

FCC Test Report (WLAN)

Report No.: RF150401E01

FCC ID: PPD-QCNFA425

Test Model: QCNFA425

Received Date: Apr. 01, 2015

Test Date: Apr. 29 to July 23, 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
RF150401E01	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 1216 Type Card

Brand: Qualcomm Atheros

Test Model: QCNFA425

Sample Status: ENGINEERING SAMPLE

Applicant: Qualcomm Atheros, Inc.

Test Date: Apr. 29 to July 23, 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 : Claire Kuan , **Date:** Aug. 07, 2015
Claire Kuan / Specialist

Approved by : May Chen , **Date:** Aug. 07, 2015
May Chen / Manager

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 -6.92dB at 0.19819MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -3.1dB at 4824.00MHz.
15.247(d)	Antenna Port Emission	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is IPEX not a standard connector.

NOTE: 1. For WLAN: The EUT was operating in 2400 ~ 2483.5MHz, 5.15~5.35GHz, 5.47~5.6GHz & 5.65~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 2400 ~ 2483.5MHz. For the 5.15~5.35GHz, 5.47~5.6GHz & 5.65~5.725GHz and 5.725~5.850GHz RF parameters was recorded in another test report.

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	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.86 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.43 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz-for chamber H	3.72 dB
	6GHz ~ 18GHz-for chamber H	4.00 dB
	18GHz ~ 40GHz-for chamber H	4.11 dB
	1GHz ~ 6GHz-for chamber G	3.65 dB
	6GHz ~ 18GHz-for chamber G	3.88 dB
	18GHz ~ 40GHz-for chamber G	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 1216 Type Card
Brand	Qualcomm Atheros
Test Model	QCNFA425
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	3.3Vdc form 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 ~ 2.472GHz
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 13 for 802.11b/g, 802.11n (HT20), VHT20 9 for 802.11n (HT40), VHT40
Output Power	For 15.407 802.11a: 56.885 mW 802.11ac (VHT20): 53.951mW 802.11ac (VHT40): 45.499mW 802.11ac (VHT80): 40.551mW For 15.247 802.11b: 178.238mW 802.11g: 246.037mW 802.11n (HT20): 243.22mW 802.11n (HT40): 188.799mW
Antenna Type	See item 3.2
Antenna Connector	See item 3.2
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. There are Bluetooth technology and WLAN technology used for the EUT.
2. The modular has two variant designs as following table:

Variant No.	Difference	Description
SKU #1	Dual antenna connector version	Support TX diversity for WLAN/BT transmit at J1 or J2 antenna connector.
SKU #2	Single antenna connector version	WLAN/BT transmit at J2 antenna connector.
Note: From the above Variants, SKU #1 was selected as representative model for the test and its data was recorded in this report.		

3. 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)

4. 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.

5. WLAN/BT coexistence mode:

◆ 1x1 WLAN + BT:

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

➤ 2.4GHz: timely shared coexistence.

6. 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) + Bluetooth (GFSK)	36 to 165	52	OFDM
	0 to 78	39	FHSS

7. 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

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

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

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

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

3.3.1 Test Mode Applicability and Tested Channel Detail

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

Where **UE $\geq$ 1G:** Unwanted Emission above 1GHz **UE < 1G:** Unwanted Emission below 1GHz
PLC: Power Line Conducted Emission **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 13	1, 6, 11, 12, 13	DSSS	1
802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	6
802.11n (HT20)	1 to 13	1, 6, 11, 12, 13	OFDM	6.5
802.11n (HT40)	3 to 11	3, 6, 9, 10, 11	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 13	6	OFDM	6

Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	DATA RATE (Mbps)
802.11g	1 to 13	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 13	1, 6, 11, 12, 13	DSSS	1
802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	6
802.11n (HT20)	1 to 13	1, 6, 11, 12, 13	OFDM	6.5
802.11n (HT40)	3 to 11	3, 6, 9, 10, 11	OFDM	13.5

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
UE _≥ 1G	23deg. C, 65%RH	120Vac, 60Hz	Robert Cheng
	24deg. C, 71%RH	120Vac, 60Hz	Tim Ho
UE<1G	24deg. C, 66%RH	120Vac, 60Hz	Robert Cheng
PLC	26deg. C, 70%RH	120Vac, 60Hz	Barry Lee
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng

3.4 Duty Cycle of Test Signal

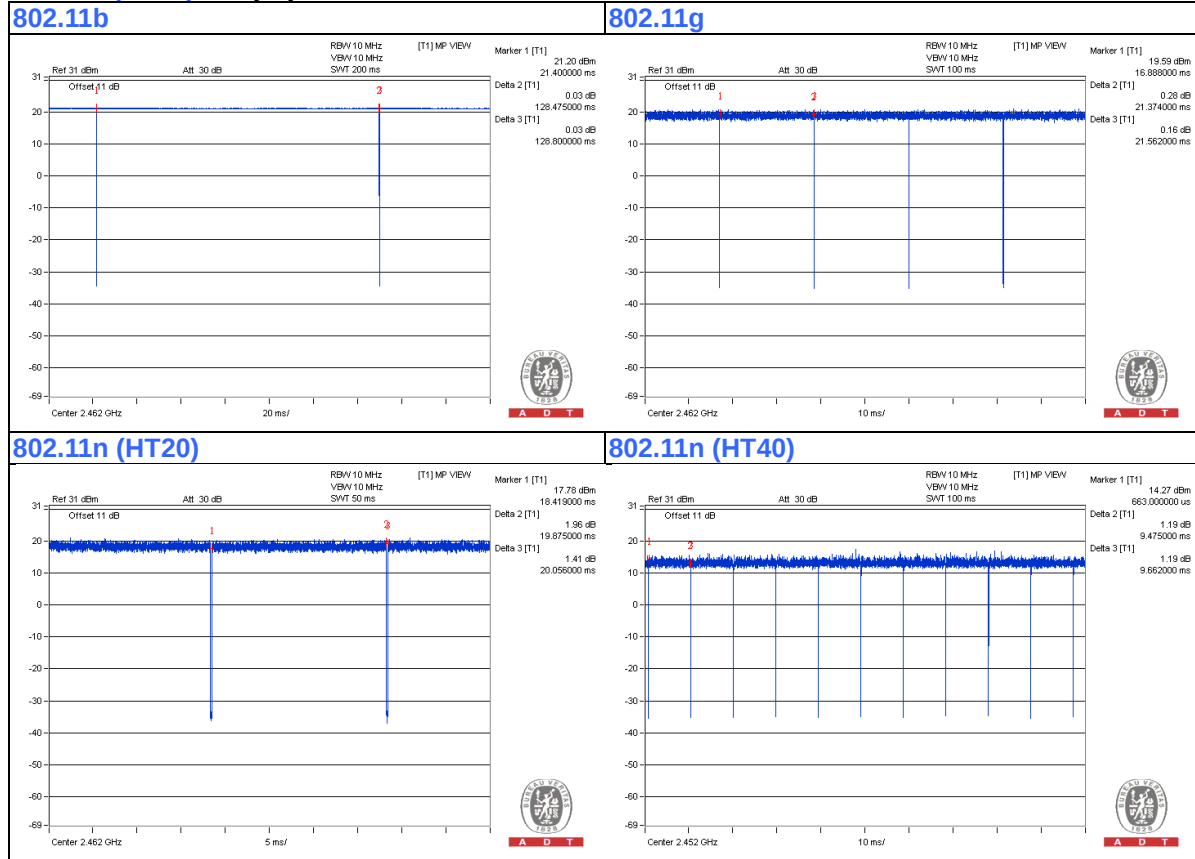
Duty cycle of test signal is $\geq 98\%$, duty factor is not required.

802.11b: Duty cycle = $128.475 \text{ ms} / 128.8 \text{ ms} = 0.997$

802.11g: Duty cycle = $21.374 \text{ ms} / 21.562 \text{ ms} = 0.991$

802.11n (HT20): Duty cycle = $19.875 \text{ ms} / 20.056 \text{ ms} = 0.992$

802.11n (HT40): Duty cycle = $9.475 \text{ ms} / 9.662 \text{ ms} = 0.981$



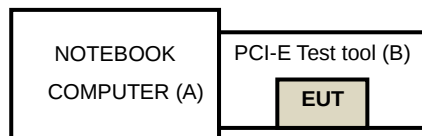
3.5 Description of Support Units

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	Lenovo	0769	NA	NA	Supplied by Client
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).

3.5.1 Configuration of System under Test



3.6 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.

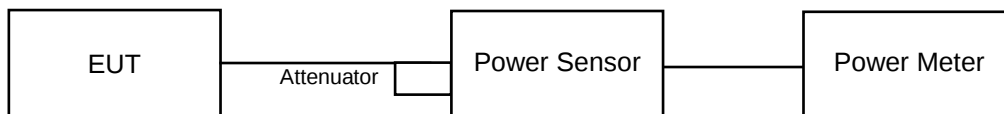
4 Test Types and Results

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:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : July 23, 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 (QRCT CONN.exe) 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	175.388	22.44	30	Pass
6	2437	178.238	22.51	30	Pass
11	2462	175.388	22.44	30	Pass
12	2467	128.825	21.10	30	Pass
13	2472	74.131	18.70	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	246.037	23.91	30	Pass
6	2437	242.661	23.85	30	Pass
11	2462	217.771	23.38	30	Pass
12	2467	116.413	20.66	30	Pass
13	2472	16.982	12.30	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	243.22	23.86	30	Pass
6	2437	238.781	23.78	30	Pass
11	2462	223.357	23.49	30	Pass
12	2467	114.815	20.60	30	Pass
13	2472	17.906	12.53	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
3	2422	178.649	22.52	30	Pass
6	2437	188.799	22.76	30	Pass
9	2452	160.694	22.06	30	Pass
10	2457	116.95	20.68	30	Pass
11	2462	19.055	12.80	30	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	107.399	20.31
6	2437	108.143	20.34
11	2462	107.895	20.33
12	2467	71.121	18.52
13	2472	46.345	16.66

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	71.450	18.54
6	2437	104.713	20.20
11	2462	59.156	17.72
12	2467	26.915	14.30
13	2472	4.102	6.13

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	67.608	18.30
6	2437	102.094	20.09
11	2462	56.364	17.51
12	2467	27.542	14.40
13	2472	4.385	6.42

802.11n (HT40)

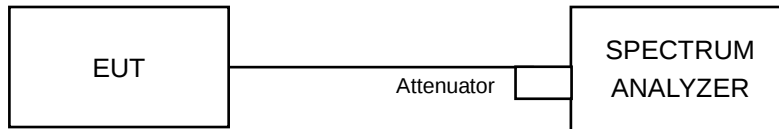
Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
3	2422	44.157	16.45
6	2437	61.094	17.86
9	2452	35.810	15.54
10	2457	25.763	14.11
11	2462	4.188	6.22

4.2 Power Spectral Density Measurement

4.2.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm.

4.2.2 Test Setup



4.2.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2015	May 07, 2016

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. Tested date : July 23, 2015

4.2.4 Test Procedures

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

4.2.5 Deviation from Test Standard

No deviation.

4.2.6 EUT Operating Conditions

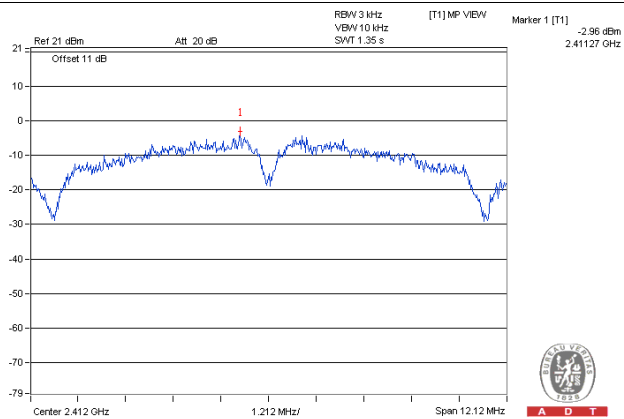
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.2.7 Test Results

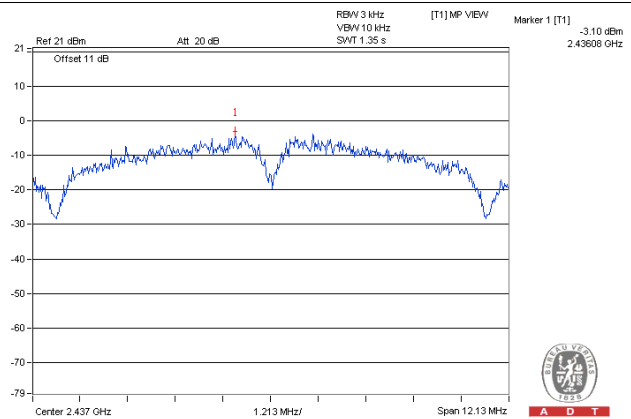
802.11b

Channel	Freq. (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-2.96	8	Pass
6	2437	-3.10	8	Pass
11	2462	-4.00	8	Pass
12	2467	-6.31	8	Pass
13	2472	-9.10	8	Pass

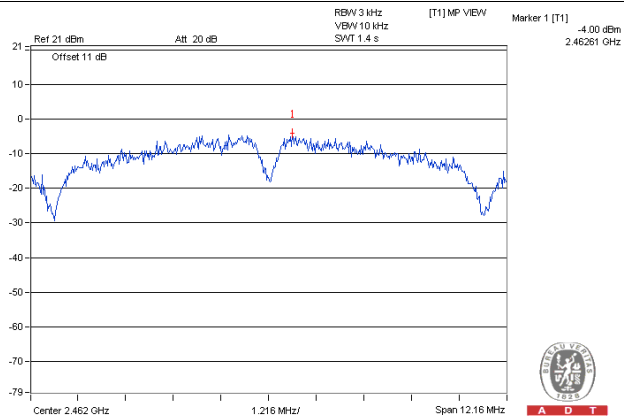
CH1



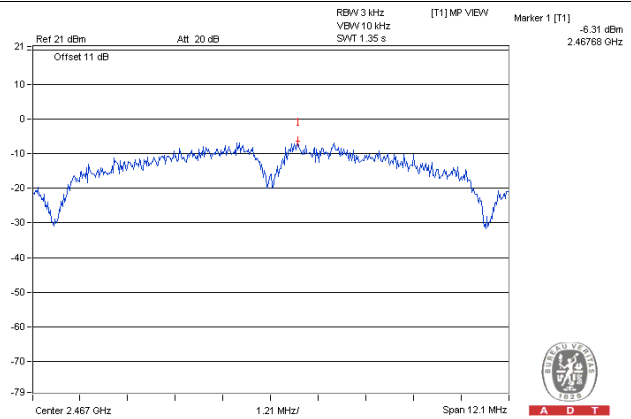
CH6



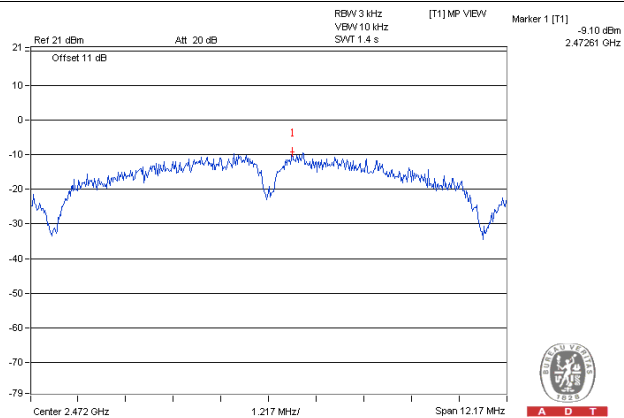
CH11



CH12



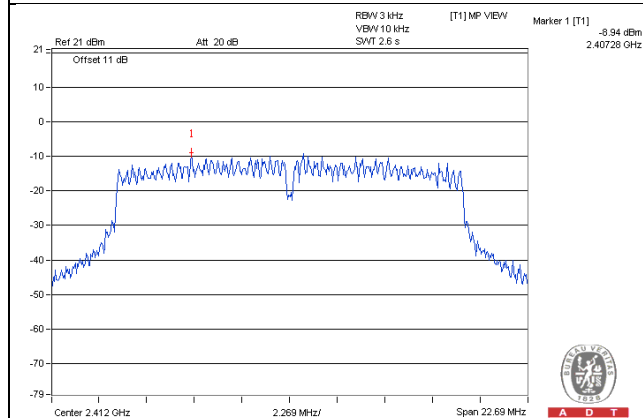
CH13



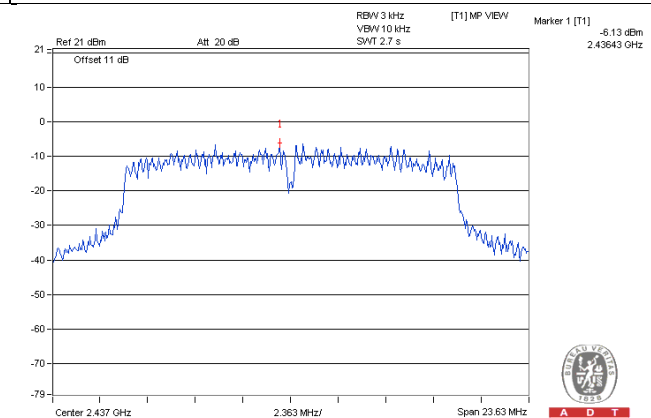
802.11g

Channel	Freq. (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-8.94	8	Pass
6	2437	-6.13	8	Pass
11	2462	-10.22	8	Pass
12	2467	-13.42	8	Pass
13	2472	-20.07	8	Pass

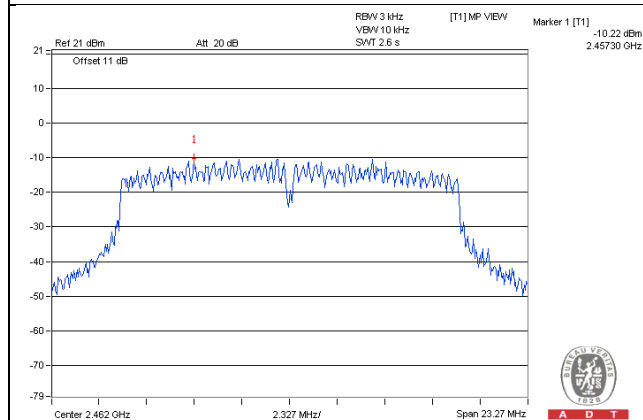
CH1



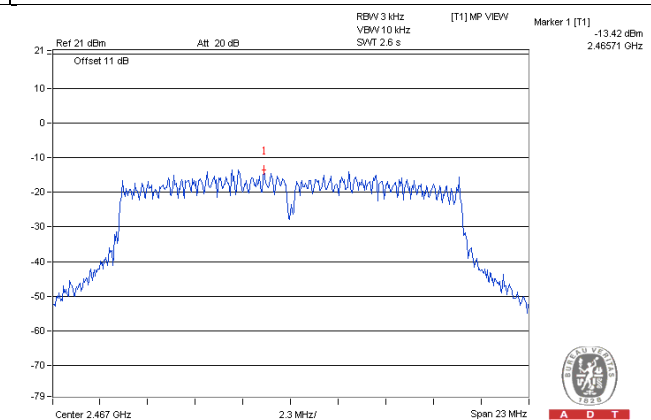
CH6



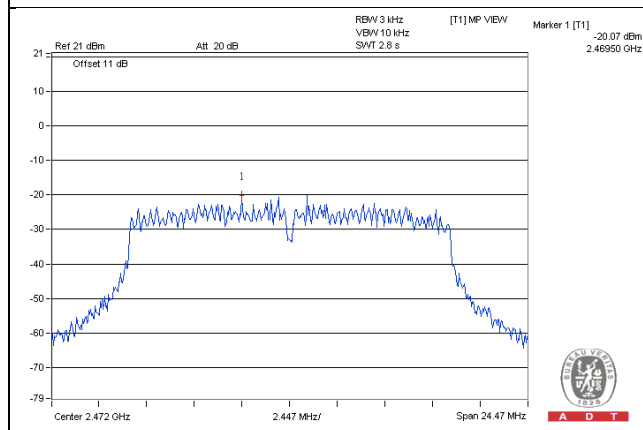
CH11



CH12



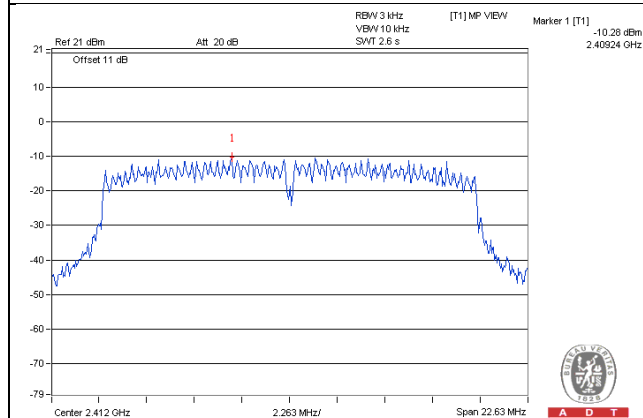
CH13



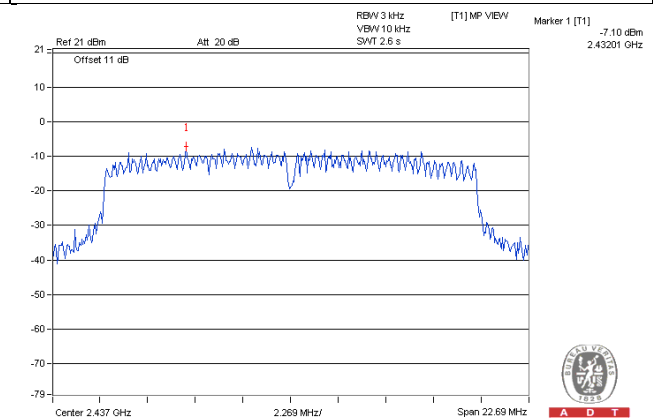
802.11n (HT20)

Channel	Freq. (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-10.28	8	Pass
6	2437	-7.10	8	Pass
11	2462	-10.43	8	Pass
12	2467	-13.21	8	Pass
13	2472	-21.11	8	Pass

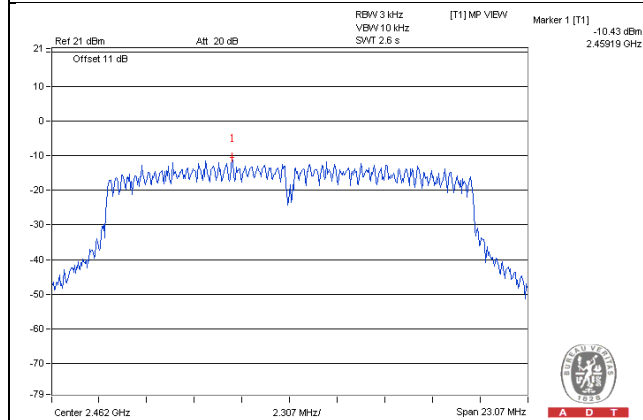
CH1



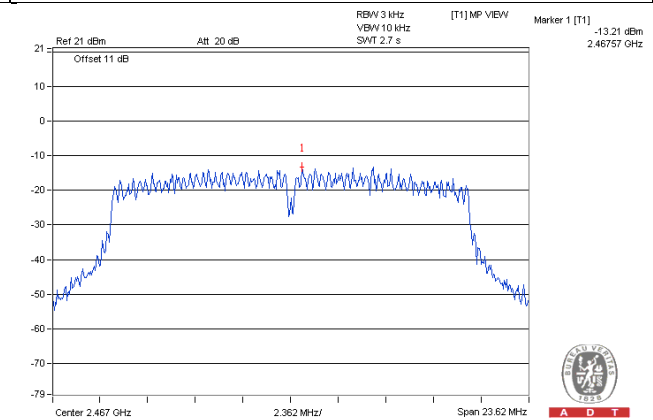
CH6



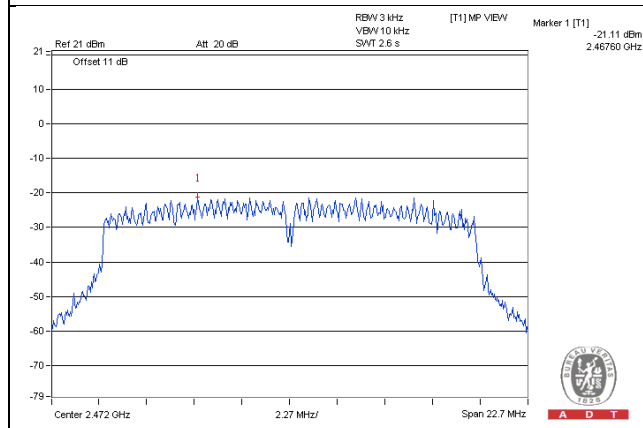
CH11



CH12



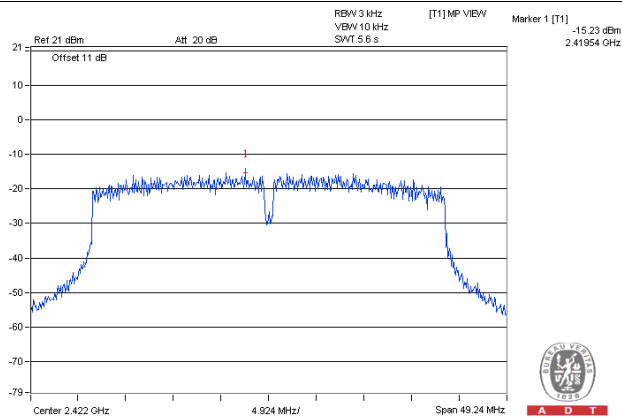
CH13



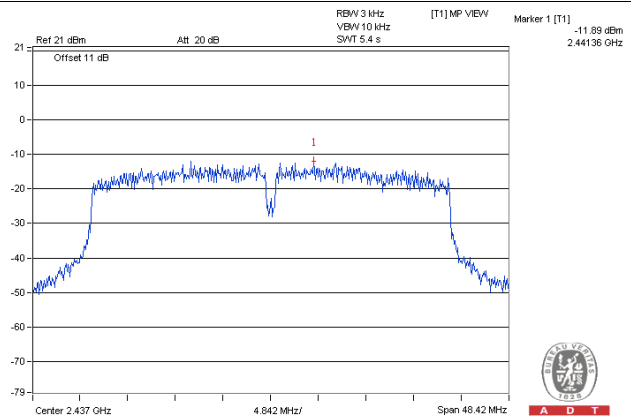
802.11n (HT40)

Channel	Freq. (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
3	2422	-15.23	8	Pass
6	2437	-11.89	8	Pass
9	2452	-15.70	8	Pass
10	2457	-15.52	8	Pass
11	2462	-24.31	8	Pass

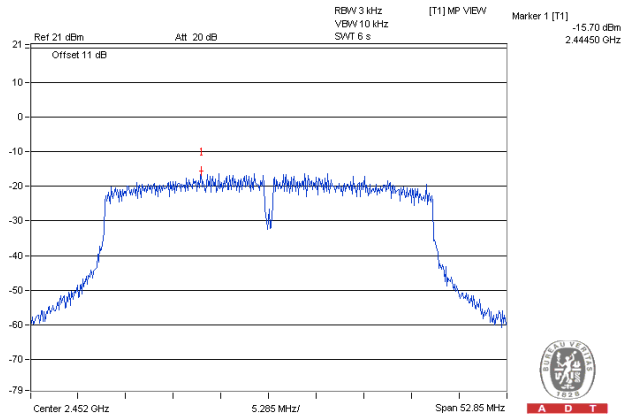
CH3



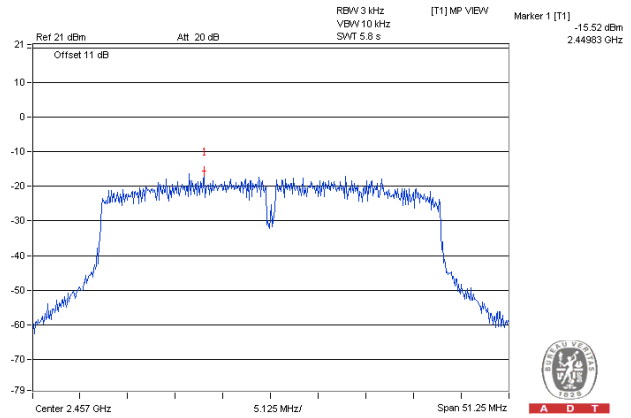
CH6



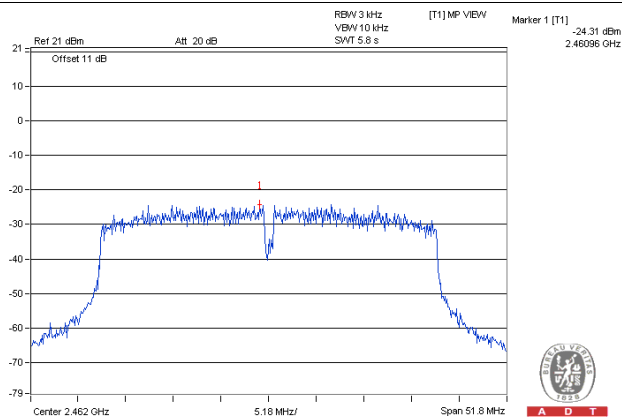
CH9



CH10



CH11

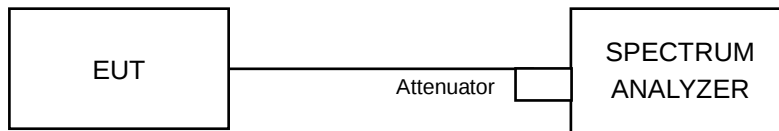


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2015	May 07, 2016

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. Tested date : July 23, 2015

4.3.4 Test Procedures

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

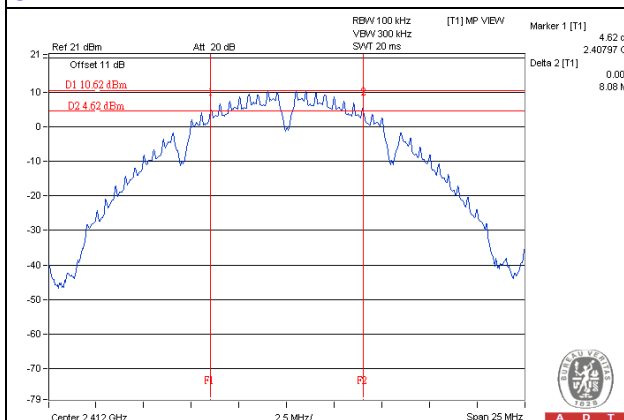
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Results

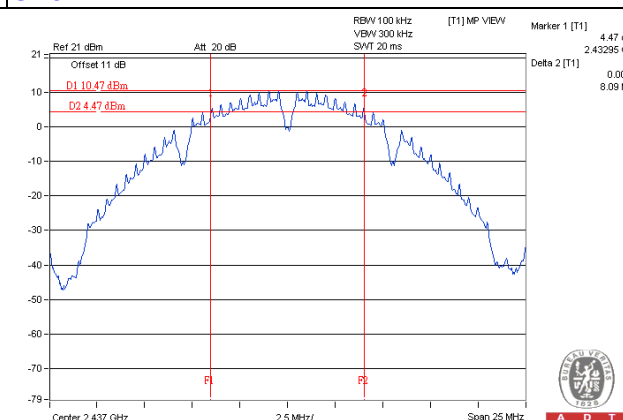
802.11b

Channel	Frequency (MHz)	6db Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	8.08	0.5	PASS
6	2437	8.09	0.5	PASS
11	2462	8.11	0.5	PASS
12	2467	8.07	0.5	PASS
13	2472	8.12	0.5	PASS

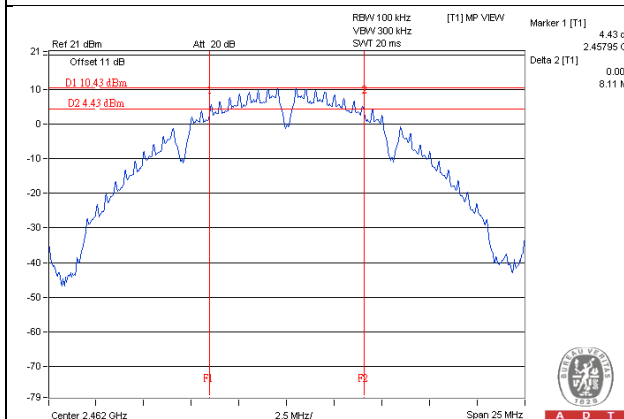
CH1



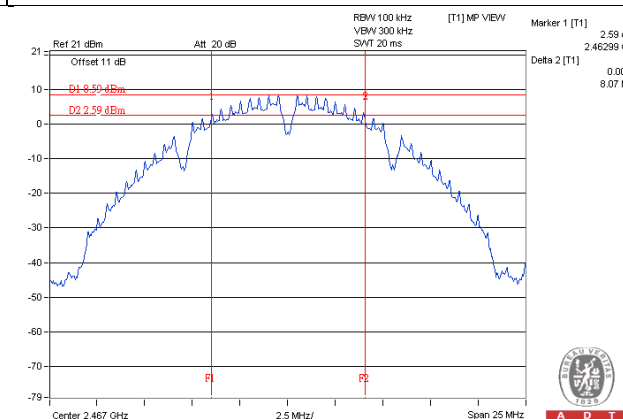
CH6



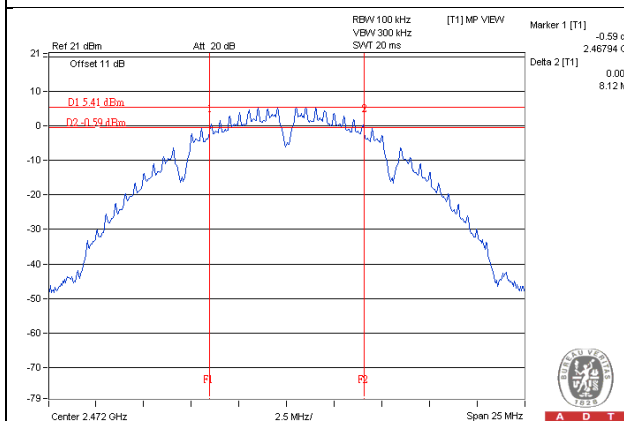
CH11



CH12



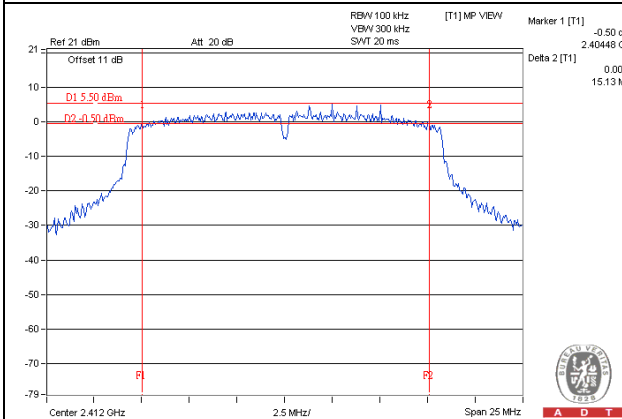
CH13



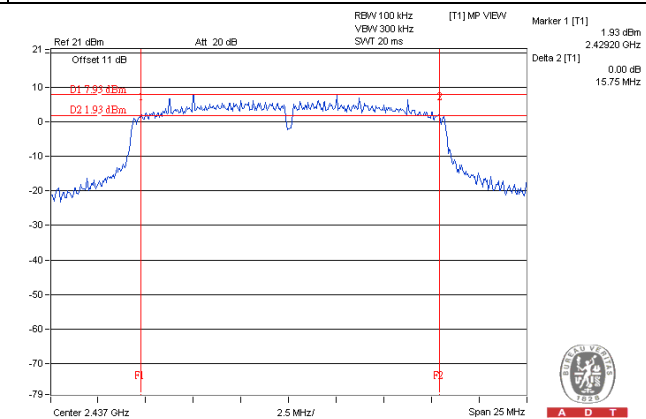
802.11g

Channel	Frequency (MHz)	6db Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	15.13	0.5	PASS
6	2437	15.75	0.5	PASS
11	2462	15.51	0.5	PASS
12	2467	15.33	0.5	PASS
13	2472	16.32	0.5	PASS

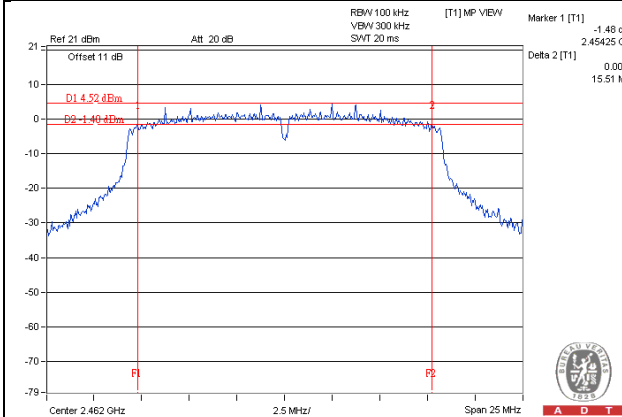
CH1



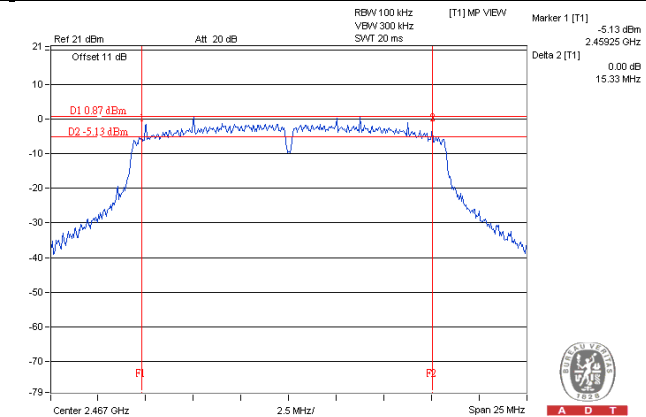
CH6



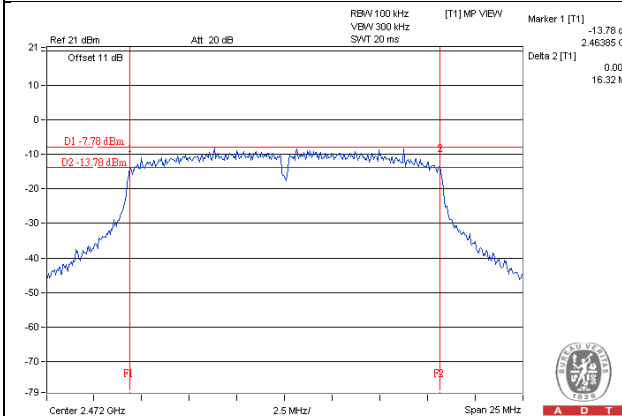
CH11



CH12



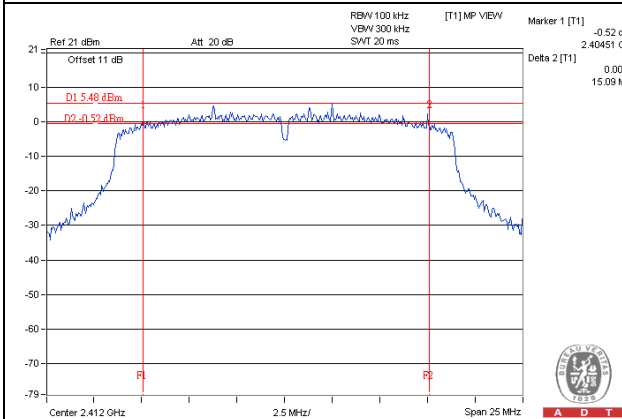
CH13



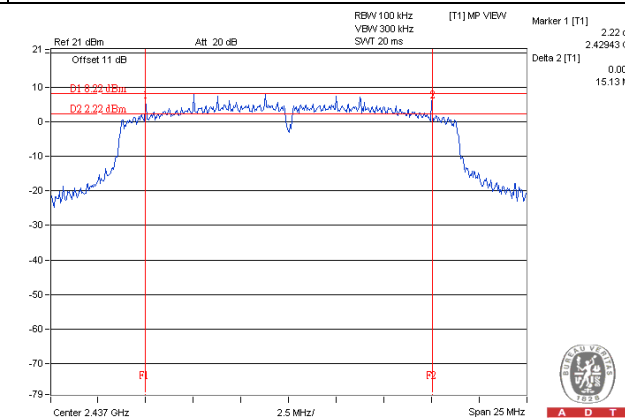
802.11n (HT20)

Channel	Frequency (MHz)	6db Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	15.09	0.5	PASS
6	2437	15.13	0.5	PASS
11	2462	15.38	0.5	PASS
12	2467	15.75	0.5	PASS
13	2472	15.14	0.5	PASS

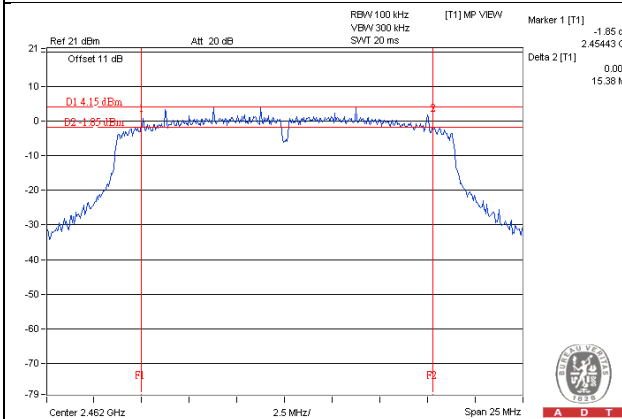
CH1



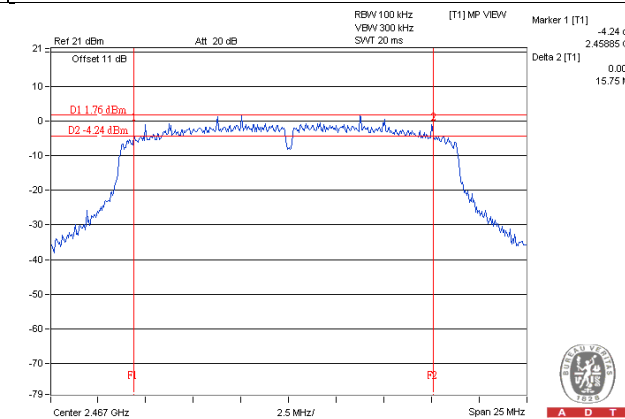
CH6



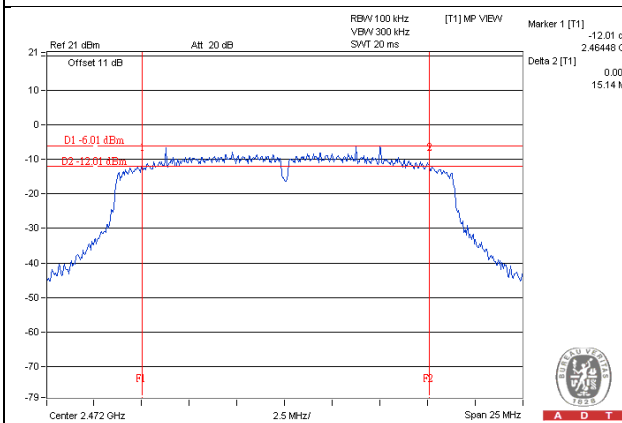
CH11



CH12



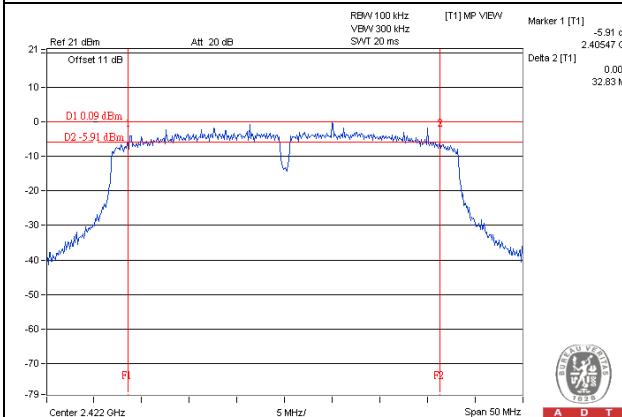
CH13



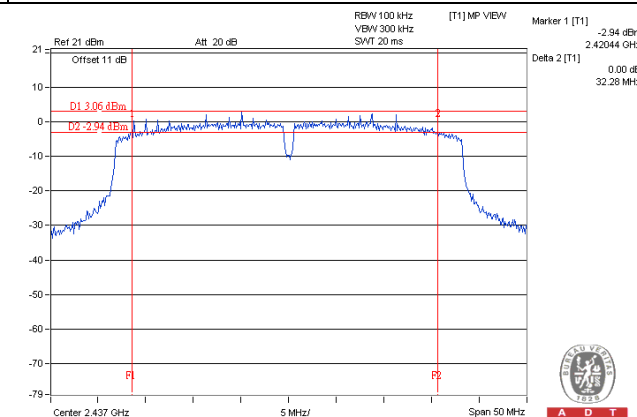
802.11n (HT40)

Channel	Frequency (MHz)	6db Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	32.83	0.5	PASS
6	2437	32.28	0.5	PASS
9	2452	35.24	0.5	PASS
10	2457	34.17	0.5	PASS
11	2462	34.54	0.5	PASS

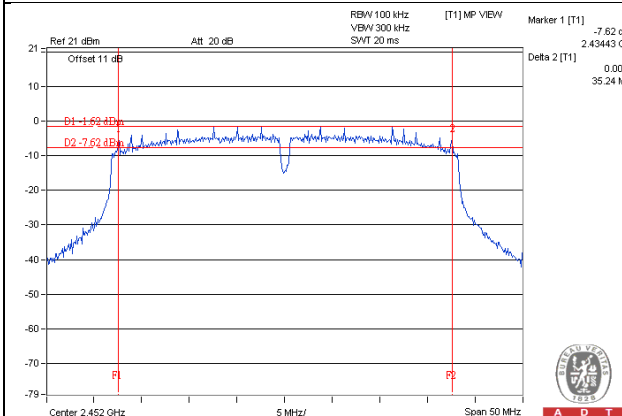
CH3



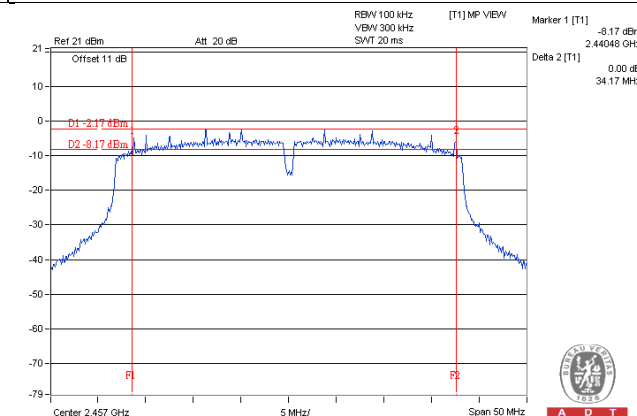
CH6



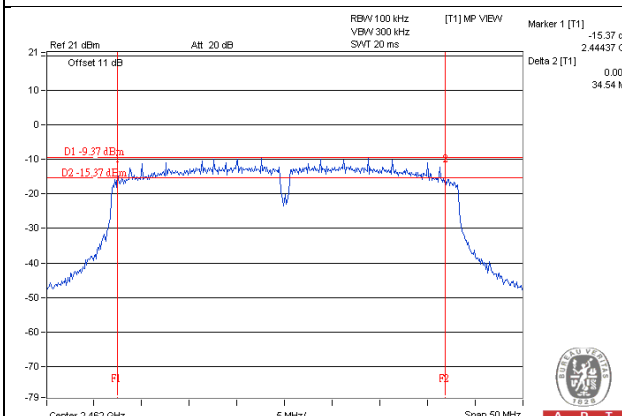
CH9



CH10



CH11

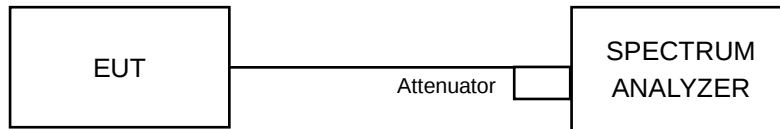


4.4 Conducted Out of Band Emission Measurement

4.4.1 Limits of Conducted Out of Band Emission Measurement

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

4.4.2 Test Setup



4.4.3 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2015	May 07, 2016

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. Tested date : July 23, 2015

4.4.4 Test Procedures

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOB

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

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

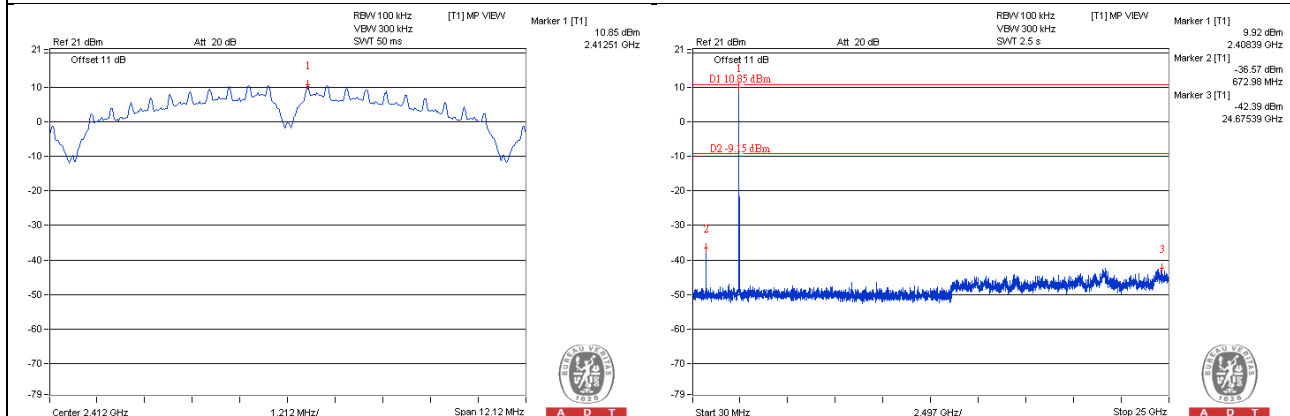
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.4.7 Test Results

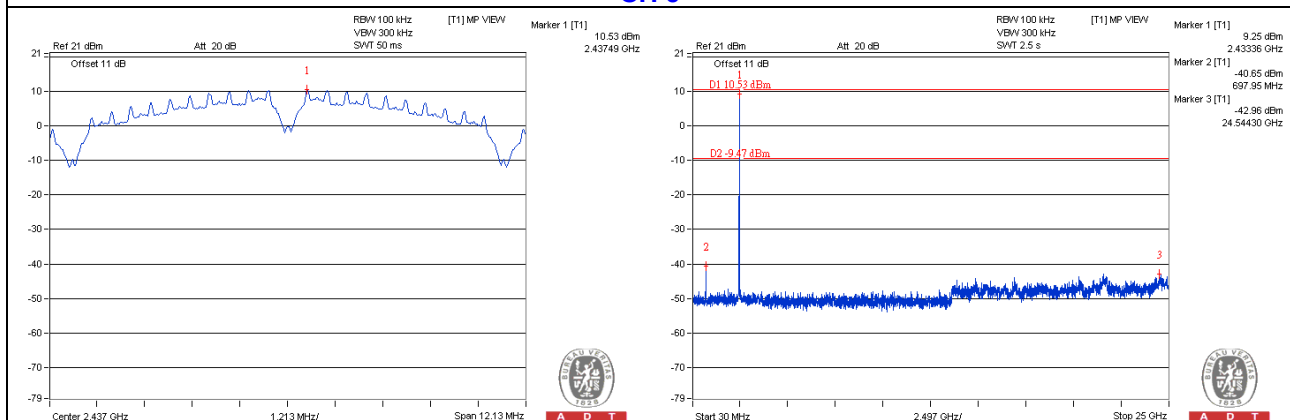
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b

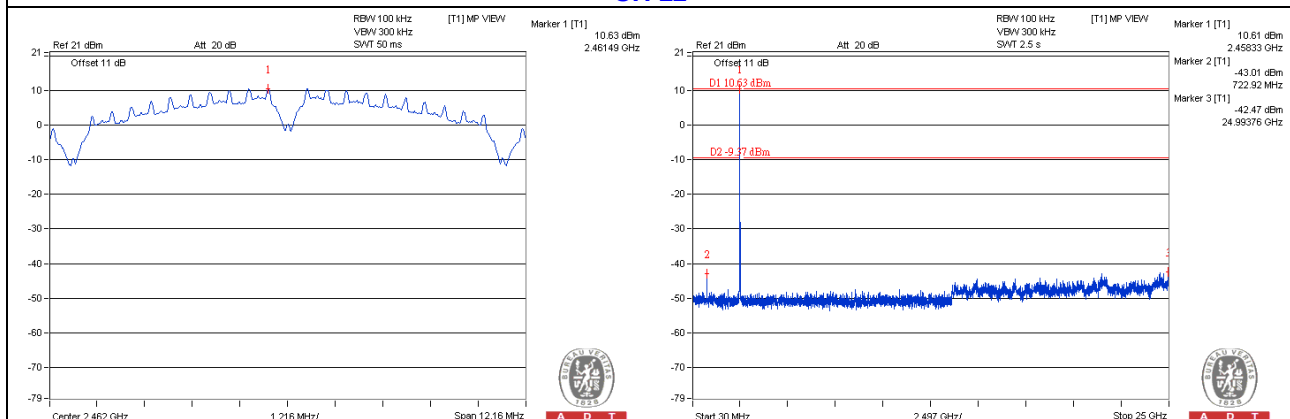
CH 1



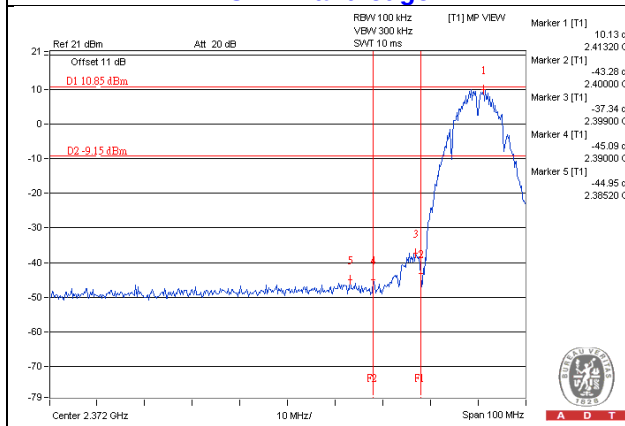
CH 6



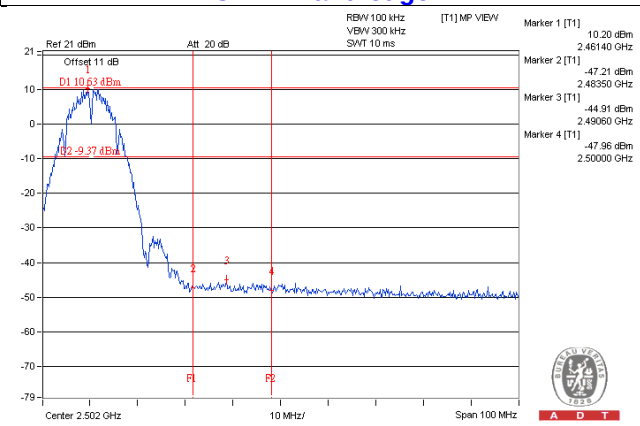
CH 11



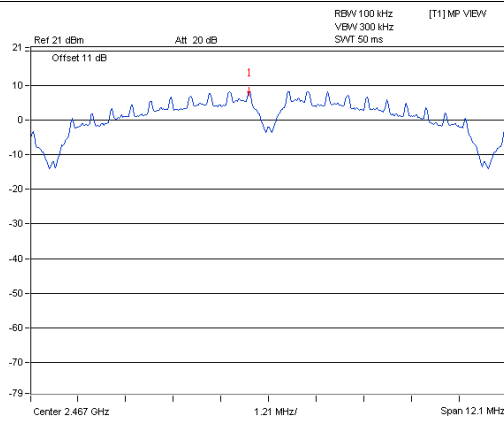
CH 1 Band edge



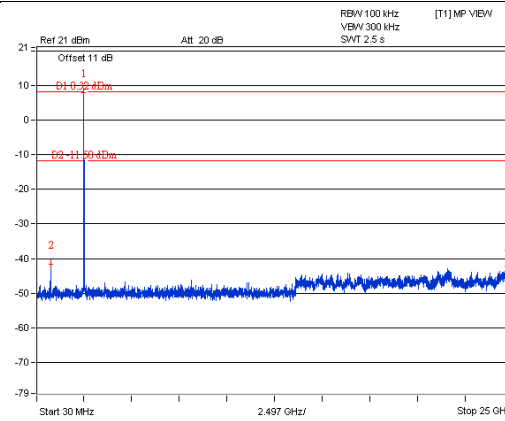
CH 11 Band edge



CH 12

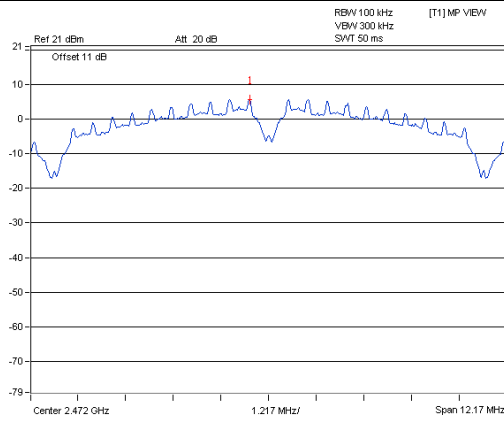


A D T

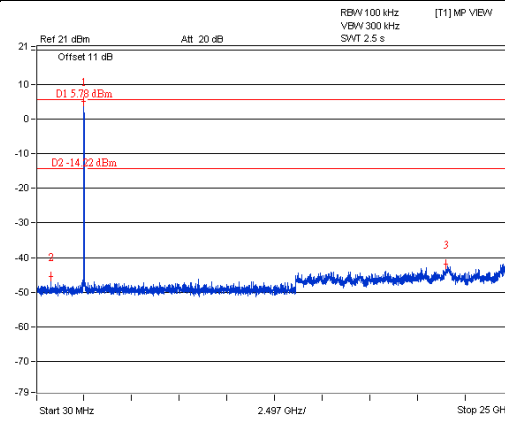


A D T

CH 13

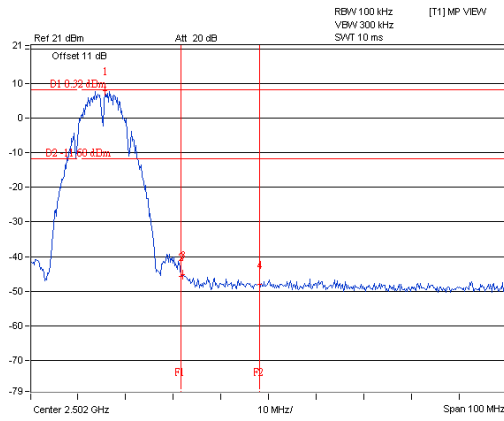


A D T



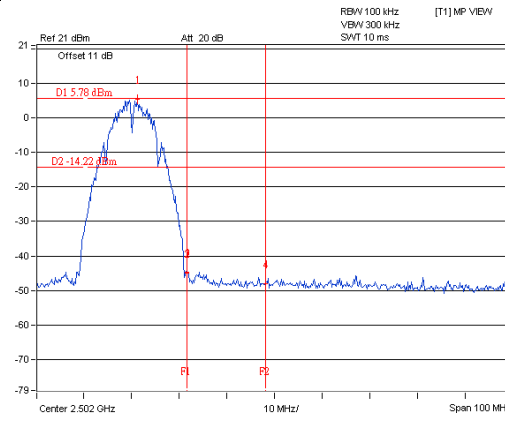
A D T

CH 12 Band edge



A D T

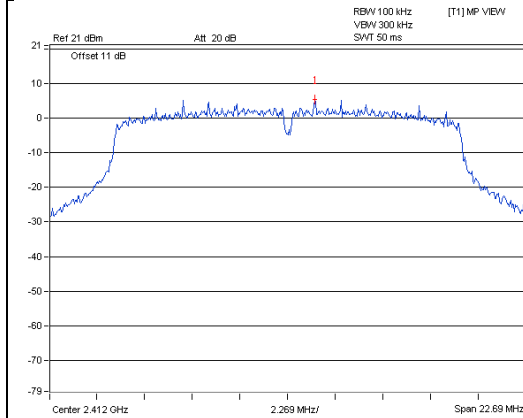
CH 13 Band edge



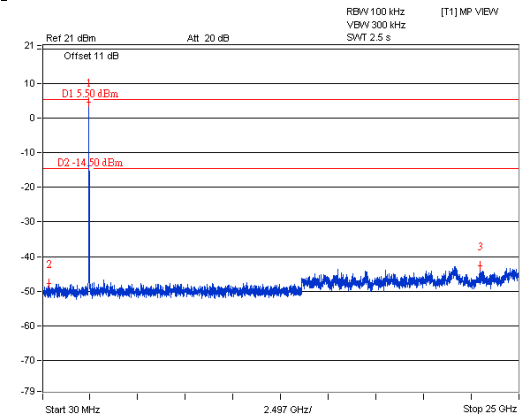
A D T

802.11g

CH 1

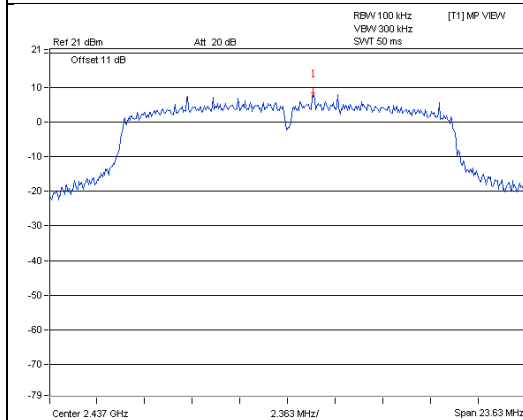


A D T

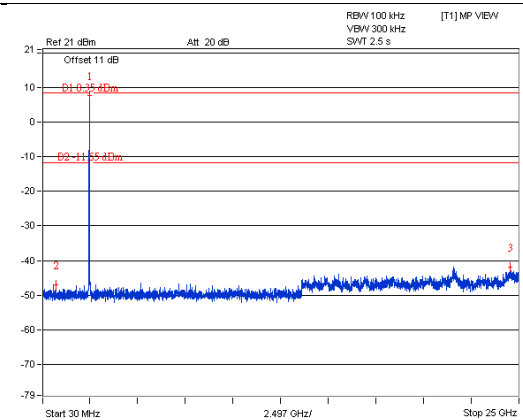


A D T

CH 6

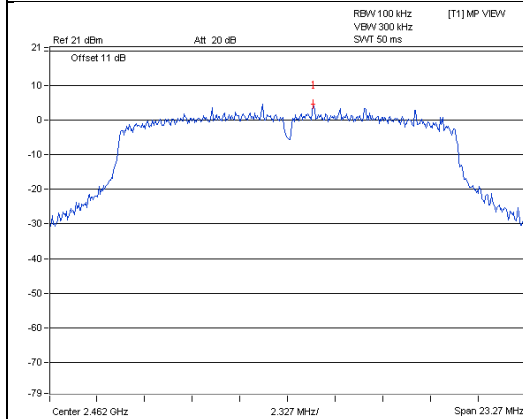


A D T

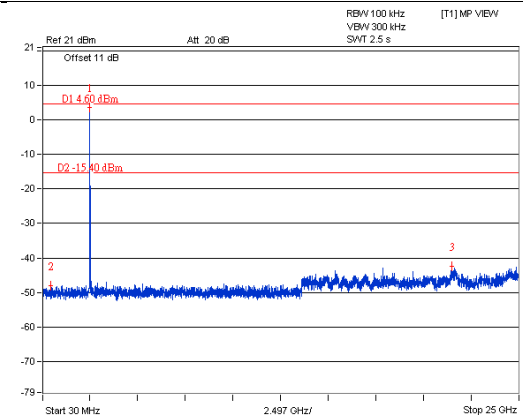


A D T

CH 11

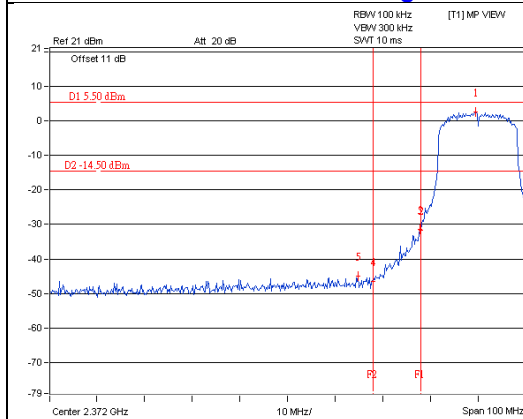


A D T



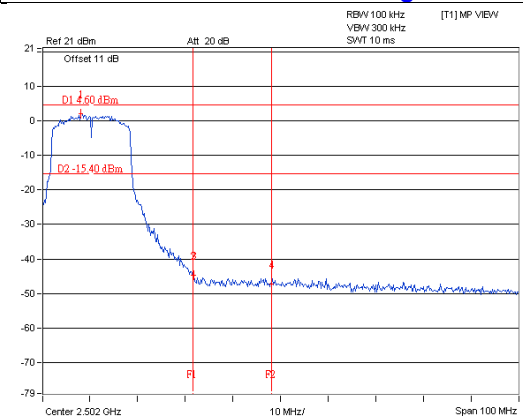
A D T

CH 1 Band edge



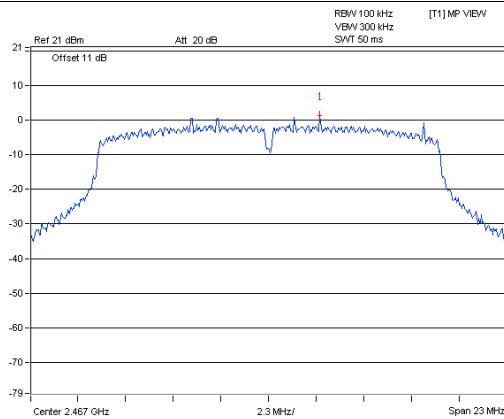
A D T

CH 11 Band edge

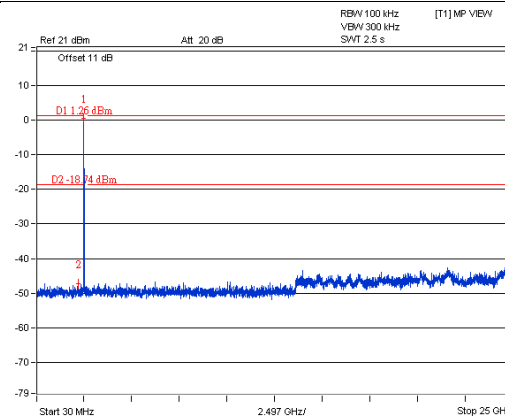


A D T

CH 12

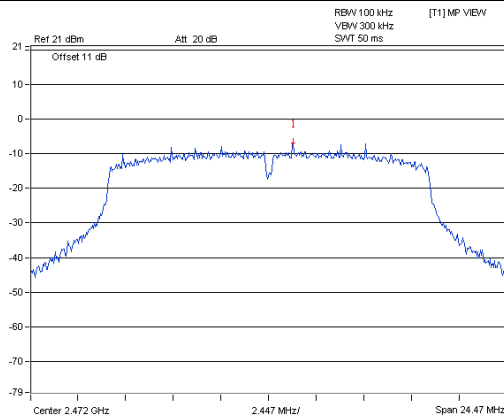


A D T

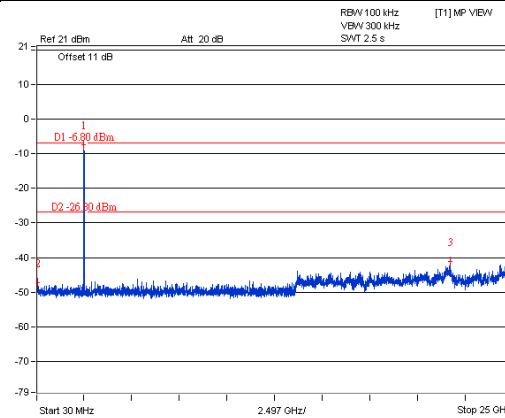


A D T

CH 13

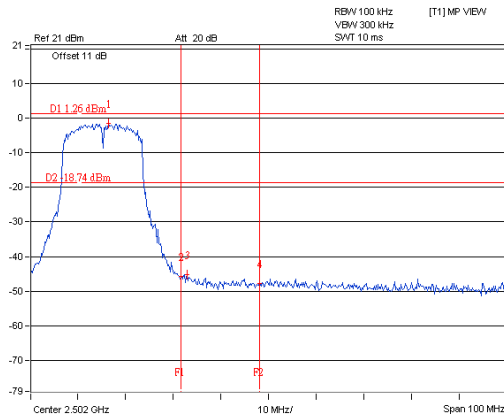


A D T



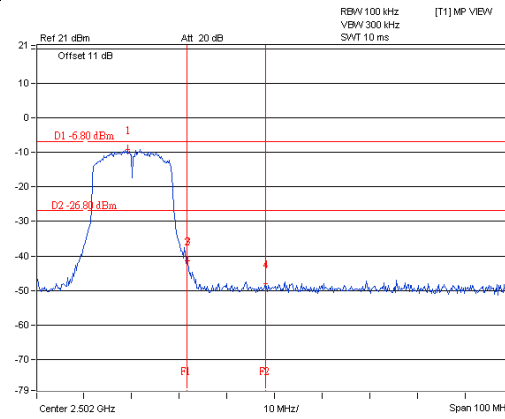
A D T

CH 12 Band edge



A D T

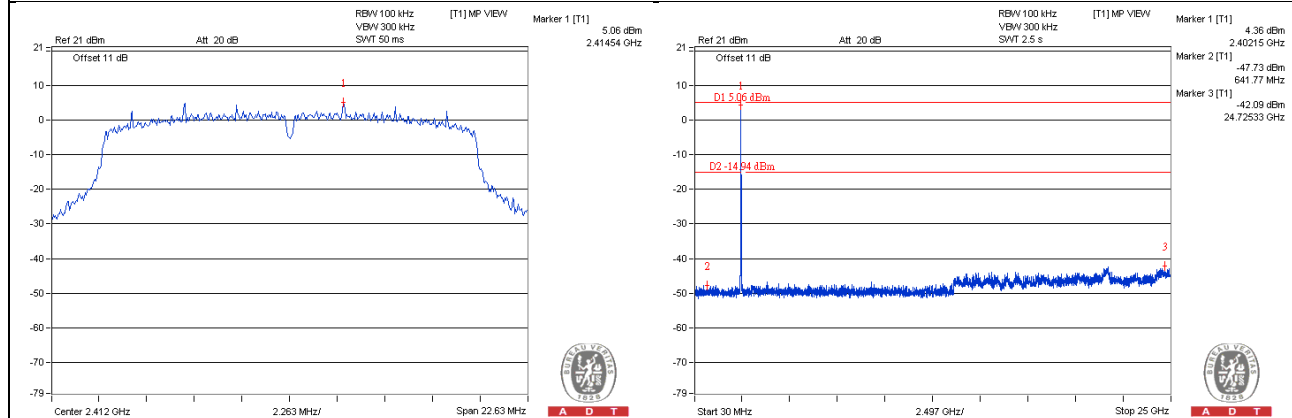
CH 13 Band edge



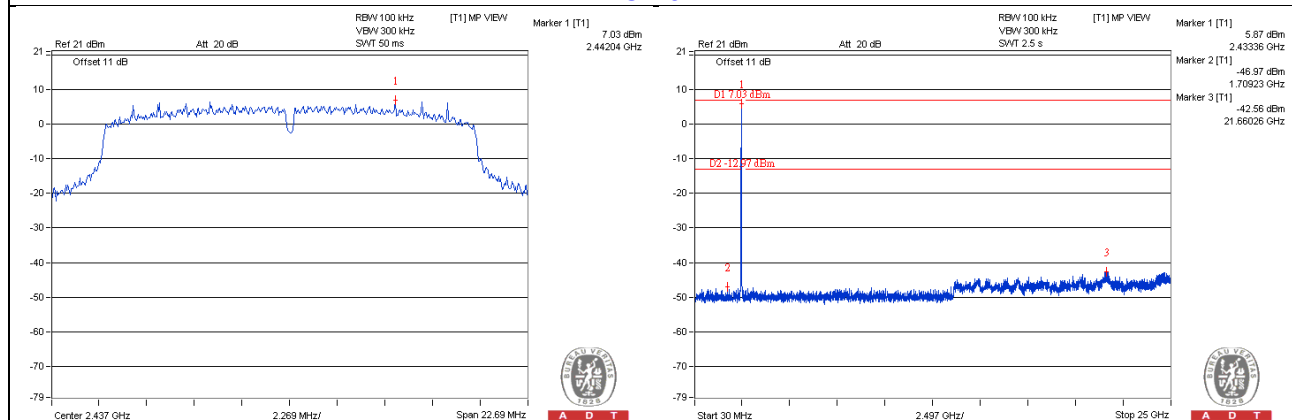
A D T

802.11n (HT20)

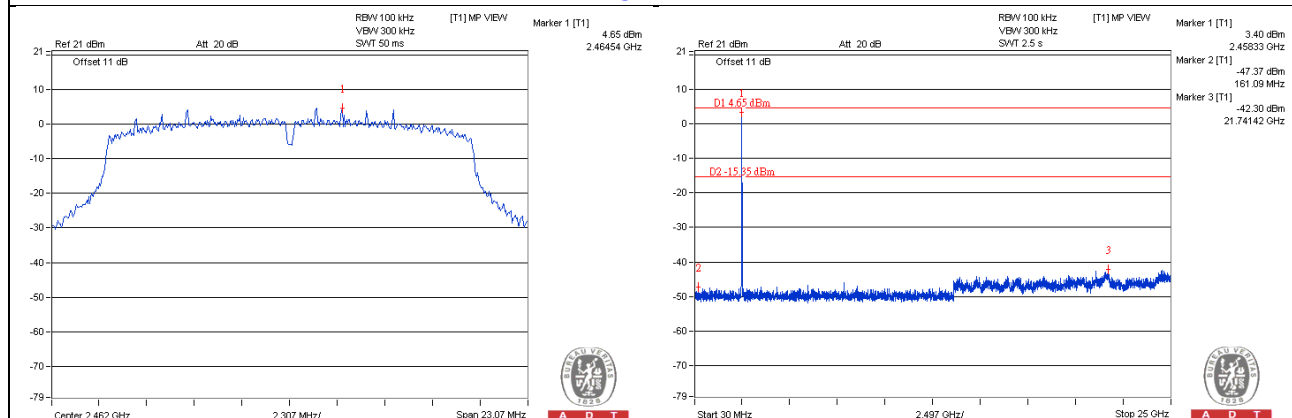
CH 1



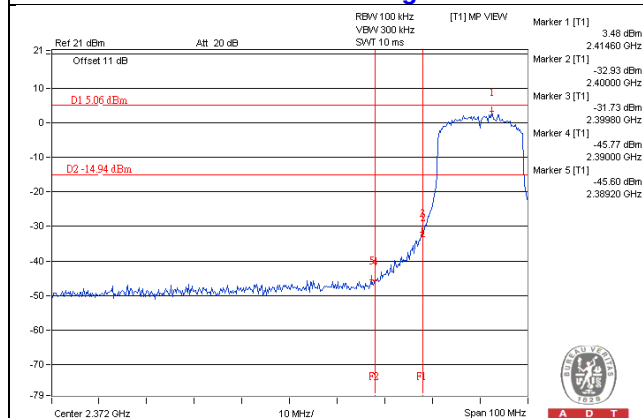
CH 6



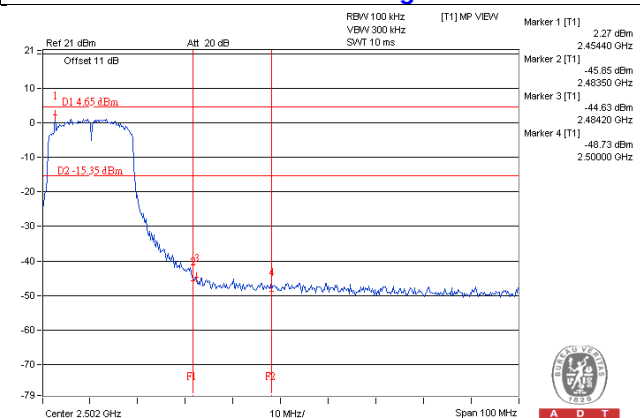
CH 11



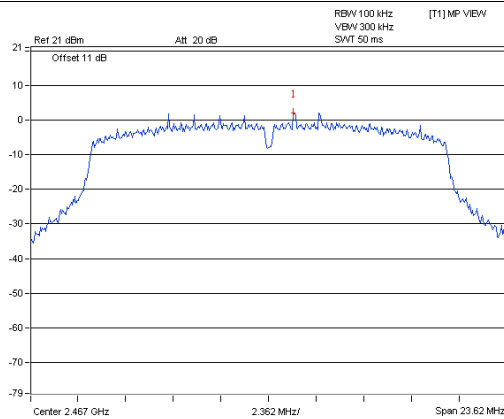
CH 1 Band edge



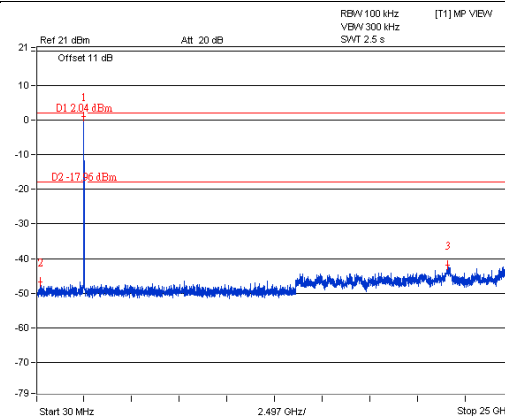
CH 11 Band edge



CH 12

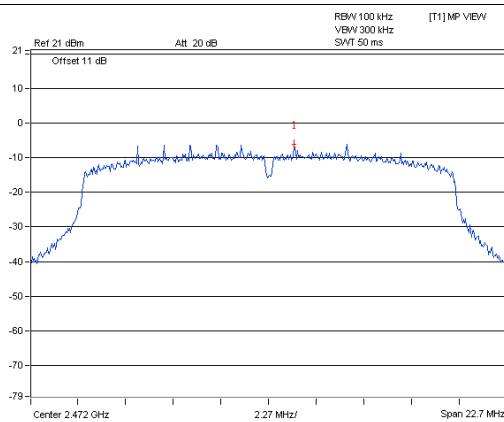


A D T

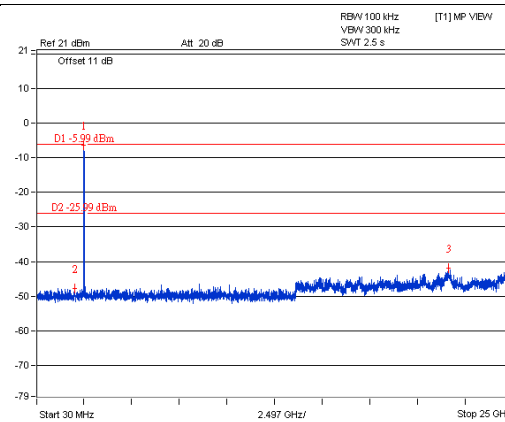


A D T

CH 13

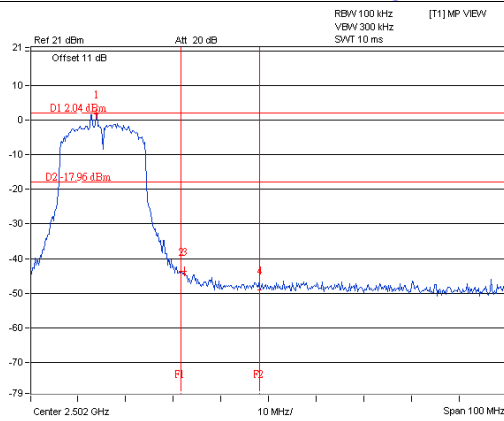


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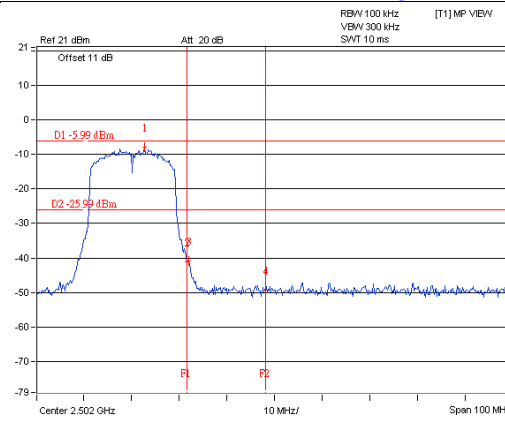
A D T

CH 12 Band edge



A D T

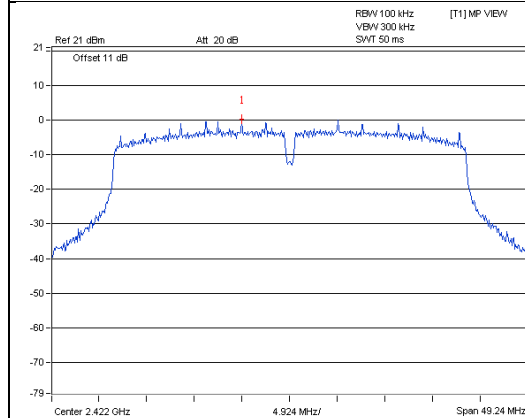
CH 13 Band edge



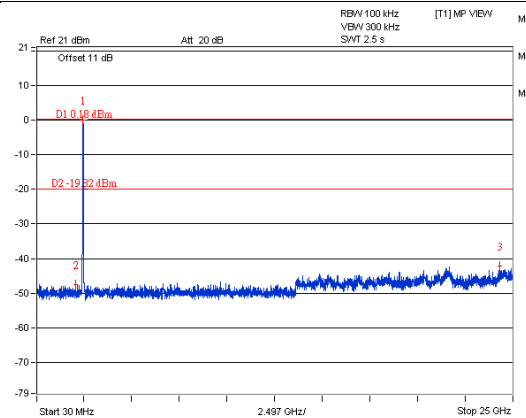
A D T

802.11n (HT40)

CH 3

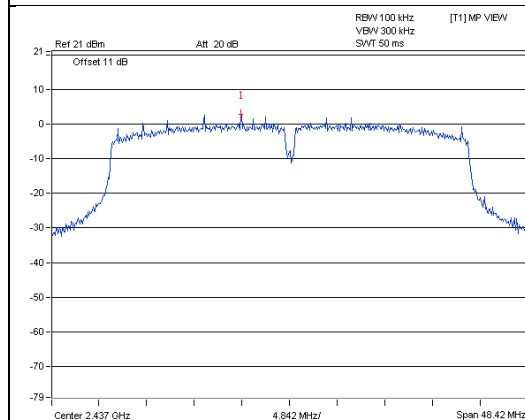


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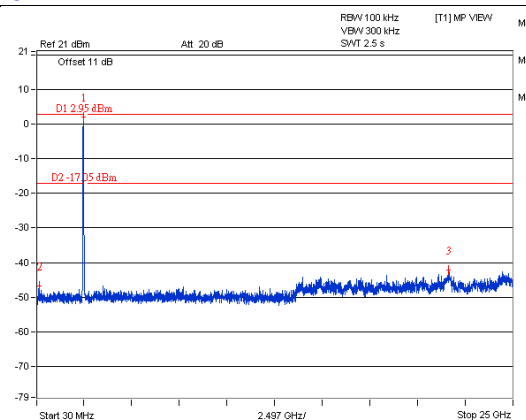


A D T

CH 6

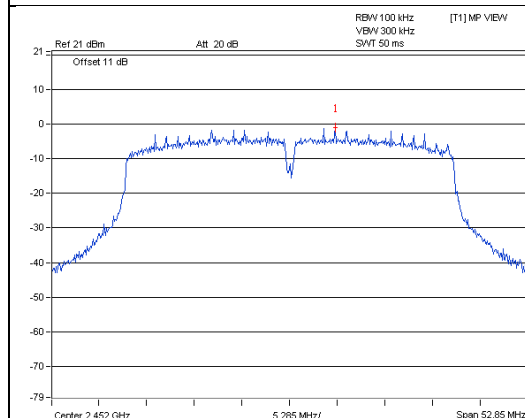


A D T

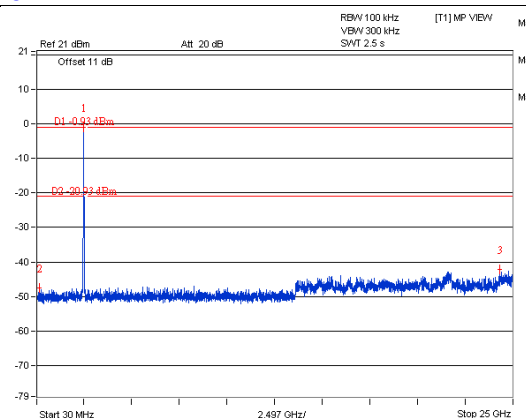


A D T

CH 9

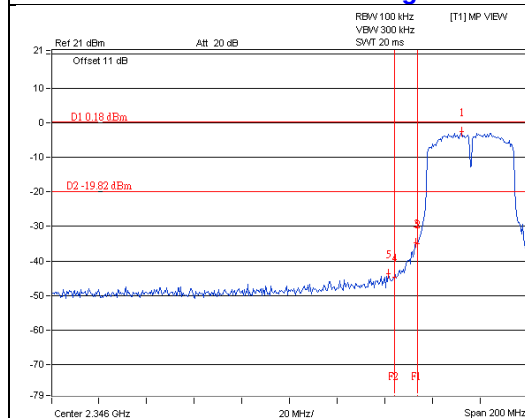


A D T



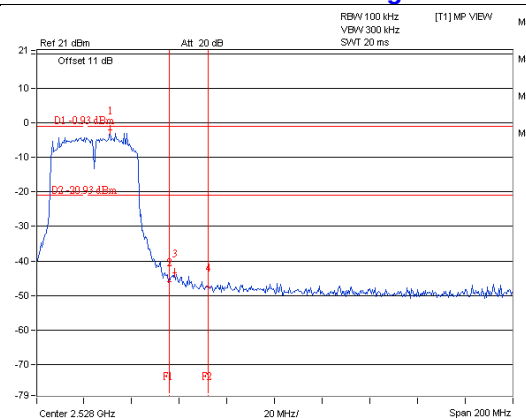
A D T

CH 3 Band edge



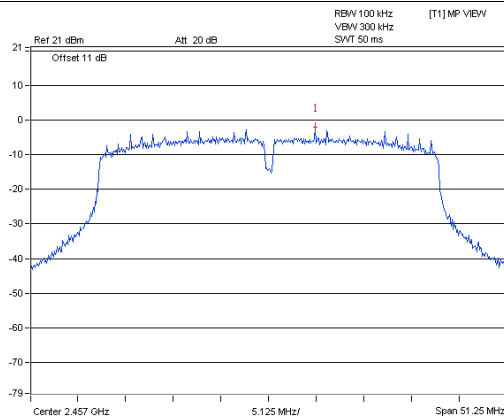
A D T

CH 9 Band edge

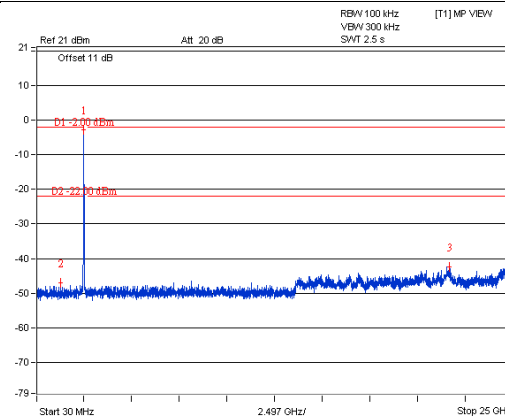


A D T

CH 10

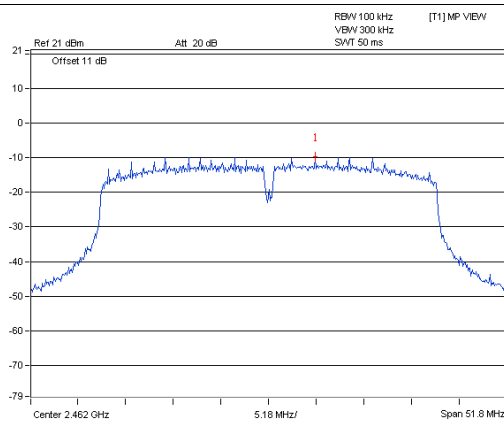


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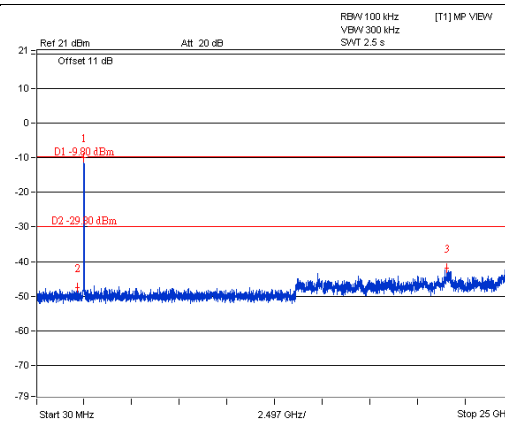


A D T

CH 11

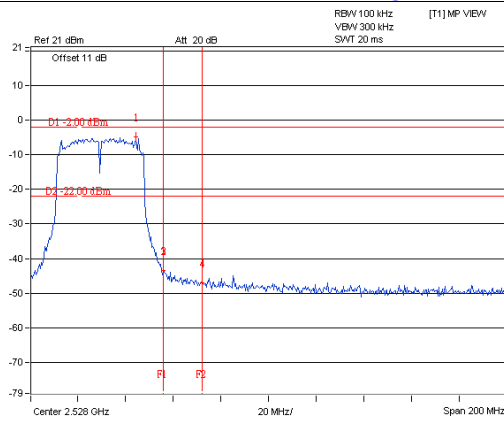


A D T



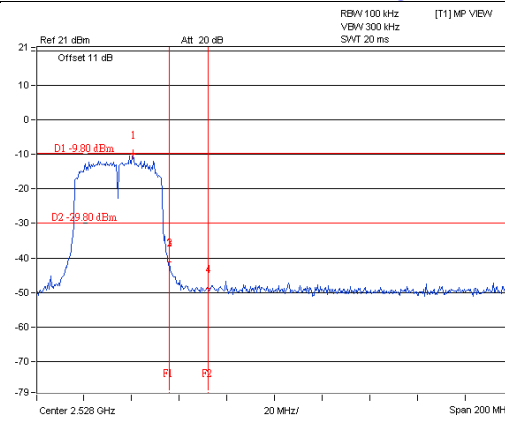
A D T

CH 10 Band edge



A D T

CH 11 Band edge



A D T

4.5 Unwanted Emission Measurement (Radiated Versus Conducted)

4.5.1 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.

4.5.2 Test Instruments

For 802.11b/g/802.11n (HT20) Channel 1 ~ 11 & 802.11n (HT40) Channel 3 ~ 9 above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 11, 2014	Aug. 10, 2015
Horn_Antenna AISI	AIH.8018	0000220091110	Feb. 06, 2015	Feb. 05, 2016
Pre-Amplifier Agilent	8449B	3008A01923	Oct. 28, 2014	Oct. 27, 2015
RF Cable	NA	131206 131213 131215 SNMY23685/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
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. H.
3. The FCC Site Registration No. is 797305.
4. The CANADA Site Registration No. is IC 7450H-3.
5. Tested Date: June 16, 2015

For 802.11b/g/802.11n (HT20) Channel 12 ~ 13 & 802.11n (HT40) Channel 10 ~ 11 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 23, 2015

For below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 11, 2014	Aug. 10, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 09, 2015	Feb. 08, 2016
RF Cable	8D-FB	CHHCAB-001-1 CHHCAB-001-2	Oct. 05, 2014	Oct. 04, 2015
	RF-141	CHHCAB-004	Oct. 05, 2014	Oct. 04, 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. H.
3. The FCC Site Registration No. is 797305.
4. The CANADA Site Registration No. is IC 7450H-3.
5. Tested Date: June 16, 2015

4.5.3 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.

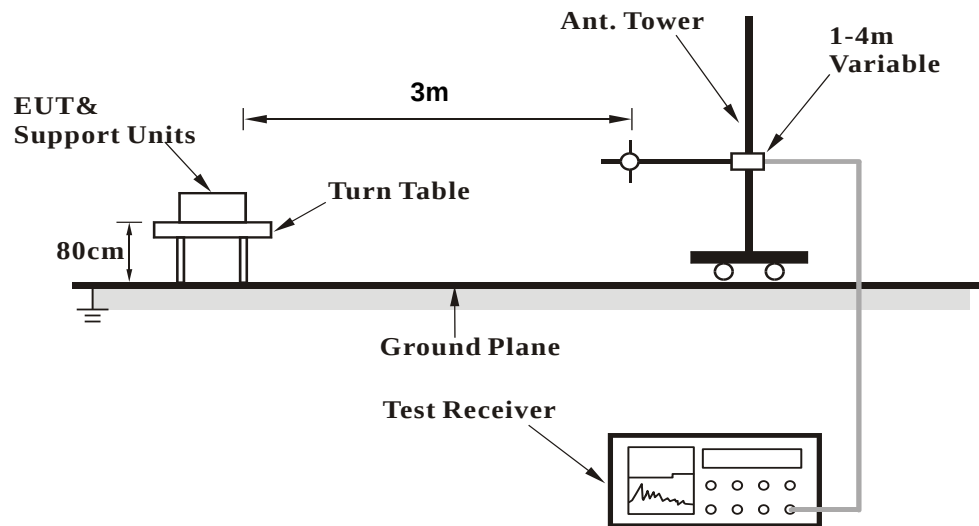
4.5.4 Deviation from Test Standard

No deviation.

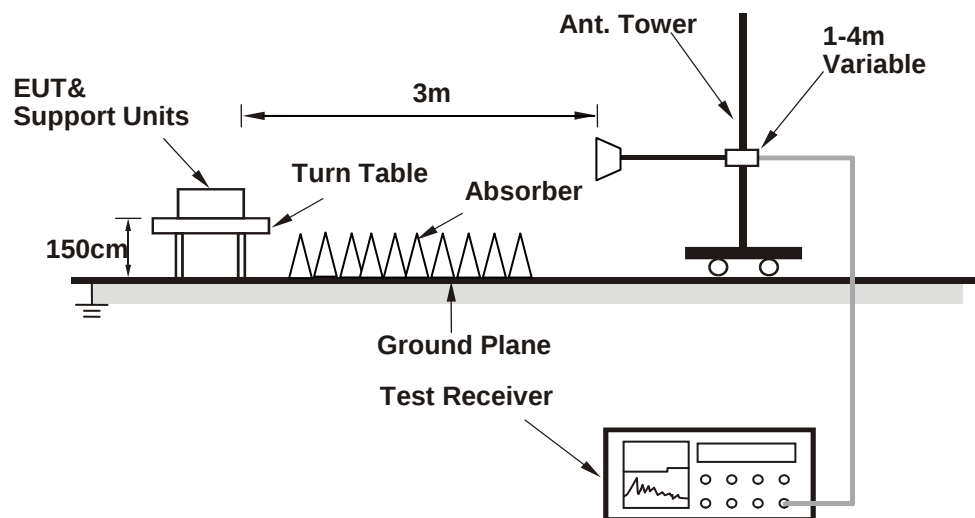
4.5.5 Test Setup

For radiated configuration:

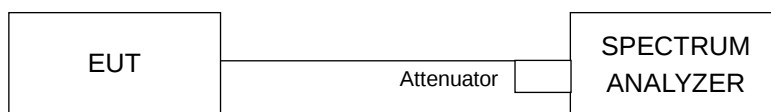
<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



For conducted configuration:



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

4.5.6 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 "QRCT CONN.exe" to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.5.7 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

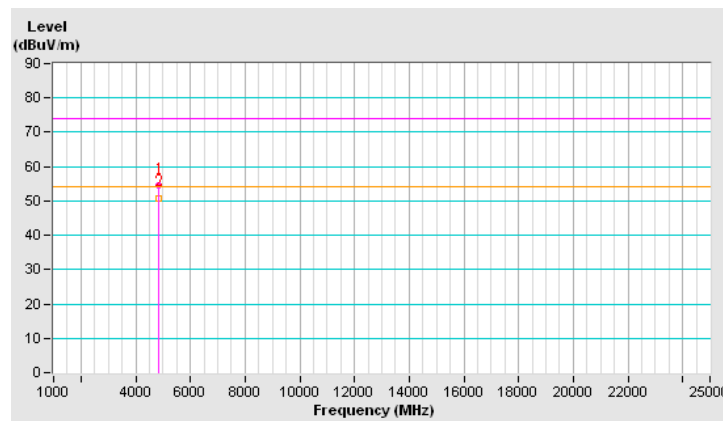
802.11b

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	54.5 PK	74.0	-19.5	1.46 H	181	48.53	5.97
2	4824.00	50.9 AV	54.0	-3.1	1.46 H	181	44.93	5.97

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

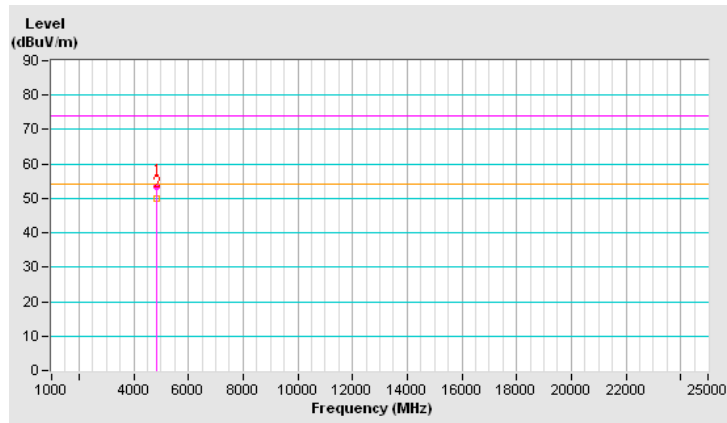


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	53.4 PK	74.0	-20.6	1.62 V	332	47.43	5.97
2	4824.00	49.9 AV	54.0	-4.1	1.62 V	332	43.93	5.97

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

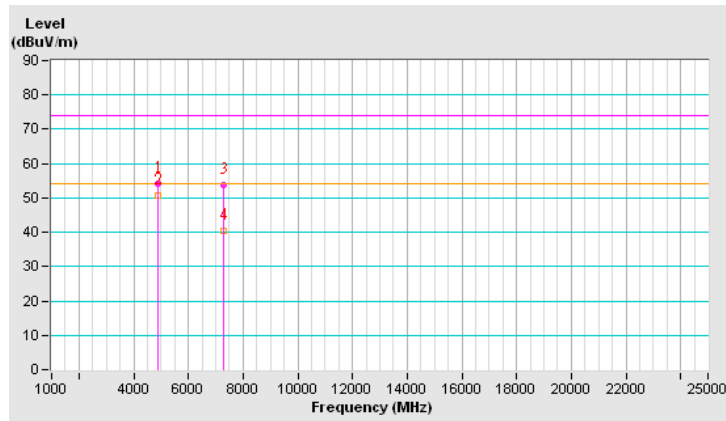


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	54.3 PK	74.0	-19.7	1.49 H	186	48.25	6.05
2	4874.00	50.8 AV	54.0	-3.2	1.49 H	186	44.75	6.05
3	7311.00	53.6 PK	74.0	-20.4	1.00 H	203	42.66	10.94
4	7311.00	40.5 AV	54.0	-13.5	1.00 H	203	29.56	10.94

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

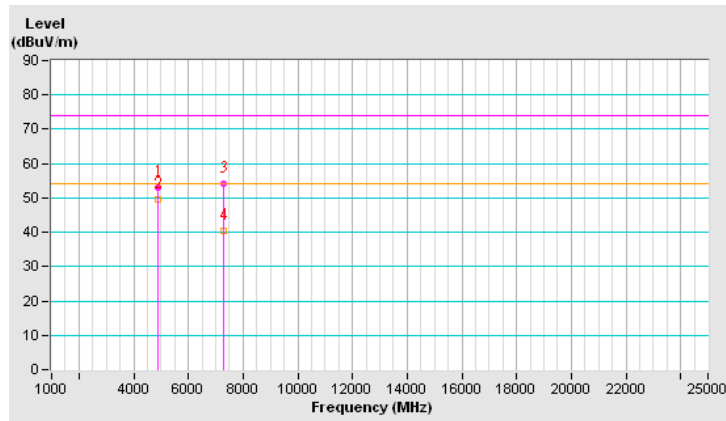


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	53.1 PK	74.0	-20.9	1.59 V	332	47.05	6.05
2	4874.00	49.5 AV	54.0	-4.5	1.59 V	332	43.45	6.05
3	7311.00	54.1 PK	74.0	-19.9	1.34 V	104	43.16	10.94
4	7311.00	40.3 AV	54.0	-13.7	1.34 V	104	29.36	10.94

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

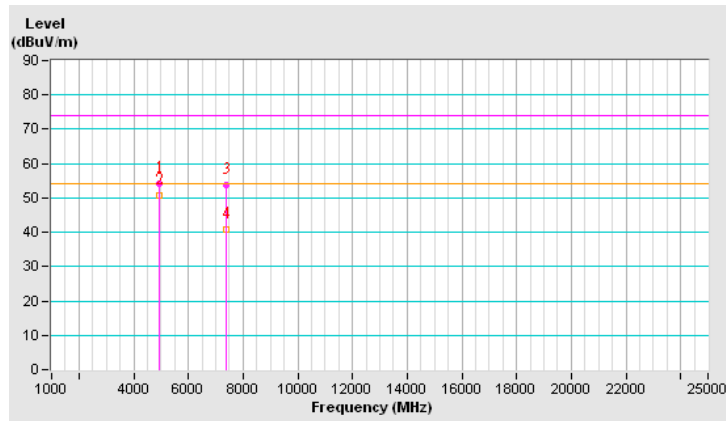


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	54.2 PK	74.0	-19.8	1.51 H	166	48.13	6.07
2	4924.00	50.7 AV	54.0	-3.3	1.51 H	166	44.63	6.07
3	7386.00	53.9 PK	74.0	-20.1	1.00 H	215	42.48	11.42
4	7386.00	40.7 AV	54.0	-13.3	1.00 H	215	29.28	11.42

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

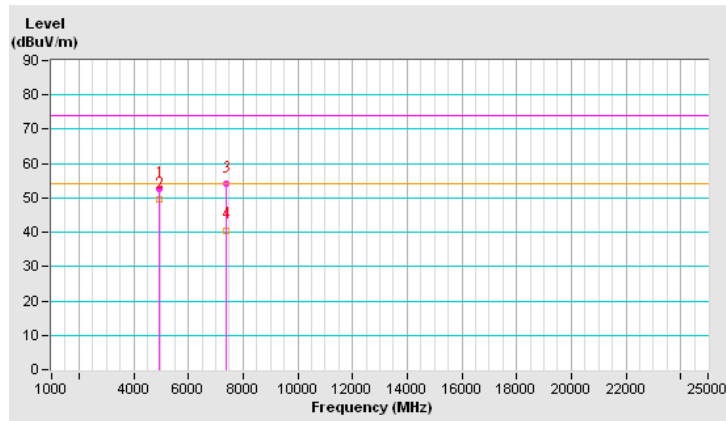


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	52.7 PK	74.0	-21.3	1.63 V	336	46.63	6.07
2	4924.00	49.5 AV	54.0	-4.5	1.63 V	336	43.43	6.07
3	7386.00	54.1 PK	74.0	-19.9	1.34 V	99	42.68	11.42
4	7386.00	40.6 AV	54.0	-13.4	1.34 V	99	29.18	11.42

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

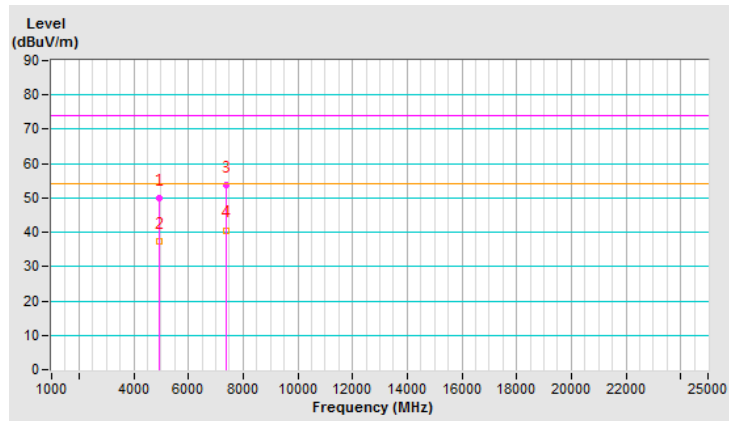


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4934.00	50.1 PK	74.0	-23.9	1.38 H	152	42.59	7.51
2	4934.00	37.2 AV	54.0	-16.8	1.38 H	152	29.69	7.51
3	7401.00	53.9 PK	74.0	-20.1	1.07 H	200	39.37	14.53
4	7401.00	40.6 AV	54.0	-13.4	1.07 H	200	26.07	14.53

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

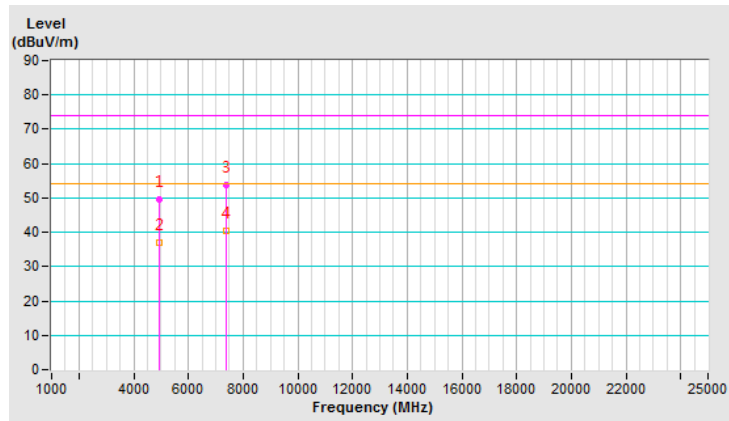


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4934.00	49.6 PK	74.0	-24.4	1.65 V	300	42.09	7.51
2	4934.00	37.0 AV	54.0	-17.0	1.65 V	300	29.49	7.51
3	7401.00	53.6 PK	74.0	-20.4	1.36 V	114	39.07	14.53
4	7401.00	40.4 AV	54.0	-13.6	1.36 V	114	25.87	14.53

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

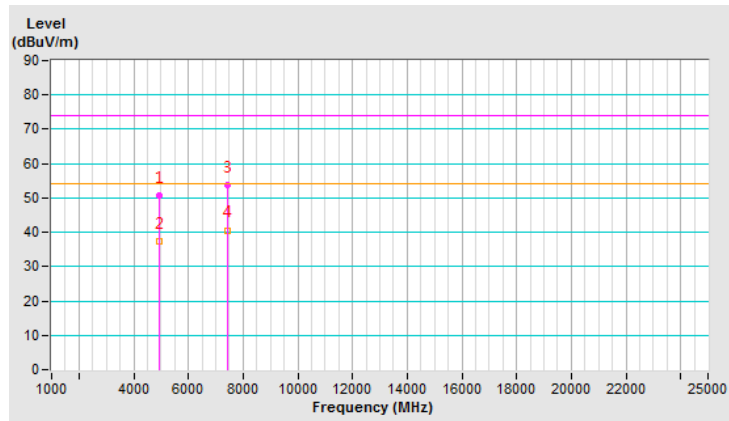


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4944.00	50.6 PK	74.0	-23.4	1.39 H	148	43.04	7.56
2	4944.00	37.5 AV	54.0	-16.5	1.39 H	148	29.94	7.56
3	7416.00	53.7 PK	74.0	-20.3	1.04 H	200	39.18	14.52
4	7416.00	40.6 AV	54.0	-13.4	1.04 H	200	26.08	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

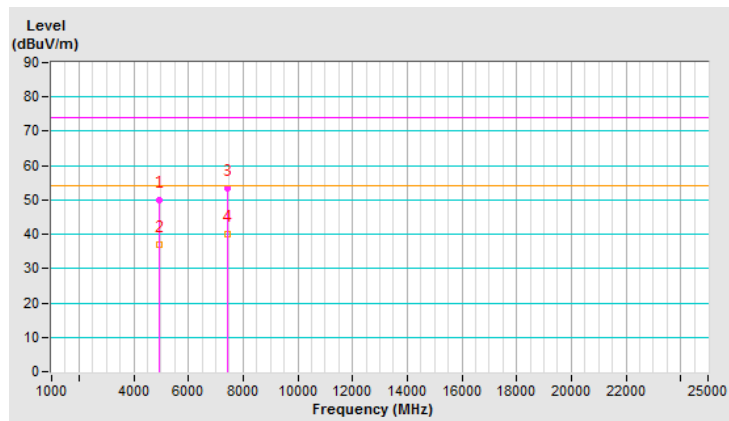


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4944.00	49.8 PK	74.0	-24.2	1.71 V	326	42.24	7.56
2	4944.00	37.1 AV	54.0	-16.9	1.71 V	326	29.54	7.56
3	7416.00	53.3 PK	74.0	-20.7	1.41 V	116	38.78	14.52
4	7416.00	40.1 AV	54.0	-13.9	1.41 V	116	25.58	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



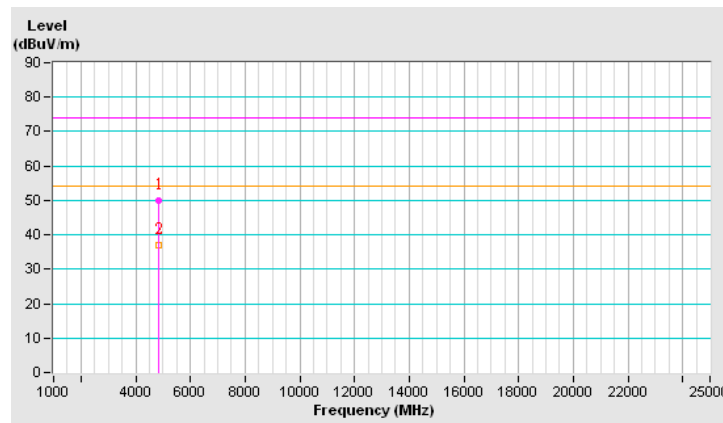
802.11g

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	50.1 PK	74.0	-23.9	1.55 H	176	44.13	5.97
2	4824.00	37.1 AV	54.0	-16.9	1.55 H	176	31.13	5.97

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

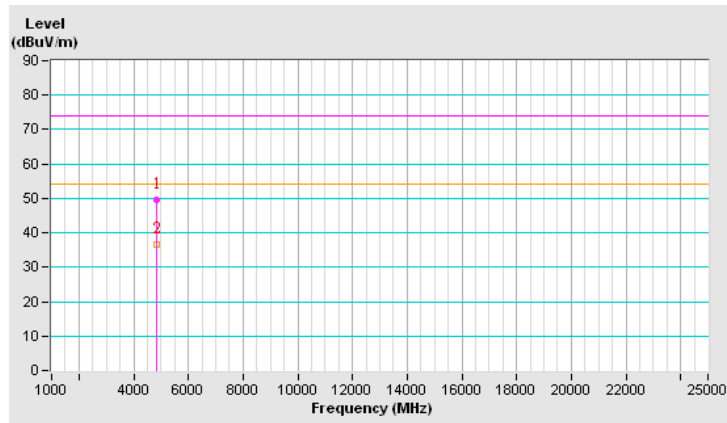


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	49.7 PK	74.0	-24.3	1.62 V	329	43.73	5.97
2	4824.00	36.5 AV	54.0	-17.5	1.62 V	329	30.53	5.97

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

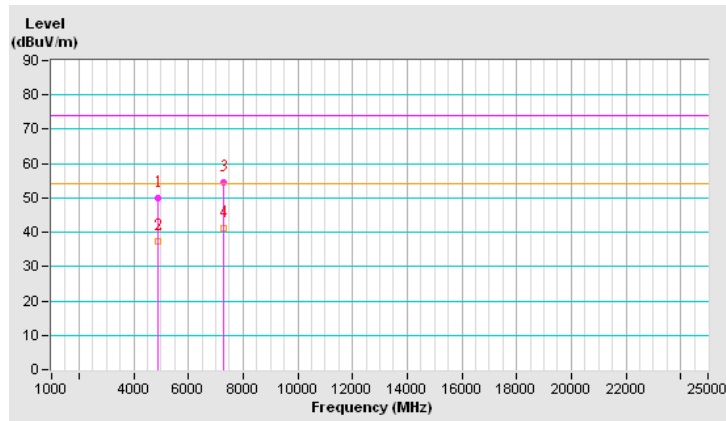


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	50.1 PK	74.0	-23.9	1.50 H	181	44.05	6.05
2	4874.00	37.2 AV	54.0	-16.8	1.50 H	181	31.15	6.05
3	7311.00	54.5 PK	74.0	-19.5	1.00 H	211	43.56	10.94
4	7311.00	41.2 AV	54.0	-12.8	1.00 H	211	30.26	10.94

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

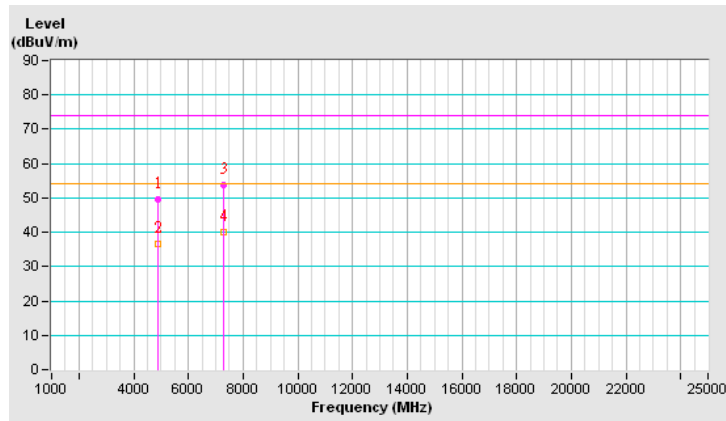


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	49.5 PK	74.0	-24.5	1.71 V	333	43.45	6.05
2	4874.00	36.6 AV	54.0	-17.4	1.71 V	333	30.55	6.05
3	7311.00	53.7 PK	74.0	-20.3	1.25 V	124	42.76	10.94
4	7311.00	40.1 AV	54.0	-13.9	1.25 V	124	29.16	10.94

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

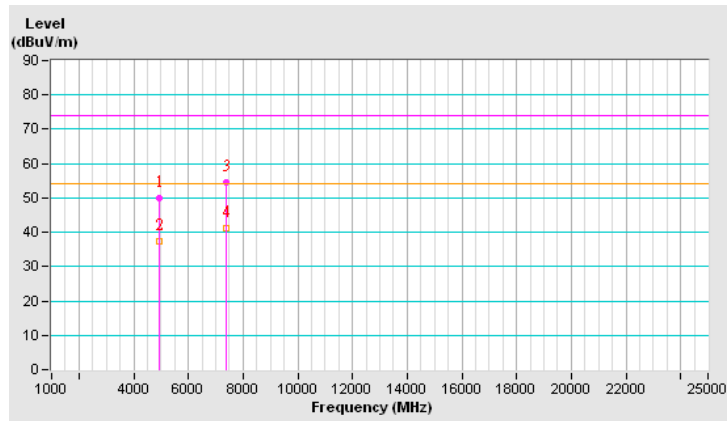


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	50.1 PK	74.0	-23.9	1.51 H	167	44.03	6.07
2	4924.00	37.2 AV	54.0	-16.8	1.51 H	167	31.13	6.07
3	7386.00	54.4 PK	74.0	-19.6	1.00 H	209	42.98	11.42
4	7386.00	41.0 AV	54.0	-13.0	1.00 H	209	29.58	11.42

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

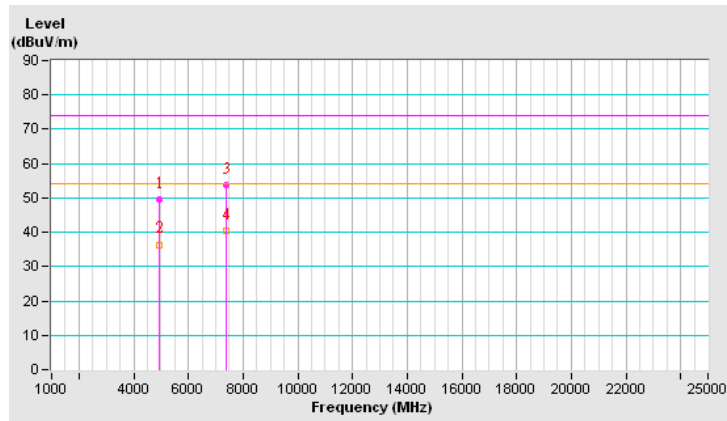


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	49.5 PK	74.0	-24.5	1.65 V	321	43.43	6.07
2	4924.00	36.4 AV	54.0	-17.6	1.65 V	321	30.33	6.07
3	7386.00	53.9 PK	74.0	-20.1	1.29 V	110	42.48	11.42
4	7386.00	40.5 AV	54.0	-13.5	1.29 V	110	29.08	11.42

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

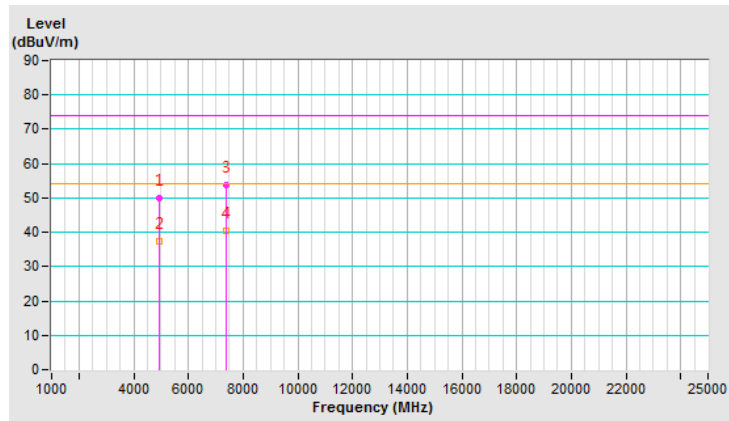


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4934.00	49.9 PK	74.0	-24.1	1.36 H	142	42.39	7.51
2	4934.00	37.3 AV	54.0	-16.7	1.36 H	142	29.79	7.51
3	7401.00	53.7 PK	74.0	-20.3	1.12 H	193	39.17	14.53
4	7401.00	40.3 AV	54.0	-13.7	1.12 H	193	25.77	14.53

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

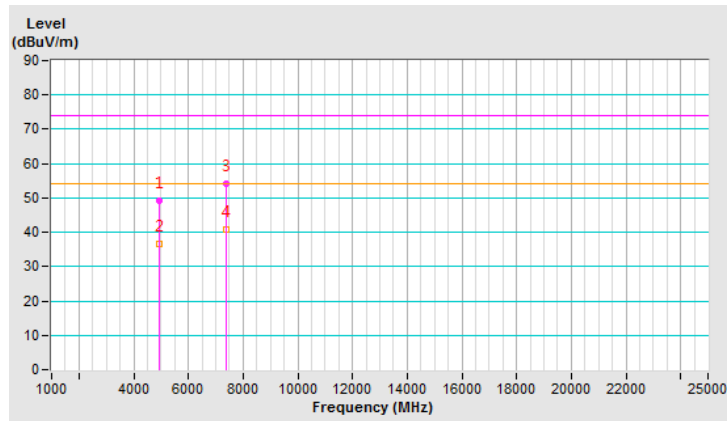


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4934.00	49.3 PK	74.0	-24.7	1.66 V	292	41.79	7.51
2	4934.00	36.7 AV	54.0	-17.3	1.66 V	292	29.19	7.51
3	7401.00	54.0 PK	74.0	-20.0	1.33 V	101	39.47	14.53
4	7401.00	40.8 AV	54.0	-13.2	1.33 V	101	26.27	14.53

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

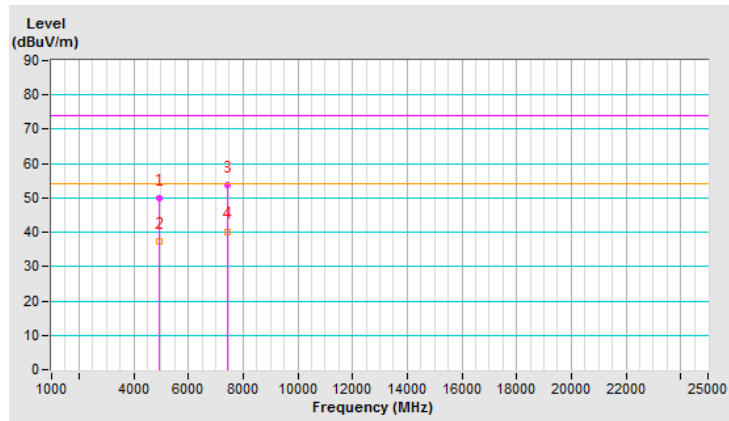


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4944.00	50.0 PK	74.0	-24.0	1.34 H	146	42.44	7.56
2	4944.00	37.2 AV	54.0	-16.8	1.34 H	146	29.64	7.56
3	7416.00	53.6 PK	74.0	-20.4	1.12 H	191	39.08	14.52
4	7416.00	40.2 AV	54.0	-13.8	1.12 H	191	25.68	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

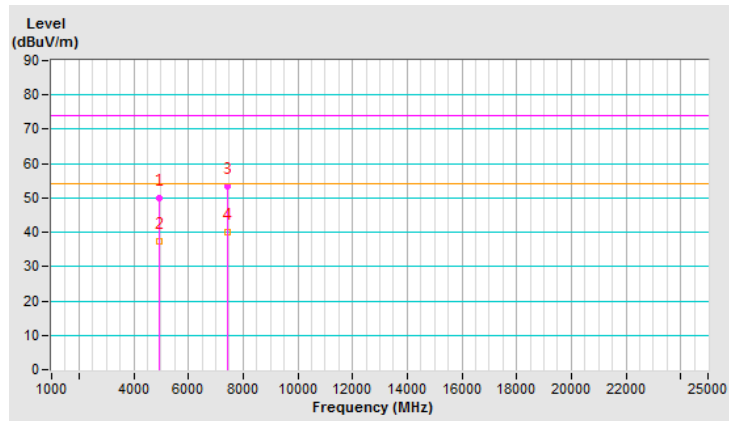


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4944.00	49.9 PK	74.0	-24.1	1.70 V	308	42.34	7.56
2	4944.00	37.2 AV	54.0	-16.8	1.70 V	308	29.64	7.56
3	7416.00	53.4 PK	74.0	-20.6	1.40 V	108	38.88	14.52
4	7416.00	40.1 AV	54.0	-13.9	1.40 V	108	25.58	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



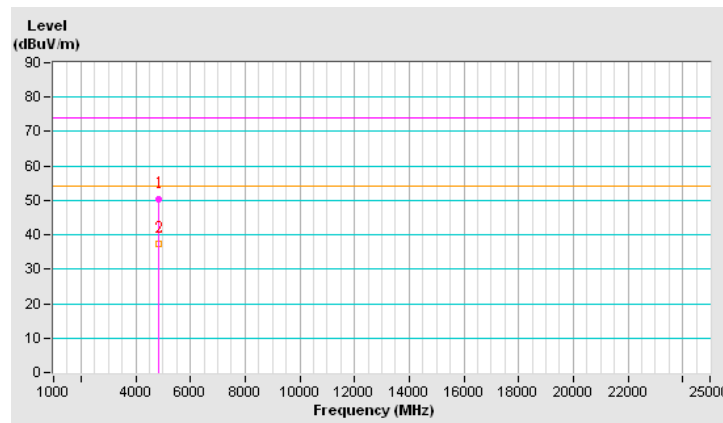
802.11n (HT20)

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	50.2 PK	74.0	-23.8	1.50 H	169	44.23	5.97
2	4824.00	37.5 AV	54.0	-16.5	1.50 H	169	31.53	5.97

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

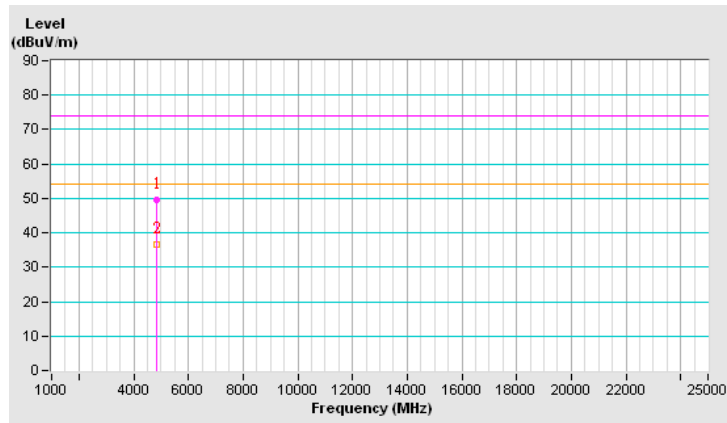


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	49.4 PK	74.0	-24.6	1.70 V	322	43.43	5.97
2	4824.00	36.5 AV	54.0	-17.5	1.70 V	322	30.53	5.97

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

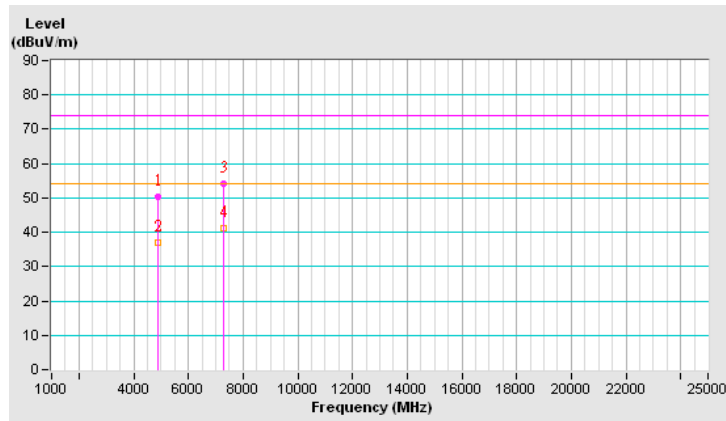


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	50.3 PK	74.0	-23.7	1.52 H	180	44.25	6.05
2	4874.00	37.1 AV	54.0	-16.9	1.52 H	180	31.05	6.05
3	7311.00	54.2 PK	74.0	-19.8	1.00 H	217	43.26	10.94
4	7311.00	41.0 AV	54.0	-13.0	1.00 H	217	30.06	10.94

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

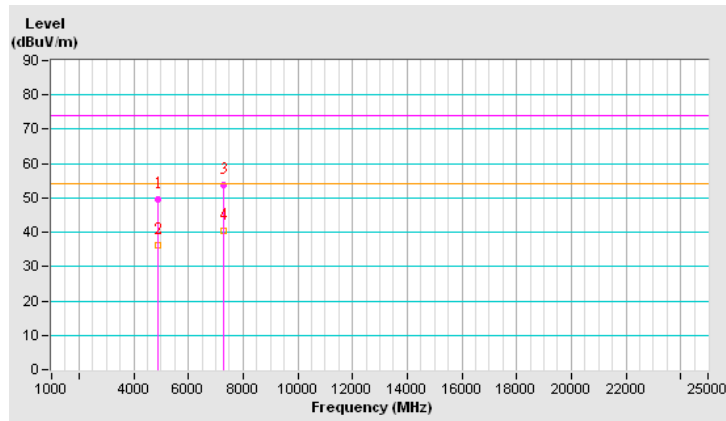


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	49.4 PK	74.0	-24.6	1.66 V	320	43.35	6.05
2	4874.00	36.1 AV	54.0	-17.9	1.66 V	320	30.05	6.05
3	7311.00	53.6 PK	74.0	-20.4	1.28 V	122	42.66	10.94
4	7311.00	40.4 AV	54.0	-13.6	1.28 V	122	29.46	10.94

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

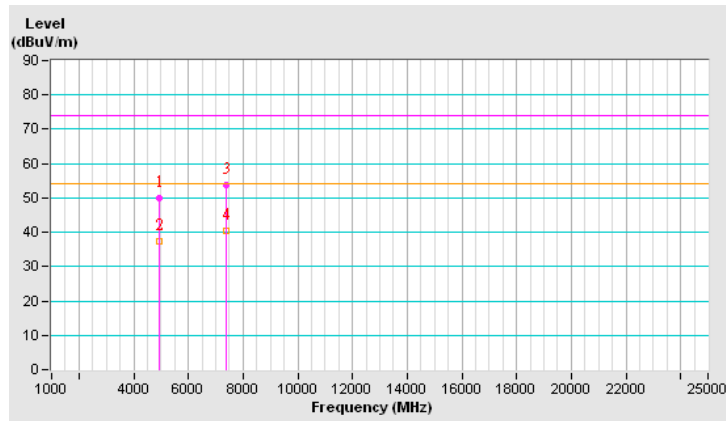


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	49.9 PK	74.0	-24.1	1.51 H	179	43.83	6.07
2	4924.00	37.3 AV	54.0	-16.7	1.51 H	179	31.23	6.07
3	7386.00	53.9 PK	74.0	-20.1	1.00 H	218	42.48	11.42
4	7386.00	40.5 AV	54.0	-13.5	1.00 H	218	29.08	11.42

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

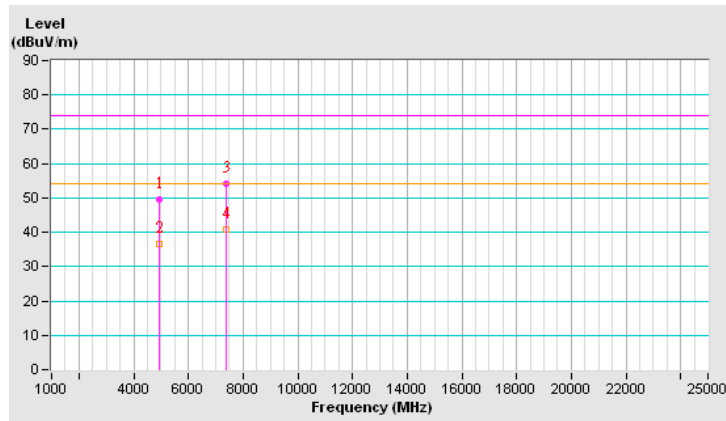


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	49.4 PK	74.0	-24.6	1.63 V	331	43.33	6.07
2	4924.00	36.5 AV	54.0	-17.5	1.63 V	331	30.43	6.07
3	7386.00	54.1 PK	74.0	-19.9	1.26 V	104	42.68	11.42
4	7386.00	40.8 AV	54.0	-13.2	1.26 V	104	29.38	11.42

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

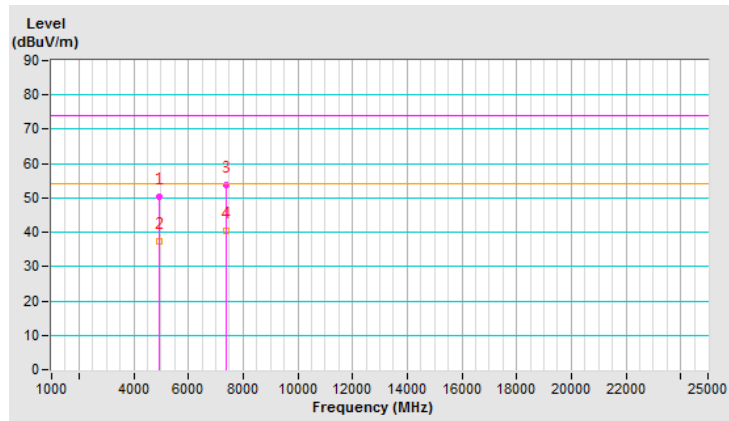


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4934.00	50.2 PK	74.0	-23.8	1.41 H	140	42.69	7.51
2	4934.00	37.3 AV	54.0	-16.7	1.41 H	140	29.79	7.51
3	7401.00	53.8 PK	74.0	-20.2	1.08 H	187	39.27	14.53
4	7401.00	40.5 AV	54.0	-13.5	1.08 H	187	25.97	14.53

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

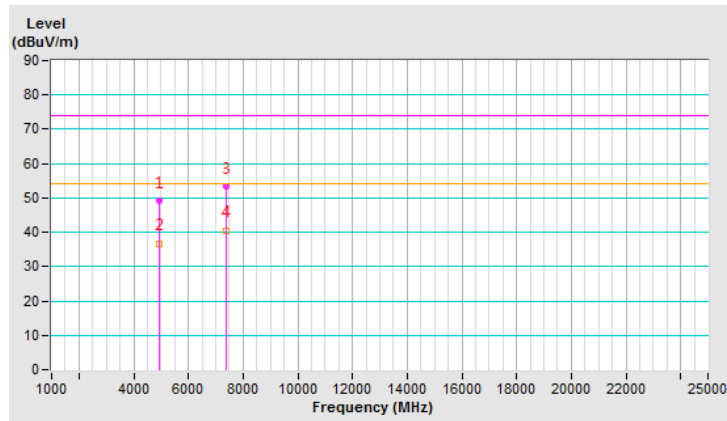


CHANNEL	TX Channel 12	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4934.00	49.2 PK	74.0	-24.8	1.62 V	296	41.69	7.51
2	4934.00	36.8 AV	54.0	-17.2	1.62 V	296	29.29	7.51
3	7401.00	53.5 PK	74.0	-20.5	1.32 V	113	38.97	14.53
4	7401.00	40.6 AV	54.0	-13.4	1.32 V	113	26.07	14.53

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

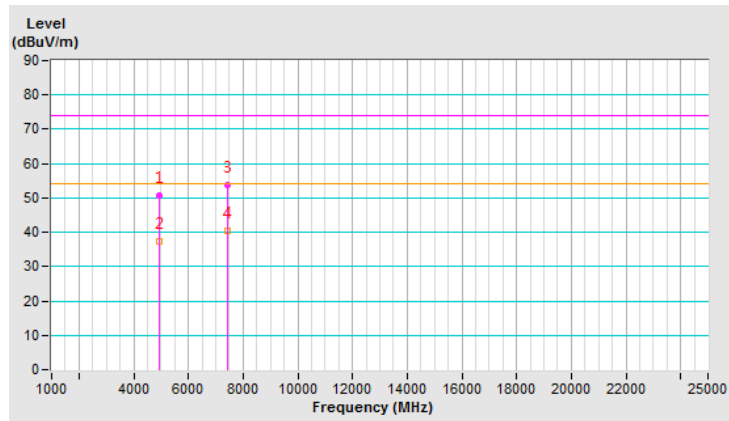


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4944.00	50.6 PK	74.0	-23.4	1.43 H	163	43.04	7.56
2	4944.00	37.5 AV	54.0	-16.5	1.43 H	163	29.94	7.56
3	7416.00	53.7 PK	74.0	-20.3	1.08 H	215	39.18	14.52
4	7416.00	40.3 AV	54.0	-13.7	1.08 H	215	25.78	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

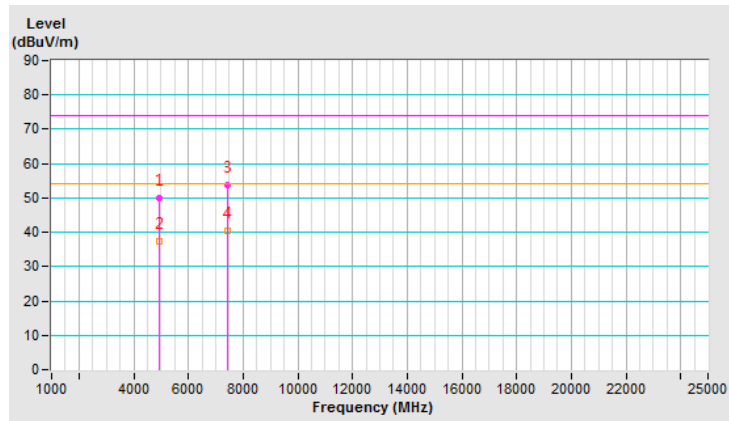


CHANNEL	TX Channel 13	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4944.00	50.1 PK	74.0	-23.9	1.65 V	300	42.54	7.56
2	4944.00	37.4 AV	54.0	-16.6	1.65 V	300	29.84	7.56
3	7416.00	53.7 PK	74.0	-20.3	1.35 V	101	39.18	14.52
4	7416.00	40.3 AV	54.0	-13.7	1.35 V	101	25.78	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



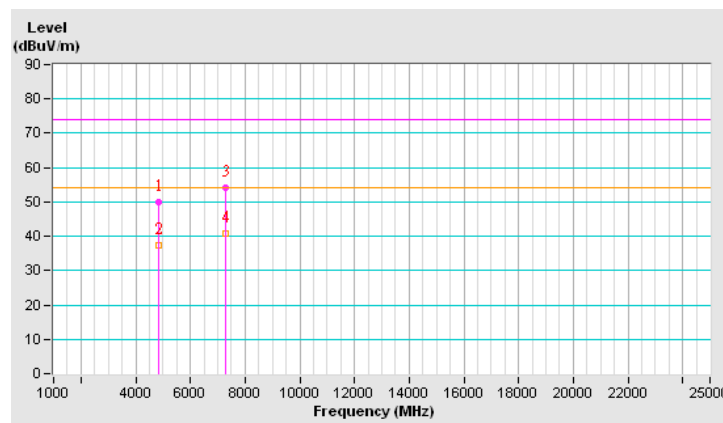
802.11n (HT40)

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	49.8 PK	74.0	-24.2	1.49 H	167	43.81	5.99
2	4844.00	37.2 AV	54.0	-16.8	1.49 H	167	31.21	5.99
3	7266.00	54.2 PK	74.0	-19.8	1.00 H	202	43.31	10.89
4	7266.00	40.8 AV	54.0	-13.2	1.00 H	202	29.91	10.89

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

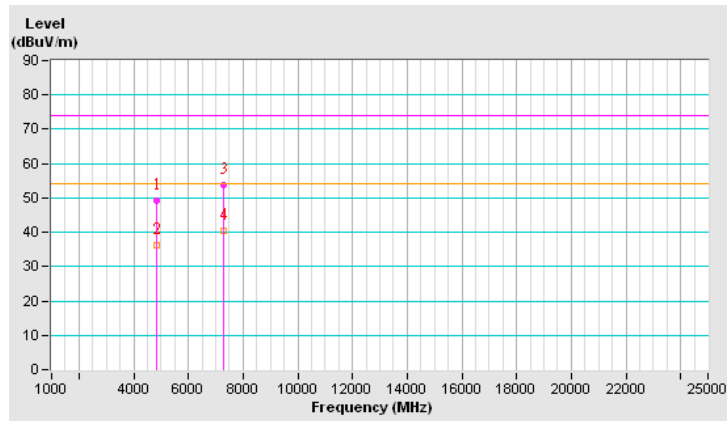


CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	49.2 PK	74.0	-24.8	1.69 V	324	43.21	5.99
2	4844.00	36.1 AV	54.0	-17.9	1.69 V	324	30.11	5.99
3	7266.00	53.6 PK	74.0	-20.4	1.30 V	120	42.71	10.89
4	7266.00	40.4 AV	54.0	-13.6	1.30 V	120	29.51	10.89

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

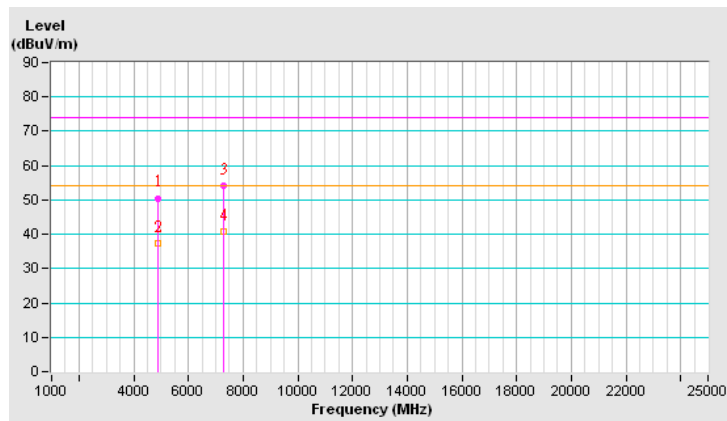


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	50.5 PK	74.0	-23.5	1.56 H	156	44.45	6.05
2	4874.00	37.5 AV	54.0	-16.5	1.56 H	156	31.45	6.05
3	7311.00	54.2 PK	74.0	-19.8	1.00 H	220	43.26	10.94
4	7311.00	40.7 AV	54.0	-13.3	1.00 H	220	29.76	10.94

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

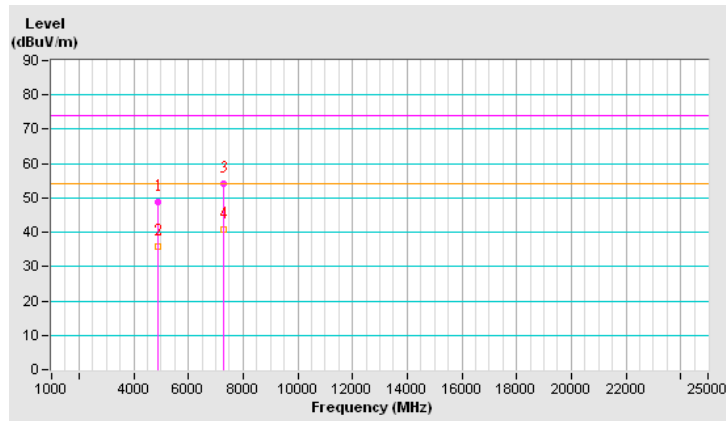


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	48.7 PK	74.0	-25.3	1.65 V	324	42.65	6.05
2	4874.00	35.9 AV	54.0	-18.1	1.65 V	324	29.85	6.05
3	7311.00	54.1 PK	74.0	-19.9	1.23 V	106	43.16	10.94
4	7311.00	40.9 AV	54.0	-13.1	1.23 V	106	29.96	10.94

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

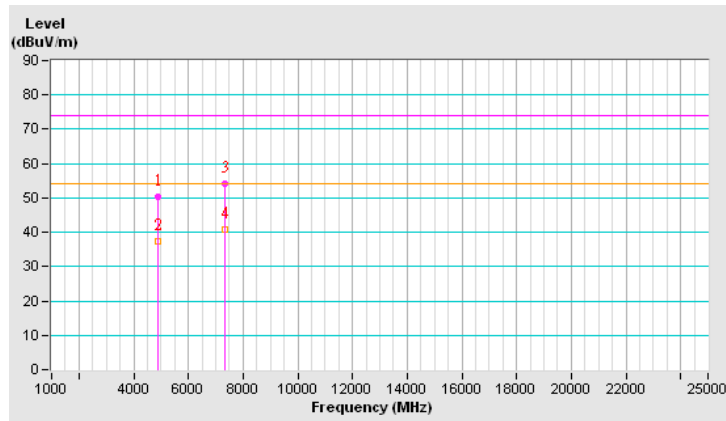


CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	50.3 PK	74.0	-23.7	1.51 H	152	44.22	6.08
2	4904.00	37.4 AV	54.0	-16.6	1.51 H	152	31.32	6.08
3	7356.00	54.0 PK	74.0	-20.0	1.00 H	216	42.78	11.22
4	7356.00	40.7 AV	54.0	-13.3	1.00 H	216	29.48	11.22

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

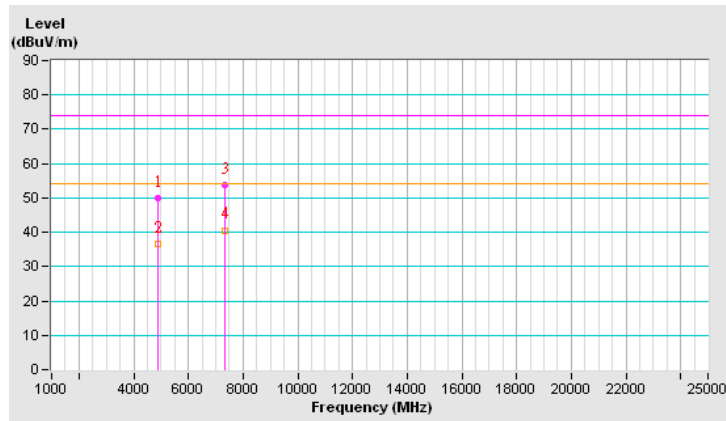


CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	49.8 PK	74.0	-24.2	1.67 V	319	43.72	6.08
2	4904.00	36.6 AV	54.0	-17.4	1.67 V	319	30.52	6.08
3	7356.00	53.7 PK	74.0	-20.3	1.35 V	108	42.48	11.22
4	7356.00	40.6 AV	54.0	-13.4	1.35 V	108	29.38	11.22

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

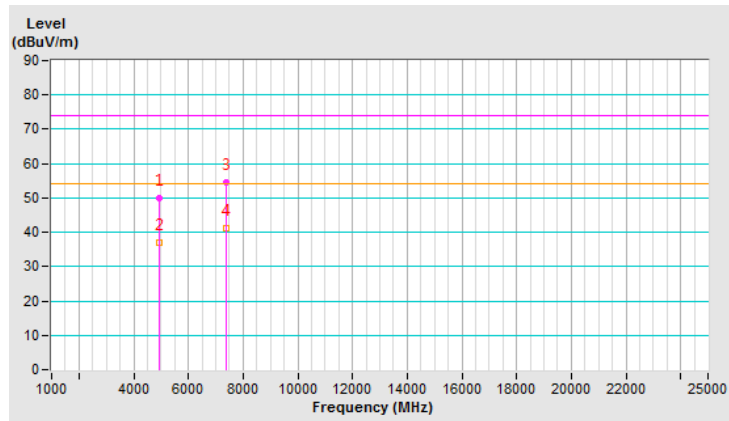


CHANNEL	TX Channel 10	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4914.00	50.1 PK	74.0	-23.9	1.43 H	149	42.69	7.41
2	4914.00	37.1 AV	54.0	-16.9	1.43 H	149	29.69	7.41
3	7371.00	54.4 PK	74.0	-19.6	1.08 H	185	39.89	14.51
4	7371.00	41.1 AV	54.0	-12.9	1.08 H	185	26.59	14.51

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

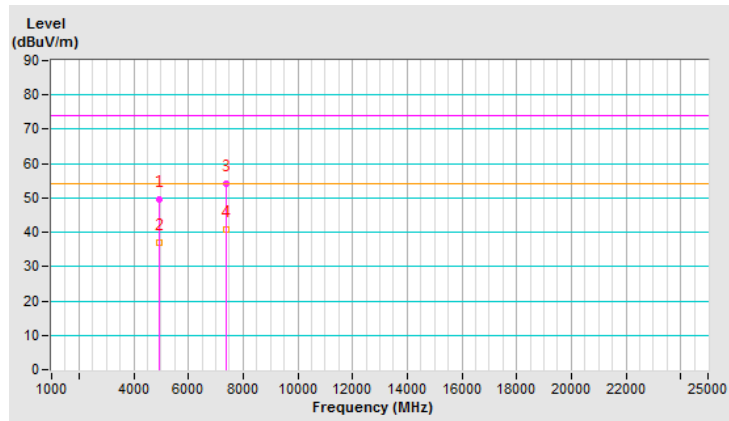


CHANNEL	TX Channel 10	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	4914.00	49.6 PK	74.0	-24.4	1.63 V	300	42.19	7.41
2	4914.00	37.0 AV	54.0	-17.0	1.63 V	300	29.59	7.41
3	7371.00	54.1 PK	74.0	-19.9	1.38 V	126	39.59	14.51
4	7371.00	40.8 AV	54.0	-13.2	1.38 V	126	26.29	14.51

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

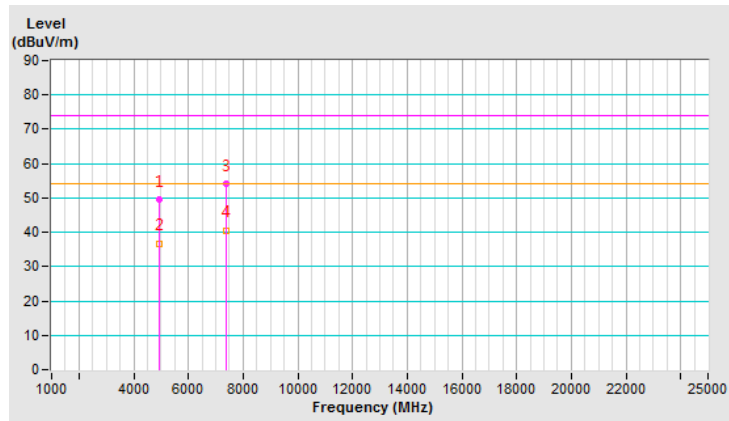


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	49.5 PK	74.0	-24.5	1.38 H	138	42.05	7.45
2	4924.00	36.8 AV	54.0	-17.2	1.38 H	138	29.35	7.45
3	7386.00	54.2 PK	74.0	-19.8	1.07 H	189	39.68	14.52
4	7386.00	40.6 AV	54.0	-13.4	1.07 H	189	26.08	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

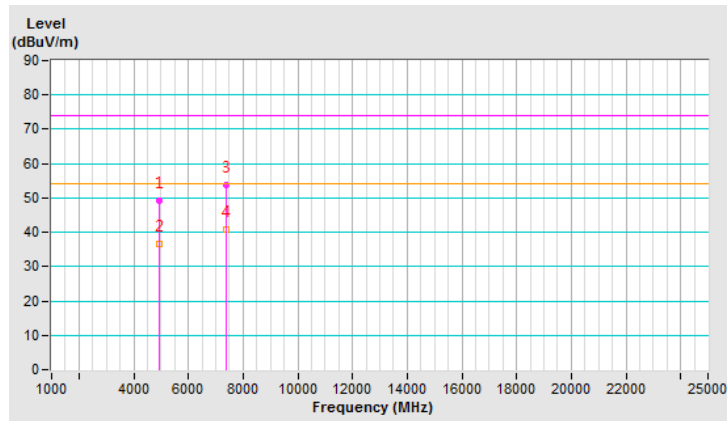


CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	49.1 PK	74.0	-24.9	1.69 V	284	41.65	7.45
2	4924.00	36.6 AV	54.0	-17.4	1.69 V	284	29.15	7.45
3	7386.00	53.9 PK	74.0	-20.1	1.32 V	116	39.38	14.52
4	7386.00	40.9 AV	54.0	-13.1	1.32 V	116	26.38	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



Below 1GHz Data:

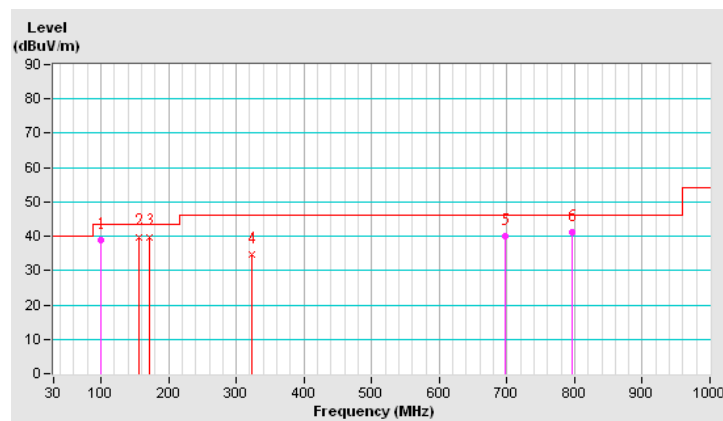
802.11g

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 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	99.72	39.0 QP	43.5	-4.6	1.74 H	100	56.28	-17.33
2	156.67	39.8 QP	43.5	-3.7	1.52 H	307	52.79	-12.95
3	171.02	39.8 QP	43.5	-3.7	2.00 H	47	53.36	-13.54
4	323.23	34.7 QP	46.0	-11.3	1.00 H	237	45.66	-10.97
5	697.07	40.0 QP	46.0	-6.0	1.50 H	360	43.41	-3.39
6	796.59	41.2 QP	46.0	-4.9	1.00 H	163	42.66	-1.51

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

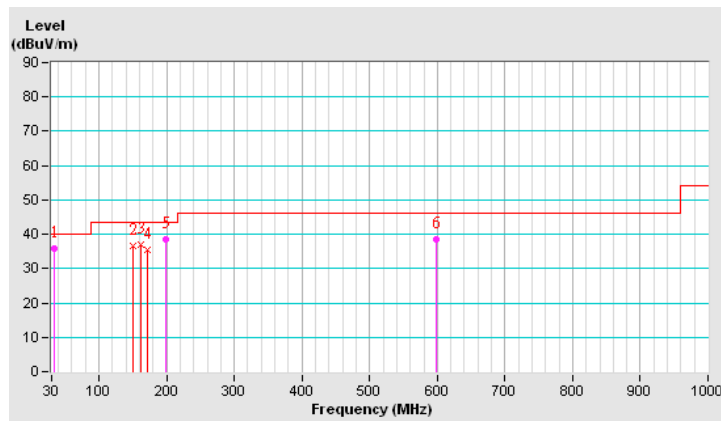


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	34.67	35.9 QP	40.0	-4.1	1.24 V	321	50.29	-14.35
2	149.35	36.7 QP	43.5	-6.8	1.67 V	241	49.53	-12.81
3	162.74	36.9 QP	43.5	-6.6	1.84 V	301	49.92	-12.99
4	171.65	35.5 QP	43.5	-8.0	1.34 V	304	49.11	-13.59
5	199.30	38.6 QP	43.5	-4.9	1.78 V	247	54.55	-15.99
6	599.39	38.5 QP	46.0	-7.6	1.96 V	69	43.16	-4.71

REMARKS:

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



4.5.8 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

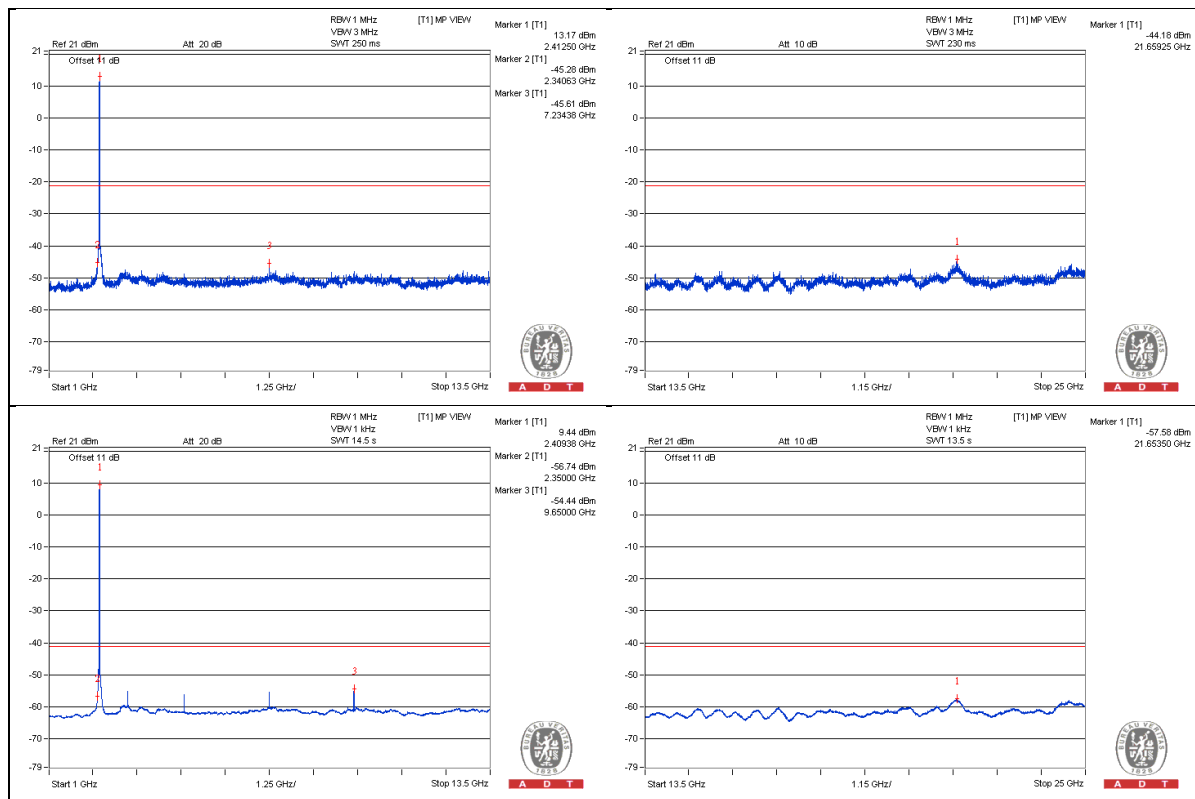
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1609.375 PK	47.67	74	-26.33	-51.21	3.62	-47.59
2	1606.25 AV	35.94	54	-18.06	-62.94	3.62	-59.32
3	4825 PK	50.02	74	-23.98	-48.86	3.62	-45.24
4	4825 AV	42.57	54	-11.43	-56.31	3.62	-52.69

Note :

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

d = measurement distance in 3 meters.



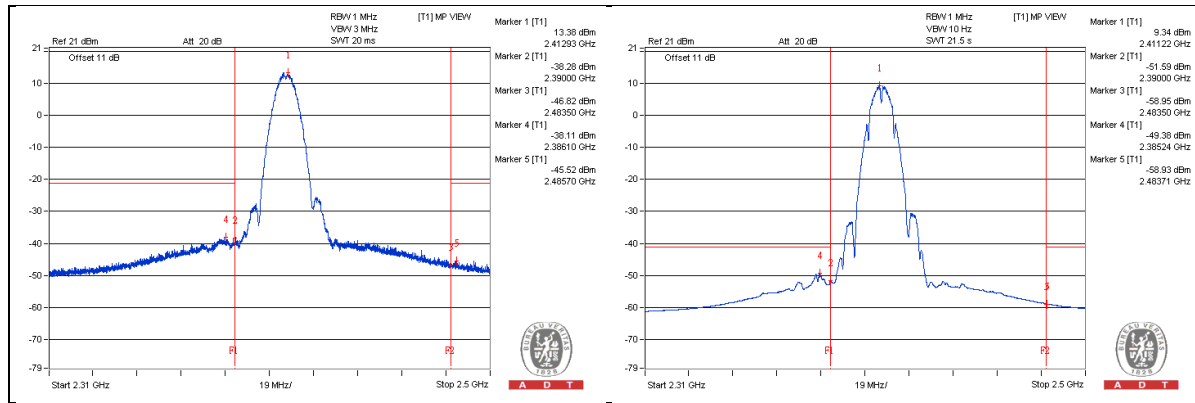
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2386.095 PK	60.77	74	-13.23	-38.11	3.62	-34.49
2	2385.24 AV	49.5	54	-4.5	-49.38	3.62	-45.76
3	2485.7025 PK	53.36	74	-20.64	-45.52	3.62	-41.9
4	2483.7075 AV	39.95	54	-14.05	-58.93	3.62	-55.31

Note :

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

d = measurement distance in 3 meters.



802.11b - Channel 6

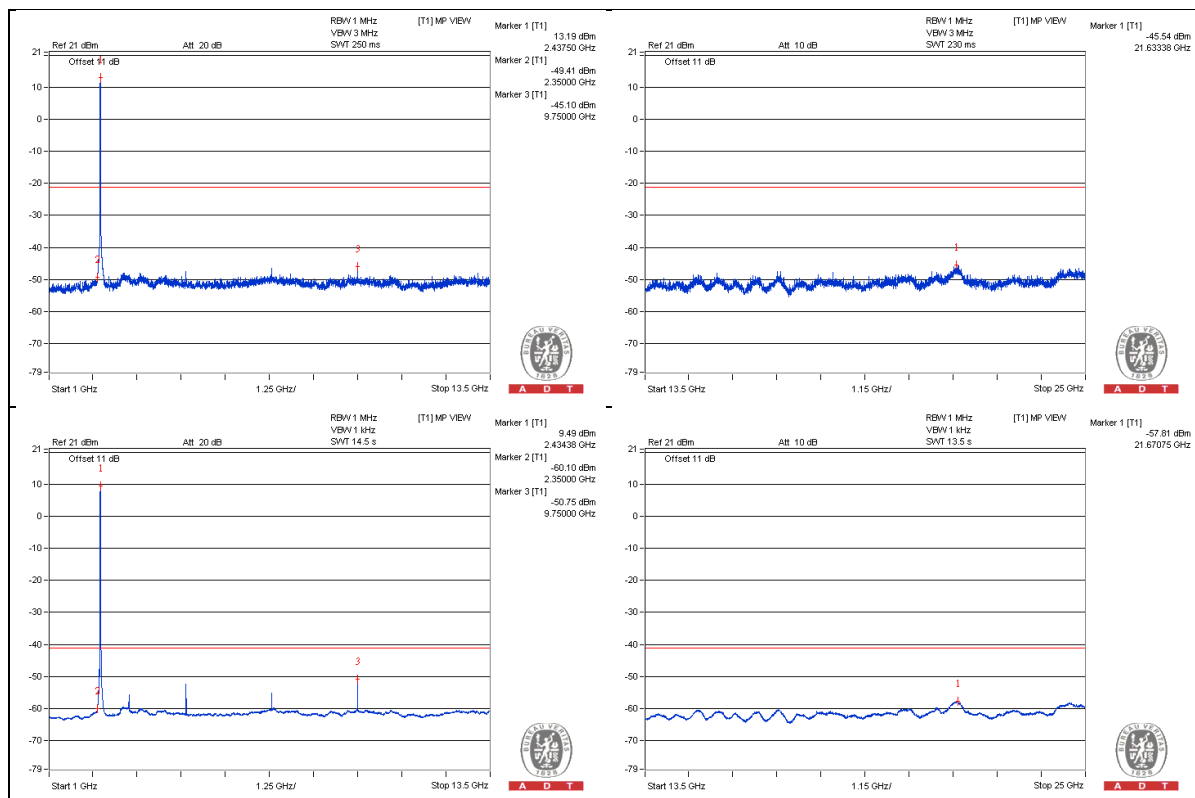
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1625 PK	45.34	74	-28.66	-53.54	3.62	-49.92
2	1625 AV	35.85	54	-18.15	-63.03	3.62	-59.41
3	4875 PK	51.41	74	-22.59	-47.47	3.62	-43.85
4	4875 AV	46.54	54	-7.46	-52.34	3.62	-48.72
5	7312.5 PK	52.45	74	-21.55	-46.43	3.62	-42.81
6	7309.375 AV	43.77	54	-10.23	-55.11	3.62	-51.49

Note :

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

d = measurement distance in 3 meters.



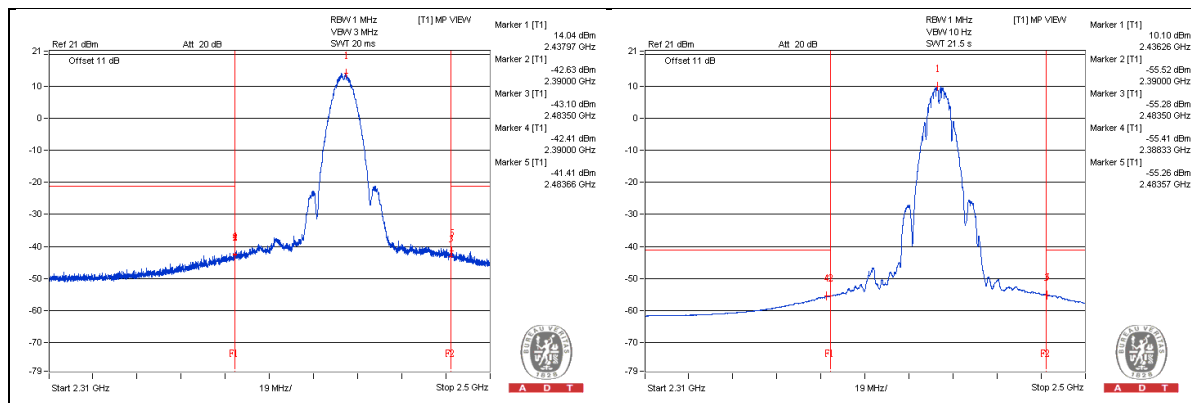
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2387.71 PK	56.79	74	-17.21	-42.09	3.62	-38.47
2	2388.3275 AV	43.47	54	-10.53	-55.41	3.62	-51.79
3	2483.66 PK	57.47	74	-16.53	-41.41	3.62	-37.79
4	2483.565 AV	43.62	54	-10.38	-55.26	3.62	-51.64
5	2492.02 PK	57.3	74	-16.7	-41.58	3.62	-37.96
6	2490.025 AV	42.73	54	-11.27	-56.15	3.62	-52.53

Note :

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

d = measurement distance in 3 meters.



802.11b - Channel 11

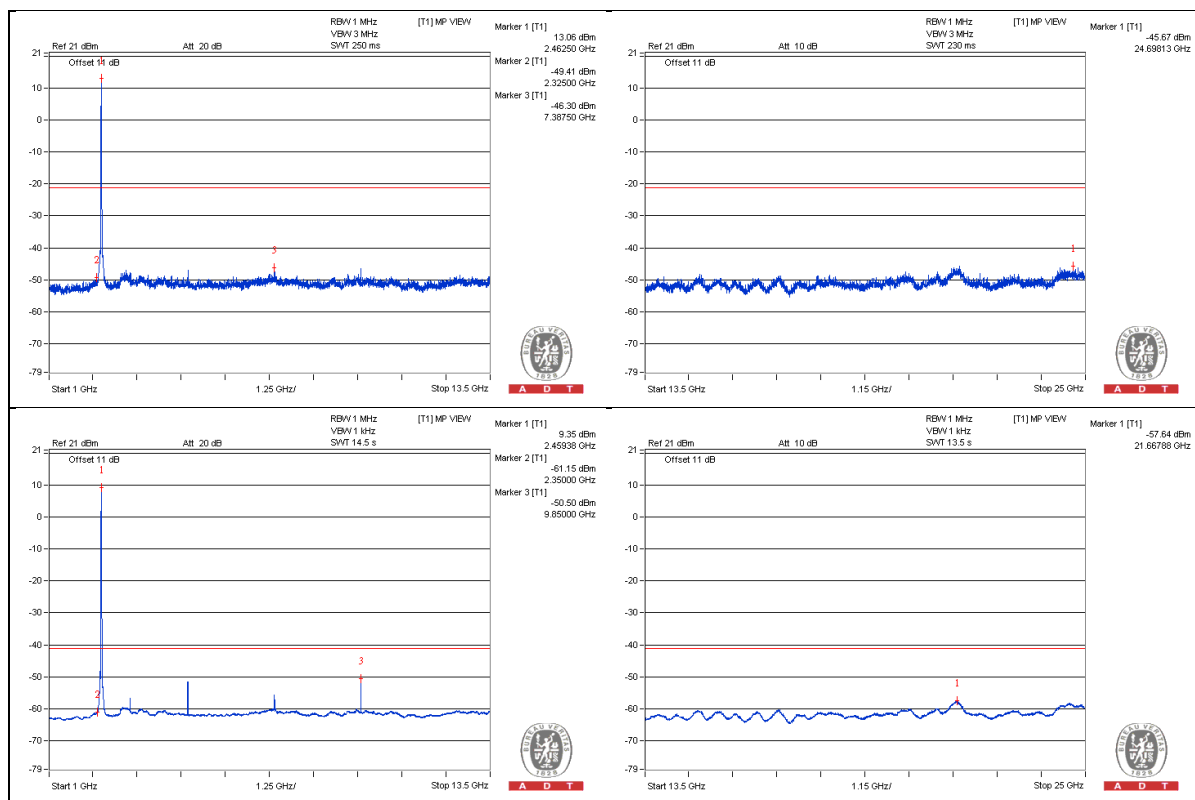
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4925 PK	51.81	74	-22.19	-47.07	3.62	-43.45
2	4925 AV	47.22	54	-6.78	-51.66	3.62	-48.04
3	7387.5 PK	52.58	74	-21.42	-46.3	3.62	-42.68
4	7384.375 AV	43.27	54	-10.73	-55.61	3.62	-51.99

Note :

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

d = measurement distance in 3 meters.



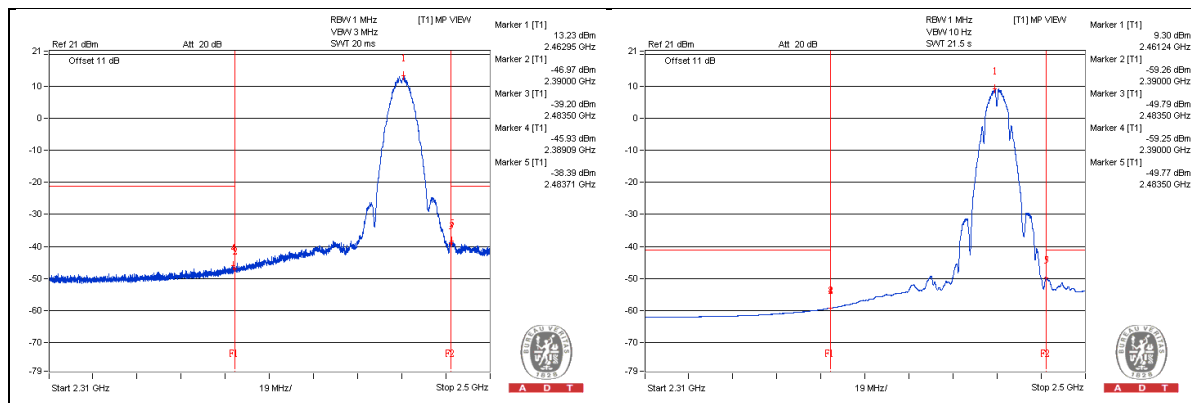
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.0875 PK	52.95	74	-21.05	-45.93	3.62	-42.31
2	2389.8475 AV	39.65	54	-14.35	-59.23	3.62	-55.61
3	2483.7075 PK	60.49	74	-13.51	-38.39	3.62	-34.77
4	2483.5175 AV	49.09	54	-4.91	-49.79	3.62	-46.17
5	2490.025 PK	59.11	74	-14.89	-39.77	3.62	-36.15
6	2490.1675 AV	47.48	54	-6.52	-51.4	3.62	-47.78

Note :

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

d = measurement distance in 3 meters.



802.11b - Channel 12

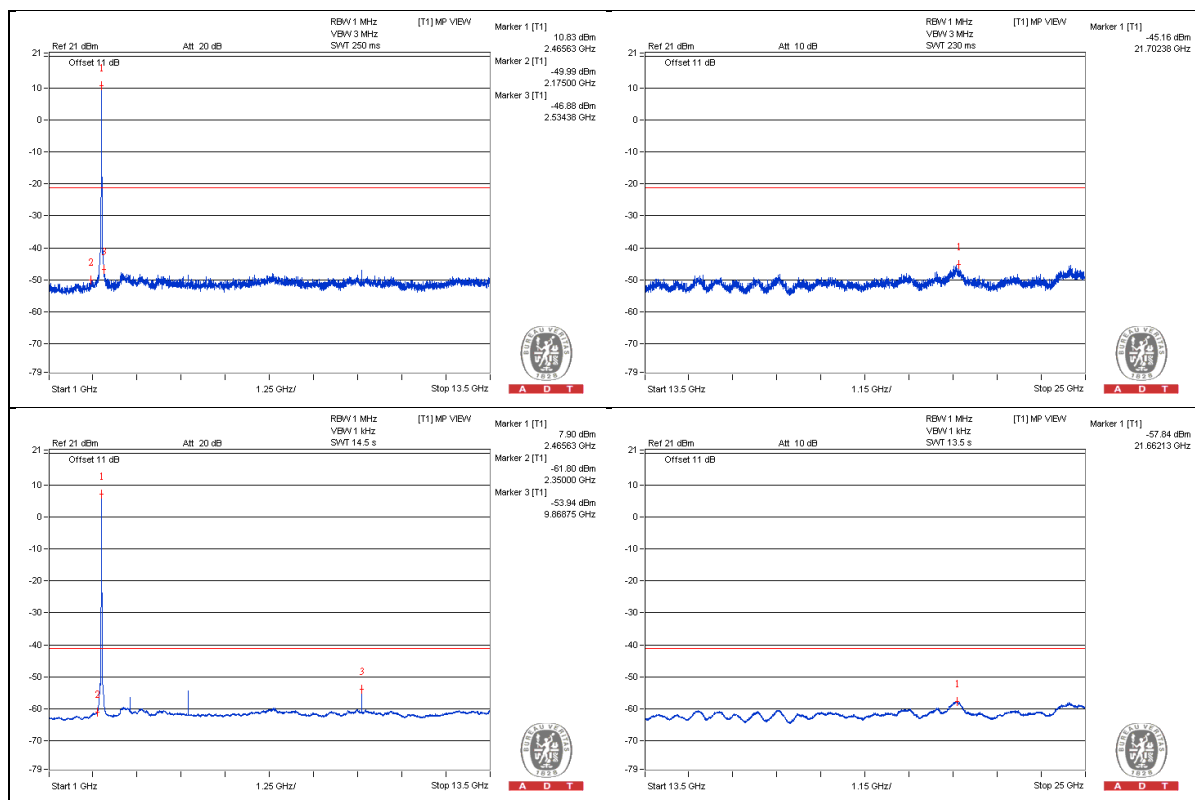
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4934.375 PK	50.31	74	-23.69	-48.57	3.62	-44.95
2	4934.375 AV	44.37	54	-9.63	-54.51	3.62	-50.89
3	7400 PK	48.94	74	-25.06	-49.94	3.62	-46.32
4	7400 AV	38.96	54	-15.04	-59.92	3.62	-56.3

Note :

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

d = measurement distance in 3 meters.



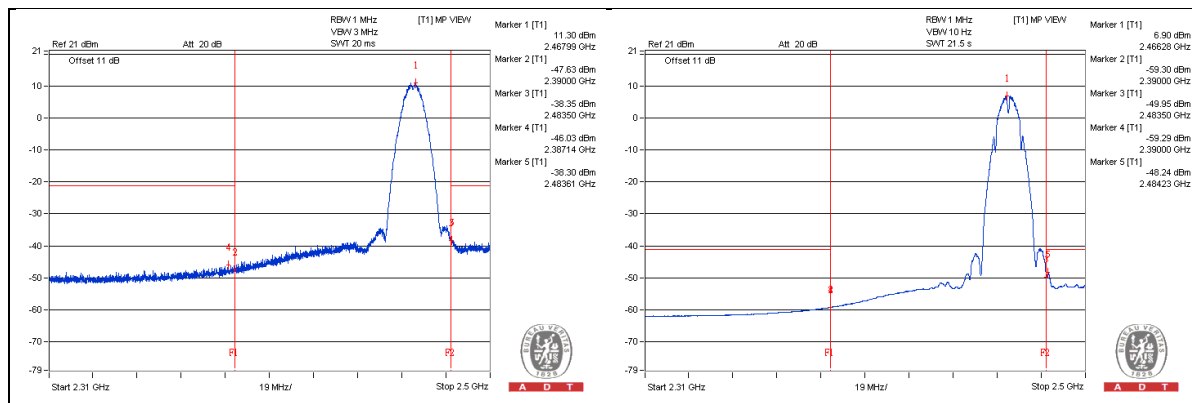
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2387.14 PK	52.85	74	-21.15	-46.03	3.62	-42.41
2	2389.9425 AV	39.58	54	-14.42	-59.3	3.62	-55.68
3	2483.6125 PK	60.58	74	-13.42	-38.3	3.62	-34.68
4	2484.23 AV	50.64	54	-3.36	-48.24	3.62	-44.62
5	2493.5875 PK	60.14	74	-13.86	-38.74	3.62	-35.12
6	2491.8775 AV	47.04	54	-6.96	-51.84	3.62	-48.22

Note :

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

d = measurement distance in 3 meters.



802.11b - Channel 13

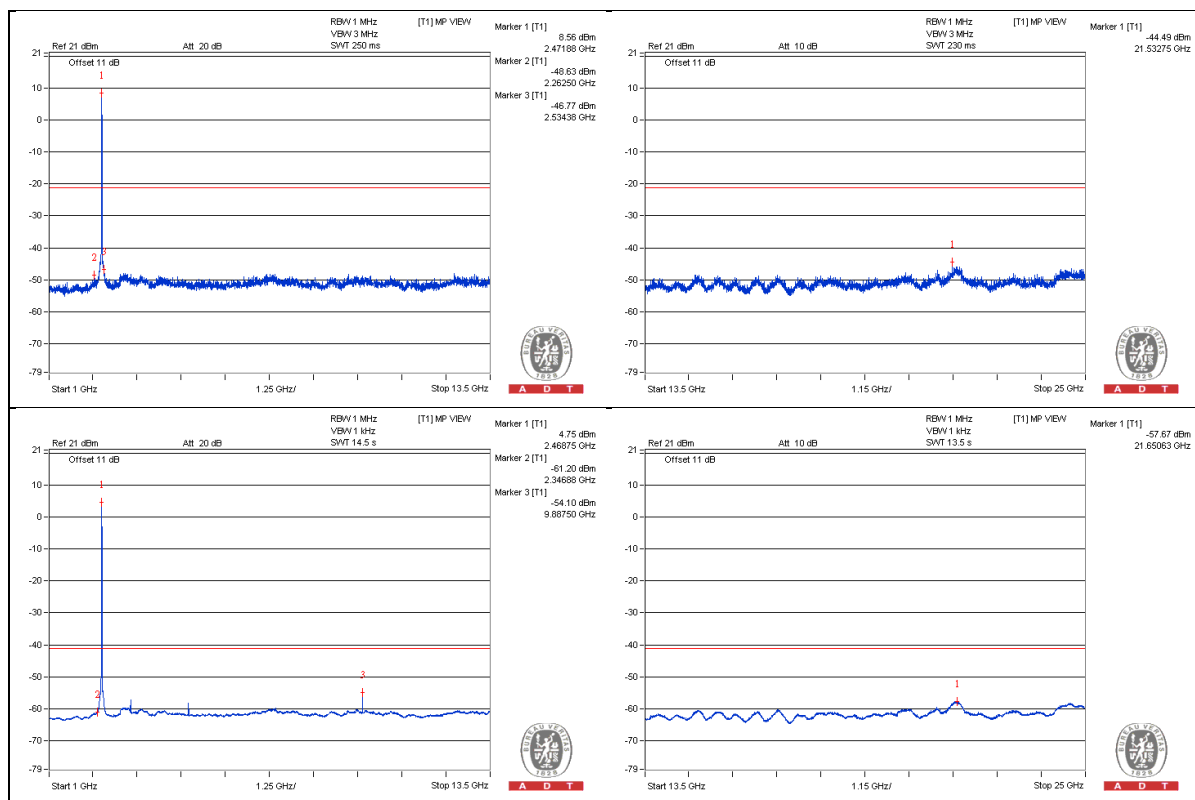
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4943.75 PK	47.38	74	-26.62	-51.5	3.62	-47.88
2	4943.75 AV	40.48	54	-13.52	-58.4	3.62	-54.78
3	7415.625 PK	49.32	74	-24.68	-49.56	3.62	-45.94
4	7415.625 AV	38.95	54	-15.05	-59.93	3.62	-56.31

Note :

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

d = measurement distance in 3 meters.



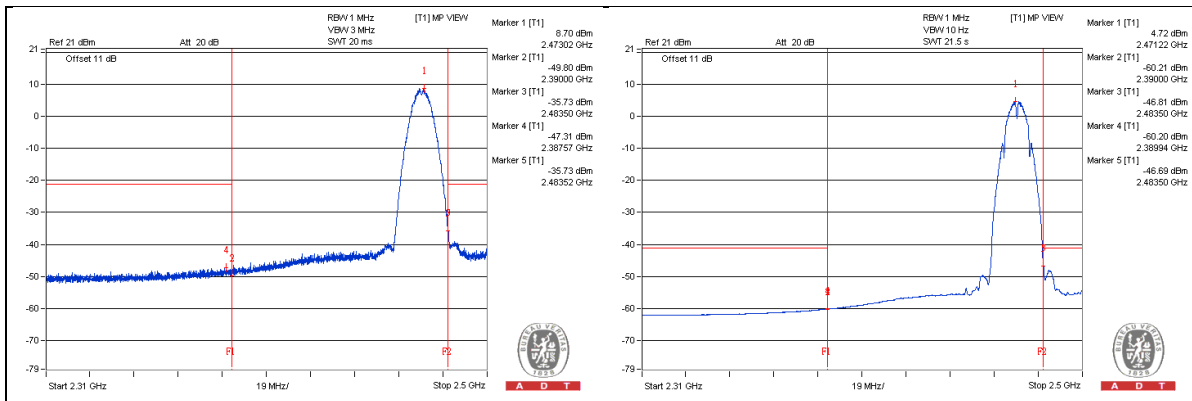
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2387.5675 PK	51.57	74	-22.43	-47.31	3.62	-43.69
2	2389.895 AV	38.68	54	-15.32	-60.2	3.62	-56.58
3	2483.5175 PK	63.15	74	-10.85	-35.73	3.62	-32.11
4	2483.5175 AV	52.07	54	-1.93	-46.81	3.62	-43.19
5	2490.405 PK	57.7	74	-16.3	-41.18	3.62	-37.56
6	2490.12 AV	44.7	54	-9.3	-54.18	3.62	-50.56

Note :

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

d = measurement distance in 3 meters.



802.11g - Channel 1

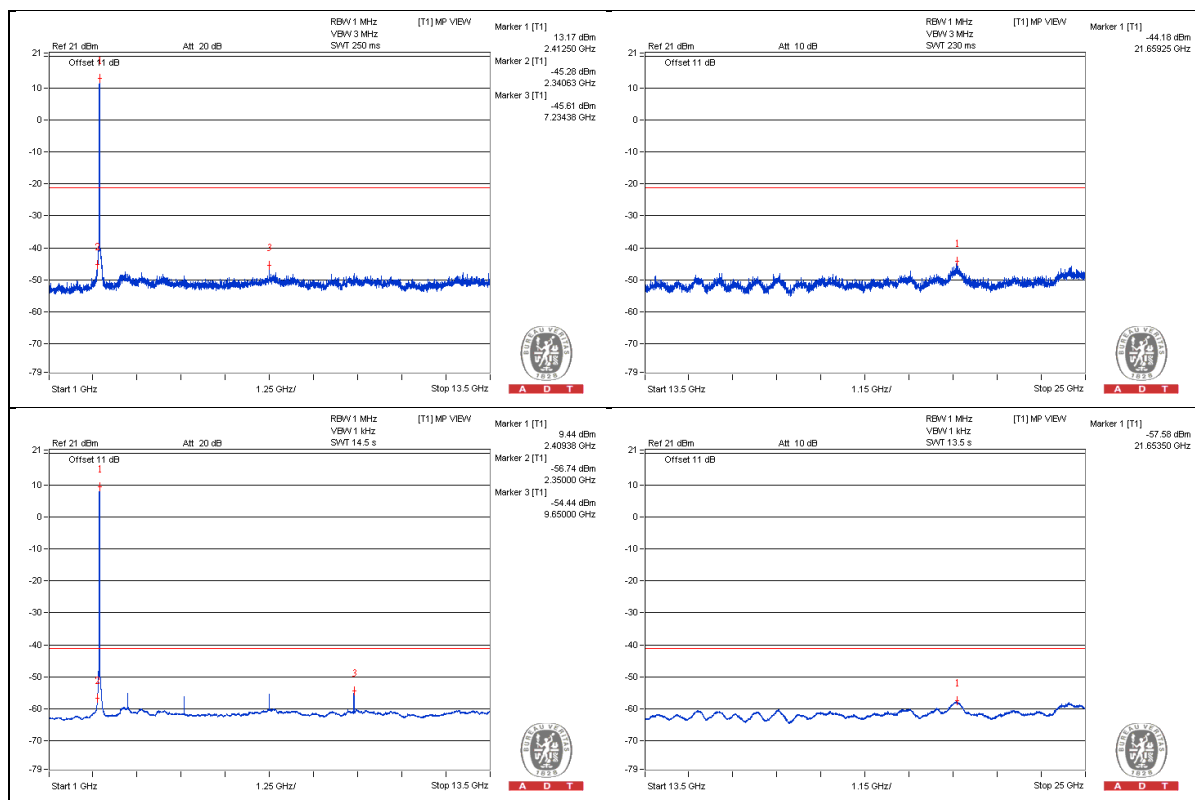
Conducted spurious emission table

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	47.02	74	-26.98	-51.86	3.62	-48.24
2	1606.25 AV	35.76	54	-18.24	-63.12	3.62	-59.5
3	4825 PK	47.61	74	-26.39	-51.27	3.62	-47.65
4	4825 AV	37.41	54	-16.59	-61.47	3.62	-57.85

Note :

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

d = measurement distance in 3 meters.



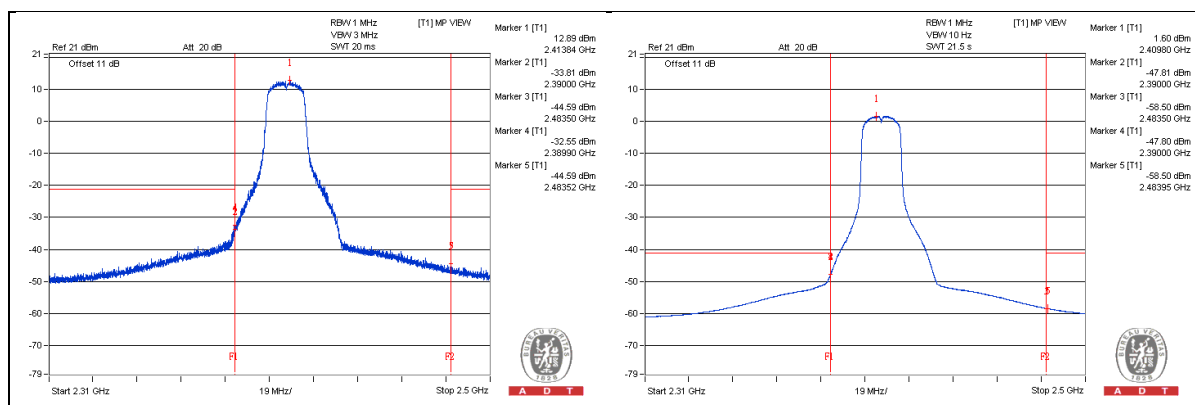
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.895 PK	66.33	74	-7.67	-32.55	3.62	-28.93
2	2389.99 AV	51.07	54	-2.93	-47.81	3.62	-44.19
3	2483.5175 PK	54.29	74	-19.71	-44.59	3.62	-40.97
4	2483.5175 AV	40.38	54	-13.62	-58.5	3.62	-54.88

Note :

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

d = measurement distance in 3 meters.



802.11g - Channel 6

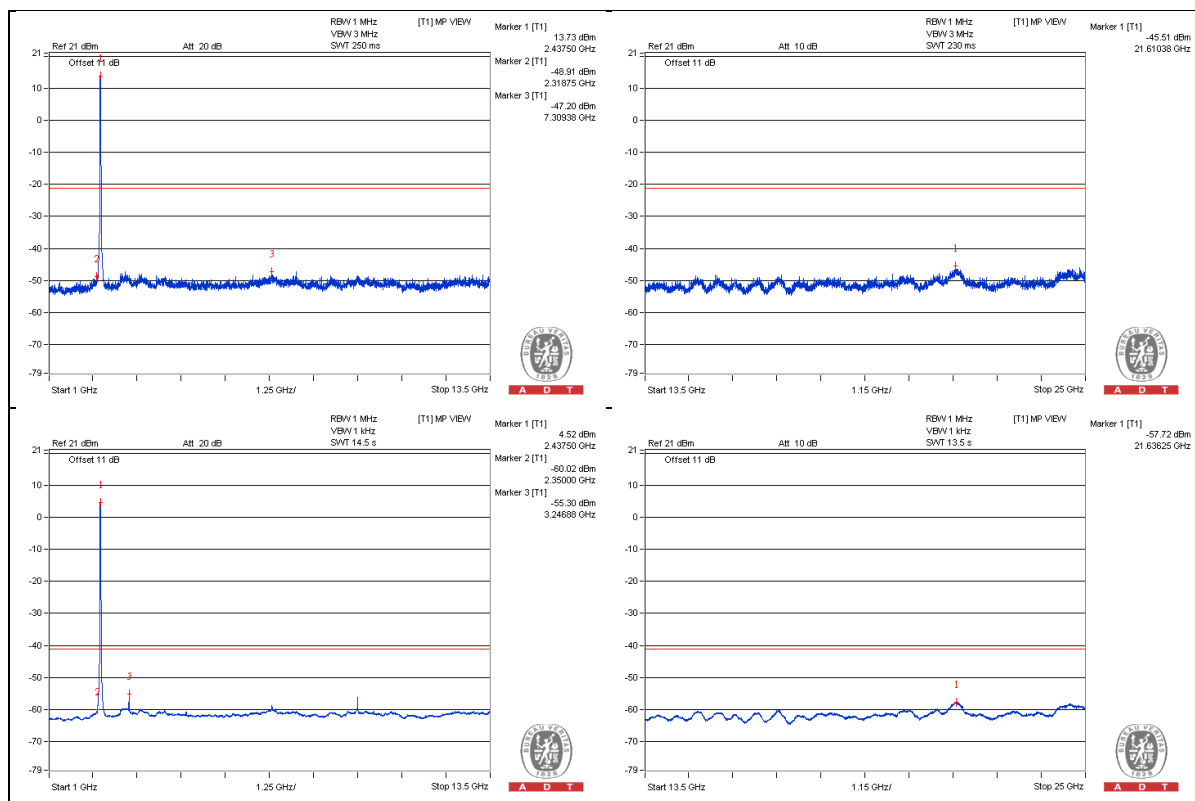
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1625 PK	45.38	74	-28.62	-53.5	3.62	-49.88
2	1625 AV	35.74	54	-18.26	-63.14	3.62	-59.52
3	4875 PK	47.8	74	-26.2	-51.08	3.62	-47.46
4	4875 AV	38.07	54	-15.93	-60.81	3.62	-57.19
5	7309.375 PK	51.68	74	-22.32	-47.2	3.62	-43.58
6	7312.5 AV	40.13	54	-13.87	-58.75	3.62	-55.13

Note :

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

d = measurement distance in 3 meters.



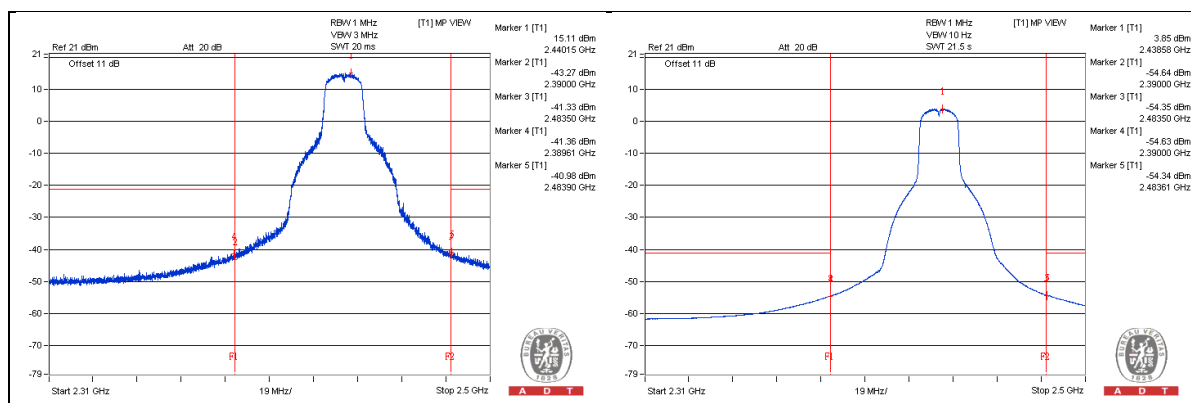
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.61 PK	57.52	74	-16.48	-41.36	3.62	-37.74
2	2389.515 AV	44.26	54	-9.74	-54.62	3.62	-51
3	2483.8975 PK	57.9	74	-16.1	-40.98	3.62	-37.36
4	2483.6125 AV	44.54	54	-9.46	-54.34	3.62	-50.72

Note :

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

d = measurement distance in 3 meters.



802.11g - Channel 11

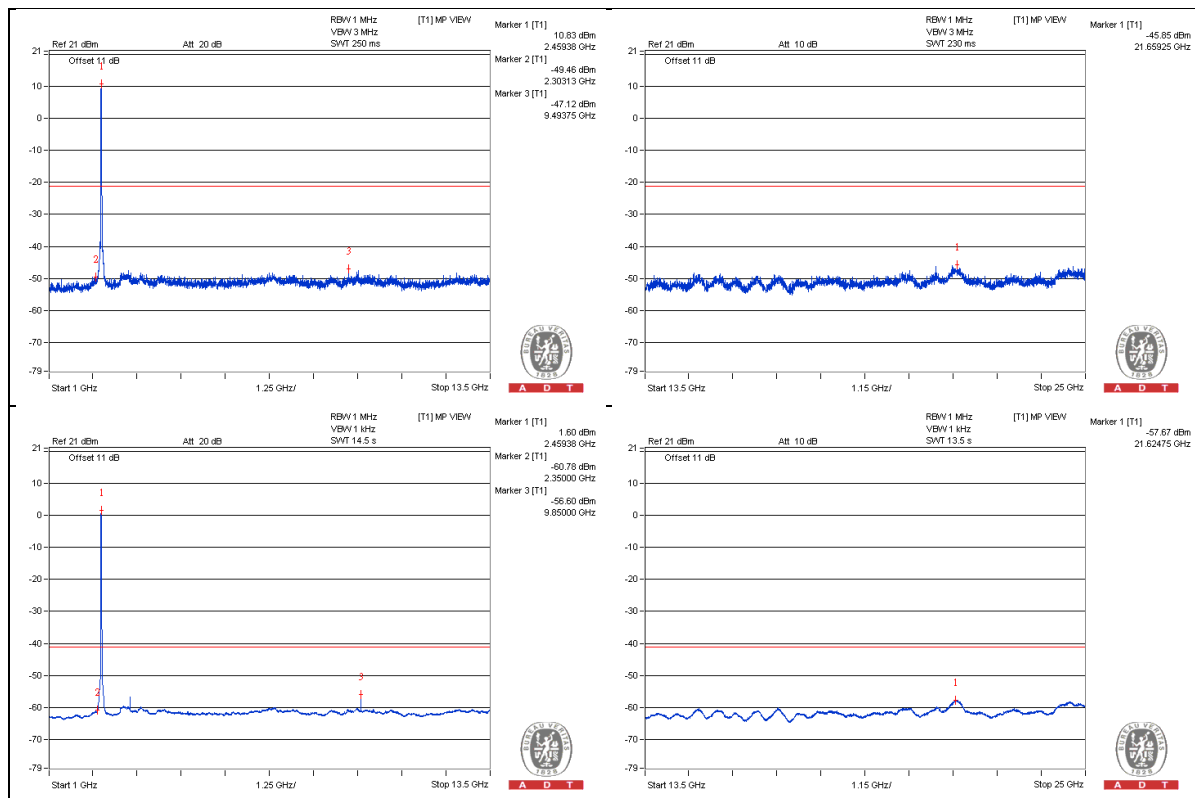
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4925 PK	47.45	74	-26.55	-51.43	3.62	-47.81
2	4925 AV	37.58	54	-16.42	-61.3	3.62	-57.68
3	7387.5 PK	49.88	74	-24.12	-49	3.62	-45.38
4	7384.375 AV	38.88	54	-15.12	-60	3.62	-56.38

Note :

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

d = measurement distance in 3 meters.



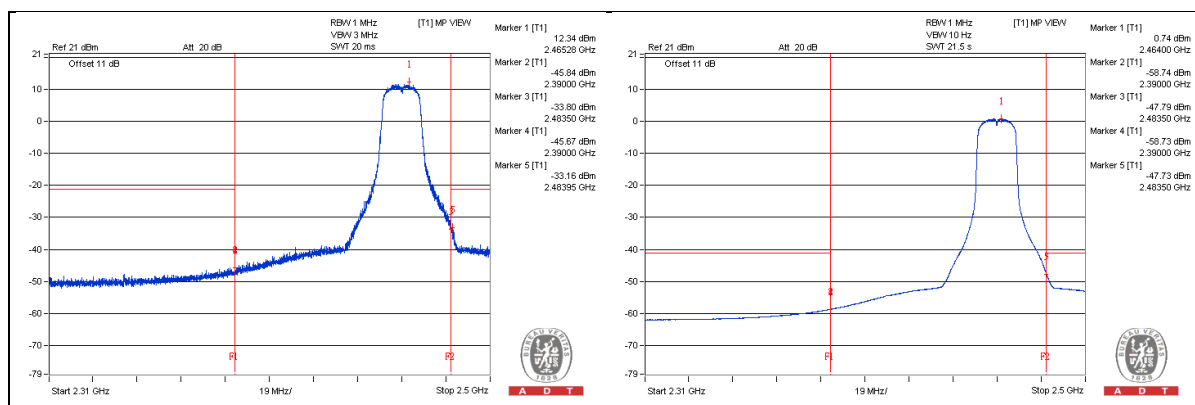
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2387.8525 PK	53.05	74	-20.95	-45.83	3.62	-42.21
2	2389.61 AV	40.15	54	-13.85	-58.73	3.62	-55.11
3	2483.945 PK	65.72	74	-8.28	-33.16	3.62	-29.54
4	2483.5175 AV	51.09	54	-2.91	-47.79	3.62	-44.17

Note :

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

d = measurement distance in 3 meters.



802.11g - Channel 12

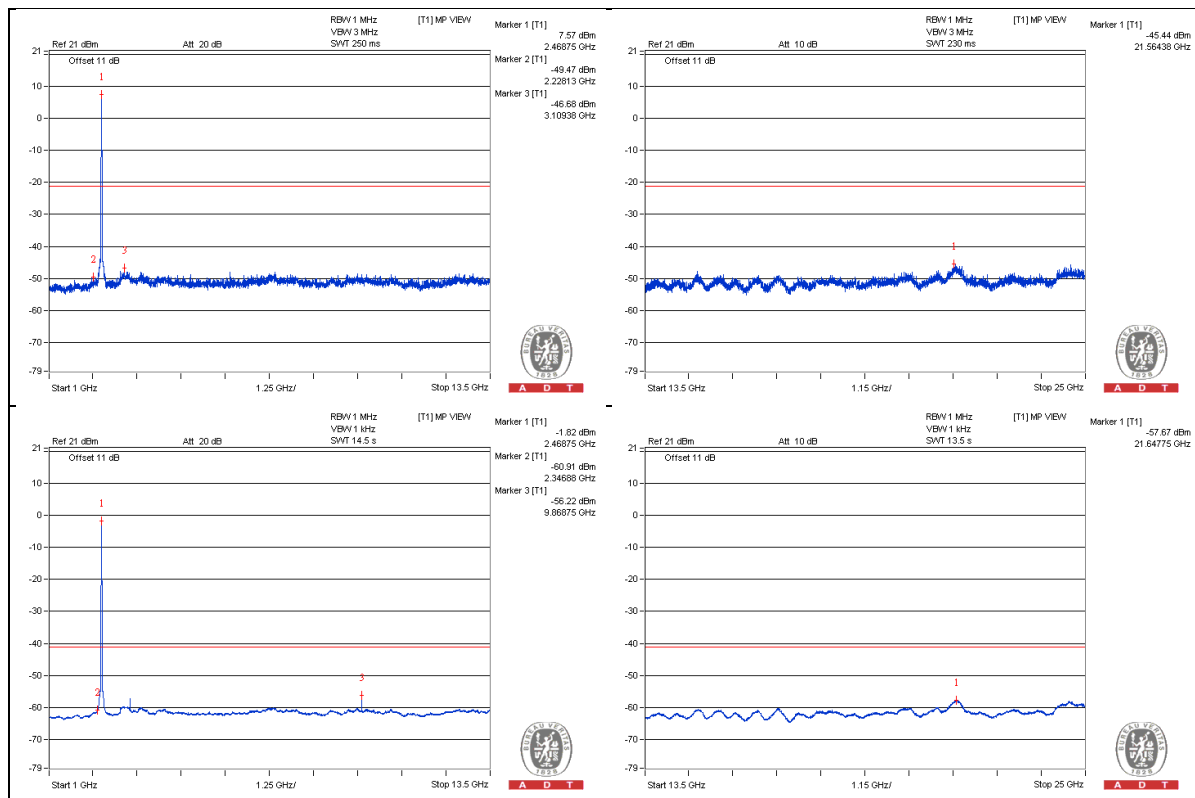
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4934.375 PK	47.29	74	-26.71	-51.59	3.62	-47.97
2	4934.375 AV	37.21	54	-16.79	-61.67	3.62	-58.05
3	7400 PK	50.8	74	-23.2	-48.08	3.62	-44.46
4	7400 AV	38	54	-16	-60.88	3.62	-57.26

Note :

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

d = measurement distance in 3 meters.



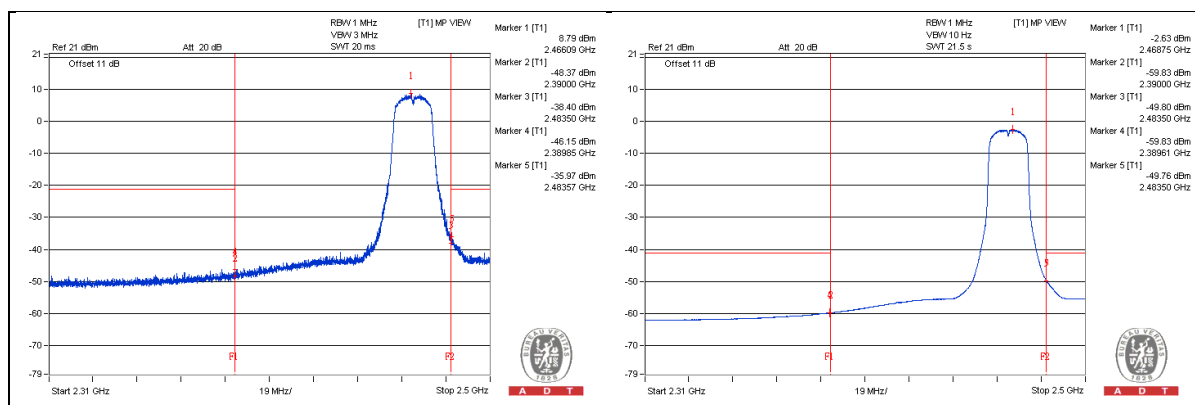
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.8475 PK	52.73	74	-21.27	-46.15	3.62	-42.53
2	2389.61 AV	39.05	54	-14.95	-59.83	3.62	-56.21
3	2483.565 PK	62.91	74	-11.09	-35.97	3.62	-32.35
4	2483.5175 AV	49.08	54	-4.92	-49.8	3.62	-46.18

Note :

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

d = measurement distance in 3 meters.



802.11g - Channel 13

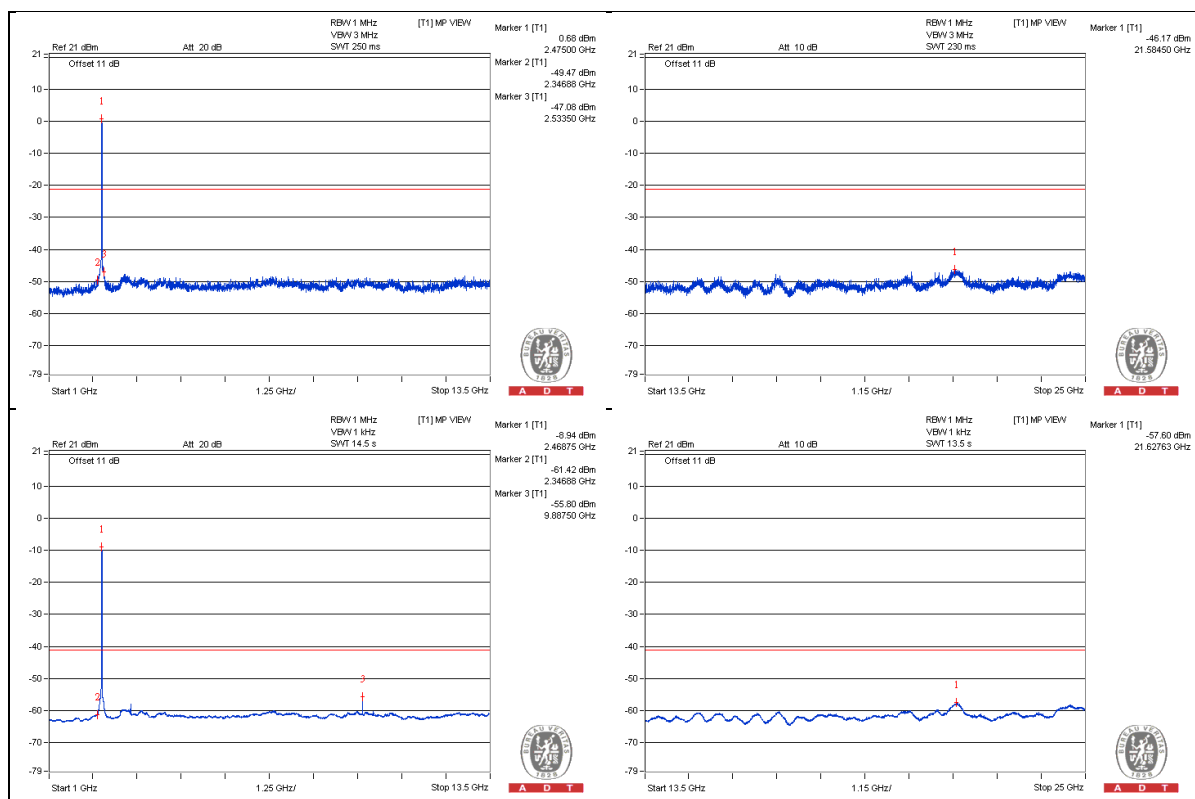
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4943.75 PK	46.57	74	-27.43	-52.31	3.62	-48.69
2	4943.75 AV	36.6	54	-17.4	-62.28	3.62	-58.66
3	7415.625 PK	48.07	74	-25.93	-50.81	3.62	-47.19
4	7415.625 AV	38.4	54	-15.6	-60.48	3.62	-56.86

Note :

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

d = measurement distance in 3 meters.



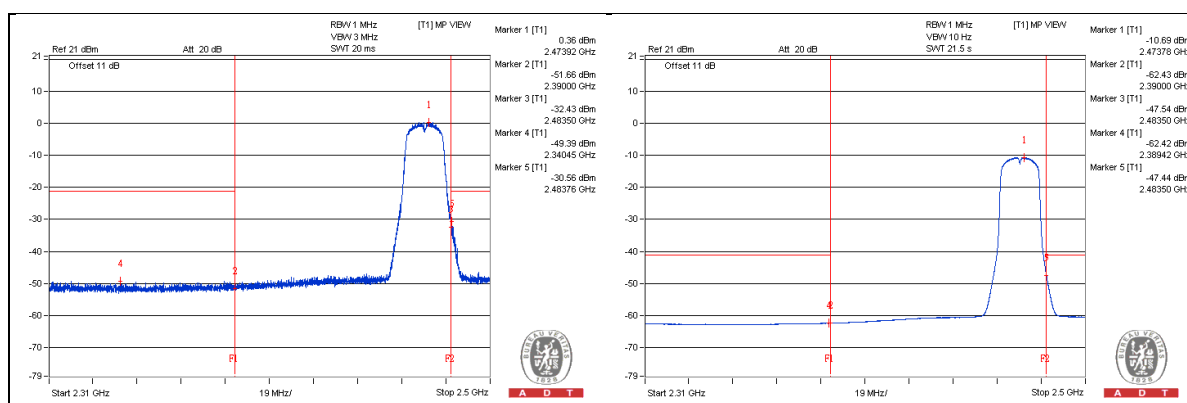
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2340.4475 PK	49.49	74	-24.51	-49.39	3.62	-45.77
2	2389.42 AV	36.46	54	-17.54	-62.42	3.62	-58.8
3	2483.755 PK	68.32	74	-5.68	-30.56	3.62	-26.94
4	2483.5175 AV	51.34	54	-2.66	-47.54	3.62	-43.92

Note :

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

d = measurement distance in 3 meters.



802.11n (HT20) - Channel 1

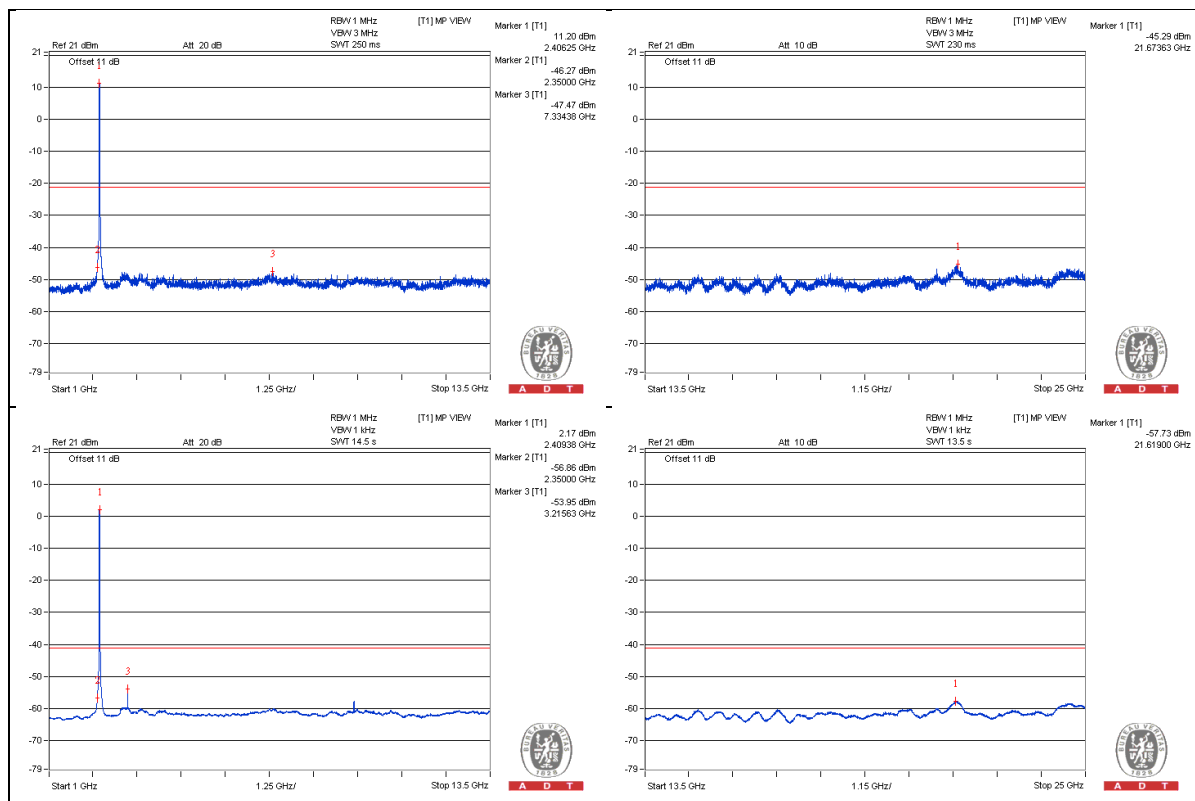
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1606.25 PK	45.75	74	-28.25	-53.13	3.62	-49.51
2	1606.25 AV	35.63	54	-18.37	-63.25	3.62	-59.63
3	4825 PK	48	74	-26	-50.88	3.62	-47.26
4	4825 AV	37.38	54	-16.62	-61.5	3.62	-57.88

Note :

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

d = measurement distance in 3 meters.



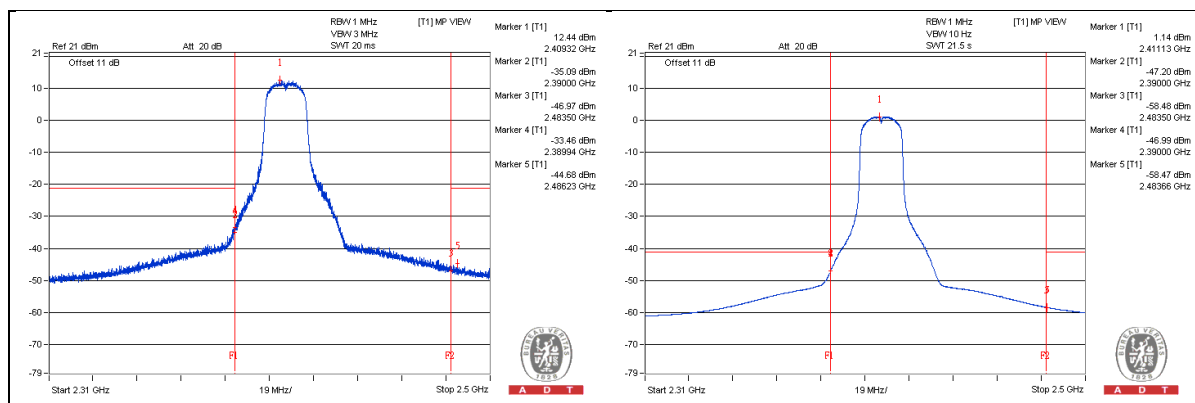
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.9425 PK	65.42	74	-8.58	-33.46	3.62	-29.84
2	2389.99 AV	51.86	54	-2.14	-47.02	3.62	-43.4
3	2486.225 PK	54.2	74	-19.8	-44.68	3.62	-41.06
4	2483.66 AV	40.41	54	-13.59	-58.47	3.62	-54.85

Note :

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

d = measurement distance in 3 meters.



802.11n (HT20) - Channel 6

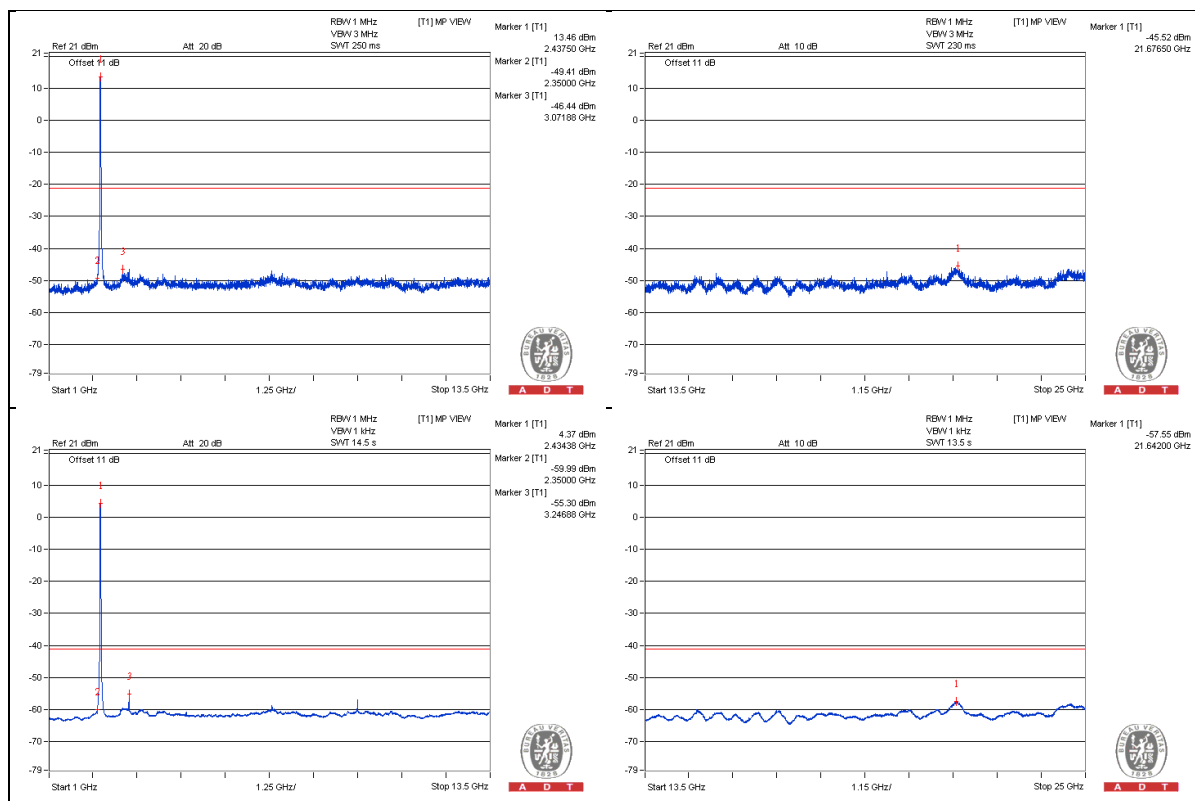
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1625 PK	45.51	74	-28.49	-53.37	3.62	-49.75
2	1625 AV	35.68	54	-18.32	-63.2	3.62	-59.58
3	4875 PK	48.62	74	-25.38	-50.26	3.62	-46.64
4	4875 AV	37.78	54	-16.22	-61.1	3.62	-57.48
5	7309.375 PK	51.9	74	-22.1	-46.98	3.62	-43.36
6	7312.5 AV	40.17	54	-13.83	-58.71	3.62	-55.09

Note :

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

d = measurement distance in 3 meters.



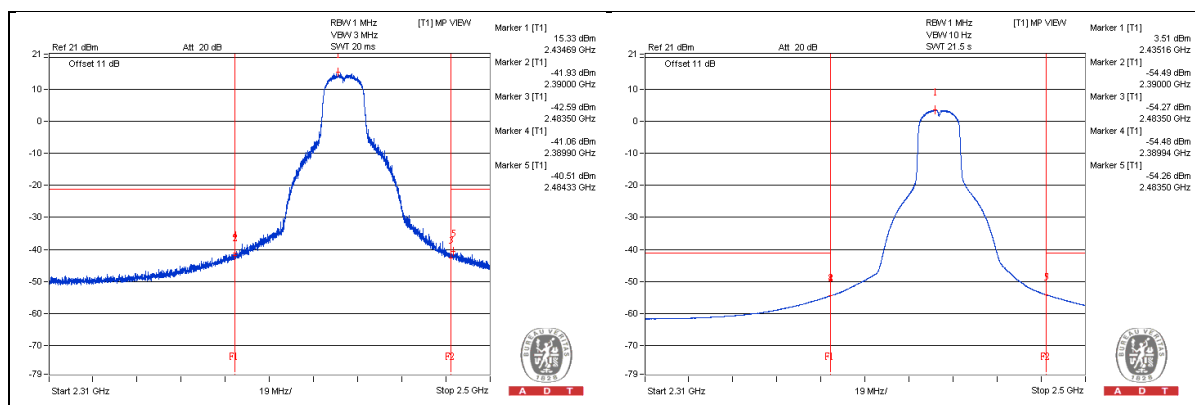
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2389.895 PK	57.82	74	-16.18	-41.06	3.62	-37.44
2	2389.9425 AV	44.4	54	-9.6	-54.48	3.62	-50.86
3	2484.325 PK	58.37	74	-15.63	-40.51	3.62	-36.89
4	2483.5175 AV	44.61	54	-9.39	-54.27	3.62	-50.65

Note :

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

d = measurement distance in 3 meters.



802.11n (HT20) - Channel 11

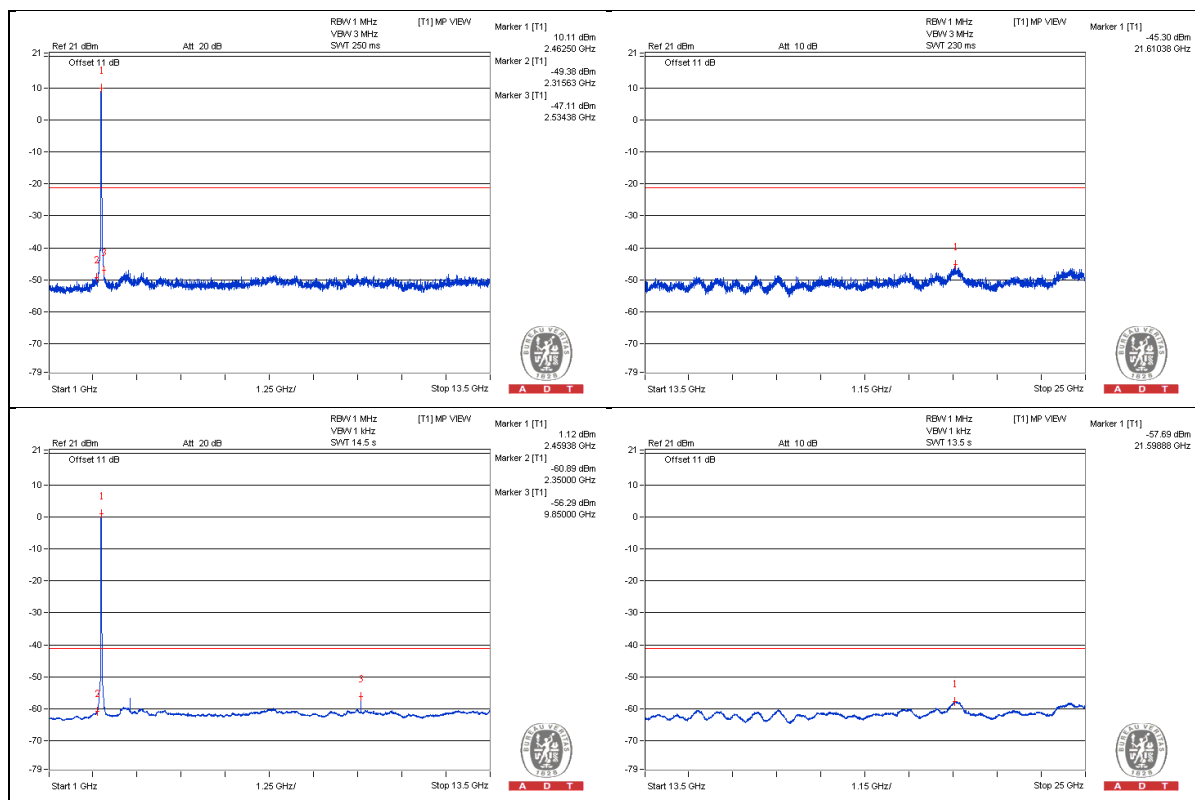
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4925 PK	47.4	74	-26.6	-51.48	3.62	-47.86
2	4925 AV	37.54	54	-16.46	-61.34	3.62	-57.72
3	7384.375 PK	49.83	74	-24.17	-49.05	3.62	-45.43
4	7384.375 AV	38.76	54	-15.24	-60.12	3.62	-56.5

Note :

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

d = measurement distance in 3 meters.



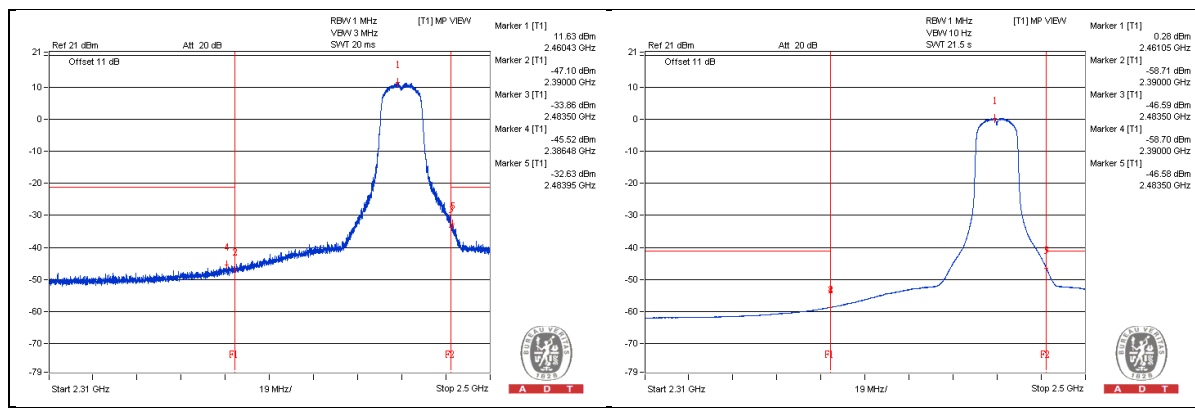
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2386.475 PK	53.36	74	-20.64	-45.52	3.62	-41.9
2	2389.99 AV	40.17	54	-13.83	-58.71	3.62	-55.09
3	2483.8025 PK	66.25	74	-7.75	-32.63	3.62	-29.01
4	2483.5175 AV	52.29	54	-1.71	-46.59	3.62	-42.97

Note :

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

d = measurement distance in 3 meters.



802.11n (HT20) - Channel 12

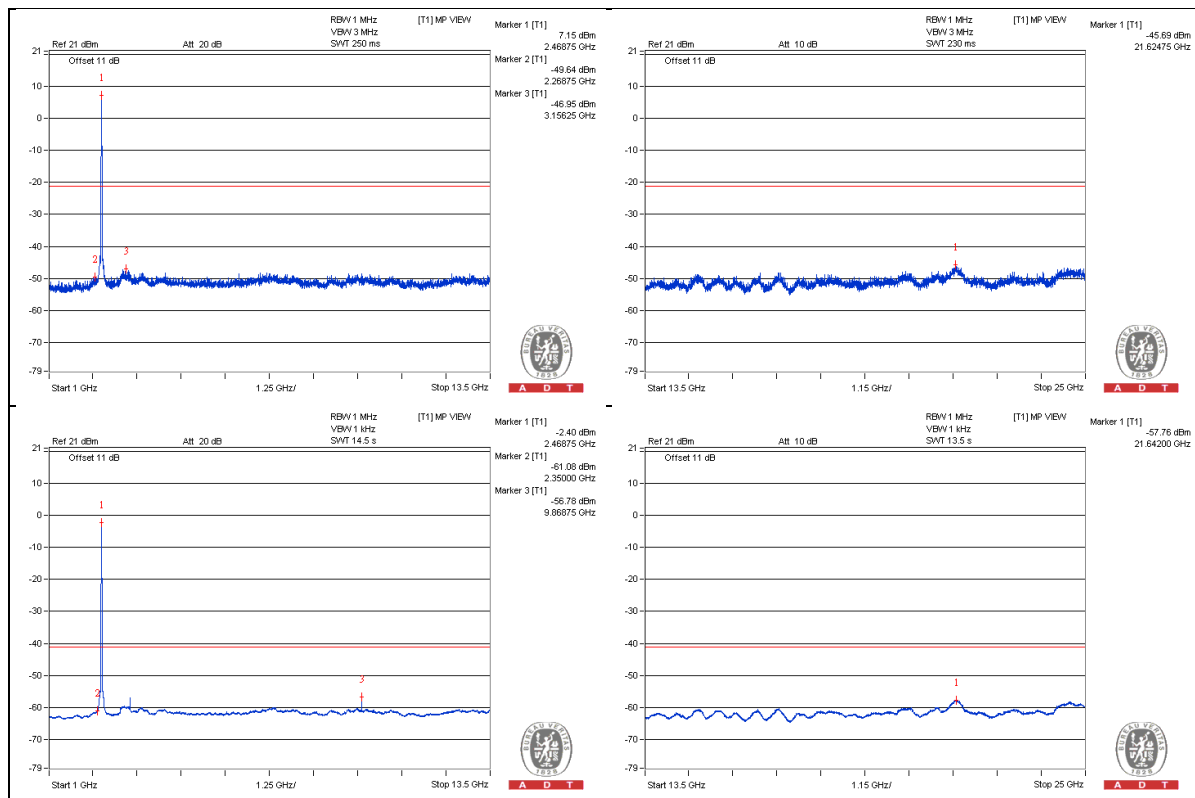
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4934.375 PK	47.36	74	-26.64	-51.52	3.62	-47.9
2	4934.375 AV	36.86	54	-17.14	-62.02	3.62	-58.4
3	7400 PK	48.77	74	-25.23	-50.11	3.62	-46.49
4	7400 AV	38.35	54	-15.65	-60.53	3.62	-56.91

Note :

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

d = measurement distance in 3 meters.



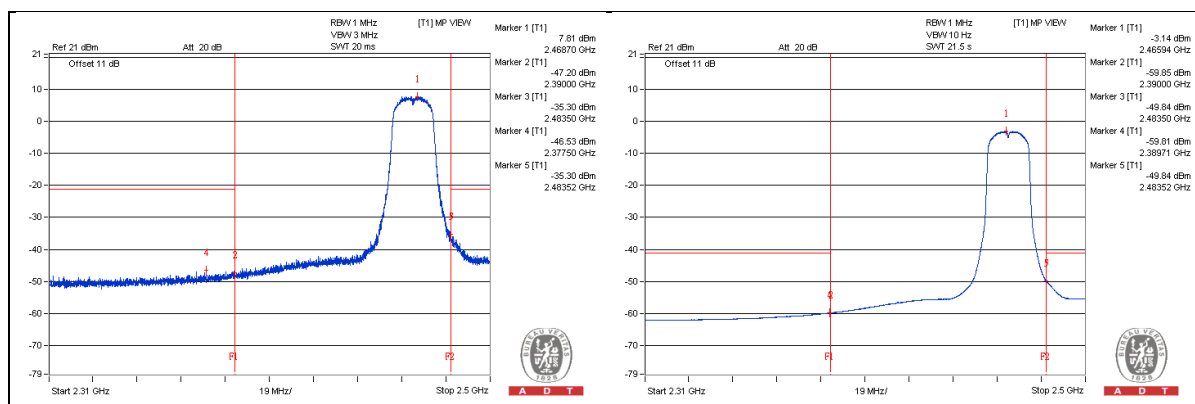
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2377.4975 PK	52.35	74	-21.65	-46.53	3.62	-42.91
2	2389.705 AV	39.07	54	-14.93	-59.81	3.62	-56.19
3	2483.5175 PK	63.58	74	-10.42	-35.3	3.62	-31.68
4	2483.5175 AV	49.04	54	-4.96	-49.84	3.62	-46.22

Note :

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

d = measurement distance in 3 meters.



802.11n (HT20) - Channel 13

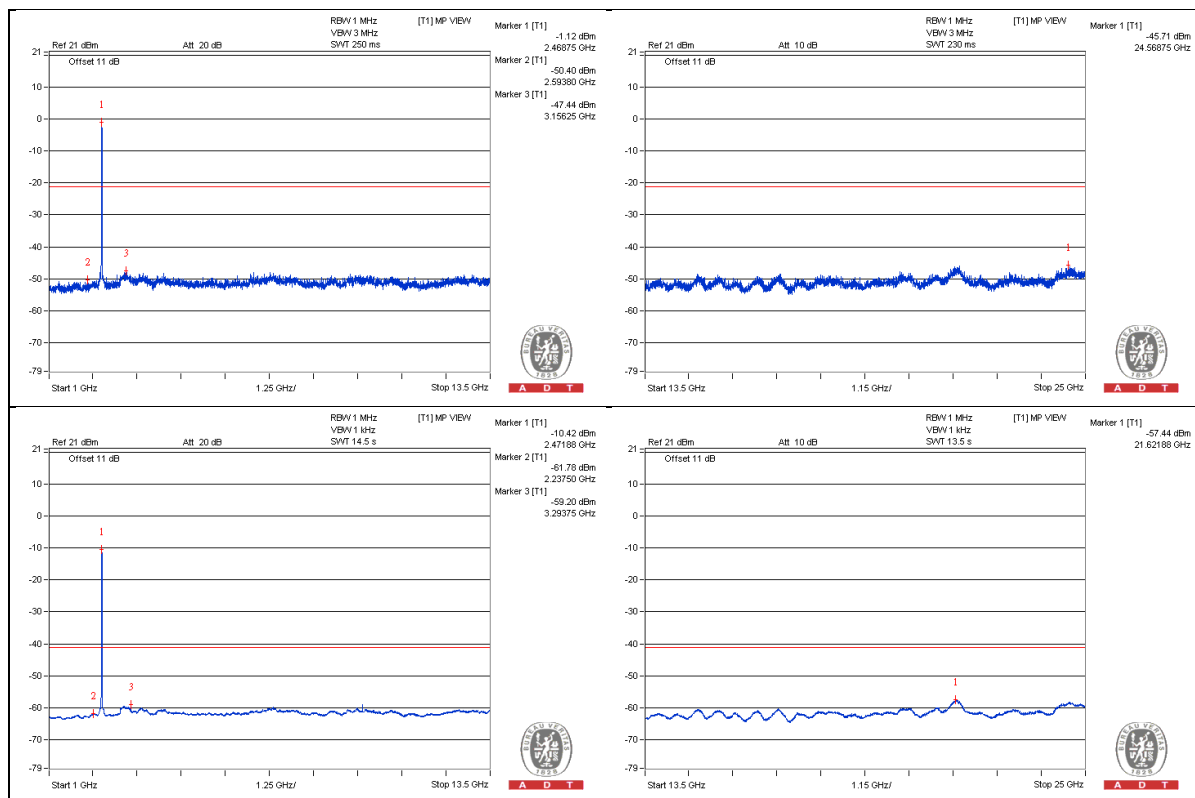
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4943.75 PK	47.96	74	-26.04	-50.92	3.62	-47.3
2	4943.75 AV	36.77	54	-17.23	-62.11	3.62	-58.49
3	7415.625 PK	49.44	74	-24.56	-49.44	3.62	-45.82
4	7415.625 AV	38.42	54	-15.58	-60.46	3.62	-56.84

Note :

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

d = measurement distance in 3 meters.



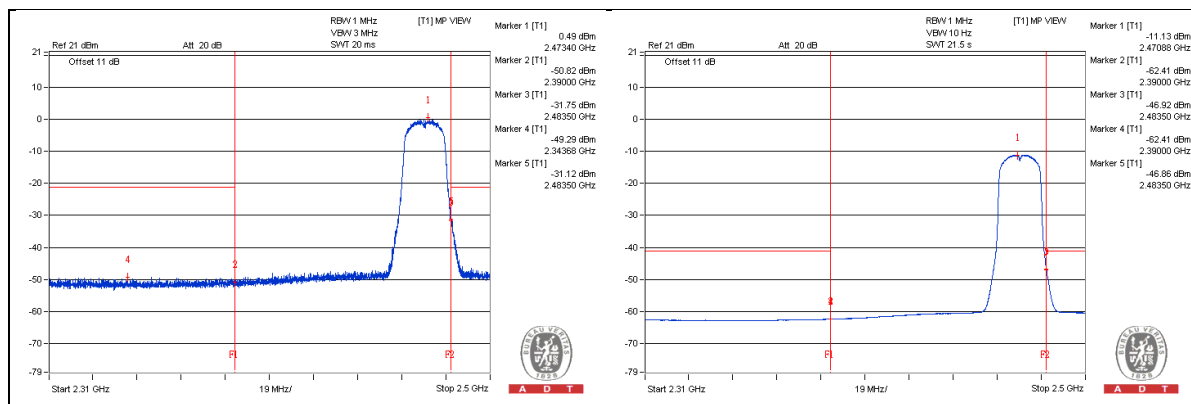
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2343.6775 PK	49.59	74	-24.41	-49.29	3.62	-45.67
2	2389.99 AV	36.47	54	-17.53	-62.41	3.62	-58.79
3	2483.565 PK	67.6	74	-6.4	-31.28	3.62	-27.66
4	2483.5175 AV	51.96	54	-2.04	-46.92	3.62	-43.3

Note :

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

d = measurement distance in 3 meters.



802.11n (HT40) - Channel 3

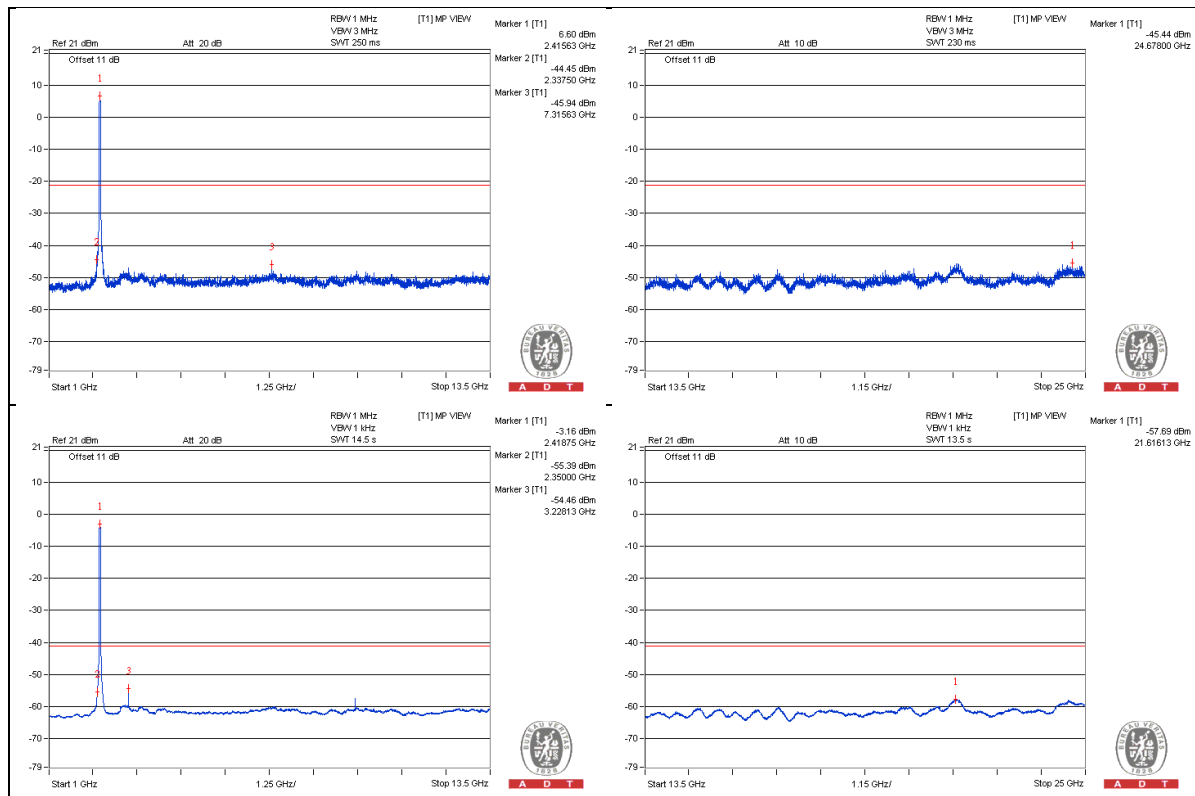
Conducted spurious emission table

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	45.69	74	-28.31	-53.19	3.62	-49.57
2	1615.625 AV	35.54	54	-18.46	-63.34	3.62	-59.72
3	4843.75 PK	46.47	74	-27.53	-52.41	3.62	-48.79
4	4843.75 AV	37.19	54	-16.81	-61.69	3.62	-58.07
5	7265.625 PK	49.1	74	-24.9	-49.78	3.62	-46.16
6	7265.625 AV	38.49	54	-15.51	-60.39	3.62	-56.77

Note :

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

d = measurement distance in 3 meters.



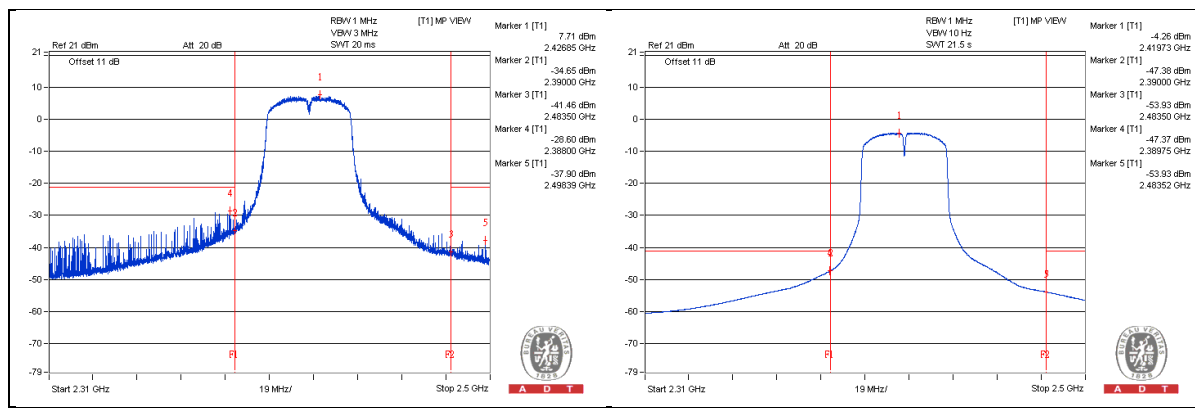
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2387.995 PK	70.28	74	-3.72	-28.6	3.62	-24.98
2	2389.7525 AV	51.51	54	-2.49	-47.37	3.62	-43.75
3	2498.385 PK	60.98	74	-13.02	-37.9	3.62	-34.28
4	2483.5175 AV	44.95	54	-9.05	-53.93	3.62	-50.31

Note :

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

d = measurement distance in 3 meters.



802.11n (HT40) - Channel 6

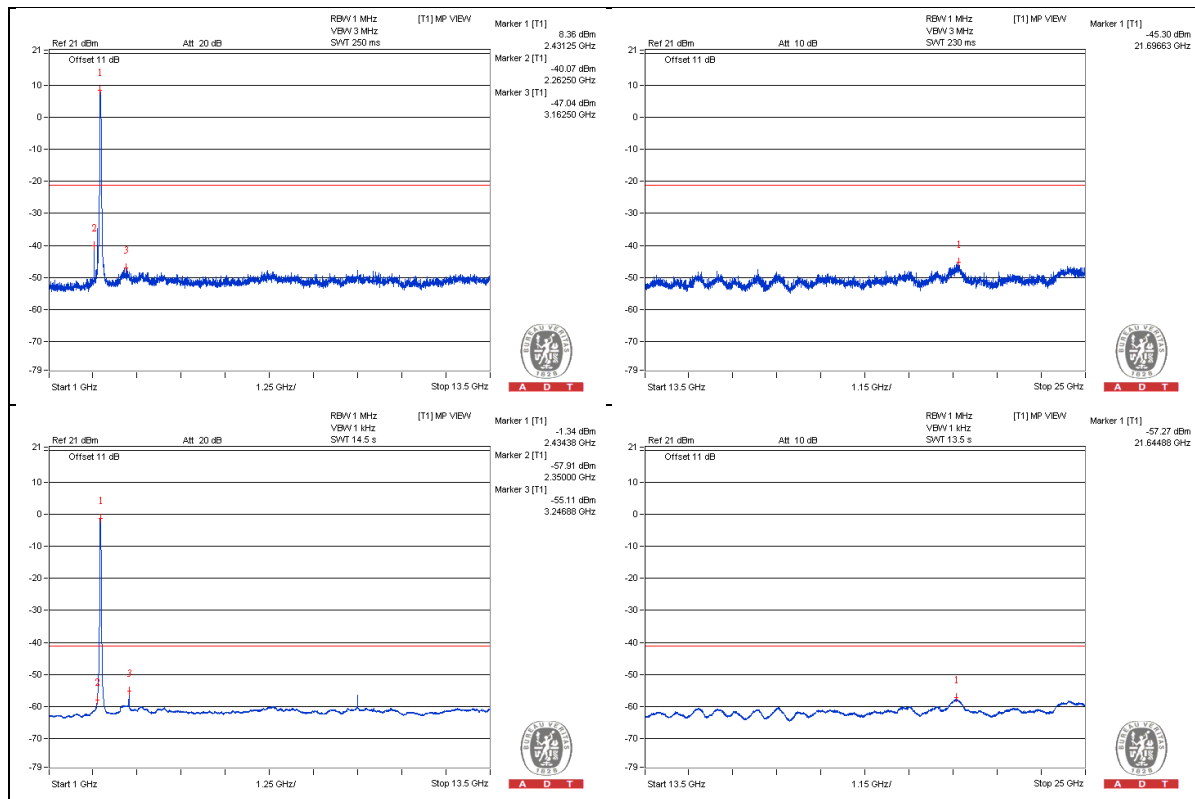
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	1625 PK	45.1	74	-28.9	-53.78	3.62	-50.16
2	1625 AV	35.62	54	-18.38	-63.26	3.62	-59.64
3	4875 PK	47.86	74	-26.14	-51.02	3.62	-47.4
4	4875 AV	37.27	54	-16.73	-61.61	3.62	-57.99
5	7309.375 PK	49.31	74	-24.69	-49.57	3.62	-45.95
6	7312.5 AV	38.53	54	-15.47	-60.35	3.62	-56.73

Note :

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

d = measurement distance in 3 meters.



Bandedge table

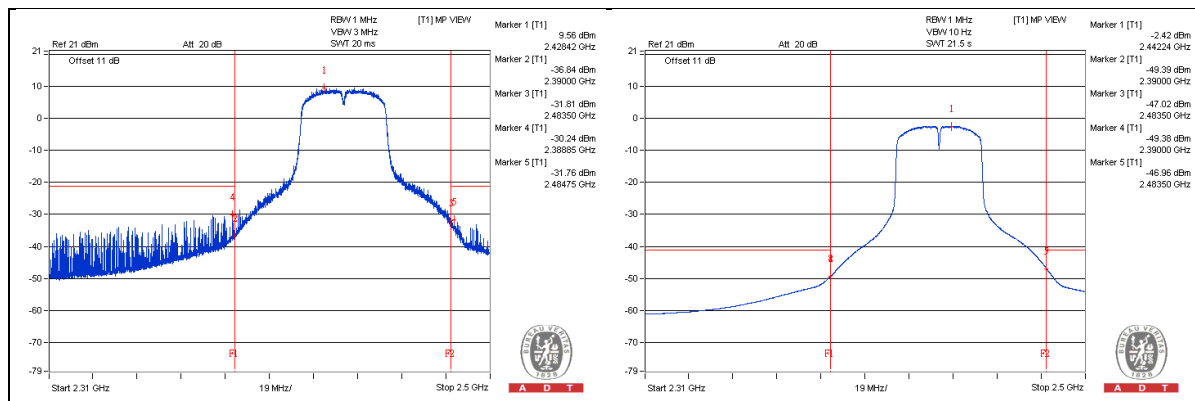
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2388.85 PK	68.64	74	-5.36	-30.24	3.62	-26.62
2	2389.99 AV	49.49	54	-4.51	-49.39	3.62	-45.77
3	2484.7525 PK	67.12	74	-6.88	-31.76	3.62	-28.14
4	2483.565 AV	51.87	54	-2.13	-47.01	3.62	-43.39

Note :

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

d = measurement distance in 3 meters.

* The unwanted emission was verified and the test result was passed by radiated measurement.
(Please refer APPENDIX A)



802.11n (HT40) - Channel 9

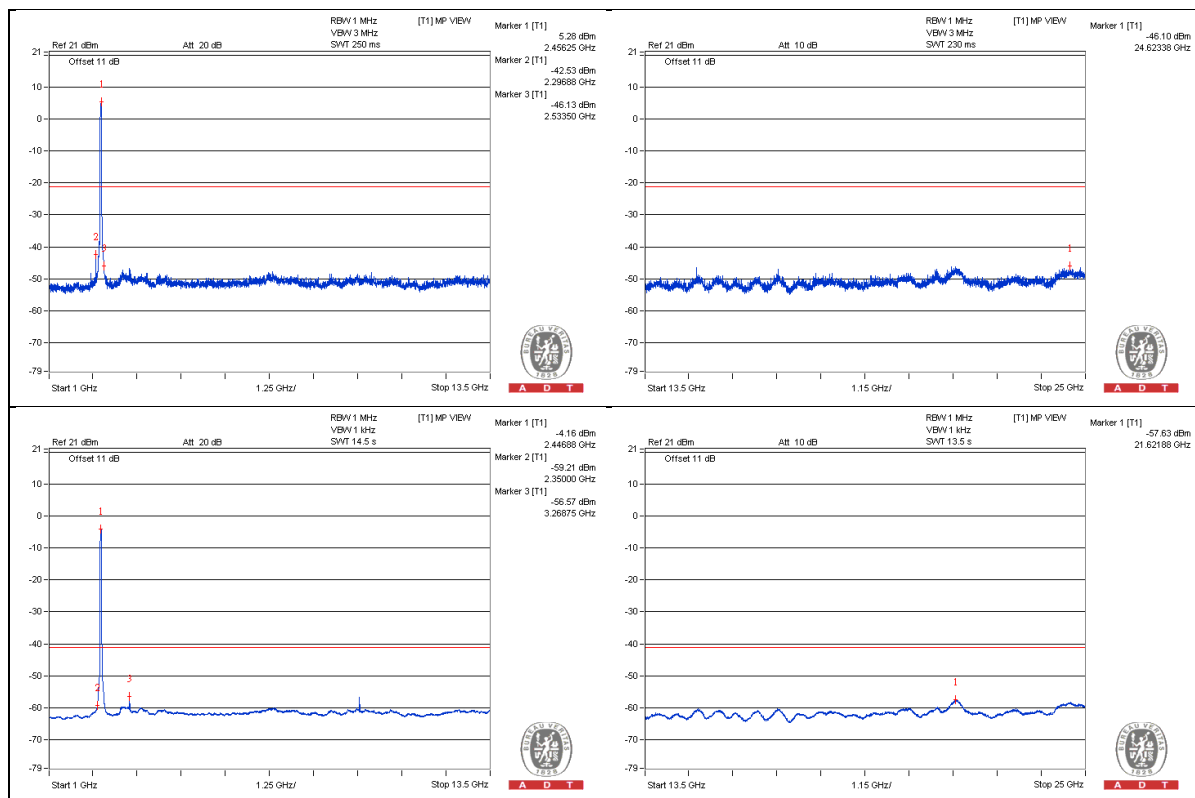
Conducted spurious emission table

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	47.12	74	-26.88	-51.76	3.62	-48.14
2	4903.125 AV	37.03	54	-16.97	-61.85	3.62	-58.23
3	7356.25 PK	49.15	74	-24.85	-49.73	3.62	-46.11
4	7356.25 AV	38.67	54	-15.33	-60.21	3.62	-56.59

Note :

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

d = measurement distance in 3 meters.



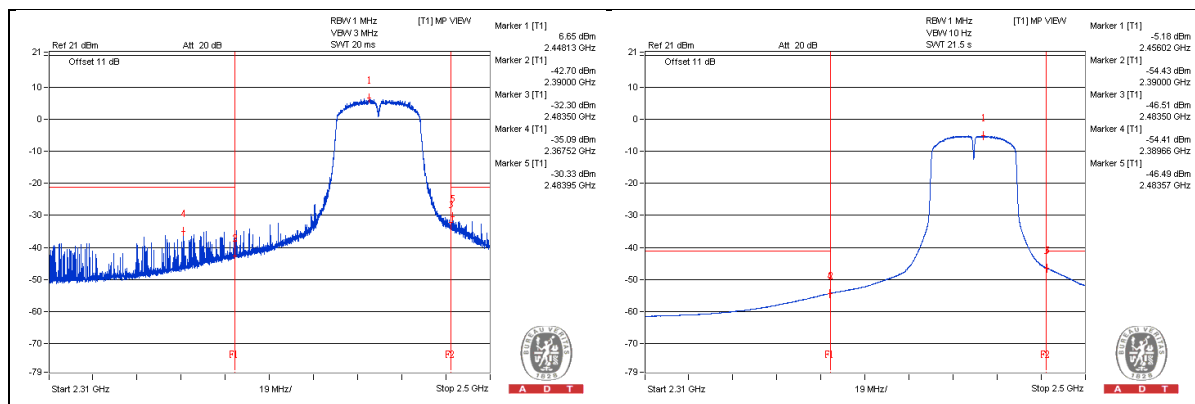
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2367.5225 PK	63.79	74	-10.21	-35.09	3.62	-31.47
2	2389.6575 AV	44.47	54	-9.53	-54.41	3.62	-50.79
3	2483.945 PK	68.55	74	-5.45	-30.33	3.62	-26.71
4	2483.565 AV	52.39	54	-1.61	-46.49	3.62	-42.87

Note :

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

d = measurement distance in 3 meters.



802.11n (HT40) - Channel 10

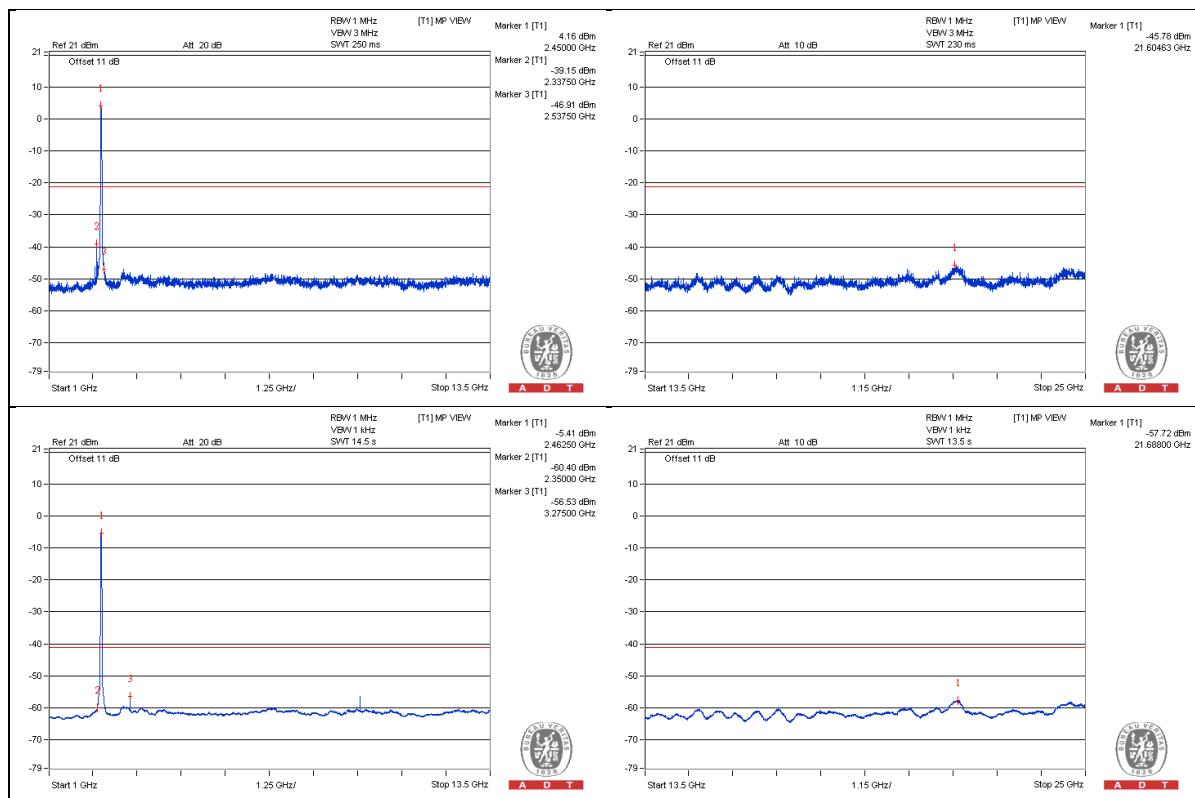
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4912.5 PK	47.07	74	-26.93	-51.81	3.62	-48.19
2	4912.5 AV	37.07	54	-16.93	-61.81	3.62	-58.19
3	7371.875 PK	49.37	74	-24.63	-49.51	3.62	-45.89
4	7371.875 AV	38.63	54	-15.37	-60.25	3.62	-56.63

Note :

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

d = measurement distance in 3 meters.



No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2388.2325 PK	62.93	74	-11.07	-35.95	3.62	-32.33
2	2389.99 AV	41.79	54	-12.21	-57.09	3.62	-53.47
3	2489.17 PK	67.65	74	-6.35	-31.23	3.62	-27.61
4	2483.5175 AV	52.02	54	-1.98	-46.86	3.62	-43.24

Ref 21 dBm Att. 20 dB [T1] MP VIEW

RBW 1 MHz VBW 3 MHz SWIT 20 ms

Marker 1 [T1] 5.19 dBm 2.46430 GHz

Marker 2 [T1] -41.38 dBm 2.39000 GHz

Marker 3 [T1] -33.91 dBm 2.48350 GHz

Marker 4 [T1] -35.95 dBm 2.38823 GHz

Marker 5 [T1] -31.23 dBm 2.48917 GHz

Start 2.31 GHz 19 MHz/ Stop 2.5 GHz

A D T

Ref 21 dBm Att. 20 dB [T1] MP VIEW

RBW 1 MHz VBW 10 Hz SWIT 21.5 s

Marker 1 [T1] -6.55 dBm 2.45155 GHz

Marker 2 [T1] -57.09 dBm 2.39000 GHz

Marker 3 [T1] -46.86 dBm 2.48350 GHz

Marker 4 [T1] -57.90 dBm 2.39000 GHz

Marker 5 [T1] -46.85 dBm 2.48350 GHz

Start 2.31 GHz 19 MHz/ Stop 2.5 GHz

A D T

802.11n (HT40) - Channel 11

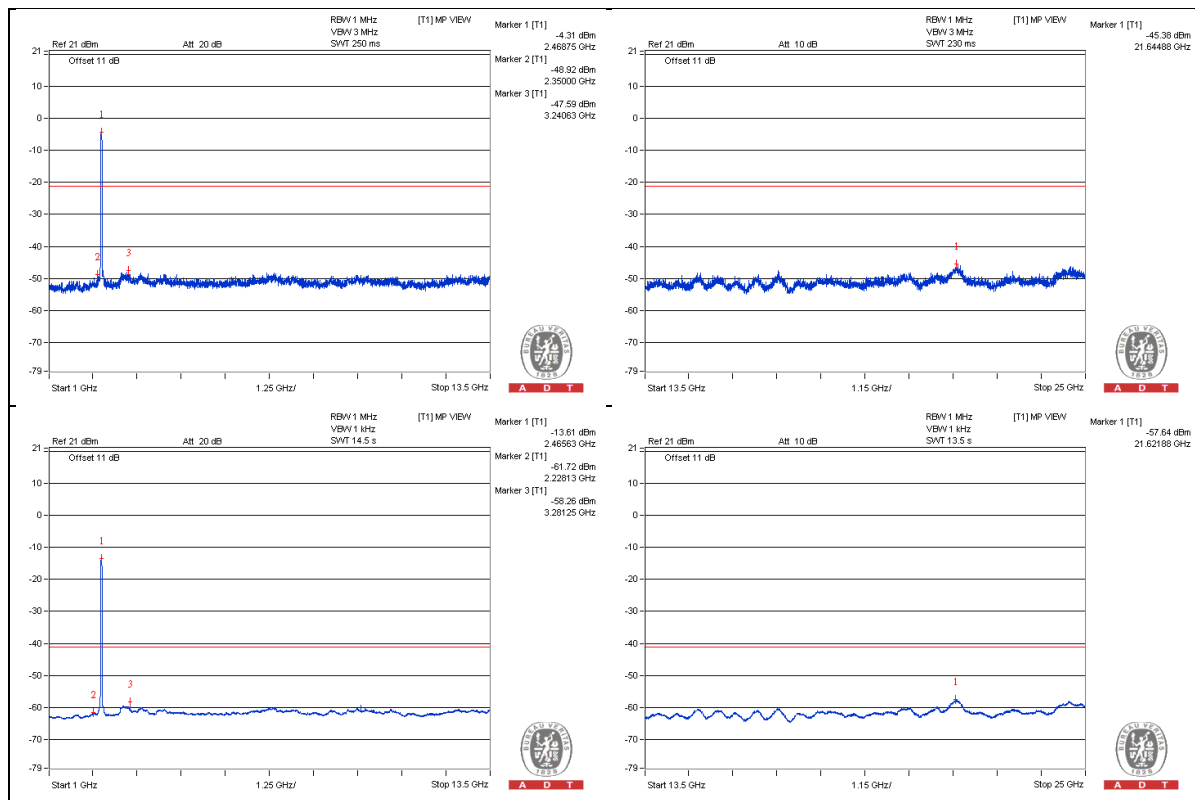
Conducted spurious emission table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4925 PK	46.78	74	-27.22	-52.1	3.62	-48.48
2	4925 AV	36.63	54	-17.37	-62.25	3.62	-58.63
3	7387.5 PK	49.97	74	-24.03	-48.91	3.62	-45.29
4	7387.5 AV	38.37	54	-15.63	-60.51	3.62	-56.89

Note :

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

d = measurement distance in 3 meters.



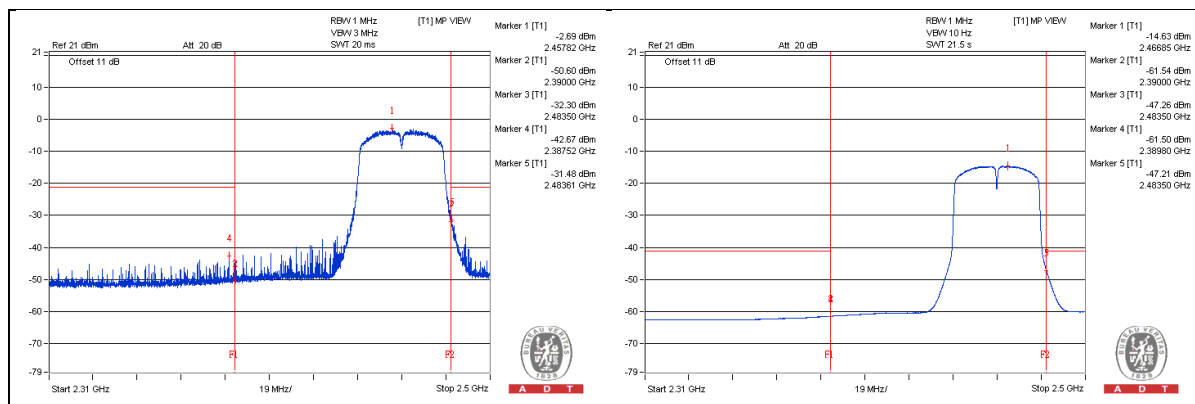
Bandedge table

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2387.52 PK	56.21	74	-17.79	-42.67	3.62	-39.05
2	2389.7525 AV	37.38	54	-16.62	-61.5	3.62	-57.88
3	2483.6125 PK	67.4	74	-6.6	-31.48	3.62	-27.86
4	2483.5175 AV	51.62	54	-2.38	-47.26	3.62	-43.64

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

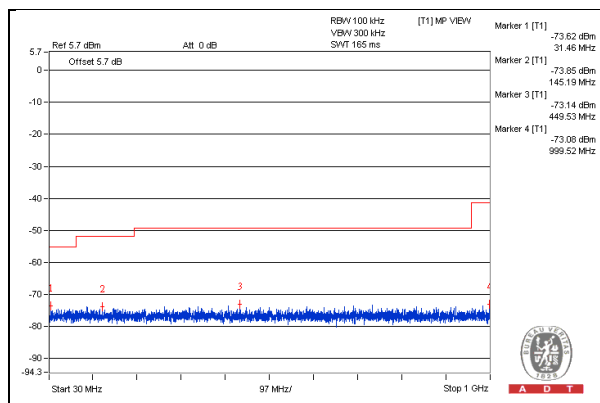
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	31.455	25.26	40	-14.74	-73.62	3.62	-70
2	283.655	25.14	46	-20.86	-73.74	3.62	-70.12
3	449.525	25.74	46	-20.26	-73.14	3.62	-69.52
4	742.2225	25.56	46	-20.44	-73.32	3.62	-69.7
5	999.515	25.8	54	-28.2	-73.08	3.62	-69.46

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.



4.6 Conducted Emission Measurement

4.6.1 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.

4.6.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS 30	847124/029	Oct. 22, 2014	Oct. 21, 2015
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-522	Sep. 15, 2014	Sep. 14, 2015
Line-Impedance Stabilization Network (for Peripheral) ROHDE & SCHWARZ	ENV216	100071	Nov. 10, 2014	Nov. 09, 2015
RF Cable (JYEBAO)	5D-FB	COCCAB-001	Mar. 09, 2015	Mar. 08, 2016
50 ohms Terminator	N/A	EMC-03	Sep. 22, 2014	Sep. 21, 2015
50 ohms Terminator	N/A	EMC-02	Sep. 30, 2014	Sep. 29, 2015
Software ADT	BV ADT_Cond_V7.3 .7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.
4. Tested Date: Apr. 29, 2015

4.6.3 Test Procedures

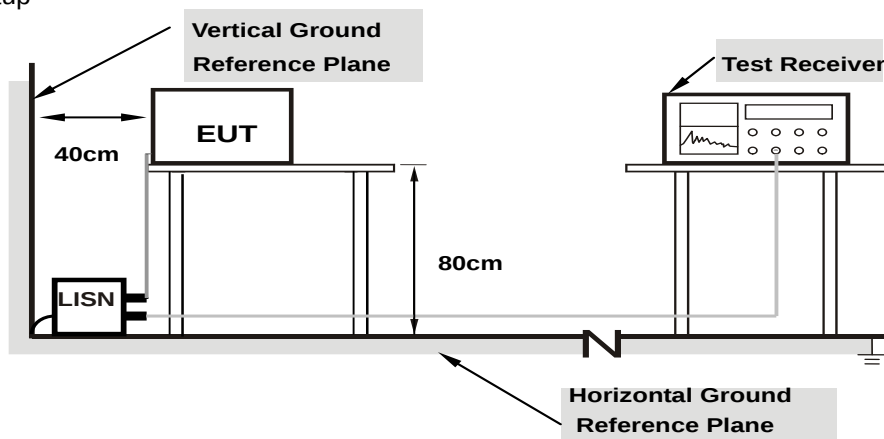
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

4.6.4 Deviation from Test Standard

No deviation.

4.6.5 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).

4.6.6 EUT Operating Conditions

Same as 4.5.6.

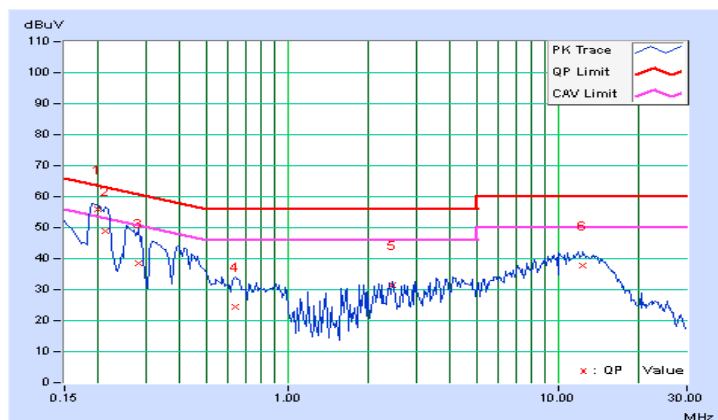
4.6.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19819	0.09	55.67	46.68	55.76	46.77	63.69	53.69	-7.93	-6.92
2	0.21250	0.09	48.75	23.41	48.84	23.50	63.11	53.11	-14.27	-29.61
3	0.28281	0.09	38.35	26.63	38.44	26.72	60.73	50.73	-22.29	-24.01
4	0.63828	0.11	24.15	4.17	24.26	4.28	56.00	46.00	-31.74	-41.72
5	2.43750	0.18	31.39	27.87	31.57	28.05	56.00	46.00	-24.43	-17.95
6	12.35156	0.51	37.31	28.57	37.82	29.08	60.00	50.00	-22.18	-20.92

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.

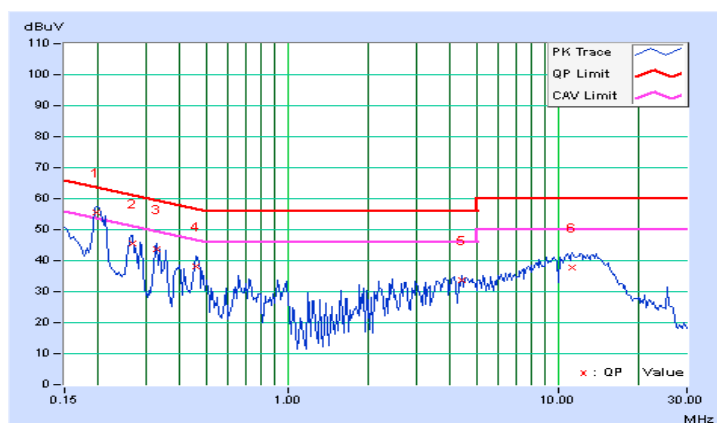


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19687	0.08	55.60	46.51	55.68	46.59	63.74	53.74	-8.06	-7.15
2	0.26719	0.09	45.35	37.11	45.44	37.20	61.20	51.20	-15.77	-14.01
3	0.32969	0.09	43.50	37.05	43.59	37.14	59.46	49.46	-15.87	-12.32
4	0.45859	0.10	38.17	34.86	38.27	34.96	56.72	46.72	-18.45	-11.76
5	4.41406	0.25	33.41	26.10	33.66	26.35	56.00	46.00	-22.34	-19.65
6	11.33203	0.50	37.35	29.13	37.85	29.63	60.00	50.00	-22.15	-20.37

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.



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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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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