

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
Report No.: RFBARR-WTW-P23100182-1
FCC ID: C3K2092
Product: 802.11a/b/g/n/ac dual-band wireless LAN radio
Brand: Microsoft
Model No.: 2092
Received Date: 2023/9/28
Test Date: 2023/11/27 ~ 2024/1/7
Issued Date: 2024/2/16

Applicant: Microsoft Corporation
Address: One Microsoft Way, Redmond, Washington 98052-6399, United States
Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories
Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kewi Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / 788550 / TW0003
Designation Number:

Approved by: _____

Jeremy Lin

, Date: _____

2024/2/16

Jeremy Lin / Project Engineer

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Prepared by : Polly Chien / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBARR-WTW-P23100182-1	Original release.	2024/2/16

1 Certificate

Product: 802.11a/b/g/n/ac dual-band wireless LAN radio

Brand: Microsoft

Test Model: 2092

Sample Status: Engineering sample

Applicant: Microsoft Corporation

Test Date: 2023/11/27 ~ 2024/1/7

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)

Measurement ANSI C63.10-2013

procedure: KDB 558074 D01 15.247 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

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.

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Standard / Clause	Test Item	Result	Remark
15.247(b)	RF Output Power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.247(a)(2)	6 dB Bandwidth	Pass	Meet the requirement of limit.
15.247(d)	Conducted Out of Band Emissions	Pass	Meet the requirement of limit.
15.207	AC Power Conducted Emissions	Pass	Minimum passing margin is -4.24 dB at 0.36484 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -6.3 dB at 53.28 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -1.62 dB at 2483.5 MHz
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note: 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	Specification	Expanded Uncertainty (k=2) (±)
RF Output Power	-	1.371 dB
Power Spectral Density	-	1.017 dB
6 dB Bandwidth	-	206.5 Hz
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.79 dB
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.88 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	2.44 dB
	30 MHz ~ 1 GHz	2.95 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description

Product	802.11a/b/g/n/ac dual-band wireless LAN radio
Brand	Microsoft
Test Model	2092
Status of EUT	Engineering sample
Power Supply Rating	3.3Vdc from host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	Up to 300 Mbps
Operating Frequency	2.412 GHz ~ 2.462 GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7
Output Power	85.908 mW (19.34 dBm)

Note:

1. There are WLAN (2.4 GHz & 5 GHz) technology used for the EUT.
2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna No.	RF Chain NO.	Brand	Model	Antenna Type	Connector Type	Frequency range	Gain (dBi)
NW1	0	Microsoft	2092	PCB	NA	2.4~2.4835GHz	5.4
						5.15~5.25GHz	5.4
						5.25~5.35GHz	5.5
						5.47~5.725GHz	5.6
						5.725~5.85GHz	5.4
NW2	1	Microsoft	2092	PCB	NA	2.4~2.4835GHz	3.6
						5.15~5.25GHz	4.75
						5.25~5.35GHz	5.1
						5.47~5.725GHz	5.4
						5.725~5.85GHz	5

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

2. The EUT incorporates a MIMO function:

2.4 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11b	1TX (diversity)	2RX
802.11g	1TX (diversity)	2RX
802.11n (HT20)	1TX (diversity) / 2TX (uncorrelated)	2RX
802.11n (HT40)	1TX (diversity) / 2TX (uncorrelated)	2RX

3.3 Channel List

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

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

7 channels are provided for 802.11n (HT40):

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

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	<ol style="list-style-type: none"> EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition. 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).
Worst Case:	1. X-axis/ Y-axis/ Z-axis Worst Condition: Y-axis

Following channel(s) was (were) selected for the final test as listed below:

Test Item	EUT Configure Mode	Mode	Tx Condition	Tested Channel	Modulation	Data Rate Parameter
RF Output Power / Power Spectral Density	A	802.11b	1Tx	1, 6, 11	DBPSK	1Mb/s
		802.11g	1Tx	1, 6, 11	BPSK	6Mb/s
		802.11n (HT20)	1Tx	1, 6, 11	BPSK	MCS0
		802.11n (HT40)	1Tx	3, 6, 9	BPSK	MCS0
		802.11n (HT20)	2Tx	1, 6, 11	BPSK	MCS8
		802.11n (HT40)	2Tx	3, 6, 9	BPSK	MCS8
6 dB Bandwidth / Conducted Out of Band Emissions	A	802.11b	1Tx	1, 6, 11	DBPSK	1Mb/s
		802.11g	1Tx	1, 6, 11	BPSK	6Mb/s
		802.11n (HT20)	1Tx	1, 6, 11	BPSK	MCS0
		802.11n (HT40)	1Tx	3, 6, 9	BPSK	MCS0
		802.11n (HT20)	2Tx	1, 6, 11	BPSK	MCS8
		802.11n (HT40)	2Tx	3, 6, 9	BPSK	MCS8
AC Power Conducted Emissions	C	802.11n (HT40)	2TX	6	BPSK	MCS0
Unwanted Emissions below 1 GHz	A, B	802.11n (HT40)	2TX	6	BPSK	MCS0
Unwanted Emissions above 1 GHz	A, B	802.11b	1Tx	1, 6, 11	DBPSK	1Mb/s
		802.11g	1Tx	1, 6, 11	BPSK	6Mb/s
		802.11n (HT20)	1Tx	1, 6, 11	BPSK	MCS0
		802.11n (HT40)	1Tx	3, 6, 9	BPSK	MCS0
		802.11n (HT20)	2Tx	1, 6, 11	BPSK	MCS8
		802.11n (HT40)	2Tx	3, 6, 9	BPSK	MCS8
EUT Configure Mode:	A	EUT only (remove 50 ohm terminator and Connect to the appropriate equipment)				
	B	EUT with 50 ohm terminator				
	C	EUT with antenna				

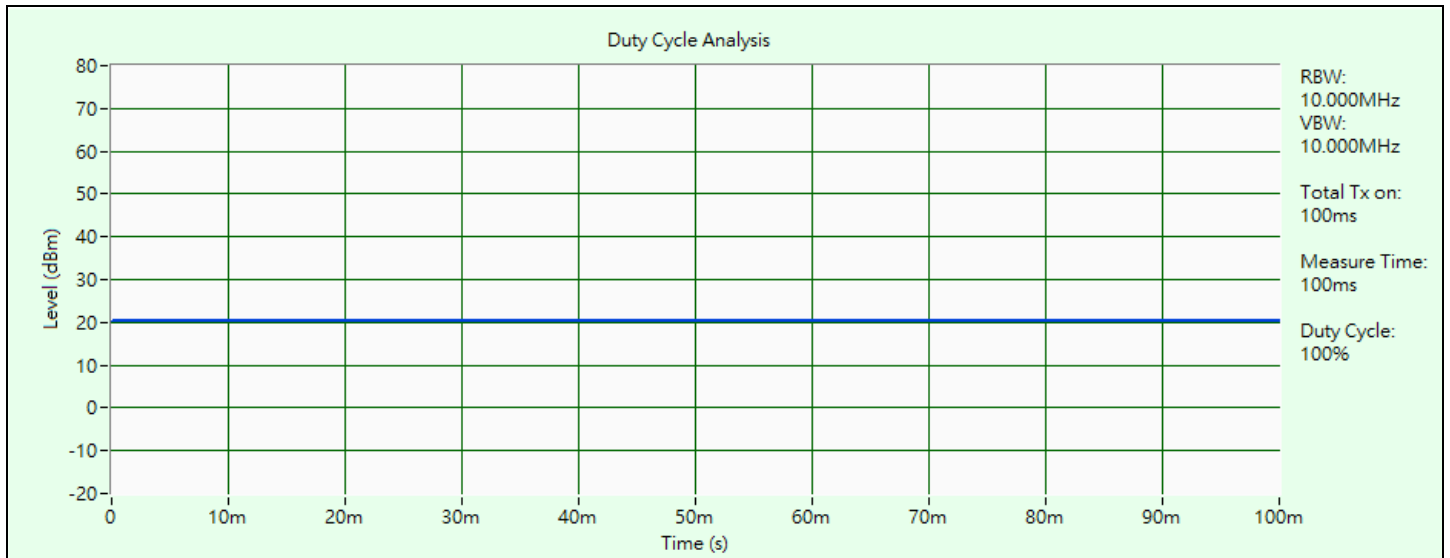
3.5 Duty Cycle of Test Signal

802.11b: Duty cycle = 100 ms / 100 ms x 100% = 100.0%

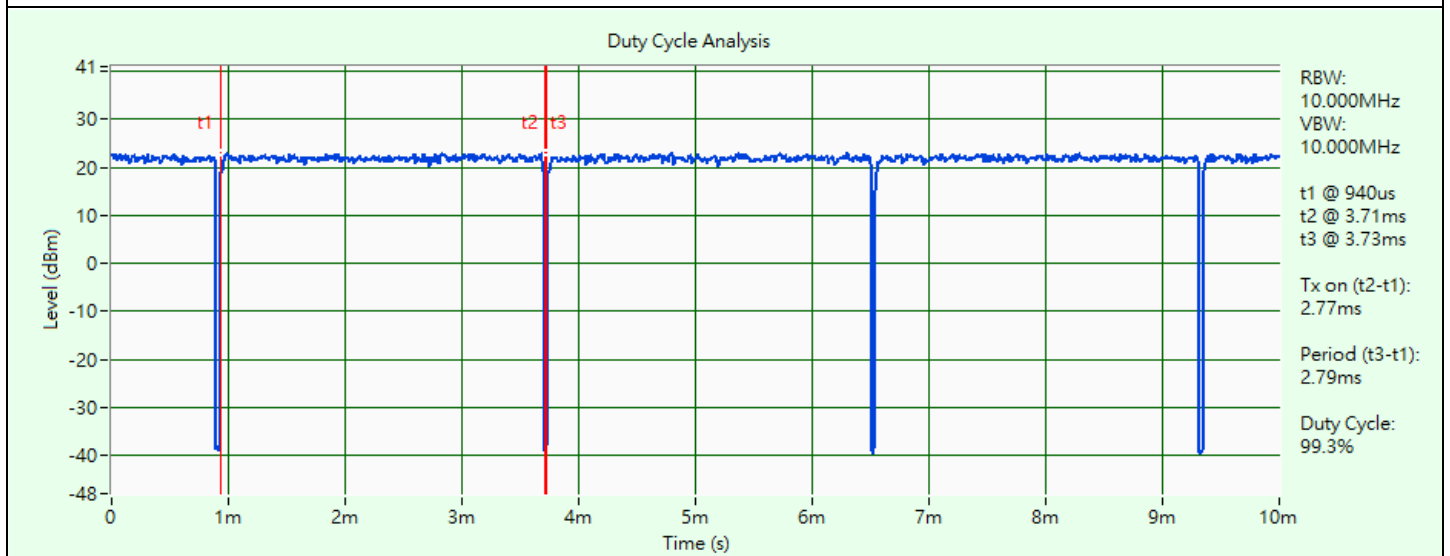
802.11g: Duty cycle = 2.77 ms / 2.79 ms x 100% = 99.3%

802.11n (HT20): Duty cycle = 2.57 ms / 2.6 ms x 100% = 98.8%

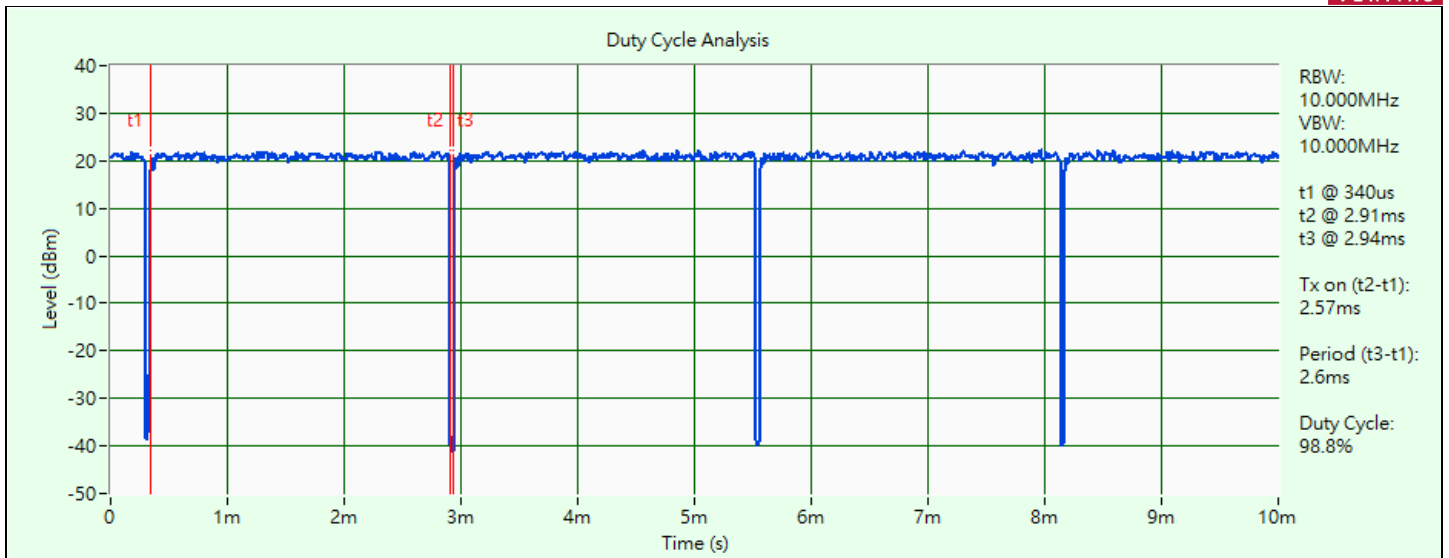
802.11n (HT40): Duty cycle = 2.48 ms / 2.5 ms x 100% = 99.2%



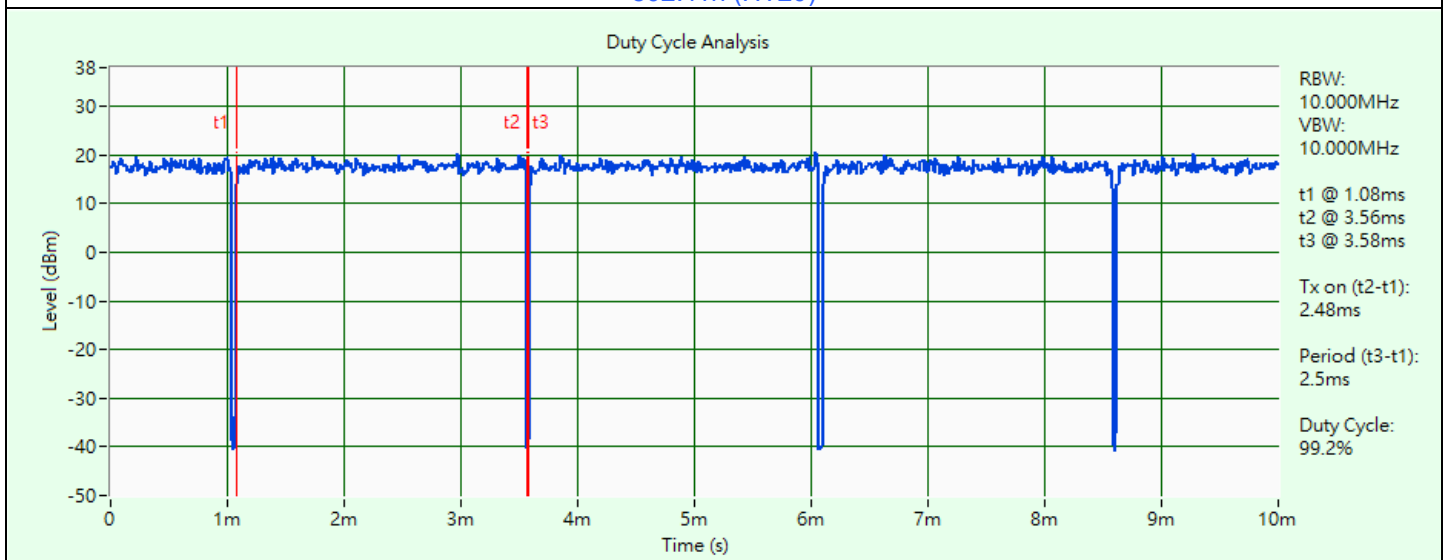
802.11b



802.11g



802.11n (HT20)



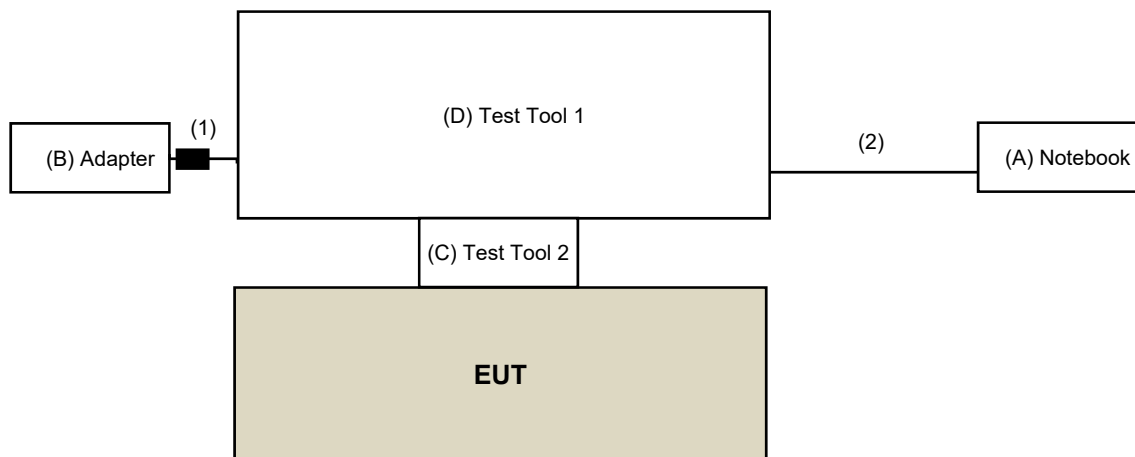
802.11n (HT40)

3.6 Test Program Used and Operation Descriptions

Controlling software QA 0.0.2.6 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices

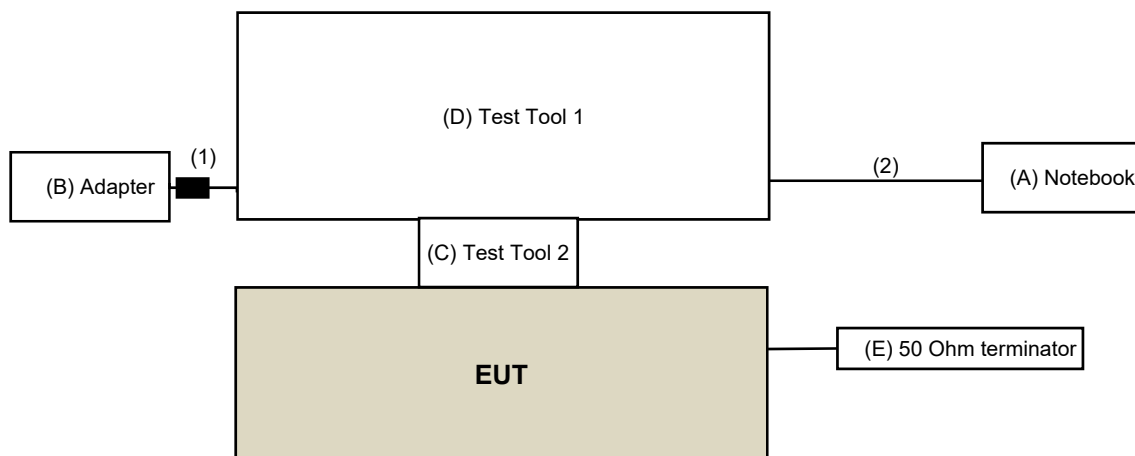
Mode C



Under Table

Remote Site

Mode B



Under Table

Remote Site

3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Notebook	DELL	Inspiron 14R	8LRKKW1	N/A	Provided by Lab
B	Adapter	CUI INC	SW112-5-N	N/A	N/A	Supplied by applicant
C	Test Tool 1	MediaTek Inc	N/A	N/A	N/A	Supplied by applicant
D	Test Tool 2	MediaTek Inc	N/A	N/A	N/A	Supplied by applicant
E	50 Ohm terminator	WOKEN	WTER-18S2	N/A	N/A	Supplied by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC cable	1	1.5	No	1	Supplied by applicant Attached on the adapter
2	USB cable	1	1.8	Yes	0	Supplied by applicant

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Peak Power Analyzer Keysight	8990B	MY51000485	2023/1/19	2024/1/18
Wideband Power Sensor Keysight	N1923A	MY58020002	2023/1/18	2024/1/17
		MY58140009	2023/1/18	2024/1/17

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/1/7

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Signal & Spectrum Analyzer R&S	FSV3044	101504	2023/6/5	2024/6/4
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/1/7

4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

4.4 Conducted Out of Band Emissions

Refer to section 4.2 to get information of the instruments.

4.5 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance HUBER+SUHNER	E1-011276	01	2023/02/01	2024/01/31
	E1-011312	10	2023/01/30	2024/01/29
	E1-011591	17	2023/02/01	2024/01/31
DC-LISN Schwarzbeck	NNBM 8126G	8126G-069	2023/11/07	2024/11/06
EMI Test Receiver R&S	ESCS 30	100288	2023/01/03	2024/01/02
Fixed Attenuator SGH	BNC10W10dB	PAD-COND2-01	2023/09/02	2024/09/01
LISN R&S	ESH2-Z5	100100	2023/03/07	2024/03/06
	ESH3-Z5	100312	2023/09/12	2024/09/11
RF Coaxial Cable Woken	5D-FB	Cable-cond2-01	2023/09/02	2024/09/01
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2023/08/31	2024/08/30

Notes:

1. The test was performed in HY - Conduction 2.
2. Tested Date: 2023/12/14

4.6 Unwanted Emissions below 1 GHz

Mode A

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Signal & Spectrum Analyzer R&S	FSW43	101866	2023/1/10	2024/1/9
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/12/11

Mode B

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Max-Full	MFA-440H	AT93021705	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-472	2023/10/16	2024/10/15
EXA Signal Analyzer Agilent	N9010A	MY52220207	2023/01/03	2024/01/02
Loop Antenna Electro-Metrics	EM-6879	269	2023/09/23	2024/09/22
Loop Antenna TESEQ	HLA 6121	45745	2023/08/08	2024/08/07
MXE EMI Receiver Keysight	N9038A	MY55420137	2023/05/03	2024/05/02
Preamplifier EMCI	EMC 330H	980112	2023/09/27	2024/09/26
	EMC001340	980201	2023/09/27	2024/09/26
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2023/01/07	2024/01/06
RF Coaxial Cable Woken	8D-FB	Cable-Ch10-01	2023/09/27	2024/09/26
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MG-7802	N/A	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2023/12/13

4.7 Unwanted Emissions above 1 GHz

Mode A

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Signal & Spectrum Analyzer R&S	FSW43	101866	2023/1/10	2024/1/9
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/11/27 ~ 2023/12/1

Mode B

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Max-Full	MFA-440H	AT93021705	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	7	N/A	N/A
EXA Signal Analyzer Agilent	N9010A	MY52220207	2023/01/03	2024/01/02
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-969	2023/11/12	2024/11/11
	BBHA 9170	148	2023/11/12	2024/11/11
MXE EMI Receiver Keysight	N9038A	MY55420137	2023/05/03	2024/05/02
Notch Filter Micro-Tronics	BRM17690	004	2023/01/11	2024/01/10
	BRM50716	060	2023/01/11	2024/01/10
Preamplifier EMCI	EMC 012645	980115	2023/09/27	2024/09/26
	EMC 184045	980116	2023/09/27	2024/09/26
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2023/07/08	2024/07/07
	EMC102-KM-KM-3000	150929	2023/07/08	2024/07/07
	EMC104-SM-SM- 8000+3000	171005	2023/09/27	2024/09/26
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	EMC104-SM-SM- 1000(140807)	2023/09/27	2024/09/26
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MG-7802	N/A	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 5.
2. Tested Date: 2023/12/13 ~ 2023/12/14

5 Limits of Test Items

5.1 RF Output Power

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

5.2 Power Spectral Density

The Maximum of Power Spectral Density Measurement is 8 dBm in any 3 kHz.

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

Below 30 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

5.5 AC Power Conducted Emissions

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

Notes:

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.

5.6 Unwanted Emissions below 1 GHz

Radiated emissions up to 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30 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

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

5.7 Unwanted Emissions above 1 GHz

Radiated emissions above 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30 dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

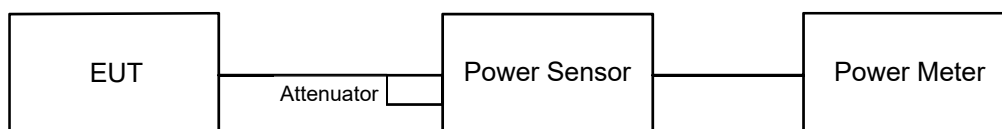
Notes:

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.

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup



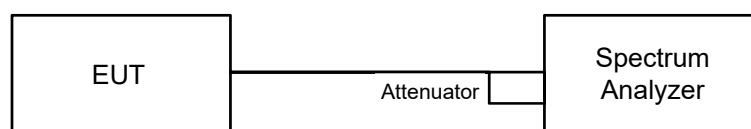
6.1.2 Test Procedure

Average Power:

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

6.2 Power Spectral Density

6.2.1 Test Setup



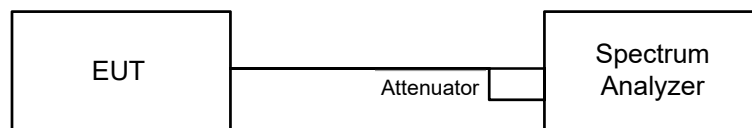
6.2.2 Test Procedure

- a. Measure the duty cycle (x).
- b. Set instrument center frequency to DTS channel center frequency.
- c. Set span to at least 1.5 times the OBW.
- d. Set RBW to: 3 kHz.
- e. Set VBW $\geq 3 \times$ RBW.
- f. Detector = power averaging (RMS) or sample detector (when RMS not available).
- g. Ensure that the number of measurement points in the sweep $\geq 2 \times$ span/RBW.
- h. Sweep time = auto couple.
- i. Do not use sweep triggering. Allow sweep to "free run".
- j. Employ trace averaging (RMS) mode over a minimum of 100 traces.
- k. Use the peak marker function to determine the maximum amplitude level.

Note: If Duty cycle < 98%, Add $10 \log (1/x)$, where x is the duty cycle measured in step (a), to the measured PSD to compute the average PSD during the actual transmission time.

6.3 6 dB Bandwidth

6.3.1 Test Setup

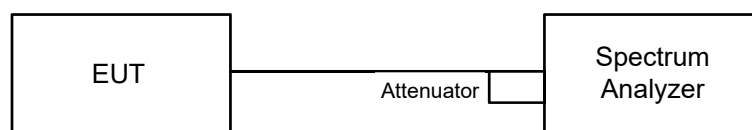


6.3.2 Test Procedure

- 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.

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

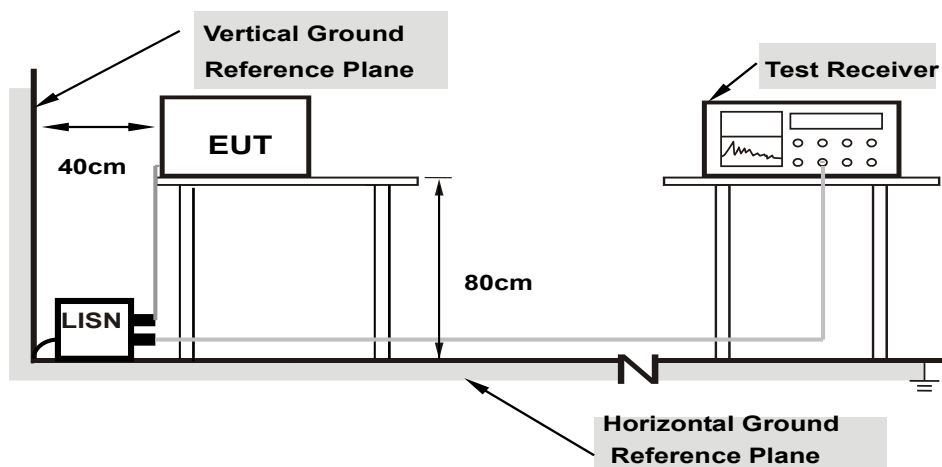
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOB

- Set RBW = 100 kHz.
- Set VBW ≥ 300 kHz.
- Detector = peak.
- Sweep = auto couple.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

6.5 AC Power Conducted Emissions

6.5.1 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).

6.5.2 Test Procedure

- The EUT was placed on a 0.8 meter to the top of table and 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.

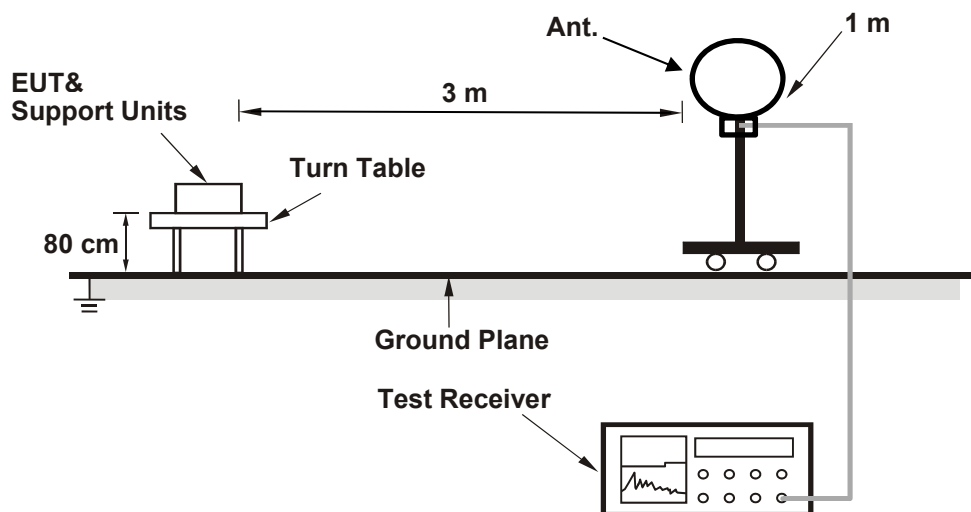
Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz-30 MHz.

6.6 Unwanted Emissions below 1 GHz

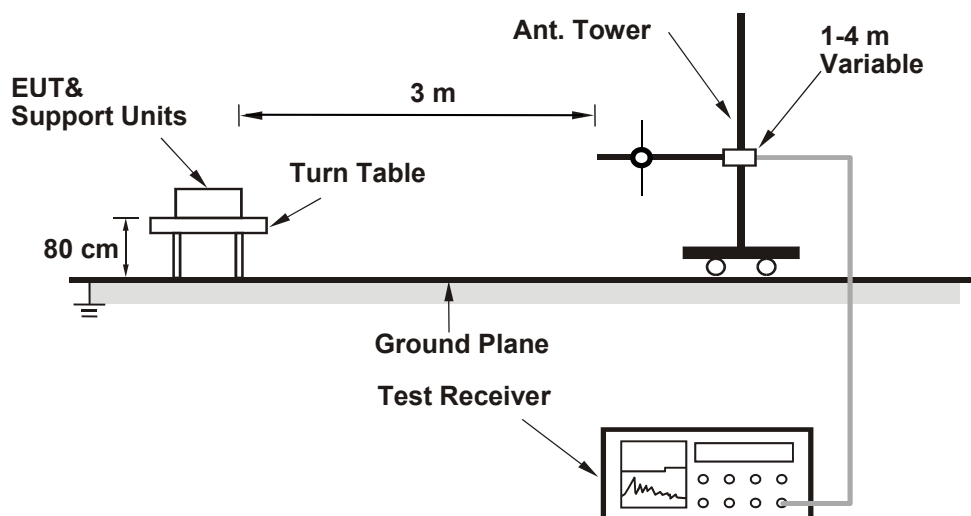
6.6.1 Test Setup

For Radiated Configuration:

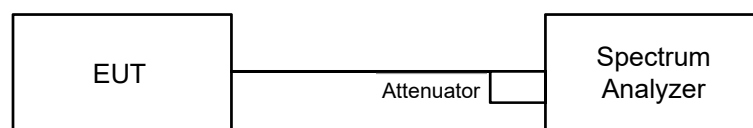
For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



For Conducted Configuration:



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

6.6.2 Test Procedure

Radiated versus Conducted Measurement.

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

The following steps was performed:

- a. Cabinet emissions measurements. Radiated measurement was performed to ensure that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna was replaced by a termination matching the nominal impedance of the antenna.
- b. Conducted tests was performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT.
- c. EIRP calculation. A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth. (For emissions in the restricted bands, additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 2 dBi, whichever is greater.
- d. EIRP adjustments for multiple outputs. (Follow the procedures specified in FCC KDB Publication 662911)
- e. For all of Radiation emission test

For Radiated emission below 30 MHz

- e-1.1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- e-1.2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- e-1.3. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- e-1.4. 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-1.5. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

- e-2.1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- e-2.2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- e-2.3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e-2.4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e-2.5. 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.

Notes:

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

Radiated versus Conducted Measurement

For Radiated measurement:

The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation).

For Conducted measurement:

The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).

Conducted Unwanted Emission Convert Formula

- a. Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8
d = measurement distance in 3 meters.
- b. EIRP Level (dBm) = Raw Value(dBm) + Correction Factor(dB)
- c. Correction Factor is directional gain, and the composite gain will be used when signal support the correlated signal
For the out of band spurious the gain for the specific band may have been used rather than the highest gain across all bands.
For the band edge the gain for the specific band may have been used.

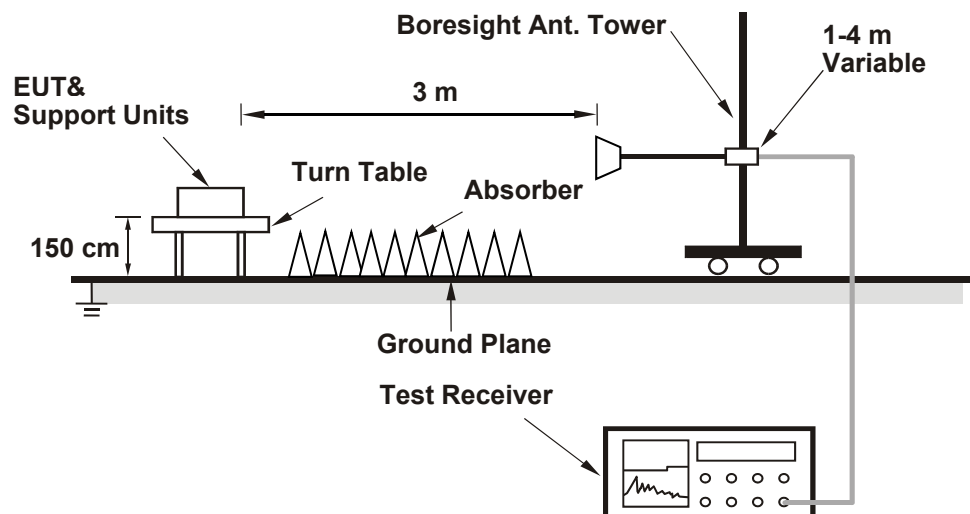
Notes:

1. In restricted bands below 1000 MHz, add upper bound on ground plane reflection:
For frequencies between 30 MHz and 1000 MHz, add 4.7 dB.
2. The conducted emission test was considered some factor to compute test result.

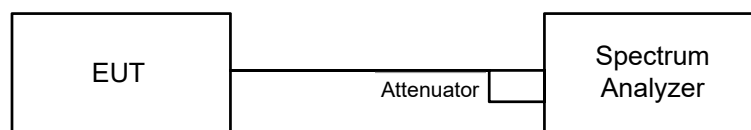
6.7 Unwanted Emissions above 1 GHz

6.7.1 Test Setup

For Radiated Configuration:



For Conducted Configuration:



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

6.7.2 Test Procedure

Radiated versus Conducted Measurement.

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

The following steps was performed:

- a. Cabinet emissions measurements. Radiated measurement was performed to ensure that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna was replaced by a termination matching the nominal impedance of the antenna.
- b. Conducted tests was performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT.
- c. EIRP calculation. A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth. (For emissions in the restricted bands, additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 2 dBi, whichever is greater.
- d. EIRP adjustments for multiple outputs. (Follow the procedures specified in FCC KDB Publication 662911)
- e. For all of Radiation emission test
 - e-1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
 - e-2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
 - e-3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the

measurement.

- e-4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e-5. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Notes:

1. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
2. For fundamental and harmonic signal measurement, 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.
3. All modes of operation were investigated and the worst-case emissions are reported.

Radiated versus Conducted Measurement

For Radiated measurement:

The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation).

For Conducted measurement:

The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).

For Verified radiated measurement:

The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation).

Conducted Unwanted Emission Convert Formula

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

d = measurement distance in 3 meters.

b. EIRP Level (dBm) = Raw Value(dBm) + Correction Factor(dB).

c. Correction Factor is directional gain, and the composite gain will be used when signal support the correlated signal

For the out of band spurious the gain for the specific band may have been used rather than the highest gain across all bands.

For the band edge the gain for the specific band may have been used.

Note:

The conducted emission test was considered some factor to compute test result.

7 Test Results of Test Item

7.1 RF Output Power

Input Power:	3.3 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Chris Lin/ Matthew Yang
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1TX

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
1	2412	51.404	17.11	30	Pass
6	2437	56.105	17.49	30	Pass
11	2462	52.723	17.22	30	Pass

Note: The antenna gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
1	2412	52.36	17.19	30	Pass
6	2437	51.88	17.15	30	Pass
11	2462	52	17.16	30	Pass

Note: The antenna gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
1	2412	51.168	17.09	30	Pass
6	2437	53.703	17.30	30	Pass
11	2462	51.404	17.11	30	Pass

Note: The antenna gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
3	2422	50.933	17.07	30	Pass
6	2437	52.119	17.17	30	Pass
9	2452	51.523	17.12	30	Pass

Note: The antenna gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.

2TX

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
1	2412	15.58	15.87	74.778	18.74	30	Pass
6	2437	16.09	16.31	83.401	19.21	30	Pass
11	2462	16.23	16.35	85.128	19.30	30	Pass

Notes:

1. Directional gain = $10 \log[(10^{\text{Chain0}/10} + 10^{\text{Chain1}/10}) / 2]$
2. The directional gain is 4.59 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
3	2422	14.94	15.39	65.783	18.18	30	Pass
6	2437	16.31	16.35	85.908	19.34	30	Pass
9	2452	14.64	14.89	59.939	17.78	30	Pass

Notes:

1. Directional gain = $10 \log[(10^{\text{Chain0}/10} + 10^{\text{Chain1}/10}) / 2]$
2. The directional gain is 4.59 dBi < 6 dBi, so the output power limit shall not be reduced.

7.2 Power Spectral Density

Input Power:	3.3 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Chris Lin/ Matthew Yang
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1TX

802.11b

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2412	-15.98	8	Pass
6	2437	-15.77	8	Pass
11	2462	-15.83	8	Pass

Note: The antenna gain is 5.4 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2412	-17.59	8	Pass
6	2437	-17.66	8	Pass
11	2462	-17.63	8	Pass

Note: The antenna gain is 5.4 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2412	-17.64	8	Pass
6	2437	-17.42	8	Pass
11	2462	-17.61	8	Pass

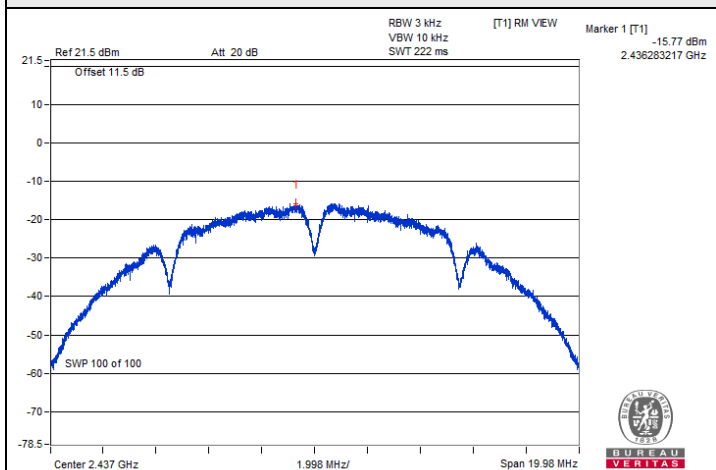
Note: The antenna gain is 5.4 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11n (HT40)

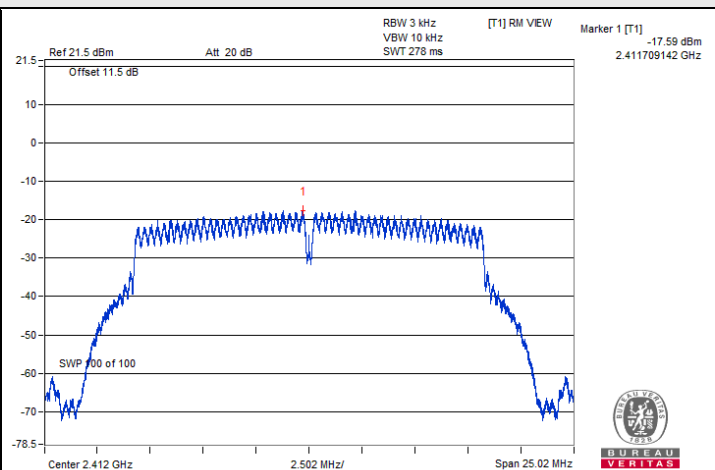
Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
3	2422	-20.11	8	Pass
6	2437	-19.66	8	Pass
9	2452	-20.03	8	Pass

Note: The antenna gain is 5.4 dBi < 6 dBi, so the power density limit shall not be reduced.

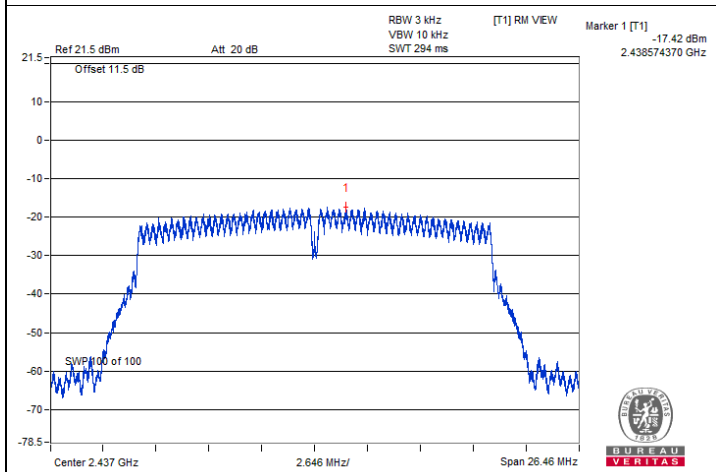
Spectrum Plot of Maximum Value



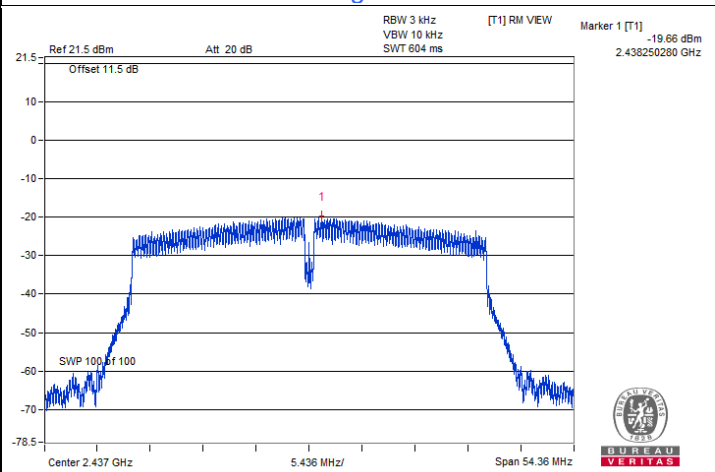
802.11b : CH 6



802.11g : CH 1



802.11n (HT20) : CH 6



802.11n (HT40) : CH 6

2TX

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
1	2412	-18.89	-18.72	-15.79	8	Pass
6	2437	-17.31	-18.50	-14.85	8	Pass
11	2462	-18.38	-17.27	-14.78	8	Pass

Notes:

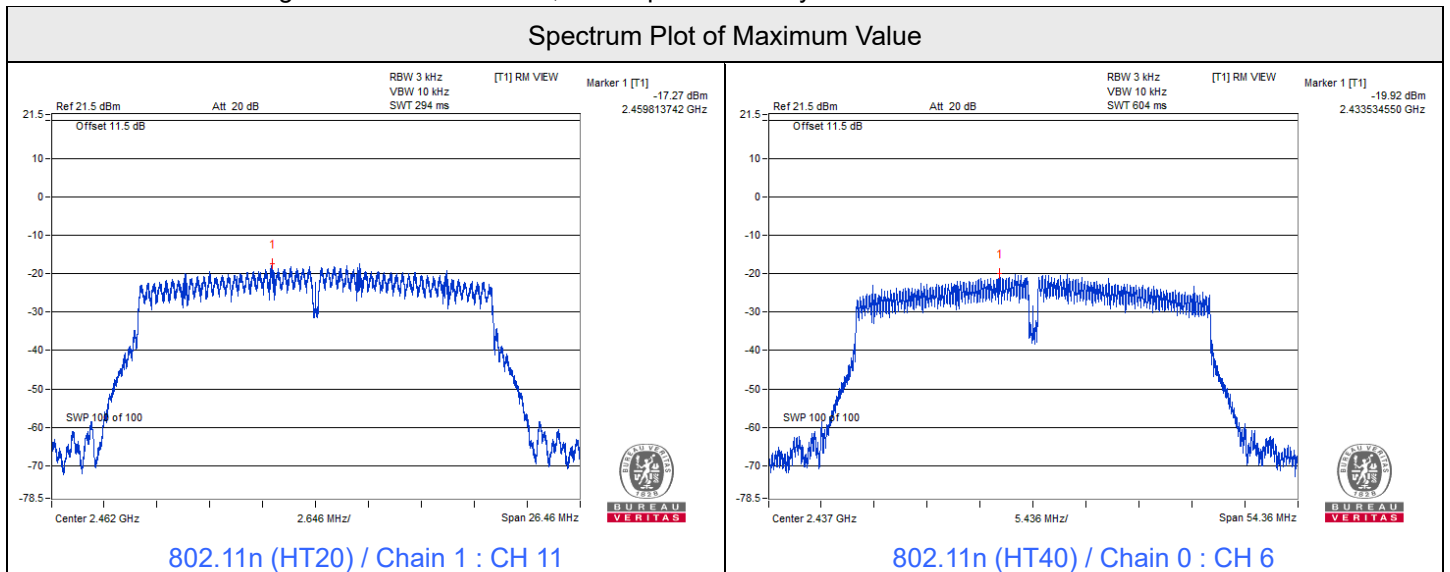
- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/10} + 10^{\text{Chain1}/10}) / 2]$
- The directional gain is 4.59 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)		Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1			
3	2422	-21.97	-21.25	-18.58	8	Pass
6	2437	-19.92	-20.01	-16.95	8	Pass
9	2452	-21.43	-21.83	-18.62	8	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/10} + 10^{\text{Chain1}/10}) / 2]$
- The directional gain is 4.59 dBi < 6 dBi, so the power density limit shall not be reduced.



7.3 6 dB Bandwidth

Input Power:	3.3 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Chris Lin/ Matthew Yang
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1TX

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2412	8.61	0.5	Pass
6	2437	9.07	0.5	Pass
11	2462	9.01	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2412	15.14	0.5	Pass
6	2437	15.19	0.5	Pass
11	2462	15.20	0.5	Pass

802.11n (HT20)

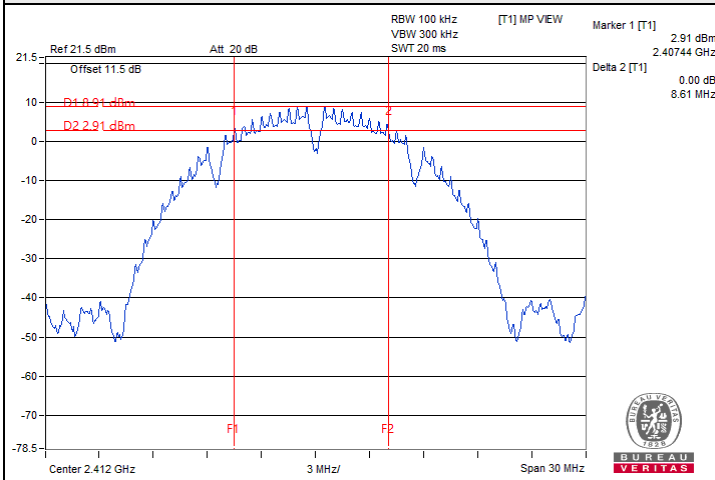
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2412	15.51	0.5	Pass
6	2437	15.11	0.5	Pass
11	2462	15.10	0.5	Pass

802.11n (HT40)

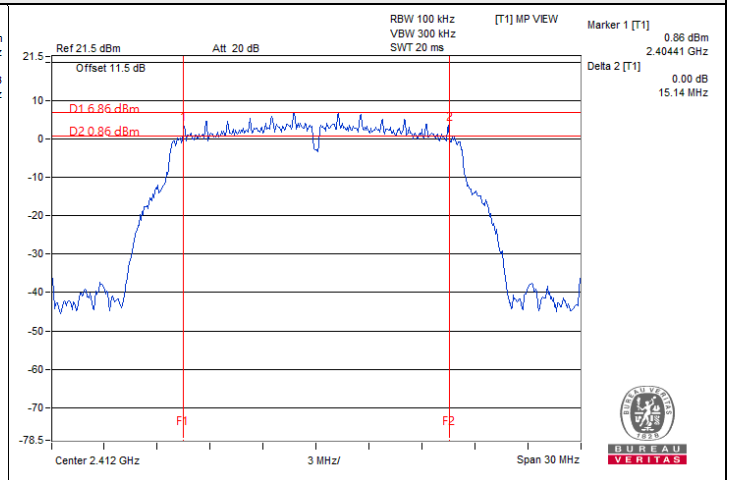
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
3	2422	35.16	0.5	Pass
6	2437	35.14	0.5	Pass
9	2452	35.20	0.5	Pass



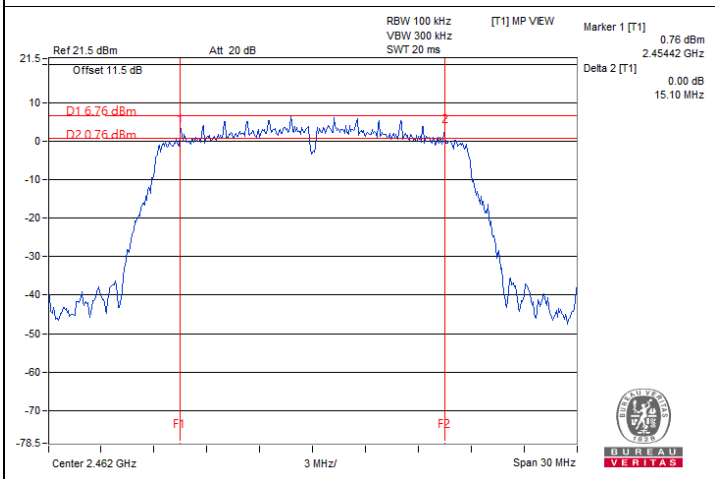
Spectrum Plot of Minimum Value



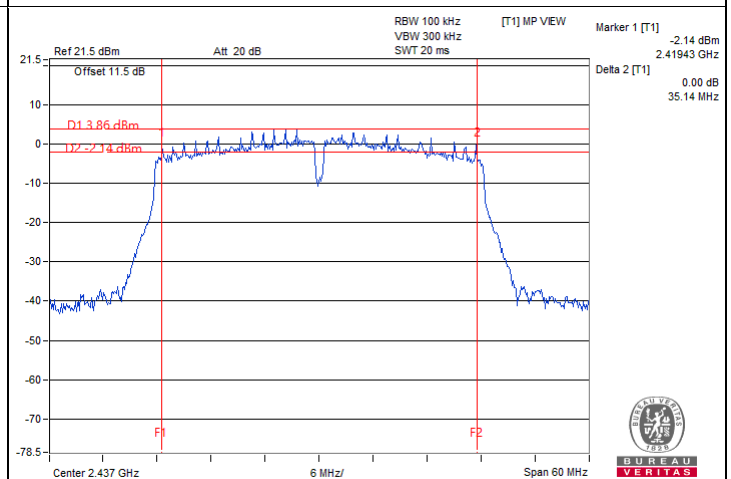
802.11b : CH 1



802.11g : CH 1



802.11n (HT20) : CH 11



802.11n (HT40) : CH 9

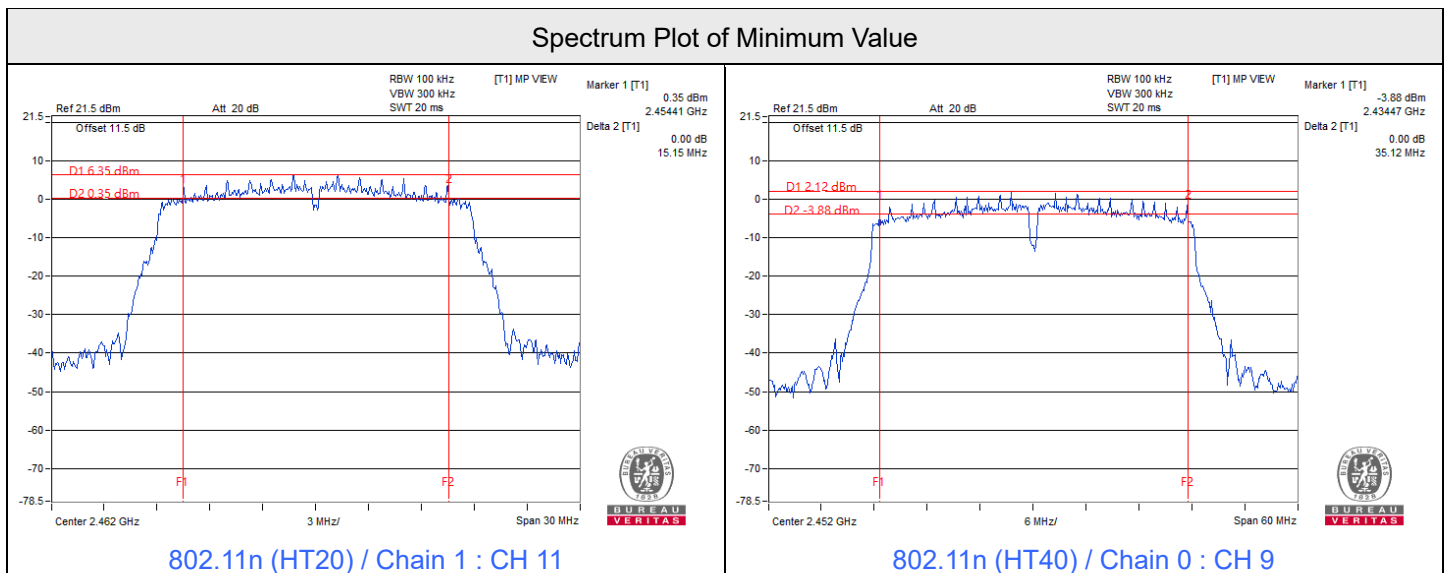
2TX

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
1	2412	15.19	16.33	0.5	Pass
6	2437	15.20	16.31	0.5	Pass
11	2462	15.19	15.15	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
3	2422	35.18	35.27	0.5	Pass
6	2437	35.20	35.21	0.5	Pass
9	2452	35.12	35.25	0.5	Pass





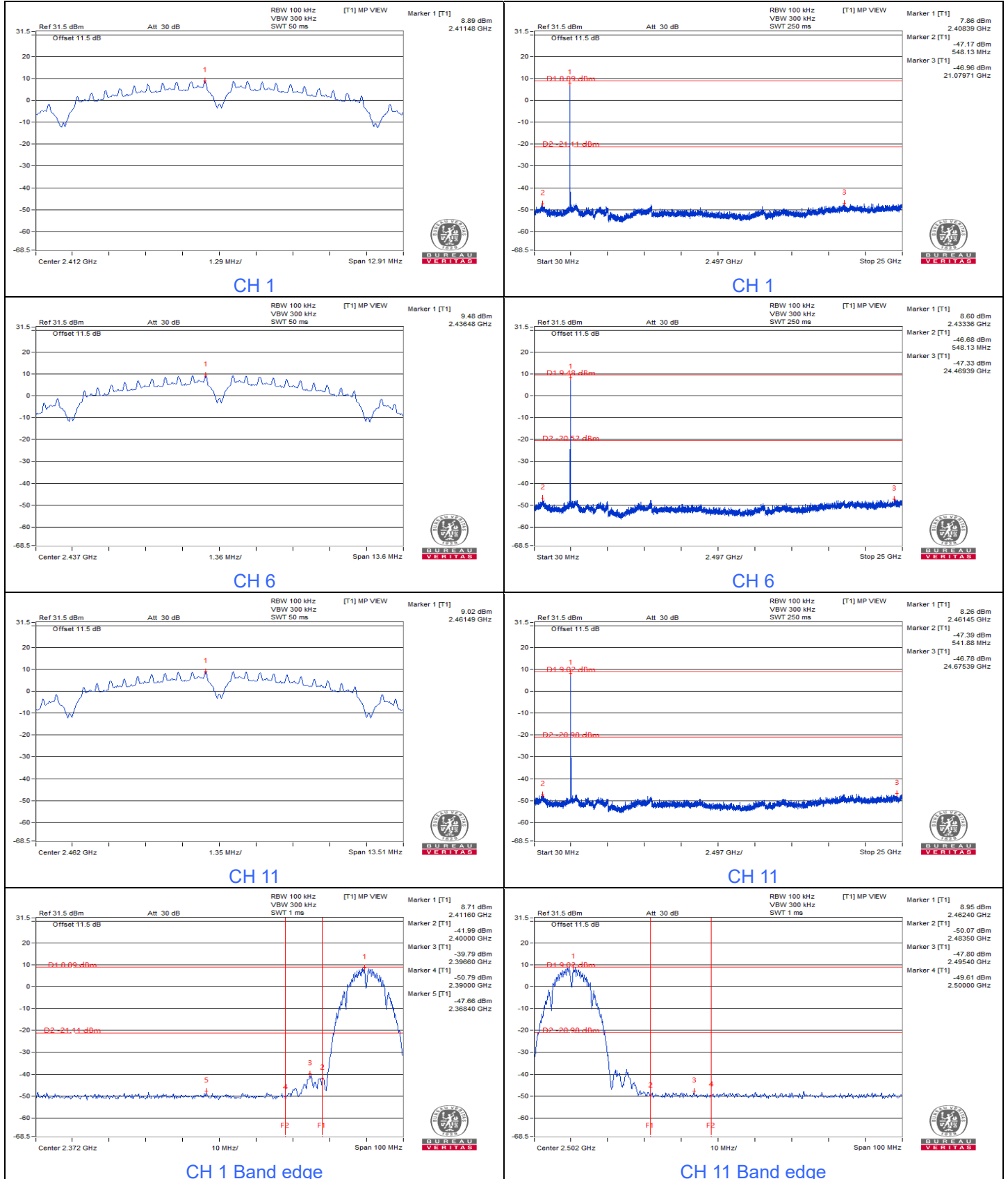
BUREAU VERITAS

7.4 Conducted Out of Band Emissions

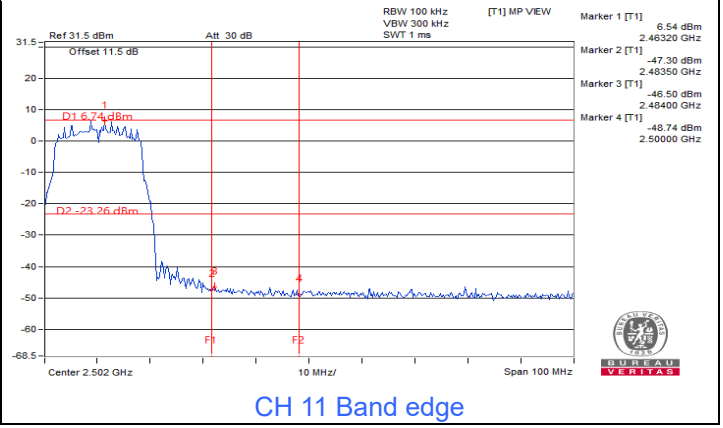
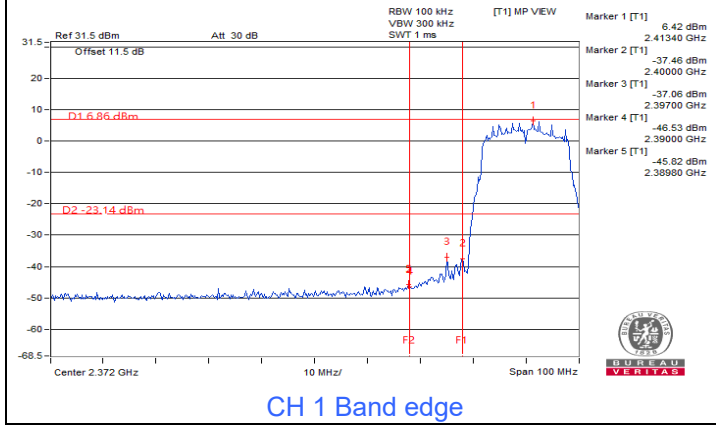
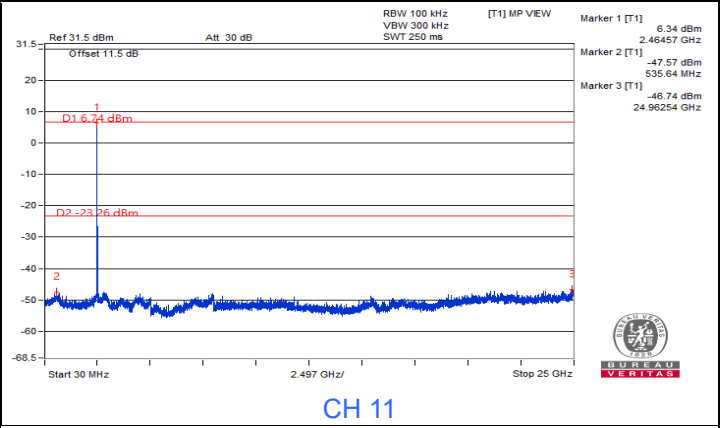
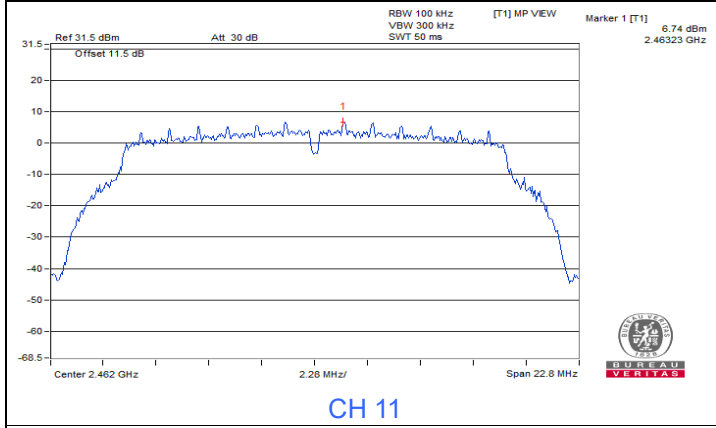
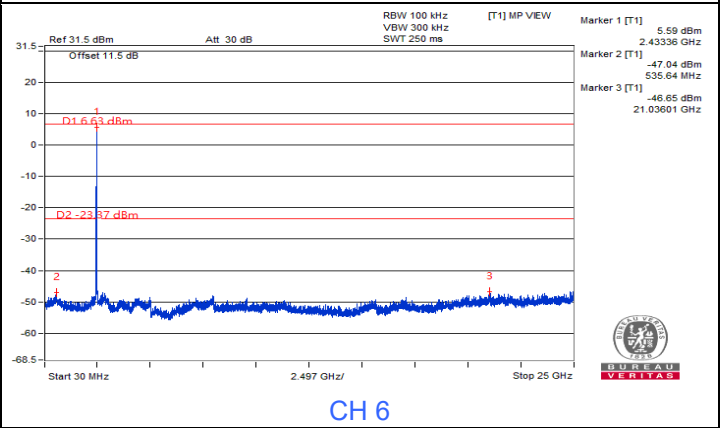
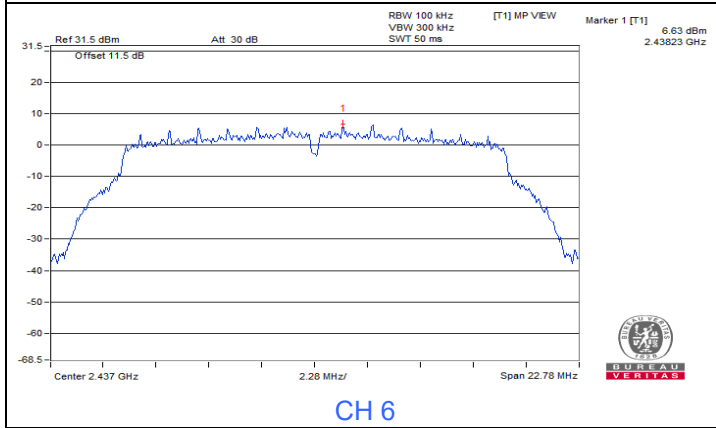
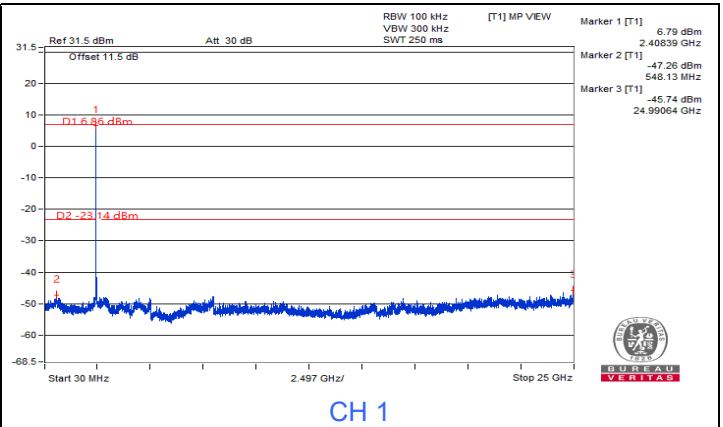
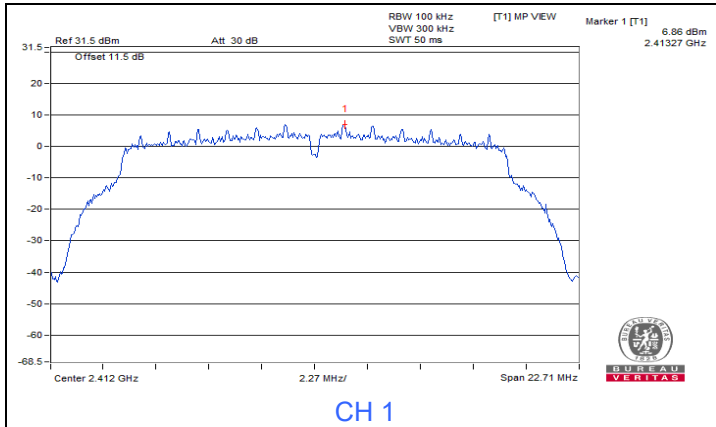
Input Power:	3.3 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Chris Lin/ Matthew Yang
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1TX

802.11b

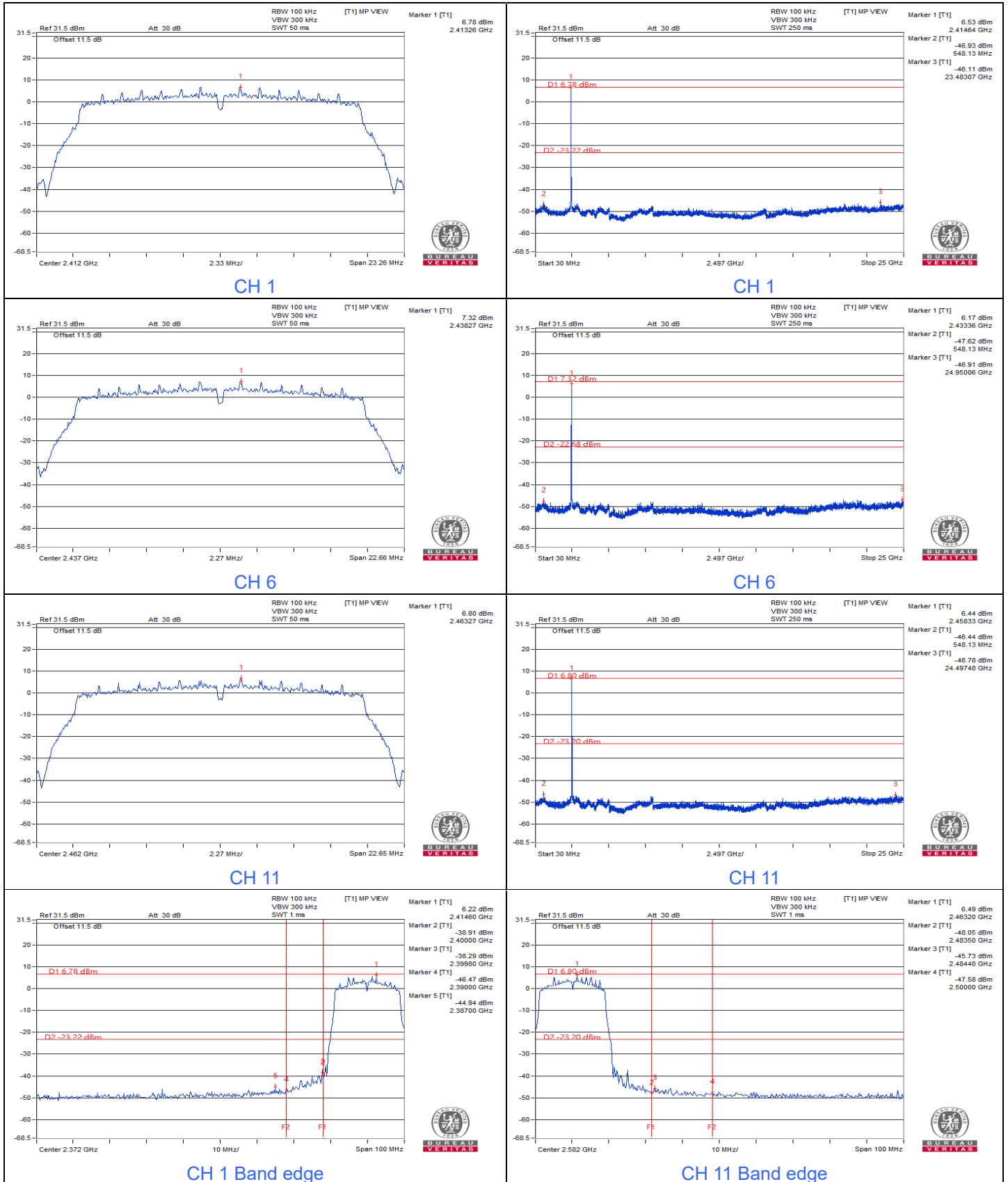


802.11g





802.11n (HT20)



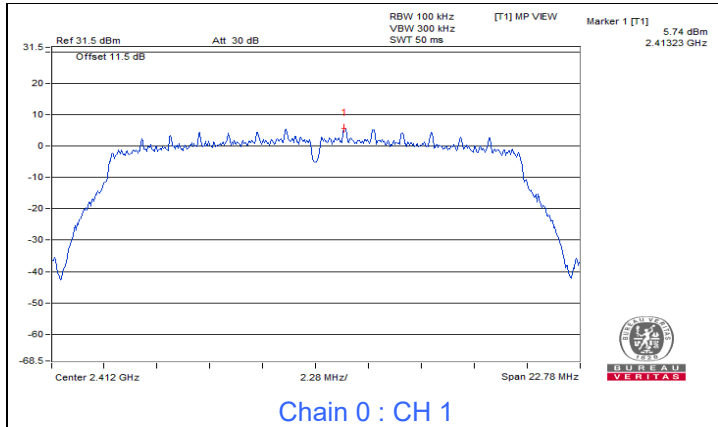


802.11n (HT40)

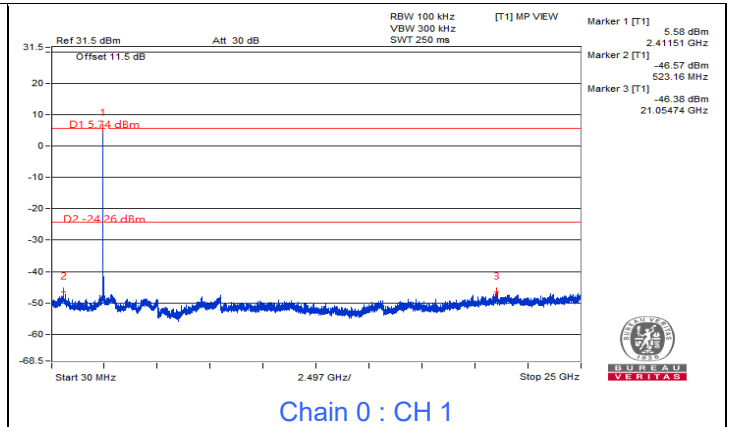




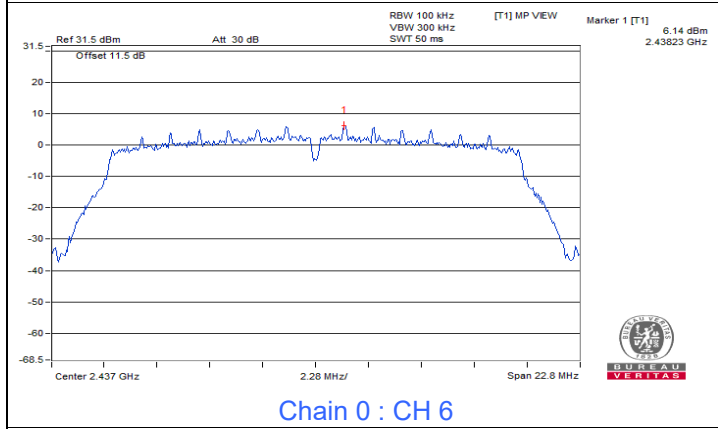
2TX
802.11n (HT20)



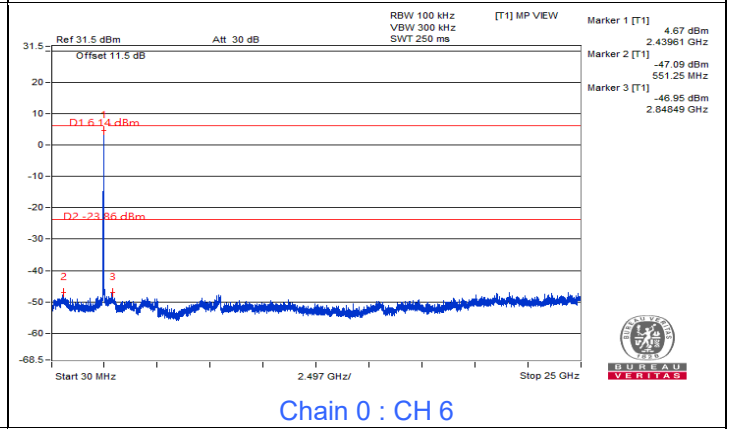
Chain 0 : CH 1



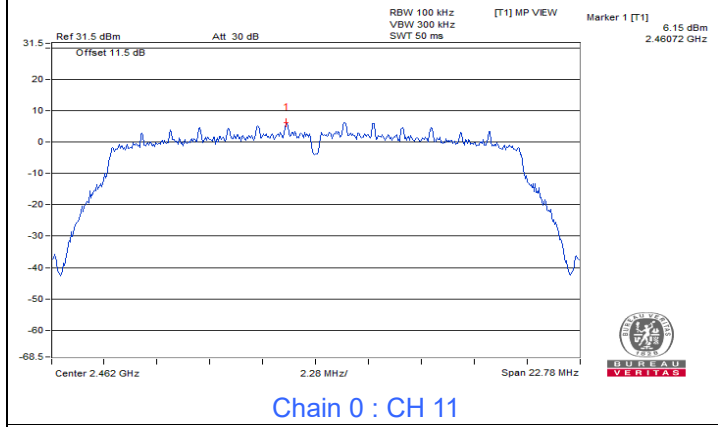
Chain 0 : CH 1



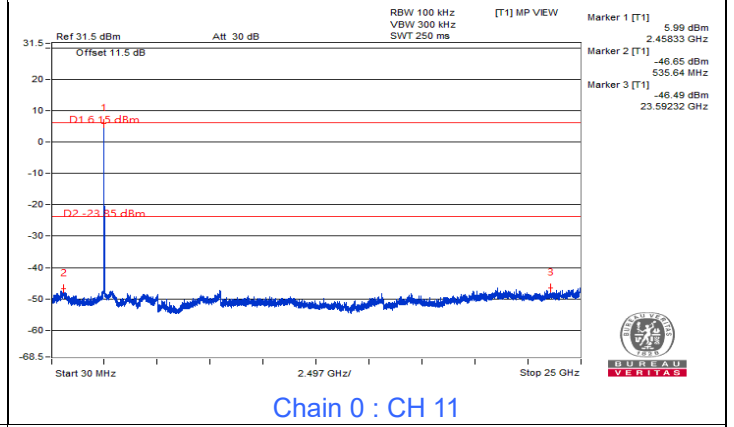
Chain 0 : CH 6



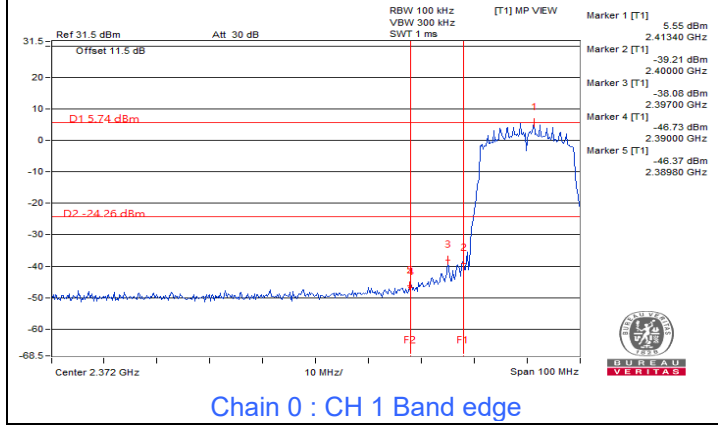
Chain 0 : CH 6



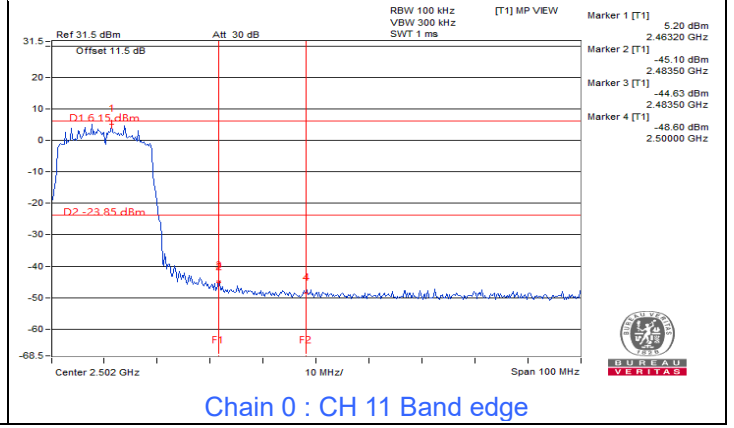
Chain 0 : CH 11



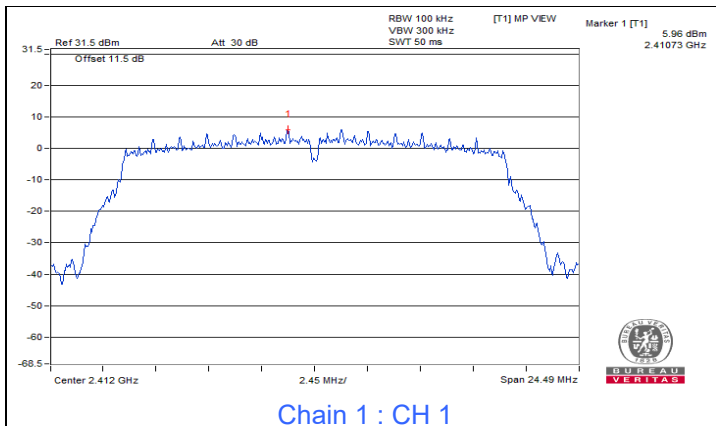
Chain 0 : CH 11



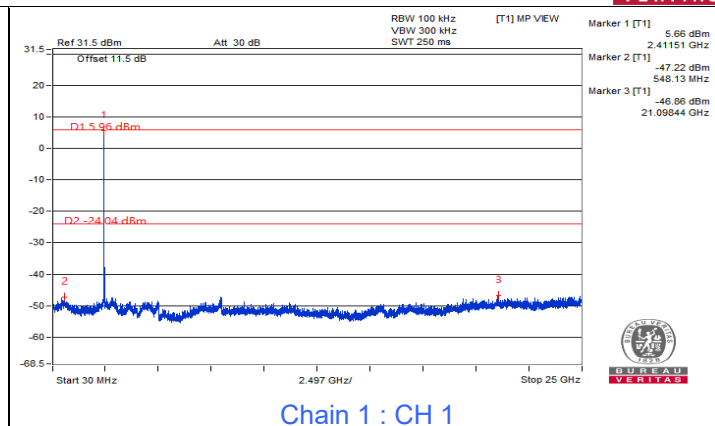
Chain 0 : CH 1 Band edge



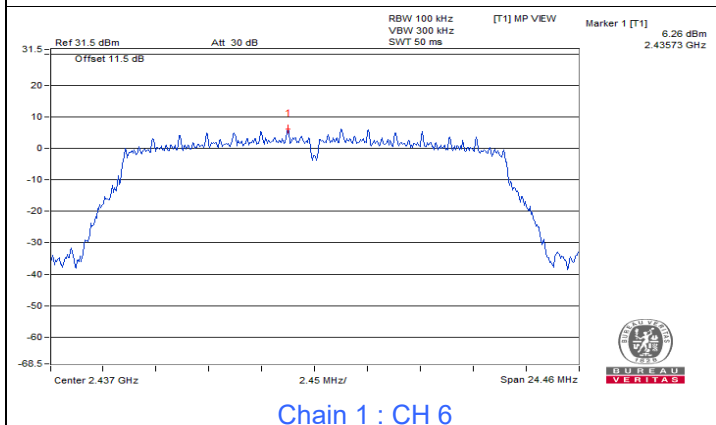
Chain 0 : CH 11 Band edge



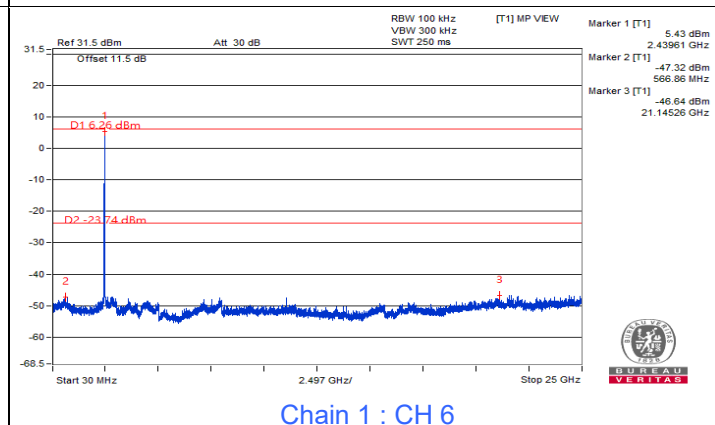
Chain 1 : CH 1



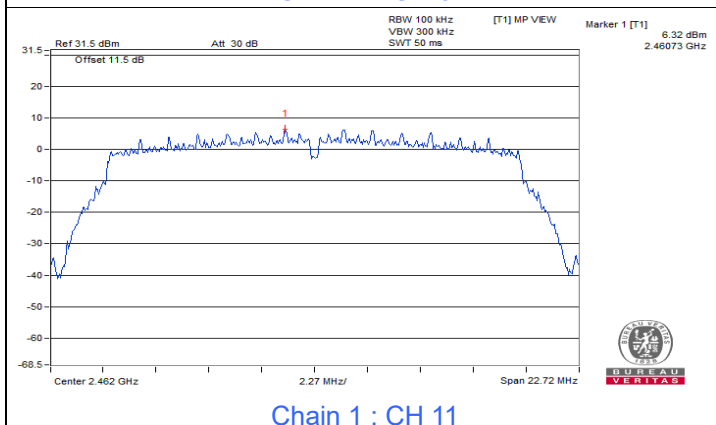
Chain 1 : CH 1



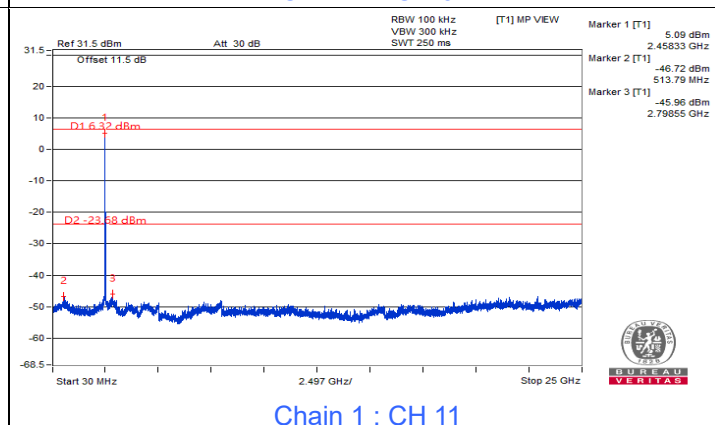
Chain 1 : CH 6



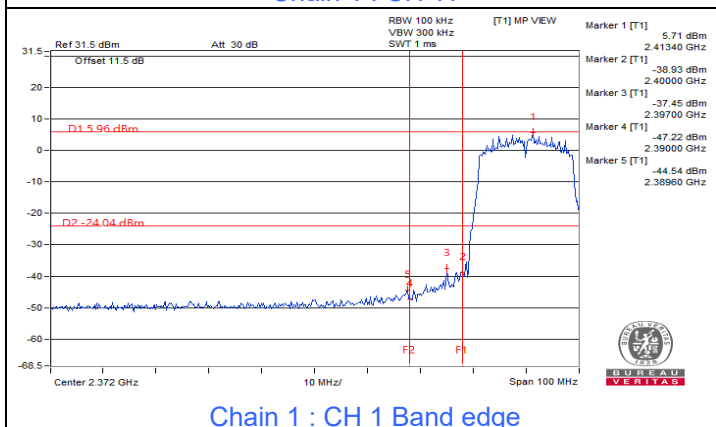
Chain 1 : CH 6



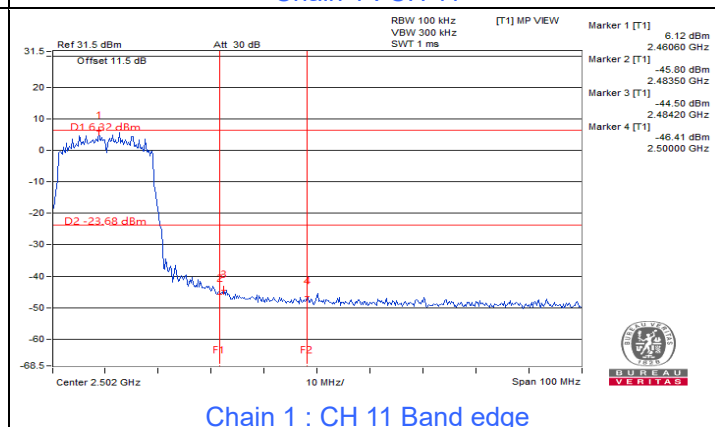
Chain 1 : CH 11



Chain 1 : CH 11



Chain 1 : CH 1 Band edge

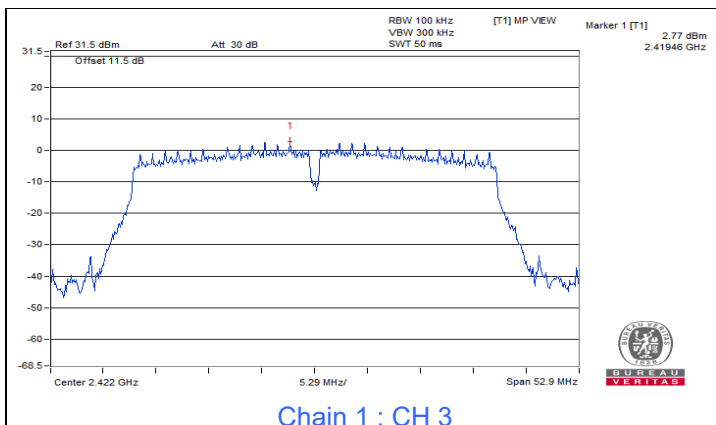


Chain 1 : CH 11 Band edge

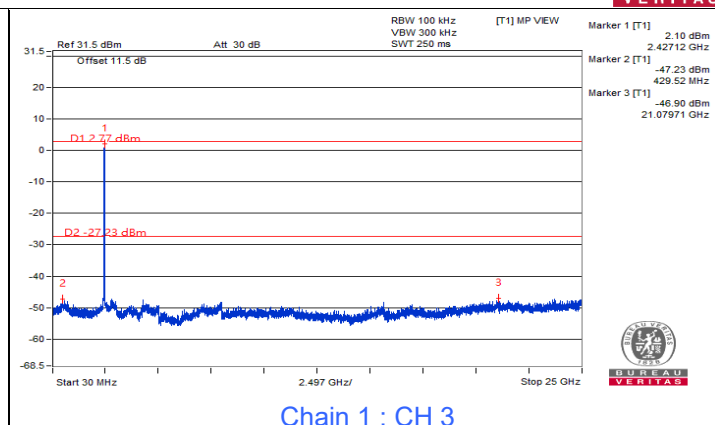


802.11n (HT40)

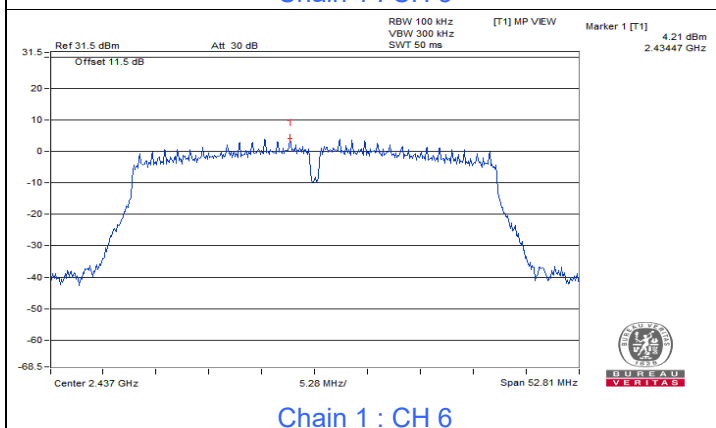




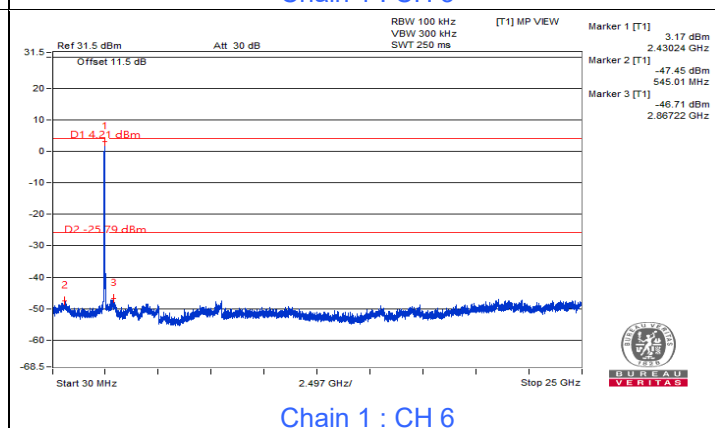
Chain 1 : CH 3



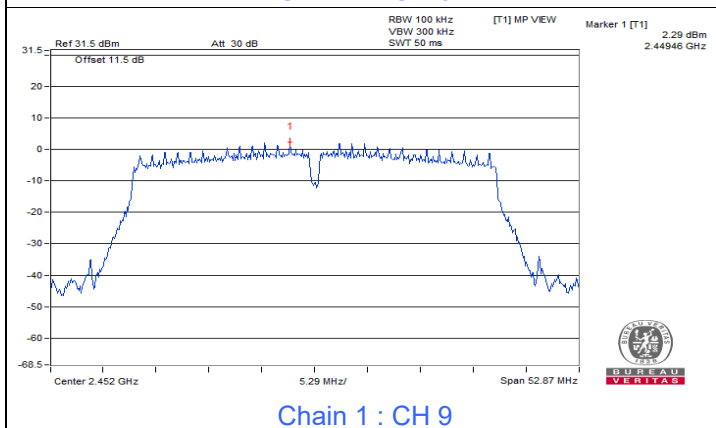
Chain 1 : CH 3



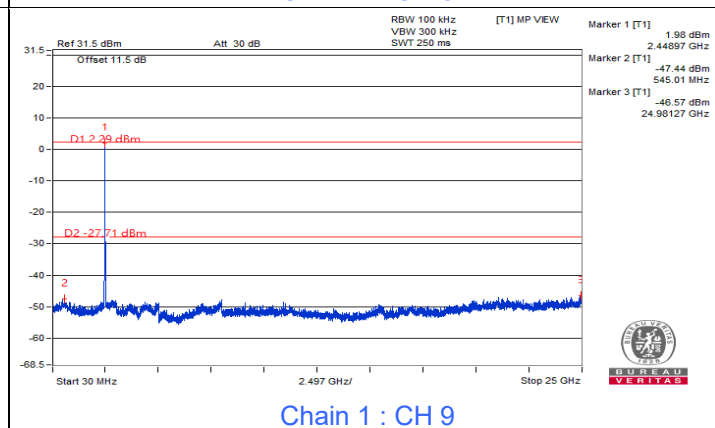
Chain 1 : CH 6



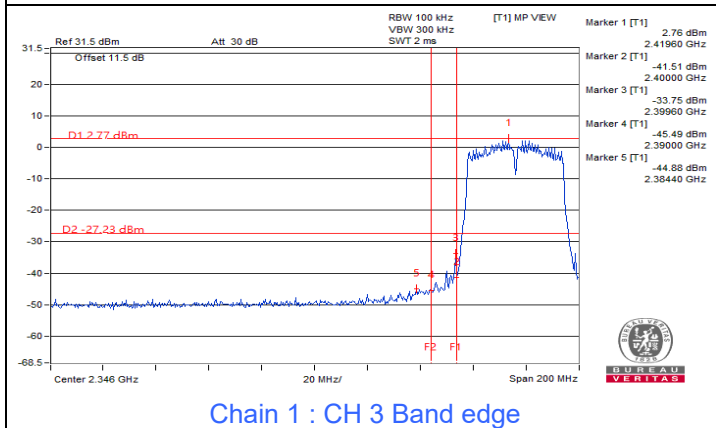
Chain 1 : CH 6



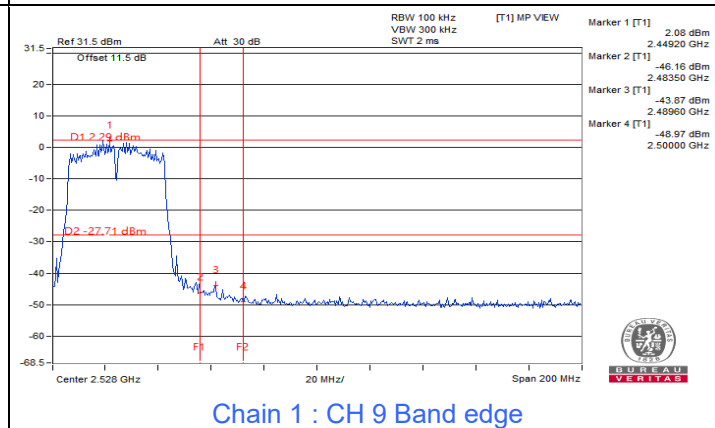
Chain 1 : CH 9



Chain 1 : CH 9



Chain 1 : CH 3 Band edge



Chain 1 : CH 9 Band edge

7.5 AC Power Conducted Emissions

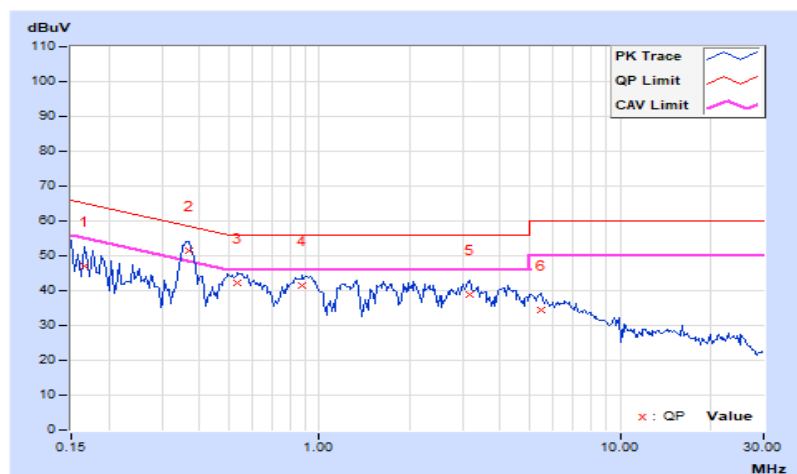
Mode C

RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 64% RH
Tested By	Vincent Chen		

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	0.16562	10.38	36.59	22.09	46.97	32.47	65.18	55.18	-18.21	-22.71
2	0.36875	10.48	41.14	32.83	51.62	43.31	58.53	48.53	-6.91	-5.22
3	0.53672	10.50	31.77	23.24	42.27	33.74	56.00	46.00	-13.73	-12.26
4	0.88047	10.53	30.98	22.66	41.51	33.19	56.00	46.00	-14.49	-12.81
5	3.17578	10.61	28.32	18.31	38.93	28.92	56.00	46.00	-17.07	-17.08
6	5.47266	10.68	23.80	15.60	34.48	26.28	60.00	50.00	-25.52	-23.72

Remarks:

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

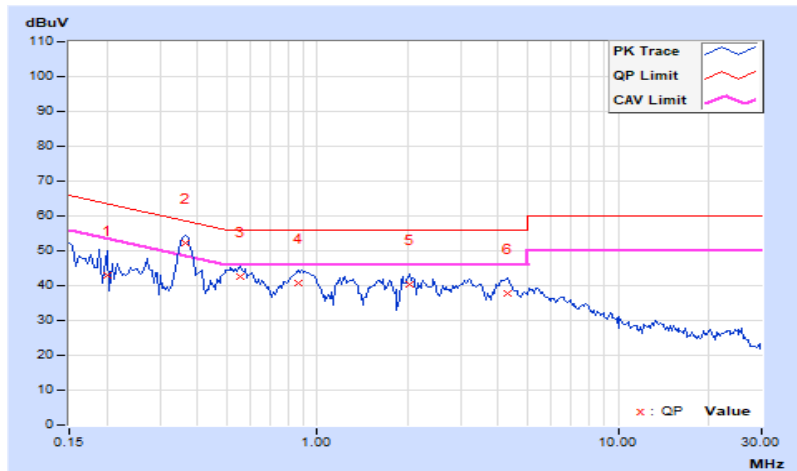


RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 64% RH
Tested By	Vincent Chen		

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	0.20078	10.44	32.42	19.75	42.86	30.19	63.58	53.58	-20.72	-23.39
2	0.36484	10.51	41.53	33.87	52.04	44.38	58.62	48.62	-6.58	-4.24
3	0.55234	10.54	32.21	23.55	42.75	34.09	56.00	46.00	-13.25	-11.91
4	0.86094	10.55	30.24	22.50	40.79	33.05	56.00	46.00	-15.21	-12.95
5	2.01953	10.58	29.69	21.59	40.27	32.17	56.00	46.00	-15.73	-13.83
6	4.28516	10.74	27.12	18.59	37.86	29.33	56.00	46.00	-18.14	-16.67

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



7.6 Unwanted Emissions below 1 GHz

Mode A

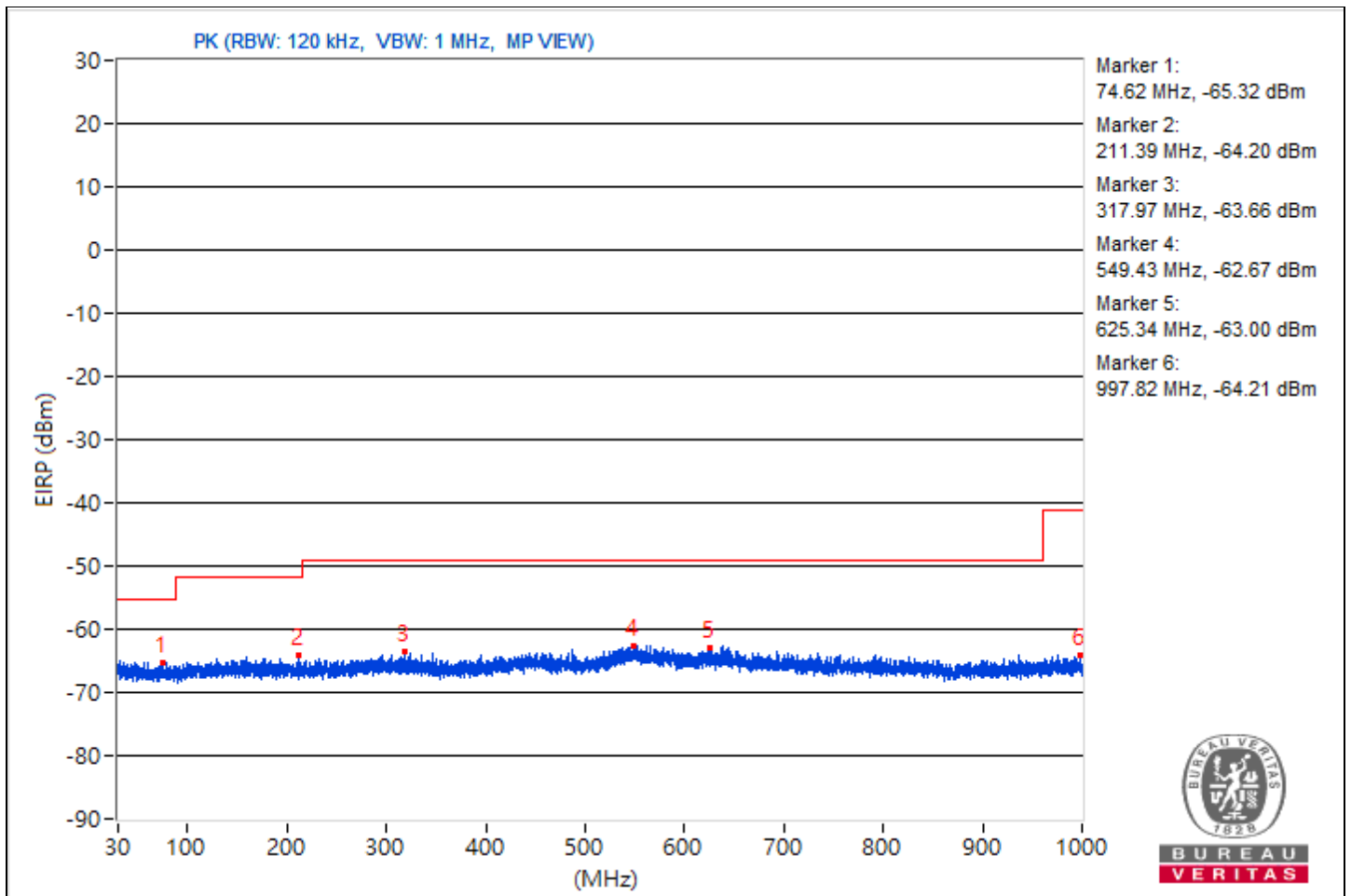
2TX

RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	30 MHz ~ 1 GHz	Input Power	3.3 Vdc
Environmental Conditions	22°C, 75% RH	Tested By	Rex Wang

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	74.62	29.94 PK	40	-10.06	-77.15	-80.55	10.2	-65.32
2	211.39	31.06 PK	43.5	-12.44	-78.53	-76.52	10.2	-64.2
3	317.97	31.6 PK	46	-14.4	-77.71	-76.17	10.2	-63.66
4	549.43	32.59 PK	46	-13.41	-76.69	-75.19	10.2	-62.67
5	625.34	32.26 PK	46	-13.74	-75.2	-77.53	10.2	-63
6	997.82	31.05 PK	54	-22.95	-75.87	-79.85	10.2	-64.21

Notes:

1. Margin value = Emission Level - Limit value
2. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)



Mode B

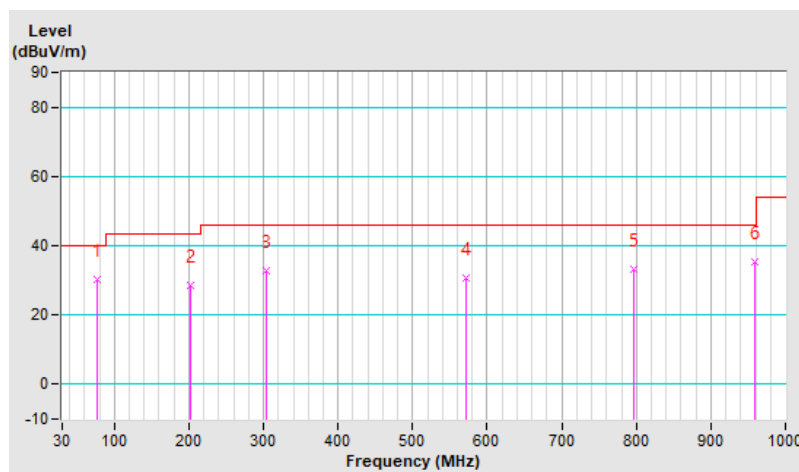
RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	77.53	30.3 QP	40.0	-9.7	1.00 H	65	47.1	-16.8
2	202.66	28.7 QP	43.5	-14.8	2.00 H	330	44.5	-15.8
3	304.51	32.7 QP	46.0	-13.3	1.50 H	182	44.5	-11.8
4	571.26	30.8 QP	46.0	-15.2	2.00 H	39	36.7	-5.9
5	797.27	33.1 QP	46.0	-12.9	1.50 H	28	34.3	-1.2
6	959.26	35.4 QP	46.0	-10.6	1.51 H	140	35.6	-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 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

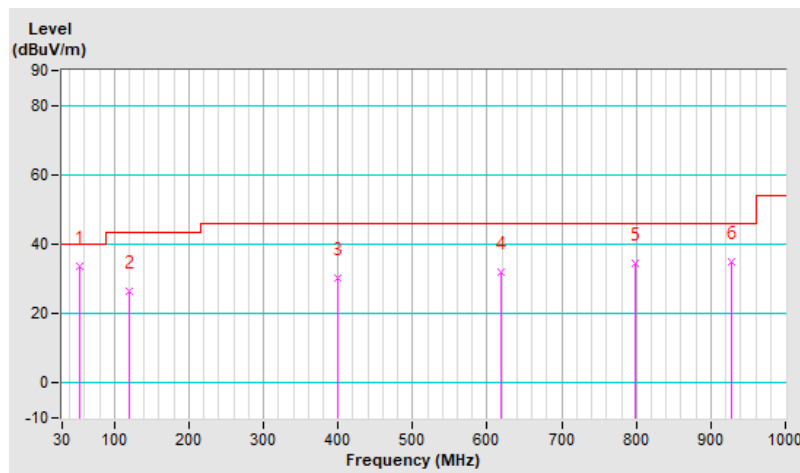


RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	53.28	33.7 QP	40.0	-6.3	1.00 V	54	46.2	-12.5
2	120.21	26.5 QP	43.5	-17.0	1.00 V	226	41.1	-14.6
3	399.57	30.1 QP	46.0	-15.9	1.50 V	307	39.7	-9.6
4	617.82	31.8 QP	46.0	-14.2	1.00 V	164	36.5	-4.7
5	799.21	34.6 QP	46.0	-11.4	1.50 V	160	35.8	-1.2
6	927.25	34.9 QP	46.0	-11.1	2.00 V	18	35.3	-0.4

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 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



7.7 Unwanted Emissions above 1 GHz

Mode A

1TX

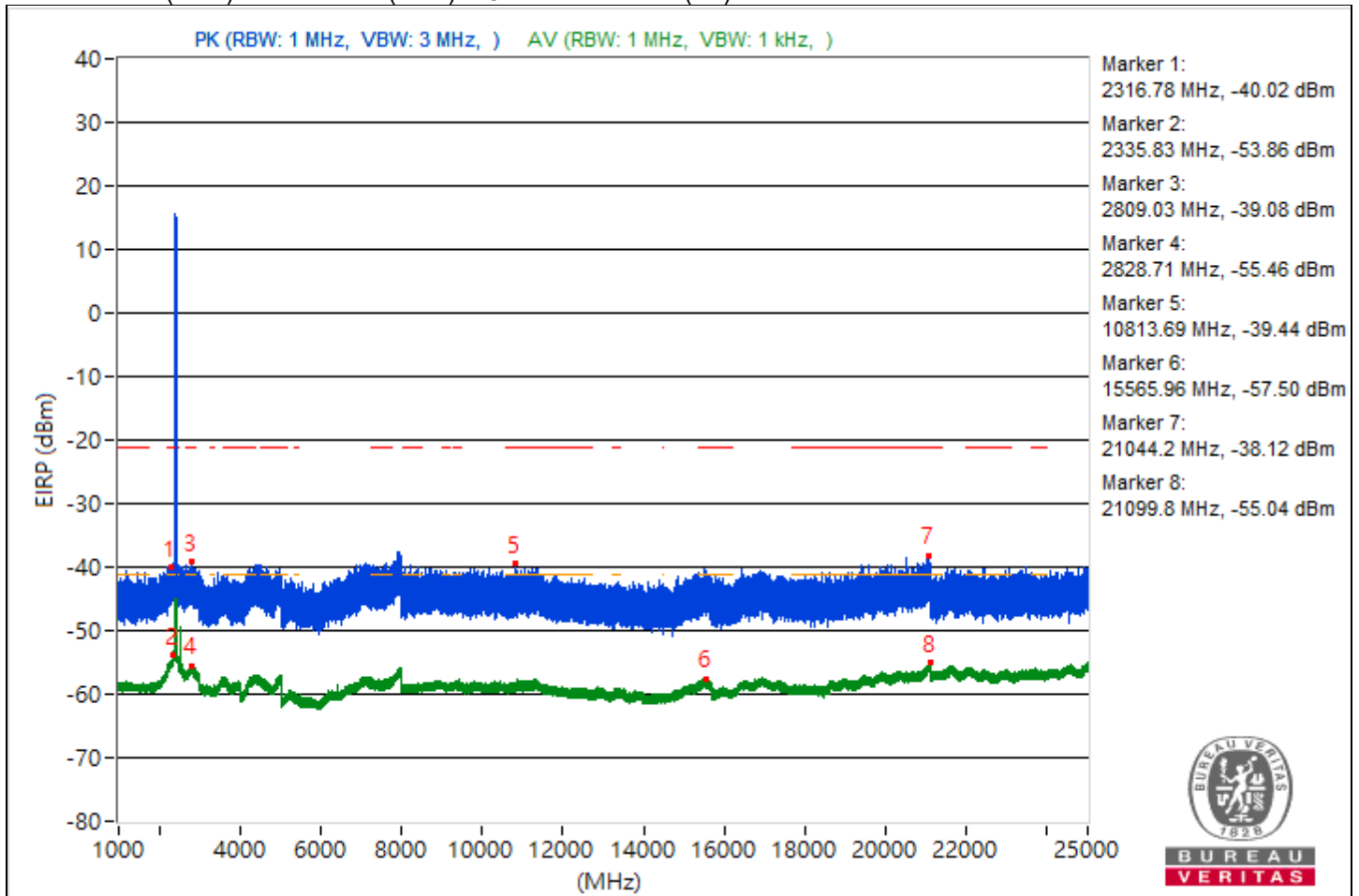
Conducted Unwanted Emissions

RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2316.78	55.24 PK	74	-18.76	-45.62	5.6	-40.02
2	2335.83	41.4 AV	54	-12.6	-59.46	5.6	-53.86
3	2809.03	56.18 PK	74	-17.82	-44.68	5.6	-39.08
4	2828.71	39.8 AV	54	-14.2	-61.06	5.6	-55.46
5	10813.69	55.82 PK	74	-18.18	-45.04	5.6	-39.44
6	15565.96	37.76 AV	54	-16.24	-63.1	5.6	-57.5
7	21044.2	57.14 PK	74	-16.86	-43.72	5.6	-38.12
8	21099.8	40.22 AV	54	-13.78	-60.64	5.6	-55.04

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

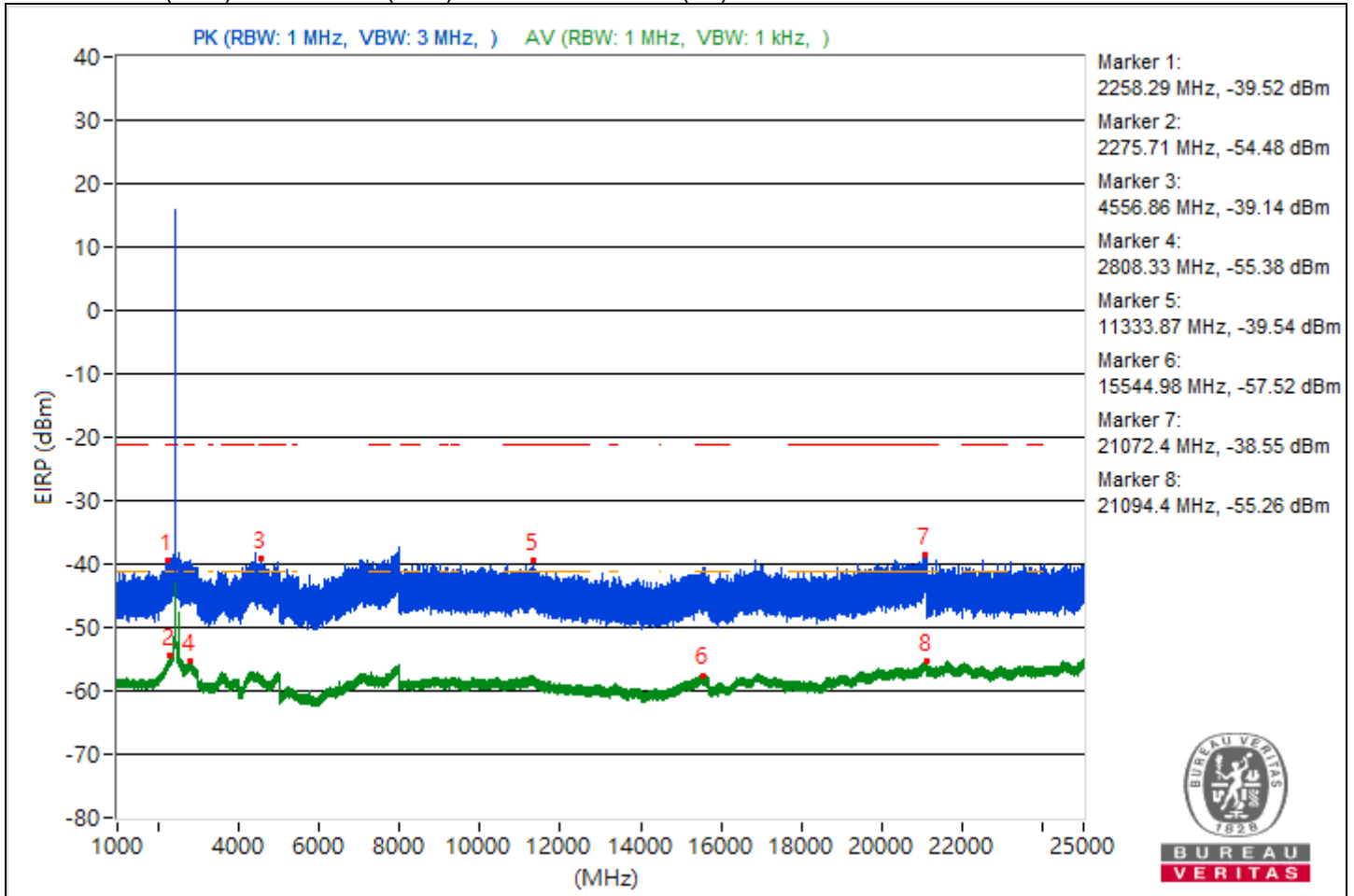


RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2258.29	55.74 PK	74	-18.26	-45.12	5.6	-39.52
2	2275.71	40.78 AV	54	-13.22	-60.08	5.6	-54.48
3	4556.86	56.12 PK	74	-17.88	-44.74	5.6	-39.14
4	2808.33	39.88 AV	54	-14.12	-60.98	5.6	-55.38
5	11333.87	55.72 PK	74	-18.28	-45.14	5.6	-39.54
6	15544.98	37.74 AV	54	-16.26	-63.12	5.6	-57.52
7	21072.4	56.71 PK	74	-17.29	-44.15	5.6	-38.55
8	21094.4	40 AV	54	-14	-60.86	5.6	-55.26

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

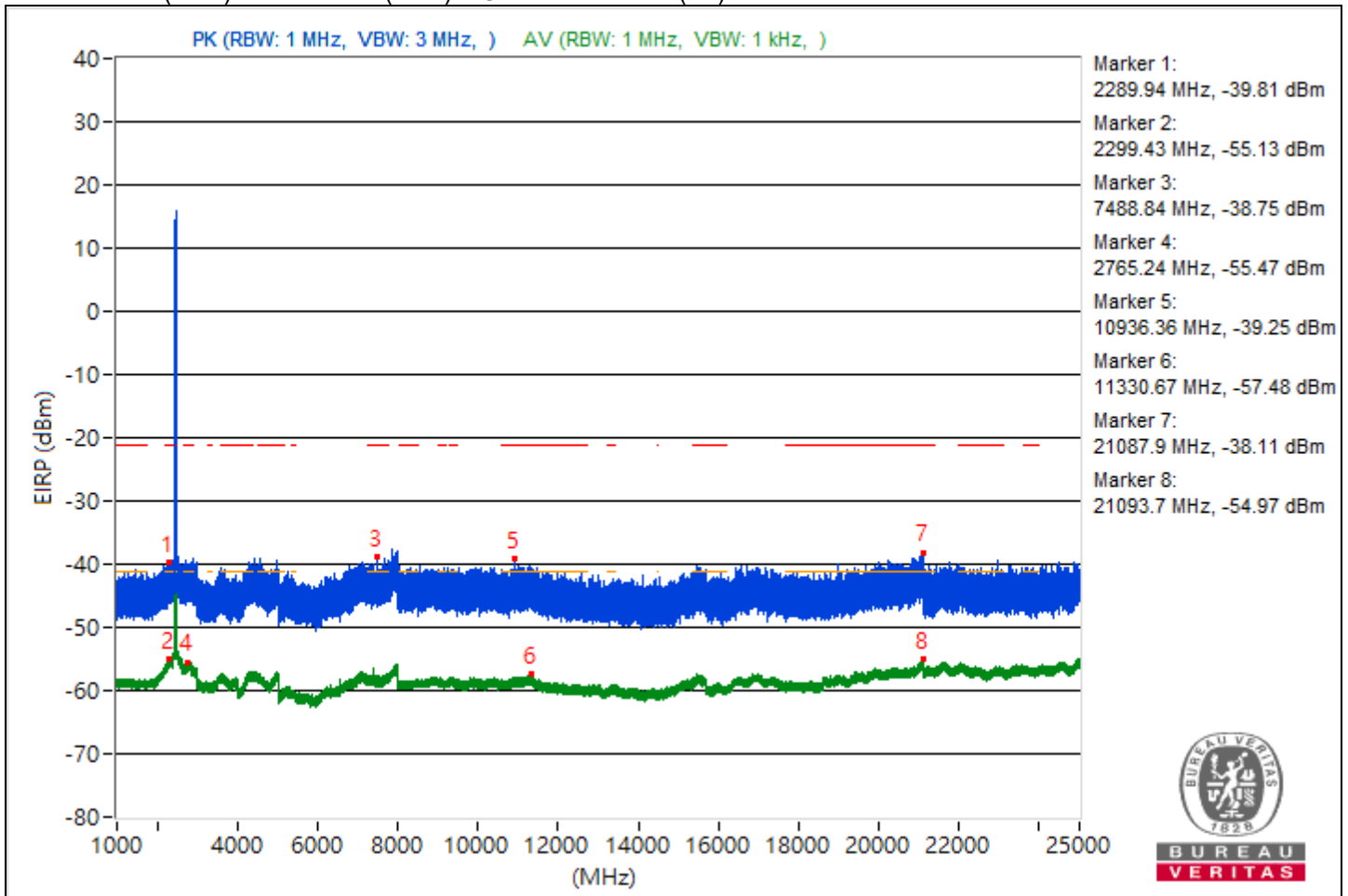


RF Mode	802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2289.94	55.45 PK	74	-18.55	-45.41	5.6	-39.81
2	2299.43	40.13 AV	54	-13.87	-60.73	5.6	-55.13
3	7488.84	56.51 PK	74	-17.49	-44.35	5.6	-38.75
4	2765.24	39.79 AV	54	-14.21	-61.07	5.6	-55.47
5	10936.36	56.01 PK	74	-17.99	-44.85	5.6	-39.25
6	11330.67	37.78 AV	54	-16.22	-63.08	5.6	-57.48
7	21087.9	57.15 PK	74	-16.85	-43.71	5.6	-38.11
8	21093.7	40.29 AV	54	-13.71	-60.57	5.6	-54.97

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

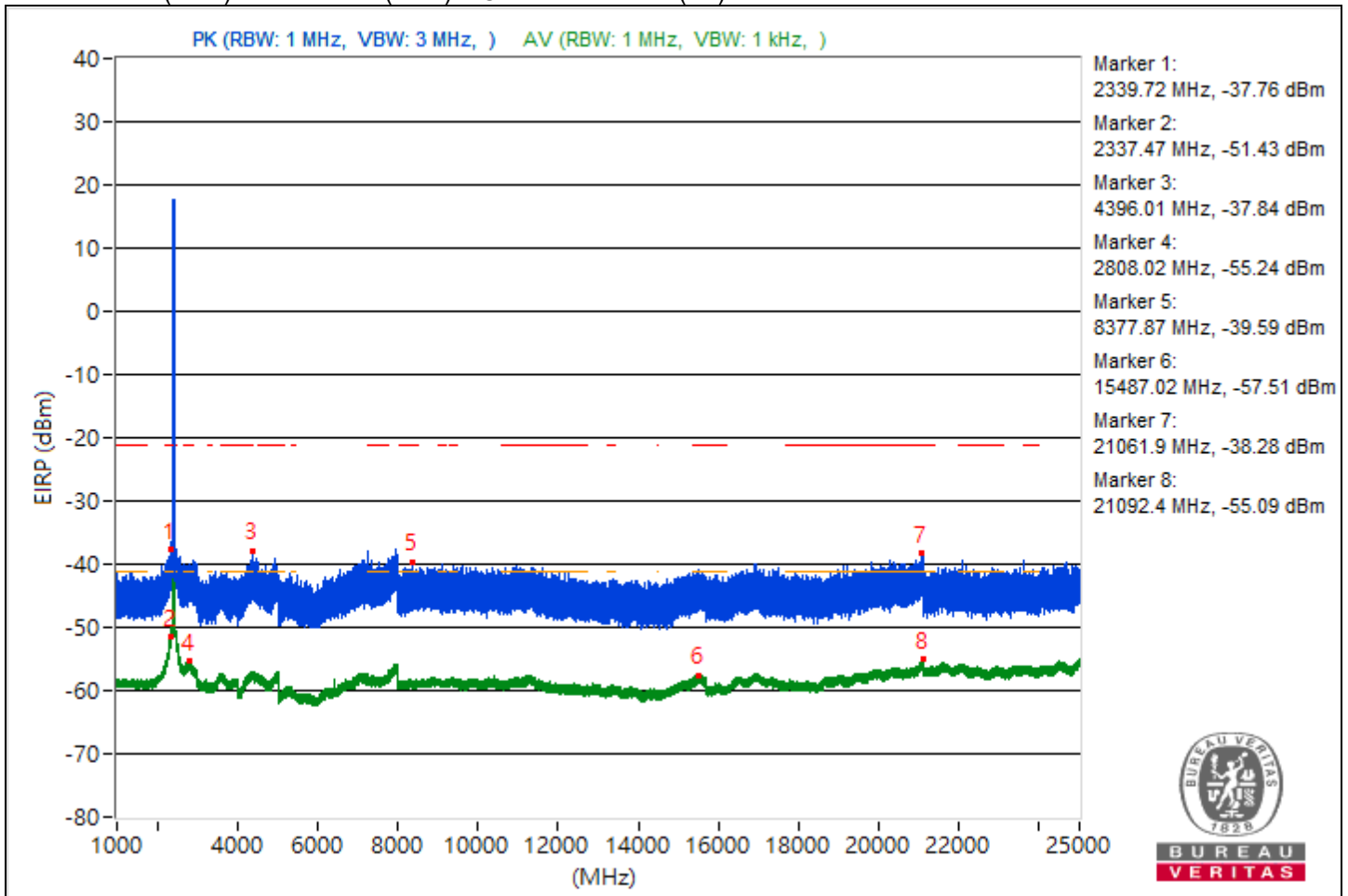


RF Mode	802.11g	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2339.72	57.5 PK	74	-16.5	-43.36	5.6	-37.76
2	2337.47	43.83 AV	54	-10.17	-57.03	5.6	-51.43
3	4396.01	57.42 PK	74	-16.58	-43.44	5.6	-37.84
4	2808.02	40.02 AV	54	-13.98	-60.84	5.6	-55.24
5	8377.87	55.67 PK	74	-18.33	-45.19	5.6	-39.59
6	15487.02	37.75 AV	54	-16.25	-63.11	5.6	-57.51
7	21061.9	56.98 PK	74	-17.02	-43.88	5.6	-38.28
8	21092.4	40.17 AV	54	-13.83	-60.69	5.6	-55.09

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

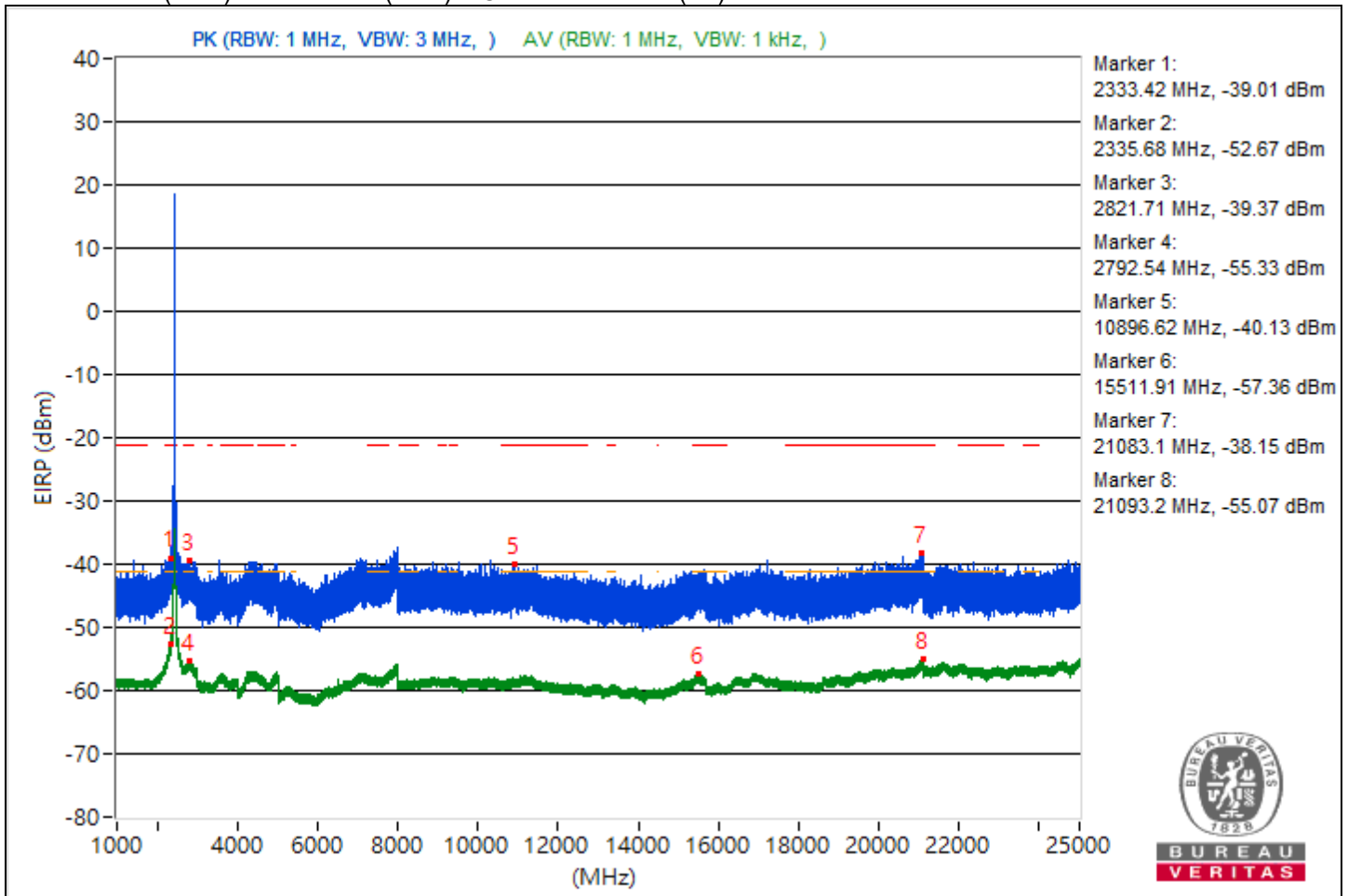


RF Mode	802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2333.42	56.25 PK	74	-17.75	-44.61	5.6	-39.01
2	2335.68	42.59 AV	54	-11.41	-58.27	5.6	-52.67
3	2821.71	55.89 PK	74	-18.11	-44.97	5.6	-39.37
4	2792.54	39.93 AV	54	-14.07	-60.93	5.6	-55.33
5	10896.62	55.13 PK	74	-18.87	-45.73	5.6	-40.13
6	15511.91	37.9 AV	54	-16.1	-62.96	5.6	-57.36
7	21083.1	57.11 PK	74	-16.89	-43.75	5.6	-38.15
8	21093.2	40.19 AV	54	-13.81	-60.67	5.6	-55.07

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

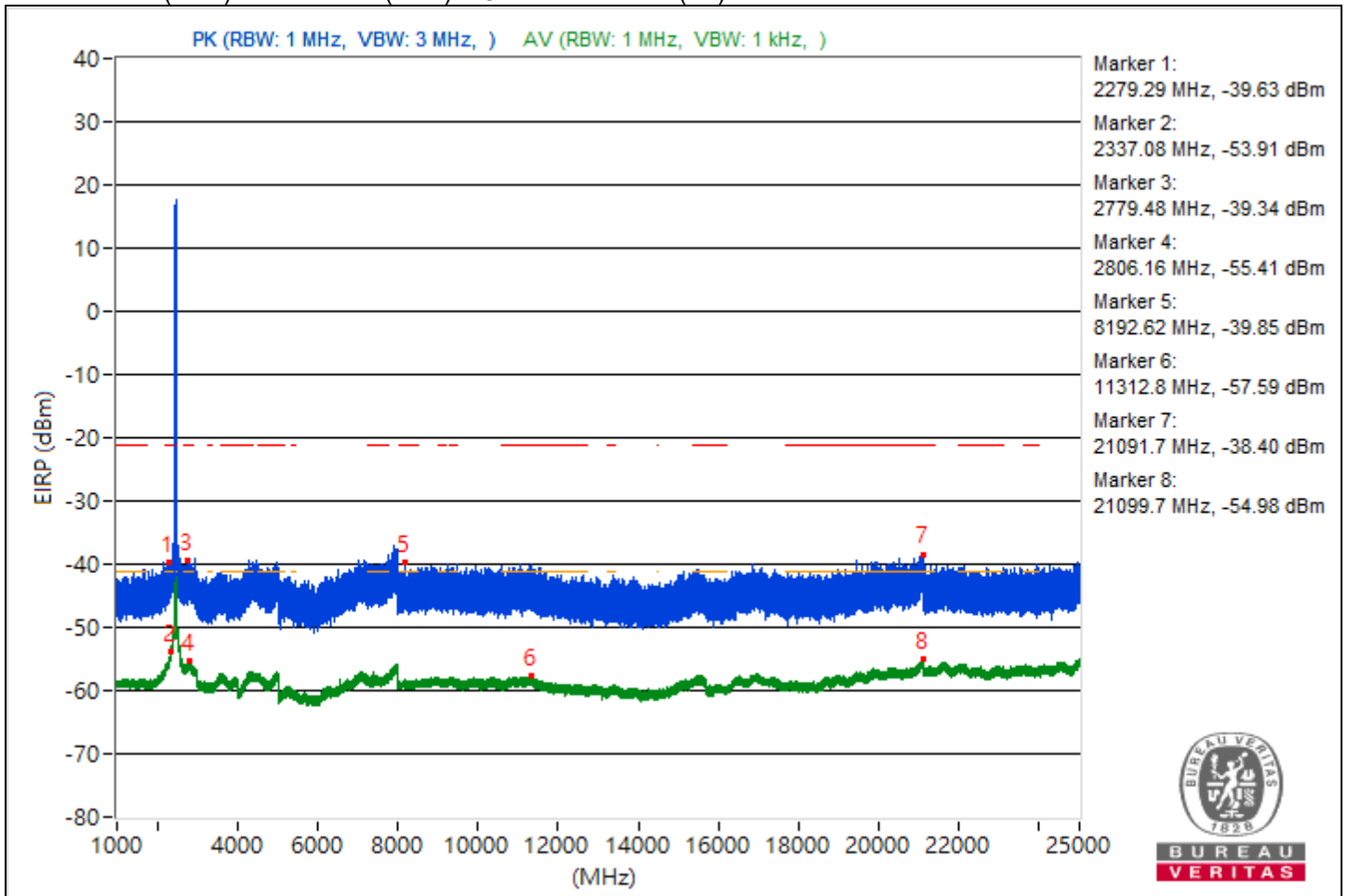


RF Mode	802.11g	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2279.29	55.63 PK	74	-18.37	-45.23	5.6	-39.63
2	2337.08	41.35 AV	54	-12.65	-59.51	5.6	-53.91
3	2779.48	55.92 PK	74	-18.08	-44.94	5.6	-39.34
4	2806.16	39.85 AV	54	-14.15	-61.01	5.6	-55.41
5	8192.62	55.41 PK	74	-18.59	-45.45	5.6	-39.85
6	11312.8	37.67 AV	54	-16.33	-63.19	5.6	-57.59
7	21091.7	56.86 PK	74	-17.14	-44	5.6	-38.4
8	21099.7	40.28 AV	54	-13.72	-60.58	5.6	-54.98

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

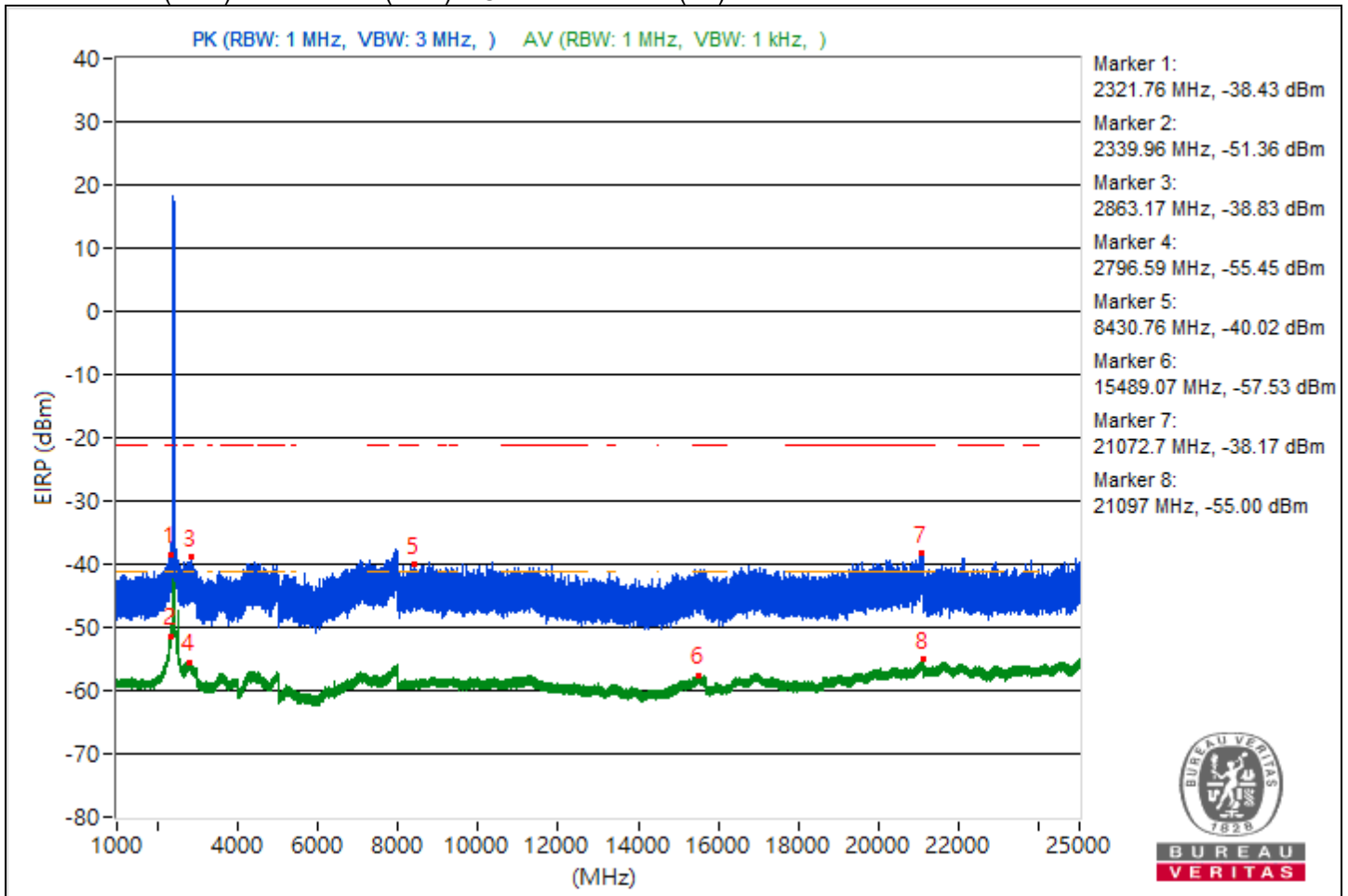


RF Mode	802.11n (HT20)	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2321.76	56.83 PK	74	-17.17	-44.03	5.6	-38.43
2	2339.96	43.9 AV	54	-10.1	-56.96	5.6	-51.36
3	2863.17	56.43 PK	74	-17.57	-44.43	5.6	-38.83
4	2796.59	39.81 AV	54	-14.19	-61.05	5.6	-55.45
5	8430.76	55.24 PK	74	-18.76	-45.62	5.6	-40.02
6	15489.07	37.73 AV	54	-16.27	-63.13	5.6	-57.53
7	21072.7	57.09 PK	74	-16.91	-43.77	5.6	-38.17
8	21097	40.26 AV	54	-13.74	-60.6	5.6	-55

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

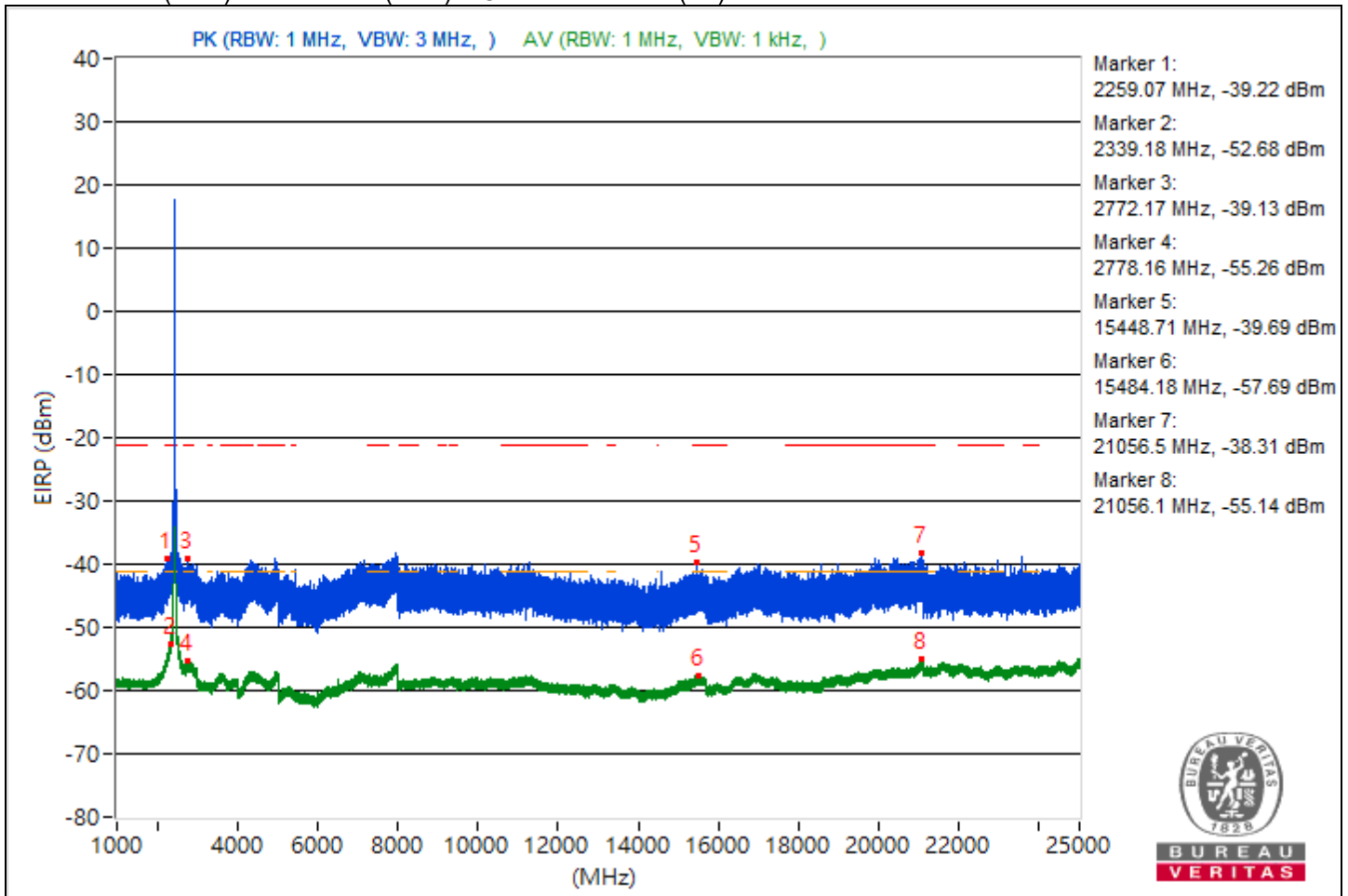


RF Mode	802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2259.07	56.04 PK	74	-17.96	-44.82	5.6	-39.22
2	2339.18	42.58 AV	54	-11.42	-58.28	5.6	-52.68
3	2772.17	56.13 PK	74	-17.87	-44.73	5.6	-39.13
4	2778.16	40 AV	54	-14	-60.86	5.6	-55.26
5	15448.71	55.57 PK	74	-18.43	-45.29	5.6	-39.69
6	15484.18	37.57 AV	54	-16.43	-63.29	5.6	-57.69
7	21056.5	56.95 PK	74	-17.05	-43.91	5.6	-38.31
8	21056.1	40.12 AV	54	-13.88	-60.74	5.6	-55.14

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

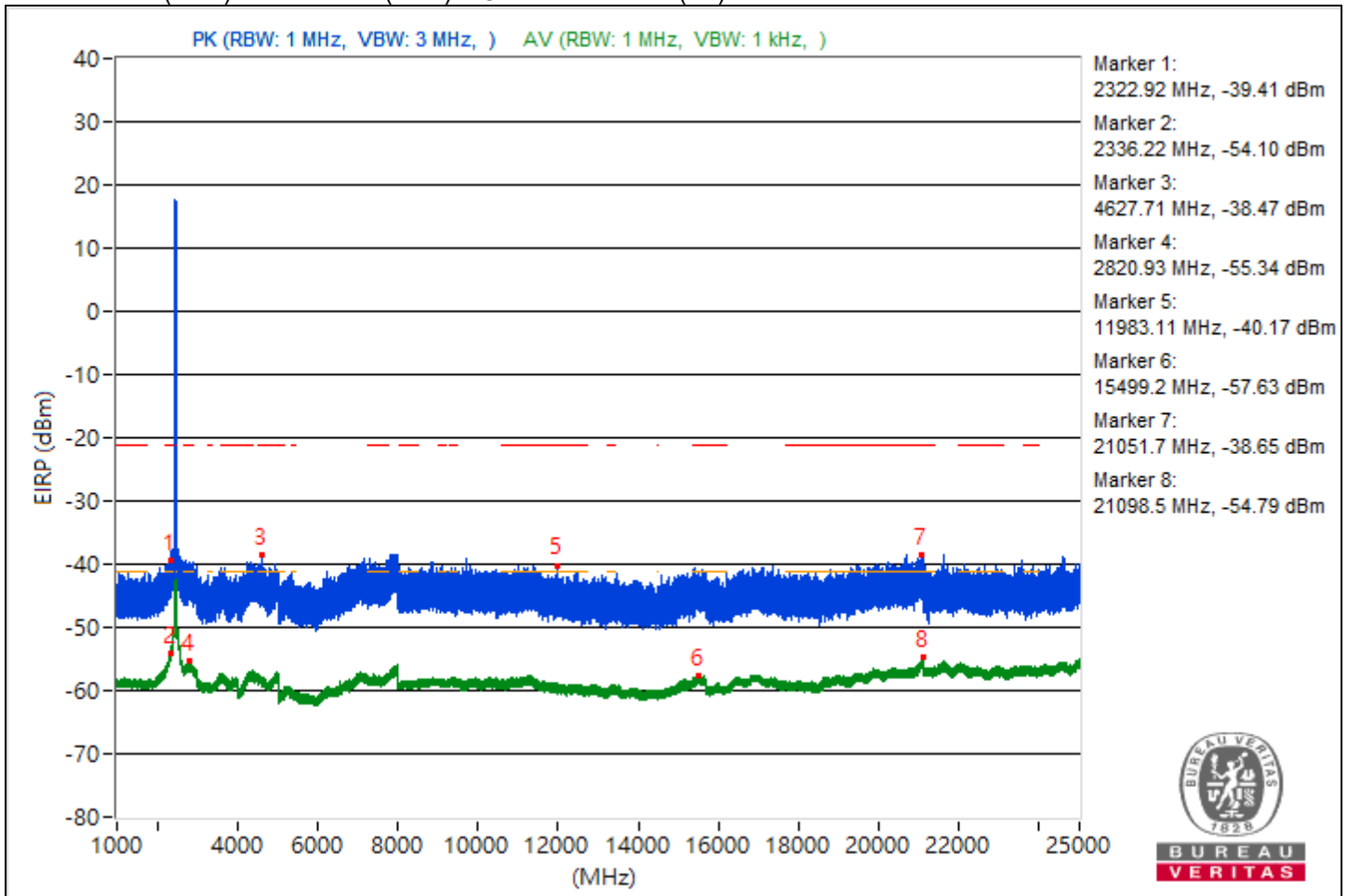


RF Mode	802.11n (HT20)	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2322.92	55.85 PK	74	-18.15	-45.01	5.6	-39.41
2	2336.22	41.16 AV	54	-12.84	-59.7	5.6	-54.1
3	4627.71	56.79 PK	74	-17.21	-44.07	5.6	-38.47
4	2820.93	39.92 AV	54	-14.08	-60.94	5.6	-55.34
5	11983.11	55.09 PK	74	-18.91	-45.77	5.6	-40.17
6	15499.2	37.63 AV	54	-16.37	-63.23	5.6	-57.63
7	21051.7	56.61 PK	74	-17.39	-44.25	5.6	-38.65
8	21098.5	40.47 AV	54	-13.53	-60.39	5.6	-54.79

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

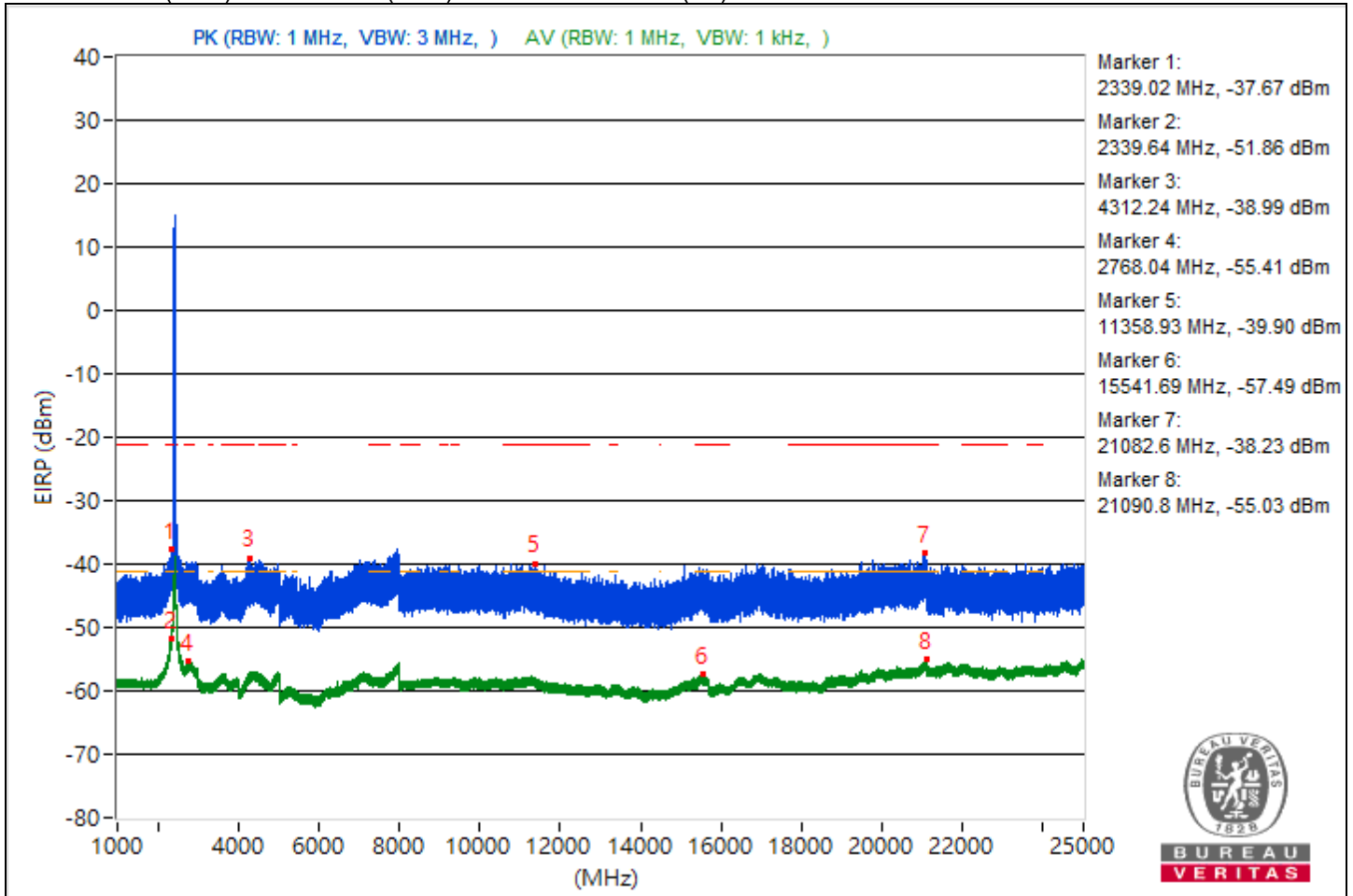


RF Mode	802.11n (HT40)	Channel	CH 3 : 2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2339.02	57.59 PK	74	-16.41	-43.27	5.6	-37.67
2	2339.64	43.4 AV	54	-10.6	-57.46	5.6	-51.86
3	4312.24	56.27 PK	74	-17.73	-44.59	5.6	-38.99
4	2768.04	39.85 AV	54	-14.15	-61.01	5.6	-55.41
5	11358.93	55.36 PK	74	-18.64	-45.5	5.6	-39.9
6	15541.69	37.77 AV	54	-16.23	-63.09	5.6	-57.49
7	21082.6	57.03 PK	74	-16.97	-43.83	5.6	-38.23
8	21090.8	40.23 AV	54	-13.77	-60.63	5.6	-55.03

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

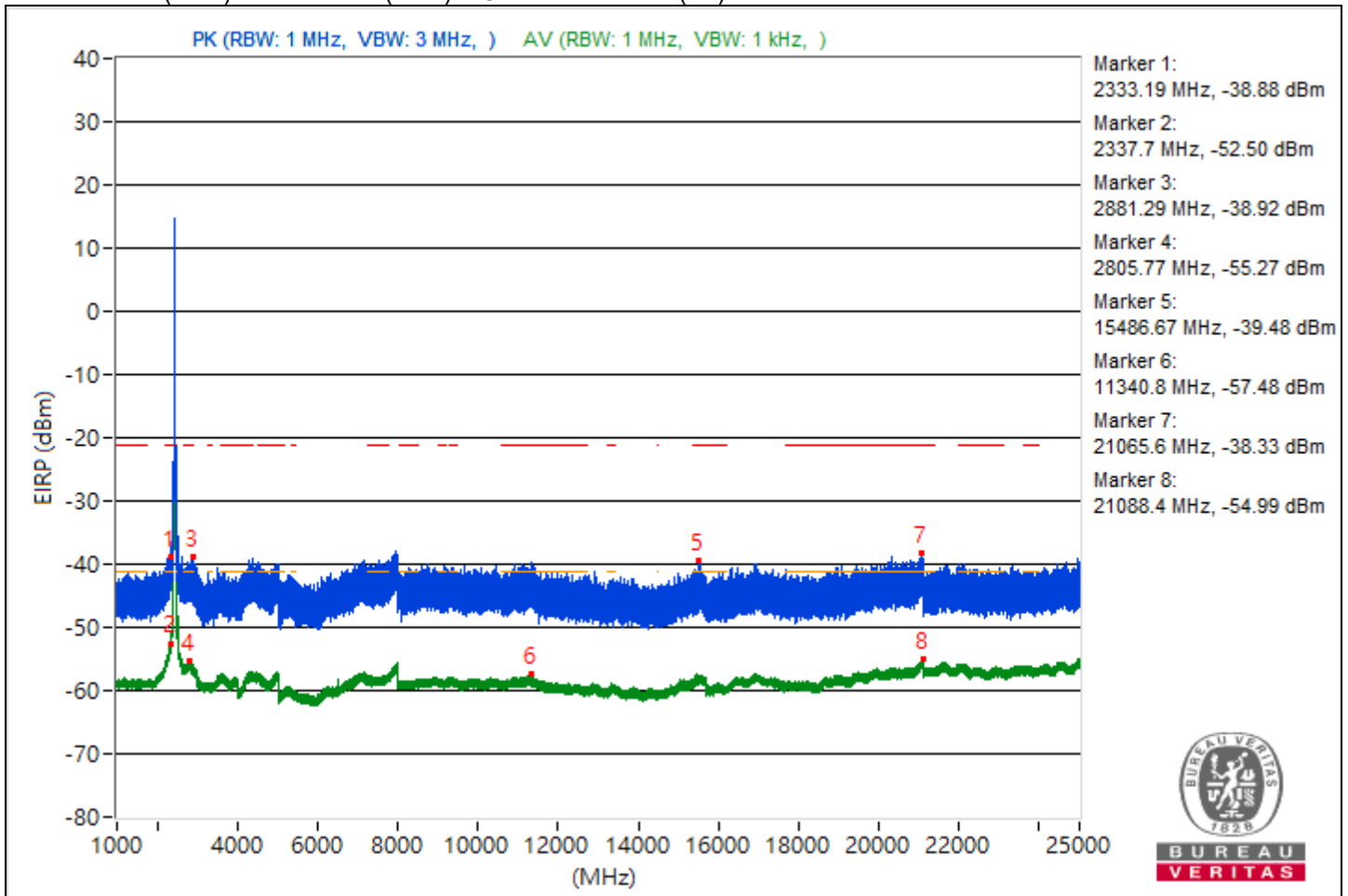


RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2333.19	56.38 PK	74	-17.62	-44.48	5.6	-38.88
2	2337.7	42.76 AV	54	-11.24	-58.1	5.6	-52.5
3	2881.29	56.34 PK	74	-17.66	-44.52	5.6	-38.92
4	2805.77	39.99 AV	54	-14.01	-60.87	5.6	-55.27
5	15486.67	55.78 PK	74	-18.22	-45.08	5.6	-39.48
6	11340.8	37.78 AV	54	-16.22	-63.08	5.6	-57.48
7	21065.6	56.93 PK	74	-17.07	-43.93	5.6	-38.33
8	21088.4	40.27 AV	54	-13.73	-60.59	5.6	-54.99

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

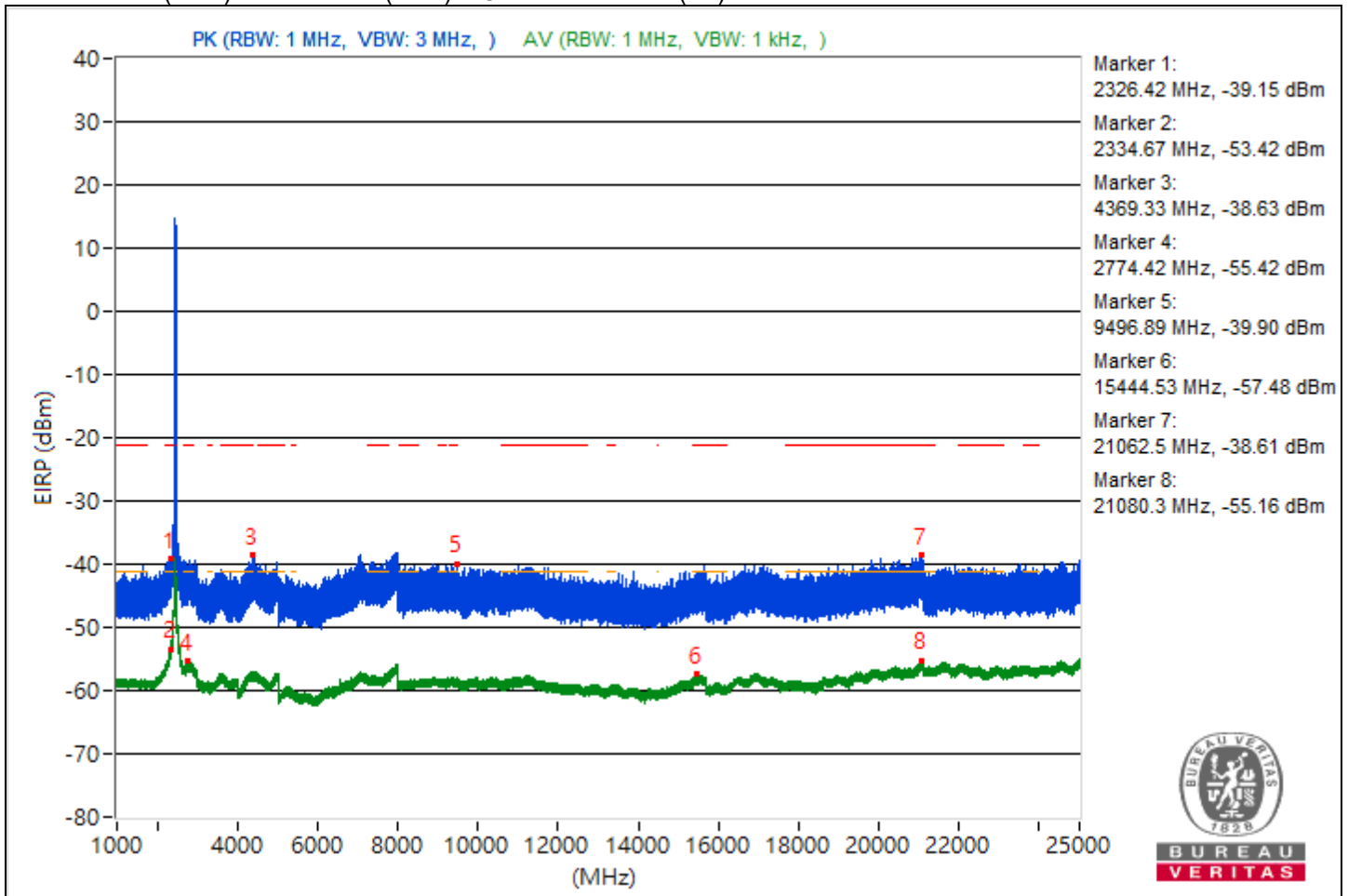


RF Mode	802.11n (HT40)	Channel	CH 9 : 2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 66% RH	Tested By	Rex Wang

Conducted Unwanted Emissions							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2326.42	56.11 PK	74	-17.89	-44.75	5.6	-39.15
2	2334.67	41.84 AV	54	-12.16	-59.02	5.6	-53.42
3	4369.33	56.63 PK	74	-17.37	-44.23	5.6	-38.63
4	2774.42	39.84 AV	54	-14.16	-61.02	5.6	-55.42
5	9496.89	55.36 PK	74	-18.64	-45.5	5.6	-39.9
6	15444.53	37.78 AV	54	-16.22	-63.08	5.6	-57.48
7	21062.5	56.65 PK	74	-17.35	-44.21	5.6	-38.61
8	21080.3	40.1 AV	54	-13.9	-60.76	5.6	-55.16

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)



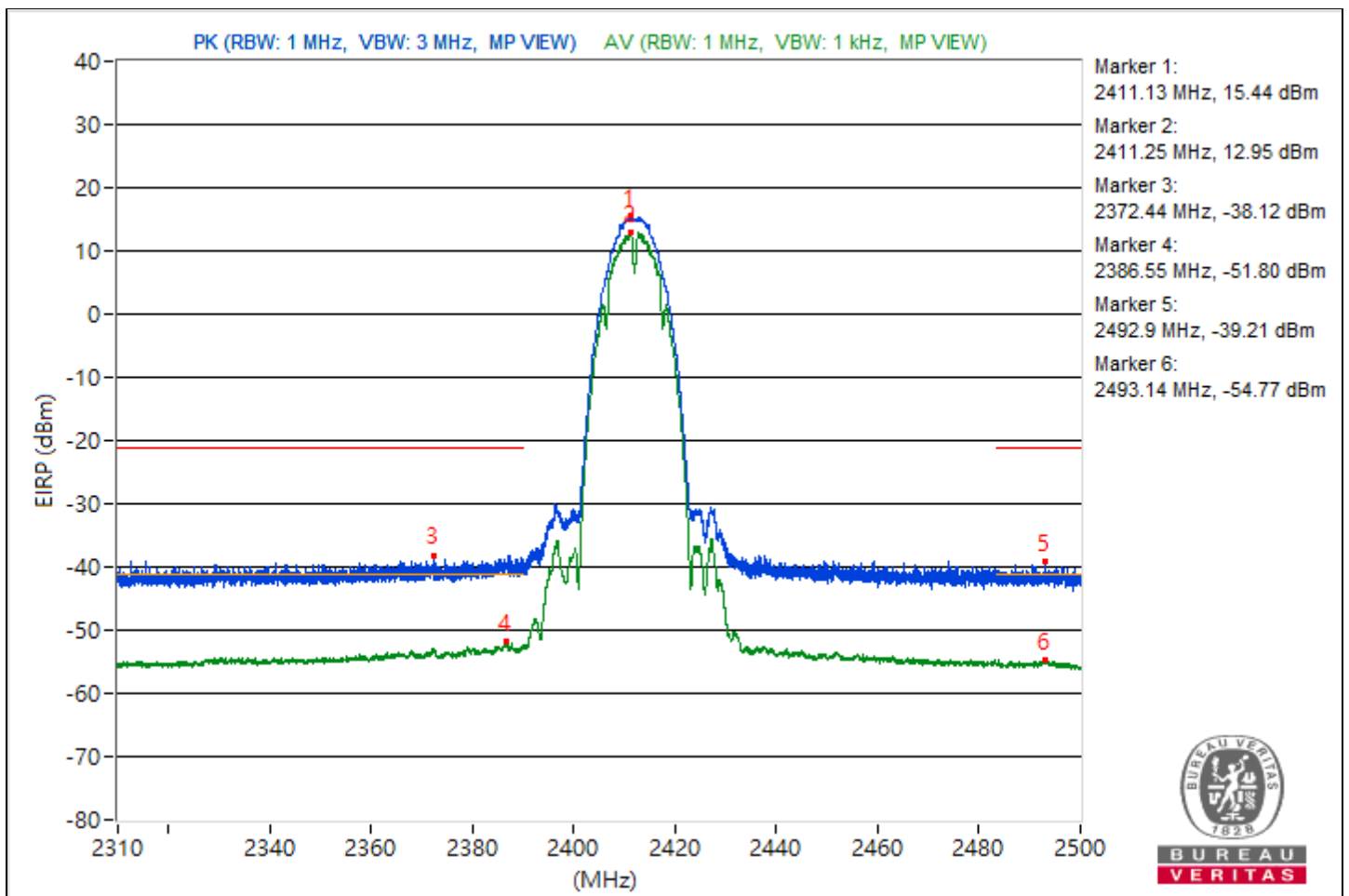
Conducted Band Edges

RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2411.13	110.7 PK	-	-	10.04	5.4	15.44
2	*2411.25	108.21 AV	-	-	7.55	5.4	12.95
3	2372.44	57.14 PK	74	-16.86	-43.52	5.4	-38.12
4	2386.55	43.46 AV	54	-10.54	-57.2	5.4	-51.8
5	2492.9	56.05 PK	74	-17.95	-44.61	5.4	-39.21
6	2493.14	40.49 AV	54	-13.51	-60.17	5.4	-54.77

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

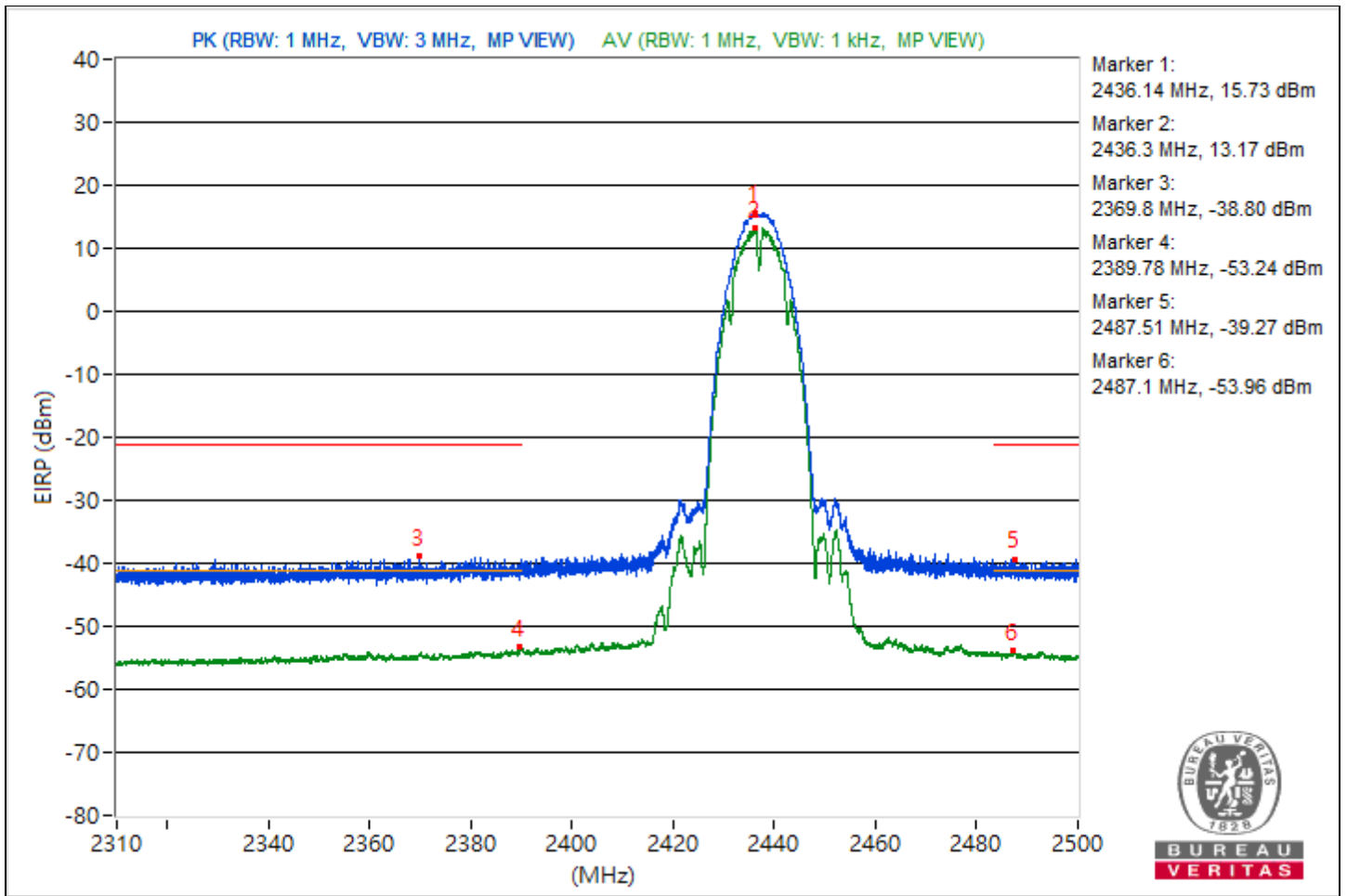


RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2436.14	110.99 PK	-	-	10.33	5.4	15.73
2	*2436.3	108.43 AV	-	-	7.77	5.4	13.17
3	2369.8	56.46 PK	74	-17.54	-44.2	5.4	-38.8
4	2389.78	42.02 AV	54	-11.98	-58.64	5.4	-53.24
5	2487.51	55.99 PK	74	-18.01	-44.67	5.4	-39.27
6	2487.1	41.3 AV	54	-12.7	-59.36	5.4	-53.96

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

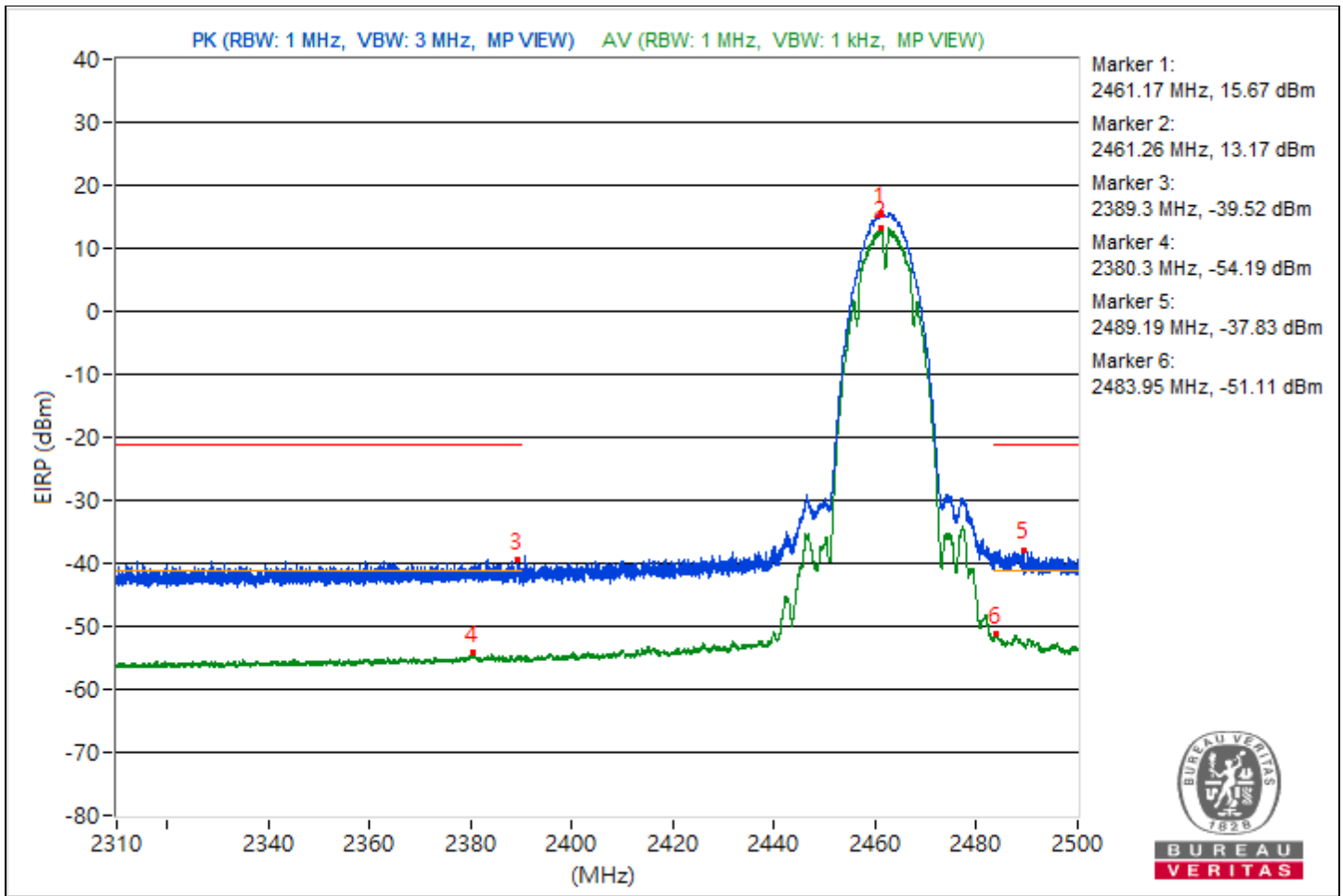


RF Mode	802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2461.17	110.93 PK	-	-	10.27	5.4	15.67
2	*2461.26	108.43 AV	-	-	7.77	5.4	13.17
3	2389.3	55.74 PK	74	-18.26	-44.92	5.4	-39.52
4	2380.3	41.07 AV	54	-12.93	-59.59	5.4	-54.19
5	2489.19	57.43 PK	74	-16.57	-43.23	5.4	-37.83
6	2483.95	44.15 AV	54	-9.85	-56.51	5.4	-51.11

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

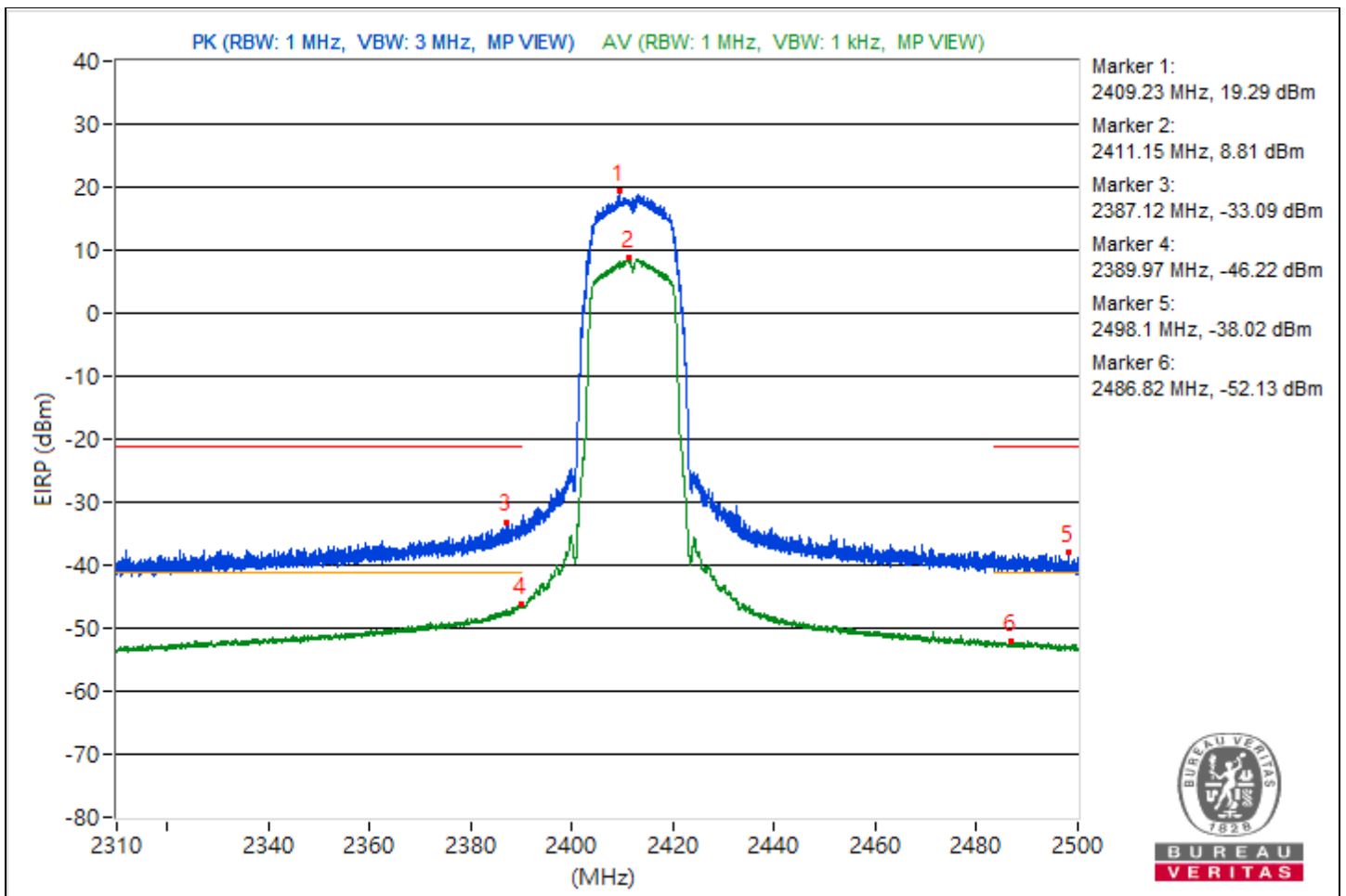


RF Mode	802.11g	Channel	CH 1 : 2412 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2409.23	114.55 PK	-	-	13.89	5.4	19.29
2	*2411.15	104.07 AV	-	-	3.41	5.4	8.81
3	2387.12	62.17 PK	74	-11.83	-38.49	5.4	-33.09
4	2389.97	49.04 AV	54	-4.96	-51.62	5.4	-46.22
5	2498.1	57.24 PK	74	-16.76	-43.42	5.4	-38.02
6	2486.82	43.13 AV	54	-10.87	-57.53	5.4	-52.13

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

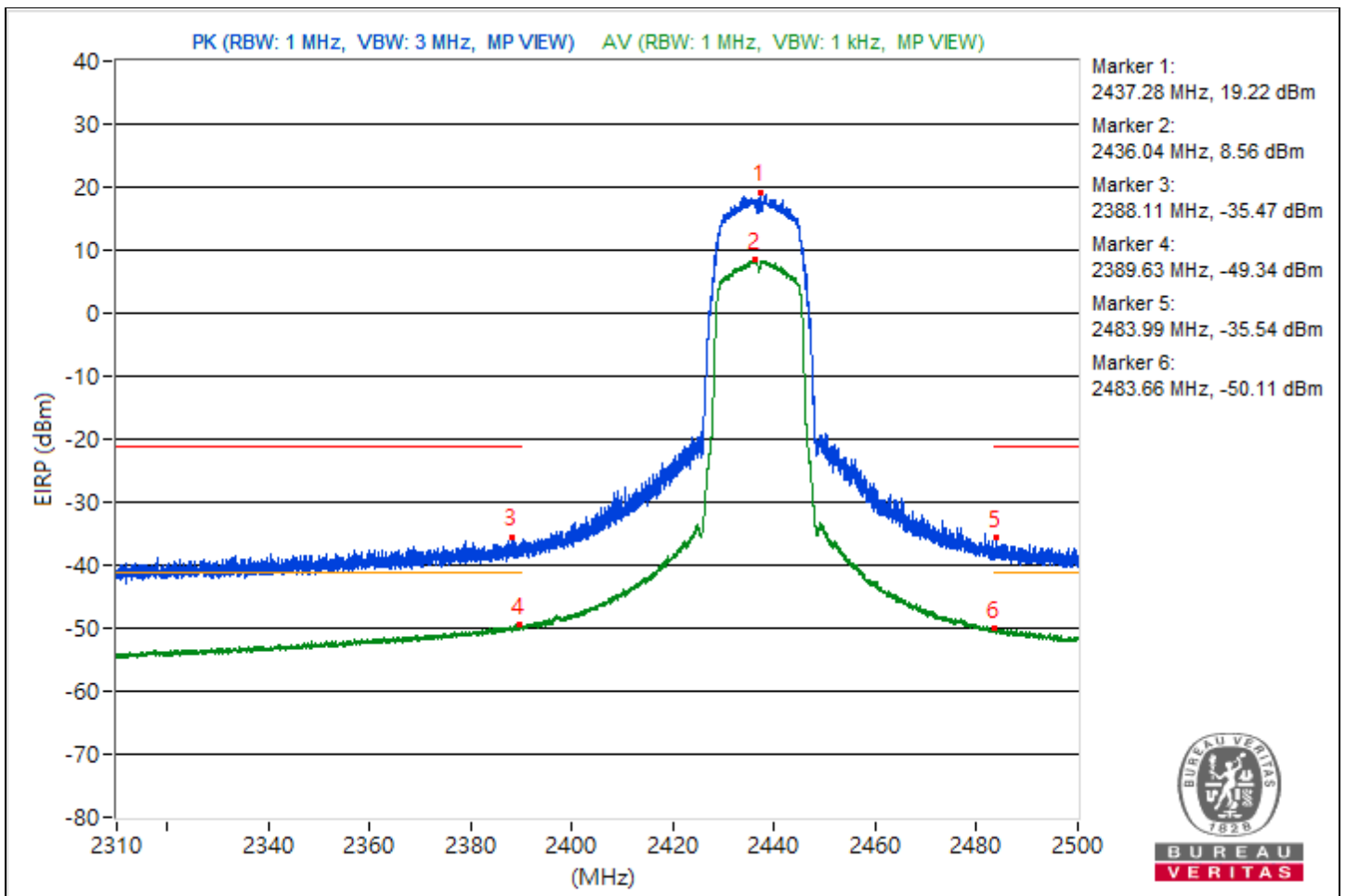


RF Mode	802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2437.28	114.48 PK	-	-	13.82	5.4	19.22
2	*2436.04	103.82 AV	-	-	3.16	5.4	8.56
3	2388.11	59.79 PK	74	-14.21	-40.87	5.4	-35.47
4	2389.63	45.92 AV	54	-8.08	-54.74	5.4	-49.34
5	2483.99	59.72 PK	74	-14.28	-40.94	5.4	-35.54
6	2483.66	45.15 AV	54	-8.85	-55.51	5.4	-50.11

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

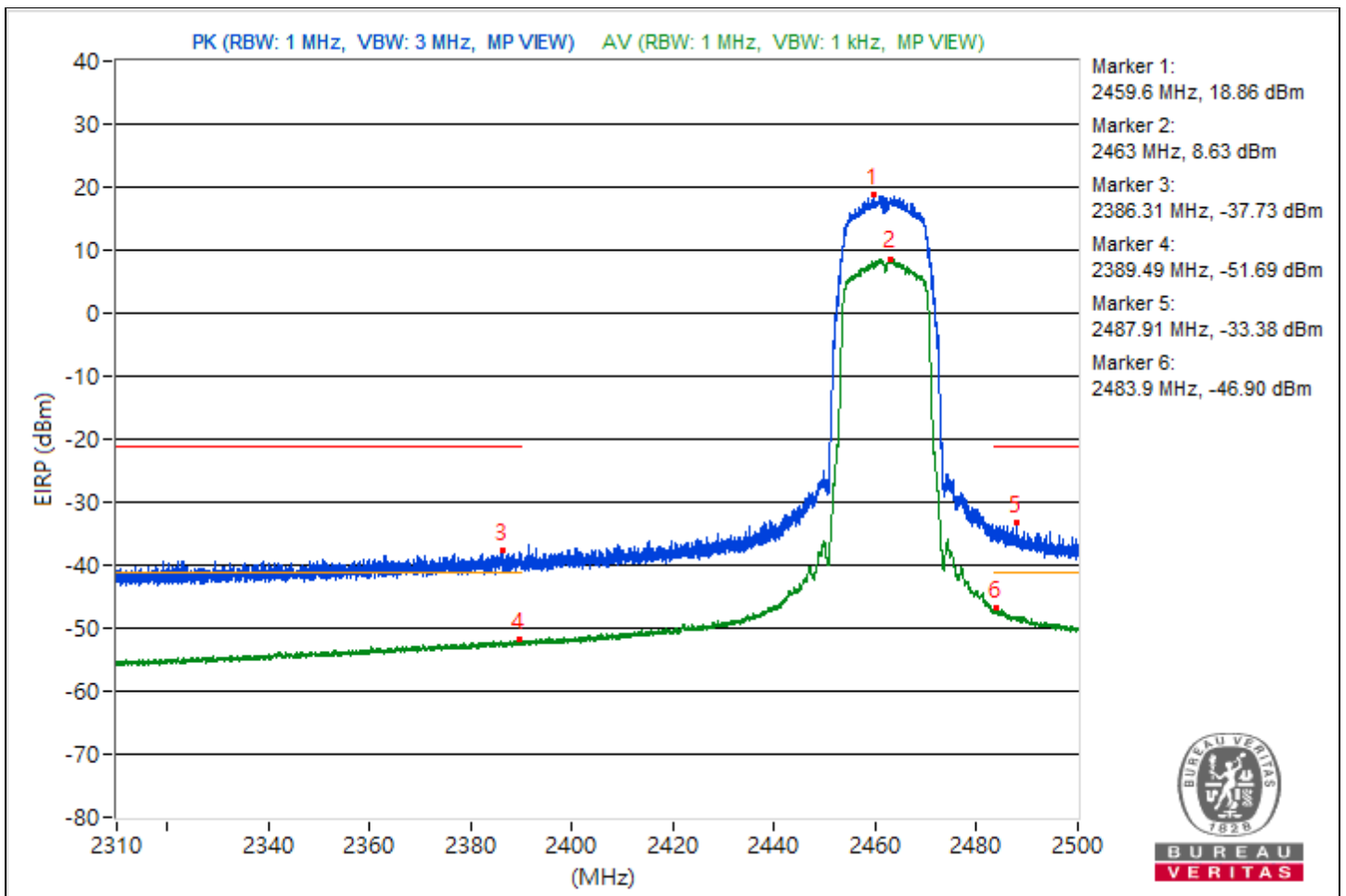


RF Mode	802.11g	Channel	CH 11 : 2462 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2459.6	114.12 PK	-	-	13.46	5.4	18.86
2	*2463	103.89 AV	-	-	3.23	5.4	8.63
3	2386.31	57.53 PK	74	-16.47	-43.13	5.4	-37.73
4	2389.49	43.57 AV	54	-10.43	-57.09	5.4	-51.69
5	2487.91	61.88 PK	74	-12.12	-38.78	5.4	-33.38
6	2483.9	48.36 AV	54	-5.64	-52.3	5.4	-46.9

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

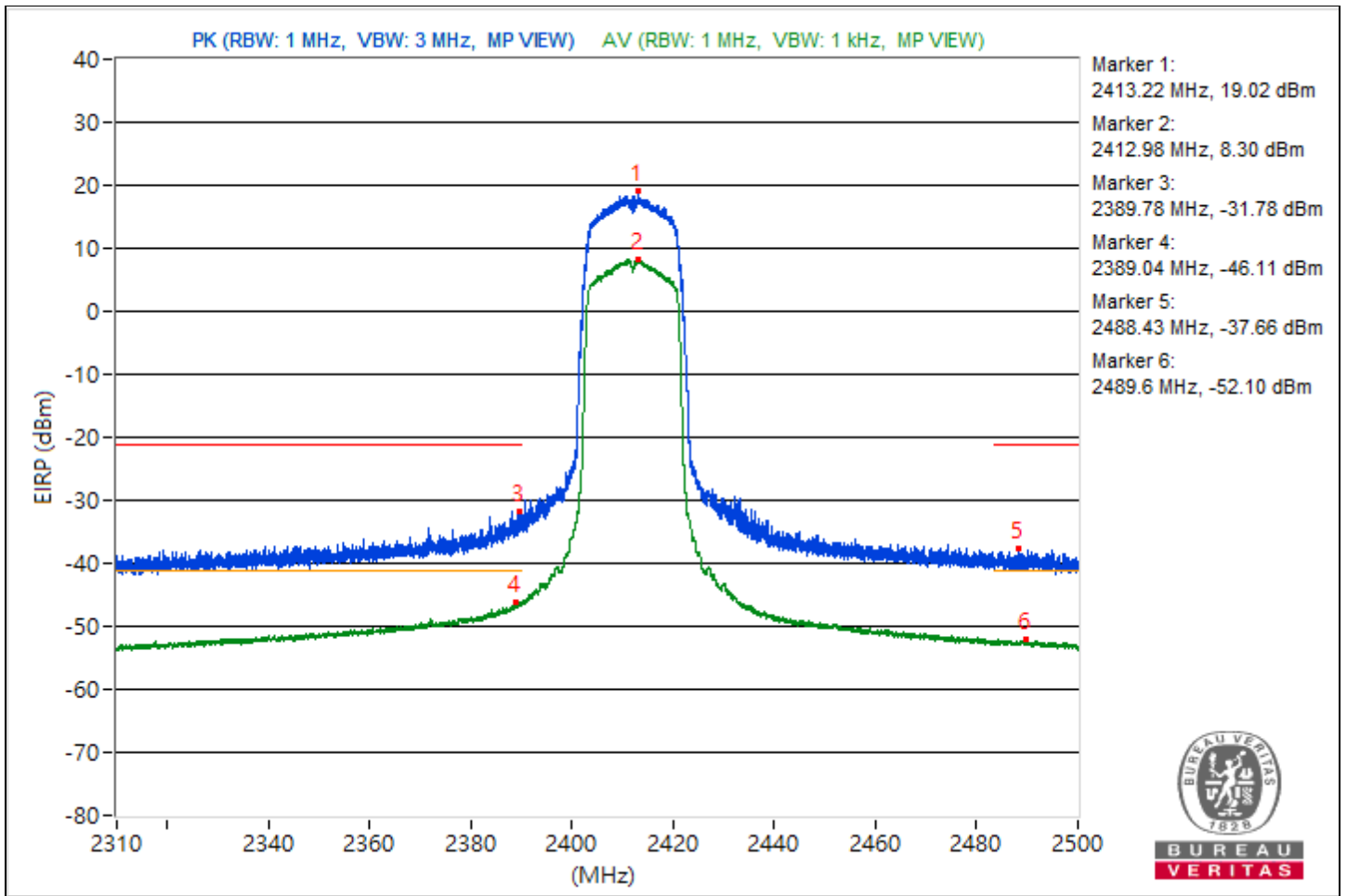


RF Mode	802.11n (HT20)	Channel	CH 1 : 2412 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2413.22	114.28 PK	-	-	13.62	5.4	19.02
2	*2412.98	103.56 AV	-	-	2.9	5.4	8.3
3	2389.78	63.48 PK	74	-10.52	-37.18	5.4	-31.78
4	2389.04	49.15 AV	54	-4.85	-51.51	5.4	-46.11
5	2488.43	57.6 PK	74	-16.4	-43.06	5.4	-37.66
6	2489.6	43.16 AV	54	-10.84	-57.5	5.4	-52.1

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

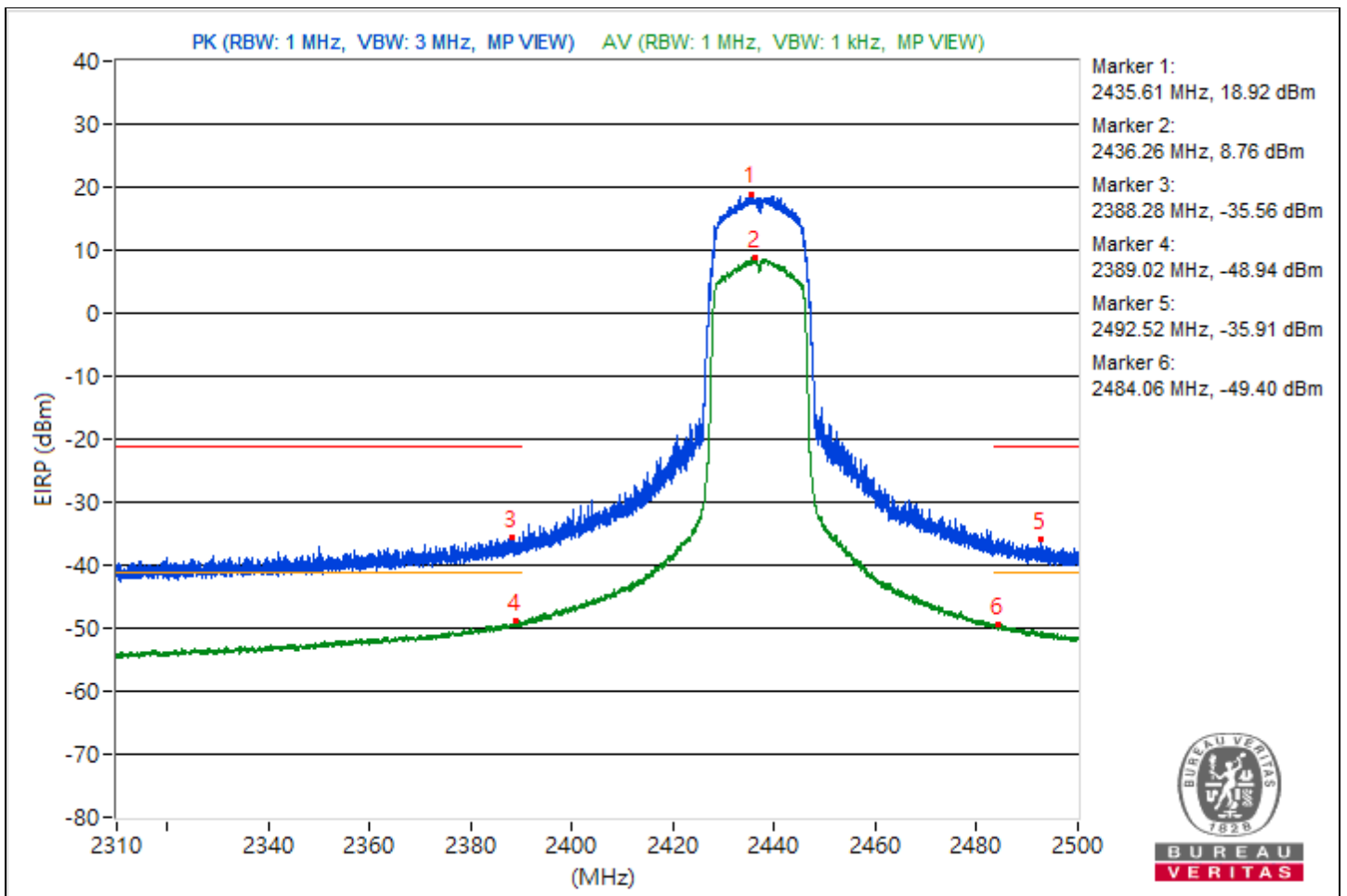


RF Mode	802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2435.61	114.18 PK	-	-	13.52	5.4	18.92
2	*2436.26	104.02 AV	-	-	3.36	5.4	8.76
3	2388.28	59.7 PK	74	-14.3	-40.96	5.4	-35.56
4	2389.02	46.32 AV	54	-7.68	-54.34	5.4	-48.94
5	2492.52	59.35 PK	74	-14.65	-41.31	5.4	-35.91
6	2484.06	45.86 AV	54	-8.14	-54.8	5.4	-49.4

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

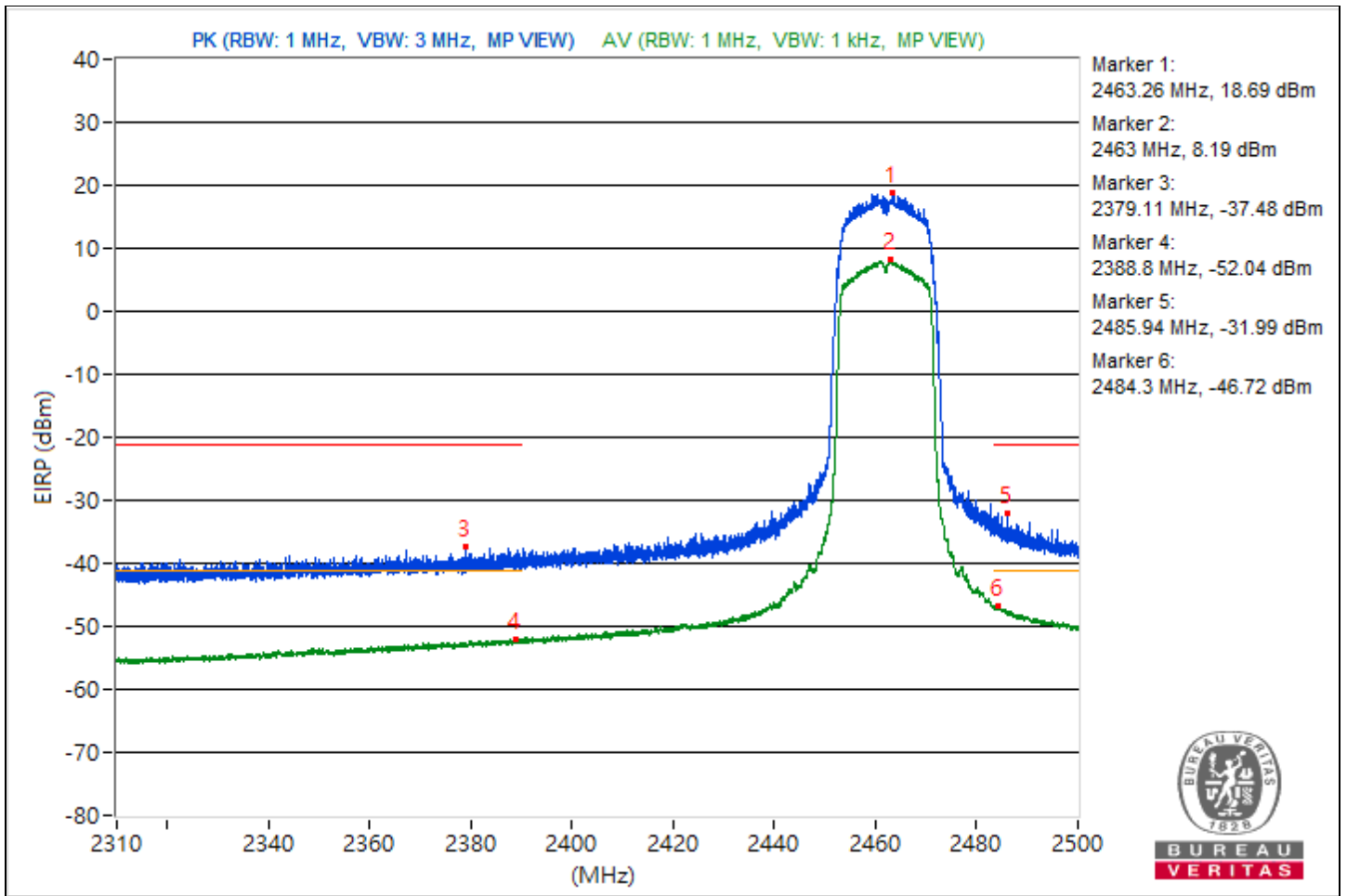


RF Mode	802.11n (HT20)	Channel	CH 11 : 2462 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2463.26	113.95 PK	-	-	13.29	5.4	18.69
2	*2463	103.45 AV	-	-	2.79	5.4	8.19
3	2379.11	57.78 PK	74	-16.22	-42.88	5.4	-37.48
4	2388.8	43.22 AV	54	-10.78	-57.44	5.4	-52.04
5	2485.94	63.27 PK	74	-10.73	-37.39	5.4	-31.99
6	2484.3	48.54 AV	54	-5.46	-52.12	5.4	-46.72

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

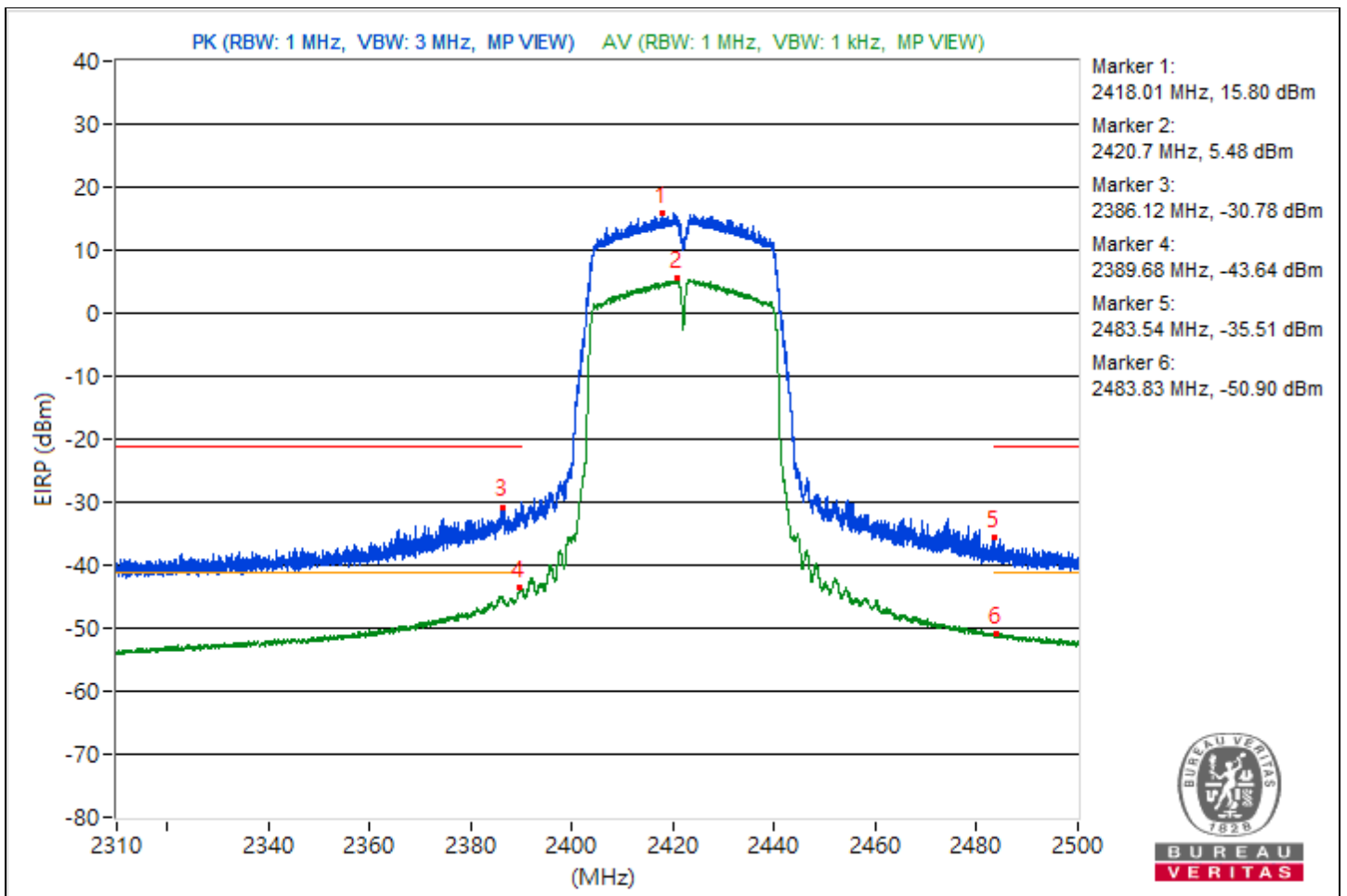


RF Mode	802.11n (HT40)	Channel	CH 3 : 2422 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2418.01	111.06 PK	-	-	10.4	5.4	15.8
2	*2420.7	100.74 AV	-	-	0.08	5.4	5.48
3	2386.12	64.48 PK	74	-9.52	-36.18	5.4	-30.78
4	2389.68	51.62 AV	54	-2.38	-49.04	5.4	-43.64
5	2483.54	59.75 PK	74	-14.25	-40.91	5.4	-35.51
6	2483.83	44.36 AV	54	-9.64	-56.3	5.4	-50.9

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

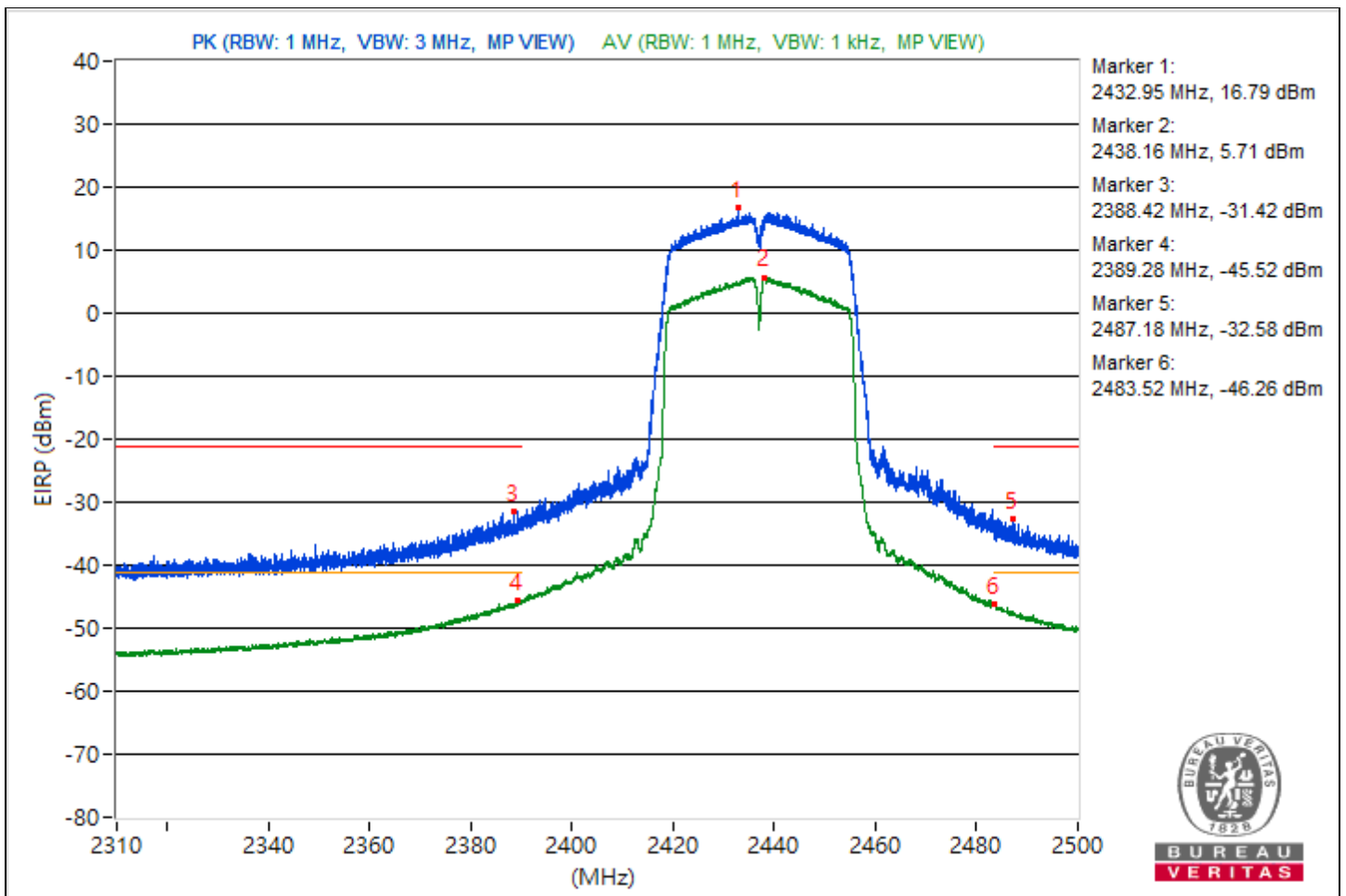


RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2432.95	112.05 PK	-	-	11.39	5.4	16.79
2	*2438.16	100.97 AV	-	-	0.31	5.4	5.71
3	2388.42	63.84 PK	74	-10.16	-36.82	5.4	-31.42
4	2389.28	49.74 AV	54	-4.26	-50.92	5.4	-45.52
5	2487.18	62.68 PK	74	-11.32	-37.98	5.4	-32.58
6	2483.52	49 AV	54	-5	-51.66	5.4	-46.26

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

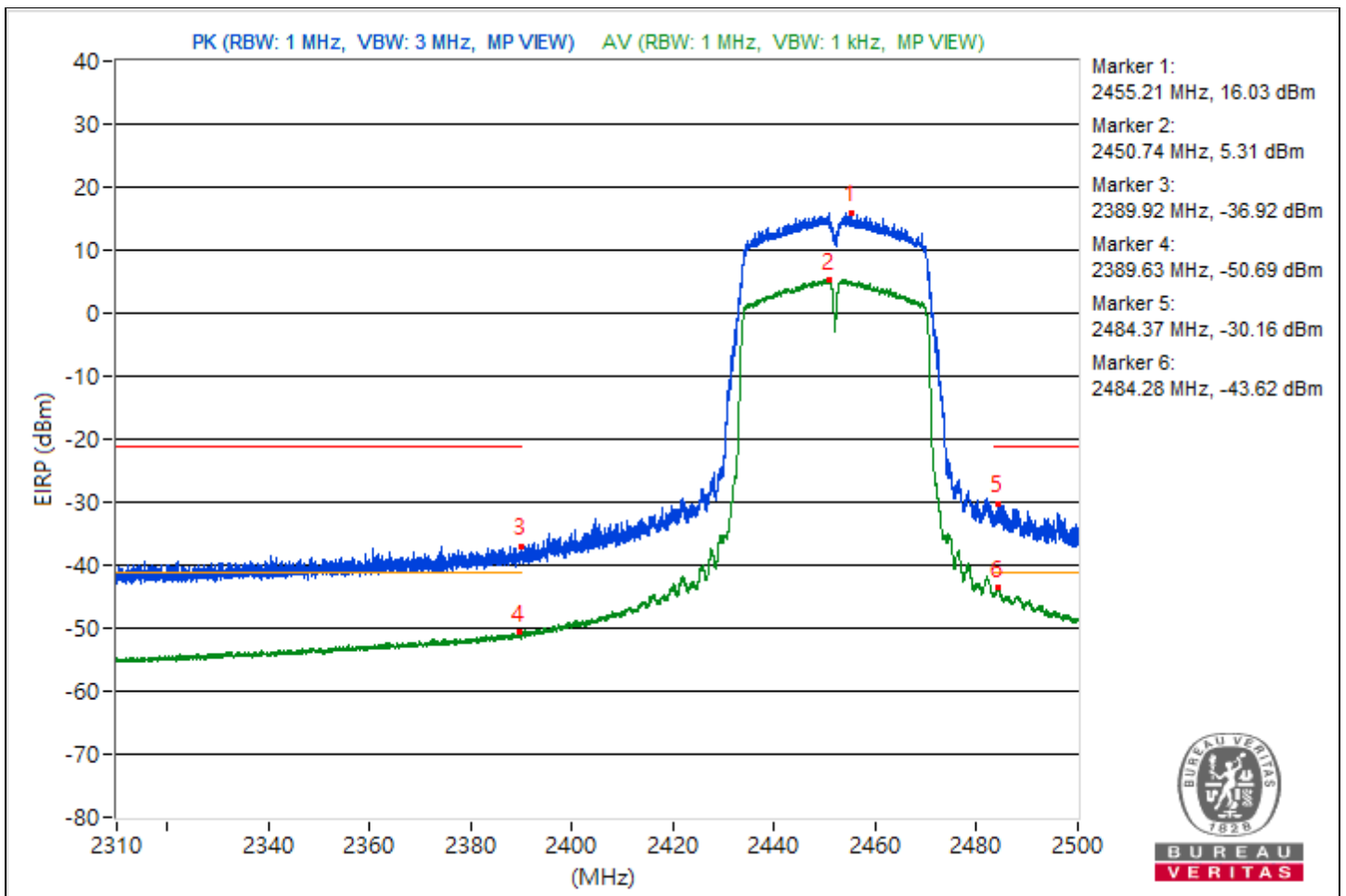


RF Mode	802.11n (HT40)	Channel	CH 9 : 2452 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2455.21	111.29 PK	-	-	10.63	5.4	16.03
2	*2450.74	100.57 AV	-	-	-0.09	5.4	5.31
3	2389.92	58.34 PK	74	-15.66	-42.32	5.4	-36.92
4	2389.63	44.57 AV	54	-9.43	-56.09	5.4	-50.69
5	2484.37	65.1 PK	74	-8.9	-35.56	5.4	-30.16
6	2484.28	51.64 AV	54	-2.36	-49.02	5.4	-43.62

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)



2TX

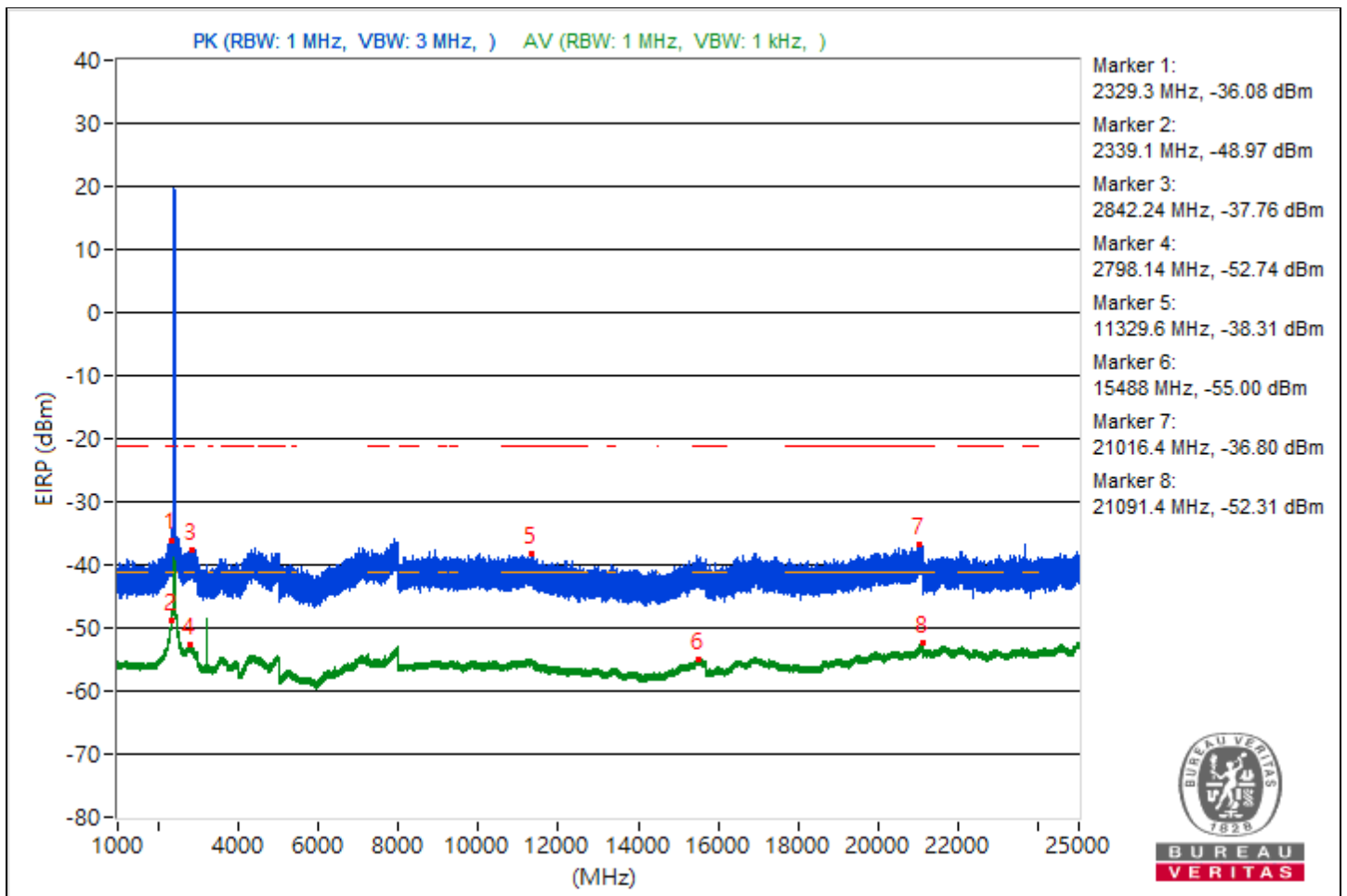
Conducted Unwanted Emissions

RF Mode	802.11n (HT20)	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	22°C, 70% RH	Tested By	Rex Wang

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2329.3	59.18 PK	74	-14.82	-46.89	-43.09	5.5	-36.08
2	2339.1	46.29 AV	54	-7.71	-57.37	-57.59	5.5	-48.97
3	2842.24	57.5 PK	74	-16.5	-48.28	-44.9	5.5	-37.76
4	2798.14	42.52 AV	54	-11.48	-61.81	-60.75	5.5	-52.74
5	11329.6	56.95 PK	74	-17.05	-50.66	-44.82	5.5	-38.31
6	15488	40.26 AV	54	-13.74	-63.11	-63.96	5.5	-55
7	21016.4	58.46 PK	74	-15.54	-43.79	-47.67	5.5	-36.8
8	21091.4	42.95 AV	54	-11.05	-60.93	-60.71	5.5	-52.31

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

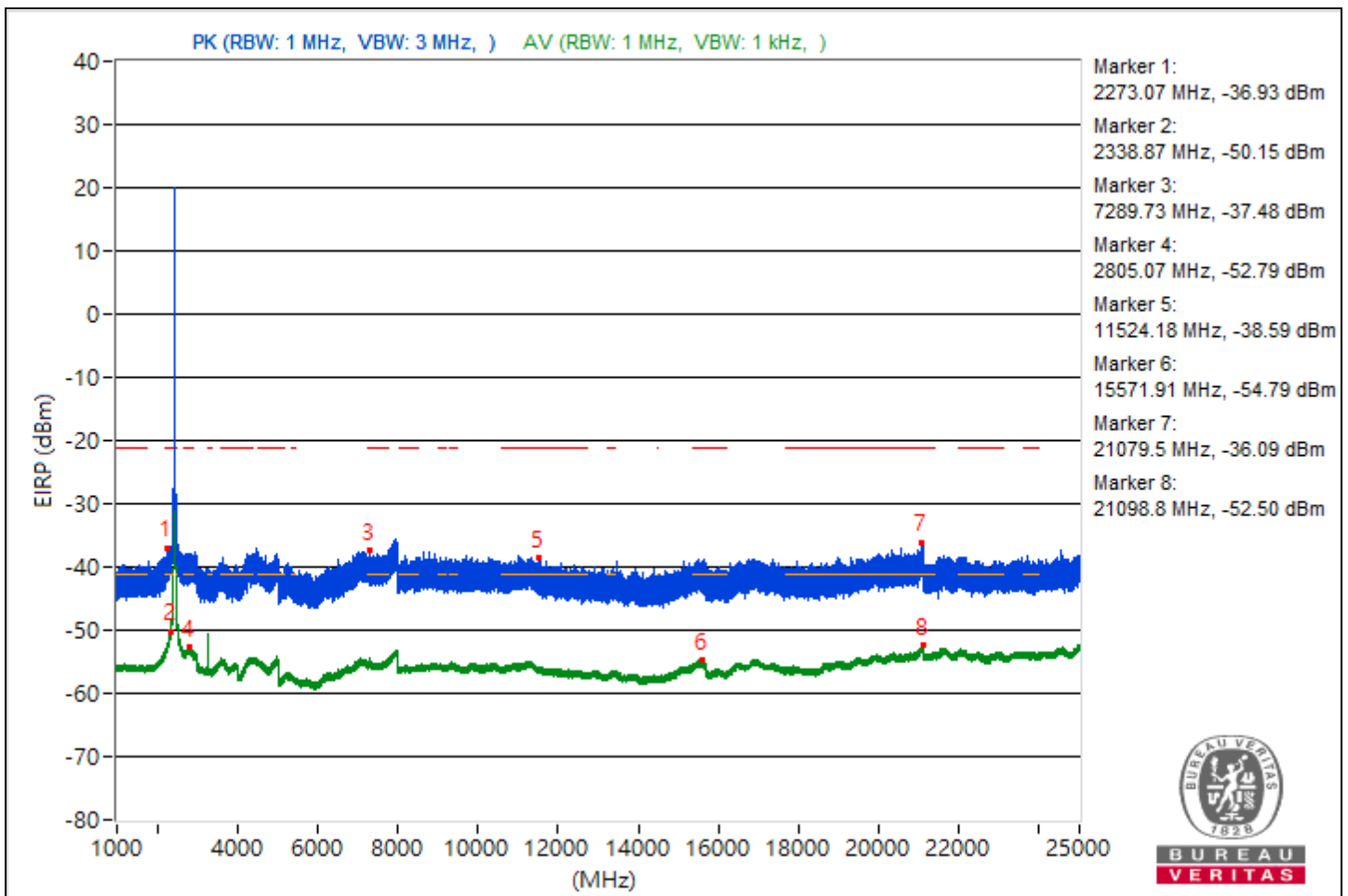


RF Mode	802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	22°C, 70% RH	Tested By	Rex Wang

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2273.07	58.33 PK	74	-15.67	-43.47	-49.16	5.5	-36.93
2	2338.87	45.11 AV	54	-8.89	-58.97	-58.37	5.5	-50.15
3	7289.73	57.78 PK	74	-16.22	-44.49	-48.3	5.5	-37.48
4	2805.07	42.47 AV	54	-11.53	-61.02	-61.6	5.5	-52.79
5	11524.18	56.67 PK	74	-17.33	-49.36	-45.62	5.5	-38.59
6	15571.91	40.47 AV	54	-13.53	-63.53	-63.09	5.5	-54.79
7	21079.5	59.17 PK	74	-14.83	-45.1	-44.15	5.5	-36.09
8	21098.8	42.76 AV	54	-11.24	-60.76	-61.26	5.5	-52.5

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

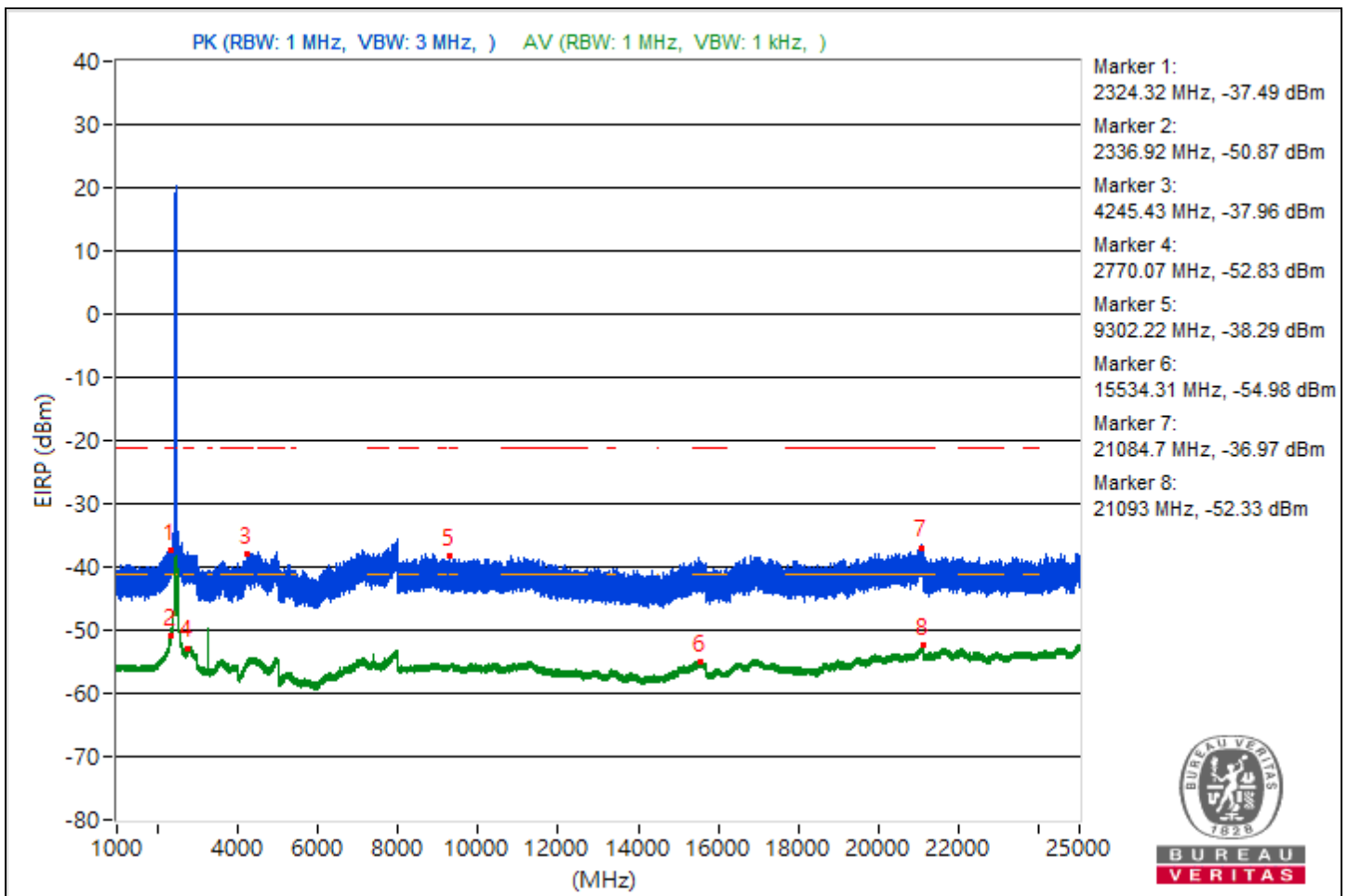


RF Mode	802.11n (HT20)	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	22°C, 70% RH	Tested By	Rex Wang

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2324.32	57.77 PK	74	-16.23	-44.59	-48.09	5.5	-37.49
2	2336.92	44.39 AV	54	-9.61	-60.31	-58.61	5.5	-50.87
3	4245.43	57.3 PK	74	-16.7	-44.61	-49.8	5.5	-37.96
4	2770.07	42.43 AV	54	-11.57	-61.05	-61.66	5.5	-52.83
5	9302.22	56.97 PK	74	-17.03	-45.45	-48.79	5.5	-38.29
6	15534.31	40.28 AV	54	-13.72	-63	-64.05	5.5	-54.98
7	21084.7	58.29 PK	74	-15.71	-43.86	-48.08	5.5	-36.97
8	21093	42.93 AV	54	-11.07	-60.68	-61	5.5	-52.33

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

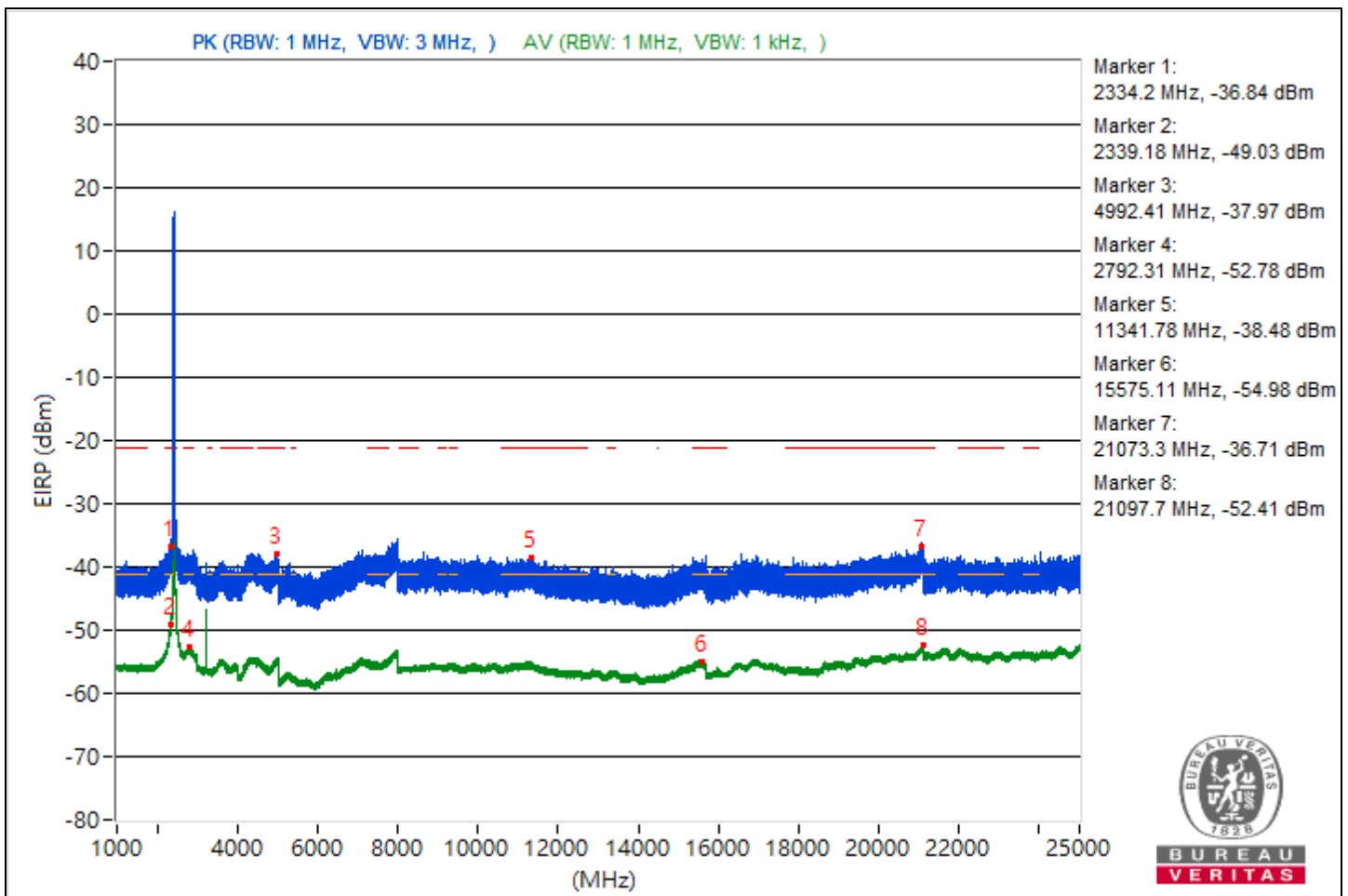


RF Mode	802.11n (HT40)	Channel	CH 3 : 2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	22°C, 70% RH	Tested By	Rex Wang

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2334.2	58.42 PK	74	-15.58	-47.33	-43.99	5.5	-36.84
2	2339.18	46.23 AV	54	-7.77	-57.6	-57.49	5.5	-49.03
3	4992.41	57.29 PK	74	-16.71	-44.72	-49.5	5.5	-37.97
4	2792.31	42.48 AV	54	-11.52	-61.6	-61	5.5	-52.78
5	11341.78	56.78 PK	74	-17.22	-48.9	-45.66	5.5	-38.48
6	15575.11	40.28 AV	54	-13.72	-63.12	-63.89	5.5	-54.98
7	21073.3	58.55 PK	74	-15.45	-44.17	-46.62	5.5	-36.71
8	21097.7	42.85 AV	54	-11.15	-60.6	-61.27	5.5	-52.41

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)



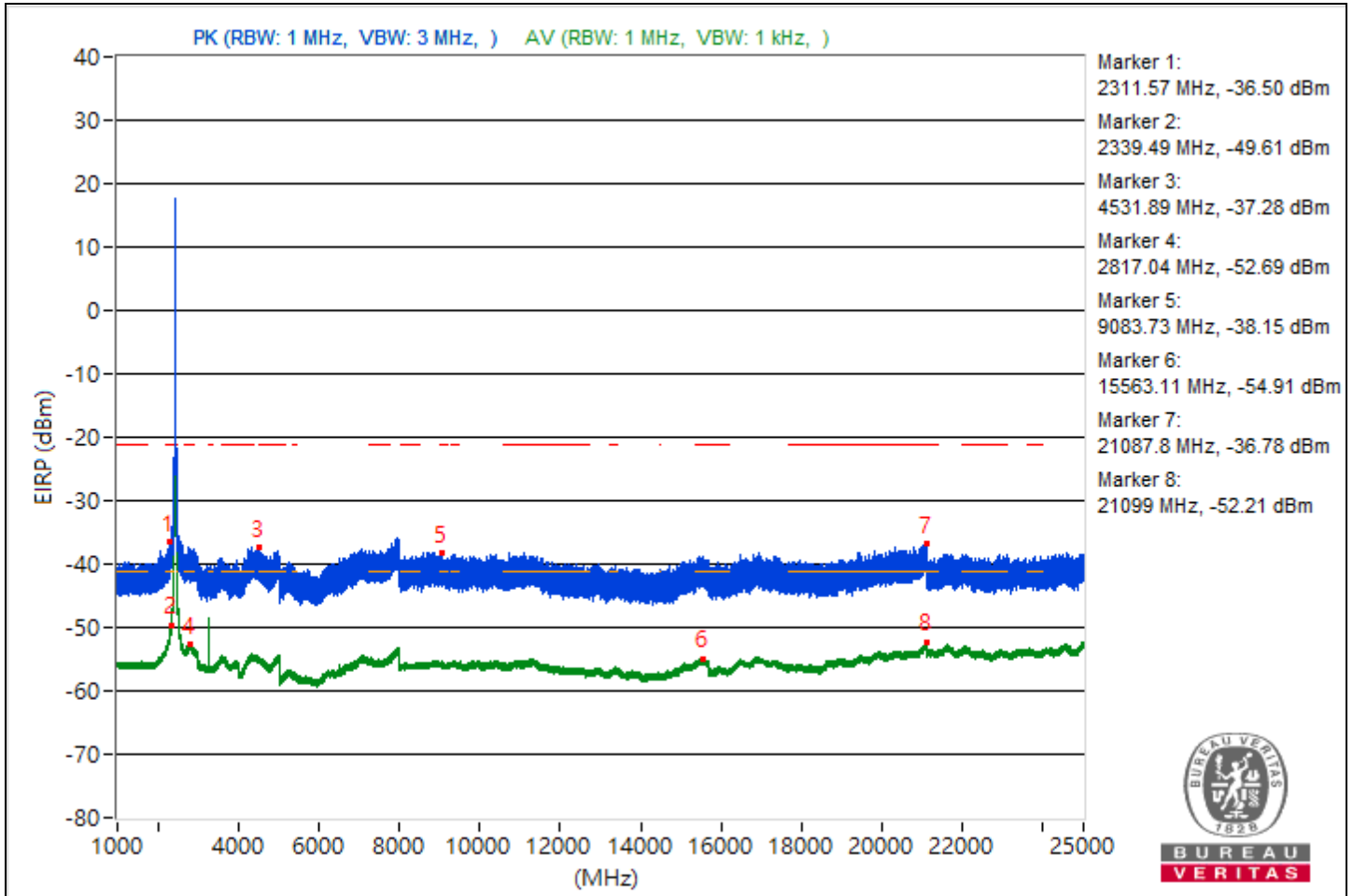


RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	22°C, 70% RH	Tested By	Rex Wang

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2311.57	58.76 PK	74	-15.24	-43.24	-48.04	5.5	-36.5
2	2339.49	45.65 AV	54	-8.35	-58.51	-57.77	5.5	-49.61
3	4531.89	57.98 PK	74	-16.02	-49.3	-43.87	5.5	-37.28
4	2817.04	42.57 AV	54	-11.43	-61.04	-61.37	5.5	-52.69
5	9083.73	57.11 PK	74	-16.89	-45.55	-48.15	5.5	-38.15
6	15563.11	40.35 AV	54	-13.65	-63.8	-63.07	5.5	-54.91
7	21087.8	58.48 PK	74	-15.52	-48.82	-43.37	5.5	-36.78
8	21099	43.05 AV	54	-10.95	-60.46	-61	5.5	-52.21

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

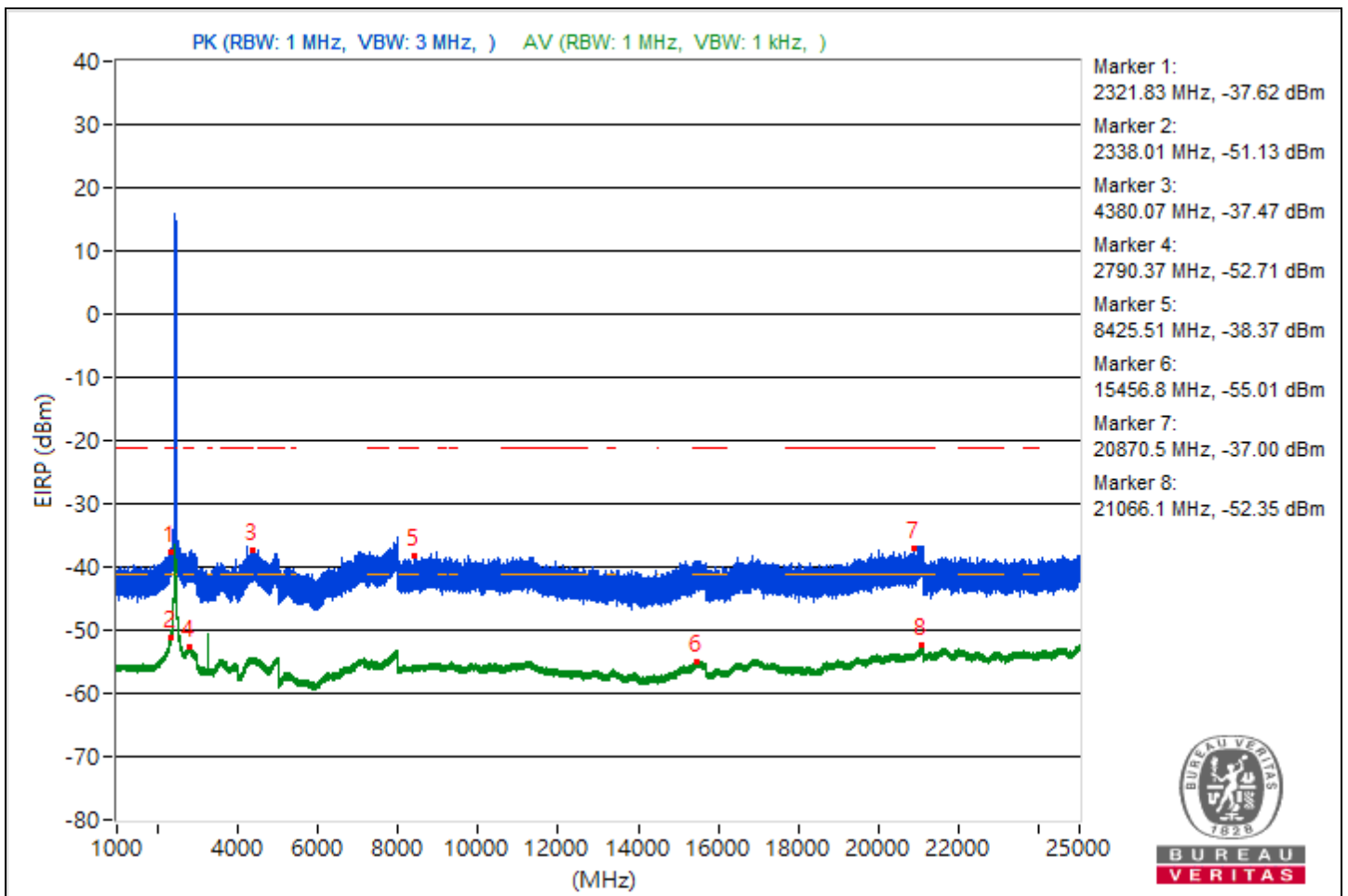


RF Mode	802.11n (HT40)	Channel	CH 9 : 2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Input Power	3.3 Vdc
Environmental Conditions	22°C, 70% RH	Tested By	Rex Wang

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	2321.83	57.64 PK	74	-16.36	-44.4	-49.06	5.5	-37.62
2	2338.01	44.13 AV	54	-9.87	-59.49	-59.8	5.5	-51.13
3	4380.07	57.79 PK	74	-16.21	-44.07	-49.46	5.5	-37.47
4	2790.37	42.55 AV	54	-11.45	-61.59	-60.87	5.5	-52.71
5	8425.51	56.89 PK	74	-17.11	-44.76	-51.17	5.5	-38.37
6	15456.8	40.25 AV	54	-13.75	-64.03	-63.06	5.5	-55.01
7	20870.5	58.26 PK	74	-15.74	-48.91	-43.63	5.5	-37
8	21066.1	42.91 AV	54	-11.09	-60.55	-61.2	5.5	-52.35

Note:

1. Margin value = Emission Level - Limit value
2. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)



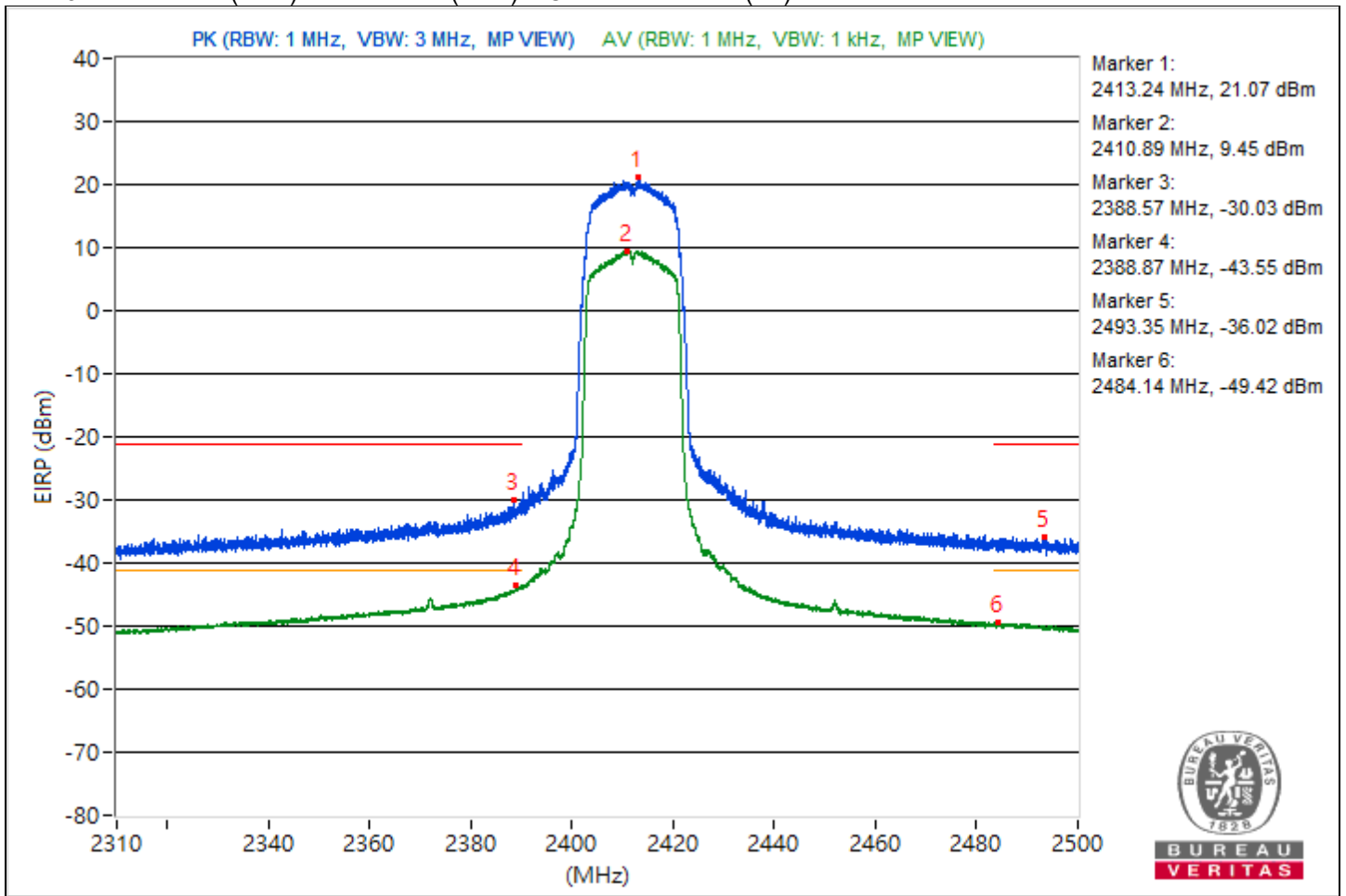
Conducted Band Edges

RF Mode	802.11n (HT20)	Channel	CH 1 : 2412 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge								
No.	Frequency (MHz)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2413.24	116.33 PK	-	-	11.15	14.97	4.59	21.07
2	*2410.89	104.71 AV	-	-	1.45	2.22	4.59	9.45
3	2388.57	65.23 PK	74	-8.77	-40.37	-35.96	4.59	-30.03
4	2388.87	51.71 AV	54	-2.29	-51.7	-50.66	4.59	-43.55
5	2493.35	59.24 PK	74	-14.76	-45.73	-42.21	4.59	-36.02
6	2484.14	45.84 AV	54	-8.16	-58.18	-56.11	4.59	-49.42

Notes:

1. Margin value = Emission Level - Limit value
2. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

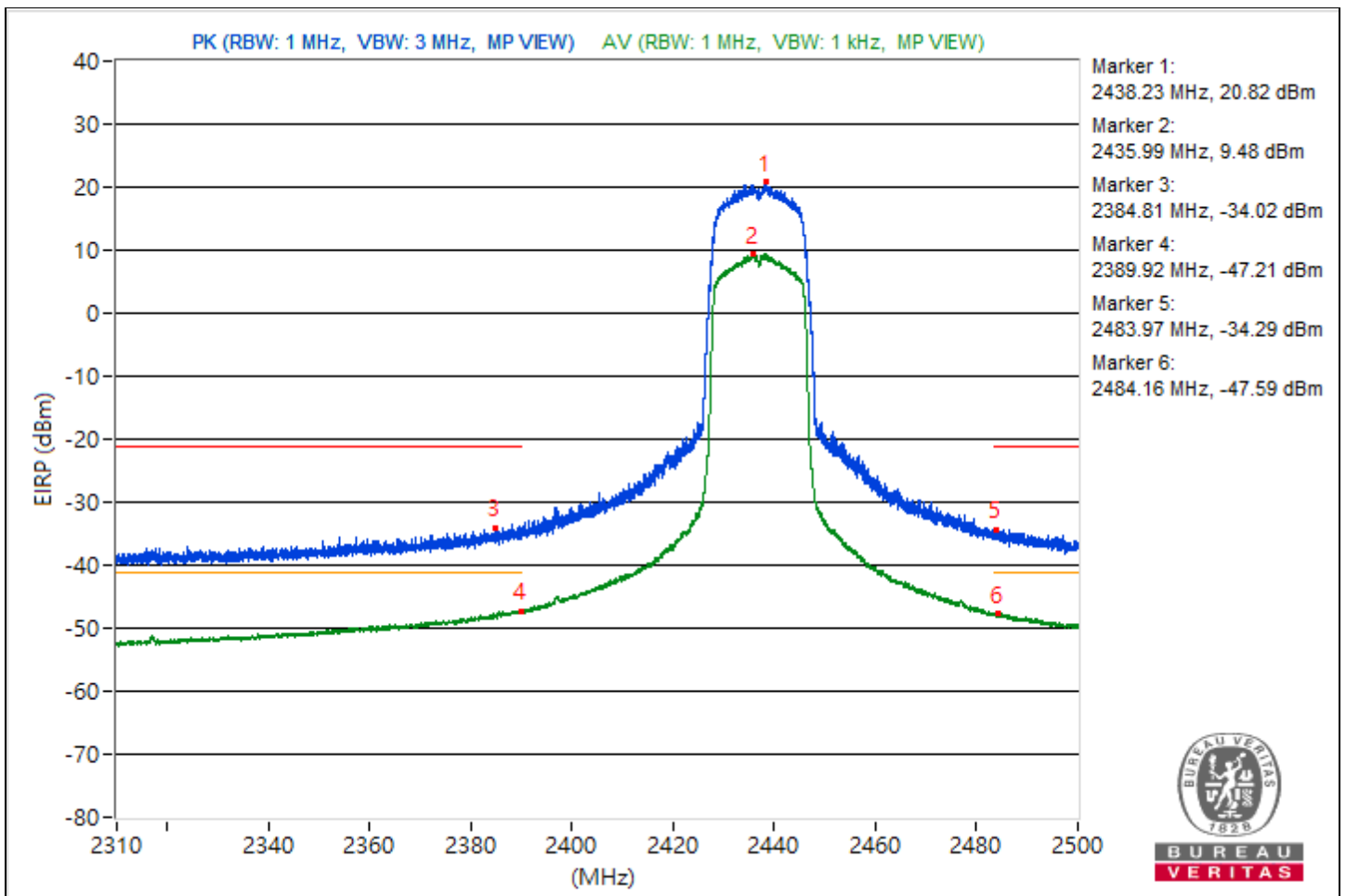


RF Mode	802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2438.23	116.08 PK	-	-	10.95	14.71	4.59	20.82
2	*2435.99	104.74 AV	-	-	1.91	1.85	4.59	9.48
3	2384.81	61.24 PK	74	-12.76	-43.63	-40.25	4.59	-34.02
4	2389.92	48.05 AV	54	-5.95	-55.43	-54.26	4.59	-47.21
5	2483.97	60.97 PK	74	-13.03	-41.37	-42.48	4.59	-34.29
6	2484.16	47.67 AV	54	-6.33	-55.67	-54.76	4.59	-47.59

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

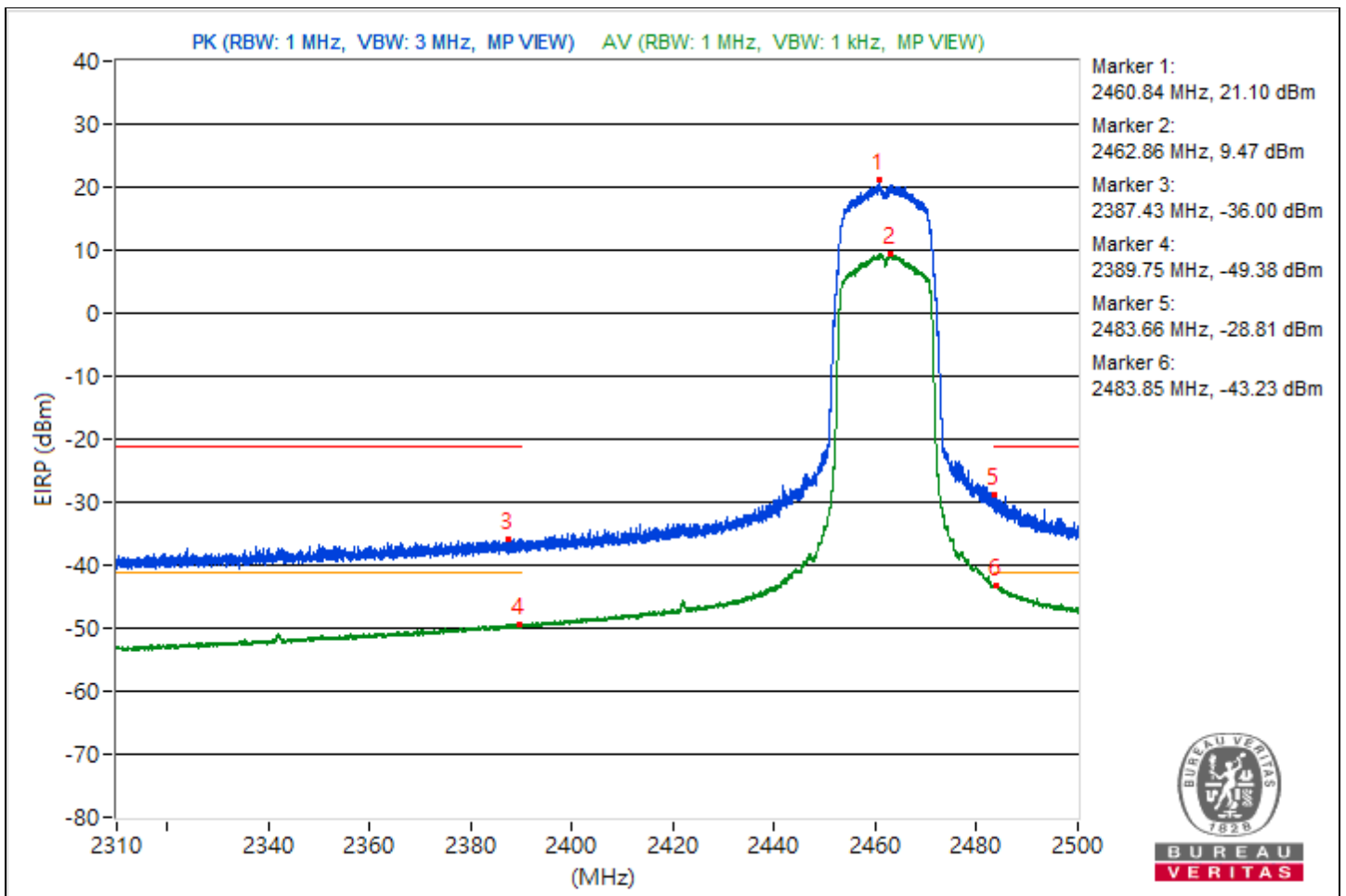


RF Mode	802.11n (HT20)	Channel	CH 11 : 2462 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2460.84	116.36 PK	-	-	12.27	14.45	4.59	21.1
2	*2462.86	104.73 AV	-	-	1.6	2.11	4.59	9.47
3	2387.43	59.26 PK	74	-14.74	-45.76	-42.17	4.59	-36
4	2389.75	45.88 AV	54	-8.12	-58.3	-55.97	4.59	-49.38
5	2483.66	66.45 PK	74	-7.55	-37.5	-35.54	4.59	-28.81
6	2483.85	52.03 AV	54	-1.97	-53.24	-49.29	4.59	-43.23

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

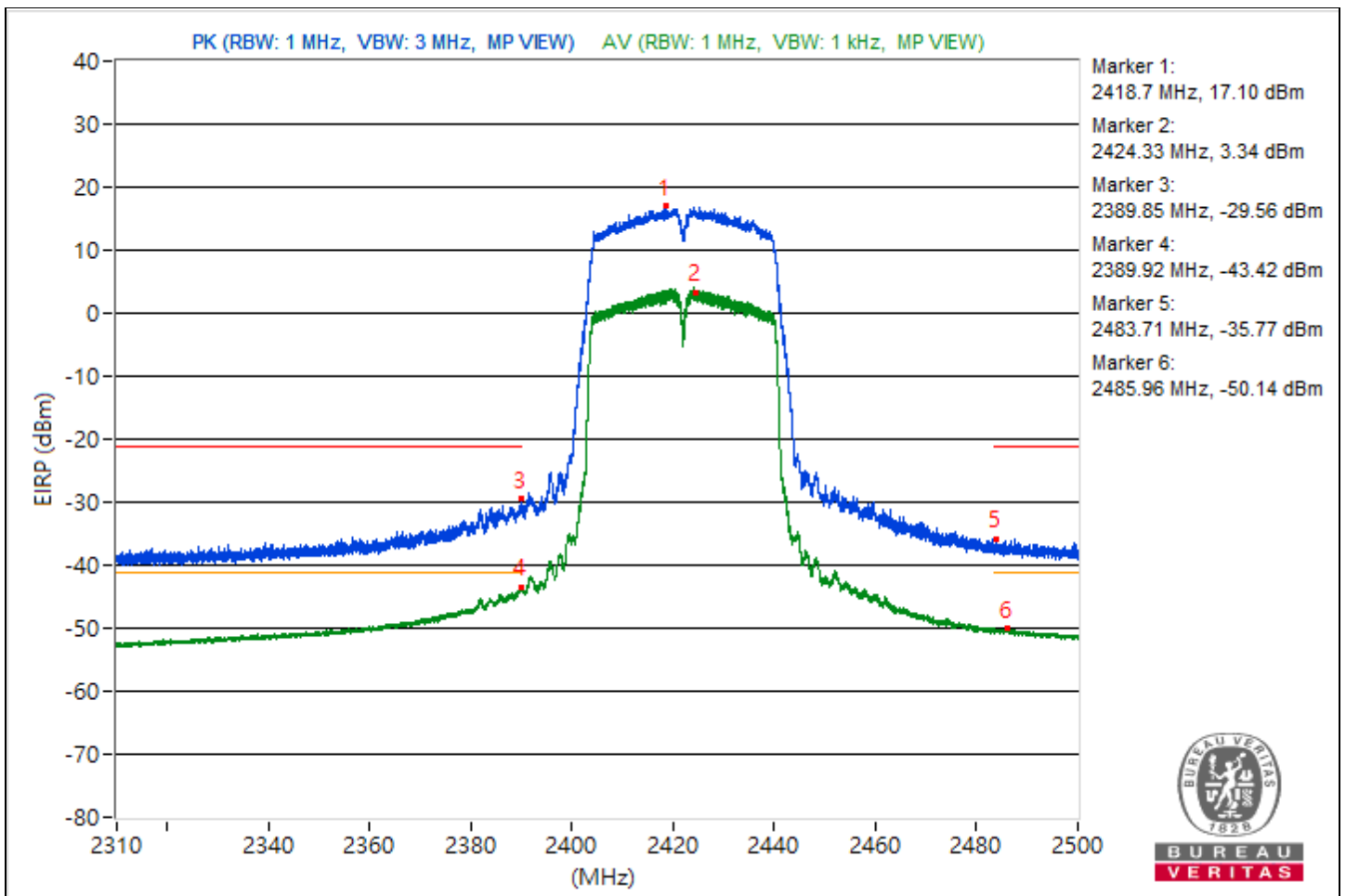


RF Mode	802.11n (HT40)	Channel	CH 3 : 2422 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2418.7	112.36 PK	-	-	8.06	10.57	4.59	17.1
2	*2424.33	98.6 AV	-	-	-5.54	-3.27	4.59	3.34
3	2389.85	65.7 PK	74	-8.3	-39.63	-35.59	4.59	-29.56
4	2389.92	51.84 AV	54	-2.16	-52.28	-50.05	4.59	-43.42
5	2483.71	59.49 PK	74	-14.51	-43.67	-43.1	4.59	-35.77
6	2485.96	45.12 AV	54	-8.88	-59.16	-56.67	4.59	-50.14

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

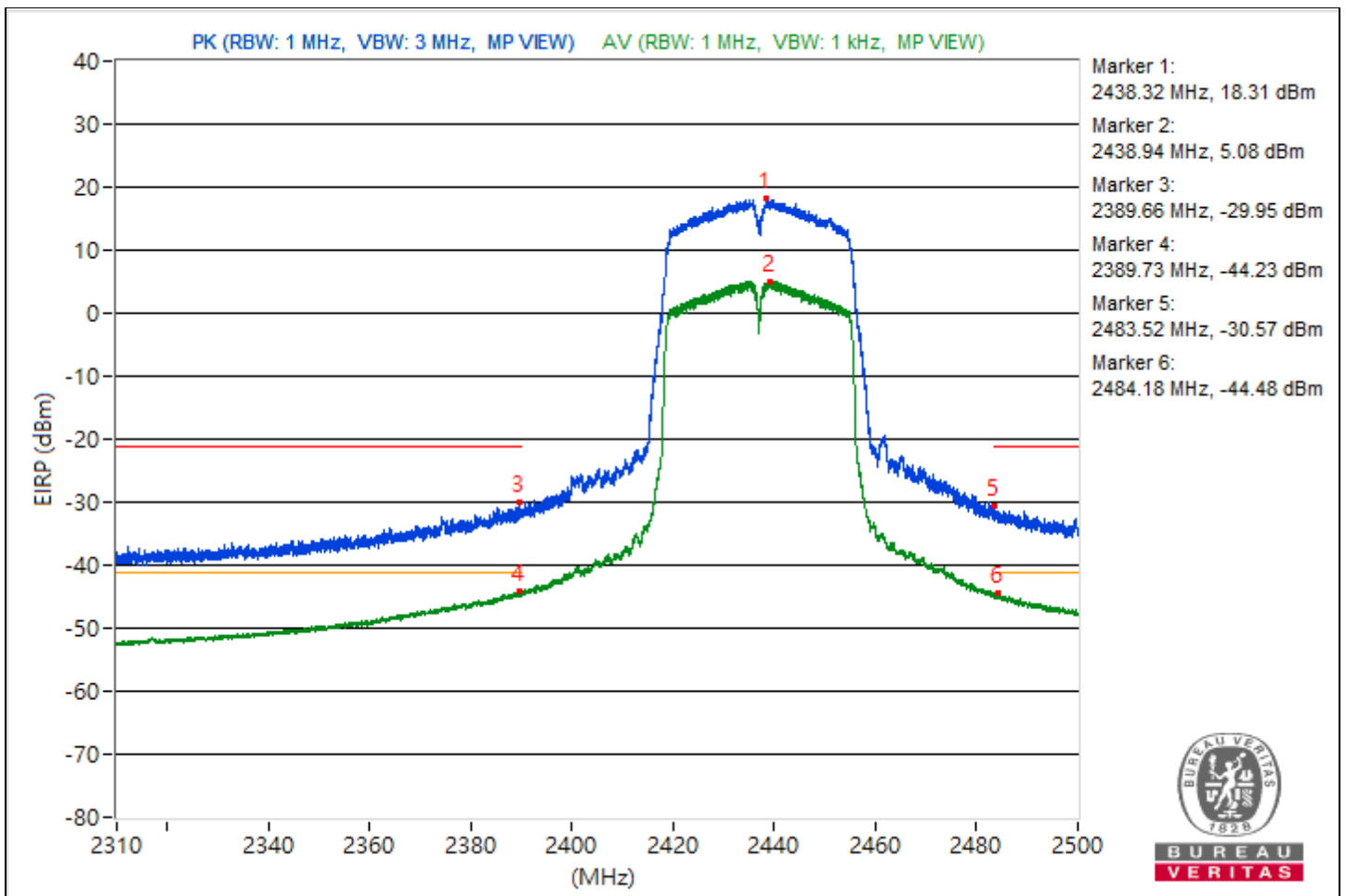


RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2438.32	113.57 PK	-	-	8.53	12.16	4.59	18.31
2	*2438.94	100.34 AV	-	-	-2.34	-2.7	4.59	5.08
3	2389.66	65.31 PK	74	-8.69	-38.58	-36.71	4.59	-29.95
4	2389.73	51.03 AV	54	-2.97	-51.7	-51.97	4.59	-44.23
5	2483.52	64.69 PK	74	-9.31	-36.83	-40.11	4.59	-30.57
6	2484.18	50.78 AV	54	-3.22	-52.48	-51.71	4.59	-44.48

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)

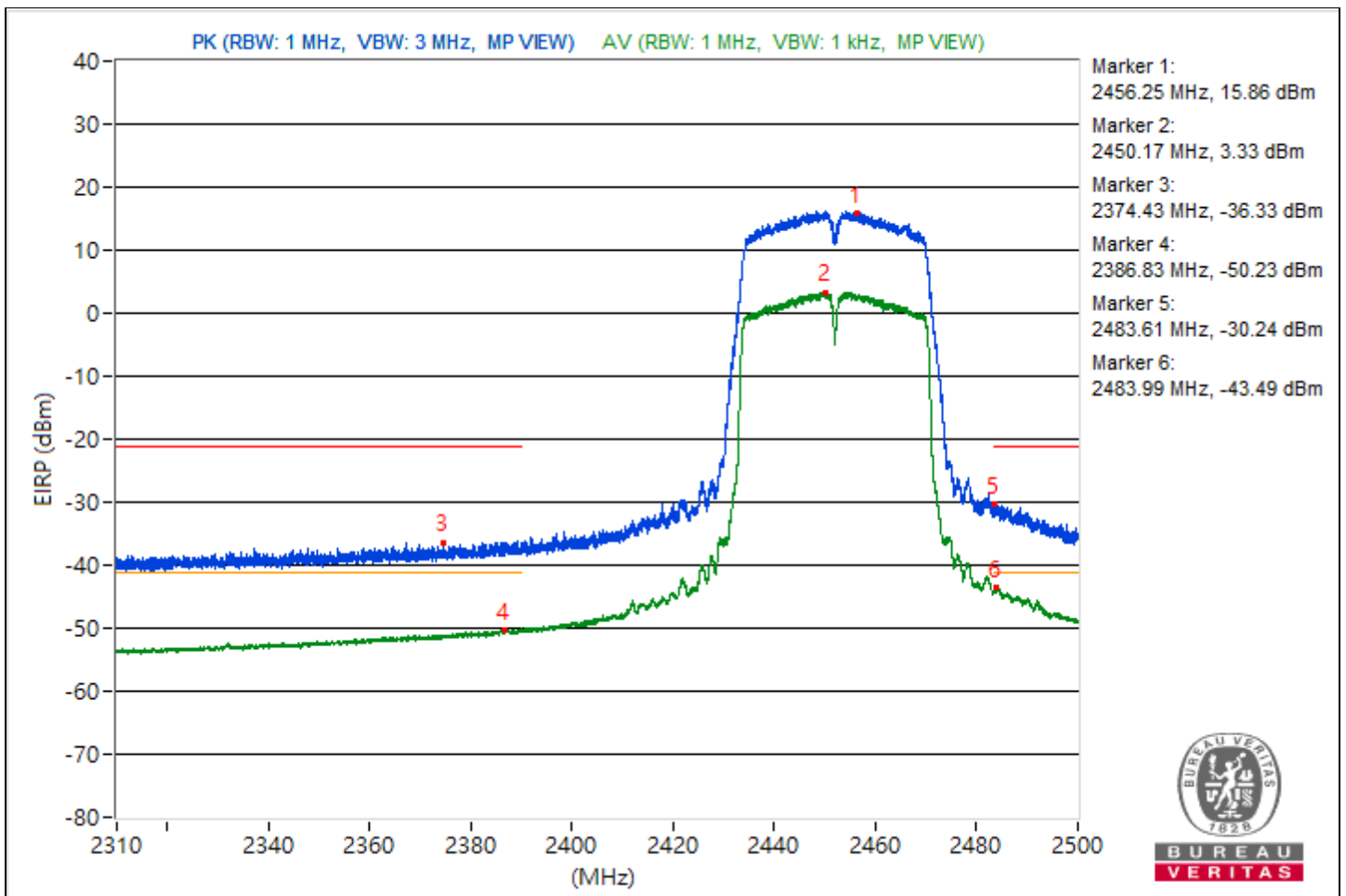


RF Mode	802.11n (HT40)	Channel	CH 9 : 2452 MHz
Frequency Range	2.31 GHz ~ 2.5 GHz	Input Power	3.3 Vdc
Environmental Conditions	25°C, 60% RH	Tested By	Rex Wang

Conducted Band Edge								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*2456.25	111.12 PK	-	-	6.03	9.73	4.59	15.86
2	*2450.17	98.59 AV	-	-	-4.78	-3.82	4.59	3.33
3	2374.43	58.93 PK	74	-15.07	-46.86	-42.19	4.59	-36.33
4	2386.83	45.03 AV	54	-8.97	-59.3	-56.74	4.59	-50.23
5	2483.61	65.02 PK	74	-8.98	-40.32	-36.26	4.59	-30.24
6	2483.99	51.77 AV	54	-2.23	-52.72	-49.91	4.59	-43.49

Notes:

1. Margin value = Emission Level - Limit value
2. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
3. EIRP Level (dBm) = Raw Value (dBm) + Correction Factor (dB)



Mode B_1TX

RF Mode	802.11b	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4824.00	49.6 PK	74.0	-24.4	2.32 H	146	45.3	4.3
2	4824.00	36.1 AV	54.0	-17.9	2.32 H	146	31.8	4.3

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	4824.00	49.9 PK	74.0	-24.1	1.43 V	265	45.6	4.3
2	4824.00	36.6 AV	54.0	-17.4	1.43 V	265	32.3	4.3

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.

RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4874.00	49.7 PK	74.0	-24.3	2.71 H	129	45.5	4.2
2	4874.00	36.4 AV	54.0	-17.6	2.71 H	129	32.2	4.2
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	4874.00	50.1 PK	74.0	-23.9	1.78 V	32	45.9	4.2
2	4874.00	37.0 AV	54.0	-17.0	1.78 V	32	32.8	4.2

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.



RF Mode	802.11b	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4924.00	49.3 PK	74.0	-24.7	1.63 H	209	45.2	4.1
2	4924.00	35.8 AV	54.0	-18.2	1.63 H	209	31.7	4.1
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	4924.00	49.8 PK	74.0	-24.2	2.34 V	165	45.7	4.1
2	4924.00	36.3 AV	54.0	-17.7	2.34 V	165	32.2	4.1

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.

RF Mode	802.11g	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4824.00	49.9 PK	74.0	-24.1	1.92 H	225	45.6	4.3
2	4824.00	36.7 AV	54.0	-17.3	1.92 H	225	32.4	4.3
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	4824.00	50.2 PK	74.0	-23.8	2.36 V	178	45.9	4.3
2	4824.00	37.2 AV	54.0	-16.8	2.36 V	178	32.9	4.3

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.

RF Mode	802.11g	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4874.00	49.3 PK	74.0	-24.7	1.16 H	205	45.1	4.2
2	4874.00	36.2 AV	54.0	-17.8	1.16 H	205	32.0	4.2
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	4874.00	49.7 PK	74.0	-24.3	2.30 V	142	45.5	4.2
2	4874.00	36.6 AV	54.0	-17.4	2.30 V	142	32.4	4.2

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.

RF Mode	802.11g	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4924.00	49.4 PK	74.0	-24.6	2.36 H	141	45.3	4.1
2	4924.00	35.9 AV	54.0	-18.1	2.36 H	141	31.8	4.1
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	4924.00	49.8 PK	74.0	-24.2	1.16 V	204	45.7	4.1
2	4924.00	36.5 AV	54.0	-17.5	1.16 V	204	32.4	4.1

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.



RF Mode	802.11n (HT20)	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4824.00	48.7 PK	74.0	-25.3	2.63 H	188	44.4	4.3
2	4824.00	36.4 AV	54.0	-17.6	2.63 H	188	32.1	4.3

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	4824.00	50.0 PK	74.0	-24.0	1.76 V	204	45.7	4.3
2	4824.00	36.9 AV	54.0	-17.1	1.76 V	204	32.6	4.3

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.



RF Mode	802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4874.00	49.5 PK	74.0	-24.5	1.46 H	197	45.3	4.2
2	4874.00	36.8 AV	54.0	-17.2	1.46 H	197	32.6	4.2
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	4874.00	50.0 PK	74.0	-24.0	2.08 V	132	45.8	4.2
2	4874.00	37.3 AV	54.0	-16.7	2.08 V	132	33.1	4.2

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.



RF Mode	802.11n (HT20)	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4924.00	49.4 PK	74.0	-24.6	2.27 H	141	45.3	4.1
2	4924.00	36.2 AV	54.0	-17.8	2.27 H	141	32.1	4.1
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	4924.00	49.8 PK	74.0	-24.2	1.69 V	205	45.7	4.1
2	4924.00	36.6 AV	54.0	-17.4	1.69 V	205	32.5	4.1

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.



RF Mode	802.11n (HT40)	Channel	CH 3 : 2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4844.00	49.8 PK	74.0	-24.2	1.97 H	156	45.5	4.3
2	4844.00	36.7 AV	54.0	-17.3	1.97 H	156	32.4	4.3
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	4844.00	50.1 PK	74.0	-23.9	2.38 V	110	45.8	4.3
2	4844.00	37.1 AV	54.0	-16.9	2.38 V	110	32.8	4.3

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.



RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4874.00	48.7 PK	74.0	-25.3	1.06 H	298	44.5	4.2
2	4874.00	36.3 AV	54.0	-17.7	1.06 H	298	32.1	4.2
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	4874.00	49.5 PK	74.0	-24.5	2.08 V	177	45.3	4.2
2	4874.00	36.6 AV	54.0	-17.4	2.08 V	177	32.4	4.2

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.

RF Mode	802.11n (HT40)	Channel	CH 9 : 2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4904.00	48.7 PK	74.0	-25.3	3.05 H	174	44.5	4.2
2	4904.00	35.5 AV	54.0	-18.5	3.05 H	174	31.3	4.2
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	4904.00	49.4 PK	74.0	-24.6	1.93 V	151	45.2	4.2
2	4904.00	36.0 AV	54.0	-18.0	1.93 V	151	31.8	4.2

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.

Mode B_2TX

RF Mode	802.11n (HT20)	Channel	CH 1 : 2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4824.00	50.0 PK	74.0	-24.0	2.63 H	178	45.7	4.3
2	4824.00	36.3 AV	54.0	-17.7	2.63 H	178	32.0	4.3
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	4824.00	50.4 PK	74.0	-23.6	1.68 V	224	46.1	4.3
2	4824.00	36.9 AV	54.0	-17.1	1.68 V	224	32.6	4.3

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.



RF Mode	802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4874.00	49.8 PK	74.0	-24.2	3.14 H	196	45.6	4.2
2	4874.00	36.6 AV	54.0	-17.4	3.14 H	196	32.4	4.2
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	4874.00	50.1 PK	74.0	-23.9	1.57 V	249	45.9	4.2
2	4874.00	37.1 AV	54.0	-16.9	1.57 V	249	32.9	4.2

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.



RF Mode	802.11n (HT20)	Channel	CH 11 : 2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4924.00	49.3 PK	74.0	-24.7	1.65 H	144	45.2	4.1
2	4924.00	36.3 AV	54.0	-17.7	1.65 H	144	32.2	4.1
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	4924.00	49.7 PK	74.0	-24.3	1.23 V	208	45.6	4.1
2	4924.00	36.7 AV	54.0	-17.3	1.23 V	208	32.6	4.1

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.

RF Mode	802.11n (HT40)	Channel	CH 3 : 2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4844.00	50.4 PK	74.0	-23.6	2.41 H	152	46.1	4.3
2	4844.00	37.0 AV	54.0	-17.0	2.41 H	152	32.7	4.3
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	4844.00	50.0 PK	74.0	-24.0	1.59 V	39	45.7	4.3
2	4844.00	36.7 AV	54.0	-17.3	1.59 V	39	32.4	4.3

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.

RF Mode	802.11n (HT40)	Channel	CH 6 : 2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4874.00	49.3 PK	74.0	-24.7	2.05 H	178	45.1	4.2
2	4874.00	36.3 AV	54.0	-17.7	2.05 H	178	32.1	4.2
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	4874.00	49.8 PK	74.0	-24.2	1.22 V	297	45.6	4.2
2	4874.00	36.7 AV	54.0	-17.3	1.22 V	297	32.5	4.2

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.

RF Mode	802.11n (HT40)	Channel	CH 9 : 2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 73% RH
Tested By	Vincent Chen		

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	4904.00	48.8 PK	74.0	-25.2	1.58 H	224	44.6	4.2
2	4904.00	36.3 AV	54.0	-17.7	1.58 H	224	32.1	4.2
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	4904.00	49.4 PK	74.0	-24.6	2.27 V	146	45.2	4.2
2	4904.00	36.9 AV	54.0	-17.1	2.27 V	146	32.7	4.2

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.

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)



9 Information of the Testing Laboratories

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

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

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@bureauveritas.com

Web Site: <http://ee.bureauveritas.com.tw>

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

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