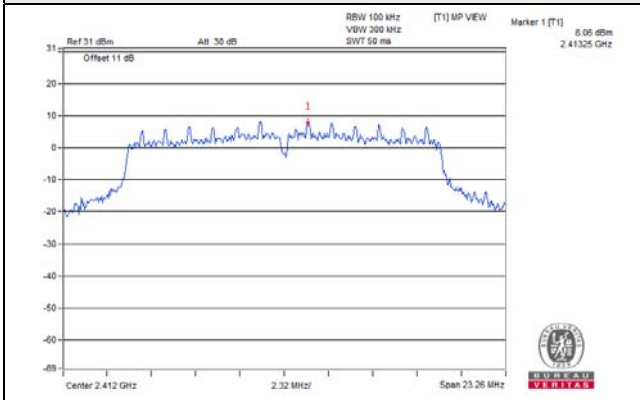


### CH 13 Band edge

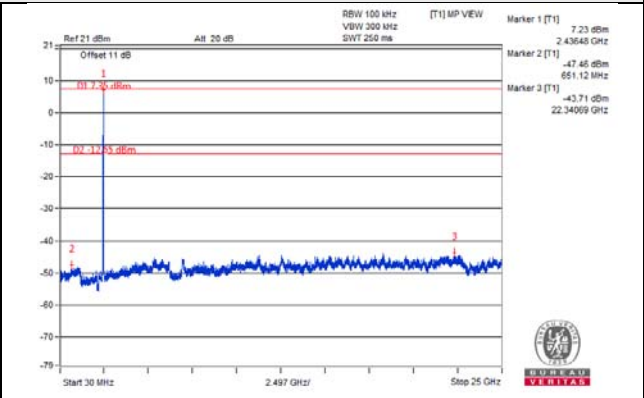
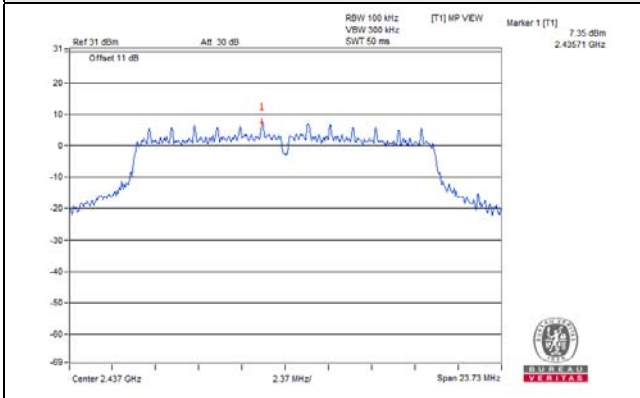


802.11g\_Chain 0

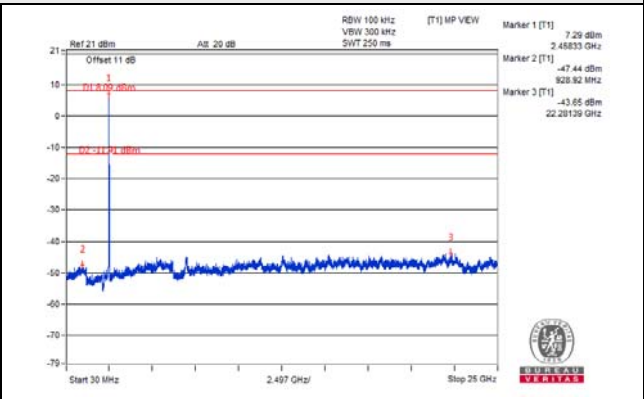
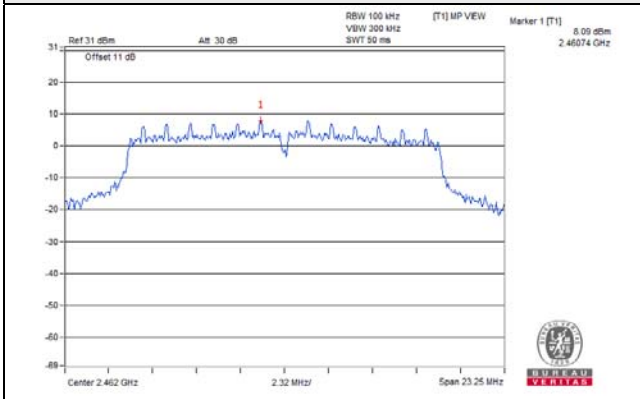
CH 1



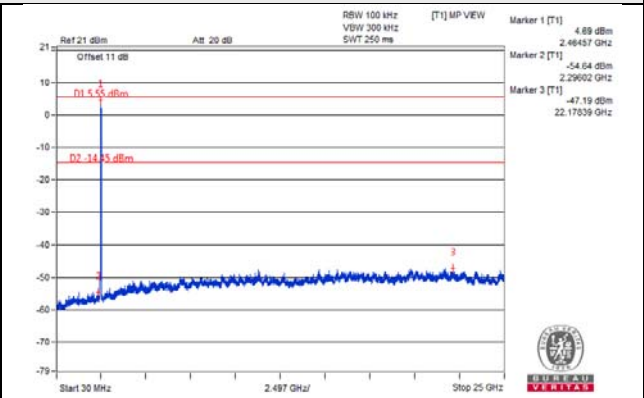
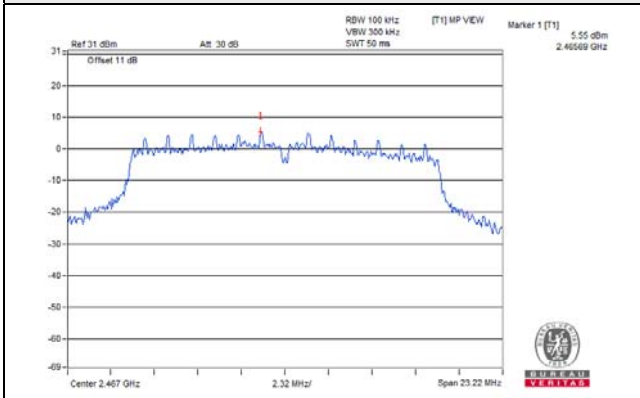
CH 6



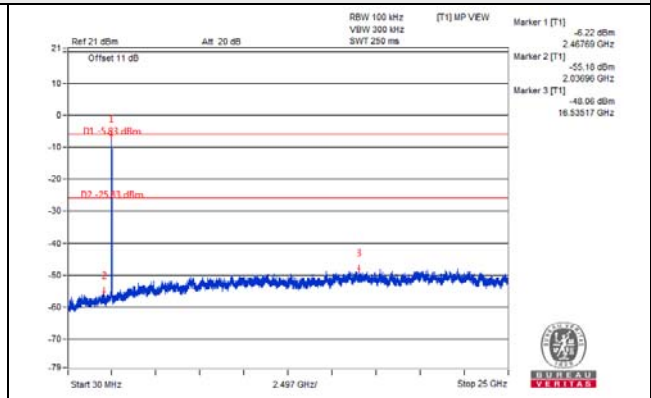
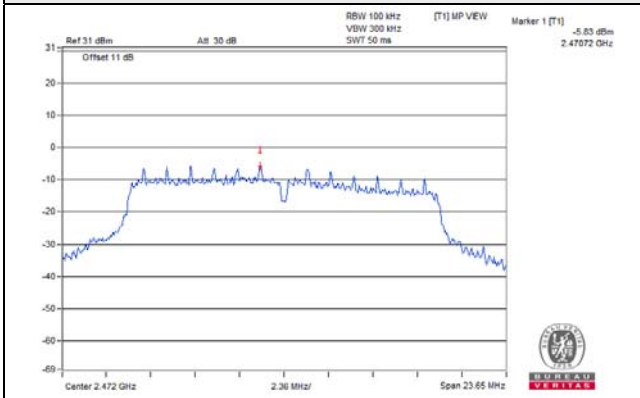
CH 11



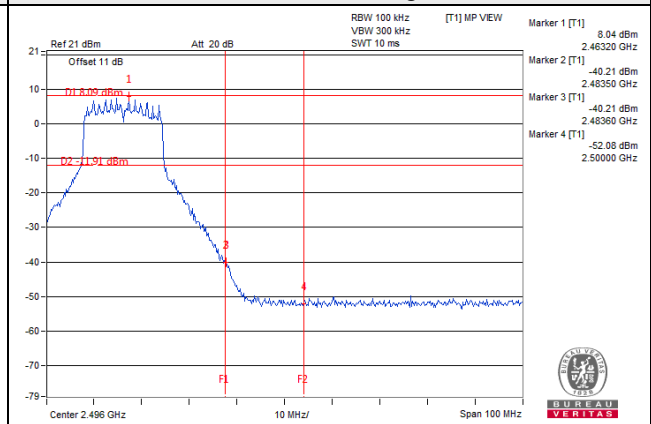
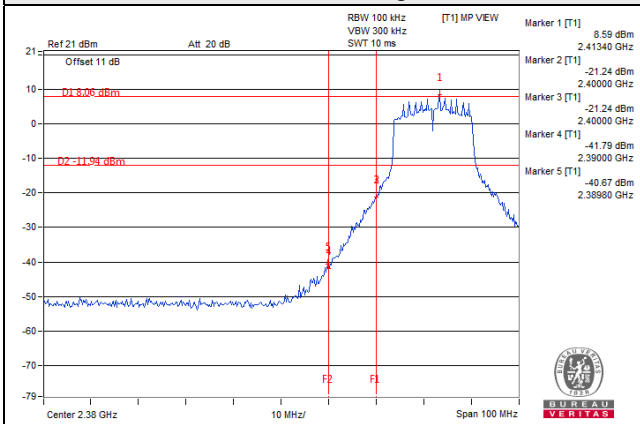
CH 12



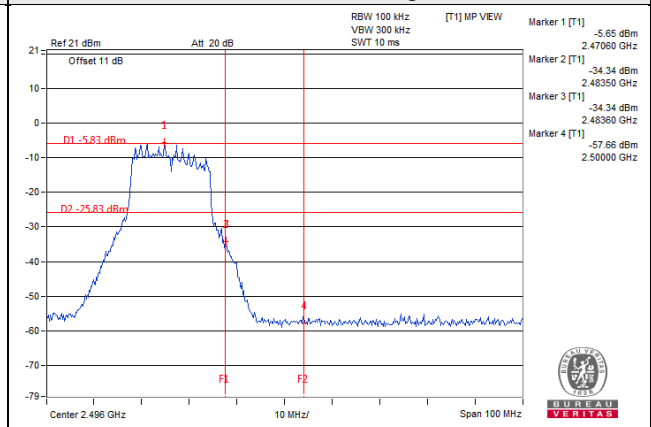
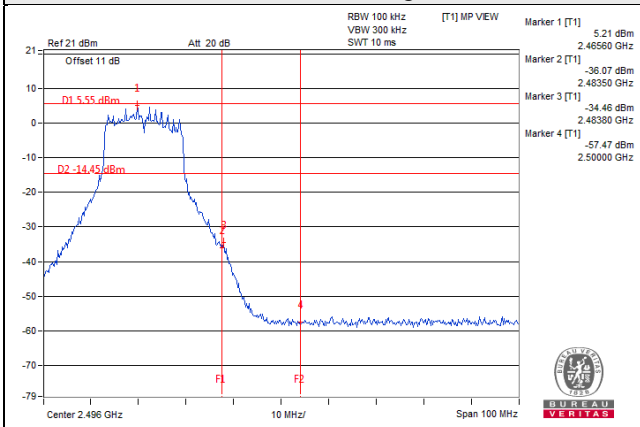
### CH 13



### CH 1 Band edge



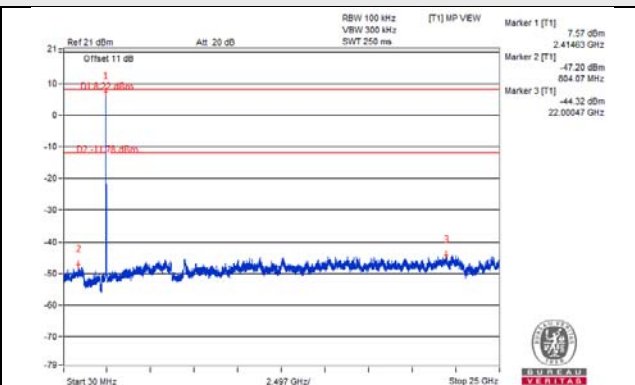
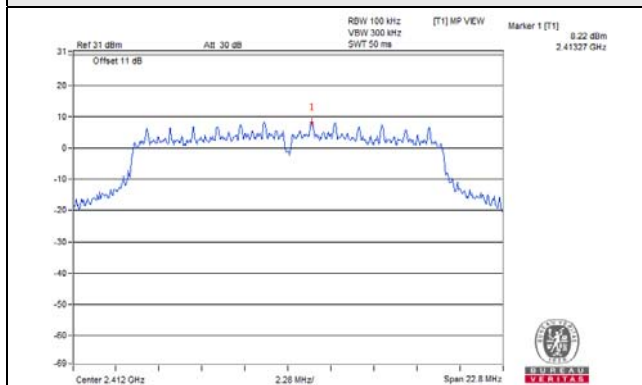
### CH 12 Band edge



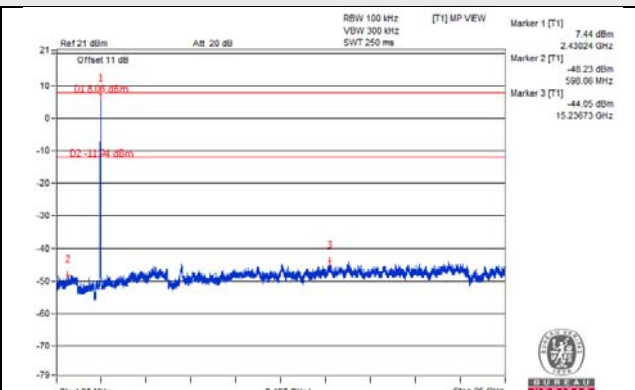
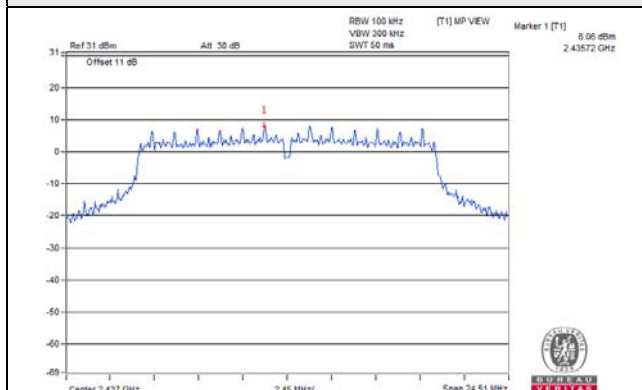


# 802.11g\_Chain 1

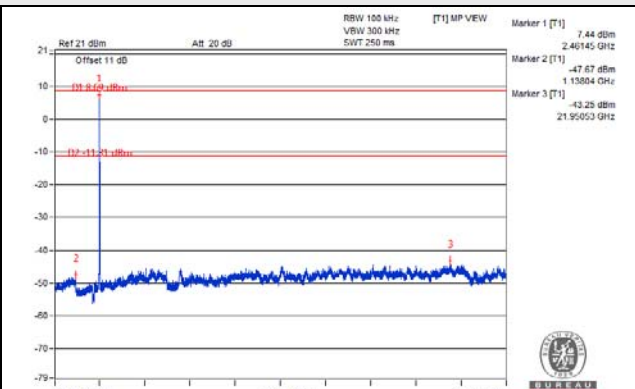
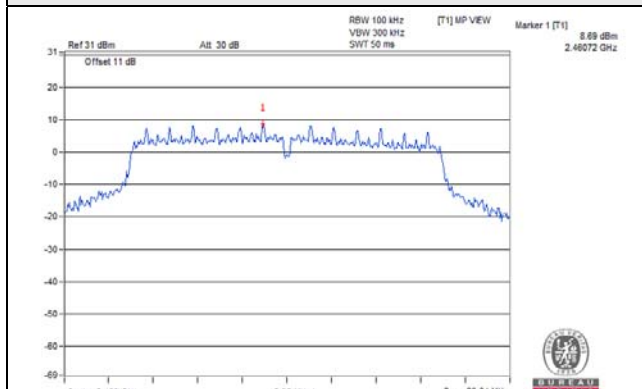
## CH 1



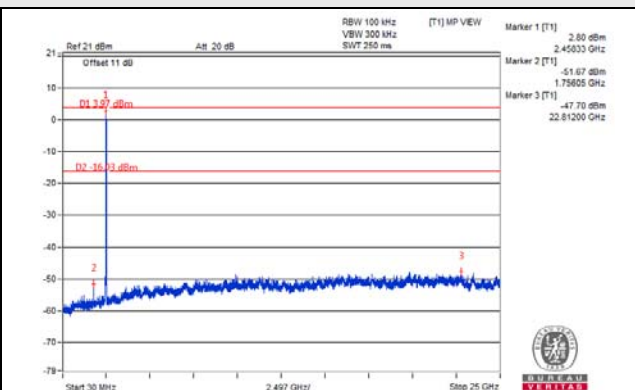
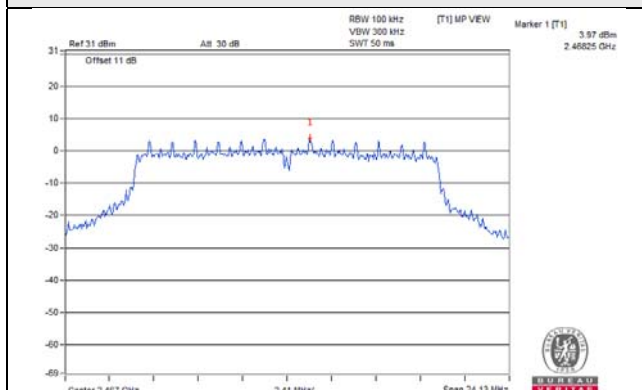
## CH 6



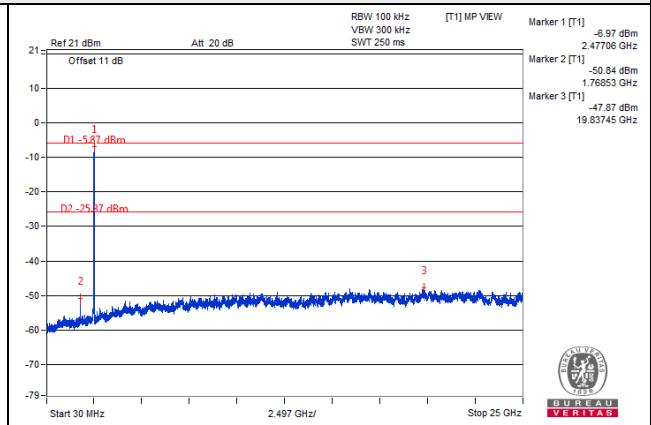
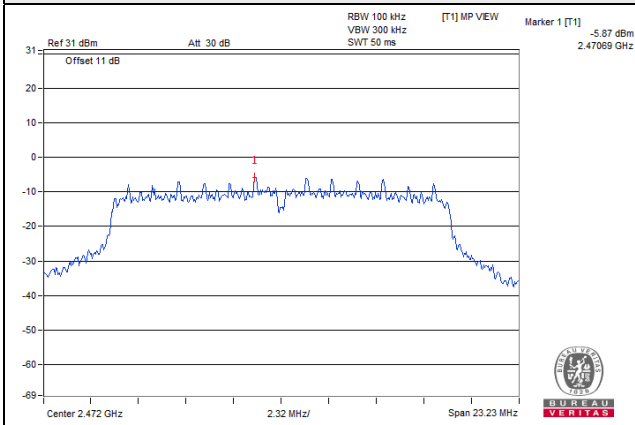
## CH 11



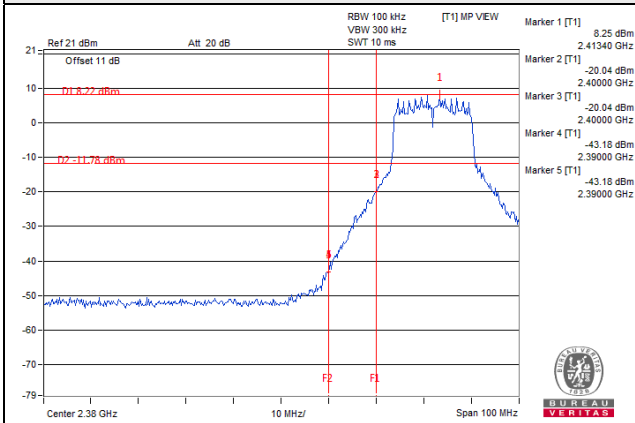
## CH 12



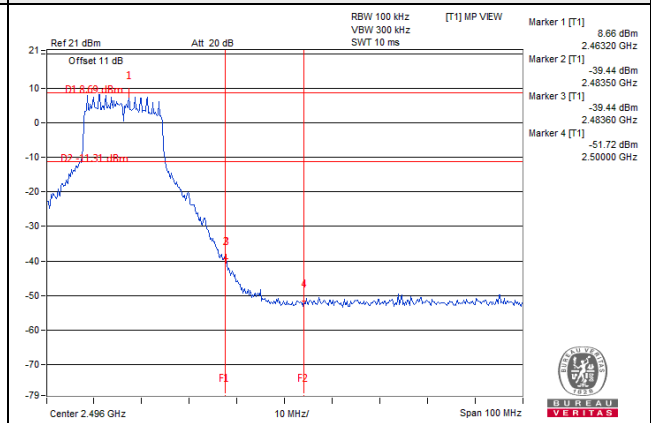
### CH 13



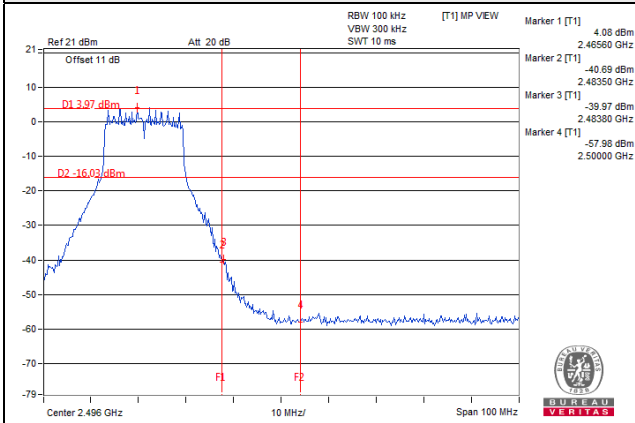
### CH 1 Band edge



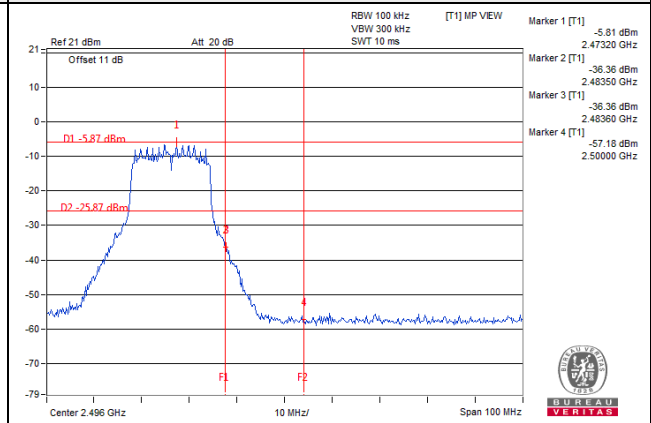
### CH 11 Band edge



### CH 12 Band edge

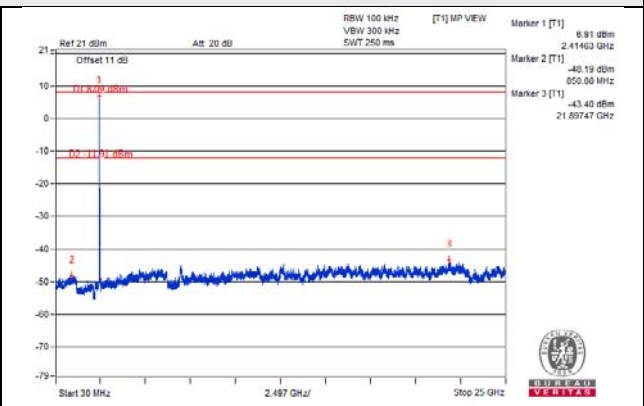
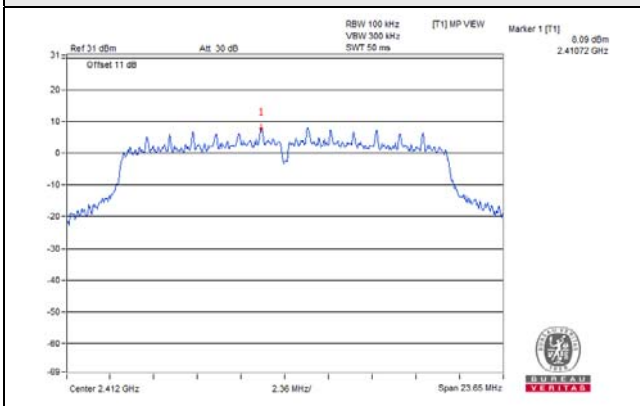


### CH 13 Band edge

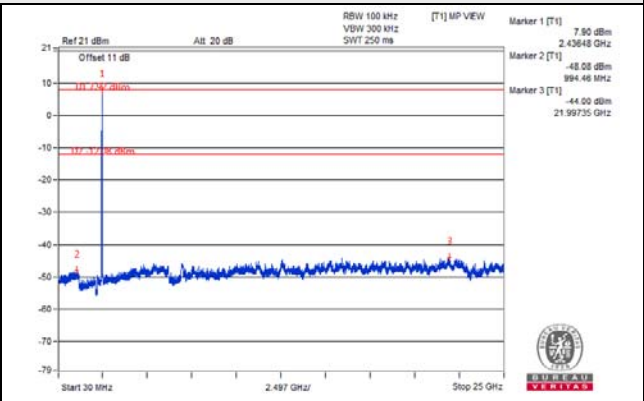
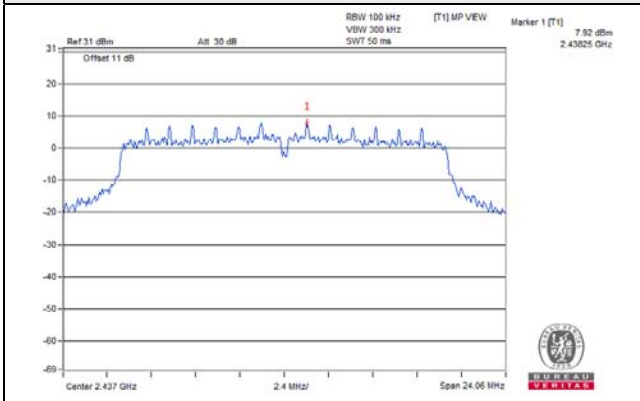


802.11n (HT20)\_Chain 0

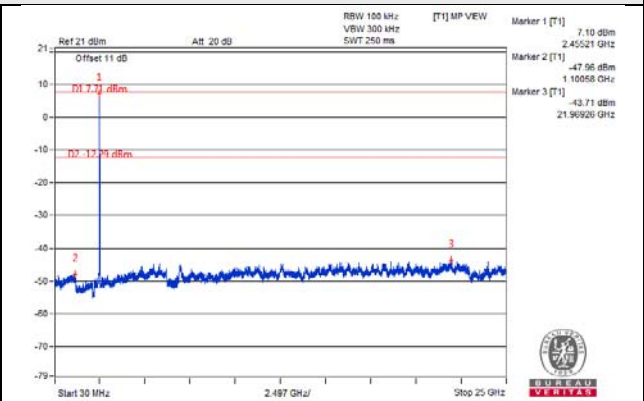
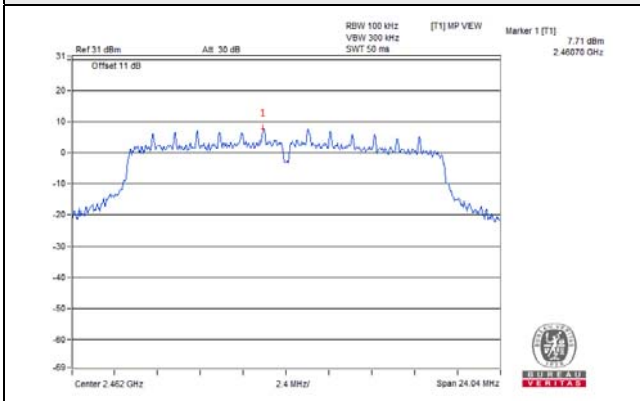
CH 1



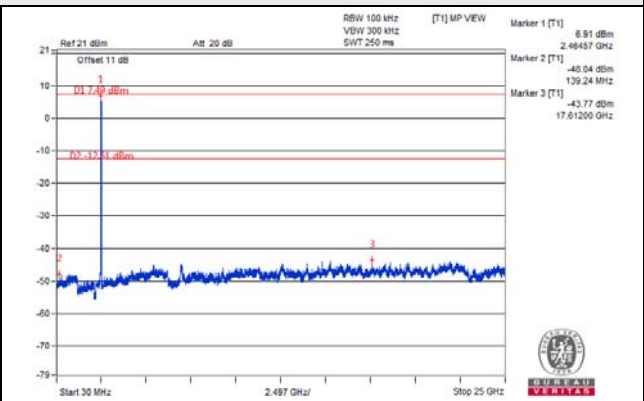
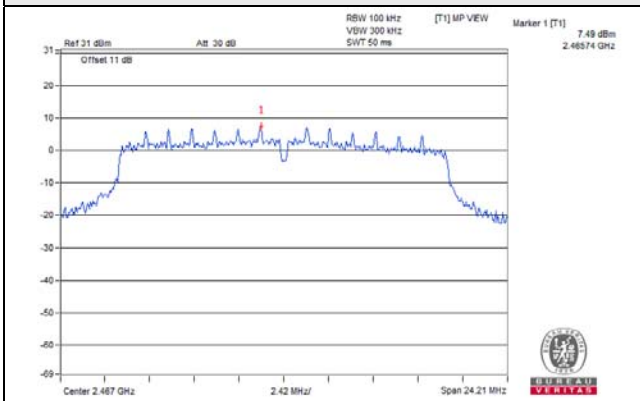
CH 6



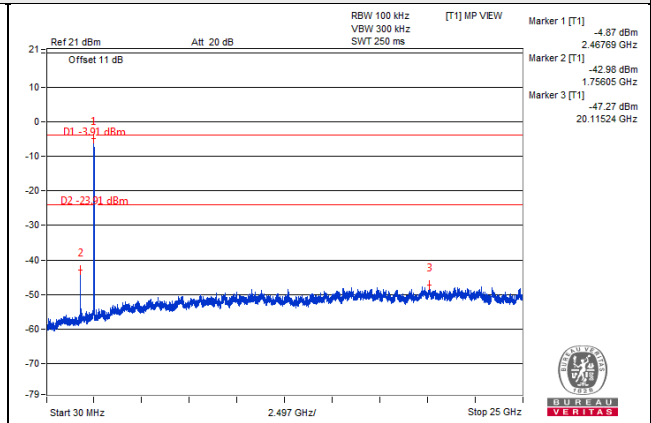
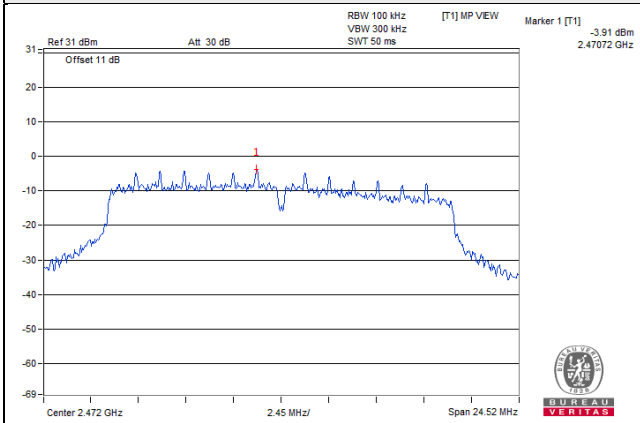
CH 11



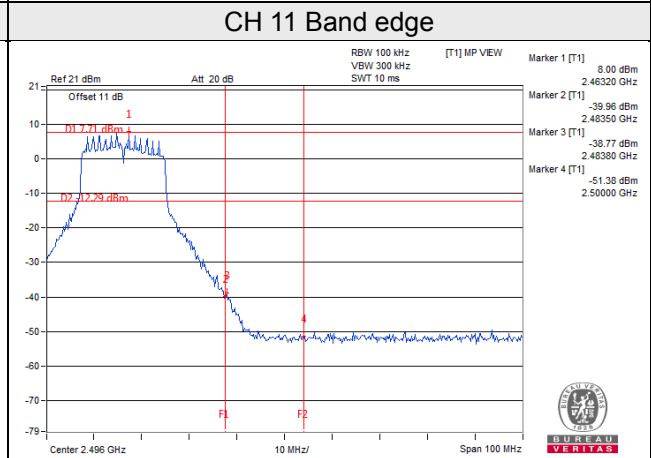
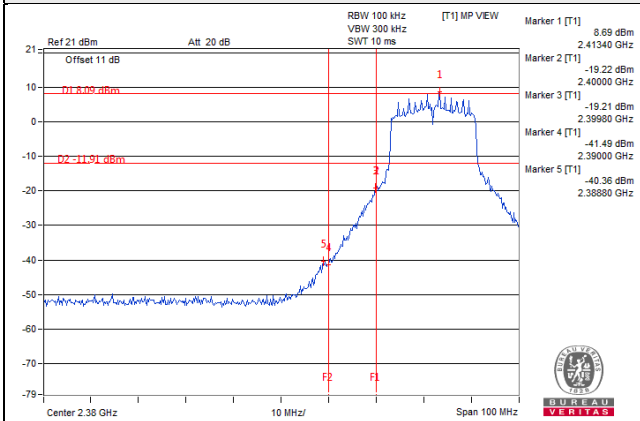
CH 12



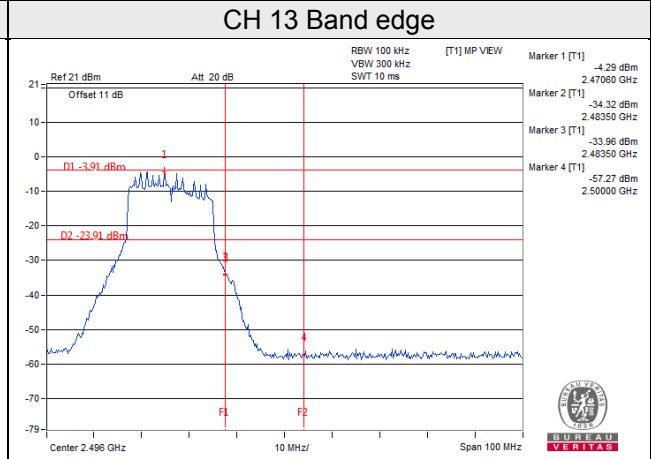
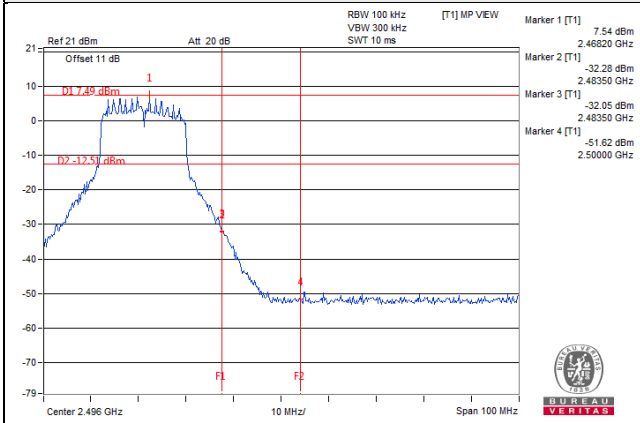
### CH 13



### CH 1 Band edge

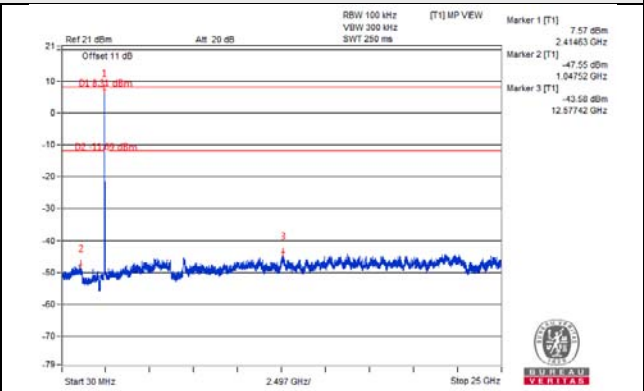
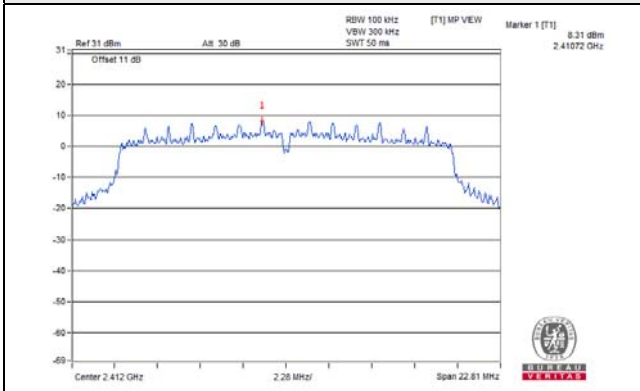


### CH 12 Band edge

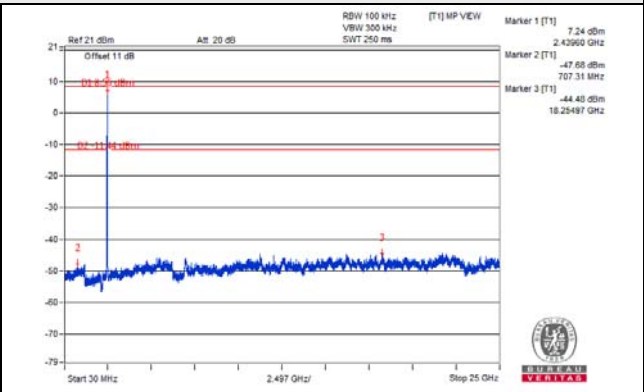
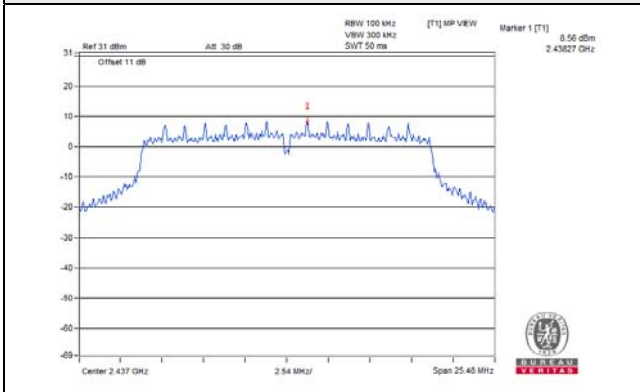


# 802.11n (HT20)\_Chain 1

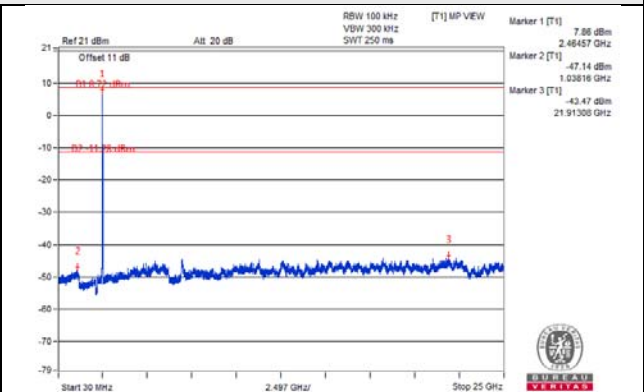
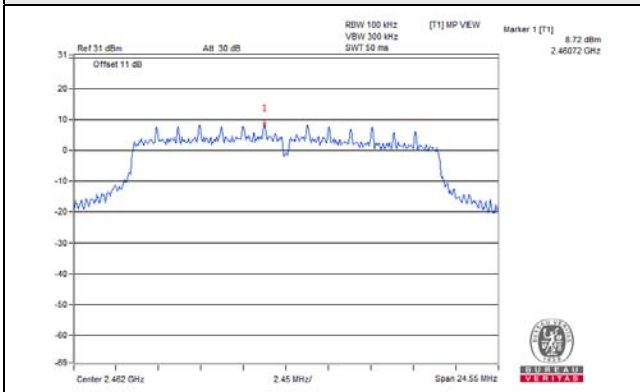
## CH 1



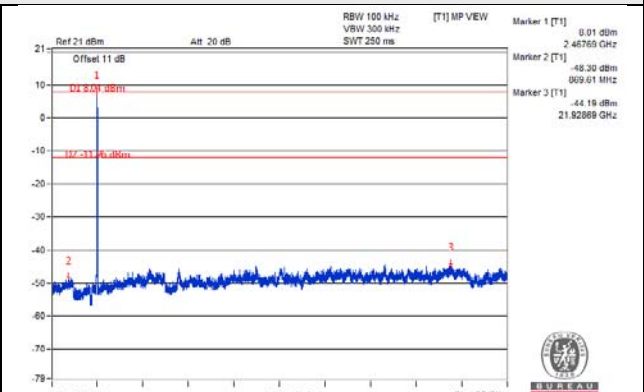
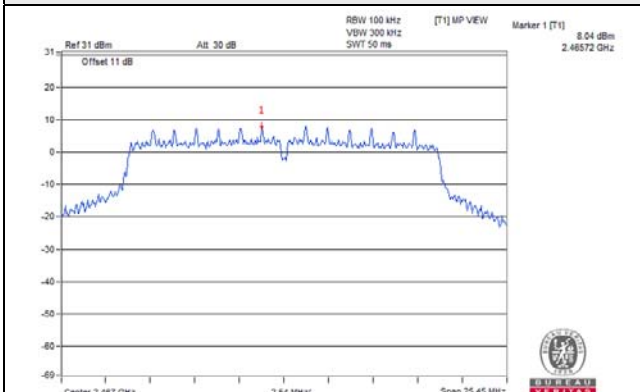
## CH 6



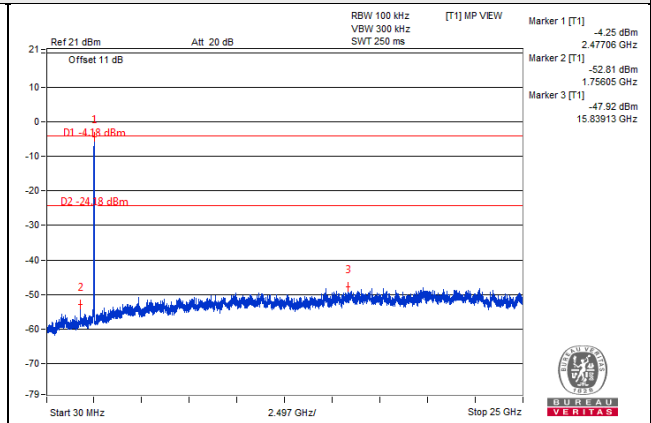
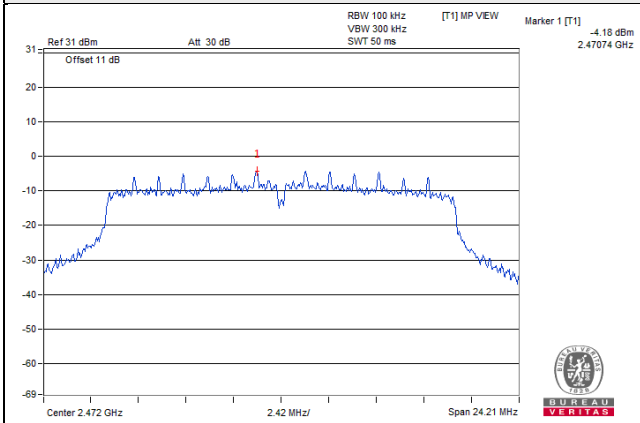
## CH 11



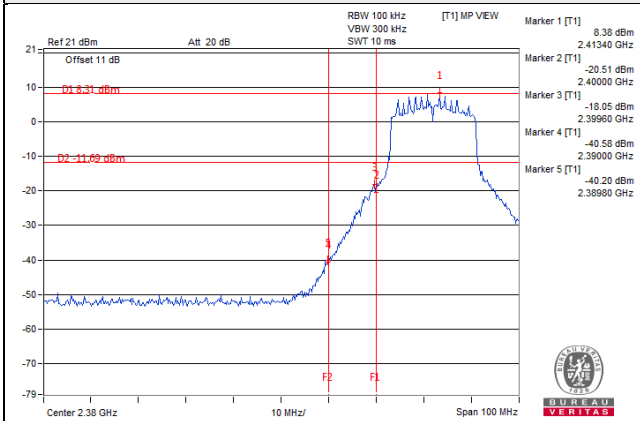
## CH 12



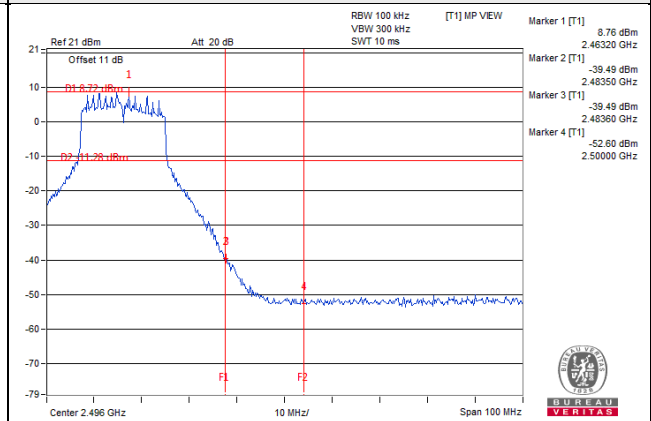
### CH 13



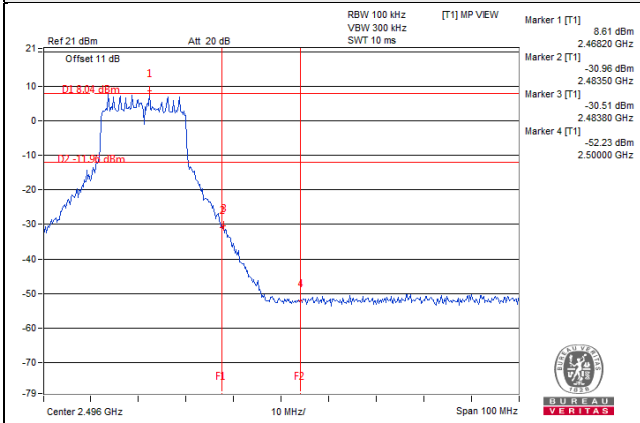
### CH 1 Band edge



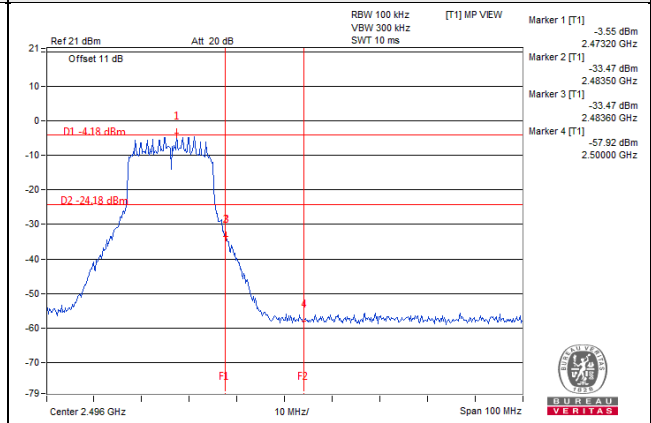
### CH 11 Band edge



### CH 12 Band edge



### CH 13 Band edge



## 5 Pictures of Test Arrangements

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

## Appendix – Information on 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.

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**Web Site:** [www.bureauveritas-adt.com](http://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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