

FCC Test Report

Report No.: RF200527C05

FCC ID: M82-WISE-3200

Test Model: WISE-3200

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Test Date: Sep. 02, 2020 ~ Mar. 04, 2021

Issued Date: Mar. 05, 2021

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(R.O.C.)

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**FCC Registration /
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RF200527C05	Original Release	Mar. 05, 2021

1 Certificate of Conformity

Product: WIFI Module

Brand: Advantech

Test Model: WISE-3200

Sample Status: Engineering Sample

Applicant: ADVANTECH CO., LTD

Test Date: Sep. 02, 2020 ~ Mar. 04, 2021

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)
ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Lena Wang, **Date:** Mar. 05, 2021
Lena Wang / Specialist

Approved by : Dylan Chiou, **Date:** Mar. 05, 2021
Dylan Chiou / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -12.90 dB at 0.43000 MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.0 dB at 4874.00 MHz and 2390.00 MHz and 2483.50 MHz.
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6 dB Bandwidth	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Reference only
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 SMA Male Reverse and Mini Connector.

Note:

- For 2.4G band compliance with rule 15.247(d) of the band-edge items, the test plots were recorded in Annex A. Test Procedures refer to report 4.1.3.
- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	WIFI Module
Brand	Advantech
Test Model	WISE-3200
Status of EUT	Engineering Sample
Power Supply Rating	12Vdc from adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: 11.0 / 5.5 / 2.0 / 1.0 Mbps 802.11g: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 802.11n: up to 300Mbps
Operating Frequency	2412 ~ 2462 MHz
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	158.534 mW
Antenna Type	Refer to Note as below
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	N/A

Note:

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

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

- The EUT contains following accessory devices. (Support unit)

Product	Brand	Model	Description
Adapter	FSP GROUP INC.	FSP036-RBBN2	I/P: 100-240 Vac, 50/60 Hz, 1.2 A O/P: 12 Vdc, 3 A 1.5 m power cable with 1 core

- The antenna information is listed as below.

Mode	Ant. Configure Mode	Ant.	Type	Manufacturer	P/N	Connector	Gain (dBi)
A	#1	1	Dipole	Gortec	AN2450-5010BRS	SMA Male Reverse	5.03
		2	PCB	Gortec	NB1377-A100BF	Mini Connector	4.31
B	#2	1	PCB	Gortec	NB1377B130GX	Mini Connector	4.79
		2			NB1377B130GX	Mini Connector	5.04

*Only the antenna which has the maximum gain was chosen as a representative for the final test.

- The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

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

3.2 Description of Test Modes

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

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

7 channels are provided for 802.11n (HT40):

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
A	√	√	√	-	Dipole (Ant. 1)
B	√	√	√	√	PCB (Ant. 2)

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

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

NOTE: "-" means no effect.

NOTE: For Power Line Conducted Emission Test, we had pre-tested all modes at 120V/60Hz and 240V/60Hz, test mode at 120V/60Hz was the worst case and only this mode was presented in the report.

Radiated Emission Test (Above 1 GHz):

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

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A, B	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 6, 10, 11	OFDM	BPSK	6.0
	802.11n (HT20)	1 to 11	1, 2, 6, 10	OFDM	BPSK	6.5
	802.11n (HT40)	3 to 9	3, 4, 5, 6, 8, 9	OFDM	BPSK	13.5

Radiated Emission Test (Below 1 GHz):

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

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	802.11g	1 to 11	6	OFDM	BPSK	6.0
B	802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
A	802.11g	1 to 11	6	OFDM	BPSK	6.0
B	802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5

Bandedge 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.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
B	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
	802.11n (HT20)	1 to 11	1, 11	OFDM	BPSK	6.5
	802.11n (HT40)	3 to 9	3, 9	OFDM	BPSK	13.5

Antenna Port Conducted Measurement:

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

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
B	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Titan Hsu, Adair Peng
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Titan Hsu
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Titan Hsu
APCM	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jisyong Wang

3.3 Duty Cycle of Test Signal

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

Duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11b: Duty cycle = $12.174/12.237 = 0.995$, Duty factor = $10 * \log(1/0.995) = 0.02$

802.11g: Duty cycle = $2.017/2.075 = 0.972$, Duty factor = $10 * \log(1/0.972) = 0.12$

802.11n (HT20): Duty cycle = $1.882/1.947 = 0.967$, Duty factor = $10 * \log(1/0.967) = 0.15$

802.11n (HT40): Duty cycle = $0.919/0.984 = 0.934$, Duty factor = $10 * \log(1/0.934) = 0.30$



3.4 Description of Support Units

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

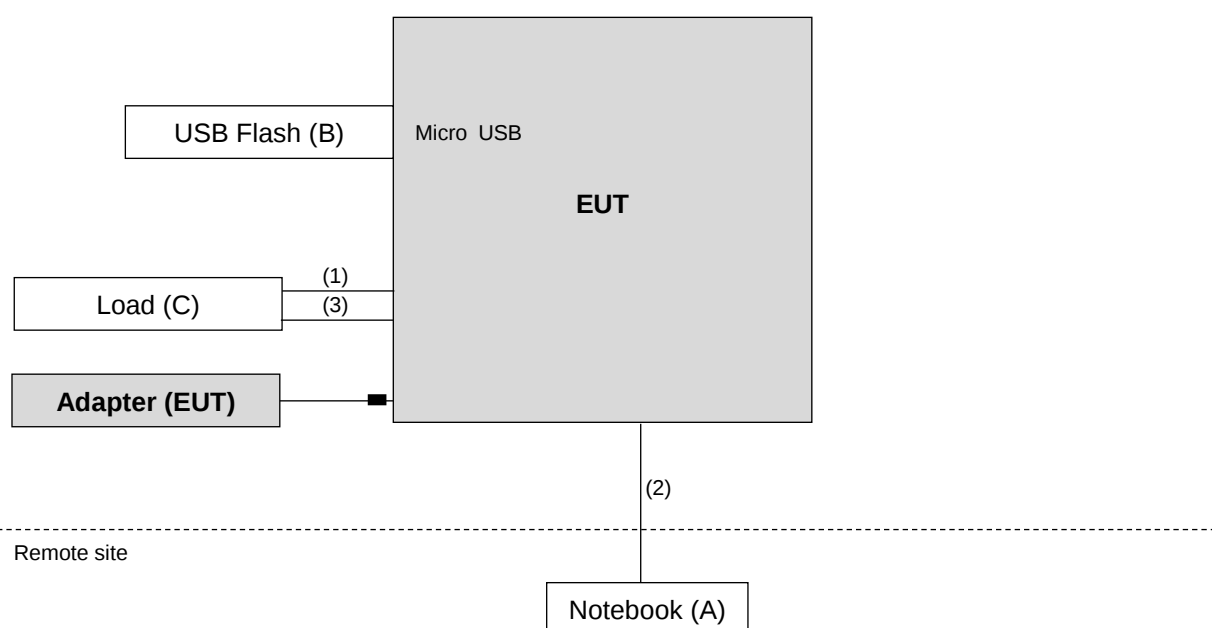
No.	Product	Brand	Model No.	Serial No.	FCC ID
A	Notebook	NA	NA	NA	NA
B	USB Flash	HP	v250W	05	NA
C	Load	NA	NA	NA	NA

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)
1.	RJ45, Cat5e	1	1.5	N	0
2.	RJ45, Cat5e	1	10	N	0
3.	Console	1	1.5	N	0

Note:

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

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test Standard:

FCC Part 15, Subpart C (15.247)

ANSI C63.10-2013

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

References Test Guidance:

KDB 558074 D01 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB 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 1000 MHz, 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 20 dB under any condition of modulation.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESR3	102579	Jul. 07, 2020	Jul. 06, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 11, 2019	Nov. 10, 2020
			Nov. 04, 2020	Nov. 03, 2021
HORN Antenna SCHWARZBECK	9120D	209	Nov. 24, 2019	Nov. 23, 2020
			Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 24, 2019	Nov. 23, 2020
			Nov. 22, 2020	Nov. 21, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 06, 2020	Jul. 05, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 16, 2020	Aug. 15, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 23, 2020	Mar. 22, 2021
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH3-01	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM- SM-8000	Cable-CH3-03 (309224+170907)	Aug. 16, 2020	Aug. 15, 2021
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 3.

4.1.3 Test Procedures

For Radiated Emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.

For Radiated Emission above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

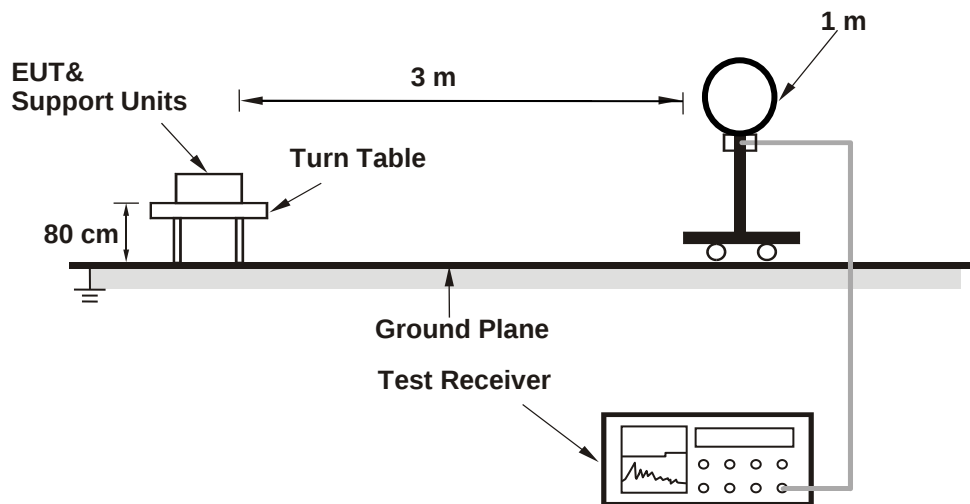
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
(11b: RBW = 1 MHz, VBW = 10 Hz ; 11g: RBW = 1 MHz, VBW = 1 kHz ;
11n (HT20): RBW = 1 MHz, VBW = 1 kHz ; 11n (HT40): RBW = 1 MHz, VBW = 3 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

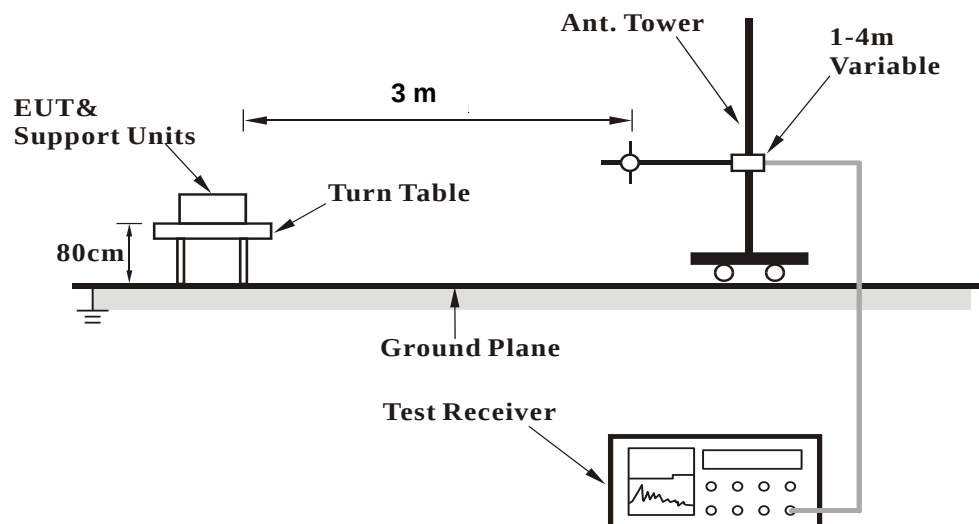
No deviation.

4.1.5 Test Set Up

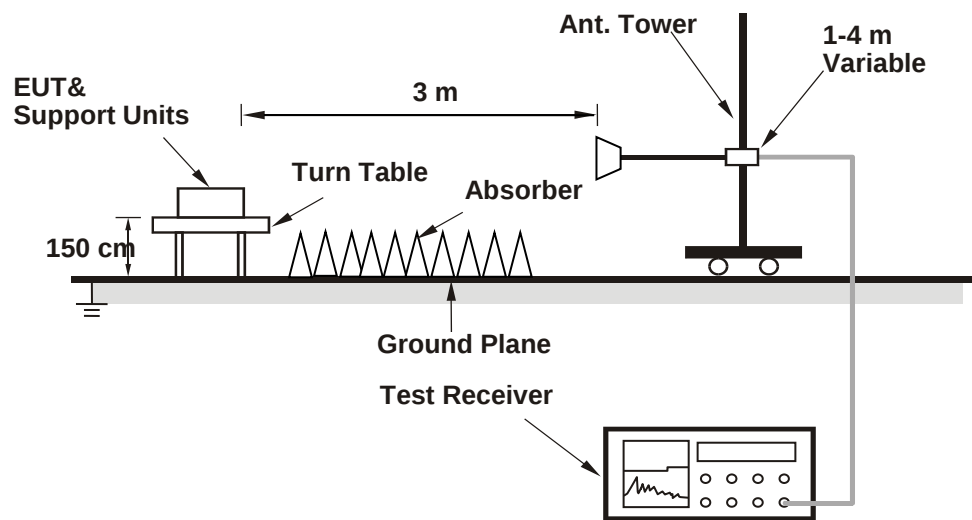
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.6 EUT Operating Conditions

- Placed the EUT on a testing table.
- Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1 GHz Data :

Mode A

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	2390.00	61.1 PK	74.0	-12.9	2.25 H	356	26.8	34.3
2	2390.00	48.8 AV	54.0	-5.2	2.25 H	356	14.5	34.3
3	*2412.00	101.1 PK			2.25 H	356	66.8	34.3
4	*2412.00	97.5 AV			2.25 H	356	63.2	34.3
5	4824.00	55.4 PK	74.0	-18.6	2.02 H	336	49.2	6.2
6	4824.00	52.5 AV	54.0	-1.5	2.02 H	336	46.3	6.2
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	2390.00	60.8 PK	74.0	-13.2	2.58 V	349	26.5	34.3
2	2390.00	48.6 AV	54.0	-5.4	2.58 V	349	14.3	34.3
3	*2412.00	102.8 PK			2.58 V	349	68.5	34.3
4	*2412.00	99.0 AV			2.58 V	349	64.7	34.3
5	4824.00	55.0 PK	74.0	-19.0	1.82 V	325	48.8	6.2
6	4824.00	52.3 AV	54.0	-1.7	1.82 V	325	46.1	6.2

REMARKS:

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

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	*2437.00	97.5 PK			3.21 H	16	63.2	34.3
2	*2437.00	94.2 AV			3.21 H	16	59.9	34.3
3	4874.00	55.5 PK	74.0	-18.5	1.82 H	342	49.4	6.1
4	4874.00	53.0 AV	54.0	-1.0	1.82 H	342	46.9	6.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	103.8 PK			1.62 V	335	69.5	34.3
2	*2437.00	100.4 AV			1.62 V	335	66.1	34.3
3	4874.00	56.2 PK	74.0	-17.8	1.63 V	312	50.1	6.1
4	4874.00	51.4 AV	54.0	-2.6	1.63 V	312	45.3	6.1

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	96.0 PK			3.08 H	20	61.6	34.4
2	*2462.00	93.0 AV			3.08 H	20	58.6	34.4
3	2483.50	59.5 PK	74.0	-14.5	3.08 H	20	25.1	34.4
4	2483.50	47.0 AV	54.0	-7.0	3.08 H	20	12.6	34.4
5	4924.00	55.0 PK	74.0	-19.0	1.88 H	342	48.9	6.1
6	4924.00	52.8 AV	54.0	-1.2	1.88 H	342	46.7	6.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	100.1 PK			2.65 V	332	65.7	34.4
2	*2462.00	96.0 AV			2.65 V	332	61.6	34.4
3	2483.50	59.0 PK	74.0	-15.0	2.65 V	332	24.6	34.4
4	2483.50	47.1 AV	54.0	-6.9	2.65 V	332	12.7	34.4
5	4924.00	55.0 PK	74.0	-19.0	1.92 V	320	48.9	6.1
6	4924.00	52.5 AV	54.0	-1.5	1.92 V	320	46.4	6.1

REMARKS:

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

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	2390.00	62.0 PK	74.0	-12.0	3.25 H	11	27.7	34.3
2	2390.00	49.9 AV	54.0	-4.1	3.25 H	11	15.6	34.3
3	*2412.00	106.5 PK			3.25 H	11	72.2	34.3
4	*2412.00	96.1 AV			3.25 H	11	61.8	34.3
5	4824.00	56.0 PK	74.0	-18.0	2.30 H	334	49.8	6.2
6	4824.00	42.6 AV	54.0	-11.4	2.30 H	334	36.4	6.2
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	2390.00	68.0 PK	74.0	-6.0	1.33 V	344	33.7	34.3
2	2390.00	52.9 AV	54.0	-1.1	1.33 V	344	18.6	34.3
3	*2412.00	110.0 PK			1.33 V	344	75.7	34.3
4	*2412.00	100.5 AV			1.33 V	344	66.2	34.3
5	4824.00	59.2 PK	74.0	-14.8	1.72 V	320	53.0	6.2
6	4824.00	45.5 AV	54.0	-8.5	1.72 V	320	39.3	6.2

REMARKS:

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

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	*2437.00	108.5 PK			2.33 H	5	74.2	34.3
2	*2437.00	98.3 AV			2.33 H	5	64.0	34.3
3	4874.00	66.3 PK	74.0	-7.7	1.75 H	335	60.2	6.1
4	4874.00	52.5 AV	54.0	-1.5	1.75 H	335	46.4	6.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	113.0 PK			1.75 V	336	78.7	34.3
2	*2437.00	102.9 AV			1.75 V	336	68.6	34.3
3	4874.00	65.0 PK	74.0	-9.0	1.77 V	329	58.9	6.1
4	4874.00	51.5 AV	54.0	-2.5	1.77 V	329	45.4	6.1

REMARKS:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	108.8 PK			1.59 H	303	74.4	34.4
2	*2457.00	99.6 AV			1.59 H	303	65.2	34.4
3	2483.50	68.9 PK	74.0	-5.1	1.59 H	303	34.5	34.4
4	2483.50	50.6 AV	54.0	-3.4	1.59 H	303	16.2	34.4
5	4914.00	61.4 PK	74.0	-12.6	1.33 H	267	55.3	6.1
6	4914.00	48.2 AV	54.0	-5.8	1.33 H	267	42.1	6.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	115.7 PK			1.92 V	15	81.3	34.4
2	*2457.00	105.3 AV			1.92 V	15	70.9	34.4
3	2483.50	68.6 PK	74.0	-5.4	1.92 V	15	34.2	34.4
4	2483.50	52.6 AV	54.0	-1.4	1.92 V	15	18.2	34.4
5	4914.00	64.5 PK	74.0	-9.5	2.00 V	144	58.4	6.1
6	4914.00	50.8 AV	54.0	-3.2	2.00 V	144	44.7	6.1

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.8 PK			2.62 H	355	71.4	34.4
2	*2462.00	96.0 AV			2.62 H	355	61.6	34.4
3	2483.50	59.7 PK	74.0	-14.3	2.62 H	355	25.3	34.4
4	2483.50	47.5 AV	54.0	-6.5	2.62 H	355	13.1	34.4
5	4924.00	61.0 PK	74.0	-13.0	1.72 H	355	54.9	6.1
6	4924.00	47.2 AV	54.0	-6.8	1.72 H	355	41.1	6.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	111.0 PK			1.22 V	333	76.6	34.4
2	*2462.00	102.0 AV			1.22 V	333	67.6	34.4
3	2483.50	67.0 PK	74.0	-7.0	1.22 V	333	32.6	34.4
4	2483.50	52.8 AV	54.0	-1.2	1.22 V	333	18.4	34.4
5	4924.00	62.0 PK	74.0	-12.0	1.75 V	322	55.9	6.1
6	4924.00	47.8 AV	54.0	-6.2	1.75 V	322	41.7	6.1

REMARKS:

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

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	2390.00	58.5 PK	74.0	-15.5	2.82 H	13	24.2	34.3
2	2390.00	47.0 AV	54.0	-7.0	2.82 H	13	12.7	34.3
3	*2412.00	106.3 PK			2.82 H	13	72.0	34.3
4	*2412.00	95.5 AV			2.82 H	13	61.2	34.3
5	4824.00	58.2 PK	74.0	-15.8	1.66 H	345	52.0	6.2
6	4824.00	43.9 AV	54.0	-10.1	1.66 H	345	37.7	6.2
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	2390.00	65.8 PK	74.0	-8.2	1.35 V	345	31.5	34.3
2	2390.00	53.0 AV	54.0	-1.0	1.35 V	345	18.7	34.3
3	*2412.00	110.5 PK			1.35 V	345	76.2	34.3
4	*2412.00	101.2 AV			1.35 V	345	66.9	34.3
5	4824.00	59.5 PK	74.0	-14.5	1.77 V	316	53.3	6.2
6	4824.00	45.0 AV	54.0	-9.0	1.77 V	316	38.8	6.2

REMARKS:

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

CHANNEL	TX Channel 2	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.3 PK	74.0	-11.7	1.86 H	305	30.0	32.3
2	2390.00	48.0 AV	54.0	-6.0	1.86 H	305	15.7	32.3
3	*2417.00	107.0 PK			1.86 H	305	74.7	32.3
4	*2417.00	96.7 AV			1.86 H	305	64.4	32.3
5	4834.00	58.8 PK	74.0	-15.2	1.30 H	278	55.3	3.5
6	4834.00	44.3 AV	54.0	-9.7	1.30 H	278	40.8	3.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.8 PK	74.0	-6.2	1.62 V	283	35.5	32.3
2	2390.00	53.0 AV	54.0	-1.0	1.62 V	283	20.7	32.3
3	*2417.00	114.0 PK			1.62 V	283	81.7	32.3
4	*2417.00	103.6 AV			1.62 V	283	71.3	32.3
5	4834.00	61.1 PK	74.0	-12.9	2.16 V	127	57.6	3.5
6	4834.00	46.8 AV	54.0	-7.2	2.16 V	127	43.3	3.5

Remarks:

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

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	*2437.00	109.0 PK			2.33 H	358	74.7	34.3
2	*2437.00	98.7 AV			2.33 H	358	64.4	34.3
3	4874.00	67.0 PK	74.0	-7.0	1.78 H	346	60.9	6.1
4	4874.00	53.0 AV	54.0	-1.0	1.78 H	346	46.9	6.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.3 PK			1.05 V	329	77.0	34.3
2	*2437.00	100.9 AV			1.05 V	329	66.6	34.3
3	4874.00	66.1 PK	74.0	-7.9	1.88 V	323	60.0	6.1
4	4874.00	52.0 AV	54.0	-2.0	1.88 V	323	45.9	6.1

REMARKS:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	106.5 PK			1.72 H	307	74.1	32.4
2	*2457.00	96.1 AV			1.72 H	307	63.7	32.4
3	2483.50	62.4 PK	74.0	-11.6	1.72 H	307	30.0	32.4
4	2483.50	48.3 AV	54.0	-5.7	1.72 H	307	15.9	32.4
5	4914.00	61.1 PK	74.0	-12.9	1.20 H	269	57.3	3.8
6	4914.00	46.3 AV	54.0	-7.7	1.20 H	269	42.5	3.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	113.8 PK			1.35 V	274	81.4	32.4
2	*2457.00	102.9 AV			1.35 V	274	70.5	32.4
3	2483.50	68.9 PK	74.0	-5.1	1.35 V	274	36.5	32.4
4	2483.50	53.0 AV	54.0	-1.0	1.35 V	274	20.6	32.4
5	4914.00	62.8 PK	74.0	-11.2	1.73 V	124	59.0	3.8
6	4914.00	48.8 AV	54.0	-5.2	1.73 V	124	45.0	3.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.2 PK			2.62 H	3	69.8	34.4
2	*2462.00	94.0 AV			2.62 H	3	59.6	34.4
3	2483.50	61.4 PK	74.0	-12.6	2.62 H	3	27.0	34.4
4	2483.50	48.5 AV	54.0	-5.5	2.62 H	3	14.1	34.4
5	4924.00	60.3 PK	74.0	-13.7	1.66 H	348	54.2	6.1
6	4924.00	46.0 AV	54.0	-8.0	1.66 H	348	39.9	6.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.5 PK			1.20 V	345	76.1	34.4
2	*2462.00	100.2 AV			1.20 V	345	65.8	34.4
3	2483.50	65.8 PK	74.0	-8.2	1.20 V	345	31.4	34.4
4	2483.50	52.6 AV	54.0	-1.4	1.20 V	345	18.2	34.4
5	4924.00	61.0 PK	74.0	-13.0	1.72 V	326	54.9	6.1
6	4924.00	46.8 AV	54.0	-7.2	1.72 V	326	40.7	6.1

REMARKS:

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

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	2390.00	60.2 PK	74.0	-13.8	2.78 H	354	25.9	34.3
2	2390.00	47.0 AV	54.0	-7.0	2.78 H	354	12.7	34.3
3	*2422.00	99.0 PK			2.78 H	354	64.7	34.3
4	*2422.00	88.8 AV			2.78 H	354	54.5	34.3
5	4844.00	49.0 PK	74.0	-25.0	1.65 H	338	42.9	6.1
6	4844.00	36.8 AV	54.0	-17.2	1.65 H	338	30.7	6.1
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	2390.00	66.5 PK	74.0	-7.5	1.55 V	345	32.2	34.3
2	2390.00	53.0 AV	54.0	-1.0	1.55 V	345	18.7	34.3
3	*2422.00	102.1 PK			1.55 V	345	67.8	34.3
4	*2422.00	92.2 AV			1.55 V	345	57.9	34.3
5	4844.00	50.9 PK	74.0	-23.1	1.85 V	325	44.8	6.1
6	4844.00	37.2 AV	54.0	-16.8	1.85 V	325	31.1	6.1

REMARKS:

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

CHANNEL	TX Channel 4	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.9 PK	74.0	-11.1	1.30 H	261	30.6	32.3
2	2390.00	49.8 AV	54.0	-4.2	1.30 H	261	17.5	32.3
3	*2427.00	99.0 PK			1.30 H	261	66.7	32.3
4	*2427.00	89.0 AV			1.30 H	261	56.7	32.3
5	4854.00	47.0 PK	74.0	-27.0	1.16 H	269	43.5	3.5
6	4854.00	33.6 AV	54.0	-20.4	1.16 H	269	30.1	3.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	65.3 PK	74.0	-8.7	2.55 V	2	33.0	32.3
2	2390.00	52.8 AV	54.0	-1.2	2.55 V	2	20.5	32.3
3	*2427.00	106.4 PK			2.55 V	2	74.1	32.3
4	*2427.00	95.9 AV			2.55 V	2	63.6	32.3
5	4854.00	48.5 PK	74.0	-25.5	2.66 V	131	45.0	3.5
6	4854.00	36.0 AV	54.0	-18.0	2.66 V	131	32.5	3.5

Remarks:

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

CHANNEL	TX Channel 5	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	65.8 PK	74.0	-8.2	1.23 H	273	33.5	32.3
2	2390.00	52.5 AV	54.0	-1.5	1.23 H	273	20.2	32.3
3	*2432.00	100.8 PK			1.23 H	273	68.5	32.3
4	*2432.00	90.4 AV			1.23 H	273	58.1	32.3
5	4864.00	51.5 PK	74.0	-22.5	1.07 H	288	47.9	3.6
6	4864.00	37.1 AV	54.0	-16.9	1.07 H	288	33.5	3.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.8 PK	74.0	-6.2	2.02 V	295	35.5	32.3
2	2390.00	53.1 AV	54.0	-0.9	2.02 V	295	20.8	32.3
3	*2432.00	105.8 PK			2.02 V	295	73.5	32.3
4	*2432.00	95.1 AV			2.02 V	295	62.8	32.3
5	4864.00	53.0 PK	74.0	-21.0	2.12 V	128	49.4	3.6
6	4864.00	39.9 AV	54.0	-14.1	2.12 V	128	36.3	3.6

Remarks:

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

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	2390.00	60.5 PK	74.0	-13.5	2.35 H	5	26.2	34.3
2	2390.00	48.5 AV	54.0	-5.5	2.35 H	5	14.2	34.3
3	*2437.00	102.0 PK			2.35 H	5	67.7	34.3
4	*2437.00	92.2 AV			2.35 H	5	57.9	34.3
5	4874.00	57.5 PK	74.0	-16.5	1.75 H	342	51.4	6.1
6	4874.00	43.5 AV	54.0	-10.5	1.75 H	342	37.4	6.1
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	2390.00	66.3 PK	74.0	-7.7	1.28 V	335	32.0	34.3
2	2390.00	52.8 AV	54.0	-1.2	1.28 V	335	18.5	34.3
3	*2437.00	107.0 PK			1.28 V	335	72.7	34.3
4	*2437.00	96.5 AV			1.28 V	335	62.2	34.3
5	4874.00	57.0 PK	74.0	-17.0	1.65 V	319	50.9	6.1
6	4874.00	43.0 AV	54.0	-11.0	1.65 V	319	36.9	6.1

REMARKS:

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

CHANNEL	TX Channel 8	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2447.00	99.6 PK			1.46 H	276	67.2	32.4
2	*2447.00	89.3 AV			1.46 H	276	56.9	32.4
3	2483.50	62.0 PK	74.0	-12.0	1.46 H	276	29.6	32.4
4	2483.50	49.0 AV	54.0	-5.0	1.46 H	276	16.6	32.4
5	4894.00	50.9 PK	74.0	-23.1	1.11 H	276	47.3	3.6
6	4894.00	36.2 AV	54.0	-17.8	1.11 H	276	32.6	3.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2447.00	106.6 PK			2.07 V	7	74.2	32.4
2	*2447.00	95.8 AV			2.07 V	7	63.4	32.4
3	2483.50	67.9 PK	74.0	-6.1	2.07 V	7	35.5	32.4
4	2483.50	53.2 AV	54.0	-0.8	2.07 V	7	20.8	32.4
5	4894.00	52.3 PK	74.0	-21.7	2.01 V	128	48.7	3.6
6	4894.00	39.2 AV	54.0	-14.8	2.01 V	128	35.6	3.6

Remarks:

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

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	*2452.00	100.3 PK			2.28 H	352	66.0	34.3
2	*2452.00	90.0 AV			2.28 H	352	55.7	34.3
3	2483.50	63.0 PK	74.0	-11.0	2.28 H	355	28.6	34.4
4	2483.50	49.5 AV	54.0	-4.5	2.28 H	355	15.1	34.4
5	4904.00	54.3 PK	74.0	-19.7	1.92 H	339	48.3	6.0
6	4904.00	41.2 AV	54.0	-12.8	1.92 H	339	35.2	6.0
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	*2452.00	103.8 PK			1.46 V	330	69.5	34.3
2	*2452.00	94.0 AV			1.46 V	330	59.7	34.3
3	2483.50	66.1 PK	74.0	-7.9	1.46 V	330	31.7	34.4
4	2483.50	52.9 AV	54.0	-1.1	1.46 V	330	18.5	34.4
5	4904.00	52.5 PK	74.0	-21.5	1.72 V	316	46.5	6.0
6	4904.00	38.8 AV	54.0	-15.2	1.72 V	316	32.8	6.0

REMARKS:

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

Mode B

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	2390.00	59.0 PK	74.0	-15.0	1.62 H	336	24.7	34.3
2	2390.00	46.8 AV	54.0	-7.2	1.62 H	336	12.5	34.3
3	*2412.00	92.2 PK			1.62 H	336	57.9	34.3
4	*2412.00	89.0 AV			1.62 H	336	54.7	34.3
5	4824.00	56.5 PK	74.0	-17.5	1.95 H	341	50.3	6.2
6	4824.00	52.9 AV	54.0	-1.1	1.95 H	341	46.7	6.2
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	2390.00	59.2 PK	74.0	-14.8	2.48 V	13	24.9	34.3
2	2390.00	47.0 AV	54.0	-7.0	2.48 V	13	12.7	34.3
3	*2412.00	100.0 PK			2.48 V	13	65.7	34.3
4	*2412.00	96.5 AV			2.48 V	13	62.2	34.3
5	4824.00	56.0 PK	74.0	-18.0	1.92 V	358	49.8	6.2
6	4824.00	52.5 AV	54.0	-1.5	1.92 V	358	46.3	6.2

REMARKS:

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

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	*2437.00	93.0 PK			1.52 H	316	58.7	34.3
2	*2437.00	89.6 AV			1.52 H	316	55.3	34.3
3	4874.00	53.5 PK	74.0	-20.5	1.89 H	336	47.4	6.1
4	4874.00	49.8 AV	54.0	-4.2	1.89 H	336	43.7	6.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	101.6 PK			1.99 V	60	67.3	34.3
2	*2437.00	97.6 AV			1.99 V	60	63.3	34.3
3	4874.00	51.7 PK	74.0	-22.3	1.90 V	332	45.6	6.1
4	4874.00	49.0 AV	54.0	-5.0	1.90 V	332	42.9	6.1

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	95.5 PK			1.52 H	315	61.1	34.4
2	*2462.00	91.2 AV			1.52 H	315	56.8	34.4
3	2483.50	61.0 PK	74.0	-13.0	1.52 H	315	26.6	34.4
4	2483.50	47.5 AV	54.0	-6.5	1.52 H	315	13.1	34.4
5	4924.00	57.2 PK	74.0	-16.8	1.72 H	359	51.1	6.1
6	4924.00	52.8 AV	54.0	-1.2	1.72 H	359	46.7	6.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.8 PK			1.69 V	63	70.4	34.4
2	*2462.00	100.9 AV			1.69 V	63	66.5	34.4
3	2483.50	60.7 PK	74.0	-13.3	1.69 V	63	26.3	34.4
4	2483.50	48.3 AV	54.0	-5.7	1.69 V	63	13.9	34.4
5	4924.00	56.4 PK	74.0	-17.6	2.05 V	349	50.3	6.1
6	4924.00	52.7 AV	54.0	-1.3	2.05 V	349	46.6	6.1

REMARKS:

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

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	2390.00	63.0 PK	74.0	-11.0	1.58 H	305	28.7	34.3
2	2390.00	49.8 AV	54.0	-4.2	1.58 H	305	15.5	34.3
3	*2412.00	102.8 PK			1.58 H	305	68.5	34.3
4	*2412.00	92.1 AV			1.58 H	305	57.8	34.3
5	4824.00	61.3 PK	74.0	-12.7	1.88 H	326	55.1	6.2
6	4824.00	47.2 AV	54.0	-6.8	1.88 H	326	41.0	6.2
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	2390.00	66.8 PK	74.0	-7.2	1.44 V	13	32.5	34.3
2	2390.00	53.0 AV	54.0	-1.0	1.44 V	13	18.7	34.3
3	*2412.00	110.2 PK			1.44 V	13	75.9	34.3
4	*2412.00	99.8 AV			1.44 V	13	65.5	34.3
5	4824.00	58.1 PK	74.0	-15.9	2.02 V	329	51.9	6.2
6	4824.00	43.2 AV	54.0	-10.8	2.02 V	329	37.0	6.2

REMARKS:

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

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	*2437.00	105.4 PK			1.46 H	319	71.1	34.3
2	*2437.00	95.2 AV			1.46 H	319	60.9	34.3
3	4874.00	58.8 PK	74.0	-15.2	1.89 H	352	52.7	6.1
4	4874.00	52.6 AV	54.0	-1.4	1.89 H	352	46.5	6.1
5	7311.00	67.2 PK	74.0	-6.8	1.36 H	352	56.0	11.2
6	7311.00	52.8 AV	54.0	-1.2	1.36 H	352	41.6	11.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	114.0 PK			1.62 V	63	79.7	34.3
2	*2437.00	103.2 AV			1.62 V	63	68.9	34.3
3	4874.00	67.7 PK	74.0	-6.3	2.16 V	348	61.6	6.1
4	4874.00	52.8 AV	54.0	-1.2	2.16 V	348	46.7	6.1
5	7311.00	67.1 PK	74.0	-6.9	1.75 V	312	55.9	11.2
6	7311.00	52.3 AV	54.0	-1.7	1.75 V	312	41.1	11.2

REMARKS:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	105.6 PK			1.62 H	321	71.2	34.4
2	*2457.00	95.7 AV			1.62 H	321	61.3	34.4
3	2483.50	64.8 PK	74.0	-9.2	1.62 H	321	30.4	34.4
4	2483.50	47.2 AV	54.0	-6.8	1.62 H	321	12.8	34.4
5	4914.00	58.4 PK	74.0	-15.6	1.47 H	263	52.3	6.1
6	4914.00	45.3 AV	54.0	-8.7	1.47 H	263	39.2	6.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	111.6 PK			1.86 V	9	77.2	34.4
2	*2457.00	101.4 AV			1.86 V	9	67.0	34.4
3	2483.50	67.3 PK	74.0	-6.7	1.86 V	9	32.9	34.4
4	2483.50	51.6 AV	54.0	-2.4	1.86 V	9	17.2	34.4
5	4914.00	61.6 PK	74.0	-12.4	1.93 V	153	55.5	6.1
6	4914.00	47.2 AV	54.0	-6.8	1.93 V	153	41.1	6.1

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	103.9 PK			1.52 H	302	69.5	34.4
2	*2462.00	93.5 AV			1.52 H	302	59.1	34.4
3	2483.50	60.2 PK	74.0	-13.8	1.52 H	302	25.8	34.4
4	2483.50	47.9 AV	54.0	-6.1	1.52 H	302	13.5	34.4
5	4924.00	62.2 PK	74.0	-11.8	1.89 H	355	56.1	6.1
6	4924.00	48.2 AV	54.0	-5.8	1.89 H	355	42.1	6.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	113.1 PK			1.66 V	63	78.7	34.4
2	*2462.00	102.2 AV			1.66 V	63	67.8	34.4
3	2483.50	69.2 PK	74.0	-4.8	1.66 V	63	34.8	34.4
4	2483.50	52.8 AV	54.0	-1.2	1.66 V	63	18.4	34.4
5	4924.00	63.0 PK	74.0	-11.0	2.32 V	352	56.9	6.1
6	4924.00	47.8 AV	54.0	-6.2	2.32 V	352	41.7	6.1

REMARKS:

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

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	2390.00	65.6 PK	74.0	-8.4	1.62 H	322	31.3	34.3
2	2390.00	51.0 AV	54.0	-3.0	1.62 H	322	16.7	34.3
3	*2412.00	102.9 PK			1.62 H	322	68.6	34.3
4	*2412.00	91.3 AV			1.62 H	322	57.0	34.3
5	4824.00	63.3 PK	74.0	-10.7	1.82 H	337	57.1	6.2
6	4824.00	48.0 AV	54.0	-6.0	1.82 H	337	41.8	6.2
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	2390.00	66.2 PK	74.0	-7.8	1.39 V	92	31.9	34.3
2	2390.00	52.8 AV	54.0	-1.2	1.39 V	92	18.5	34.3
3	*2412.00	110.1 PK			1.39 V	92	75.8	34.3
4	*2412.00	99.0 AV			1.39 V	92	64.7	34.3
5	4824.00	62.1 PK	74.0	-11.9	2.02 V	326	55.9	6.2
6	4824.00	46.1 AV	54.0	-7.9	2.02 V	326	39.9	6.2

REMARKS:

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

CHANNEL	TX Channel 2	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.6 PK	74.0	-11.4	1.98 H	330	30.3	32.3
2	2390.00	47.7 AV	54.0	-6.3	1.98 H	330	15.4	32.3
3	*2417.00	106.6 PK			1.98 H	330	74.3	32.3
4	*2417.00	97.1 AV			1.98 H	330	64.8	32.3
5	4834.00	56.6 PK	74.0	-17.4	1.53 H	299	53.1	3.5
6	4834.00	43.5 AV	54.0	-10.5	1.53 H	299	40.0	3.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	66.8 PK	74.0	-7.2	1.70 V	352	34.5	32.3
2	2390.00	52.5 AV	54.0	-1.5	1.70 V	352	20.2	32.3
3	*2417.00	113.2 PK			1.70 V	352	80.9	32.3
4	*2417.00	103.0 AV			1.70 V	352	70.7	32.3
5	4834.00	58.8 PK	74.0	-15.2	2.35 V	150	55.3	3.5
6	4834.00	45.6 AV	54.0	-8.4	2.35 V	150	42.1	3.5

Remarks:

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

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	*2437.00	105.9 PK			1.38 H	319	71.6	34.3
2	*2437.00	94.5 AV			1.38 H	319	60.2	34.3
3	4874.00	67.8 PK	74.0	-6.2	1.82 H	344	61.7	6.1
4	4874.00	52.8 AV	54.0	-1.2	1.82 H	344	46.7	6.1
5	7311.00	67.4 PK	74.0	-6.6	1.38 H	16	56.2	11.2
6	7311.00	52.2 AV	54.0	-1.8	1.38 H	16	41.0	11.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	115.0 PK			1.62 V	66	80.7	34.3
2	*2437.00	104.0 AV			1.62 V	66	69.7	34.3
3	4874.00	68.3 PK	74.0	-5.7	1.95 V	338	62.2	6.1
4	4874.00	52.5 AV	54.0	-1.5	1.95 V	338	46.4	6.1
5	7311.00	67.1 PK	74.0	-6.9	1.72 V	305	55.9	11.2
6	7311.00	50.5 AV	54.0	-3.5	1.72 V	305	39.3	11.2

REMARKS:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	106.8 PK			1.58 H	301	74.4	32.4
2	*2457.00	96.5 AV			1.58 H	301	64.1	32.4
3	2483.50	65.4 PK	74.0	-8.6	1.58 H	301	33.0	32.4
4	2483.50	48.3 AV	54.0	-5.7	1.58 H	301	15.9	32.4
5	4914.00	59.2 PK	74.0	-14.8	1.35 H	255	55.4	3.8
6	4914.00	46.1 AV	54.0	-7.9	1.35 H	255	42.3	3.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	112.5 PK			1.90 V	14	80.1	32.4
2	*2457.00	102.5 AV			1.90 V	14	70.1	32.4
3	2483.50	68.4 PK	74.0	-5.6	1.90 V	14	36.0	32.4
4	2483.50	52.8 AV	54.0	-1.2	1.90 V	14	20.4	32.4
5	4914.00	62.1 PK	74.0	-11.9	1.91 V	138	58.3	3.8
6	4914.00	48.3 AV	54.0	-5.7	1.91 V	138	44.5	3.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.0 PK			1.49 H	295	69.6	34.4
2	*2462.00	93.0 AV			1.49 H	295	58.6	34.4
3	2483.50	60.8 PK	74.0	-13.2	1.49 H	295	26.4	34.4
4	2483.50	48.5 AV	54.0	-5.5	1.49 H	295	14.1	34.4
5	4924.00	62.3 PK	74.0	-11.7	1.99 H	322	56.2	6.1
6	4924.00	47.9 AV	54.0	-6.1	1.99 H	322	41.8	6.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	113.3 PK			2.02 V	78	78.9	34.4
2	*2462.00	102.5 AV			2.02 V	78	68.1	34.4
3	2483.50	66.2 PK	74.0	-7.8	2.02 V	78	31.8	34.4
4	2483.50	52.9 AV	54.0	-1.1	2.02 V	78	18.5	34.4
5	4924.00	63.0 PK	74.0	-11.0	2.32 V	352	56.9	6.1
6	4924.00	47.5 AV	54.0	-6.5	2.32 V	352	41.4	6.1

REMARKS:

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

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	2390.00	60.9 PK	74.0	-13.1	1.47 H	325	26.6	34.3
2	2390.00	48.5 AV	54.0	-5.5	1.47 H	325	14.2	34.3
3	*2422.00	96.0 PK			1.47 H	325	61.7	34.3
4	*2422.00	84.5 AV			1.47 H	325	50.2	34.3
5	4844.00	52.5 PK	74.0	-21.5	1.90 H	342	46.4	6.1
6	4844.00	38.5 AV	54.0	-15.5	1.90 H	342	32.4	6.1
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	2390.00	66.2 PK	74.0	-7.8	1.36 V	56	31.9	34.3
2	2390.00	52.8 AV	54.0	-1.2	1.36 V	56	18.5	34.3
3	*2422.00	102.5 PK			1.36 V	56	68.2	34.3
4	*2422.00	92.0 AV			1.36 V	56	57.7	34.3
5	4844.00	53.2 PK	74.0	-20.8	2.05 V	348	47.1	6.1
6	4844.00	39.2 AV	54.0	-14.8	2.05 V	348	33.1	6.1

REMARKS:

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

CHANNEL	TX Channel 4	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.7 PK	74.0	-11.3	1.57 H	288	30.4	32.3
2	2390.00	48.0 AV	54.0	-6.0	1.57 H	288	15.7	32.3
3	*2427.00	99.3 PK			1.57 H	288	67.0	32.3
4	*2427.00	89.0 AV			1.57 H	288	56.7	32.3
5	4854.00	45.8 PK	74.0	-28.2	1.35 H	254	42.3	3.5
6	4854.00	33.8 AV	54.0	-20.2	1.35 H	254	30.3	3.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	66.8 PK	74.0	-7.2	1.85 V	357	34.5	32.3
2	2390.00	52.5 AV	54.0	-1.5	1.85 V	357	20.2	32.3
3	*2427.00	105.3 PK			1.85 V	357	73.0	32.3
4	*2427.00	95.0 AV			1.85 V	357	62.7	32.3
5	4854.00	48.2 PK	74.0	-25.8	2.43 V	150	44.7	3.5
6	4854.00	36.0 AV	54.0	-18.0	2.43 V	150	32.5	3.5

Remarks:

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

CHANNEL	TX Channel 5	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.8 PK	74.0	-11.2	1.39 H	299	30.5	32.3
2	2390.00	48.3 AV	54.0	-5.7	1.39 H	299	16.0	32.3
3	*2432.00	100.2 PK			1.39 H	299	67.9	32.3
4	*2432.00	89.5 AV			1.39 H	299	57.2	32.3
5	4864.00	51.1 PK	74.0	-22.9	1.23 H	296	47.5	3.6
6	4864.00	36.9 AV	54.0	-17.1	1.23 H	296	33.3	3.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.6 PK	74.0	-6.4	1.93 V	2	35.3	32.3
2	2390.00	52.7 AV	54.0	-1.3	1.93 V	2	20.4	32.3
3	*2432.00	105.6 PK			1.93 V	2	73.3	32.3
4	*2432.00	94.8 AV			1.93 V	2	62.5	32.3
5	4864.00	52.8 PK	74.0	-21.2	1.95 V	144	49.2	3.6
6	4864.00	39.7 AV	54.0	-14.3	1.95 V	144	36.1	3.6

Remarks:

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

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	2390.00	65.2 PK	74.0	-8.8	1.44 H	319	30.9	34.3
2	2390.00	51.1 AV	54.0	-2.9	1.44 H	319	16.8	34.3
3	*2437.00	101.1 PK			1.44 H	319	66.8	34.3
4	*2437.00	91.2 AV			1.44 H	319	56.9	34.3
5	4874.00	62.0 PK	74.0	-12.0	1.82 H	326	55.9	6.1
6	4874.00	48.7 AV	54.0	-5.3	1.82 H	326	42.6	6.1
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	2390.00	68.2 PK	74.0	-5.8	1.66 V	63	33.9	34.3
2	2390.00	52.8 AV	54.0	-1.2	1.66 V	63	18.5	34.3
3	*2437.00	109.2 PK			1.66 V	63	74.9	34.3
4	*2437.00	99.0 AV			1.66 V	63	64.7	34.3
5	4874.00	58.8 PK	74.0	-15.2	1.52 V	316	52.7	6.1
6	4874.00	45.2 AV	54.0	-8.8	1.52 V	316	39.1	6.1

REMARKS:

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

CHANNEL	TX Channel 8	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2447.00	100.9 PK			1.63 H	295	68.5	32.4
2	*2447.00	89.8 AV			1.63 H	295	57.4	32.4
3	2483.50	63.5 PK	74.0	-10.5	1.63 H	295	31.1	32.4
4	2483.50	48.7 AV	54.0	-5.3	1.63 H	295	16.3	32.4
5	4894.00	50.6 PK	74.0	-23.4	1.24 H	288	47.0	3.6
6	4894.00	36.0 AV	54.0	-18.0	1.24 H	288	32.4	3.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2447.00	106.4 PK			2.22 V	15	74.0	32.4
2	*2447.00	95.5 AV			2.22 V	15	63.1	32.4
3	2483.50	67.7 PK	74.0	-6.3	2.22 V	15	35.3	32.4
4	2483.50	52.8 AV	54.0	-1.2	2.22 V	15	20.4	32.4
5	4894.00	52.1 PK	74.0	-21.9	2.22 V	139	48.5	3.6
6	4894.00	38.7 AV	54.0	-15.3	2.22 V	139	35.1	3.6

Remarks:

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

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	*2452.00	97.2 PK			1.32 H	293	62.9	34.3
2	*2452.00	86.8 AV			1.32 H	293	52.5	34.3
3	2483.50	61.1 PK	74.0	-12.9	1.32 H	293	26.7	34.4
4	2483.50	48.6 AV	54.0	-5.4	1.32 H	293	14.2	34.4
5	4904.00	56.1 PK	74.0	-17.9	2.00 H	345	50.1	6.0
6	4904.00	42.3 AV	54.0	-11.7	2.00 H	345	36.3	6.0
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	*2452.00	106.2 PK			1.72 V	69	71.9	34.3
2	*2452.00	96.1 AV			1.72 V	69	61.8	34.3
3	2483.50	66.1 PK	74.0	-7.9	1.72 V	69	31.7	34.4
4	2483.50	53.0 AV	54.0	-1.0	1.72 V	69	18.6	34.4
5	4904.00	56.2 PK	74.0	-17.8	2.19 V	352	50.2	6.0
6	4904.00	42.7 AV	54.0	-11.3	2.19 V	352	36.7	6.0

REMARKS:

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

9 kHz ~ 30 MHz Data:

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

Mode A

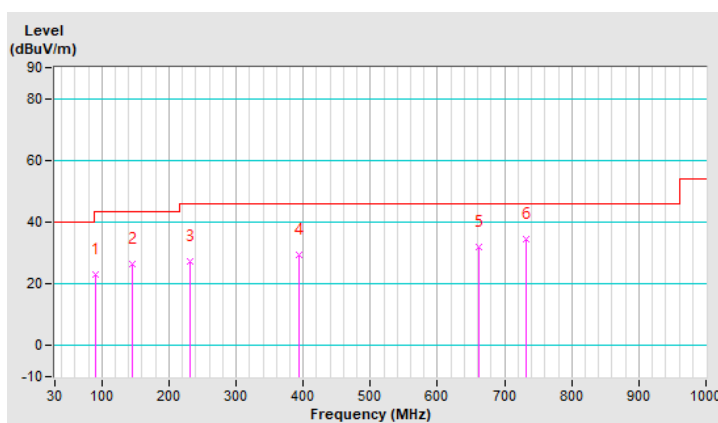
802.11g

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	90.45	23.1 QP	43.5	-20.4	1.99 H	281	37.4	-14.3
2	145.28	26.3 QP	43.5	-17.2	1.99 H	115	35.0	-8.7
3	231.03	27.4 QP	46.0	-18.6	1.50 H	289	37.7	-10.3
4	394.10	29.4 QP	46.0	-16.6	1.00 H	16	34.1	-4.7
5	662.61	32.0 QP	46.0	-14.0	1.00 H	241	30.8	1.2
6	731.49	34.5 QP	46.0	-11.5	1.00 H	338	31.8	2.7

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

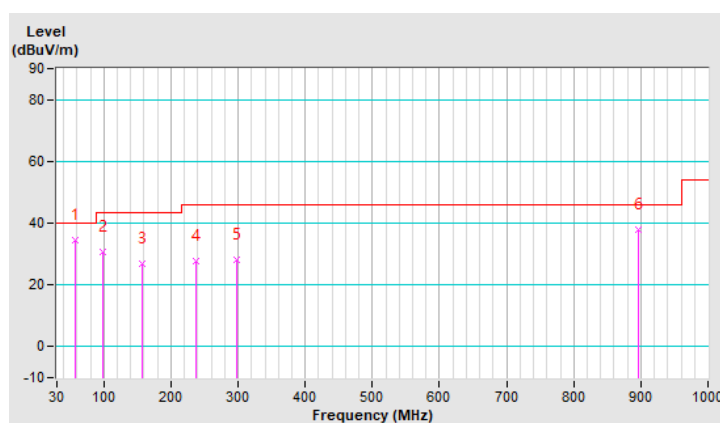


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	56.71	34.5 QP	40.0	-5.5	1.00 V	23	43.8	-9.3
2	97.48	30.5 QP	43.5	-13.0	1.00 V	172	44.2	-13.7
3	157.93	26.9 QP	43.5	-16.6	1.00 V	164	35.2	-8.3
4	236.65	27.7 QP	46.0	-18.3	1.00 V	209	37.3	-9.6
5	298.51	28.1 QP	46.0	-17.9	2.00 V	306	34.9	-6.8
6	895.97	38.0 QP	46.0	-8.0	1.00 V	195	32.5	5.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



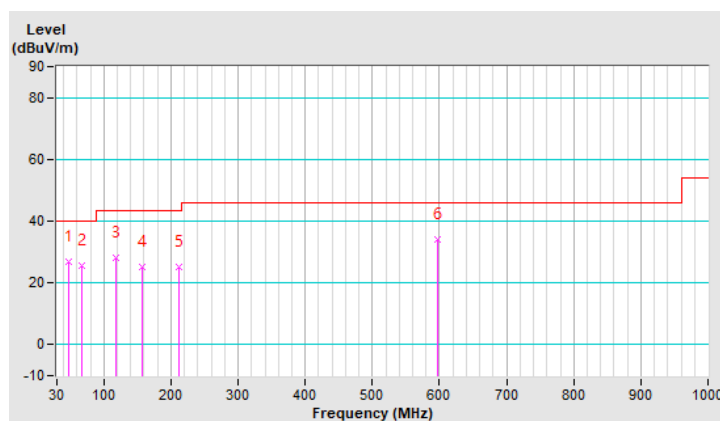
Mode B
802.11n (HT20)

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	48.28	27.0 QP	40.0	-13.0	1.99 H	140	36.0	-9.0
2	66.55	25.4 QP	40.0	-14.6	1.99 H	15	35.6	-10.2
3	117.16	28.1 QP	43.5	-15.4	1.49 H	0	39.3	-11.2
4	157.93	25.2 QP	43.5	-18.3	1.00 H	123	33.5	-8.3
5	212.75	25.2 QP	43.5	-18.3	1.00 H	168	36.1	-10.9
6	597.94	34.0 QP	46.0	-12.0	1.00 H	234	33.8	0.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

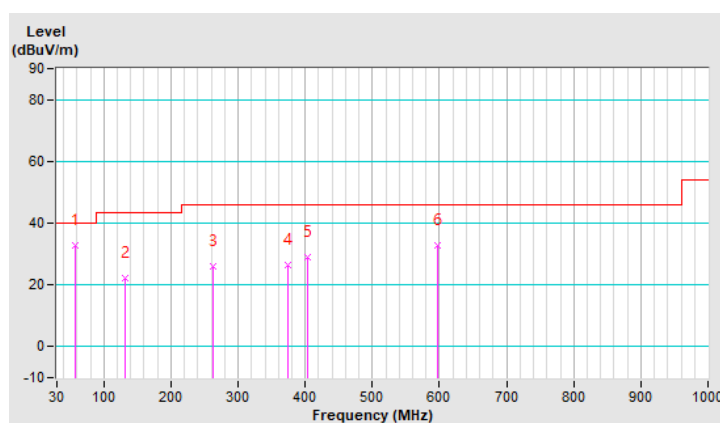


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	58.12	32.9 QP	40.0	-7.1	1.01 V	354	42.2	-9.3
2	132.62	22.3 QP	43.5	-21.2	1.01 V	63	32.0	-9.7
3	261.96	26.1 QP	46.0	-19.9	1.51 V	176	34.4	-8.3
4	374.42	26.5 QP	46.0	-19.5	1.01 V	201	31.5	-5.0
5	403.94	28.9 QP	46.0	-17.1	1.01 V	205	33.5	-4.6
6	596.54	32.7 QP	46.0	-13.3	1.51 V	210	32.5	0.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

- Note: 1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 11, 2019	Dec. 10, 2020
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 09, 2019	Sep. 08, 2020
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 20, 2020	Feb. 19, 2021
V-LISN SCHWARZBECK (Peripheral)	NNBL 8226-2	8226-142	Jul. 31, 2020	Jul. 30, 2021
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Shielded Room 1 (Conduction 1).
 3. The VCCI Site Registration No. is C-12040.

4.2.3 Test Procedures

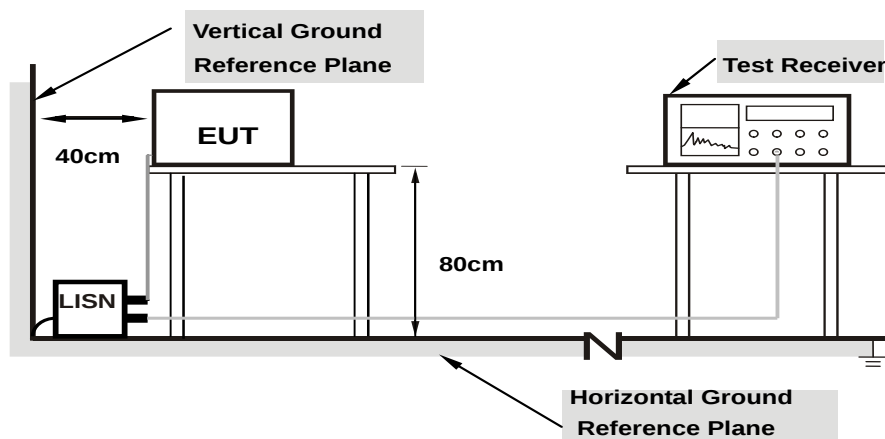
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz – 30 MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Conditions

- Placed the EUT on a testing table.
- Use the software to control the EUT under transmission condition continuously at specific channel frequency.

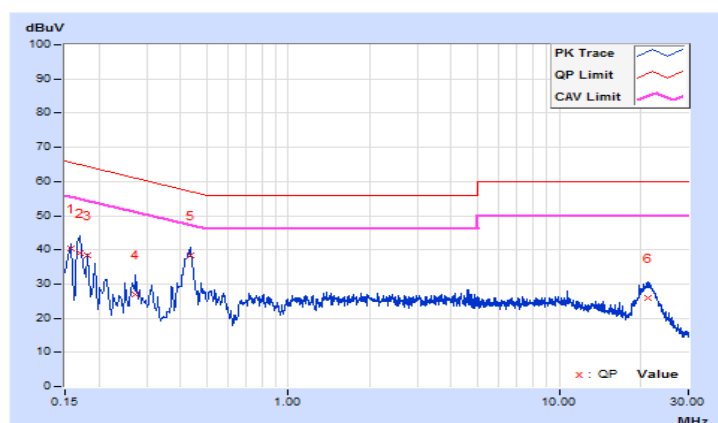
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 66%RH
Tested by	Titan Hsu	Test Date	2020/9/3
Test Mode	Mode A		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15800	9.63	30.79	12.30	40.42	21.93	65.57	55.57	-25.15	-33.64
2	0.16977	9.63	29.32	9.74	38.95	19.37	64.97	54.97	-26.02	-35.60
3	0.18200	9.62	28.63	10.63	38.25	20.25	64.39	54.39	-26.14	-34.14
4	0.27400	9.63	17.45	5.92	27.08	15.55	61.00	51.00	-33.92	-35.45
5	0.43400	9.65	28.66	20.88	38.31	30.53	57.18	47.18	-18.87	-16.65
6	21.23000	9.91	16.11	9.57	26.02	19.48	60.00	50.00	-33.98	-30.52

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

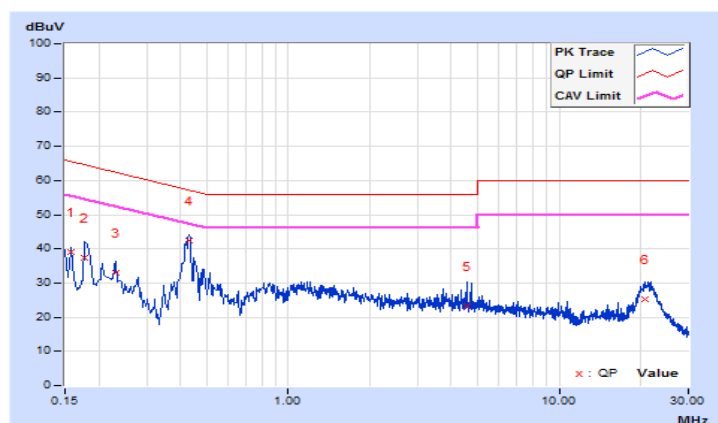


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 66%RH
Tested by	Titan Hsu	Test Date	2020/9/3
Test Mode	Mode A		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15800	9.66	29.42	15.44	39.08	25.10	65.57	55.57	-26.49	-30.47
2	0.17800	9.65	27.87	13.51	37.52	23.16	64.58	54.58	-27.06	-31.42
3	0.23000	9.64	23.22	13.81	32.86	23.45	62.45	52.45	-29.59	-29.00
4	0.43000	9.67	32.89	24.68	42.56	34.35	57.25	47.25	-14.69	-12.90
5	4.55800	9.83	13.25	5.50	23.08	15.33	56.00	46.00	-32.92	-30.67
6	20.65000	10.03	15.21	8.81	25.24	18.84	60.00	50.00	-34.76	-31.16

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

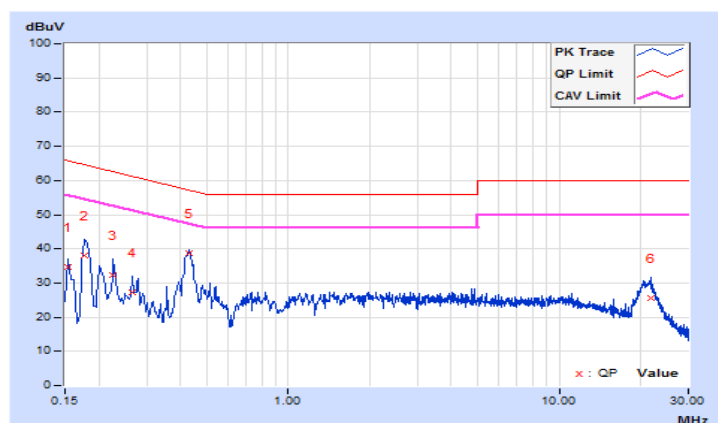


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 66%RH
Tested by	Titan Hsu	Test Date	2020/9/3
Test Mode	Mode B		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.63	25.01	12.14	34.64	21.77	65.78	55.78	-31.14	-34.01
2	0.17800	9.62	28.39	9.93	38.01	19.55	64.58	54.58	-26.57	-35.03
3	0.22600	9.62	22.85	7.67	32.47	17.29	62.60	52.60	-30.13	-35.31
4	0.26600	9.63	17.62	6.07	27.25	15.70	61.24	51.24	-33.99	-35.54
5	0.43000	9.65	28.98	20.49	38.63	30.14	57.25	47.25	-18.62	-17.11
6	21.83400	9.91	15.62	8.96	25.53	18.87	60.00	50.00	-34.47	-31.13

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

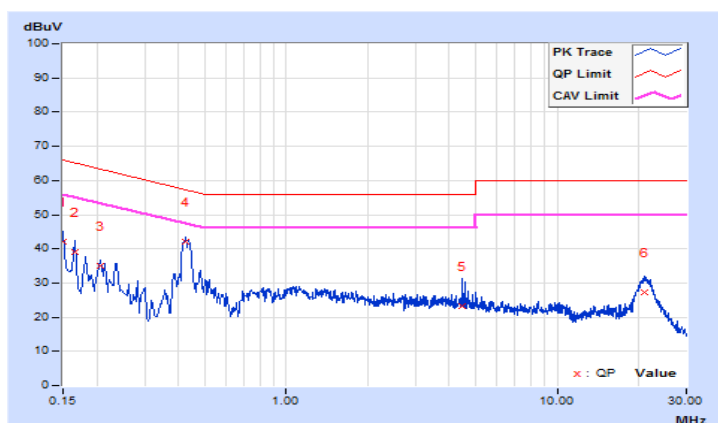


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	23°C, 66%RH
Tested by	Titan Hsu	Test Date	2020/9/3
Test Mode	Mode B		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.66	32.43	15.78	42.09	25.44	66.00	56.00	-23.91	-30.56
2	0.16600	9.65	29.43	13.68	39.08	23.33	65.16	55.16	-26.08	-31.83
3	0.20577	9.64	25.34	13.57	34.98	23.21	63.37	53.37	-28.39	-30.16
4	0.42577	9.67	32.53	23.37	42.20	33.04	57.33	47.33	-15.13	-14.29
5	4.47400	9.83	13.56	5.42	23.39	15.25	56.00	46.00	-32.61	-30.75
6	21.14200	10.03	17.13	10.61	27.16	20.64	60.00	50.00	-32.84	-29.36

Remarks:

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

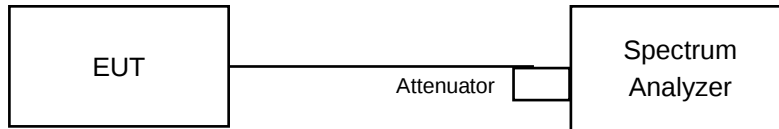


4.3 6 dB Bandwidth Measurement

4.3.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Results

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	9.59	9.56	0.5	Pass
6	2437	10.08	9.60	0.5	Pass
11	2462	9.59	9.60	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.13	15.13	0.5	Pass
6	2437	15.11	15.17	0.5	Pass
11	2462	15.14	15.18	0.5	Pass

802.11n (HT20)

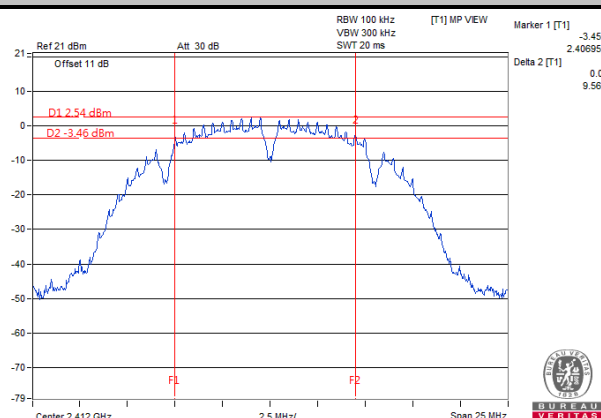
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.13	15.18	0.5	Pass
6	2437	15.17	15.16	0.5	Pass
11	2462	15.15	15.17	0.5	Pass

802.11n (HT40)

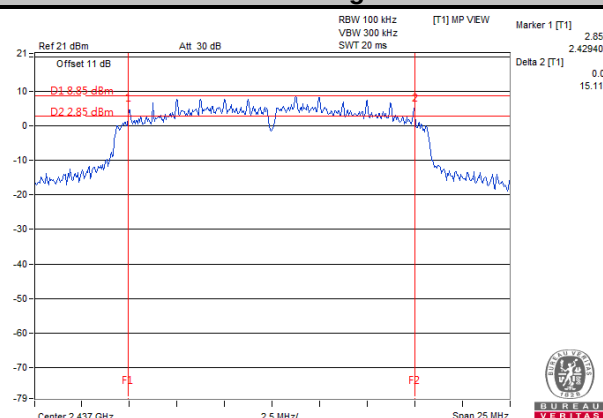
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	32.75	33.93	0.5	Pass
6	2437	32.75	32.73	0.5	Pass
9	2452	32.74	32.74	0.5	Pass

Spectrum Plot of Worst Value

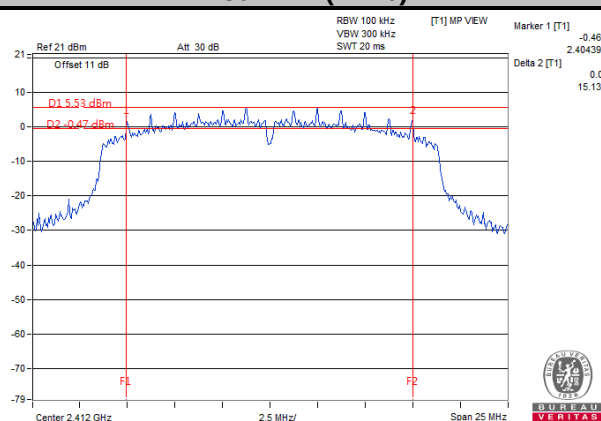
802.11b



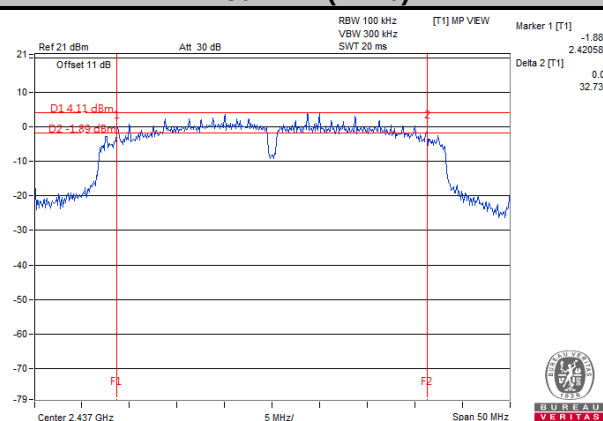
802.11g



802.11n (HT20)

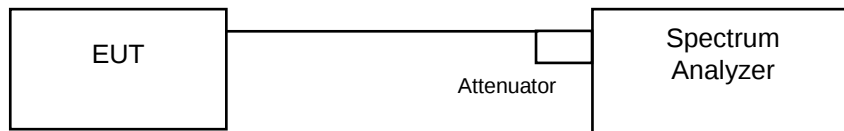


802.11n (HT40)



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1 % to 5 % of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

4.4.4 Deviation from Test Standard

No deviation.

4.4.5 EUT Operating Conditions

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

4.4.6 Test Results

802.11b

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
1	2412	13.48	13.39	Pass
6	2437	13.44	13.44	Pass
11	2462	13.44	13.44	Pass

802.11g

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
1	2412	16.26	16.44	Pass
6	2437	17.16	17.88	Pass
11	2462	16.20	16.32	Pass

802.11n (HT20)

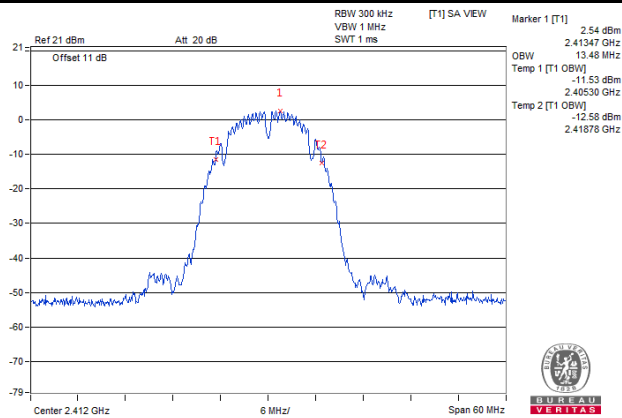
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
1	2412	17.40	17.28	Pass
6	2437	18.36	18.12	Pass
11	2462	17.28	17.40	Pass

802.11n (HT40)

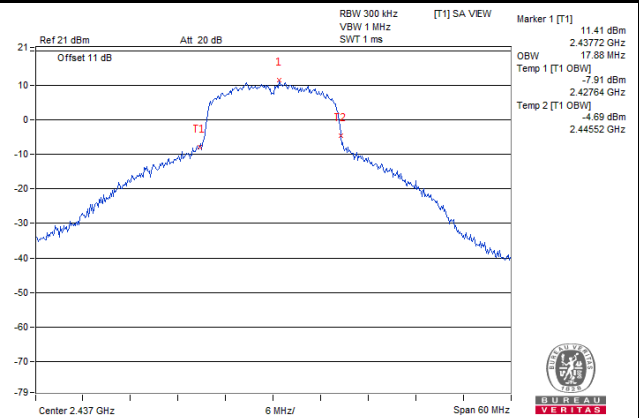
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
3	2422	36.00	35.88	Pass
6	2437	36.36	36.36	Pass
9	2452	36.00	36.00	Pass

Spectrum Plot of Worst Value

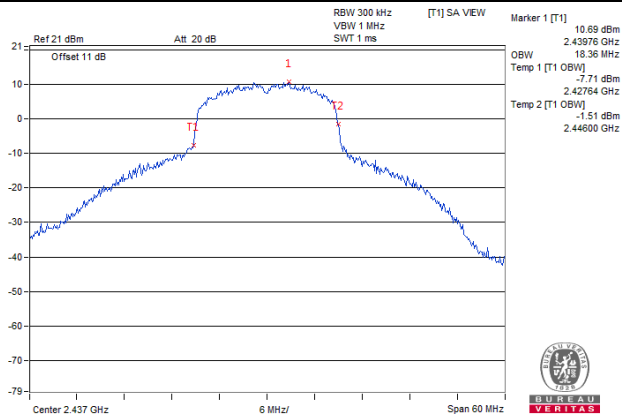
802.11b



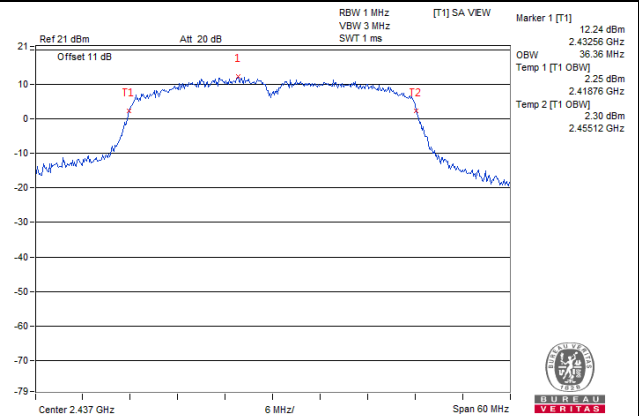
802.11g



802.11n (HT20)



802.11n (HT40)



4.5 Conducted Output Power Measurement

4.5.1 Limits of Conducted Output Power Measurement

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

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

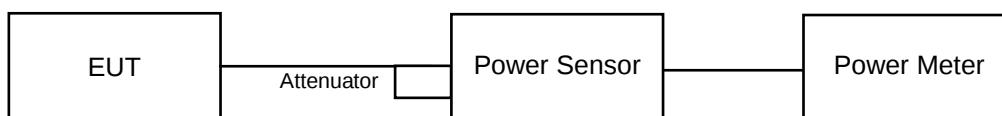
Array Gain = 0 dB (i.e., no array gain) for $NANT \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;

Array Gain = $5 \log(NANT/NSS)$ dB or 3 dB, whichever is less for 20 MHz channel widths with $NANT \geq 5$.

For power measurements on all other devices: Array Gain = $10 \log(NANT/NSS)$ dB.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

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

Average power sensor was used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

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

4.5.7 Test Results

802.11b

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	11.21	10.79	25.208	14.02	30	Pass
6	2437	9.82	9.71	18.948	12.78	30	Pass
11	2462	9.91	10.66	21.436	13.31	30	Pass

802.11g

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	16.68	16.70	93.332	19.70	30	Pass
6	2437	18.75	18.70	149.12	21.74	30	Pass
10	2457	18.42	18.52	140.624	21.48	30	Pass
11	2462	15.51	15.80	73.582	18.67	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	15.11	16.04	72.613	18.61	30	Pass
2	2417	18.11	18.23	131.242	21.18	30	Pass
6	2437	19.01	18.95	158.139	21.99	30	Pass
10	2457	18.57	18.69	145.905	21.64	30	Pass
11	2462	15.02	15.22	65.035	18.13	30	Pass

802.11n (HT40)

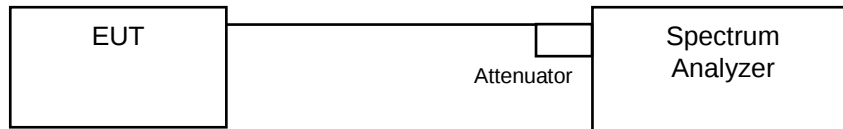
Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	11.65	12.26	31.449	14.98	30	Pass
4	2427	12.11	12.35	33.435	15.24	30	Pass
5	2432	14.57	14.65	57.816	17.62	30	Pass
6	2437	17.55	17.35	111.21	20.46	30	Pass
8	2447	14.67	14.75	59.163	17.72	30	Pass
9	2452	13.33	13.45	43.659	16.40	30	Pass

4.6 Power Spectral Density Measurement

4.6.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8 dBm in any 3 kHz band during any time interval of continuous transmission.

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

802.11b

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	1	2412	-23.32	3.01	-20.31	5.95	Pass
	6	2437	-23.89	3.01	-20.88	5.95	Pass
	11	2462	-24.35	3.01	-21.34	5.95	Pass
1	1	2412	-22.46	3.01	-19.45	5.95	Pass
	6	2437	-23.7	3.01	-20.69	5.95	Pass
	11	2462	-24.38	3.01	-21.37	5.95	Pass

NOTE:

1. Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 8.05 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $8-(8.05-6) = 5.95 \text{ dBm}$.
2. Method 2) C) of power density measurement of KDB 662911 is using for calculating total power density.

802.11g

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	1	2412	-18.91	3.01	0.12	-15.78	5.95	Pass
	6	2437	-16.5	3.01	0.12	-13.37	5.95	Pass
	11	2462	-20.06	3.01	0.12	-16.93	5.95	Pass
1	1	2412	-18.75	3.01	0.12	-15.62	5.95	Pass
	6	2437	-16.73	3.01	0.12	-13.6	5.95	Pass
	11	2462	-20.45	3.01	0.12	-17.32	5.95	Pass

NOTE:

1. Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 8.05 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $8-(8.05-6) = 5.95 \text{ dBm}$.
2. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

802.11n (HT20)

TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	1	2412	-20.52	3.01	0.15	-17.36	5.95	Pass
	6	2437	-17.24	3.01	0.15	-14.08	5.95	Pass
	11	2462	-21.09	3.01	0.15	-17.93	5.95	Pass
1	1	2412	-20.86	3.01	0.15	-17.7	5.95	Pass
	6	2437	-17.5	3.01	0.15	-14.34	5.95	Pass
	11	2462	-21.08	3.01	0.15	-17.92	5.95	Pass

NOTE:

- Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 8.05 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $8 - (8.05 - 6) = 5.95 \text{ dBm}$.
- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

802.11n (HT40)

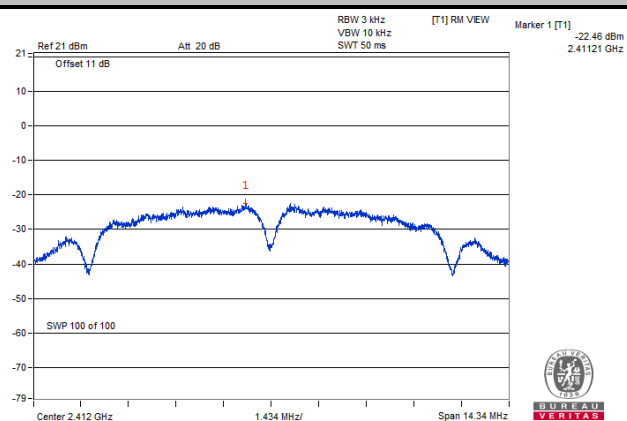
TX Chain	Channel	Freq. (MHz)	PSD (dBm/3 kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	3	2422	-27.12	3.01	0.3	-23.81	5.95	Pass
	6	2437	-21.98	3.01	0.3	-18.67	5.95	Pass
	9	2452	-26.05	3.01	0.3	-22.74	5.95	Pass
1	3	2422	-27.39	3.01	0.3	-24.08	5.95	Pass
	6	2437	-21.78	3.01	0.3	-18.47	5.95	Pass
	9	2452	-25.82	3.01	0.3	-22.51	5.95	Pass

NOTE:

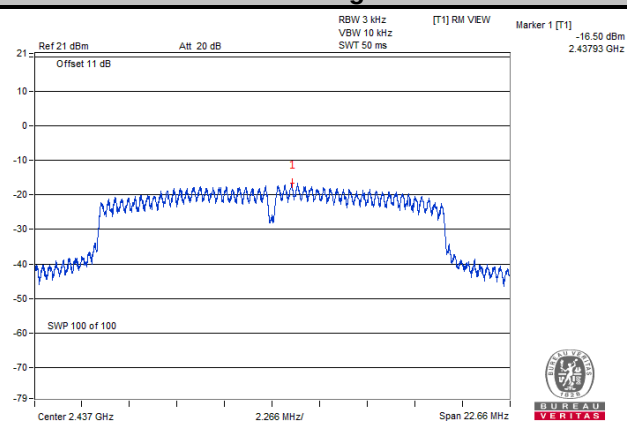
- Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 8.05 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $8 - (8.05 - 6) = 5.95 \text{ dBm}$.
- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.

Spectrum Plot of Worst Value

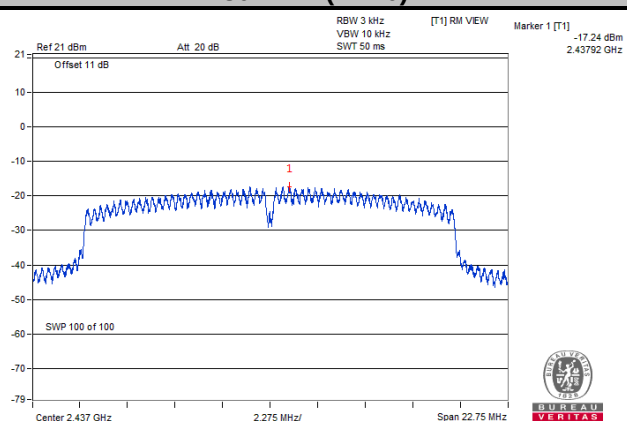
802.11b



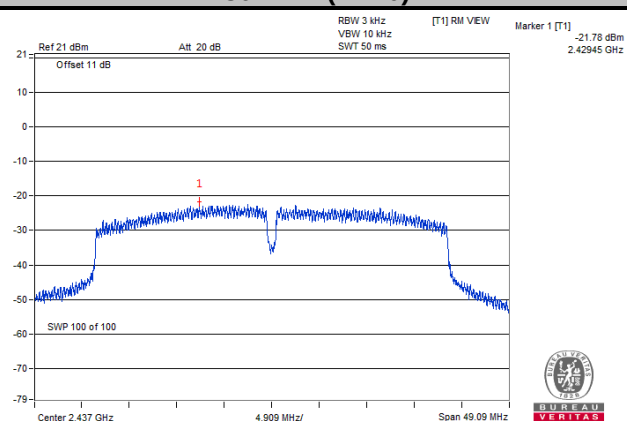
802.11g



802.11n (HT20)



802.11n (HT40)

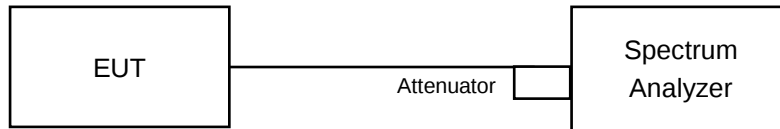


4.7 Conducted Out of Band Emission Measurement

4.7.1 Limits of Conducted Out of Band Emission Measurement

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

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

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.

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

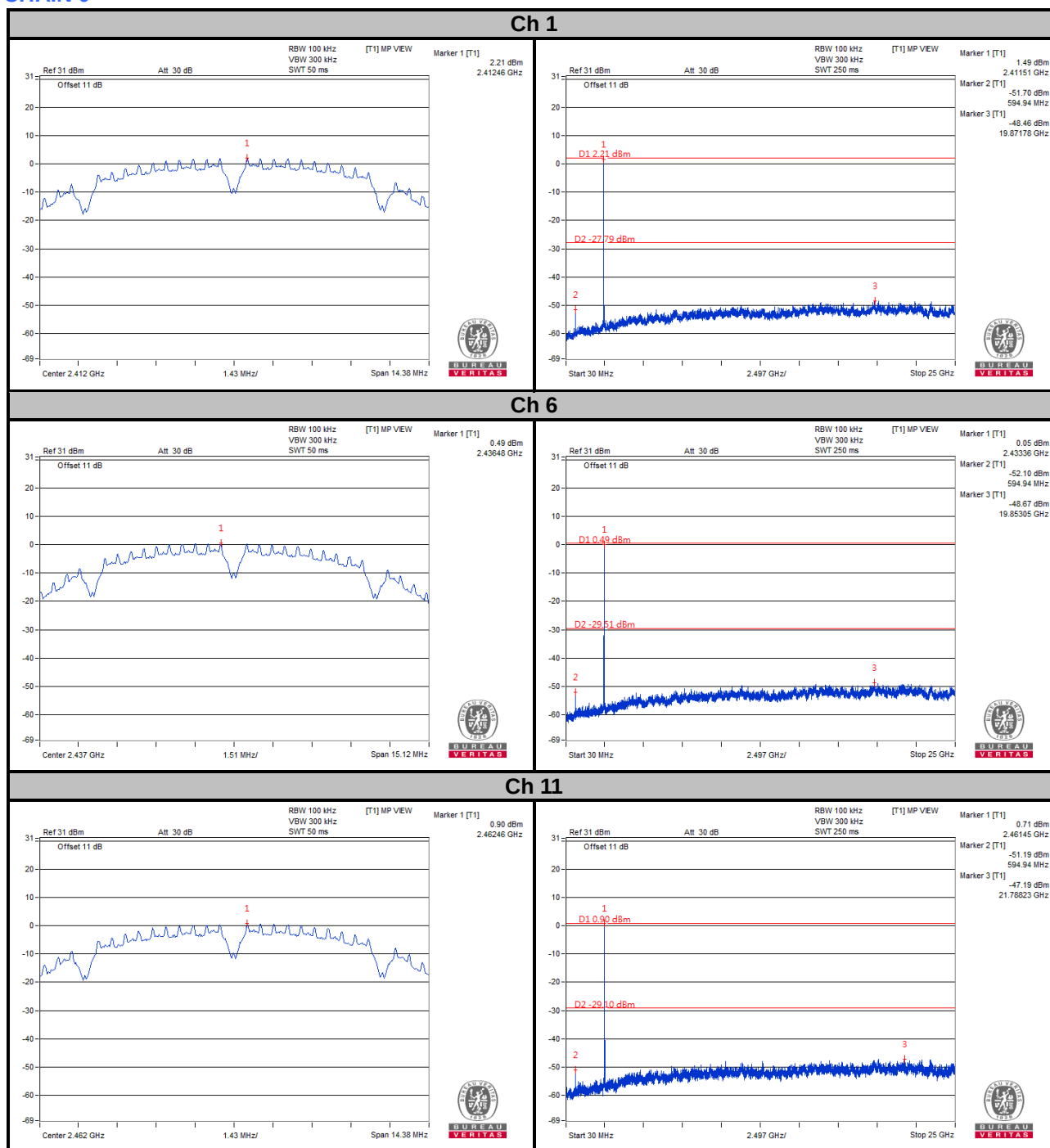
4.7.7 Test Results

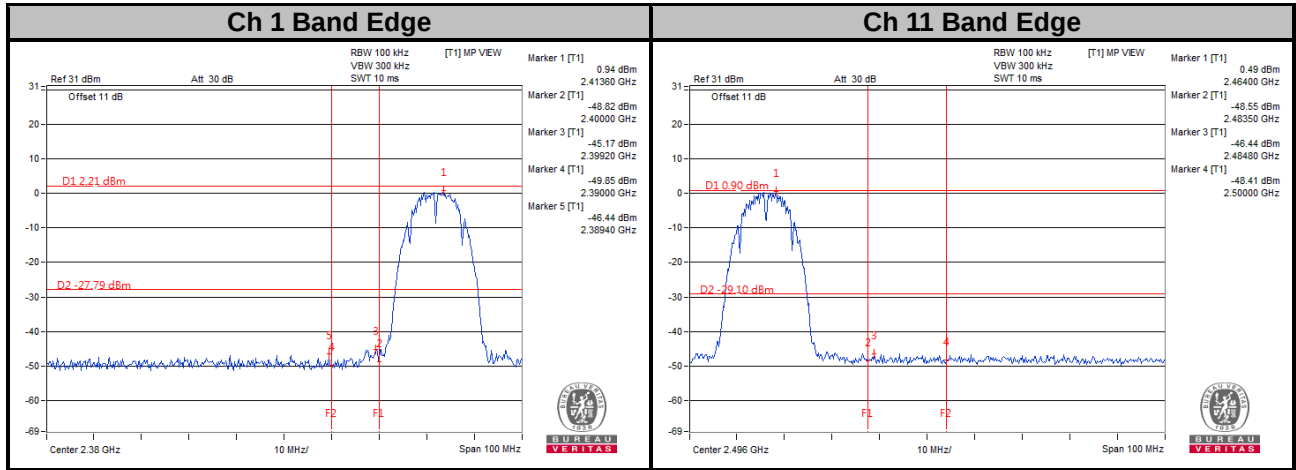
The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.

The spectrum plots are attached on the following images. D1 line indicates the highest level, and D2 line indicates the 30 dB offset below D1. It shows compliance with the requirement.

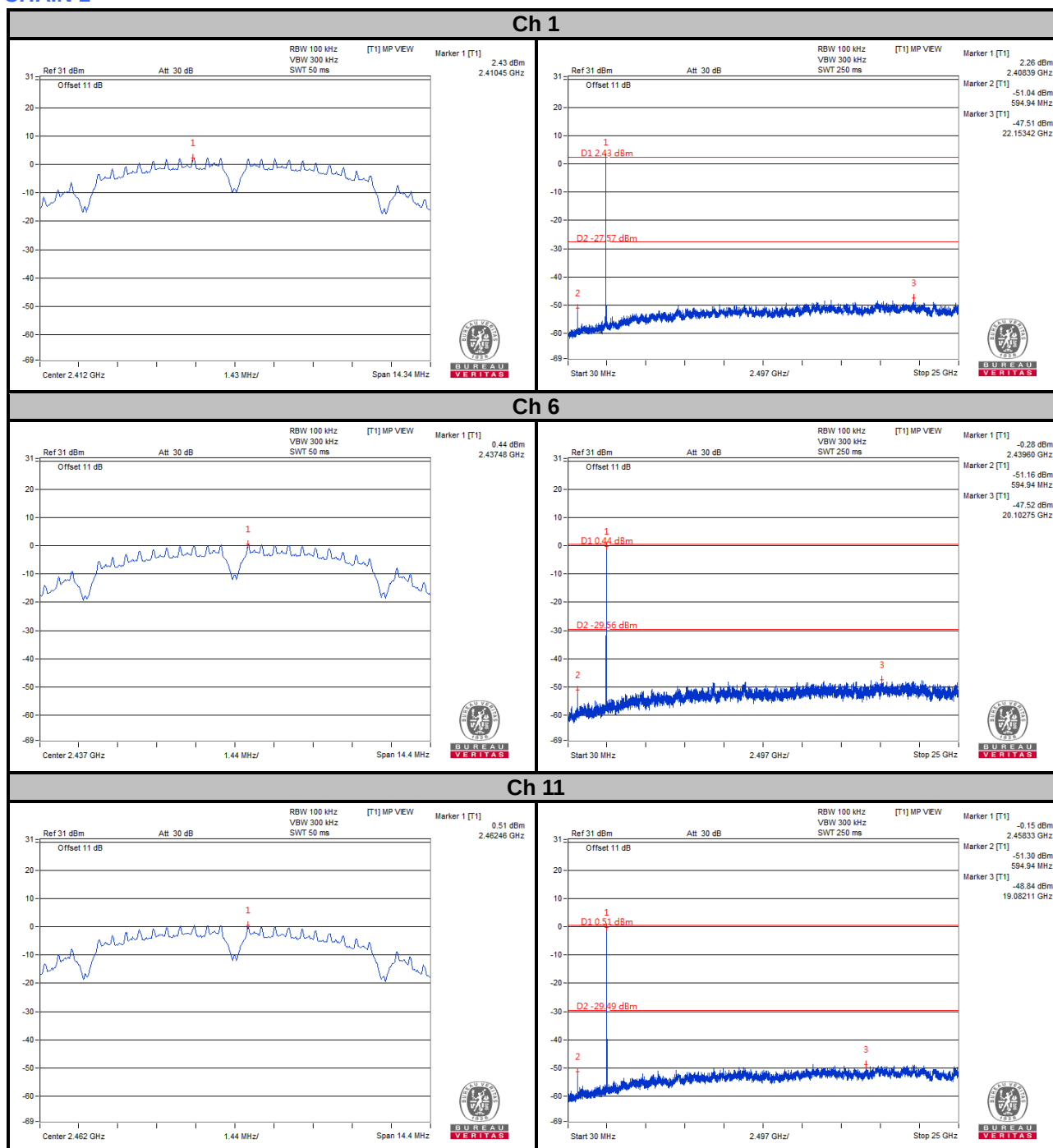
802.11b

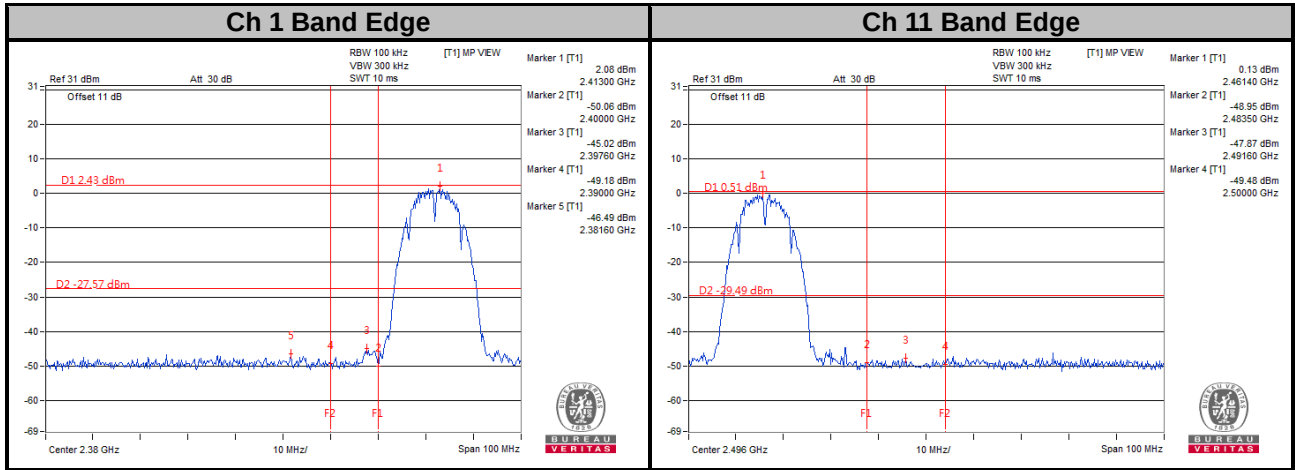
CHAIN 0





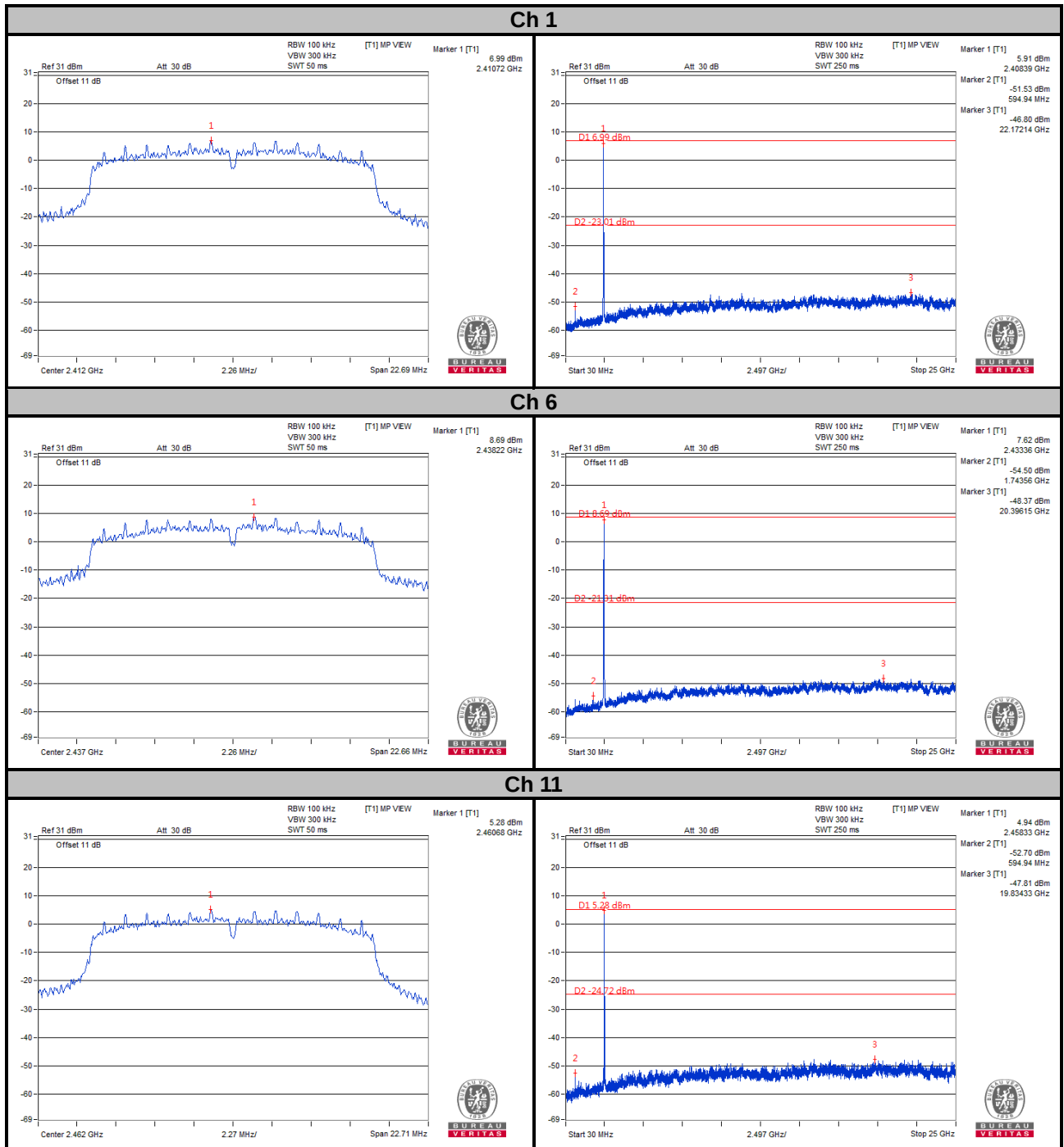
CHAIN 1

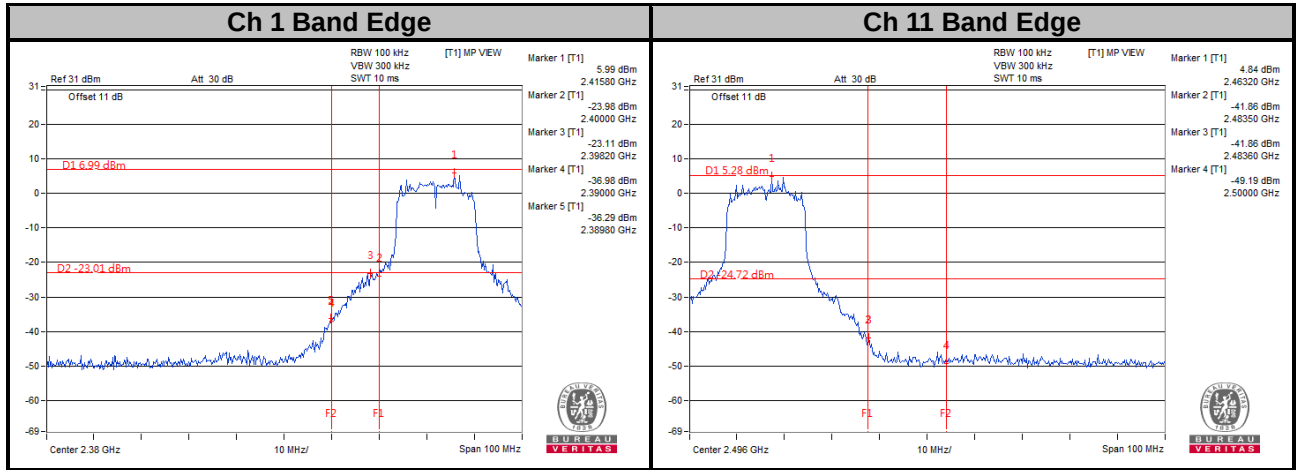




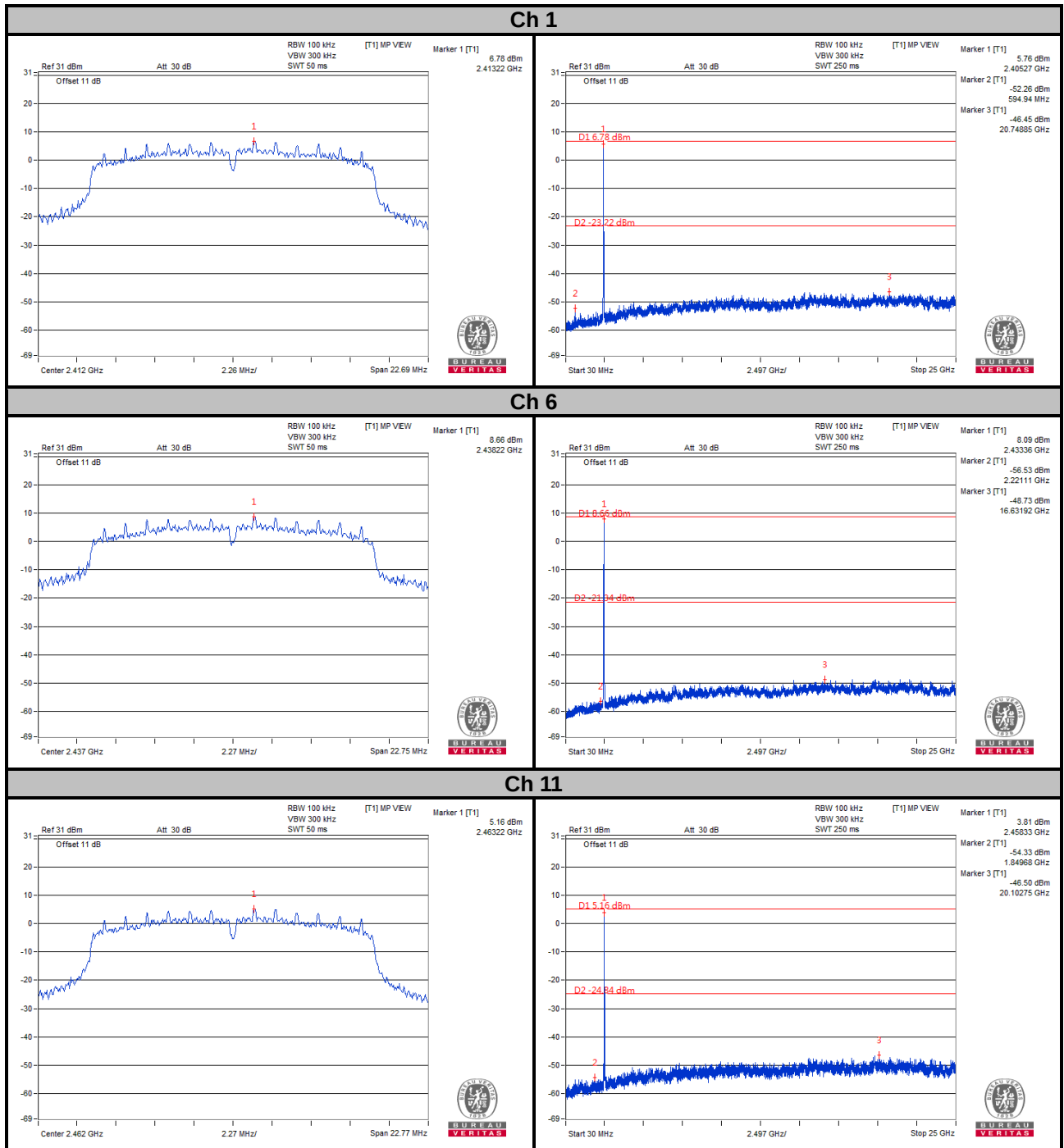
802.11g

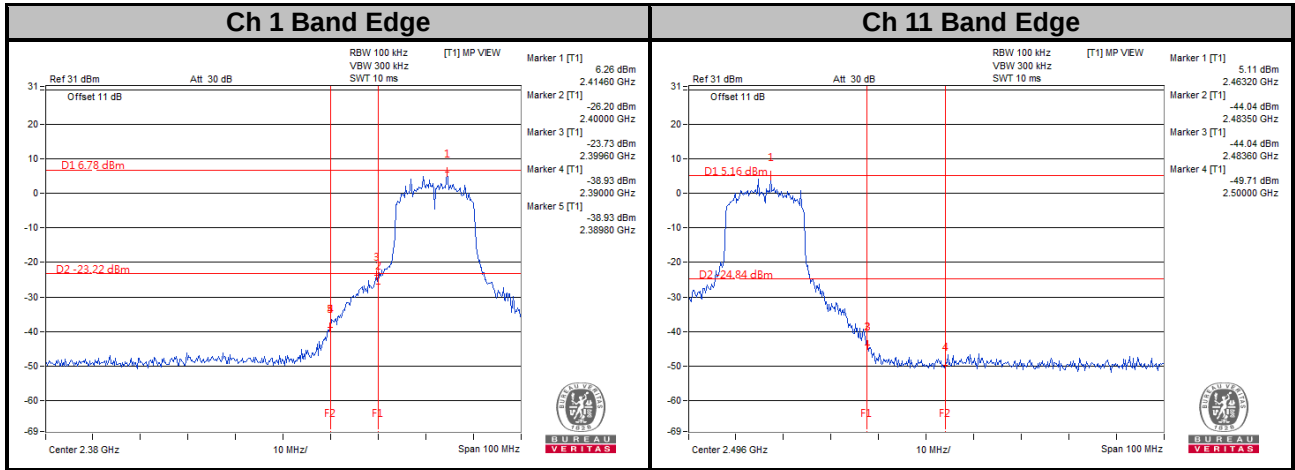
CHAIN 0





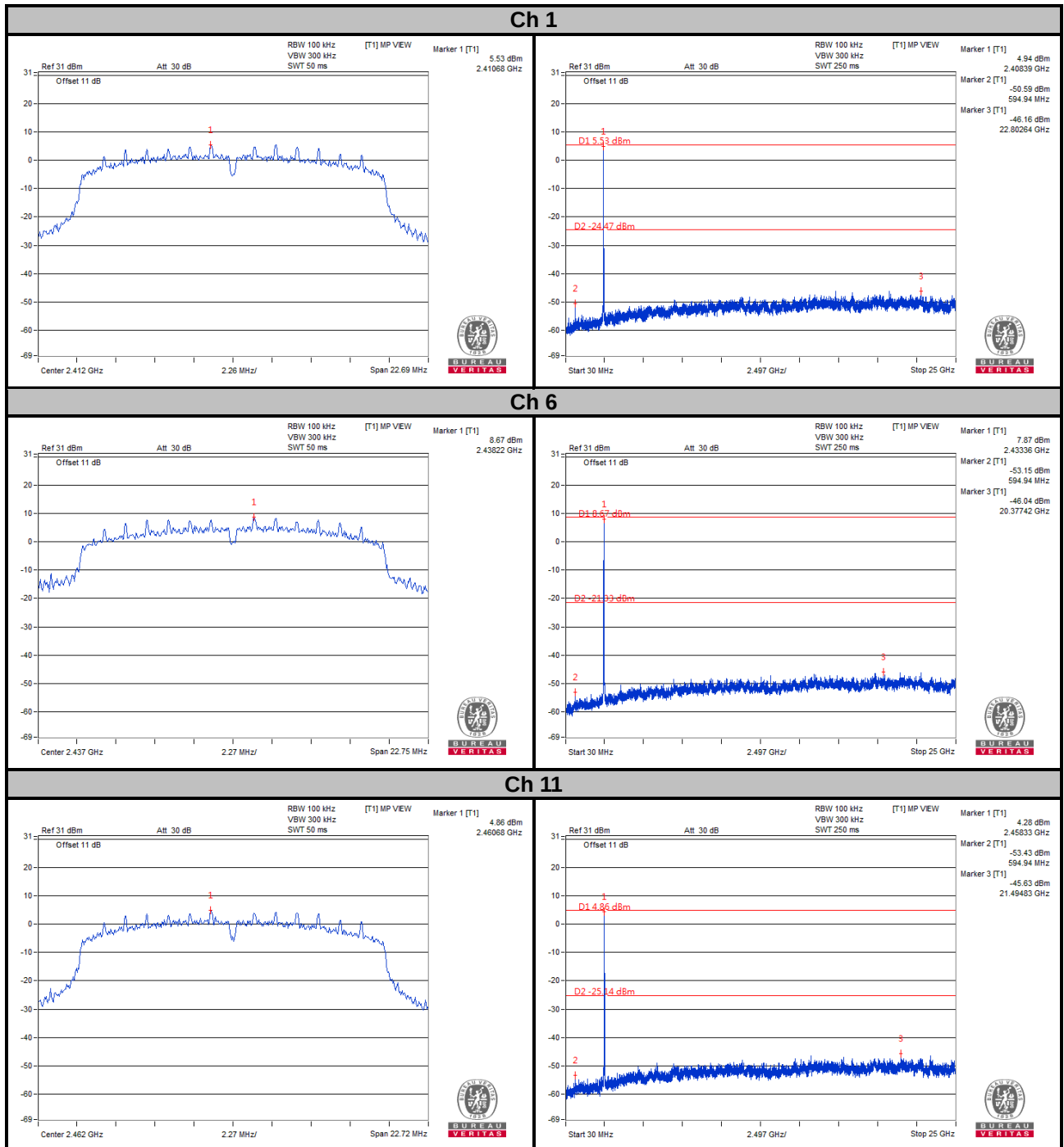
CHAIN 1

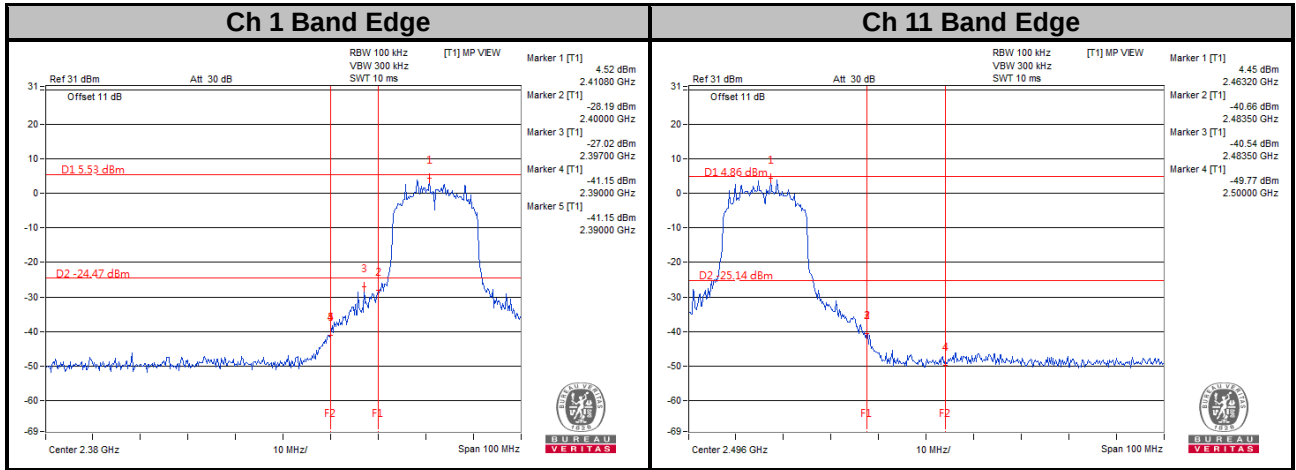




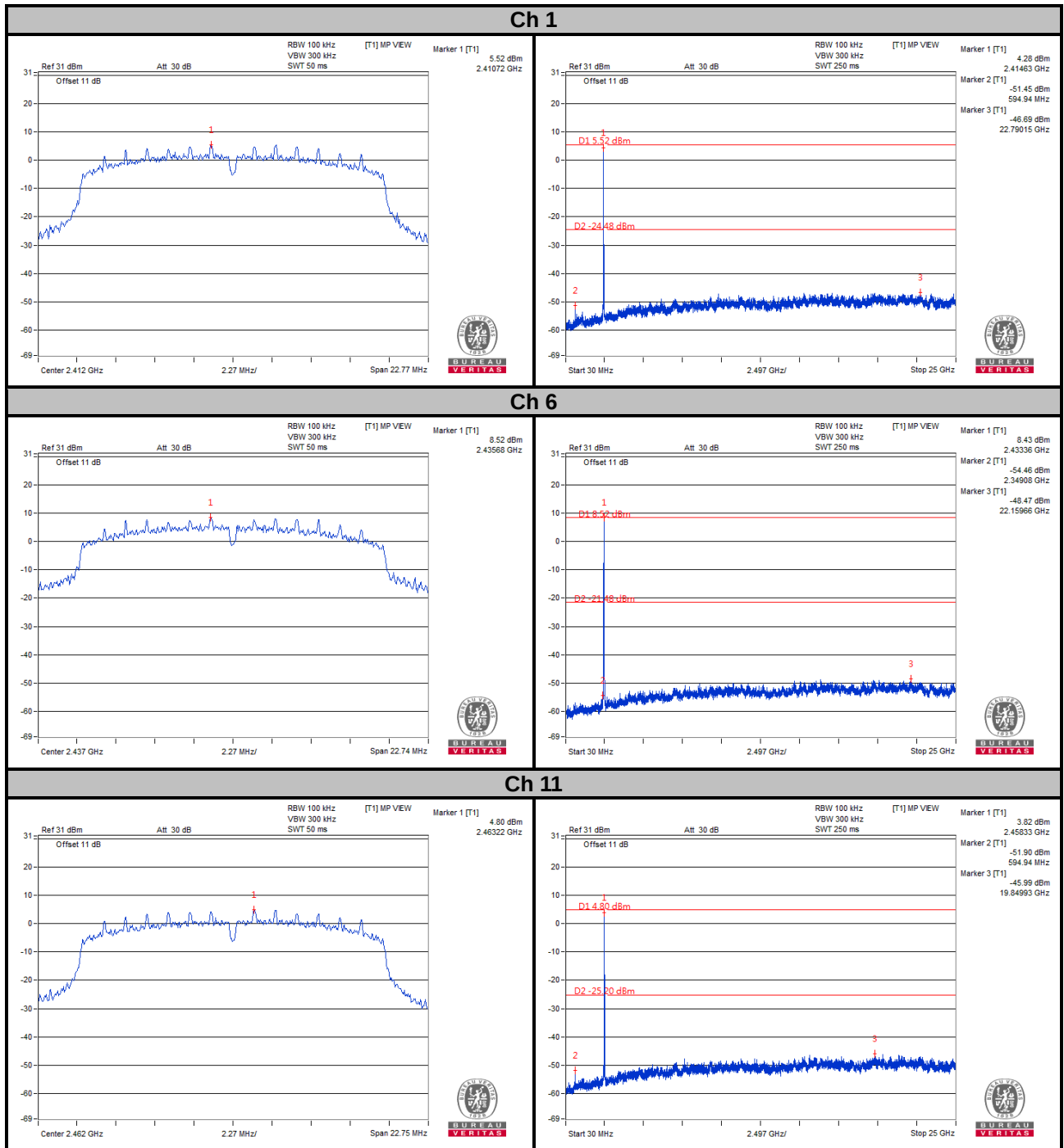
802.11n (HT20)

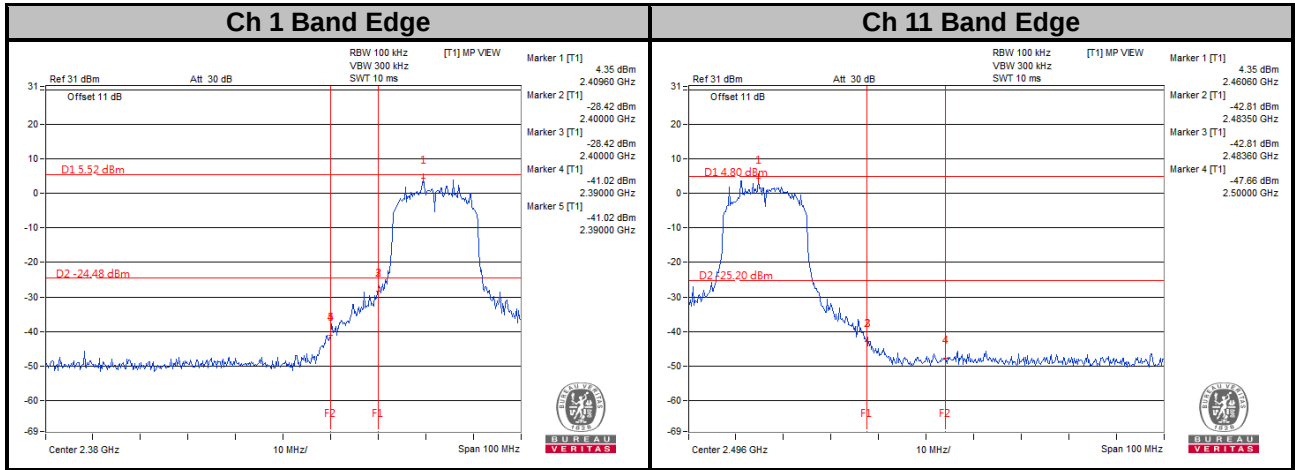
CHAIN 0





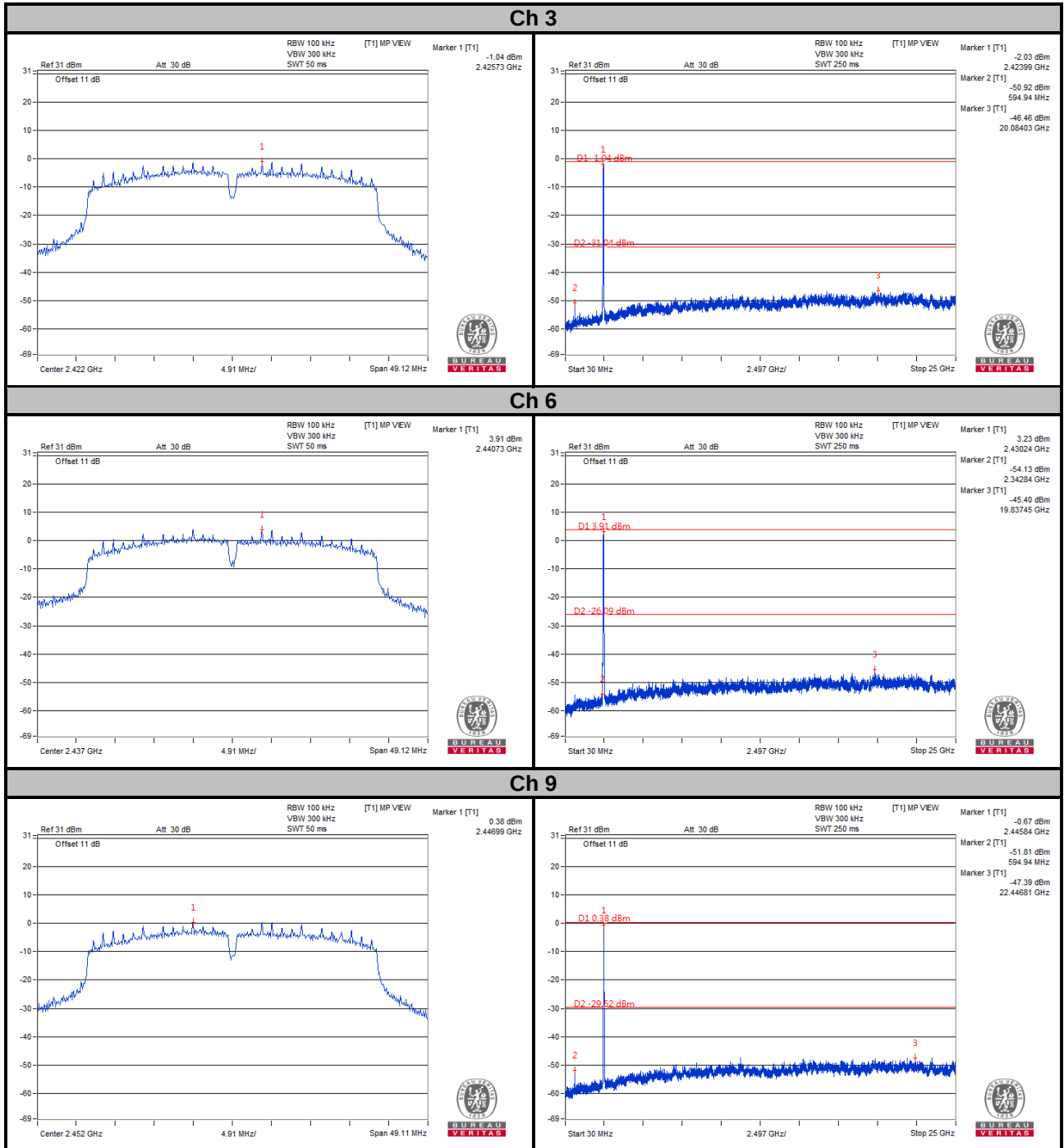
CHAIN 1

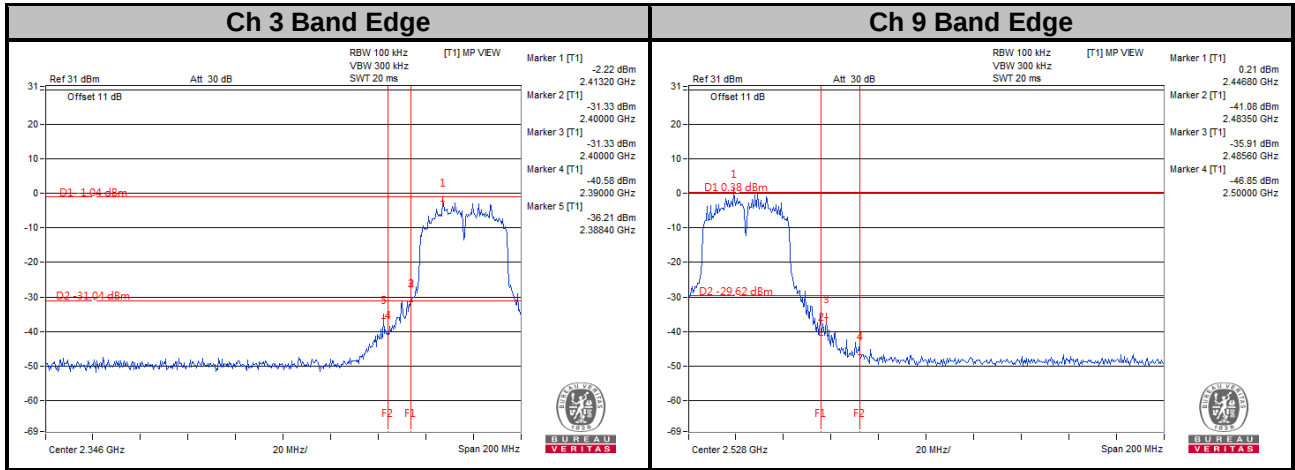




802.11n (HT40)

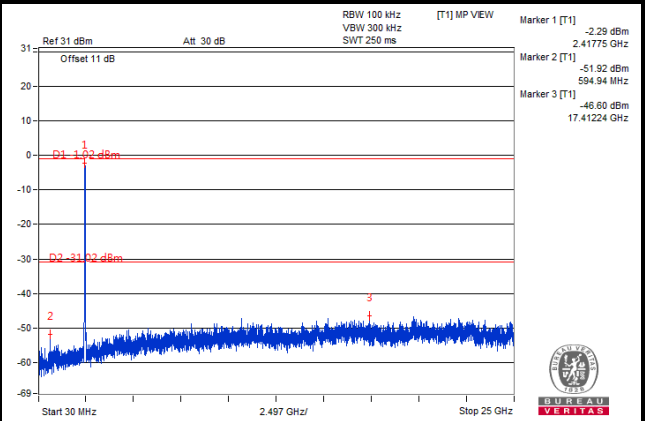
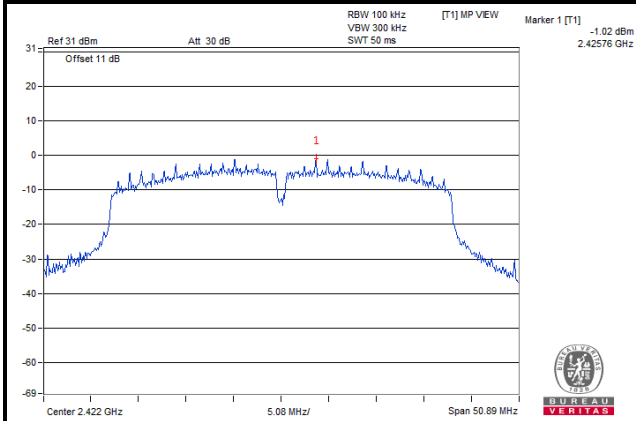
CHAIN 0



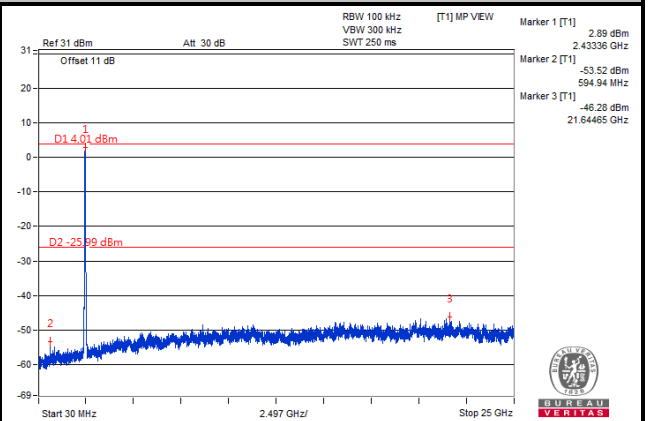
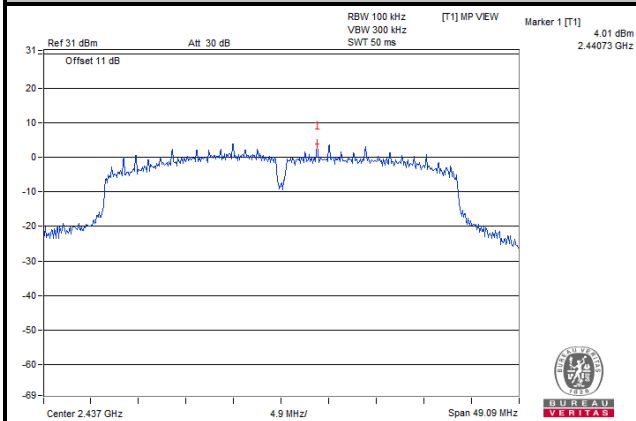


CHAIN 1

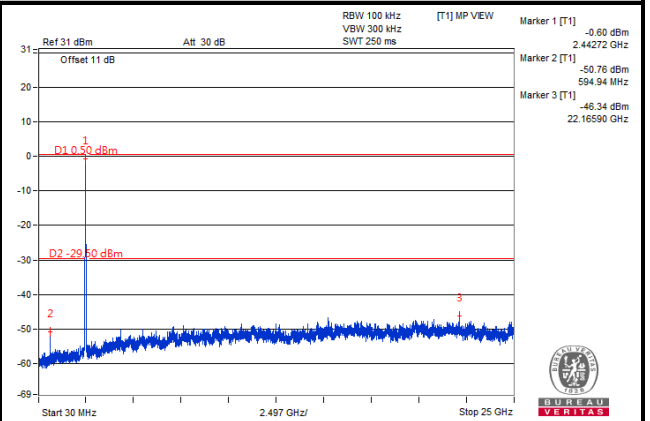
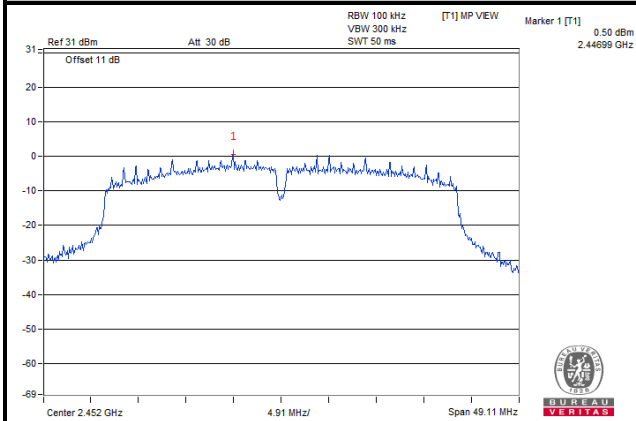
Ch 3

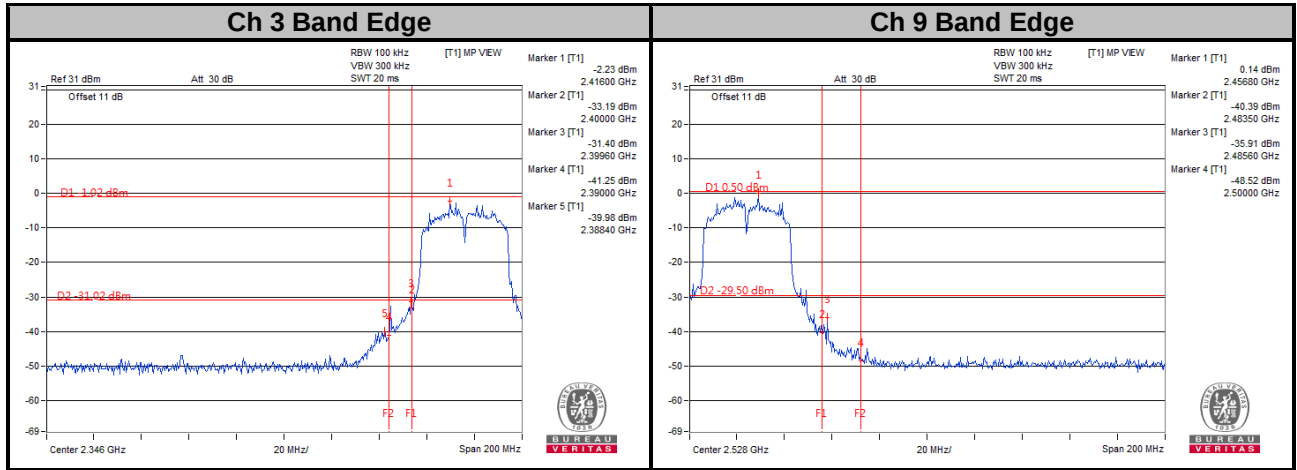


Ch 6



Ch 9





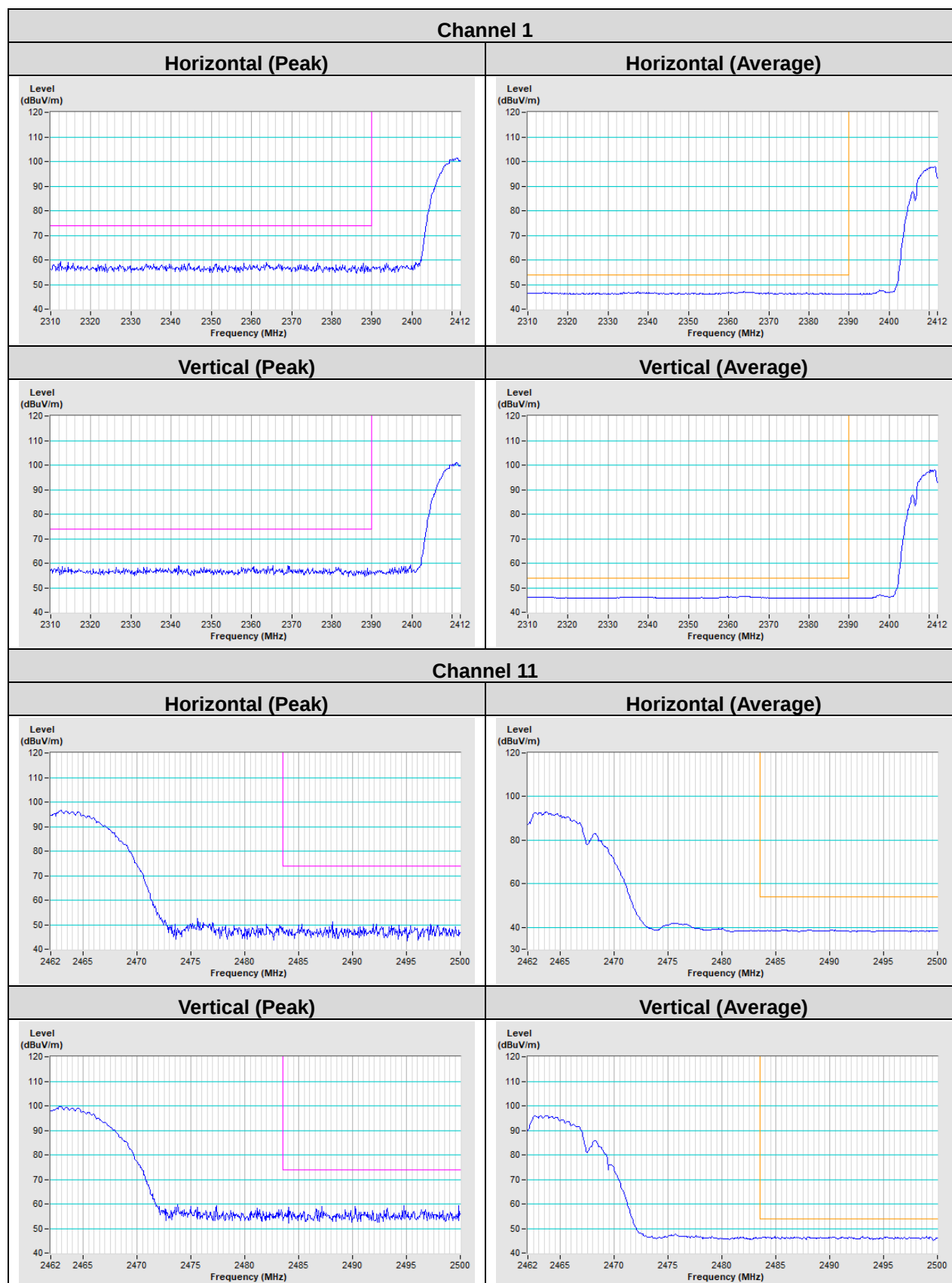
5 Pictures of Test Arrangements

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

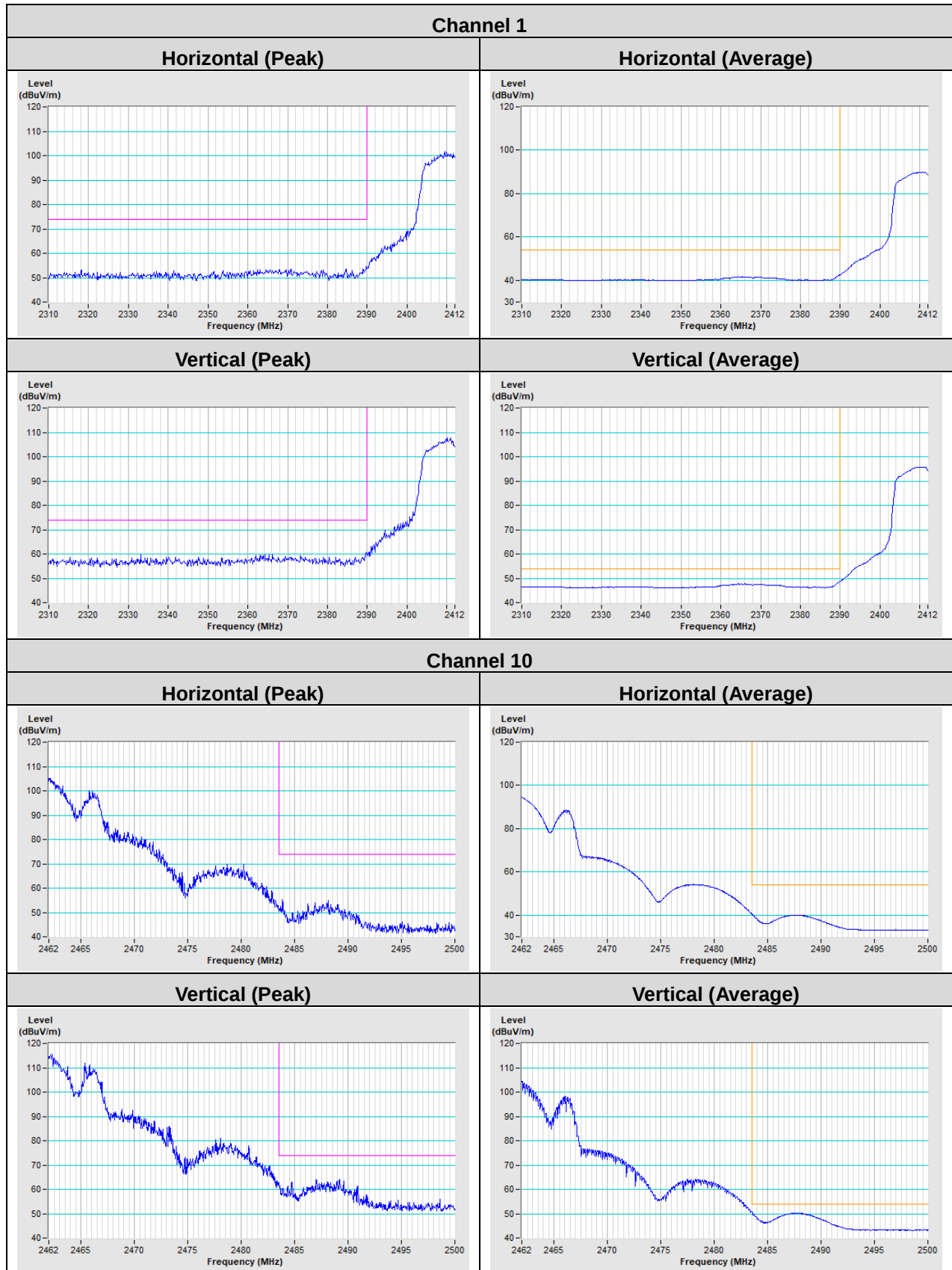
Annex A- Band Edge Measurement

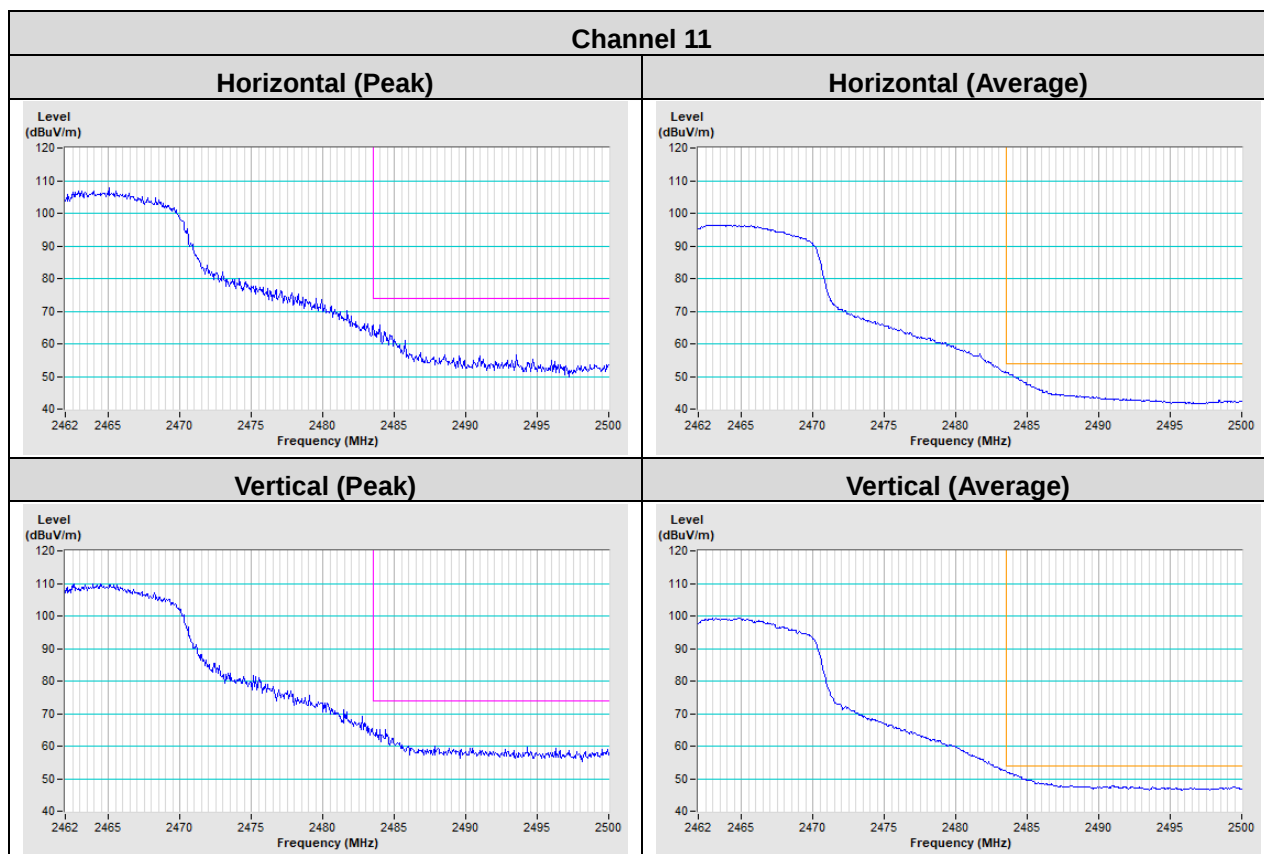
Mode A

802.11b

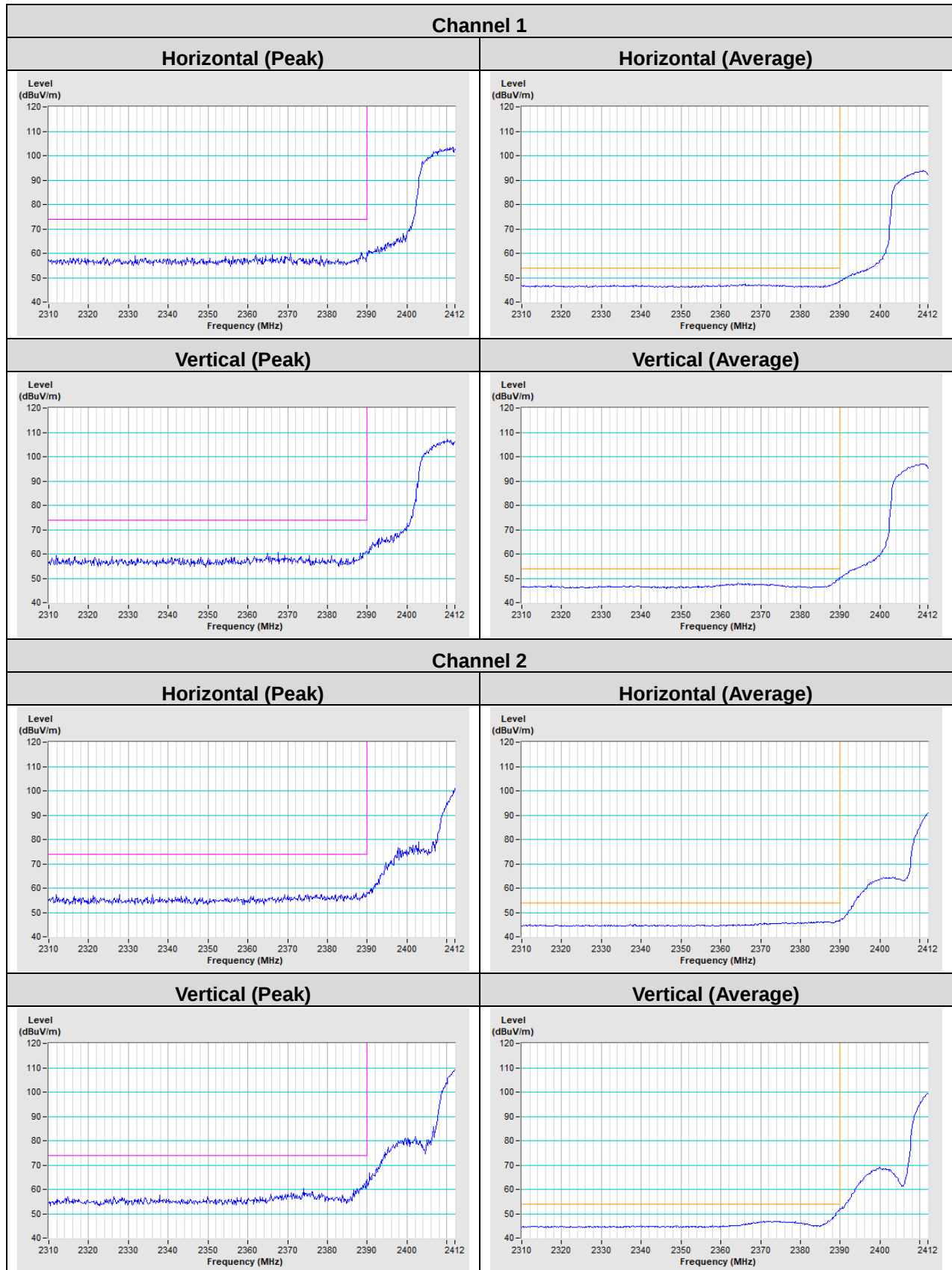


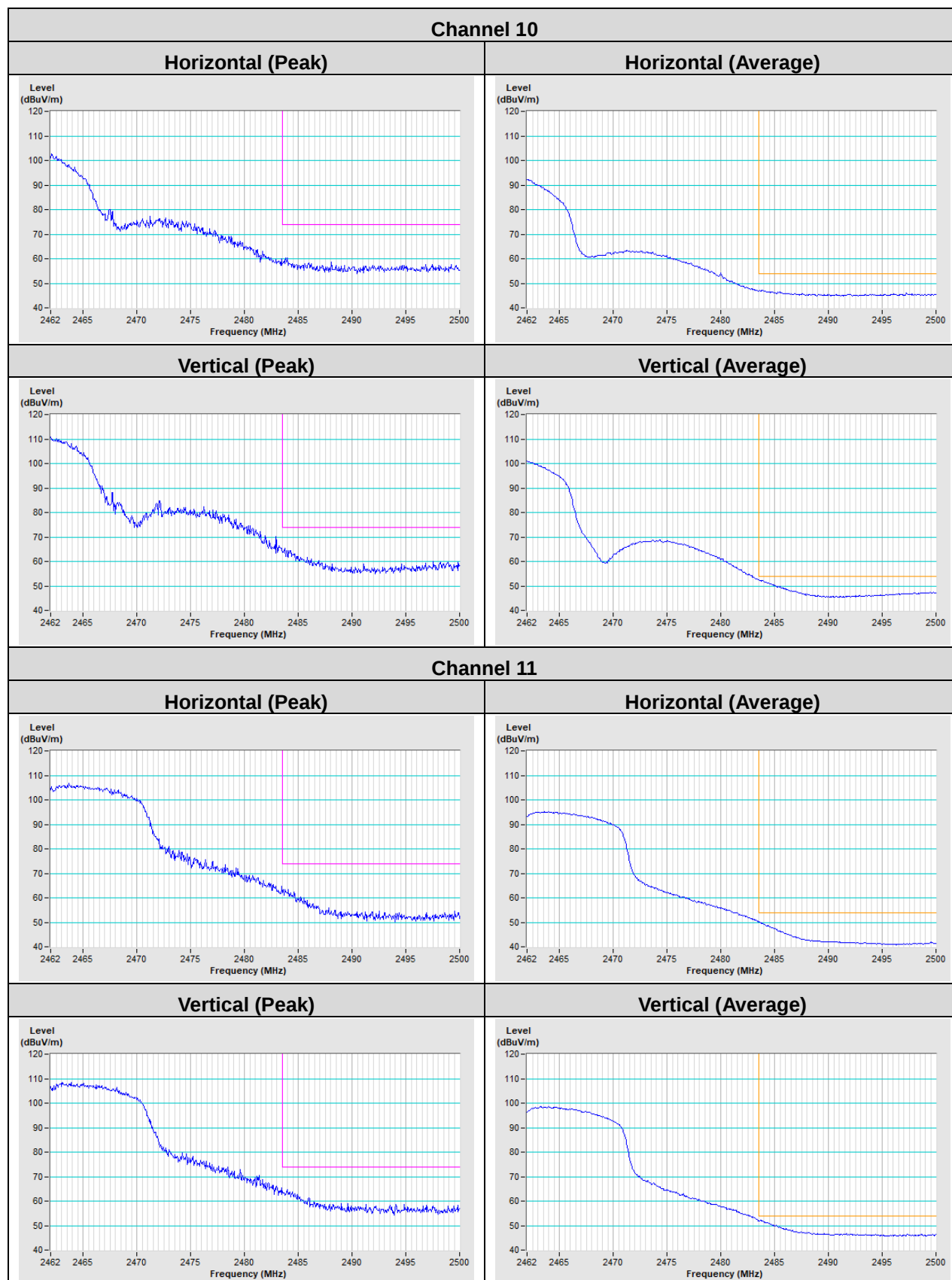
802.11g



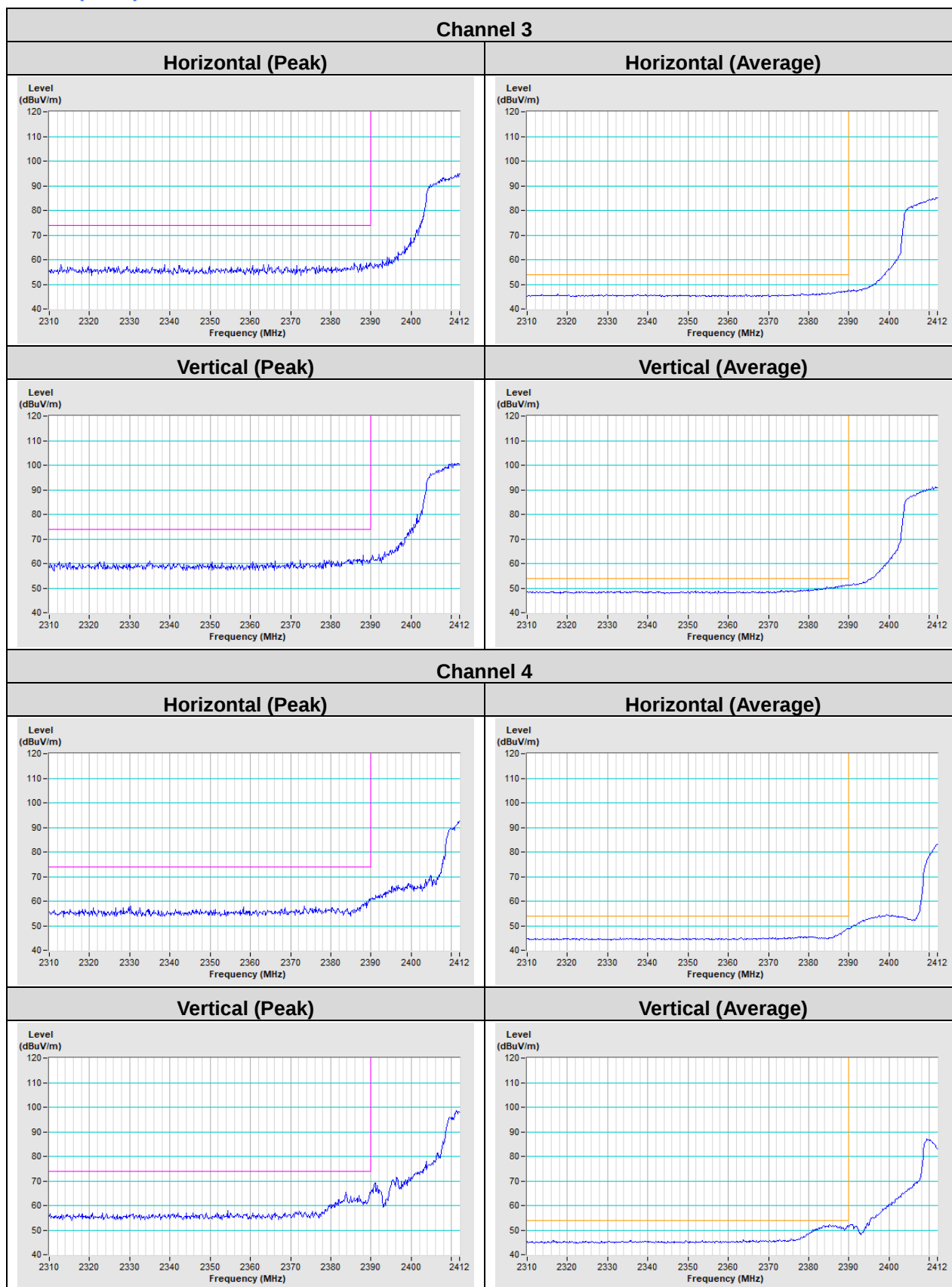


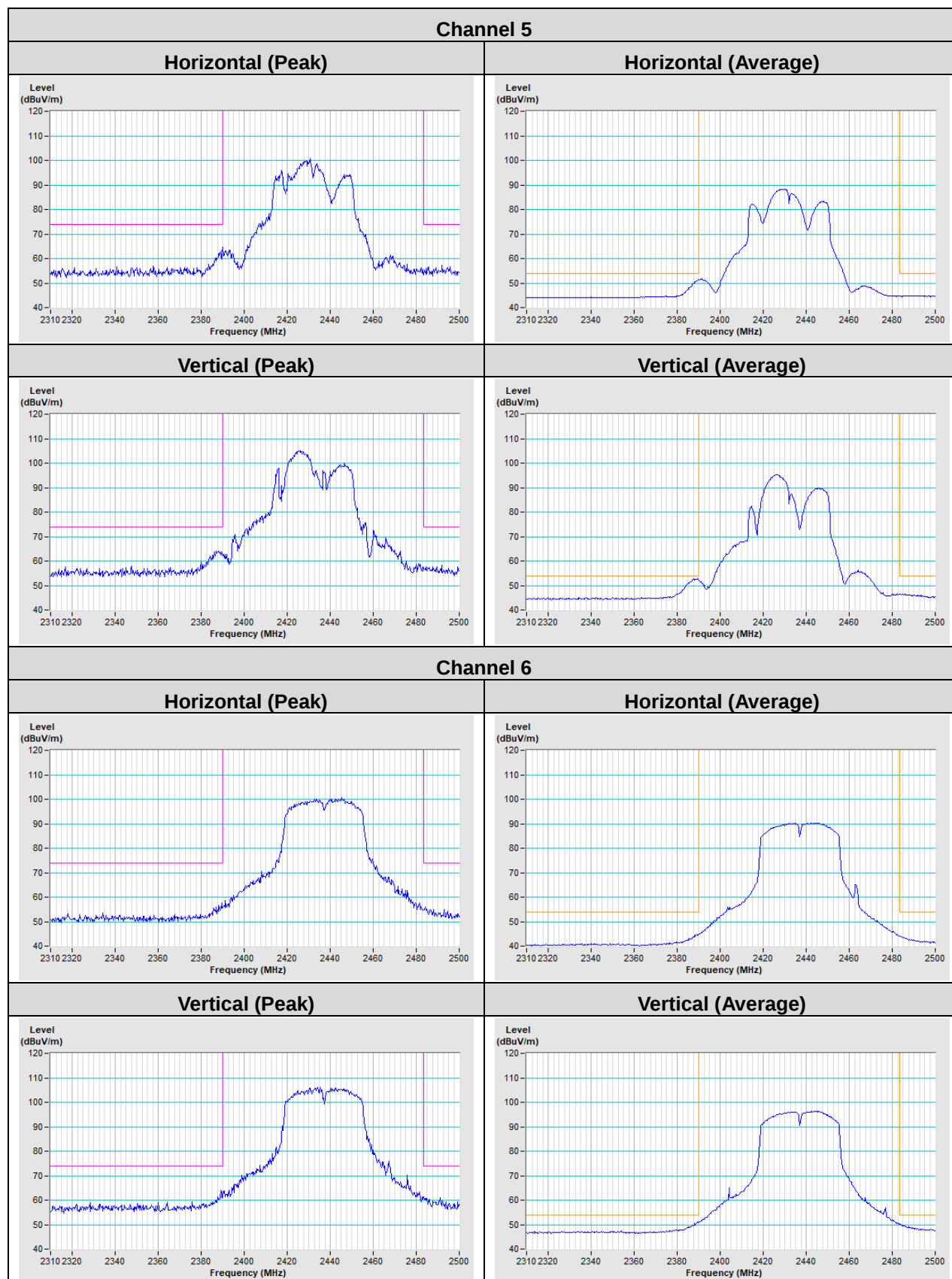
802.11n (HT20)





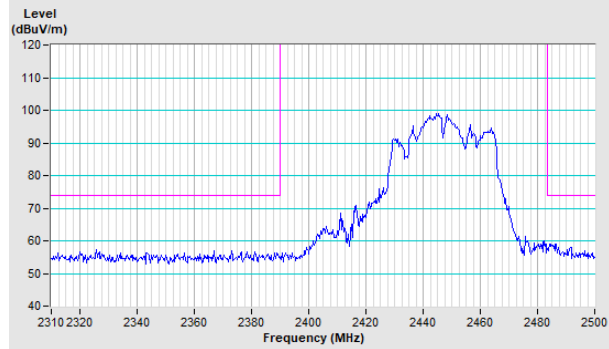
802.11n (HT40)



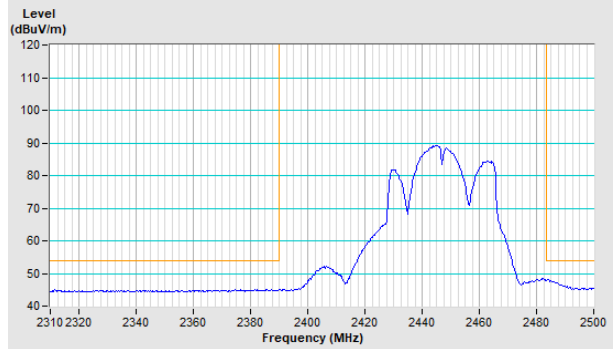


Channel 8

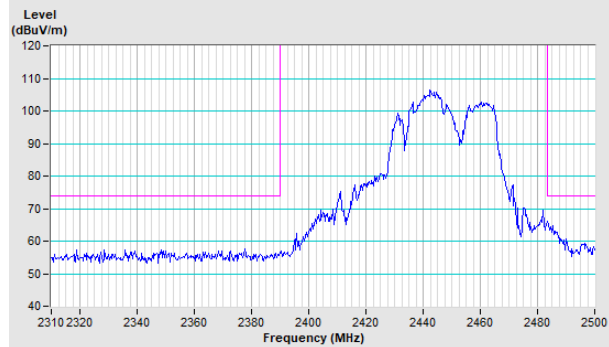
Horizontal (Peak)



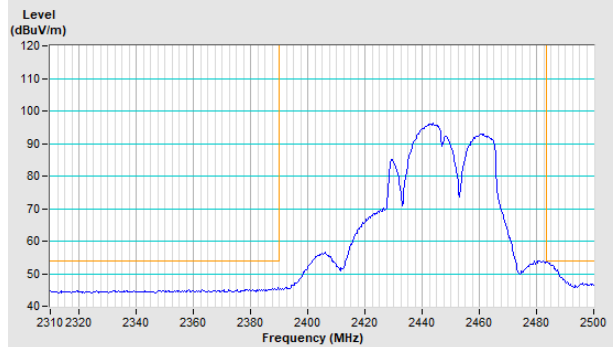
Horizontal (Average)



Vertical (Peak)

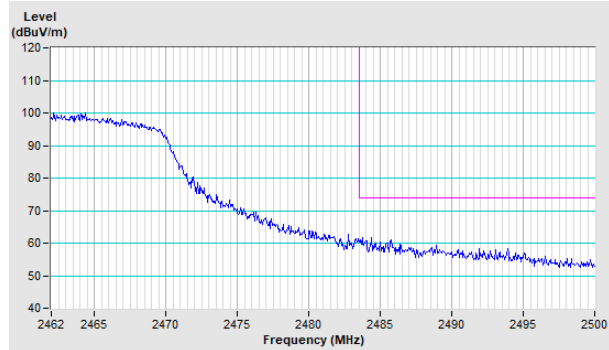


Vertical (Average)

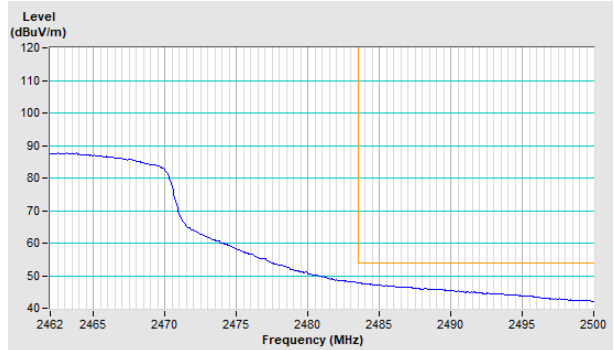


Channel 9

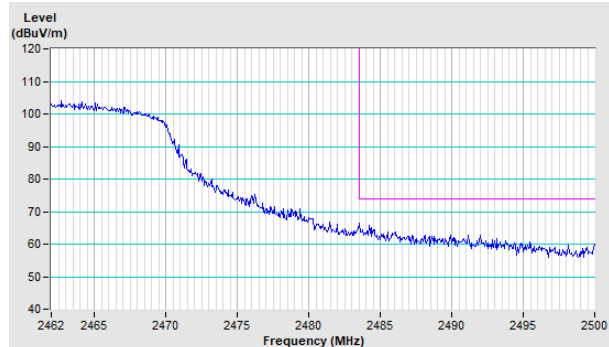
Horizontal (Peak)



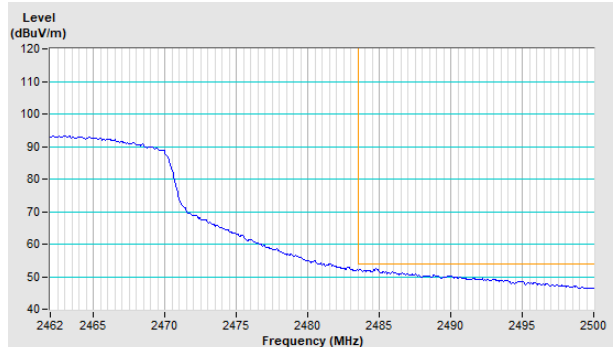
Horizontal (Average)



Vertical (Peak)

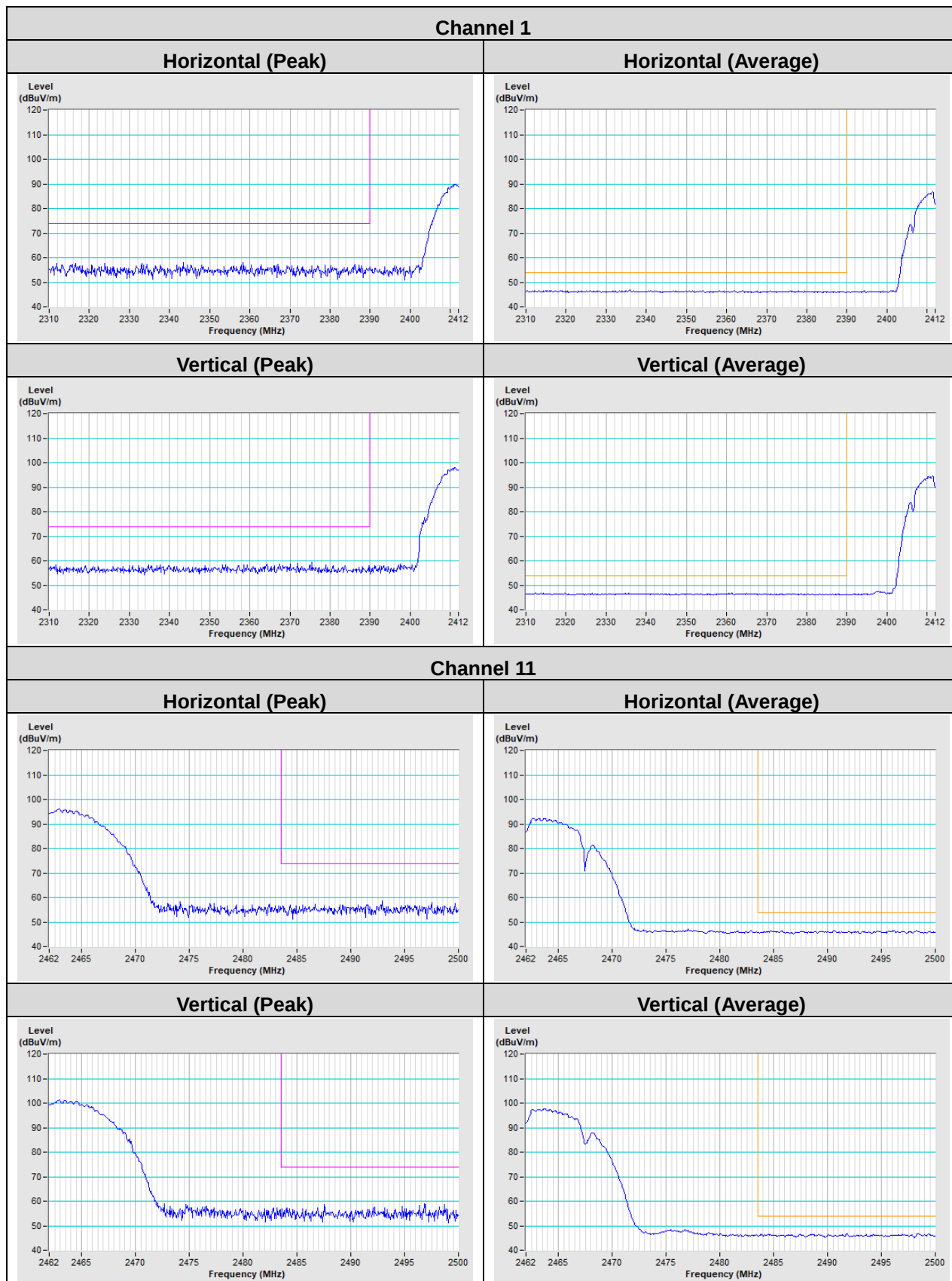


Vertical (Average)

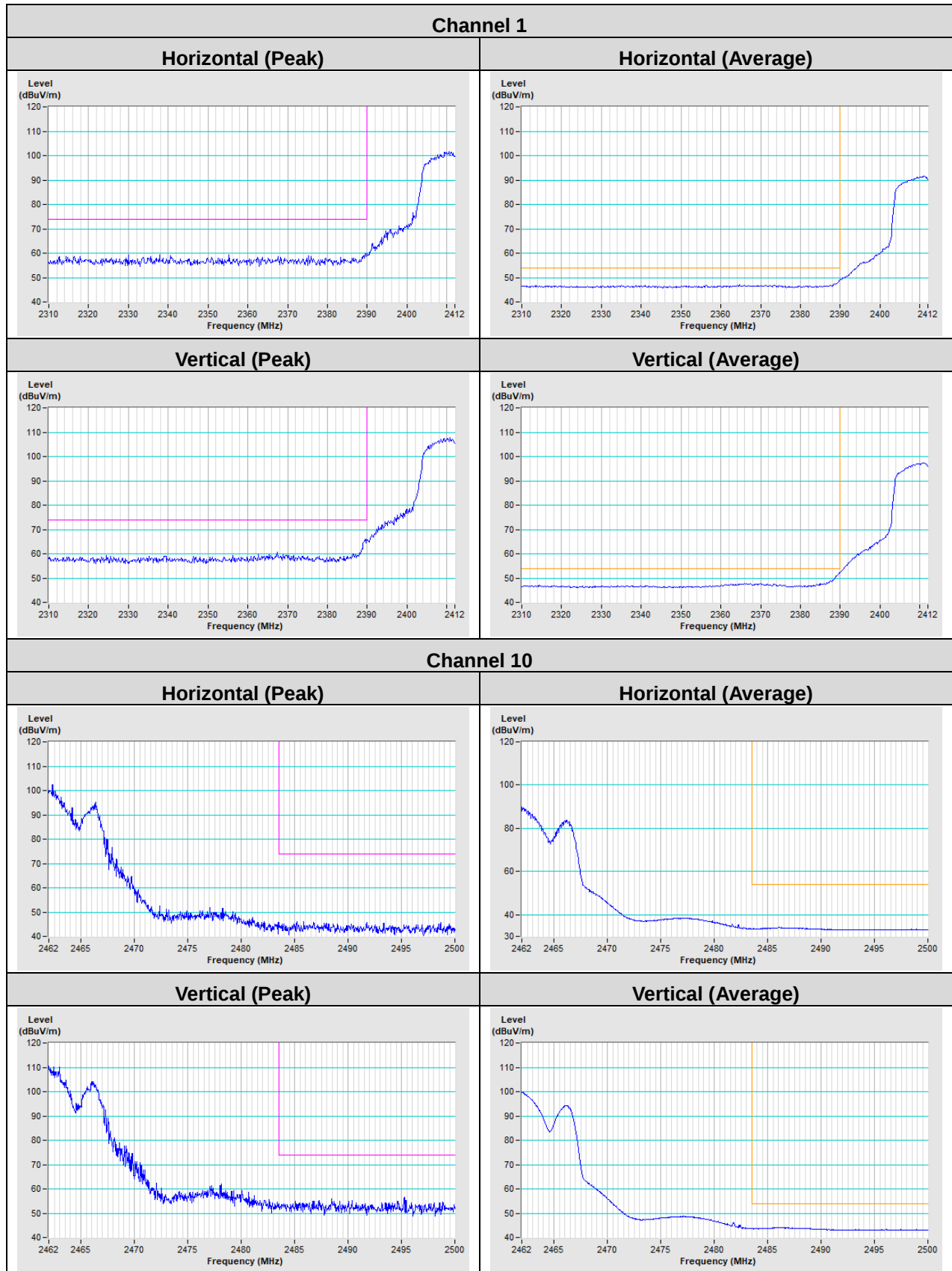


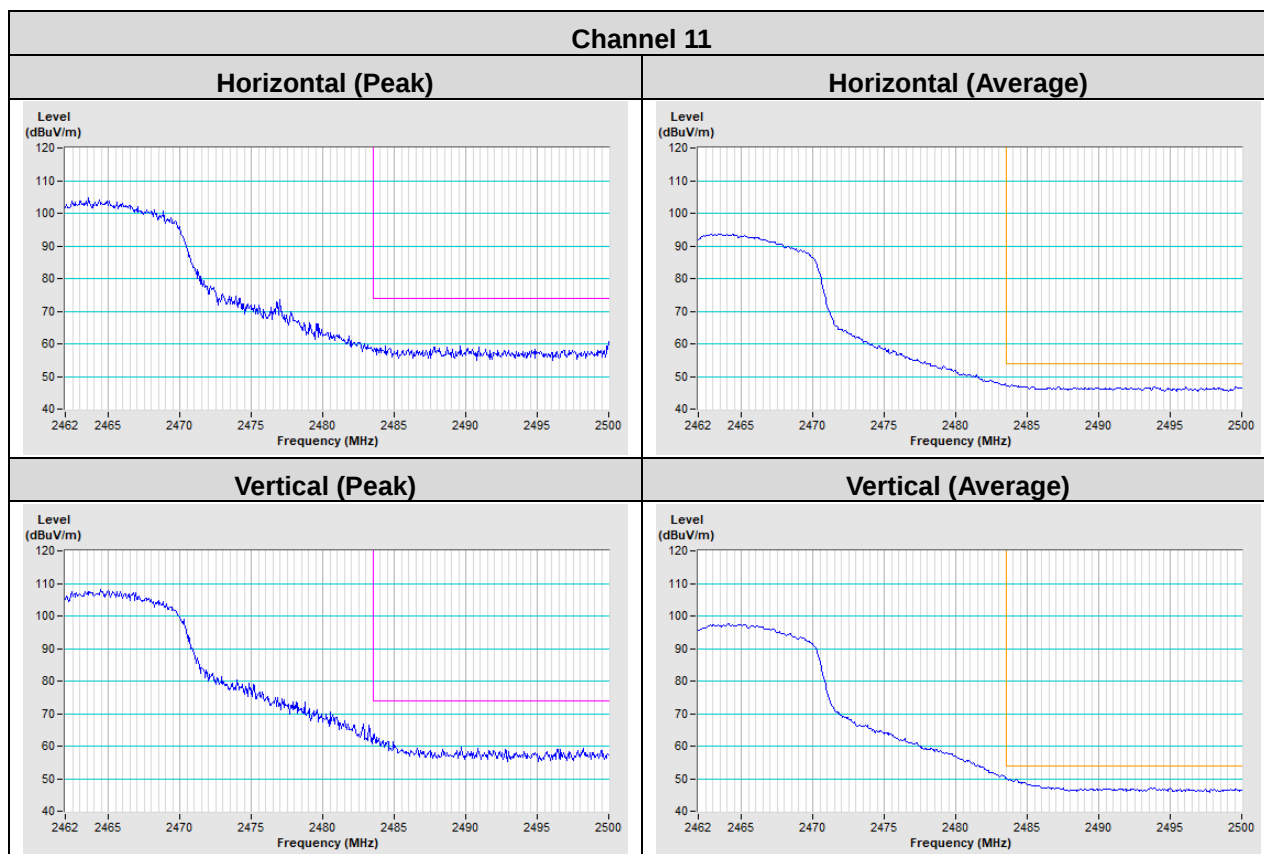
Mode B

802.11b

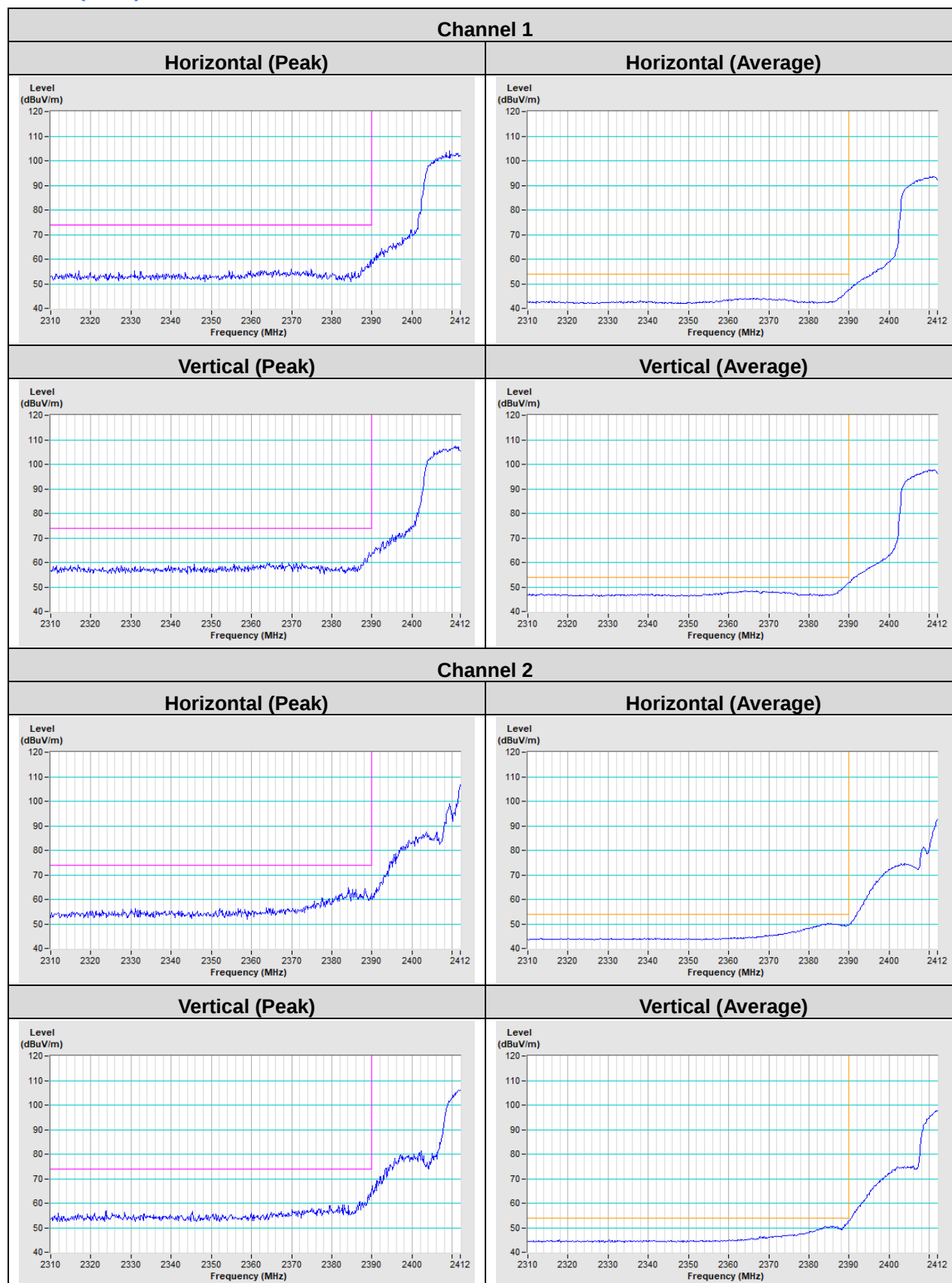


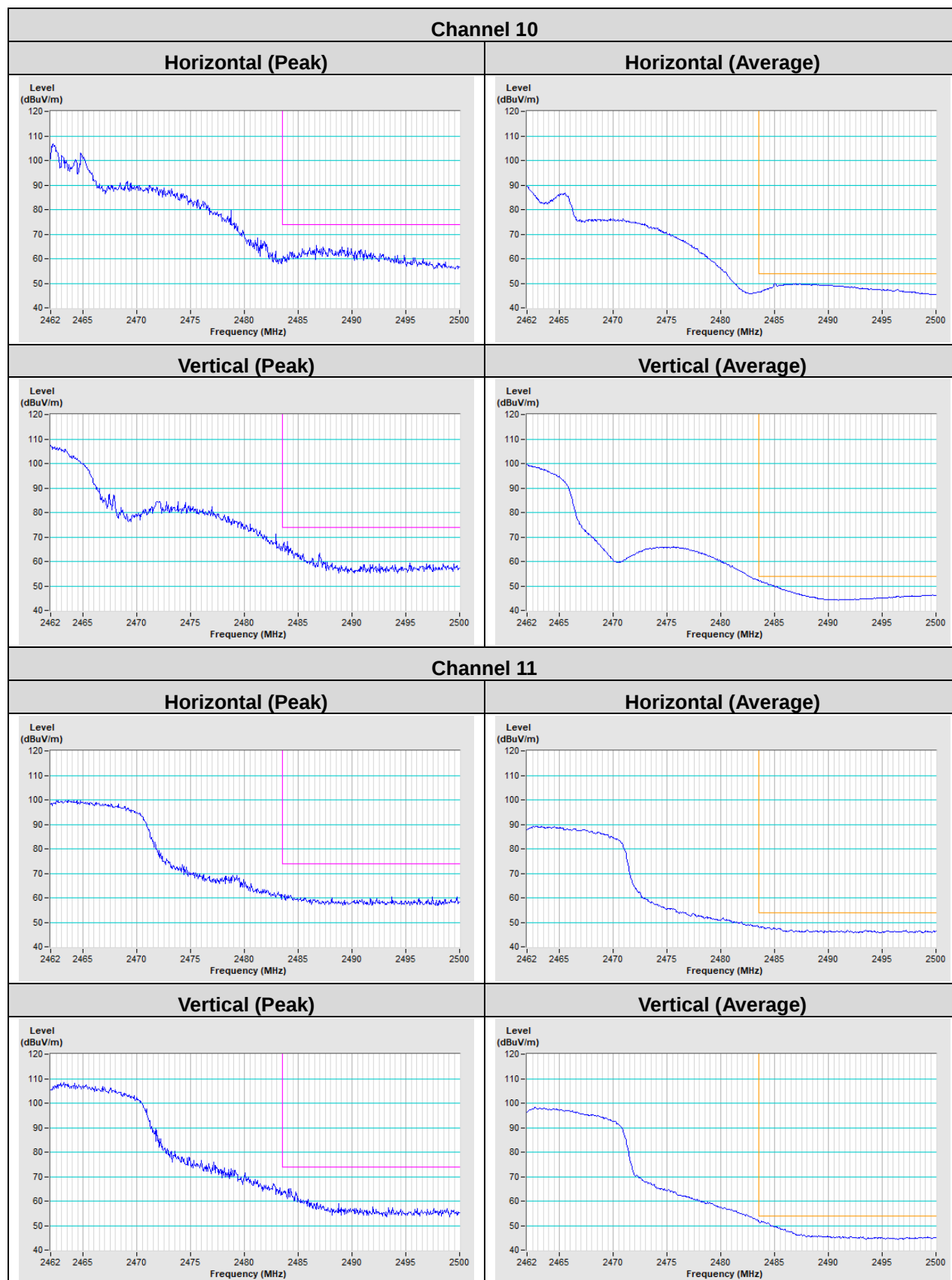
802.11g



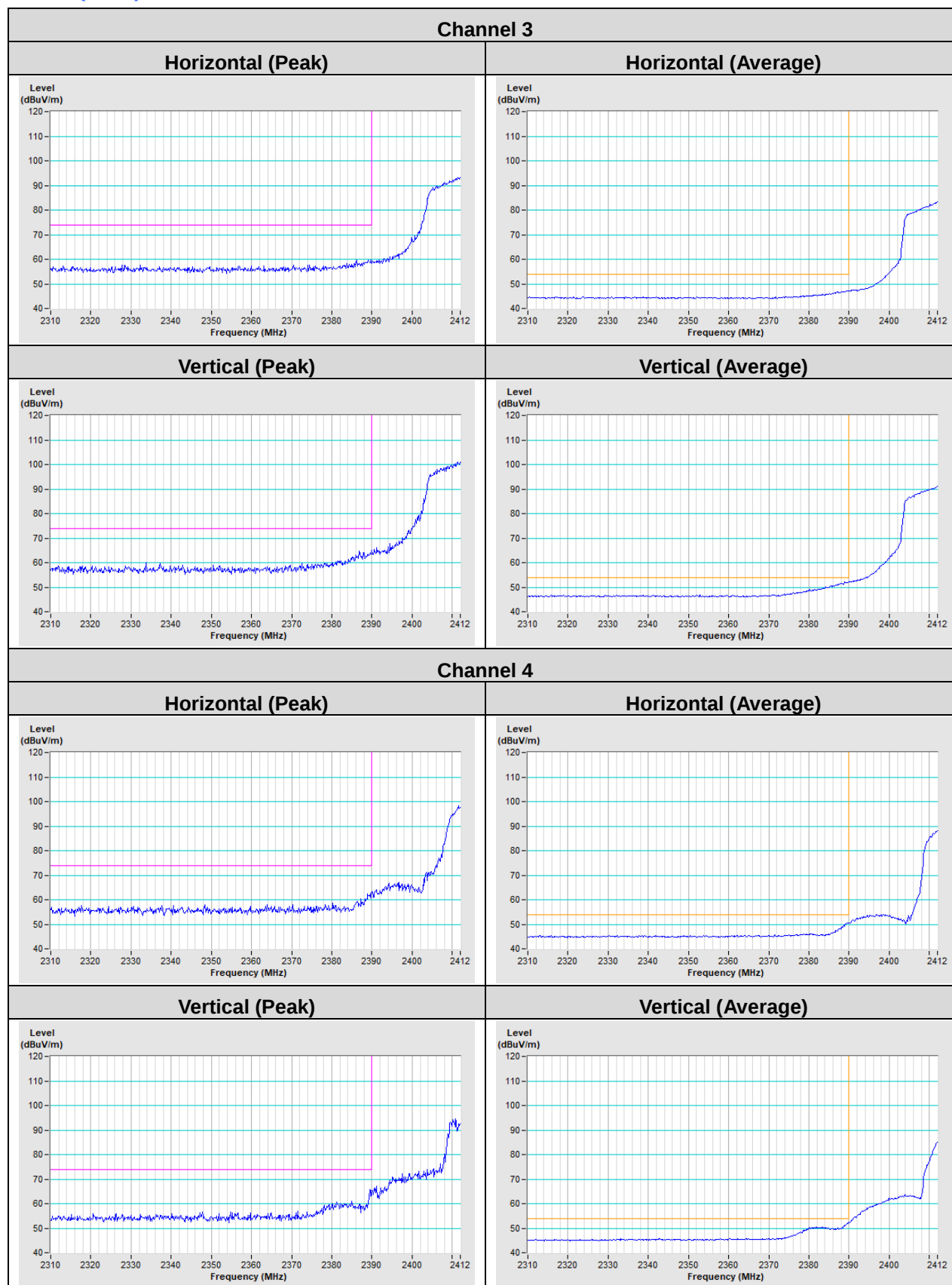


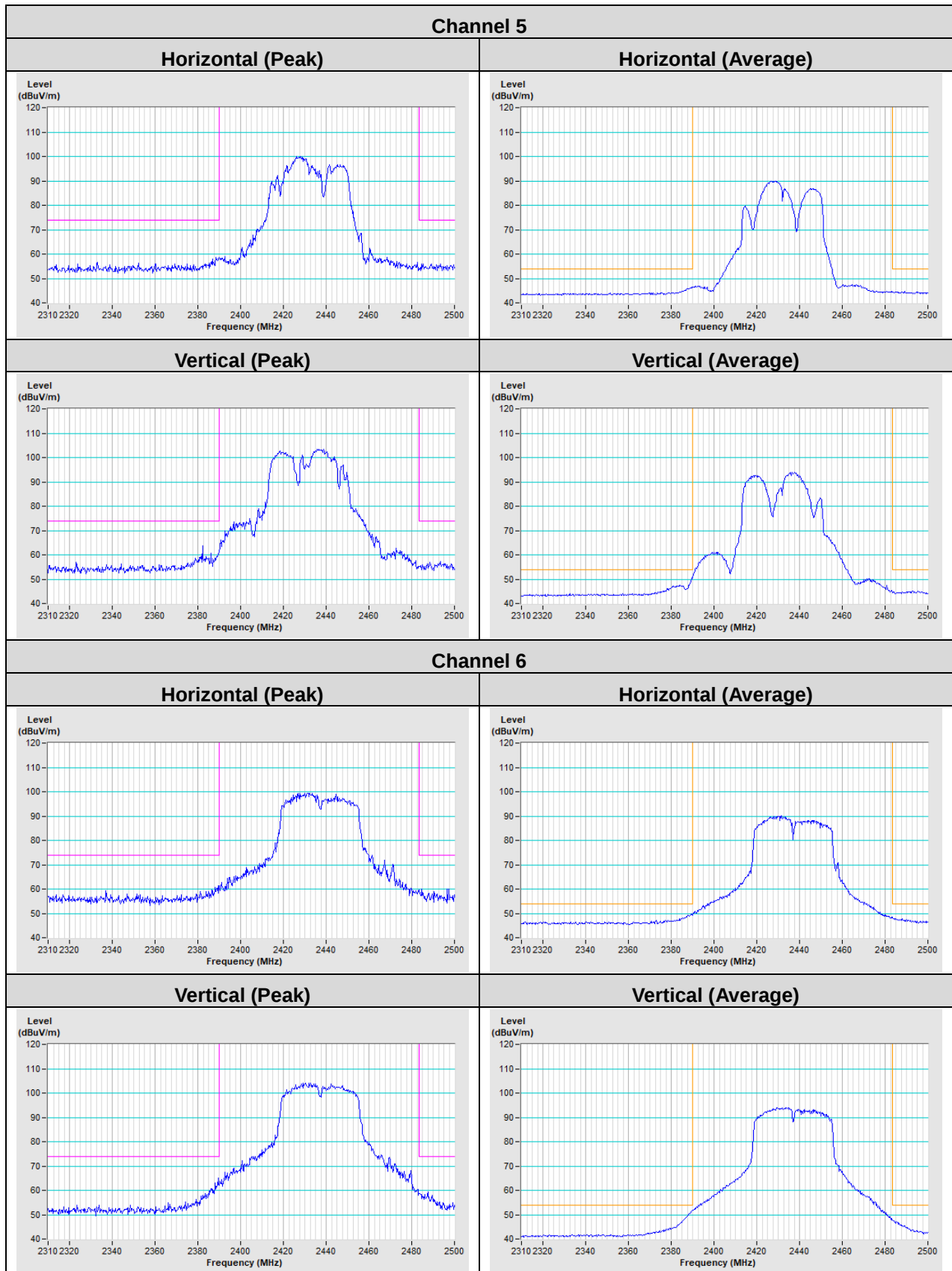
802.11n (HT20)

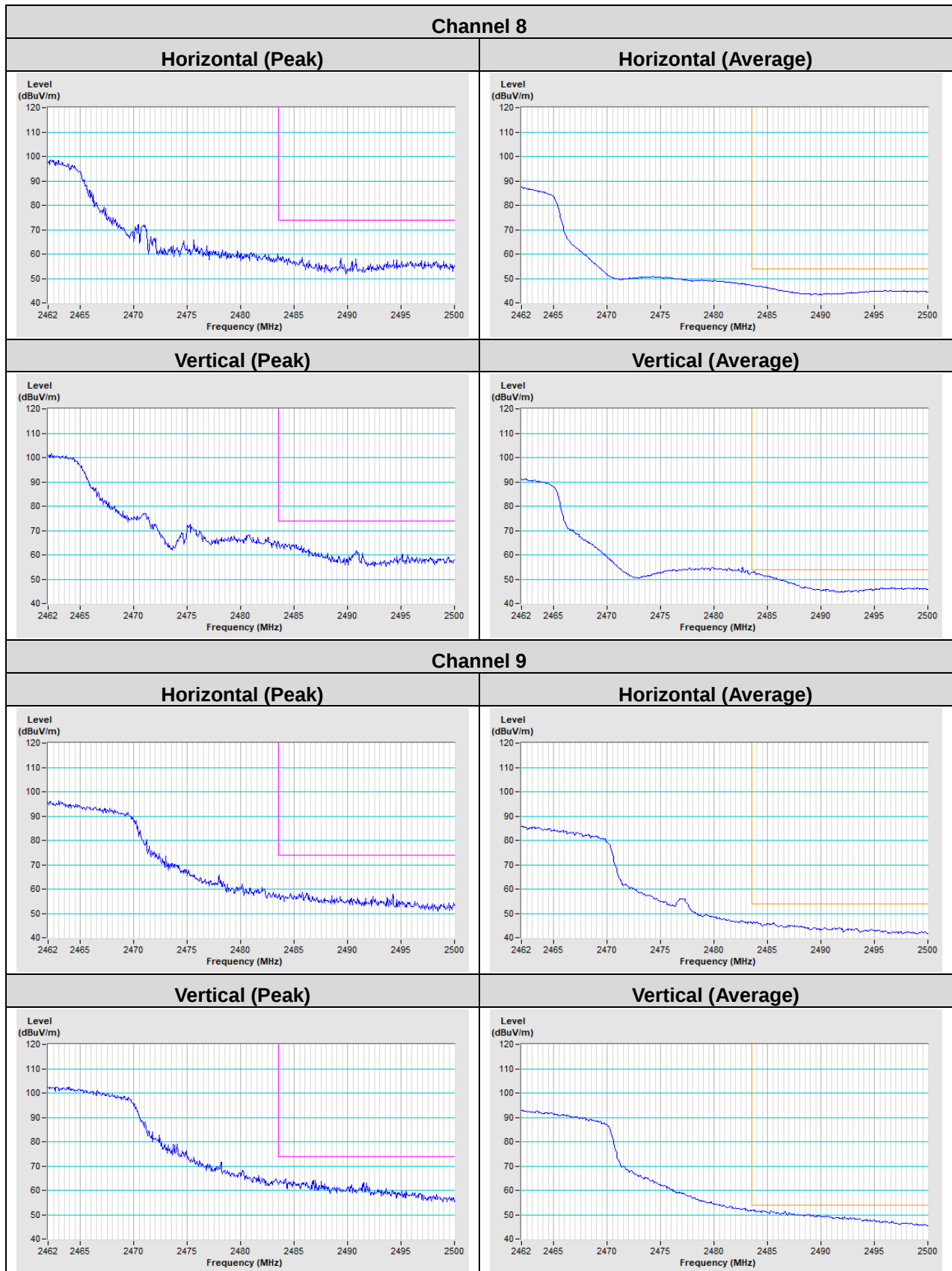




802.11n (HT40)







Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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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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