FCC Test Report

Report No.:	RF190603E08A
FCC ID:	NKR-VZJS8V
Test Model:	JS8V
Received Date:	June 12, 2019
Test Date:	June 28 to July 02, 2019
Issued Date:	July 19, 2019
Applicant:	Wistron NeWeb Corp.
Address:	20 Park Avenue II, Hsinchu Science Park,Hsinchu 308, Taiwan, R.O.C.
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 R.O.C.
Test Location :	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RF190603E08A	Original release.	July 19, 2019

1 Certificate of Conformity

Product:	Stream TV
Brand:	Verizon
Test Model:	JS8V
Status of EUT	ENGINEERING SAMPLE
Applicant:	Wistron NeWeb Corp.
Test Date:	June 28 to July 02, 2019
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 : _____ , **Date:** July 19, 2019
Wendy Wu / Specialist

Approved by : _____ , **Date:** July 19, 2019
May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -17.85dB at 0.44297 MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 2483.50MHz
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	No antenna connector is used.

Note:
Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.8 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.1 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.1 dB
	6GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.2 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Stream TV
Brand	Verizon
Test Model	JS8V
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc 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 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	**2.4GHz:** 2.412 ~ 2.462GHz **5GHz:** 5.18~ 5.24GHz, 5.26GHz ~ 5.32GHz, 5.50GHz ~ 5.72GHz, 5.745 ~ 5.825GHz
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): 25 802.11n (HT40), 802.11ac (VHT40): 12 802.11ac (VHT80): 6
Output Power	**2.4GHz:** 662.658 mW **5.18 ~ 5.24GHz:** 247.256 mW **5.26 ~ 5.32GHz:** 216.553 mW **5.5 ~ 5.72GHz:** 210.929 mW **5.745 ~ 5.825GHz:** 424.896 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Remote controller x 1 (Brand: Verizon, Model: RC3441530/01BR)
Data Cable Supplied	HDMI cable x 1 (Shielded, 1.2m)

Note:

1. Simultaneously transmission condition.

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

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

Brand	Model No.	Spec.
Frecom	F12L33-120100SPAU	Input: 100-240Vac, 0.3A, 50/60Hz Output: 12V, 1A DC Output cable: Unshielded, 1.5m

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

WLAN				
Chain No.	Antenna Net Gain (dBi)	Frequency range (GHz)	Antenna type	Connector type
Chain 0	3.62	2.4~2.4835	On board printed antenna	none
	3.57	5.15~5.25		
	3.63	5.25~5.35		
	2.50	5.47~5.725		
	2.88	5.725~5.85		
Chain 1	5.36	2.4~2.4835	On board printed antenna	none
	3.26	5.15~5.25		
	3.26	5.25~5.35		
	3.75	5.47~5.725		
	4.22	5.725~5.85		

Bluetooth			
Antenna Net Gain (dBi)	Frequency range (GHz)	Antenna type	Connector type
2.39	2.4~2.4835	On board printed antenna	none

4. The EUT incorporates a MIMO function.

2.4GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
5GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
802.11ac (VHT20)	2TX	2RX
802.11ac (VHT40)	2TX	2RX
802.11ac (VHT80)	2TX	2RX
Note: The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report.		

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

3.2 Description of Test Modes

11 channels are provided for 802.11b, 802.11g, 802.11n (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 (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

NOTE:

1. The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on **X-plane**.

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.

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, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	Data Rate Parameter
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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	Data Rate Parameter
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.

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, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

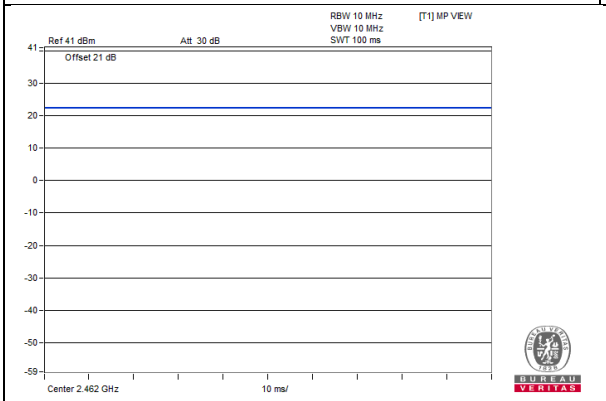
Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	23deg. C, 68%RH	120Vac, 60Hz	Robert Cheng
RE<1G	22deg. C, 66%RH	120Vac, 60Hz	Robert Cheng
PLC	25deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Jyunchun Lin

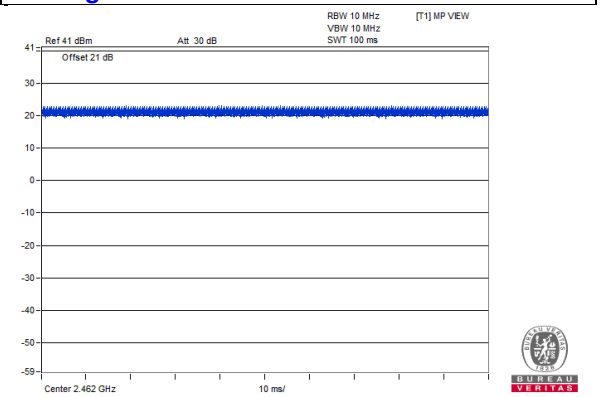
3.3 Duty Cycle of Test Signal

Duty cycle of test signal is 100 %, duty factor is not required.

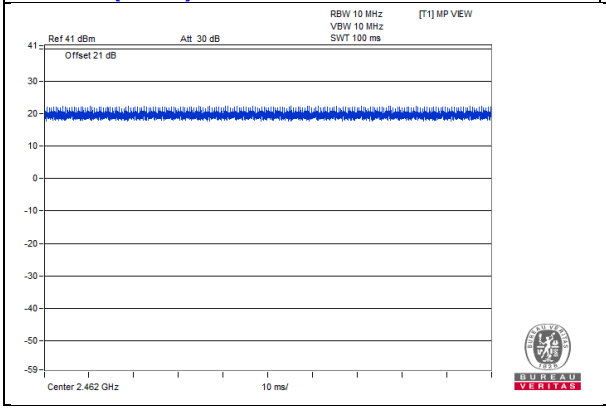
802.11b



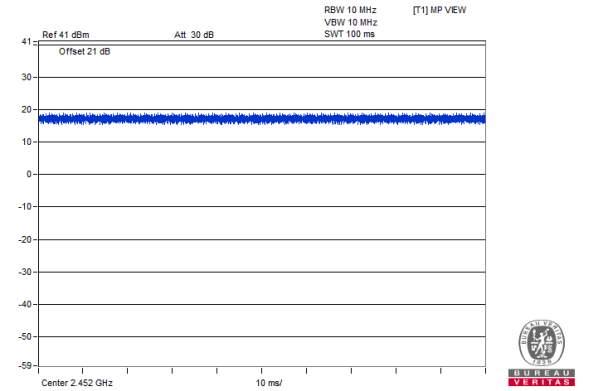
802.11g



802.11n (HT20)



802.11n (HT40)



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.

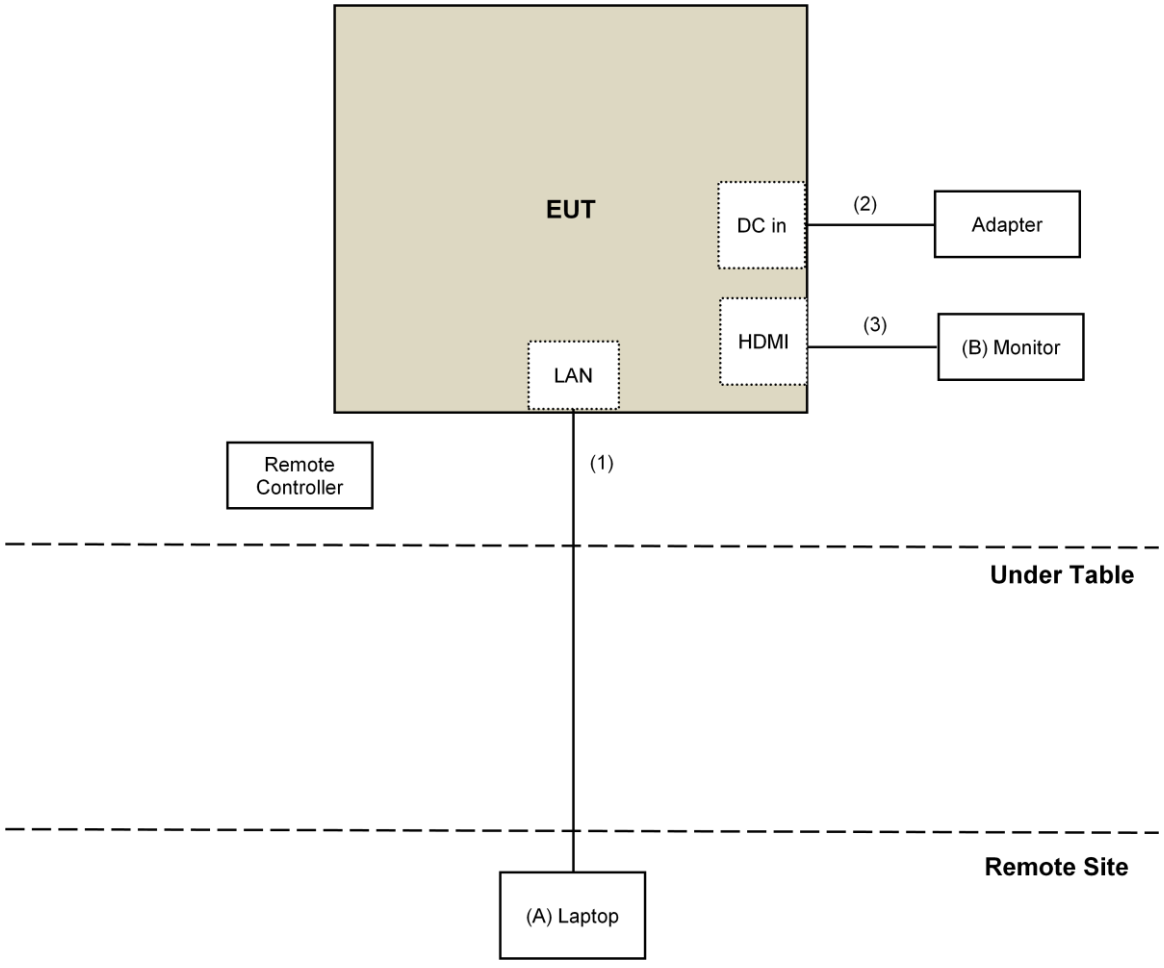
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
B.	MonItor	ASUS	VN248	NA	NA	Provided by Lab

Note:

1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45 Cable	1	10	No	0	Provided by Lab
2.	DC Cable	1	1.5	No	0	Supplied by client
3.	HDMI Cable	1	1.2	Yes	0	Supplied by client

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart C (15.247)
KDB 558074 D01 15.247 Meas Guidance v05r02
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

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

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 20dB below the highest level of the desired power:

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

NOTE:

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

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	July 12, 2018	July 11, 2019
Pre-Amplifier EMCI	EMC001340	980142	Jan. 25, 2019	Jan. 24, 2020
Loop Antenna Electro-Metrics	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
RF Cable	NA	LOOPCAB-001	Jan. 14, 2019	Jan. 13, 2020
RF Cable	NA	LOOPCAB-002	Jan. 14, 2019	Jan. 13, 2020
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	Apr. 30, 2019	Apr. 29, 2020
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 22, 2018	Nov. 21, 2019
RF Cable	8D	966-3-1	Mar. 18, 2019	Mar. 17, 2020
RF Cable	8D	966-3-2	Mar. 18, 2019	Mar. 17, 2020
RF Cable	8D	966-3-3	Mar. 18, 2019	Mar. 17, 2020
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Sep. 27, 2018	Sep. 26, 2019
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 25, 2018	Nov. 24, 2019
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC104-SM-SM-1200	160922	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC104-SM-SM-2000	180601	June 10, 2019	June 09, 2020
RF Cable	EMC104-SM-SM-6000	180602	June 10, 2019	June 09, 2020
Spectrum Analyzer Keysight	N9030A	MY54490679	July 23, 2018	July 22, 2019
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 28, 2019	Jan. 27, 2020
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 25, 2018	Nov. 24, 2019
RF Cable	EMC102-KM-KM-1200	160924	Jan. 28, 2019	Jan. 27, 2020
RF Cable	EMC102-KM-KM-1200	160925	Jan. 28, 2019	Jan. 27, 2020
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Spectrum Analyzer R&S	FSV40	100964	June 04, 2019	June 03, 2020
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 15, 2019	Apr. 14, 2020
Power meter Anritsu	ML2495A	1014008	May 13, 2019	May 12, 2020
Power sensor Anritsu	MA2411B	0917122	May 13, 2019	May 12, 2020

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. Loop antenna was used for all emissions below 30 MHz.
4. Tested Date: June 28 to July 02 2019

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:

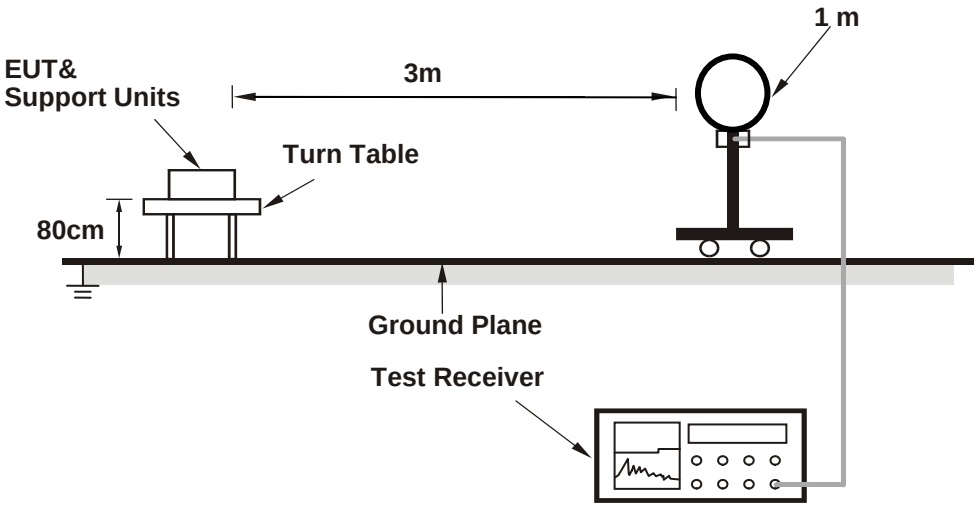
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

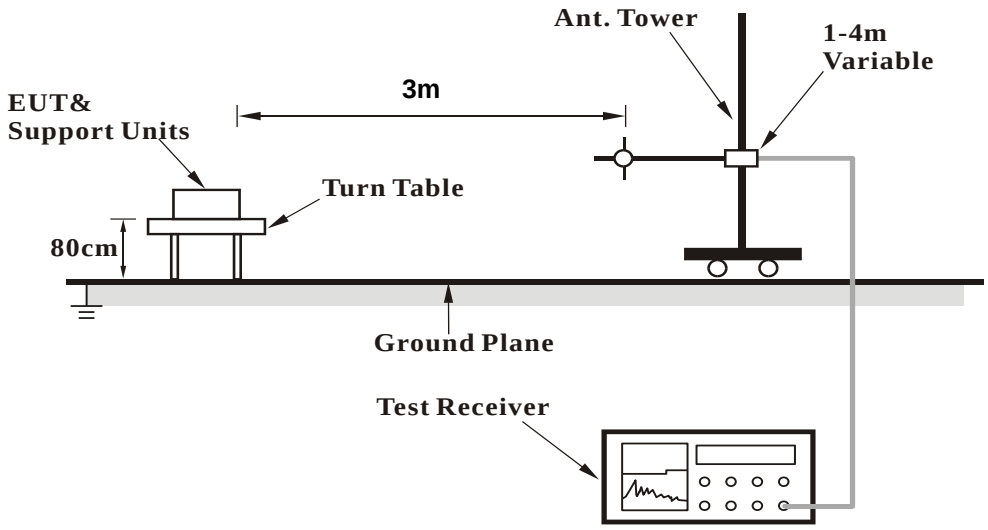
No deviation.

4.1.5 Test Setup

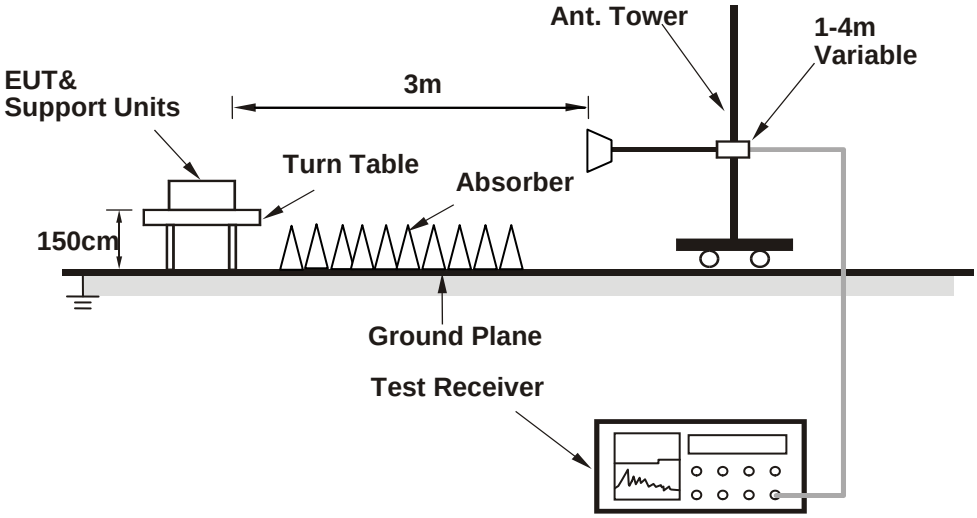
For Radiated emission below 30MHz



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 (HYPERTERMINAL PASTE WIFI-CMD_JC SUPPORT_190606.TXT COMMAND) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data：

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.8 PK	74.0	-15.2	1.47 H	192	60.8	-2.0
2	2390.00	50.7 AV	54.0	-3.3	1.47 H	192	52.7	-2.0
3	*2412.00	114.5 PK			1.47 H	192	116.5	-2.0
4	*2412.00	112.5 AV			1.47 H	192	114.5	-2.0
5	4824.00	37.6 PK	74.0	-36.4	1.25 H	301	35.3	2.3
6	4824.00	24.5 AV	54.0	-29.5	1.25 H	301	22.2	2.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	53.6 PK	74.0	-20.4	2.84 V	199	55.6	-2.0
2	2390.00	45.2 AV	54.0	-8.8	2.84 V	199	47.2	-2.0
3	*2412.00	109.1 PK			2.84 V	199	111.1	-2.0
4	*2412.00	107.6 AV			2.84 V	199	109.6	-2.0
5	4824.00	37.2 PK	74.0	-36.8	2.13 V	176	34.9	2.3
6	4824.00	24.2 AV	54.0	-29.8	2.13 V	176	21.9	2.3

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	113.2 PK			2.07 H	195	115.3	-2.1
2	*2437.00	111.4 AV			2.07 H	195	113.5	-2.1
3	4874.00	37.9 PK	74.0	-36.1	1.63 H	302	35.6	2.3
4	4874.00	24.7 AV	54.0	-29.3	1.63 H	302	22.4	2.3
5	7311.00	42.1 PK	74.0	-31.9	1.47 H	225	33.8	8.3
6	7311.00	29.1 AV	54.0	-24.9	1.47 H	225	20.8	8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	108.0 PK			2.89 V	206	110.1	-2.1
2	*2437.00	106.5 AV			2.89 V	206	108.6	-2.1
3	4874.00	37.4 PK	74.0	-36.6	2.12 V	165	35.1	2.3
4	4874.00	24.4 AV	54.0	-29.6	2.12 V	165	22.1	2.3
5	7311.00	42.2 PK	74.0	-31.8	3.01 V	210	33.9	8.3
6	7311.00	29.0 AV	54.0	-25.0	3.01 V	210	20.7	8.3

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	113.9 PK			1.56 H	163	116.1	-2.2
2	*2462.00	112.5 AV			1.56 H	163	114.7	-2.2
3	2483.50	58.0 PK	74.0	-16.0	1.56 H	163	60.2	-2.2
4	2483.50	50.3 AV	54.0	-3.7	1.56 H	163	52.5	-2.2
5	4924.00	37.8 PK	74.0	-36.2	1.35 H	225	35.3	2.5
6	4924.00	24.6 AV	54.0	-29.4	1.35 H	225	22.1	2.5
7	7386.00	42.4 PK	74.0	-31.6	1.42 H	215	34.1	8.3
8	7386.00	29.2 AV	54.0	-24.8	1.42 H	215	20.9	8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.6 PK			2.82 V	206	110.8	-2.2
2	*2462.00	107.1 AV			2.82 V	206	109.3	-2.2
3	2483.50	53.7 PK	74.0	-20.3	2.82 V	206	55.9	-2.2
4	2483.50	45.3 AV	54.0	-8.7	2.82 V	206	47.5	-2.2
5	4924.00	37.2 PK	74.0	-36.8	2.13 V	178	34.7	2.5
6	4924.00	23.9 AV	54.0	-30.1	2.13 V	178	21.4	2.5
7	7386.00	42.5 PK	74.0	-31.5	3.06 V	214	34.2	8.3
8	7386.00	29.3 AV	54.0	-24.7	3.06 V	214	21.0	8.3

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.

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.5 PK	74.0	-0.5	2.00 H	191	75.5	-2.0
2	2390.00	53.5 AV	54.0	-0.5	2.00 H	191	55.5	-2.0
3	*2412.00	111.2 PK			2.00 H	191	113.2	-2.0
4	*2412.00	102.7 AV			2.00 H	191	104.7	-2.0
5	4824.00	37.4 PK	74.0	-36.6	1.25 H	301	35.1	2.3
6	4824.00	24.2 AV	54.0	-29.8	1.25 H	301	21.9	2.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.2 PK	74.0	-5.8	2.80 V	193	70.2	-2.0
2	2390.00	48.1 AV	54.0	-5.9	2.80 V	193	50.1	-2.0
3	*2412.00	106.2 PK			2.80 V	193	108.2	-2.0
4	*2412.00	97.6 AV			2.80 V	193	99.6	-2.0
5	4824.00	36.9 PK	74.0	-37.1	2.13 V	161	34.6	2.3
6	4824.00	24.2 AV	54.0	-29.8	2.13 V	161	21.9	2.3

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	118.7 PK			1.40 H	193	120.8	-2.1
2	*2437.00	108.9 AV			1.40 H	193	111.0	-2.1
3	4874.00	38.3 PK	74.0	-35.7	1.63 H	225	36.0	2.3
4	4874.00	25.0 AV	54.0	-29.0	1.63 H	225	22.7	2.3
5	7311.00	41.9 PK	74.0	-32.1	1.52 H	301	33.6	8.3
6	7311.00	29.0 AV	54.0	-25.0	1.52 H	301	20.7	8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	113.9 PK			2.82 V	199	116.0	-2.1
2	*2437.00	104.0 AV			2.82 V	199	106.1	-2.1
3	4874.00	37.9 PK	74.0	-36.1	2.11 V	158	35.6	2.3
4	4874.00	24.7 AV	54.0	-29.3	2.11 V	158	22.4	2.3
5	7311.00	41.9 PK	74.0	-32.1	2.98 V	202	33.6	8.3
6	7311.00	28.6 AV	54.0	-25.4	2.98 V	202	20.3	8.3

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	113.2 PK			1.00 H	192	115.4	-2.2
2	*2462.00	103.2 AV			1.00 H	192	105.4	-2.2
3	2483.50	72.8 PK	74.0	-1.2	1.00 H	192	75.0	-2.2
4	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**1.00 H**	**192**	**56.1**	**-2.2**
5	4924.00	37.1 PK	74.0	-36.9	1.36 H	152	34.6	2.5
6	4924.00	23.8 AV	54.0	-30.2	1.36 H	152	21.3	2.5
7	7386.00	42.0 PK	74.0	-32.0	1.44 H	301	33.7	8.3
8	7386.00	28.8 AV	54.0	-25.2	1.44 H	301	20.5	8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.2 PK			2.87 V	189	110.4	-2.2
2	*2462.00	98.1 AV			2.87 V	189	100.3	-2.2
3	2483.50	68.3 PK	74.0	-5.7	2.87 V	189	70.5	-2.2
4	2483.50	48.5 AV	54.0	-5.5	2.87 V	189	50.7	-2.2
5	4924.00	37.6 PK	74.0	-36.4	2.12 V	165	35.1	2.5
6	4924.00	24.4 AV	54.0	-29.6	2.12 V	165	21.9	2.5
7	7386.00	41.6 PK	74.0	-32.4	3.02 V	203	33.3	8.3
8	7386.00	28.5 AV	54.0	-25.5	3.02 V	203	20.2	8.3

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.

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.5 PK	74.0	-1.5	1.43 H	192	74.5	-2.0
2	2390.00	53.5 AV	54.0	-0.5	1.43 H	192	55.5	-2.0
3	*2412.00	111.1 PK			1.43 H	192	113.1	-2.0
4	*2412.00	102.3 AV			1.43 H	192	104.3	-2.0
5	4824.00	38.2 PK	74.0	-35.8	1.55 H	209	35.9	2.3
6	4824.00	25.0 AV	54.0	-29.0	1.55 H	209	22.7	2.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.1 PK	74.0	-5.9	2.81 V	195	70.1	-2.0
2	2390.00	48.2 AV	54.0	-5.8	2.81 V	195	50.2	-2.0
3	*2412.00	106.4 PK			2.81 V	195	108.4	-2.0
4	*2412.00	97.4 AV			2.81 V	195	99.4	-2.0
5	4824.00	37.8 PK	74.0	-36.2	2.16 V	153	35.5	2.3
6	4824.00	24.9 AV	54.0	-29.1	2.16 V	153	22.6	2.3

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	119.3 PK			1.37 H	184	121.4	-2.1
2	*2437.00	109.3 AV			1.37 H	184	111.4	-2.1
3	4874.00	38.4 PK	74.0	-35.6	1.60 H	240	36.1	2.3
4	4874.00	25.4 AV	54.0	-28.6	1.60 H	240	23.1	2.3
5	7311.00	42.3 PK	74.0	-31.7	1.53 H	304	34.0	8.3
6	7311.00	29.2 AV	54.0	-24.8	1.53 H	304	20.9	8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	114.7 PK			2.82 V	200	116.8	-2.1
2	*2437.00	104.6 AV			2.82 V	200	106.7	-2.1
3	4874.00	38.0 PK	74.0	-36.0	2.10 V	176	35.7	2.3
4	4874.00	24.9 AV	54.0	-29.1	2.10 V	176	22.6	2.3
5	7311.00	41.6 PK	74.0	-32.4	3.04 V	204	33.3	8.3
6	7311.00	28.7 AV	54.0	-25.3	3.04 V	204	20.4	8.3

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.8 PK			1.76 H	191	113.0	-2.2
2	*2462.00	102.1 AV			1.76 H	191	104.3	-2.2
3	2483.50	71.4 PK	74.0	-2.6	1.76 H	191	73.6	-2.2
4	2483.50	53.7 AV	54.0	-0.3	1.76 H	191	55.9	-2.2
5	4924.00	38.7 PK	74.0	-35.3	1.36 H	147	36.2	2.5
6	4924.00	25.8 AV	54.0	-28.2	1.36 H	147	23.3	2.5
7	7386.00	42.0 PK	74.0	-32.0	1.45 H	225	33.7	8.3
8	7386.00	28.9 AV	54.0	-25.1	1.45 H	225	20.6	8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.2 PK			2.82 V	209	108.4	-2.2
2	*2462.00	96.9 AV			2.82 V	209	99.1	-2.2
3	2483.50	68.6 PK	74.0	-5.4	2.82 V	209	70.8	-2.2
4	2483.50	48.4 AV	54.0	-5.6	2.82 V	209	50.6	-2.2
5	4924.00	37.5 PK	74.0	-36.5	2.11 V	166	35.0	2.5
6	4924.00	24.4 AV	54.0	-29.6	2.11 V	166	21.9	2.5
7	7386.00	42.3 PK	74.0	-31.7	3.02 V	218	34.0	8.3
8	7386.00	28.9 AV	54.0	-25.1	3.02 V	218	20.6	8.3

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.

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.2 PK	74.0	-6.8	1.22 H	196	69.2	-2.0
2	2390.00	53.6 AV	54.0	-0.4	1.22 H	196	55.6	-2.0
3	*2422.00	100.6 PK			1.22 H	196	102.6	-2.0
4	*2422.00	90.9 AV			1.22 H	196	92.9	-2.0
5	4844.00	38.5 PK	74.0	-35.5	1.32 H	205	36.2	2.3
6	4844.00	25.4 AV	54.0	-28.6	1.32 H	205	23.1	2.3
7	7266.00	41.7 PK	74.0	-32.3	1.45 H	305	33.3	8.4
8	7266.00	28.7 AV	54.0	-25.3	1.45 H	305	20.3	8.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.8 PK	74.0	-5.2	2.86 V	201	70.8	-2.0
2	2390.00	48.6 AV	54.0	-5.4	2.86 V	201	50.6	-2.0
3	*2422.00	95.8 PK			2.86 V	201	97.8	-2.0
4	*2422.00	86.0 AV			2.86 V	201	88.0	-2.0
5	4844.00	37.7 PK	74.0	-36.3	2.12 V	154	35.4	2.3
6	4844.00	24.6 AV	54.0	-29.4	2.12 V	154	22.3	2.3
7	7266.00	41.9 PK	74.0	-32.1	3.02 V	191	33.5	8.4
8	7266.00	29.0 AV	54.0	-25.0	3.02 V	191	20.6	8.4

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.4 PK	74.0	-5.6	1.48 H	188	70.4	-2.0
2	2390.00	53.5 AV	54.0	-0.5	1.48 H	188	55.5	-2.0
3	*2437.00	105.2 PK			1.48 H	188	107.3	-2.1
4	*2437.00	95.9 AV			1.48 H	188	98.0	-2.1
5	2483.50	69.8 PK	74.0	-4.2	1.48 H	188	72.0	-2.2
6	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**1.48 H**	**188**	**56.1**	**-2.2**
7	4874.00	37.9 PK	74.0	-36.1	1.32 H	302	35.6	2.3
8	4874.00	25.0 AV	54.0	-29.0	1.32 H	302	22.7	2.3
9	7311.00	41.5 PK	74.0	-32.5	1.42 H	125	33.2	8.3
10	7311.00	28.6 AV	54.0	-25.4	1.42 H	125	20.3	8.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.2 PK	74.0	-4.8	2.85 V	211	71.2	-2.0
2	2390.00	48.9 AV	54.0	-5.1	2.85 V	211	50.9	-2.0
3	*2437.00	100.2 PK			2.85 V	211	102.3	-2.1
4	*2437.00	91.0 AV			2.85 V	211	93.1	-2.1
5	2483.50	68.0 PK	74.0	-6.0	2.85 V	211	70.2	-2.2
6	2483.50	48.1 AV	54.0	-5.9	2.85 V	211	50.3	-2.2
7	4874.00	38.0 PK	74.0	-36.0	2.14 V	152	35.7	2.3
8	4874.00	24.6 AV	54.0	-29.4	2.14 V	152	22.3	2.3
9	7311.00	41.1 PK	74.0	-32.9	3.03 V	212	32.8	8.3
10	7311.00	28.2 AV	54.0	-25.8	3.03 V	212	19.9	8.3

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	102.7 PK			3.97 H	58	104.9	-2.2
2	*2452.00	93.5 AV			3.97 H	58	95.7	-2.2
3	2483.50	69.4 PK	74.0	-4.6	3.97 H	58	71.6	-2.2
4	2483.50	53.5 AV	54.0	-0.5	3.97 H	58	55.7	-2.2
5	4904.00	38.5 PK	74.0	-35.5	1.32 H	305	36.1	2.4
6	4904.00	25.4 AV	54.0	-28.6	1.32 H	305	23.0	2.4
7	7356.00	41.3 PK	74.0	-32.7	1.24 H	285	33.1	8.2
8	7356.00	28.4 AV	54.0	-25.6	1.24 H	285	20.2	8.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	97.9 PK			2.80 V	203	100.1	-2.2
2	*2452.00	88.1 AV			2.80 V	203	90.3	-2.2
3	2483.50	68.6 PK	74.0	-5.4	2.80 V	203	70.8	-2.2
4	2483.50	48.3 AV	54.0	-5.7	2.80 V	203	50.5	-2.2
5	4904.00	37.0 PK	74.0	-37.0	2.12 V	165	34.6	2.4
6	4904.00	24.0 AV	54.0	-30.0	2.12 V	165	21.6	2.4
7	7356.00	41.1 PK	74.0	-32.9	3.06 V	211	32.9	8.2
8	7356.00	28.3 AV	54.0	-25.7	3.06 V	211	20.1	8.2

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.

Below 1GHz Data:

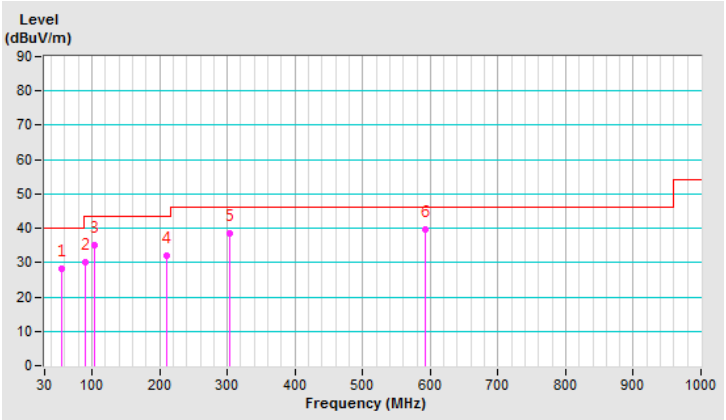
802.11g

CHANNEL	TX Channel 6	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	56.12	28.2 QP	40.0	-11.8	1.24 H	100	41.8	-13.6
2	90.21	30.0 QP	43.5	-13.5	1.77 H	99	48.3	-18.3
3	104.02	35.1 QP	43.5	-8.4	1.65 H	50	51.6	-16.5
4	210.05	32.0 QP	43.5	-11.5	1.51 H	70	47.0	-15.0
5	304.02	38.5 QP	46.0	-7.5	1.35 H	344	50.0	-11.5
6	592.20	39.5 QP	46.0	-6.5	1.52 H	301	44.1	-4.6

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 of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

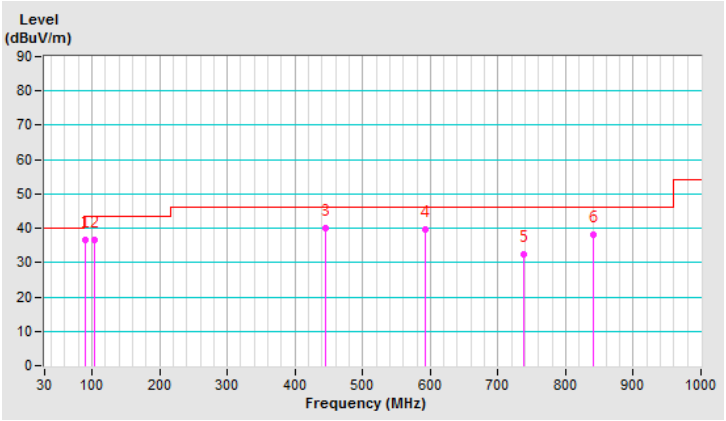


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	89.20	36.4 QP	43.5	-7.1	1.21 V	100	54.7	-18.3
2	104.21	36.4 QP	43.5	-7.1	1.51 V	265	52.8	-16.4
3	444.34	39.9 QP	46.0	-6.1	1.35 V	100	48.0	-8.1
4	593.12	39.5 QP	46.0	-6.5	1.35 V	140	44.1	-4.6
5	738.12	32.4 QP	46.0	-13.6	1.45 V	240	34.3	-1.9
6	840.06	38.1 QP	46.0	-7.9	1.42 V	255	38.1	0.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit 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. 24, 2018	Oct. 23, 2019
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 22, 2018	Oct. 21, 2019
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 17, 2019	Mar. 16, 2020
50 ohms Terminator	N/A	3	Oct. 22, 2018	Oct. 21, 2019
RF Cable	5D-FB	COCCAB-001	Sep. 28, 2018	Sep. 27, 2019
Fixed attenuator EMCI	STI02-2200-10	003	Mar. 14, 2019	Mar. 13, 2020
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: July 02, 2019

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.

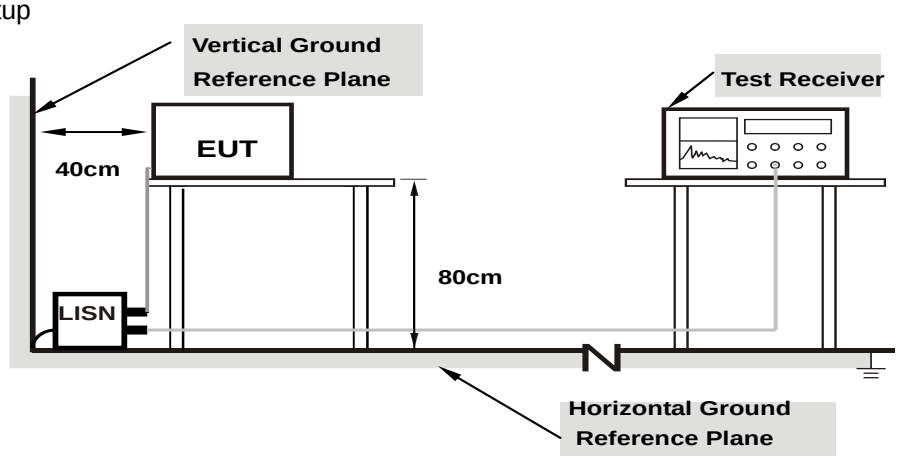
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

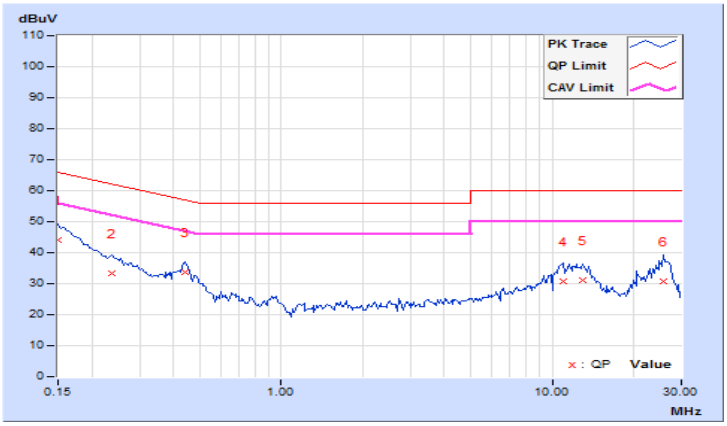
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	10.03	34.08	20.12	44.11	30.15	66.00	56.00	-21.89	-25.85
2	0.23594	10.06	23.43	11.37	33.49	21.43	62.24	52.24	-28.75	-30.81
3	**0.44297**	**10.08**	**23.53**	**19.08**	**33.61**	**29.16**	**57.01**	**47.01**	**-23.40**	**-17.85**
4	10.93750	10.76	20.06	11.77	30.82	22.53	60.00	50.00	-29.18	-27.47
5	12.98438	10.90	20.25	11.74	31.15	22.64	60.00	50.00	-28.85	-27.36
6	25.87109	11.50	19.25	10.40	30.75	21.90	60.00	50.00	-29.25	-28.10

Remarks:

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

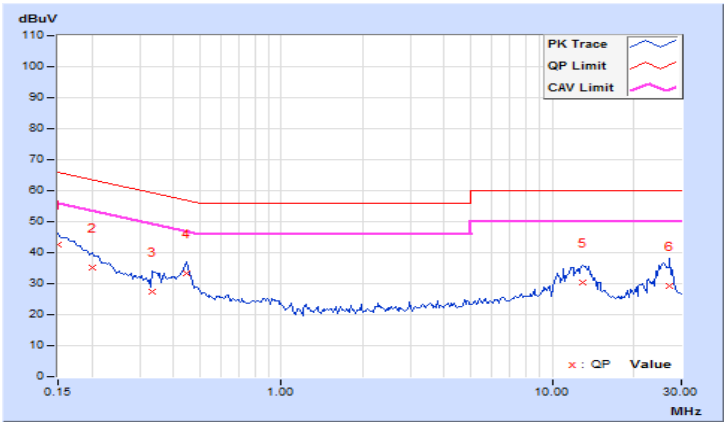


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	32.79	20.03	42.73	29.97	66.00	56.00	-23.27	-26.03
2	0.20078	9.95	25.40	12.89	35.35	22.84	63.58	53.58	-28.23	-30.74
3	0.33359	9.97	17.62	5.81	27.59	15.78	59.36	49.36	-31.77	-33.58
4	0.44688	9.98	23.25	17.53	33.23	27.51	56.93	46.93	-23.70	-19.42
5	12.92188	10.71	19.65	10.03	30.36	20.74	60.00	50.00	-29.64	-29.26
6	27.04688	11.26	18.16	7.28	29.42	18.54	60.00	50.00	-30.58	-31.46

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

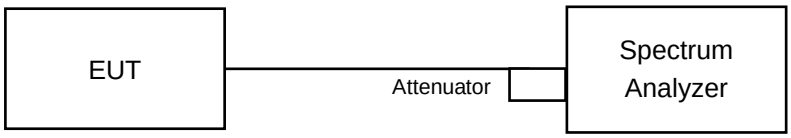


4.3 6dB Bandwidth Measurement

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		
1	2412	10.07	10.07	0.5	Pass
6	2437	10.10	10.10	0.5	Pass
11	2462	10.07	10.07	0.5	Pass

802.11g

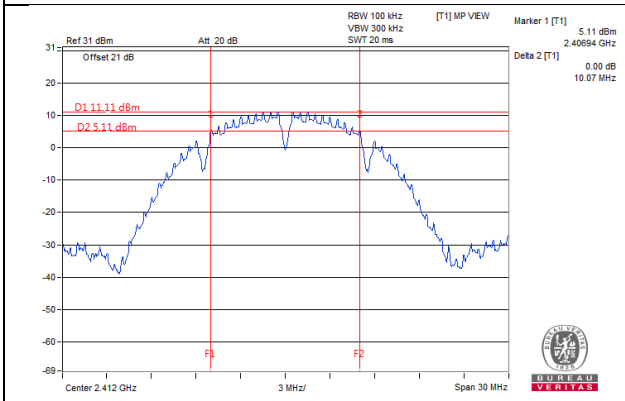
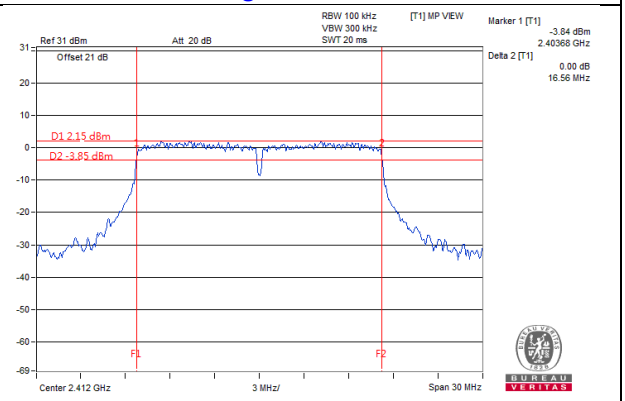
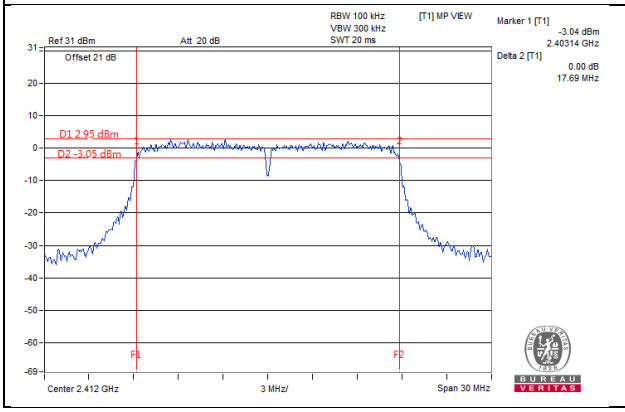
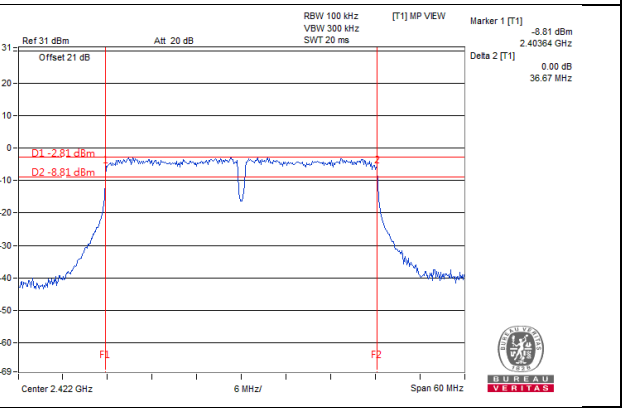
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	16.56	16.58	0.5	Pass
6	2437	16.56	16.57	0.5	Pass
11	2462	16.56	16.56	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	17.71	17.69	0.5	Pass
6	2437	17.71	17.70	0.5	Pass
11	2462	17.70	17.71	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	36.67	36.67	0.5	Pass
6	2437	36.68	36.69	0.5	Pass
9	2452	36.68	36.69	0.5	Pass

Spectrum Plot of Worst Value	
802.11b / Chain 0: CH1	**802.11g / Chain 0:CH1**
	
802.11n (HT20) / Chain 1 : CH1	**802.11n (HT40) /Chain 0: CH3**
	

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

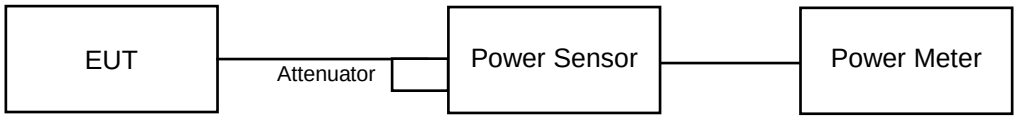
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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

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

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

.

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

FOR PEAK POWER

802.11b

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	24.44	24.13	536.792	27.30	30	Pass
6	2437	23.86	23.84	485.323	26.86	30	Pass
11	2462	24.24	23.14	471.524	26.74	30	Pass

802.11g

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	25.39	24.45	624.551	27.96	30	Pass
6	2437	25.35	25.05	662.658	28.21	30	Pass
11	2462	25.39	24.76	645.165	28.10	30	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	24.19	23.50	486.294	26.87	30	Pass
6	2437	24.88	24.86	613.806	27.88	30	Pass
11	2462	23.51	23.59	452.948	26.56	30	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	23.86	22.71	429.858	26.33	30	Pass
6	2437	24.43	23.80	517.215	27.14	30	Pass
9	2452	23.76	22.74	425.616	26.29	30	Pass

FOR AVERAGE POWER

802.11b

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	22.44	22.18	340.584	25.32
6	2437	21.76	21.84	302.725	24.81
11	2462	22.17	21.07	292.754	24.67

802.11g

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	18.31	17.49	123.869	20.93
6	2437	20.04	19.68	193.822	22.87
11	2462	18.37	17.63	126.65	21.03

802.11n (HT20)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	17.12	16.73	98.621	19.94
6	2437	19.65	19.21	175.625	22.45
11	2462	16.10	15.26	74.312	18.71

802.11n (HT40)

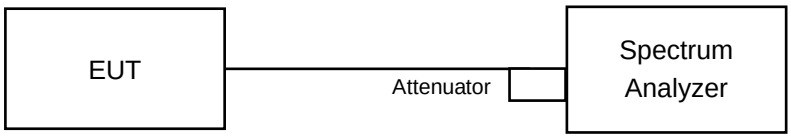
Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	16.01	15.02	71.671	18.55
6	2437	17.93	17.06	112.903	20.53
9	2452	15.95	15.16	72.165	18.58

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

4.5.5 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

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-9.16	3.01	-6.15	6.46	Pass
	6	2437	-9.52	3.01	-6.51	6.46	Pass
	11	2462	-9.65	3.01	-6.64	6.46	Pass
1	1	2412	-9.49	3.01	-6.48	6.46	Pass
	6	2437	-9.53	3.01	-6.52	6.46	Pass
	11	2462	-9.80	3.01	-6.79	6.46	Pass

Note: 1. Directional gain =10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] =7.54dBi > 6dBi , so the power density limit shall be reduced to 8-(7.54-6)=6.46

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-12.45	3.01	-9.44	6.46	Pass
	6	2437	-10.25	3.01	-7.24	6.46	Pass
	11	2462	-11.81	3.01	-8.80	6.46	Pass
1	1	2412	-11.69	3.01	-8.68	6.46	Pass
	6	2437	-10.41	3.01	-7.40	6.46	Pass
	11	2462	-12.00	3.01	-8.99	6.46	Pass

Note: 1. Directional gain =10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] =7.54dBi > 6dBi , so the power density limit shall be reduced to 8-(7.54-6)=6.46

802.11n (HT20)

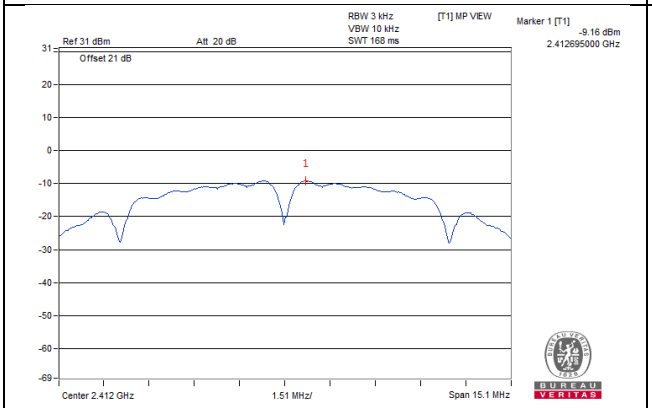
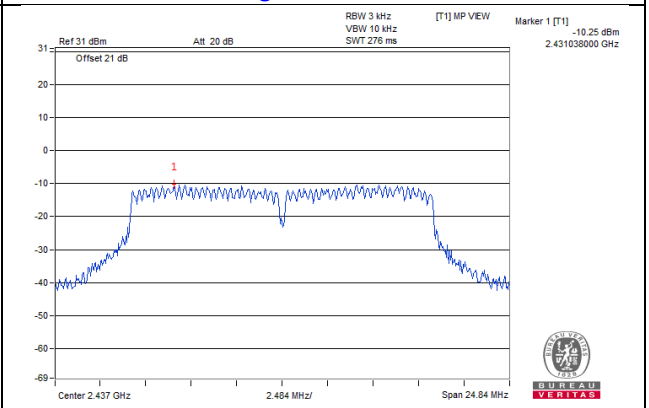
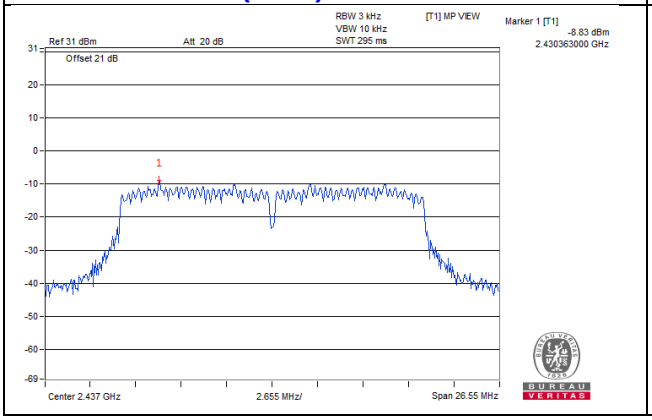
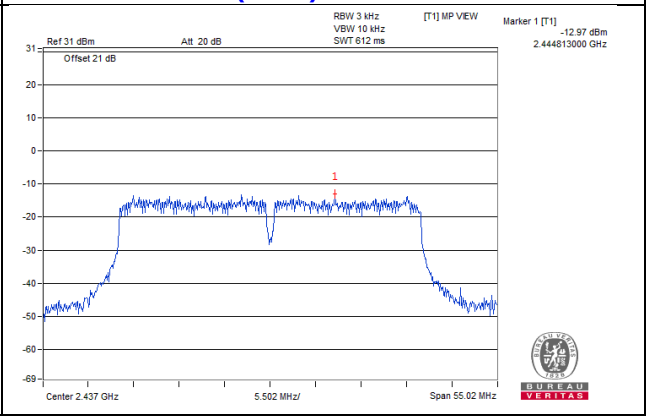
TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-11.43	3.01	-8.42	6.46	Pass
	6	2437	-9.48	3.01	-6.47	6.46	Pass
	11	2462	-12.29	3.01	-9.28	6.46	Pass
1	1	2412	-10.53	3.01	-7.52	6.46	Pass
	6	2437	-8.83	3.01	-5.82	6.46	Pass
	11	2462	-12.14	3.01	-9.13	6.46	Pass

Note: 1. Directional gain =10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] =7.54dBi > 6dBi , so the power density limit shall be reduced to 8-(7.54-6)=6.46

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-15.00	3.01	-11.99	6.46	Pass
	6	2437	-12.97	3.01	-9.96	6.46	Pass
	9	2452	-14.56	3.01	-11.55	6.46	Pass
1	3	2422	-15.08	3.01	-12.07	6.46	Pass
	6	2437	-13.79	3.01	-10.78	6.46	Pass
	9	2452	-15.00	3.01	-11.99	6.46	Pass

Note: 1. Directional gain =10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] =7.54dBi > 6dBi , so the power density limit shall be reduced to 8-(7.54-6)=6.46

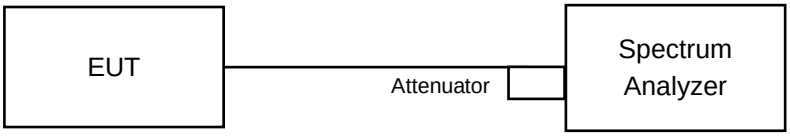
Spectrum Plot of Worst Value	
802.11b / Chain 0 : CH1	**802.11g / Chain 0 : CH6**
	
802.11n (HT20) / Chain 1: CH6	**802.11n (HT40) / Chain 0 : CH6**
	

4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

Below 20dB 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

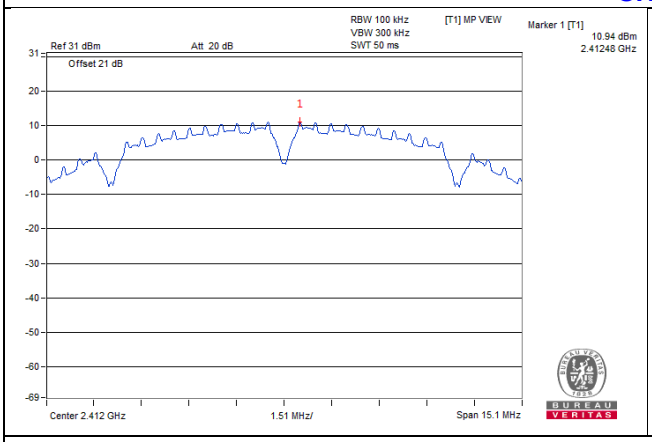
4.6.7 Test Results

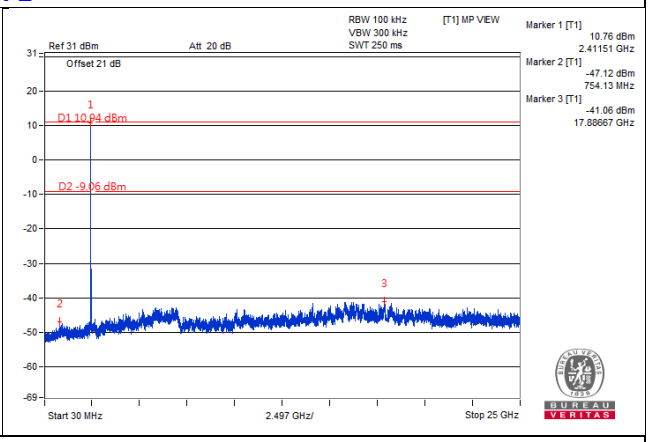
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b

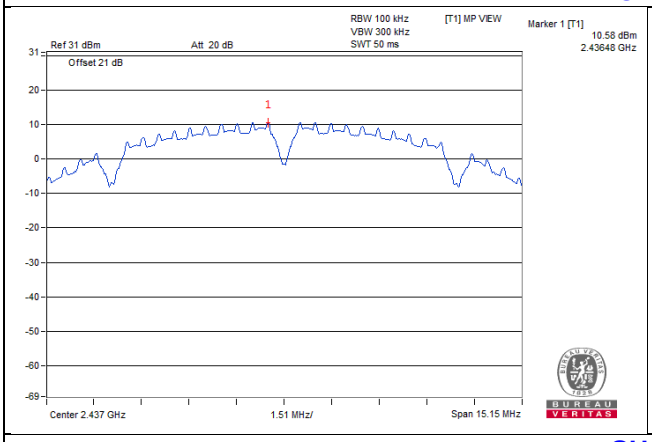
CHAIN 0

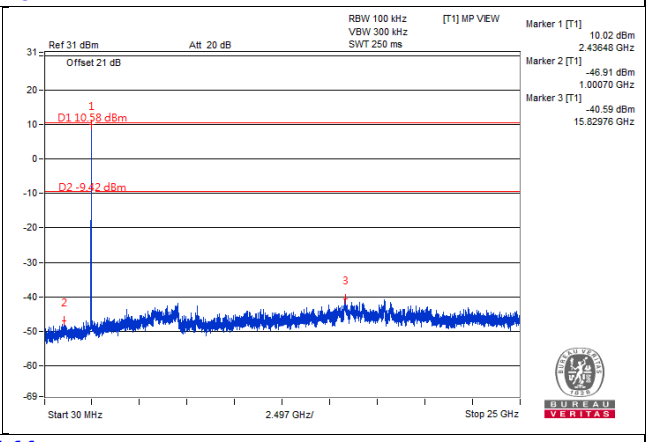
CH 1



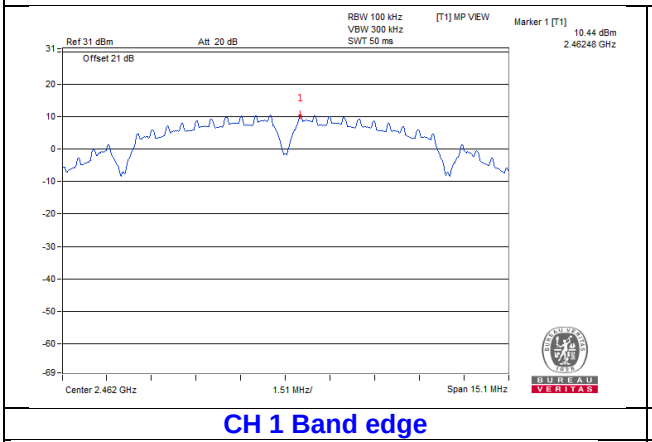


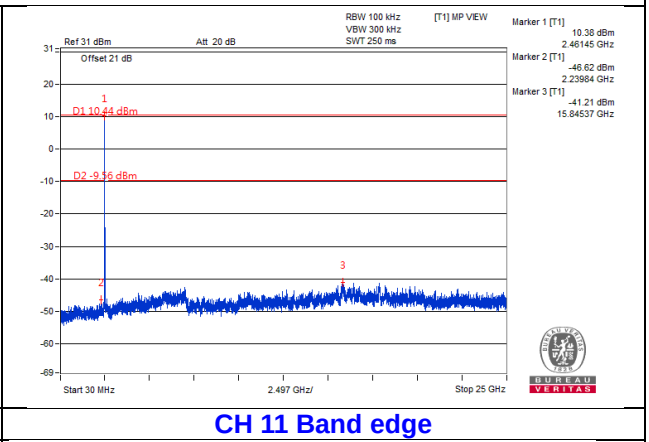
CH 6



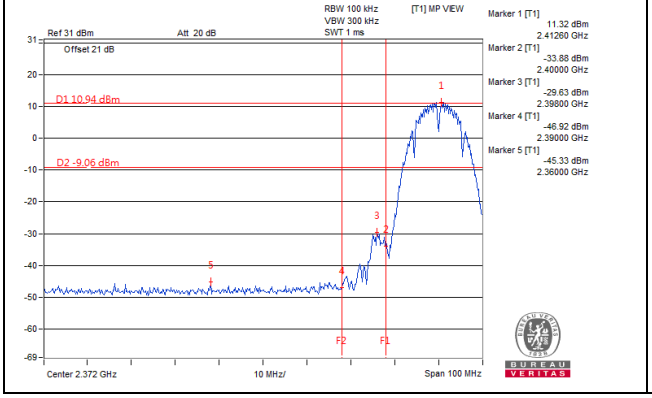


CH 11

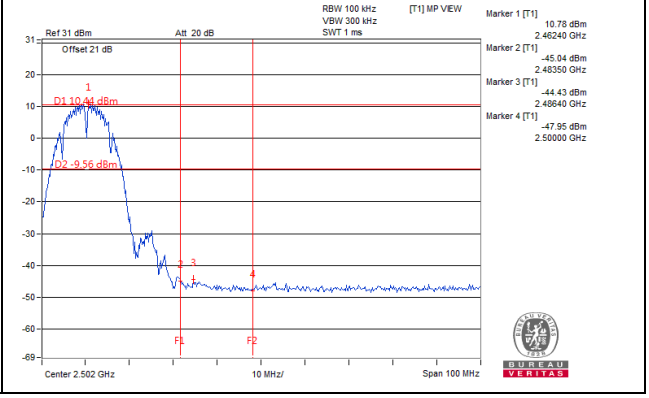




CH 1 Band edge

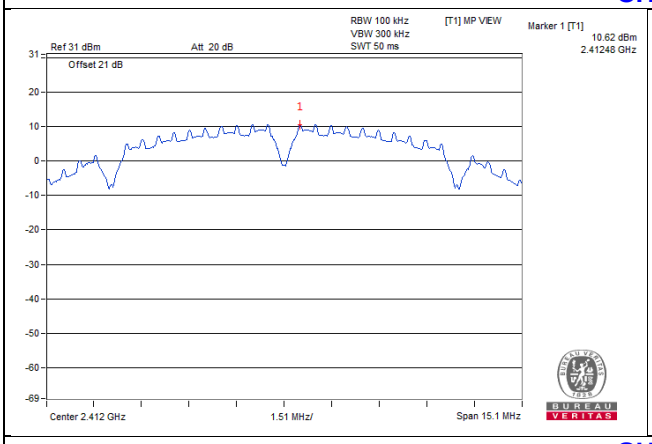


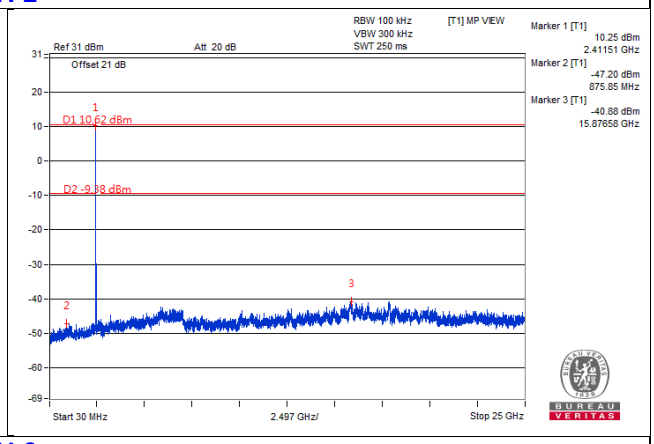
CH 11 Band edge



CHAIN 1

CH 1





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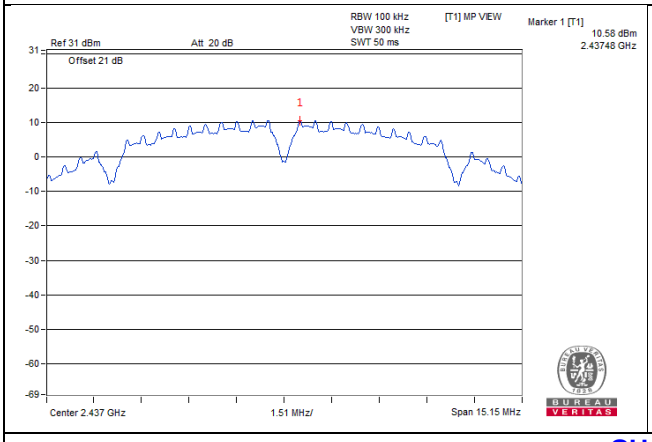
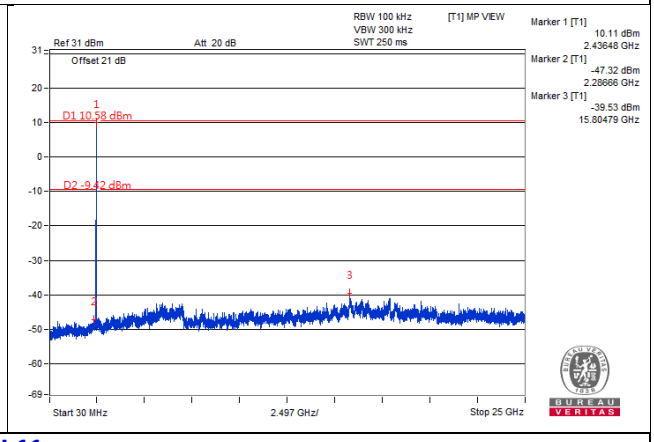
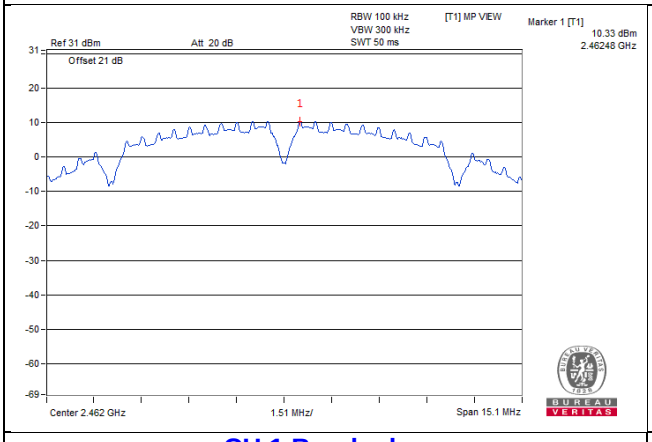
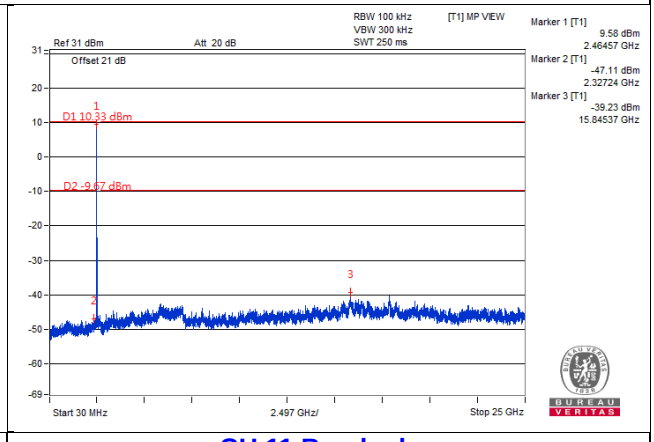


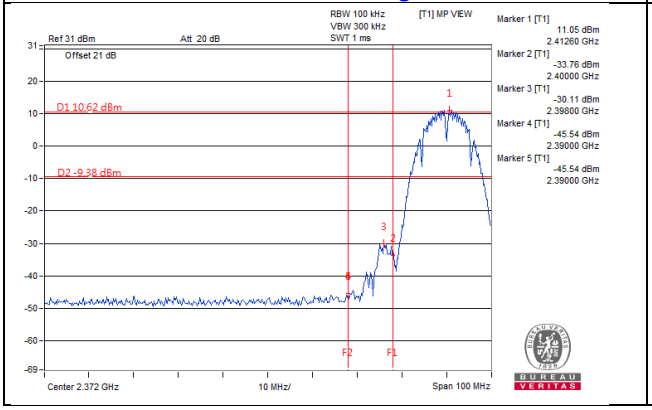


CH 11

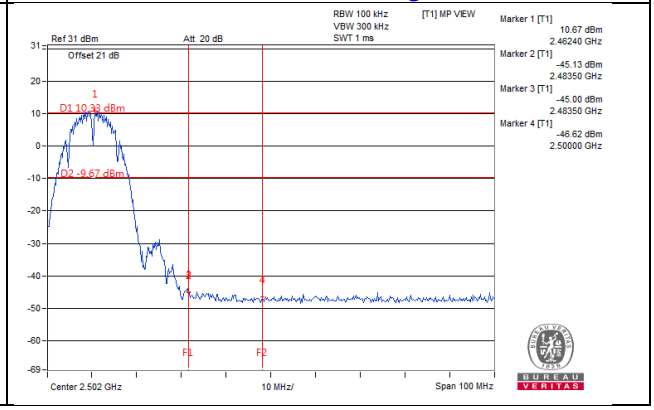




CH 1 Band edge



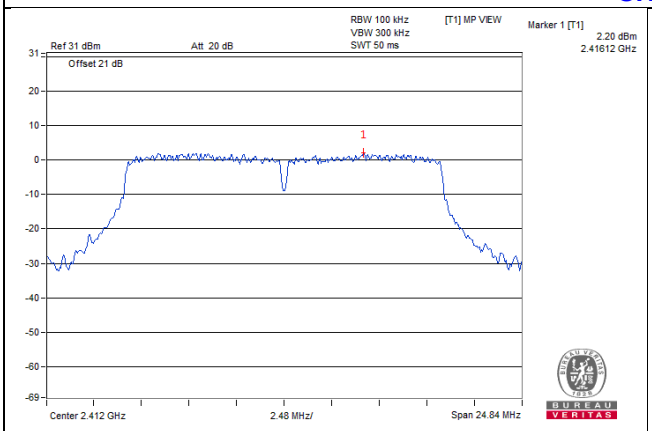
CH 11 Band edge

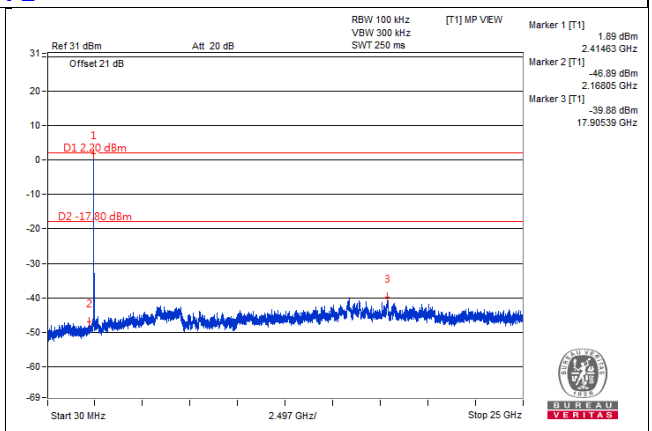


802.11g

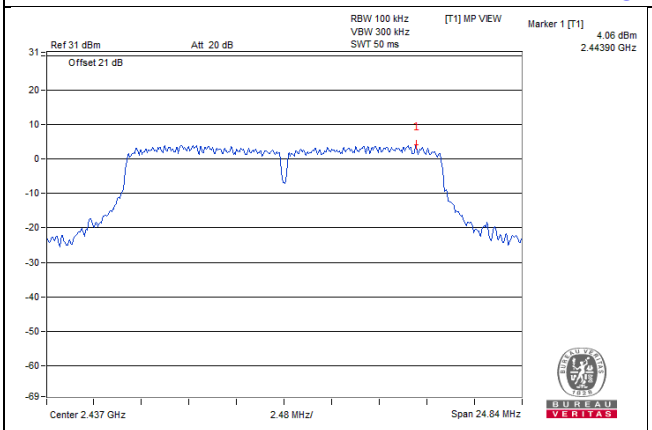
CHAIN 0

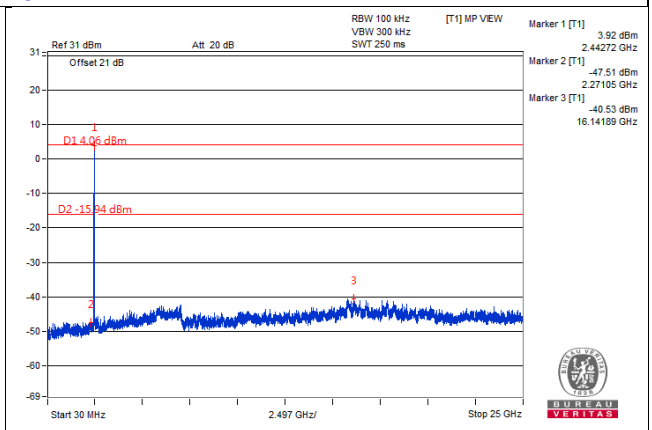
CH 1



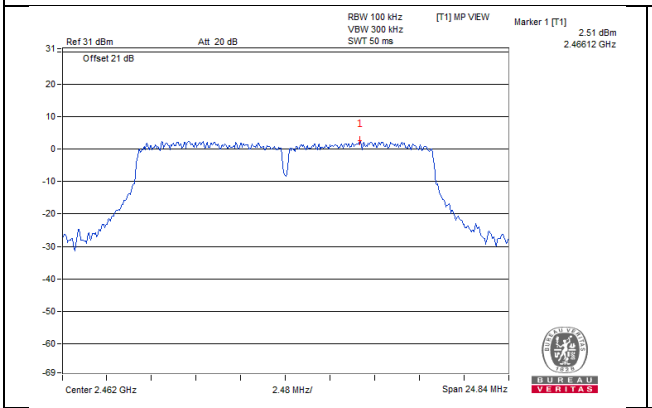


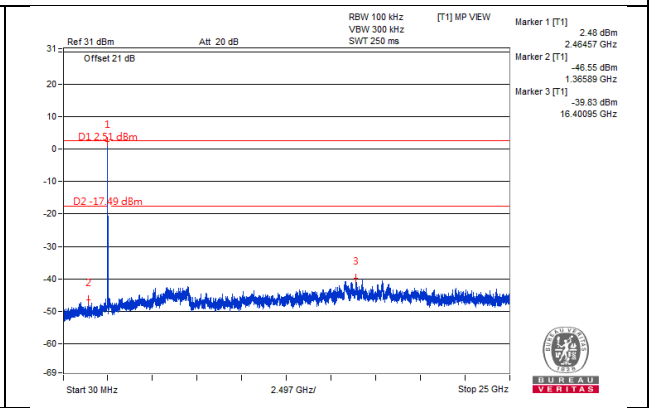
CH 6



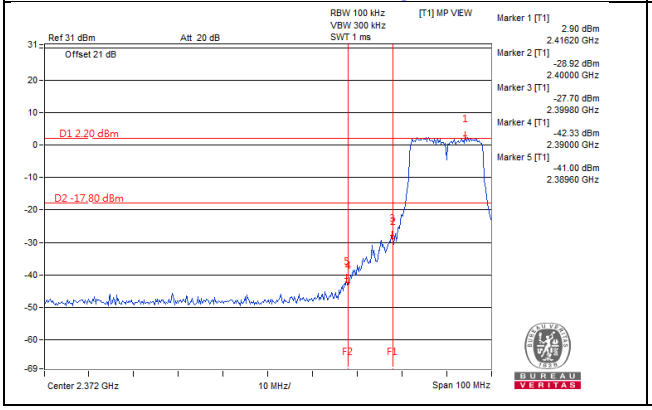


CH 11

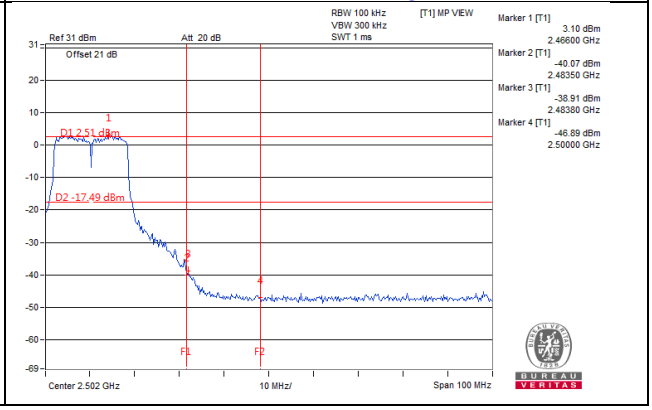




CH 1 Band edge

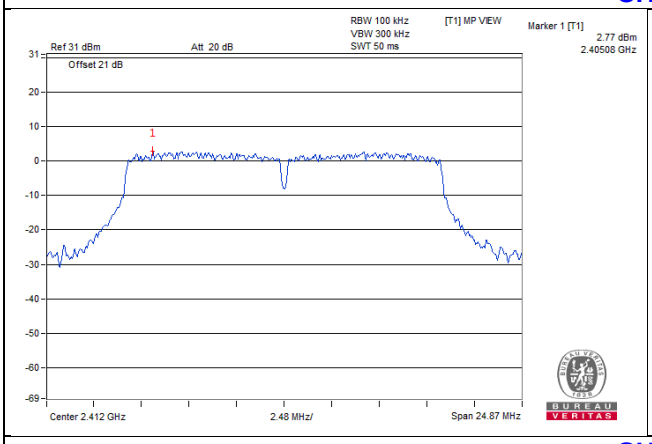


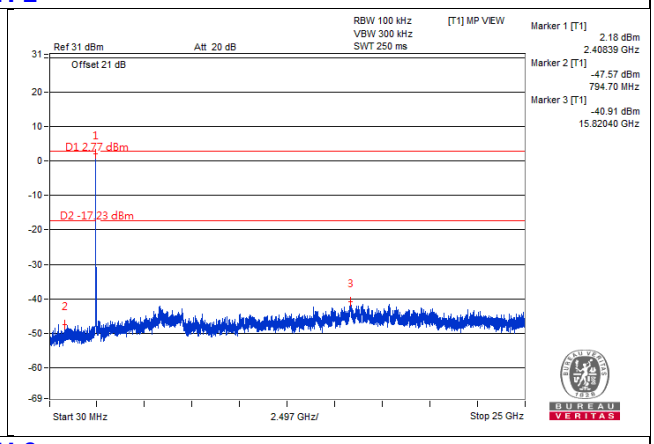
CH 11 Band edge



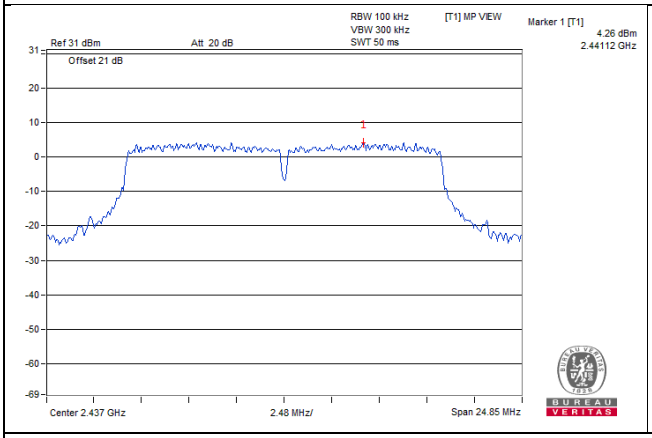
CHAIN 1

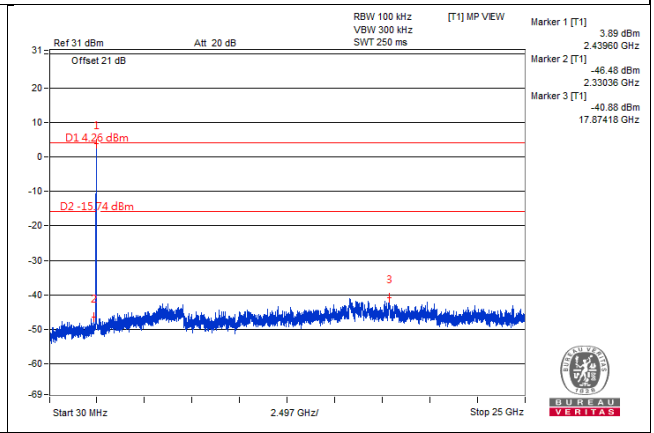
CH 1



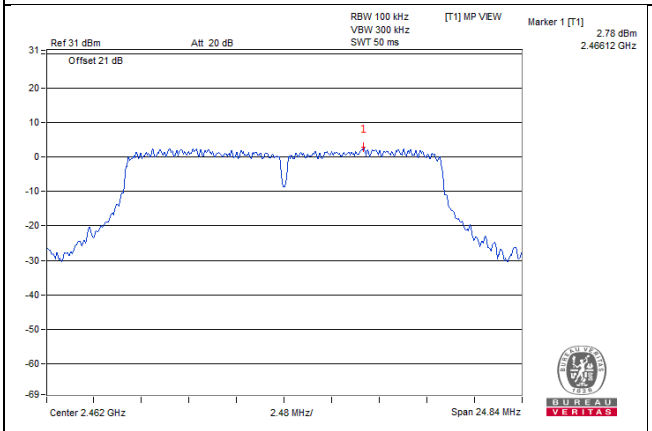


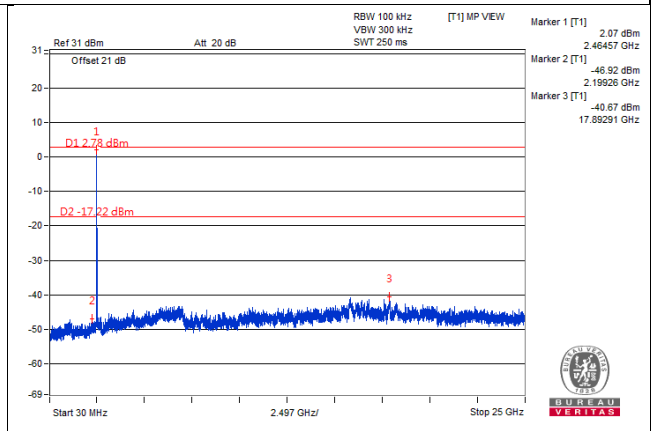
CH 6



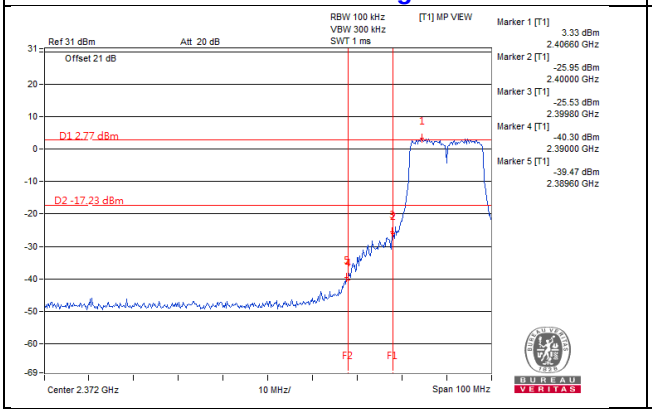


CH 11

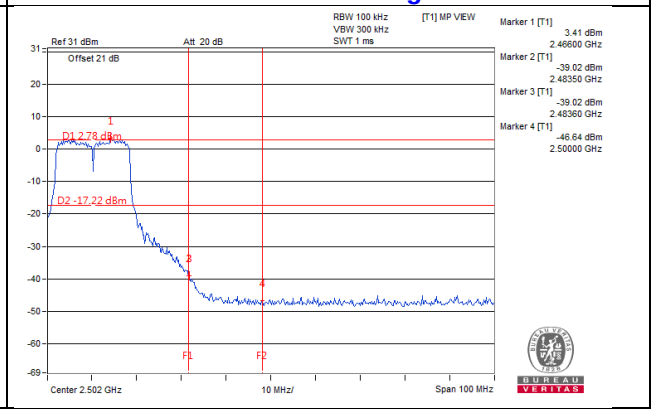




CH 1 Band edge

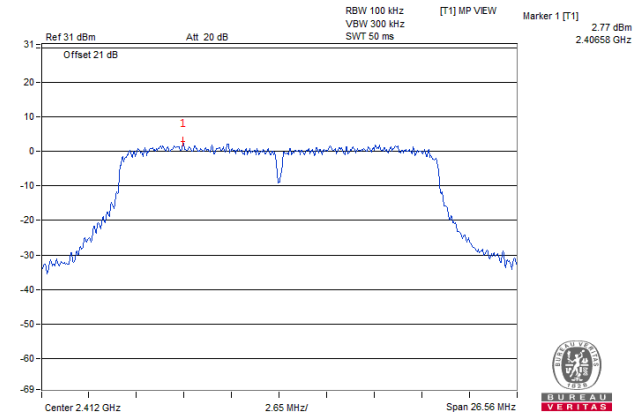


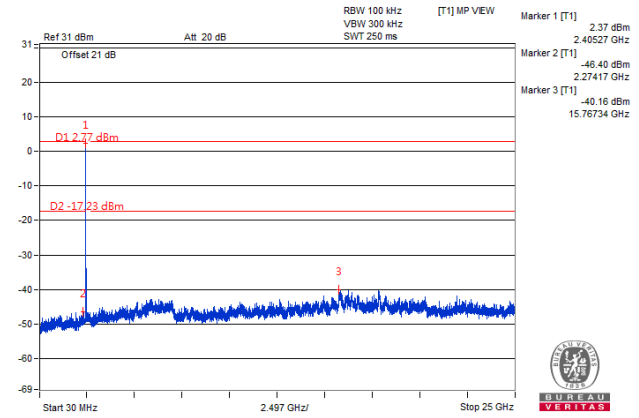
CH 11 Band edge



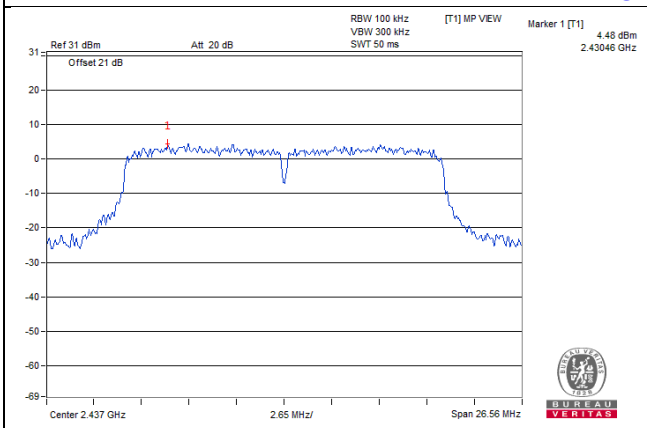
802.11n (HT20)
CHAIN 0

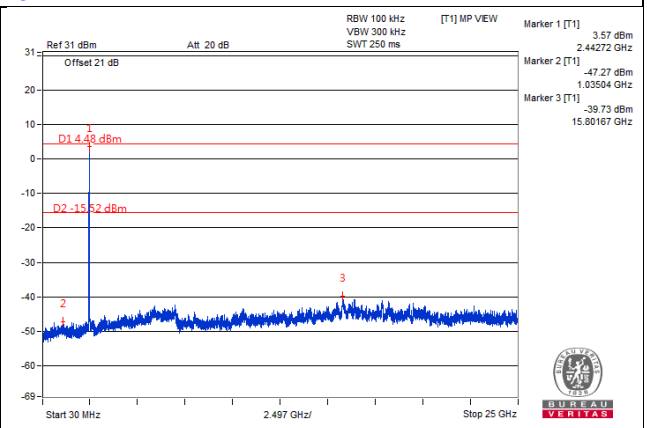
CH 1



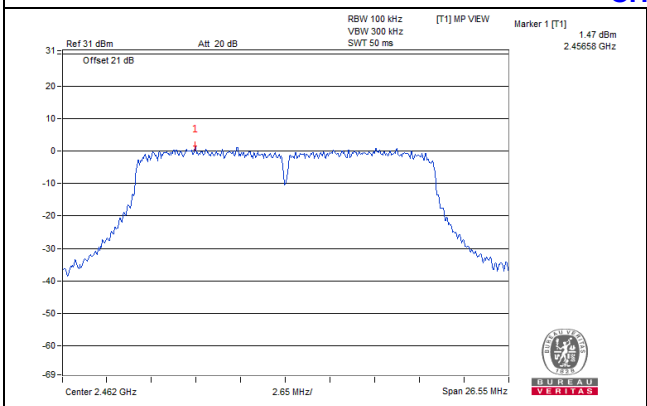


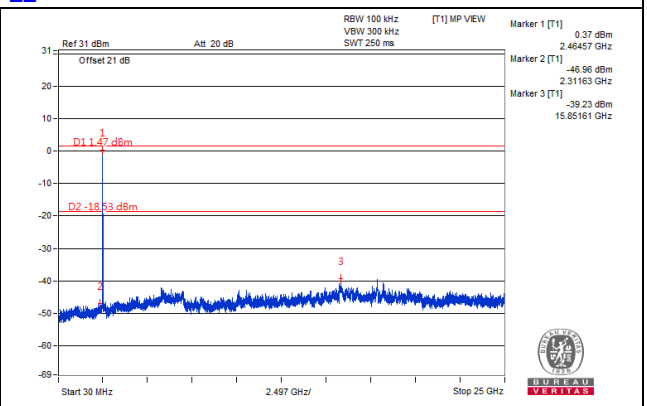
CH 6



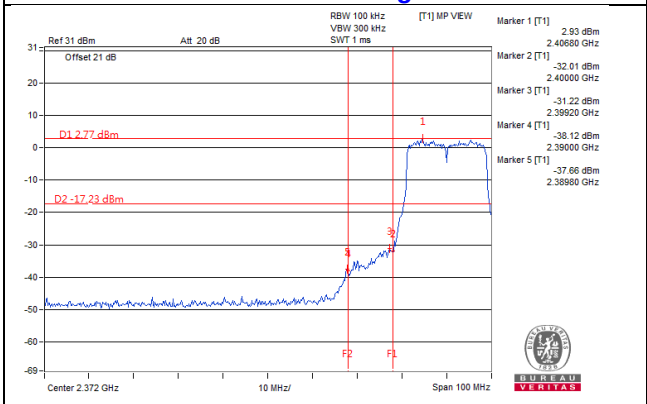


CH 11

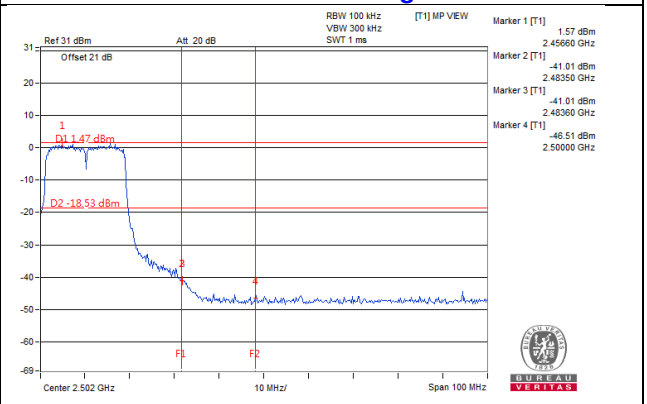




CH 1 Band edge

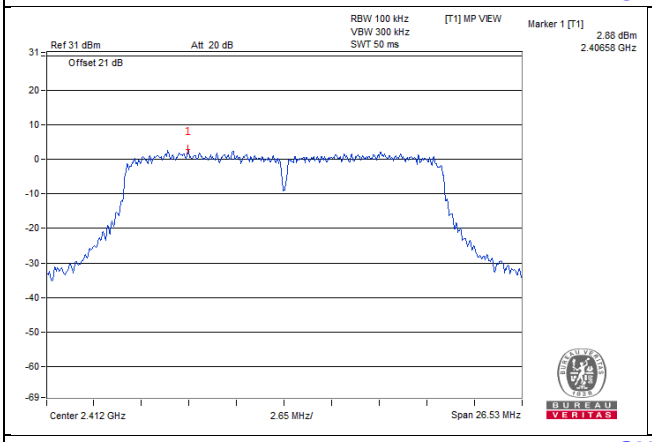


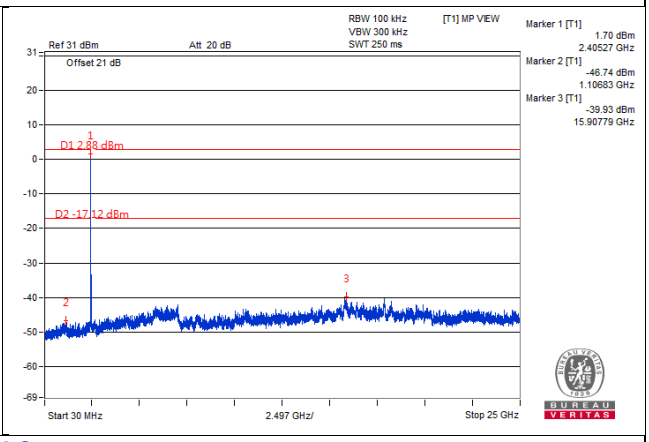
CH 11 Band edge



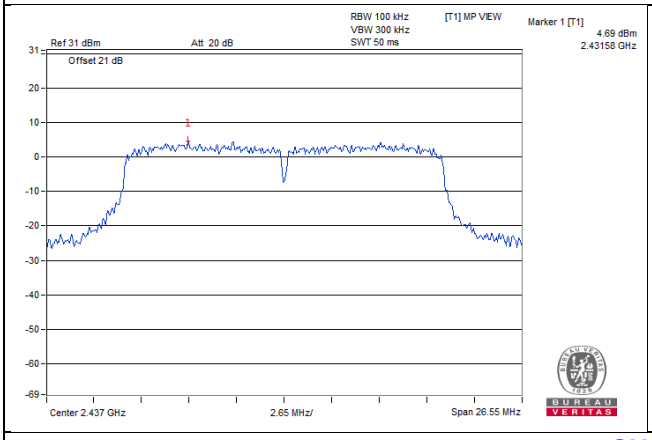
CHAIN 1

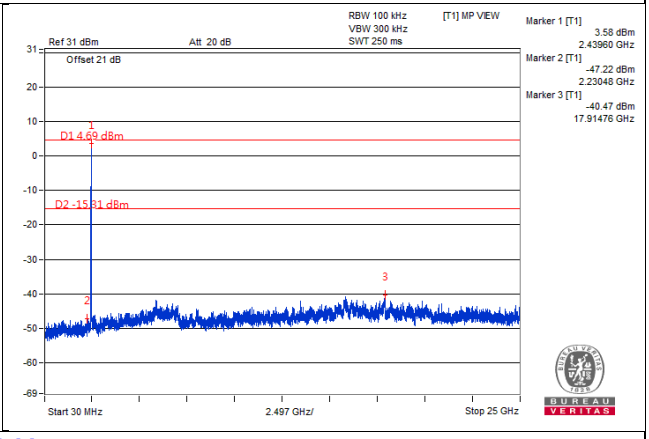
CH 1



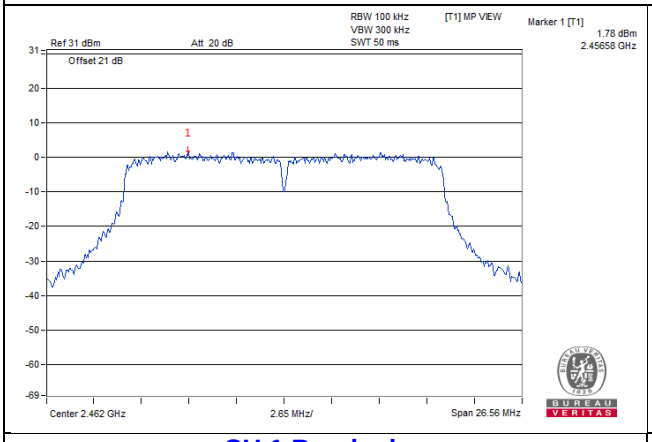


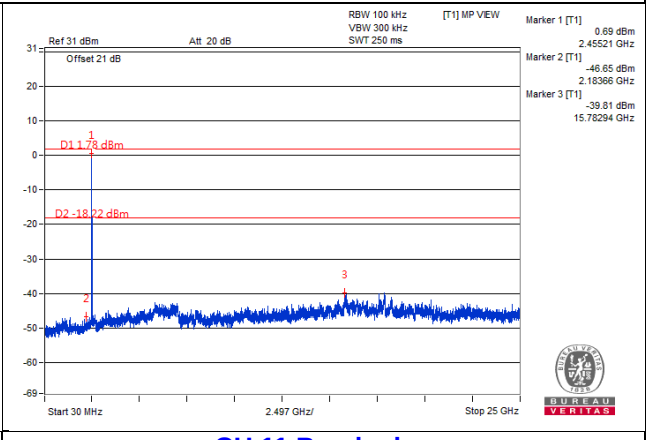
CH 6



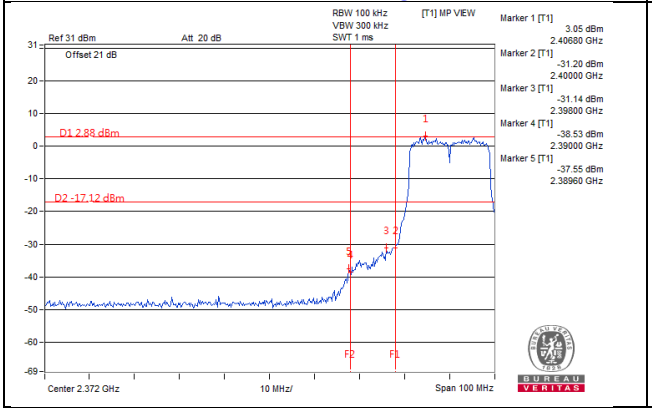


CH 11





CH 1 Band edge



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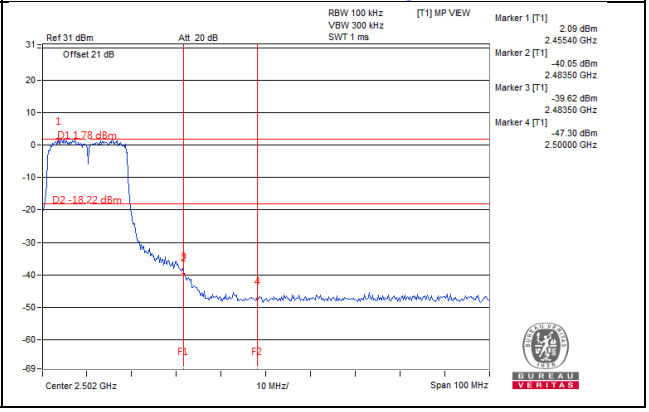
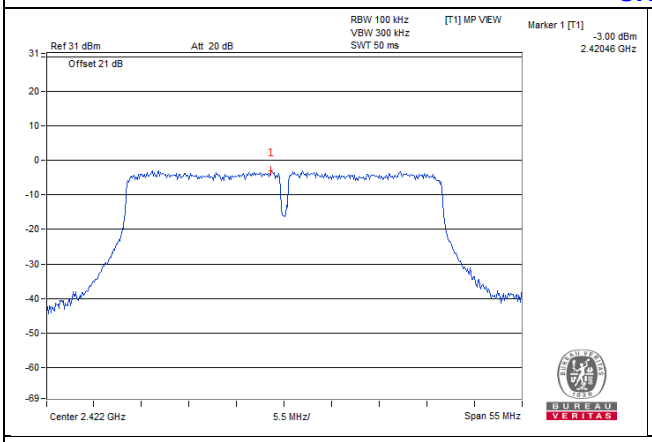
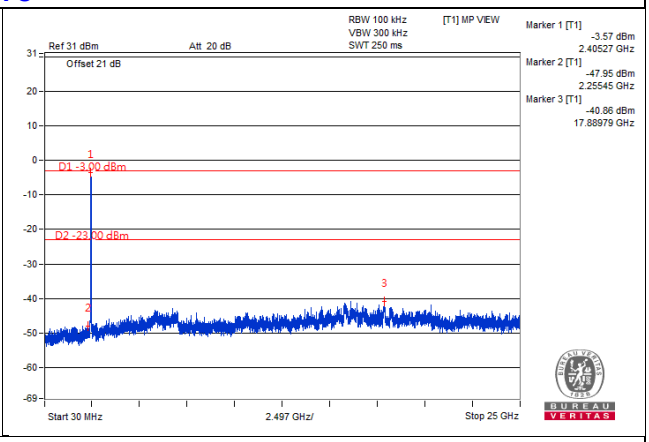


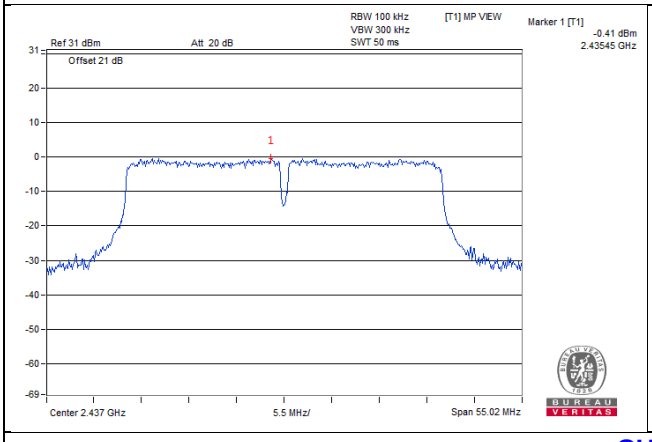
802.11n (HT40)
CHAIN 0

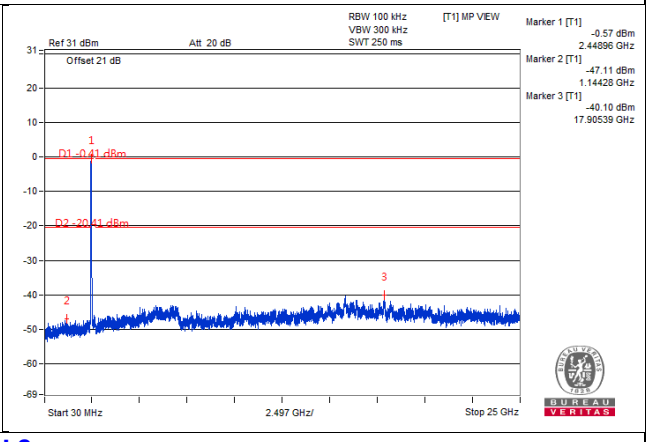
CH 3



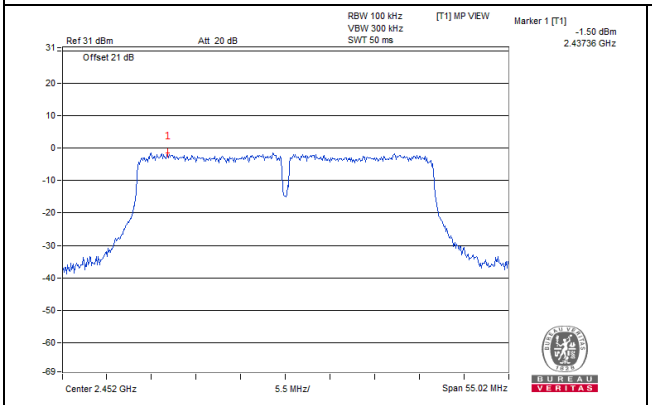


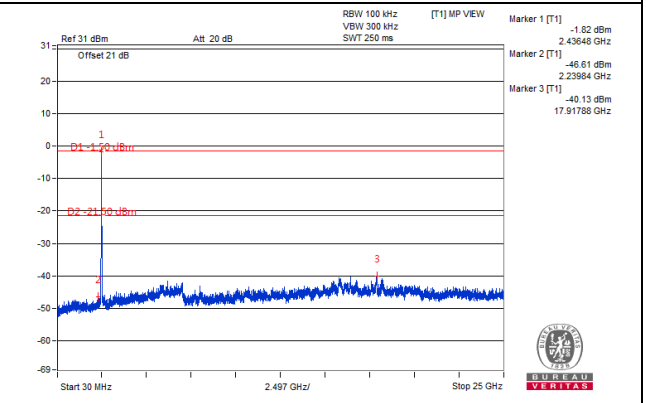
CH 6



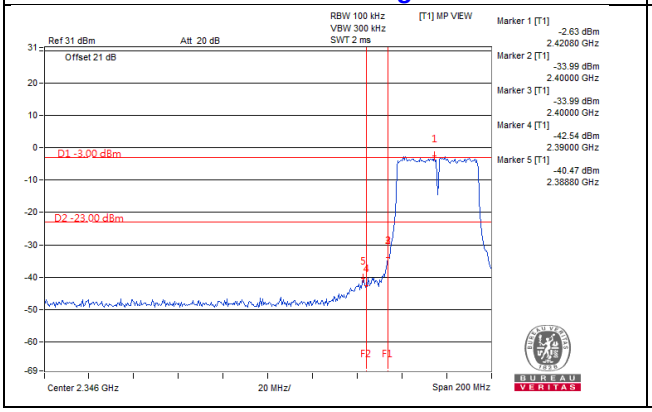


CH 9

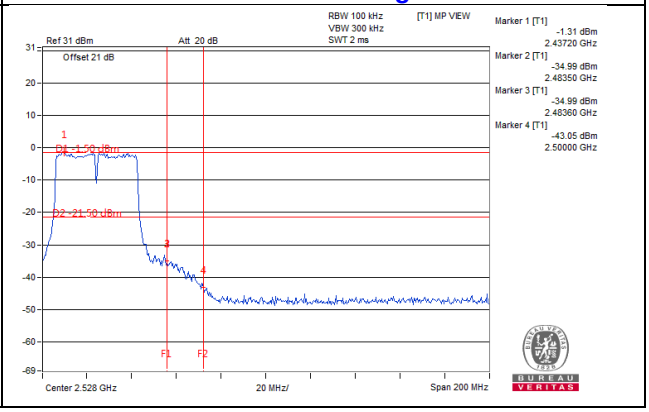




CH 3 Band edge

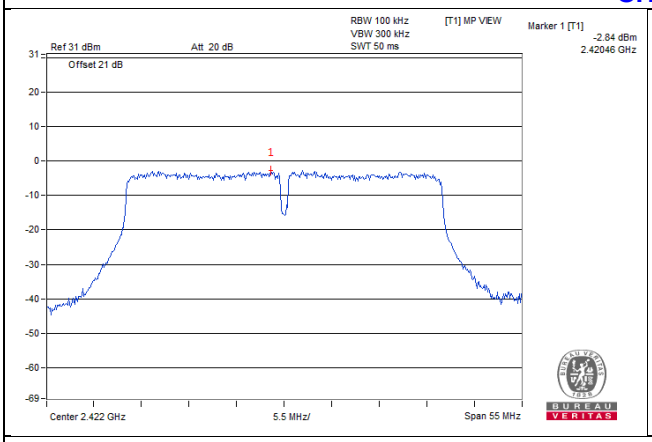


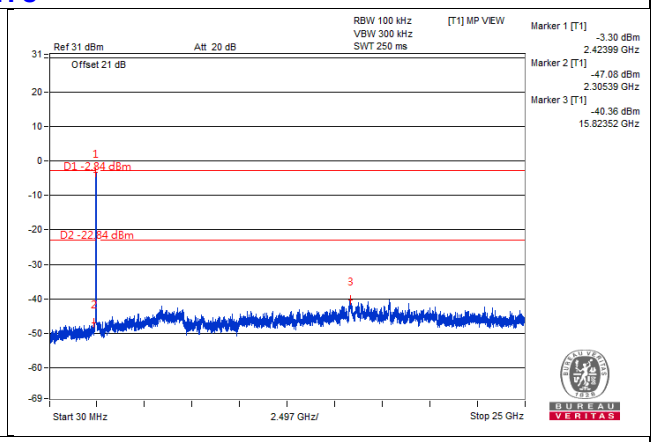
CH 9 Band edge



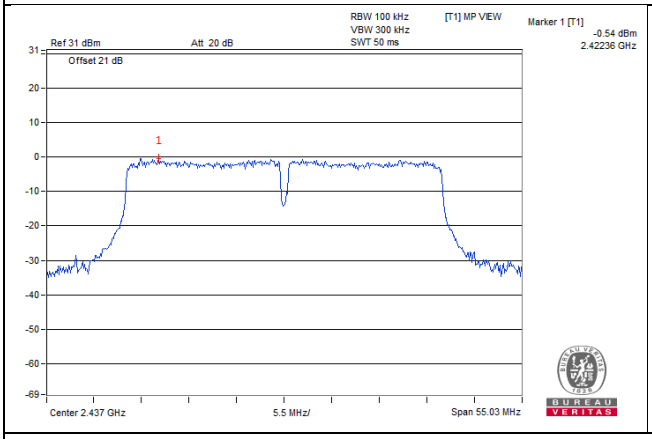
CHAIN 1

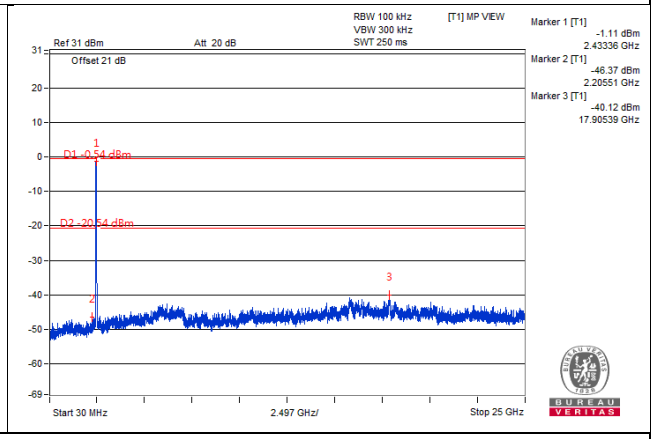
CH 3



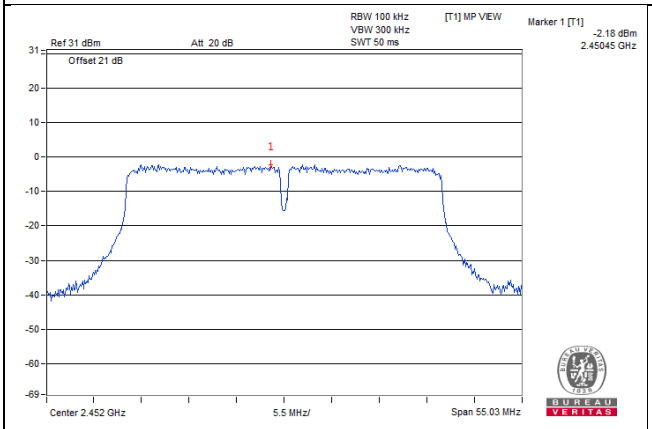


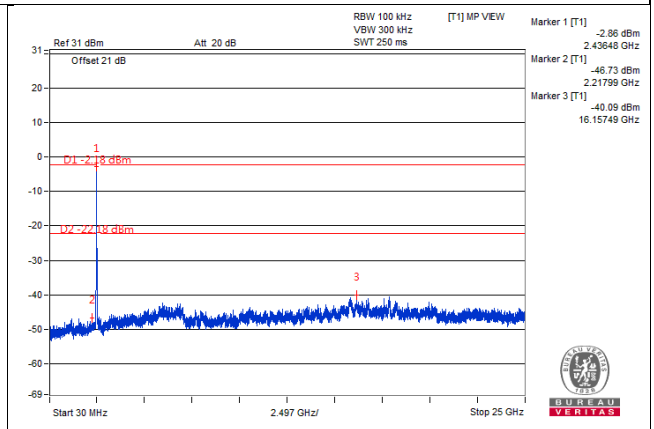
CH 6



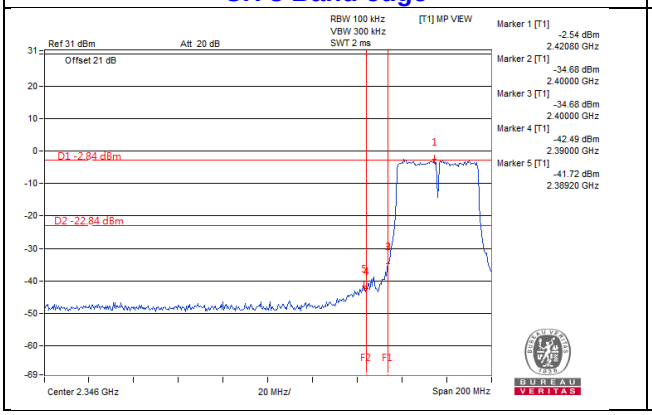


CH 9

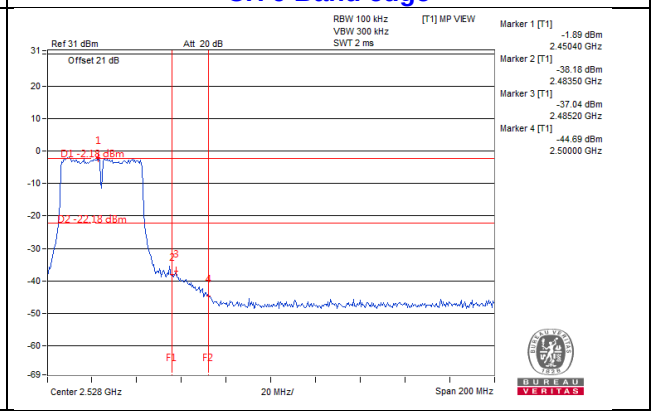




CH 3 Band edge



CH 9 Band edge



5 Pictures of Test Arrangements

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

Appendix – Information of the Testing Laboratories

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

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

Lin Kou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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