

FCC Test Report (WLAN)

Report No.: RF141008E03H

FCC ID: PPD-QCNFA435

Test Model: QCNFA435

Received Date: June 15, 2015

Test Date: July 27 to 30, 2015

Issued Date: Aug. 07, 2015

Applicant: Qualcomm Atheros, Inc.

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

Release Control Record

Issue No.	Description	Date Issued
RF141008E03H	Original release.	Aug. 07, 2015



A D T

1 Certificate of Conformity

Product: Single Stream 802.11a/b/g/n/ac + BT 4.1 M.2 Type Card

Brand: Qualcomm Atheros

Test Model: QCNFA435

Sample Status: R&D SAMPLE

Applicant: Qualcomm Atheros, Inc.

Test Date: July 27 to 30, 2015

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 EMC characteristics under the conditions specified in this report.

Prepared by :

Midoli Peng

Midoli Peng / Specialist

Date:

Aug. 07, 2015

Approved by :

May Chen

May Chen / Manager

Date:

Aug. 07, 2015

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (SECTION 15.247)			
FCC Clause	Test Item	Result	Remarks
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -3.5dB at 7386.00MHz & 497.87MHz.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.

- NOTE:** 1. For WLAN: The EUT was operating in 2.4 ~ 2.4835GHz, 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 2.4 ~ 2.4835GHz. For the 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz RF parameters was recorded in another test report.
2. This report is prepared for FCC Class II change.
- ◆ **For 2.4GHz:** Only Radiated Emissions and Band Edge and Conducted power Measurement need to be performed.
 - ◆ **For 5GHz (5.15~5.35GHz, 5.47~5.725GHz):** Only Radiated Emissions and Band Edge and Max Average Transmit Power Measurement need to be performed.
 - ◆ **For 5GHz (5.725~5.850GHz):** All test measurement need to be performed.

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) (±)
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.31 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.65 dB
	6GHz ~ 18GHz	3.88 dB
	18GHz ~ 40GHz	4.11 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (WLAN)

Product	Single Stream 802.11a/b/g/n/ac + BT 4.1 M.2 Type Card
Brand	Qualcomm Atheros
Test Model	QCNFA435
Status of EUT	R&D SAMPLE
Power Supply Rating	3.3Vdc from host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT (20/40) mode in 2.4GHz
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n : up to 150Mbps 802.11ac: up to 433.3Mbps
Operating Frequency	For 15.407 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.72GHz, 5.745 ~ 5.825GHz For 15.247 2.412 ~ 2.462GHz
Number of Channel	For 15.407 25 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 12 for 802.11n (HT40), 802.11ac (VHT40) 6 for 802.11ac (VHT80) For 15.247 11 for 802.11b/g, 802.11n (HT20), VHT20 7 for 802.11n (HT40), VHT40
Output Power	For 15.407 802.11a: 55.335 mW 802.11ac (VHT20): 53.951mW 802.11ac (VHT40): 52.119mW 802.11ac (VHT80): 23.988mW For 15.247 802.11b: 246.604mW 802.11g: 303.389mW 802.11n (HT20): 284.446mW 802.11n (HT40): 246.037mW
Antenna Type	See item 3.2
Antenna Connector	See item 3.2
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. This report is prepared for FCC Class II change. The difference compared with the Report No.: RF141008E03 R1 design is as the following:
 - ◆ Chip revision (QCA9377) from V1.0 to V1.1. No RF change is made in chip revision.
 - ◆ Update UNII-3 band to new UNII rule
 - ◆ Add Single Antenna hardware variant (remove RX diversity antenna connector).
 - ◆ Add 5mm Modular SAR.
 - ◆ Enable TX diversity for 2 antenna connectors SKU to allow transmission in another antenna connector
2. According to above conditions, the EUT was tested for below information:
 - ◆ **For 2.4GHz:** Only Radiated Emissions and Band Edge and Conducted power Measurement need to be performed.
 - ◆ **For 5GHz (5.15~5.35GHz, 5.47~5.725GHz):** Only Radiated Emissions and Band Edge and Max Average Transmit Power Measurement need to be performed.
 - ◆ **For 5GHz (5.725~5.850GHz):** All test Measurement need to be performed.
3. There are Bluetooth technology and WLAN technology used for the EUT.
4. The modular has four variant designs as following table:

Variant No.	Description	Version
SKU #1	2 Antenna connectors	1.0
SKU #2	1 Antenna connector	1.0
SKU #3	2 Antenna connectors	1.1
SKU #4	1 Antenna connect	1.1

Note: From the above Variants, SKU #3 was selected as representative model for the test and its data was recorded in this report.

5. The EUT incorporates a 1T1R function.

2.4GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	1TX	1RX
802.11g	6 ~ 54Mbps	1TX	1RX
802.11n (HT20)	MCS 0~7	1TX	1RX
802.11n (HT40)	MCS 0~7	1TX	1RX
VHT20	MCS 0~8, Nss=1	1TX	1RX
VHT40	MCS 0~9, Nss=1	1TX	1RX
5GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11a	6 ~ 54Mbps	1TX	1RX
802.11n (HT20)	MCS 0~7	1TX	1RX
802.11n (HT40)	MCS 0~7	1TX	1RX
802.11ac (VHT20)	MCS 0~8, Nss=1	1TX	1RX
802.11ac (VHT40)	MCS 0~9, Nss=1	1TX	1RX
802.11ac (VHT80)	MCS 0~9, Nss=1	1TX	1RX

Note: The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.3.1)

6. The EUT was pre-tested under the following modes:

Test Mode	Data rate
Mode A	400ns GI
Mode B	800ns GI

From the above modes, the worst case was found in **Mode B**. Therefore only the test data of the mode was recorded in this report.

7. WLAN/BT coexistence mode:

◆ 1x1 WLAN + BT:

➤ 5GHz 802.11a/an (or 11ac) transmit concurrent with BT.

➤ 2.4GHz: timely shared coexistence.

8. The emission (conducted & radiated emission) of the simultaneous operation (WiFi <5GHz> & Bluetooth) have been evaluated and no non-compliance found. The detail combinations of transmitters / frequencies / modes as below table

Mode	Available Channel	Tested Channel	Modulation Technology
5 GHz (802.11a)	36 to 165	52	OFDM
+ Bluetooth (GFSK)	0 to 78	39	FHSS

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

3.2 Description of Antenna

The antenna gain was declared by client; please refer to the following table:

Ant. No.	Transmitter Circuit	Brand	Model	Ant. Type	2.4GHz Gain with cable loss (dBi)	5GHz Gain with cable loss (dBi)	2.4GHz Cable Loss (dB)	5GHz Cable Loss (dB)	Connector Type	Cable Length (mm)
1	Chain (0)	WNC	81.EBJ15.005	PIFA	3.00	5.15~5.35GHz: 2.56	1.15	5.15~5.35GHz: 1.70	IPEX	300
						5.47~5.725GHz: 4.76		5.47~5.725GHz: 1.74		
						5.725~5.85GHz: 4.76		5.725~5.85GHz: 1.79		
	Chain (1)	WNC	81.EBJ15.005	PIFA	3.62	5.15~5.35GHz: 3.08	1.15	5.15~5.35GHz: 1.70	IPEX	300
						5.47~5.725GHz: 3.31		5.47~5.725GHz: 1.74		
						5.725~5.85GHz: 2.42		5.725~5.85GHz: 1.79		
2	Chain (0)	WNC	81.ED415.001	PIFA	0.22	5.15~5.35GHz: 5.56	0.96	5.15~5.35GHz: 1.29	IPEX	300
						5.47~5.725GHz: 5.03		5.47~5.725GHz: 1.36		
						5.725~5.85GHz: 3.14		5.725~5.85GHz: 1.38		
	Chain (1)	WNC	81.ED415.001	PIFA	1.48	5.15~5.35GHz: 5.17	0.96	5.15~5.35GHz: 1.29	IPEX	300
						5.47~5.725GHz: 5.34		5.47~5.725GHz: 1.36		
						5.725~5.85GHz: 2.94		5.725~5.85GHz: 1.38		

Note: 1. Above antenna gains of antenna are Total (H+V).

Following antenna combination(s) was (were) selected as representative mode for test or evaluate in this report as listed.

2400~2483.5MHz:

Transmitter Circuit	Brand	Model	Ant. Type	2.4GHz Gain with cable loss (dBi)	2.4GHz Cable Loss (dB)	Connector Type	Cable Length (mm)
Chain (0)+(1)	WNC	81.EBJ15.005	PIFA	3.62	1.15	IPEX	300

3.3 Description of Test Modes

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20), VHT20:

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

7 channels are provided for 802.11n (HT40), VHT40:

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

3.3.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO			DESCRIPTION
	UE $\geq$ 1G	UE<1G	APCM	
-	√	√	√	-

Where **UE $\geq$ 1G:** Unwanted Emission above 1GHz **UE < 1G:** Unwanted Emission below 1GHz
APCM: Antenna Port Conducted Measurement

Unwanted 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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1
802.11g	1 to 11	1, 6, 11	OFDM	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	13.5

Unwanted 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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	DATA RATE (Mbps)
802.11g	1 to 11	6	OFDM	6

Antenna Port Conducted Measurement:

- ☒ 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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1
802.11g	1 to 11	1, 6, 11	OFDM	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	13.5

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
UE $\geq$ 1G	26deg. C, 68%RH	120Vac, 60Hz	Tim Ho
UE<1G	25deg. C, 68%RH	120Vac, 60Hz	Tim Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

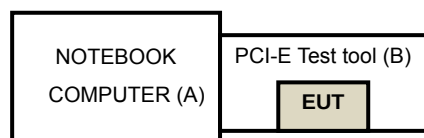
3.4 Description of Support Units

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

No.	Product	Brand	Model No.	Serial No.	FCC ID	Remark
A	NOTEBOOK COMPUTER	DELL	E6420	H62T3R1	FCC DoC	Provided by Lab
B	PCI-E Test tool	Qualcomm Atheros	NA	NA	NA	Supplied by Client

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

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)

558074 D01 DTS Meas Guidance v03r03

ANSI C63.10- 2013

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

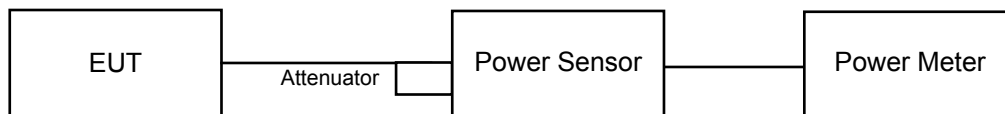
4 Test Types and Results

4.1 Conducted Output Power Measurement

4.1.1 Limits of Conducted Output Power Measurement

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

4.1.2 Test Setup



4.1.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter Anritsu	ML2495A	1014008	Apr. 28, 2015	Apr. 27, 2016
Power Sensor Anritsu	MA2411B	0917122	Apr. 28, 2015	Apr. 27, 2016

Note:

- The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
- Tested date : July 27, 2015

4.1.4 Test Procedures

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

4.1.5 Deviation from Test Standard

No deviation.

4.1.6 EUT Operating Conditions

The software (QCART Version: 3.0.33.0) provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.1.7 Test Results

FOR PEAK POWER

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	213.304	23.29	30	Pass
6	2437	246.604	23.92	30	Pass
11	2462	233.346	23.68	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	176.604	22.47	30	Pass
6	2437	303.389	24.82	30	Pass
11	2462	165.196	22.18	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	143.549	21.57	30	Pass
6	2437	284.446	24.54	30	Pass
11	2462	128.825	21.10	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
3	2422	124.451	20.95	30	Pass
6	2437	246.037	23.91	30	Pass
9	2452	89.125	19.50	30	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	125.893	21.00
6	2437	148.594	21.72
11	2462	138.676	21.42

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	55.847	17.47
6	2437	119.674	20.78
11	2462	45.920	16.62

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	40.551	16.08
6	2437	115.345	20.62
11	2462	38.019	15.80

802.11n (HT40)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
3	2422	34.041	15.32
6	2437	66.527	18.23
9	2452	23.988	13.80

4.2 Unwanted Emission Measurement (Radiated Versus Conducted)

4.2.1 Limits of Unwanted Emission 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.

4.2.2 Test Instruments

For above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna AISI	AIH.8018	000032009111 0	Feb. 09, 2015	Feb. 08, 2016
Pre-Amplifier Agilent	8449B	3008A02578	June 23, 2015	June 22, 2016
RF Cable	NA	131205 131216 131217 SNMY23684/ 4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	June 26, 2015	June 25, 2016
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	NA	329751/4 RF104-204	Dec. 11, 2014	Dec. 10, 2015
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	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 966 Chamber No. G.
3. The FCC Site Registration No. is 966073.
4. The VCCI Site Registration No. is G-137.
5. The CANADA Site Registration No. is IC 7450H-2.
6. Tested Date: July 29, 2015

For below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 12,2014	Dec. 11,2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-07	May 08, 2015	May 07, 2016
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Feb. 03, 2015	Feb. 02, 2016
RF Cable	8D	966-3-1 966-3-2 966-3-3	Apr. 03, 2015	Apr. 02, 2016
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. 3.
4. The FCC Site Registration No. is
6. The CANADA Site Registration No. is
7. Tested Date: July 30, 2015

4.2.3 Test Procedures

Following FCC KDB 558074 D01 DTS Meas. Guidance :

Radiated versus Conducted Measurements.

The unwanted emission limits in both the restricted and non-restricted bands are based on antenna-port conducted measurements in conjunction with cabinet emissions tests are permitted to demonstrate compliance.

The following steps was performed:

- a. Cabinet emissions measurements. Radiated measurement was performed to ensure that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna was replaced by a termination matching the nominal impedance of the antenna.
- b. Conducted tests was performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT
- c. EIRP calculation. A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth. (For emissions in the restricted bands, additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 2 dBi, whichever is greater
- d. EIRP adjustments for multiple outputs. (Follow the procedures specified in FCC KDB Publication 662911)
- e. For all of Radiation emission test
 - e-1. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at a 3 meters chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
 - e-2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
 - e-3. 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.
 - e-4. 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-5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
 - e-6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

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 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

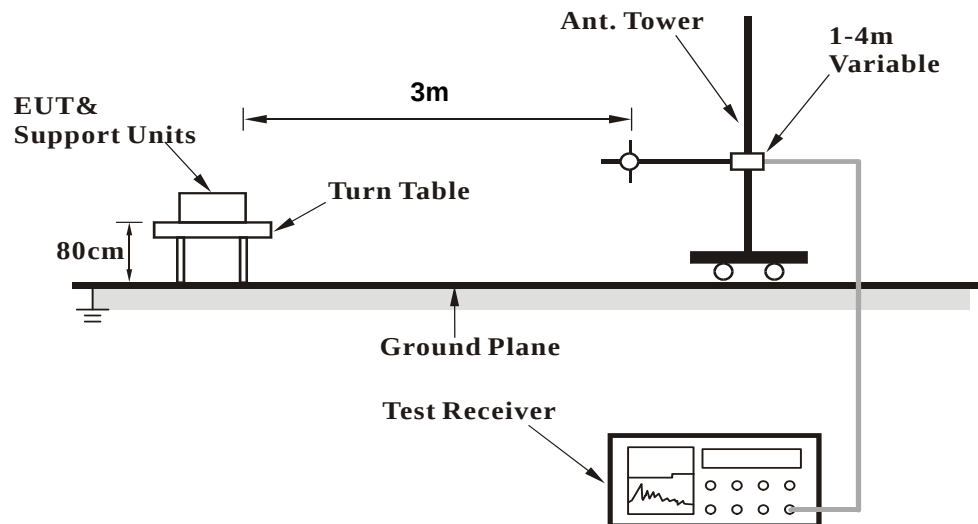
4.2.4 Deviation from Test Standard

No deviation.

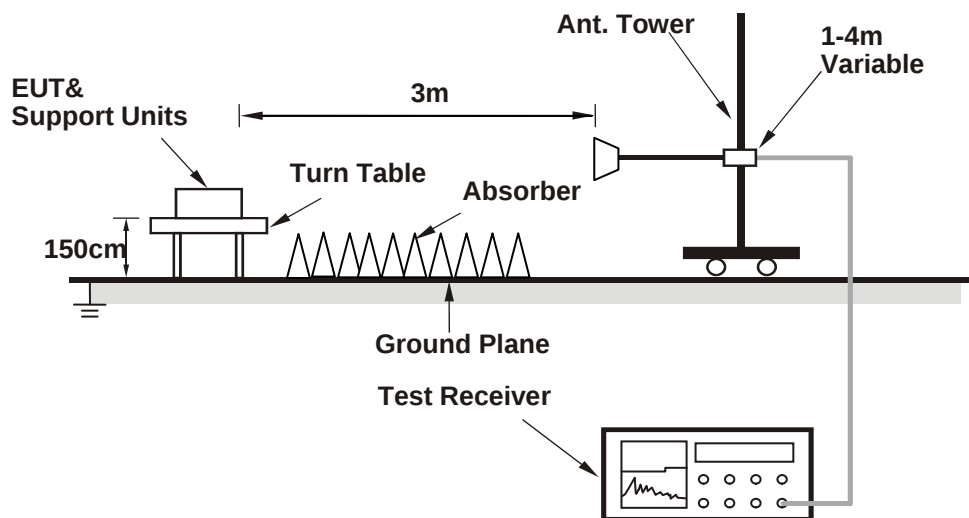
4.2.5 Test Setup

For radiated configuration:

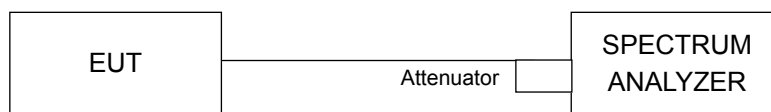
<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



For conducted configuration:



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

4.2.6 EUT Operating Conditions

1. Connect the EUT with the support unit A (Notebook Computer) which is placed on a testing table.
2. The communication partner run test program "QCART Version: 3.0.33.0.exe" to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.2.7 Test Results (Radiated Measurement)

Radiated versus Conducted Measurement	
☐ Conducted measurement	☒ Radiated measurement
<u>For Radiated measurement:</u> The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation)	
<u>For Conducted measurement:</u> The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).	

Radiated test was done with 50ohm terminator on antenna port

Above 1GHz Data

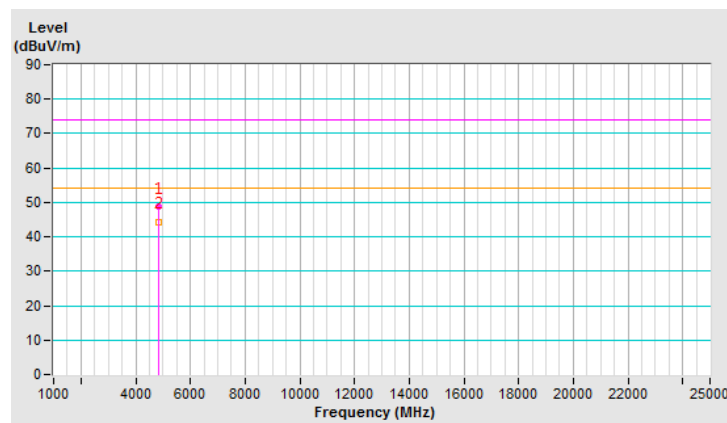
802.11b

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	4824.00	48.7 PK	74.0	-25.3	1.29 H	162	41.61	7.09
2	4824.00	44.4 AV	54.0	-9.6	1.29 H	162	37.31	7.09

REMARKS:

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

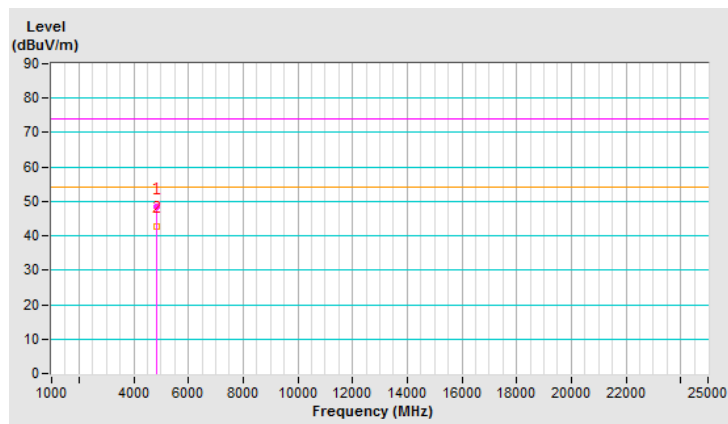


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4824.00	48.4 PK	74.0	-25.6	1.54 V	182	41.31	7.09
2	4824.00	42.9 AV	54.0	-11.1	1.54 V	182	35.81	7.09

REMARKS:

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

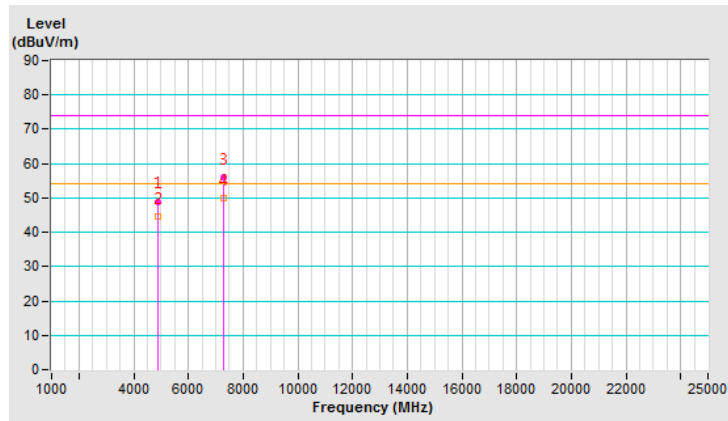


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	49.0 PK	74.0	-25.0	1.31 H	150	41.75	7.25
2	4874.00	44.7 AV	54.0	-9.3	1.31 H	150	37.45	7.25
3	7311.00	55.9 PK	74.0	-18.1	1.16 H	138	41.45	14.45
4	7311.00	50.0 AV	54.0	-4.0	1.16 H	138	35.55	14.45

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

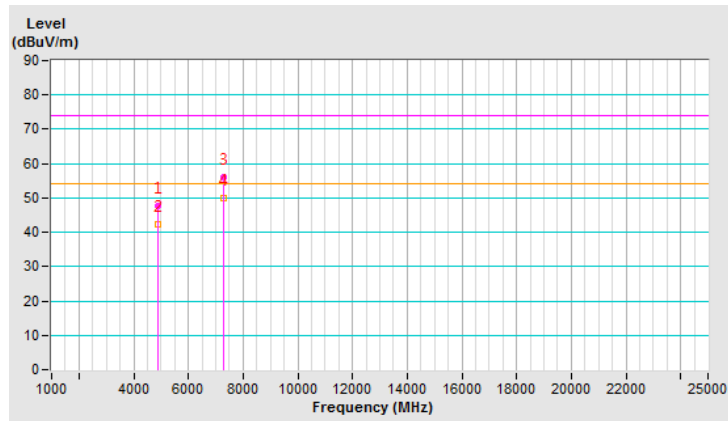


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	47.8 PK	74.0	-26.2	1.58 V	179	40.55	7.25
2	4874.00	42.4 AV	54.0	-11.6	1.58 V	179	35.15	7.25
3	7311.00	55.9 PK	74.0	-18.1	1.47 V	88	41.45	14.45
4	7311.00	49.8 AV	54.0	-4.2	1.47 V	88	35.35	14.45

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

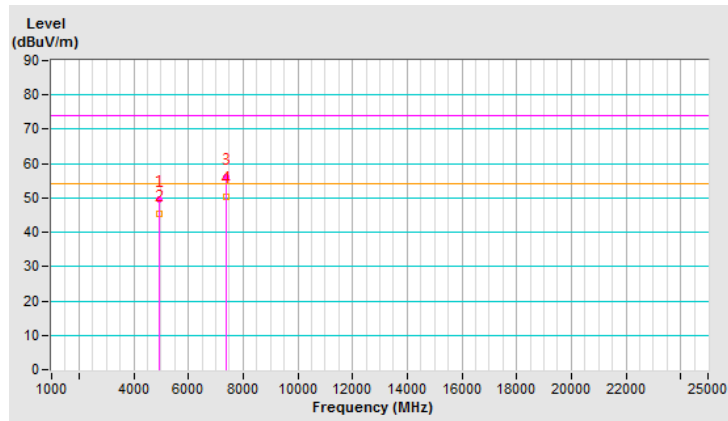


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4924.00	49.7 PK	74.0	-24.3	1.32 H	157	42.25	7.45
2	4924.00	45.2 AV	54.0	-8.8	1.32 H	157	37.75	7.45
3	7386.00	56.1 PK	74.0	-17.9	1.16 H	141	41.58	14.52
4	7386.00	50.5 AV	54.0	-3.5	1.16 H	141	35.98	14.52

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

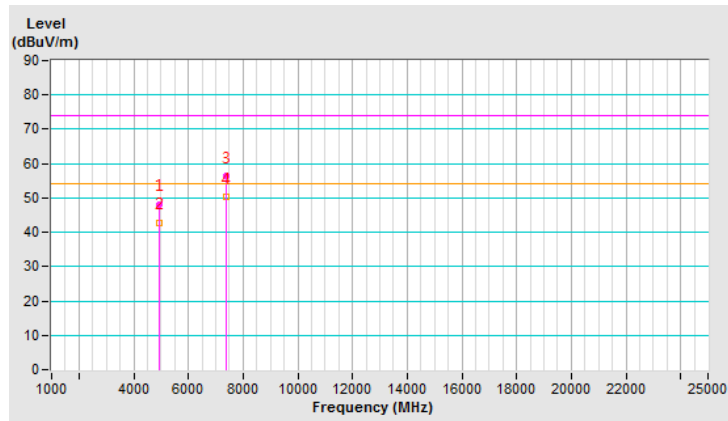


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4924.00	48.2 PK	74.0	-25.8	1.57 V	179	40.75	7.45
2	4924.00	42.9 AV	54.0	-11.1	1.57 V	179	35.45	7.45
3	7386.00	56.4 PK	74.0	-17.6	1.52 V	103	41.88	14.52
4	7386.00	50.2 AV	54.0	-3.8	1.52 V	103	35.68	14.52

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



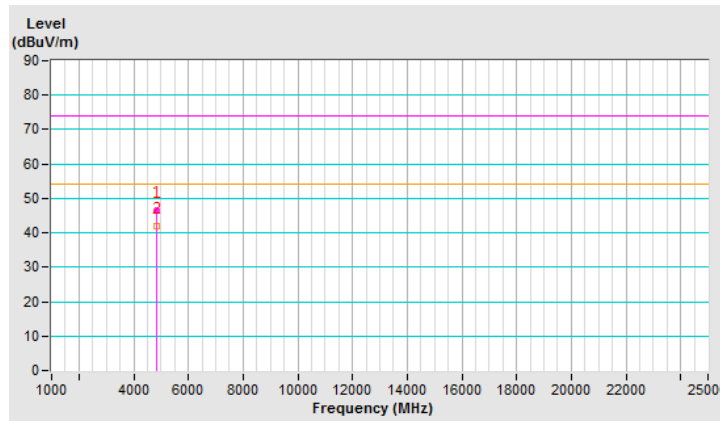
802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
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	4824.00	46.4 PK	74.0	-27.6	1.21 H	142	39.31	7.09
2	4824.00	41.9 AV	54.0	-12.1	1.21 H	142	34.81	7.09

REMARKS:

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

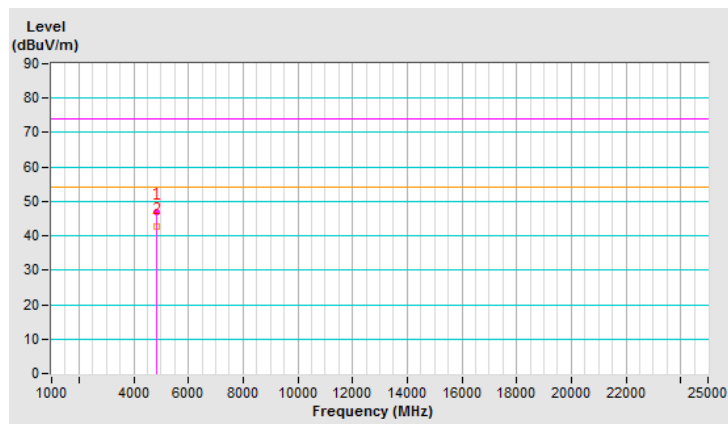


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4824.00	47.0 PK	74.0	-27.0	1.54 V	175	39.91	7.09
2	4824.00	42.6 AV	54.0	-11.4	1.54 V	175	35.51	7.09

REMARKS:

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

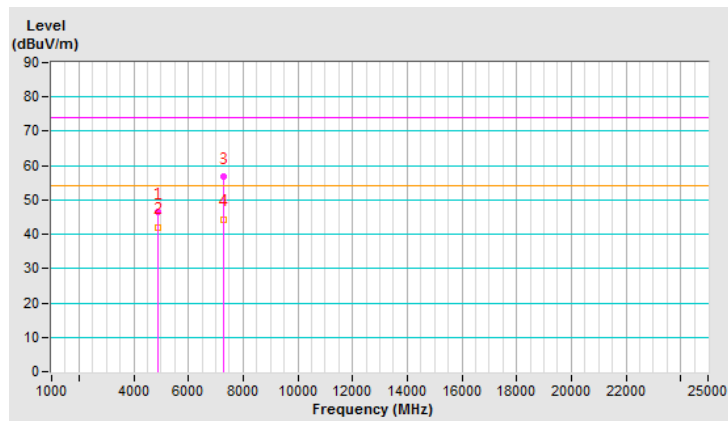


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	46.4 PK	74.0	-27.6	1.25 H	133	39.15	7.25
2	4874.00	42.1 AV	54.0	-11.9	1.25 H	133	34.85	7.25
3	7311.00	56.8 PK	74.0	-17.2	1.19 H	133	42.35	14.45
4	7311.00	44.4 AV	54.0	-9.6	1.19 H	133	29.95	14.45

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

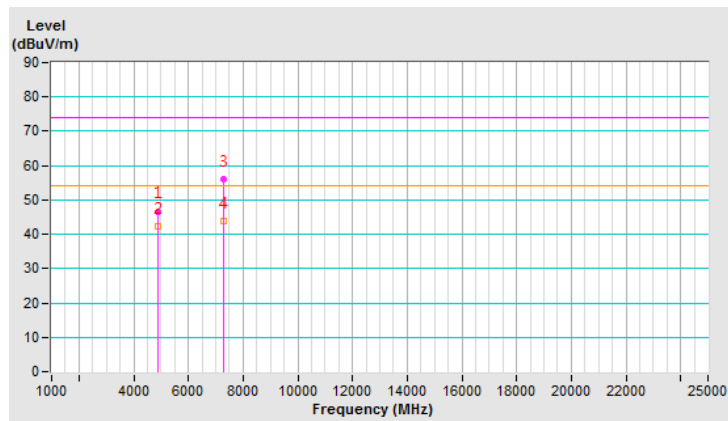


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	46.7 PK	74.0	-27.3	1.58 V	184	39.45	7.25
2	4874.00	42.2 AV	54.0	-11.8	1.58 V	184	34.95	7.25
3	7311.00	56.2 PK	74.0	-17.8	1.52 V	97	41.75	14.45
4	7311.00	44.0 AV	54.0	-10.0	1.52 V	97	29.55	14.45

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

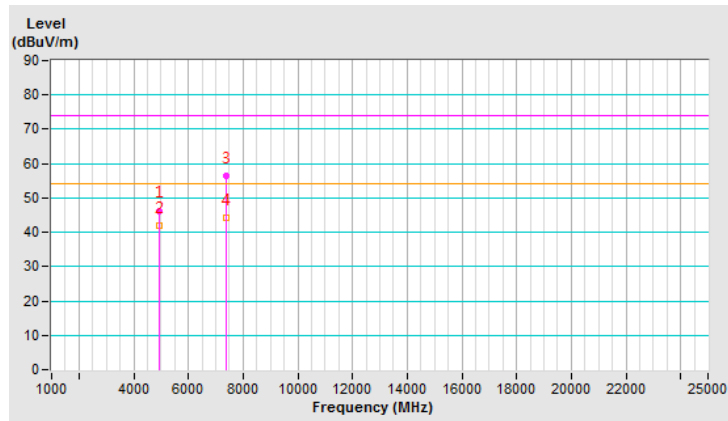


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4924.00	46.3 PK	74.0	-27.7	1.22 H	140	38.85	7.45
2	4924.00	41.9 AV	54.0	-12.1	1.22 H	140	34.45	7.45
3	7386.00	56.4 PK	74.0	-17.6	1.22 H	134	41.88	14.52
4	7386.00	44.1 AV	54.0	-9.9	1.22 H	134	29.58	14.52

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

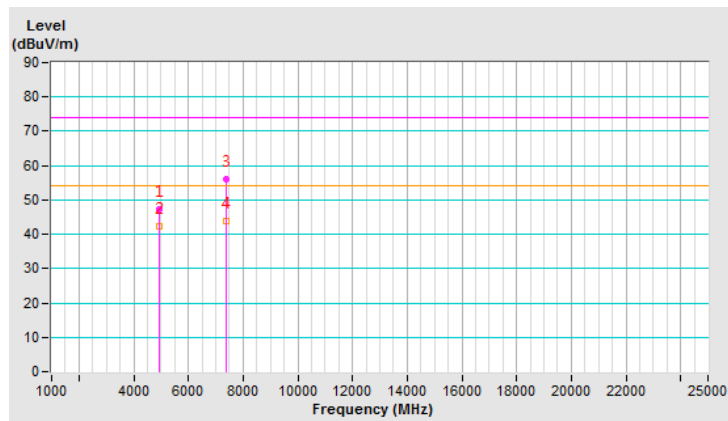


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4924.00	47.1 PK	74.0	-26.9	1.59 V	183	39.65	7.45
2	4924.00	42.4 AV	54.0	-11.6	1.59 V	183	34.95	7.45
3	7386.00	56.0 PK	74.0	-18.0	1.46 V	82	41.48	14.52
4	7386.00	44.0 AV	54.0	-10.0	1.46 V	82	29.48	14.52

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



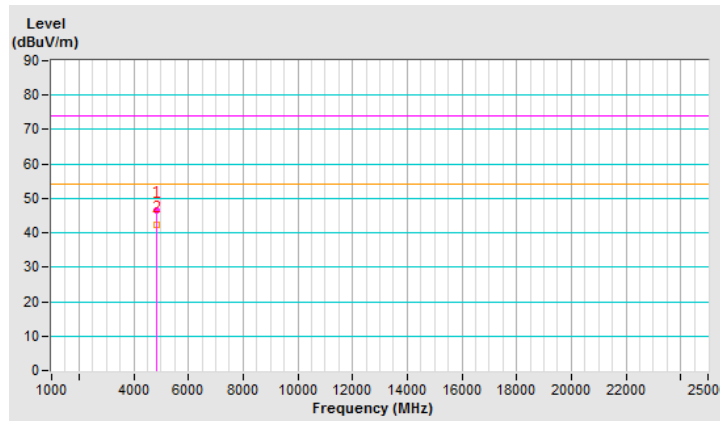
802.11n (HT20)

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	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	4824.00	46.5 PK	74.0	-27.5	1.22 H	122	39.41	7.09
2	4824.00	42.2 AV	54.0	-11.8	1.22 H	122	35.11	7.09

REMARKS:

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

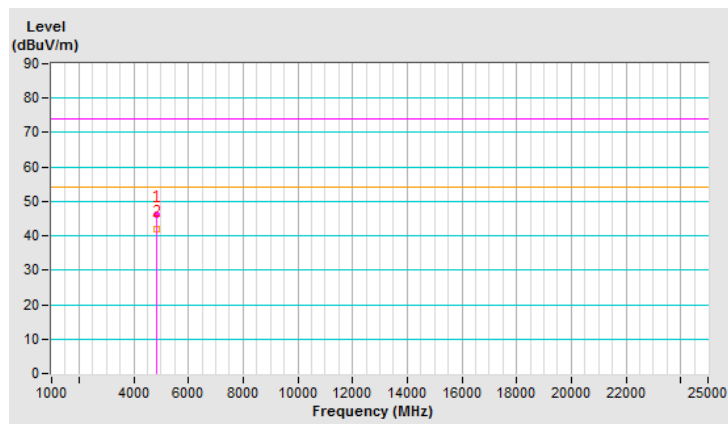


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4824.00	46.2 PK	74.0	-27.8	1.63 V	168	39.11	7.09
2	4824.00	42.0 AV	54.0	-12.0	1.63 V	168	34.91	7.09

REMARKS:

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

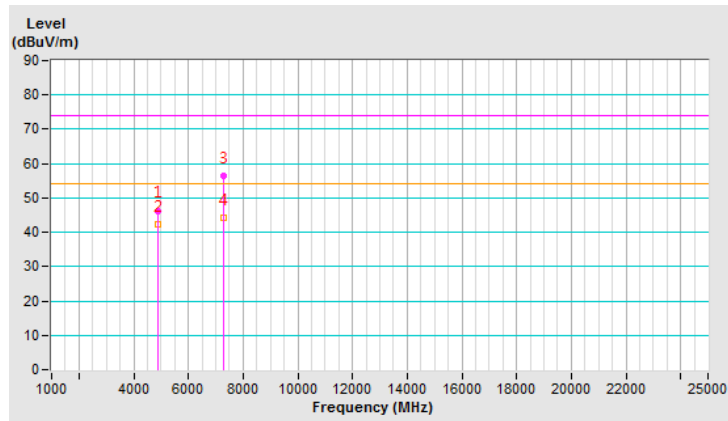


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	46.3 PK	74.0	-27.7	1.25 H	139	39.05	7.25
2	4874.00	42.2 AV	54.0	-11.8	1.25 H	139	34.95	7.25
3	7311.00	56.4 PK	74.0	-17.6	1.19 H	128	41.95	14.45
4	7311.00	44.3 AV	54.0	-9.7	1.19 H	128	29.85	14.45

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

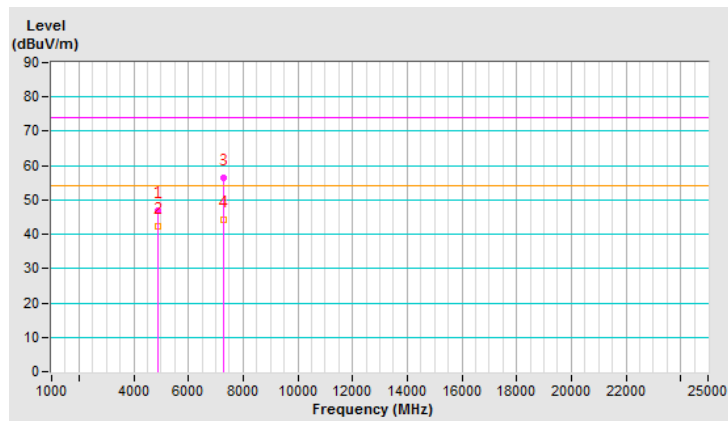


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	46.8 PK	74.0	-27.2	1.57 V	175	39.55	7.25
2	4874.00	42.4 AV	54.0	-11.6	1.57 V	175	35.15	7.25
3	7311.00	56.4 PK	74.0	-17.6	1.47 V	85	41.95	14.45
4	7311.00	44.1 AV	54.0	-9.9	1.47 V	85	29.65	14.45

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

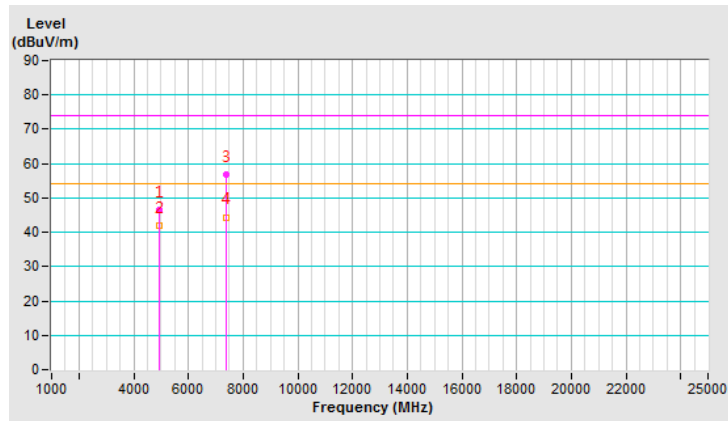


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4924.00	46.4 PK	74.0	-27.6	1.24 H	142	38.95	7.45
2	4924.00	41.9 AV	54.0	-12.1	1.24 H	142	34.45	7.45
3	7386.00	56.9 PK	74.0	-17.1	1.16 H	119	42.38	14.52
4	7386.00	44.4 AV	54.0	-9.6	1.16 H	119	29.88	14.52

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

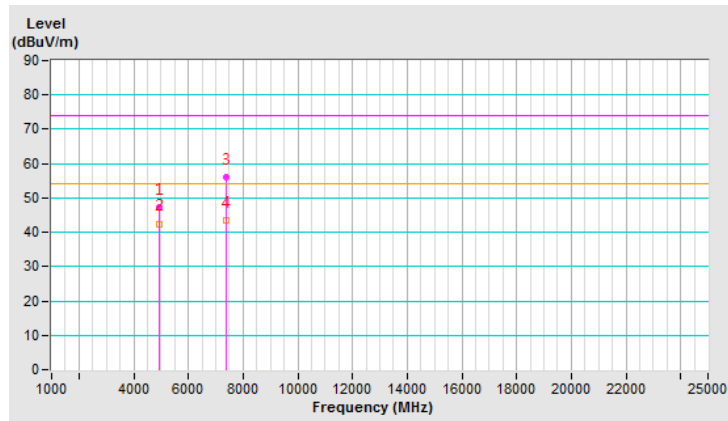


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4924.00	47.1 PK	74.0	-26.9	1.63 V	173	39.65	7.45
2	4924.00	42.5 AV	54.0	-11.5	1.63 V	173	35.05	7.45
3	7386.00	56.0 PK	74.0	-18.0	1.51 V	88	41.48	14.52
4	7386.00	43.6 AV	54.0	-10.4	1.51 V	88	29.08	14.52

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



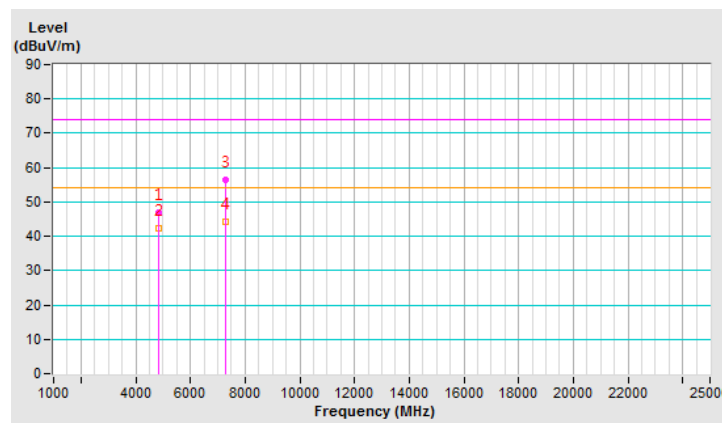
802.11n (HT40)

CHANNEL	TX Channel 3	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	4844.00	46.9 PK	74.0	-27.1	1.29 H	145	39.75	7.15
2	4844.00	42.4 AV	54.0	-11.6	1.29 H	145	35.25	7.15
3	7266.00	56.5 PK	74.0	-17.5	1.14 H	149	41.93	14.57
4	7266.00	44.2 AV	54.0	-9.8	1.14 H	149	29.63	14.57

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

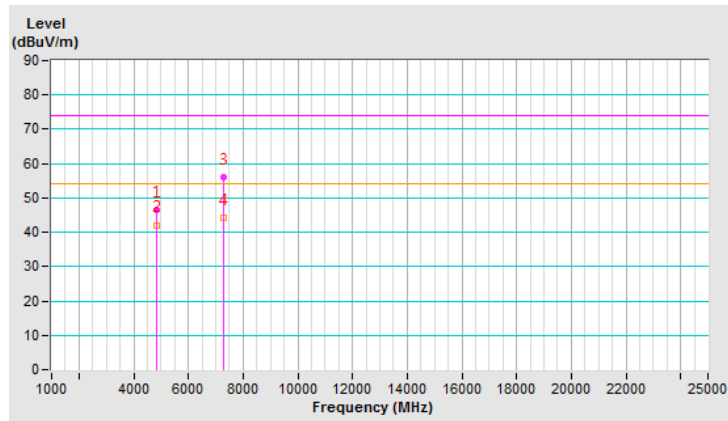


CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4844.00	46.4 PK	74.0	-27.6	1.53 V	179	39.25	7.15
2	4844.00	42.1 AV	54.0	-11.9	1.53 V	179	34.95	7.15
3	7266.00	56.1 PK	74.0	-17.9	1.51 V	83	41.53	14.57
4	7266.00	44.1 AV	54.0	-9.9	1.51 V	83	29.53	14.57

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

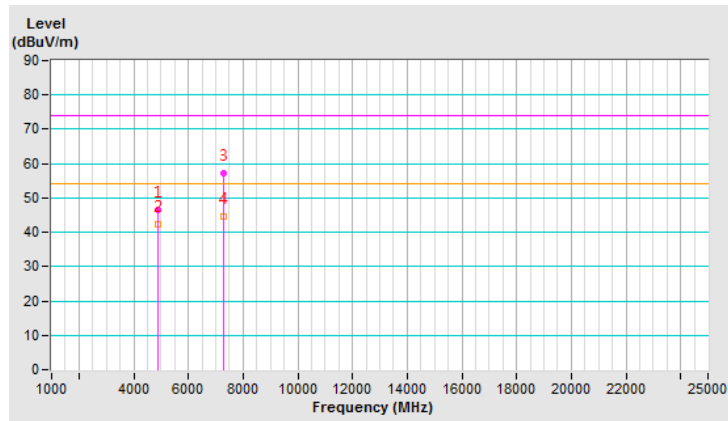


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	46.4 PK	74.0	-27.6	1.30 H	122	39.15	7.25
2	4874.00	42.3 AV	54.0	-11.7	1.30 H	122	35.05	7.25
3	7311.00	57.2 PK	74.0	-16.8	1.13 H	128	42.75	14.45
4	7311.00	44.6 AV	54.0	-9.4	1.13 H	128	30.15	14.45

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

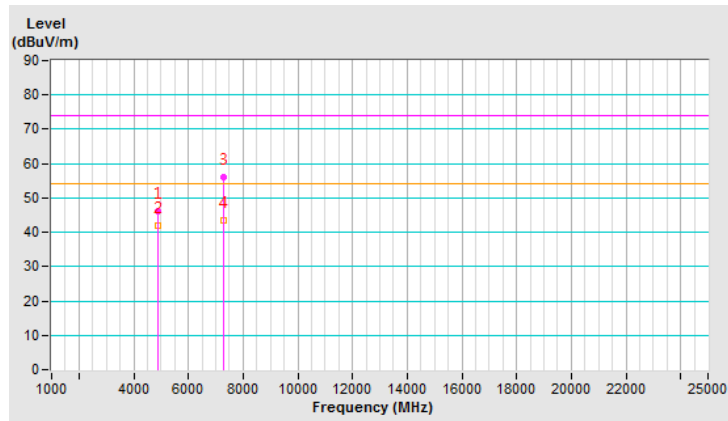


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4874.00	46.0 PK	74.0	-28.0	1.61 V	175	38.75	7.25
2	4874.00	41.8 AV	54.0	-12.2	1.61 V	175	34.55	7.25
3	7311.00	56.0 PK	74.0	-18.0	1.49 V	102	41.55	14.45
4	7311.00	43.6 AV	54.0	-10.4	1.49 V	102	29.15	14.45

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

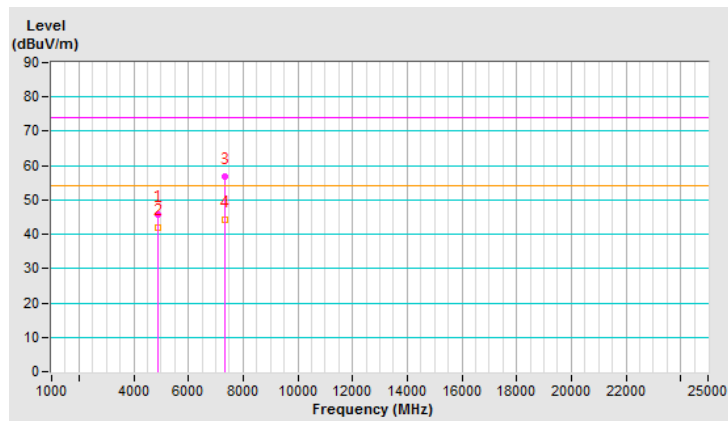


CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4904.00	45.8 PK	74.0	-28.2	1.24 H	136	38.44	7.36
2	4904.00	41.8 AV	54.0	-12.2	1.24 H	136	34.44	7.36
3	7356.00	56.9 PK	74.0	-17.1	1.21 H	124	42.40	14.50
4	7356.00	44.2 AV	54.0	-9.8	1.21 H	124	29.70	14.50

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

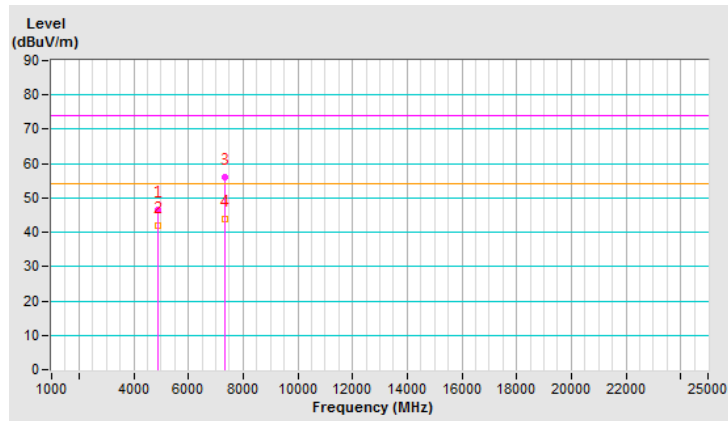


CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4904.00	46.6 PK	74.0	-27.4	1.63 V	196	39.24	7.36
2	4904.00	42.0 AV	54.0	-12.0	1.63 V	196	34.64	7.36
3	7356.00	56.1 PK	74.0	-17.9	1.57 V	94	41.60	14.50
4	7356.00	43.8 AV	54.0	-10.2	1.57 V	94	29.30	14.50

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



Below 1GHz Data:

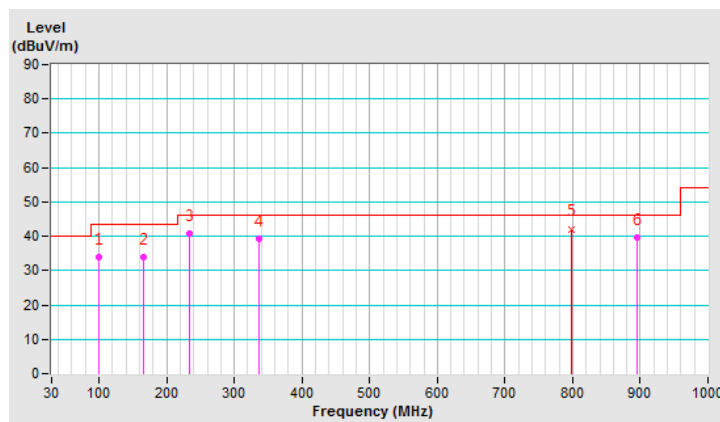
802.11g

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	Below 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	99.69	33.9 QP	43.5	-9.6	2.00 H	217	51.79	-17.92
2	166.28	34.0 QP	43.5	-9.5	1.50 H	272	47.13	-13.13
3	232.78	40.7 QP	46.0	-5.3	1.50 H	275	56.03	-15.33
4	336.04	39.3 QP	46.0	-6.7	1.00 H	263	50.90	-11.60
5	798.20	42.1 QP	46.0	-3.9	1.00 H	252	44.12	-2.01
6	896.16	39.6 QP	46.0	-6.5	1.50 H	231	40.48	-0.93

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

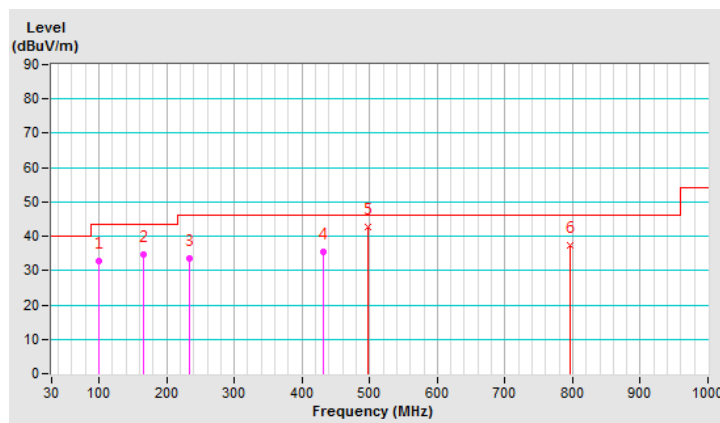


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	Below 1GHz		

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	99.69	32.8 QP	43.5	-10.7	2.00 V	297	50.68	-17.92
2	165.99	34.5 QP	43.5	-9.0	1.00 V	297	47.65	-13.13
3	232.83	33.7 QP	46.0	-12.4	1.00 V	280	48.98	-15.33
4	432.02	35.6 QP	46.0	-10.4	2.00 V	163	44.51	-8.94
5	497.87	42.5 QP	46.0	-3.5	1.50 V	238	50.34	-7.82
6	796.59	37.3 QP	46.0	-8.7	1.50 V	239	39.29	-2.03

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



4.2.8 Test Results (Conducted Measurement)

Radiated versus Conducted Measurement	
☒ Conducted measurement	☐ Radiated measurement
<u>For Radiated measurement:</u> The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation) <u>For Conducted measurement:</u> The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).	

Conducted Measurement Factor
a. The Max antenna gain were be used for conducted measurement (Antenna gain = 3.62dBi) b. For the out of band spurious the gain for the specific band may have been used rather than the highest gain across all bands. c. For the band edge the gain for the specific band may have been used. d. In restricted bands below 1000 MHz, add upper bound on ground plane reflection: For f = 30 – 1000 MHz, add 4.7 dB. Note: The conducted emission test was considered some factor to compute test result.

Above 1GHz Data 802.11b - Channel 1

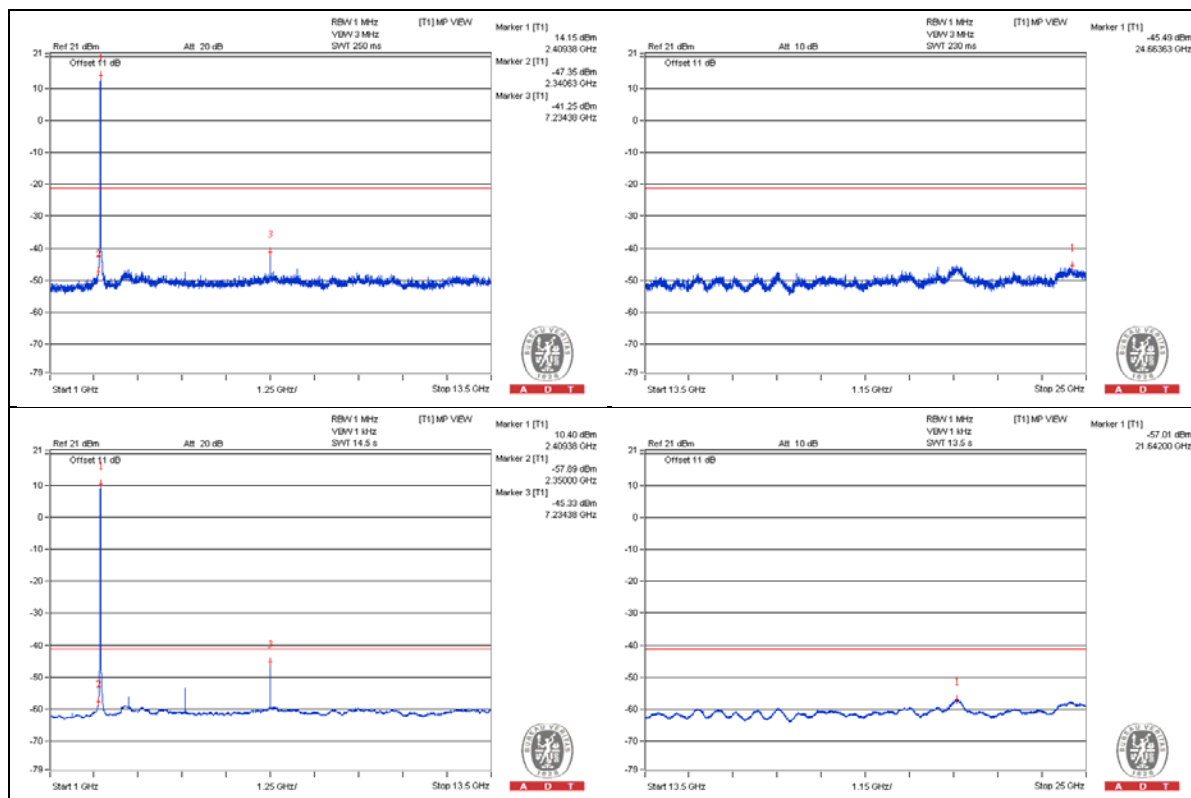
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1606.25 PK	47.5	74	-26.5	-51.38	3.62	-47.76
2	1606.25 AV	37.64	54	-16.36	-61.24	3.62	-57.62
3	4825 PK	51.46	74	-22.54	-47.42	3.62	-43.8
4	4825 AV	45.46	54	-8.54	-53.42	3.62	-49.8

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



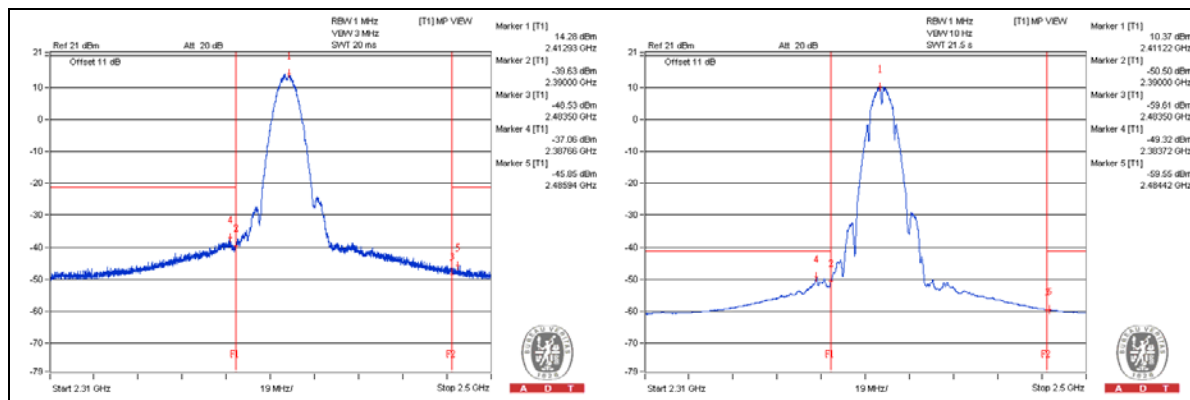
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2387.66 PK	61.82	74	-12.18	-37.06	3.62	-33.44
2	2383.72 AV	49.56	54	-4.44	-49.32	3.62	-45.7
3	2485.94 PK	53.03	74	-20.97	-45.85	3.62	-42.23
4	2484.42 AV	39.33	54	-14.67	-59.55	3.62	-55.93

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11b - Channel 6

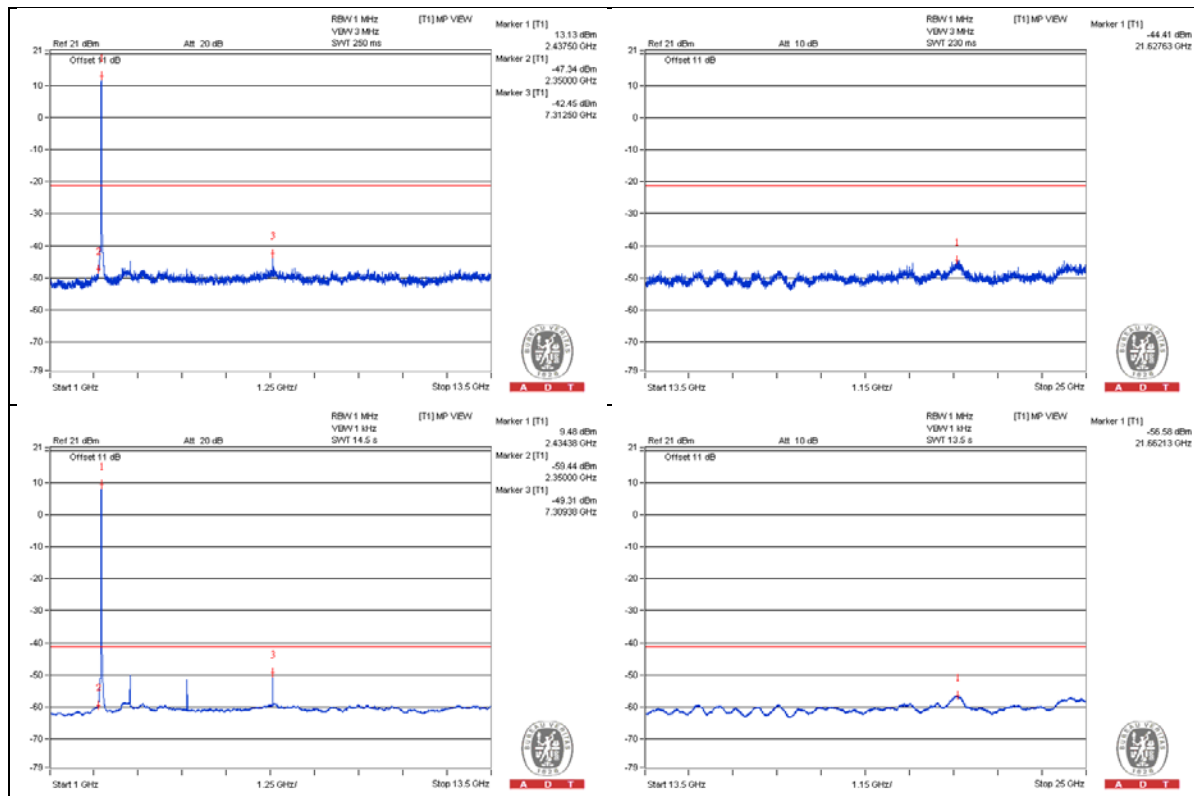
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1625 PK	47.97	74	-26.03	-50.91	3.62	-47.29
2	1625 AV	36.74	54	-17.26	-62.14	3.62	-58.52
3	4875 PK	51.68	74	-22.32	-47.2	3.62	-43.58
4	4875 AV	47.07	54	-6.93	-51.81	3.62	-48.19
5	7312.5 PK	56.43	74	-17.57	-42.45	3.62	-38.83
6	7309.375 AV	49.57	54	-4.43	-49.31	3.62	-45.69

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



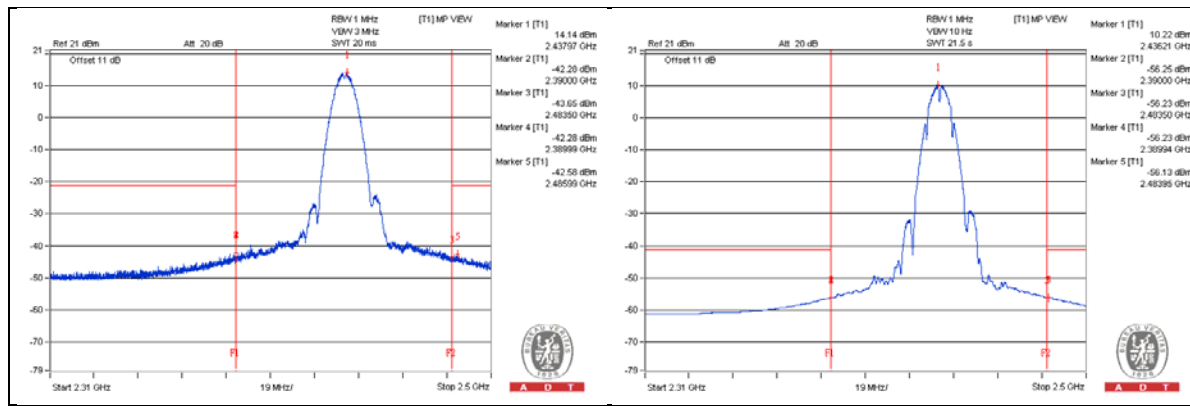
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.99 PK	56.6	74	-17.4	-42.28	3.62	-38.66
2	2389.94 AV	42.65	54	-11.35	-56.23	3.62	-52.61
3	2485.99 PK	56.3	74	-17.7	-42.58	3.62	-38.96
4	2483.95 AV	42.75	54	-11.25	-56.13	3.62	-52.51

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11b - Channel 11

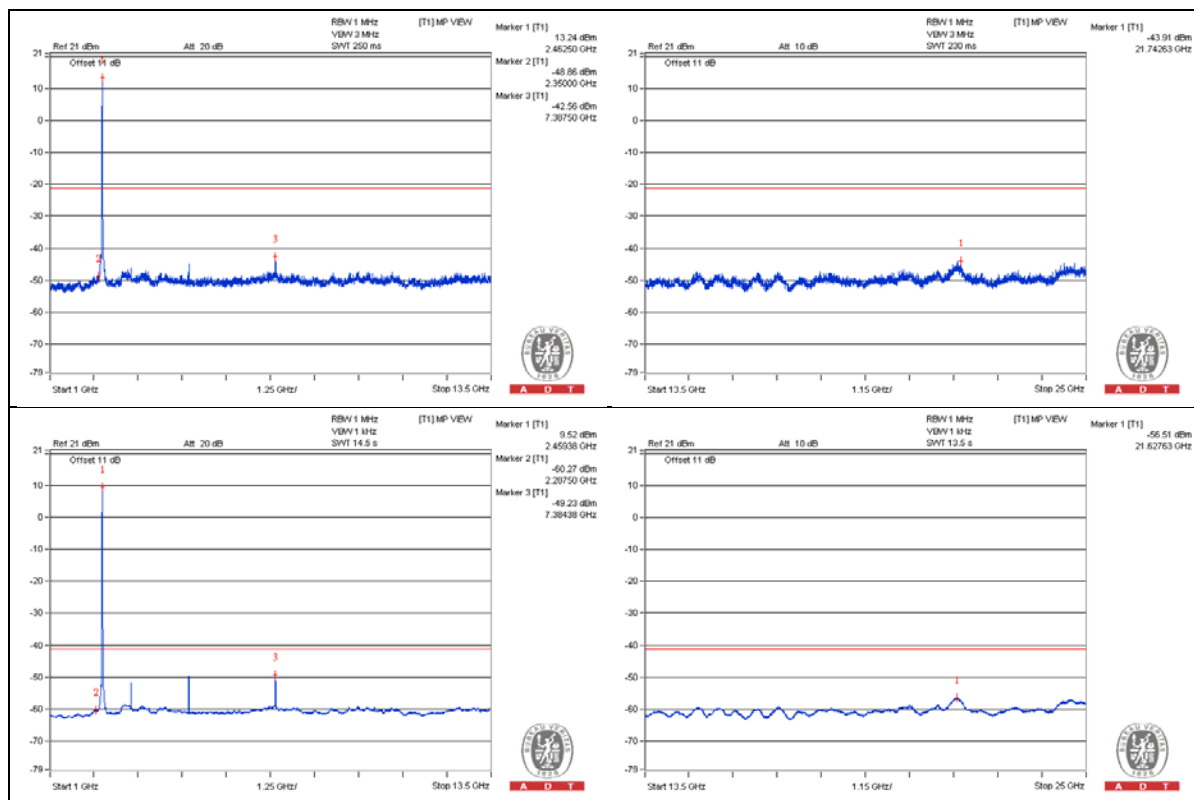
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4925 PK	54	74	-20	-44.88	3.62	-41.26
2	4925 AV	49.05	54	-4.95	-49.83	3.62	-46.21
3	7387.5 PK	56.32	74	-17.68	-42.56	3.62	-38.94
4	7384.375 AV	49.65	54	-4.35	-49.23	3.62	-45.61

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



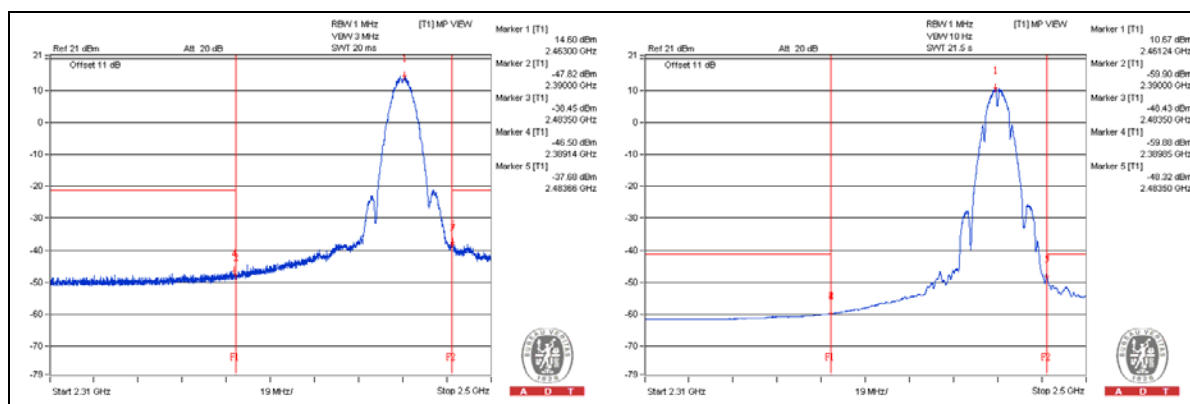
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.14 PK	52.38	74	-21.62	-46.5	3.62	-42.88
2	2389.85 AV	39	54	-15	-59.88	3.62	-56.26
3	2483.66 PK	61.2	74	-12.8	-37.68	3.62	-34.06
4	2483.5 AV	50.56	54	-3.44	-48.32	3.62	-44.7

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11g - Channel 1

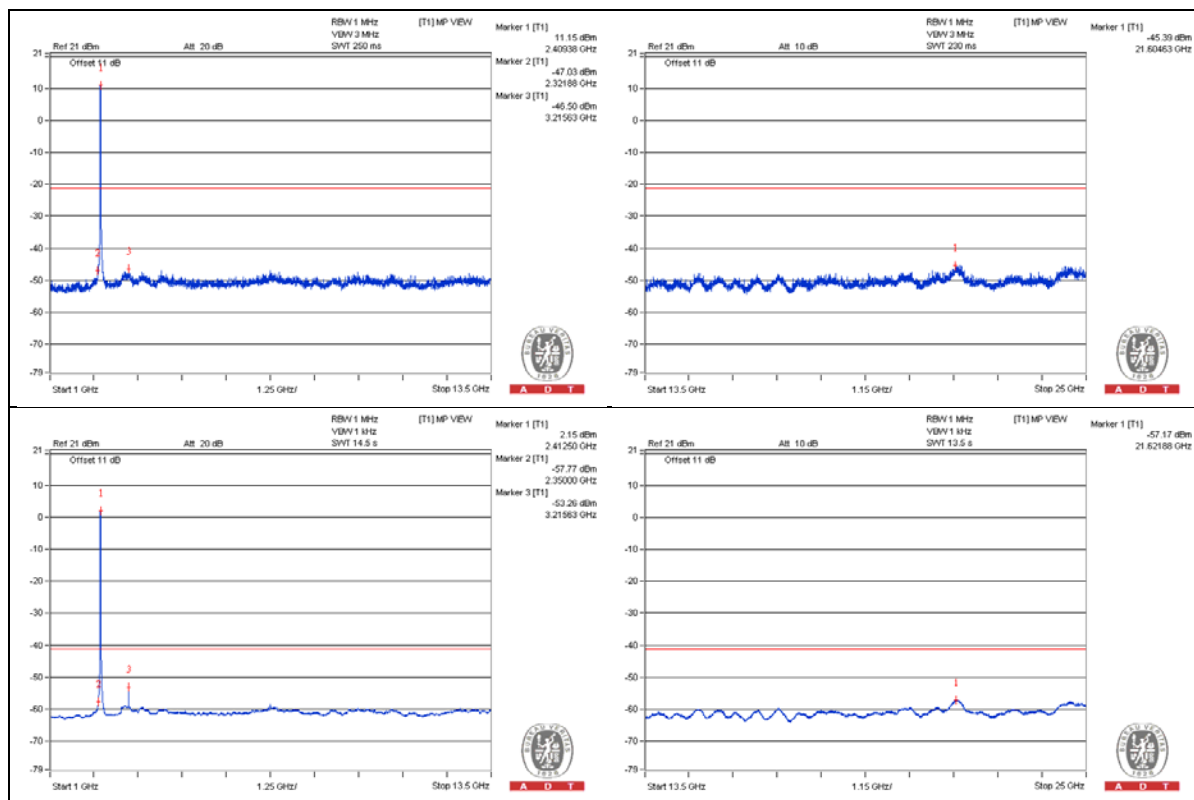
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1609.375 PK	46.19	74	-27.81	-52.69	3.62	-49.07
2	1606.25 AV	36.17	54	-17.83	-62.71	3.62	-59.09
3	4825 PK	49.52	74	-24.48	-49.36	3.62	-45.74
4	4825 AV	38.2	54	-15.8	-60.68	3.62	-57.06

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



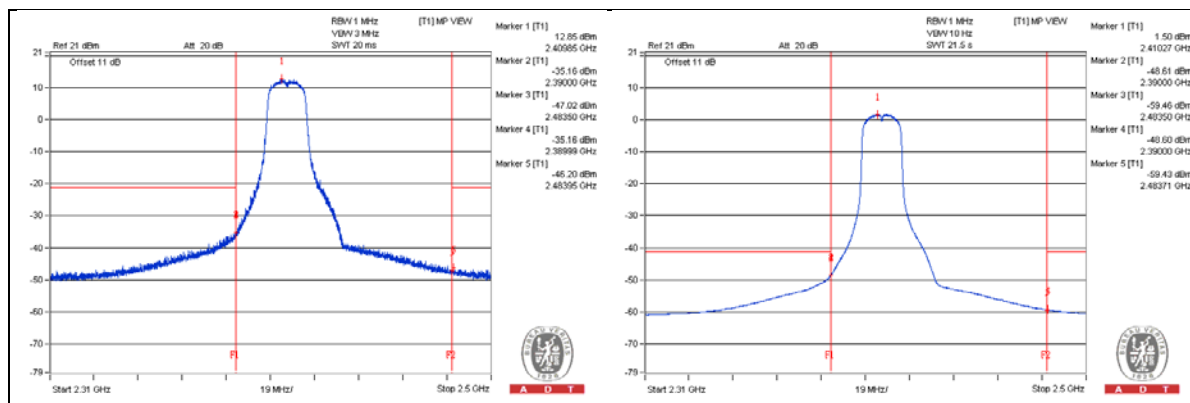
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.99 PK	63.72	74	-10.28	-35.16	3.62	-31.54
2	2390 AV	50.28	54	-3.72	-48.6	3.62	-44.98
3	2483.95 PK	52.68	74	-21.32	-46.2	3.62	-42.58
4	2483.71 AV	39.45	54	-14.55	-59.43	3.62	-55.81

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11g - Channel 6

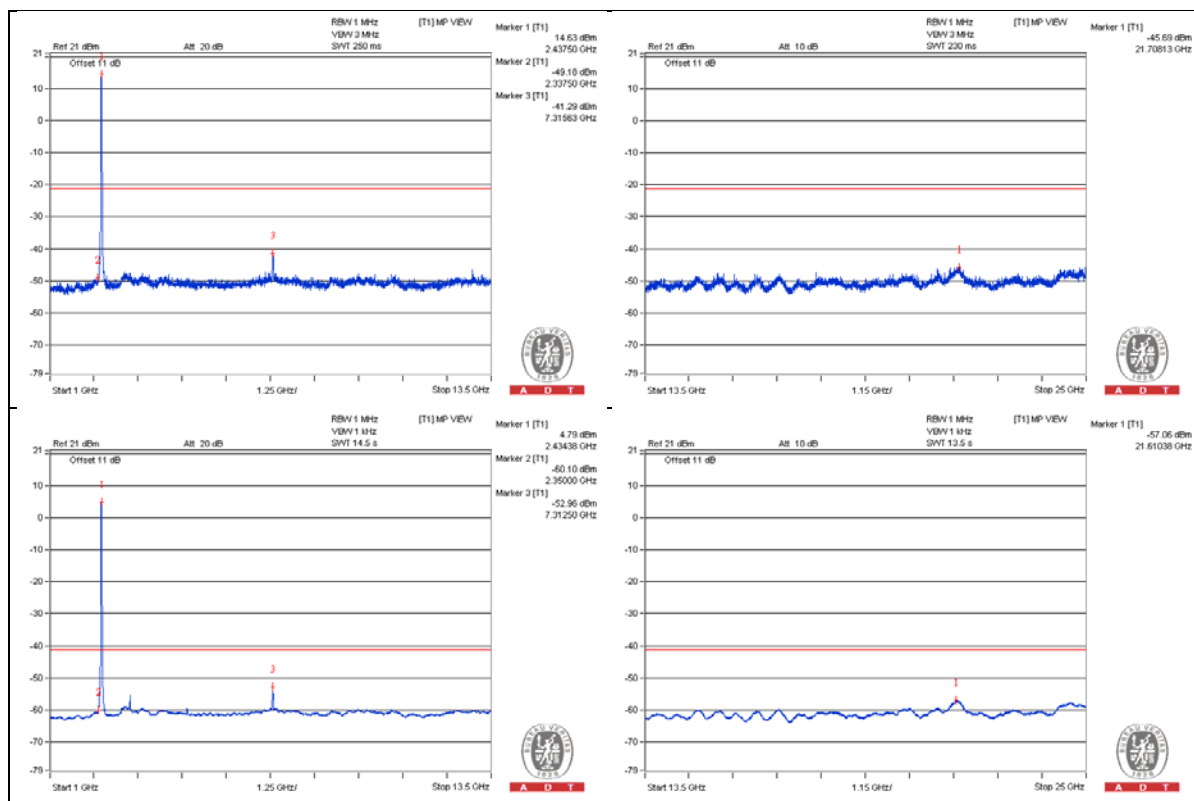
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1625 PK	46.28	74	-27.72	-52.6	3.62	-48.98
2	1625 AV	36.2	54	-17.8	-62.68	3.62	-59.06
3	4875 PK	49.61	74	-24.39	-49.27	3.62	-45.65
4	4875 AV	39.22	54	-14.78	-59.66	3.62	-56.04
5	7309.375 PK	56.38	74	-17.62	-42.5	3.62	-38.88
6	7312.5 AV	45.92	54	-8.08	-52.96	3.62	-49.34

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



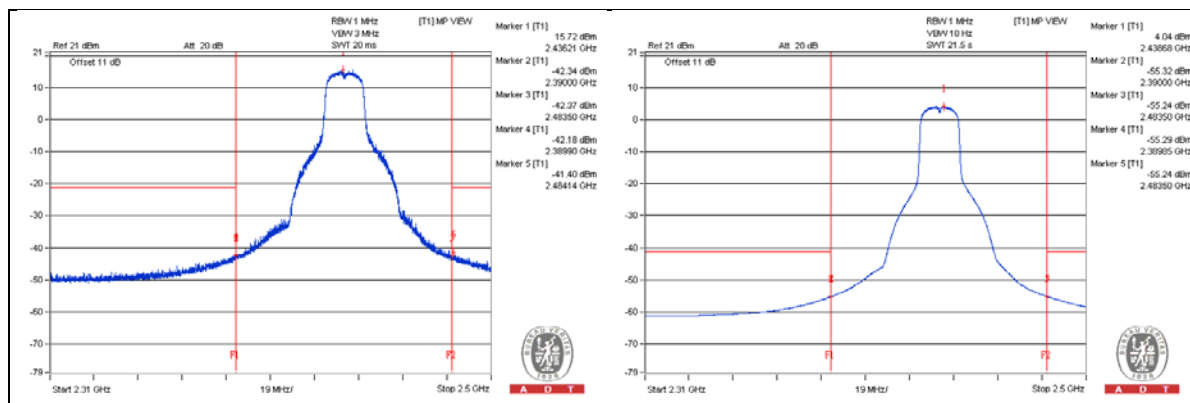
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.89 PK	56.7	74	-17.3	-42.18	3.62	-38.56
2	2389.85 AV	43.59	54	-10.41	-55.29	3.62	-51.67
3	2484.14 PK	57.48	74	-16.52	-41.4	3.62	-37.78
4	2483.5 AV	43.64	54	-10.36	-55.24	3.62	-51.62

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11g - Channel 11

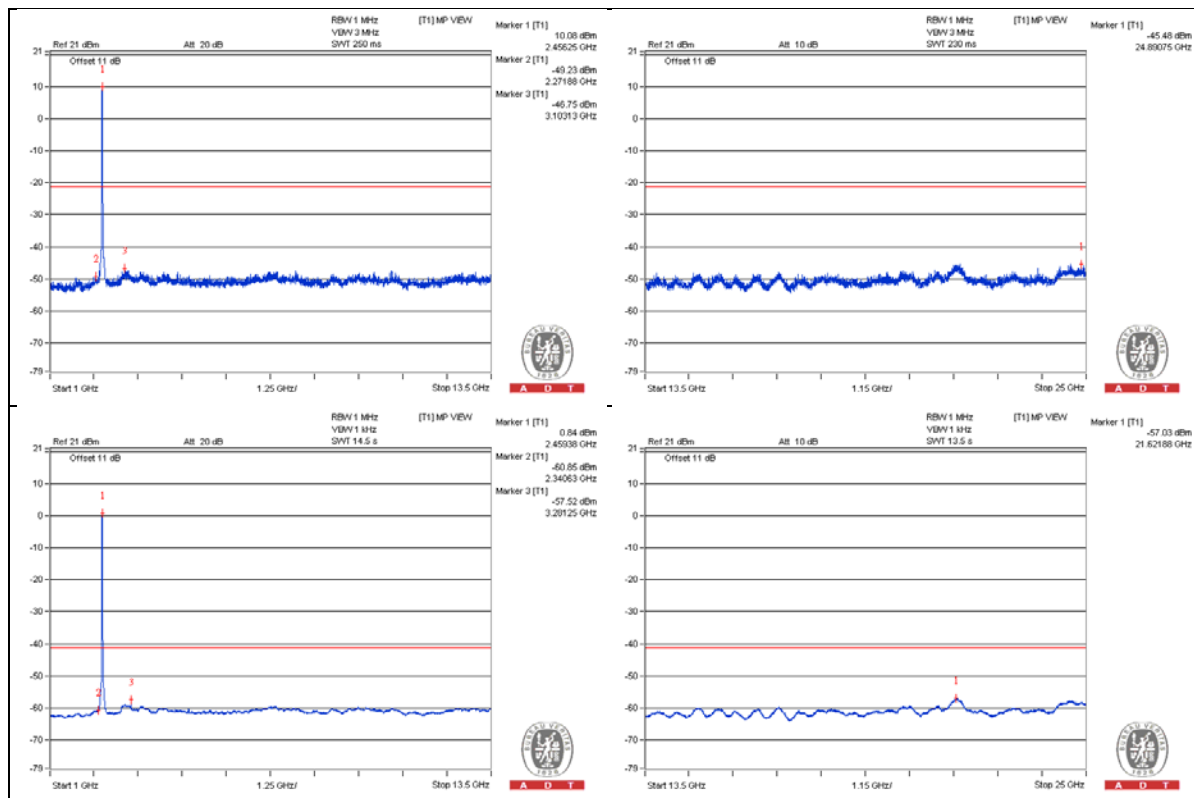
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4925 PK	49.54	74	-24.46	-49.34	3.62	-45.72
2	4925 AV	38.35	54	-15.65	-60.53	3.62	-56.91
3	7384.375 PK	50.67	74	-23.33	-48.21	3.62	-44.59
4	7384.375 AV	39.39	54	-14.61	-59.49	3.62	-55.87

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



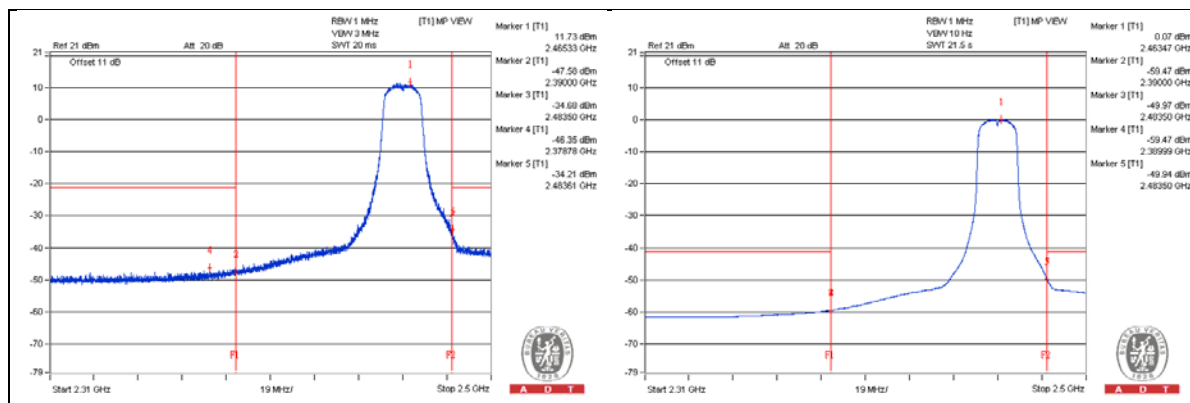
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2378.78 PK	52.53	74	-21.47	-46.35	3.62	-42.73
2	2389.99 AV	39.41	54	-14.59	-59.47	3.62	-55.85
3	2483.61 PK	64.67	74	-9.33	-34.21	3.62	-30.59
4	2483.5 AV	48.94	54	-5.06	-49.94	3.62	-46.32

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT20) - Channel 1

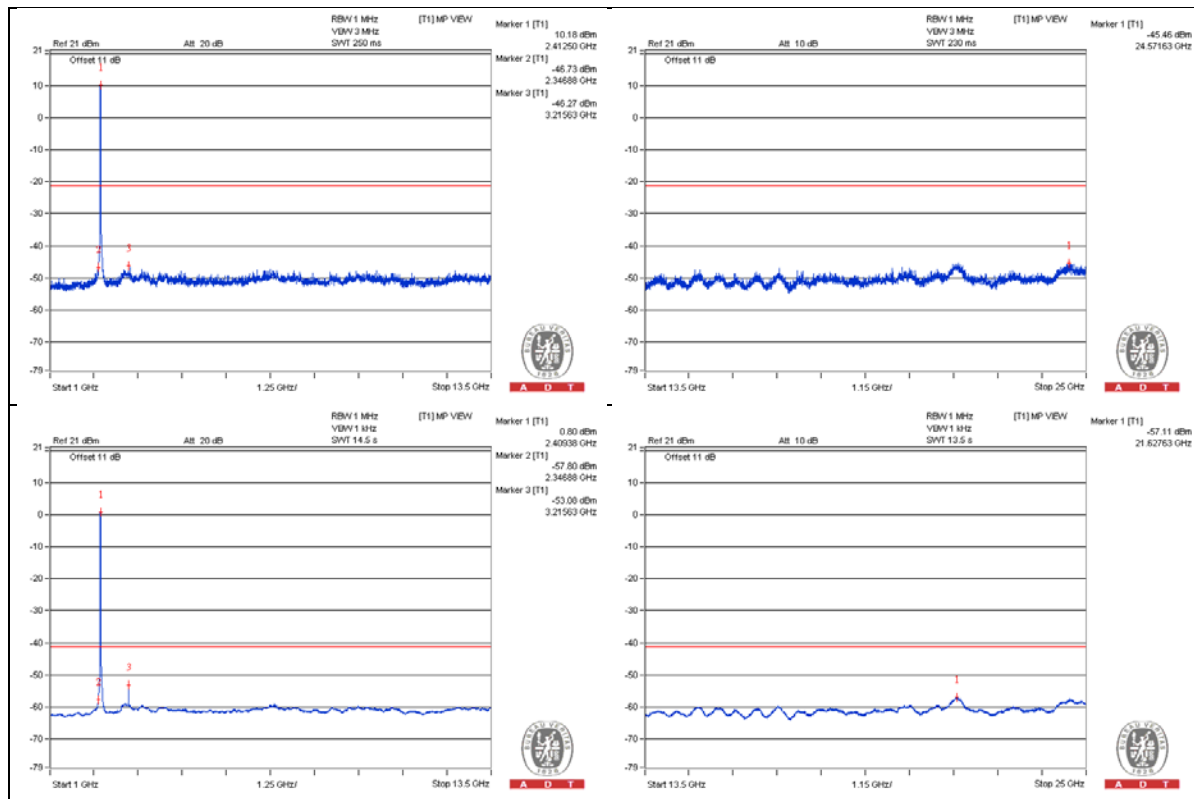
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1609.375 PK	46.81	74	-27.19	-52.07	3.62	-48.45
2	1606.25 AV	36.08	54	-17.92	-62.8	3.62	-59.18
3	4825 PK	48.07	74	-25.93	-50.81	3.62	-47.19
4	4825 AV	38.27	54	-15.73	-60.61	3.62	-56.99

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



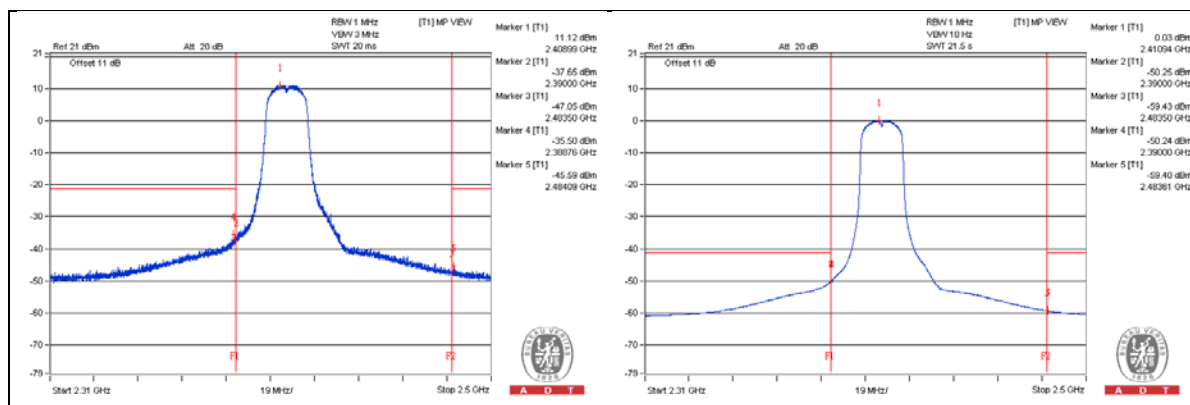
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2388.76 PK	63.38	74	-10.62	-35.5	3.62	-31.88
2	2390 AV	48.64	54	-5.36	-50.24	3.62	-46.62
3	2484.09 PK	53.29	74	-20.71	-45.59	3.62	-41.97
4	2483.61 AV	39.48	54	-14.52	-59.4	3.62	-55.78

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT20) - Channel 6

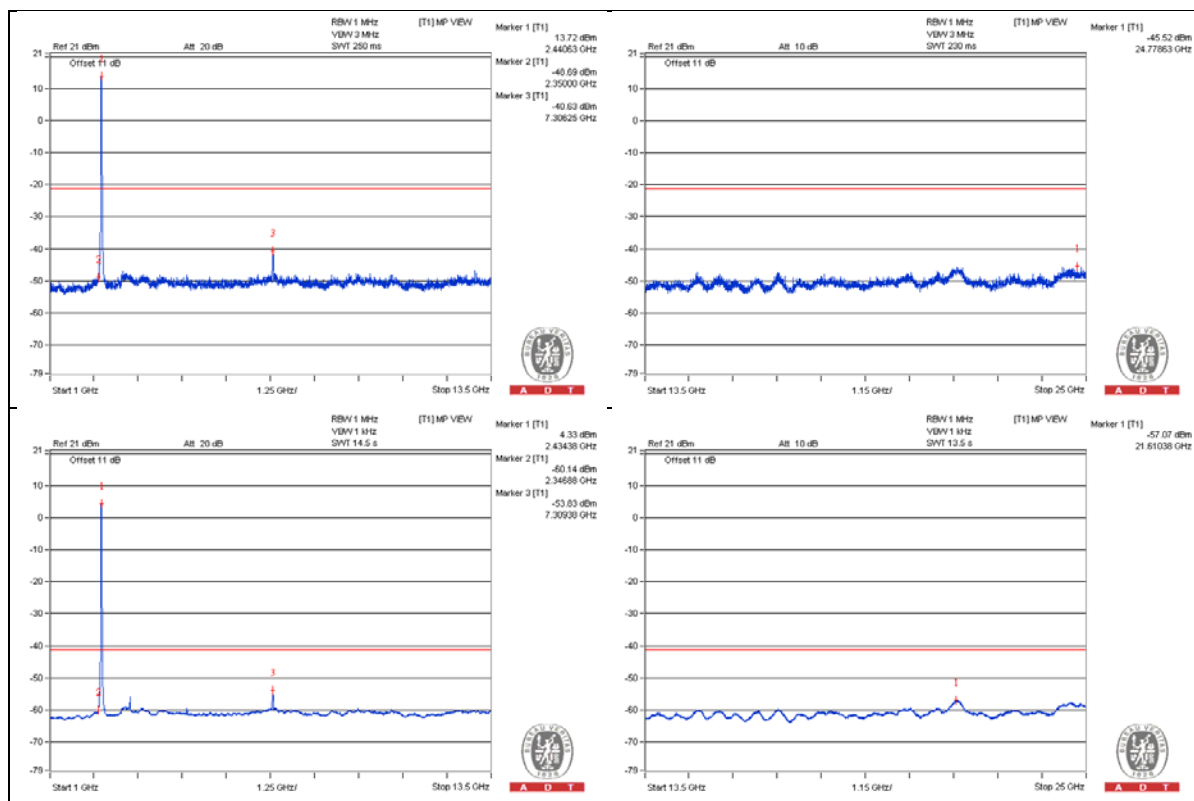
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1625 PK	46.52	74	-27.48	-52.36	3.62	-48.74
2	1625 AV	36.44	54	-17.56	-62.44	3.62	-58.82
3	4875 PK	50.26	74	-23.74	-48.62	3.62	-45
4	4875 AV	39.01	54	-14.99	-59.87	3.62	-56.25
5	7312.5 PK	57.66	74	-16.34	-41.22	3.62	-37.6
6	7309.375 AV	45.05	54	-8.95	-53.83	3.62	-50.21

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



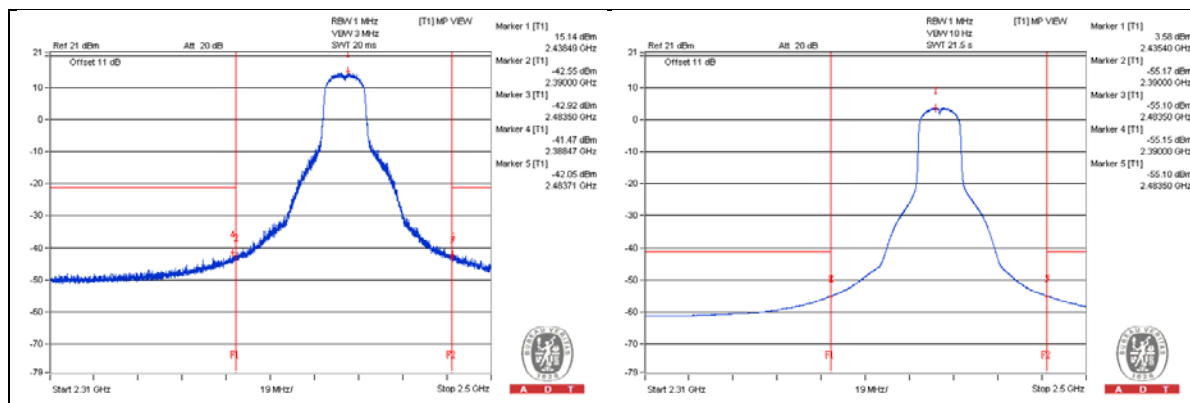
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2388.47 PK	57.41	74	-16.59	-41.47	3.62	-37.85
2	2390 AV	43.73	54	-10.27	-55.15	3.62	-51.53
3	2483.71 PK	56.83	74	-17.17	-42.05	3.62	-38.43
4	2483.5 AV	43.78	54	-10.22	-55.1	3.62	-51.48

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT20) - Channel 11

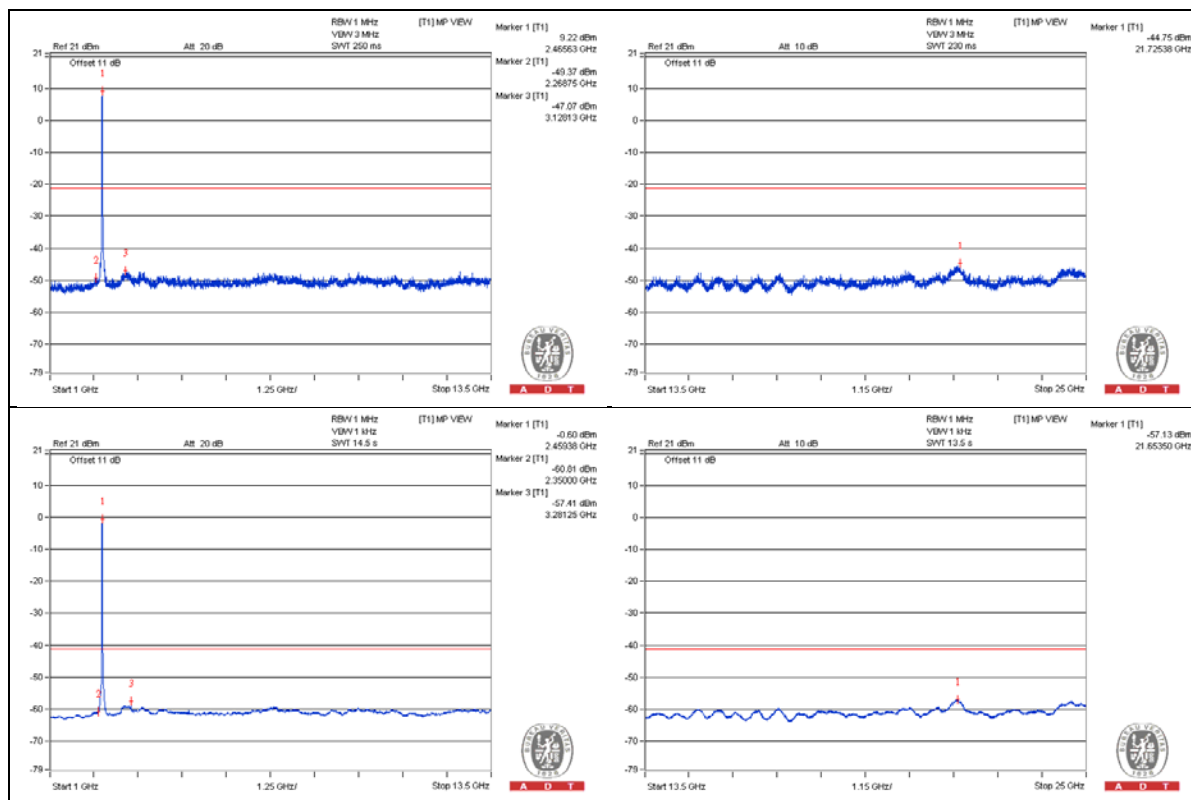
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4925 PK	49.01	74	-24.99	-49.87	3.62	-46.25
2	4925 AV	38.38	54	-15.62	-60.5	3.62	-56.88
3	7387.5 PK	50.61	74	-23.39	-48.27	3.62	-44.65
4	7384.375 AV	39.3	54	-14.7	-59.58	3.62	-55.96

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



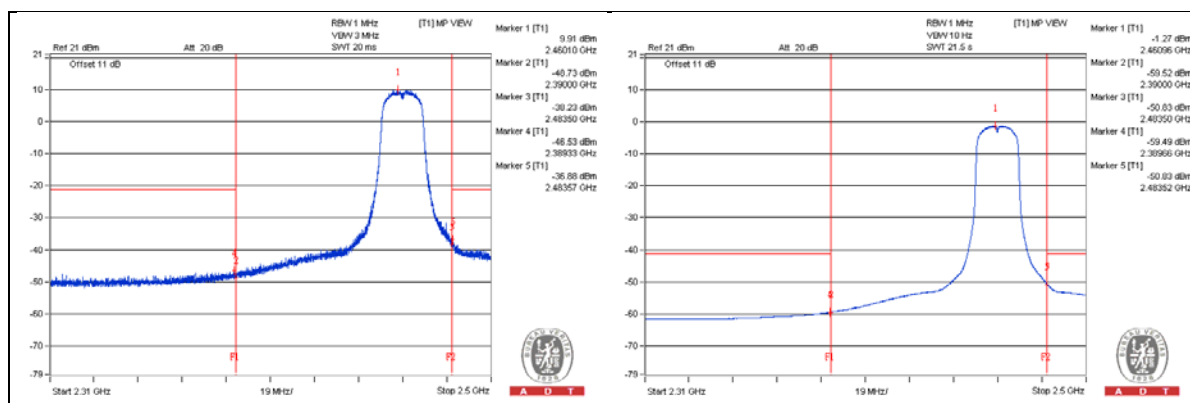
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.32 PK	52.35	74	-21.65	-46.53	3.62	-42.91
2	2389.66 AV	39.39	54	-14.61	-59.49	3.62	-55.87
3	2483.57 PK	62	74	-12	-36.88	3.62	-33.26
4	2483.52 AV	48.05	54	-5.95	-50.83	3.62	-47.21

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT40) - Channel 3

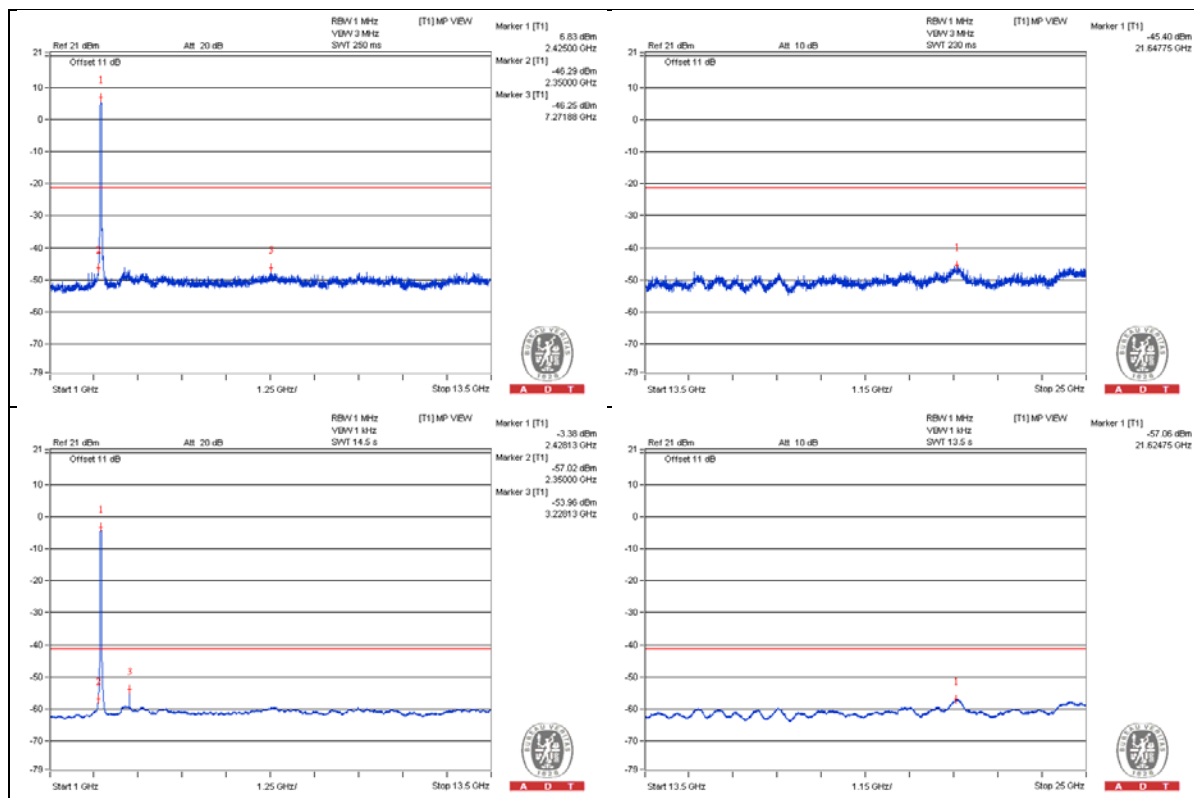
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1615.625 PK	47.1	74	-26.9	-51.78	3.62	-48.16
2	1615.625 AV	36.31	54	-17.69	-62.57	3.62	-58.95
3	4843.75 PK	48.03	74	-25.97	-50.85	3.62	-47.23
4	4843.75 AV	37.77	54	-16.23	-61.11	3.62	-57.49
5	7265.625 PK	48.96	74	-25.04	-49.92	3.62	-46.3
6	7265.625 AV	39.16	54	-14.84	-59.72	3.62	-56.1

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



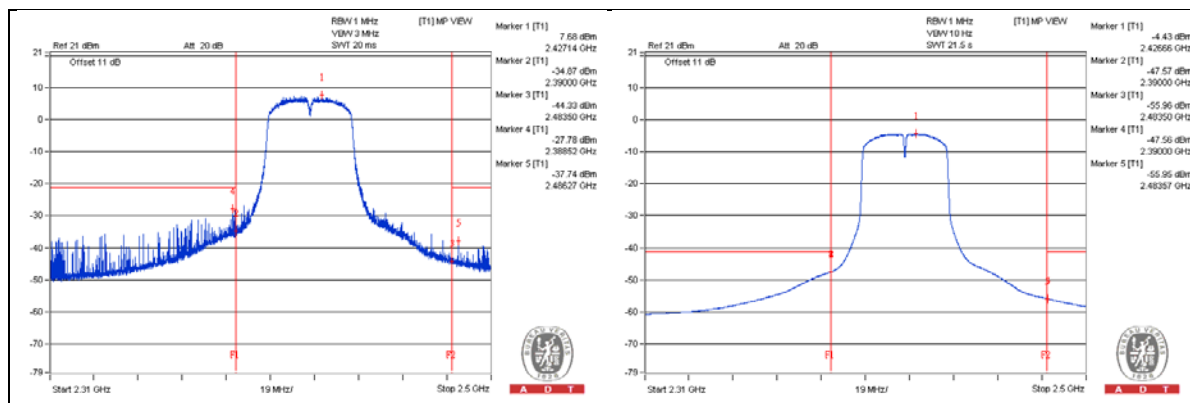
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2388.52 PK	71.1	74	-2.9	-27.78	3.62	-24.16
2	2390 AV	51.32	54	-2.68	-47.56	3.62	-43.94
3	2486.27 PK	61.14	74	-12.86	-37.74	3.62	-34.12
4	2483.57 AV	42.93	54	-11.07	-55.95	3.62	-52.33

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT40) - Channel 6

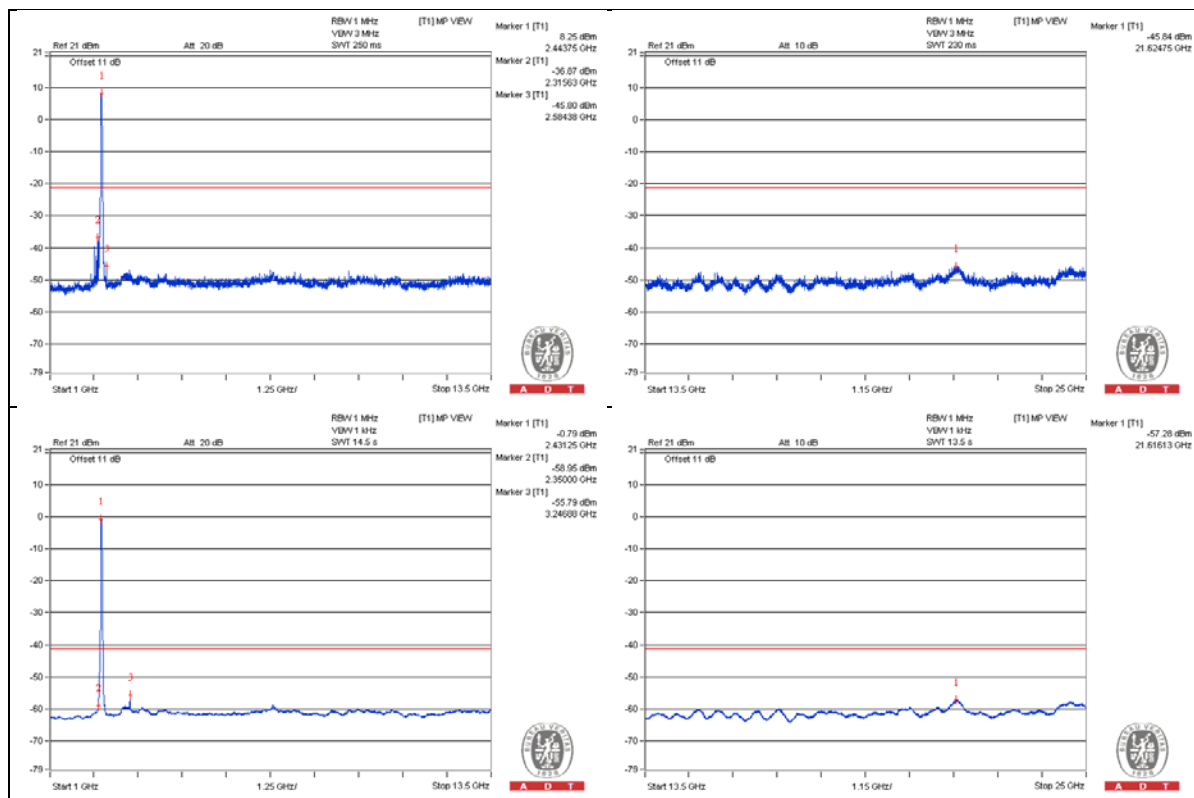
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1625 PK	45.91	74	-28.09	-52.97	3.62	-49.35
2	1625 AV	35.9	54	-18.1	-62.98	3.62	-59.36
3	4875 PK	48.09	74	-25.91	-50.79	3.62	-47.17
4	4875 AV	37.86	54	-16.14	-61.02	3.62	-57.4
5	7309.375 PK	50.16	74	-23.84	-48.72	3.62	-45.1
6	7312.5 AV	39.74	54	-14.26	-59.14	3.62	-55.52

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



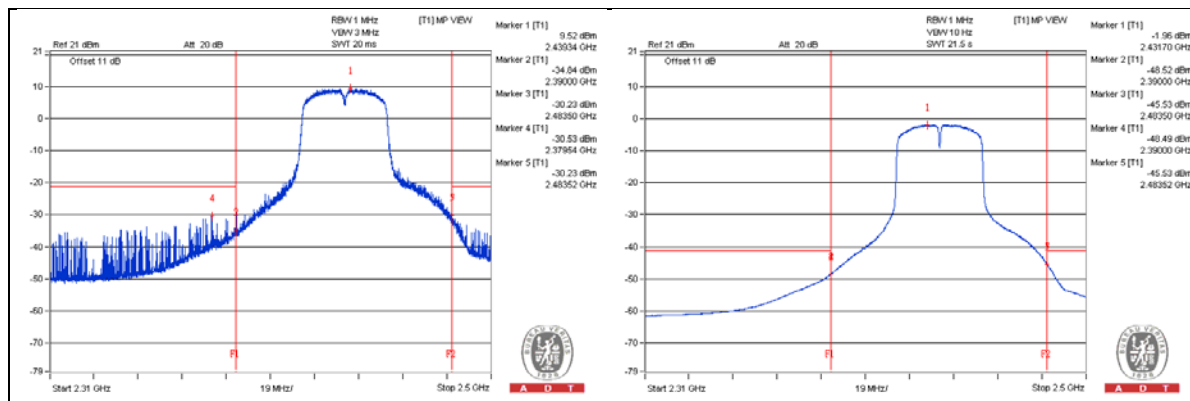
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2379.54 PK	68.35	74	-5.65	-30.53	3.62	-26.91
2	2390 AV	50.39	54	-3.61	-48.49	3.62	-44.87
3	2483.52 PK	68.65	74	-5.35	-30.23	3.62	-26.61
4	2483.52 AV	53.35	54	-0.65	-45.53	3.62	-41.91

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



802.11n (HT40) - Channel 9

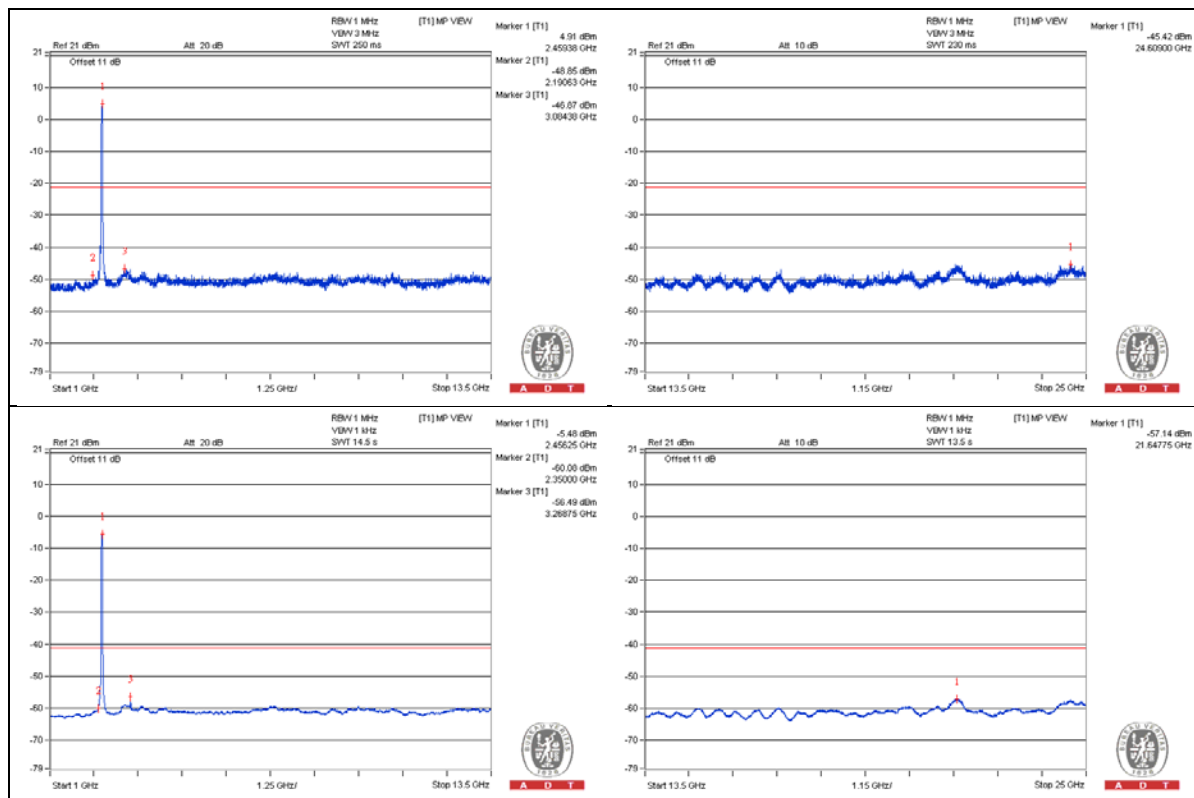
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4903.125 PK	47.27	74	-26.73	-51.61	3.62	-47.99
2	4903.125 AV	37.49	54	-16.51	-61.39	3.62	-57.77
3	7356.25 PK	49.64	74	-24.36	-49.24	3.62	-45.62
4	7356.25 AV	39.23	54	-14.77	-59.65	3.62	-56.03

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



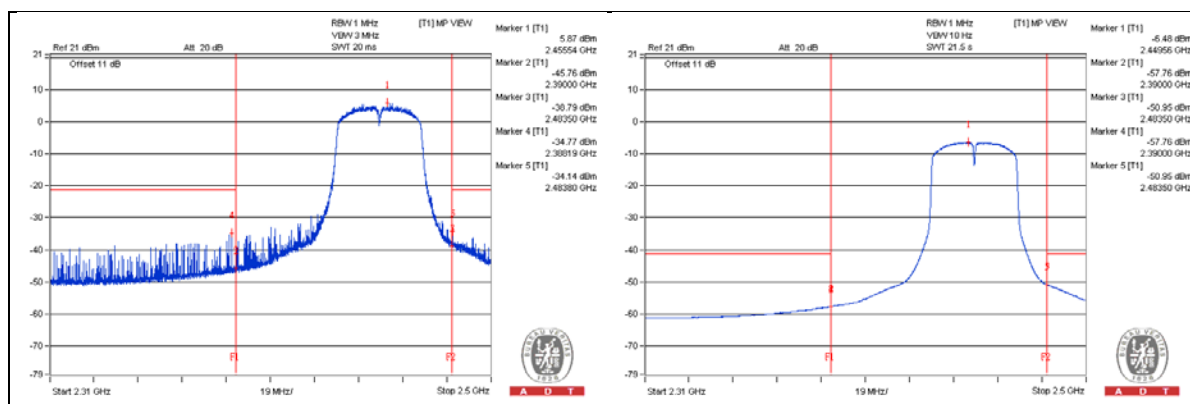
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2388.18 PK	64.11	74	-9.89	-34.77	3.62	-31.15
2	2390 AV	41.12	54	-12.88	-57.76	3.62	-54.14
3	2483.8 PK	64.74	74	-9.26	-34.14	3.62	-30.52
4	2483.5 AV	47.93	54	-6.07	-50.95	3.62	-47.33

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.



Below 1GHz Data

802.11g - Channel 6

Conducted spurious emission table

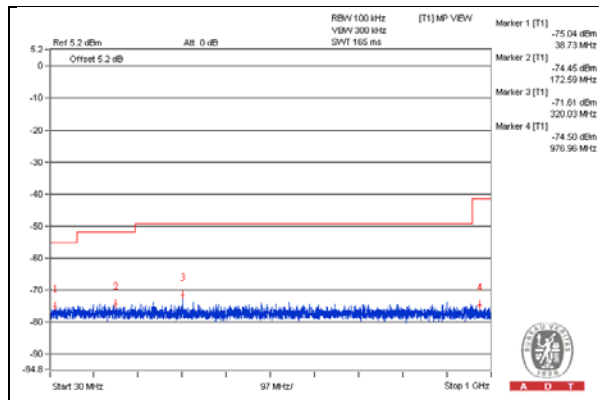
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	38.73	23.84	40	-16.16	-75.04	3.62	-71.42
2	172.59	24.43	43.5	-19.07	-74.45	3.62	-70.83
3	320.03	27.27	46	-18.73	-71.61	3.62	-67.99
4	556.4675	25.14	46	-20.86	-73.74	3.62	-70.12
5	656.135	24.58	46	-21.42	-74.3	3.62	-70.68

Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

Emission levels include upper bound on ground plane reflection (4.7dB) for below 1GHz emission.



5 Pictures of Test Arrangements

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

6 Appendix A – 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 accredited and approved according to ISO/IEC 17025.

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

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Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-5935343

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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