FCC Test Report

Report No.:	RFBCWK-WTW-P20120330
FCC ID:	MSQ-RTAC2K00
Test Model:	RT-AC68U V4
Received Date:	Dec. 19, 2020
Test Date:	Dec. 29, 2020 to June 24, 2021
Issued Date:	June 25, 2021
Applicant:	ASUSTeK COMPUTER INC.
Address:	1F., No.15, Lide Rd., 112 Beitou Dist., Taipei City, TAIWAN
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RFBCWK-WTW-P20120330	Original release.	June 25, 2021

1 Certificate of Conformity

Product:	Wireless-AC1900 Dual Band Gigabit Router
Brand:	ASUS
Test Model:	RT-AC68U V4
Sample Status:	Engineering sample
Applicant:	ASUSTeK COMPUTER INC.
Test Date:	Dec. 29, 2020 to June 24, 2021
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10: 2013

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

Prepared by : Vivian Huang , **Date:** June 25, 2021

Vivian Hunag / Specialist

Approved by : , **Date:** June 25, 2021

Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -11.50dB at 19.44922MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -1.9dB at 2485.10MHz.
15.247(d)	Antenna Port Emission	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is R-SMA not a standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.9 dB
Conducted emissions	-	2.5 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.5 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.1 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wireless-AC1900 Dual Band Gigabit Router
Brand	ASUS
Test Model	RT-AC68U V4
Status of EUT	Engineering sample
Power Supply Rating	12 Vdc from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT (20/40) mode in 2.4GHz
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11 Mbps 802.11a/g: up to 54 Mbps 802.11n: up to 450 Mbps 802.11ac: up to 1300 Mbps
Operating Frequency	**2.4GHz:** 2.412 ~ 2.462 GHz **5GHz:** 5.18~ 5.24 GHz, 5.745 ~ 5.825 GHz
Number of Channel	**2.4GHz:** 802.11b, 802.11g, 802.11n (HT20), VHT20: 11 802.11n (HT40), VHT40: 7 **5GHz:** 802.11a, 802.11n (HT20), 802.11ac (VHT20): 9 802.11n (HT40), 802.11ac (VHT40): 4 802.11ac (VHT80): 2
Output Power	**CDD Mode:** **2.412 ~ 2.462 GHz:** 764.699 mW **5.18 ~ 5.24 GHz:** 136.034 mW **5.745 ~ 5.825 GHz:** 820.372 mW **Beamforming Mode:** **2.412 ~ 2.462 GHz:** 659.338 mW **5.18 ~ 5.24 GHz:** 136.034 mW **5.745 ~ 5.825 GHz:** 820.372 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	RJ45 Cable x1 (1.4m, unshielded)

Note:

1. The EUT has below radios as following table:

Radio 1	Radio 2
WLAN 2.4GHz	WLAN 5GHz

2. Simultaneously transmission condition.

Condition	Technology	
1	WLAN 2.4GHz	WLAN 5GHz
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.		

3. The antennas provided to the EUT, please refer to the following table:

Antenna Set	RF Chain No.	Brand	Model	Antenna Net Gain(dBi)	Frequency range (MHz)	Antenna Type	Connector Type
1	Chain0/1/2	Walsin	RFDPA141000SBLB827	1.33	2.4~2.4835	Dipole	R-SMA
				1.57	5.15~5.25		
				1.6	5.25~5.35		
				1.78	5.47~5.725		
				1.85	5.725~5.85		
2	Chain0/1/2	Whayu	C660-510509-A	1.22	2.4~2.4835	Dipole	R-SMA
				1.08	5.15~5.25		
				1.33	5.25~5.35		
				1.38	5.47~5.725		
				1.49	5.725~5.85		
Note: Antenna Set 1 was selected for the final test.							

4. The EUT power needs to be supplied from power adapter, the information is as below table:

No.	Brand	Model No.	Spec.
1	APD	WA-30P12FU	Input: 100-240Vac, 0.9A, 50-60Hz Output: 12V, 2.5A DC cable: 1.8m, unshielded
2	I.T.E	MU30B1120250-A1	Input: 100-240Vac, 0.8A, 50-60Hz Output: 12V, 2.5A DC cable: 1.5m, unshielded
Note: 1. From the above models, the worst radiated emission and conducted emission test was found in **Adapter 1**. Therefore only the test data of the modes were recorded in this report. 2. We had pre-tested all modes at 240V/60Hz and 120V/60Hz, test mode at 120V/60Hz was the worst case and only this mode was presented in the report.			

5. The EUT incorporates a MIMO function.

2.4GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11b	3TX	3RX
802.11g	3TX	3RX
802.11n (HT20)	3TX	3RX
802.11n (HT40)	3TX	3RX
VHT20	3TX	3RX
VHT40	3TX	3RX
5GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	3TX	3RX
802.11n (HT20)	3TX	3RX
802.11n (HT40)	3TX	3RX
802.11ac (VHT20)	3TX	3RX
802.11ac (VHT40)	3TX	3RX
802.11ac (VHT80)	3TX	3RX

Note:
1. All of modulation mode support beamforming function except 802.11a/b/g modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz), VHT mode for 20MHz (40MHz), therefore the manufacturer will control the power for 802.11n mode is the same as the 802.11ac or more lower than it and investigated worst case to representative mode in test report. (Final test mode refer to section 3.2.1)

6. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.
7. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3.2 Description of Test Modes

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

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

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

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G:** Radiated Emission above 1GHz & Bandedge Measurement **RE<1G:** Radiated Emission below 1GHz

PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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

CDD Mode					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 2, 6, 10, 11	OFDM	BPSK	6
VHT20	1 to 11	1, 2, 6, 10, 11	OFDM	BPSK	6.5
VHT40	3 to 9	3, 4, 6, 8, 9	OFDM	BPSK	13.5

Radiated Emission Test (Below 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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

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

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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

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

Antenna Port Conducted Measurement:

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

CDD Mode					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 2, 6, 10, 11	OFDM	BPSK	6
VHT20	1 to 11	1, 2, 6, 10, 11	OFDM	BPSK	6.5
VHT40	3 to 9	3, 4, 6, 8, 9	OFDM	BPSK	13.5
Beamforming Mode (output power only)					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
VHT20	1 to 11	1, 2, 6, 10, 11	OFDM	BPSK	6.5
VHT40	3 to 9	3, 4, 6, 8, 9	OFDM	BPSK	13.5

Test Condition:

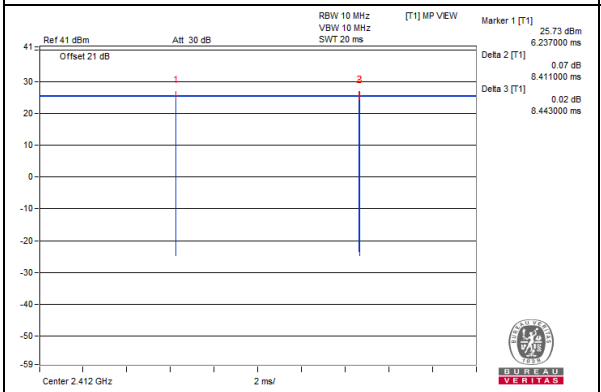
APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 75%RH	120Vac, 60Hz	Sampson Chen
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Carter Lin
PLC	25deg. C, 67%RH	120Vac, 60Hz	Sampson Chen
APCM	25deg. C, 60%RH	120Vac, 60Hz	Jyunchun Lin

3.3 Duty Cycle of Test Signal

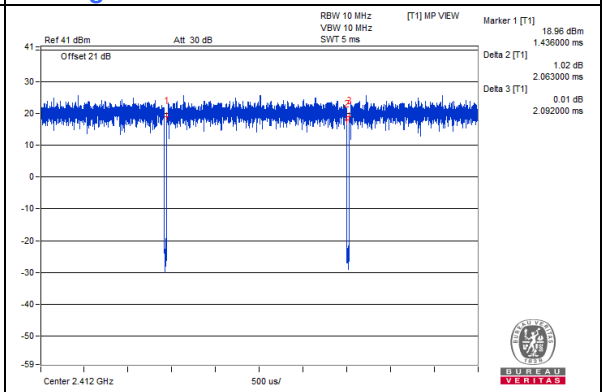
Duty cycle of test signal is ≥ 98 %, duty factor is not required.

802.11b: Duty cycle = 8.411 ms /8.443 ms=0.996
802.11g: Duty cycle = 2.063 ms /2.092 ms=0.986
VHT20: Duty cycle = 2.082 ms /2.117 ms=0.983
VHT40: Duty cycle = 2.077 ms /2.109 ms=0.985

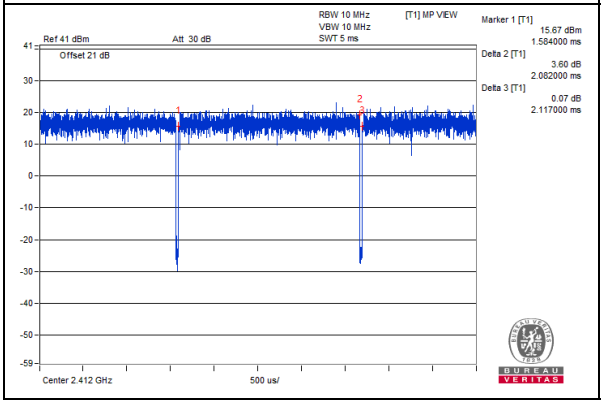
802.11b



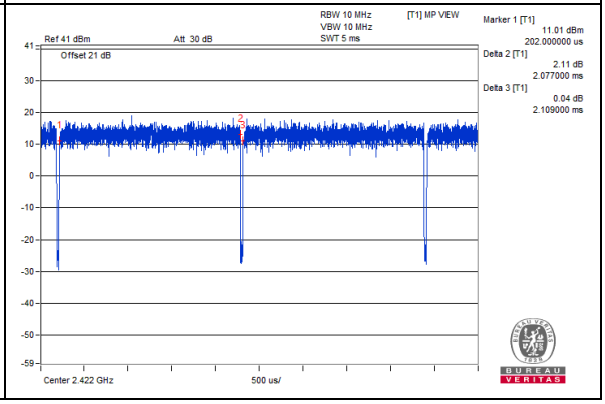
802.11g



VHT20



VHT40



3.4 Description of Support Units

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

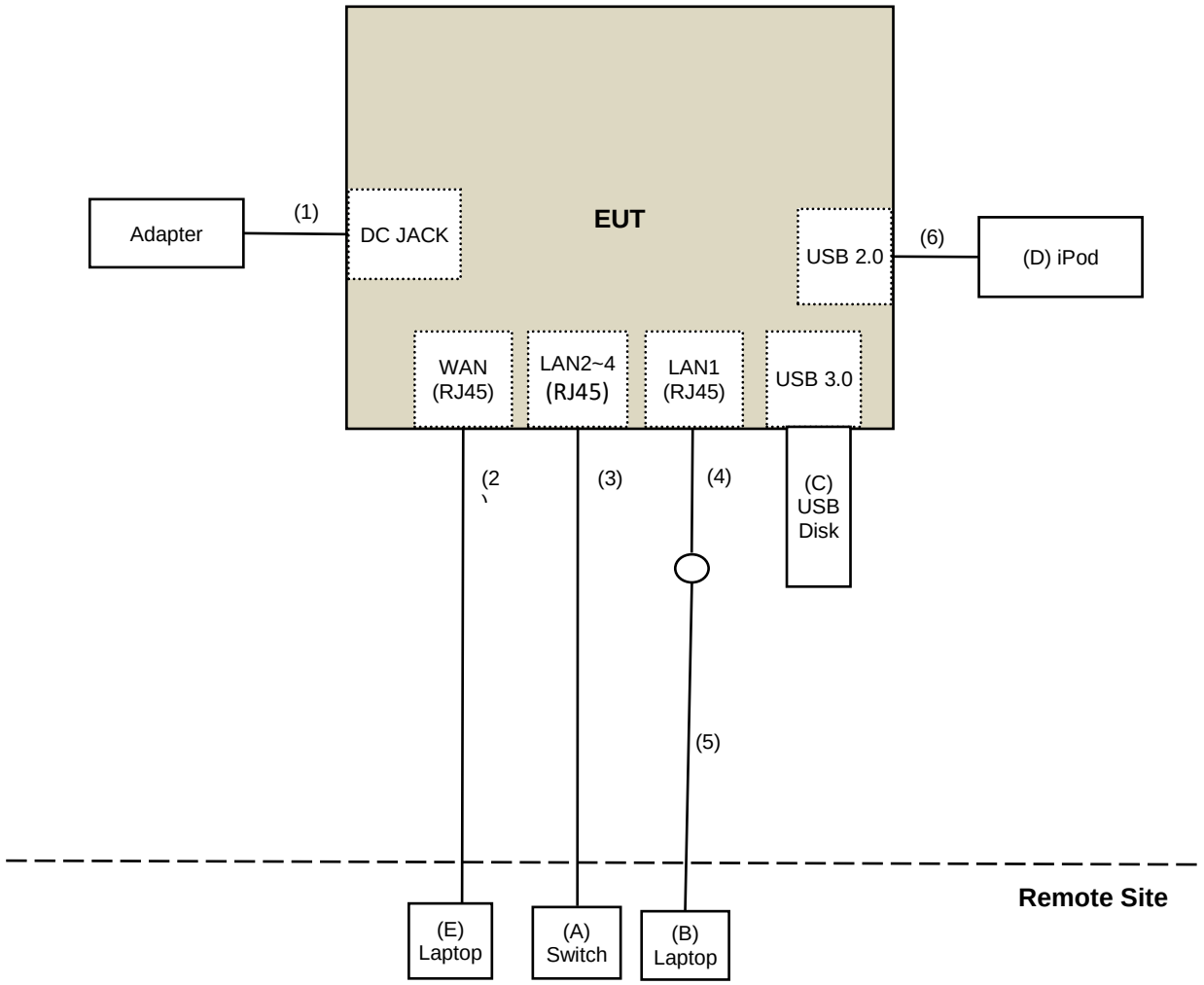
ID	Product	Brand	Model No.	Serial No	FCC ID	Remarks
A.	Switch	D-Link	DGS-1005D	DR8WC92000523	NA	Provided by Lab
B.	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab
C.	USB Disk	SanDisk	USB 3.0 Flash Drive	NA	NA	Provided by Lab
D.	iPod	Apple	MC749TA/A	CC4DMFJUDFDM	NA	Provided by Lab
E.	Laptop	DELL	E6420	482T3R1	FCC DoC	Provided by Lab

Note:

1. All power cords of the above support units are non-shielded (1.5m).

ID	Descriptions (Cables)	Qty	Length (m)	Shielding (Yes/No)	Cores (Number)	Remarks
1	DC Cable	1	1.8	No	0	Supplied by client
2	RJ-45 Cable	1	10	No	0	Provided by Lab
3	RJ-45 Cable	3	10	No	0	Provided by Lab
4	RJ-45 Cable	1	1.4	No	0	Supplied by client
5	RJ-45 Cable	1	10	No	0	Provided by Lab
6	USB Cable	1	0.1	Yes	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test Standard:

FCC Part 15, Subpart C (15.247)
ANSI C63.10-2013

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

References Test Guidance:

KDB 558074 D01 15.247 Meas Guidance v05r02
KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 Test Instruments

For Radiated emission & BandEdge test (802.11g & VHT20 & VHT40 CH2, 4, 9, 10):

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 01, 2020	Nov. 30, 2021
Pre-Amplifier EMCI	EMC001340	980142	May 24, 2021	May 23, 2022
Loop Antenna Electro-Metrics	EM-6879	264	Mar. 05, 2021	Mar. 04, 2022
RF Cable	5D-FB	LOOPCAB-001	Jan. 07, 2021	Jan. 06, 2022
RF Cable	5D-FB	LOOPCAB-002	Jan. 07, 2021	Jan. 06, 2022
Pre-Amplifier EMCI	EMC330N	980701	Mar. 10, 2021	Mar. 09, 2022
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 06, 2020	Nov. 05, 2021
RF Cable	8D	966-4-1	Mar. 17, 2021	Mar. 16, 2022
RF Cable	8D	966-4-2	Mar. 17, 2021	Mar. 16, 2022
RF Cable	8D	966-4-3	Mar. 17, 2021	Mar. 16, 2022
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC 12630 SE	980638	Apr. 07, 2021	Apr. 06, 2022
RF Cable	EMC104-SM-SM-1200	160922	Dec. 25, 2020	Dec. 24, 2021
RF Cable	EMC104-SM-SM-2000	180502	Apr. 26, 2021	Apr. 25, 2022
RF Cable	EMC104-SM-SM-6000	180418	Apr. 26, 2021	Apr. 25, 2022
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 10, 2021	Mar. 09, 2022
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 4.
3. Tested Date: June 23, 2021

For other Radiated emission & BandEdge test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 01, 2020	Nov. 30, 2021
Pre-Amplifier EMCI	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Feb. 18, 2020	Feb. 17, 2021
RF Cable	NA	LOOPCAB-001	Jan. 08, 2020	Jan. 07, 2021
RF Cable	NA	LOOPCAB-002	Jan. 08, 2020	Jan. 07, 2021
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	Apr. 28, 2020	Apr. 27, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 06, 2020	Nov. 05, 2021
RF Cable	8D	966-6-1	Apr. 04, 2020	Apr. 03, 2021
RF Cable	8D	966-4-2	Mar. 18, 2020	Mar. 17, 2021
RF Cable	8D	966-4-3	Mar. 18, 2020	Mar. 17, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	Jan. 14, 2020	Jan. 13, 2021
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC 12630 SE	980638	Apr. 08, 2020	Apr. 07, 2021
RF Cable	EMC104-SM-SM-1200	160922	Dec. 25, 2020	Dec. 24, 2021
RF Cable	EMC104-SM-SM-2000	180502	Apr. 29, 2020	Apr. 28, 2021
RF Cable	EMC104-SM-SM-6000	180418	Apr. 29, 2020	Apr. 28, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 15, 2020	Jan. 14, 2021
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 4.
3. Tested Date: Dec. 29, 2020 to Jan. 05, 2021

For 802.11b:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Power meter Anritsu	ML2495A	1529002	July 22, 2020	July 21, 2021
Power sensor Anritsu	MA2411B	1339443	July 22, 2020	July 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

NOTE: 1. The test was performed in Oven room 2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. Tested Date: Jan. 03, 2021

For other test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	101516	Mar. 08, 2021	Mar. 07, 2022
Spectrum Analyzer Keysight	N9030A	MY54490679	July 13, 2020	July 12, 2021
Power meter Anritsu	ML2495A	1529002	July 22, 2020	July 21, 2021
Power sensor Anritsu	MA2411B	1339443	July 22, 2020	July 21, 2021
10dB Attenuator Woken	MDCS18N-10	MDCS18N-10-01	Apr. 13, 2021	Apr. 12, 2022
Mech Switch Absorptive Mini-Circuits	MSP4TA-18+	0140	Feb. 05, 2021	Feb. 04, 2022
FXD ATTEN Mini-Circuits	BW-S3W2+	MN71981	Feb. 05, 2021	Feb. 04, 2022
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

NOTE: 1. The test was performed in Oven room 2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. Tested Date: June 24, 2021

4.1.3 Test Procedures

For Radiated emission below 30MHz

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

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

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

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

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

NOTE:

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

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

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

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

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

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

f. The test-receiver system was set to peak and average 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.

Note:

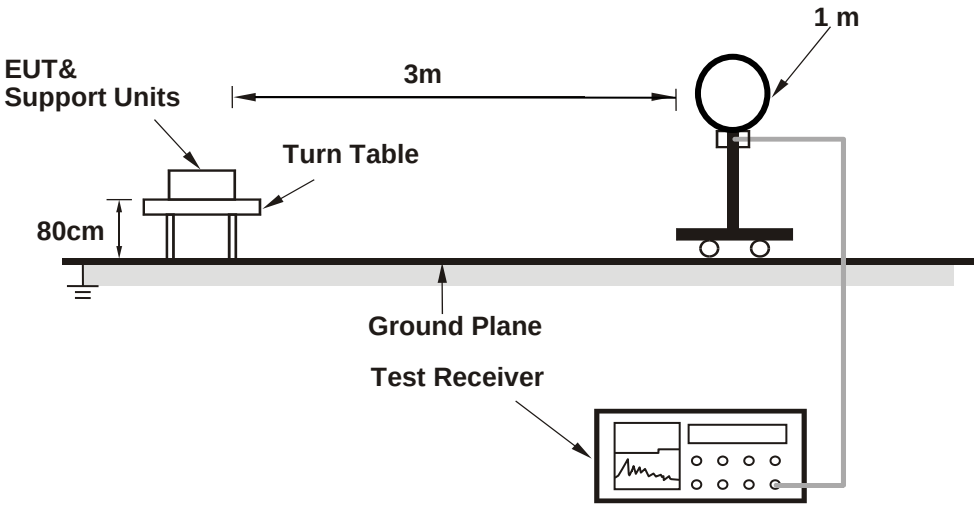
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

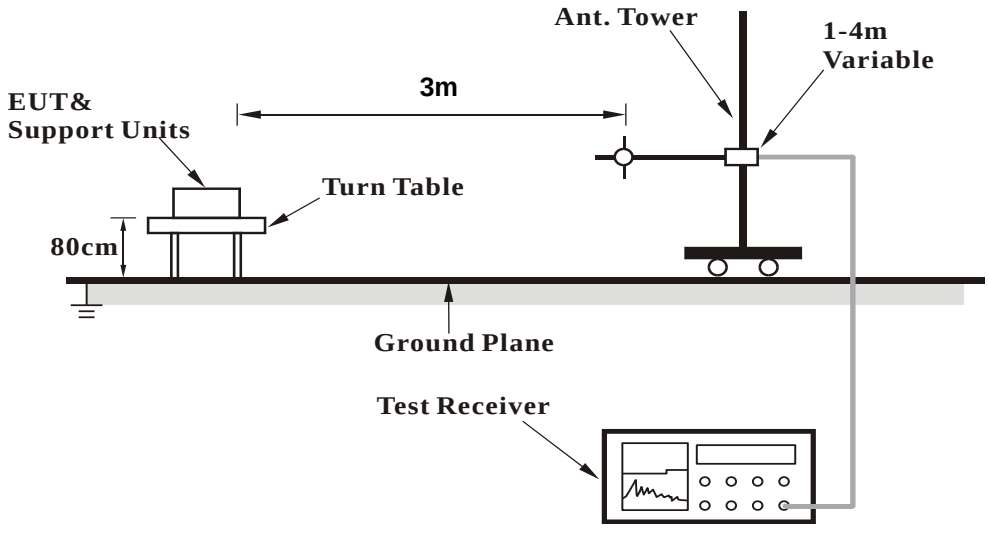
No deviation.

4.1.5 Test Setup

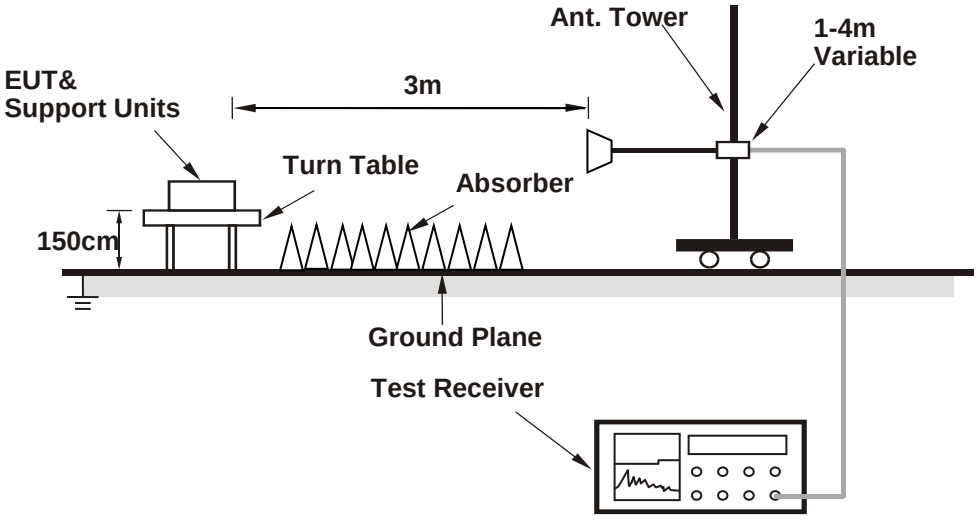
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

a. Connected the EUT with the Laptop which is placed on remote site.
b. Controlling software (accessMTool_REL_3_2_1_1) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data：

RF Mode	TX 802.11b	**Channel**	CH 1：2412 MHz
Frequency Range	1GHz ~ 25GHz	**Detector Function**	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2389.60	55.4 PK	74.0	-18.6	1.22 H	166	59.8	-4.4
2	2389.60	42.5 AV	54.0	-11.5	1.22 H	166	46.9	-4.4
3	2390.00	53.1 PK	74.0	-20.9	1.22 H	166	57.6	-4.5
4	2390.00	42.8 AV	54.0	-11.2	1.22 H	166	47.3	-4.5
5	*2412.00	107.5 PK			1.22 H	166	111.9	-4.4
6	*2412.00	104.8 AV			1.22 H	166	109.2	-4.4
7	4824.00	43.5 PK	74.0	-30.5	1.36 H	54	43.4	0.1
8	4824.00	40.4 AV	54.0	-13.6	1.36 H	54	40.3	0.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2390.00	58.9 PK	74.0	-15.1	2.80 V	19	63.4	-4.5
2	2390.00	49.6 AV	54.0	-4.4	2.80 V	19	54.1	-4.5
3	*2412.00	120.4 PK			2.80 V	19	124.8	-4.4
4	*2412.00	117.5 AV			2.80 V	19	121.9	-4.4
5	4824.00	49.8 PK	74.0	-24.2	2.67 V	6	49.7	0.1
6	4824.00	48.8 AV	54.0	-5.2	2.67 V	6	48.7	0.1

Remarks:

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

RF Mode	TX 802.11b	Channel	CH 6：2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	52.1 PK	74.0	-21.9	1.22 H	169	56.6	-4.5
2	2390.00	41.2 AV	54.0	-12.8	1.22 H	169	45.7	-4.5
3	*2437.00	109.4 PK			1.22 H	169	113.8	-4.4
4	*2437.00	106.2 AV			1.22 H	169	110.6	-4.4
5	2483.50	52.0 PK	74.0	-22.0	1.22 H	169	56.5	-4.5
6	2483.50	41.1 AV	54.0	-12.9	1.22 H	169	45.6	-4.5
7	4874.00	43.6 PK	74.0	-30.4	1.33 H	56	43.5	0.1
8	4874.00	40.2 AV	54.0	-13.8	1.33 H	56	40.1	0.1
9	7311.00	44.7 PK	74.0	-29.3	1.90 H	200	38.4	6.3
10	7311.00	35.9 AV	54.0	-18.1	1.90 H	200	29.6	6.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	56.9 PK	74.0	-17.1	2.51 V	159	61.4	-4.5
2	2390.00	45.2 AV	54.0	-8.8	2.51 V	159	49.7	-4.5
3	*2437.00	122.0 PK			2.51 V	159	126.4	-4.4
4	*2437.00	118.9 AV			2.51 V	159	123.3	-4.4
5	2483.50	59.7 PK	74.0	-14.3	2.51 V	159	64.2	-4.5
6	2483.50	47.8 AV	54.0	-6.2	2.51 V	159	52.3	-4.5
7	4874.00	49.9 PK	74.0	-24.1	2.63 V	13	49.8	0.1
8	4874.00	48.9 AV	54.0	-5.1	2.63 V	13	48.8	0.1
9	7311.00	44.1 PK	74.0	-29.9	2.43 V	202	37.8	6.3
10	7311.00	35.2 AV	54.0	-18.8	2.43 V	202	28.9	6.3

Remarks:

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

RF Mode	TX 802.11b	Channel	CH 11：2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	104.3 PK			1.78 H	213	108.7	-4.4
2	*2462.00	101.5 AV			1.78 H	213	105.9	-4.4
3	2483.50	53.8 PK	74.0	-20.2	1.78 H	213	58.3	-4.5
4	2483.50	42.1 AV	54.0	-11.9	1.78 H	213	46.6	-4.5
5	4924.00	43.6 PK	74.0	-30.4	1.28 H	60	43.3	0.3
6	4924.00	40.2 AV	54.0	-13.8	1.28 H	60	39.9	0.3
7	7386.00	44.1 PK	74.0	-29.9	1.87 H	211	37.5	6.6
8	7386.00	35.5 AV	54.0	-18.5	1.87 H	211	28.9	6.6
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	*2462.00	118.9 PK			2.64 V	150	123.3	-4.4
2	*2462.00	116.3 AV			2.64 V	150	120.7	-4.4
3	2483.50	58.8 PK	74.0	-15.2	2.64 V	150	63.3	-4.5
4	2483.50	50.3 AV	54.0	-3.7	2.64 V	150	54.8	-4.5
5	4924.00	50.1 PK	74.0	-23.9	2.68 V	14	49.8	0.3
6	4924.00	48.9 AV	54.0	-5.1	2.68 V	14	48.6	0.3
7	7386.00	44.0 PK	74.0	-30.0	2.43 V	201	37.4	6.6
8	7386.00	34.9 AV	54.0	-19.1	2.43 V	201	28.3	6.6

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.

RF Mode	TX 802.11g	Channel	CH 1：2412 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	56.1 PK	74.0	-17.9	1.20 H	162	60.6	-4.5
2	2390.00	42.9 AV	54.0	-11.1	1.20 H	162	47.4	-4.5
3	*2412.00	105.9 PK			1.20 H	162	110.3	-4.4
4	*2412.00	96.2 AV			1.20 H	162	100.6	-4.4
5	4824.00	43.5 PK	74.0	-30.5	1.28 H	45	43.4	0.1
6	4824.00	39.8 AV	54.0	-14.2	1.28 H	45	39.7	0.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	69.2 PK	74.0	-4.8	2.61 V	180	73.7	-4.5
2	2390.00	49.8 AV	54.0	-4.2	2.61 V	180	54.3	-4.5
3	*2412.00	117.5 PK			2.61 V	180	121.9	-4.4
4	*2412.00	107.7 AV			2.61 V	180	112.1	-4.4
5	4824.00	49.1 PK	74.0	-24.9	2.63 V	15	49.0	0.1
6	4824.00	48.4 AV	54.0	-5.6	2.63 V	15	48.3	0.1

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 2：2417 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.1 PK	74.0	-14.9	1.49 H	338	63.4	-4.3
2	2390.00	44.2 AV	54.0	-9.8	1.49 H	338	48.5	-4.3
3	*2417.00	108.9 PK			1.49 H	338	113.2	-4.3
4	*2417.00	99.4 AV			1.49 H	338	103.7	-4.3
5	4834.00	43.3 PK	74.0	-30.7	1.34 H	35	42.7	0.6
6	4834.00	40.4 AV	54.0	-13.6	1.34 H	35	39.8	0.6
7	7251.00	43.8 PK	74.0	-30.2	1.88 H	192	37.1	6.7
8	7251.00	35.3 AV	54.0	-18.7	1.88 H	192	28.6	6.7
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	2390.00	65.9 PK	74.0	-8.1	2.39 V	196	70.2	-4.3
2	2390.00	49.8 AV	54.0	-4.2	2.39 V	196	54.1	-4.3
3	*2417.00	118.5 PK			2.39 V	196	122.8	-4.3
4	*2417.00	109.3 AV			2.39 V	196	113.6	-4.3
5	4834.00	50.4 PK	74.0	-23.6	2.63 V	17	49.8	0.6
6	4834.00	49.3 AV	54.0	-4.7	2.63 V	17	48.7	0.6
7	7251.00	44.0 PK	74.0	-30.0	2.43 V	214	37.3	6.7
8	7251.00	35.7 AV	54.0	-18.3	2.43 V	214	29.0	6.7

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.

RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	52.1 PK	74.0	-21.9	1.17 H	172	56.6	-4.5
2	2390.00	41.2 AV	54.0	-12.8	1.17 H	172	45.7	-4.5
3	*2437.00	112.7 PK			1.17 H	172	117.1	-4.4
4	*2437.00	103.9 AV			1.17 H	172	108.3	-4.4
5	2483.50	51.6 PK	74.0	-22.4	1.17 H	172	56.1	-4.5
6	2483.50	41.0 AV	54.0	-13.0	1.17 H	172	45.5	-4.5
7	4874.00	43.2 PK	74.0	-30.8	1.38 H	50	43.1	0.1
8	4874.00	39.9 AV	54.0	-14.1	1.38 H	50	39.8	0.1
9	7311.00	44.4 PK	74.0	-29.6	1.86 H	199	38.1	6.3
10	7311.00	35.6 AV	54.0	-18.4	1.86 H	199	29.3	6.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.6 PK	74.0	-10.4	2.45 V	184	68.1	-4.5
2	2390.00	50.2 AV	54.0	-3.8	2.45 V	184	54.7	-4.5
3	*2437.00	124.6 PK			2.45 V	184	129.0	-4.4
4	*2437.00	115.1 AV			2.45 V	184	119.5	-4.4
5	2483.50	67.3 PK	74.0	-6.7	2.45 V	184	71.8	-4.5
6	2483.50	51.8 AV	54.0	-2.2	2.45 V	184	56.3	-4.5
7	4874.00	50.1 PK	74.0	-23.9	2.62 V	3	50.0	0.1
8	4874.00	49.3 AV	54.0	-4.7	2.62 V	3	49.2	0.1
9	7311.00	43.7 PK	74.0	-30.3	2.42 V	208	37.4	6.3
10	7311.00	34.7 AV	54.0	-19.3	2.42 V	208	28.4	6.3

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 10：2457 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	108.4 PK			1.50 H	335	112.7	-4.3
2	*2457.00	99.1 AV			1.50 H	335	103.4	-4.3
3	2487.51	55.9 PK	74.0	-18.1	1.50 H	335	60.3	-4.4
4	2487.51	43.4 AV	54.0	-10.6	1.50 H	335	47.8	-4.4
5	4914.00	43.1 PK	74.0	-30.9	1.32 H	43	42.4	0.7
6	4914.00	40.0 AV	54.0	-14.0	1.32 H	43	39.3	0.7
7	7371.00	43.6 PK	74.0	-30.4	1.94 H	179	36.5	7.1
8	7371.00	35.3 AV	54.0	-18.7	1.94 H	179	28.2	7.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	118.6 PK			2.42 V	196	122.9	-4.3
2	*2457.00	109.3 AV			2.42 V	196	113.6	-4.3
3	2484.92	64.1 PK	74.0	-9.9	2.42 V	196	68.5	-4.4
4	2484.92	49.8 AV	54.0	-4.2	2.42 V	196	54.2	-4.4
5	4914.00	49.6 PK	74.0	-24.4	2.65 V	2	48.9	0.7
6	4914.00	48.7 AV	54.0	-5.3	2.65 V	2	48.0	0.7
7	7371.00	44.6 PK	74.0	-29.4	2.42 V	211	37.5	7.1
8	7371.00	36.0 AV	54.0	-18.0	2.42 V	211	28.9	7.1

Remarks:

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

RF Mode	TX 802.11g	Channel	CH 11：2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	102.3 PK			2.22 H	206	106.7	-4.4
2	*2462.00	91.7 AV			2.22 H	206	96.1	-4.4
3	2483.50	54.6 PK	74.0	-19.4	2.22 H	206	59.1	-4.5
4	2483.50	43.3 AV	54.0	-10.7	2.22 H	206	47.8	-4.5
5	4924.00	44.0 PK	74.0	-30.0	1.32 H	56	43.7	0.3
6	4924.00	40.3 AV	54.0	-13.7	1.32 H	56	40.0	0.3
7	7386.00	44.8 PK	74.0	-29.2	1.85 H	214	38.2	6.6
8	7386.00	36.0 AV	54.0	-18.0	1.85 H	214	29.4	6.6
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	*2462.00	116.2 PK			2.23 V	179	120.6	-4.4
2	*2462.00	106.0 AV			2.23 V	179	110.4	-4.4
3	2484.00	66.3 PK	74.0	-7.7	2.23 V	179	70.8	-4.5
4	2484.00	50.7 AV	54.0	-3.3	2.23 V	179	55.2	-4.5
5	4924.00	50.5 PK	74.0	-23.5	2.60 V	18	50.2	0.3
6	4924.00	49.2 AV	54.0	-4.8	2.60 V	18	48.9	0.3
7	7386.00	44.1 PK	74.0	-29.9	2.42 V	212	37.5	6.6
8	7386.00	35.5 AV	54.0	-18.5	2.42 V	212	28.9	6.6

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.

RF Mode	TX VHT20	Channel	CH 1：2412 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	56.7 PK	74.0	-17.3	1.22 H	162	61.2	-4.5
2	2390.00	43.6 AV	54.0	-10.4	1.22 H	162	48.1	-4.5
3	*2412.00	102.9 PK			1.22 H	162	107.3	-4.4
4	*2412.00	92.5 AV			1.22 H	162	96.9	-4.4
5	4824.00	44.4 PK	74.0	-29.6	1.33 H	63	44.3	0.1
6	4824.00	40.7 AV	54.0	-13.3	1.33 H	63	40.6	0.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	67.3 PK	74.0	-6.7	2.55 V	176	71.8	-4.5
2	2390.00	50.4 AV	54.0	-3.6	2.55 V	176	54.9	-4.5
3	*2412.00	114.8 PK			2.55 V	176	119.2	-4.4
4	*2412.00	104.6 AV			2.55 V	176	109.0	-4.4
5	4824.00	50.1 PK	74.0	-23.9	2.62 V	17	50.0	0.1
6	4824.00	49.1 AV	54.0	-4.9	2.62 V	17	49.0	0.1

Remarks:

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

RF Mode	TX VHT20	Channel	CH 2：2417 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	57.9 PK	74.0	-16.1	1.54 H	332	62.2	-4.3
2	2390.00	44.1 AV	54.0	-9.9	1.54 H	332	48.4	-4.3
3	*2417.00	107.4 PK			1.54 H	332	111.7	-4.3
4	*2417.00	98.8 AV			1.54 H	332	103.1	-4.3
5	4834.00	43.2 PK	74.0	-30.8	1.35 H	28	42.6	0.6
6	4834.00	39.9 AV	54.0	-14.1	1.35 H	28	39.3	0.6
7	7251.00	43.2 PK	74.0	-30.8	1.91 H	169	36.5	6.7
8	7251.00	34.8 AV	54.0	-19.2	1.91 H	169	28.1	6.7
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	2390.00	62.1 PK	74.0	-11.9	2.42 V	185	66.4	-4.3
2	2390.00	49.8 AV	54.0	-4.2	2.42 V	185	54.1	-4.3
3	*2417.00	118.5 PK			2.42 V	185	122.8	-4.3
4	*2417.00	109.0 AV			2.42 V	185	113.3	-4.3
5	4834.00	50.1 PK	74.0	-23.9	2.67 V	0	49.5	0.6
6	4834.00	49.1 AV	54.0	-4.9	2.67 V	0	48.5	0.6
7	7251.00	43.9 PK	74.0	-30.1	2.48 V	210	37.2	6.7
8	7251.00	35.3 AV	54.0	-18.7	2.48 V	210	28.6	6.7

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.

RF Mode	TX VHT20	Channel	CH 6：2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	54.8 PK	74.0	-19.2	1.20 H	165	59.3	-4.5
2	2390.00	41.6 AV	54.0	-12.4	1.20 H	165	46.1	-4.5
3	*2437.00	113.3 PK			1.20 H	165	117.7	-4.4
4	*2437.00	102.9 AV			1.20 H	165	107.3	-4.4
5	2483.50	51.6 PK	74.0	-22.4	1.20 H	165	56.1	-4.5
6	2483.50	40.9 AV	54.0	-13.1	1.20 H	165	45.4	-4.5
7	4874.00	44.0 PK	74.0	-30.0	1.29 H	58	43.9	0.1
8	4874.00	40.6 AV	54.0	-13.4	1.29 H	58	40.5	0.1
9	7311.00	44.7 PK	74.0	-29.3	1.85 H	203	38.4	6.3
10	7311.00	36.0 AV	54.0	-18.0	1.85 H	203	29.7	6.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.4 PK	74.0	-10.6	2.00 V	176	67.9	-4.5
2	2390.00	49.9 AV	54.0	-4.1	2.00 V	176	54.4	-4.5
3	*2437.00	123.7 PK			2.00 V	176	128.1	-4.4
4	*2437.00	114.3 AV			2.00 V	176	118.7	-4.4
5	2483.50	70.3 PK	74.0	-3.7	2.00 V	176	74.8	-4.5
6	2483.50	51.6 AV	54.0	-2.4	2.00 V	176	56.1	-4.5
7	4874.00	49.6 PK	74.0	-24.4	2.69 V	18	49.5	0.1
8	4874.00	48.8 AV	54.0	-5.2	2.69 V	18	48.7	0.1
9	7311.00	44.3 PK	74.0	-29.7	2.43 V	211	38.0	6.3
10	7311.00	35.6 AV	54.0	-18.4	2.43 V	211	29.3	6.3

Remarks:

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

RF Mode	TX VHT20	Channel	CH 10：2457 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	106.2 PK			1.45 H	337	110.5	-4.3
2	*2457.00	96.8 AV			1.45 H	337	101.1	-4.3
3	2484.30	54.6 PK	74.0	-19.4	1.45 H	337	59.0	-4.4
4	2484.30	42.9 AV	54.0	-11.1	1.45 H	337	47.3	-4.4
5	4914.00	43.4 PK	74.0	-30.6	1.20 H	43	42.7	0.7
6	4914.00	40.1 AV	54.0	-13.9	1.20 H	43	39.4	0.7
7	7371.00	44.3 PK	74.0	-29.7	1.88 H	196	37.2	7.1
8	7371.00	36.0 AV	54.0	-18.0	1.88 H	196	28.9	7.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2457.00	117.4 PK			2.39 V	194	121.7	-4.3
2	*2457.00	107.2 AV			2.39 V	194	111.5	-4.3
3	2485.40	66.7 PK	74.0	-7.3	2.39 V	194	71.1	-4.4
4	2485.40	49.9 AV	54.0	-4.1	2.39 V	194	54.3	-4.4
5	4914.00	50.7 PK	74.0	-23.3	2.68 V	9	50.0	0.7
6	4914.00	49.5 AV	54.0	-4.5	2.68 V	9	48.8	0.7
7	7371.00	44.3 PK	74.0	-29.7	2.47 V	215	37.2	7.1
8	7371.00	35.7 AV	54.0	-18.3	2.47 V	215	28.6	7.1

Remarks:

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

RF Mode	TX VHT20	Channel	CH 11：2462 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	101.9 PK			1.20 H	157	106.3	-4.4
2	*2462.00	90.7 AV			1.20 H	157	95.1	-4.4
3	2484.70	55.5 PK	74.0	-18.5	1.20 H	157	60.0	-4.5
4	2484.70	43.5 AV	54.0	-10.5	1.20 H	157	48.0	-4.5
5	4924.00	43.3 PK	74.0	-30.7	1.27 H	43	43.0	0.3
6	4924.00	39.9 AV	54.0	-14.1	1.27 H	43	39.6	0.3
7	7386.00	44.8 PK	74.0	-29.2	1.95 H	205	38.2	6.6
8	7386.00	35.9 AV	54.0	-18.1	1.95 H	205	29.3	6.6
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	*2462.00	115.6 PK			2.28 V	184	120.0	-4.4
2	*2462.00	105.4 AV			2.28 V	184	109.8	-4.4
3	2485.10	67.8 PK	74.0	-6.2	2.28 V	184	72.3	-4.5
4	**2485.10**	**52.1 AV**	**54.0**	**-1.9**	**2.28 V**	**184**	**56.6**	**-4.5**
5	4924.00	50.1 PK	74.0	-23.9	2.65 V	29	49.8	0.3
6	4924.00	49.3 AV	54.0	-4.7	2.65 V	29	49.0	0.3
7	7386.00	43.7 PK	74.0	-30.3	2.38 V	210	37.1	6.6
8	7386.00	35.0 AV	54.0	-19.0	2.38 V	210	28.4	6.6

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.

RF Mode	TX VHT40	Channel	CH 3：2422 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	55.4 PK	74.0	-18.6	1.26 H	160	59.9	-4.5
2	2390.00	43.4 AV	54.0	-10.6	1.26 H	160	47.9	-4.5
3	*2422.00	97.2 PK			1.26 H	160	101.6	-4.4
4	*2422.00	86.9 AV			1.26 H	160	91.3	-4.4
5	4844.00	43.9 PK	74.0	-30.1	1.38 H	41	43.8	0.1
6	4844.00	40.5 AV	54.0	-13.5	1.38 H	41	40.4	0.1
7	7266.00	44.8 PK	74.0	-29.2	1.92 H	212	38.6	6.2
8	7266.00	36.1 AV	54.0	-17.9	1.92 H	212	29.9	6.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	64.0 PK	74.0	-10.0	2.46 V	178	68.5	-4.5
2	2390.00	51.5 AV	54.0	-2.5	2.46 V	178	56.0	-4.5
3	*2422.00	109.8 PK			2.46 V	178	114.2	-4.4
4	*2422.00	100.1 AV			2.46 V	178	104.5	-4.4
5	4844.00	49.6 PK	74.0	-24.4	2.66 V	17	49.5	0.1
6	4844.00	48.7 AV	54.0	-5.3	2.66 V	17	48.6	0.1
7	7266.00	43.9 PK	74.0	-30.1	2.48 V	213	37.7	6.2
8	7266.00	34.8 AV	54.0	-19.2	2.48 V	213	28.6	6.2

Remarks:

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

RF Mode	TX VHT40	Channel	CH 4：2427 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	56.7 PK	74.0	-17.3	1.55 H	335	61.0	-4.3
2	2390.00	44.3 AV	54.0	-9.7	1.55 H	335	48.6	-4.3
3	*2427.00	99.5 PK			1.55 H	335	103.8	-4.3
4	*2427.00	89.8 AV			1.55 H	335	94.1	-4.3
5	2488.06	54.0 PK	74.0	-20.0	1.55 H	335	58.4	-4.4
6	2488.06	41.7 AV	54.0	-12.3	1.55 H	335	46.1	-4.4
7	4854.00	44.3 PK	74.0	-29.7	1.33 H	68	43.8	0.5
8	4854.00	40.6 AV	54.0	-13.4	1.33 H	68	40.1	0.5
9	7281.00	43.6 PK	74.0	-30.4	1.80 H	198	36.9	6.7
10	7281.00	35.5 AV	54.0	-18.5	1.80 H	198	28.8	6.7
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	2390.00	62.5 PK	74.0	-11.5	2.39 V	189	66.8	-4.3
2	2390.00	49.9 AV	54.0	-4.1	2.39 V	189	54.2	-4.3
3	*2427.00	110.2 PK			2.39 V	189	114.5	-4.3
4	*2427.00	100.7 AV			2.39 V	189	105.0	-4.3
5	2488.51	55.1 PK	74.0	-18.9	2.39 V	189	59.5	-4.4
6	2488.51	43.1 AV	54.0	-10.9	2.39 V	189	47.5	-4.4
7	4854.00	50.2 PK	74.0	-23.8	2.73 V	6	49.7	0.5
8	4854.00	49.2 AV	54.0	-4.8	2.73 V	6	48.7	0.5
9	7281.00	44.7 PK	74.0	-29.3	2.42 V	225	38.0	6.7
10	7281.00	36.1 AV	54.0	-17.9	2.42 V	225	29.4	6.7

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.

RF Mode	TX VHT40	Channel	CH 6：2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	52.0 PK	74.0	-22.0	1.29 H	169	56.5	-4.5
2	2390.00	42.0 AV	54.0	-12.0	1.29 H	169	46.5	-4.5
3	*2437.00	100.9 PK			1.29 H	169	105.3	-4.4
4	*2437.00	89.7 AV			1.29 H	169	94.1	-4.4
5	2483.50	53.7 PK	74.0	-20.3	1.29 H	169	58.2	-4.5
6	2483.50	41.2 AV	54.0	-12.8	1.29 H	169	45.7	-4.5
7	4874.00	43.6 PK	74.0	-30.4	1.30 H	48	43.5	0.1
8	4874.00	40.3 AV	54.0	-13.7	1.30 H	48	40.2	0.1
9	7311.00	44.9 PK	74.0	-29.1	1.90 H	192	38.6	6.3
10	7311.00	36.3 AV	54.0	-17.7	1.90 H	192	30.0	6.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	60.8 PK	74.0	-13.2	2.45 V	179	65.3	-4.5
2	2390.00	48.2 AV	54.0	-5.8	2.45 V	179	52.7	-4.5
3	*2437.00	112.4 PK			2.45 V	179	116.8	-4.4
4	*2437.00	103.0 AV			2.45 V	179	107.4	-4.4
5	2483.50	67.8 PK	74.0	-6.2	2.45 V	179	72.3	-4.5
6	2483.50	50.3 AV	54.0	-3.7	2.45 V	179	54.8	-4.5
7	4874.00	50.1 PK	74.0	-23.9	2.64 V	5	50.0	0.1
8	4874.00	49.2 AV	54.0	-4.8	2.64 V	5	49.1	0.1
9	7311.00	44.0 PK	74.0	-30.0	2.48 V	196	37.7	6.3
10	7311.00	35.3 AV	54.0	-18.7	2.48 V	196	29.0	6.3

Remarks:

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

RF Mode	TX VHT40	Channel	CH 8：2447 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2389.90	54.6 PK	74.0	-19.4	1.51 H	320	58.8	-4.2
2	2389.90	42.2 AV	54.0	-11.8	1.51 H	320	46.4	-4.2
3	*2447.00	97.4 PK			1.51 H	320	101.7	-4.3
4	*2447.00	87.1 AV			1.51 H	320	91.4	-4.3
5	2492.13	55.4 PK	74.0	-18.6	1.51 H	320	59.8	-4.4
6	2492.13	42.1 AV	54.0	-11.9	1.51 H	320	46.5	-4.4
7	4894.00	43.5 PK	74.0	-30.5	1.25 H	31	42.9	0.6
8	4894.00	40.2 AV	54.0	-13.8	1.25 H	31	39.6	0.6
9	7341.00	44.4 PK	74.0	-29.6	1.96 H	184	37.5	6.9
10	7341.00	36.1 AV	54.0	-17.9	1.96 H	184	29.2	6.9
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	2333.48	55.9 PK	74.0	-18.1	2.44 V	185	60.0	-4.1
2	2333.48	42.5 AV	54.0	-11.5	2.44 V	185	46.6	-4.1
3	*2447.00	108.1 PK			2.44 V	185	112.4	-4.3
4	*2447.00	99.8 AV			2.44 V	185	104.1	-4.3
5	2485.34	63.8 PK	74.0	-10.2	2.44 V	185	68.2	-4.4
6	2485.34	49.8 AV	54.0	-4.2	2.44 V	185	54.2	-4.4
7	4894.00	49.6 PK	74.0	-24.4	2.58 V	15	49.0	0.6
8	4894.00	48.7 AV	54.0	-5.3	2.58 V	15	48.1	0.6
9	7341.00	45.1 PK	74.0	-28.9	2.45 V	208	38.2	6.9
10	7341.00	36.4 AV	54.0	-17.6	2.45 V	208	29.5	6.9

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.

RF Mode	TX VHT40	Channel	CH 9：2452 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2452.00	95.5 PK			1.23 H	158	99.9	-4.4
2	*2452.00	85.2 AV			1.23 H	158	89.6	-4.4
3	2483.50	52.1 PK	74.0	-21.9	1.23 H	158	56.6	-4.5
4	2483.50	42.3 AV	54.0	-11.7	1.23 H	158	46.8	-4.5
5	2496.10	54.2 PK	74.0	-19.8	1.23 H	158	58.7	-4.5
6	2496.10	41.7 AV	54.0	-12.3	1.23 H	158	46.2	-4.5
7	4904.00	43.0 PK	74.0	-31.0	1.29 H	57	42.8	0.2
8	4904.00	39.8 AV	54.0	-14.2	1.29 H	57	39.6	0.2
9	7356.00	44.4 PK	74.0	-29.6	1.93 H	190	38.0	6.4
10	7356.00	35.4 AV	54.0	-18.6	1.93 H	190	29.0	6.4
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	*2452.00	109.5 PK			2.25 V	181	113.9	-4.4
2	*2452.00	99.4 AV			2.25 V	181	103.8	-4.4
3	2485.20	65.0 PK	74.0	-9.0	2.25 V	181	69.5	-4.5
4	2485.20	51.6 AV	54.0	-2.4	2.25 V	181	56.1	-4.5
5	4904.00	49.6 PK	74.0	-24.4	2.58 V	20	49.4	0.2
6	4904.00	48.6 AV	54.0	-5.4	2.58 V	20	48.4	0.2
7	7356.00	43.5 PK	74.0	-30.5	2.37 V	199	37.1	6.4
8	7356.00	34.8 AV	54.0	-19.2	2.37 V	199	28.4	6.4

Remarks:

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

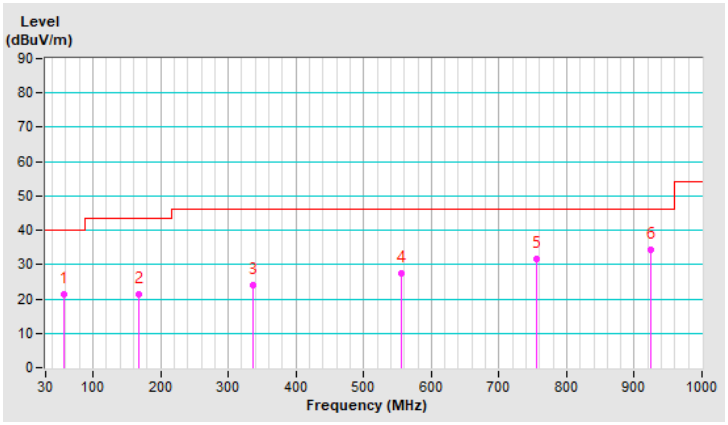
Below 1GHz Data:

RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	56.53	21.5 QP	40.0	-18.5	1.50 H	267	30.5	-9.0
2	167.28	21.5 QP	43.5	-22.0	1.00 H	120	30.1	-8.6
3	337.22	24.1 QP	46.0	-21.9	1.00 H	57	30.4	-6.3
4	555.30	27.5 QP	46.0	-18.5	1.50 H	104	28.5	-1.0
5	755.15	31.6 QP	46.0	-14.4	1.00 H	100	28.1	3.5
6	923.66	34.2 QP	46.0	-11.8	2.00 H	104	27.7	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 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

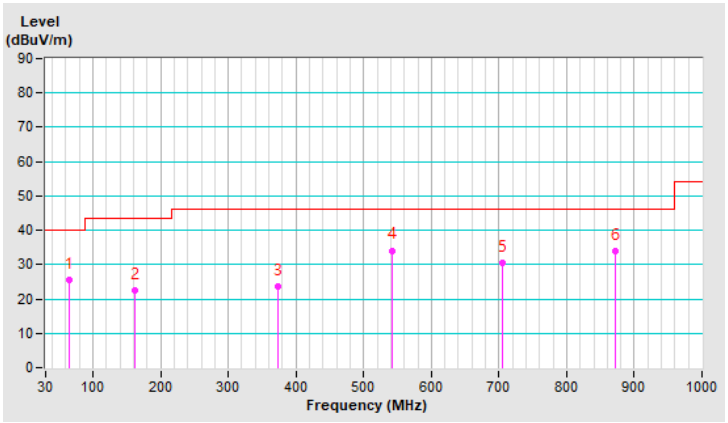


RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	64.75	25.4 QP	40.0	-14.6	1.50 V	360	35.5	-10.1
2	161.34	22.4 QP	43.5	-21.1	1.50 V	203	30.7	-8.3
3	372.56	23.5 QP	46.0	-22.5	1.50 V	22	28.7	-5.2
4	542.79	34.1 QP	46.0	-11.9	1.00 V	263	35.3	-1.2
5	705.75	30.5 QP	46.0	-15.5	1.00 V	268	28.3	2.2
6	872.03	34.0 QP	46.0	-12.0	2.00 V	360	28.7	5.3

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 20, 2020	Oct. 19, 2021
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 27, 2020	Oct. 26, 2021
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 19, 2020	Mar. 18, 2021
50 ohms Terminator	50	3	Oct. 26, 2020	Oct. 25, 2021
RF Cable	5D-FB	COCCAB-001	Sep. 26, 2020	Sep. 25, 2021
Fixed attenuator EMCI	STI02-2200-10	005	Aug. 29, 2020	Aug. 28, 2021
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
3 Tested Date: Jan. 04, 2021

4.2.3 Test Procedures

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

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

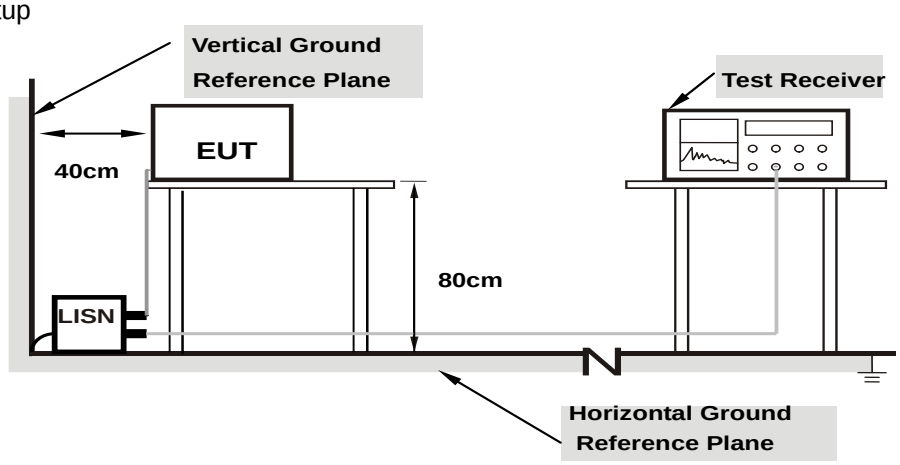
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

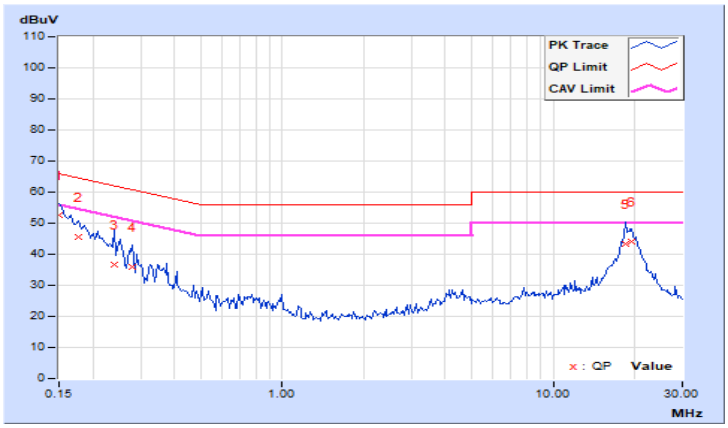
4.2.7 Test Results

RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

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	0.15000	9.96	42.58	25.69	52.54	35.65	66.00	56.00	-13.46	-20.35
2	0.17734	9.98	35.50	19.81	45.48	29.79	64.61	54.61	-19.13	-24.82
3	0.23984	10.00	26.63	9.93	36.63	19.93	62.10	52.10	-25.47	-32.17
4	0.27891	10.00	25.79	14.39	35.79	24.39	60.85	50.85	-25.06	-26.46
5	18.42578	11.35	32.13	25.59	43.48	36.94	60.00	50.00	-16.52	-13.06
6	**19.44922**	**11.42**	**32.81**	**27.08**	**44.23**	**38.50**	**60.00**	**50.00**	**-15.77**	**-11.50**

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

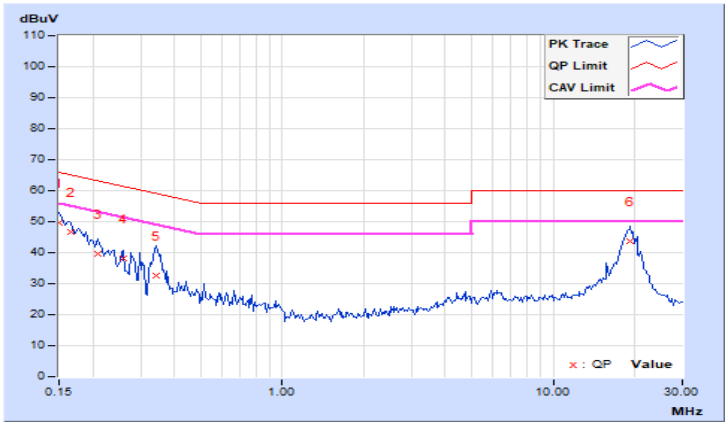


RF Mode	TX 802.11g	Channel	CH 6：2437 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

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	9.94	39.64	24.57	49.58	34.51	66.00	56.00	-16.42	-21.49
2	0.16562	9.95	36.75	21.46	46.70	31.41	65.18	55.18	-18.48	-23.77
3	0.20859	9.98	29.77	19.12	39.75	29.10	63.26	53.26	-23.51	-24.16
4	0.25938	9.99	28.04	18.10	38.03	28.09	61.45	51.45	-23.42	-23.36
5	0.34141	10.00	22.68	9.45	32.68	19.45	59.17	49.17	-26.49	-29.72
6	19.27734	11.14	32.45	26.04	43.59	37.18	60.00	50.00	-16.41	-12.82

Remarks:

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

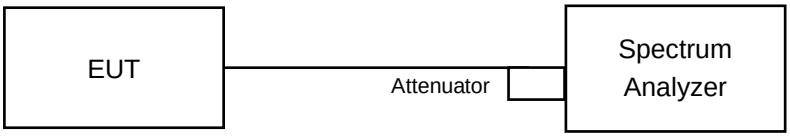


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

a. Set resolution bandwidth (RBW) = 100kHz
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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	9.08	9.08	9.07	0.5	PASS
6	2437	8.55	8.64	8.63	0.5	PASS
11	2462	8.6	8.6	9.08	0.5	PASS

802.11g

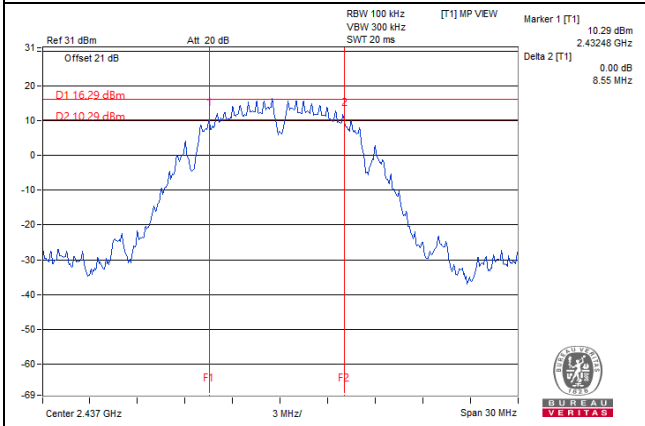
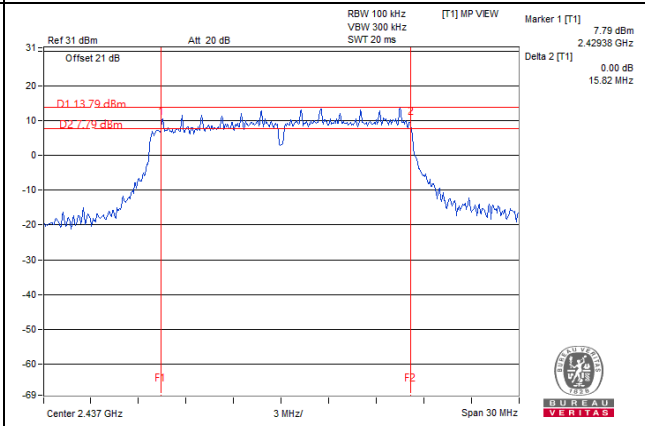
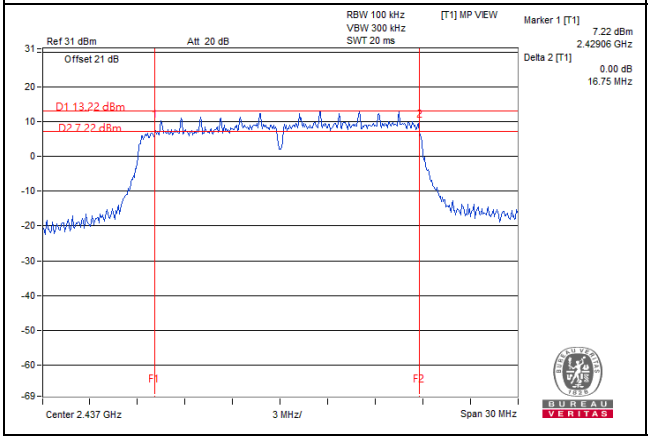
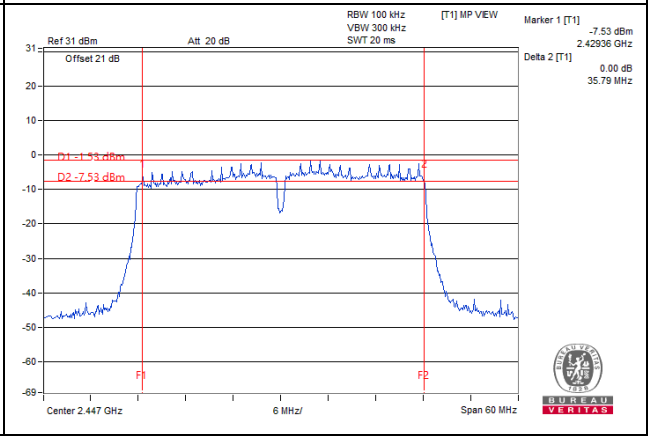
Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	16.42	16.44	16.44	0.5	PASS
2	2417	16.42	16.46	16.45	0.5	PASS
6	2437	16.42	16.46	15.82	0.5	PASS
10	2457	16.43	16.48	16.43	0.5	PASS
11	2462	16.43	16.48	16.47	0.5	PASS

VHT20

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	17.65	17.68	17.64	0.5	PASS
2	2417	17.68	17.66	17.67	0.5	PASS
6	2437	17.69	17.69	16.75	0.5	PASS
10	2457	17.68	17.68	17.66	0.5	PASS
11	2462	17.64	17.69	17.63	0.5	PASS

VHT40

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
3	2422	36.39	36.49	36.51	0.5	PASS
4	2427	36.41	36.3	35.91	0.5	PASS
6	2437	36.48	36.18	35.95	0.5	PASS
8	2447	36.52	36.46	35.79	0.5	PASS
9	2452	36.5	36.55	35.9	0.5	PASS

Spectrum Plot of Worst Value	
802.11b / Chain 0 : CH6	**802.11g / Chain 2 : CH6**
	
VHT20 / Chain 2 : CH6	**VHT40 / Chain 2 : CH8**
	

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

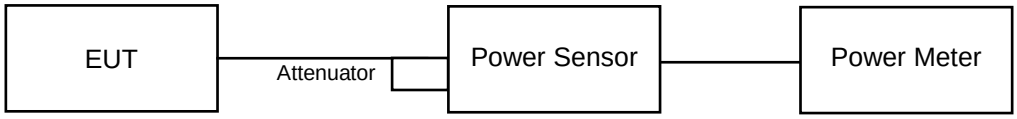
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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.

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

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

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

CDD Mode

802.11b

Chan.	Frequency (MHz)	Avg. Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	22.27	22.85	22.31	531.624	27.26	30	Pass
6	2437	23.58	24.26	23.69	728.604	28.62	30	Pass
11	2462	20.75	21.34	20.84	376.334	25.76	30	Pass

802.11g

Chan.	Frequency (MHz)	Avg. Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	16.65	17.14	16.78	145.642	21.63	30	Pass
2	2417	18.25	18.93	18.56	216.777	23.36	30	Pass
6	2437	23.73	24.33	24.11	764.699	28.83	30	Pass
10	2457	18.33	18.74	18.64	216.008	23.34	30	Pass
11	2462	14.09	14.63	14.47	82.675	19.17	30	Pass

VHT20

Chan.	Frequency (MHz)	Avg. Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	13.58	14.05	13.88	72.647	18.61	30	Pass
2	2417	17.45	18.35	17.98	186.787	22.71	30	Pass
6	2437	22.98	23.81	23.43	659.338	28.19	30	Pass
10	2457	16.96	17.87	17.52	167.388	22.24	30	Pass
11	2462	14.07	14.58	14.32	81.274	19.10	30	Pass

VHT40

Chan.	Frequency (MHz)	Avg. Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
3	2422	12.43	12.98	12.73	56.109	17.49	30	Pass
4	2427	12.59	13.21	12.90	58.595	17.68	30	Pass
6	2437	14.36	14.94	14.67	87.788	19.43	30	Pass
8	2447	11.35	11.87	11.61	43.515	16.39	30	Pass
9	2452	11.00	11.54	11.38	40.586	16.08	30	Pass

Beamforming Mode

VHT20

Chan.	Frequency (MHz)	Avg. Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	13.58	14.05	13.88	72.647	18.61	29.9	Pass
2	2417	17.45	18.35	17.98	186.787	22.71	29.9	Pass
6	2437	22.98	23.81	23.43	659.338	28.19	29.9	Pass
10	2457	16.96	17.87	17.52	167.388	22.24	29.9	Pass
11	2462	14.07	14.58	14.32	81.274	19.10	29.9	Pass

Note: Directional gain = 1.33dBi + 10log(3) = 6.1dBi > 6dBi , so the power limit shall be reduced to 30-(6.1-6) = 29.9dBm.

VHT40

Chan.	Frequency (MHz)	Avg. Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
3	2422	12.43	12.98	12.73	56.109	17.49	29.9	Pass
4	2427	12.59	13.21	12.90	58.595	17.68	29.9	Pass
6	2437	14.36	14.94	14.67	87.788	19.43	29.9	Pass
8	2447	11.35	11.87	11.61	43.515	16.39	29.9	Pass
9	2452	11.00	11.54	11.38	40.586	16.08	29.9	Pass

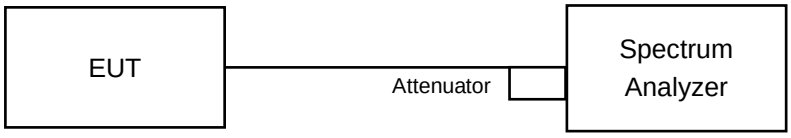
Note: Directional gain = 1.33dBi + 10log(3) = 6.1dBi > 6dBi , so the power limit shall be reduced to 30-(6.1-6) = 29.9dBm.

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6

4.5.7 Test Results

802.11b

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)			Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	-7.70	-7.57	-7.84	0.5092	-2.93	7.90	PASS
6	2437	-3.69	-5.42	-6.08	0.9612	-0.17	7.90	PASS
11	2462	-9.87	-9.38	-7.73	0.387	-4.12	7.90	PASS

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.

2. Directional gain = 1.33dBi + 10log(3) = 6.1dBi > 6dBi , so the power density limit shall be reduced to 8-(6.1-6) = 7.9dBm.

802.11g

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)			Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	-14.97	-14.65	-15.47	0.0945	-10.25	7.90	PASS
2	2417	-13.57	-14.58	-14.76	0.11221	-9.50	7.90	PASS
6	2437	-3.58	-7.63	-8.71	0.7457	-1.27	7.90	PASS
10	2457	-14.16	-14.68	-14.92	0.10462	-9.80	7.90	PASS
11	2462	-18.18	-17.65	-18.18	0.04759	-13.22	7.90	PASS

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.

2. Directional gain = 1.33dBi + 10log(3) = 6.1dBi > 6dBi , so the power density limit shall be reduced to 8-(6.1-6) = 7.9dBm.

VHT20

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)			Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	-20.42	-20.35	-21.29	0.025734	-15.89	7.90	PASS
2	2417	-14.13	-17.00	-17.41	0.07674	-11.15	7.90	PASS
6	2437	-5.20	-10.95	-11.26	0.45716	-3.40	7.90	PASS
10	2457	-15.40	-17.40	-18.03	0.06278	-12.02	7.90	PASS
11	2462	-19.95	-20.14	-20.39	0.02894	-15.39	7.90	PASS

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.

2. Directional gain = 1.33dBi + 10log(3) = 6.1dBi > 6dBi , so the power density limit shall be reduced to 8-(6.1-6) = 7.9dBm.

VHT40

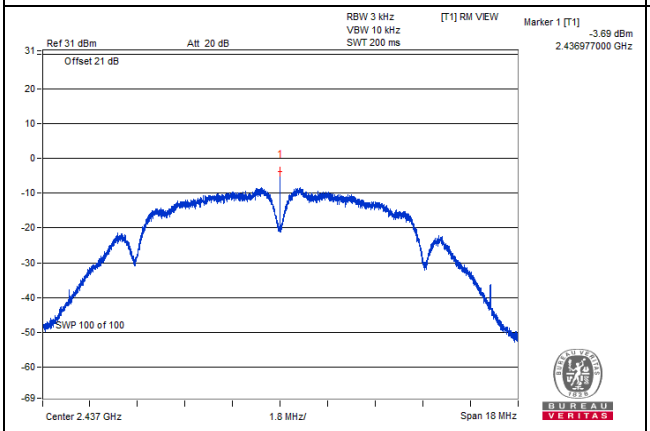
Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)			Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
3	2422	-22.34	-23.89	-23.92	0.013973	-18.55	7.90	PASS
4	2427	-22.02	-23.52	-23.34	0.015361	-18.14	7.90	PASS
6	2437	-19.57	-21.43	-21.21	0.025804	-15.88	7.90	PASS
8	2447	-23.01	-24.92	-25.11	0.011305	-19.47	7.90	PASS
9	2452	-24.48	-24.69	-24.72	0.010334	-19.86	7.90	PASS

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.

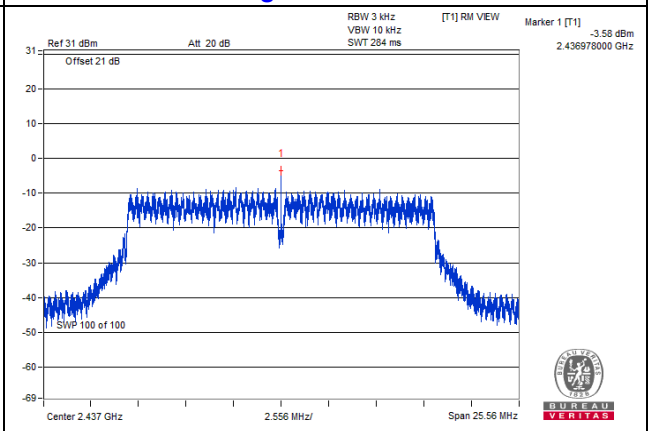
2. Directional gain = 1.33dBi + 10log(3) = 6.1dBi > 6dBi , so the power density limit shall be reduced to 8-(6.1-6) = 7.9dBm.

Spectrum Plot of Worst Value

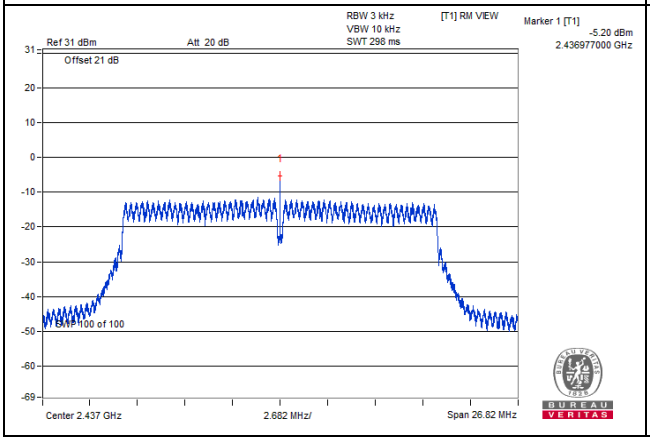
802.11b / Chain 0 : CH6



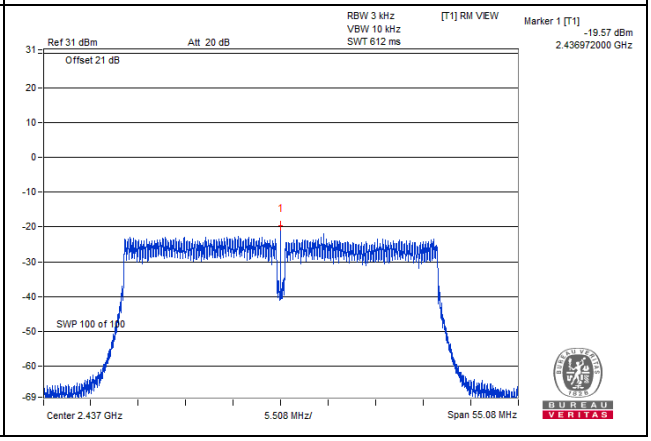
802.11g / Chain 0 : CH6



VHT20 / Chain 0 : CH6



VHT40 / Chain 0 : CH6

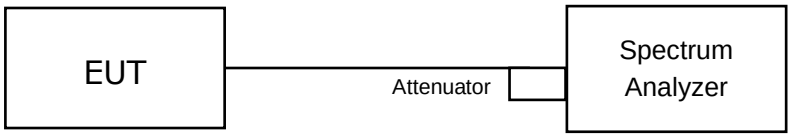


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOBE

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

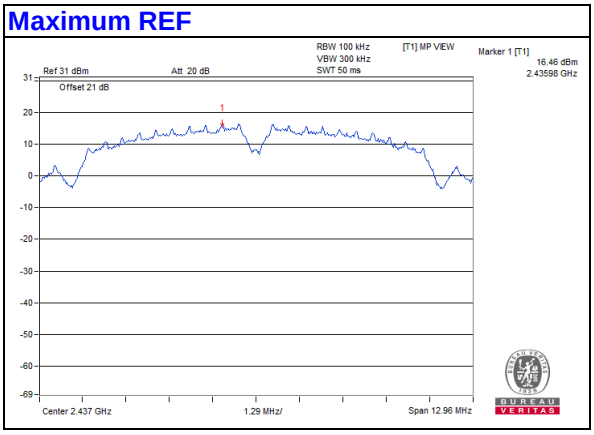
Same as Item 4.3.6

4.6.7 Test Results

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

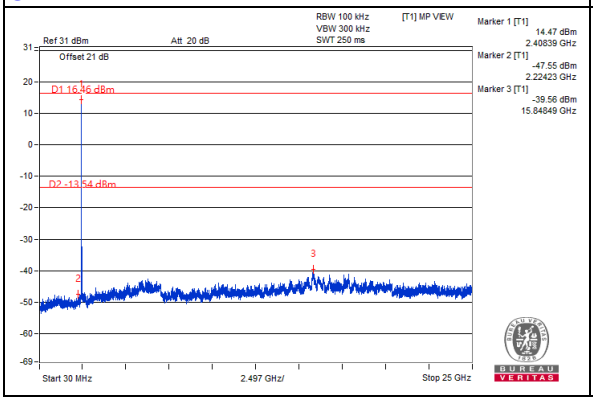
802.11b

Maximum REF

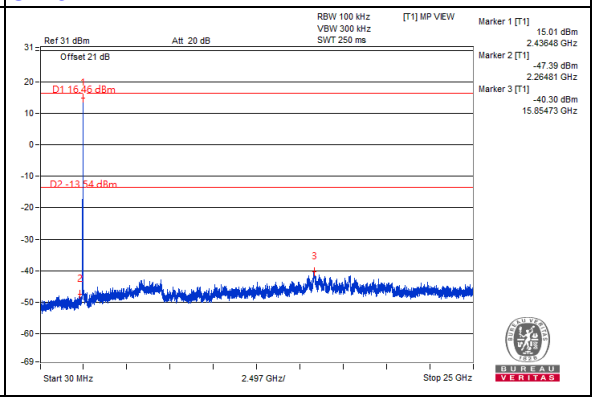


Chain 0

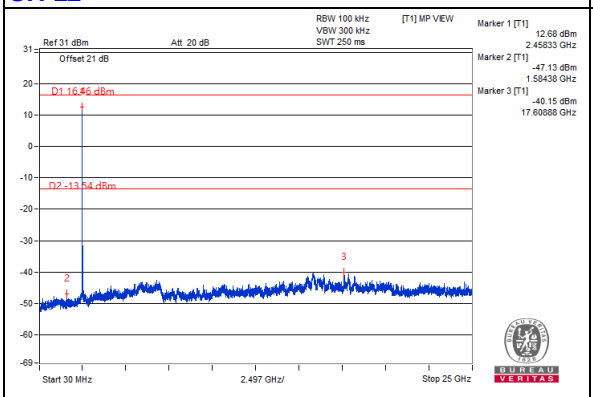
CH 1



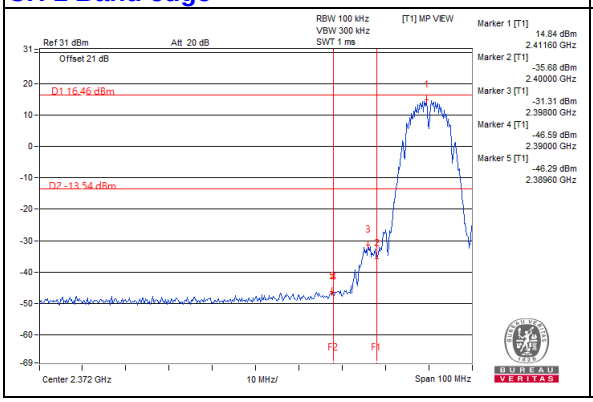
CH 6



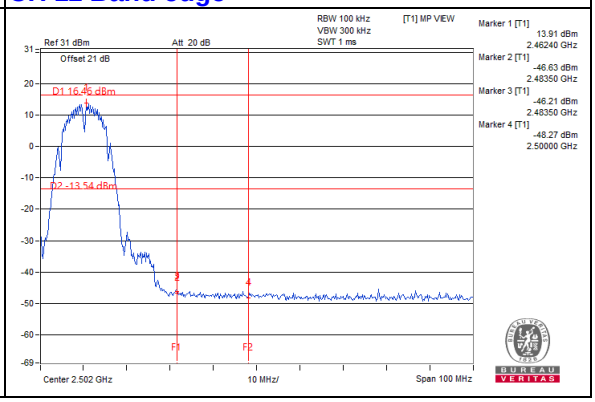
CH 11



CH 1 Band edge

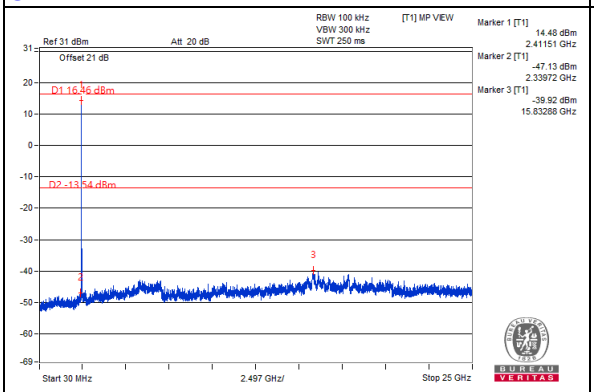


CH 11 Band edge

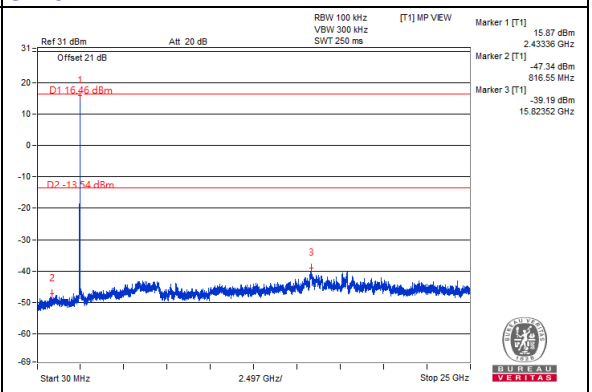


Chain 1

CH 1



CH 6



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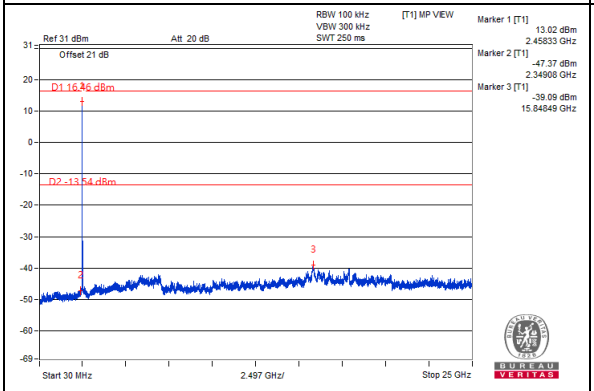
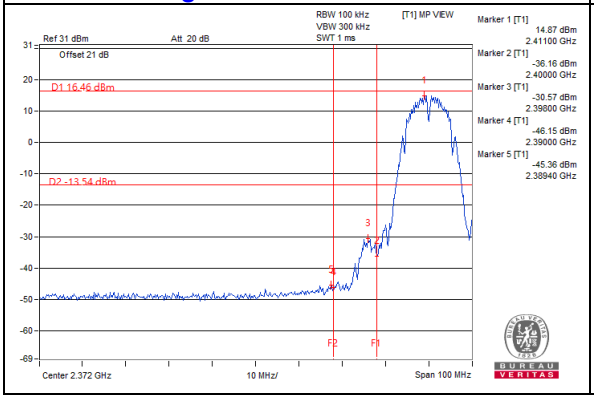
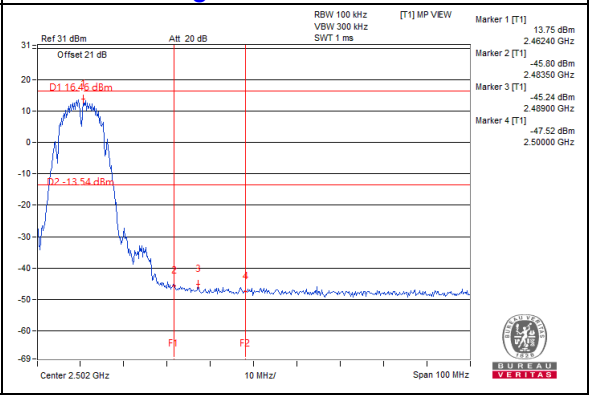


CH 1 Band edge

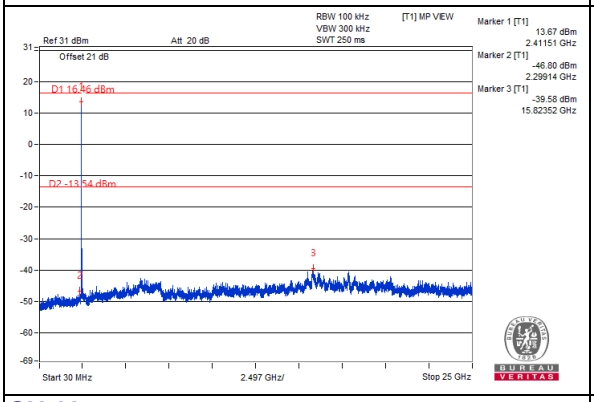


CH 11 Band edge

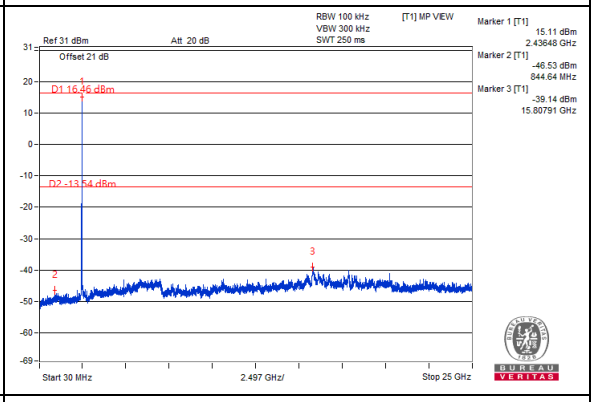


Chain 2

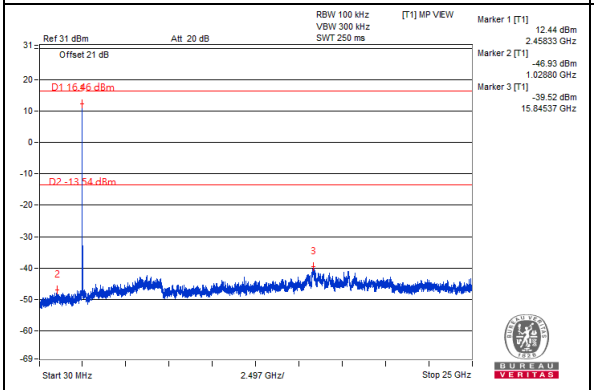
CH 1



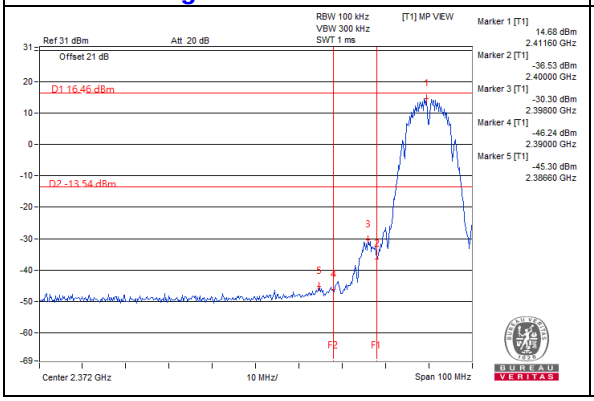
CH 6



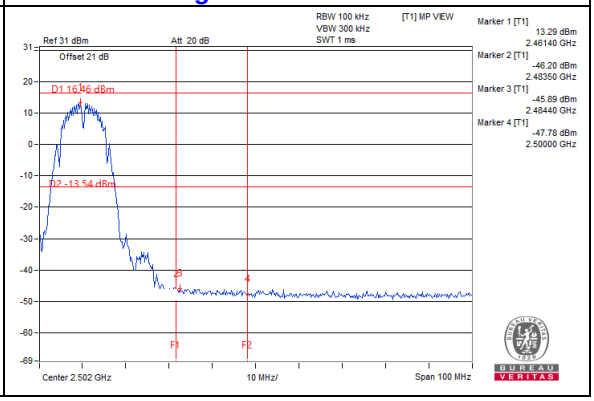
CH 11



CH 1 Band edge

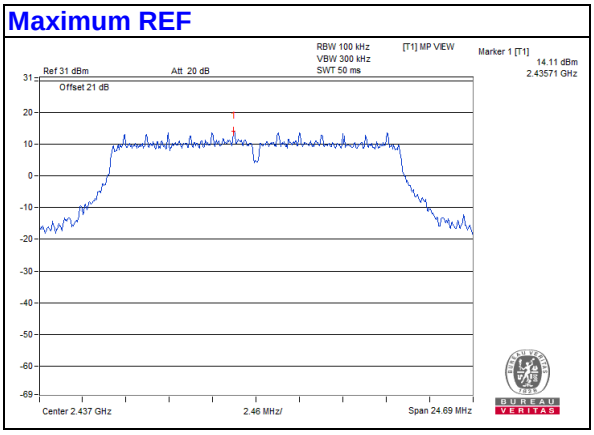


CH 11 Band edge



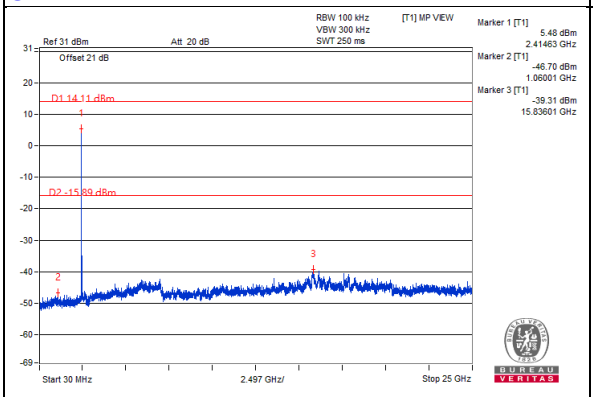
802.11g

Maximum REF

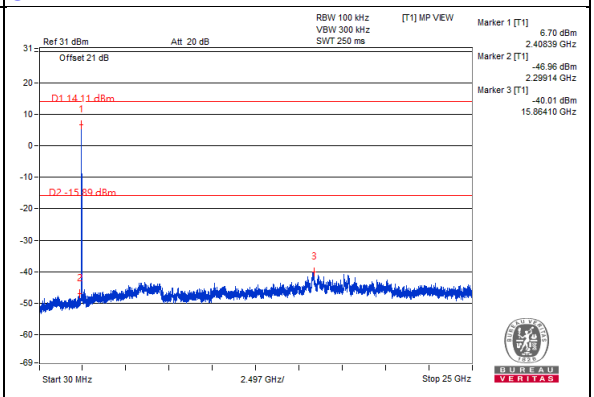


Chain 0

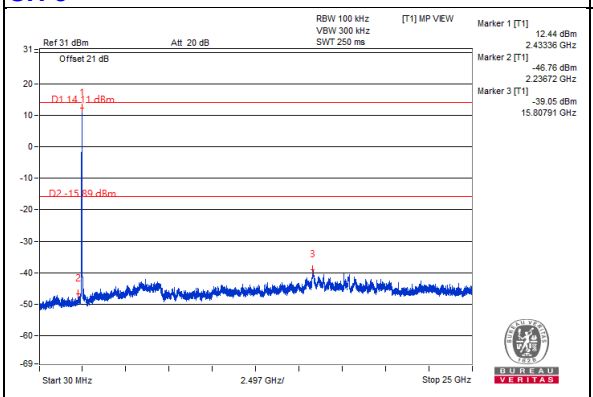
CH 1



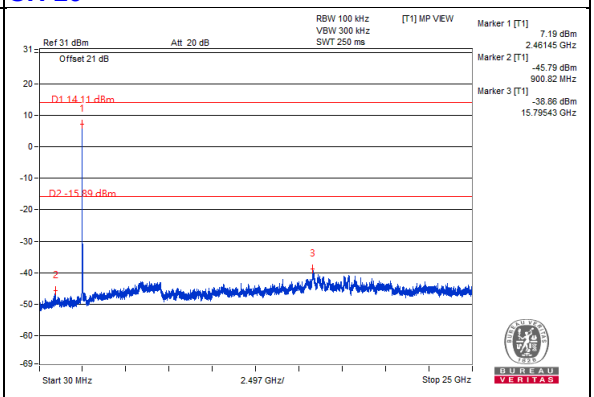
CH 2



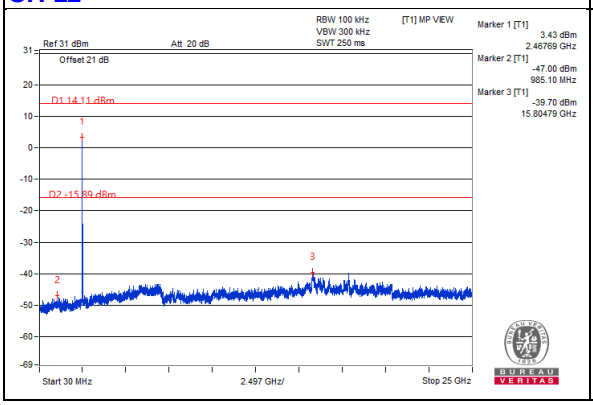
CH 6



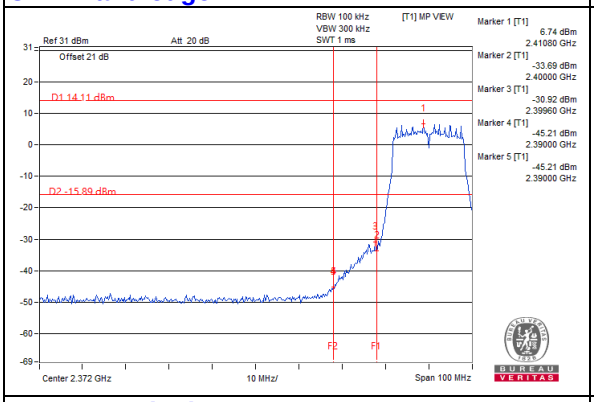
CH 10



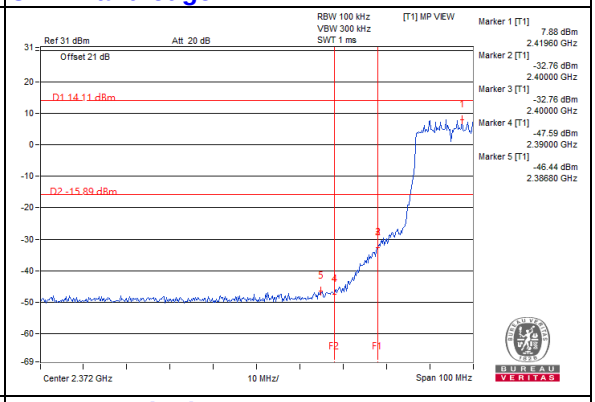
CH 11



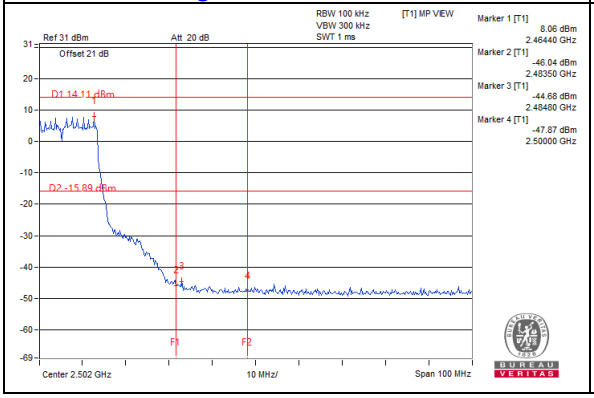
CH 1 Band edge



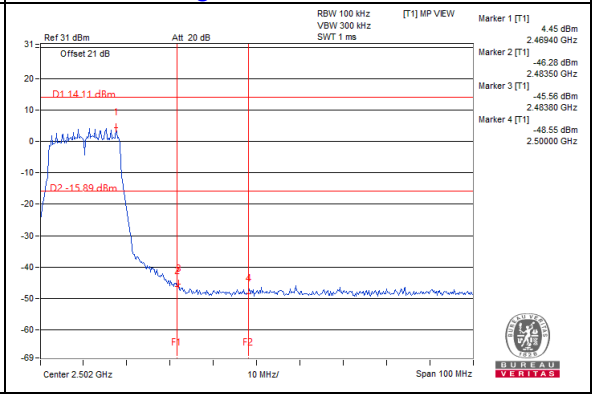
CH 2 Band edge



CH 10 Band edge

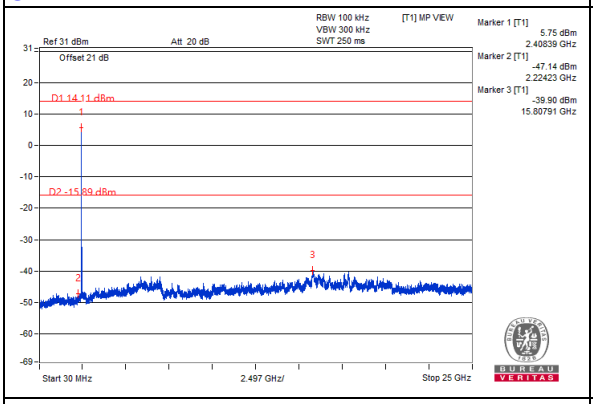


CH 11 Band edge

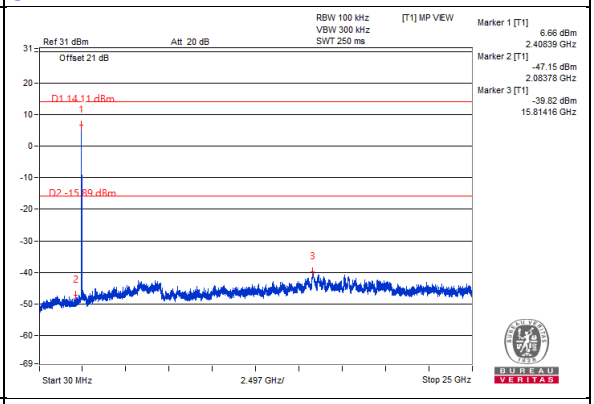


Chain 1

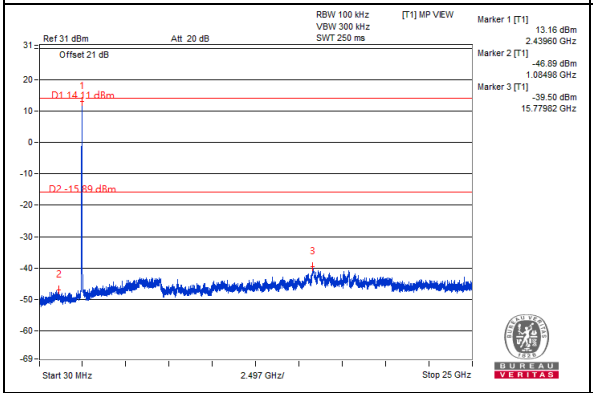
CH 1



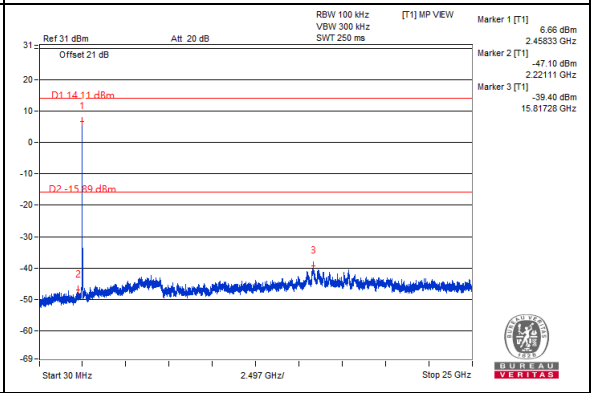
CH 2



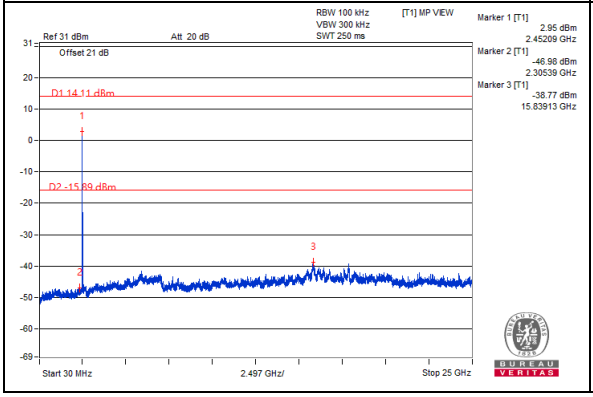
CH 6



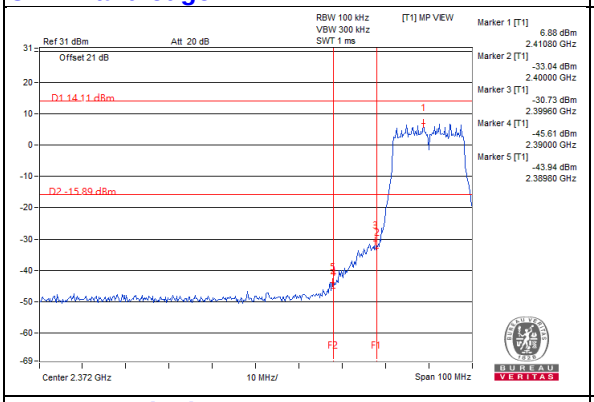
CH 10



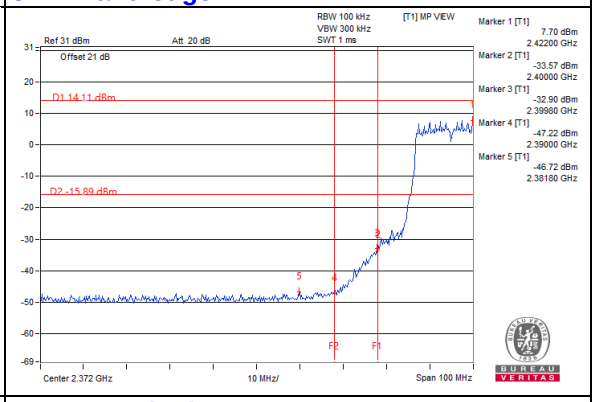
CH 11



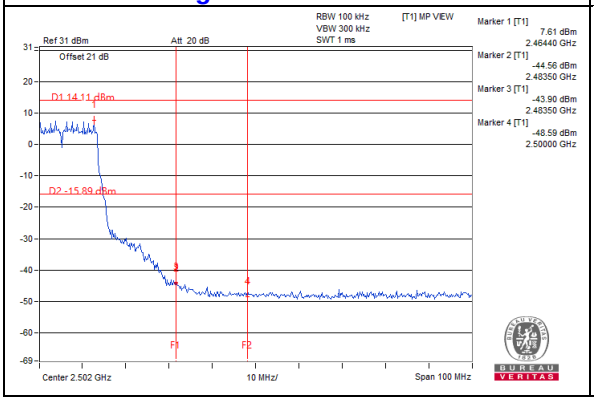
CH 1 Band edge



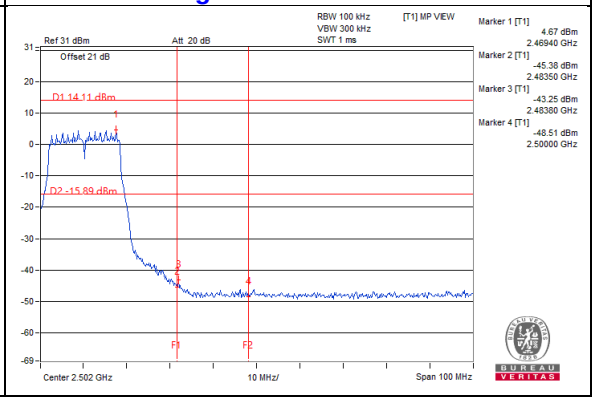
CH 2 Band edge



CH 10 Band edge

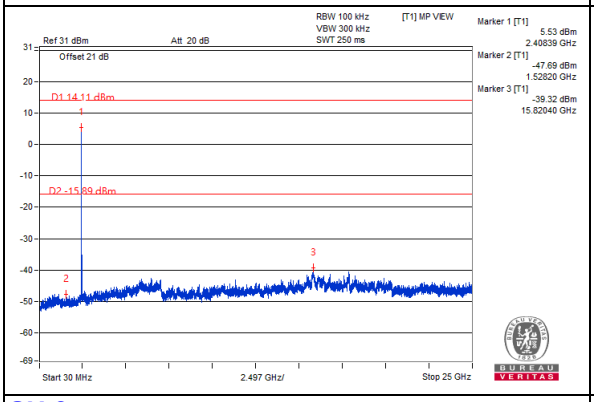


CH 11 Band edge

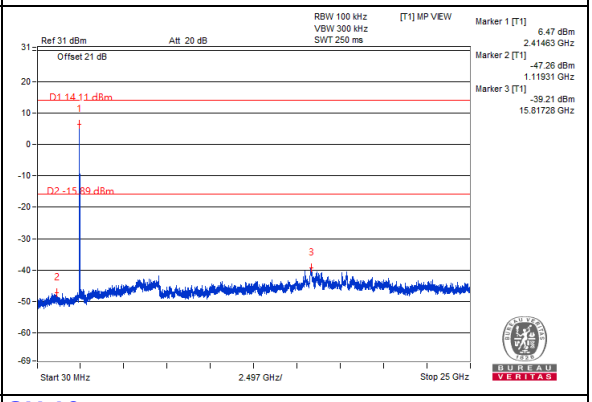


Chain 2

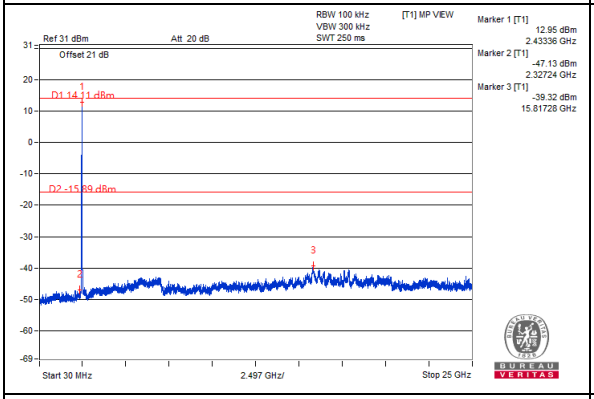
CH 1



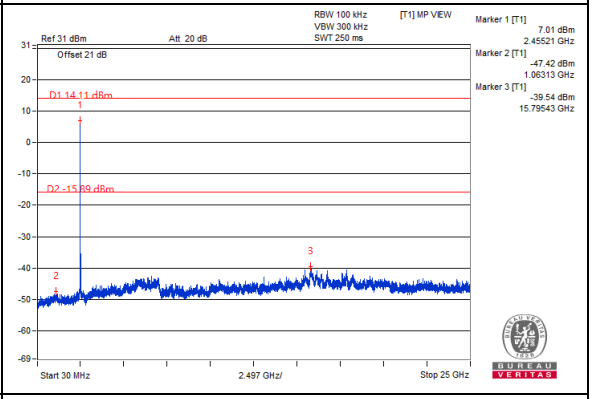
CH 2



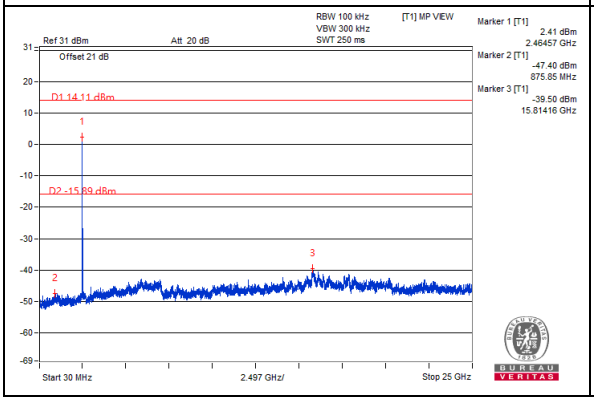
CH 6



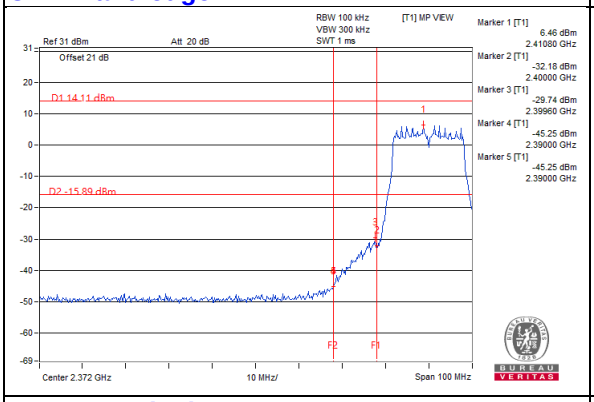
CH 10



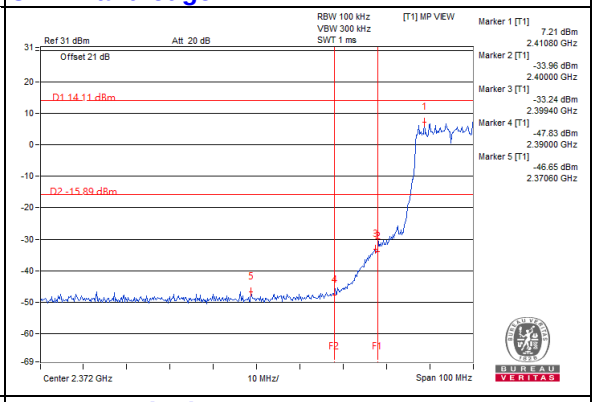
CH 11



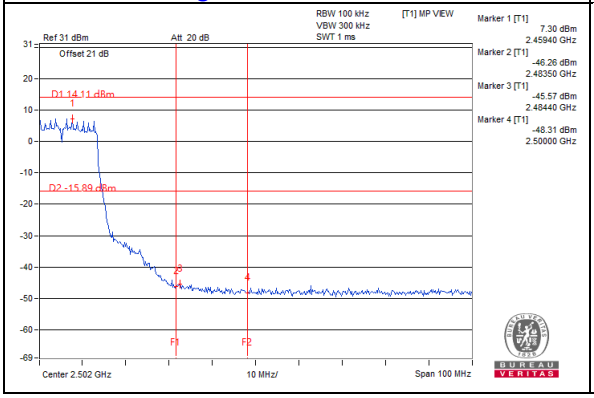
CH 1 Band edge



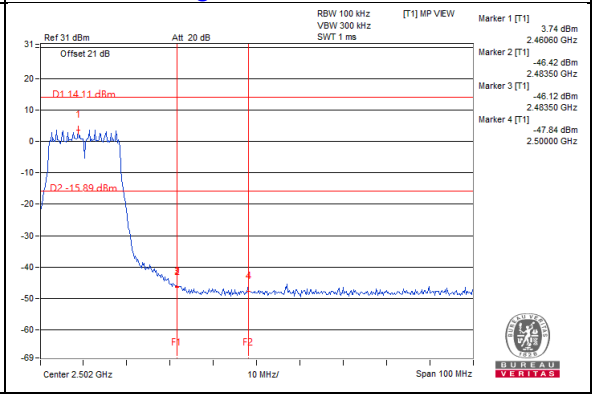
CH 2 Band edge



CH 10 Band edge

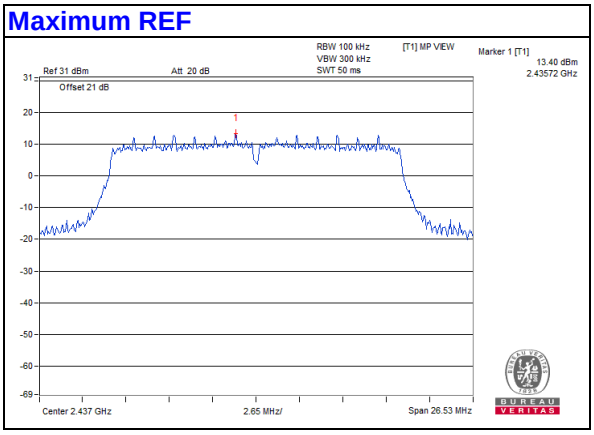


CH 11 Band edge



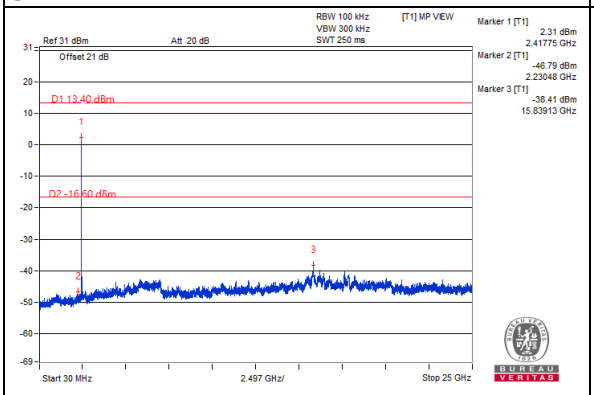
VHT20

Maximum REF

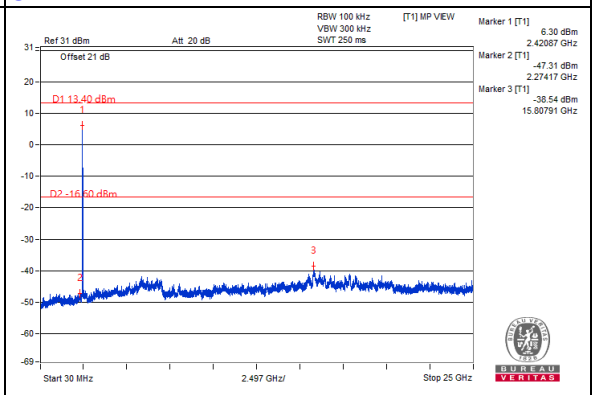


Chain 0

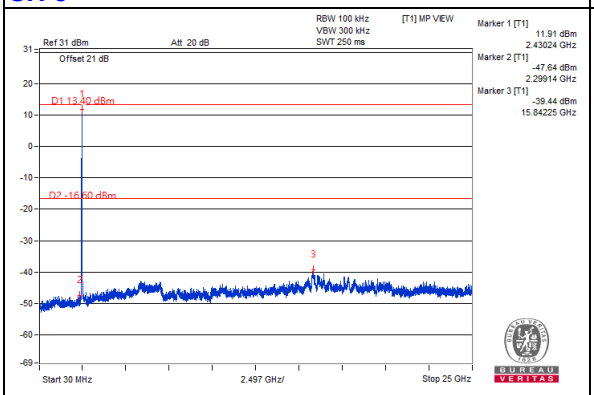
CH 1



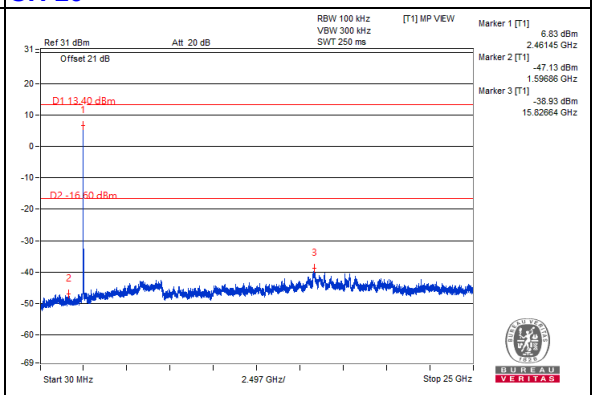
CH 2



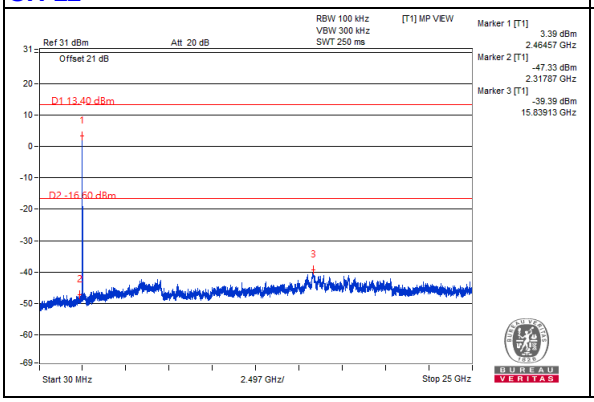
CH 6



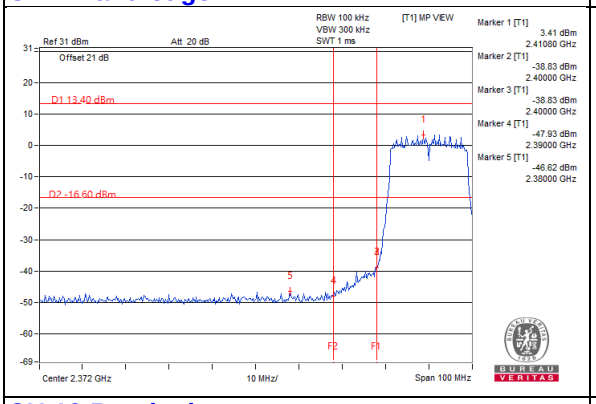
CH 10



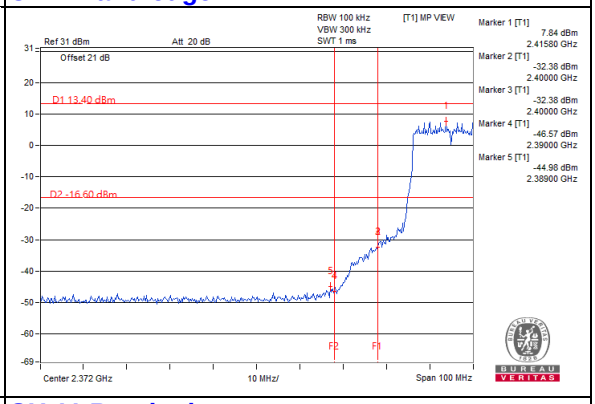
CH 11



CH 1 Band edge



CH 2 Band edge



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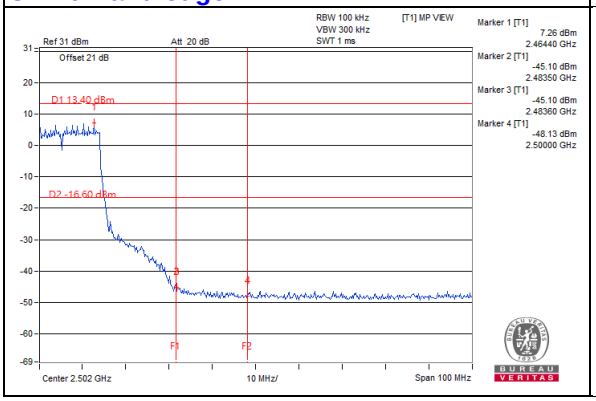
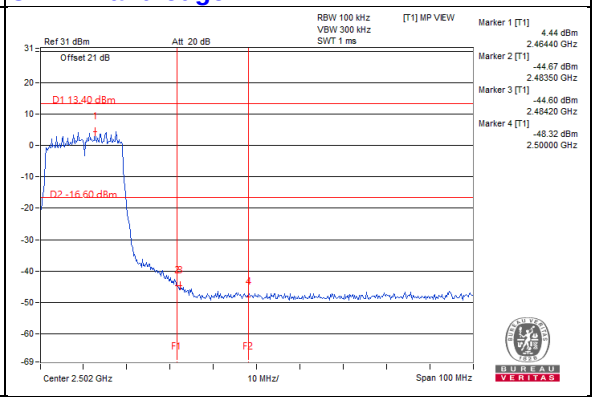
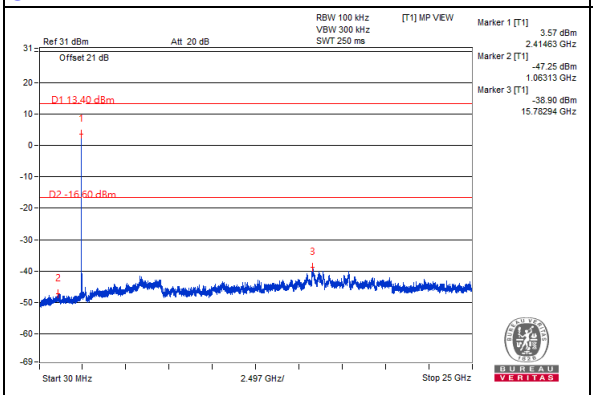


CH 11 Band edge

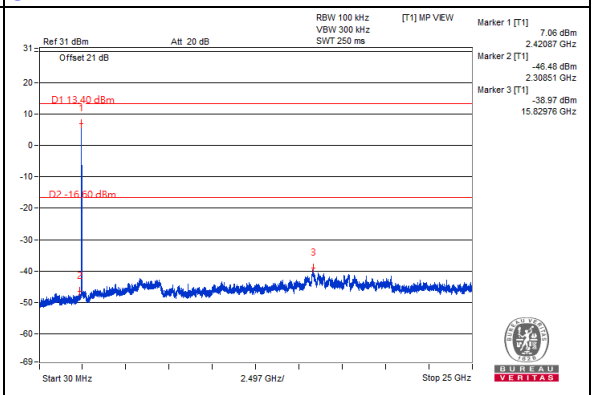


Chain 1

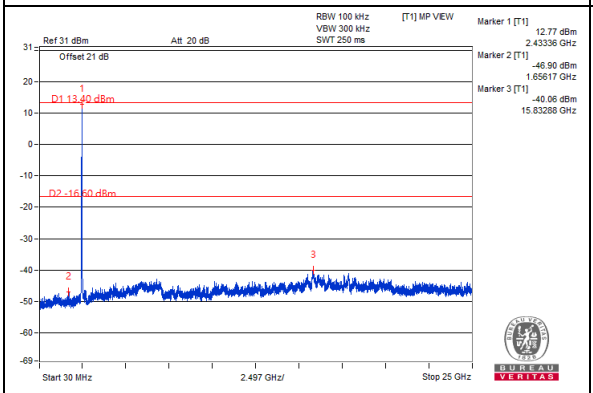
CH 1



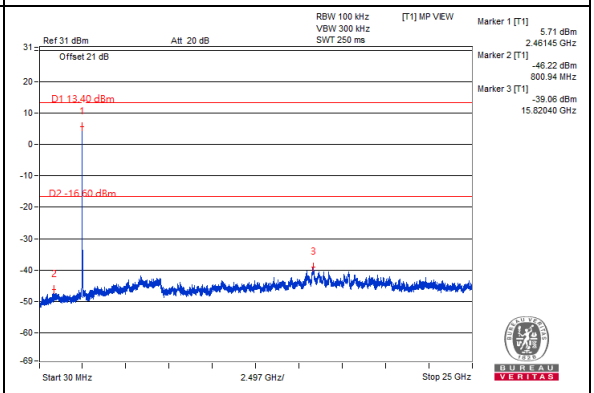
CH 2



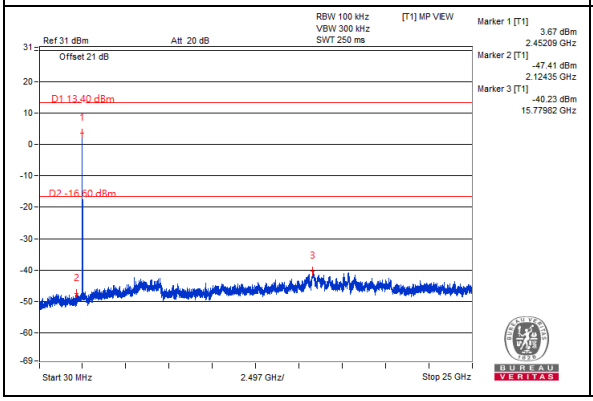
CH 6



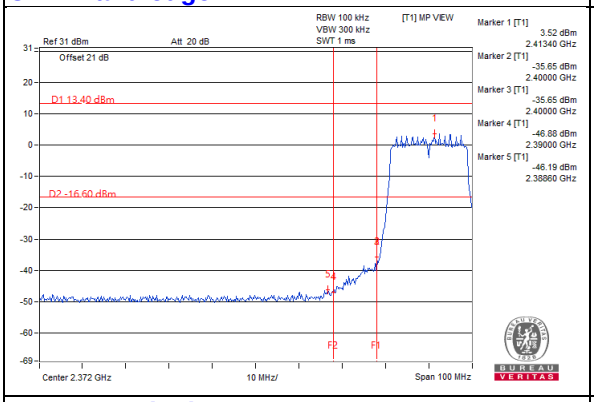
CH 10



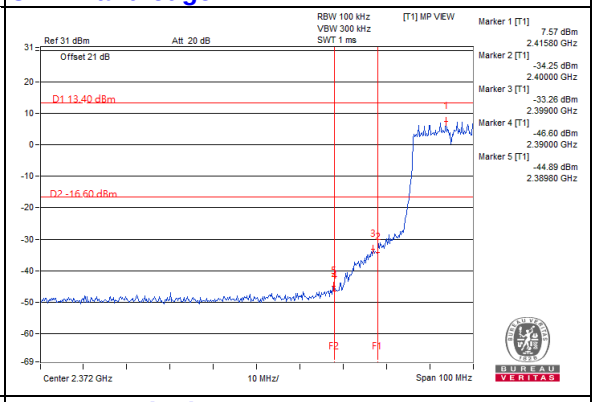
CH 11



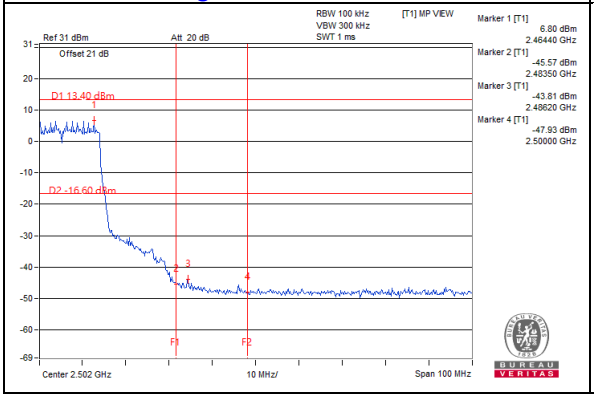
CH 1 Band edge



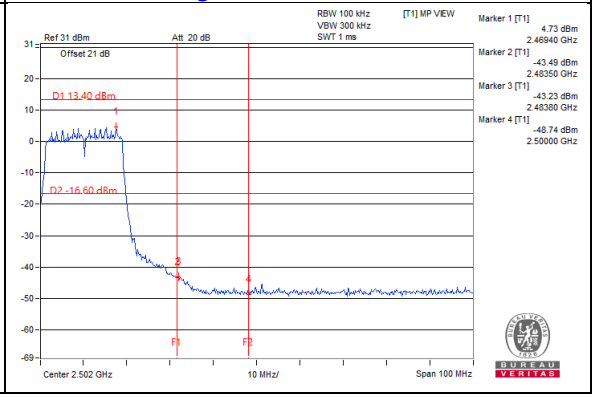
CH 2 Band edge



CH 10 Band edge

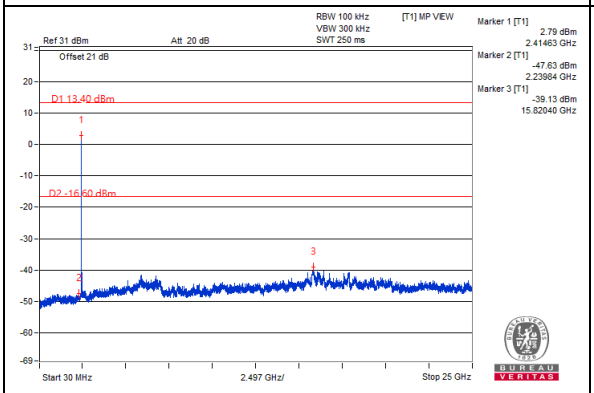


CH 11 Band edge

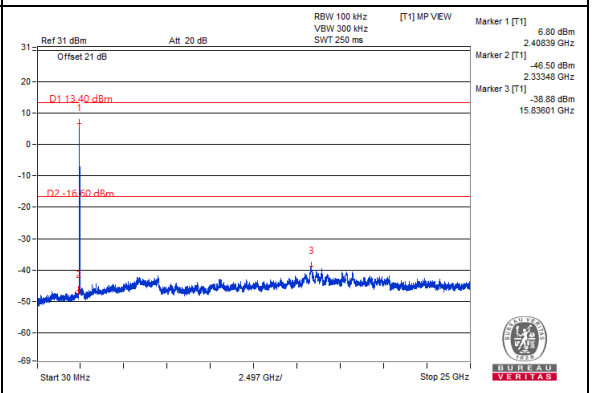


Chain 2

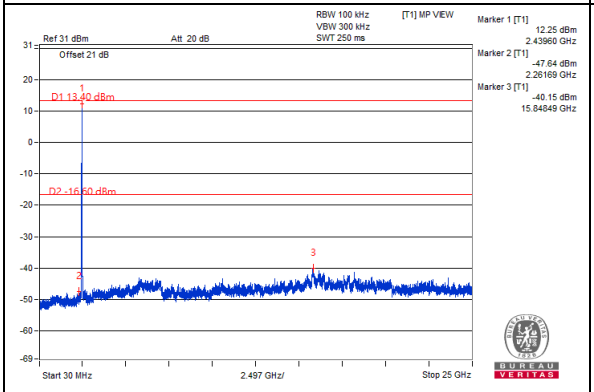
CH 1



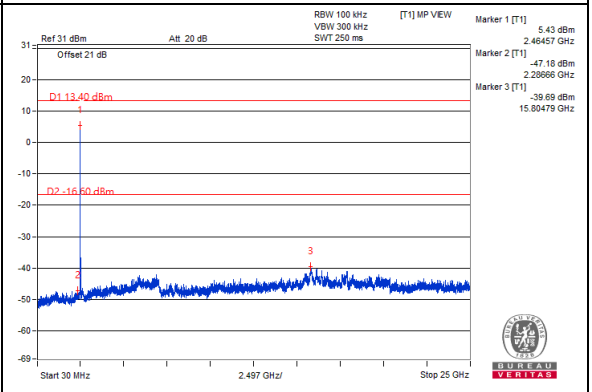
CH 2



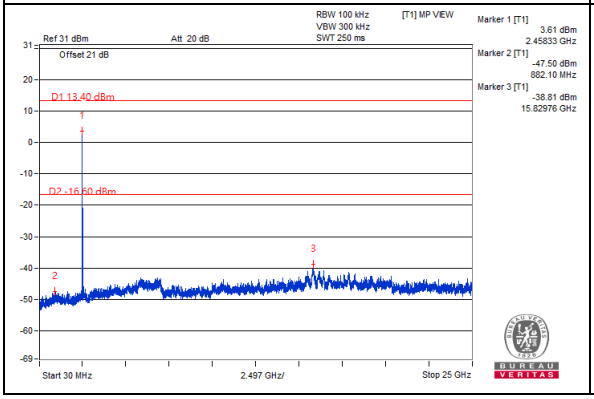
CH 6



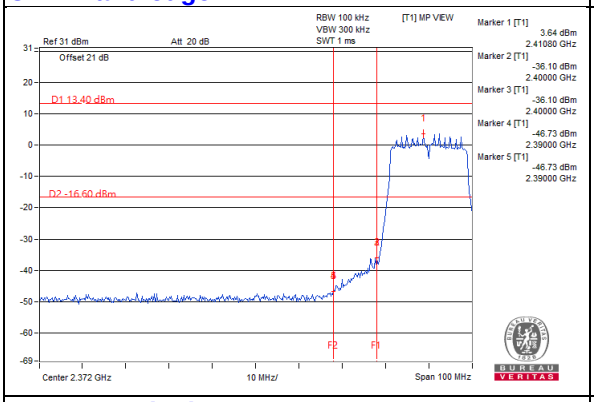
CH 10



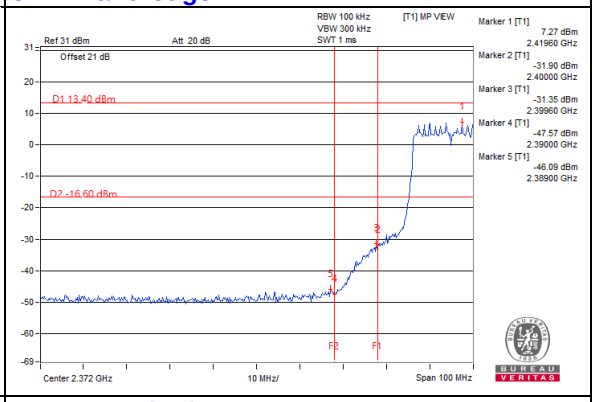
CH 11



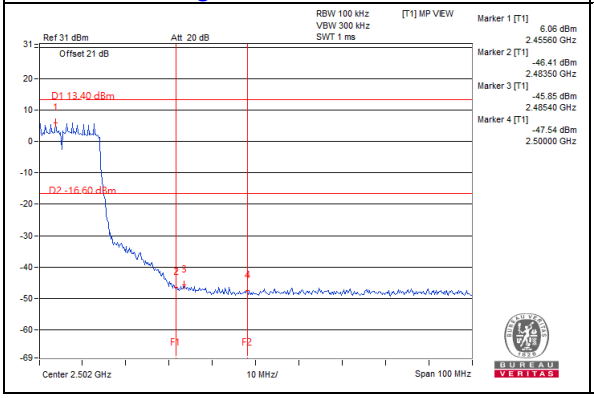
CH 1 Band edge



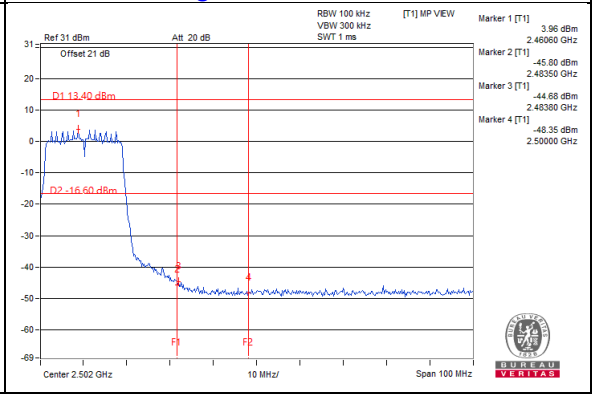
CH 2 Band edge



CH 10 Band edge

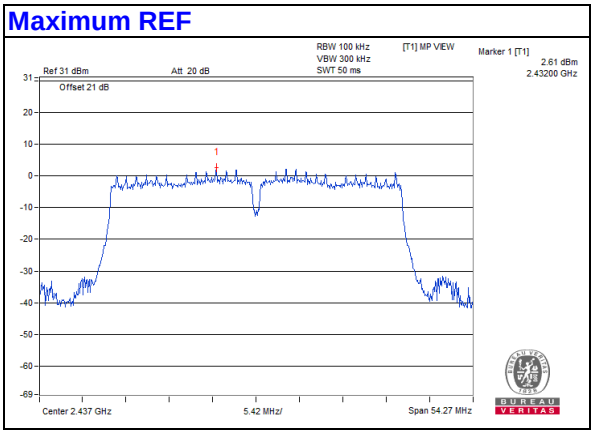


CH 11 Band edge



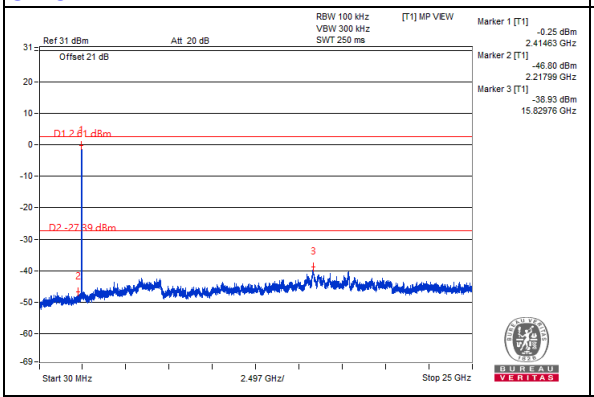
VHT40

Maximum REF

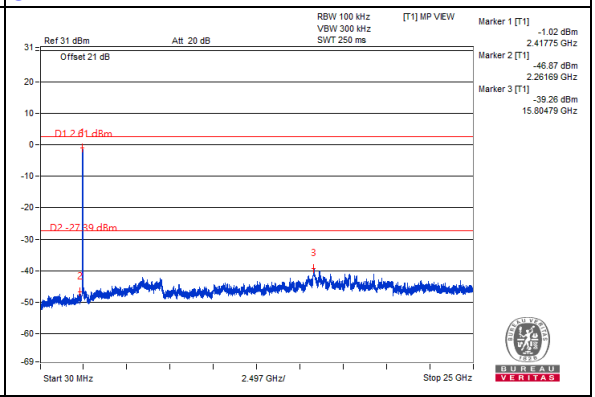


Chain 0

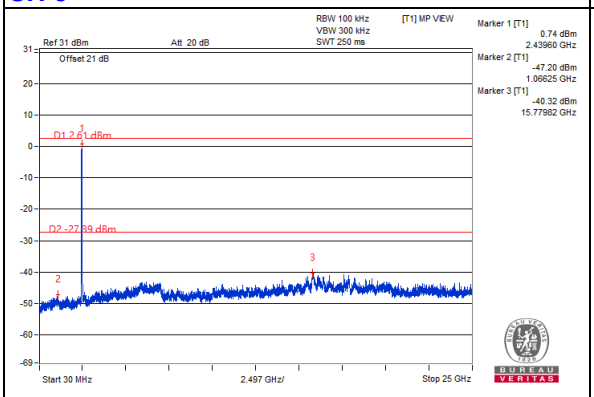
CH 3



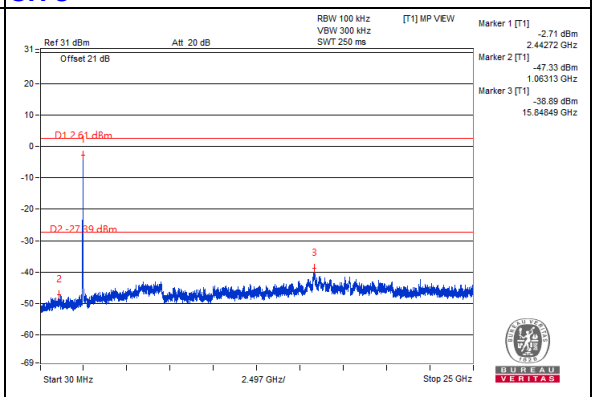
CH 4



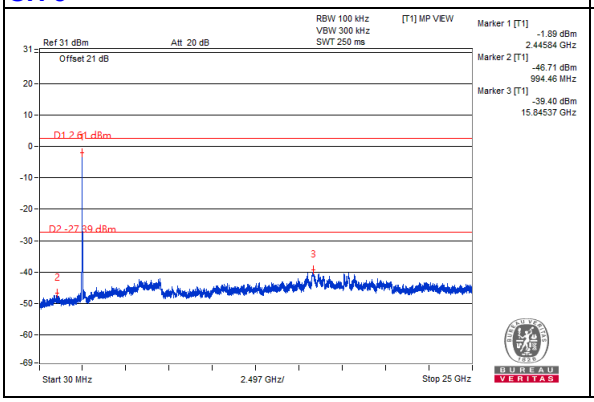
CH 6



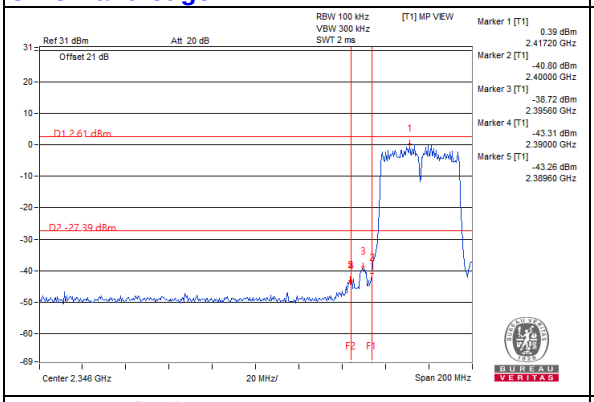
CH 8



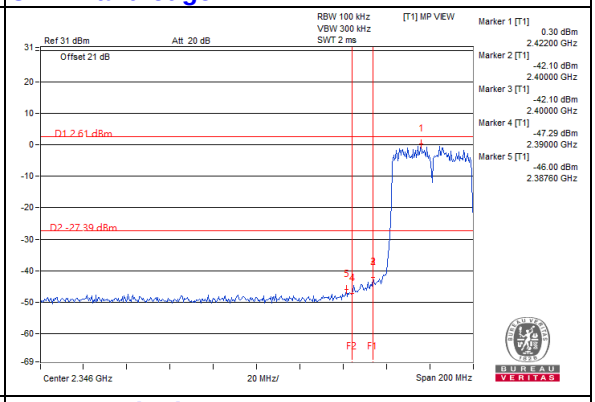
CH 9



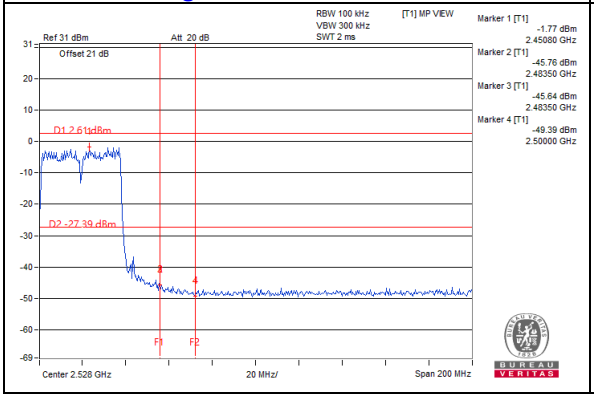
CH 3 Band edge



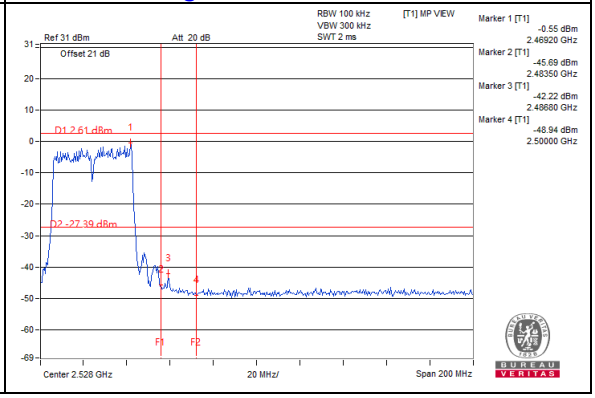
CH 4 Band edge



CH 8 Band edge

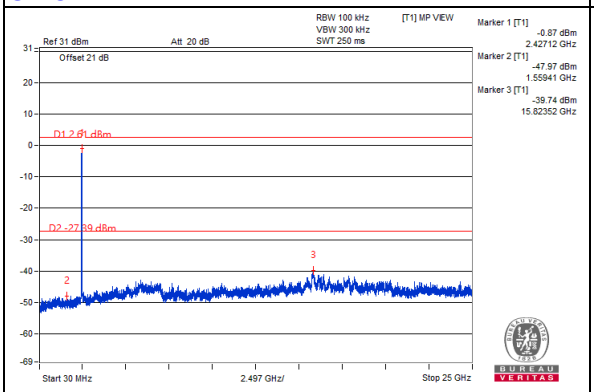


CH 9 Band edge

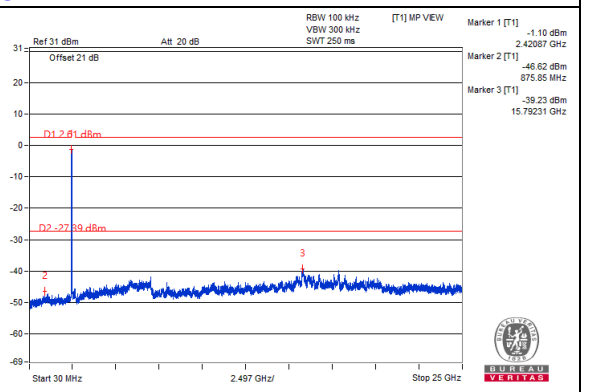


Chain 1

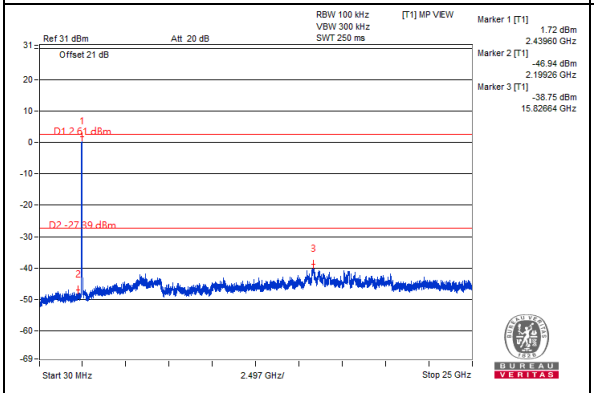
CH 3



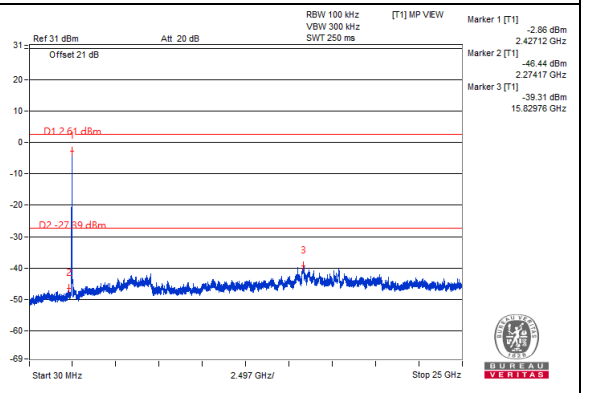
CH 4



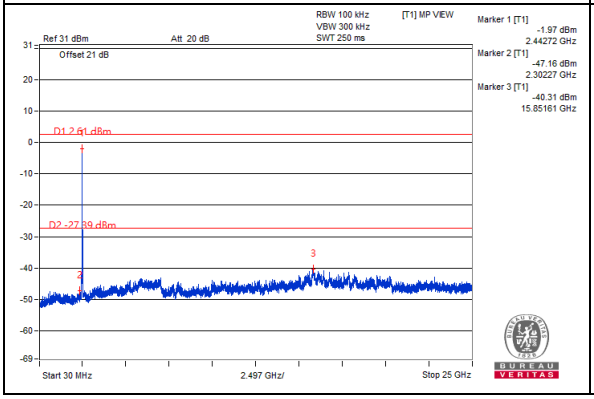
CH 6



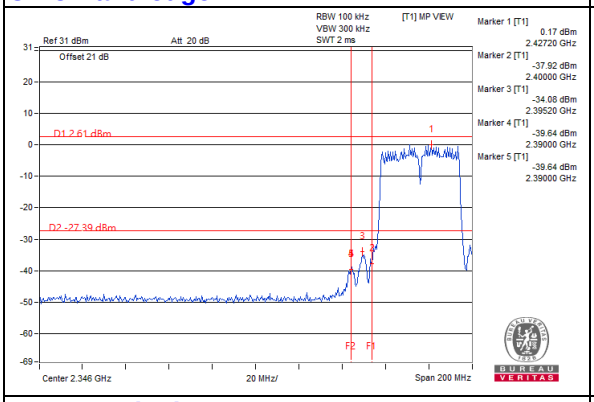
CH 8



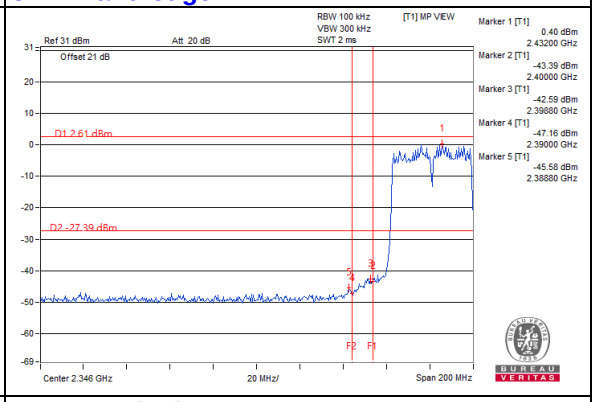
CH 9



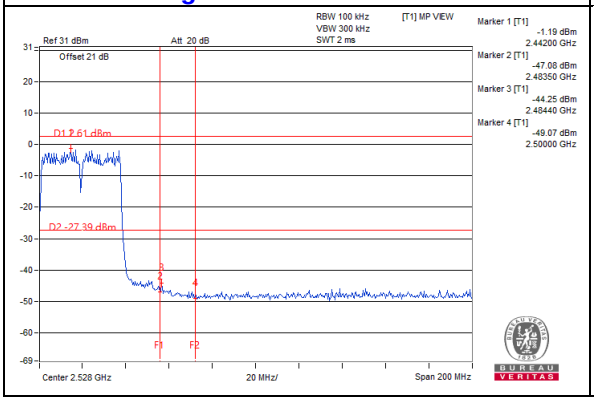
CH 3 Band edge



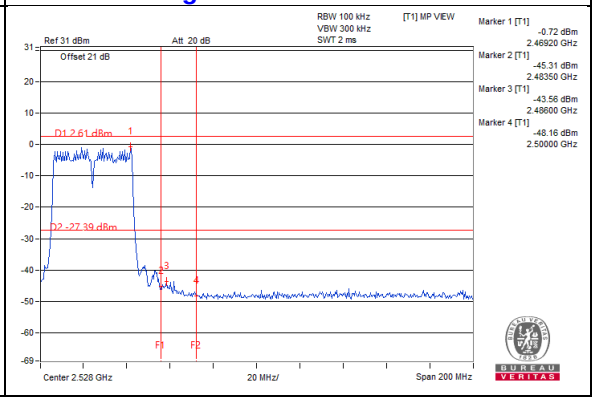
CH 4 Band edge



CH 8 Band edge

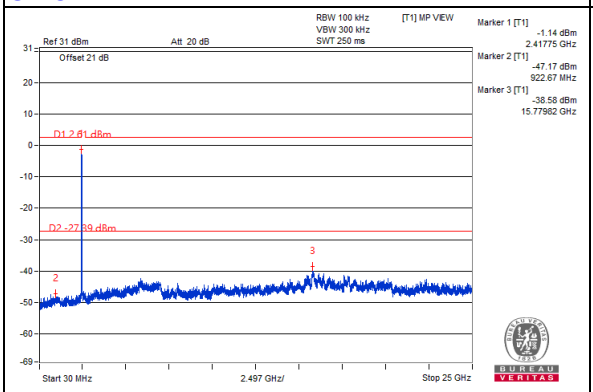


CH 9 Band edge

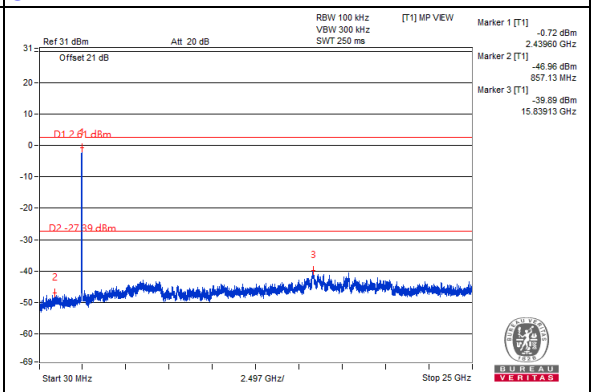


Chain 2

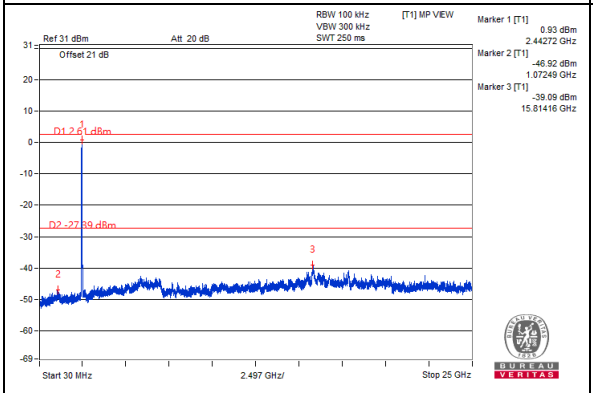
CH 3



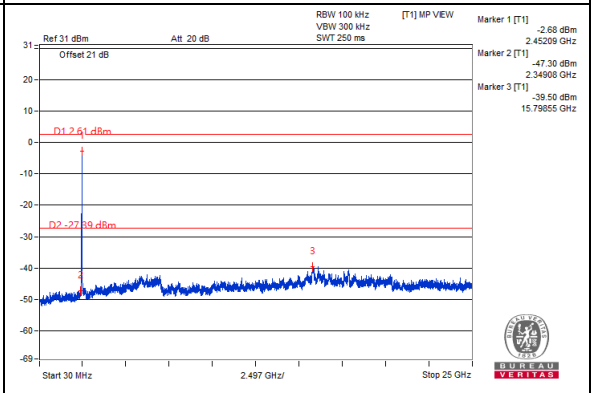
CH 4



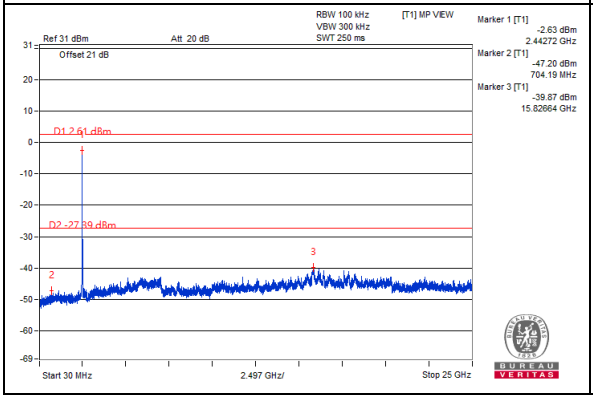
CH 6



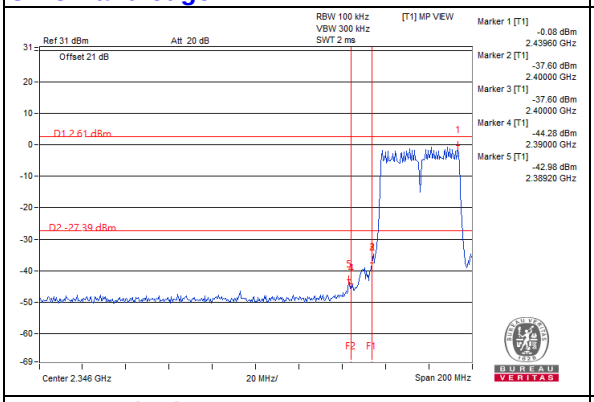
CH 8



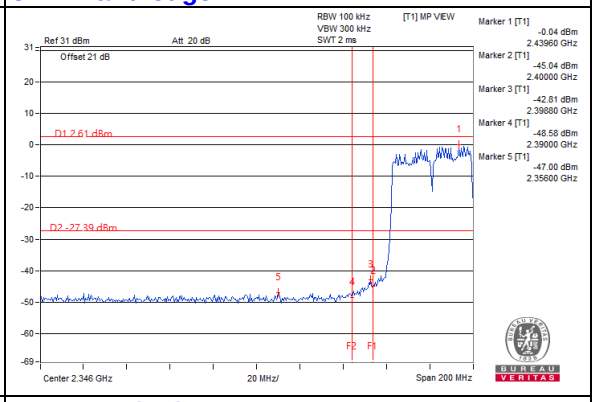
CH 9



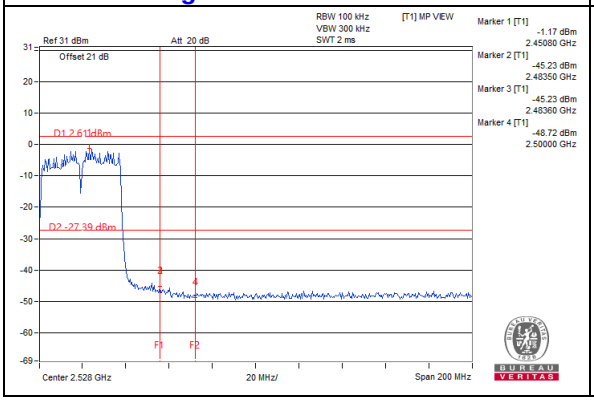
CH 3 Band edge



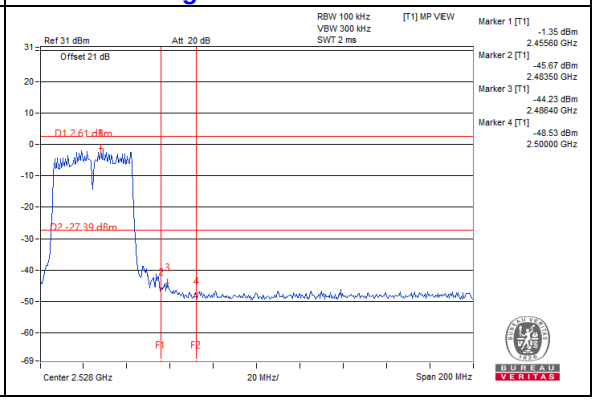
CH 4 Band edge



CH 8 Band edge



CH 9 Band edge



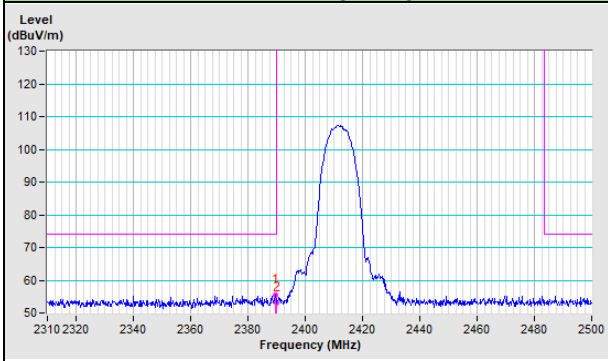
5 Pictures of Test Arrangements

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

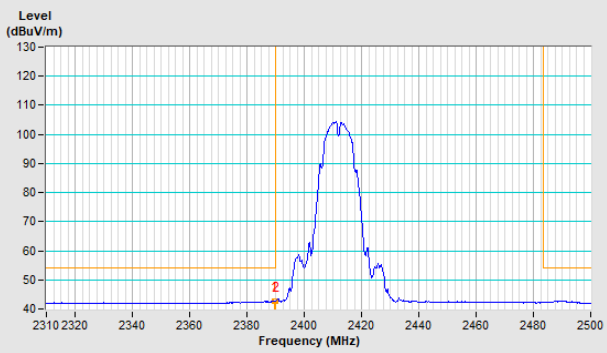
Annex A - Band-Edge Measurement

802.11b Channel 1

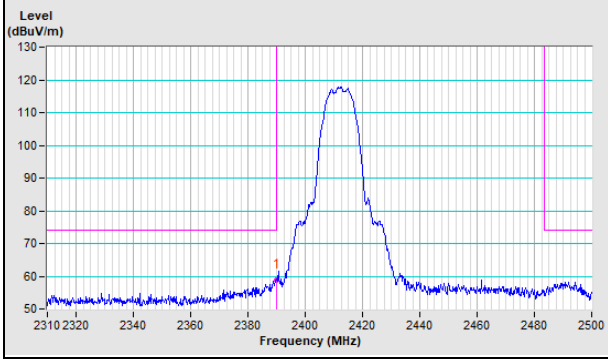
Horizontal (Peak)



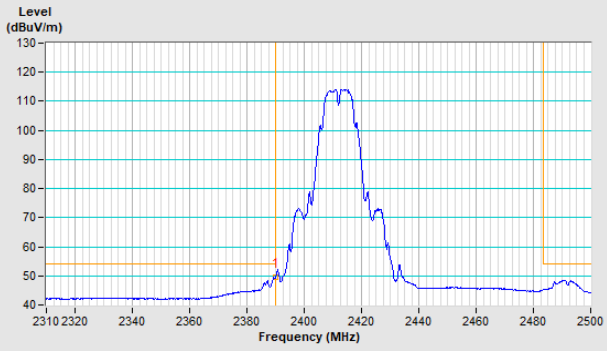
Horizontal (Average)



Vertical (Peak)

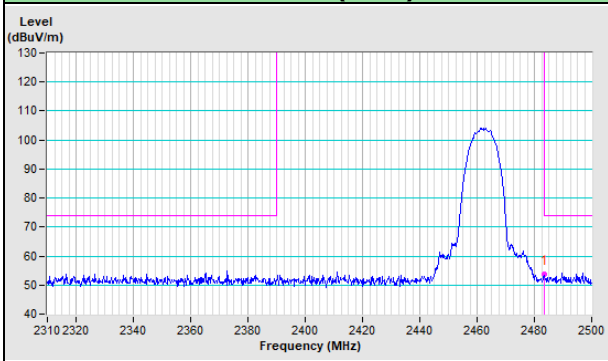


Vertical (Average)

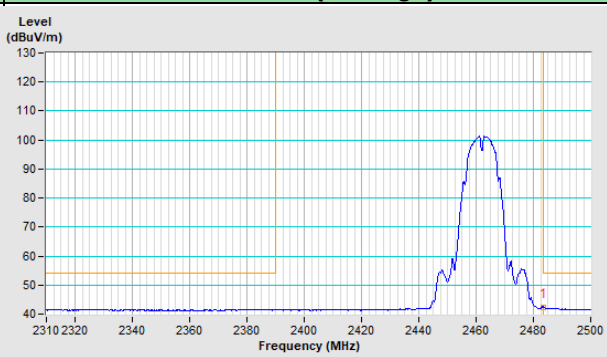


802.11b Channel 11

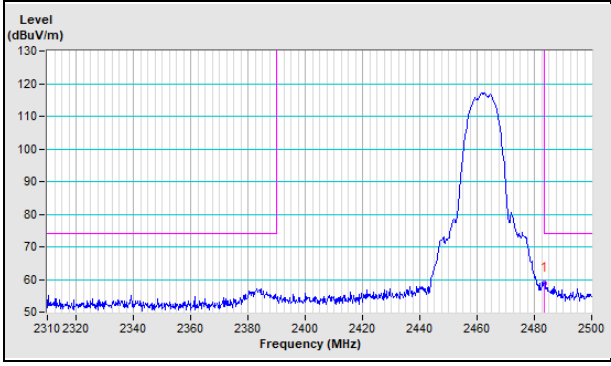
Horizontal (Peak)



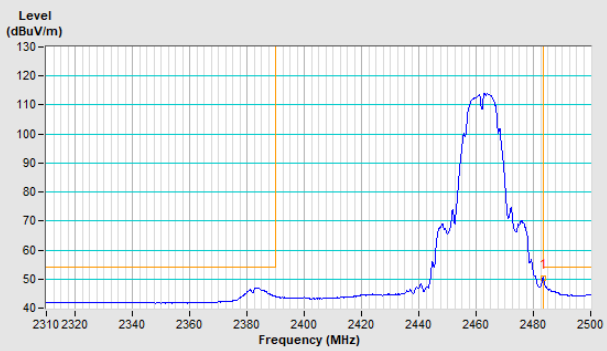
Horizontal (Average)



Vertical (Peak)

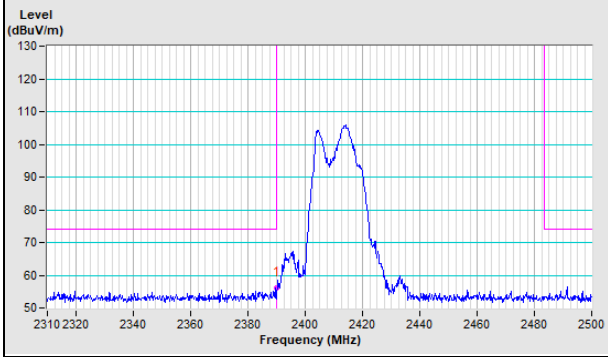


Vertical (Average)

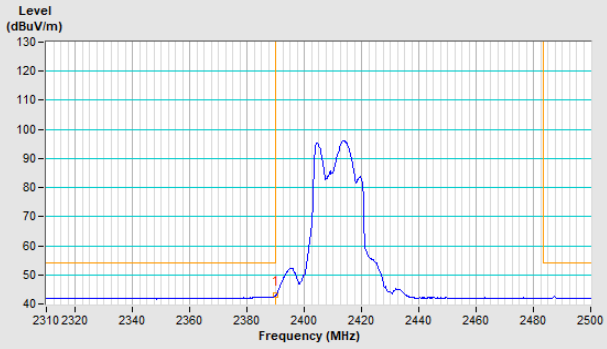


802.11g Channel 1

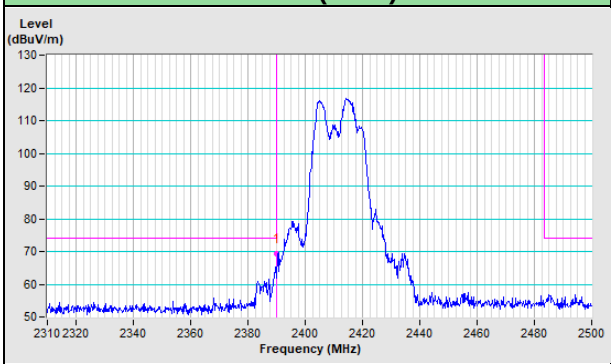
Horizontal (Peak)



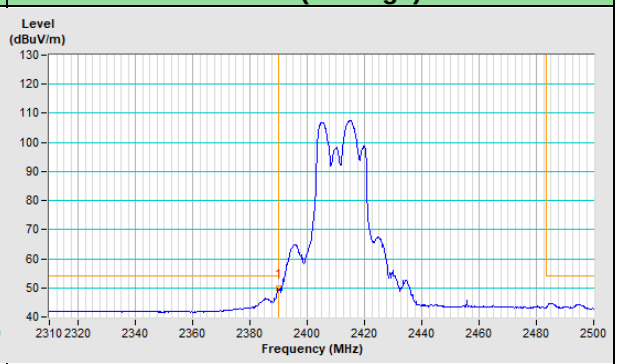
Horizontal (Average)



Vertical (Peak)

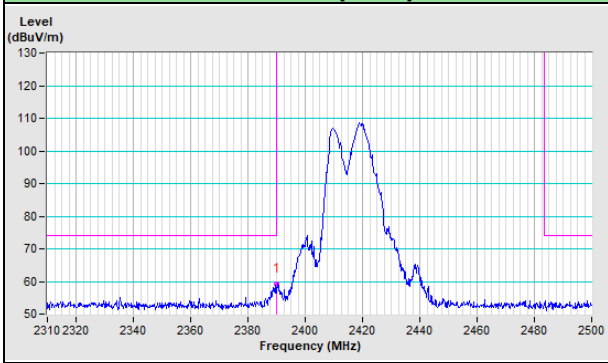


Vertical (Average)

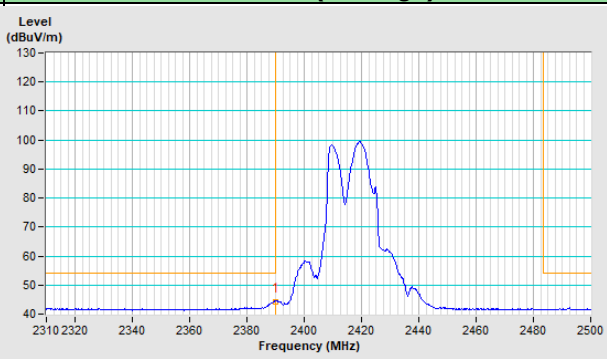


802.11g Channel 2

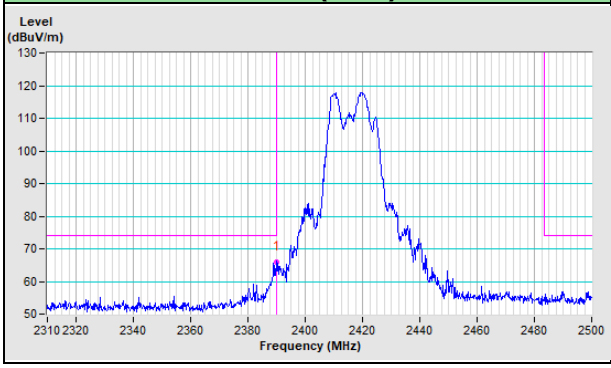
Horizontal (Peak)



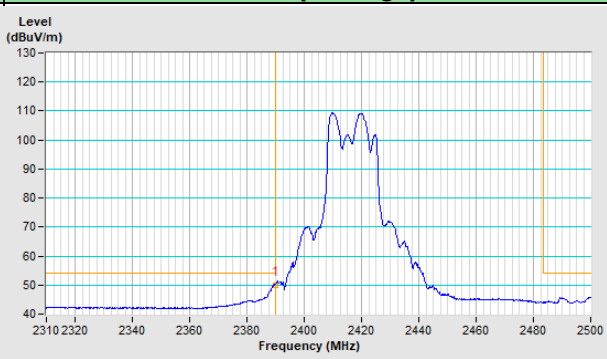
Horizontal (Average)



Vertical (Peak)

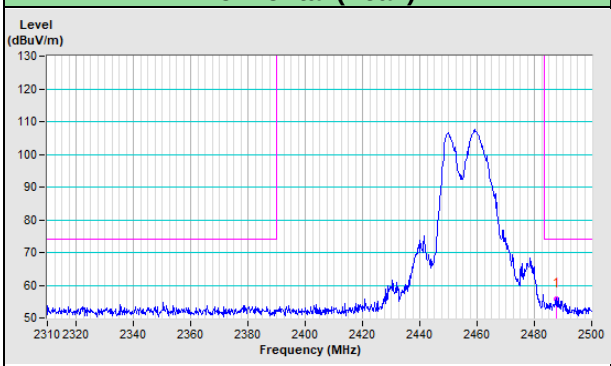


Vertical (Average)

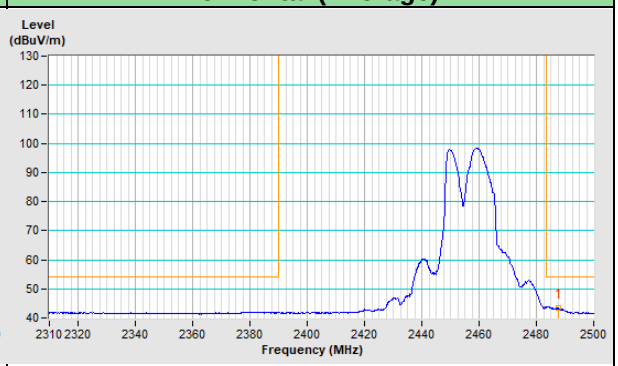


802.11g Channel 10

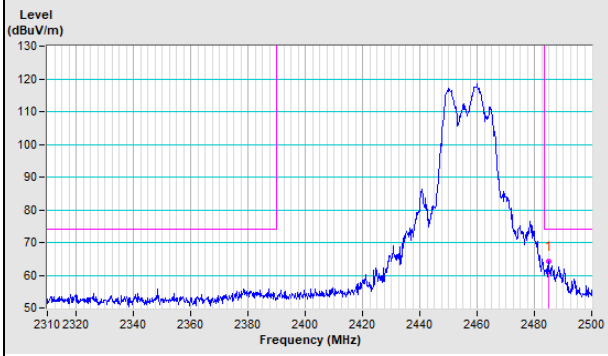
Horizontal (Peak)



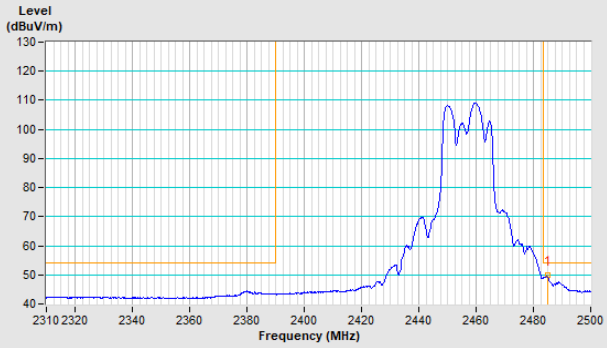
Horizontal (Average)



Vertical (Peak)

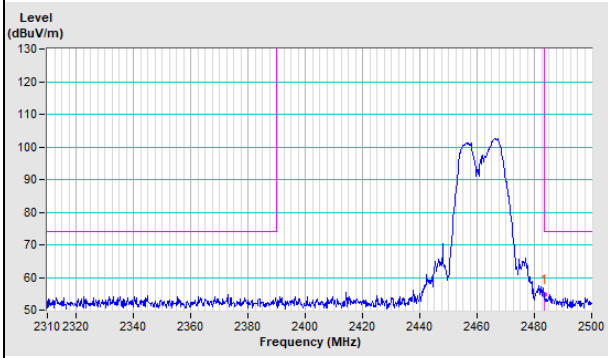


Vertical (Average)

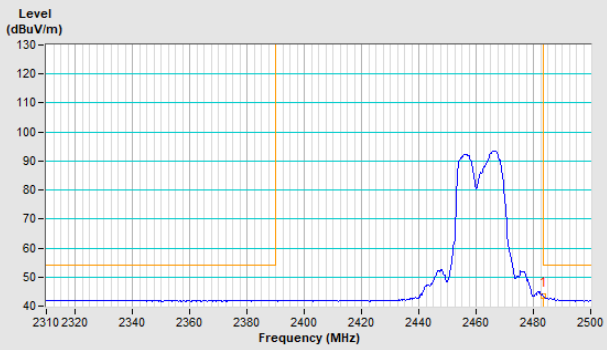


802.11g Channel 11

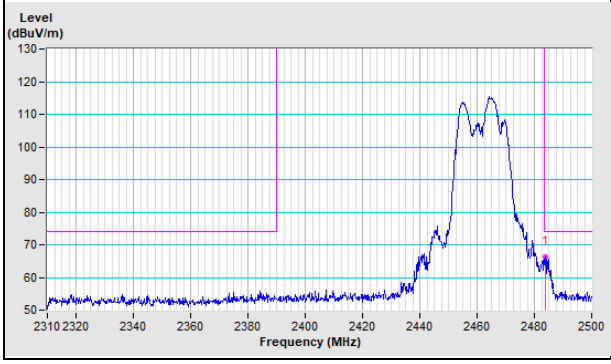
Horizontal (Peak)



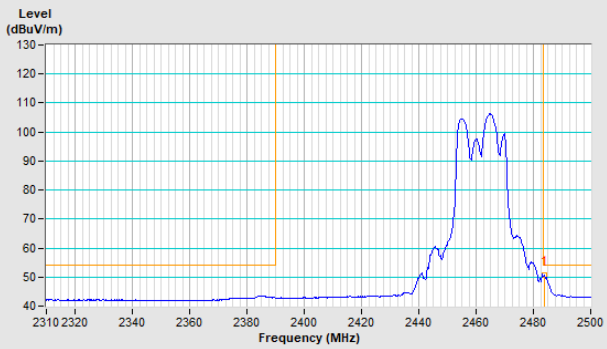
Horizontal (Average)



Vertical (Peak)

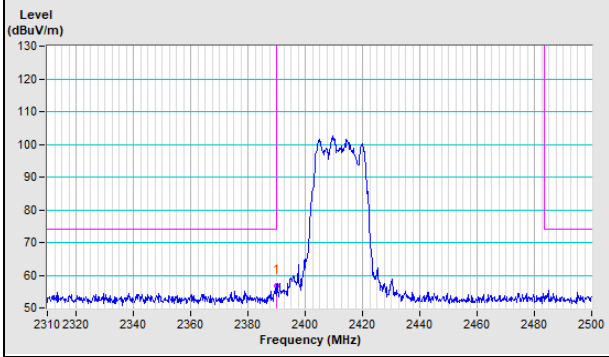


Vertical (Average)

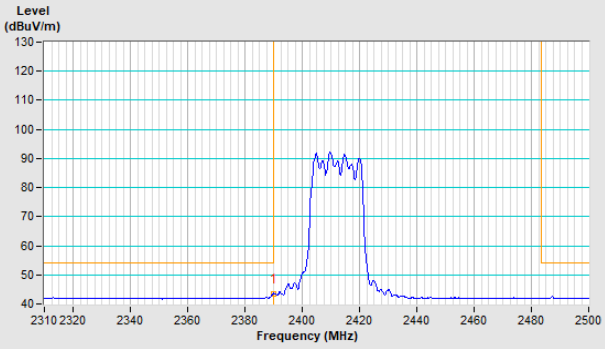


VHT20 Channel 1

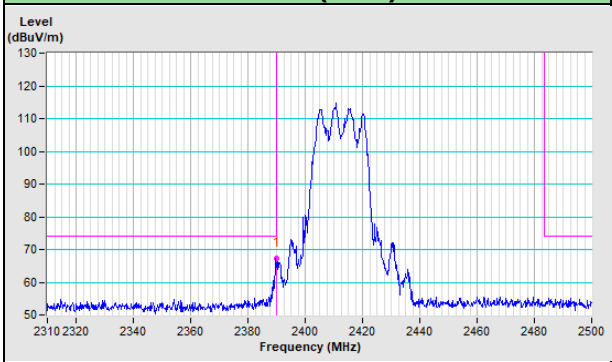
Horizontal (Peak)



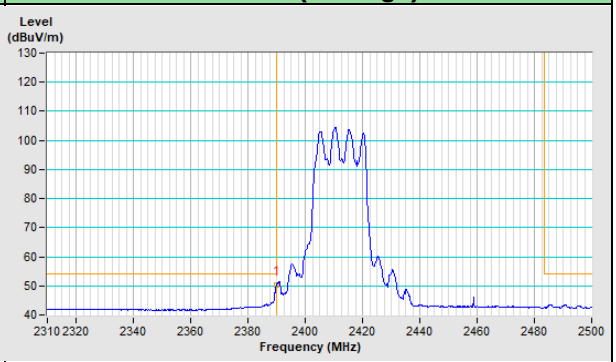
Horizontal (Average)



Vertical (Peak)

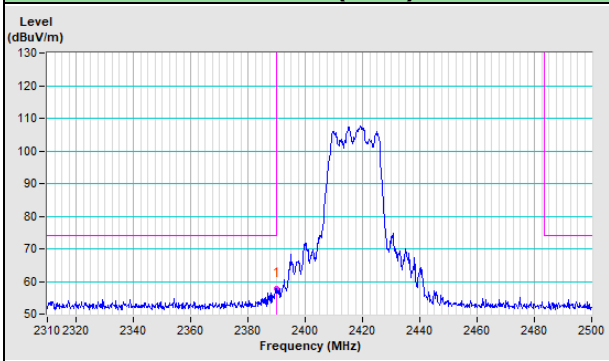


Vertical (Average)

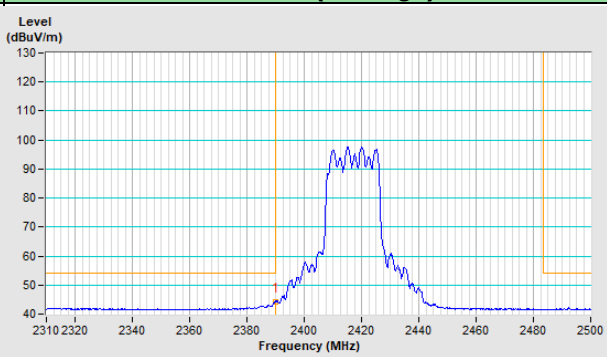


VHT20 Channel 2

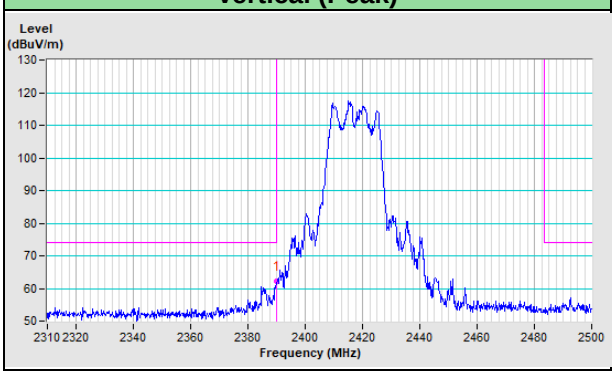
Horizontal (Peak)



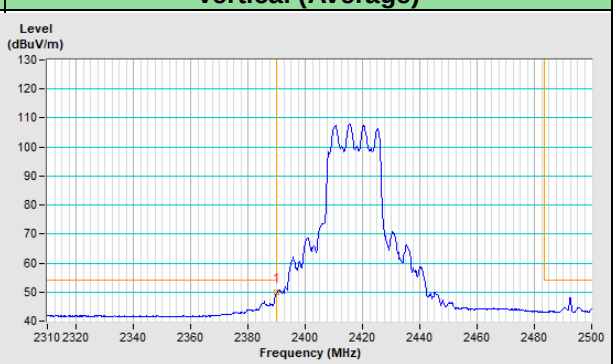
Horizontal (Average)



Vertical (Peak)

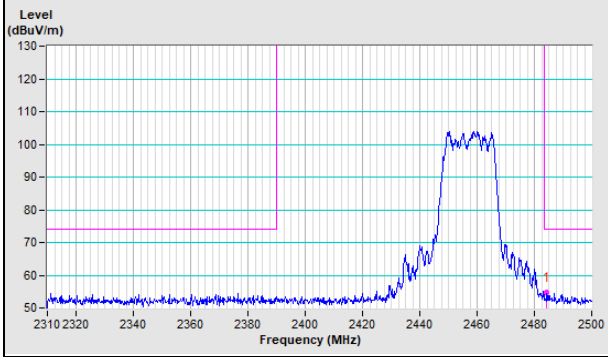


Vertical (Average)

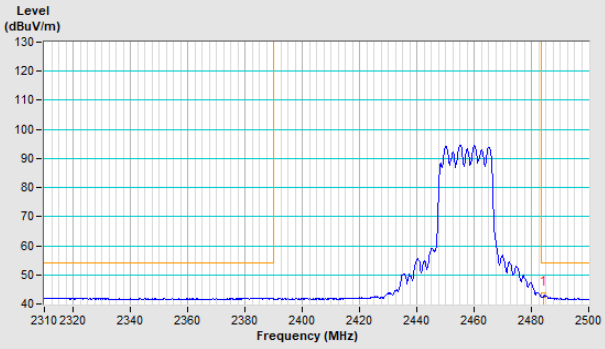


VHT20 Channel 10

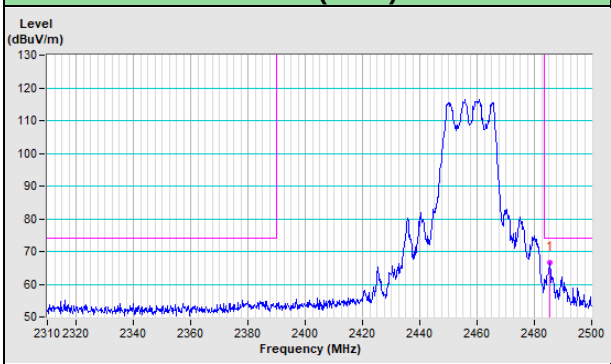
Horizontal (Peak)



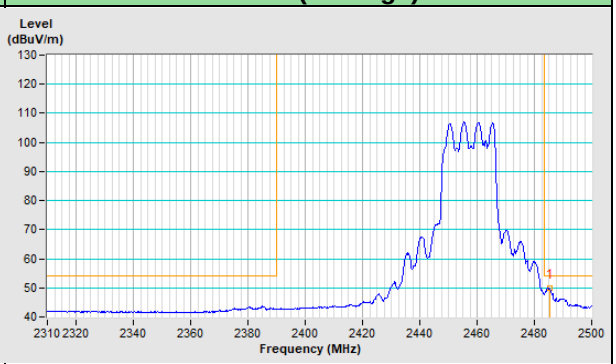
Horizontal (Average)



Vertical (Peak)

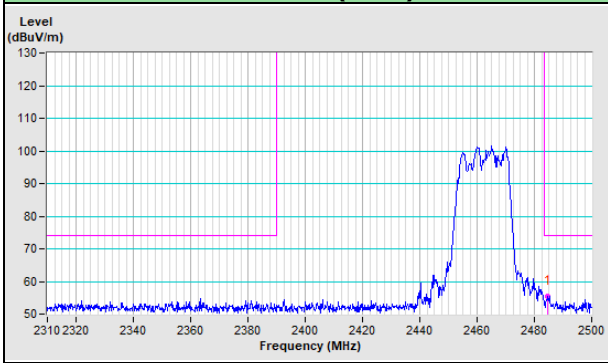


Vertical (Average)

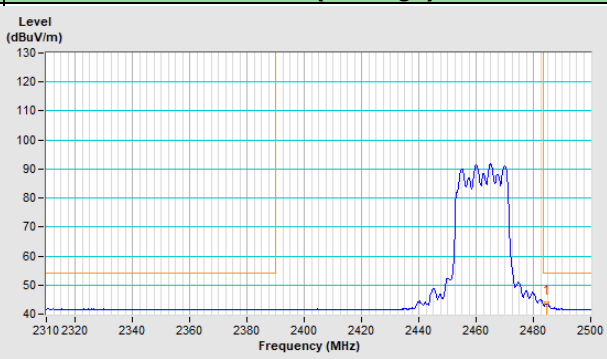


VHT20 Channel 11

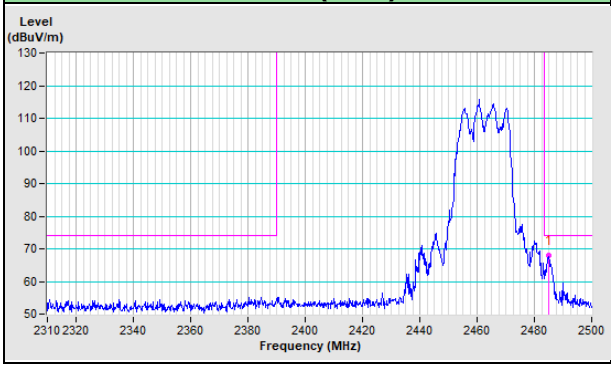
Horizontal (Peak)



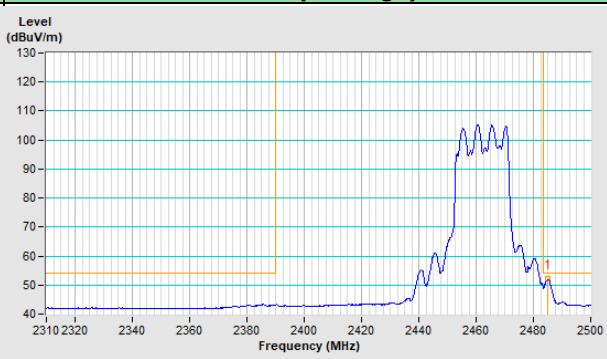
Horizontal (Average)



Vertical (Peak)

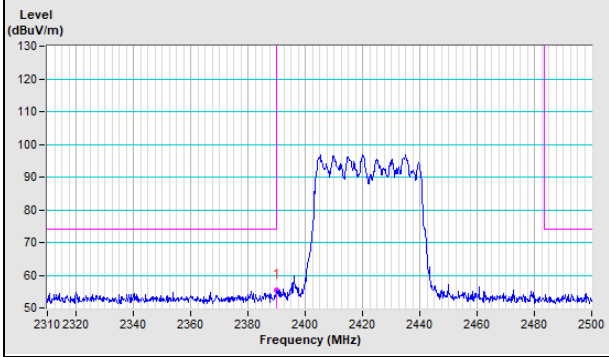


Vertical (Average)

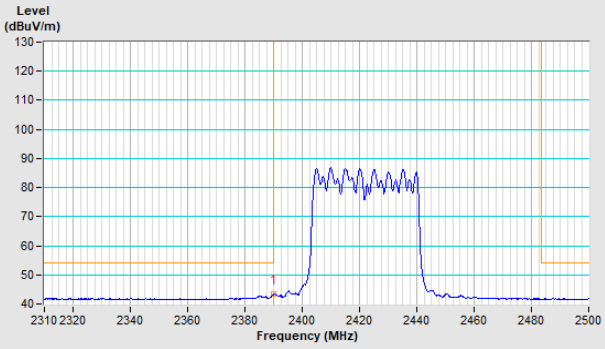


VHT40 Channel 3

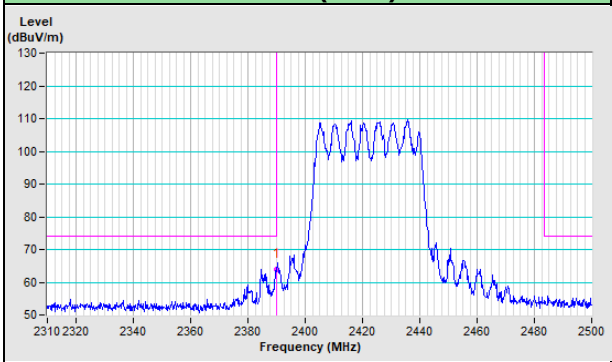
Horizontal (Peak)



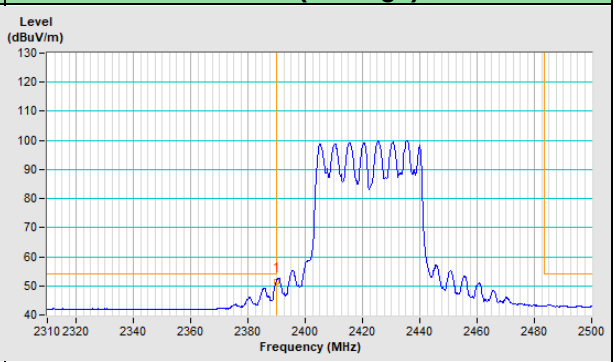
Horizontal (Average)



Vertical (Peak)

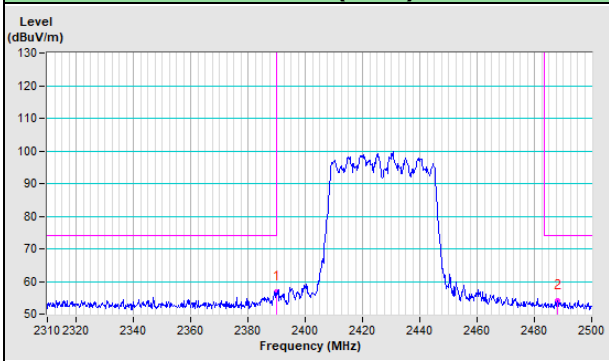


Vertical (Average)

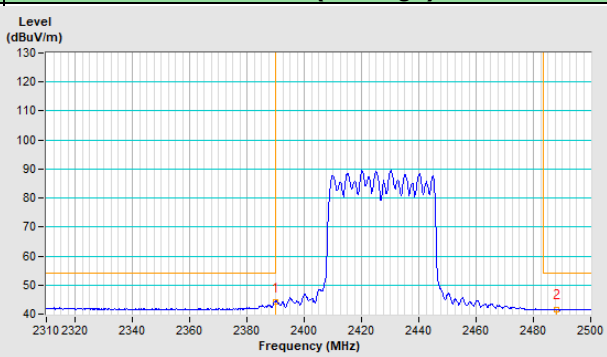


VHT40 Channel 4

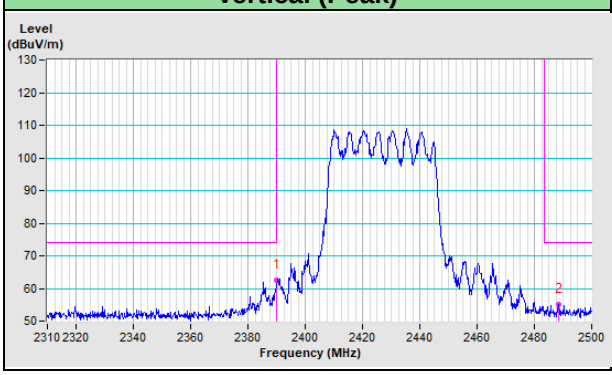
Horizontal (Peak)



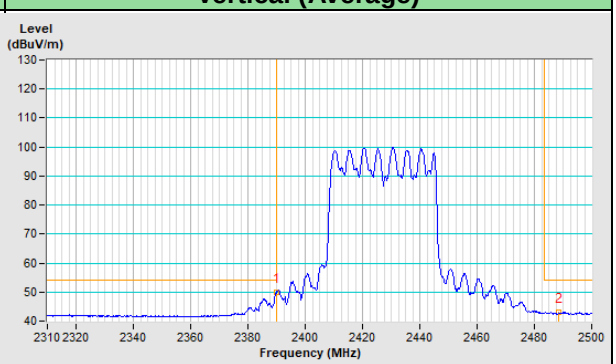
Horizontal (Average)



Vertical (Peak)

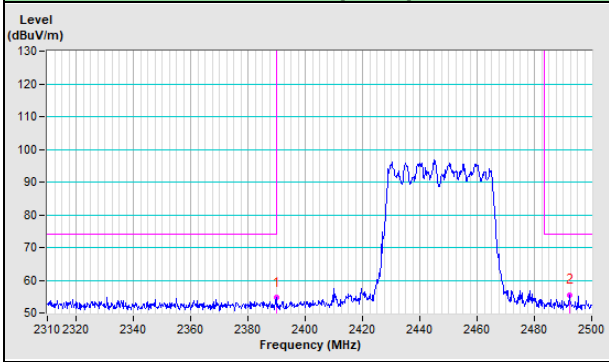


Vertical (Average)

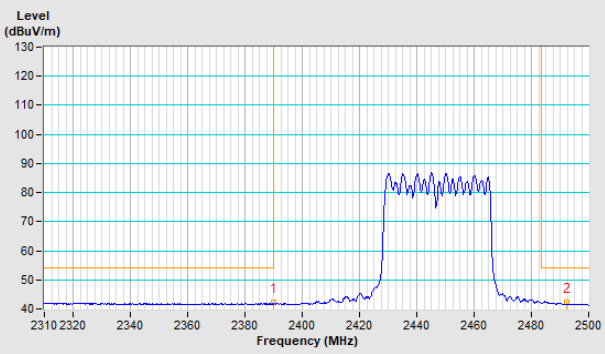


VHT40 Channel 8

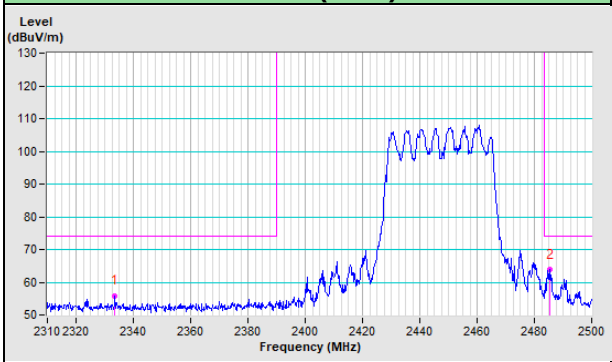
Horizontal (Peak)



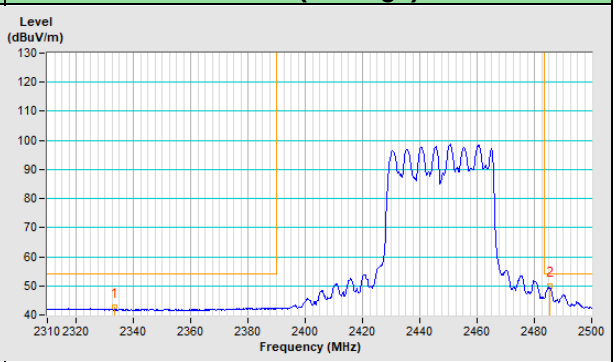
Horizontal (Average)



Vertical (Peak)

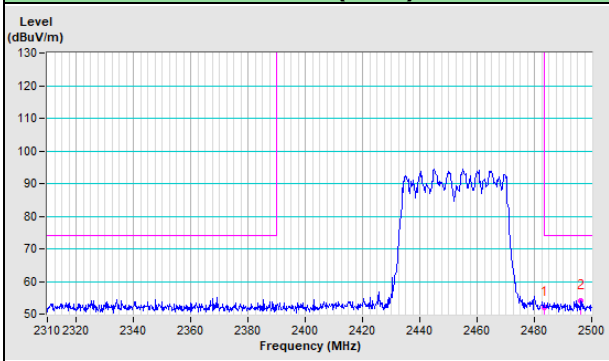


Vertical (Average)

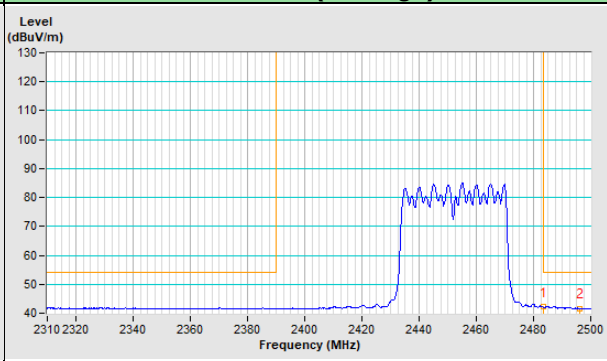


VHT40 Channel 9

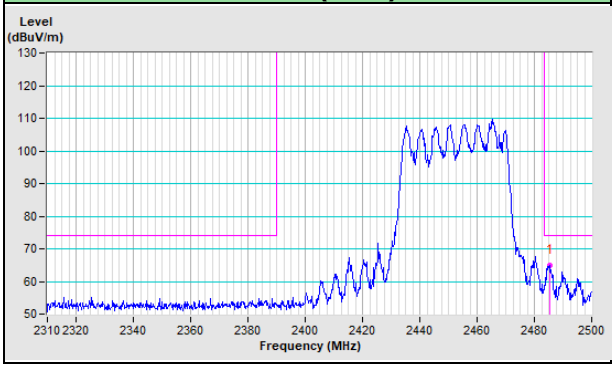
Horizontal (Peak)



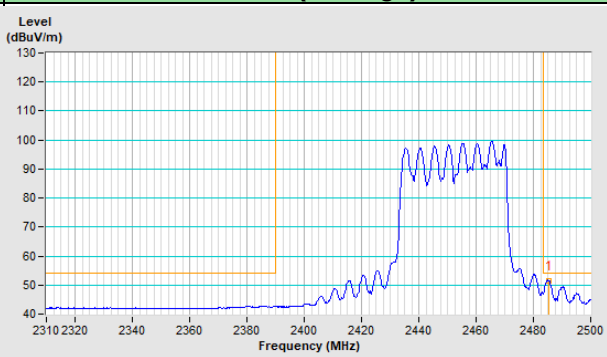
Horizontal (Average)



Vertical (Peak)



Vertical (Average)



Appendix – Information of the Testing Laboratories

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

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

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

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