TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 15, Subpart C (Section 15.247)**
Report No.:	RFBEIH-WTW-P22120620-1
FCC ID:	P27-TMOG4SE
Product:	T-Mobile 5G Gateway
Brand:	T-Mobile
Model No.:	TMO-G4SE
Received Date:	2022/12/19
Test Date:	2023/1/18 ~ 2023/3/2
Issued Date:	2023/3/29
Applicant:	Sercomm Corp.
Address:	8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan, R.O.C.
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 (1):	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
Test Location (2):	B2F., No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan
FCC Registration / Designation Number:	788550 / TW0003 427177 / TW0011

Approved by: Jeremy Lin , **Date:** 2023/3/29

Jeremy Lin / Project Engineer

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Prepared by : Lena Wang / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBEIH-WTW-P22120620-1	Original Release	2023/3/29

1 Certificate

Product:	T-Mobile 5G Gateway
Brand:	T-Mobile
Test Model:	TMO-G4SE
Sample Status:	Engineering Sample
Applicant:	Sercomm Corp.
Test Date:	2023/1/18 ~ 2023/3/2
Standard:	47 CFR FCC Part 15, Subpart C (Section 15.247)
Measurement procedure:	ANSI C63.10-2013 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 -13.95 dB at 0.40600 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -11.5 dB at 33.54 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.4 dB at 2483.50 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) (±)
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.79 dB
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.99 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	2.44 dB
	30 MHz ~ 1 GHz	2.02 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	1.01 dB
	18 GHz ~ 40 GHz	1.15 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	T-Mobile 5G Gateway
Brand	T-Mobile
Test Model	TMO-G4SE
Status of EUT	Engineering Sample
Power Supply Rating	Refer to note
Modulation Type	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: 11.0 / 5.5 / 2.0 / 1.0 Mbps 802.11g: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 802.11n: up to 600 Mbps VHT: up to 800 Mbps 802.11ax: up to 1147.1 Mbps
Operating Frequency	2.412 GHz ~ 2.462 GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20):11 802.11n (HT40), VHT40, 802.11ax (HE40):7
Output Power	CDD Mode: 992.48 mW (29.97 dBm) Beamforming Mode: 458.311 mW (26.61 dBm)

Note:

1. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter 1	Lucent	1A78	I/P: 100-240 Vac, 50/60 Hz, 1.2 A O/P: 5 Vdc, 3 A, 15W / 9 Vdc, 3 A, 27W / 12 Vdc, 3 A, 36W / 15 Vdc, 3 A, 45W / 20 Vdc, 2.25 A, 45W DC Output Cable: 1.8m, non-shielded
Adapter 2	MOSO	MS-V3000R150-038B0-US	I/P: 100-240 Vac, 50/60 Hz, 1.3 A O/P: 5 Vdc, 3 A / 9 Vdc, 3 A / 12 Vdc, 3 A / 15 Vdc, 3 A DC Output Cable: 1.8m, non-shielded

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. The EUT contains certified WWAN module with FCC ID: GKRRMLN1T.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

RF Chain NO.	Gain (dBi)	Antenna Type	Connector Type
	2400~2483.5 MHz		
0	3.8	Dipole	I-pex
1	2.7	PIFA	I-pex
2	2.6	Dipole	I-pex
3	3.3	PIFA	I-pex

* 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**		**CDD Mode**	**Beamforming Mode**
802.11b	4TX	4RX	Support	Not Support
802.11g	4TX	4RX	Support	Not Support
802.11n (HT20)	4TX	4RX	Support	Support
802.11n (HT40)	4TX	4RX	Support	Support
VHT20	4TX	4RX	Support	Support
VHT40	4TX	4RX	Support	Support
802.11ax (HE20)	4TX	4RX	Support	Support
802.11ax (HE40)	4TX	4RX	Support	Support

3.3 Channel List

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20):

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), VHT40, 802.11ax (HE40):

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

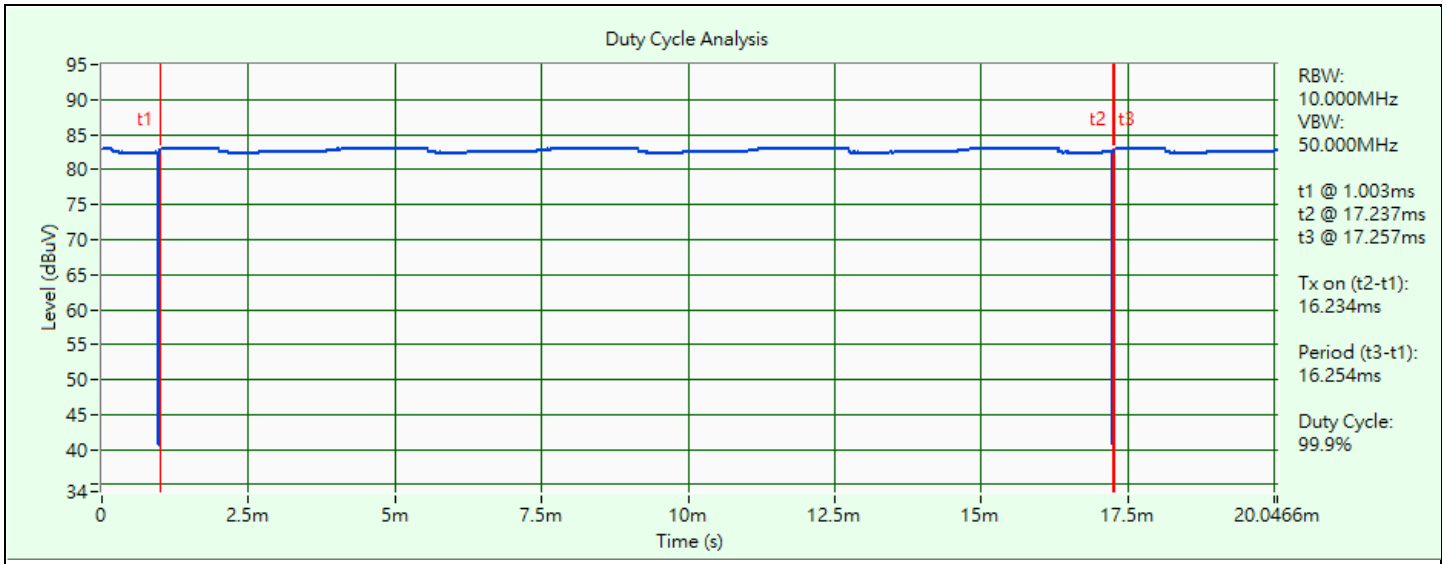
Pre-Scan:	EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan in these ways and find the worst case as a representative test condition.
Worst Case:	The worst case was found when positioned on X-axis.

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

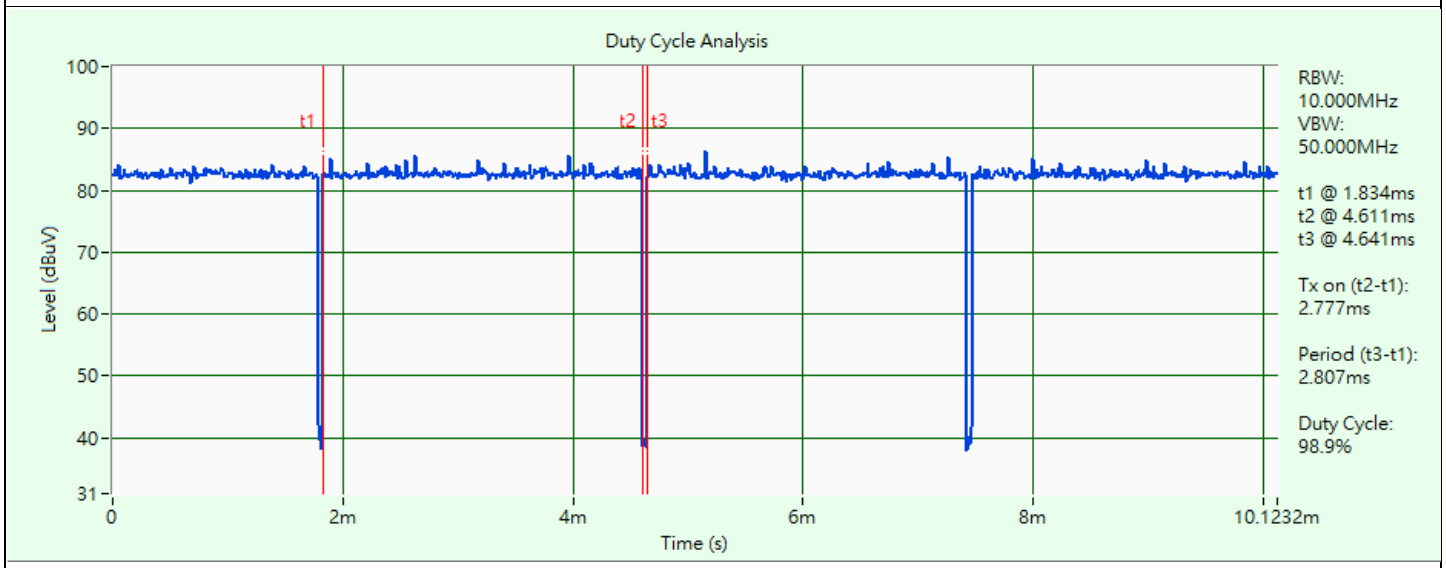
Test Item	EUT Configure Mode	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	B	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
		802.11g	CDD	1, 6, 11	BPSK	6Mb/s
		802.11ax (HE20)	CDD & Beamforming	1, 6, 11	BPSK	MCS0
		802.11ax (HE40)	CDD & Beamforming	3, 6, 9	BPSK	MCS0
Power Spectral Density	B	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
		802.11g	CDD	1, 6, 11	BPSK	6Mb/s
		802.11ax (HE20)	CDD	1, 6, 11	BPSK	MCS0
		802.11ax (HE40)	CDD	3, 6, 9	BPSK	MCS0
6 dB Bandwidth / Conducted Out of Band Emissions	B	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
		802.11g	CDD	1, 6, 11	BPSK	6Mb/s
		802.11ax (HE20)	CDD	1, 6, 11	BPSK	MCS0
		802.11ax (HE40)	CDD	3, 6, 9	BPSK	MCS0
AC Power Conducted Emissions	A, B	802.11g	CDD	6	BPSK	6Mb/s
Unwanted Emissions below 1 GHz	B	802.11g	CDD	6	BPSK	6Mb/s
Unwanted Emissions above 1 GHz	B	802.11b	CDD	1, 6, 11	DBPSK	1Mb/s
		802.11g	CDD	1, 6, 11	BPSK	6Mb/s
		802.11ax (HE20)	CDD & Beamforming	1, 6, 11	BPSK	MCS0
		802.11ax (HE40)	CDD & Beamforming	3, 6, 9	BPSK	MCS0
EUT Configure Mode:	A	EUT+Adapter 1 (Lucent)				
	B	EUT+Adapter 2 (MOSO)				

3.5 Duty Cycle of Test Signal

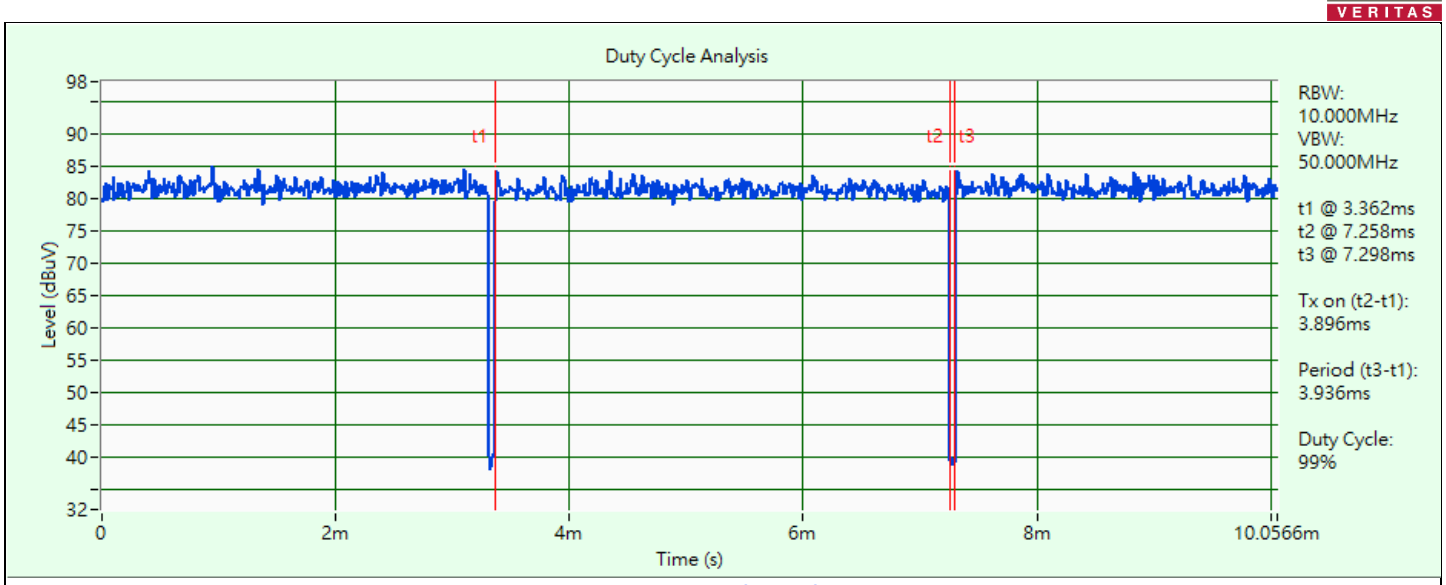
802.11b: Duty cycle = 16.234 ms / 16.254 ms x 100% = 99.9%
802.11g: Duty cycle = 2.777 ms / 2.807 ms x 100% = 98.9%
802.11ax (HE20): Duty cycle = 3.896 ms / 3.936 ms x 100% = 99.0%
802.11ax (HE40): Duty cycle = 3.845 ms / 3.885 ms x 100% = 99.0%



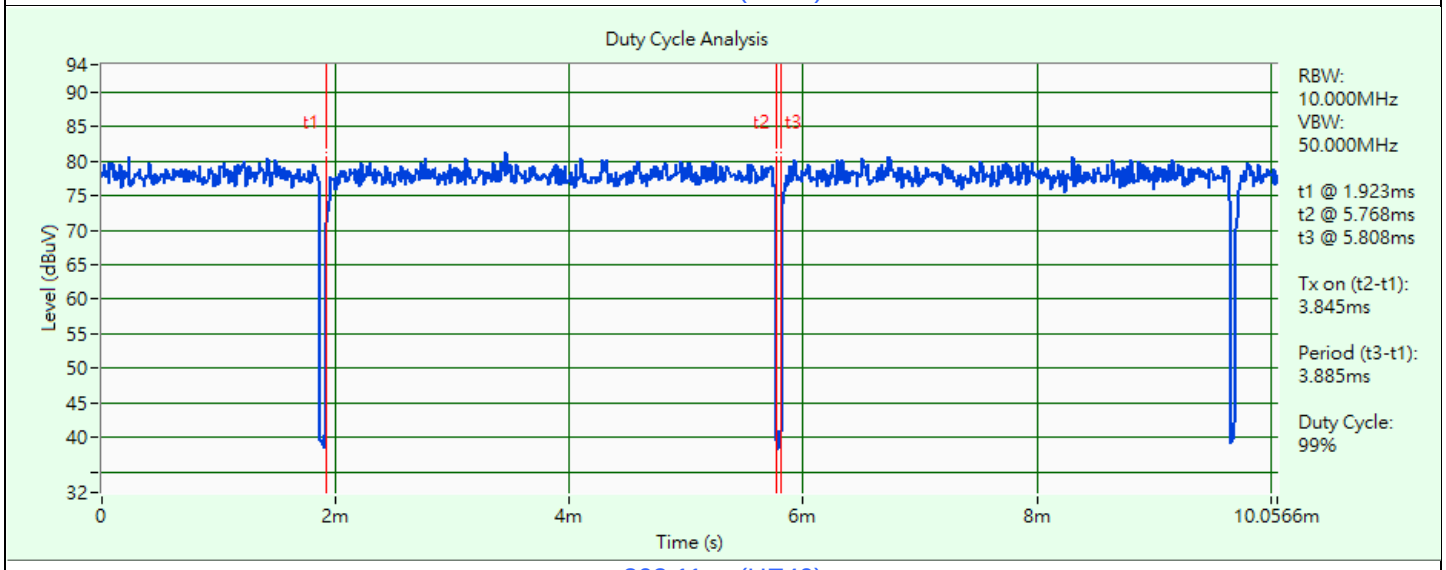
802.11b



802.11g



802.11ax (HE20)

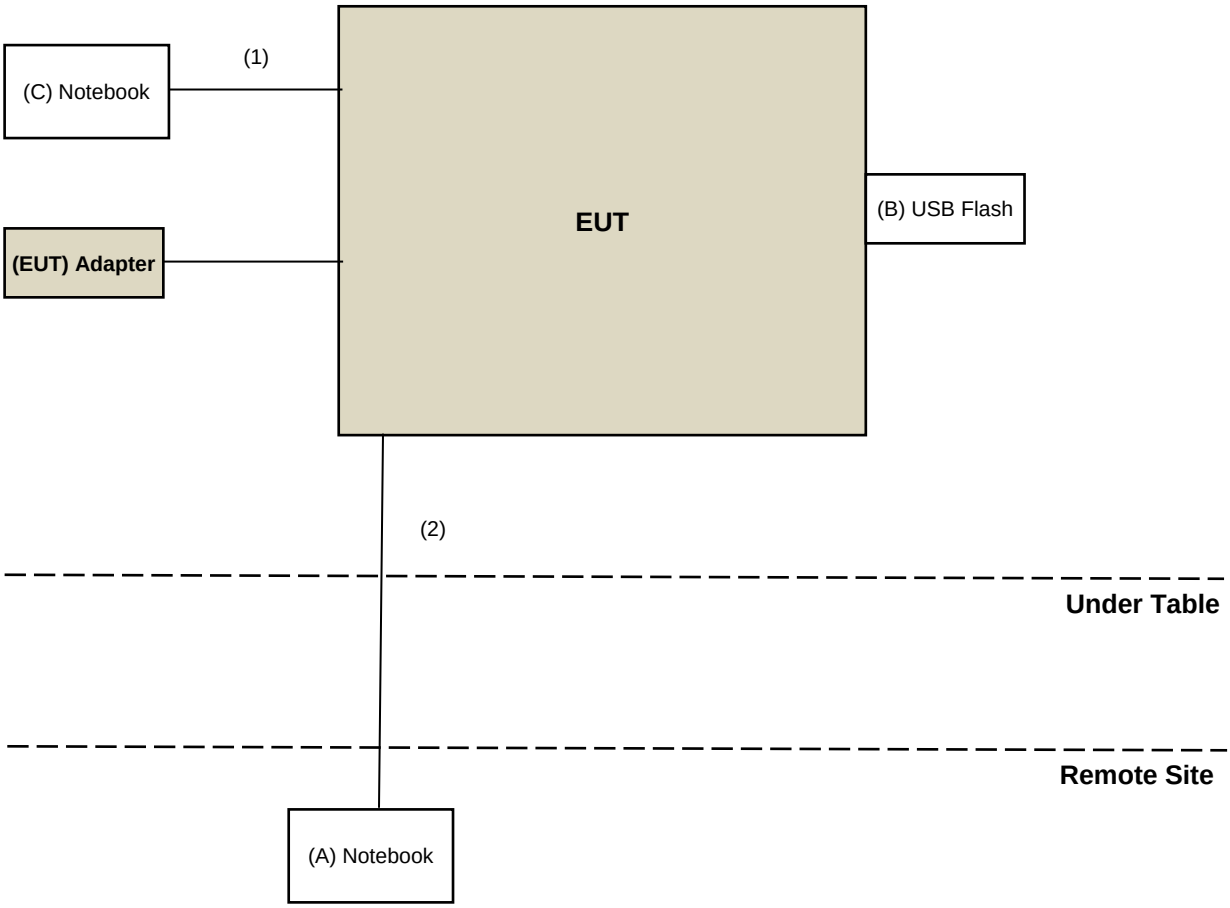


802.11ax (HE40)

3.6 Test Program Used and Operation Descriptions

Controlling software MT7915 QA 0.0.2.33 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Notebook	Dell	Latitude 5420	1XDRM A01	N/A	Provided by Lab
B	USB Flash	SanDisk	SDDDC3-032G	N/A	N/A	Provided by Lab
C	Notebook	Lenovo	TP00048A	TP00048A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	1	1.5	No	0	Provided by Lab
2	RJ-45 Cable	1	10	No	0	Provided by Lab

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
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/MY55190007/MY55210005	2022/7/13	2023/7/12

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/2/7 ~ 2023/2/15

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100979	2022/3/25	2023/3/24

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/2/7 ~ 2023/2/15

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
LISN R&S	ESH3-Z5	100311	2022/9/12	2023/9/11
LISN ROHDE & SCHWARZ	ENV216	101826	2022/3/14	2023/3/13
RF Coaxial Cable WOKEN	5D-FB	Cable-cond1-01	2023/1/7	2024/1/6
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
Test Receiver Rohde&Schwarz	ESCI	100613	2022/12/5	2023/12/4
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2022/8/31	2023/8/30

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2023/3/2

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	UNAT_5+	PAD-CH6-01	N/A	N/A
Antenna Tower Controller Max-Full	MF-7802	N/A	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB9168	9168-616	2022/10/26	2023/10/25
Loop Antenna EMCI	EM-6879	269	2022/09/19	2023/09/18
Loop Antenna TESEQ	HLA 6121	45745	2022/07/27	2023/07/26
Pre-amplifier EMCI	EMC001340	980201	2022/09/23	2023/09/22
Preamplifier Agilent	310N	187226	2022/06/14	2023/06/13
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2023/01/07	2024/01/06
RF Coaxial Cable ETS-Lindgren	EMC104-SM-SM-10000	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-4	2022/06/14	2023/06/13
	RFC-SMS-100-SMS-24-IN	Cable-CH1-02(RFC-SMS-100-SMS-24)	2022/06/14	2023/06/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY52260177	2022/09/19	2023/09/18
Turn Table Max-Full	TT-1510	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802	N/A	N/A	N/A

Notes:

1. The test was performed in XD - 966 chamber 6.
2. Tested Date: 2023/1/30

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	UNAT_5+	PAD-CH6-01	N/A	N/A
Antenna Tower Controller Max-Full	MF-7802	N/A	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	8	N/A	N/A
Horn Antenna ETS-Lindgren	3117	00143293	2022/11/13	2023/11/12
Horn Antenna Schwarzbeck	BBHA 9170	BBHA9170241	2022/10/20	2023/10/19
Pre-Ammlifier EMCI	EMC 184045	980116	2022/10/01	2023/09/30
Preamplifier Agilent	83017A	MY39501373	2022/06/14	2023/06/13
RF Coaxial Cable ETS-Lindgren	EMC104-SM-SM-10000	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-4	2022/06/14	2023/06/13
	RFC-SMS-100-SMS-24-IN	Cable-CH1-02(RFC-SMS-100-SMS-24)	2022/06/14	2023/06/13
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	2023/1/7	2024/1/6
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	2023/01/07	2024/01/06
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY52260177	2022/09/19	2023/09/18
Turn Table Max-Full	TT-1510	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802	N/A	N/A	N/A

Notes:

1. The test was performed in XD - 966 chamber 6.
2. Tested Date: 2023/1/18 ~ 2023/2/16

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)

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

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

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

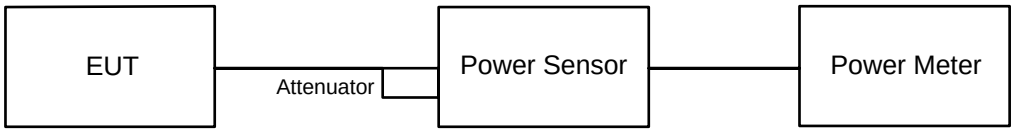
Notes:

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

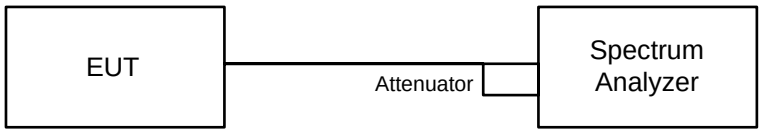


6.1.2 Test Procedure

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

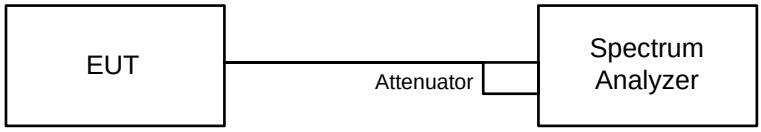


6.2.2 Test Procedure

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 ≥3 x RBW.
f. Detector = power averaging (RMS) or sample detector (when RMS not available).
g. Ensure that the number of measurement points in the sweep ≥ 2 x 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.
l. 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

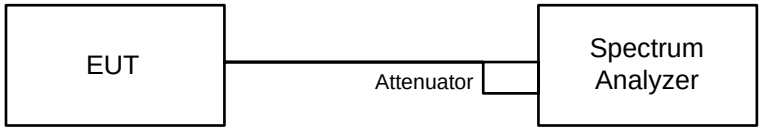


6.3.2 Test Procedure

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

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

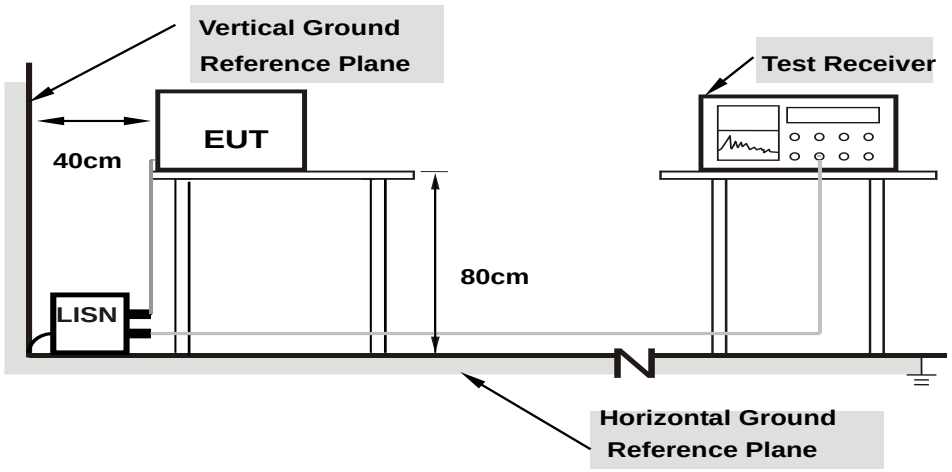
a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

a. Set RBW = 100 kHz.
b. Set VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep = auto couple.
e. Trace Mode = max hold.
f. Allow trace to fully stabilize.
g. 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

a. 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.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

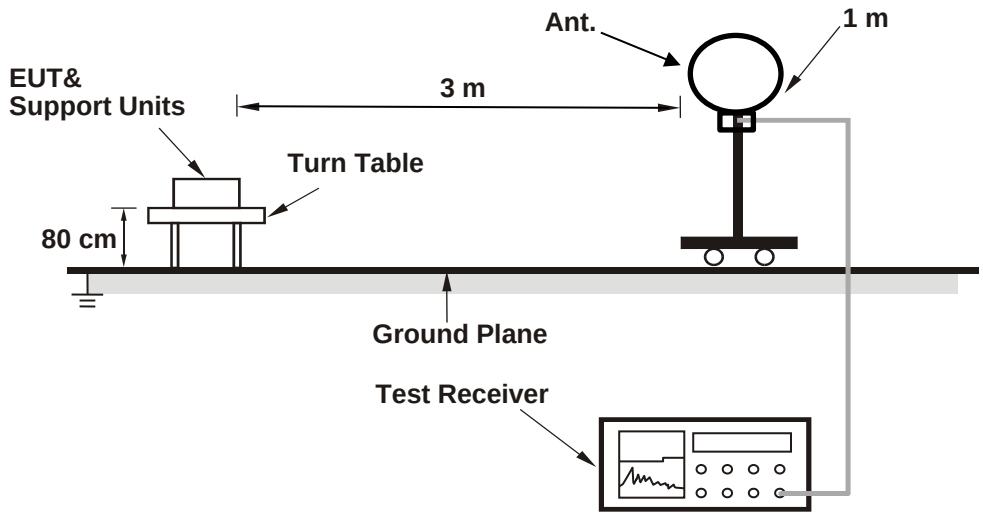
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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.

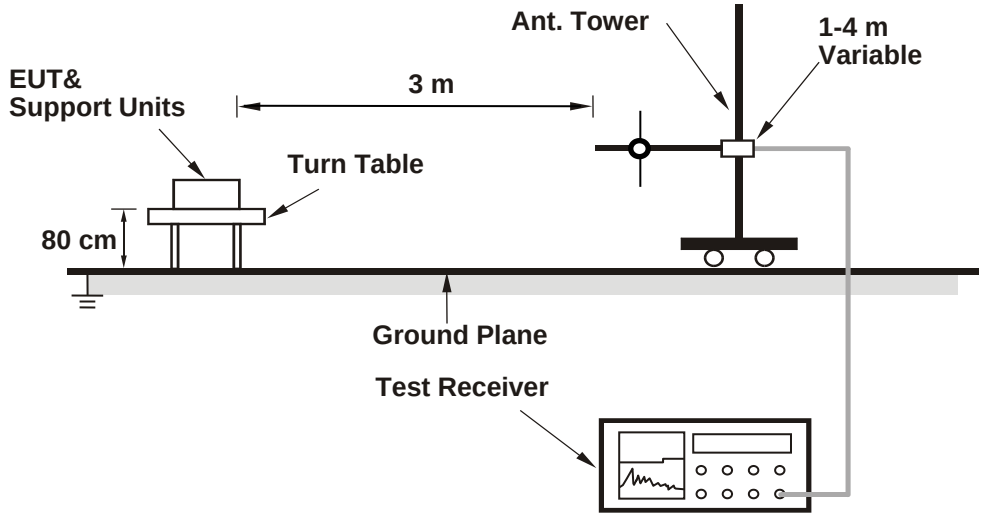
6.6 Unwanted Emissions below 1 GHz

6.6.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.6.2 Test Procedure

For Radiated emission below 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, 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

a. 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.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

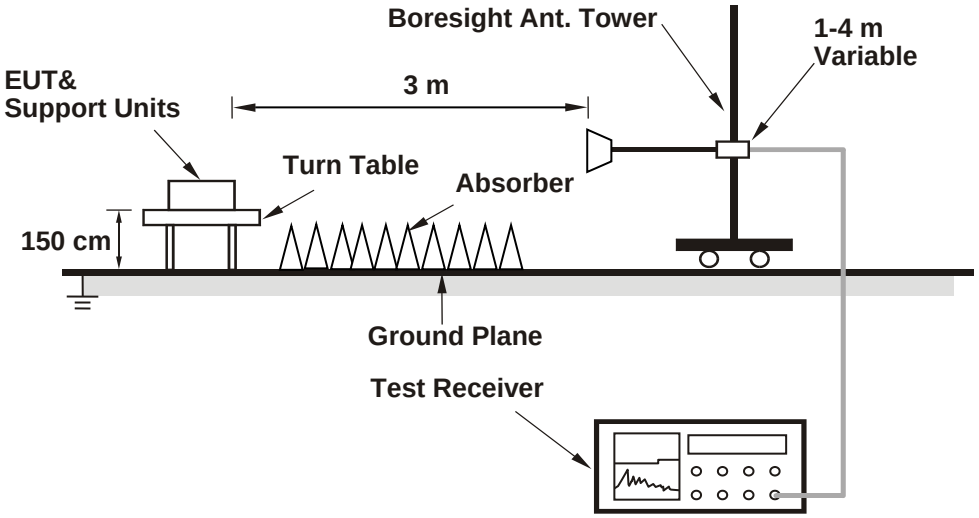
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

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.

6.7 Unwanted Emissions above 1 GHz

6.7.1 Test Setup



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

6.7.2 Test Procedure

a. 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.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to 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 ≥ 1/T (Duty cycle < 98%) or 10 Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1 GHz.
3. All modes of operation were investigated and the worst-case emissions are reported.

7 Test Results of Test Item

7.1 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin

CDD Mode

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	21.30	21.55	21.40	21.05	543.174	27.35	30	Pass
6	2437	23.49	23.51	23.87	23.59	920.086	29.64	30	Pass
11	2462	22.10	22.24	22.16	22.05	654.437	28.16	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	19.40	19.22	19.41	19.70	351.279	25.46	30	Pass
6	2437	23.90	23.78	24.10	24.00	**992.48**	**29.97**	30	Pass
11	2462	18.25	18.11	18.32	18.60	271.913	24.34	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	17.74	18.10	17.80	17.86	245.345	23.90	30	Pass
6	2437	22.55	22.21	22.71	22.90	727.851	28.62	30	Pass
11	2462	16.61	16.54	16.75	17.00	188.33	22.75	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	17.06	17.34	16.62	16.90	199.914	23.01	30	Pass
6	2437	20.57	20.34	20.08	20.30	431.179	26.35	30	Pass
9	2452	15.73	15.50	15.55	15.54	144.594	21.60	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. The maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.

Beamforming Mode

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	17.74	18.10	17.80	17.86	245.345	23.90	26.87	Pass
6	2437	20.53	20.18	20.69	20.93	**458.311**	**26.61**	26.87	Pass
11	2462	16.61	16.54	16.75	17.00	188.33	22.75	26.87	Pass

Notes:

1. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
2. The directional gain is 9.13 dBi > 6 dBi, so the output power limit shall be reduced to 30-(9.13-6) = 26.87 dBm.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	17.06	17.34	16.62	16.90	199.914	23.01	26.87	Pass
6	2437	20.57	20.34	20.08	20.30	431.179	26.35	26.87	Pass
9	2452	15.73	15.50	15.55	15.54	144.594	21.60	26.87	Pass

Notes:

1. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
2. The directional gain is 9.13 dBi > 6 dBi, so the output power limit shall be reduced to 30-(9.13-6) = 26.87 dBm.

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin

802.11b

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
1	2412	-11.46	-11.10	-11.15	-11.67	-5.32	4.87	Pass
6	2437	-8.54	-8.52	-8.15	-8.44	-2.39	4.87	Pass
11	2462	-10.85	-10.69	-10.80	-10.95	-4.80	4.87	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. The directional gain is 9.13 dBi > 6 dBi, so the power density limit shall be reduced to 8-(9.13-6) = 4.87 dBm/3kHz.

802.11g

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
1	2412	-11.91	-12.12	-11.84	-11.60	-5.84	4.87	Pass
6	2437	-7.46	-7.63	-7.28	-7.37	-1.41	4.87	Pass
11	2462	-13.09	-13.27	-13.07	-12.73	-7.01	4.87	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. The directional gain is 9.13 dBi > 6 dBi, so the power density limit shall be reduced to 8-(9.13-6) = 4.87 dBm/3kHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
1	2412	-15.73	-15.39	-15.70	-15.62	-9.59	4.87	Pass
6	2437	-10.93	-11.30	-10.85	-10.70	-4.92	4.87	Pass
11	2462	-16.81	-16.94	-16.66	-16.39	-10.67	4.87	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20} + 10^{Chain3/20})^2$ / 4]
3. The directional gain is 9.13 dBi > 6 dBi, so the power density limit shall be reduced to 8-(9.13-6) = 4.87 dBm/3kHz.

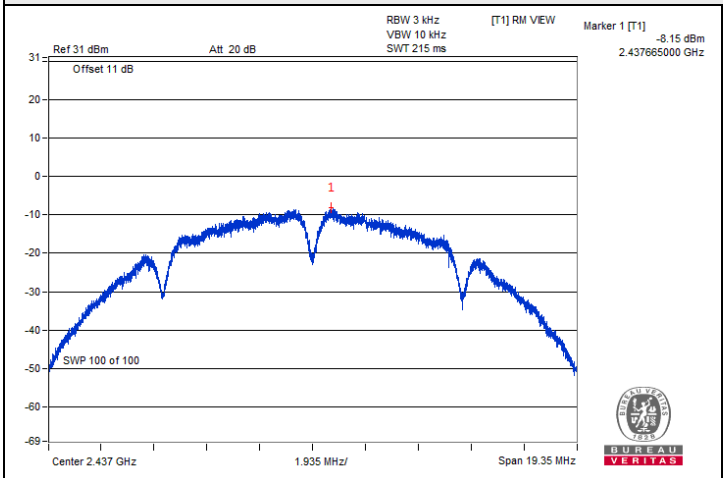
802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)				Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
3	2422	-17.68	-17.45	-18.15	-17.86	-11.76	4.87	Pass
6	2437	-14.12	-14.36	-13.90	-13.62	-7.97	4.87	Pass
9	2452	-19.08	-19.31	-19.24	-19.30	-13.21	4.87	Pass

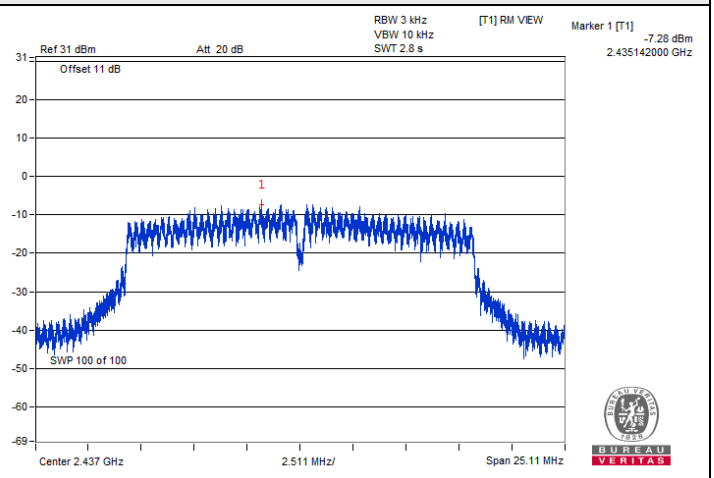
Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[($10^{Chain0/20}$ + $10^{Chain1/20}$ + $10^{Chain2/20}$ + $10^{Chain3/20}$)^2 / 4]
3. The directional gain is 9.13 dBi > 6 dBi, so the power density limit shall be reduced to 8-(9.13-6) = 4.87 dBm/3kHz.

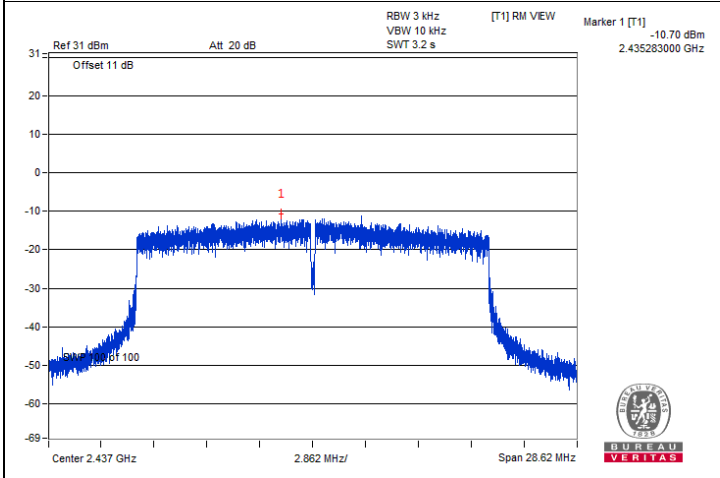
Spectrum Plot of Maximum Value



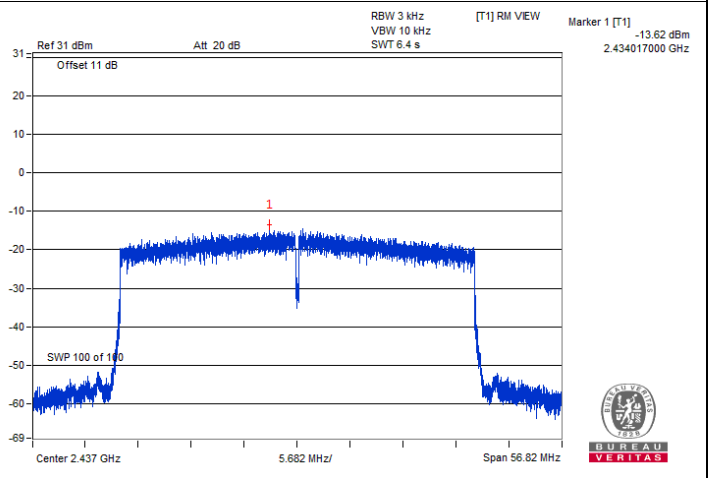
802.11b / Chain 2 : CH 6



802.11g / Chain 2 : CH 6



802.11ax (HE20) / Chain 3 : CH 6



802.11ax (HE40) / Chain 3 : CH 6

7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	8.07	8.06	8.08	8.06	0.5	Pass
6	2437	8.53	8.54	8.07	8.55	0.5	Pass
11	2462	8.07	8.10	8.08	8.08	0.5	Pass

802.11g

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	15.48	15.33	15.71	15.16	0.5	Pass
6	2437	15.15	15.10	15.33	15.08	0.5	Pass
11	2462	15.17	15.18	15.16	15.13	0.5	Pass

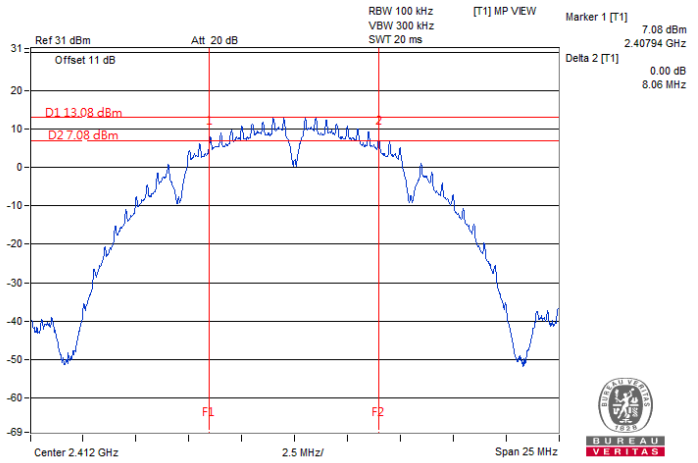
802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	18.57	18.16	18.84	18.42	0.5	Pass
6	2437	18.62	18.44	18.34	18.58	0.5	Pass
11	2462	17.82	17.86	18.34	18.10	0.5	Pass

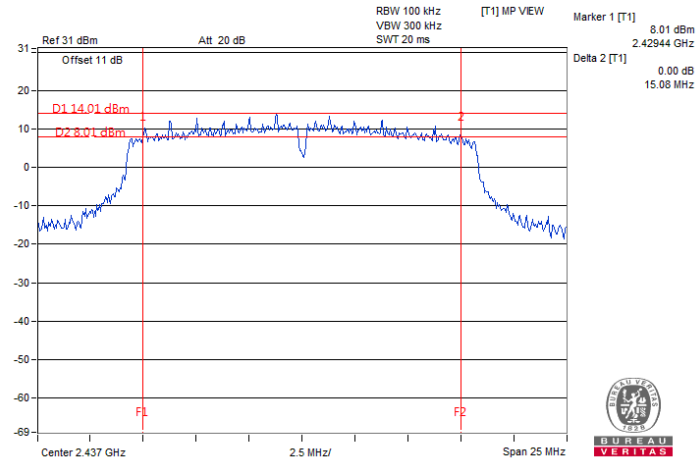
802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
3	2422	37.51	35.96	35.58	36.39	0.5	Pass
6	2437	35.60	35.86	37.58	37.46	0.5	Pass
9	2452	37.59	35.16	36.59	36.91	0.5	Pass

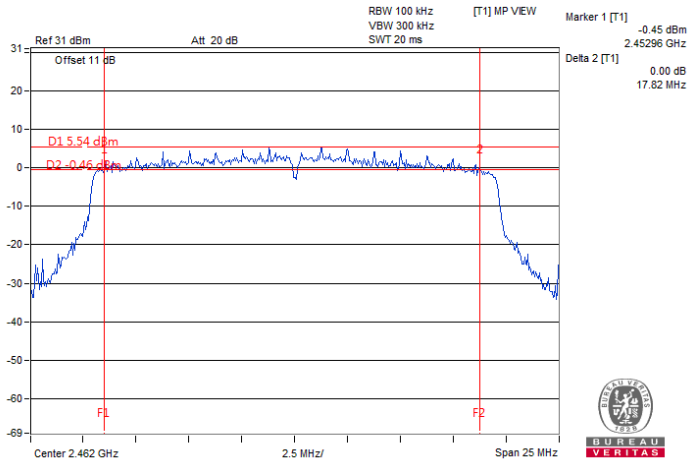
Spectrum Plot of Minimum Value



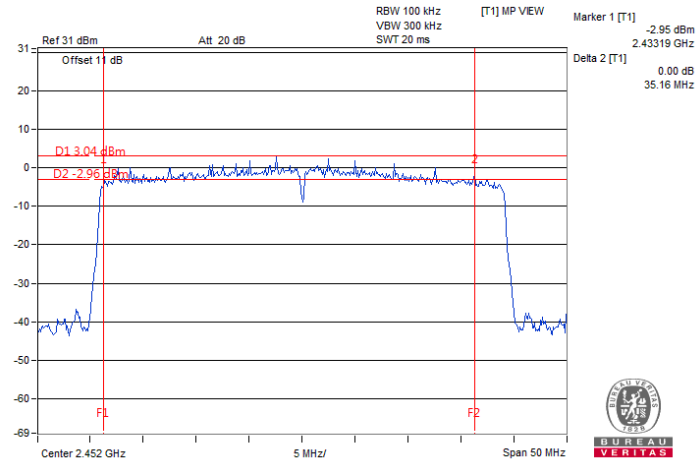
802.11b / Chain 1 : CH 1



802.11g / Chain 3 : CH 6



802.11ax (HE20) / Chain 0 : CH 11

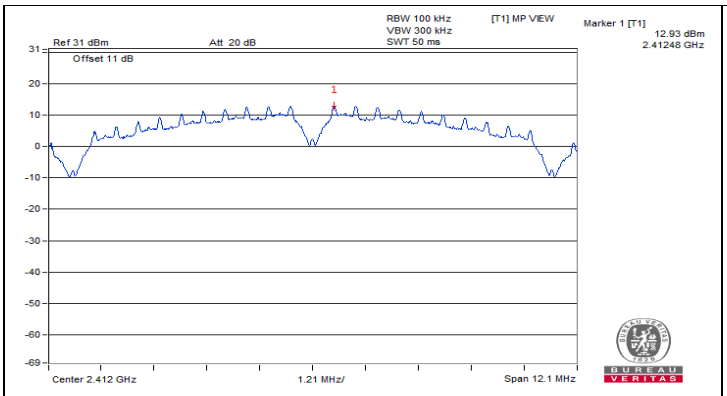


802.11ax (HE40) / Chain 1 : CH 9

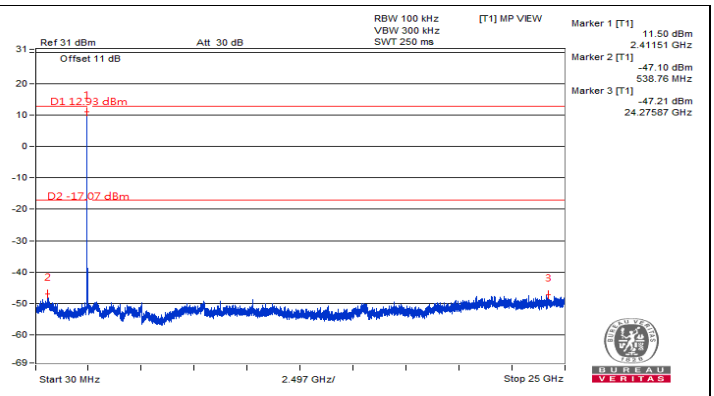
7.4 Conducted Out of Band Emissions

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin

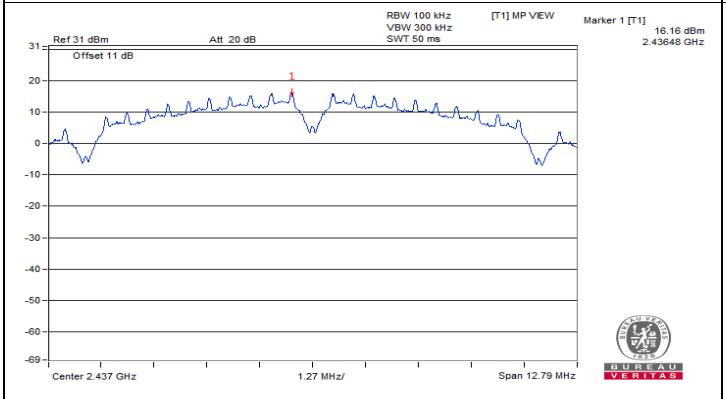
802.11b



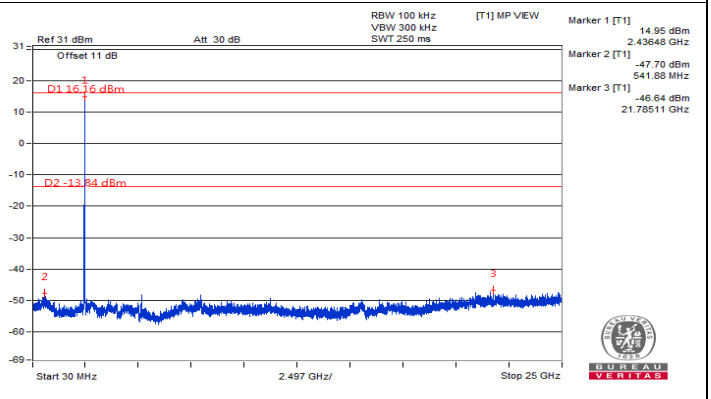
Chain 0 : CH 1



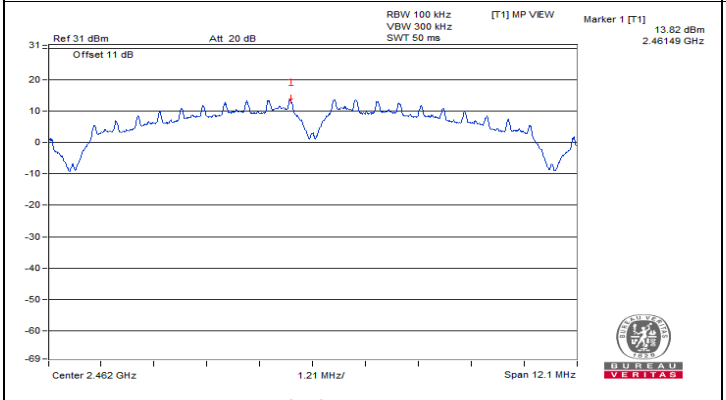
Chain 0 : CH 1



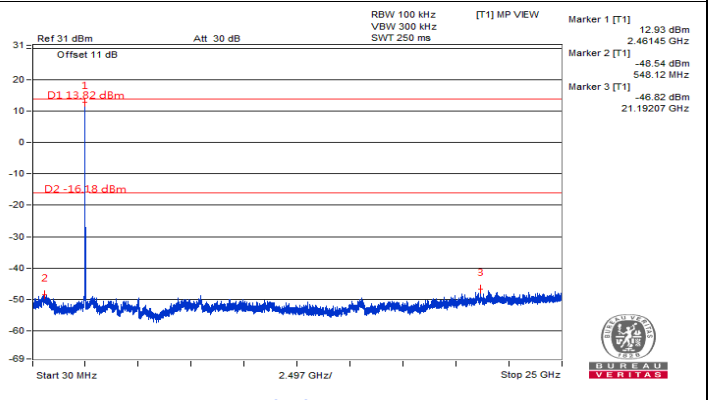
Chain 0 : CH 6



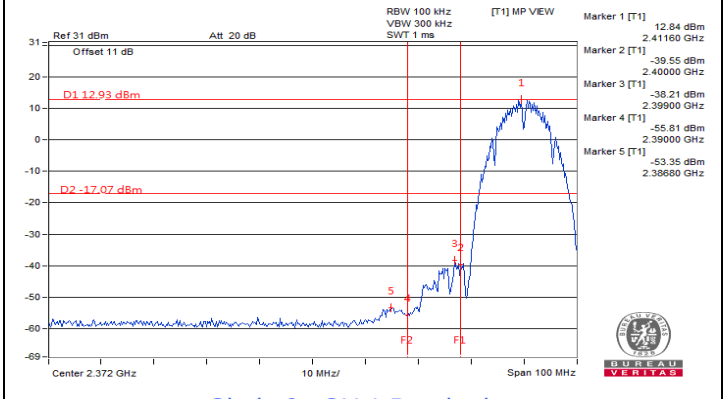
Chain 0 : CH 6



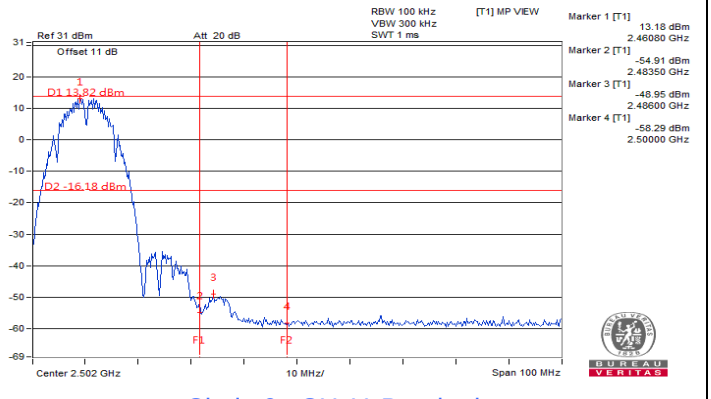
Chain 0 : CH 11



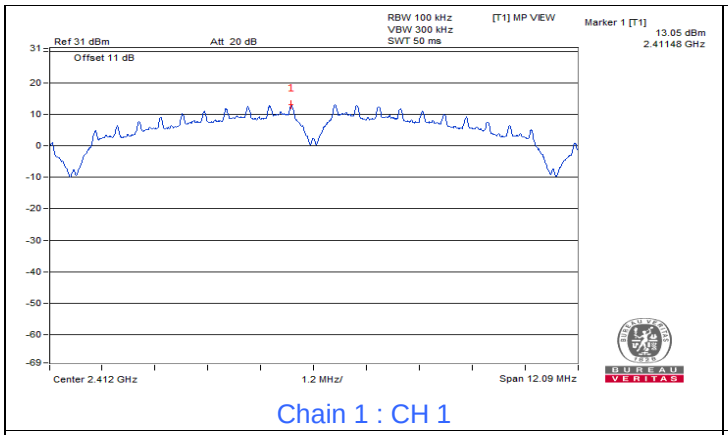
Chain 0 : CH 11



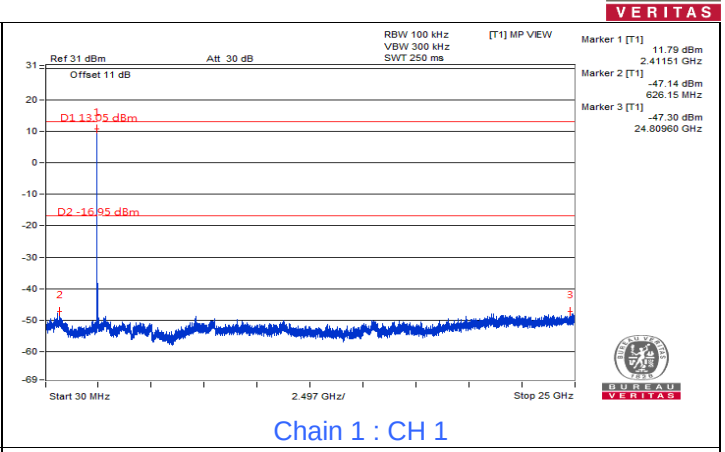
Chain 0 : CH 1 Band edge



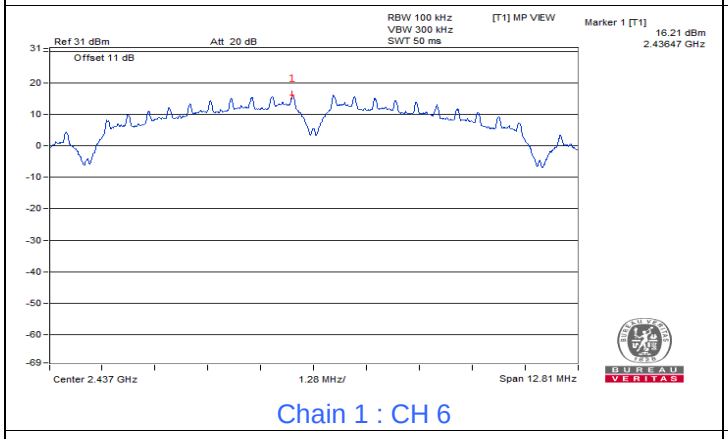
Chain 0 : CH 11 Band edge



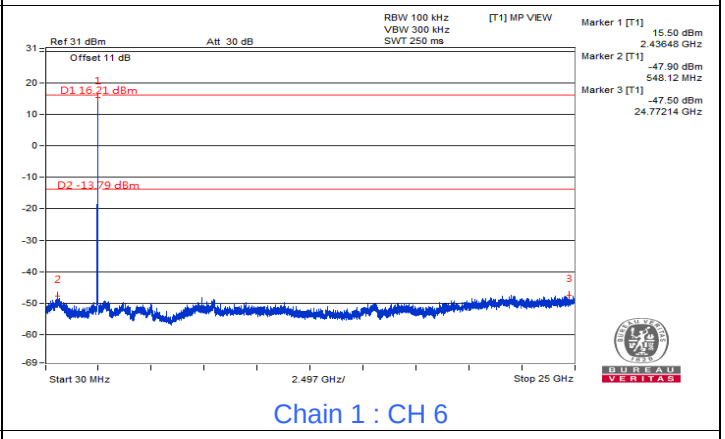
Chain 1 : CH 1



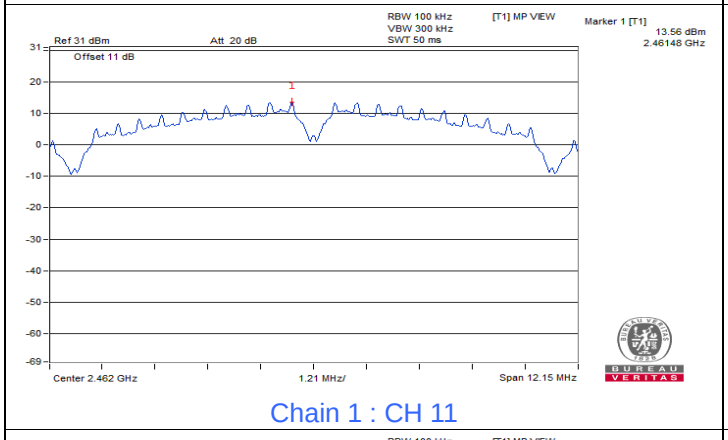
Chain 1 : CH 1



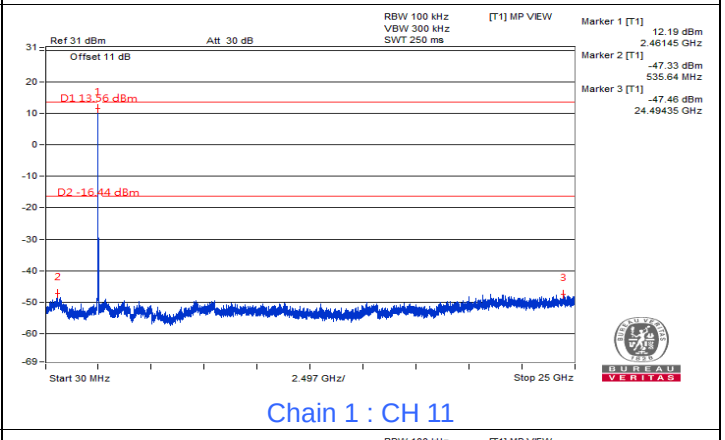
Chain 1 : CH 6



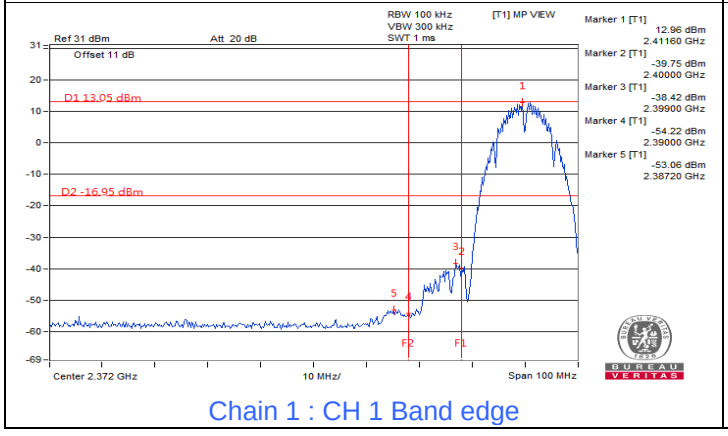
Chain 1 : CH 6



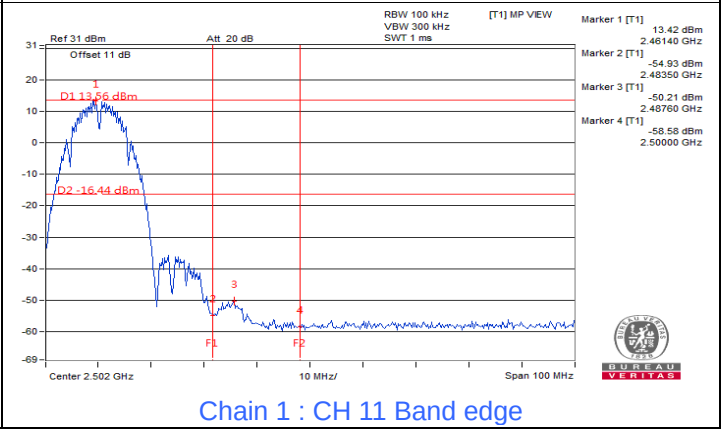
Chain 1 : CH 11



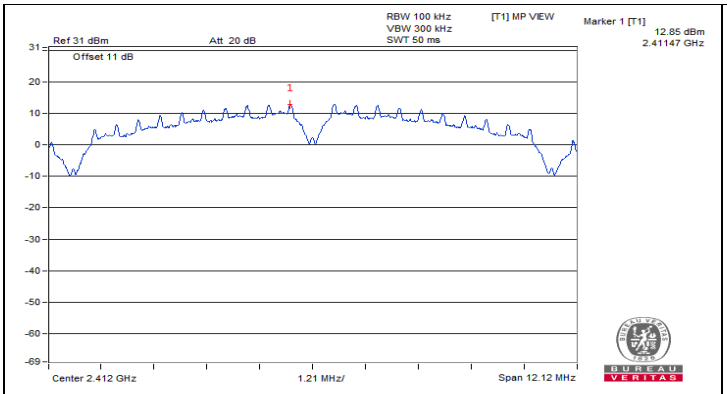
Chain 1 : CH 11



Chain 1 : CH 1 Band edge



Chain 1 : CH 11 Band edge



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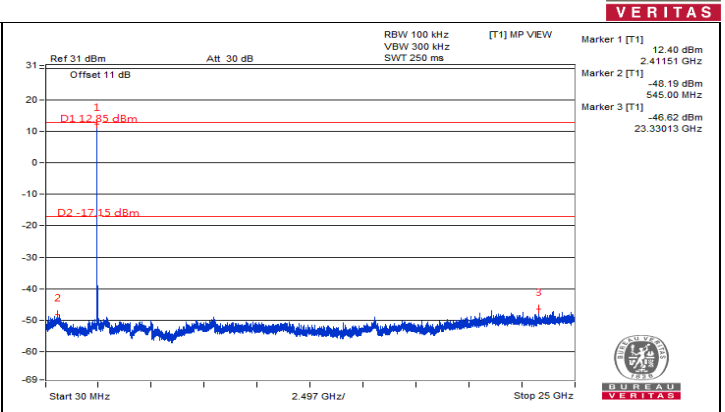

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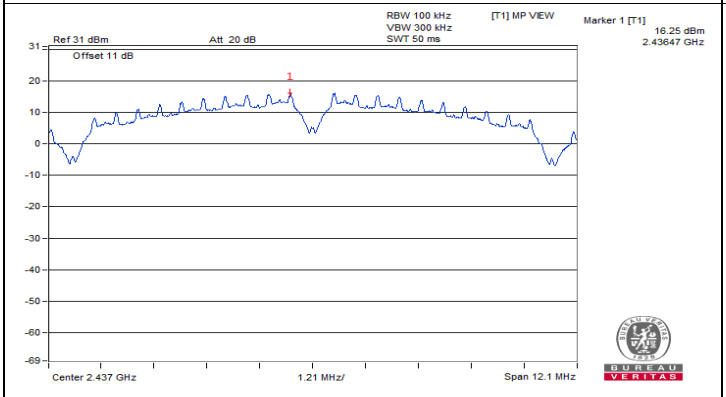

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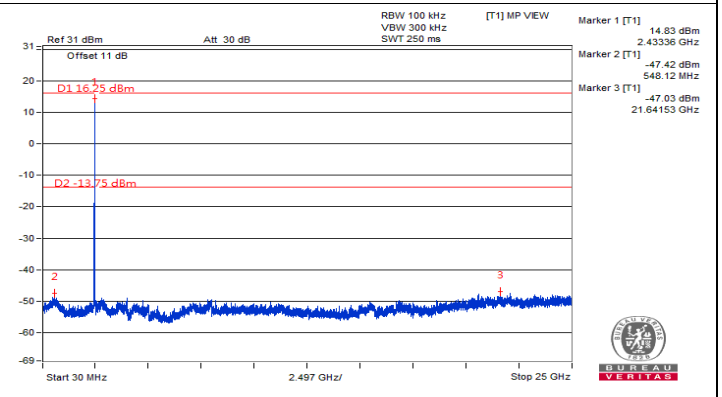

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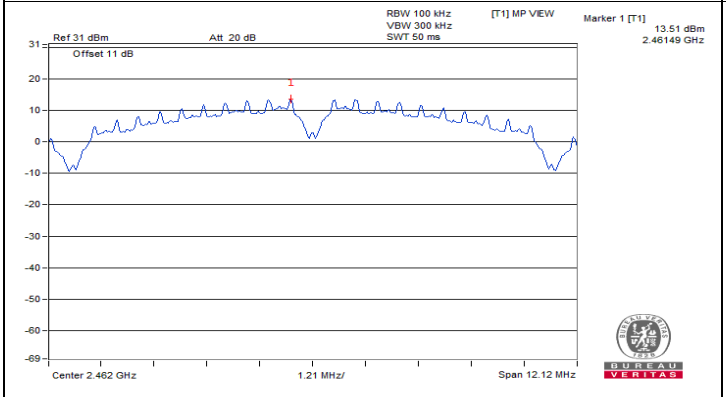

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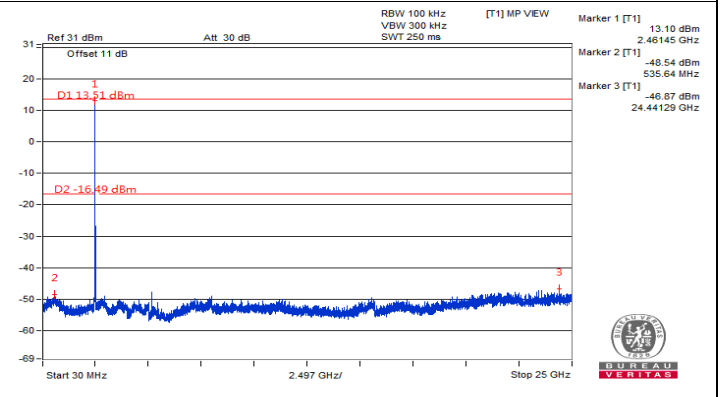

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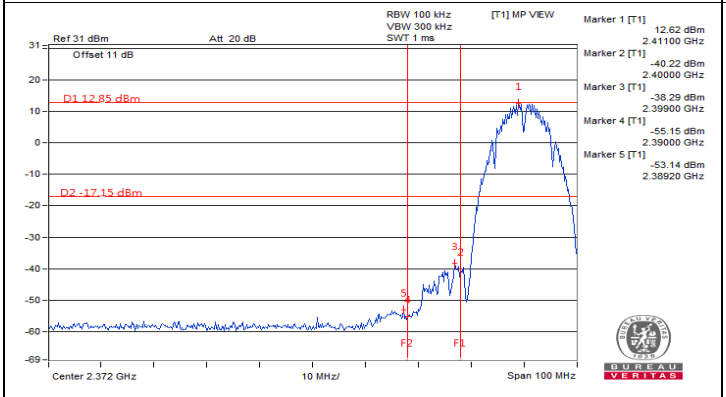
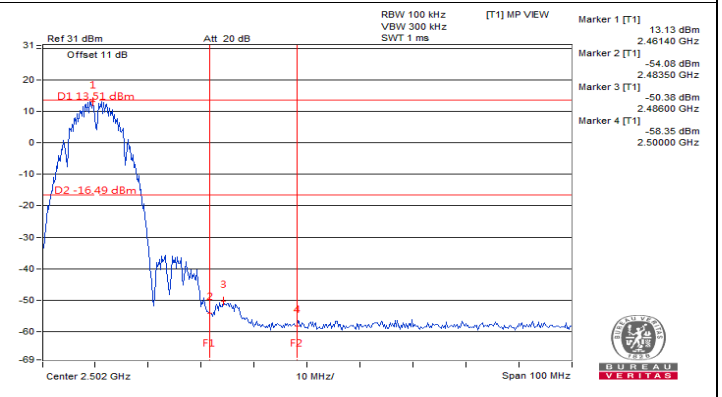
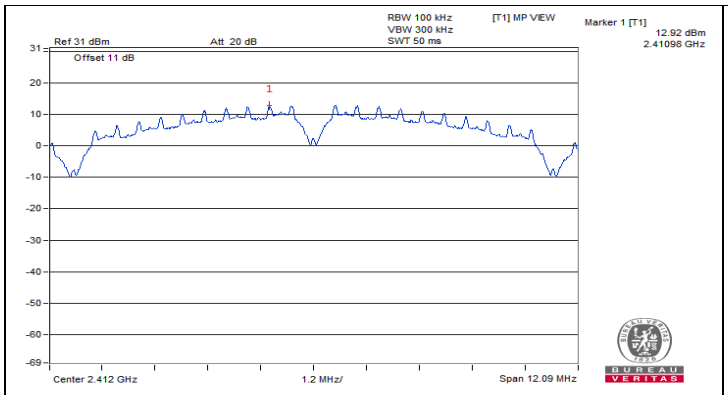


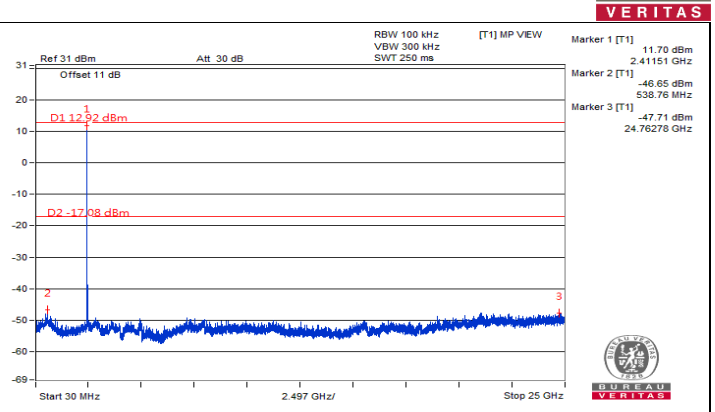
Chain 2 : CH 1 Band edge



Chain 2 : CH 11 Band edge



Chain 3 : CH 1



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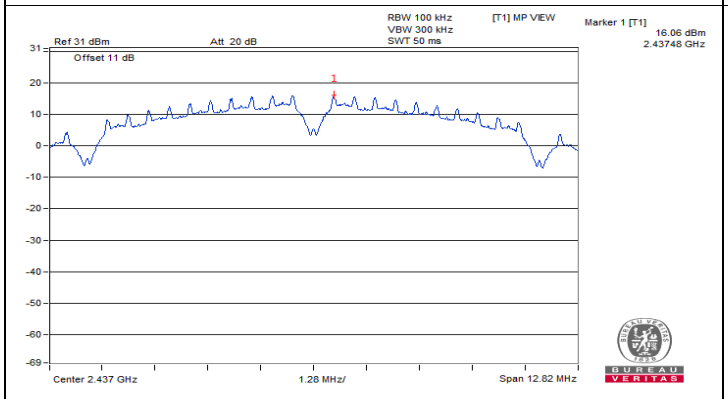

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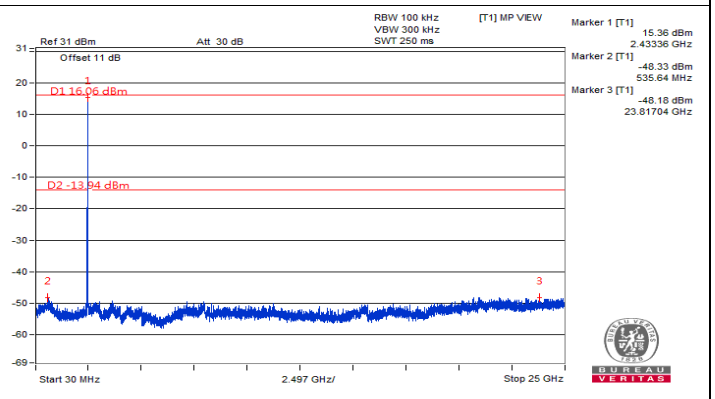

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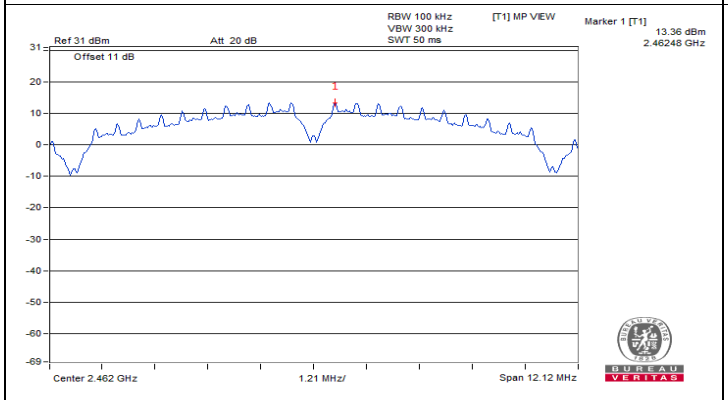
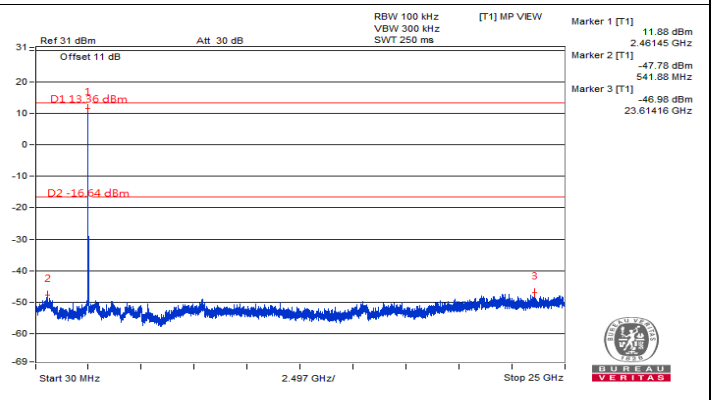
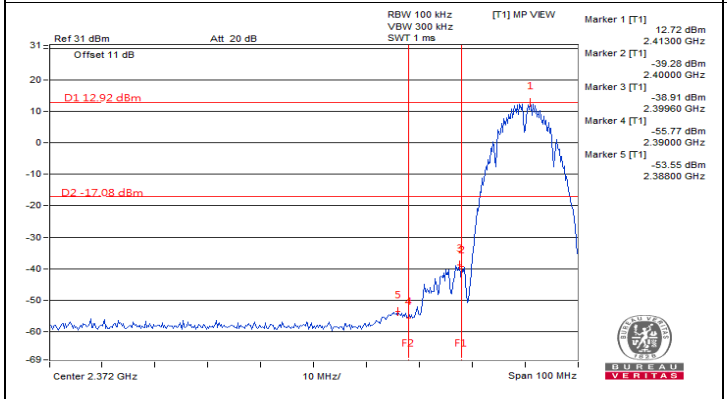


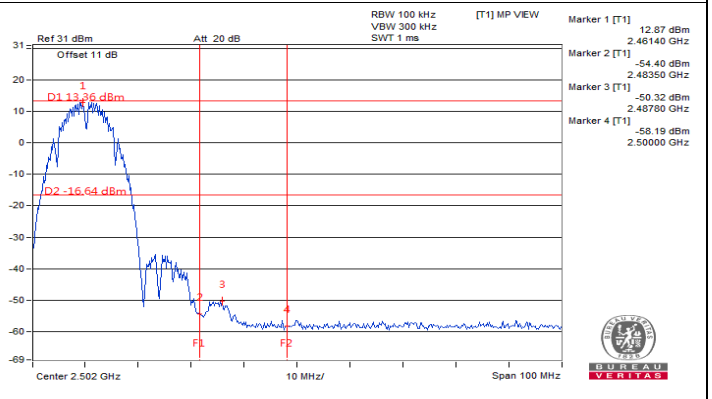
Chain 3 : CH 11



Chain 3 : CH 11

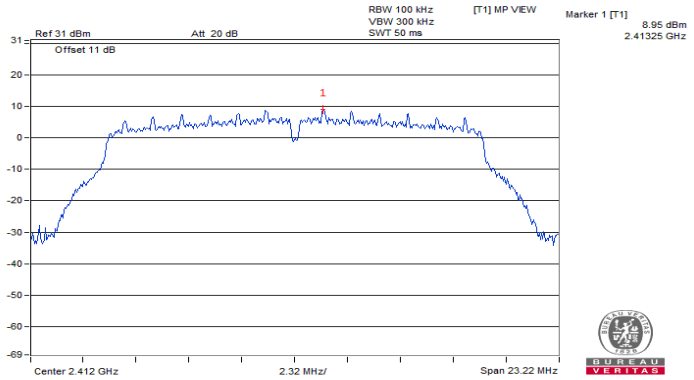


Chain 3 : CH 1 Band edge

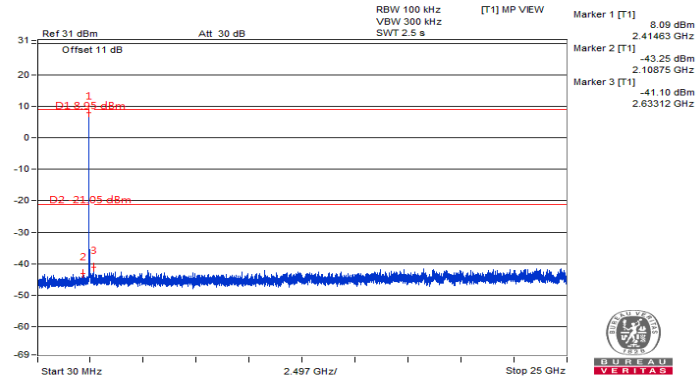


Chain 3 : CH 11 Band edge

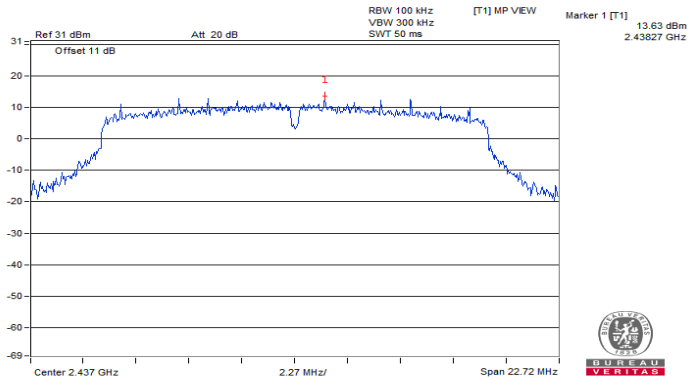
802.11g



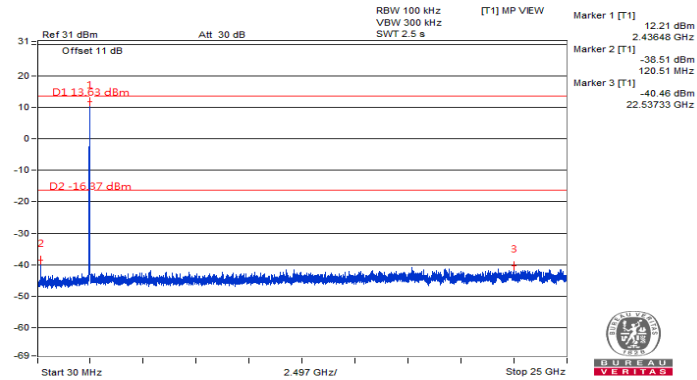
Chain 0 : CH 1



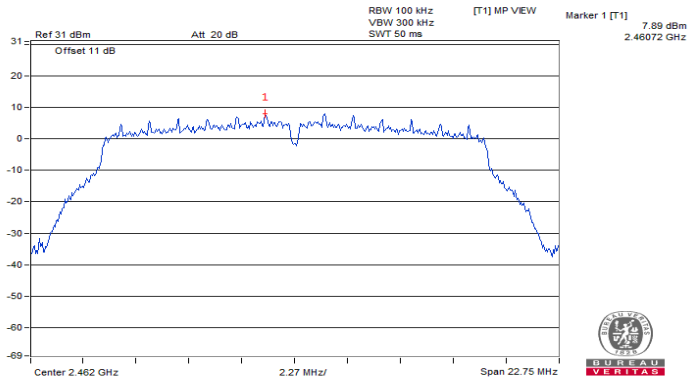
Chain 0 : CH 1



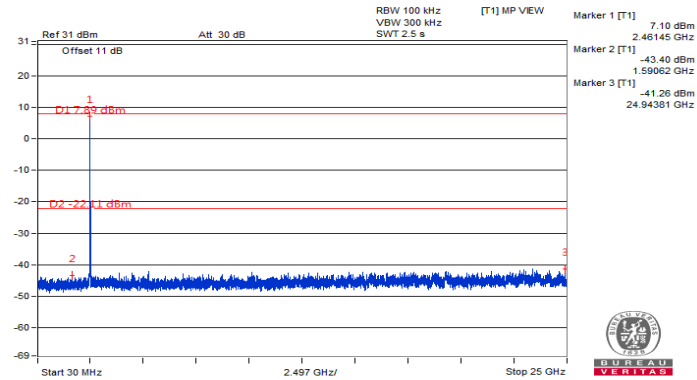
Chain 0 : CH 6



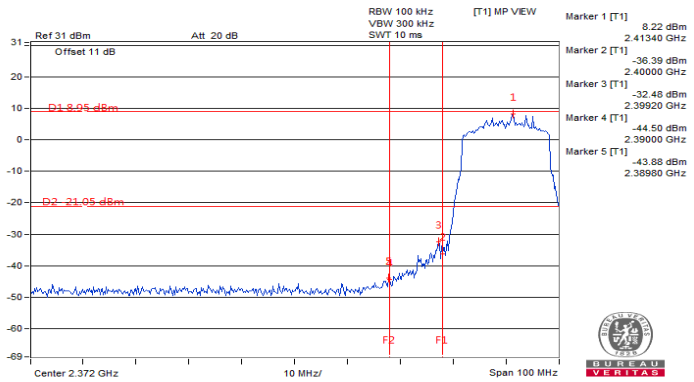
Chain 0 : CH 6



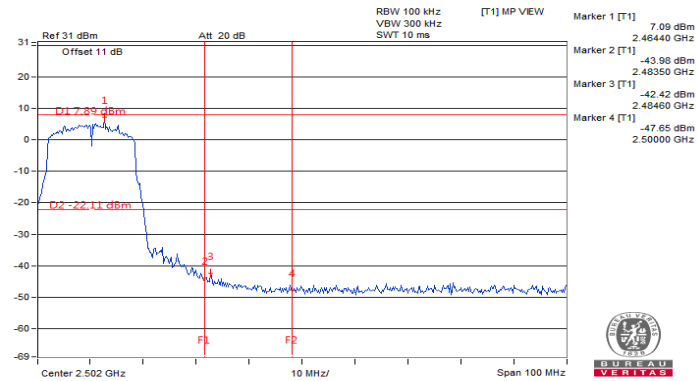
Chain 0 : CH 11



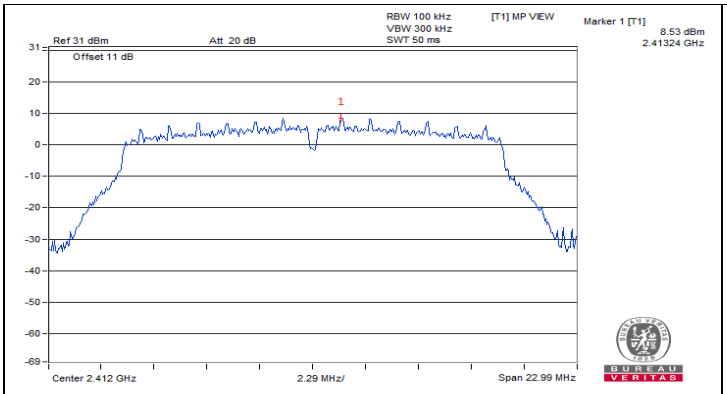
Chain 0 : CH 11



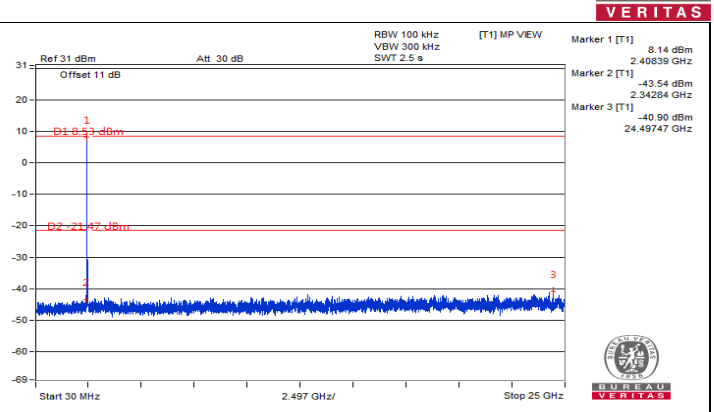
Chain 0 : CH 1 Band edge



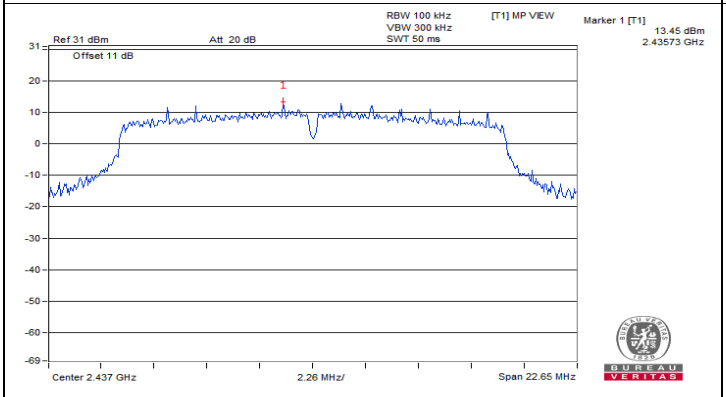
Chain 0 : CH 11 Band edge



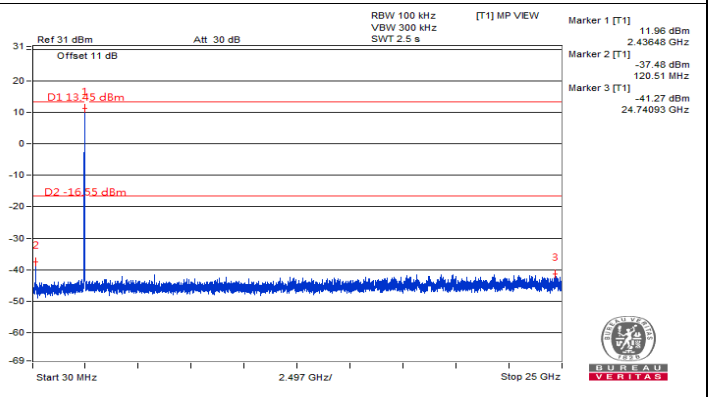
Chain 1 : CH 1



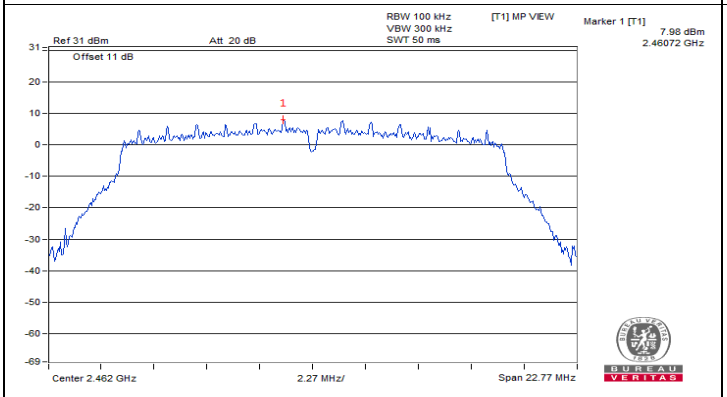
Chain 1 : CH 1



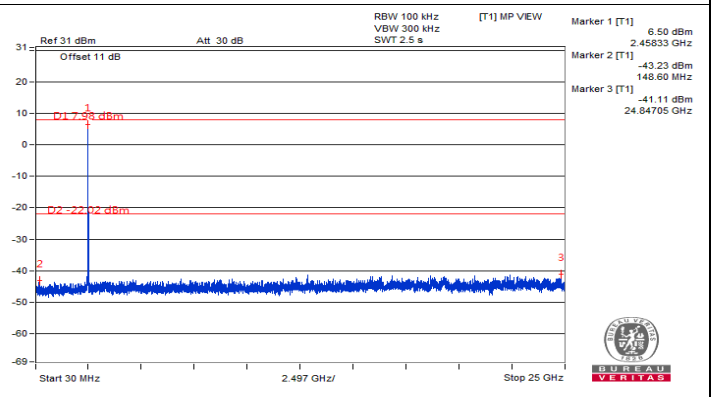
Chain 1 : CH 6



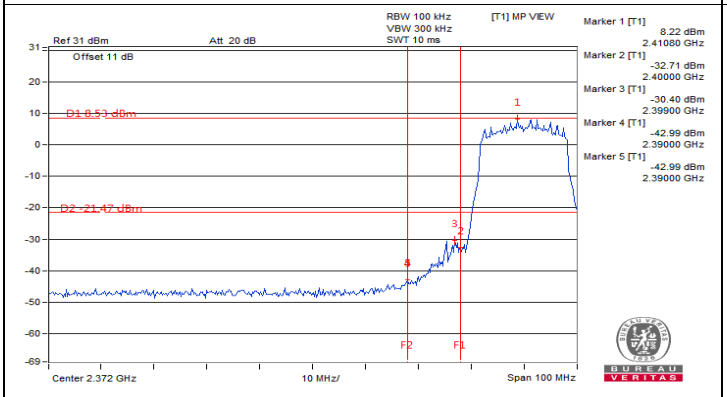
Chain 1 : CH 6



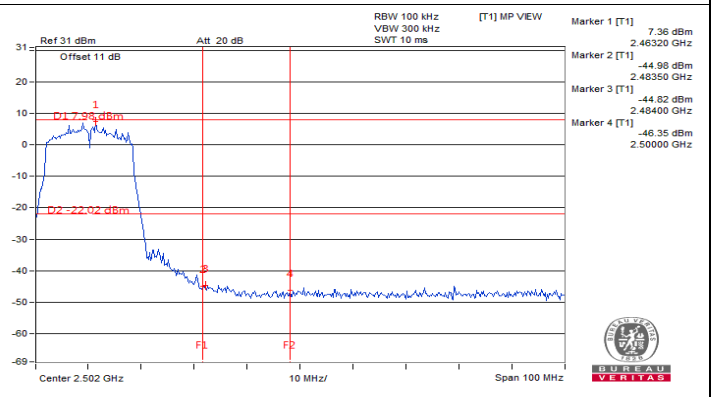
Chain 1 : CH 11



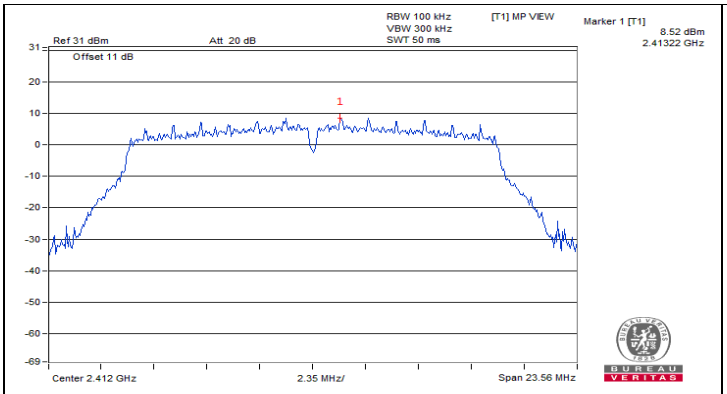
Chain 1 : CH 11



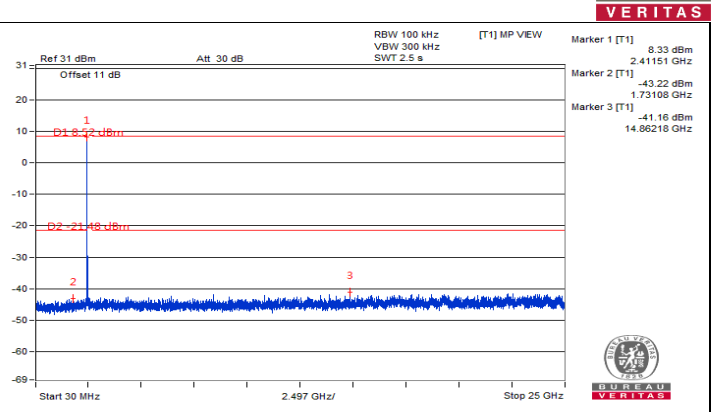
Chain 1 : CH 1 Band edge



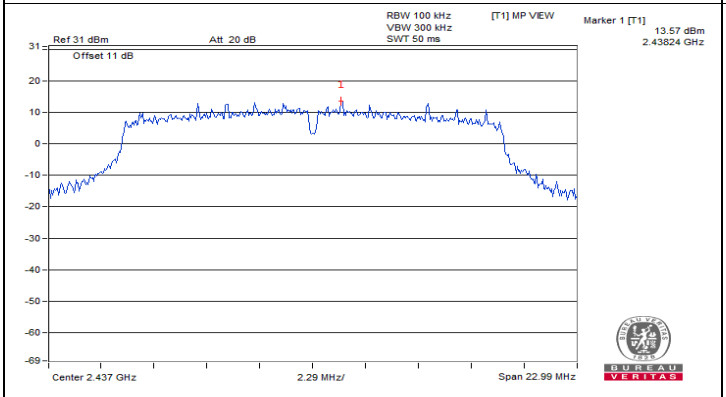
Chain 1 : CH 11 Band edge



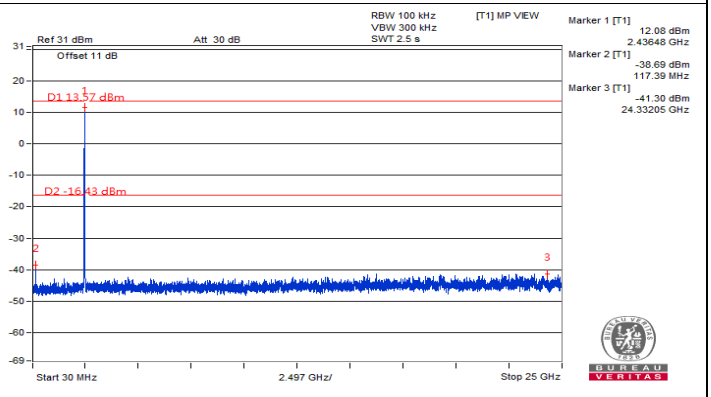
Chain 2 : CH 1



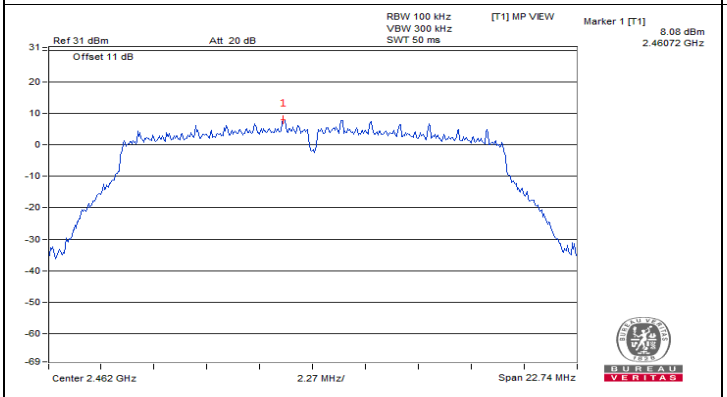
Chain 2 : CH 1



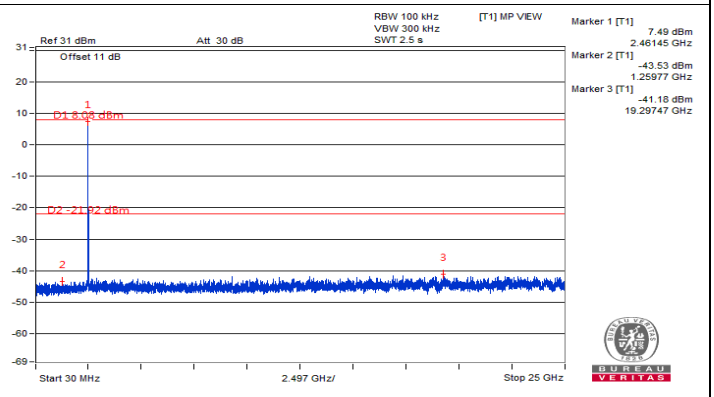
Chain 2 : CH 6



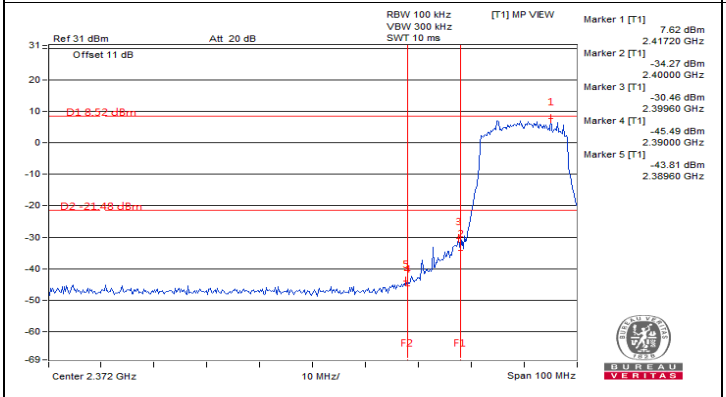
Chain 2 : CH 6



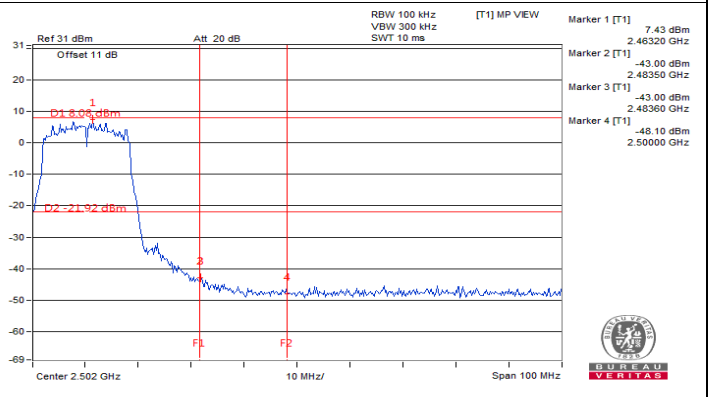
Chain 2 : CH 11



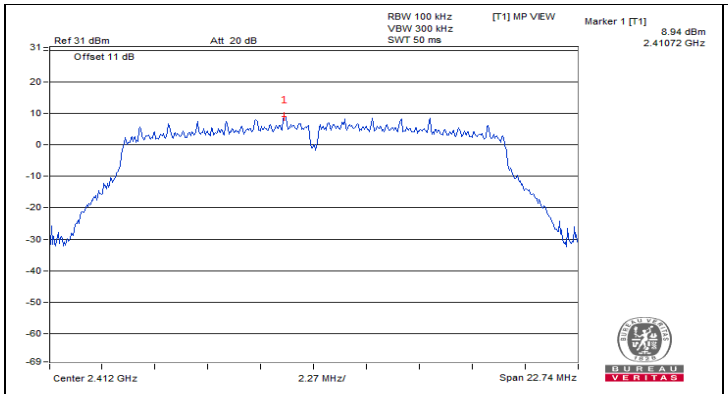
Chain 2 : CH 11



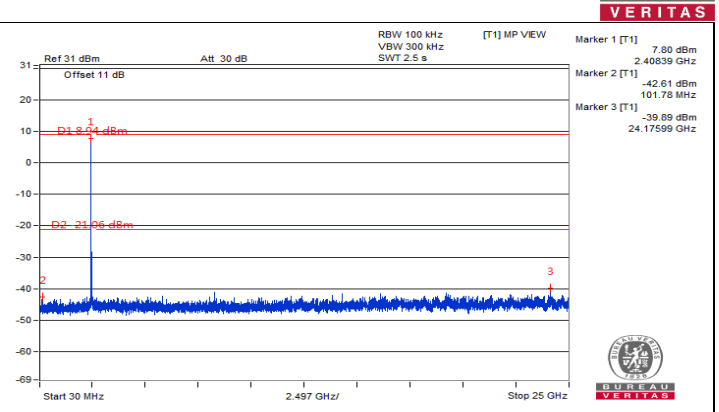
Chain 2 : CH 1 Band edge



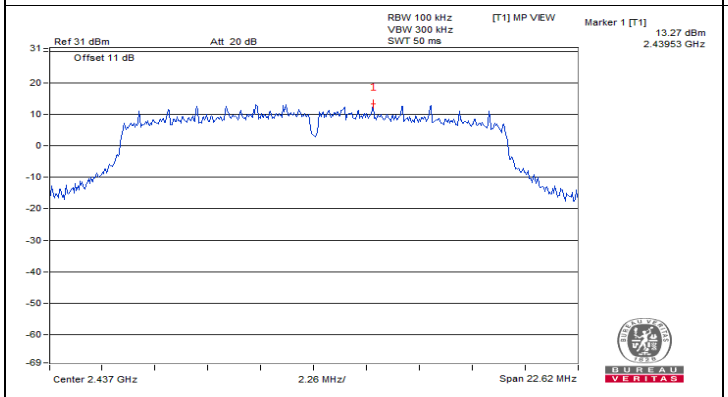
Chain 2 : CH 11 Band edge



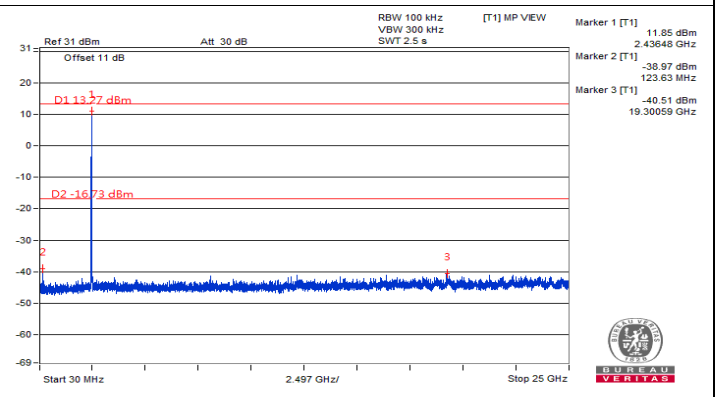
Chain 3 : CH 1



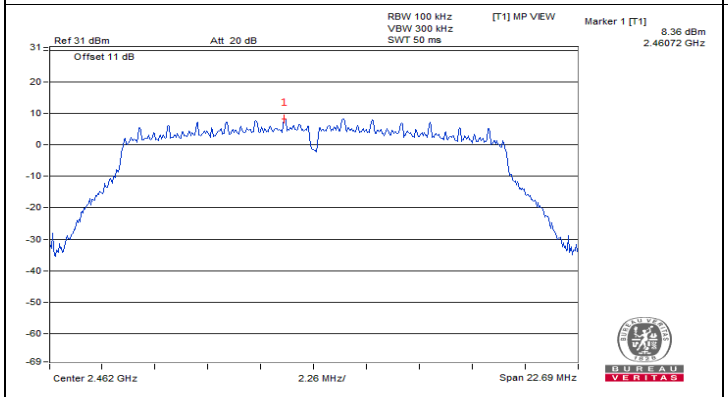
Chain 3 : CH 1



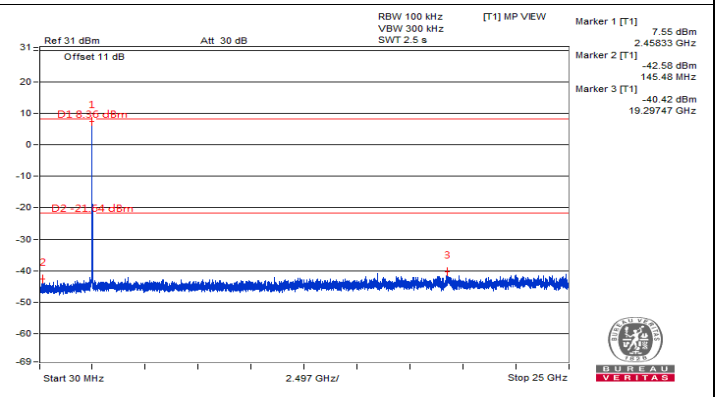
Chain 3 : CH 6



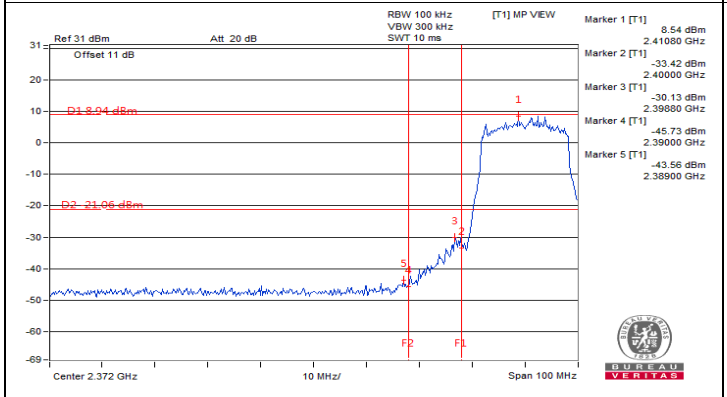
Chain 3 : CH 6



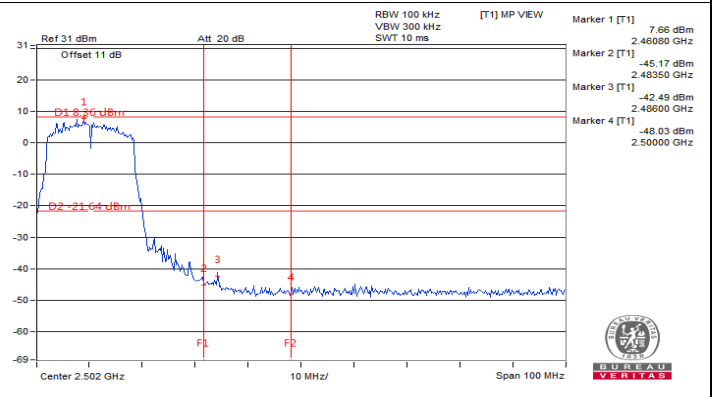
Chain 3 : CH 11



Chain 3 : CH 11

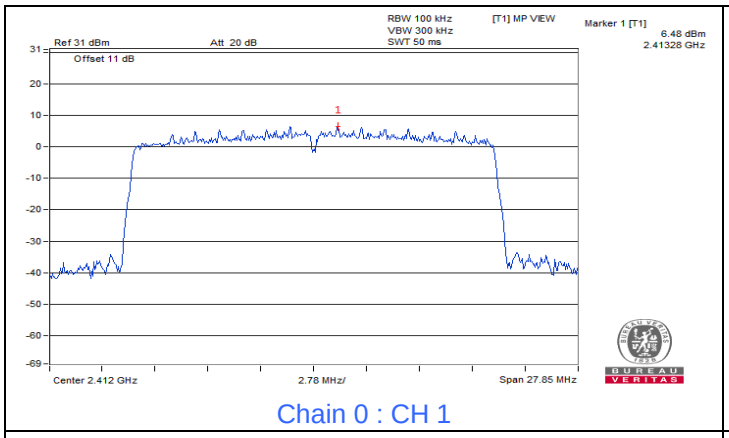


Chain 3 : CH 1 Band edge

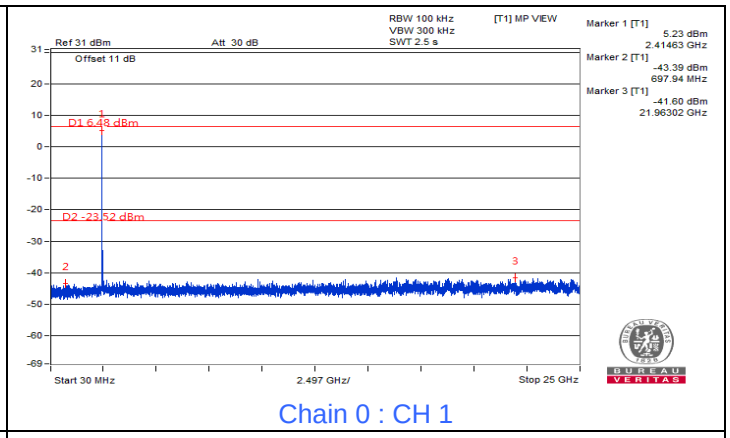


Chain 3 : CH 11 Band edge

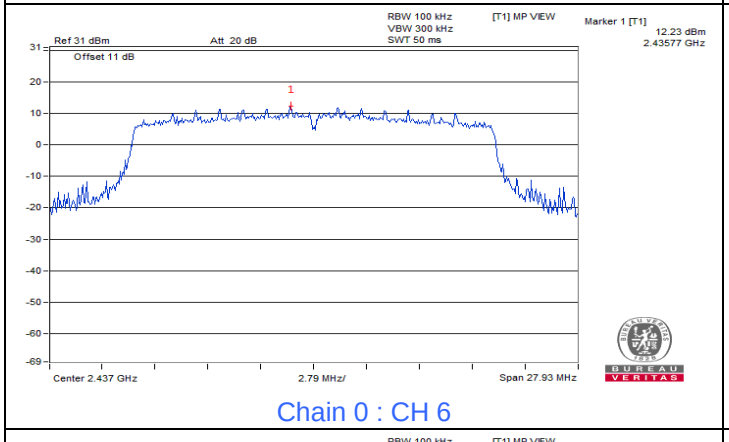
802.11ax (HE20)



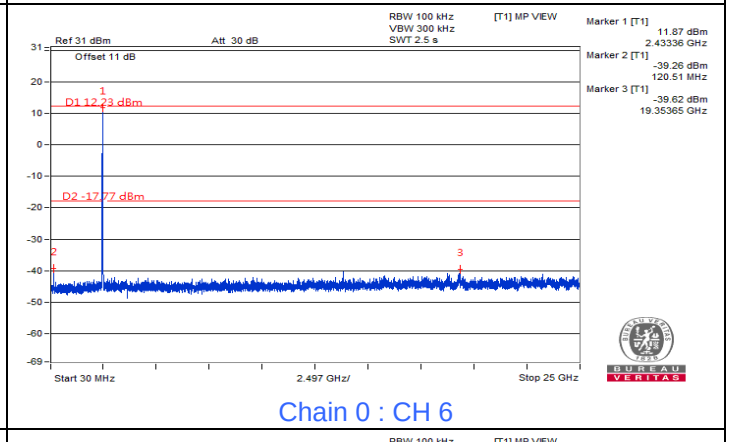
Chain 0 : CH 1



Chain 0 : CH 1



Chain 0 : CH 6



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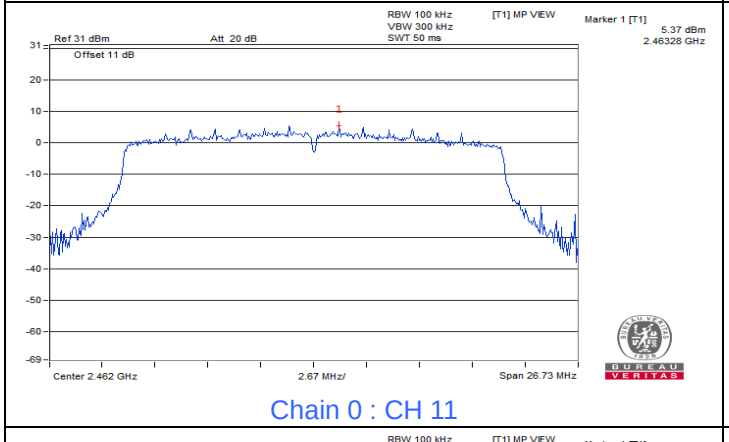

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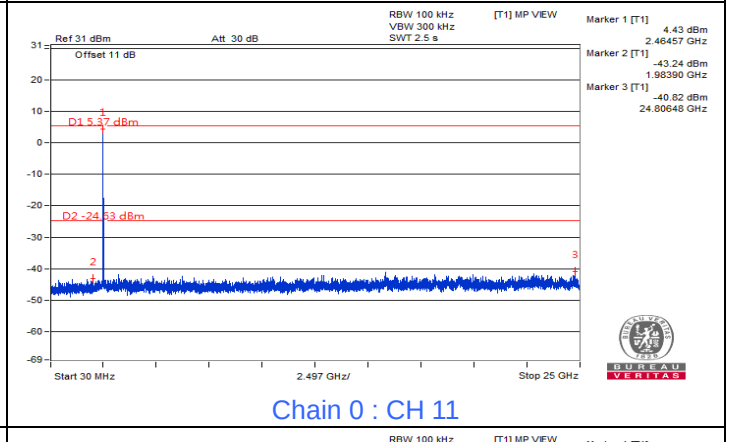

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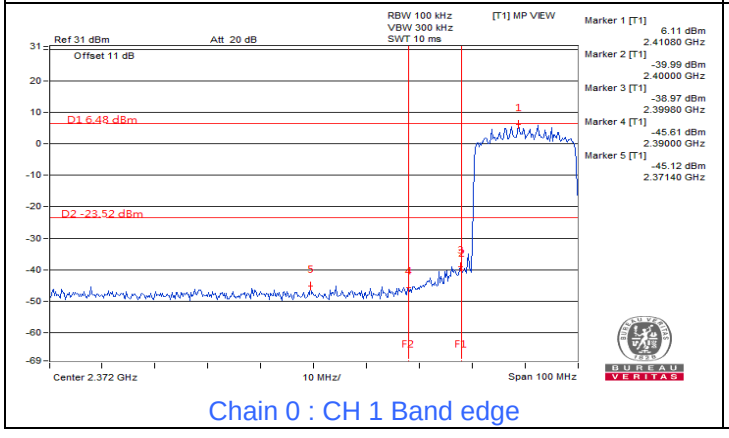
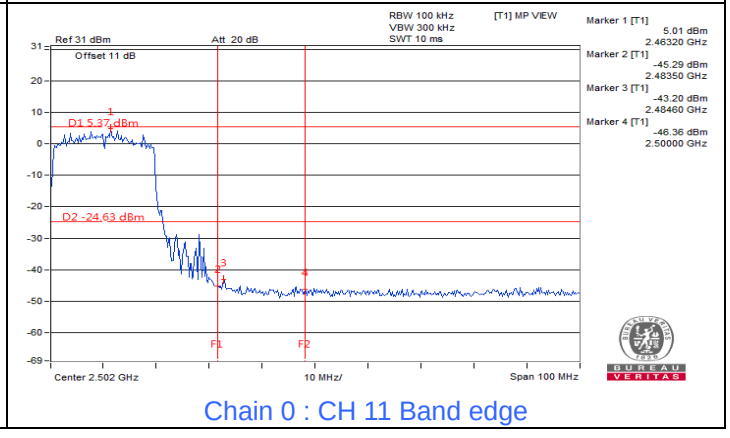
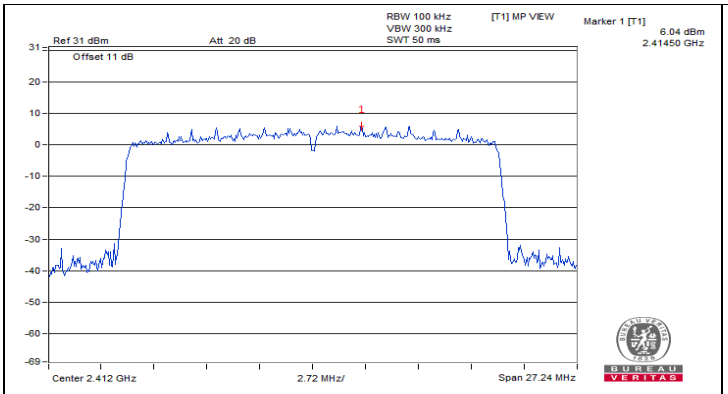


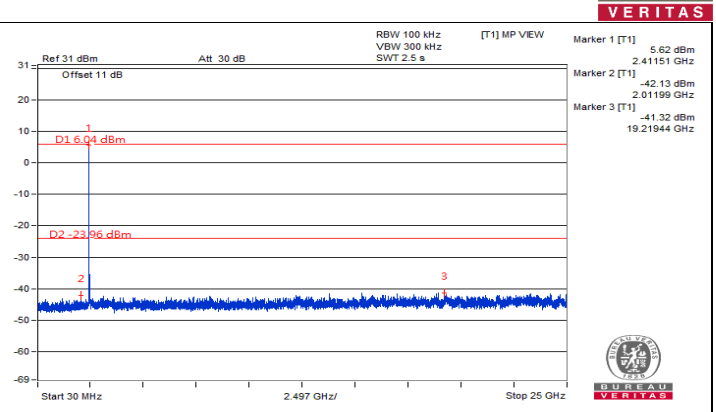
Chain 0 : CH 1 Band edge



Chain 0 : CH 11 Band edge



Chain 1 : CH 1



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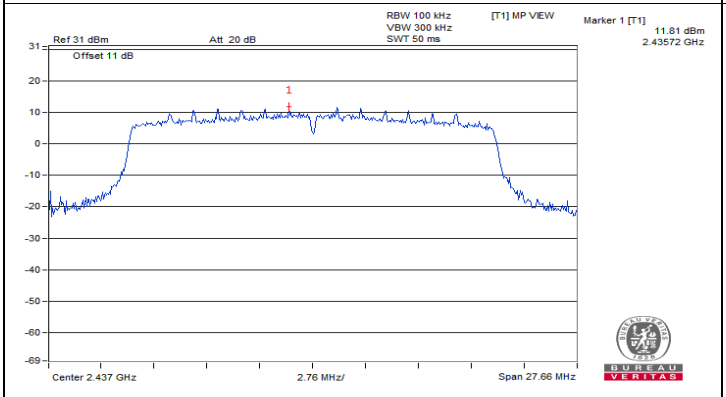

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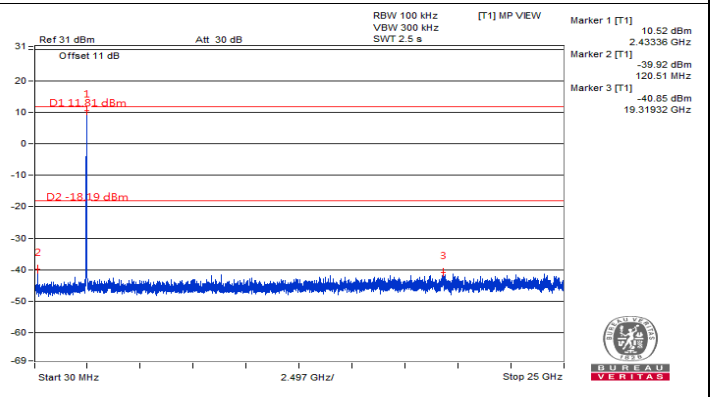
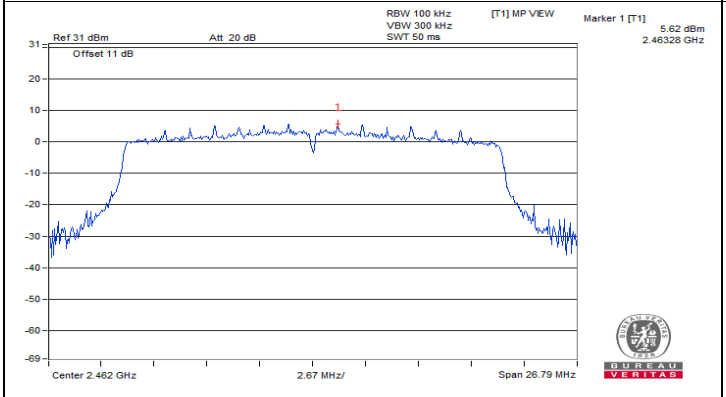
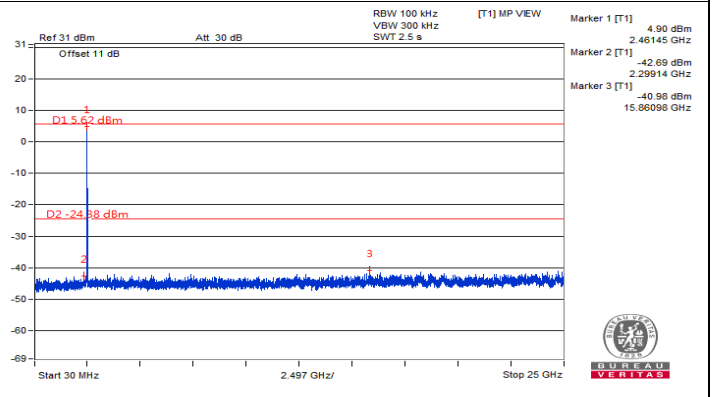


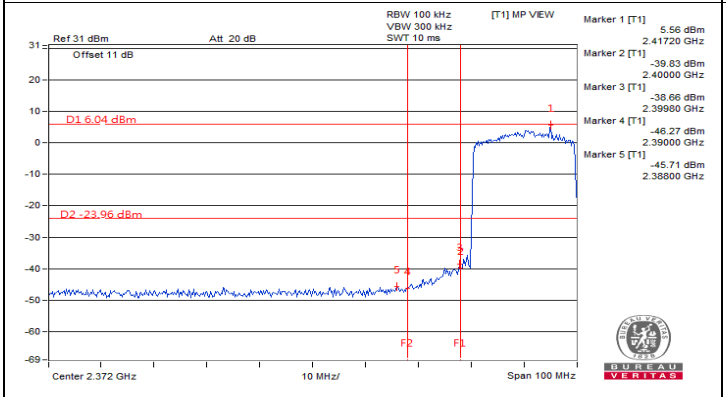
Chain 1 : CH 6



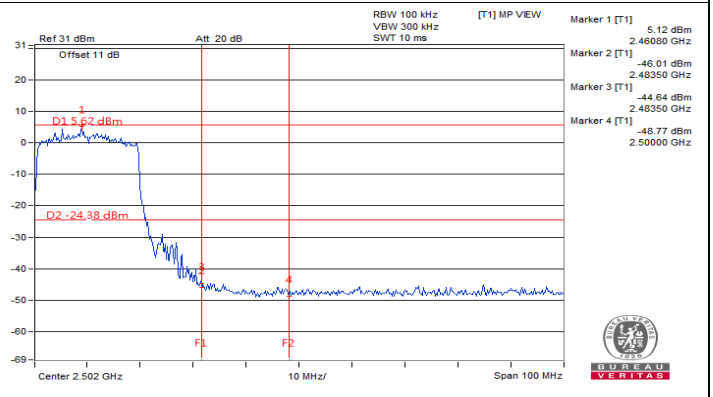
Chain 1 : CH 11



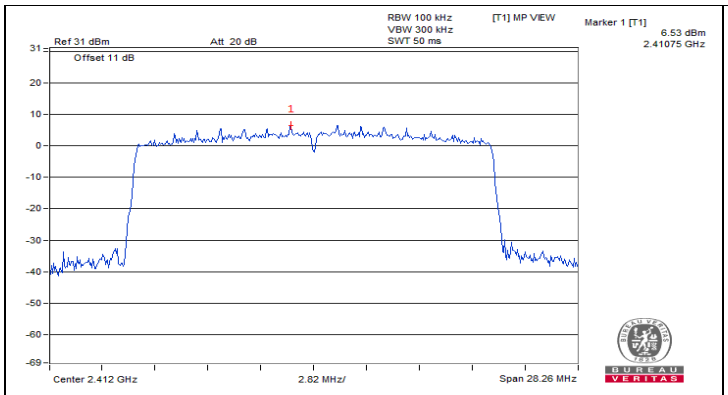
Chain 1 : CH 11



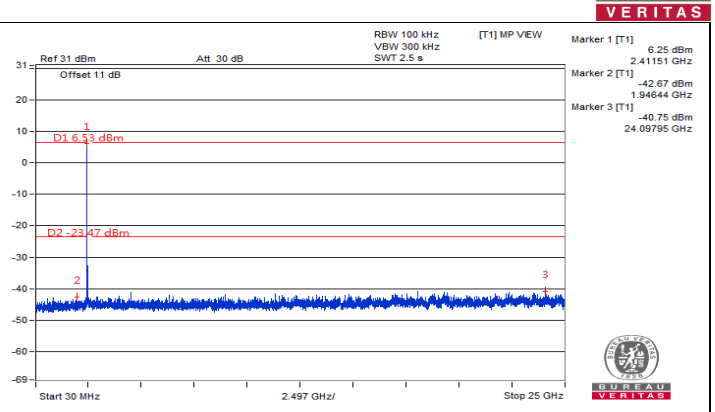
Chain 1 : CH 1 Band edge



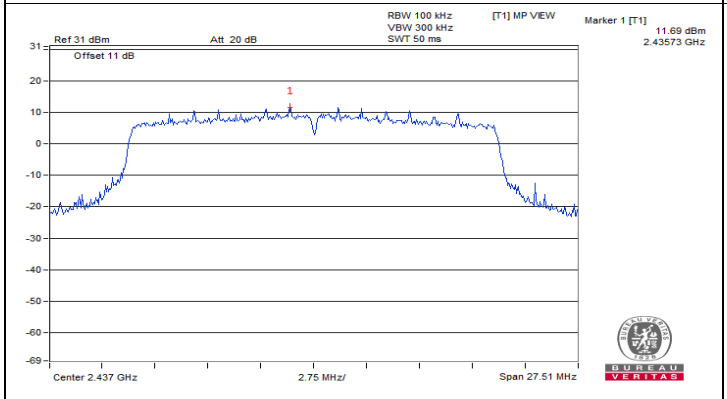
Chain 1 : CH 11 Band edge



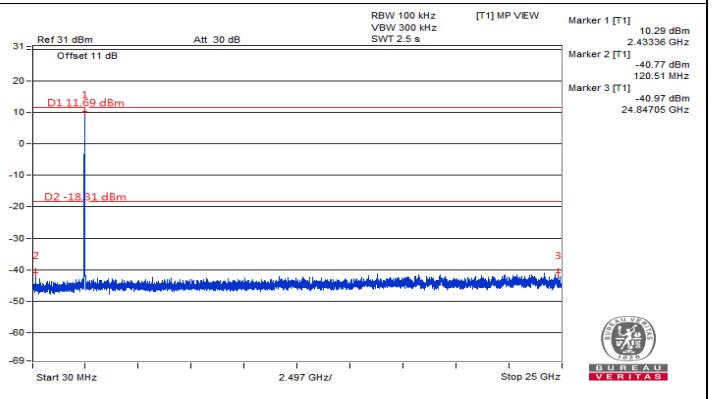
Chain 2 : CH 1



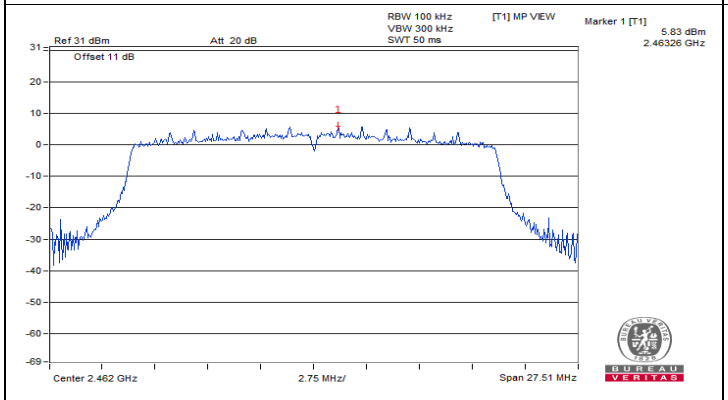
Chain 2 : CH 1



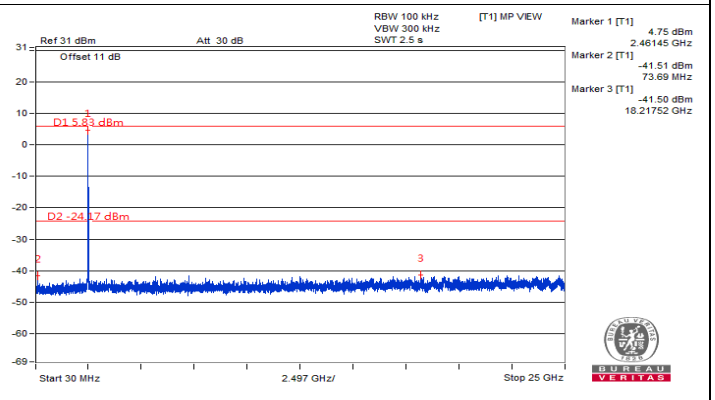
Chain 2 : CH 6



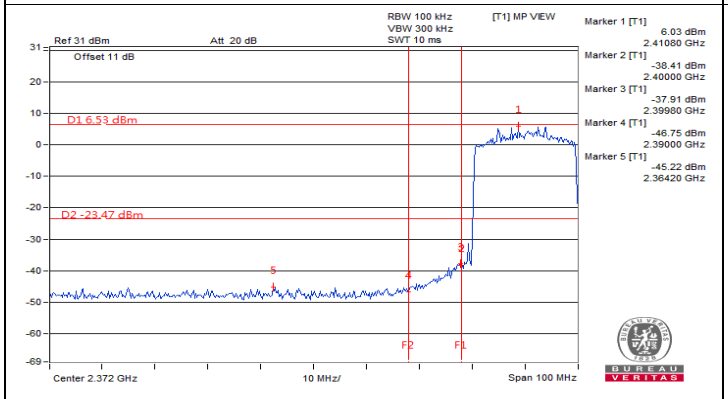
Chain 2 : CH 6



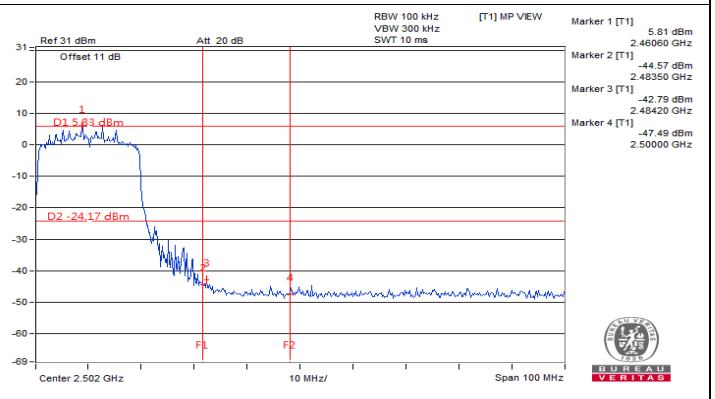
Chain 2 : CH 11



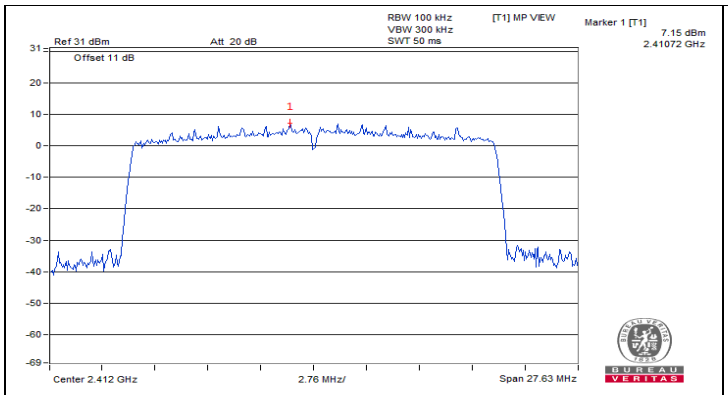
Chain 2 : CH 11



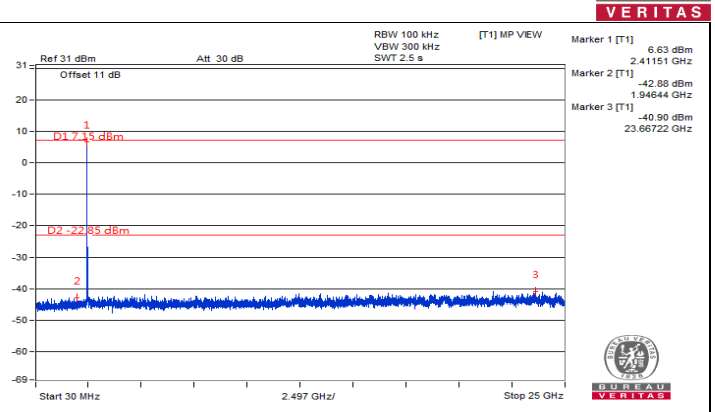
Chain 2 : CH 1 Band edge



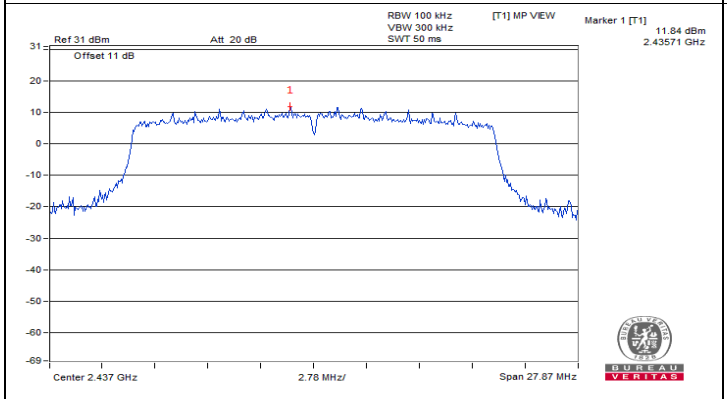
Chain 2 : CH 11 Band edge



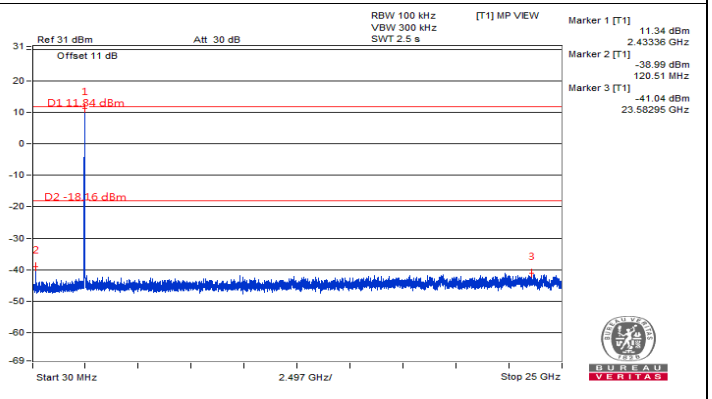
Chain 3 : CH 1



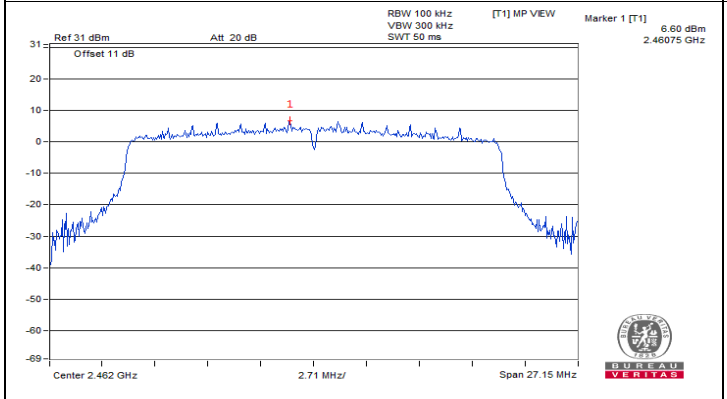
Chain 3 : CH 1



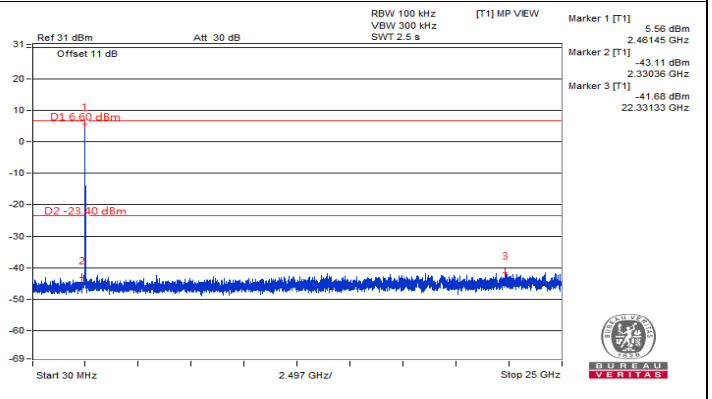
Chain 3 : CH 6



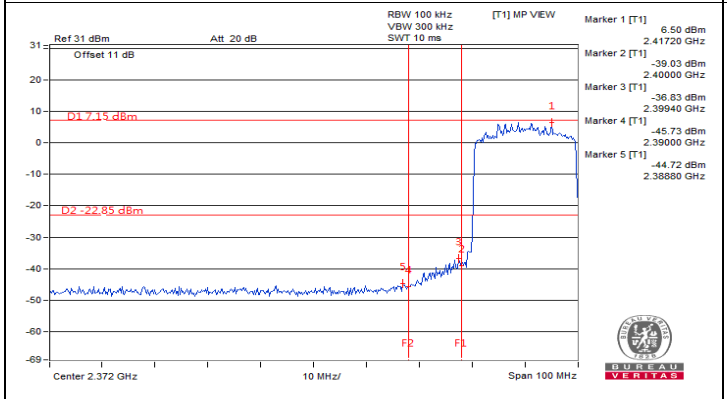
Chain 3 : CH 6



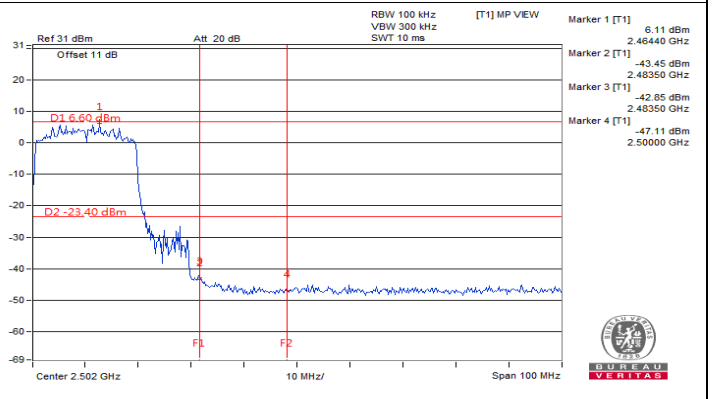
Chain 3 : CH 11



Chain 3 : CH 11

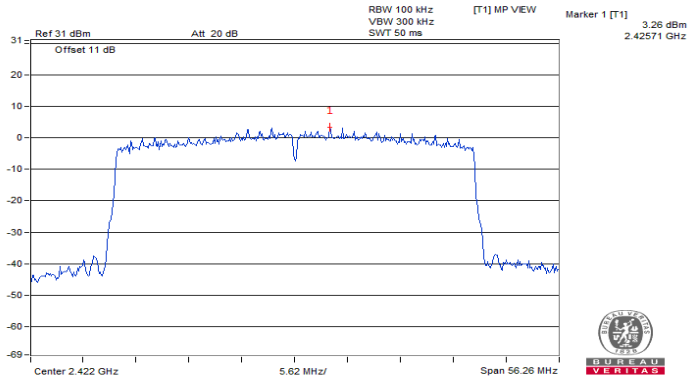


Chain 3 : CH 1 Band edge

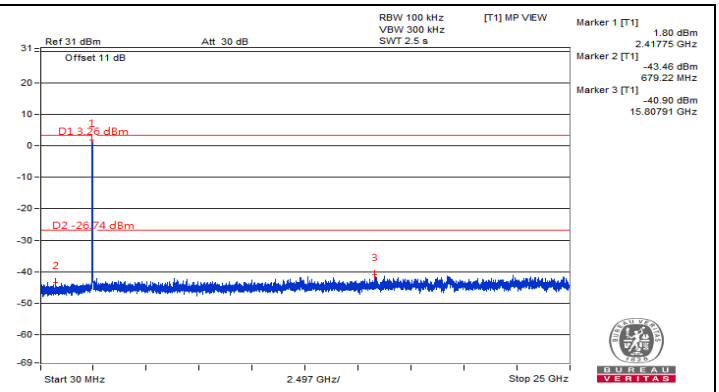


Chain 3 : CH 11 Band edge

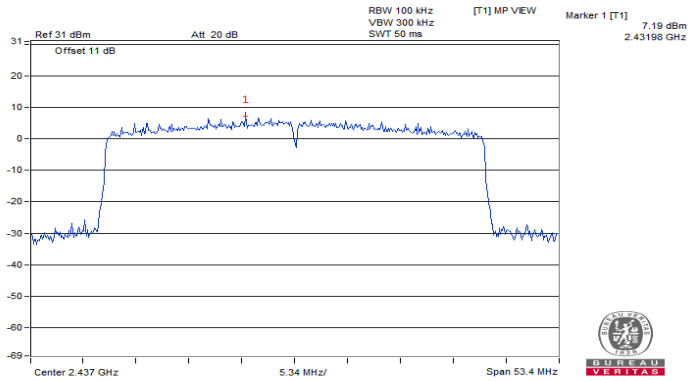
802.11ax (HE40)



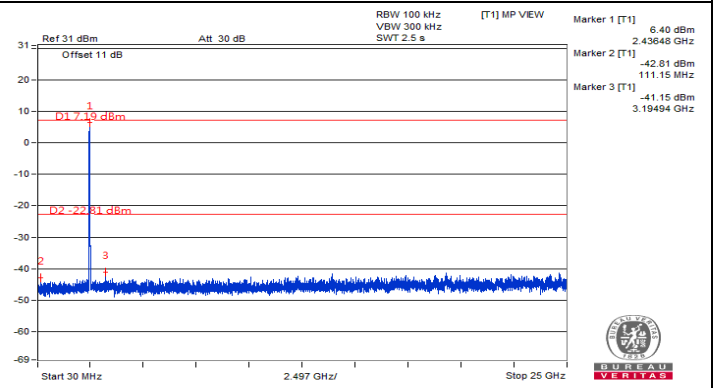
Chain 0 : CH 3



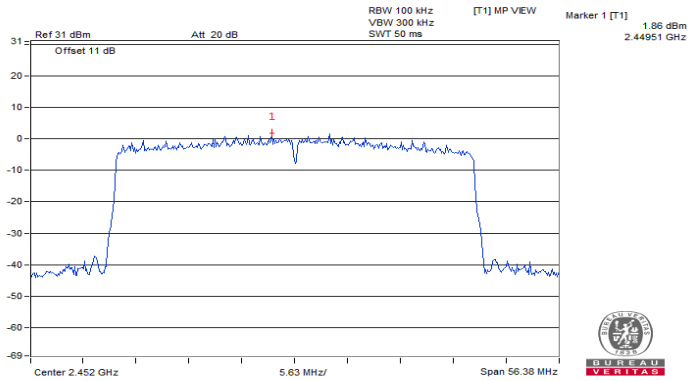
Chain 0 : CH 3



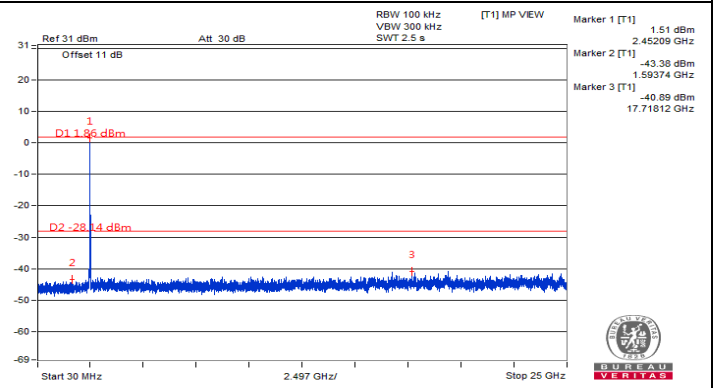
Chain 0 : CH 6



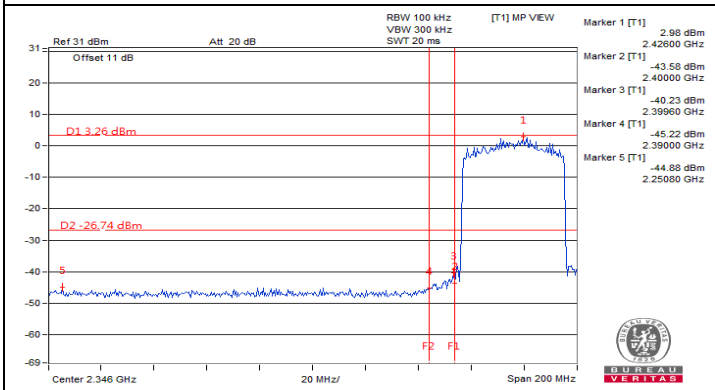
Chain 0 : CH 6



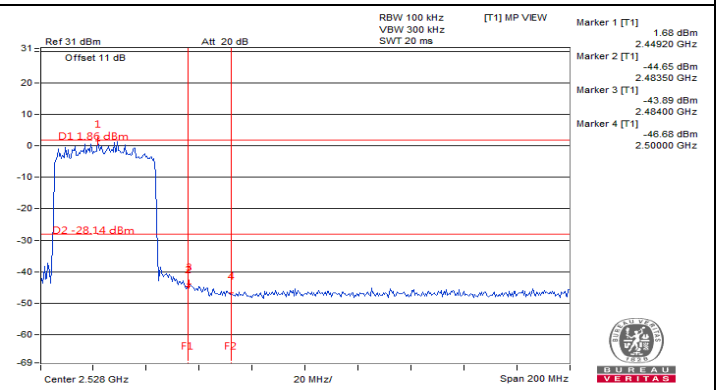
Chain 0 : CH 9



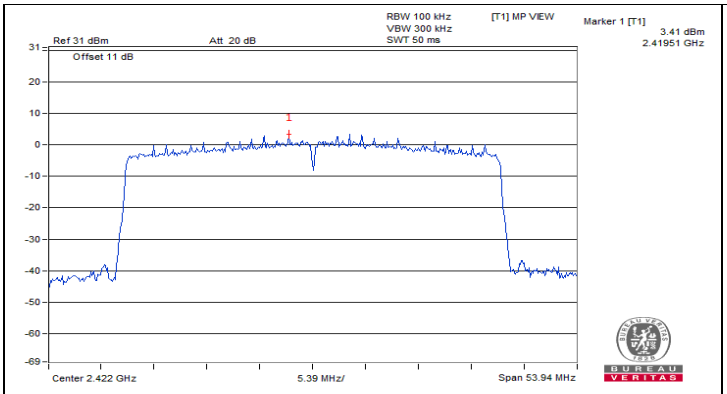
Chain 0 : CH 9



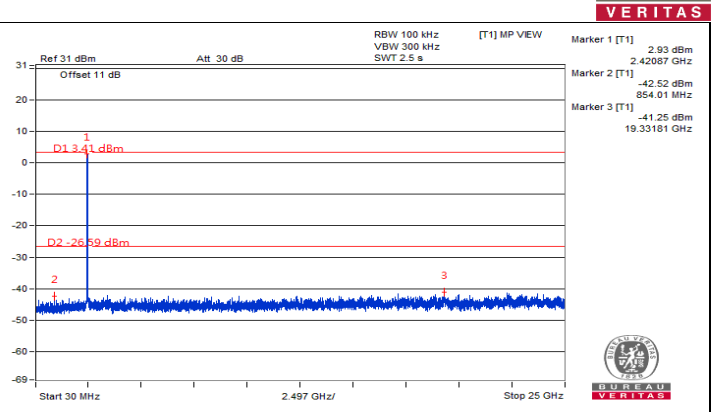
Chain 0 : CH 3 Band edge



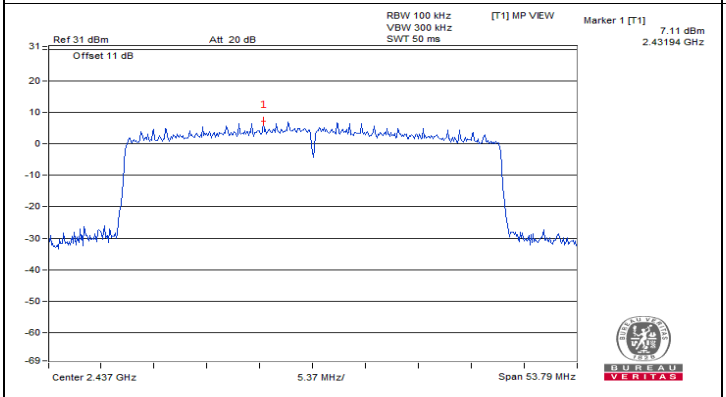
Chain 0 : CH 9 Band edge



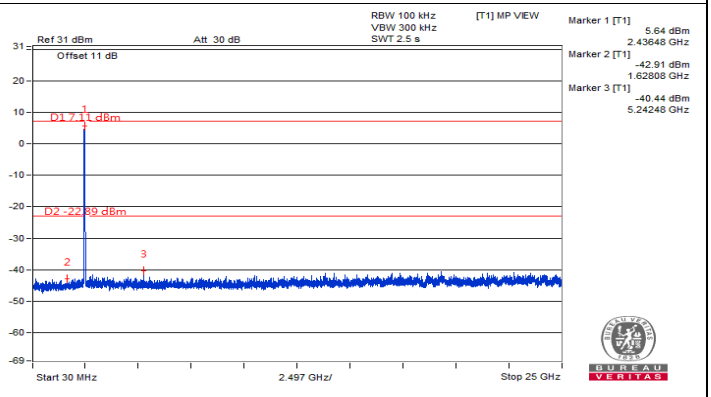
Chain 1 : CH 3



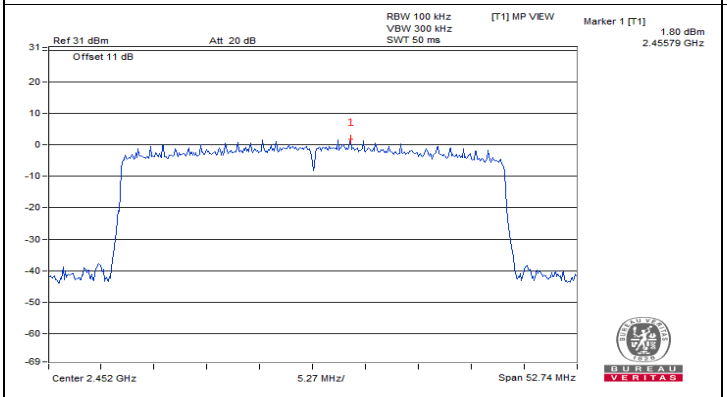
Chain 1 : CH 3



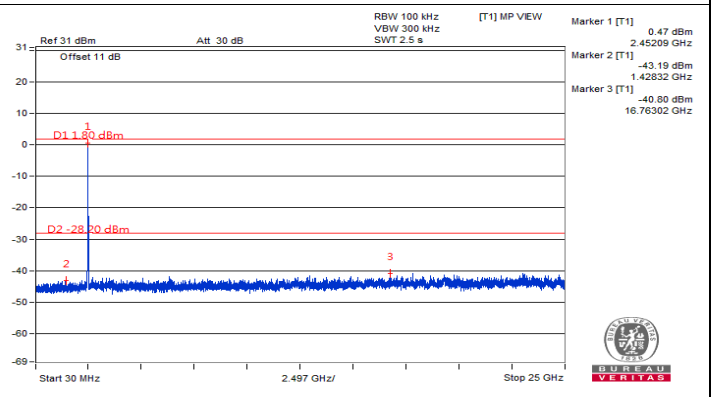
Chain 1 : CH 6



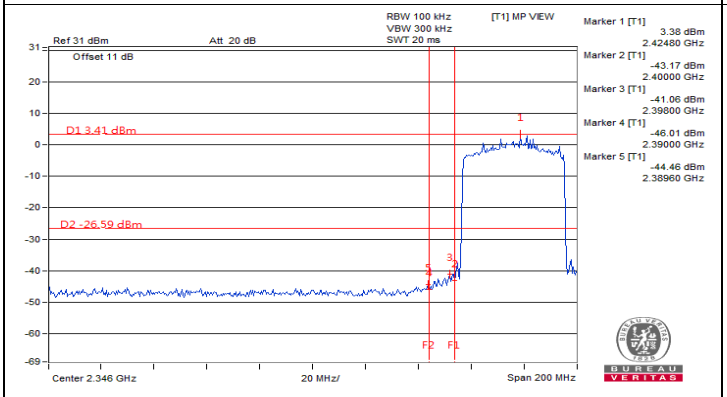
Chain 1 : CH 6



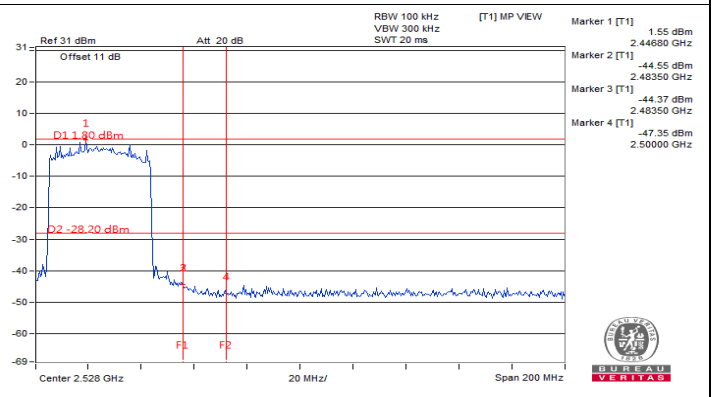
Chain 1 : CH 9



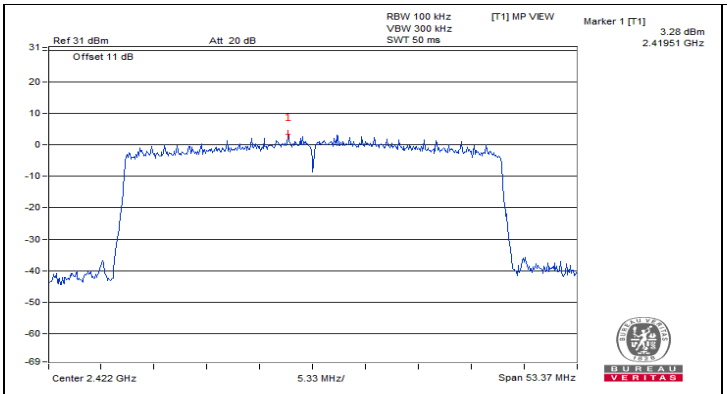
Chain 1 : CH 9



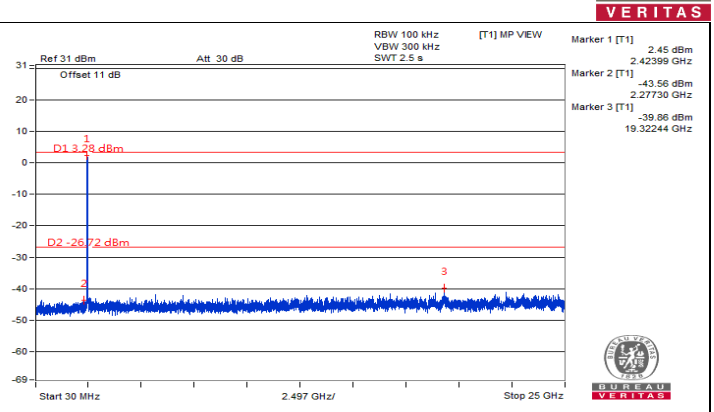
Chain 1 : CH 3 Band edge



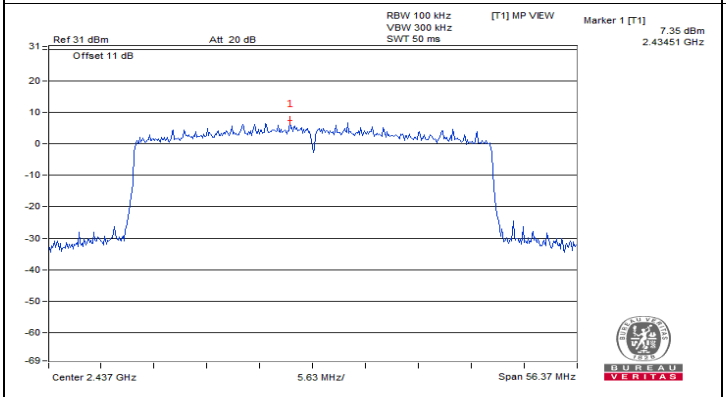
Chain 1 : CH 9 Band edge



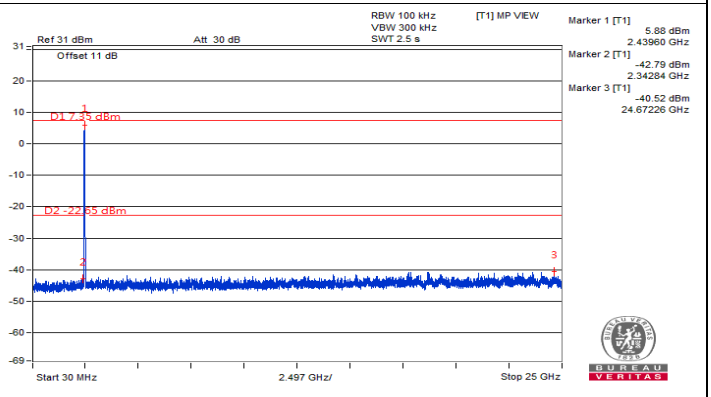
Chain 2 : CH 3



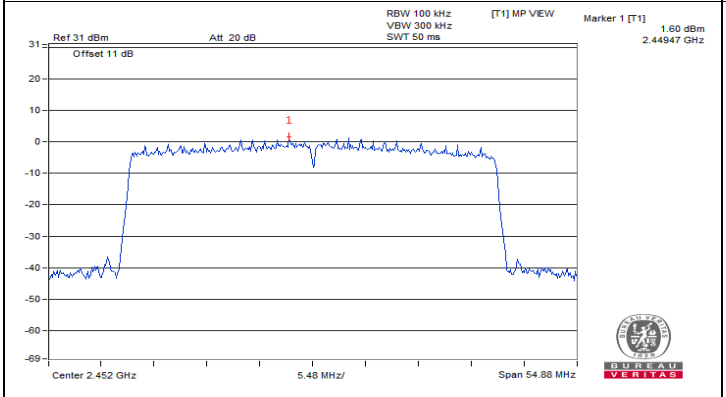
Chain 2 : CH 3



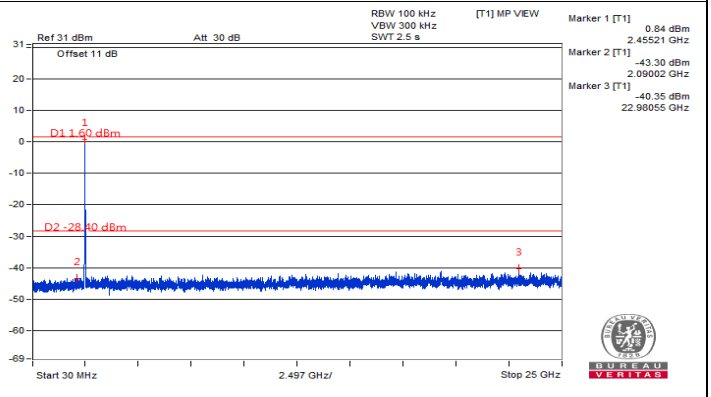
Chain 2 : CH 6



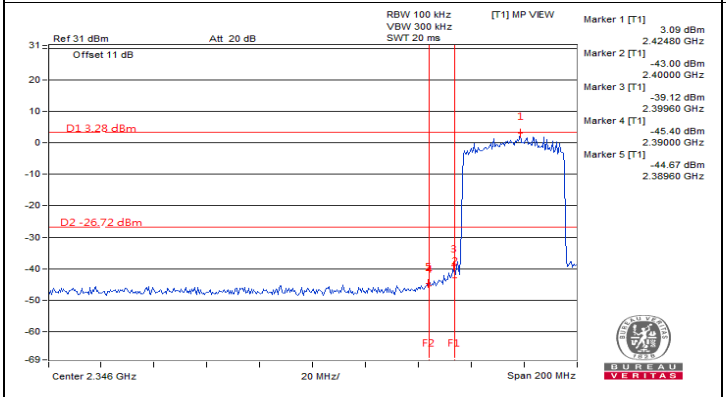
Chain 2 : CH 6



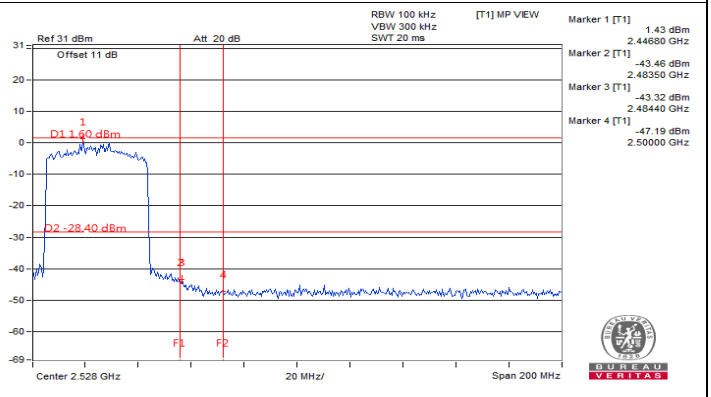
Chain 2 : CH 9



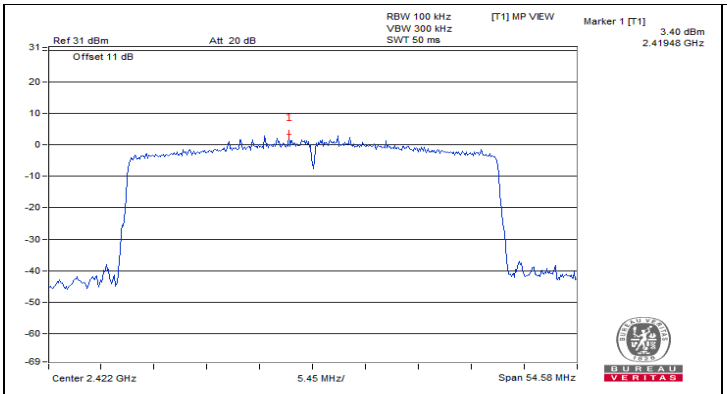
Chain 2 : CH 9



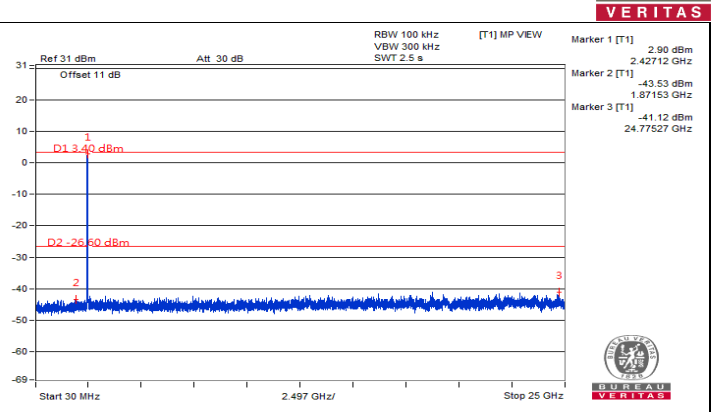
Chain 2 : CH 3 Band edge



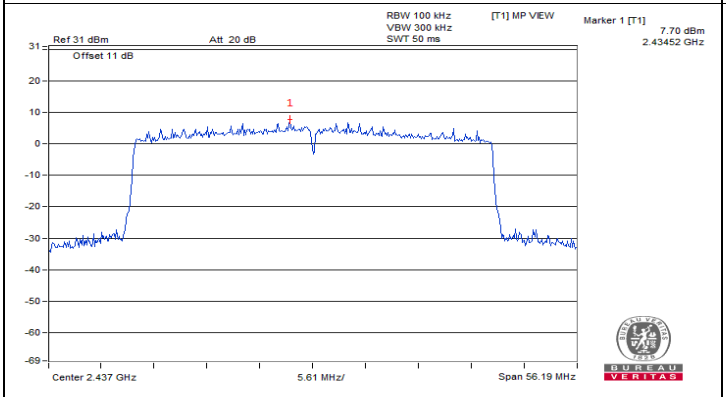
Chain 2 : CH 9 Band edge



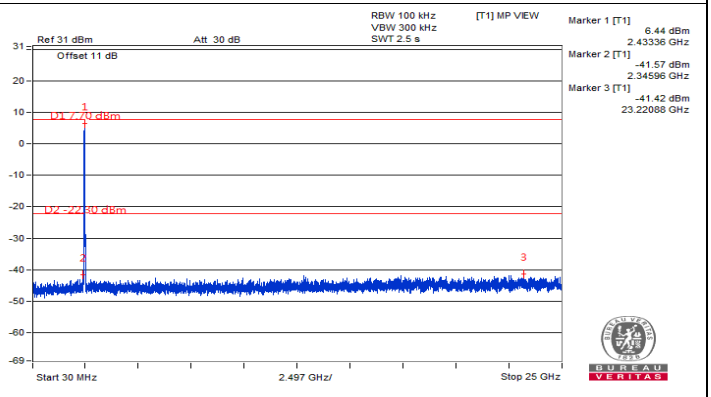
Chain 3 : CH 3



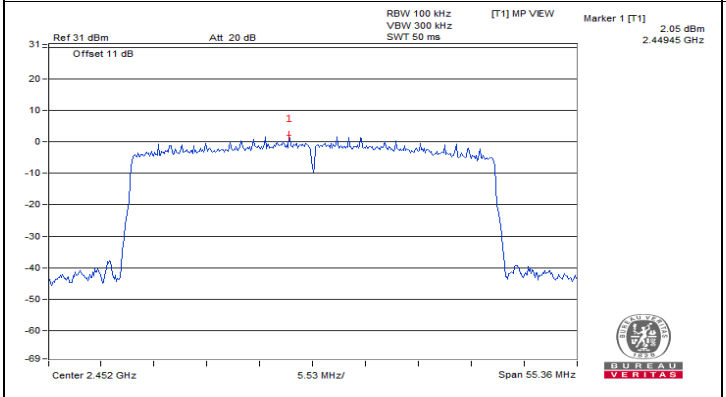
Chain 3 : CH 3



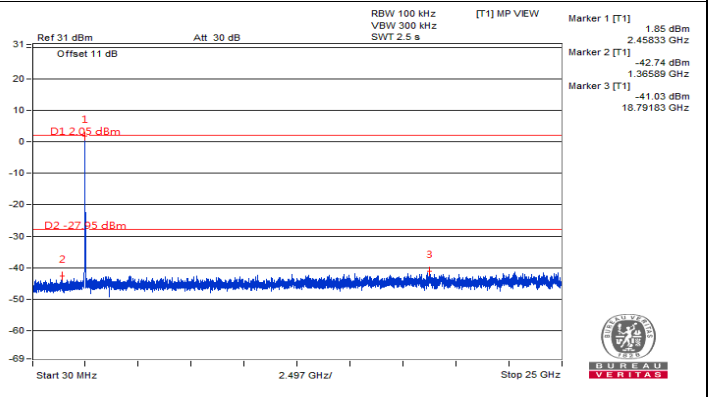
Chain 3 : CH 6



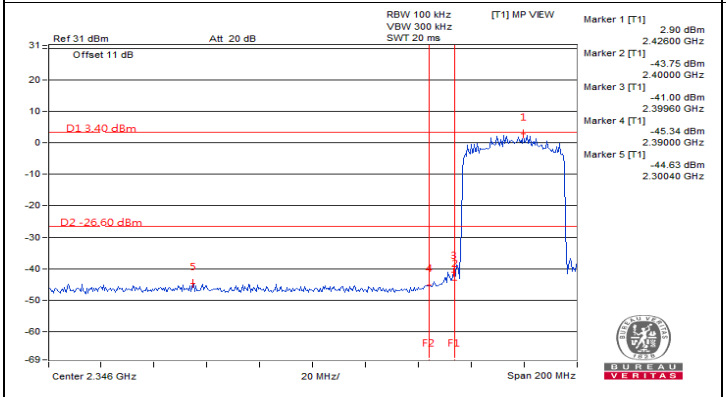
Chain 3 : CH 6



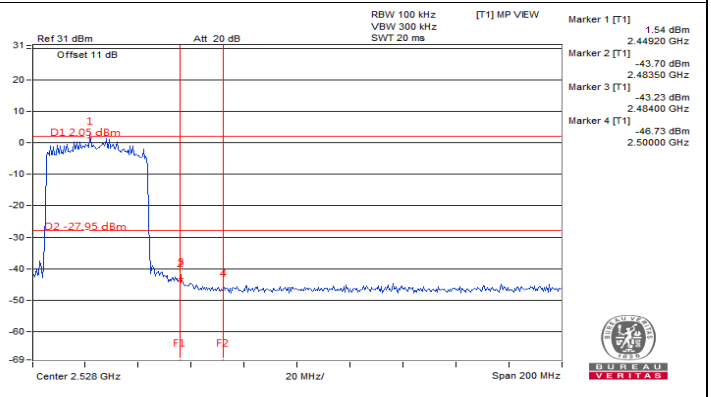
Chain 3 : CH 9



Chain 3 : CH 9



Chain 3 : CH 3 Band edge



Chain 3 : CH 9 Band edge

7.5 AC Power Conducted Emissions

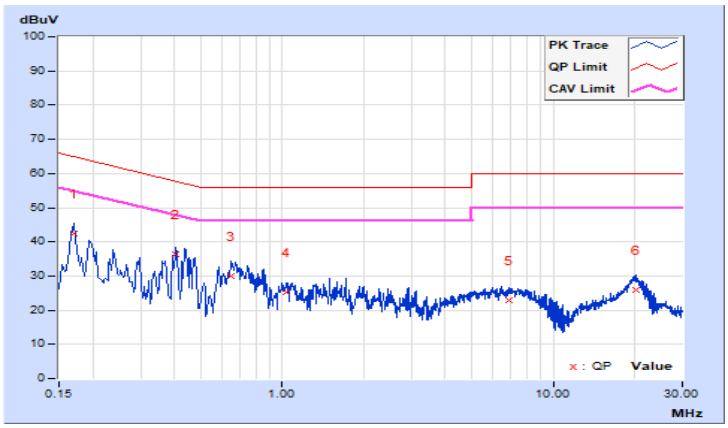
Mode A

RF Mode	802.11g	**Channel**	CH 6：2437 MHz
Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	21.8°C, 68.1% RH
Tested By	Thomas Cheng		

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	0.17000	9.65	32.70	22.15	42.35	31.80	64.96	54.96	-22.61	-23.16
2	**0.40600**	**9.69**	**26.52**	**24.09**	**36.21**	**33.78**	**57.73**	**47.73**	**-21.52**	**-13.95**
3	0.64902	9.70	20.22	14.16	29.92	23.86	56.00	46.00	-26.08	-22.14
4	1.03191	9.71	15.53	7.46	25.24	17.17	56.00	46.00	-30.76	-28.83
5	6.83000	9.80	13.23	7.21	23.03	17.01	60.00	50.00	-36.97	-32.99
6	20.11000	9.88	16.09	10.22	25.97	20.10	60.00	50.00	-34.03	-29.90

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

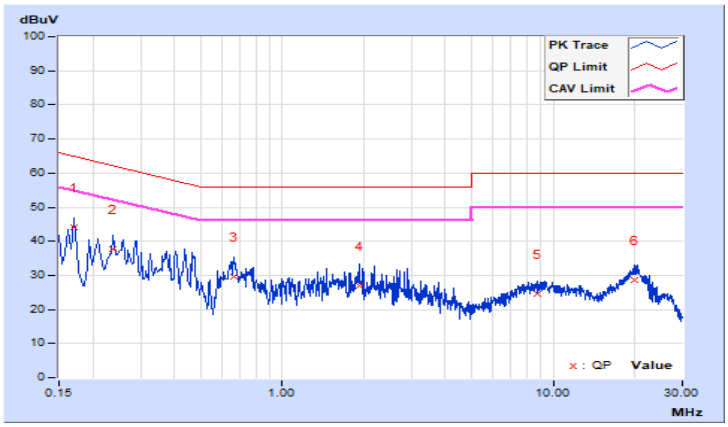


RF Mode	802.11g	**Channel**	CH 6：2437 MHz
Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	21.8°C, 68.1% RH
Tested By	Thomas Cheng		

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	0.17000	9.65	34.49	24.13	44.14	33.78	64.96	54.96	-20.82	-21.18
2	0.23800	9.67	27.99	20.13	37.66	29.80	62.17	52.17	-24.51	-22.37
3	0.66600	9.70	19.89	15.51	29.59	25.21	56.00	46.00	-26.41	-20.79
4	1.92200	9.74	17.15	10.81	26.89	20.55	56.00	46.00	-29.11	-25.45
5	8.72600	9.82	14.74	6.11	24.56	15.93	60.00	50.00	-35.44	-34.07
6	19.97800	9.91	18.84	13.57	28.75	23.48	60.00	50.00	-31.25	-26.52

Remarks:

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



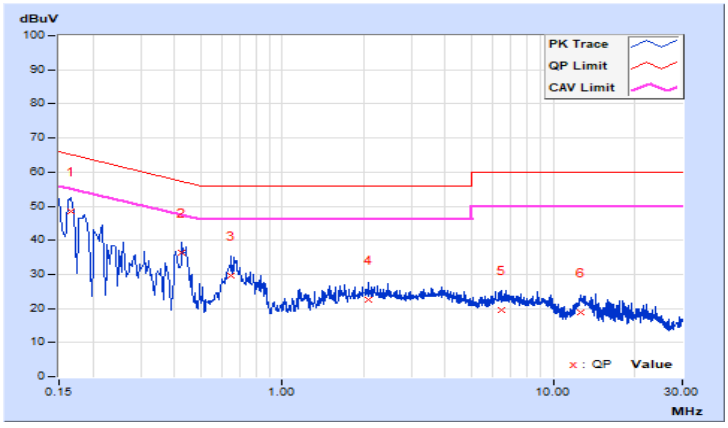
Mode B

RF Mode	802.11g	**Channel**	CH 6：2437 MHz
Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	21.8°C, 68.1% RH
Tested By	Thomas Cheng		

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	0.16579	9.65	38.74	16.76	48.39	26.41	65.17	55.17	-16.78	-28.76
2	0.42600	9.69	26.73	20.31	36.42	30.00	57.33	47.33	-20.91	-17.33
3	0.65000	9.70	20.04	13.72	29.74	23.42	56.00	46.00	-26.26	-22.58
4	2.07000	9.73	12.86	7.61	22.59	17.34	56.00	46.00	-33.41	-28.66
5	6.45800	9.79	9.86	4.66	19.65	14.45	60.00	50.00	-40.35	-35.55
6	12.71000	9.85	9.17	4.14	19.02	13.99	60.00	50.00	-40.98	-36.01

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

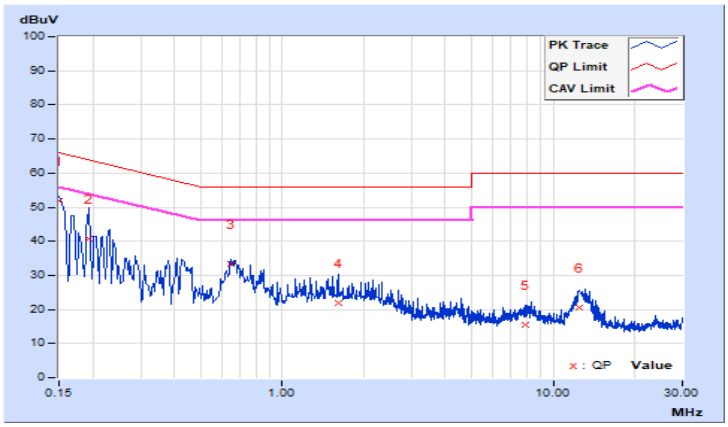


RF Mode	802.11g	**Channel**	CH 6：2437 MHz
Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	21.8°C, 68.1% RH
Tested By	Thomas Cheng		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15000	9.64	42.27	22.50	51.91	32.14	66.00	56.00	-14.09	-23.86
2	0.19400	9.66	31.01	14.79	40.67	24.45	63.86	53.86	-23.19	-29.41
3	0.65000	9.70	23.65	16.16	33.35	25.86	56.00	46.00	-22.65	-20.14
4	1.60600	9.73	12.28	8.02	22.01	17.75	56.00	46.00	-33.99	-28.25
5	7.89800	9.81	5.54	2.59	15.35	12.40	60.00	50.00	-44.65	-37.60
6	12.43400	9.85	10.83	5.68	20.68	15.53	60.00	50.00	-39.32	-34.47

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



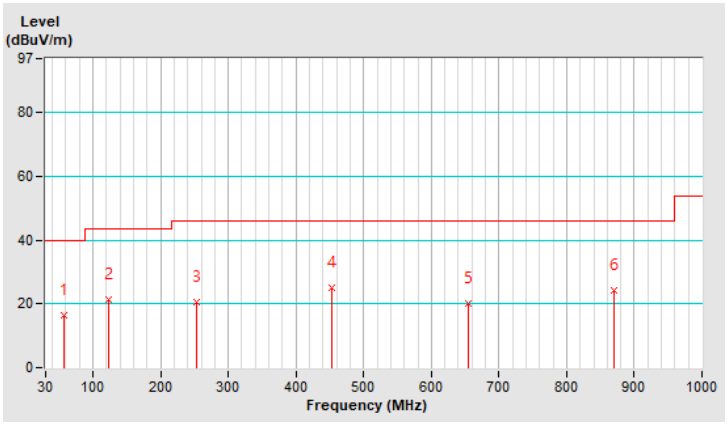
7.6 Unwanted Emissions below 1 GHz

RF Mode	802.11g	**Channel**	CH 6：2437 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120Vac,60Hz	**Environmental Conditions**	25°C, 61% RH
Tested By	Karl Lee		

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	56.40	16.4 QP	40.0	-23.6	1.18 H	271	34.4	-18.0
2	123.72	21.2 QP	43.5	-22.3	1.48 H	81	40.8	-19.6
3	253.62	20.4 QP	46.0	-25.6	2.21 H	149	39.4	-19.0
4	452.40	24.9 QP	46.0	-21.1	1.10 H	169	38.2	-13.3
5	654.28	20.3 QP	46.0	-25.7	2.04 H	123	30.2	-9.9
6	869.20	24.2 QP	46.0	-21.8	2.07 H	112	30.7	-6.5

Remarks:

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

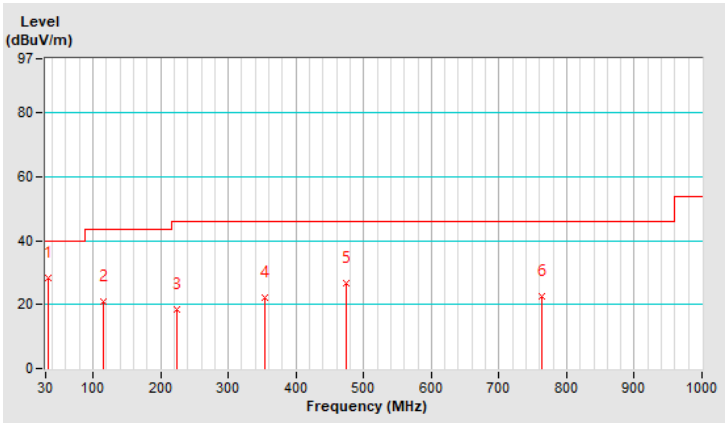


RF Mode	802.11g	**Channel**	CH 6：2437 MHz
Frequency Range	9 kHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120Vac,60Hz	**Environmental Conditions**	25°C, 61% RH
Tested By	Karl Lee		

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	**33.54**	**28.5 QP**	**40.0**	**-11.5**	**1.66 V**	**176**	**47.6**	**-19.1**
2	115.64	20.8 QP	43.5	-22.7	2.23 V	171	41.1	-20.3
3	223.64	18.3 QP	46.0	-27.7	1.12 V	193	39.1	-20.8
4	354.60	22.4 QP	46.0	-23.6	2.16 V	163	38.3	-15.9
5	474.30	26.7 QP	46.0	-19.3	2.31 V	184	39.7	-13.0
6	763.20	22.5 QP	46.0	-23.5	2.04 V	218	30.3	-7.8

Remarks:

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



7.7 Unwanted Emissions above 1 GHz

CDD Mode

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 (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	60.8 PK	74.0	-13.2	1.36 H	183	54.2	6.6
2	2390.00	52.4 AV	54.0	-1.6	1.36 H	183	45.8	6.6
3	*2412.00	122.2 PK			2.50 H	245	84.1	38.1
4	*2412.00	120.3 AV			2.50 H	245	82.2	38.1
5	4824.00	50.2 PK	74.0	-23.8	2.47 H	260	38.6	11.6
6	4824.00	42.5 AV	54.0	-11.5	2.47 H	260	30.9	11.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	61.1 PK	74.0	-12.9	2.68 V	162	54.5	6.6
2	2390.00	49.2 AV	54.0	-4.8	2.68 V	162	42.6	6.6
3	*2412.00	120.4 PK			2.80 V	188	82.3	38.1
4	*2412.00	118.5 AV			2.80 V	188	80.4	38.1
5	4824.00	49.7 PK	74.0	-24.3	2.25 V	108	38.1	11.6
6	4824.00	41.9 AV	54.0	-12.1	2.25 V	108	30.3	11.6

Remarks:

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

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 (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.8 PK	74.0	-13.2	2.51 H	246	54.2	6.6
2	2390.00	50.1 AV	54.0	-3.9	2.51 H	246	43.5	6.6
3	*2437.00	123.7 PK			2.45 H	246	85.7	38.0
4	*2437.00	121.5 AV			2.45 H	246	83.5	38.0
5	2483.50	61.0 PK	74.0	-13.0	2.82 H	248	54.4	6.6
6	2483.50	50.2 AV	54.0	-3.8	2.82 H	248	43.6	6.6
7	4874.00	50.1 PK	74.0	-23.9	2.23 H	147	38.6	11.5
8	4874.00	42.6 AV	54.0	-11.4	2.23 H	147	31.1	11.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.2 PK	74.0	-13.8	2.64 V	192	53.6	6.6
2	2390.00	49.7 AV	54.0	-4.3	2.64 V	192	43.1	6.6
3	*2437.00	122.1 PK			2.80 V	188	84.1	38.0
4	*2437.00	120.0 AV			2.80 V	188	82.0	38.0
5	2483.50	59.5 PK	74.0	-14.5	2.35 V	176	52.9	6.6
6	2483.50	49.1 AV	54.0	-4.9	2.35 V	176	42.5	6.6
7	4874.00	49.3 PK	74.0	-24.7	1.53 V	26	37.8	11.5
8	4874.00	41.7 AV	54.0	-12.3	1.53 V	26	30.2	11.5

Remarks:

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

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 (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

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	*2462.00	120.5 PK			2.42 H	230	82.6	37.9
2	*2462.00	118.7 AV			2.42 H	230	80.8	37.9
3	2483.50	61.2 PK	74.0	-12.8	2.80 H	230	54.6	6.6
4	2483.50	52.7 AV	54.0	-1.3	2.80 H	230	46.1	6.6
5	4924.00	50.2 PK	74.0	-23.8	1.52 H	273	38.5	11.7
6	4924.00	42.6 AV	54.0	-11.4	1.52 H	273	30.9	11.7
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	*2462.00	118.6 PK			3.16 V	180	80.7	37.9
2	*2462.00	116.8 AV			3.16 V	180	78.9	37.9
3	2483.50	59.8 PK	74.0	-14.2	2.91 V	218	53.2	6.6
4	2483.50	52.0 AV	54.0	-2.0	2.91 V	218	45.4	6.6
5	4924.00	49.7 PK	74.0	-24.3	2.11 V	126	38.0	11.7
6	4924.00	42.3 AV	54.0	-11.7	2.11 V	126	30.6	11.7

Remarks:

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

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 (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.1 PK	74.0	-10.9	1.57 H	236	56.5	6.6
2	2390.00	53.0 AV	54.0	-1.0	1.57 H	236	46.4	6.6
3	*2412.00	120.6 PK			1.50 H	241	82.5	38.1
4	*2412.00	111.8 AV			1.50 H	241	73.7	38.1
5	4824.00	49.5 PK	74.0	-24.5	2.15 H	196	37.9	11.6
6	4824.00	42.0 AV	54.0	-12.0	2.15 H	196	30.4	11.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.9 PK	74.0	-11.1	2.69 V	137	56.3	6.6
2	2390.00	51.5 AV	54.0	-2.5	2.69 V	137	44.9	6.6
3	*2412.00	117.8 PK			2.74 V	166	79.7	38.1
4	*2412.00	109.5 AV			2.74 V	166	71.4	38.1
5	4824.00	49.8 PK	74.0	-24.2	2.93 V	104	38.2	11.6
6	4824.00	42.1 AV	54.0	-11.9	2.93 V	104	30.5	11.6

Remarks:

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

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 (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	61.5 PK	74.0	-12.5	2.45 H	246	54.9	6.6
2	2390.00	51.1 AV	54.0	-2.9	2.45 H	246	44.5	6.6
3	*2437.00	126.9 PK			2.35 H	248	88.9	38.0
4	*2437.00	119.0 AV			2.35 H	248	81.0	38.0
5	2483.50	64.2 PK	74.0	-9.8	2.82 H	248	57.6	6.6
6	2483.50	52.6 AV	54.0	-1.4	2.82 H	248	46.0	6.6
7	4874.00	49.4 PK	74.0	-24.6	2.41 H	277	37.9	11.5
8	4874.00	42.0 AV	54.0	-12.0	2.41 H	277	30.5	11.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.4 PK	74.0	-13.6	2.84 V	187	53.8	6.6
2	2390.00	49.7 AV	54.0	-4.3	2.84 V	187	43.1	6.6
3	*2437.00	124.5 PK			2.78 V	188	86.5	38.0
4	*2437.00	116.8 AV			2.78 V	188	78.8	38.0
5	2483.50	62.4 PK	74.0	-11.6	2.53 V	156	55.8	6.6
6	2483.50	50.4 AV	54.0	-3.6	2.53 V	156	43.8	6.6
7	4874.00	49.6 PK	74.0	-24.4	3.12 V	175	38.1	11.5
8	4874.00	41.8 AV	54.0	-12.2	3.12 V	175	30.3	11.5

Remarks:

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

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 (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

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	*2462.00	119.3 PK			1.35 H	241	81.4	37.9
2	*2462.00	110.9 AV			1.35 H	241	73.0	37.9
3	2483.50	63.7 PK	74.0	-10.3	1.41 H	239	57.1	6.6
4	**2483.50**	**53.6 AV**	**54.0**	**-0.4**	**1.41 H**	**239**	**47.0**	**6.6**
5	4924.00	49.8 PK	74.0	-24.2	2.29 H	131	38.1	11.7
6	4924.00	42.3 AV	54.0	-11.7	2.29 H	131	30.6	11.7
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	*2462.00	116.9 PK			2.68 V	174	79.0	37.9
2	*2462.00	108.2 AV			2.68 V	174	70.3	37.9
3	2483.50	60.9 PK	74.0	-13.1	2.76 V	169	54.3	6.6
4	2483.50	51.1 AV	54.0	-2.9	2.76 V	169	44.5	6.6
5	4924.00	49.2 PK	74.0	-24.8	2.03 V	188	37.5	11.7
6	4924.00	41.5 AV	54.0	-12.5	2.03 V	188	29.8	11.7

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.2 PK	74.0	-6.8	1.72 H	237	60.6	6.6
2	2390.00	53.0 AV	54.0	-1.0	1.72 H	237	46.4	6.6
3	*2412.00	119.1 PK			1.50 H	249	81.0	38.1
4	*2412.00	108.7 AV			1.50 H	249	70.6	38.1
5	4824.00	49.8 PK	74.0	-24.2	1.68 H	263	38.2	11.6
6	4824.00	42.2 AV	54.0	-11.8	1.68 H	263	30.6	11.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.2 PK	74.0	-13.8	2.84 V	149	53.6	6.6
2	2390.00	49.7 AV	54.0	-4.3	2.84 V	149	43.1	6.6
3	*2412.00	116.6 PK			2.74 V	179	78.5	38.1
4	*2412.00	106.3 AV			2.74 V	179	68.2	38.1
5	4824.00	49.9 PK	74.0	-24.1	1.96 V	345	38.3	11.6
6	4824.00	42.3 AV	54.0	-11.7	1.96 V	345	30.7	11.6

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.8 PK	74.0	-13.2	1.52 H	261	54.2	6.6
2	2390.00	52.3 AV	54.0	-1.7	1.52 H	261	45.7	6.6
3	*2437.00	123.6 PK			1.50 H	241	85.6	38.0
4	*2437.00	113.9 AV			1.50 H	241	75.9	38.0
5	2483.50	62.0 PK	74.0	-12.0	1.50 H	227	55.4	6.6
6	2483.50	52.6 AV	54.0	-1.4	1.50 H	227	46.0	6.6
7	4874.00	49.4 PK	74.0	-24.6	2.53 H	184	37.9	11.5
8	4874.00	41.8 AV	54.0	-12.2	2.53 H	184	30.3	11.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.0 PK	74.0	-15.0	2.69 V	182	52.4	6.6
2	2390.00	50.7 AV	54.0	-3.3	2.69 V	182	44.1	6.6
3	*2437.00	121.7 PK			2.74 V	181	83.7	38.0
4	*2437.00	111.5 AV			2.74 V	181	73.5	38.0
5	2483.50	61.1 PK	74.0	-12.9	2.71 V	166	54.5	6.6
6	2483.50	51.8 AV	54.0	-2.2	2.71 V	166	45.2	6.6
7	4874.00	49.7 PK	74.0	-24.3	2.63 V	82	38.2	11.5
8	4874.00	42.1 AV	54.0	-11.9	2.63 V	82	30.6	11.5

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

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	*2462.00	117.0 PK			1.35 H	241	79.1	37.9
2	*2462.00	107.2 AV			1.35 H	241	69.3	37.9
3	2483.50	62.0 PK	74.0	-12.0	1.29 H	237	55.4	6.6
4	2483.50	52.6 AV	54.0	-1.4	1.29 H	237	46.0	6.6
5	4924.00	49.2 PK	74.0	-24.8	1.47 H	155	37.5	11.7
6	4924.00	41.6 AV	54.0	-12.4	1.47 H	155	29.9	11.7
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	*2462.00	115.6 PK			2.68 V	174	77.7	37.9
2	*2462.00	105.1 AV			2.68 V	174	67.2	37.9
3	2483.50	60.7 PK	74.0	-13.3	2.55 V	186	54.1	6.6
4	2483.50	50.9 AV	54.0	-3.1	2.55 V	186	44.3	6.6
5	4924.00	49.9 PK	74.0	-24.1	1.21 V	173	38.2	11.7
6	4924.00	42.4 AV	54.0	-11.6	1.21 V	173	30.7	11.7

Remarks:

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

RF Mode	802.11ax (HE40)	Channel	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	66.0 PK	74.0	-8.0	2.13 H	251	59.4	6.6
2	2390.00	53.0 AV	54.0	-1.0	2.13 H	251	46.4	6.6
3	*2422.00	116.3 PK			2.10 H	235	78.3	38.0
4	*2422.00	106.3 AV			2.10 H	235	68.3	38.0
5	2483.50	60.5 PK	74.0	-13.5	2.10 H	235	53.9	6.6
6	2483.50	49.4 AV	54.0	-4.6	2.10 H	235	42.8	6.6
7	4844.00	49.7 PK	74.0	-24.3	2.33 H	127	38.2	11.5
8	4844.00	42.1 AV	54.0	-11.9	2.33 H	127	30.6	11.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	61.8 PK	74.0	-12.2	2.57 V	194	55.2	6.6
2	2390.00	50.8 AV	54.0	-3.2	2.57 V	194	44.2	6.6
3	*2422.00	113.8 PK			2.74 V	179	75.8	38.0
4	*2422.00	103.9 AV			2.74 V	179	65.9	38.0
5	2483.50	59.4 PK	74.0	-14.6	2.74 V	179	52.8	6.6
6	2483.50	48.8 AV	54.0	-5.2	2.74 V	179	42.2	6.6
7	4844.00	49.5 PK	74.0	-24.5	1.34 V	228	38.0	11.5
8	4844.00	41.8 AV	54.0	-12.2	1.34 V	228	30.3	11.5

Remarks:

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

RF Mode	802.11ax (HE40)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	62.7 PK	74.0	-11.3	1.62 H	198	56.1	6.6
2	2390.00	51.9 AV	54.0	-2.1	1.62 H	198	45.3	6.6
3	*2437.00	119.1 PK			1.50 H	241	81.1	38.0
4	*2437.00	109.0 AV			1.50 H	241	71.0	38.0
5	2483.50	64.7 PK	74.0	-9.3	1.47 H	239	58.1	6.6
6	2483.50	53.3 AV	54.0	-0.7	1.47 H	239	46.7	6.6
7	4874.00	50.1 PK	74.0	-23.9	1.59 H	237	38.6	11.5
8	4874.00	42.4 AV	54.0	-11.6	1.59 H	237	30.9	11.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	61.3 PK	74.0	-12.7	2.69 V	168	54.7	6.6
2	2390.00	50.8 AV	54.0	-3.2	2.69 V	168	44.2	6.6
3	*2437.00	116.1 PK			2.69 V	181	78.1	38.0
4	*2437.00	106.6 AV			2.69 V	181	68.6	38.0
5	2483.50	63.9 PK	74.0	-10.1	2.74 V	164	57.3	6.6
6	2483.50	52.5 AV	54.0	-1.5	2.74 V	164	45.9	6.6
7	4874.00	48.9 PK	74.0	-25.1	1.50 V	275	37.4	11.5
8	4874.00	41.3 AV	54.0	-12.7	1.50 V	275	29.8	11.5

Remarks:

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

RF Mode	802.11ax (HE40)	Channel	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.6 PK	74.0	-15.4	1.35 H	240	52.0	6.6
2	2390.00	48.2 AV	54.0	-5.8	1.35 H	240	41.6	6.6
3	*2452.00	114.0 PK			1.35 H	240	76.1	37.9
4	*2452.00	104.3 AV			1.35 H	240	66.4	37.9
5	2483.50	62.9 PK	74.0	-11.1	1.24 H	232	56.3	6.6
6	2483.50	52.9 AV	54.0	-1.1	1.24 H	232	46.3	6.6
7	4904.00	49.7 PK	74.0	-24.3	1.58 H	62	38.1	11.6
8	4904.00	42.1 AV	54.0	-11.9	1.58 H	62	30.5	11.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.6 PK	74.0	-15.4	2.68 V	173	52.0	6.6
2	2390.00	48.0 AV	54.0	-6.0	2.68 V	173	41.4	6.6
3	*2452.00	112.0 PK			2.68 V	173	74.1	37.9
4	*2452.00	101.9 AV			2.68 V	173	64.0	37.9
5	2483.50	62.4 PK	74.0	-11.6	2.72 V	152	55.8	6.6
6	2483.50	52.4 AV	54.0	-1.6	2.72 V	152	45.8	6.6
7	4904.00	49.0 PK	74.0	-25.0	2.24 V	163	37.4	11.6
8	4904.00	41.4 AV	54.0	-12.6	2.24 V	163	29.8	11.6

Remarks:

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

Beamforming Mode

RF Mode	802.11ax (HE20)	Channel	CH 1：2412 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.4 PK	74.0	-13.6	2.38 H	72	53.8	6.6
2	2390.00	50.7 AV	54.0	-3.3	2.38 H	72	44.1	6.6
3	*2412.00	112.9 PK			2.38 H	72	74.8	38.1
4	*2412.00	101.9 AV			2.38 H	72	63.8	38.1
5	4824.00	49.7 PK	74.0	-24.3	2.26 H	147	38.1	11.6
6	4824.00	42.2 AV	54.0	-11.8	2.26 H	147	30.6	11.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.8 PK	74.0	-15.2	1.83 V	147	52.2	6.6
2	2390.00	48.5 AV	54.0	-5.5	1.83 V	147	41.9	6.6
3	*2412.00	108.5 PK			1.83 V	147	70.4	38.1
4	*2412.00	97.7 AV			1.83 V	147	59.6	38.1
5	4824.00	49.4 PK	74.0	-24.6	1.92 V	105	37.8	11.6
6	4824.00	41.9 AV	54.0	-12.1	1.92 V	105	30.3	11.6

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.7 PK	74.0	-15.3	2.34 H	88	52.1	6.6
2	2390.00	49.2 AV	54.0	-4.8	2.34 H	88	42.6	6.6
3	*2437.00	117.2 PK			2.34 H	88	79.2	38.0
4	*2437.00	106.7 AV			2.34 H	88	68.7	38.0
5	2483.50	59.0 PK	74.0	-15.0	2.34 H	88	52.4	6.6
6	2483.50	49.1 AV	54.0	-4.9	2.34 H	88	42.5	6.6
7	4874.00	50.4 PK	74.0	-23.6	2.05 H	228	38.9	11.5
8	4874.00	42.9 AV	54.0	-11.1	2.05 H	228	31.4	11.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	57.4 PK	74.0	-16.6	1.79 V	147	50.8	6.6
2	2390.00	48.0 AV	54.0	-6.0	1.79 V	147	41.4	6.6
3	*2437.00	112.2 PK			1.79 V	147	74.2	38.0
4	*2437.00	101.3 AV			1.79 V	147	63.3	38.0
5	2483.50	58.1 PK	74.0	-15.9	1.79 V	147	51.5	6.6
6	2483.50	48.1 AV	54.0	-5.9	1.79 V	147	41.5	6.6
7	4874.00	49.2 PK	74.0	-24.8	1.32 V	293	37.7	11.5
8	4874.00	41.6 AV	54.0	-12.4	1.32 V	293	30.1	11.5

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 11：2462 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

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	*2462.00	109.9 PK			2.34 H	78	72.0	37.9
2	*2462.00	99.1 AV			2.34 H	78	61.2	37.9
3	2483.50	59.3 PK	74.0	-14.7	2.34 H	78	52.7	6.6
4	2483.50	49.0 AV	54.0	-5.0	2.34 H	78	42.4	6.6
5	4924.00	49.2 PK	74.0	-24.8	1.61 H	154	37.5	11.7
6	4924.00	41.5 AV	54.0	-12.5	1.61 H	154	29.8	11.7
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	*2462.00	105.2 PK			2.13 V	154	67.3	37.9
2	*2462.00	94.3 AV			2.13 V	154	56.4	37.9
3	2483.50	58.3 PK	74.0	-15.7	2.13 V	154	51.7	6.6
4	2483.50	48.5 AV	54.0	-5.5	2.13 V	154	41.9	6.6
5	4924.00	49.7 PK	74.0	-24.3	1.61 V	247	38.0	11.7
6	4924.00	42.1 AV	54.0	-11.9	1.61 V	247	30.4	11.7

Remarks:

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

RF Mode	802.11ax (HE40)	Channel	CH 3：2422 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.4 PK	74.0	-10.6	2.43 H	75	56.8	6.6
2	**2390.00**	**52.1 AV**	**54.0**	**-1.9**	**2.43 H**	**75**	**45.5**	**6.6**
3	*2422.00	108.4 PK			2.43 H	75	70.4	38.0
4	*2422.00	98.0 AV			2.43 H	75	60.0	38.0
5	2483.50	58.4 PK	74.0	-15.6	2.43 H	75	51.8	6.6
6	2483.50	48.1 AV	54.0	-5.9	2.43 H	75	41.5	6.6
7	4844.00	49.7 PK	74.0	-24.3	1.88 H	61	38.2	11.5
8	4844.00	42.1 AV	54.0	-11.9	1.88 H	61	30.6	11.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.4 PK	74.0	-15.6	1.85 V	142	51.8	6.6
2	2390.00	48.5 AV	54.0	-5.5	1.85 V	142	41.9	6.6
3	*2422.00	104.9 PK			1.85 V	142	66.9	38.0
4	*2422.00	93.7 AV			1.85 V	142	55.7	38.0
5	2483.50	58.4 PK	74.0	-15.6	1.85 V	142	51.8	6.6
6	2483.50	48.3 AV	54.0	-5.7	1.85 V	142	41.7	6.6
7	4844.00	49.7 PK	74.0	-24.3	1.36 V	64	38.2	11.5
8	4844.00	42.2 AV	54.0	-11.8	1.36 V	64	30.7	11.5

Remarks:

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

RF Mode	802.11ax (HE40)	Channel	CH 6：2437 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.6 PK	74.0	-13.4	2.34 H	88	54.0	6.6
2	2390.00	49.8 AV	54.0	-4.2	2.34 H	88	43.2	6.6
3	*2437.00	113.1 PK			2.34 H	88	75.1	38.0
4	*2437.00	102.4 AV			2.34 H	88	64.4	38.0
5	2483.50	59.0 PK	74.0	-15.0	2.34 H	88	52.4	6.6
6	2483.50	49.6 AV	54.0	-4.4	2.34 H	88	43.0	6.6
7	4874.00	49.3 PK	74.0	-24.7	1.36 H	271	37.8	11.5
8	4874.00	41.7 AV	54.0	-12.3	1.36 H	271	30.2	11.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	57.8 PK	74.0	-16.2	1.79 V	147	51.2	6.6
2	2390.00	48.0 AV	54.0	-6.0	1.79 V	147	41.4	6.6
3	*2437.00	108.0 PK			1.79 V	147	70.0	38.0
4	*2437.00	97.1 AV			1.79 V	147	59.1	38.0
5	2483.50	58.9 PK	74.0	-15.1	1.79 V	147	52.3	6.6
6	2483.50	48.7 AV	54.0	-5.3	1.79 V	147	42.1	6.6
7	4874.00	49.2 PK	74.0	-24.8	3.14 V	253	37.7	11.5
8	4874.00	40.7 AV	54.0	-13.3	3.14 V	253	29.2	11.5

Remarks:

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

RF Mode	802.11ax (HE40)	Channel	CH 9：2452 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 61% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.4 PK	74.0	-15.6	2.60 H	89	51.8	6.6
2	2390.00	47.9 AV	54.0	-6.1	2.60 H	89	41.3	6.6
3	*2452.00	107.4 PK			2.60 H	89	69.5	37.9
4	*2452.00	96.7 AV			2.60 H	89	58.8	37.9
5	2483.50	58.9 PK	74.0	-15.1	2.60 H	89	52.3	6.6
6	2483.50	49.2 AV	54.0	-4.8	2.60 H	89	42.6	6.6
7	4904.00	49.9 PK	74.0	-24.1	1.72 H	19	38.3	11.6
8	4904.00	42.3 AV	54.0	-11.7	1.72 H	19	30.7	11.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.8 PK	74.0	-15.2	2.08 V	154	52.2	6.6
2	2390.00	47.7 AV	54.0	-6.3	2.08 V	154	41.1	6.6
3	*2452.00	101.6 PK			2.08 V	154	63.7	37.9
4	*2452.00	91.2 AV			2.08 V	154	53.3	37.9
5	2483.50	58.7 PK	74.0	-15.3	2.08 V	154	52.1	6.6
6	2483.50	48.4 AV	54.0	-5.6	2.08 V	154	41.8	6.6
7	4904.00	49.6 PK	74.0	-24.4	2.32 V	195	38.0	11.6
8	4904.00	42.0 AV	54.0	-12.0	2.32 V	195	30.4	11.6

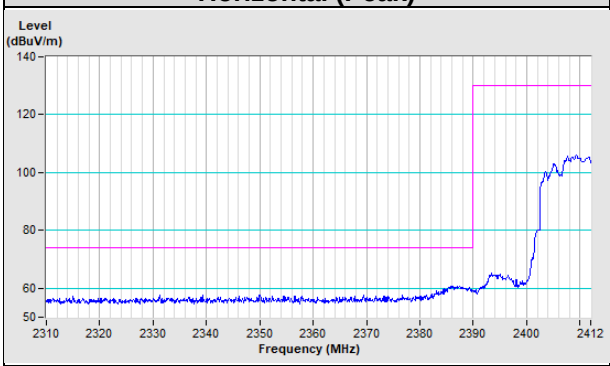
Remarks:

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

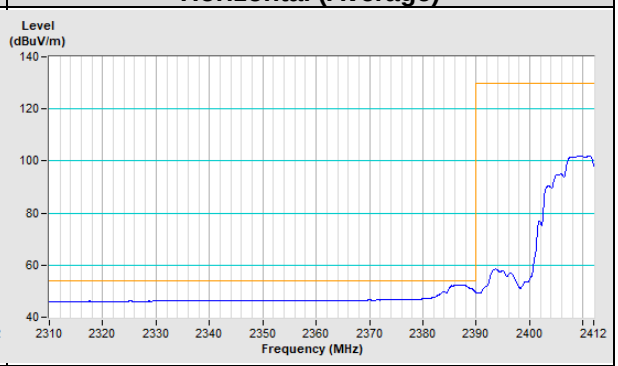
Plot of Band Edge- CDD Mode

802.11b Channel 1

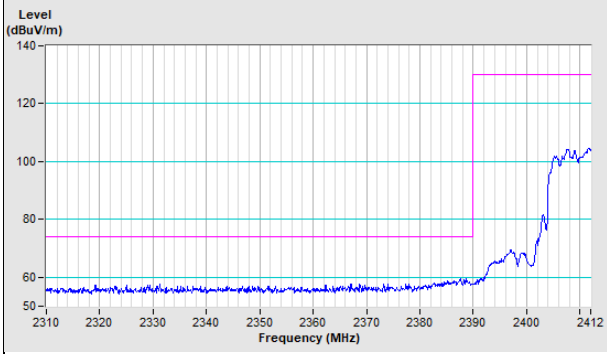
Horizontal (Peak)



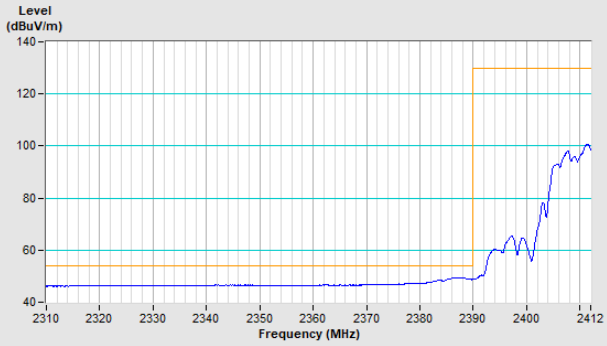
Horizontal (Average)



Vertical (Peak)

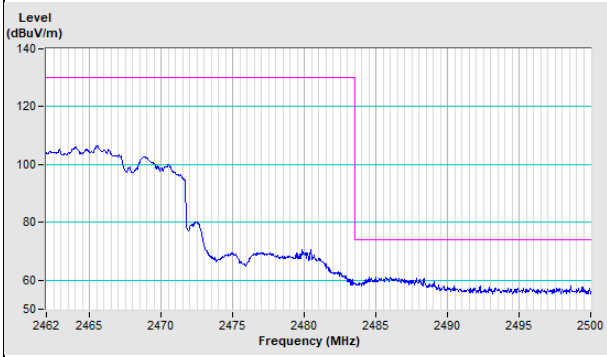


Vertical (Average)



802.11b Channel 11

Horizontal (Peak)



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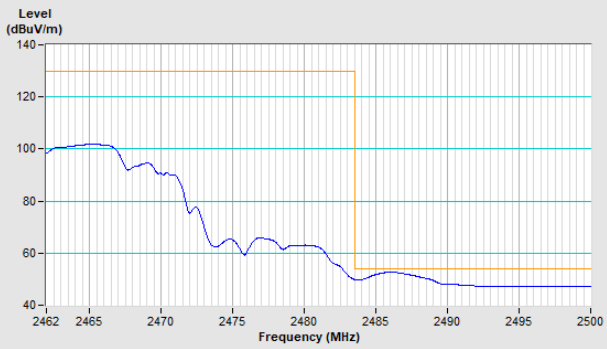
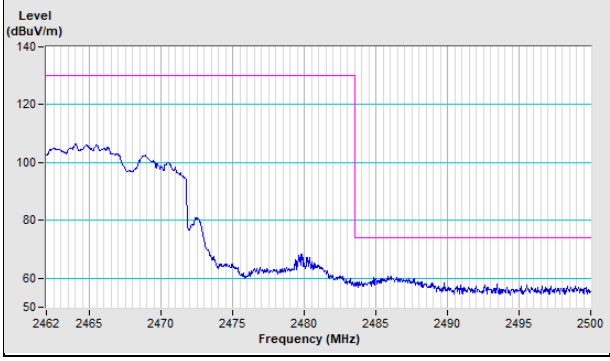
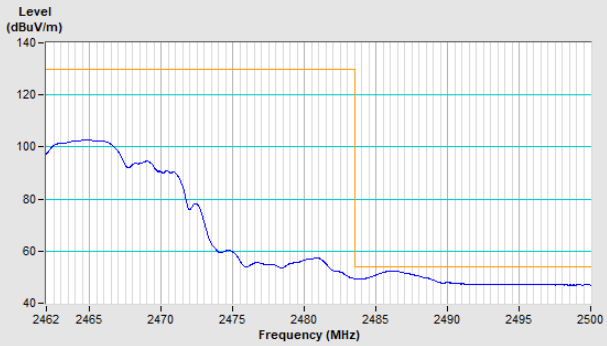


Vertical (Peak)

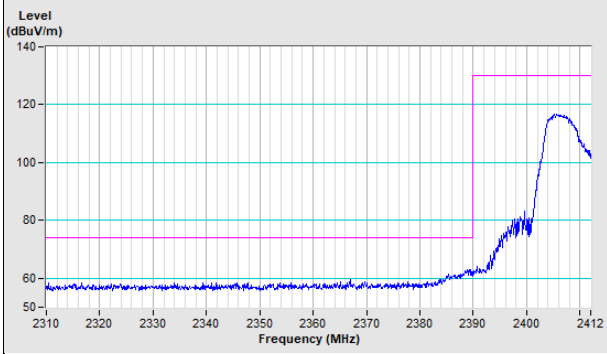


Vertical (Average)

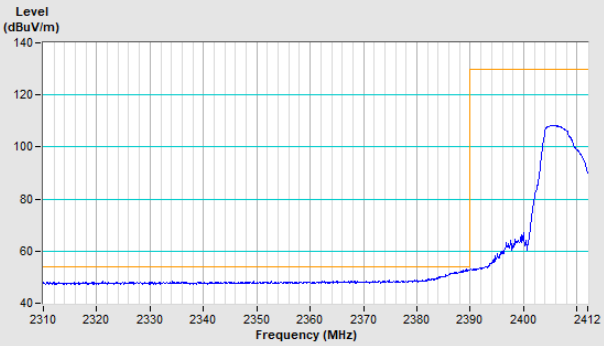


802.11g Channel 1

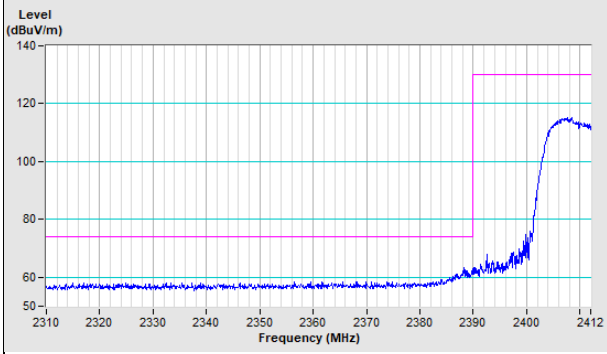
Horizontal (Peak)



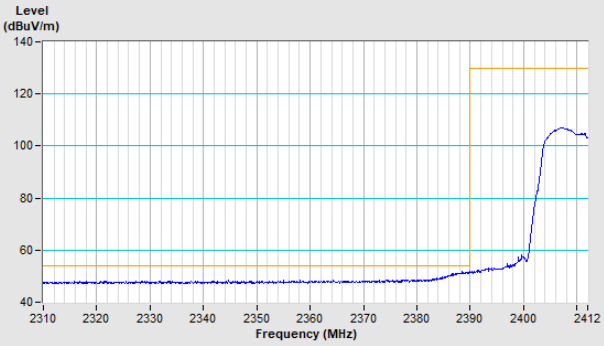
Horizontal (Average)



Vertical (Peak)

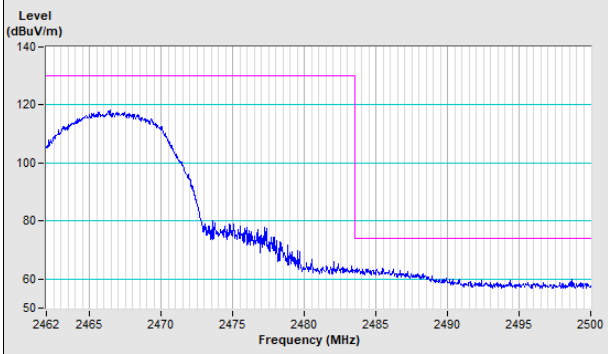


Vertical (Average)

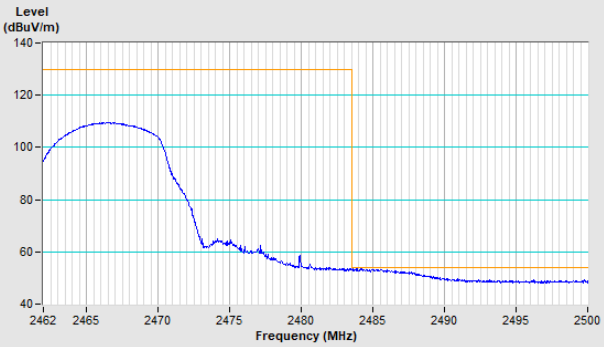


802.11g Channel 11

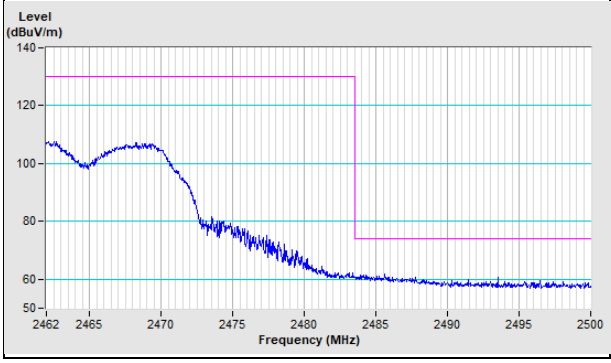
Horizontal (Peak)



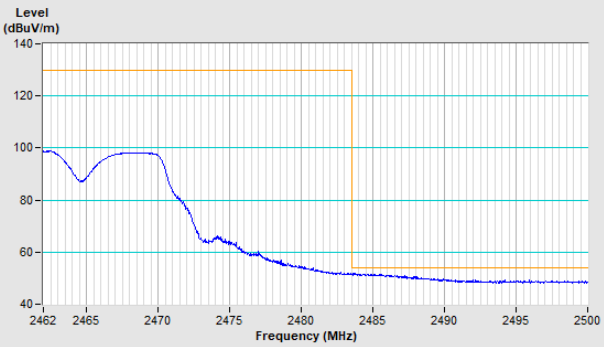
Horizontal (Average)



Vertical (Peak)

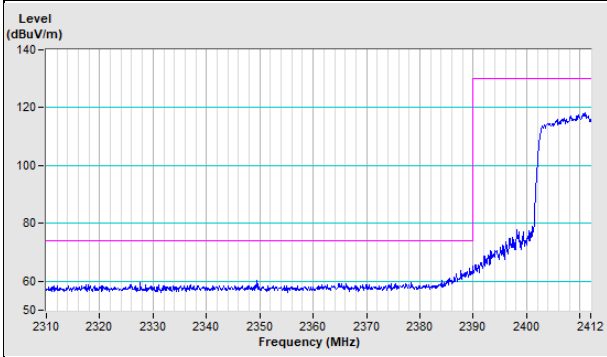


Vertical (Average)

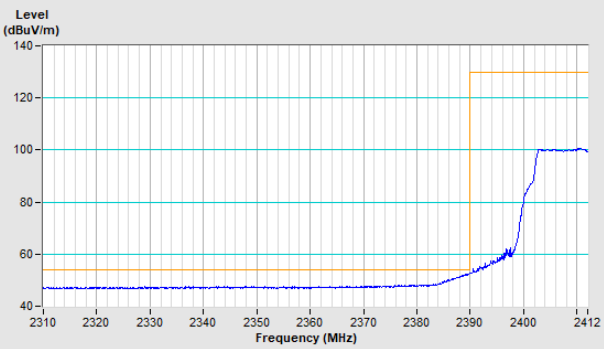


802.11ax (HE20) Channel 1

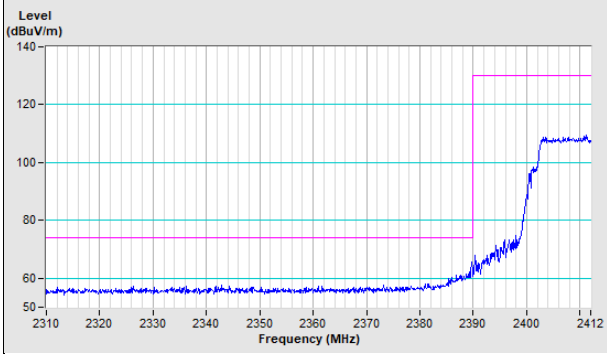
Horizontal (Peak)



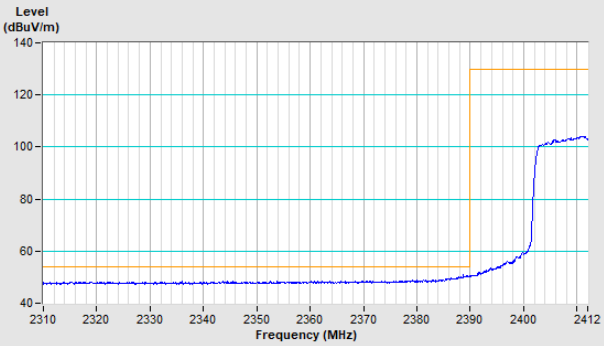
Horizontal (Average)



Vertical (Peak)

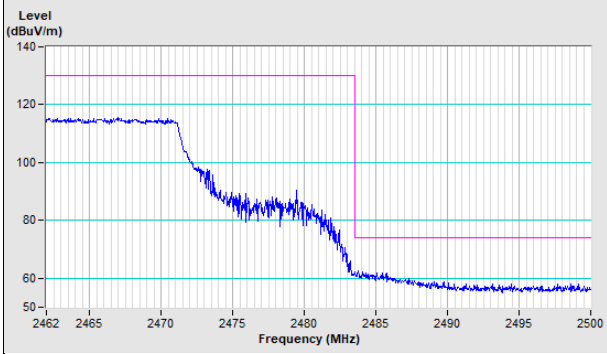


Vertical (Average)

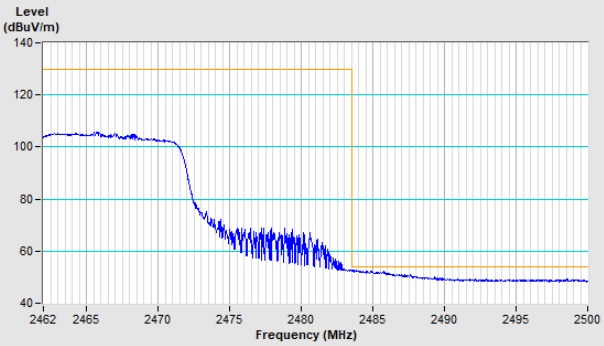


802.11ax (HE20) Channel 11

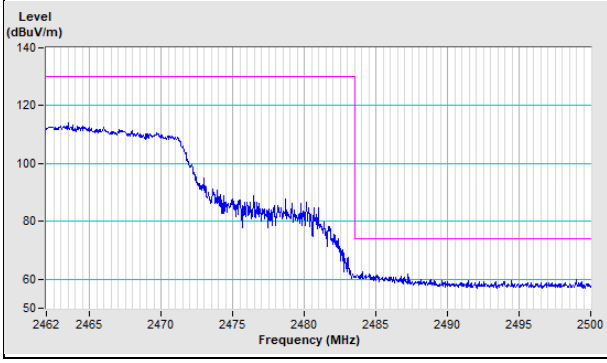
Horizontal (Peak)



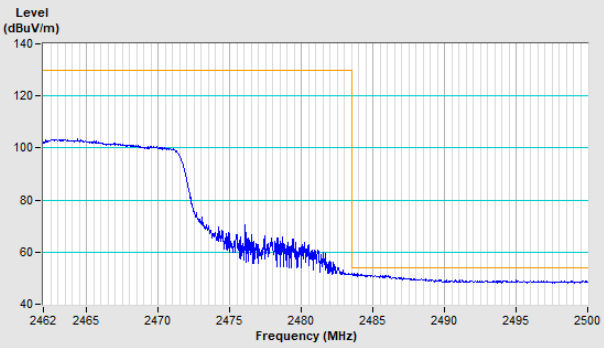
Horizontal (Average)



Vertical (Peak)

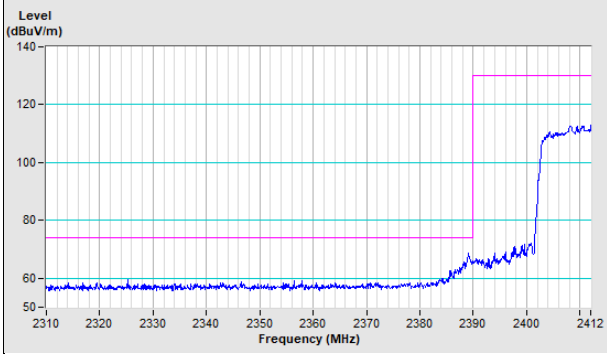


Vertical (Average)

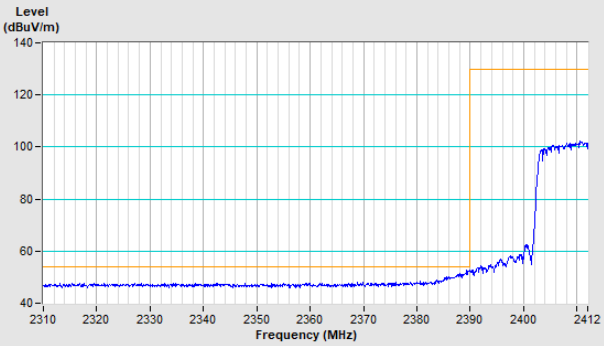


802.11ax (HE40) Channel 3

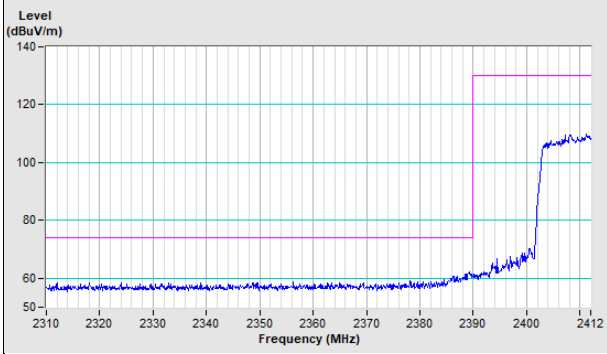
Horizontal (Peak)



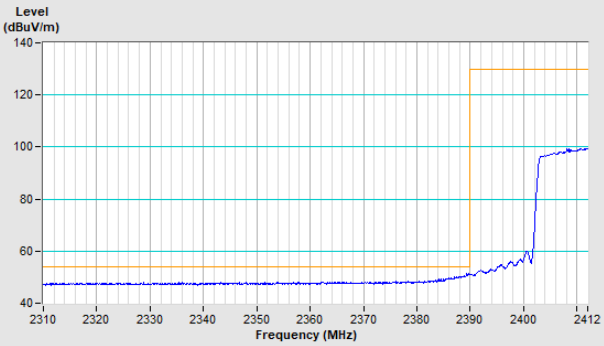
Horizontal (Average)



Vertical (Peak)

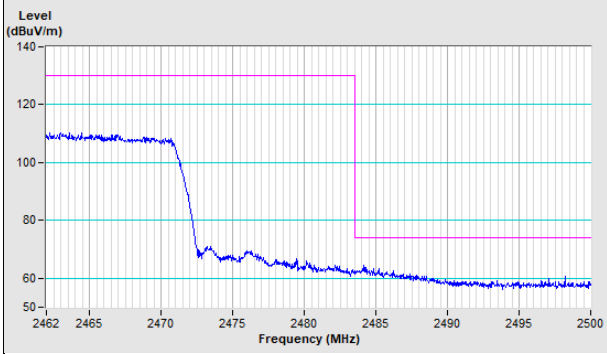


Vertical (Average)

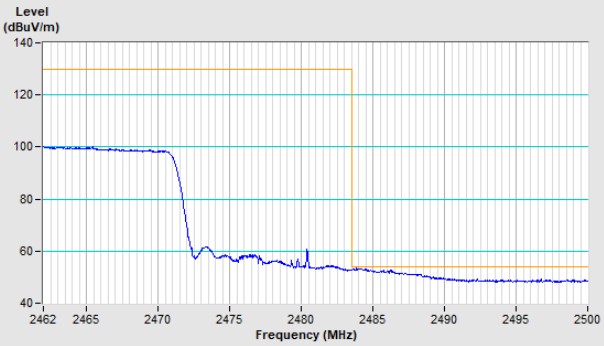


802.11ax (HE40) Channel 9

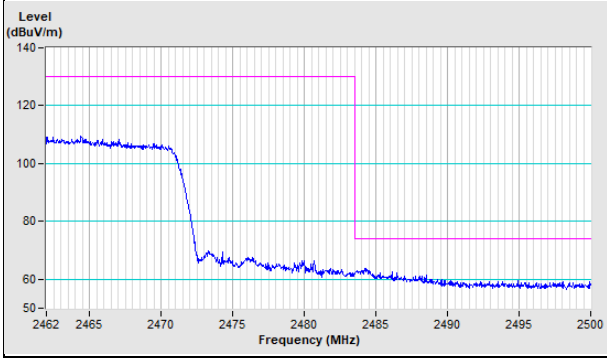
Horizontal (Peak)



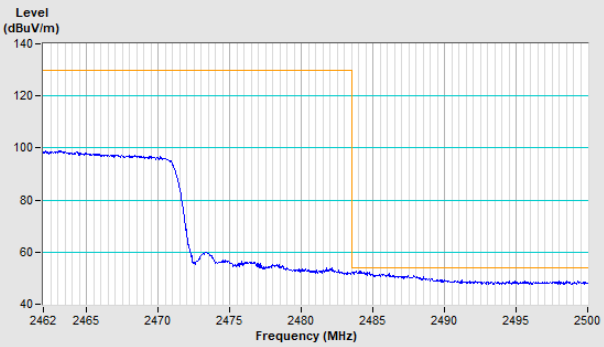
Horizontal (Average)



Vertical (Peak)

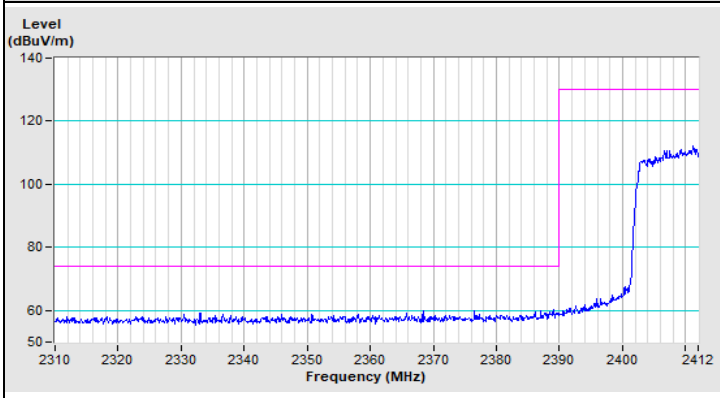


Vertical (Average)

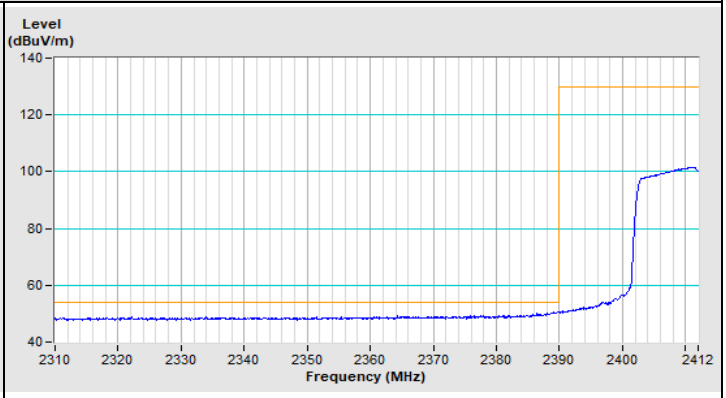


Plot of Band Edge_Beamforming Mode

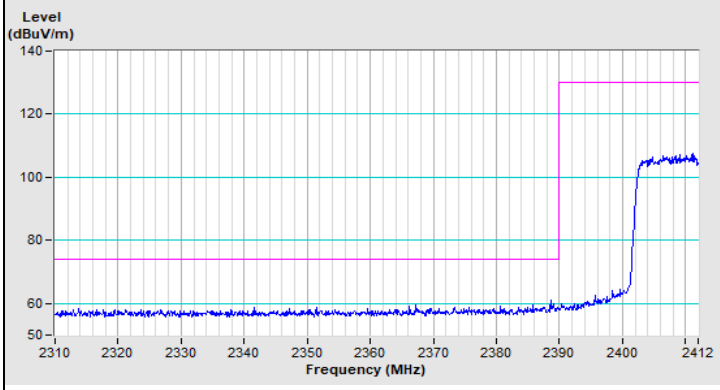
802.11ax (HE20) Channel 1



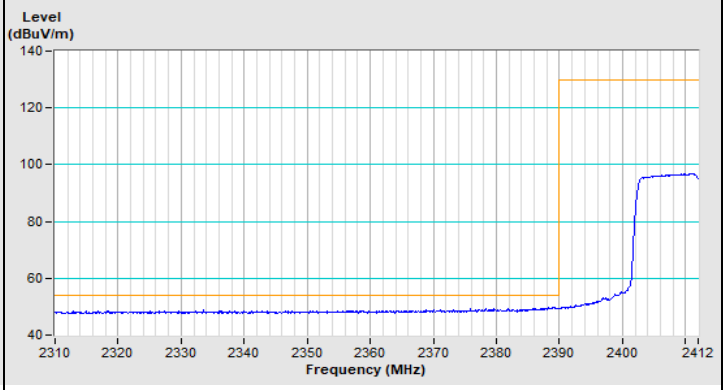
Horizontal (Peak)



Horizontal (Average)

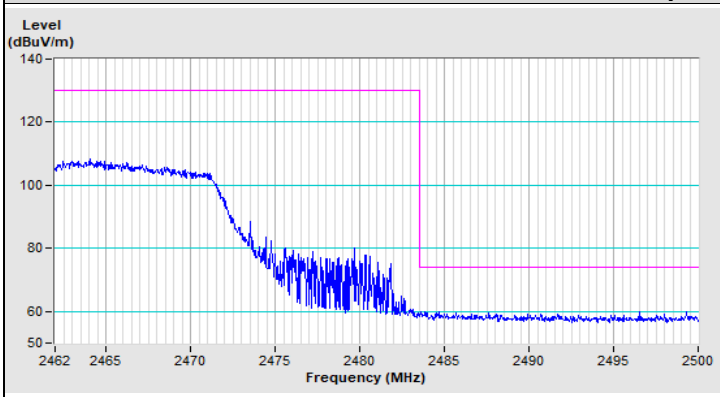


Vertical (Peak)

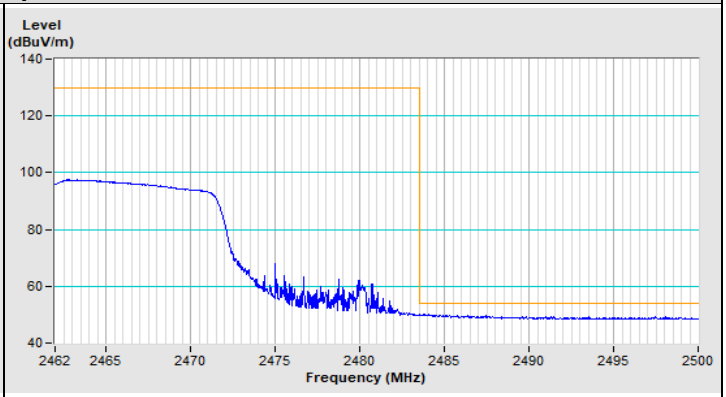


Vertical (Average)

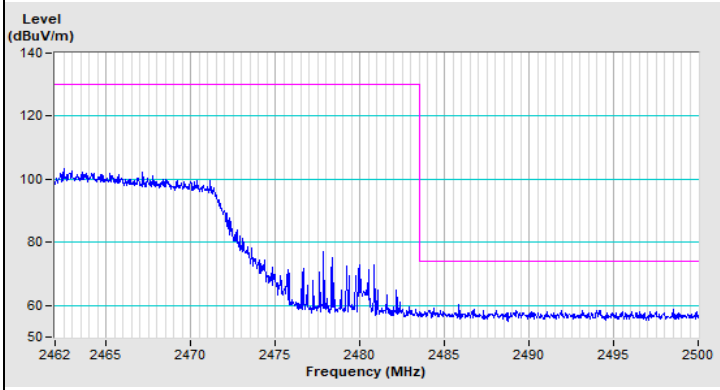
802.11ax (HE20) Channel 11



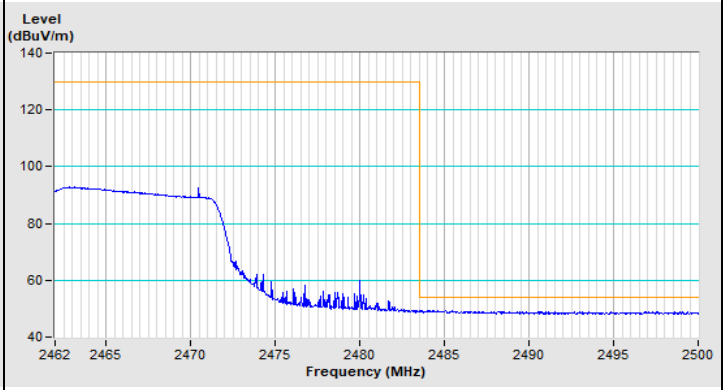
Horizontal (Peak)



Horizontal (Average)

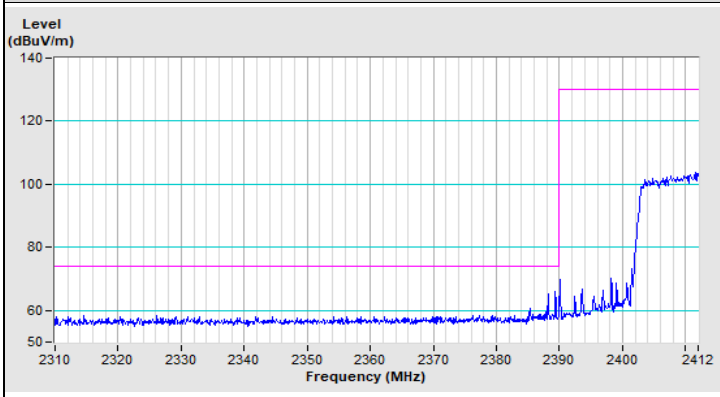


Vertical (Peak)

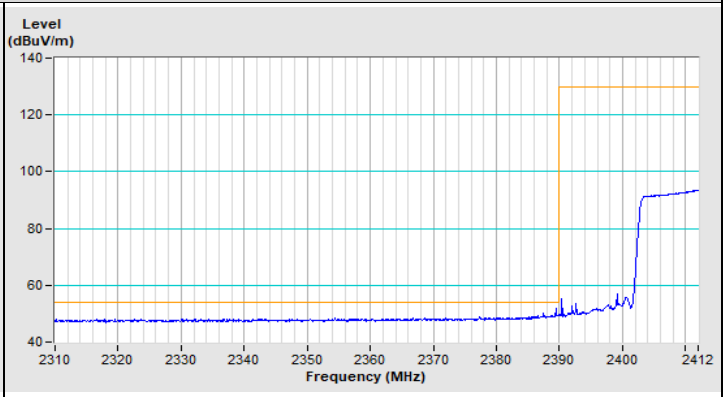


Vertical (Average)

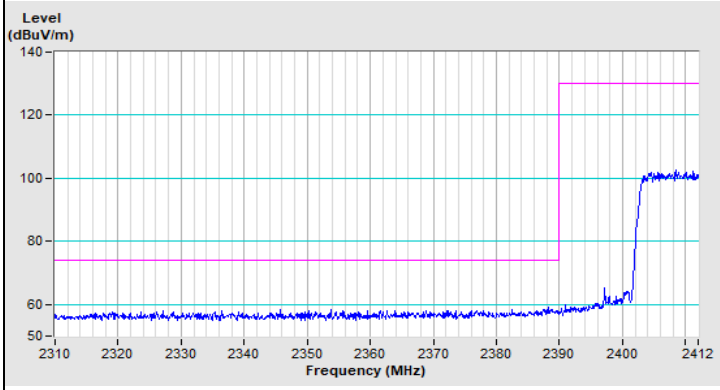
802.11ax (HE40) Channel 3



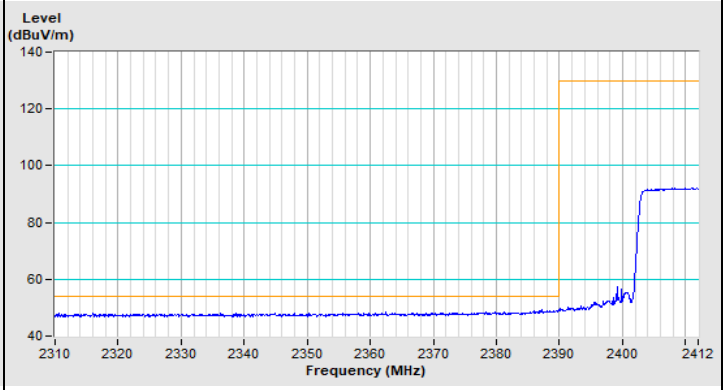
Horizontal (Peak)



Horizontal (Average)

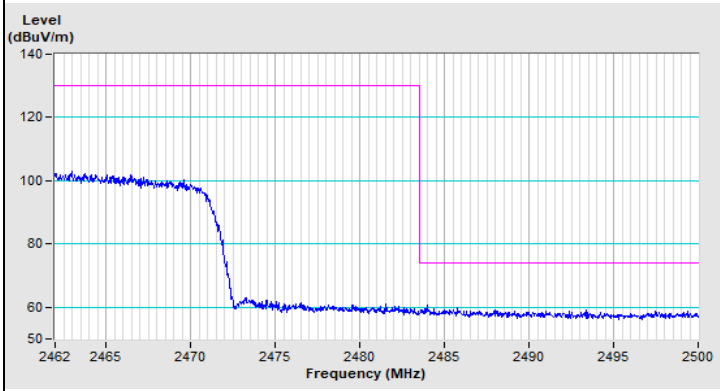


Vertical (Peak)

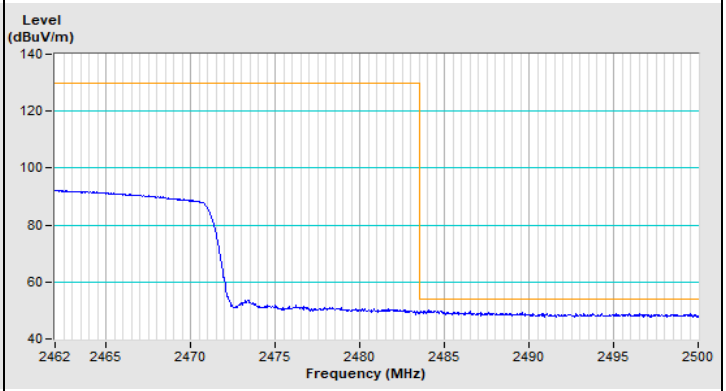


Vertical (Average)

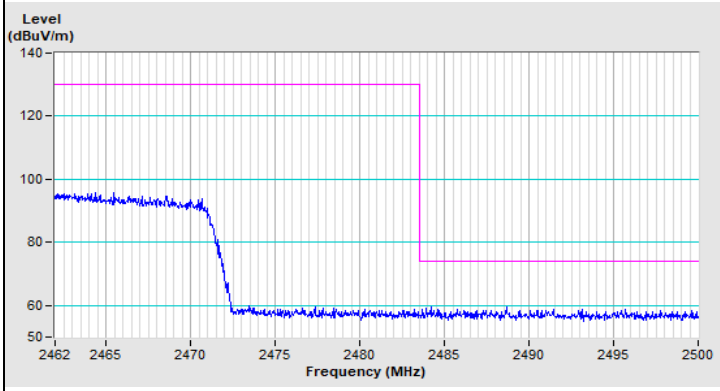
802.11ax (HE40) Channel 9



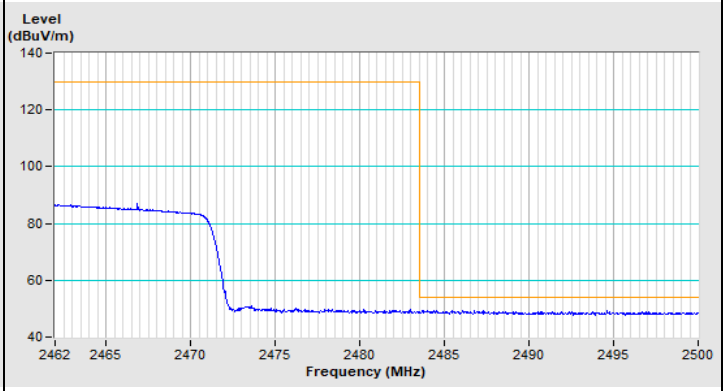
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



Vertical (Average)

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:

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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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