FCC Test Report

Report No.: RF160805C22

FCC ID: CNFKWBH1

Test Model: KWBH1

Received Date: Aug. 11, 2016

Test Date: Aug. 17 ~ Sep. 10, 2016

Issued Date: Sep. 13, 2016

Applicant: GoPro, Inc.

Address: 3000 Clearview Way, San Mateo, CA94402, United States

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.)

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.
This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record **4**

1 Certificate of Conformity **5**

2 Summary of Test Results **6**

2.1 Measurement Uncertainty 6
2.2 Modification Record 6

3 General Information **7**

3.1 General Description of EUT 7
3.2 Description of Test Modes 9
3.2.1 Test Mode Applicability and Tested Channel Detail 10
3.3 Duty Cycle of Test Signal 12
3.4 Description of Support Units 14
3.4.1 Configuration of System under Test 14
3.5 General Description of Applied Standards 14

4 Test Types and Results **15**

4.1 Radiated Emission and Bandedge Measurement 15
4.1.1 Limits of Radiated Emission and Bandedge Measurement 15
4.1.2 Test Instruments 16
4.1.3 Test Procedures 17
4.1.4 Deviation from Test Standard 17
4.1.5 Test Set Up 18
4.1.6 EUT Operating Conditions 18
4.1.7 Test Results 19
4.2 Conducted Emission Measurement 42
4.2.1 Limits of Conducted Emission Measurement 42
4.2.2 Test Instruments 42
4.2.3 Test Procedures 43
4.2.4 Deviation from Test Standard 43
4.2.5 Test Setup 43
4.2.6 EUT Operating Conditions 43
4.2.7 Test Results 44
4.3 6dB Bandwidth Measurement 48
4.3.1 Limits of 6dB Bandwidth Measurement 48
4.3.2 Test Setup 48
4.3.3 Test Instruments 48
4.3.4 Test Procedure 48
4.3.5 Deviation fromTest Standard 48
4.3.6 EUT Operating Conditions 48
4.3.7 Test Result 49
4.4 Conducted Output Power Measurement 53
4.4.1 Limits of Conducted Output Power Measurement 53
4.4.2 Test Setup 53
4.4.3 Test Instruments 53
4.4.4 Test Procedures 53
4.4.5 Deviation from Test Standard 53
4.4.6 EUT Operating Conditions 53
4.4.7 Test Results 54
4.5 Power Spectral Density Measurement 56
4.5.1 Limits of Power Spectral Density Measurement 56
4.5.2 Test Setup 56
4.5.3 Test Instruments 56
4.5.4 Test Procedure 56
4.5.5 Deviation from Test Standard 57
4.5.6 EUT Operating Condition 57

4.5.7 Test Results 58
4.6 Conducted Out of Band Emission Measurement 62
4.6.1 Limits of Conducted Out of Band Emission Measurement 62
4.6.2 Test Setup 62
4.6.3 Test Instruments 62
4.6.4 Test Procedure 62
4.6.5 Deviation from Test Standard 62
4.6.6 EUT Operating Condition 62
4.6.7 Test Results 62

5 Pictures of Test Arrangements 73

Appendix – Information on the Testing Laboratories 74

Release Control Record

Issue No.	Description	Date Issued
RF160805C22	Original release	Sep. 13, 2016

1 Certificate of Conformity

Product: Remote Control

Brand: GoPro

Test Model: KWBH1

Sample Status: Engineering Sample

Applicant: GoPro, Inc.

Test Date: Aug. 17 ~ Sep. 10, 2016

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)
ANSI C63.10:2013

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

Prepared by : Celine Chou , **Date:** Sep. 13, 2016
Celine Chou / Specialist

Approved by : Ken Liu , **Date:** Sep. 13, 2016
Ken Liu / Senior Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -12.26dB at 0.42000MHz
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.1dB 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	Antenna connector is i-pex(MHF) not a standard connector.

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	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.60 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	Remote Control
Brand	GoPro
Test Model	KWBH1
Sample Status	Engineering sample
Power Supply Rating	5Vdc from adapter 3.6Vdc from battery
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b:11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300Mbps
Operating Frequency	2412 ~ 2462MHz
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	Radio 1: 323.801mW Radio 2: 165.196mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Adapter, Battery
Data Cable Supplied	N/A

Note:

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

Modulation Mode	TX Function	Remark
802.11b	2TX	Radio 1 (Hi Power)
802.11g	2TX	
802.11n (HT20)	2TX	
802.11b	1TX	Radio 2 (Sidecar)
802.11g	1TX	
802.11n (HT20)	1TX	
802.11n (HT40)	1TX	

2. This EUT has two SKUs for sale.

Brand	Model	SKU	Difference
GoPro	KWBH1	SKU A	Main test SKU
		SKU B	Antenna circuits and software of the RF portion of SKU B is identical with SKU A. The differences are merely found in the LCM shielding changed to Aluminum material also slightly modify the outline of grounding tab which have no effect on its RF characteristics, they are just for marketing differentiate purpose. So, we chose SKU A as representative to do the final test. And we do the spot check test for SKU B.

3. The EUT with follow antennas gain is listed as table below.

Ant.	Type	Connector	Gain(dBi)					Remark
			2412MHz	2425MHz	2437MHz	2450MHz	2462MHz	
1	Patch	i-pex(MHF)	2.07	3.14	3.38	3.56	3.72	Radio 1 (Hi Power)
2	Patch	i-pex(MHF)	2.94	3.49	3.53	3.61	3.31	
Ant.	Type	Connector	Gain(dBi)					Remark
			2412MHz	2425MHz	2437MHz	2450MHz	2462MHz	
3	PCB printed	i-pex(MHF)	2.38	-	2.02	2.20	2.64	Radio 2 (Sidecar)
			5200MHz	5400MHz	5500MHz	5600MHz	5700MHz	
			3.87	3.63	3.26	3.05	3.97	
			5745MHz	5800MHz	5850MHz			
			3.31	3.03	3.30			

4. The EUT consumes power from the following adapter and Battery.

Adapter	
Brand	GoPro
Model	PBM100W-168-R
Input Power	90-240Vac, 50-60Hz, 1.5A
Output Power	Output 1: 16.8Vdc, 5A (For radio control aircraft) Output 2: 5Vdc, 3A (For remote control)
Power Line	0.2m cable with one core

Battery	
Brand	GoPro
Model	601-11232-000
Power Rating	3.6Vdc, 4150mAh, 15Wh

3.2 Description of Test Modes

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

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

7 channels are provided for 802.11n (HT40):

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

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

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

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane.**

Radiated Emission Test (Above 1GHz):

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

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	REMARK
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	Radio 1 (2TX)
		1 to 11	1, 6, 11	DSSS	DBPSK	1.0	Radio 2 (1TX)
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	Radio 1 (2TX)
		1 to 11	1, 6, 11	OFDM	BPSK	6.0	Radio 2 (1TX)
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5	Radio 1 (2TX)
		1 to 11	1, 6, 11	OFDM	BPSK	6.5	Radio 2 (1TX)
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5	Radio 2 (1TX)

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
-	802.11b	1 to 11	1	DSSS	DBPSK	1.0	Radio 1 (2TX)
		1 to 11	1	DSSS	DBPSK	1.0	Radio 2 (1TX)

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
-	802.11b	1 to 11	1	DSSS	DBPSK	1.0	Radio 1 (2TX)
		1 to 11	1	DSSS	DBPSK	1.0	Radio 2 (1TX)

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
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	Radio 1 (2TX)
		1 to 11	1, 6, 11	DSSS	DBPSK	1.0	Radio 2 (1TX)
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	Radio 1 (2TX)
		1 to 11	1, 6, 11	OFDM	BPSK	6.0	Radio 2 (1TX)
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5	Radio 1 (2TX)
		1 to 11	1, 6, 11	OFDM	BPSK	6.5	Radio 2 (1TX)
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5	Radio 2 (1TX)

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 66%RH	120Vac, 60Hz	Matthew Yang
RE<1G	25deg. C, 66%RH	120Vac, 60Hz	Matthew Yang
PLC	25deg. C, 70%RH	120Vac, 60Hz	Matthew Yang
APCM	25deg. C, 60%RH 24deg. C, 64%RH	120Vac, 60Hz	Frank Liu Match Tsui

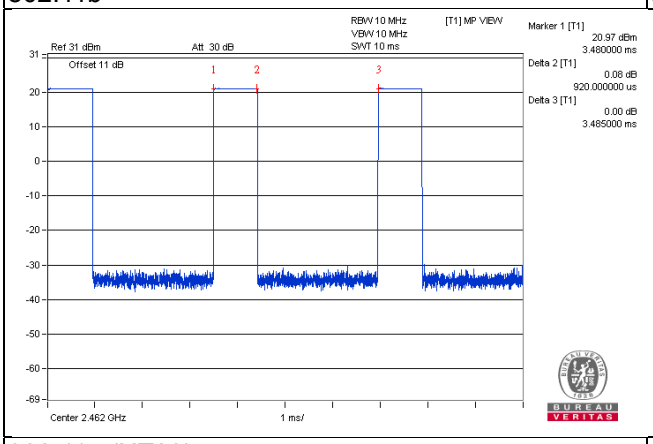
3.3 Duty Cycle of Test Signal

Radio 1

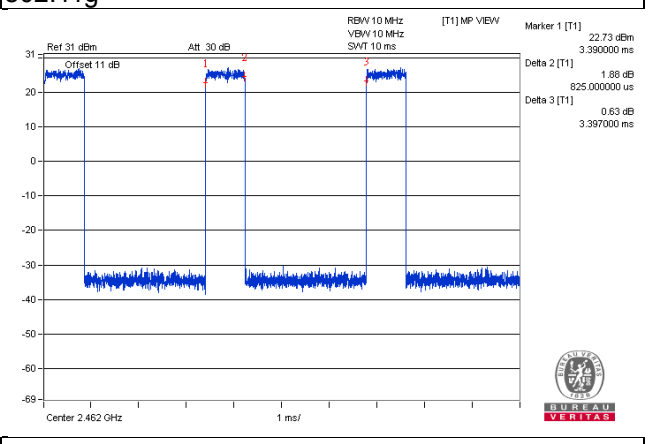
Duty cycle of test signal is < 98%, duty factor shall be considered.

802.11b: Duty cycle = 0.920/3.485 = 0.264, Duty factor = 10 * log(1/0.264) = 5.78
802.11g: Duty cycle = 0.825/3.397 = 0.243, Duty factor = 10 * log(1/0.243) = 6.15
802.11n (HT20): Duty cycle = 0.860/3.420 = 0.251, Duty factor = 10 * log(1/0.251) = 6.00

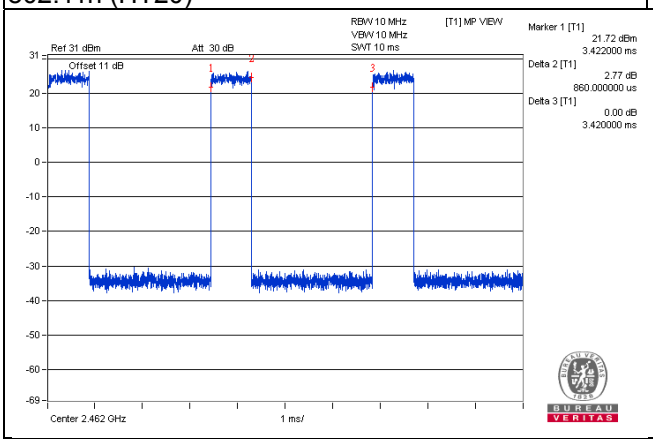
802.11b



802.11g



802.11n (HT20)

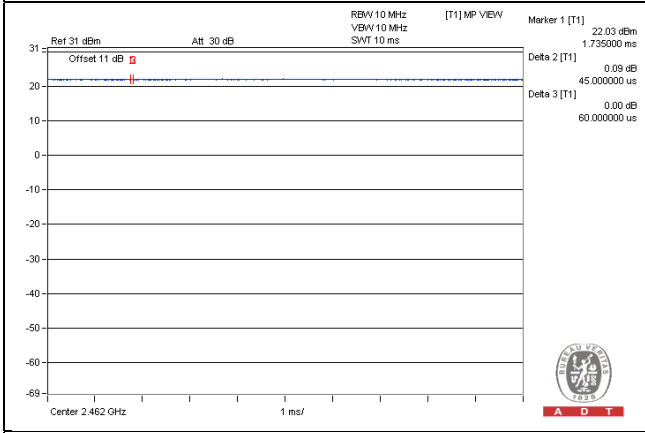


Radio 2

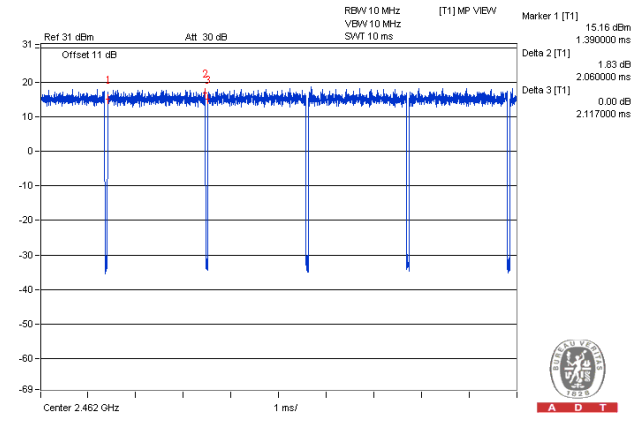
802.11b: Duty cycle of test signal is 100%, duty factor is not required.
802.11g, 802.11n (HT20), 802.11n (HT40): Duty cycle of test signal is < 98%, duty factor shall be considered.

802.11g: Duty cycle = 2.060/2.117 = 0.973, Duty factor = 10 * log(1/0.973) = 0.12
802.11n (HT20): Duty cycle = 1.915/1.990 = 0.962, Duty factor = 10 * log(1/0.962) = 0.17
802.11n (HT40): Duty cycle = 0.942/1.007 = 0.935, Duty factor = 10 * log(1/0.935) = 0.29

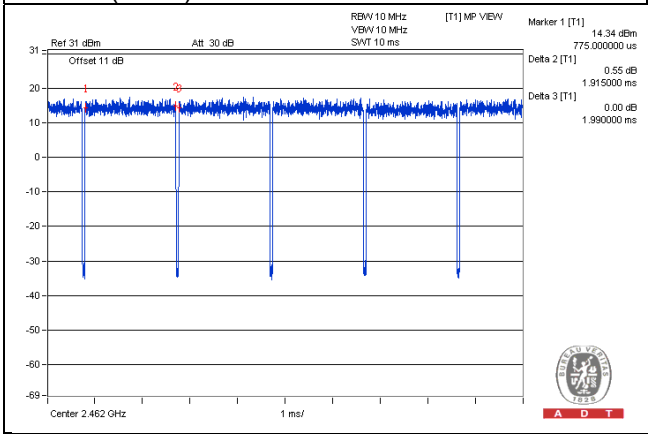
802.11b



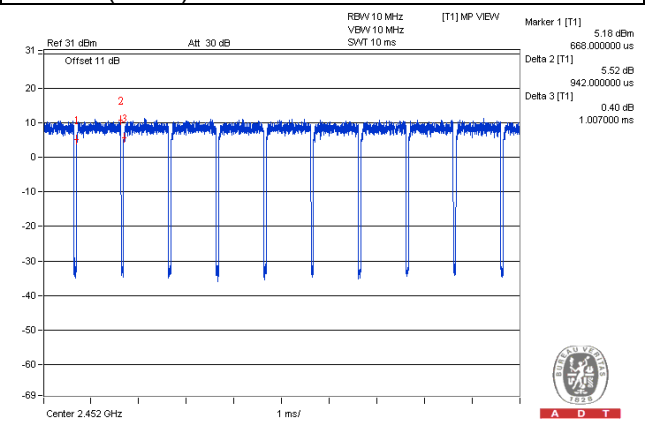
802.11g



802.11n (HT20)



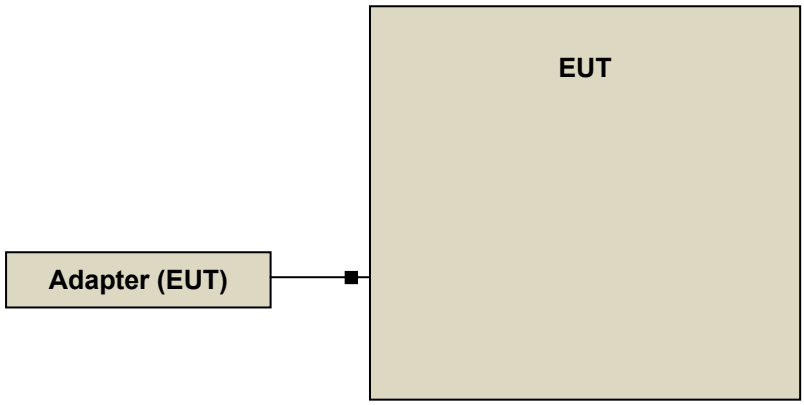
802.11n (HT40)



3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

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 DTS Meas Guidance v03r05

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

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

Note: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

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 30dB under any condition of modulation.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 12, 2015	Oct. 11, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 16, 2016	Aug. 15, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Jan. 08, 2016	Jan. 07, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Jan. 18, 2016	Jan. 17, 2017
Preamplifier Agilent	8449B	3008A01960	Aug. 09, 2016	Aug. 08, 2017
Preamplifier Agilent	8447D	2944A10631	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 09, 2016	Aug. 08, 2017
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	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
High Speed Peak Power Meter	ML2495A	0824012	Aug. 11, 2016	Aug. 10, 2017
Power Sensor	MA2411B	0738171	Aug. 11, 2016	Aug. 10, 2017

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 horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 460141.
5. The IC Site Registration No. is IC7450F-4.

4.1.3 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 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:

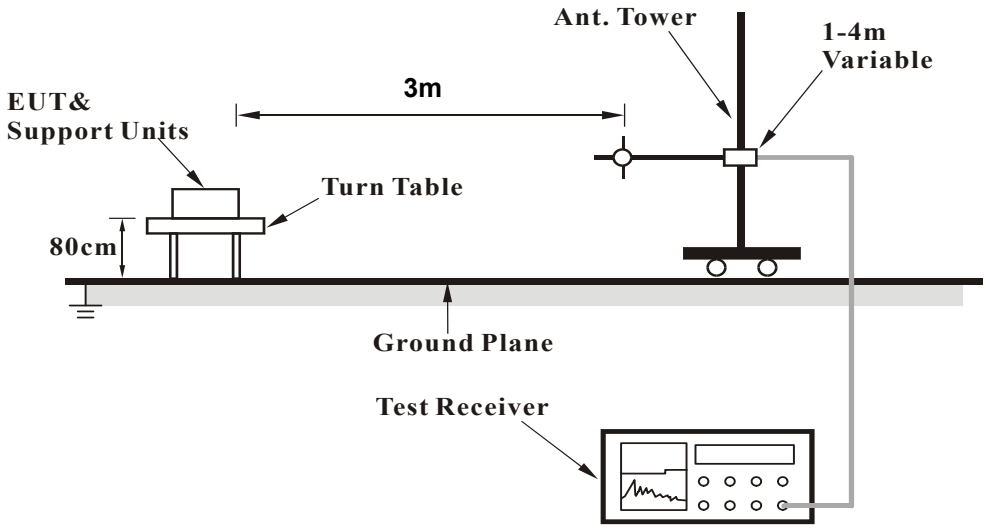
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

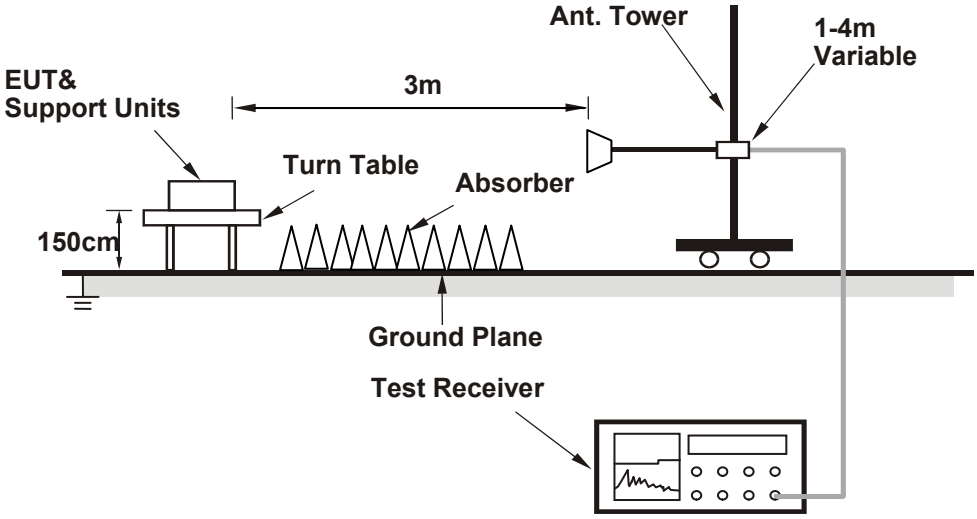
No deviation.

4.1.5 Test Set Up

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

Set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz worst-Case data:

Radio 1

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	55.5 PK	74.0	-18.5	1.84 H	255	23.3	32.2
2	2390.00	45.2 AV	54.0	-8.8	1.84 H	255	13.0	32.2
3	*2412.00	113.8 PK			1.91 H	270	81.4	32.4
4	*2412.00	110.3 AV			1.91 H	270	77.9	32.4
5	4824.00	48.0 PK	74.0	-26.0	1.06 H	189	41.6	6.4
6	4824.00	35.7 AV	54.0	-18.3	1.06 H	189	29.3	6.4
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	56.1 PK	74.0	-17.9	1.71 V	72	23.9	32.2
2	2390.00	44.8 AV	54.0	-9.2	1.71 V	72	12.6	32.2
3	*2412.00	114.2 PK			1.66 V	59	81.8	32.4
4	*2412.00	110.7 AV			1.66 V	59	78.3	32.4
5	4824.00	48.5 PK	74.0	-25.5	1.16 V	144	42.1	6.4
6	4824.00	35.9 AV	54.0	-18.1	1.16 V	144	29.5	6.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
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	107.9 PK			1.91 H	324	75.4	32.5
2	*2437.00	104.3 AV			1.91 H	324	71.8	32.5
3	4874.00	47.9 PK	74.0	-26.1	1.24 H	216	41.3	6.6
4	4874.00	36.2 AV	54.0	-17.8	1.24 H	216	29.6	6.6
5	7311.00	52.9 PK	74.0	-21.1	2.06 H	199	40.3	12.6
6	7311.00	42.2 AV	54.0	-11.8	2.06 H	199	29.6	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	*2437.00	112.9 PK			1.81 V	55	80.4	32.5
2	*2437.00	109.9 AV			1.81 V	55	77.4	32.5
3	4874.00	48.1 PK	74.0	-25.9	1.04 V	180	41.5	6.6
4	4874.00	36.0 AV	54.0	-18.0	1.04 V	180	29.4	6.6
5	7311.00	53.6 PK	74.0	-20.4	2.67 V	154	41.0	12.6
6	7311.00	43.4 AV	54.0	-10.6	2.67 V	154	30.8	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)
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	110.9 PK			1.74 H	284	78.3	32.6
2	*2462.00	107.3 AV			1.74 H	284	74.7	32.6
3	2483.50	56.0 PK	74.0	-18.0	1.60 H	300	23.3	32.7
4	2483.50	45.2 AV	54.0	-8.8	1.60 H	300	12.5	32.7
5	4924.00	48.3 PK	74.0	-25.7	1.05 H	177	41.7	6.6
6	4924.00	35.8 AV	54.0	-18.2	1.05 H	177	29.2	6.6
7	7386.00	53.1 PK	74.0	-20.9	1.97 H	189	40.9	12.2
8	7386.00	41.1 AV	54.0	-12.9	1.97 H	189	28.9	12.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	112.9 PK			1.62 V	54	80.3	32.6
2	*2462.00	109.6 AV			1.62 V	54	77.0	32.6
3	2483.50	55.6 PK	74.0	-18.4	1.70 V	61	22.9	32.7
4	2483.50	45.4 AV	54.0	-8.6	1.70 V	61	12.7	32.7
5	4924.00	48.5 PK	74.0	-25.5	1.10 V	207	41.9	6.6
6	4924.00	36.6 AV	54.0	-17.4	1.10 V	207	30.0	6.6
7	7386.00	53.2 PK	74.0	-20.8	2.51 V	222	41.0	12.2
8	7386.00	41.6 AV	54.0	-12.4	2.51 V	222	29.4	12.2

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

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.6 PK	74.0	-18.4	1.82 H	281	23.4	32.2
2	2390.00	45.2 AV	54.0	-8.8	1.82 H	281	13.0	32.2
3	*2412.00	116.8 PK			1.92 H	270	84.4	32.4
4	*2412.00	107.9 AV			1.92 H	270	75.5	32.4
5	4824.00	48.1 PK	74.0	-25.9	1.23 H	198	41.7	6.4
6	4824.00	35.9 AV	54.0	-18.1	1.23 H	198	29.5	6.4
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	55.8 PK	74.0	-18.2	1.93 V	39	23.6	32.2
2	2390.00	45.3 AV	54.0	-8.7	1.93 V	39	13.1	32.2
3	*2412.00	118.0 PK			2.04 V	50	85.6	32.4
4	*2412.00	109.7 AV			2.04 V	50	77.3	32.4
5	4824.00	47.9 PK	74.0	-26.1	1.09 V	101	41.5	6.4
6	4824.00	35.7 AV	54.0	-18.3	1.09 V	101	29.3	6.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
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	115.5 PK			1.90 H	270	83.0	32.5
2	*2437.00	107.2 AV			1.90 H	270	74.7	32.5
3	4874.00	48.1 PK	74.0	-25.9	1.20 H	123	41.5	6.6
4	4874.00	35.7 AV	54.0	-18.3	1.20 H	123	29.1	6.6
5	7311.00	53.9 PK	74.0	-20.1	2.10 H	103	41.3	12.6
6	7311.00	41.4 AV	54.0	-12.6	2.10 H	103	28.8	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	*2437.00	117.5 PK			1.83 V	46	85.0	32.5
2	*2437.00	108.8 AV			1.83 V	46	76.3	32.5
3	4874.00	47.0 PK	74.0	-27.0	1.16 V	244	40.4	6.6
4	4874.00	36.3 AV	54.0	-17.7	1.16 V	244	29.7	6.6
5	7311.00	55.2 PK	74.0	-18.8	2.49 V	208	42.6	12.6
6	7311.00	42.4 AV	54.0	-11.6	2.49 V	208	29.8	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)
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	115.6 PK			1.87 H	281	83.0	32.6
2	*2462.00	106.3 AV			1.87 H	281	73.7	32.6
3	2483.50	58.4 PK	74.0	-15.6	1.79 H	312	25.7	32.7
4	2483.50	46.3 AV	54.0	-7.7	1.79 H	312	13.6	32.7
5	4924.00	48.5 PK	74.0	-25.5	1.17 H	169	41.9	6.6
6	4924.00	36.1 AV	54.0	-17.9	1.17 H	169	29.5	6.6
7	7386.00	53.2 PK	74.0	-20.8	2.00 H	152	41.0	12.2
8	7386.00	42.1 AV	54.0	-11.9	2.00 H	152	29.9	12.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	117.2 PK			1.63 V	53	84.6	32.6
2	*2462.00	108.9 AV			1.63 V	53	76.3	32.6
3	2483.50	58.5 PK	74.0	-15.5	1.50 V	79	25.8	32.7
4	2483.50	48.6 AV	54.0	-5.4	1.50 V	79	15.9	32.7
5	4924.00	47.9 PK	74.0	-26.1	1.21 V	115	41.3	6.6
6	4924.00	36.6 AV	54.0	-17.4	1.21 V	115	30.0	6.6
7	7386.00	54.8 PK	74.0	-19.2	2.13 V	130	42.6	12.2
8	7386.00	43.8 AV	54.0	-10.2	2.13 V	130	31.6	12.2

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

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.5 PK	74.0	-17.5	1.96 H	281	24.3	32.2
2	2390.00	45.2 AV	54.0	-8.8	1.96 H	281	13.0	32.2
3	*2412.00	116.8 PK			1.92 H	275	84.4	32.4
4	*2412.00	108.2 AV			1.92 H	275	75.8	32.4
5	4824.00	48.0 PK	74.0	-26.0	1.18 H	145	41.6	6.4
6	4824.00	35.9 AV	54.0	-18.1	1.18 H	145	29.5	6.4
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	56.3 PK	74.0	-17.7	2.09 V	80	24.1	32.2
2	2390.00	45.4 AV	54.0	-8.6	2.09 V	80	13.2	32.2
3	*2412.00	118.2 PK			2.01 V	53	85.8	32.4
4	*2412.00	110.0 AV			2.01 V	53	77.6	32.4
5	4824.00	48.4 PK	74.0	-25.6	1.04 V	107	42.0	6.4
6	4824.00	36.1 AV	54.0	-17.9	1.04 V	107	29.7	6.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
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	116.2 PK			1.73 H	271	83.7	32.5
2	*2437.00	107.2 AV			1.73 H	271	74.7	32.5
3	4874.00	48.5 PK	74.0	-25.5	1.25 H	156	41.9	6.6
4	4874.00	36.2 AV	54.0	-17.8	1.25 H	156	29.6	6.6
5	7311.00	53.4 PK	74.0	-20.6	2.12 H	163	40.8	12.6
6	7311.00	41.8 AV	54.0	-12.2	2.12 H	163	29.2	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	*2437.00	117.4 PK			1.79 V	55	84.9	32.5
2	*2437.00	108.2 AV			1.79 V	55	75.7	32.5
3	4874.00	48.4 PK	74.0	-25.6	1.11 V	162	41.8	6.6
4	4874.00	36.4 AV	54.0	-17.6	1.11 V	162	29.8	6.6
5	7311.00	53.3 PK	74.0	-20.7	1.79 V	150	40.7	12.6
6	7311.00	42.0 AV	54.0	-12.0	1.79 V	150	29.4	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)
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	114.4 PK			1.68 H	282	81.8	32.6
2	*2462.00	105.9 AV			1.68 H	282	73.3	32.6
3	2483.50	57.2 PK	74.0	-16.8	1.73 H	290	24.5	32.7
4	2483.50	46.6 AV	54.0	-7.4	1.73 H	290	13.9	32.7
5	4924.00	49.8 PK	74.0	-24.2	1.09 H	183	43.2	6.6
6	4924.00	36.4 AV	54.0	-17.6	1.09 H	183	29.8	6.6
7	7386.00	53.3 PK	74.0	-20.7	2.10 H	171	41.1	12.2
8	7386.00	42.2 AV	54.0	-11.8	2.10 H	171	30.0	12.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	118.8 PK			1.64 V	53	86.2	32.6
2	*2462.00	109.8 AV			1.64 V	53	77.2	32.6
3	2483.50	59.0 PK	74.0	-15.0	1.47 V	22	26.3	32.7
4	2483.50	47.8 AV	54.0	-6.2	1.47 V	22	15.1	32.7
5	4924.00	48.6 PK	74.0	-25.4	1.10 V	101	42.0	6.6
6	4924.00	36.5 AV	54.0	-17.5	1.10 V	101	29.9	6.6
7	7386.00	53.9 PK	74.0	-20.1	2.33 V	141	41.7	12.2
8	7386.00	43.3 AV	54.0	-10.7	2.33 V	141	31.1	12.2

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

Radio 2

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	2384.00	57.9 PK	74.0	-16.1	1.17 H	340	25.2	32.7
2	2384.00	52.5 AV	54.0	-1.5	1.17 H	340	19.8	32.7
3	*2412.00	109.9 PK			1.17 H	340	77.1	32.8
4	*2412.00	107.5 AV			1.17 H	340	74.7	32.8
5	4824.00	51.0 PK	74.0	-23.0	2.94 H	210	44.1	6.9
6	4824.00	48.3 AV	54.0	-5.7	2.94 H	210	41.4	6.9
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	2384.00	52.4 PK	74.0	-21.6	1.10 V	310	19.7	32.7
2	2384.00	46.7 AV	54.0	-7.3	1.10 V	310	14.0	32.7
3	*2412.00	104.6 PK			1.10 V	310	71.8	32.8
4	*2412.00	102.3 AV			1.10 V	310	69.5	32.8
5	4824.00	47.0 PK	74.0	-27.0	2.30 V	315	40.1	6.9
6	4824.00	46.3 AV	54.0	-7.7	2.30 V	315	39.4	6.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
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	112.5 PK			1.15 H	331	79.5	33.0
2	*2437.00	110.0 AV			1.15 H	331	77.0	33.0
3	4874.00	53.1 PK	74.0	-20.9	2.83 H	220	46.1	7.0
4	4874.00	52.8 AV	54.0	-1.2	2.83 H	220	45.8	7.0
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	107.5 PK			1.10 V	305	74.5	33.0
2	*2437.00	105.4 AV			1.10 V	305	72.4	33.0
3	4874.00	50.0 PK	74.0	-24.0	2.83 V	220	43.0	7.0
4	4874.00	49.2 AV	54.0	-4.8	2.83 V	220	42.2	7.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
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	110.1 PK			1.12 H	343	77.0	33.1
2	*2462.00	107.6 AV			1.12 H	343	74.5	33.1
3	2487.20	56.6 PK	74.0	-17.4	1.12 H	343	57.8	-1.2
4	2487.20	52.1 AV	54.0	-1.9	1.12 H	343	53.3	-1.2
5	4924.00	53.2 PK	74.0	-20.8	3.53 H	208	46.1	7.1
6	4924.00	50.4 AV	54.0	-3.6	3.53 H	208	43.3	7.1
7	7386.00	47.2 PK	74.0	-26.8	1.67 H	131	33.9	13.3
8	7386.00	33.5 AV	54.0	-20.5	1.67 H	131	20.2	13.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.0 PK			1.05 V	295	71.9	33.1
2	*2462.00	102.7 AV			1.05 V	295	69.6	33.1
3	2487.20	51.9 PK	74.0	-22.1	1.05 V	295	18.7	33.2
4	2487.20	47.2 AV	54.0	-6.8	1.05 V	295	14.0	33.2
5	4924.00	51.5 PK	74.0	-22.5	2.43 V	315	44.4	7.1
6	4924.00	48.8 AV	54.0	-5.2	2.43 V	315	41.7	7.1
7	7386.00	47.1 PK	74.0	-26.9	1.75 V	98	33.8	13.3
8	7386.00	33.8 AV	54.0	-20.2	1.75 V	98	20.5	13.3

Remarks:

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

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	71.6 PK	74.0	-2.4	1.11 H	354	38.9	32.7
2	2390.00	52.7 AV	54.0	-1.3	1.11 H	354	20.0	32.7
3	*2412.00	104.6 PK			1.11 H	354	71.8	32.8
4	*2412.00	93.4 AV			1.11 H	354	60.6	32.8
5	4824.00	48.4 PK	74.0	-25.6	2.90 H	30	41.5	6.9
6	4824.00	36.2 AV	54.0	-17.8	2.90 H	30	29.3	6.9
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	1.10 V	288	34.3	32.7
2	2390.00	48.1 AV	54.0	-5.9	1.10 V	288	15.4	32.7
3	*2412.00	99.7 PK			1.10 V	288	66.9	32.8
4	*2412.00	88.5 AV			1.10 V	288	55.7	32.8
5	4824.00	46.7 PK	74.0	-27.3	1.10 V	350	39.8	6.9
6	4824.00	34.8 AV	54.0	-19.2	1.10 V	350	27.9	6.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
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	68.2 PK	74.0	-5.8	1.09 H	332	35.5	32.7
2	2390.00	52.2 AV	54.0	-1.8	1.09 H	332	19.5	32.7
3	*2437.00	116.0 PK			1.09 H	332	83.0	33.0
4	*2437.00	104.3 AV			1.09 H	332	71.3	33.0
5	2483.50	68.1 PK	74.0	-5.9	1.09 H	332	34.9	33.2
6	2483.50	52.4 AV	54.0	-1.6	1.09 H	332	19.2	33.2
7	4874.00	50.2 PK	74.0	-23.8	2.94 H	37	43.2	7.0
8	4874.00	38.6 AV	54.0	-15.4	2.94 H	37	31.6	7.0
9	7311.00	47.2 PK	74.0	-26.8	1.67 H	134	34.1	13.1
10	7311.00	33.6 AV	54.0	-20.4	1.67 H	134	20.5	13.1
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	64.8 PK	74.0	-9.2	1.10 V	295	32.1	32.7
2	2390.00	48.4 AV	54.0	-5.6	1.10 V	295	15.7	32.7
3	*2437.00	111.1 PK			1.10 V	295	78.1	33.0
4	*2437.00	99.6 AV			1.10 V	295	66.6	33.0
5	2483.50	64.2 PK	74.0	-9.8	1.10 V	295	31.0	33.2
6	2483.50	48.1 AV	54.0	-5.9	1.10 V	295	14.9	33.2
7	4874.00	48.3 PK	74.0	-25.7	2.24 V	80	41.3	7.0
8	4874.00	36.2 AV	54.0	-17.8	2.24 V	80	29.2	7.0
9	7311.00	46.8 PK	74.0	-27.2	1.20 V	120	33.7	13.1
10	7311.00	33.1 AV	54.0	-20.9	1.20 V	120	20.0	13.1

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)
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	105.3 PK			1.12 H	346	72.2	33.1
2	*2462.00	94.5 AV			1.12 H	346	61.4	33.1
3	2483.50	68.8 PK	74.0	-5.2	1.12 H	346	35.6	33.2
4	**2483.50**	**52.9 AV**	**54.0**	**-1.1**	**1.12 H**	**346**	**19.7**	**33.2**
5	4924.00	48.7 PK	74.0	-25.3	2.10 H	45	41.6	7.1
6	4924.00	36.5 AV	54.0	-17.5	2.10 H	45	29.4	7.1
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	100.4 PK			1.10 V	274	67.3	33.1
2	*2462.00	89.1 AV			1.10 V	274	56.0	33.1
3	2483.50	64.1 PK	74.0	-9.9	1.10 V	274	30.9	33.2
4	2483.50	48.4 AV	54.0	-5.6	1.10 V	274	15.2	33.2
5	4924.00	46.9 PK	74.0	-27.1	1.00 V	310	39.8	7.1
6	4924.00	35.1 AV	54.0	-18.9	1.00 V	310	28.0	7.1

Remarks:

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

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.4 PK	74.0	-5.6	1.10 H	341	35.7	32.7
2	2390.00	52.8 AV	54.0	-1.2	1.10 H	341	20.1	32.7
3	*2412.00	103.2 PK			1.10 H	341	70.4	32.8
4	*2412.00	92.1 AV			1.10 H	341	59.3	32.8
5	4824.00	48.5 PK	74.0	-25.5	1.15 H	50	41.6	6.9
6	4824.00	35.9 AV	54.0	-18.1	1.15 H	50	29.0	6.9
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	66.4 PK	74.0	-7.6	1.10 V	295	33.7	32.7
2	2390.00	47.6 AV	54.0	-6.4	1.10 V	295	14.9	32.7
3	*2412.00	99.1 PK			1.10 V	295	66.3	32.8
4	*2412.00	97.9 AV			1.10 V	295	65.1	32.8
5	4824.00	46.5 PK	74.0	-27.5	1.05 V	340	39.6	6.9
6	4824.00	34.5 AV	54.0	-19.5	1.05 V	340	27.6	6.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
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	68.9 PK	74.0	-5.1	1.13 H	343	36.2	32.7
2	2390.00	52.2 AV	54.0	-1.8	1.13 H	343	19.5	32.7
3	*2437.00	115.1 PK			1.13 H	343	82.1	33.0
4	*2437.00	103.4 AV			1.13 H	343	70.4	33.0
5	2483.50	62.8 PK	74.0	-11.2	1.13 H	343	29.6	33.2
6	2483.50	52.7 AV	54.0	-1.3	1.13 H	343	19.5	33.2
7	4874.00	49.8 PK	74.0	-24.2	2.44 H	45	42.8	7.0
8	4874.00	38.3 AV	54.0	-15.7	2.44 H	45	31.3	7.0
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	64.2 PK	74.0	-9.8	1.13 V	310	31.5	32.7
2	2390.00	47.9 AV	54.0	-6.1	1.13 V	310	15.2	32.7
3	*2437.00	110.4 PK			1.13 V	310	77.4	33.0
4	*2437.00	98.9 AV			1.13 V	310	65.9	33.0
5	2483.50	63.8 PK	74.0	-10.2	1.13 V	310	30.6	33.2
6	2483.50	47.5 AV	54.0	-6.5	1.13 V	310	14.3	33.2
7	4874.00	48.0 PK	74.0	-26.0	2.10 V	100	41.0	7.0
8	4874.00	35.9 AV	54.0	-18.1	2.10 V	100	28.9	7.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
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	104.6 PK			1.12 H	344	71.5	33.1
2	*2462.00	93.3 AV			1.12 H	344	60.2	33.1
3	2483.50	68.3 PK	74.0	-5.7	1.12 H	344	35.1	33.2
4	**2483.50**	**52.9 AV**	**54.0**	**-1.1**	**1.12 H**	**344**	**19.7**	**33.2**
5	4924.00	48.0 PK	74.0	-26.0	2.00 H	56	40.9	7.1
6	4924.00	35.9 AV	54.0	-18.1	2.00 H	56	28.8	7.1
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	100.0 PK			1.08 V	288	66.9	33.1
2	*2462.00	88.6 AV			1.08 V	288	55.5	33.1
3	2483.50	63.8 PK	74.0	-10.2	1.08 V	288	65.0	-1.2
4	2483.50	48.0 AV	54.0	-6.0	1.08 V	288	49.2	-1.2
5	4924.00	46.5 PK	74.0	-27.5	1.00 V	280	39.4	7.1
6	4924.00	34.9 AV	54.0	-19.1	1.00 V	280	27.8	7.1

Remarks:

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

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.8 PK	74.0	-8.2	1.07 H	335	33.1	32.7
2	2390.00	52.6 AV	54.0	-1.4	1.07 H	335	19.9	32.7
3	*2422.00	99.3 PK			1.07 H	335	66.4	32.9
4	*2422.00	90.2 AV			1.07 H	335	57.3	32.9
5	4844.00	47.8 PK	74.0	-26.2	1.50 H	300	40.8	7.0
6	4844.00	35.6 AV	54.0	-18.4	1.50 H	300	28.6	7.0
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	61.8 PK	74.0	-12.2	1.10 V	274	29.1	32.7
2	2390.00	47.6 AV	54.0	-6.4	1.10 V	274	14.9	32.7
3	*2422.00	94.5 PK			1.10 V	274	61.6	32.9
4	*2422.00	85.3 AV			1.10 V	274	52.4	32.9
5	4844.00	46.8 PK	74.0	-27.2	1.00 V	350	39.8	7.0
6	4844.00	35.0 AV	54.0	-19.0	1.00 V	350	28.0	7.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
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	64.9 PK	74.0	-9.1	1.18 H	341	32.2	32.7
2	2390.00	52.4 AV	54.0	-1.6	1.18 H	341	19.7	32.7
3	*2437.00	105.9 PK			1.18 H	341	72.9	33.0
4	*2437.00	96.5 AV			1.18 H	341	63.5	33.0
5	2483.50	65.8 PK	74.0	-8.2	1.18 H	341	32.6	33.2
6	**2483.50**	**52.9 AV**	**54.0**	**-1.1**	**1.18 H**	**341**	**19.7**	**33.2**
7	4874.00	49.9 PK	74.0	-24.1	1.45 H	280	42.9	7.0
8	4874.00	37.7 AV	54.0	-16.3	1.45 H	280	30.7	7.0
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	60.4 PK	74.0	-13.6	1.12 V	240	27.7	32.7
2	2390.00	47.6 AV	54.0	-6.4	1.12 V	240	14.9	32.7
3	*2437.00	101.2 PK			1.12 V	240	68.2	33.0
4	*2437.00	91.7 AV			1.12 V	240	58.7	33.0
5	2483.50	61.1 PK	74.0	-12.9	1.12 V	240	27.9	33.2
6	2483.50	47.6 AV	54.0	-6.4	1.12 V	240	14.4	33.2
7	4874.00	49.8 PK	74.0	-24.2	1.00 V	330	42.8	7.0
8	4874.00	36.7 AV	54.0	-17.3	1.00 V	330	29.7	7.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
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	*2452.00	100.4 PK			1.15 H	334	67.3	33.1
2	*2452.00	90.8 AV			1.15 H	334	57.7	33.1
3	2483.50	63.2 PK	74.0	-10.8	1.15 H	344	30.0	33.2
4	2483.50	52.8 AV	54.0	-1.2	1.15 H	344	19.6	33.2
5	4904.00	48.1 PK	74.0	-25.9	1.20 H	240	41.0	7.1
6	4904.00	35.9 AV	54.0	-18.1	1.20 H	240	28.8	7.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	95.8 PK			1.12 V	260	62.7	33.1
2	*2452.00	86.1 AV			1.12 V	260	53.0	33.1
3	2483.50	59.7 PK	74.0	-14.3	1.12 V	260	26.5	33.2
4	2483.50	47.5 AV	54.0	-6.5	1.12 V	260	14.3	33.2
5	4904.00	47.1 PK	74.0	-26.9	1.10 V	340	40.0	7.1
6	4904.00	35.6 AV	54.0	-18.4	1.10 V	340	28.5	7.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
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:

Radio 1

802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 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	64.83	36.6 QP	40.0	-3.4	1.01 H	358	51.6	-15.0
2	101.69	31.7 QP	43.5	-11.8	1.51 H	265	50.0	-18.3
3	253.05	30.5 QP	46.0	-15.5	1.01 H	243	44.6	-14.1
4	536.34	25.0 QP	46.0	-21.0	1.51 H	241	33.1	-8.1
5	697.40	28.9 QP	46.0	-17.1	1.26 H	316	33.5	-4.6
6	947.71	30.2 QP	46.0	-15.8	1.26 H	6	30.0	0.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	39.60	35.3 QP	40.0	-4.7	1.24 V	155	50.1	-14.8
2	245.28	24.3 QP	46.0	-21.7	1.50 V	287	38.6	-14.3
3	478.13	24.5 QP	46.0	-21.5	1.00 V	38	33.5	-9.0
4	656.65	24.4 QP	46.0	-21.6	1.24 V	116	29.5	-5.1
5	707.10	30.9 QP	46.0	-15.1	1.50 V	160	35.1	-4.2
6	936.07	29.6 QP	46.0	-16.4	1.50 V	7	29.7	-0.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

Radio 2

802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 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	150.20	26.5 QP	43.5	-17.0	2.00 H	125	40.1	-13.6
2	260.81	37.3 QP	46.0	-8.7	1.00 H	176	51.1	-13.8
3	377.23	33.7 QP	46.0	-12.3	2.00 H	7	44.5	-10.8
4	598.44	32.1 QP	46.0	-13.9	1.00 H	95	38.4	-6.3
5	709.04	32.3 QP	46.0	-13.7	1.50 H	12	36.5	-4.2
6	932.19	29.7 QP	46.0	-16.3	1.24 H	142	29.8	-0.1
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	53.18	30.4 QP	40.0	-9.6	1.24 V	299	44.3	-13.9
2	260.81	29.4 QP	46.0	-16.6	1.00 V	203	43.2	-13.8
3	439.32	35.0 QP	46.0	-11.0	1.24 V	125	44.5	-9.5
4	518.88	31.8 QP	46.0	-14.2	2.00 V	259	39.9	-8.1
5	598.44	28.8 QP	46.0	-17.2	1.00 V	192	35.1	-6.3
6	833.23	26.6 QP	46.0	-19.4	1.50 V	203	28.4	-1.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

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	ESCI	100613	Nov. 16, 2015	Nov. 15, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2016	Feb. 25, 2017
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	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.

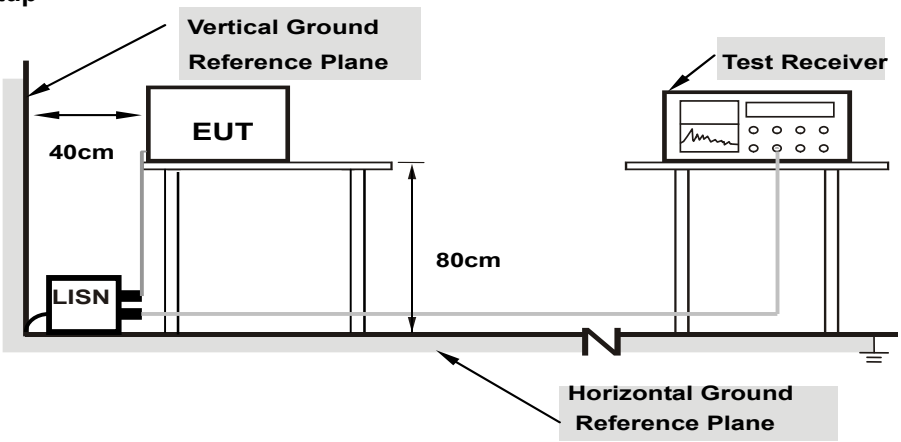
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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 4.1.6.

4.2.7 Test Results

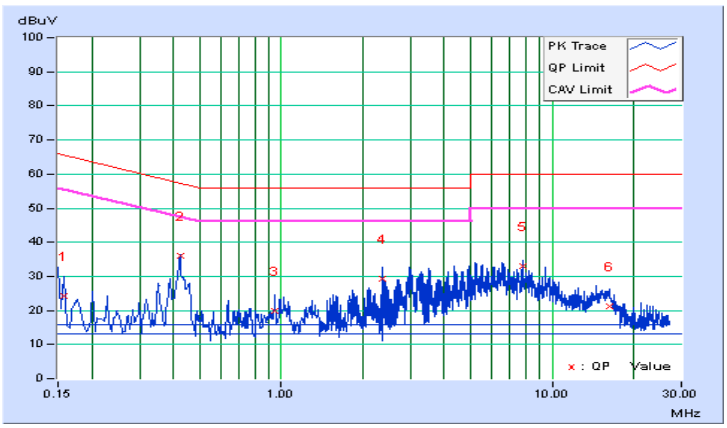
Radio 1

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	0.15782	10.02	14.07	0.18	24.09	10.20	65.58	55.58	-41.49	-45.38
2	0.42334	10.12	26.00	15.05	36.12	25.17	57.38	47.38	-21.26	-22.21
3	0.94373	10.19	9.62	2.42	19.81	12.61	56.00	46.00	-36.19	-33.39
4	2.35929	10.30	18.97	13.17	29.27	23.47	56.00	46.00	-26.73	-22.53
5	7.78320	10.61	22.53	17.97	33.14	28.58	60.00	50.00	-26.86	-21.42
6	16.22401	11.10	10.28	2.43	21.38	13.53	60.00	50.00	-38.62	-36.47

Remarks:

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

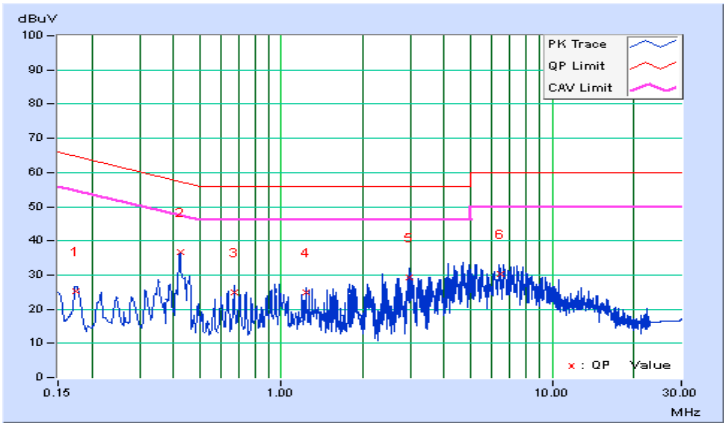


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	0.17374	10.03	15.32	6.79	25.35	16.82	64.78	54.78	-39.43	-37.96
2	0.42334	10.13	26.50	15.65	36.63	25.78	57.38	47.38	-20.75	-21.60
3	0.66781	10.17	14.78	6.10	24.95	16.27	56.00	46.00	-31.05	-29.73
4	1.23065	10.23	14.59	5.66	24.82	15.89	56.00	46.00	-31.18	-30.11
5	2.95933	10.35	19.09	8.09	29.44	18.44	56.00	46.00	-26.56	-27.56
6	6.41382	10.58	19.76	6.59	30.34	17.17	60.00	50.00	-29.66	-32.83

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.



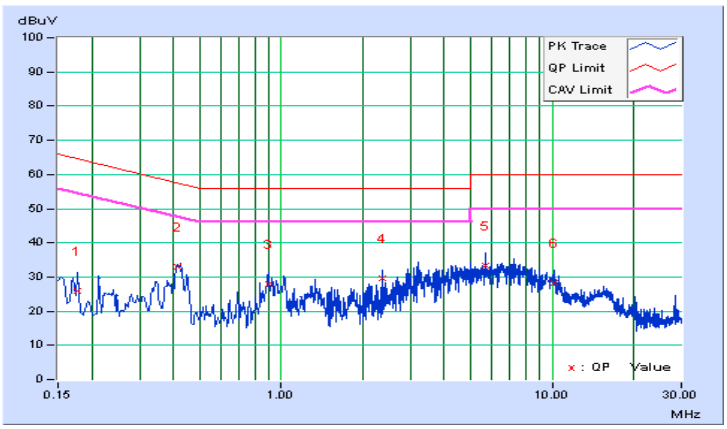
Radio 2

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	0.17698	10.08	15.69	7.10	25.77	17.18	64.63	54.63	-38.86	-37.45
2	0.41233	10.17	22.94	19.50	33.11	29.67	57.60	47.60	-24.49	-17.93
3	0.89705	10.27	17.65	14.19	27.92	24.46	56.00	46.00	-28.08	-21.54
4	2.36306	10.39	19.17	14.36	29.56	24.75	56.00	46.00	-26.44	-21.25
5	5.69829	10.55	22.75	17.61	33.30	28.16	60.00	50.00	-26.70	-21.84
6	10.15178	10.78	17.67	12.06	28.45	22.84	60.00	50.00	-31.55	-27.16

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.

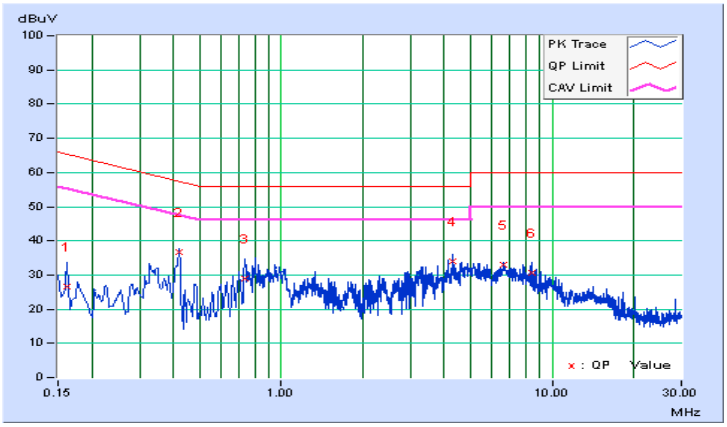


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value		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	0.16173	10.08	16.44	2.72	26.52	12.80	65.37	55.37	-38.85	-42.57
2	**0.42000**	**10.24**	**26.34**	**24.95**	**36.58**	**35.19**	**57.45**	**47.45**	**-20.87**	**-12.26**
3	0.73619	10.27	18.56	15.28	28.83	25.55	56.00	46.00	-27.17	-20.45
4	4.30242	10.60	23.51	17.29	34.11	27.89	56.00	46.00	-21.89	-18.11
5	6.61323	10.70	22.37	16.12	33.07	26.82	60.00	50.00	-26.93	-23.18
6	8.38446	10.78	20.00	17.15	30.78	27.93	60.00	50.00	-29.22	-22.07

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.

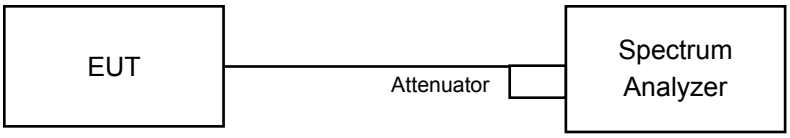


4.3 6dB Bandwidth Measurement

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 = average.

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 fromTest 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

Radio1

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	10.09	10.09	0.5	Pass
6	2437	10.04	10.11	0.5	Pass
11	2462	10.11	10.05	0.5	Pass

802.11g

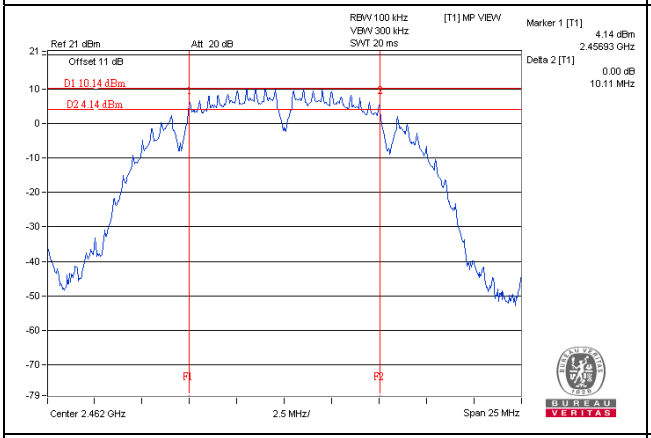
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	16.39	16.39	0.5	Pass
6	2437	16.36	16.39	0.5	Pass
11	2462	16.34	16.35	0.5	Pass

802.11n (HT20)

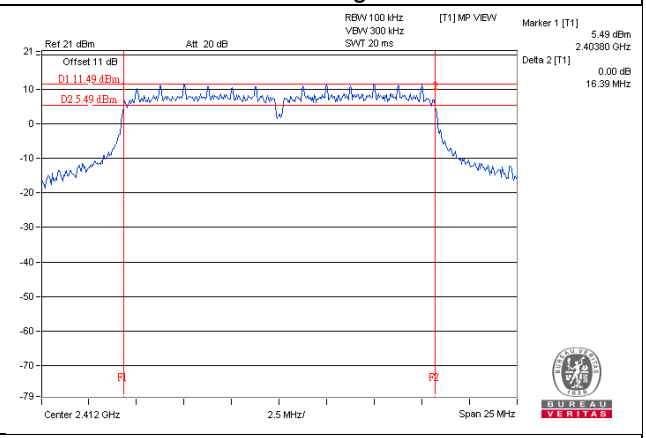
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	17.37	17.36	0.5	Pass
6	2437	17.35	17.59	0.5	Pass
11	2462	16.97	17.33	0.5	Pass

Spectrum Plot of Worst Value

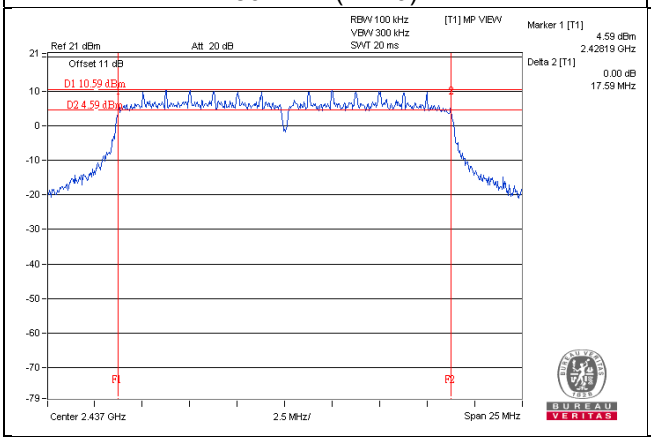
802.11b



802.11g



802.11n (HT20)



Radio2

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	7.11	0.5	Pass
6	2437	7.61	0.5	Pass
11	2462	7.10	0.5	Pass

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.35	0.5	Pass
6	2437	16.32	0.5	Pass
11	2462	16.36	0.5	Pass

802.11n (HT20)

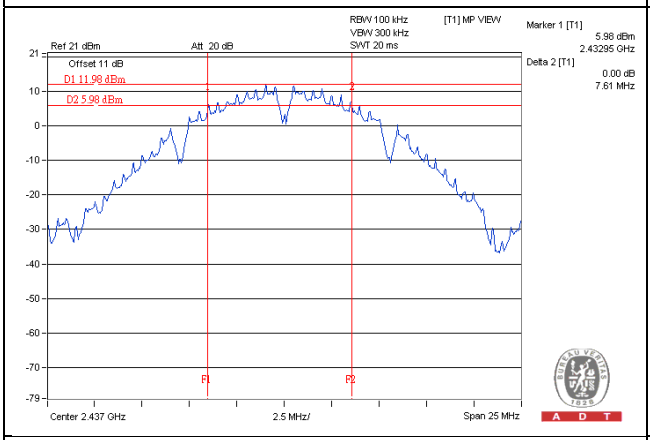
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	17.29	0.5	Pass
6	2437	16.89	0.5	Pass
11	2462	17.00	0.5	Pass

802.11n (HT40)

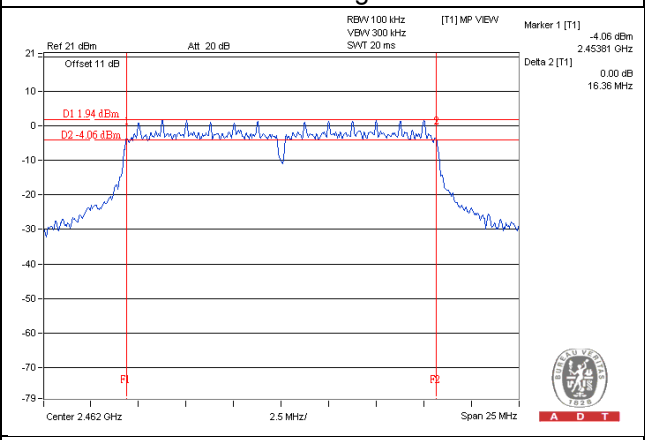
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	35.18	0.5	Pass
6	2437	35.17	0.5	Pass
9	2452	35.20	0.5	Pass

Spectrum Plot of Worst Value

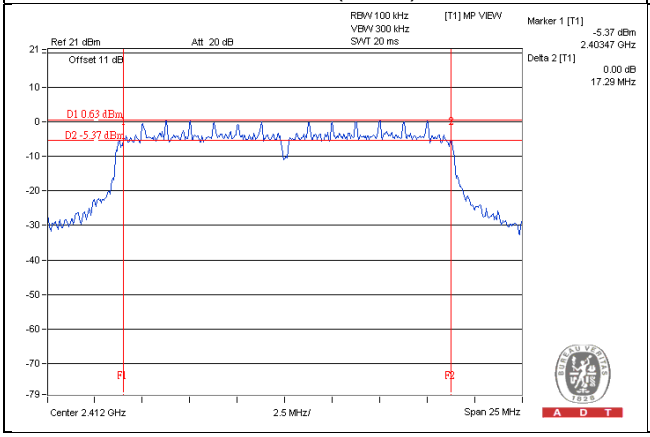
802.11b



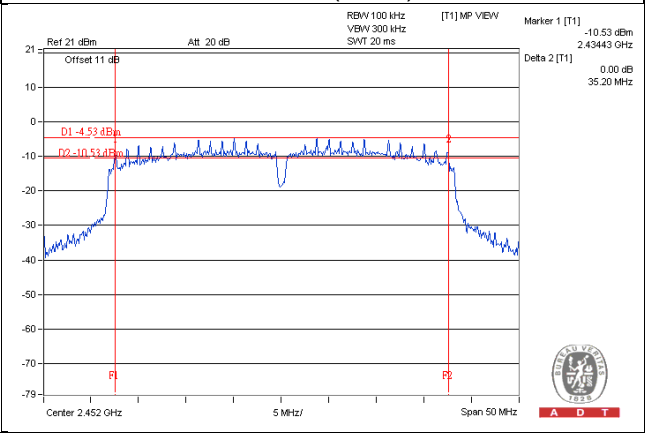
802.11g



802.11n (HT20)



802.11n (HT40)



4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

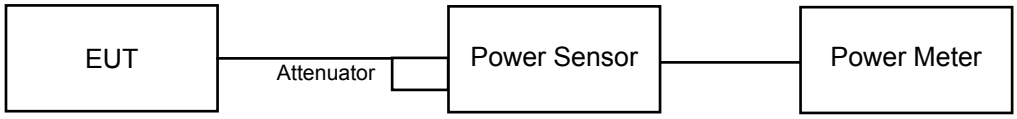
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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(NANT/NSS) 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(NANT/NSS) 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

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

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

Radio 1

802.11b

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	20.54	20.14	216.516	23.35	30	Pass
6	2437	20.20	19.87	201.764	23.05	30	Pass
11	2462	20.01	19.70	193.556	22.87	30	Pass

802.11g

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.26	21.89	322.792	25.09	30	Pass
6	2437	22.23	21.58	310.989	24.93	30	Pass
11	2462	21.76	21.72	298.562	24.75	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.34	21.83	**323.801**	25.10	30	Pass
6	2437	22.14	21.46	303.641	24.82	30	Pass
11	2462	22.23	21.91	322.348	25.08	30	Pass

Radio 2

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	60.674	17.83	30	Pass
6	2437	116.681	20.67	30	Pass
11	2462	67.764	18.31	30	Pass

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	17.906	12.53	30	Pass
6	2437	**165.196**	22.18	30	Pass
11	2462	19.099	12.81	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	14.158	11.51	30	Pass
6	2437	153.815	21.87	30	Pass
11	2462	14.655	11.66	30	Pass

802.11n (HT40)

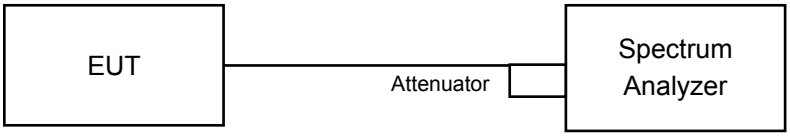
Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
3	2422	9.594	9.82	30	Pass
6	2437	26.363	14.21	30	Pass
9	2452	8.750	9.42	30	Pass

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 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 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

Radio 1

802.11b

TX chain	Channel	Frequency (MHz)	PSD (dBm)	10 log (N=2) dB	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass / Fail
0	1	2412	-33.25	3.01	5.78	-24.46	7.32	Pass
	6	2437	-43.25	3.01	5.78	-34.46	7.32	Pass
	11	2462	-39.38	3.01	5.78	-30.59	7.32	Pass
1	1	2412	-38.62	3.01	5.78	-29.83	7.32	Pass
	6	2437	-47.05	3.01	5.78	-38.26	7.32	Pass
	11	2462	-41.86	3.01	5.78	-33.07	7.32	Pass

Note:
1. Method 1 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[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/2$]= 6.68dBi > 6dBi, so the power density limit shall be reduced to 8-(6.68-6) = 7.32dBm
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11g

TX chain	Channel	Frequency (MHz)	PSD (dBm)	10 log (N=2) dB	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass / Fail
0	1	2412	-46.01	3.01	6.15	-36.85	7.32	Pass
	6	2437	-42.46	3.01	6.15	-33.30	7.32	Pass
	11	2462	-41.01	3.01	6.15	-31.85	7.32	Pass
1	1	2412	-44.11	3.01	6.15	-34.95	7.32	Pass
	6	2437	-42.34	3.01	6.15	-33.18	7.32	Pass
	11	2462	-43.40	3.01	6.15	-34.24	7.32	Pass

Note:
1. Method 1 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[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/2$]= 6.68dBi > 6dBi, so the power density limit shall be reduced to 8-(6.68-6) = 7.32dBm
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

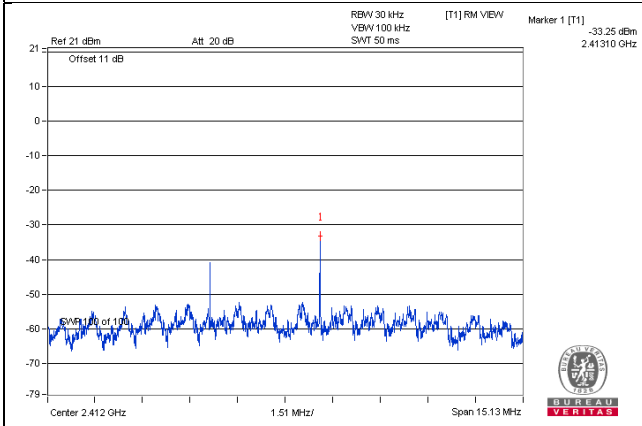
TX chain	Channel	Frequency (MHz)	PSD (dBm)	10 log (N=2) dB	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass / Fail
0	1	2412	-41.22	3.01	6.00	-32.21	7.32	Pass
	6	2437	-46.77	3.01	6.00	-37.76	7.32	Pass
	11	2462	-39.85	3.01	6.00	-30.84	7.32	Pass
1	1	2412	-40.64	3.01	6.00	-31.63	7.32	Pass
	6	2437	-39.02	3.01	6.00	-30.01	7.32	Pass
	11	2462	-42.86	3.01	6.00	-33.85	7.32	Pass

Note:

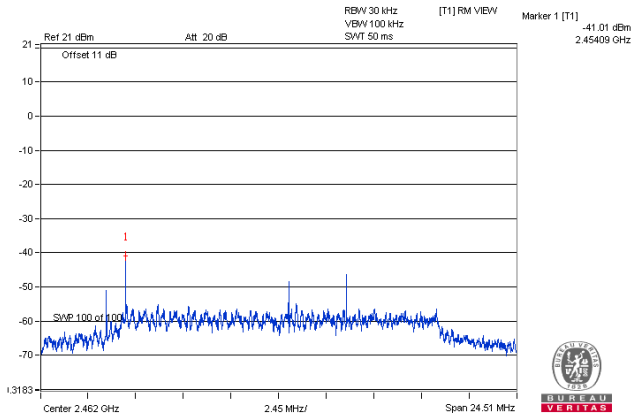
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/2$]= 6.68dBi > 6dBi, so the power density limit shall be reduced to 8-(6.68-6) = 7.32dBm
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

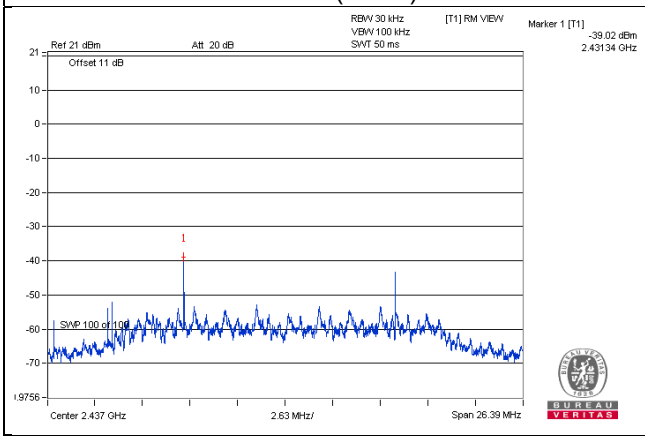
802.11b



802.11g



802.11n (HT20)



Radio 2

802.11b

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Pass / Fail
1	2412	-8.21	8.00	Pass
6	2437	-6.15	8.00	Pass
11	2462	-7.56	8.00	Pass

802.11g

Channel	Frequency (MHz)	PSD (dBm)	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass / Fail
1	2412	-18.80	0.12	-18.68	8.00	Pass
6	2437	-8.12	0.12	-8.00	8.00	Pass
11	2462	-18.19	0.12	-18.07	8.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm)	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass / Fail
1	2412	-19.70	0.17	-19.53	8.00	Pass
6	2437	-9.81	0.17	-9.64	8.00	Pass
11	2462	-19.52	0.17	-19.35	8.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

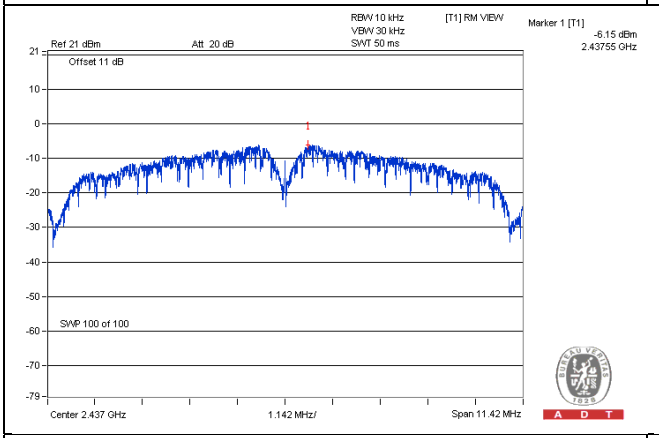
802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm)	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass / Fail
3	2422	-25.52	0.29	-25.23	8.00	Pass
6	2437	-19.78	0.29	-19.49	8.00	Pass
9	2452	-25.65	0.29	-25.36	8.00	Pass

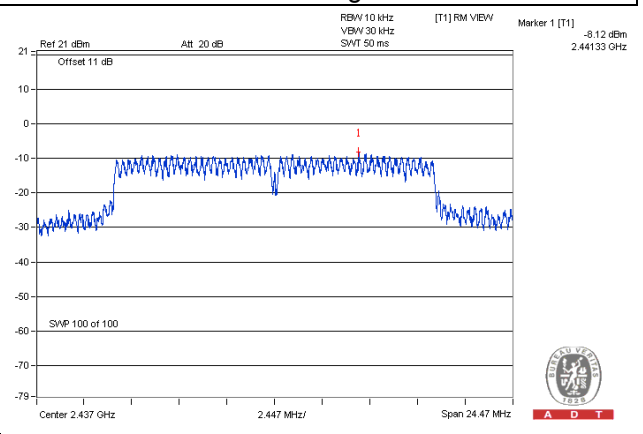
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

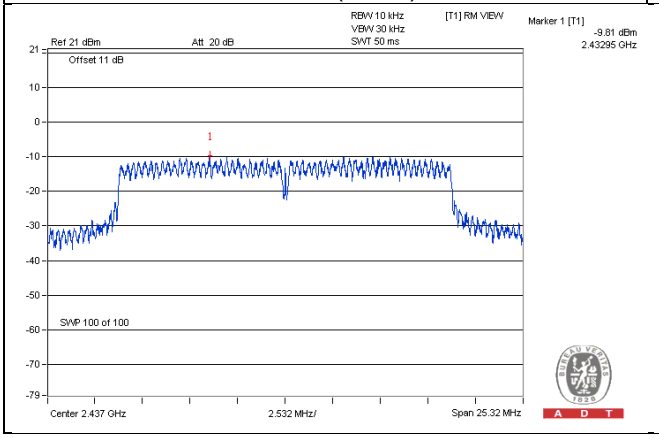
802.11b



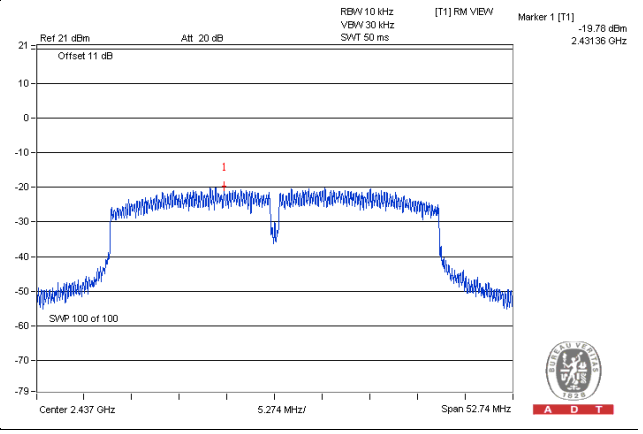
802.11g



802.11n (HT20)



802.11n (HT40)

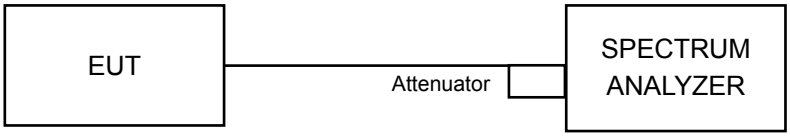


4.6 Conducted Out of Band Emission Measurement

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

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

MEASUREMENT PROCEDURE OOBE

a. Set RBW = 100 kHz.
b. Set VBW ≥ 300 kHz.
c. Ensure that the number of measurement points ≥ span/RBW
d. According to measurement points to set differ measurement span.
e. Detector = average.
f. Trace Mode = max hold.
g. Sweep = auto couple.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Same as Item 4.3.6

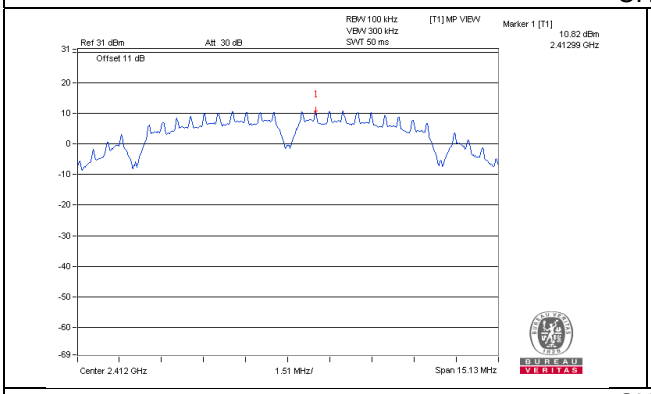
4.6.7 Test Results

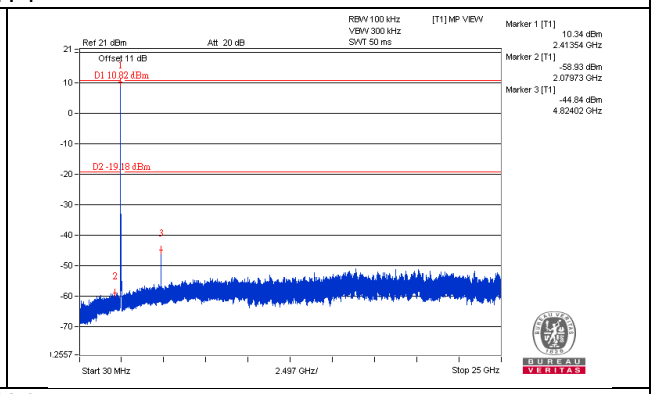
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

Radio 1

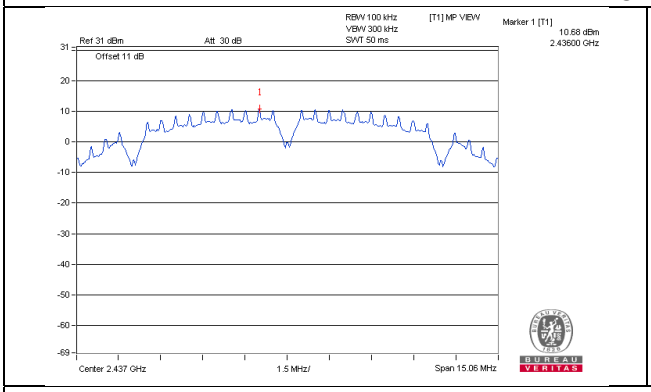
802.11b_Chain 0

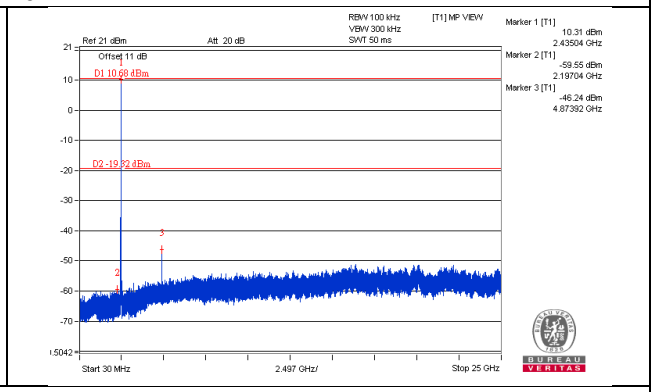
CH 1



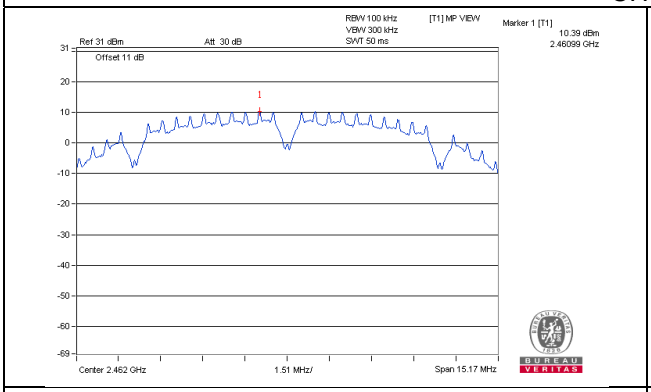


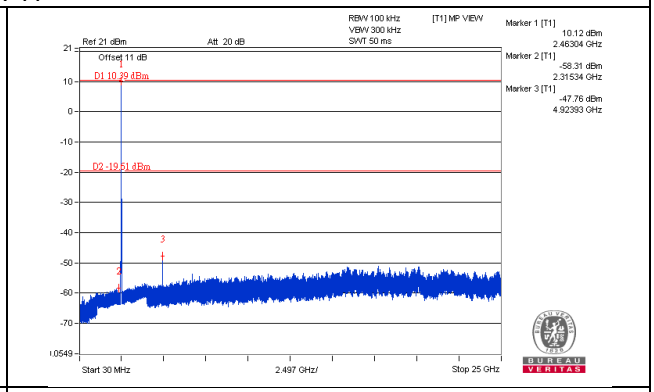
CH 6



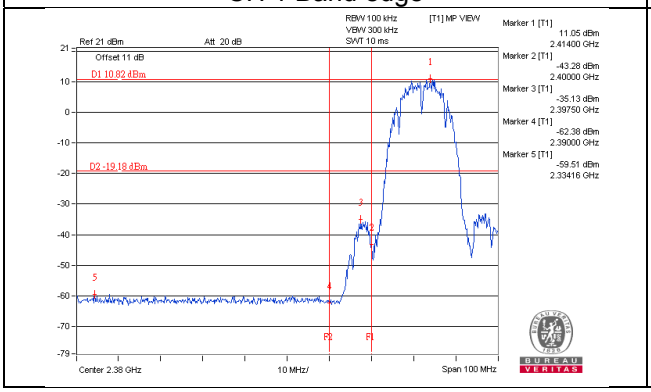


CH 11

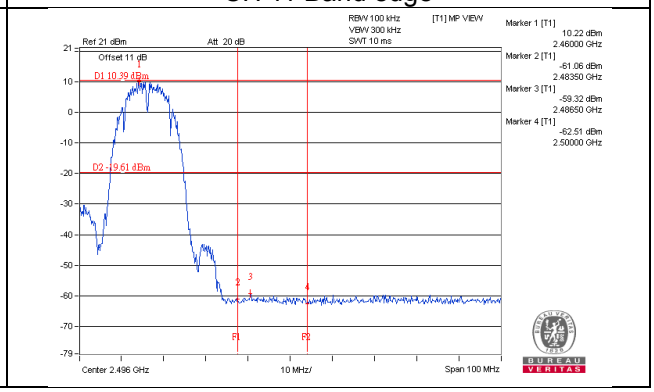




CH 1 Band edge

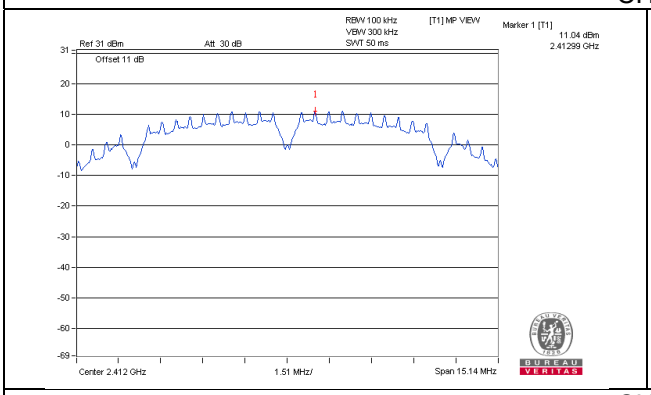


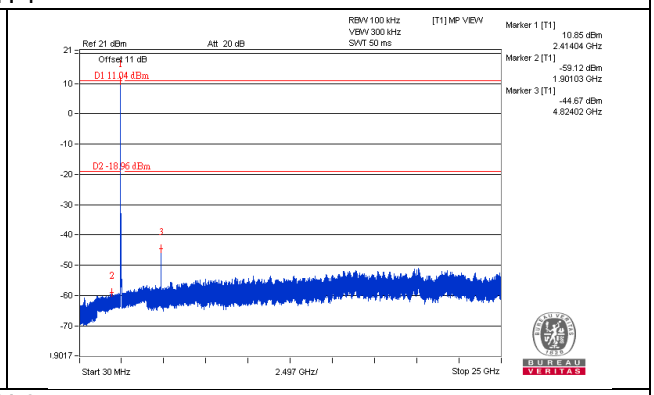
CH 11 Band edge



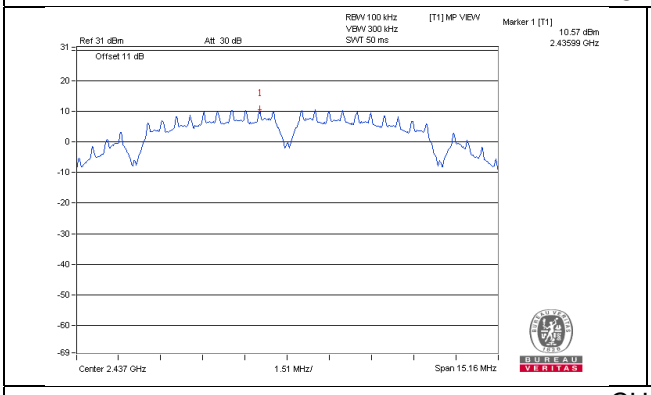
802.11b_Chain 1

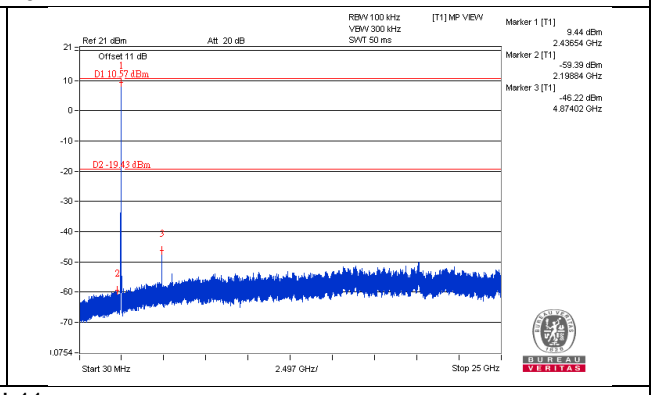
CH 1



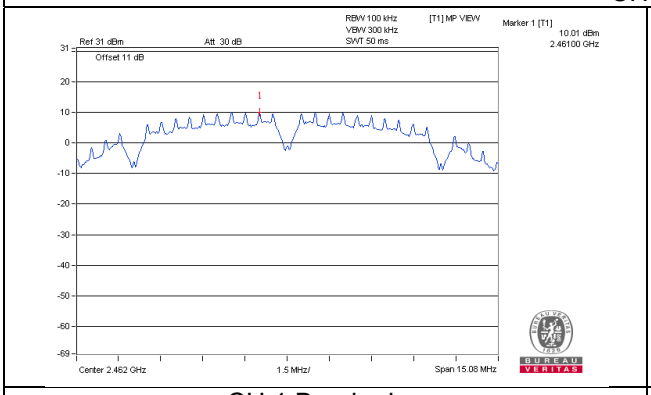


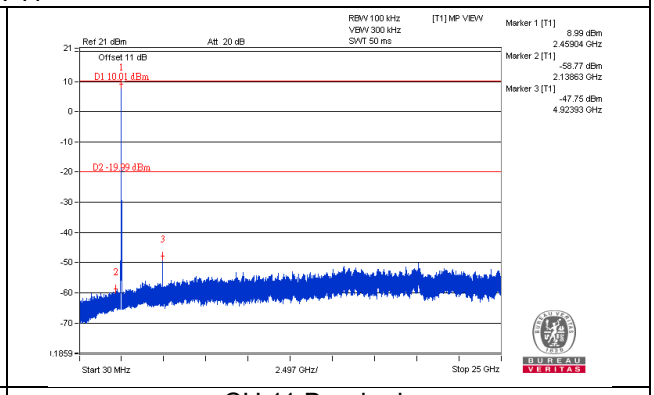
CH 6



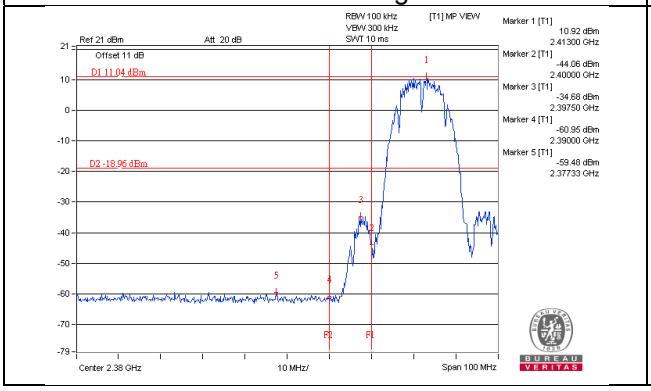


CH 11

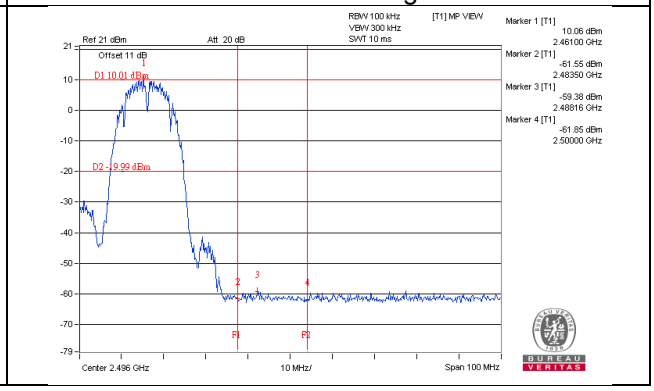




CH 1 Band edge

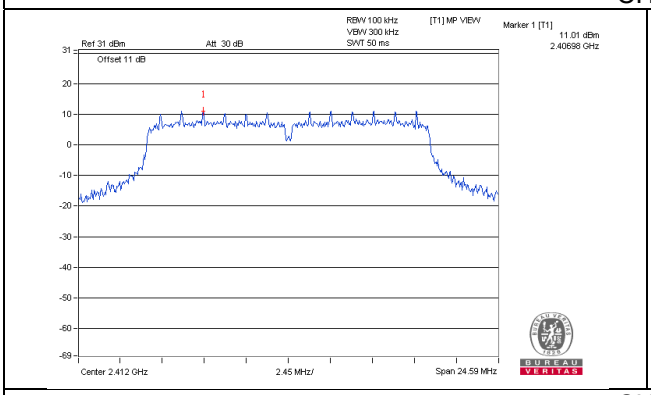


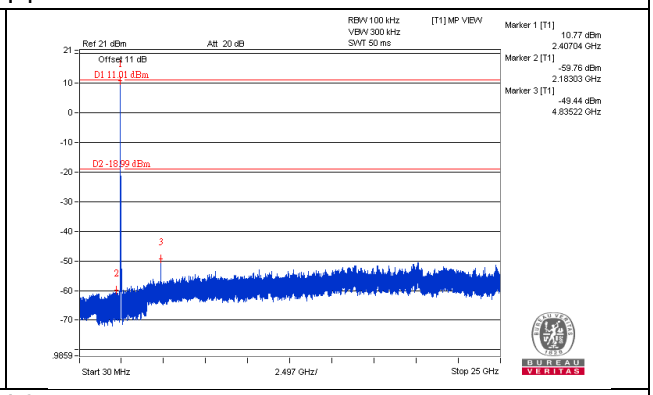
CH 11 Band edge



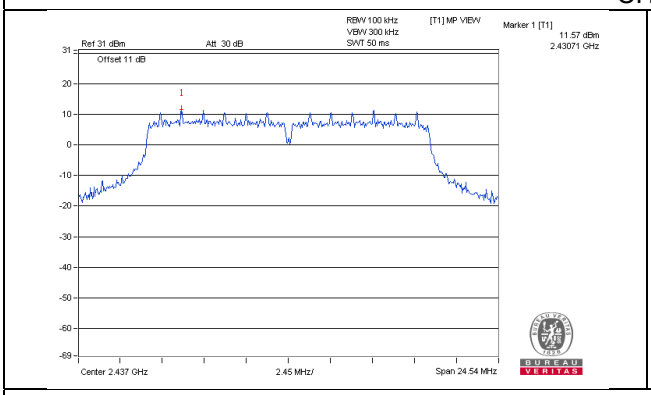
802.11g_Chain 0

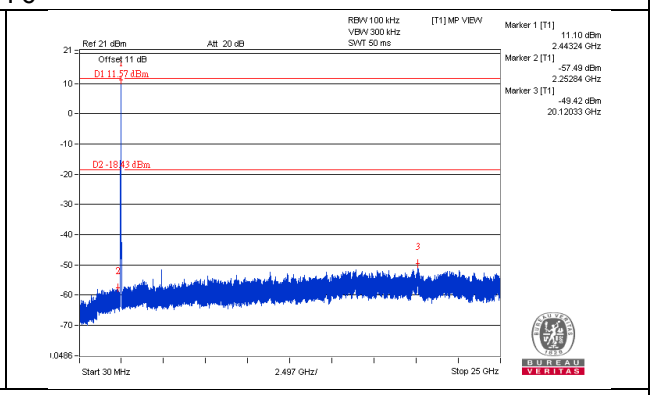
CH 1



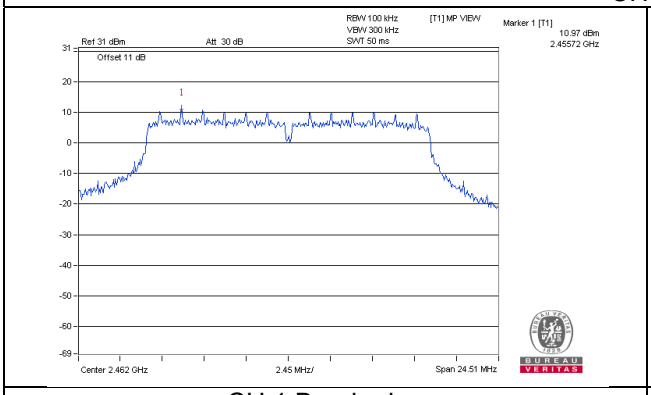


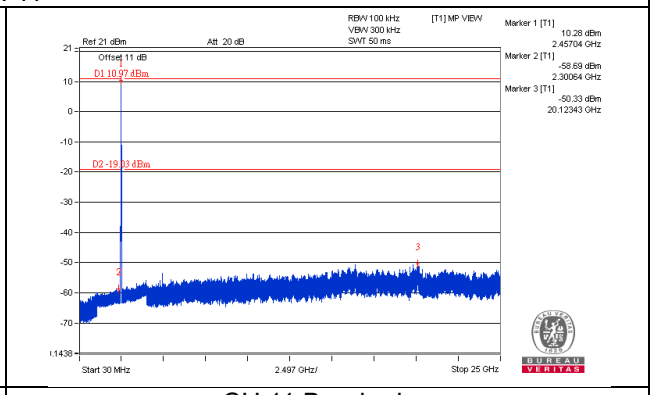
CH 6



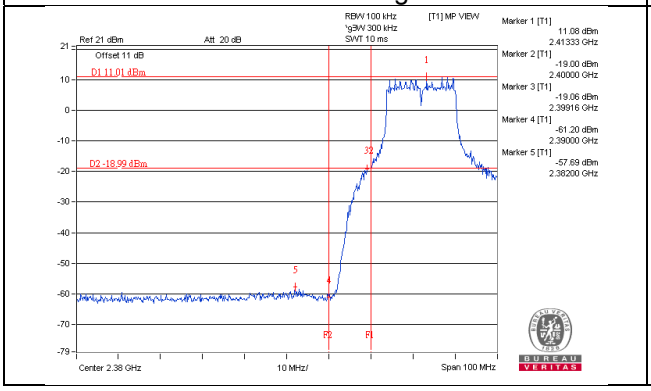


CH 11

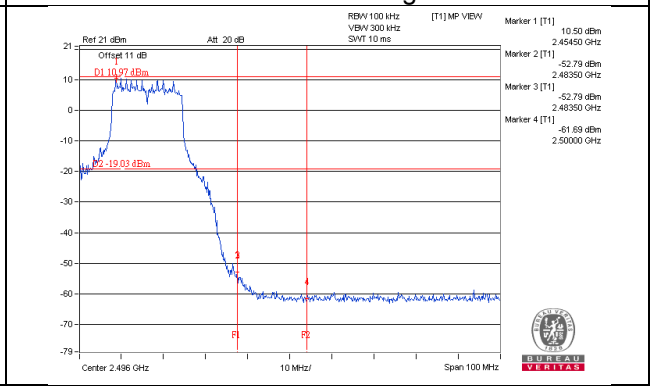




CH 1 Band edge

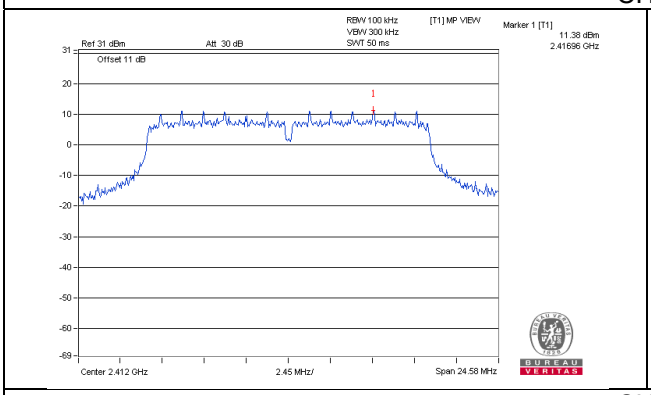


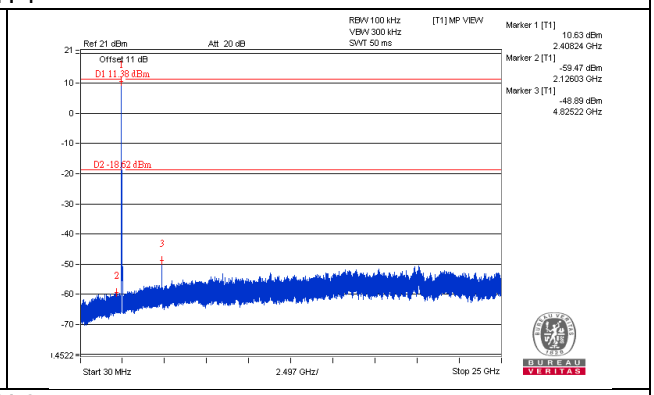
CH 11 Band edge



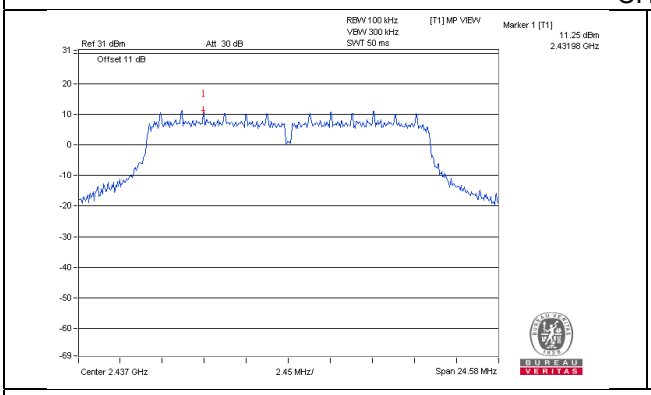
802.11g_Chain 1

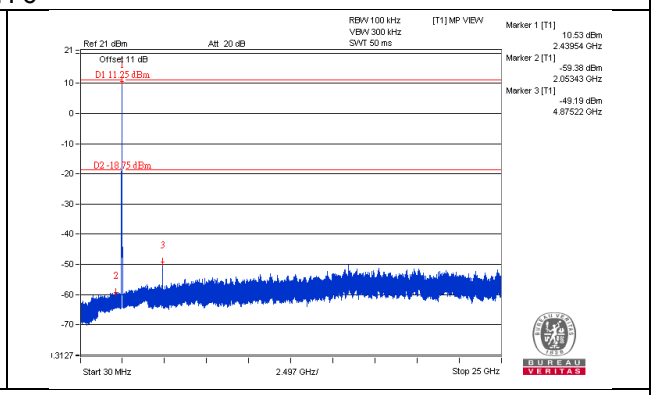
CH 1



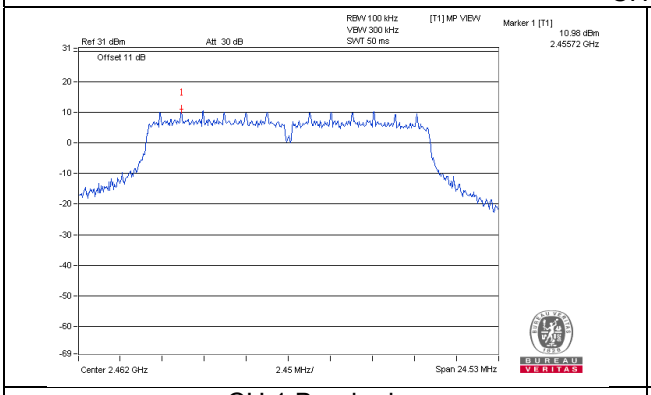


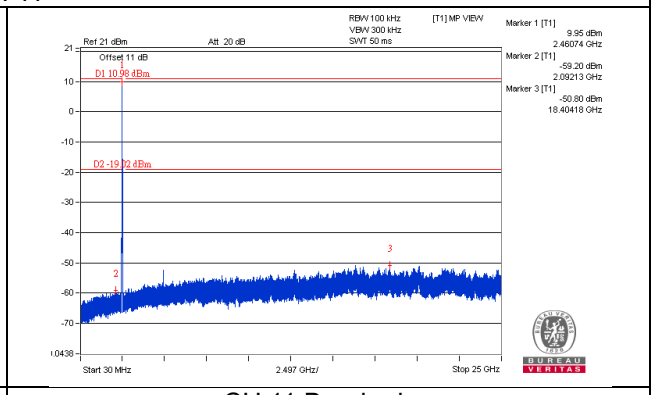
CH 6



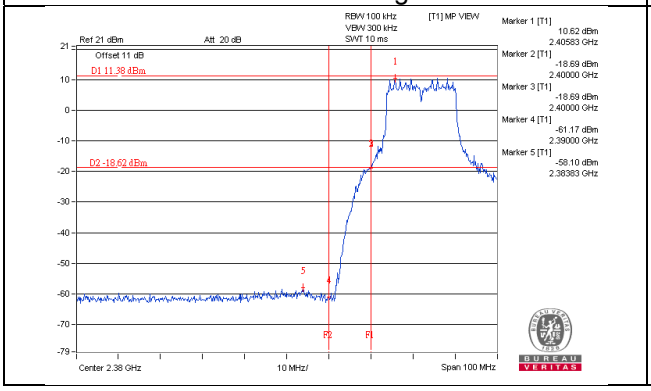


CH 11

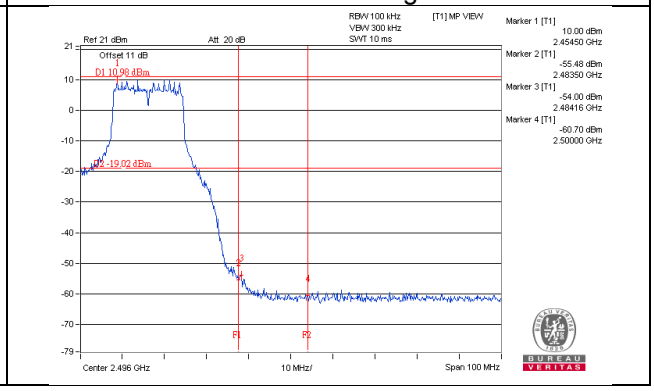




CH 1 Band edge

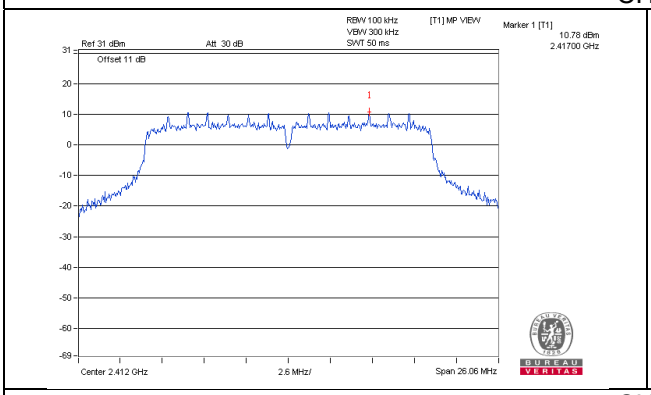


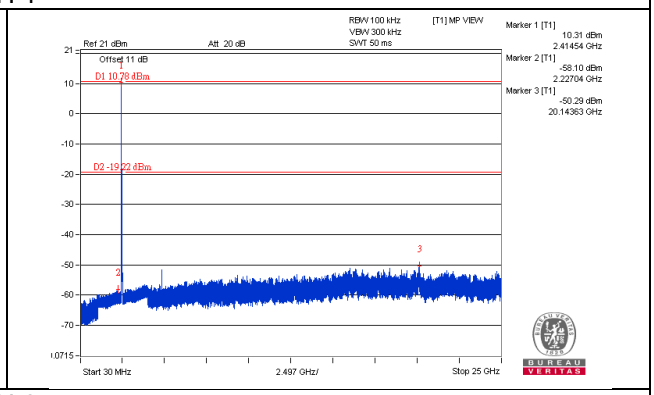
CH 11 Band edge



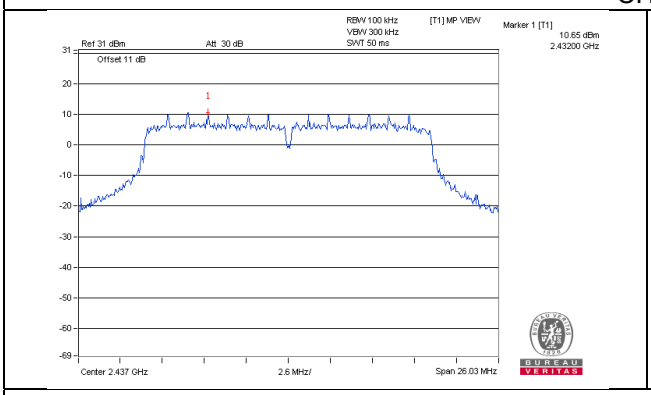
802.11n (HT20)_Chain 0

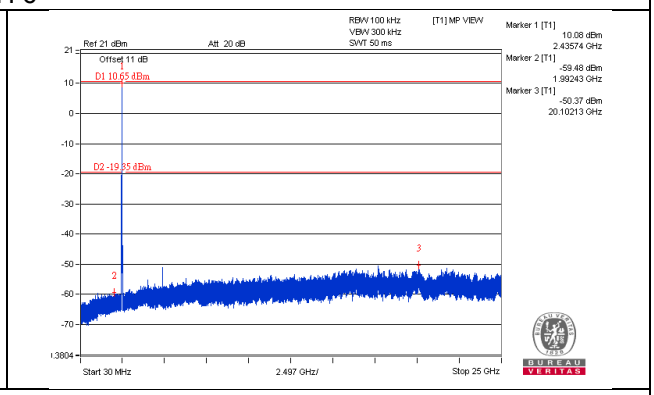
CH 1



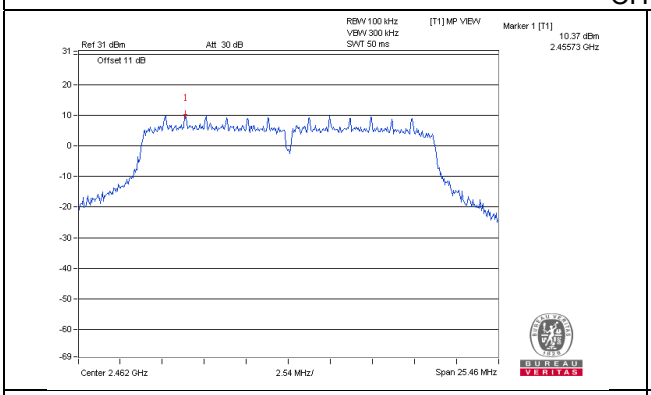


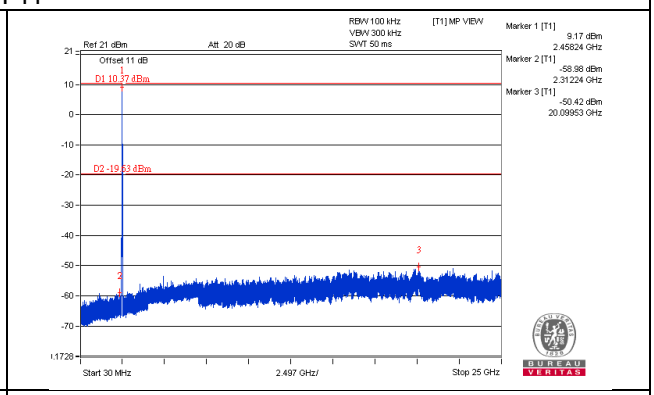
CH 6



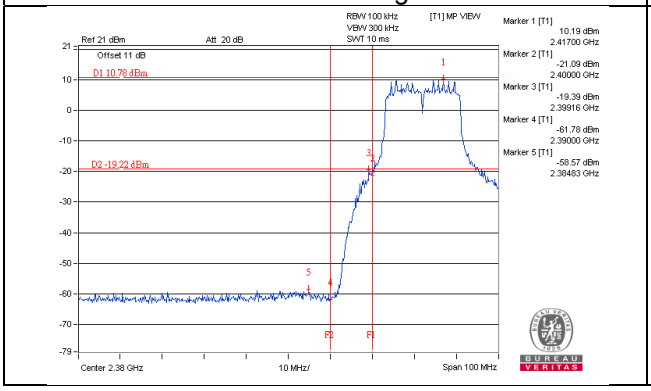


CH 11

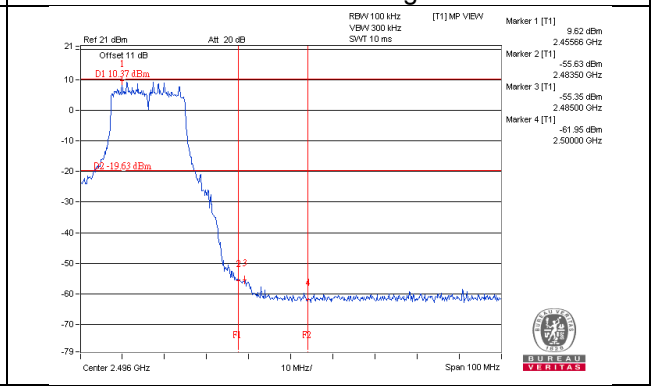




CH 1 Band edge

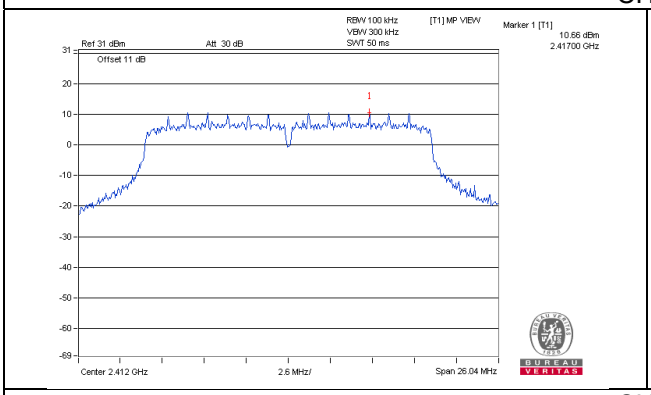


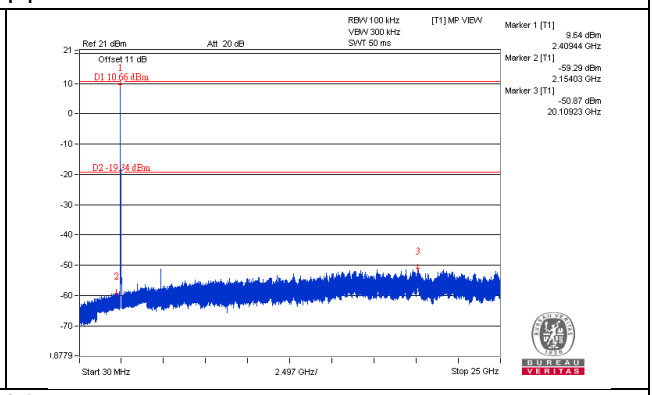
CH 11 Band edge



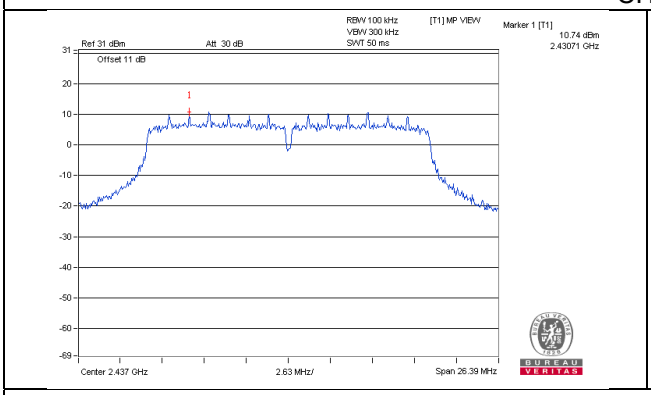
802.11n (HT20)_Chain 1

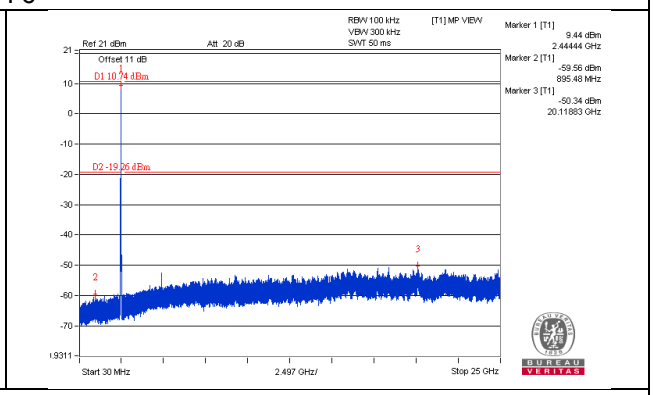
CH 1



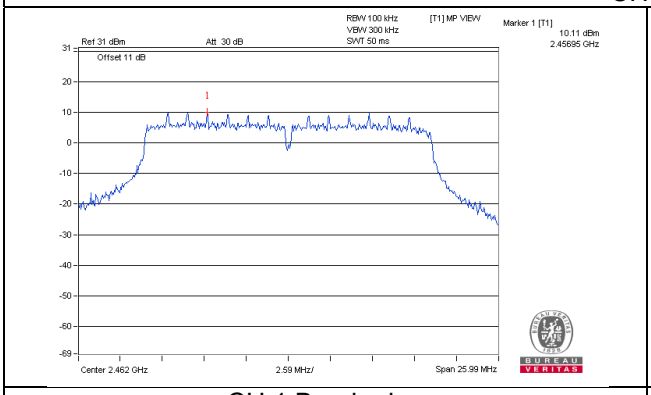


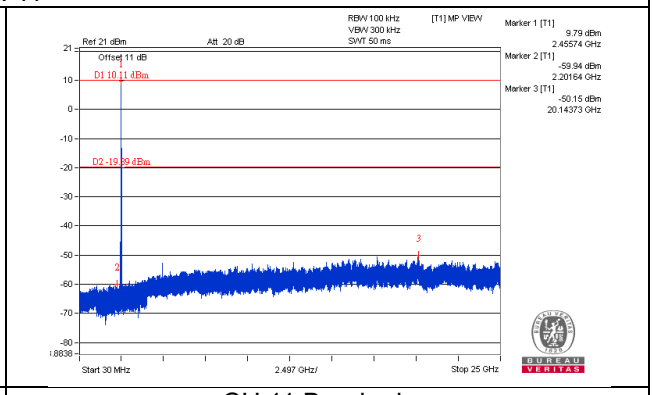
CH 6



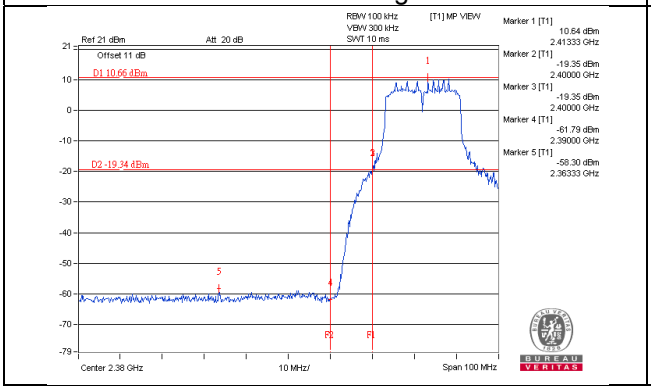


CH 11

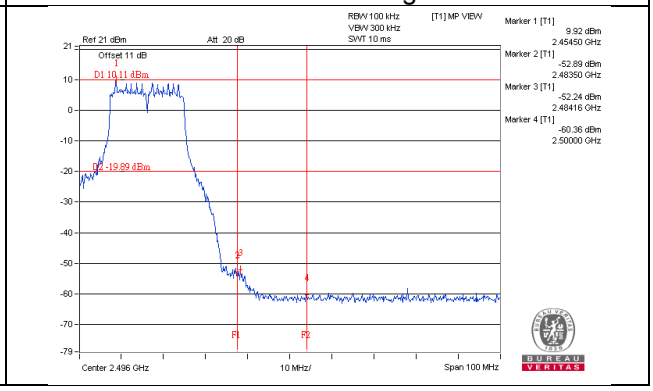




CH 1 Band edge



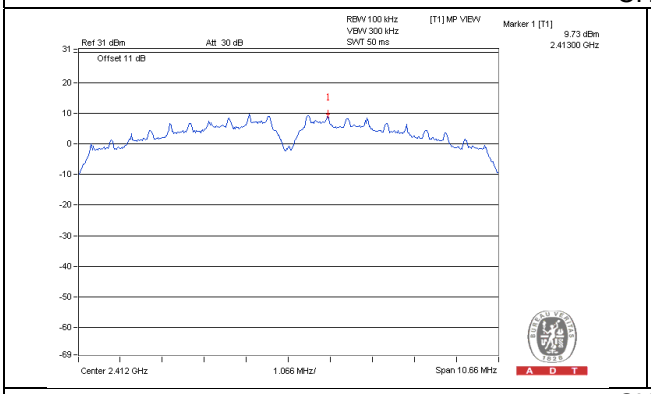
CH 11 Band edge

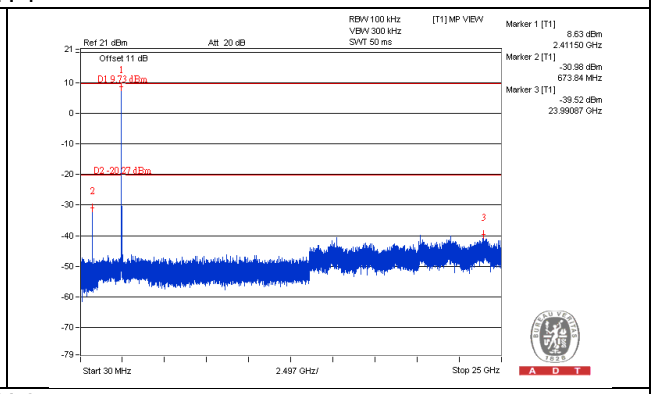


Radio 2

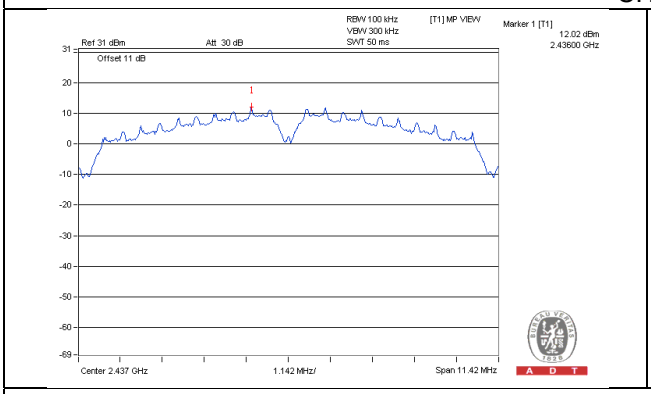
802.11b

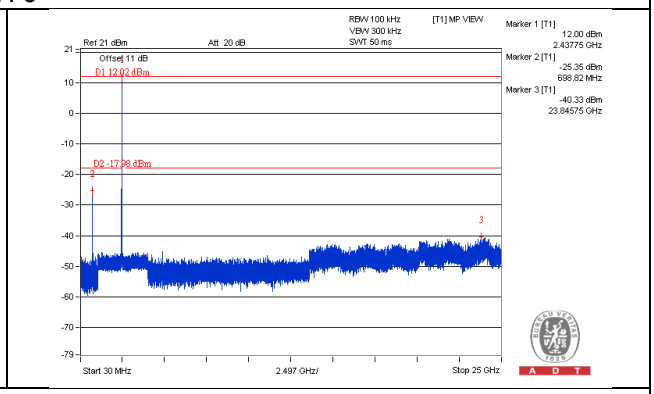
CH 1



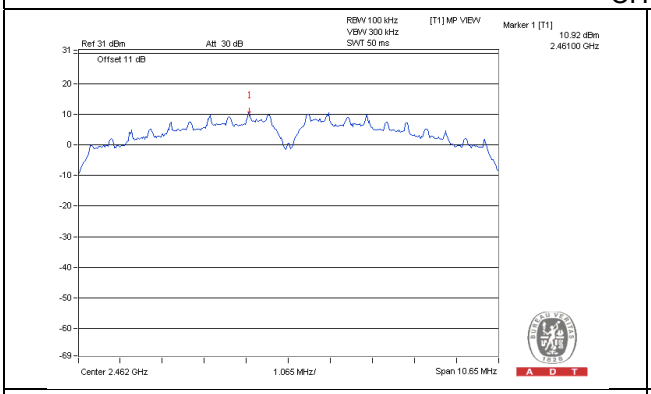


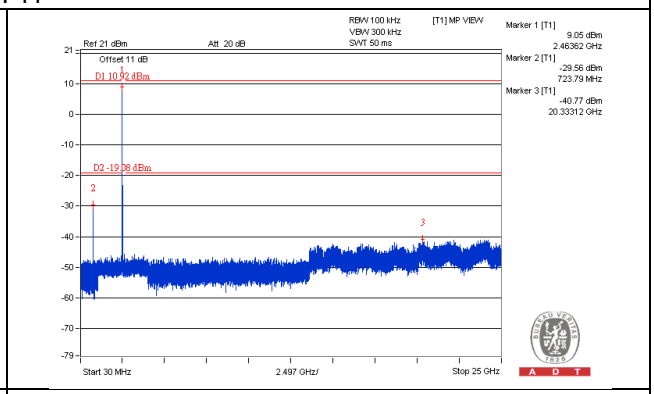
CH 6



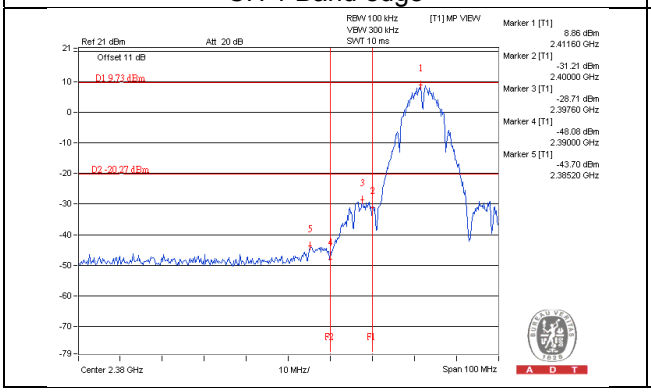


CH 11

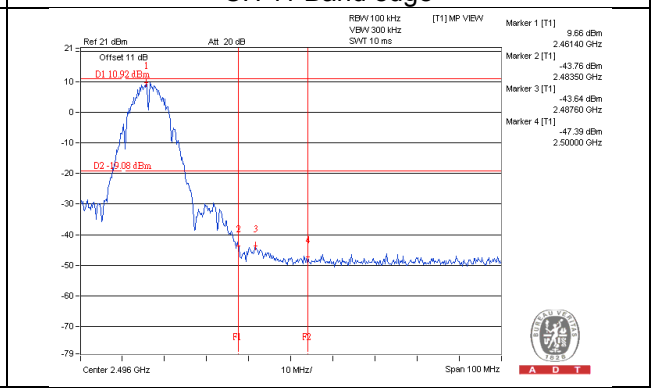




CH 1 Band edge

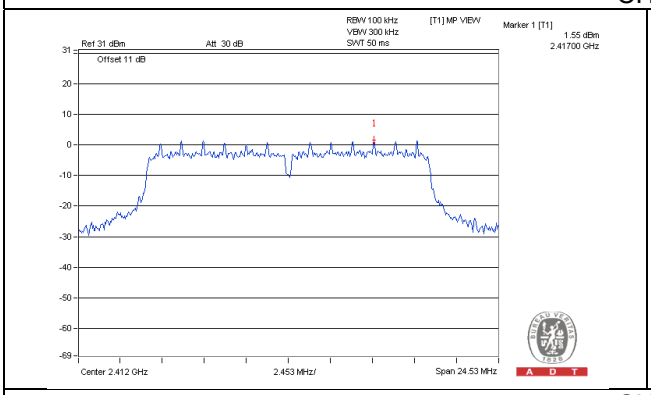


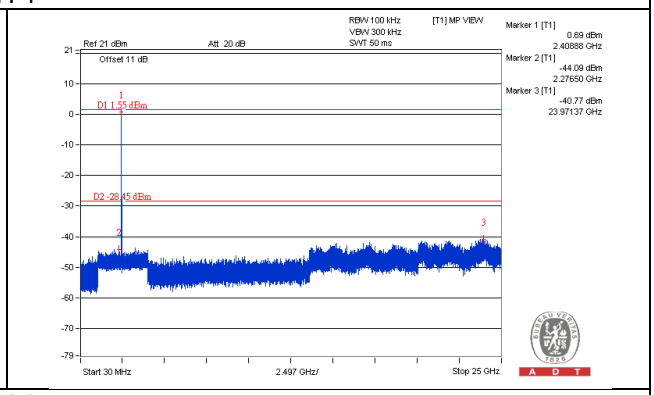
CH 11 Band edge



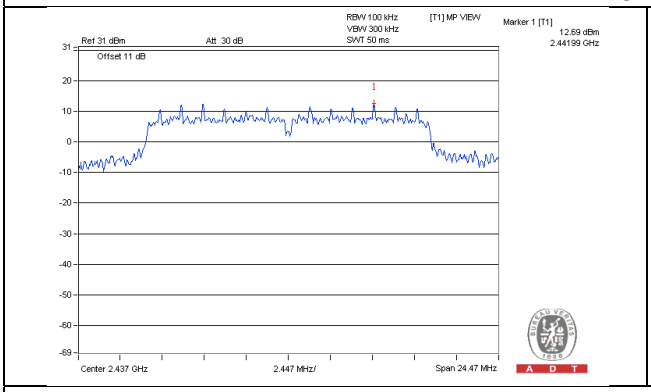
802.11g

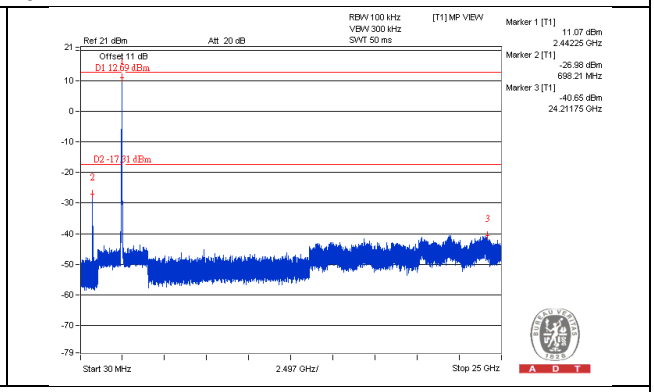
CH 1



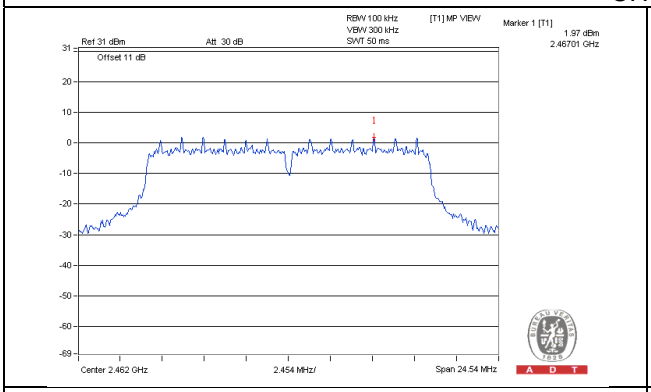


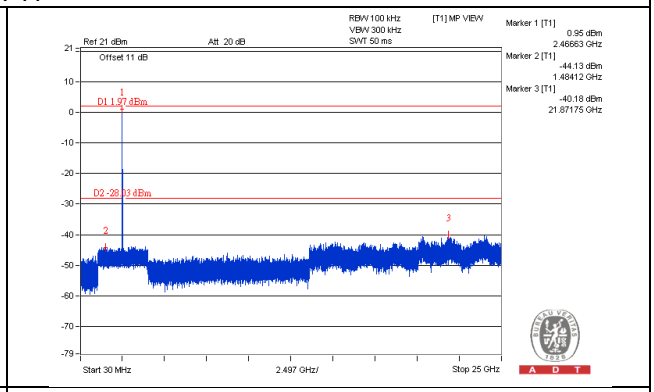
CH 6



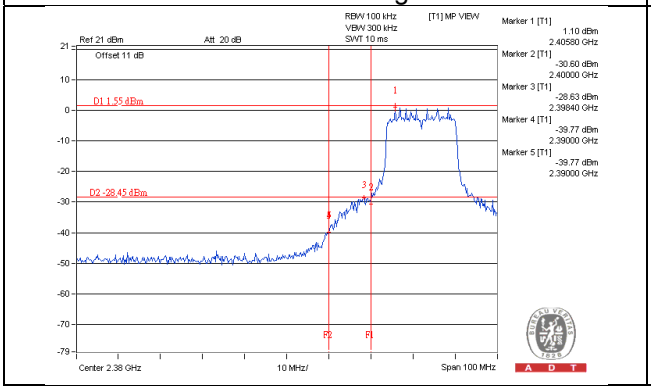


CH 11

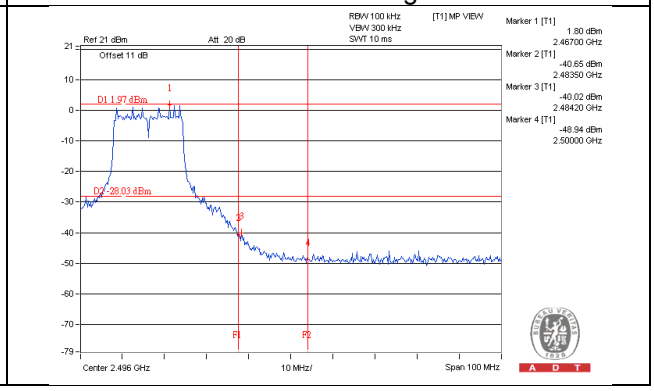




CH 1 Band edge

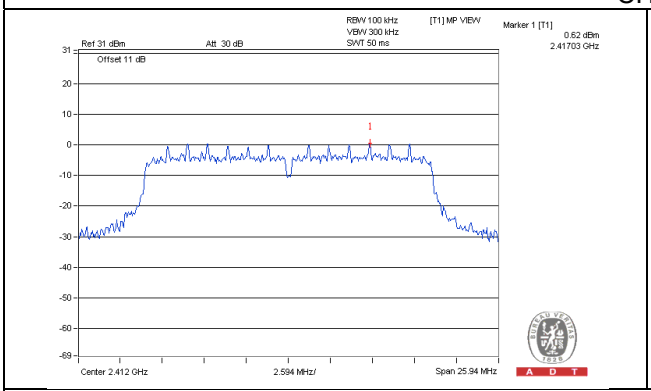


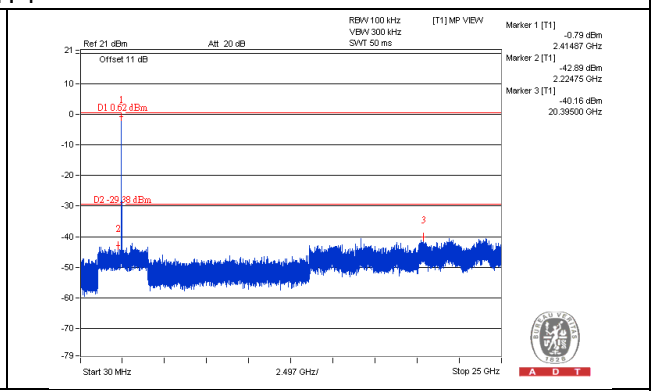
CH 11 Band edge



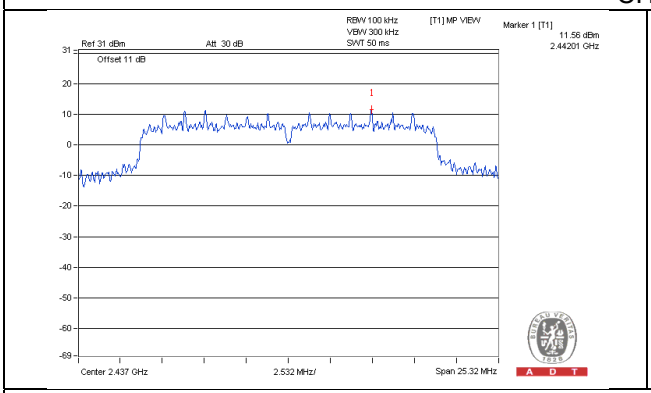
802.11n (HT20)

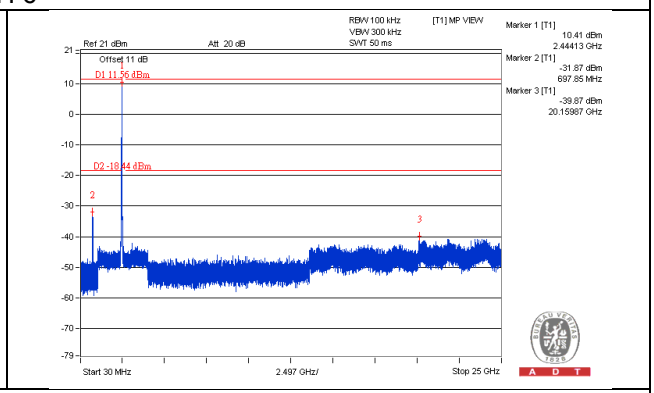
CH 1



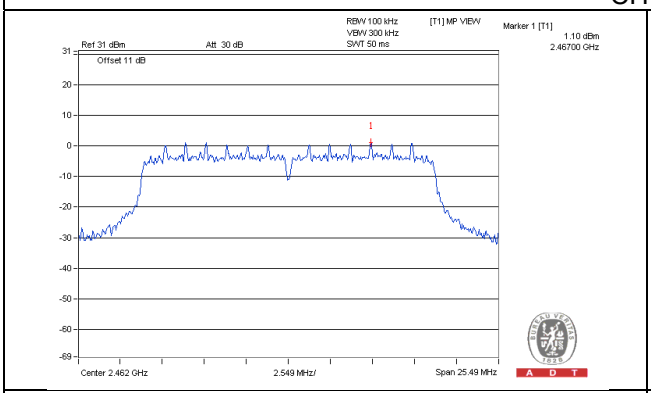


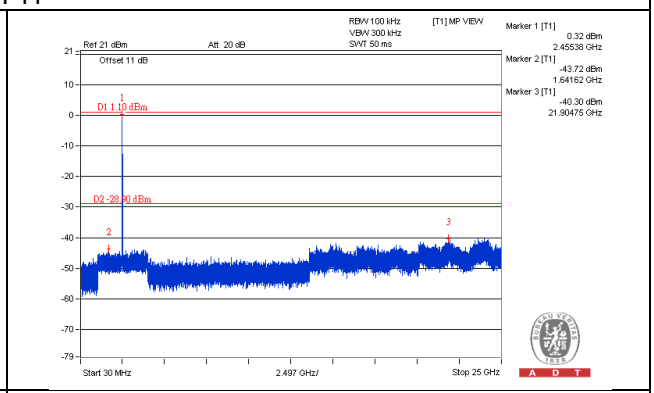
CH 6



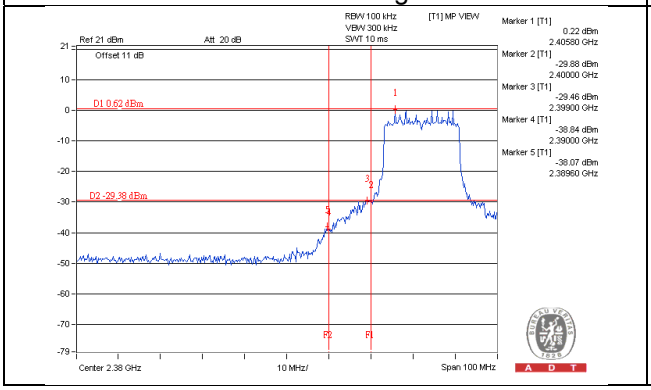


CH 11

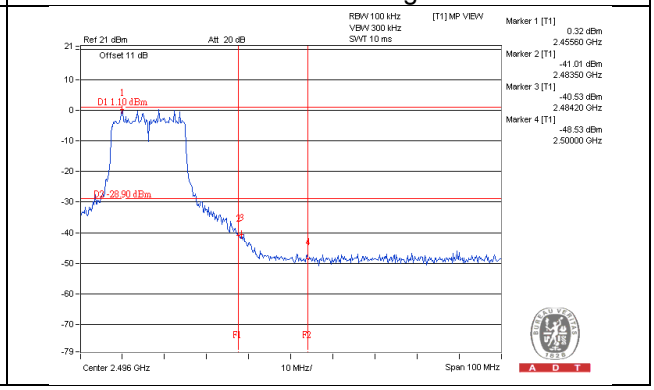




CH 1 Band edge

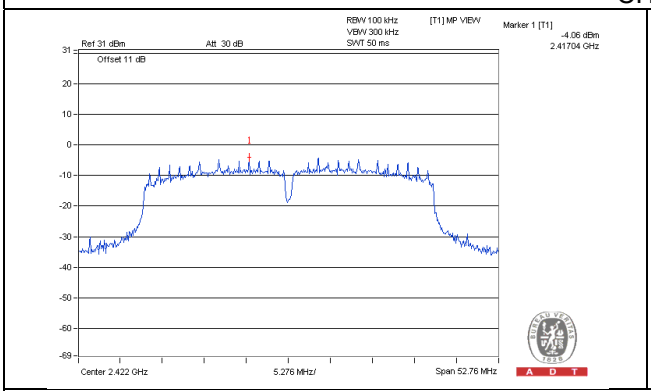


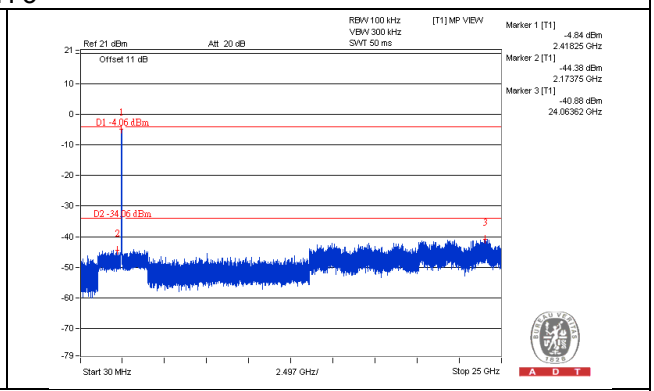
CH 11 Band edge



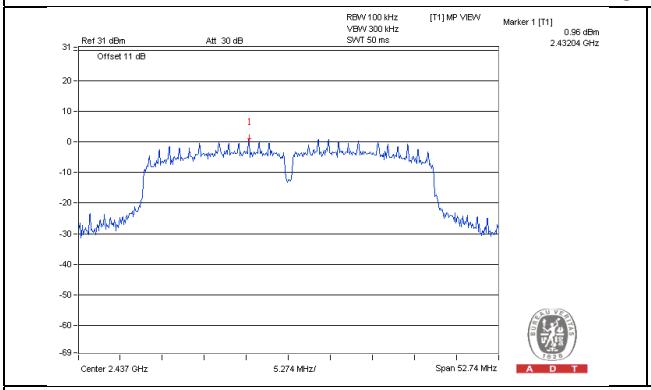
802.11n (HT40)

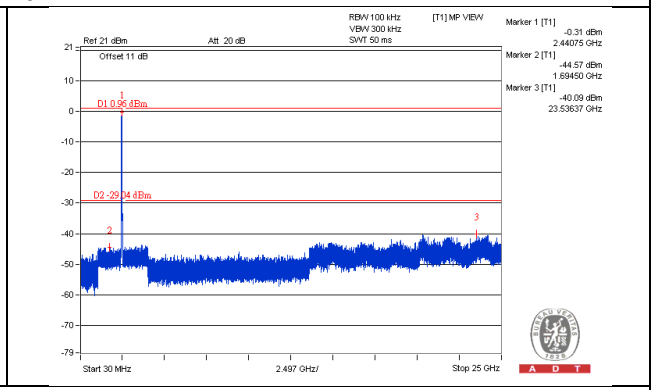
CH 3



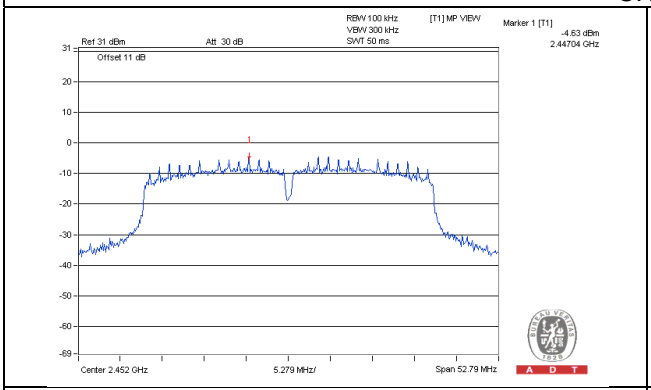


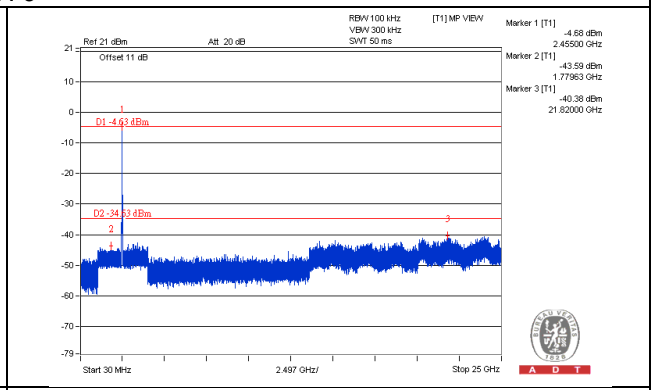
CH 6



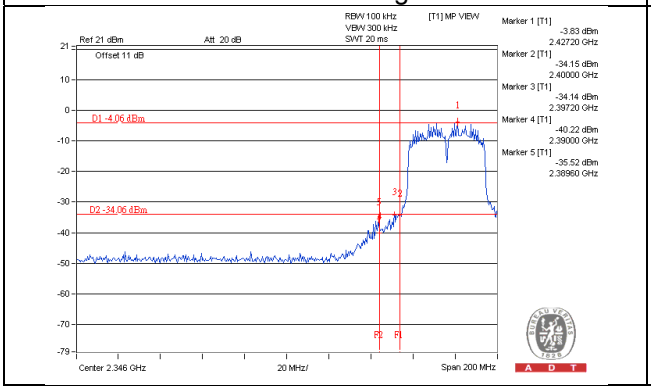


CH 9

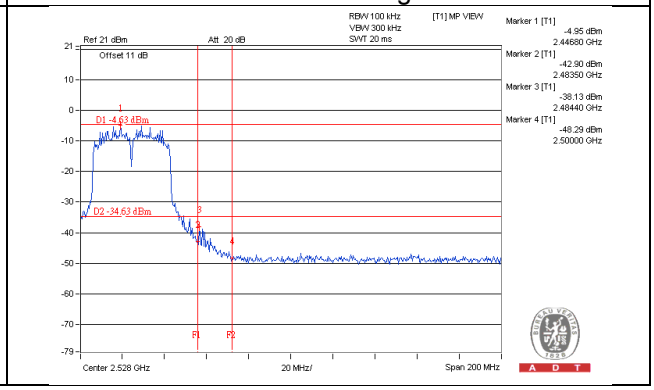




CH 3 Band edge



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 accredited and approved according to ISO/IEC 17025.

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

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

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

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

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

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

--- END ---