FCC Test Report

Report No.:	RF181023C12
FCC ID:	PY318300422
Test Model:	EX7300v2
Series Model:	EX6400v2 (refer to item 3.1 for more details)
Received Date:	Oct. 23, 2018
Test Date:	Oct. 31 ~ Dec. 11, 2018
Issued Date:	Dec. 18, 2018
Applicant:	NETGEAR, INC.
Address:	350 East Plumeria Drive San Jose, CA 95134
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RF181023C12	Original release.	Dec. 18, 2018

1 Certificate of Conformity

Product:	Nighthawk X4 AC2200 WiFi Mesh Extender (refer to item 3.1 for more details)
Brand:	NETGEAR
Test Model:	EX7300v2
Series Model:	EX6400v2 (refer to item 3.1 for more details)
Sample Status:	Engineering sample
Applicant:	NETGEAR, INC.
Test Date:	Oct. 31 ~ Dec. 11, 2018
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10:2013

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

Prepared by : _____ , **Date:** Dec. 18, 2018

Polly Chien / Specialist

Approved by : _____ , **Date:** Dec. 18, 2018

Bruce Chen / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -12.02dB at 0.53672MHz.
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.

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	2.94 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.63 dB
	200MHz ~1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Nighthawk X4 AC2200 WiFi Mesh Extender (refer to note for more details)
Brand	NETGEAR
Test Model	EX7300v2
Series Model	EX6400v2
Model Difference	Refer to Note
Sample Status	Engineering sample
Power Supply Rating	100-240Vac
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 600Mbps
Operating Frequency	2412~2462MHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20): 13 802.11n (HT40): 9
Output Power	**Model: EX7300v2**: 415.816mW **Model: EX6400v2**: 307.423mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. All models are listed as below.

Brand	Product Name	Model	Difference
NETGEAR	Nighthawk X4 AC2200 WiFi Mesh Extender	EX7300v2	The listed models are electrically and mechanically identical. The intention of these models is only for RF output transmit antenna (EX7300v2 2.4G: 4T4R; EX6400v2 2.4G: 3T3R) and different NETGEAR logo (EX7300v2 has silver coating. EX6400v2 has no silver coating) purpose.
	AC1900 WiFi Mesh Extender	EX6400v2	

* For above two model are presented in power output test item. For other test items, model EX7300v2 is the worst case for final tests after pretesting.

2. The EUT incorporates a MIMO function. Physically, the EUT provides 4 completed transmitters and 4 receivers.

Modulation Mode	TX Function	Model
802.11b	4TX	EX7300v2
802.11g	4TX	
802.11n (HT20)	4TX	
802.11n (HT40)	4TX	
802.11b	3TX	EX6400v2
802.11g	3TX	
802.11n (HT20)	3TX	
802.11n (HT40)	3TX	

3. The EUT uses following antennas.

Model: EX6400v2

Ant. Type	PIFA		
Connecter Type	NA		
Antenna Gain (dBi)			
Ant. 1	Ant. 2	Ant. 3	
1.95	1.08	0.82	
Directional Antenna Gain (dBi)			
6.07			

Model: EX7300v2

Ant. Type	PIFA		
Connecter Type	NA		
Antenna Gain (dBi)			
Ant. 1	Ant. 2	Ant. 3	Ant. 4
1.95	1.08	0.82	2.36
Directional Antenna Gain (dBi)			
7.60			

4. The worst case spurious emission of the simultaneous operation mode is listed as below and the test data please refer to BV CPS report no.: RF181023C12-2.

No	Mode
1	WLAN 2.4GHz: 802.11g CH 6 + WLAN 5GHz: 802.11a CH 165

3.2 Description of Test Modes

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

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

7 channels are provided for 802.11n (HT40):

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Model: EX7300v2
B	-	-	-	√	Model: EX6400v2

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 3 axis. The worst case was found when positioned on **X-plane**.
2. "-": Means no effect.

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.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)	Remark
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	4TX
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	4TX
	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	4TX
	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0	4TX

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.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)	Remark
A	802.11g	1 to 11	6	OFDM	BPSK	6.0	4TX

Power Line Conducted Emission Test:

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

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

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)	Remark
A	802.11g	1 to 11	6	OFDM	BPSK	6.0	4TX

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

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

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

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)	Remark
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	4TX
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	4TX
	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	4TX
	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0	4TX
B	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	3TX
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	3TX
	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	3TX
	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0	3TX

*Mode B is presented in output power test item only.

Test Condition:

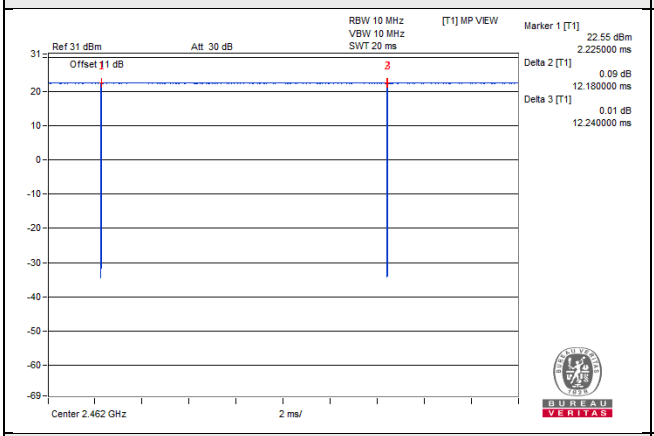
Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	25deg. C, 69%RH 25deg. C, 70%RH	120Vac, 60Hz	Noah Chang
RE<1G	25deg. C, 71%RH	120Vac, 60Hz	Noah Chang
PLC	25deg. C, 71%RH 25deg. C, 75%RH	120Vac, 60Hz	Noah Chang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Alan Wu

3.3 Duty Cycle of Test Signal

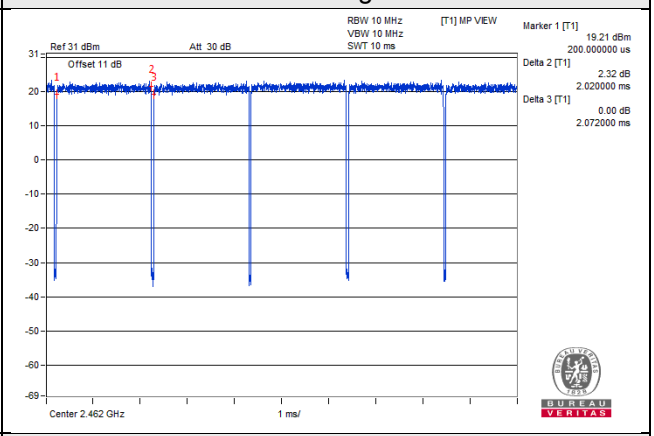
Duty cycle of test signal is ≥ 98%, duty factor is not required.
Duty cycle of test signal is < 98%, duty factor is required.

802.11b: Duty cycle = 12.180/12.240 = 0.995
802.11g: Duty cycle = 2.020/2.072 = 0.975, Duty factor = 10 * log (1/0.975) = 0.11
802.11n (HT20): Duty cycle = 1.882/1.954 = 0.963, Duty factor = 10 * log (1/0.963) = 0.16
802.11n (HT40): Duty cycle = 0.925/0.975 = 0.949, Duty factor = 10 * log (1/0.949) = 0.23

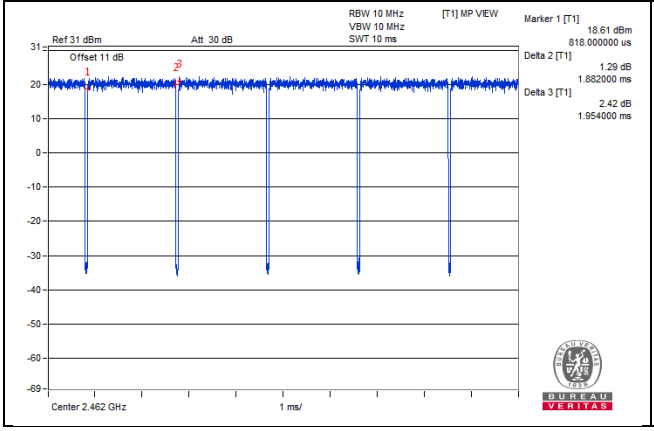
802.11b



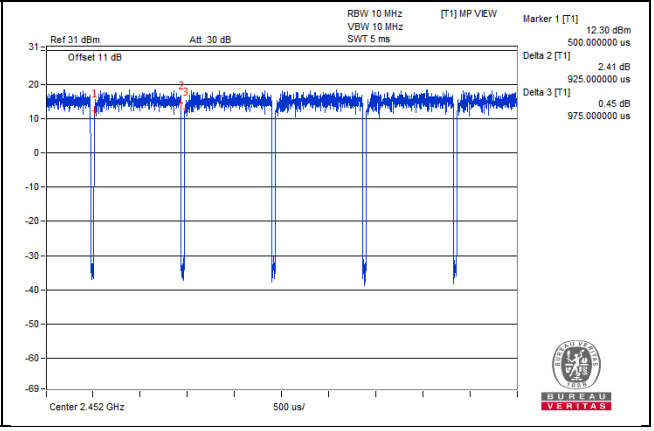
802.11g



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.

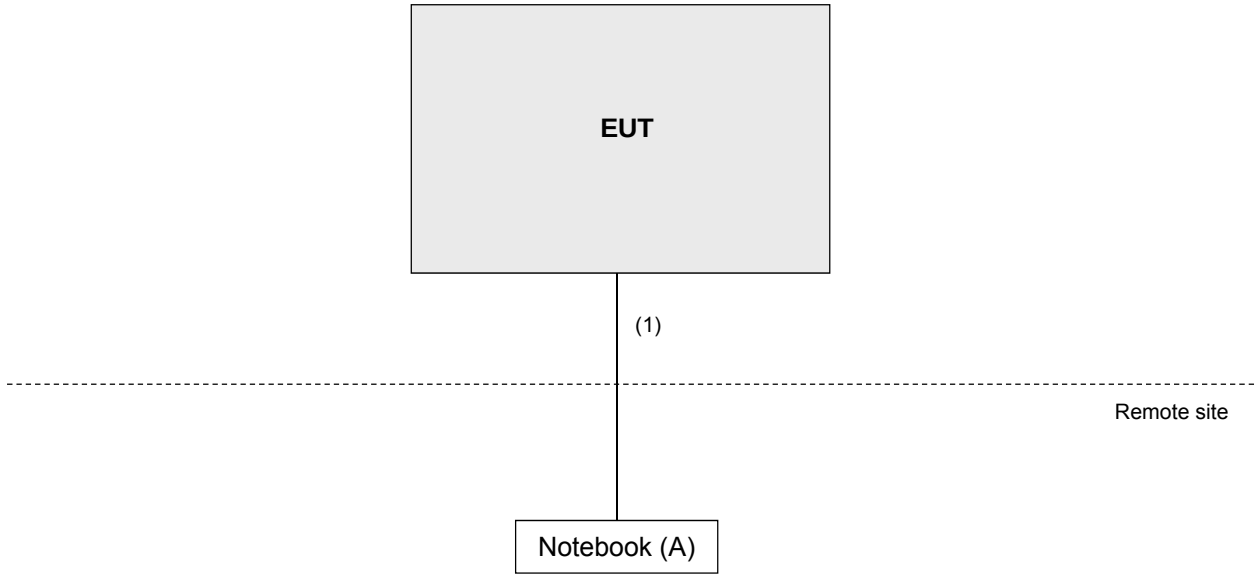
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45, Cat5e	1	6	N	0	-

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 v05
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 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

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 29, 2018	May 28, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 25, 2018	Sep. 24, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Nov. 21, 2018	Dec. 20, 2019
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Dec. 13, 2017	Dec. 12, 2018
			Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 01, 2017	Nov. 30, 2018
			Nov. 25, 2018	Nov. 24, 2019
Loop Antenna TESEQ	HLA 6121	45745	Jun. 14, 2018	Jun. 13, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2018	Aug. 07, 2019
Preamplifier KEYSIGHT (Above 1GHz)	83017A	MY53270295	Jul. 02, 2018	Jul. 01, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 08, 2018	Aug. 07, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 08, 2018	Aug. 07, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/MY55190007/MY55210005	Jul. 17, 2018	Jul. 16, 2019

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 4.
3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
4. The IC Site Registration No. is 7450F-4.

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 detect 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:

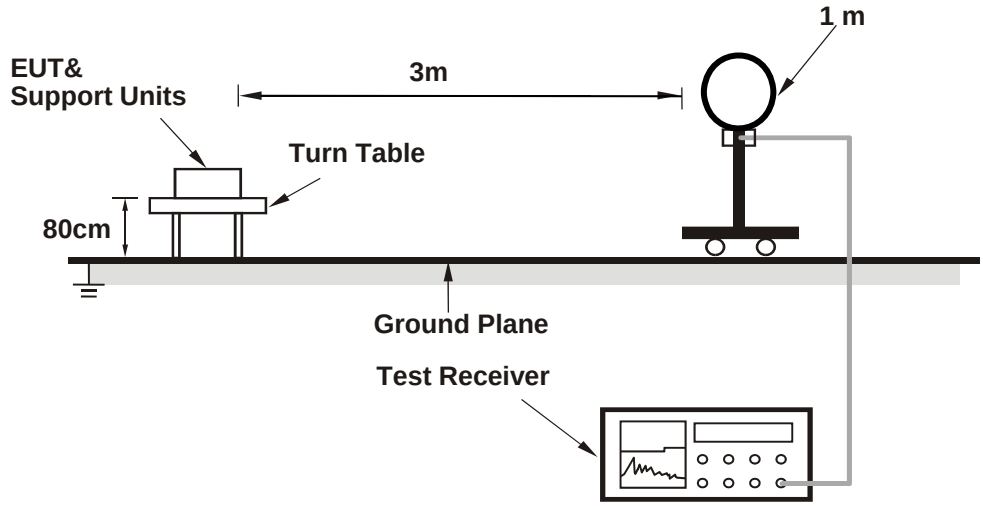
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10 Hz (Duty cycle ≥ 98%) for Peak detection 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

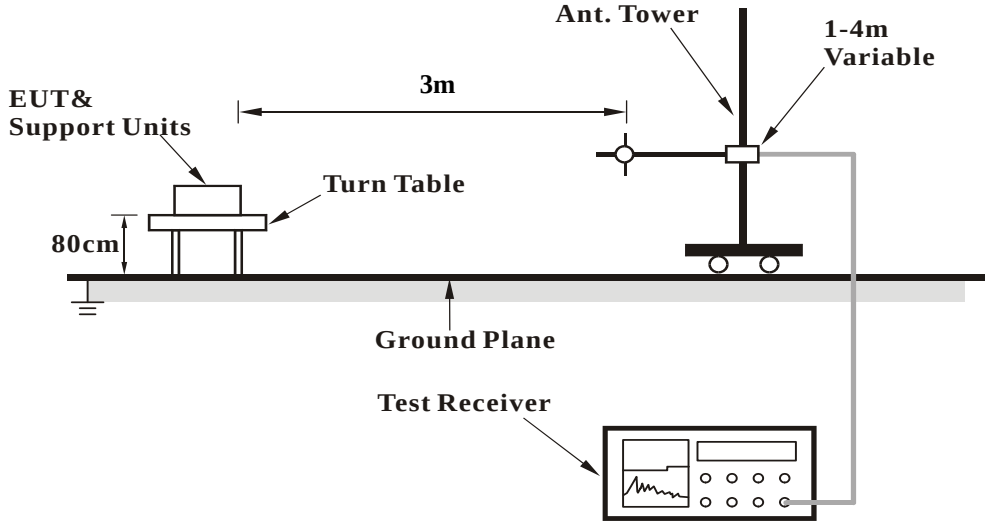
No deviation.

4.1.5 Test Set Up

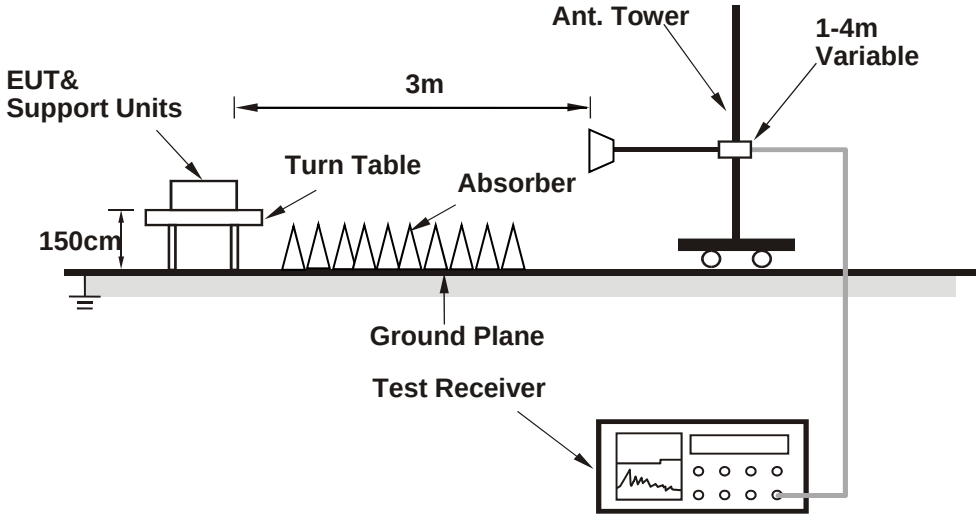
For Radiated emission below 30MHz



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. Placed the EUT on the testing table.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".
e. The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz worst-case 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	58.7 PK	74.0	-15.3	1.09 H	9	25.4	33.3
2	2390.00	48.0 AV	54.0	-6.0	1.09 H	9	14.7	33.3
3	*2412.00	107.1 PK			1.09 H	9	73.7	33.4
4	*2412.00	103.4 AV			1.09 H	9	70.0	33.4
5	4824.00	55.3 PK	74.0	-18.7	2.15 H	18	42.7	12.6
6	4824.00	50.8 AV	54.0	-3.2	2.15 H	18	38.2	12.6
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	57.9 PK	74.0	-16.1	1.00 V	282	24.6	33.3
2	2390.00	48.1 AV	54.0	-5.9	1.00 V	282	14.8	33.3
3	*2412.00	110.8 PK			1.00 V	282	77.4	33.4
4	*2412.00	106.9 AV			1.00 V	282	73.5	33.4
5	4824.00	57.5 PK	74.0	-16.5	3.15 V	316	44.9	12.6
6	4824.00	53.8 AV	54.0	-0.2	3.15 V	316	41.2	12.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	107.7 PK			1.08 H	11	74.3	33.4
2	*2437.00	104.9 AV			1.08 H	11	71.5	33.4
3	4874.00	52.9 PK	74.0	-21.1	3.05 H	333	40.5	12.4
4	4874.00	48.4 AV	54.0	-5.6	3.05 H	333	36.0	12.4
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	*2437.00	109.4 PK			1.00 V	108	76.0	33.4
2	*2437.00	105.7 AV			1.00 V	108	72.3	33.4
3	4874.00	54.9 PK	74.0	-19.1	3.06 V	345	42.5	12.4
4	4874.00	50.4 AV	54.0	-3.6	3.06 V	345	38.0	12.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	110.2 PK			1.08 H	15	76.7	33.5
2	*2462.00	106.4 AV			1.08 H	15	72.9	33.5
3	2483.50	58.3 PK	74.0	-15.7	1.08 H	15	24.8	33.5
4	2483.50	47.0 AV	54.0	-7.0	1.08 H	15	13.5	33.5
5	4924.00	52.9 PK	74.0	-21.1	2.56 H	245	40.5	12.4
6	4924.00	48.6 AV	54.0	-5.4	2.56 H	245	36.2	12.4
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	*2462.00	112.2 PK			1.00 V	76	78.7	33.5
2	*2462.00	108.4 AV			1.00 V	76	74.9	33.5
3	2483.50	58.4 PK	74.0	-15.6	1.00 V	76	24.9	33.5
4	2483.50	47.5 AV	54.0	-6.5	1.00 V	76	14.0	33.5
5	4924.00	54.3 PK	74.0	-19.7	2.62 V	333	41.9	12.4
6	4924.00	49.9 AV	54.0	-4.1	2.62 V	333	37.5	12.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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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	66.0 PK	74.0	-8.0	1.00 H	238	32.7	33.3
2	2390.00	51.7 AV	54.0	-2.3	1.00 H	238	18.4	33.3
3	*2412.00	109.8 PK			1.00 H	238	76.4	33.4
4	*2412.00	100.7 AV			1.00 H	238	67.3	33.4
5	4824.00	53.1 PK	74.0	-20.9	1.75 H	124	40.5	12.6
6	4824.00	40.1 AV	54.0	-13.9	1.75 H	124	27.5	12.6
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	70.8 PK	74.0	-3.2	1.00 V	183	37.5	33.3
2	2390.00	53.5 AV	54.0	-0.5	1.00 V	183	20.2	33.3
3	*2412.00	110.4 PK			1.00 V	183	77.0	33.4
4	*2412.00	100.9 AV			1.00 V	183	67.5	33.4
5	4824.00	53.8 PK	74.0	-20.2	1.88 V	355	41.2	12.6
6	4824.00	40.8 AV	54.0	-13.2	1.88 V	355	28.2	12.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	110.9 PK			1.21 H	233	77.5	33.4
2	*2437.00	100.9 AV			1.21 H	233	67.5	33.4
3	4874.00	52.9 PK	74.0	-21.1	2.14 H	239	40.5	12.4
4	4874.00	39.5 AV	54.0	-14.5	2.14 H	239	27.1	12.4
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	*2437.00	116.9 PK			1.67 V	278	83.5	33.4
2	*2437.00	106.8 AV			1.67 V	278	73.4	33.4
3	4874.00	53.5 PK	74.0	-20.5	2.61 V	322	41.1	12.4
4	4874.00	40.5 AV	54.0	-13.5	2.61 V	322	28.1	12.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	108.5 PK			3.49 H	5	75.0	33.5
2	*2462.00	98.6 AV			3.49 H	5	65.1	33.5
3	2483.50	68.4 PK	74.0	-5.6	3.49 H	5	34.9	33.5
4	2483.50	52.6 AV	54.0	-1.4	3.49 H	5	19.1	33.5
5	4924.00	52.9 PK	74.0	-21.1	1.58 H	153	40.5	12.4
6	4924.00	39.5 AV	54.0	-14.5	1.58 H	153	27.1	12.4
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	*2462.00	109.9 PK			1.00 V	195	76.4	33.5
2	*2462.00	101.0 AV			1.00 V	195	67.5	33.5
3	2483.50	71.3 PK	74.0	-2.7	1.00 V	195	37.8	33.5
4	2483.50	53.6 AV	54.0	-0.4	1.00 V	195	20.1	33.5
5	4924.00	53.6 PK	74.0	-20.4	2.11 V	322	41.2	12.4
6	4924.00	39.9 AV	54.0	-14.1	2.11 V	322	27.5	12.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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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	66.0 PK	74.0	-8.0	1.00 H	2	32.7	33.3
2	2390.00	52.1 AV	54.0	-1.9	1.00 H	2	18.8	33.3
3	*2412.00	107.3 PK			1.00 H	2	73.9	33.4
4	*2412.00	98.7 AV			1.00 H	2	65.3	33.4
5	4824.00	51.6 PK	74.0	-22.4	1.99 H	245	39.0	12.6
6	4824.00	40.1 AV	54.0	-13.9	1.99 H	245	27.5	12.6
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	67.1 PK	74.0	-6.9	1.02 V	282	33.8	33.3
2	2390.00	53.7 AV	54.0	-0.3	1.02 V	282	20.4	33.3
3	*2412.00	111.1 PK			1.02 V	282	77.7	33.4
4	*2412.00	101.5 AV			1.02 V	282	68.1	33.4
5	4824.00	51.9 PK	74.0	-22.1	1.94 V	355	39.3	12.6
6	4824.00	40.7 AV	54.0	-13.3	1.94 V	355	28.1	12.6

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	109.9 PK			1.22 H	15	76.5	33.4
2	*2437.00	99.8 AV			1.22 H	15	66.4	33.4
3	4874.00	52.2 PK	74.0	-21.8	2.55 H	278	39.8	12.4
4	4874.00	39.2 AV	54.0	-14.8	2.55 H	278	26.8	12.4
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	*2437.00	113.9 PK			1.30 V	281	80.5	33.4
2	*2437.00	103.8 AV			1.30 V	281	70.4	33.4
3	4874.00	52.6 PK	74.0	-21.4	2.66 V	321	40.2	12.4
4	4874.00	40.0 AV	54.0	-14.0	2.66 V	321	27.6	12.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	109.3 PK			1.21 H	101	75.8	33.5
2	*2462.00	100.0 AV			1.21 H	101	66.5	33.5
3	2483.50	65.0 PK	74.0	-9.0	1.21 H	101	31.5	33.5
4	2483.50	52.0 AV	54.0	-2.0	1.21 H	101	18.5	33.5
5	4924.00	52.5 PK	74.0	-21.5	2.11 H	269	40.1	12.4
6	4924.00	38.9 AV	54.0	-15.1	2.11 H	269	26.5	12.4
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	*2462.00	113.3 PK			1.00 V	182	79.8	33.5
2	*2462.00	104.0 AV			1.00 V	182	70.5	33.5
3	2483.50	68.0 PK	74.0	-6.0	1.00 V	182	34.5	33.5
4	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**1.00 V**	**182**	**20.4**	**33.5**
5	4924.00	53.2 PK	74.0	-20.8	2.51 V	322	40.8	12.4
6	4924.00	39.2 AV	54.0	-14.8	2.51 V	322	26.8	12.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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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	62.7 PK	74.0	-11.3	2.72 H	2	29.4	33.3
2	2390.00	50.0 AV	54.0	-4.0	2.72 H	2	16.7	33.3
3	*2422.00	102.5 PK			2.72 H	2	69.1	33.4
4	*2422.00	93.2 AV			2.72 H	2	59.8	33.4
5	2483.50	57.8 PK	74.0	-16.2	2.72 H	2	24.3	33.5
6	2483.50	45.2 AV	54.0	-8.8	2.72 H	2	11.7	33.5
7	4844.00	51.1 PK	74.0	-22.9	1.55 H	242	38.6	12.5
8	4844.00	37.0 AV	54.0	-17.0	1.55 H	242	24.5	12.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.3 PK	74.0	-7.7	1.00 V	5	33.0	33.3
2	2390.00	53.6 AV	54.0	-0.4	1.00 V	5	20.3	33.3
3	*2422.00	103.0 PK			1.00 V	5	69.6	33.4
4	*2422.00	93.5 AV			1.00 V	5	60.1	33.4
5	2483.50	57.9 PK	74.0	-16.1	1.00 V	5	24.4	33.5
6	2483.50	45.2 AV	54.0	-8.8	1.00 V	5	11.7	33.5
7	4844.00	50.5 PK	74.0	-23.5	1.56 V	188	38.0	12.5
8	4844.00	37.4 AV	54.0	-16.6	1.56 V	188	24.9	12.5

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	2390.00	65.2 PK	74.0	-8.8	2.42 H	1	31.9	33.3
2	2390.00	50.5 AV	54.0	-3.5	2.42 H	1	17.2	33.3
3	*2437.00	108.2 PK			2.42 H	1	74.8	33.4
4	*2437.00	97.9 AV			2.42 H	1	64.5	33.4
5	2483.50	64.8 PK	74.0	-9.2	2.42 H	1	31.3	33.5
6	2483.50	49.9 AV	54.0	-4.1	2.42 H	1	16.4	33.5
7	4874.00	49.5 PK	74.0	-24.5	1.44 H	212	37.1	12.4
8	4874.00	37.4 AV	54.0	-16.6	1.44 H	212	25.0	12.4
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	67.0 PK	74.0	-7.0	1.19 V	104	33.7	33.3
2	2390.00	53.6 AV	54.0	-0.4	1.19 V	104	20.3	33.3
3	*2437.00	107.8 PK			1.19 V	104	74.4	33.4
4	*2437.00	98.3 AV			1.19 V	104	64.9	33.4
5	2483.50	65.4 PK	74.0	-8.6	1.19 V	104	31.9	33.5
6	2483.50	51.0 AV	54.0	-3.0	1.19 V	104	17.5	33.5
7	4874.00	49.7 PK	74.0	-24.3	2.56 V	233	37.3	12.4
8	4874.00	37.5 AV	54.0	-16.5	2.56 V	233	25.1	12.4

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	2390.00	57.4 PK	74.0	-16.6	1.82 H	239	24.1	33.3
2	2390.00	45.2 AV	54.0	-8.8	1.82 H	239	11.9	33.3
3	*2452.00	103.5 PK			1.82 H	239	70.1	33.4
4	*2452.00	94.6 AV			1.82 H	239	61.2	33.4
5	2483.50	65.0 PK	74.0	-9.0	1.82 H	239	31.5	33.5
6	2483.50	51.5 AV	54.0	-2.5	1.82 H	239	18.0	33.5
7	4904.00	52.6 PK	74.0	-21.4	2.44 H	15	40.1	12.5
8	4904.00	37.7 AV	54.0	-16.3	2.44 H	15	25.2	12.5
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	57.1 PK	74.0	-16.9	1.00 V	187	23.8	33.3
2	2390.00	45.3 AV	54.0	-8.7	1.00 V	187	12.0	33.3
3	*2452.00	106.7 PK			1.00 V	187	73.3	33.4
4	*2452.00	97.4 AV			1.00 V	187	64.0	33.4
5	2483.50	66.6 PK	74.0	-7.4	1.00 V	187	33.1	33.5
6	2483.50	53.7 AV	54.0	-0.3	1.00 V	187	20.2	33.5
7	4904.00	53.0 PK	74.0	-21.0	2.55 V	311	40.5	12.5
8	4904.00	38.1 AV	54.0	-15.9	2.55 V	311	25.6	12.5

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

Below 1GHz worst-case data:

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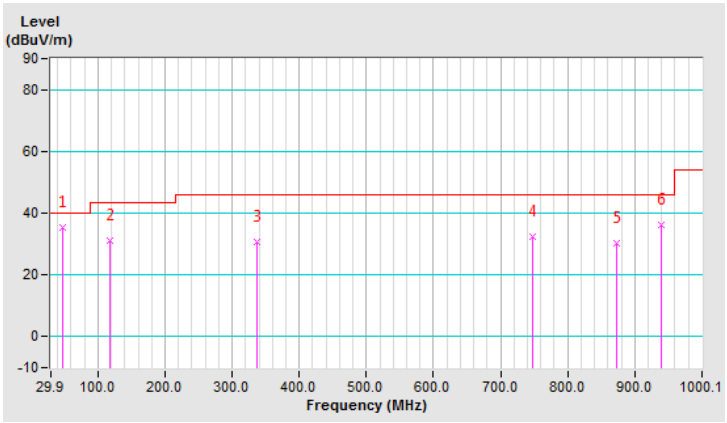
CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	47.36	35.4 QP	40.0	-4.6	1.50 H	114	44.1	-8.7
2	117.22	31.0 QP	43.5	-12.5	1.00 H	293	42.3	-11.3
3	336.48	30.8 QP	46.0	-15.2	1.00 H	51	38.1	-7.3
4	747.85	32.2 QP	46.0	-13.8	2.00 H	279	31.2	1.0
5	872.03	30.4 QP	46.0	-15.6	1.00 H	18	27.3	3.1
6	939.95	36.2 QP	46.0	-9.8	1.00 H	200	32.0	4.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
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

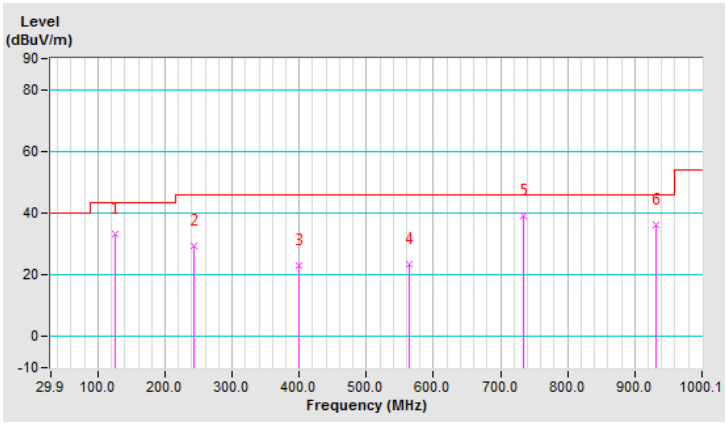


CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	124.98	33.4 QP	43.5	-10.1	1.50 V	315	44.0	-10.6
2	243.34	29.3 QP	46.0	-16.8	1.00 V	9	39.2	-9.9
3	400.52	23.2 QP	46.0	-22.8	1.00 V	344	29.7	-6.5
4	563.51	23.3 QP	46.0	-22.7	1.00 V	5	27.1	-3.7
5	734.27	39.2 QP	46.0	-6.8	1.00 V	155	38.6	0.7
6	932.19	36.1 QP	46.0	-9.9	1.00 V	209	32.0	4.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
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.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS30	100291	Sep. 03, 2018	Sep. 02, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 26, 2018	Feb. 25, 2019
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-2040.

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.

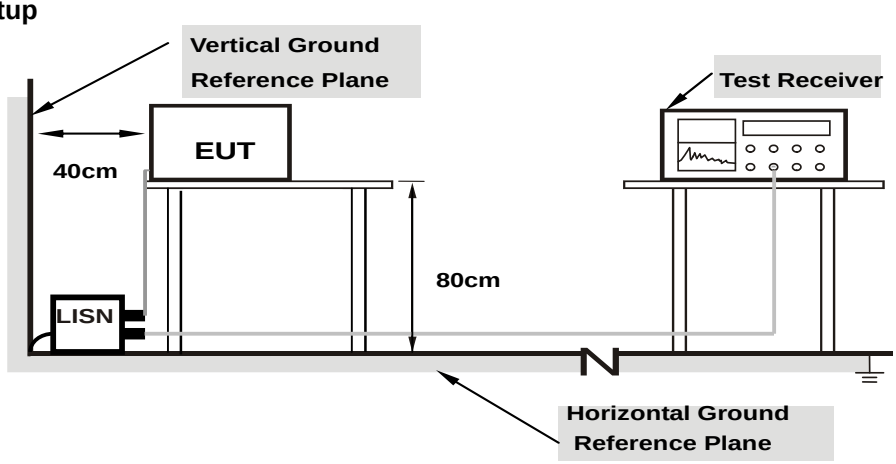
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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 item 4.3.6.

4.2.7 Test Results

Worst-case data:

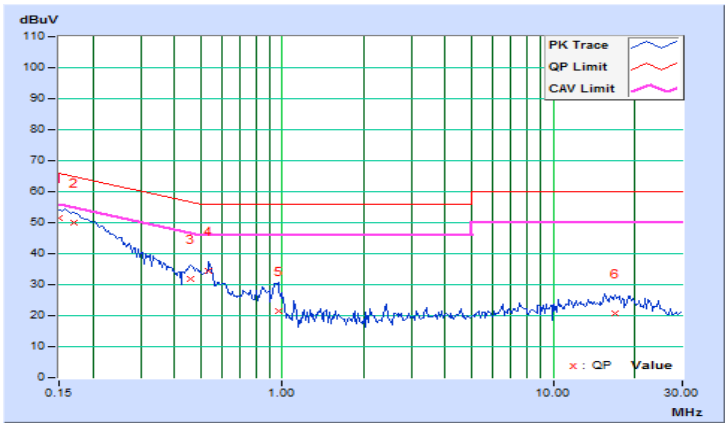
802.11g

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

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.67	41.76	25.62	51.43	35.29	66.00	56.00	-14.57	-20.71
2	0.16953	9.67	40.23	25.00	49.90	34.67	64.98	54.98	-15.08	-20.31
3	0.45859	9.66	22.30	9.39	31.96	19.05	56.72	46.72	-24.76	-27.67
4	**0.53672**	**9.66**	**24.78**	**24.32**	**34.44**	**33.98**	**56.00**	**46.00**	**-21.56**	**-12.02**
5	0.96641	9.65	11.95	0.75	21.60	10.40	56.00	46.00	-34.40	-35.60
6	17.02344	9.90	10.96	4.59	20.86	14.49	60.00	50.00	-39.14	-35.51

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.

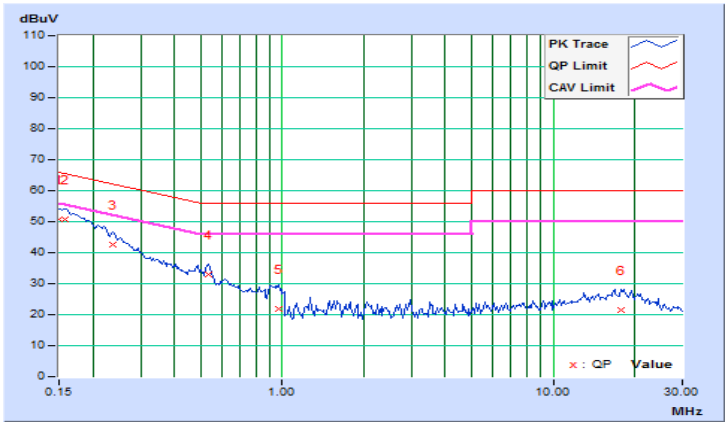


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.68	40.99	25.42	50.67	35.10	66.00	56.00	-15.33	-20.90
2	0.15781	9.68	41.00	25.53	50.68	35.21	65.58	55.58	-14.90	-20.37
3	0.23594	9.67	32.85	18.55	42.52	28.22	62.24	52.24	-19.72	-24.02
4	0.53672	9.67	23.29	14.83	32.96	24.50	56.00	46.00	-23.04	-21.50
5	0.97031	9.65	12.24	1.25	21.89	10.90	56.00	46.00	-34.11	-35.10
6	17.83984	9.98	11.40	6.36	21.38	16.34	60.00	50.00	-38.62	-33.66

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.

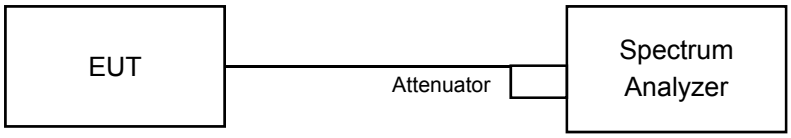


4.3 6dB Bandwidth Measurement

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	Chain 3		
1	2412	7.12	7.07	7.09	7.07	0.5	Pass
6	2437	7.14	6.62	7.10	7.10	0.5	Pass
11	2462	7.11	7.07	7.13	7.09	0.5	Pass

802.11g

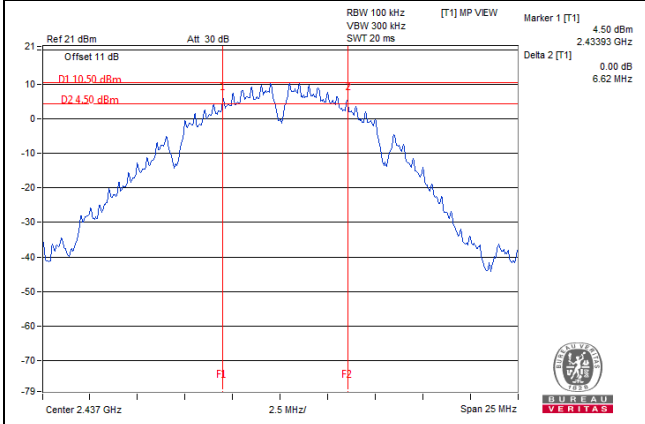
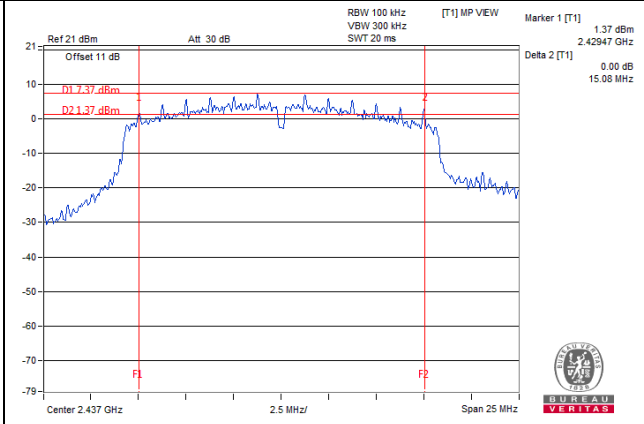
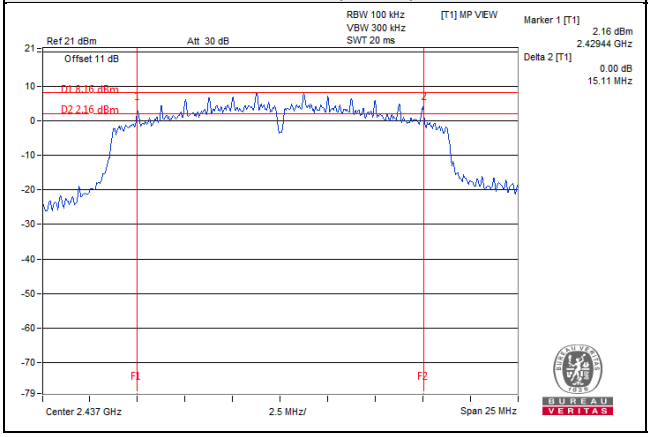
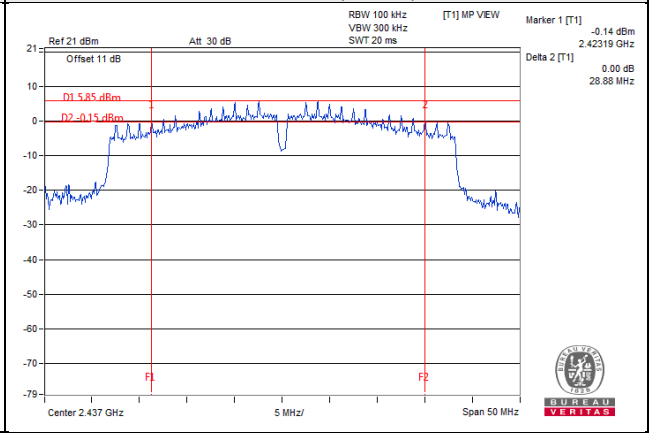
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	15.14	15.14	15.14	15.14	0.5	Pass
6	2437	15.13	15.08	15.14	15.13	0.5	Pass
11	2462	15.12	15.14	15.16	15.13	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	15.15	15.16	15.15	15.14	0.5	Pass
6	2437	15.16	15.11	15.16	15.14	0.5	Pass
11	2462	15.18	15.13	15.16	15.14	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
3	2422	30.12	31.34	32.61	31.37	0.5	Pass
6	2437	30.11	33.81	30.07	28.88	0.5	Pass
9	2452	32.62	33.91	31.32	30.12	0.5	Pass

Spectrum Plot of Worst Value	
802.11b	802.11g
	
802.11n (HT20)	802.11n (HT40)
	

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

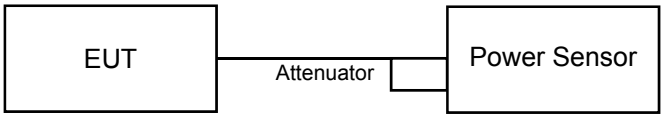
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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

Mode A: EX7300v2

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	20.21	19.70	20.38	20.35	**415.816**	26.19	30	Pass
6	2437	20.19	19.65	20.08	20.21	403.542	26.06	30	Pass
11	2462	20.39	19.21	19.78	20.47	399.253	26.01	30	Pass

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	17.78	17.01	17.16	17.55	219.098	23.41	30	Pass
6	2437	20.22	19.67	19.90	20.22	400.799	26.03	30	Pass
11	2462	17.13	17.05	17.16	17.23	207.186	23.16	30	Pass

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	16.95	16.01	16.18	16.82	179.026	22.53	30	Pass
6	2437	20.46	19.17	19.87	20.50	403.030	26.05	30	Pass
11	2462	17.34	16.96	17.16	17.30	209.562	23.21	30	Pass

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	14.11	14.06	14.09	14.12	102.699	20.12	30	Pass
6	2437	17.42	16.63	16.91	17.52	206.819	23.16	30	Pass
9	2452	14.40	13.02	13.38	14.46	97.289	19.88	30	Pass

Mode B: EX6400v2

802.11b

Channel	Frequency (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	20.21	19.70	20.38	**307.423**	24.88	30.00	Pass
6	2437	20.19	19.65	20.08	298.588	24.75	30.00	Pass
11	2462	20.39	19.21	19.78	287.824	24.59	30.00	Pass

802.11g

Channel	Frequency (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	17.78	17.01	17.16	162.213	22.10	30.00	Pass
6	2437	20.22	19.67	19.90	295.603	24.71	30.00	Pass
11	2462	17.13	17.05	17.16	154.341	21.88	30.00	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	16.95	16.01	16.18	130.942	21.17	30.00	Pass
6	2437	20.46	19.17	19.87	290.828	24.64	30.00	Pass
11	2462	17.34	16.96	17.16	155.859	21.93	30.00	Pass

802.11n (HT40)

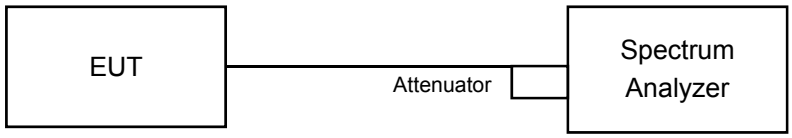
Channel	Frequency (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
3	2422	14.11	14.06	14.09	76.876	18.86	30.00	Pass
6	2437	17.42	16.63	16.91	150.325	21.77	30.00	Pass
9	2452	14.40	13.02	13.38	69.364	18.41	30.00	Pass

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm.

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

For AVG. power (duty cycle ≥ 98%)

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.

For AVG. power (duty cycle < 98%)

a) Measure the duty cycle (x).
b) Set instrument center frequency to DTS channel center frequency.
c) Set span to at least 1.5 times the OBW.
d) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
e) Set VBW ≥3 x RBW.
f) Detector = power averaging (RMS) or sample detector (when RMS not available).
g) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
h) Sweep time = auto couple.
i) Do not use sweep triggering. Allow sweep to “free run”.
j) Employ trace averaging (RMS) mode over a minimum of 100 traces.
k) Use the peak marker function to determine the maximum amplitude level.
l) Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time.

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/10kHz)	10 log (N=4) dB	Total PSD With Duty Factor (dBm/10kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-7.90	6.02	-1.88	6.40	Pass
	6	2437	-7.42	6.02	-1.40	6.40	Pass
	11	2462	-6.73	6.02	-0.71	6.40	Pass
1	1	2412	-8.54	6.02	-2.52	6.40	Pass
	6	2437	-8.78	6.02	-2.76	6.40	Pass
	11	2462	-8.47	6.02	-2.45	6.40	Pass
2	1	2412	-7.58	6.02	-1.56	6.40	Pass
	6	2437	-7.17	6.02	-1.15	6.40	Pass
	11	2462	-7.70	6.02	-1.68	6.40	Pass
3	1	2412	-7.38	6.02	-1.36	6.40	Pass
	6	2437	-7.36	6.02	-1.34	6.40	Pass
	11	2462	-7.19	6.02	-1.17	6.40	Pass

Note:

1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$]= 7.60dBi > 6dBi , so the power density limit shall be reduced to 8-(7.60-6) = 6.40dBm.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/10kHz)	10 log (N=4) dB	Duty factor (dB)	Total PSD With Duty Factor (dBm/10kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-11.23	6.02	0.11	-5.10	6.40	Pass
	6	2437	-9.65	6.02	0.11	-3.52	6.40	Pass
	11	2462	-10.94	6.02	0.11	-4.81	6.40	Pass
1	1	2412	-12.81	6.02	0.11	-6.68	6.40	Pass
	6	2437	-11.01	6.02	0.11	-4.88	6.40	Pass
	11	2462	-11.66	6.02	0.11	-5.53	6.40	Pass
2	1	2412	-11.54	6.02	0.11	-5.41	6.40	Pass
	6	2437	-9.75	6.02	0.11	-3.62	6.40	Pass
	11	2462	-11.82	6.02	0.11	-5.69	6.40	Pass
3	1	2412	-11.23	6.02	0.11	-5.10	6.40	Pass
	6	2437	-9.65	6.02	0.11	-3.52	6.40	Pass
	11	2462	-10.94	6.02	0.11	-4.81	6.40	Pass

Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$]= 7.60dBi > 6dBi , so the power density limit shall be reduced to 8-(7.60-6) = 6.40dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

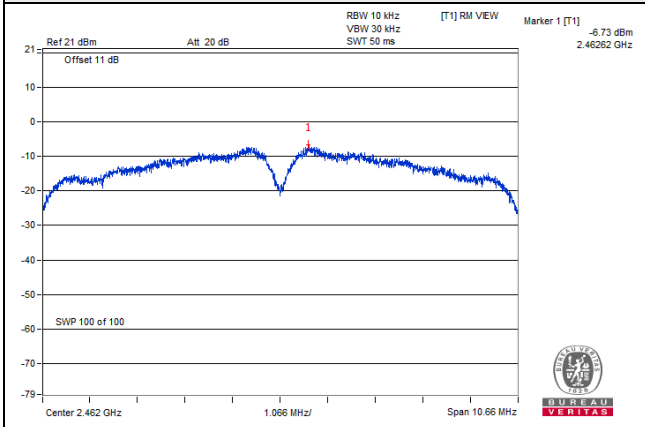
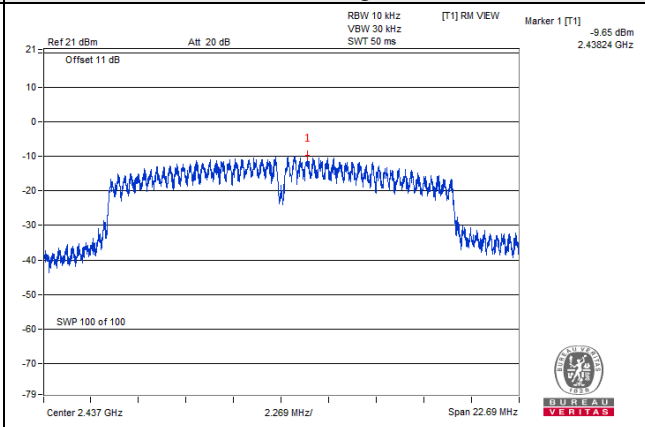
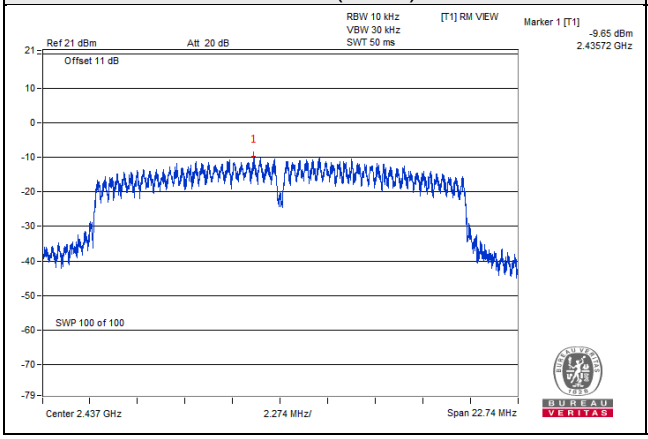
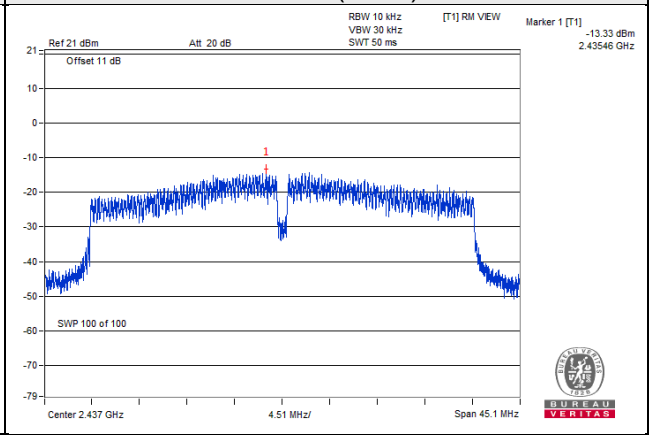
TX chain	Channel	Freq. (MHz)	PSD (dBm/10kHz)	10 log (N=4) dB	Duty factor (dB)	Total PSD With Duty Factor (dBm/10kHz)	Limit (dBm/3kHz)	Pass / Fail
0	1	2412	-11.84	6.02	0.16	-5.66	6.40	Pass
	6	2437	-10.11	6.02	0.16	-3.93	6.40	Pass
	11	2462	-11.60	6.02	0.16	-5.42	6.40	Pass
1	1	2412	-12.85	6.02	0.16	-6.67	6.40	Pass
	6	2437	-10.72	6.02	0.16	-4.54	6.40	Pass
	11	2462	-12.28	6.02	0.16	-6.10	6.40	Pass
2	1	2412	-11.34	6.02	0.16	-5.16	6.40	Pass
	6	2437	-9.65	6.02	0.16	-3.47	6.40	Pass
	11	2462	-11.81	6.02	0.16	-5.63	6.40	Pass
3	1	2412	-11.83	6.02	0.16	-5.65	6.40	Pass
	6	2437	-9.76	6.02	0.16	-3.58	6.40	Pass
	11	2462	-11.32	6.02	0.16	-5.14	6.40	Pass

Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$]= 7.60dBi > 6dBi , so the power density limit shall be reduced to 8-(7.60-6) = 6.40dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/10kHz)	10 log (N=4) dB	Duty factor (dB)	Total PSD With Duty Factor (dBm/10kHz)	Limit (dBm/3kHz)	Pass / Fail
0	3	2422	-16.46	6.02	0.23	-10.21	6.40	Pass
	6	2437	-13.49	6.02	0.23	-7.24	6.40	Pass
	9	2452	-16.50	6.02	0.23	-10.25	6.40	Pass
1	3	2422	-17.39	6.02	0.23	-11.14	6.40	Pass
	6	2437	-14.33	6.02	0.23	-8.08	6.40	Pass
	9	2452	-17.81	6.02	0.23	-11.56	6.40	Pass
2	3	2422	-16.79	6.02	0.23	-10.54	6.40	Pass
	6	2437	-13.33	6.02	0.23	-7.08	6.40	Pass
	9	2452	-17.80	6.02	0.23	-11.55	6.40	Pass
3	3	2422	-16.65	6.02	0.23	-10.40	6.40	Pass
	6	2437	-13.60	6.02	0.23	-7.35	6.40	Pass
	9	2452	-16.36	6.02	0.23	-10.11	6.40	Pass

1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$]= 7.60dBi > 6dBi , so the power density limit shall be reduced to 8-(7.60-6) = 6.40dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

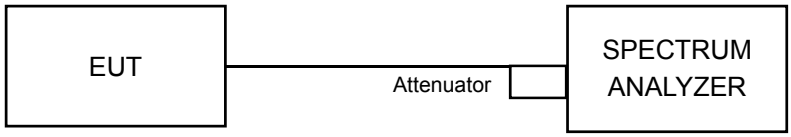
Spectrum Plot of Worst Value	
802.11b	802.11g
	
802.11n (HT20)	802.11n (HT40)
	

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 = average.
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.

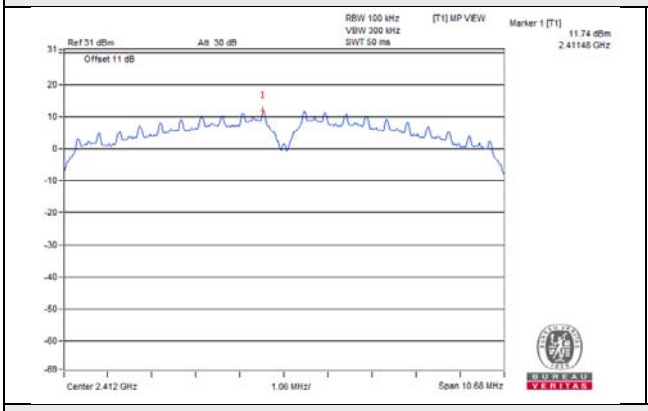
4.6.7 Test Results

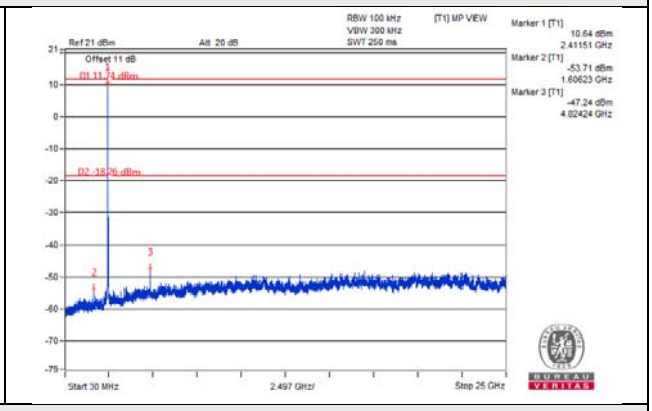
The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.

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

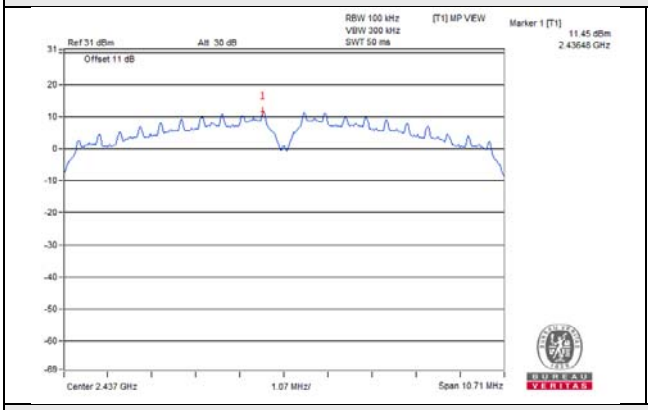
802.11b_Chain 0

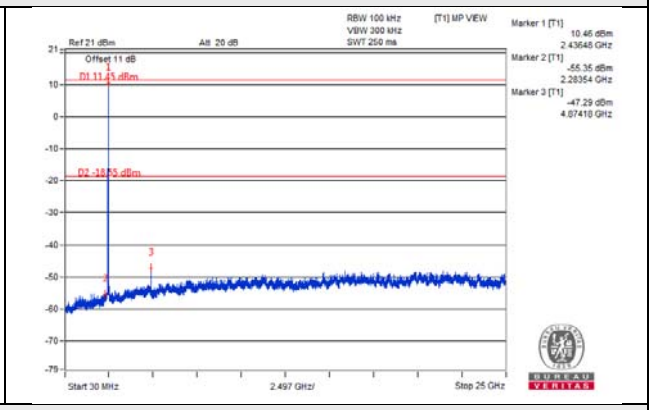
CH 1



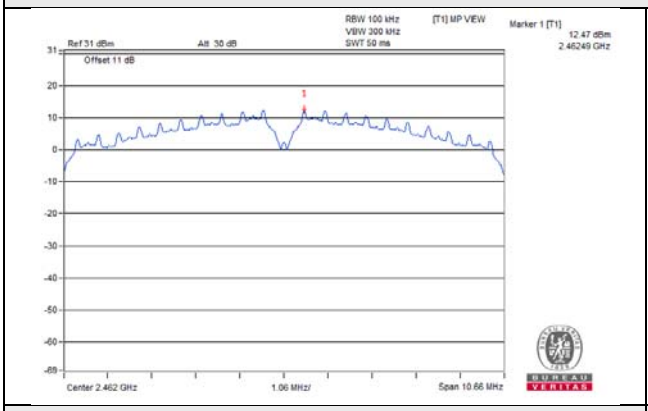


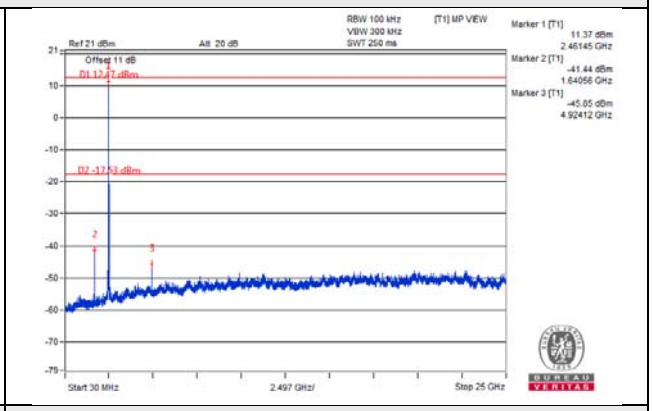
CH 6



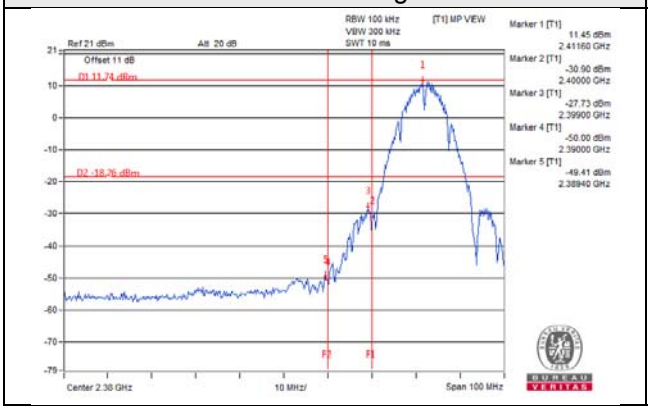


CH 11

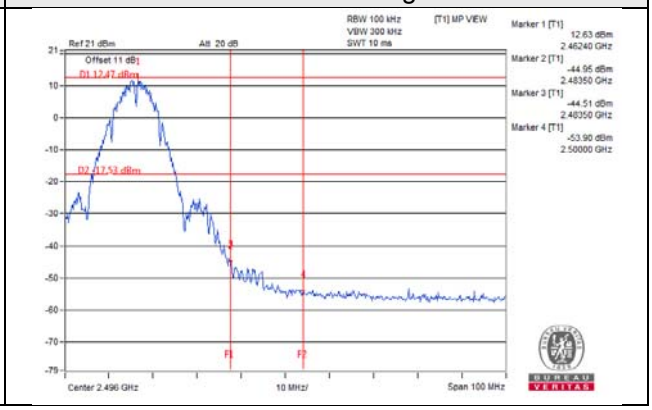




CH 1 Band edge

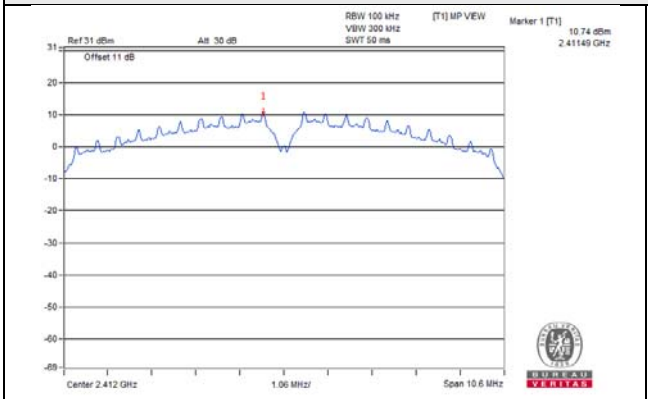


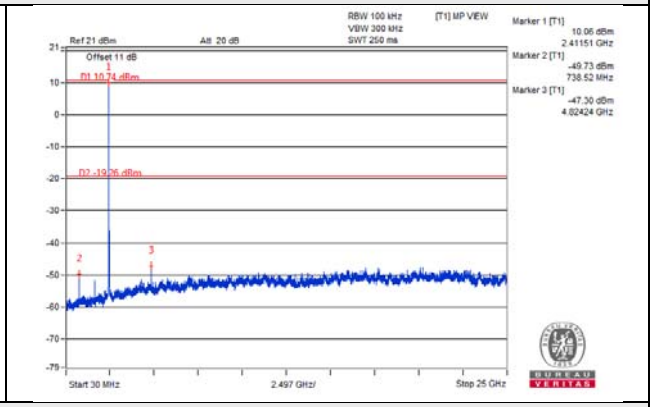
CH 11 Band edge



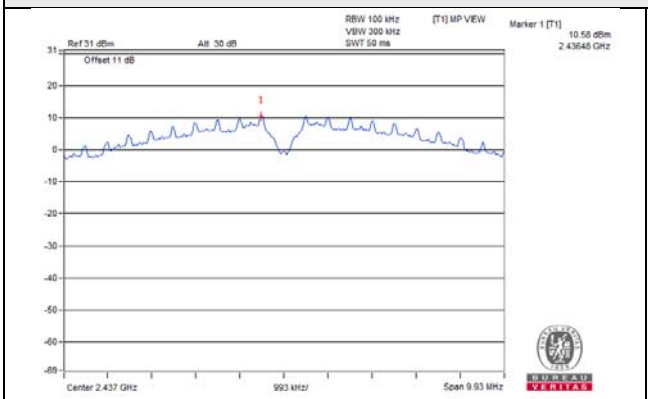
802.11b_Chain 1

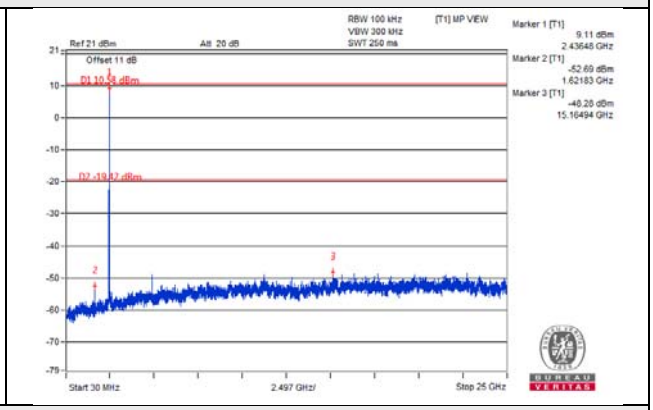
CH 1



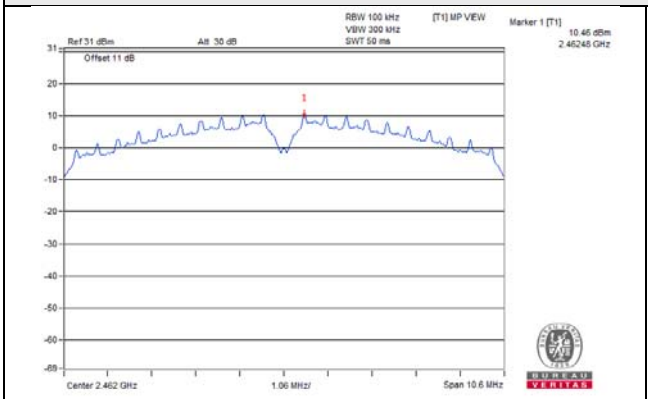


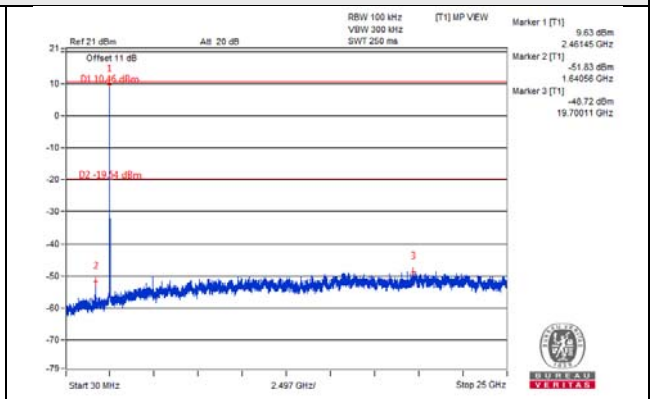
CH 6



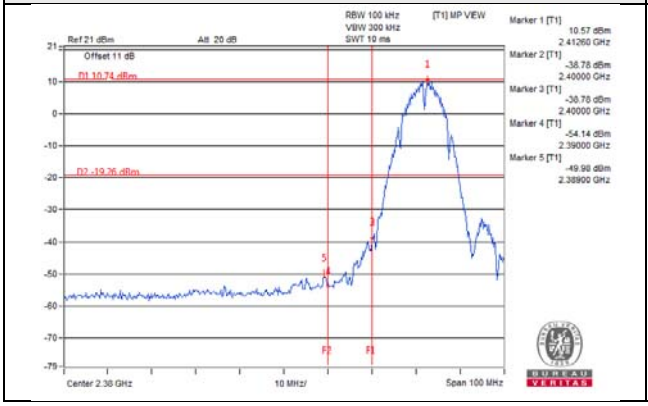


CH 11

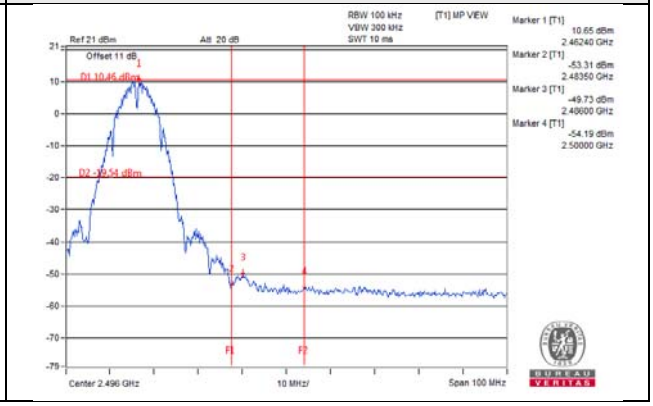




CH 1 Band edge

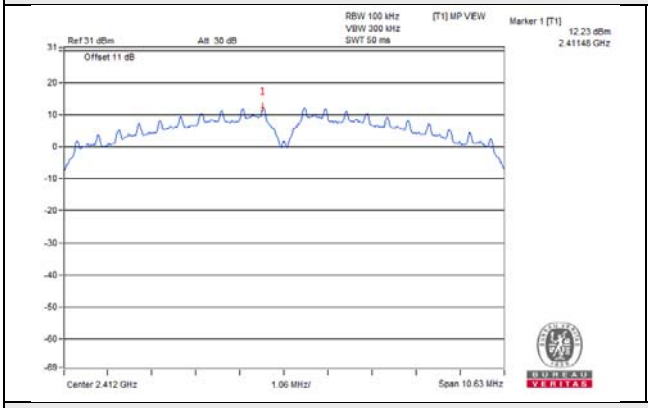


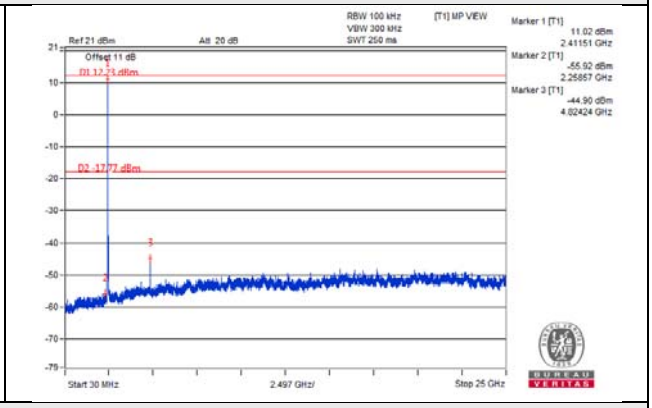
CH 11 Band edge



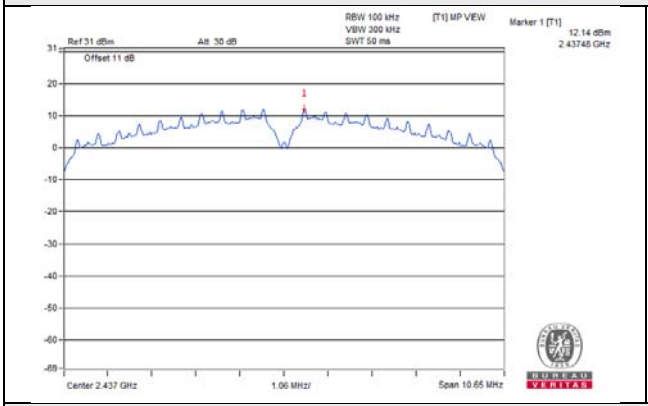
802.11b_Chain 2

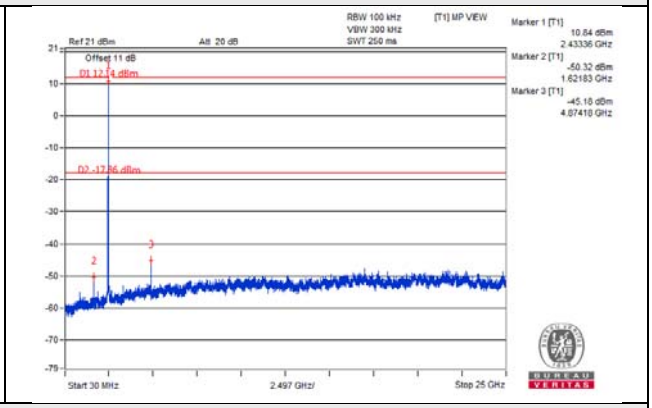
CH 1



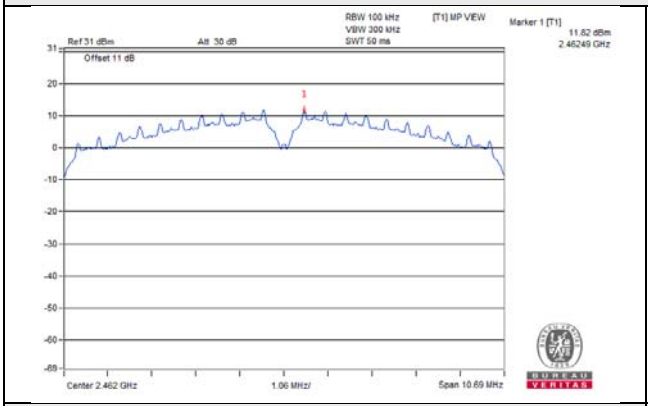


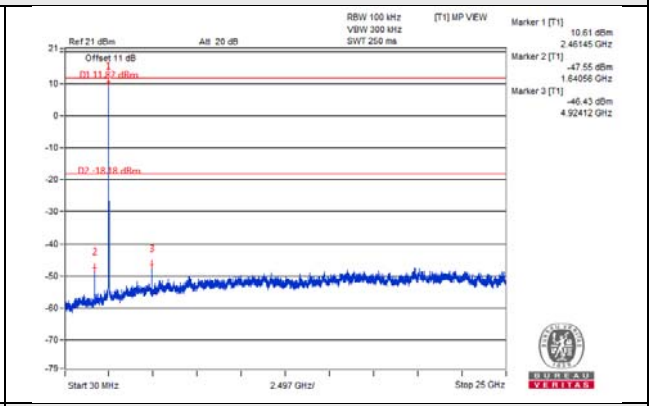
CH 6



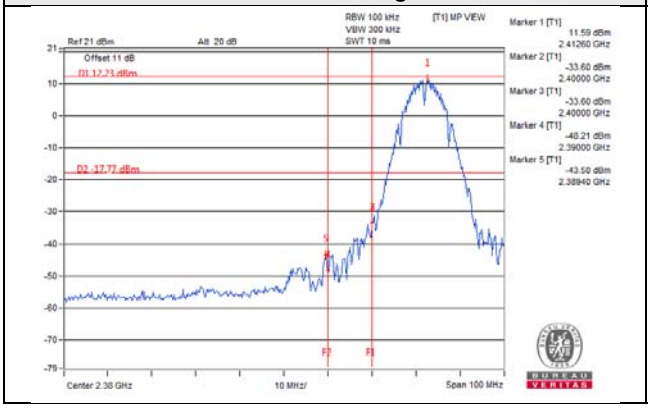


CH 11

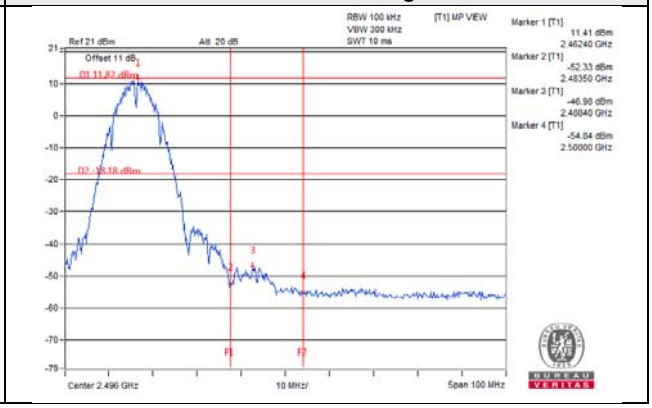




CH 1 Band edge

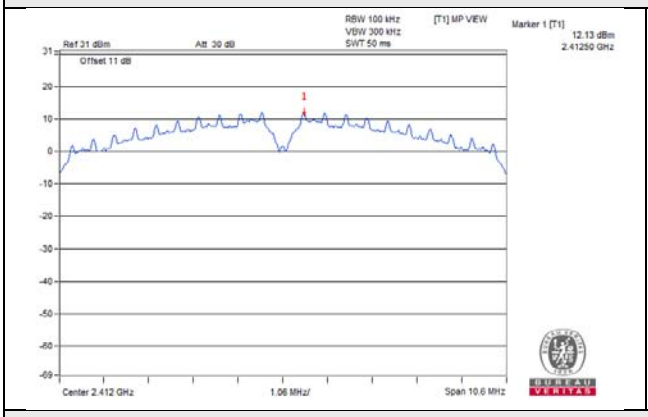


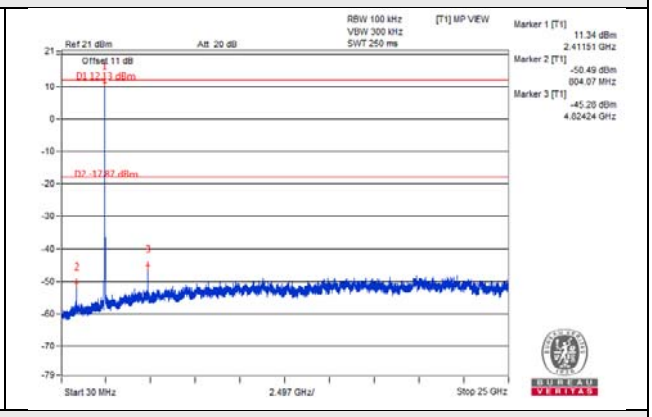
CH 11 Band edge



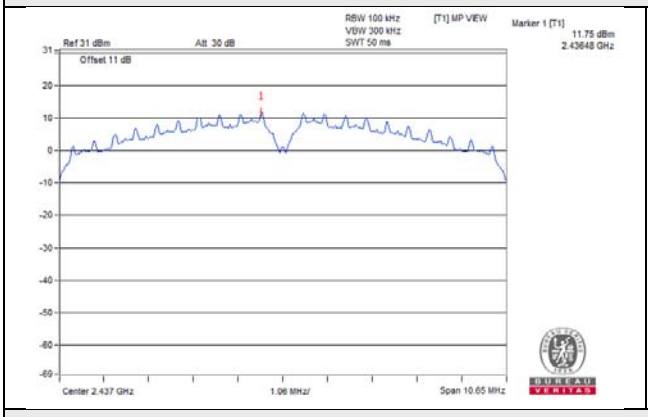
802.11b_Chain 3

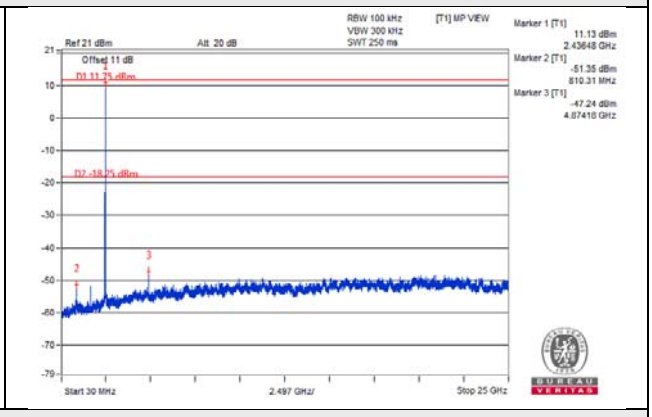
CH 1



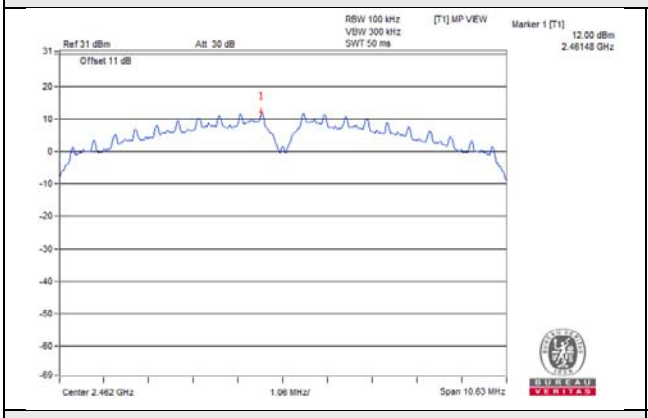


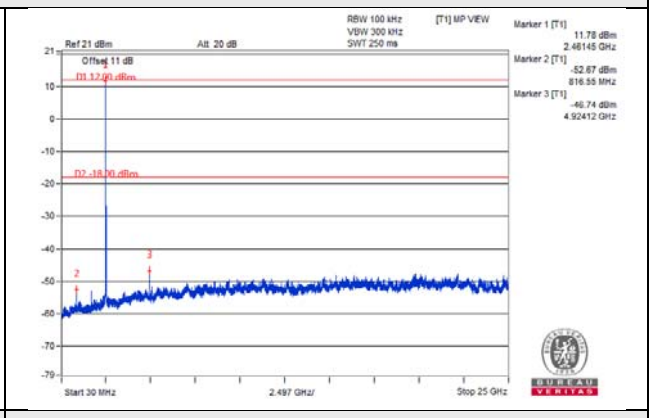
CH 6



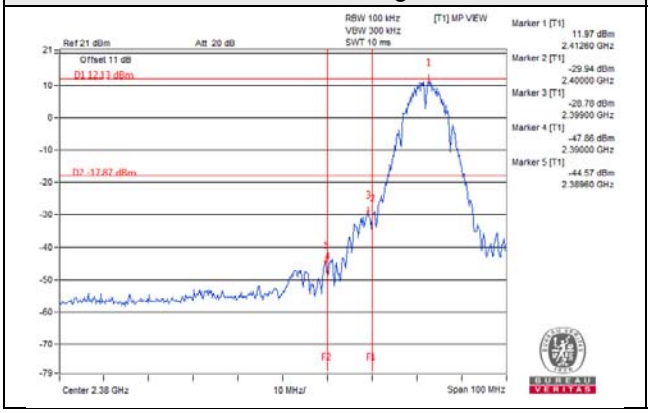


CH 11

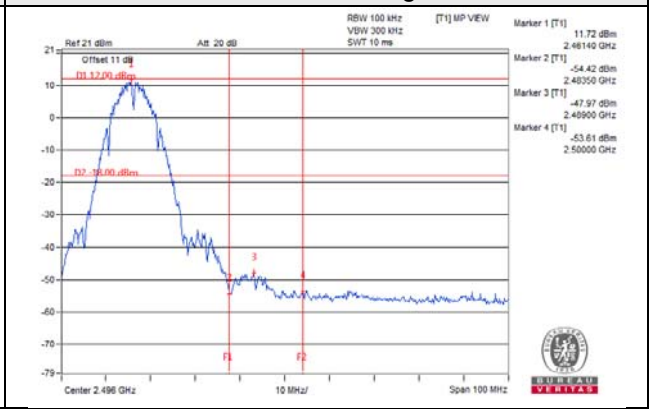




CH 1 Band edge

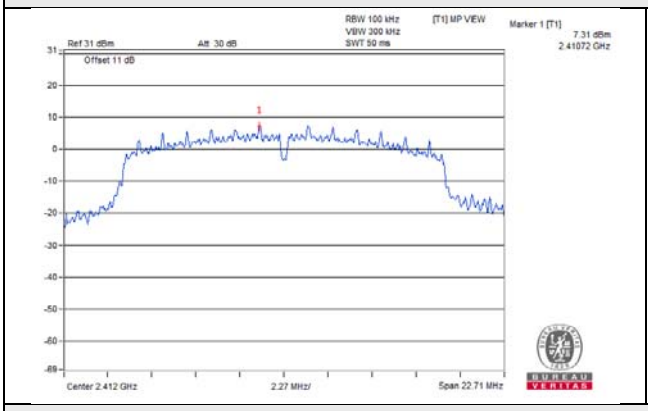


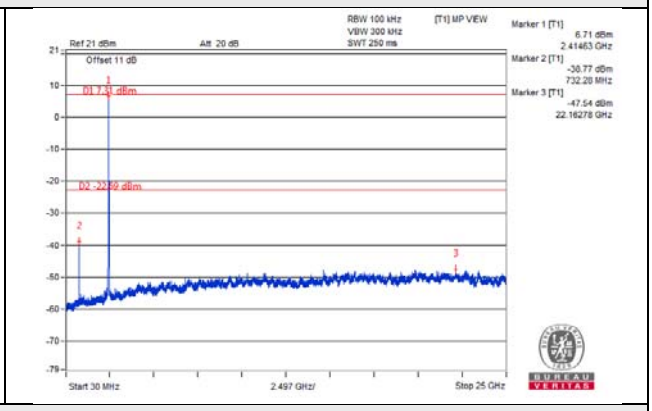
CH 11 Band edge



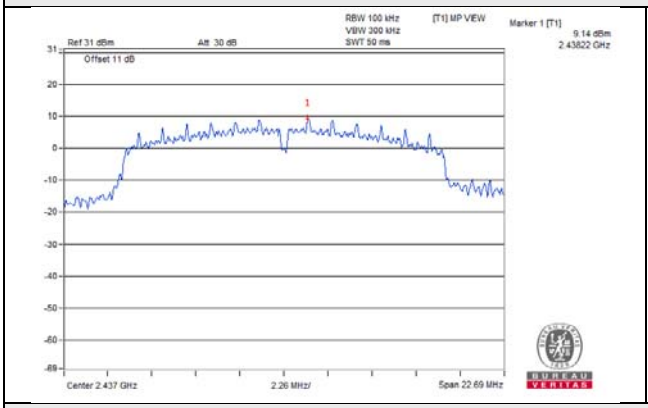
802.11g_Chain 0

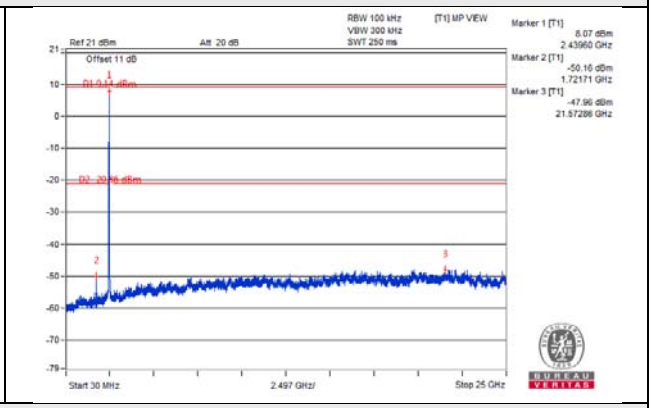
CH 1



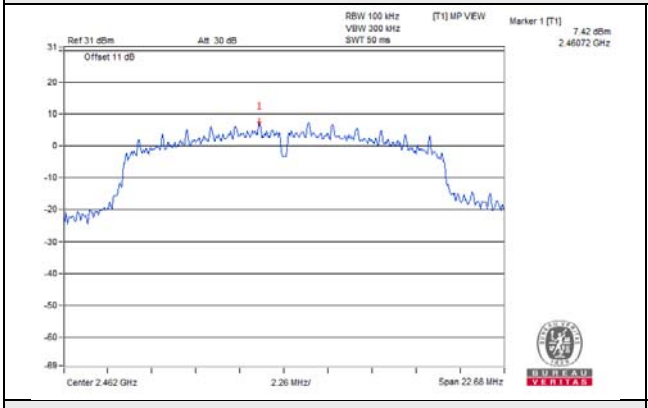


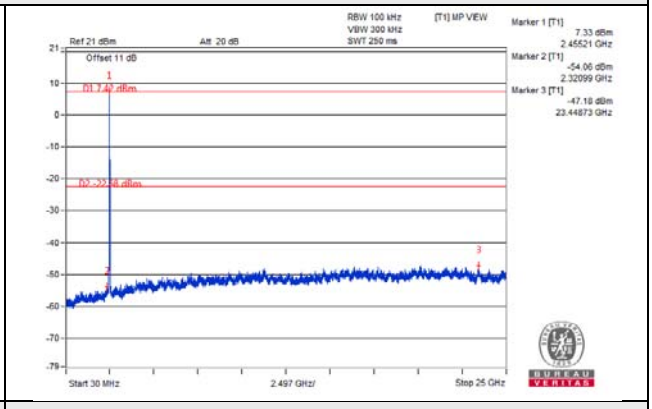
CH 6



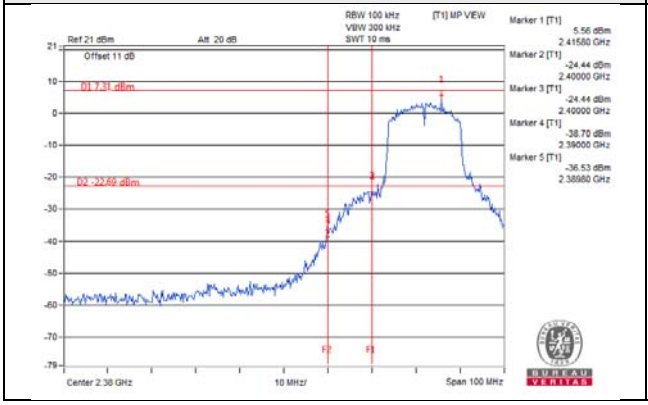


CH 11

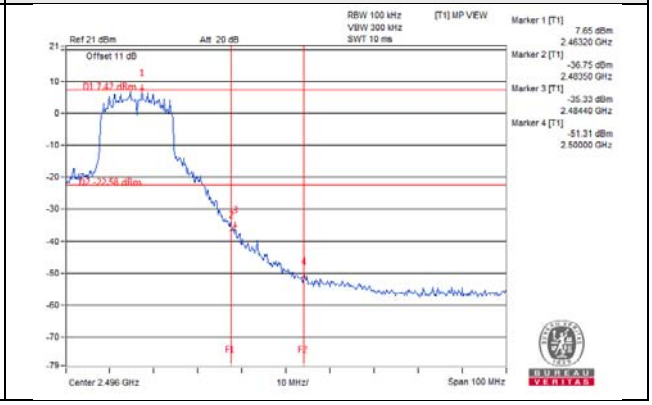




CH 1 Band edge

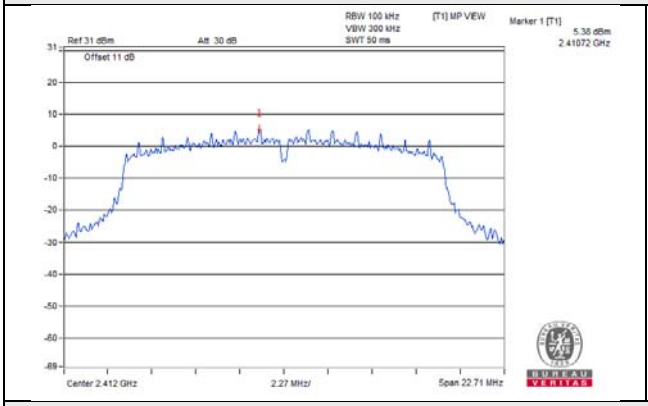


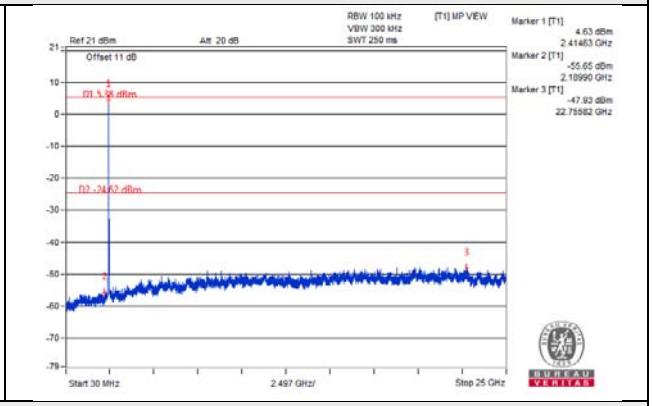
CH 11 Band edge



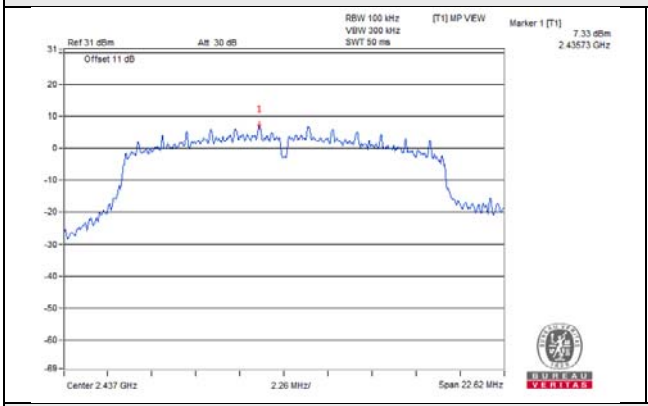
802.11g_Chain 1

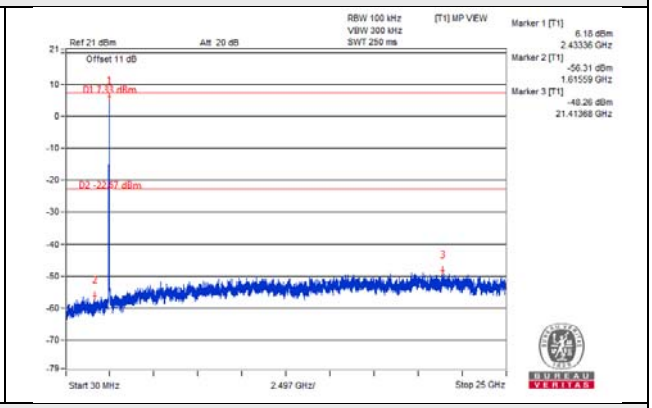
CH 1



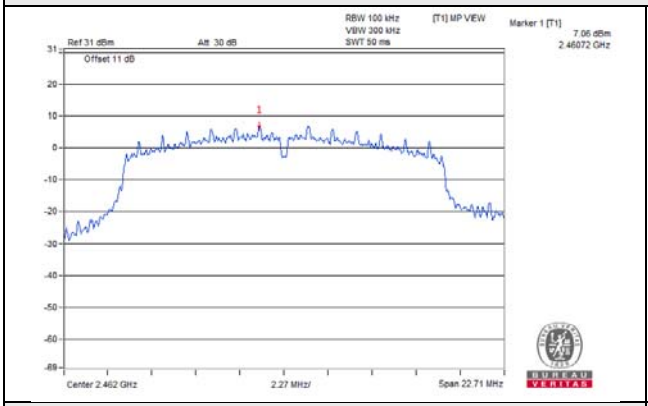


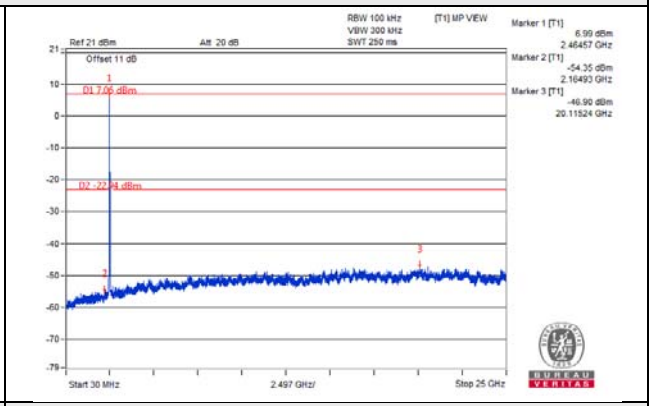
CH 6



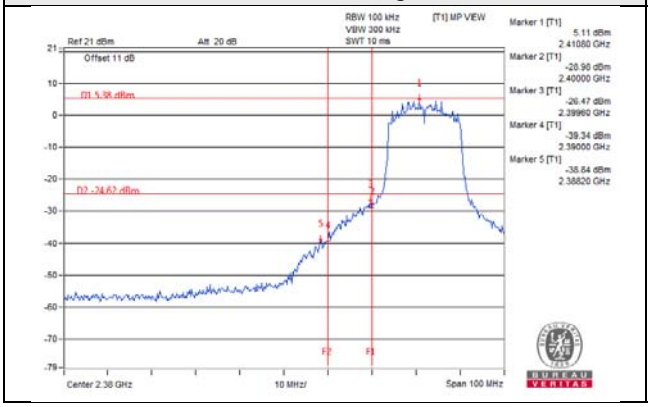


CH 11

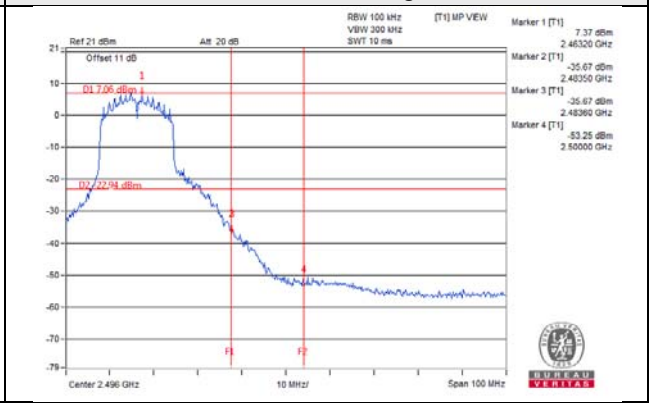




CH 1 Band edge

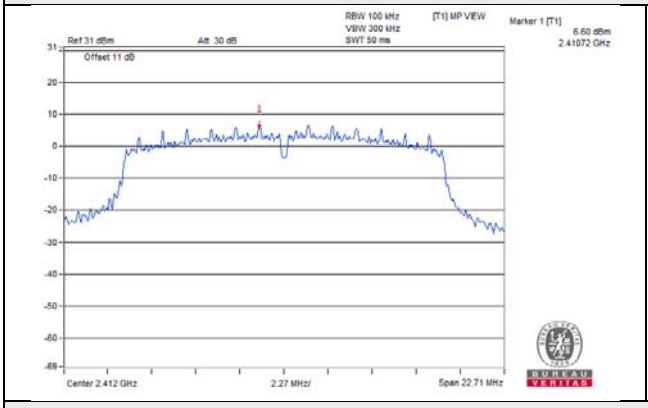


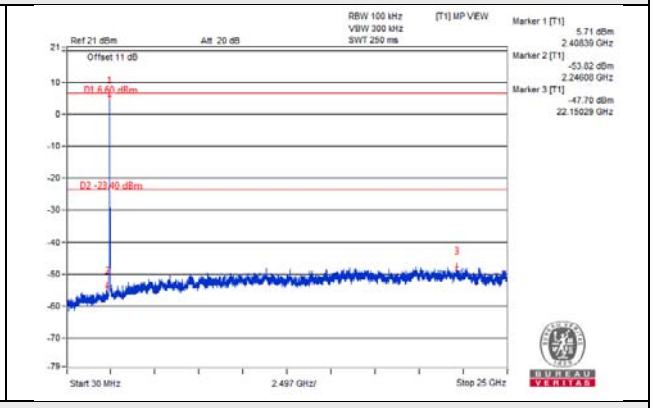
CH 11 Band edge



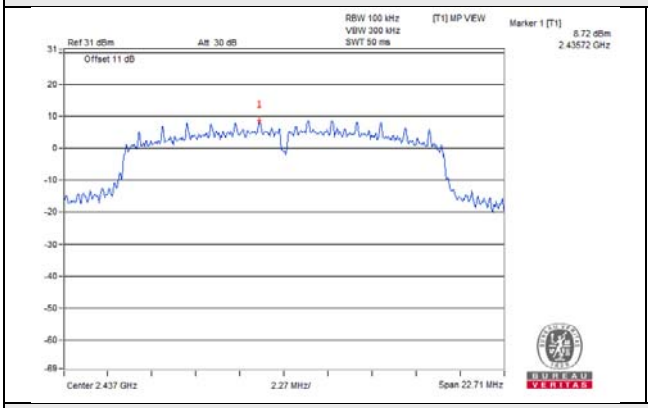
802.11g_Chain 2

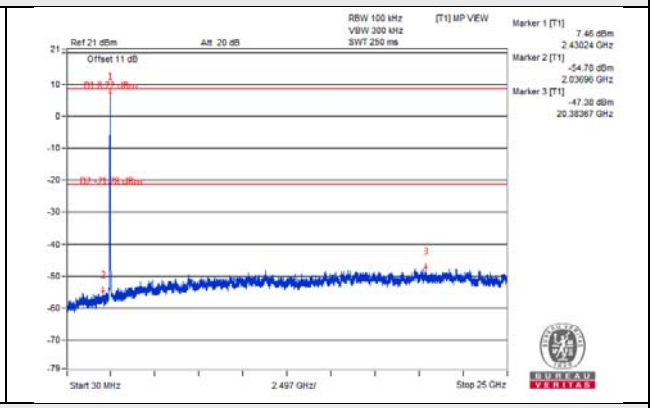
CH 1



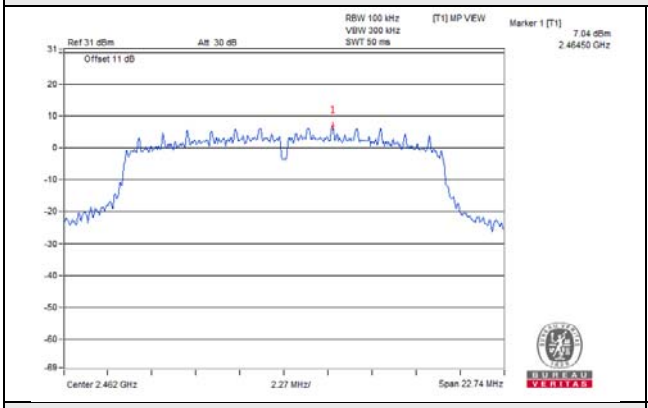


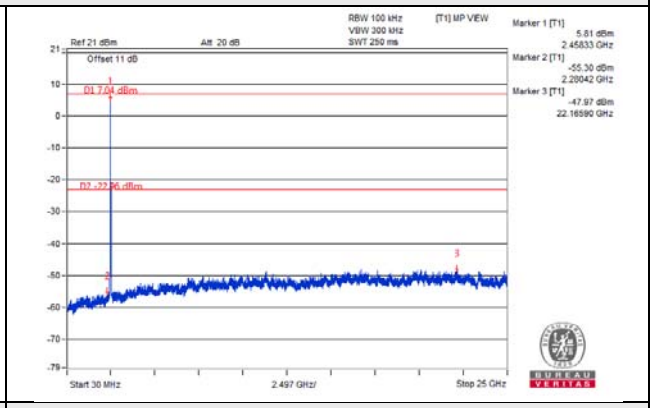
CH 6



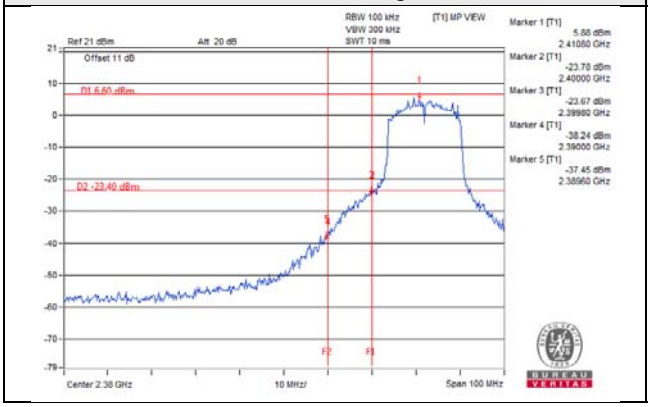


CH 11

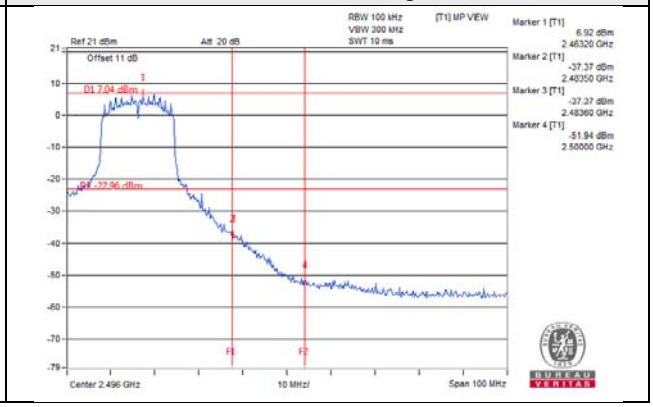




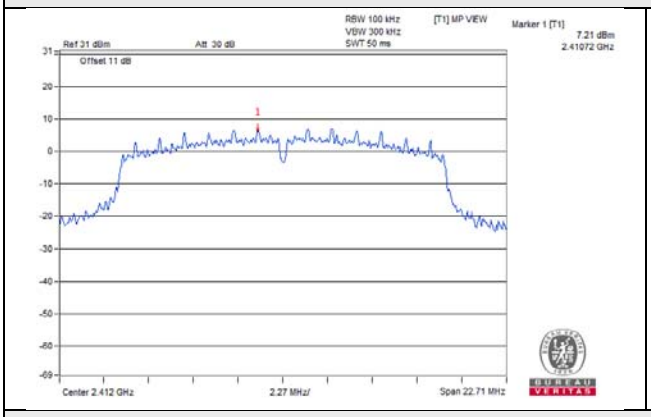
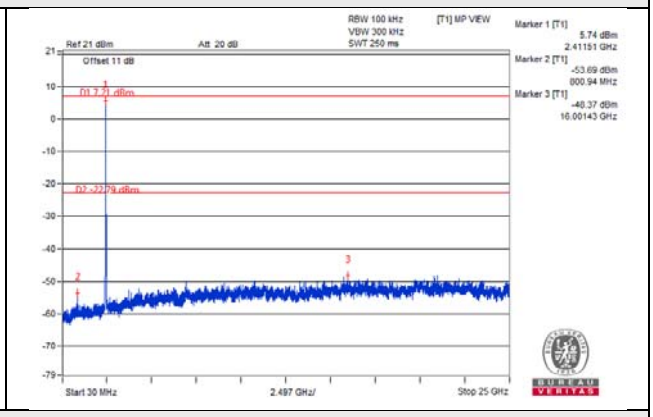
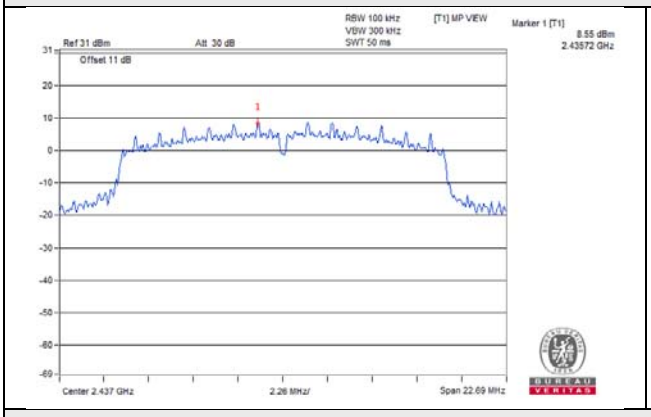
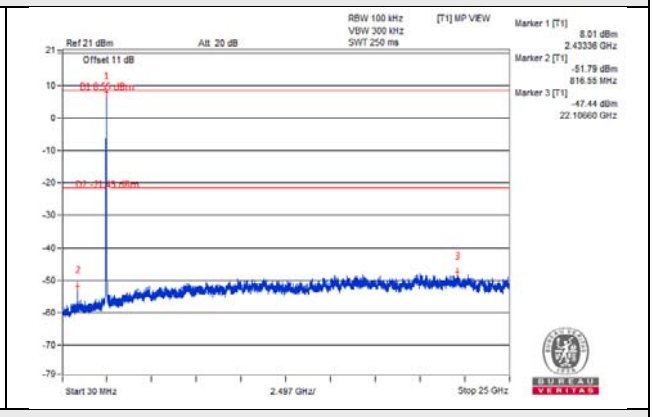
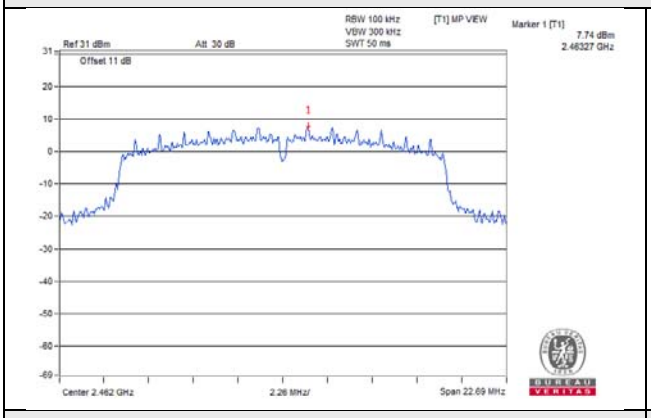
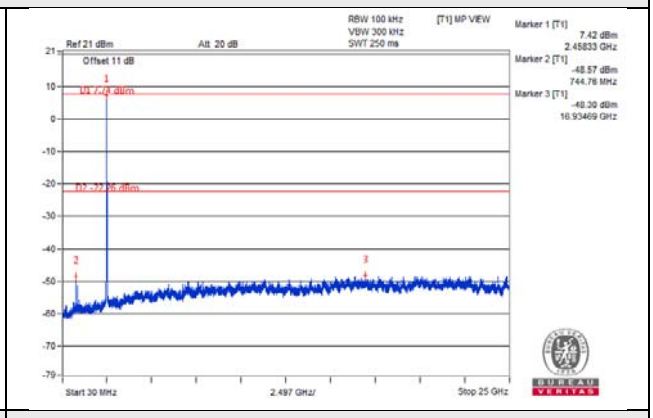
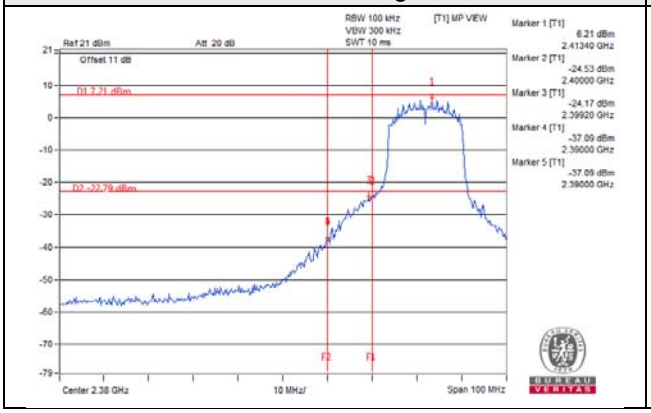
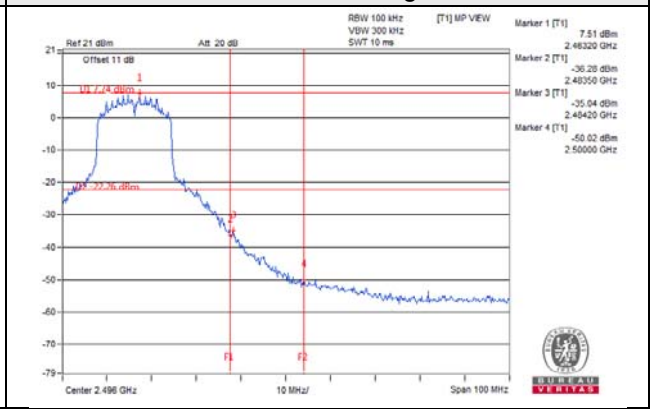
CH 1 Band edge



CH 11 Band edge

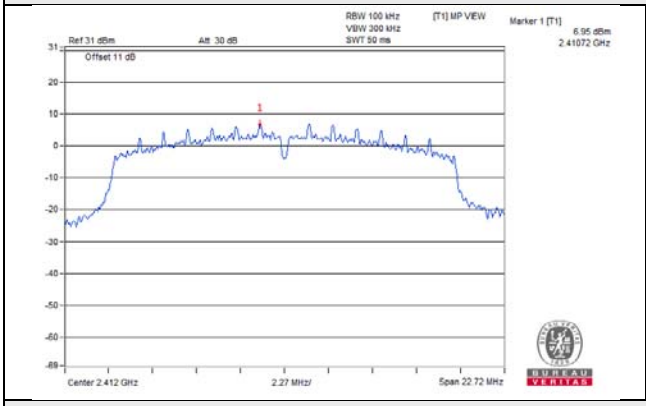


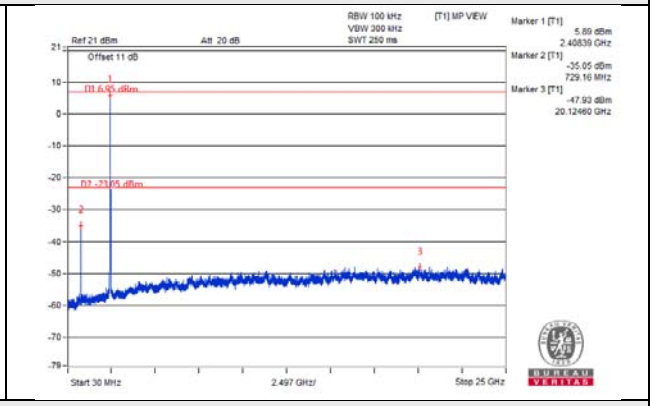
802.11g_Chain 3

CH 1	
	
CH 6	
	
CH 11	
	
CH 1 Band edge	**CH 11 Band edge**
	

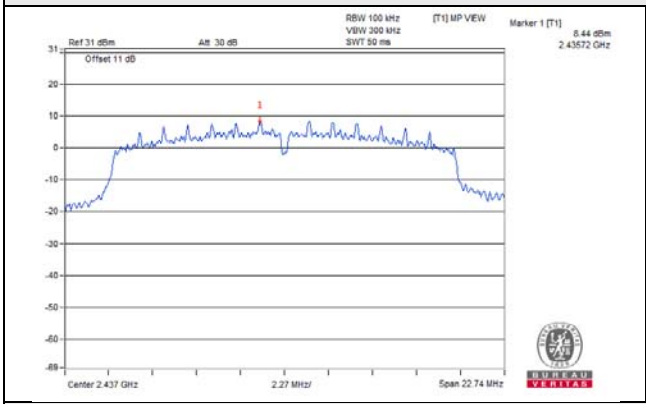
802.11n (HT20)_Chain 0

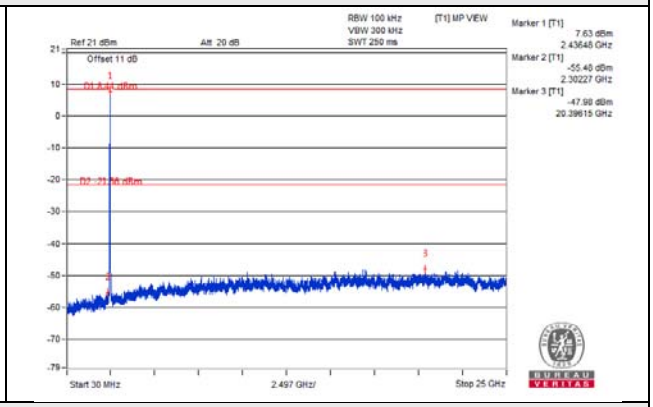
CH 1



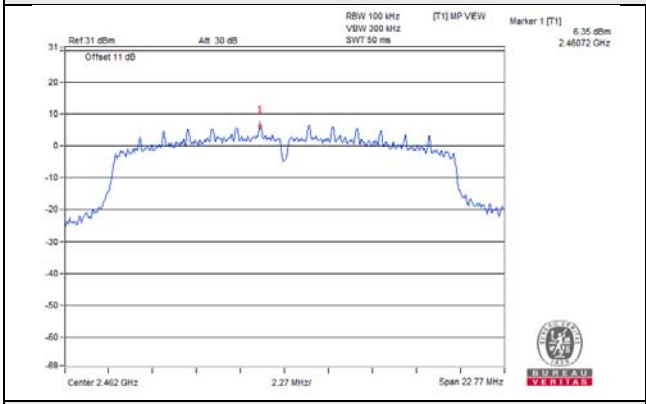


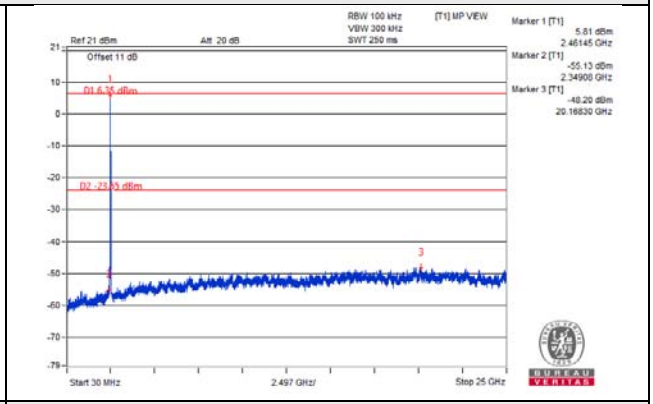
CH 6



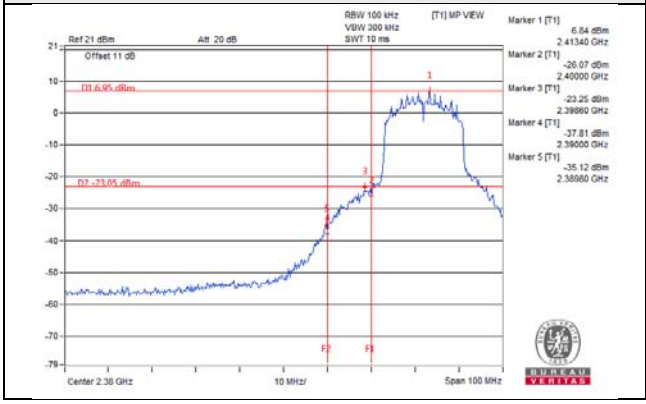


CH 11

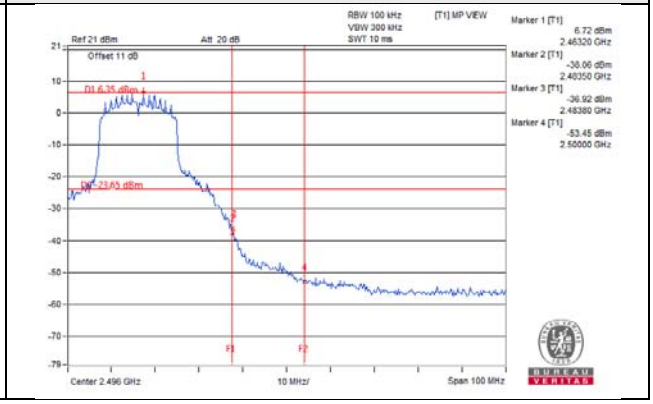




CH 1 Band edge

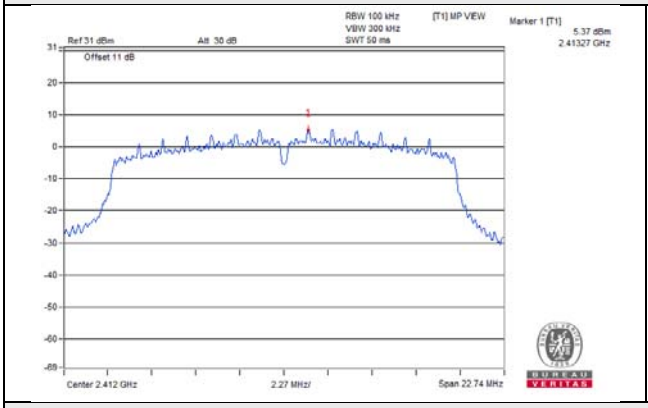


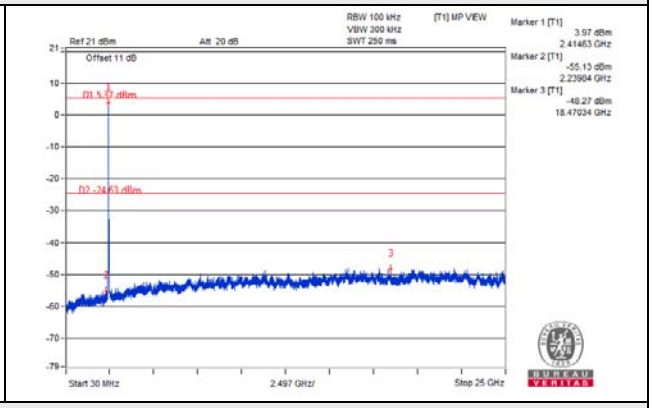
CH 11 Band edge



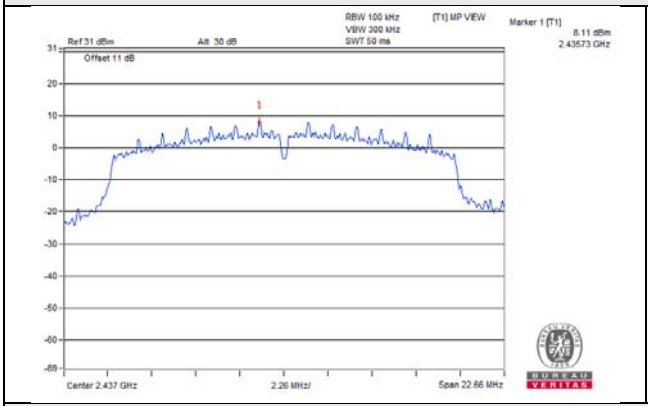
802.11n (HT20)_Chain 1

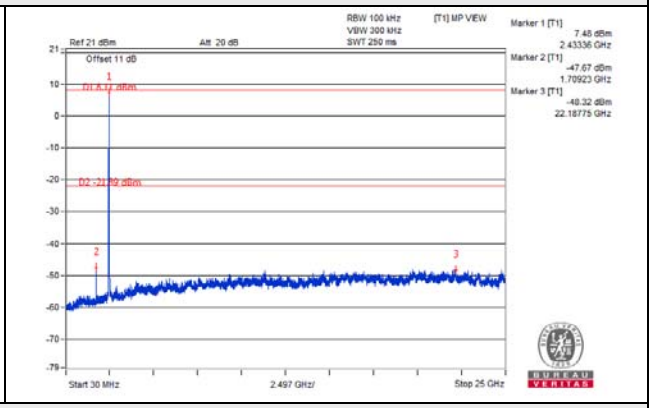
CH 1



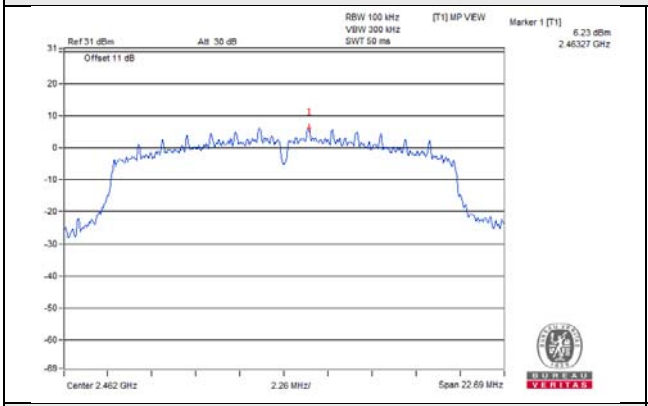


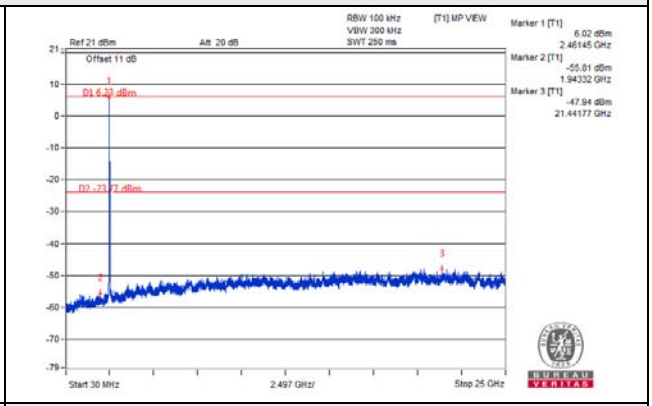
CH 6



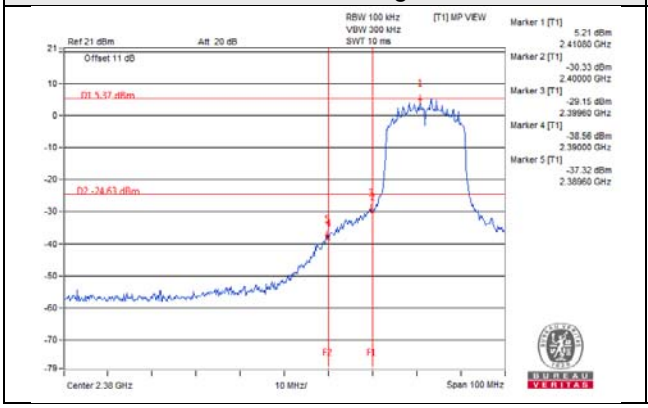


CH 11

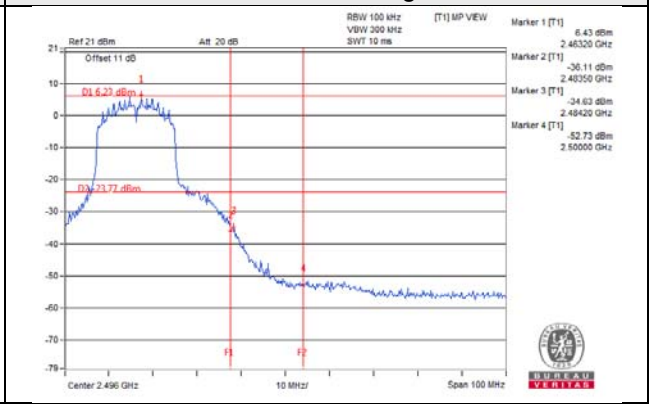




CH 1 Band edge

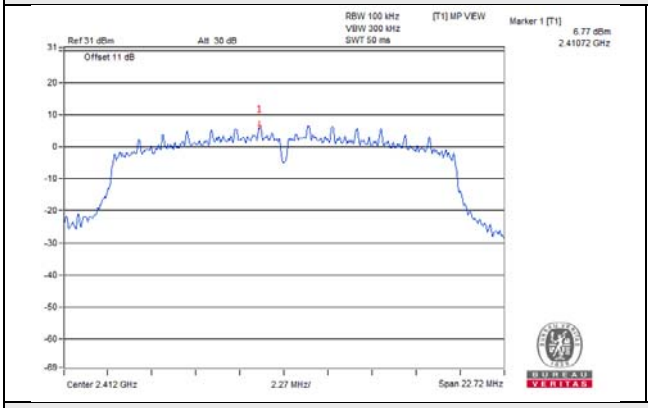


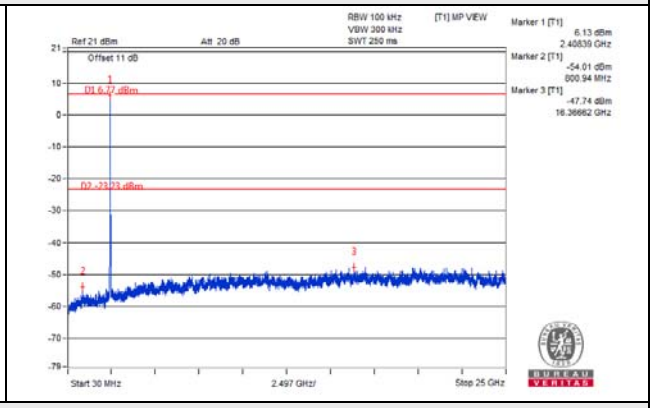
CH 11 Band edge



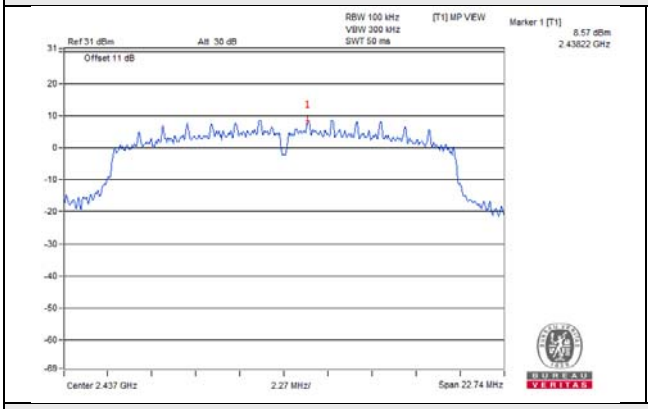
802.11n (HT20)_Chain 2

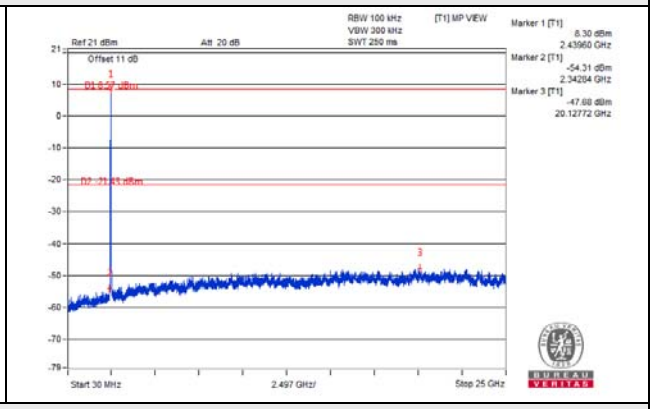
CH 1



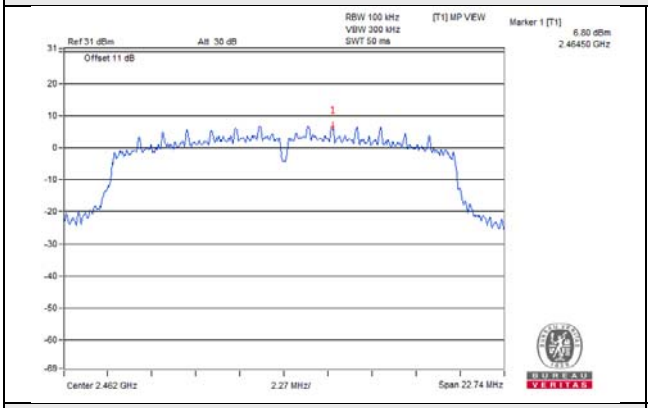


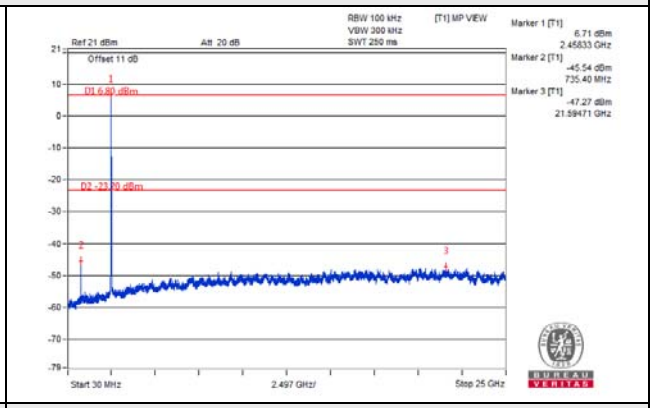
CH 6



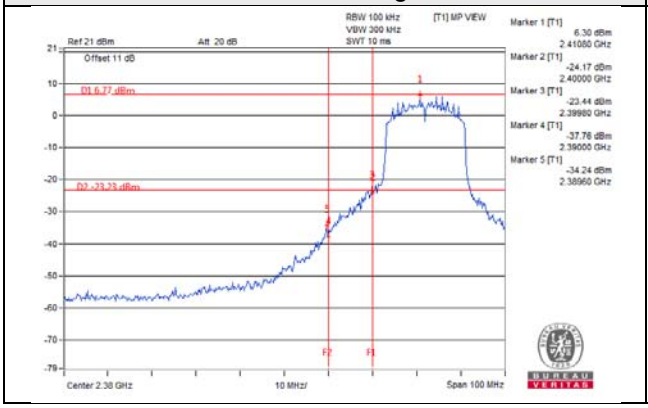


CH 11

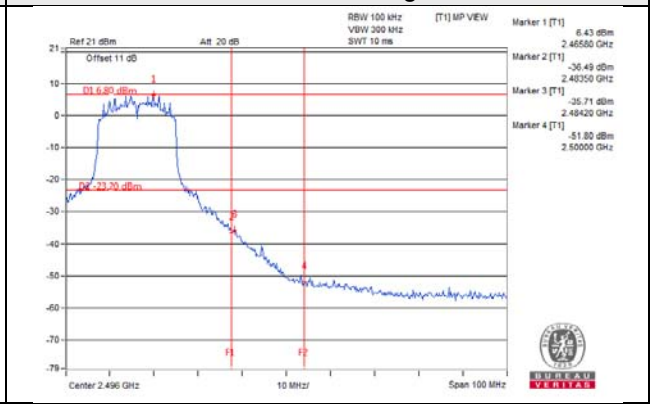




CH 1 Band edge

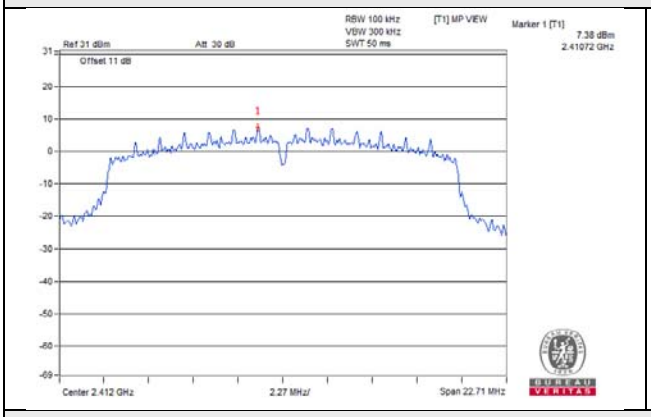


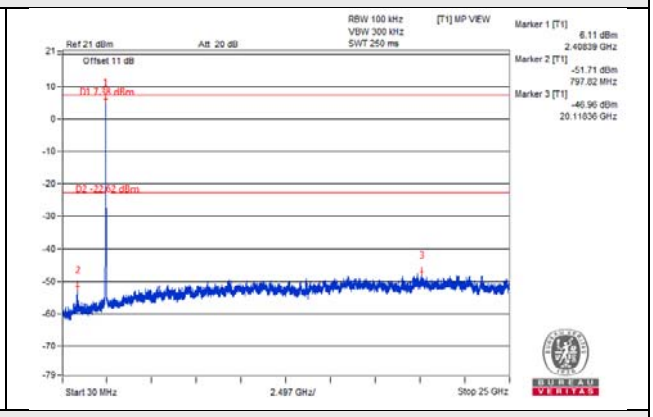
CH 11 Band edge



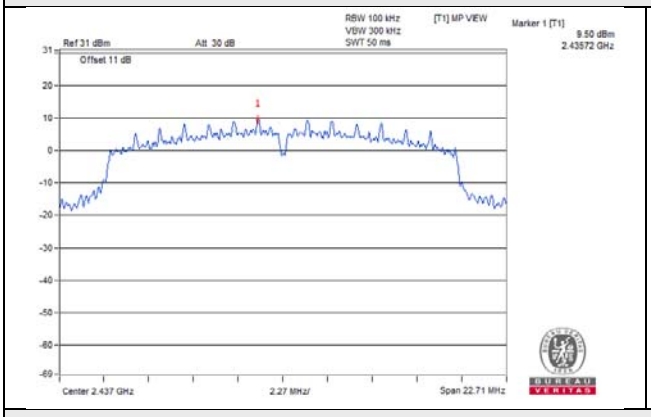
802.11n (HT20)_Chain 3

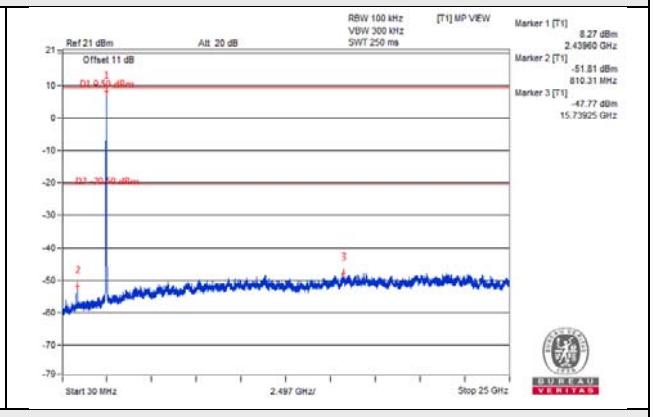
CH 1



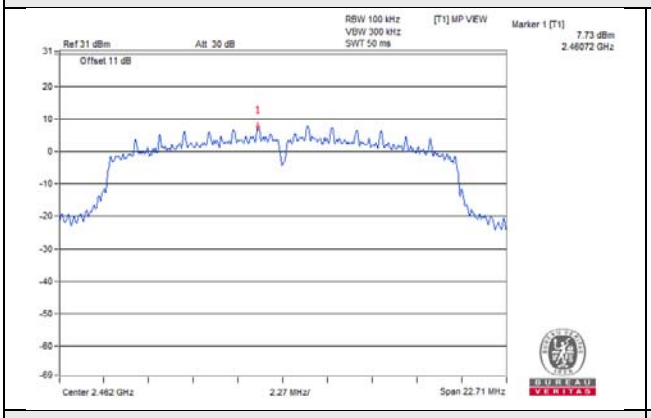


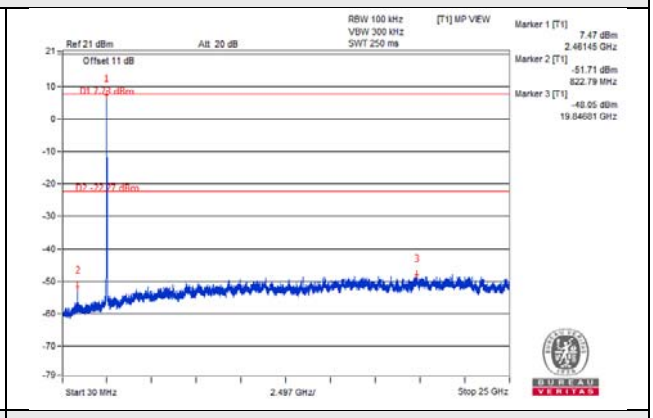
CH 6



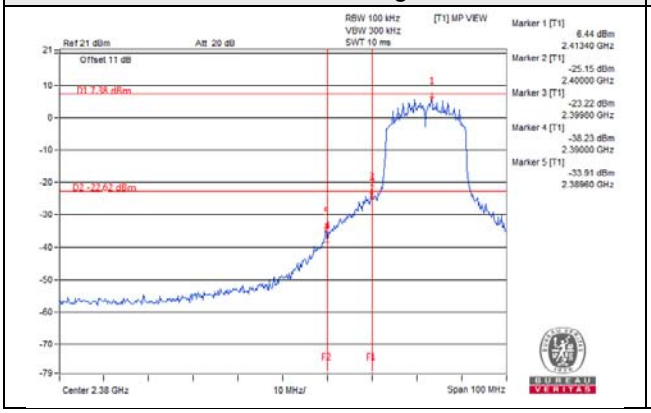


CH 11

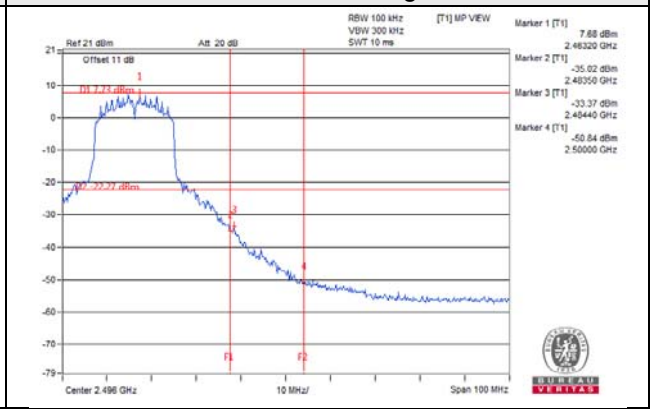




CH 1 Band edge

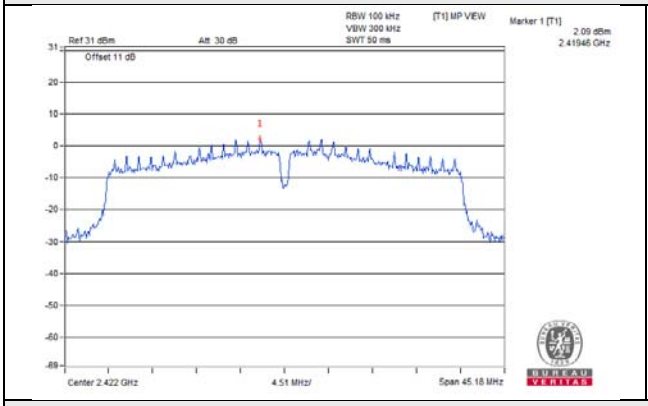


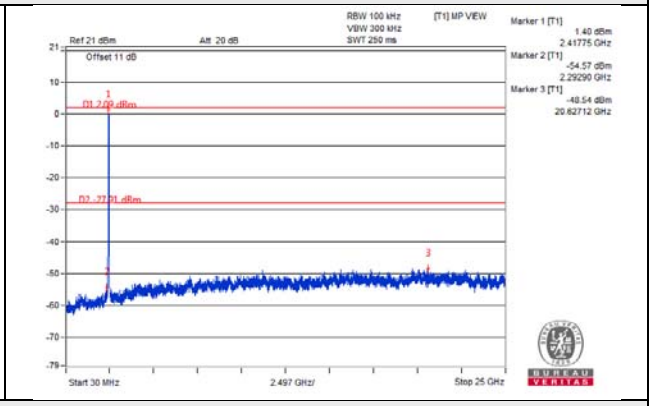
CH 11 Band edge



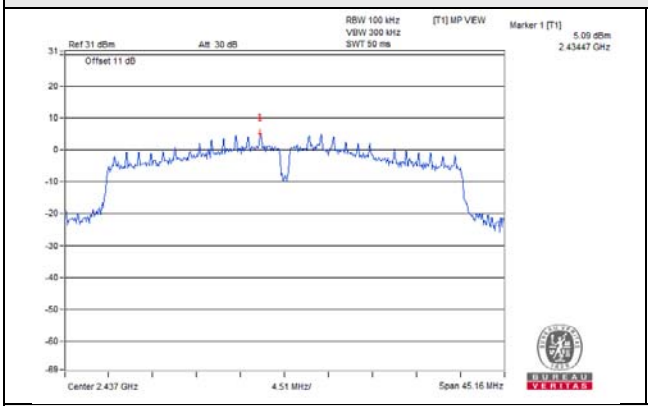
802.11n (HT40)_Chain 0

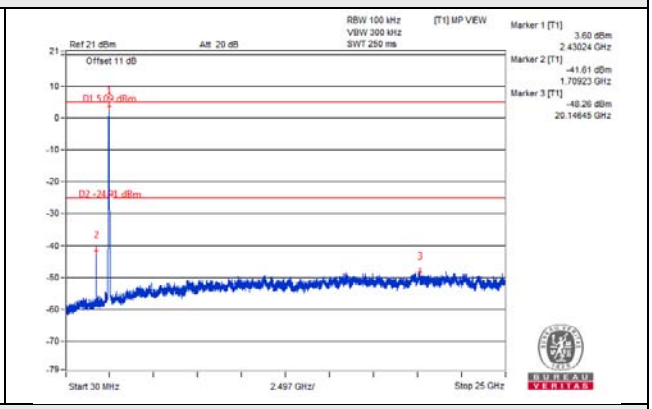
CH 3



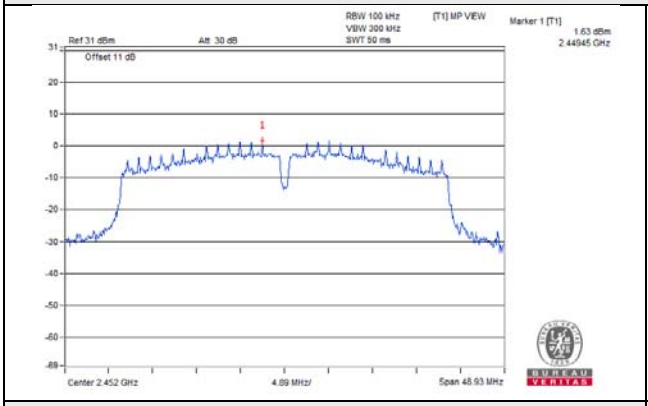


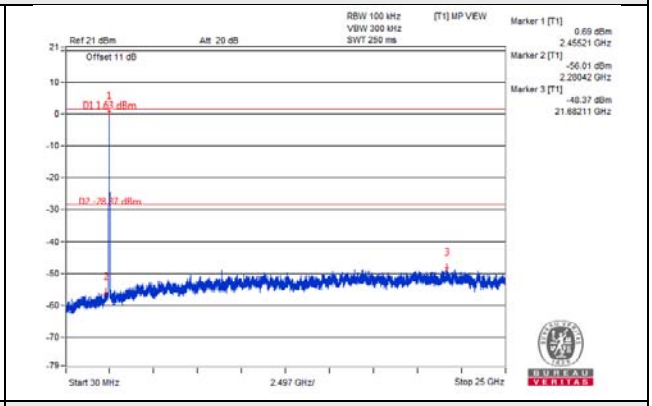
CH 6



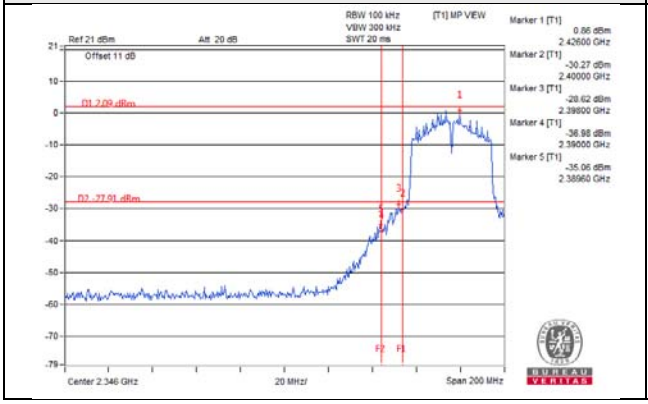


CH 9

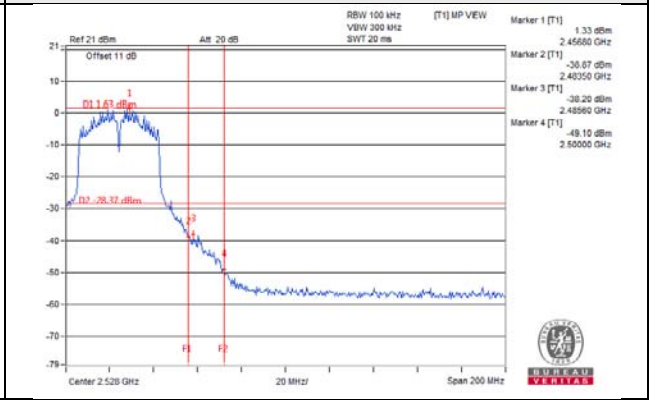




CH 3 Band edge

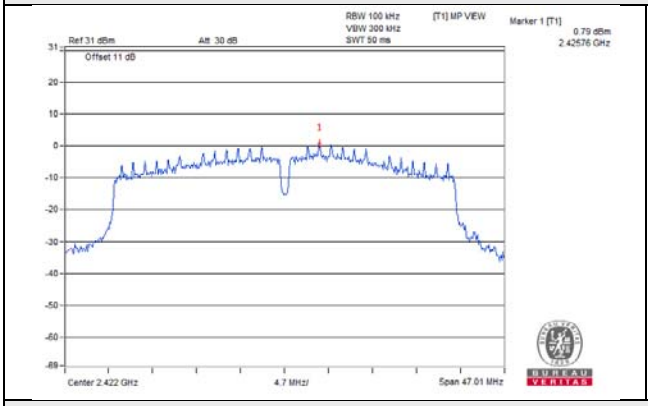


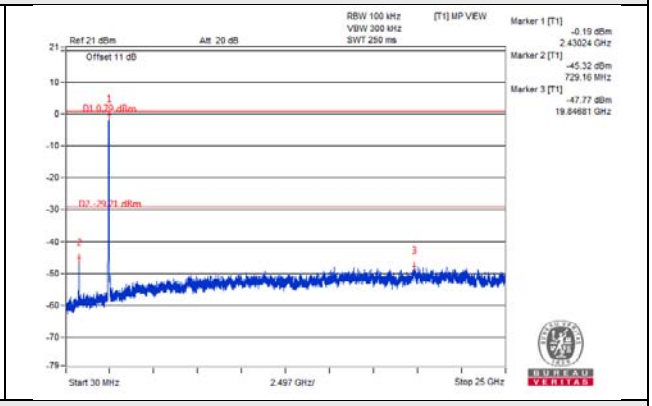
CH 9 Band edge



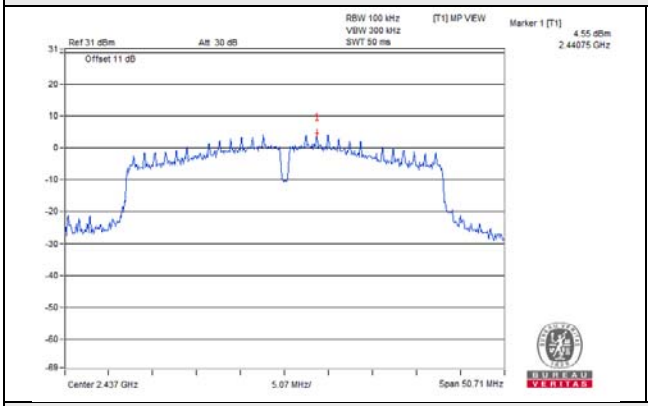
802.11n (HT40)_Chain 1

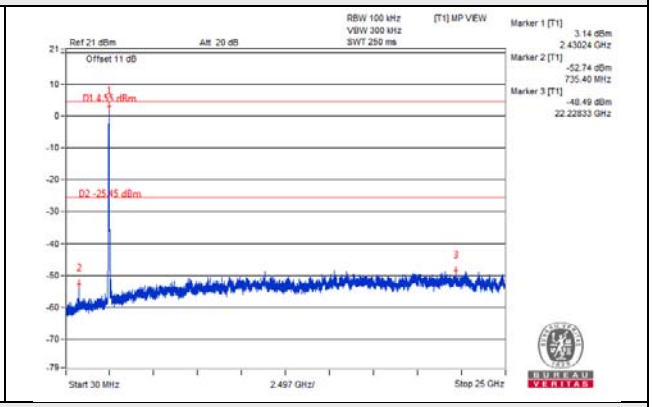
CH 3



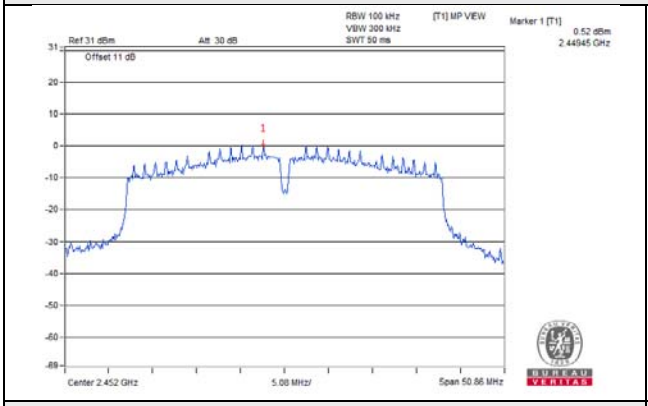


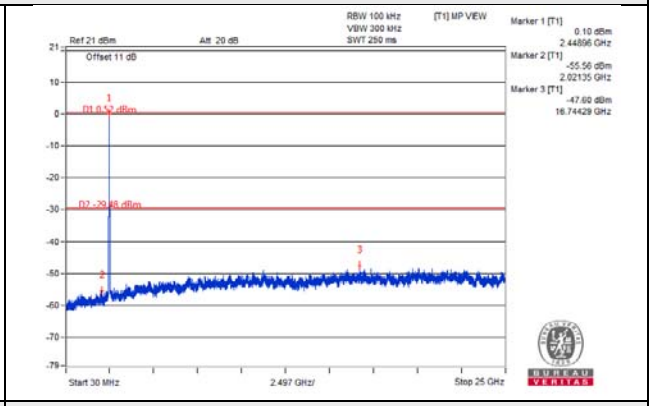
CH 6



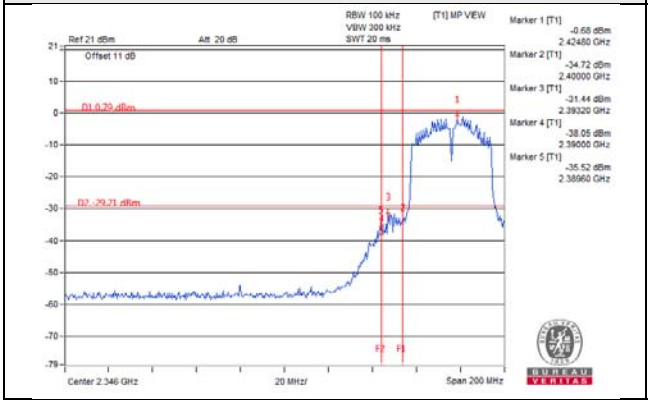


CH 9

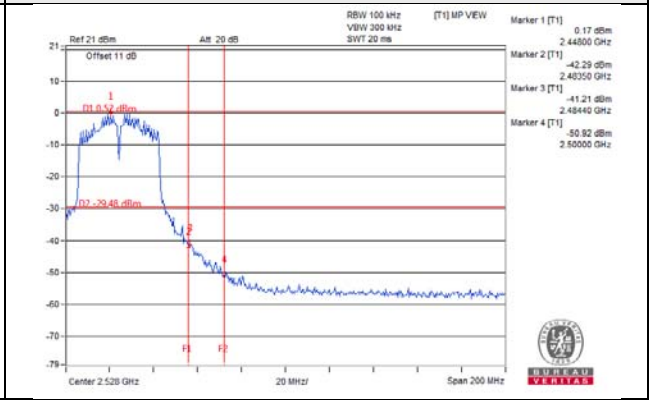




CH 3 Band edge

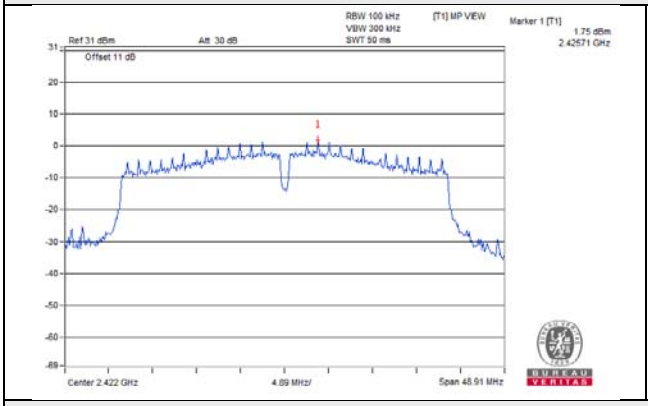


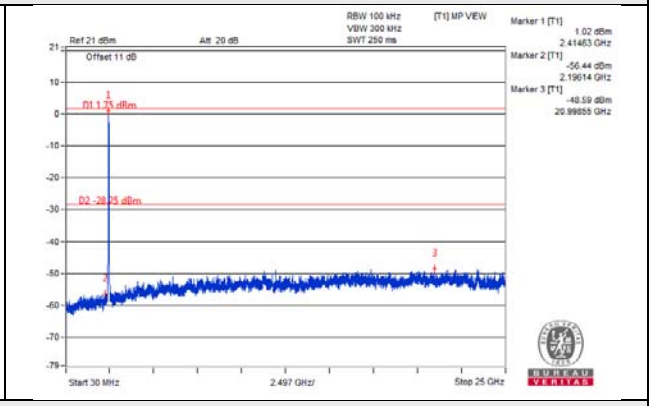
CH 9 Band edge



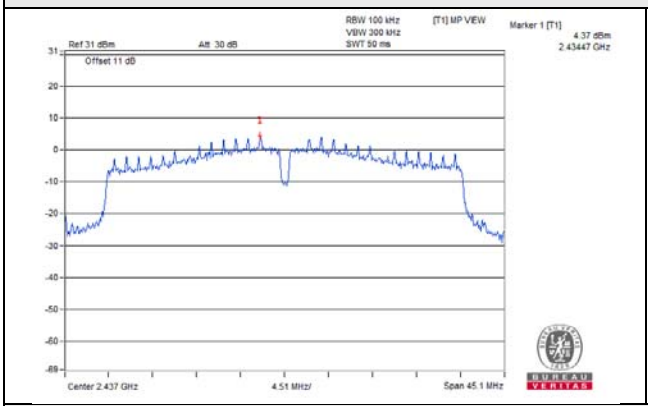
802.11n (HT40)_Chain 2

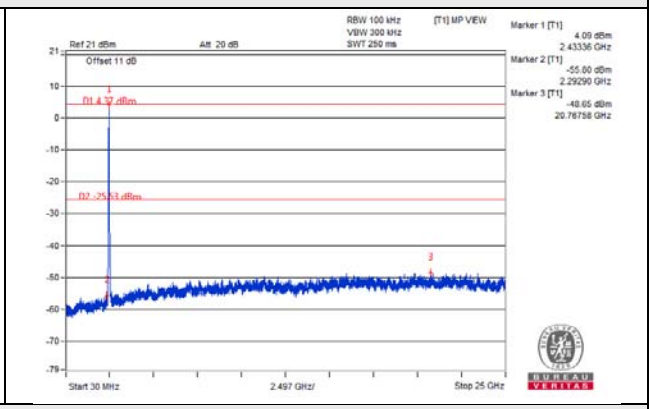
CH 3



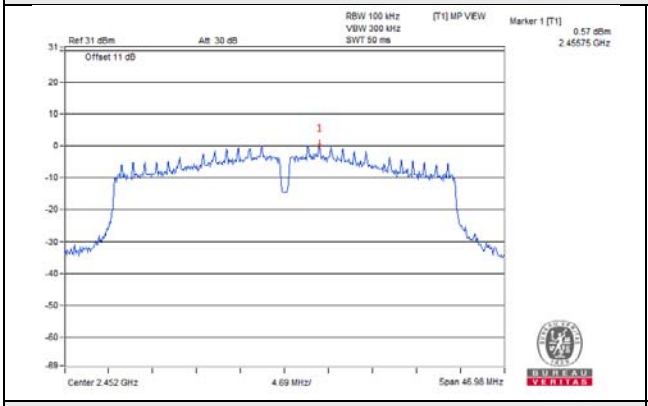


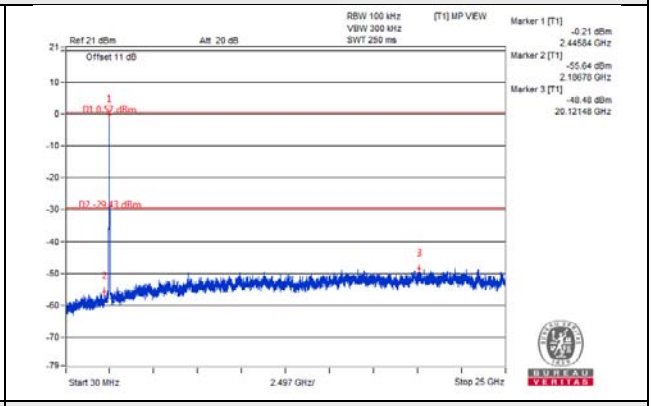
CH 6



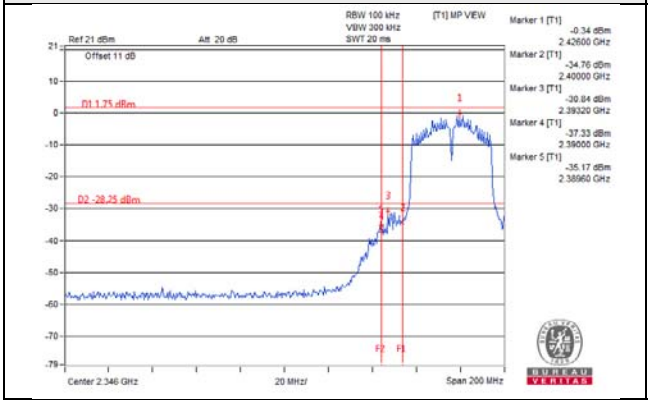


CH 9

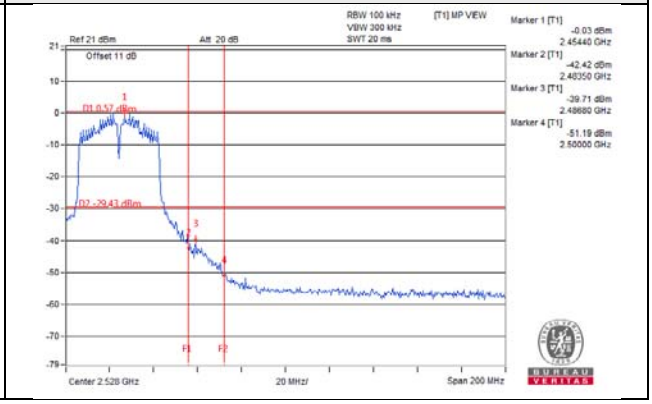




CH 3 Band edge

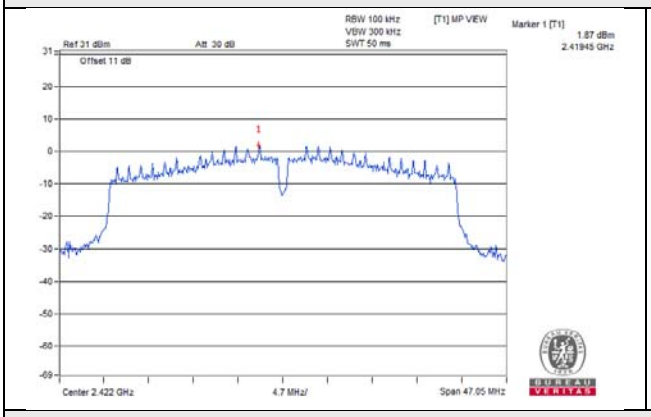


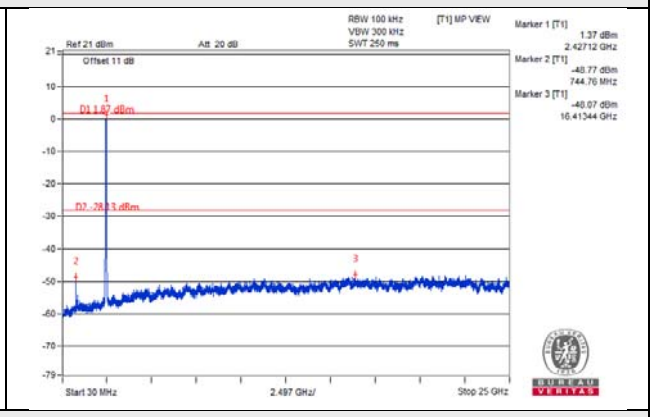
CH 9 Band edge



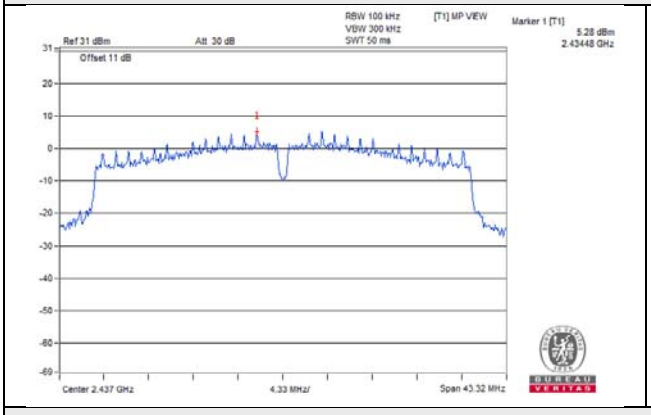
802.11n (HT40)_Chain 3

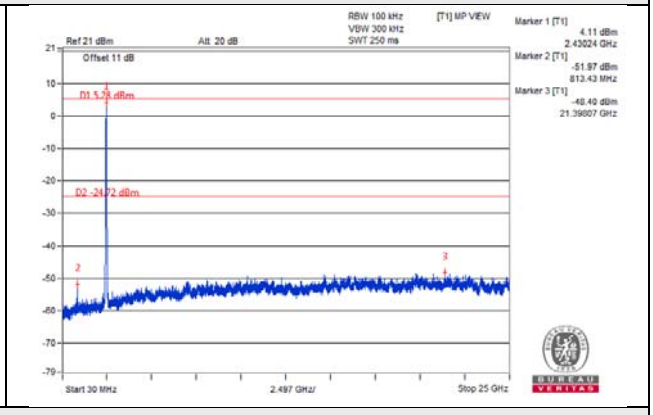
CH 3



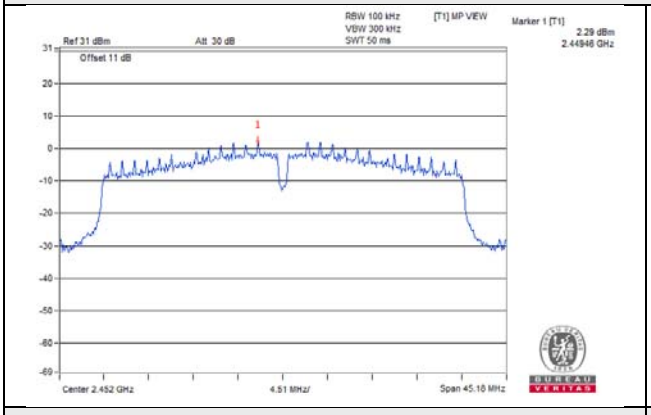


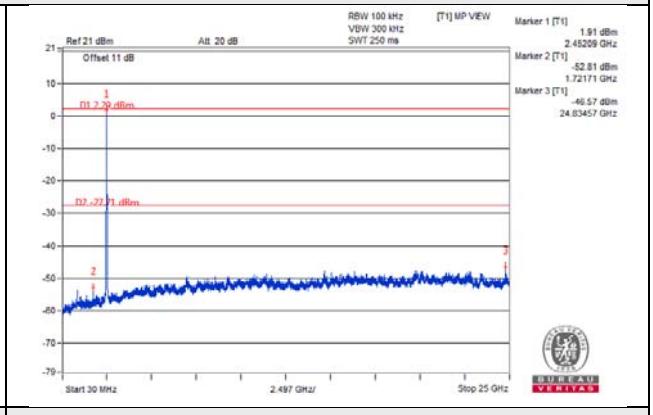
CH 6



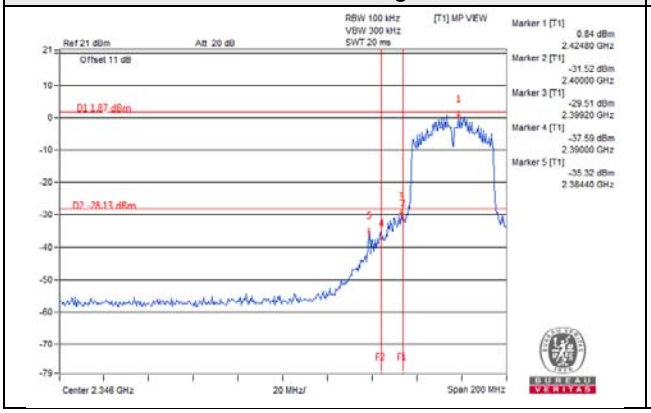


CH 9

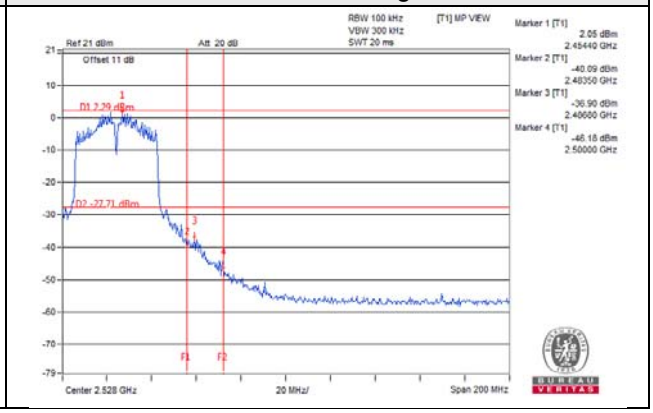




CH 3 Band edge



CH 9 Band edge



5 Pictures of Test Arrangements

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

Appendix – Information on 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 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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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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