FCC Test Report

Report No.:	RF151109C01
FCC ID:	SLY-WX1O33
Test Model:	WX-1-O
Received Date:	Nov. 09, 2015
Test Date:	Nov. 16 ~ Dec. 07, 2015
Issued Date:	Dec. 09, 2015
Applicant:	Pakedge Device and Software Inc.
Address:	3847 Breakwater Ave., Hayward, California, United States, 94545
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
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

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Release Control Record

Issue No.	Description	Date Issued
RF151109C01	Original release.	Dec. 09, 2015

1 Certificate of Conformity

Product:	802.11ac Dual Band Access Point
Brand:	PAKEDGE
Test Model:	WX-1-O
Sample Status:	Engineering sample
Applicant:	Pakedge Device and Software Inc.
Test Date:	Nov. 16 ~ Dec. 07, 2015
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10:2013

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

Prepared by : _____ , **Date:** Dec. 09, 2015

Polly Chien / Specialist

Approved by : _____ , **Date:** Dec. 09, 2015

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 -19.12dB at 0.44562MHz.
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 7311.00MHz, 2390.00MHz, 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 N-TYPE. (The device is professionally installed)

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	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.86 dB
	200MHz ~1000MHz	3.87 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	802.11ac Dual Band Access Point
Brand	PAKEDGE
Test Model	WX-1-O
Status of EUT	Engineering sample
Power Supply Rating	48Vdc from PoE
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 450.0Mbps
Operating Frequency	2412 ~ 2462MHz
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	556.716mW
Antenna Type	Refer to Note
Antenna Connector	N-TYPE (The device is professionally installed)
Accessory Device	NA
Data Cable Supplied	1.8m non-shielded RJ45 cable without core

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 3 completed transmitters and 3 receivers.

Modulation Mode	TX Function
802.11b	3TX
802.11g	3TX
802.11n (HT20)	3TX
802.11n (HT40)	3TX

2. The EUT consumes power from the following POE. (POE and POE's adapter for support unit only)

POE	
Brand	NA
Model	NPE-5818
Power Rating	48Vdc, 1.25A

POE's Adapter	
Brand	Powertron Electronics Corp.
Model	PA1040-480IB080
Input Power	100-240Vac, 50-60Hz, 1.5A
Output Power	48Vdc, 0.8A, 38.4W Max
Power Line	1.55m cable with one core attached on adapter

3. The following antennas were provided to the EUT.

Type	Gain(dBi)			Connector
	2.4GHz Band	5GHz Band		
		5150~5250MHz	5725~5825MHz	
Dipole	3.762	5.648	6.200	N-TYPE

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

3.2 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)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

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)
-	802.11b	1 to 11	6	DSSS	DBPSK	1.0

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)
-	802.11b	1 to 11	6	DSSS	DBPSK	1.0

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)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

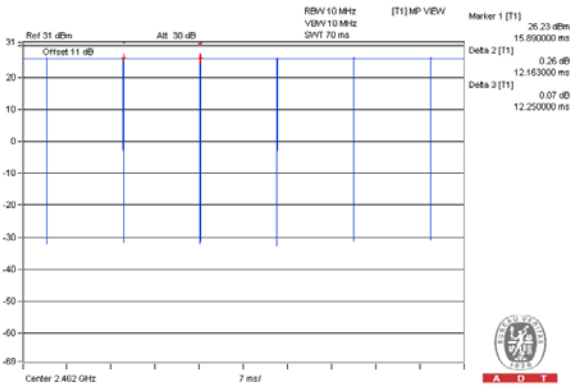
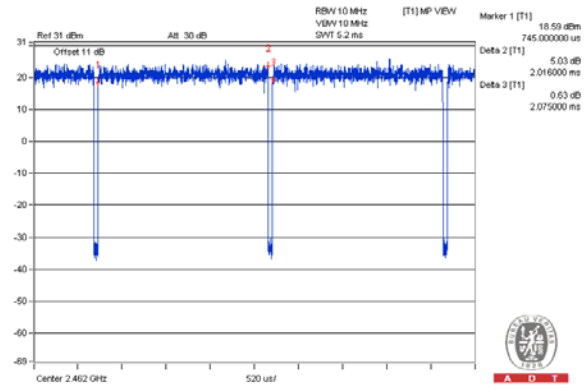
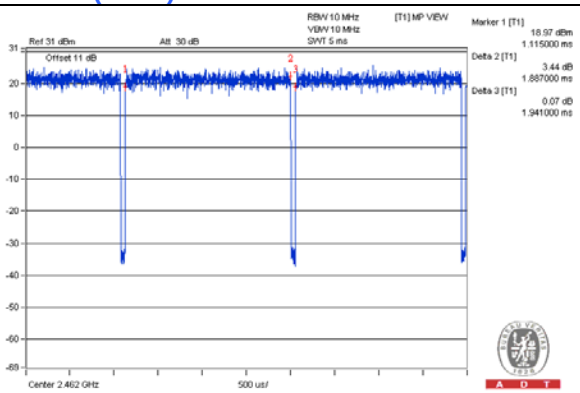
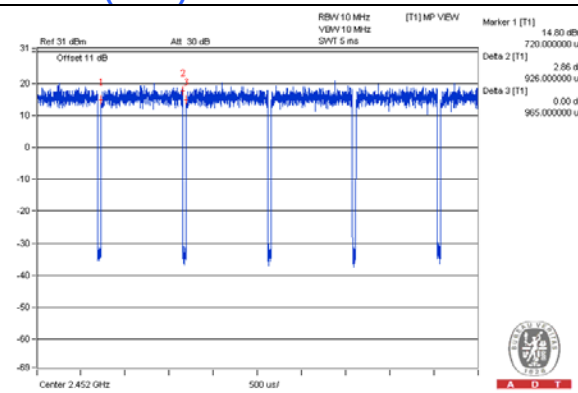
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	18deg. C, 70%RH	120Vac, 60Hz	Nick Hsu
RE<1G	18deg. C, 70%RH	120Vac, 60Hz	Nick Hsu
PLC	25deg. C, 70%RH	120Vac, 60Hz	Jones Chang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Frank Liu

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is ≥ 98 %, duty factor is not required.
802.11b: Duty cycle = 12.163/12.250 = 0.993

Duty cycle of test signal is < 98%, duty factor shall be considered.
802.11g: Duty cycle = 2.016/2.075 = 0.972, Duty factor = 10 * log(1/0.972) = 0.12
802.11n (HT20): Duty cycle = 1.887/1.941 = 0.972, Duty factor = 10 * log(1/0.972) = 0.12
802.11n (HT40): Duty cycle = 0.926/0.965 = 0.960, Duty factor = 10 * log(1/0.960) = 0.18

802.11b	802.11g
	
802.11n (HT20)	**802.11n (HT40)**
	

3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	POE	NA	NPE-5818	NA	NA	Provided by manufacturer
C.	POE's Adapter	Powertron Electronics Corp.	PA1040-480IB080	NA	NA	Provided by manufacturer

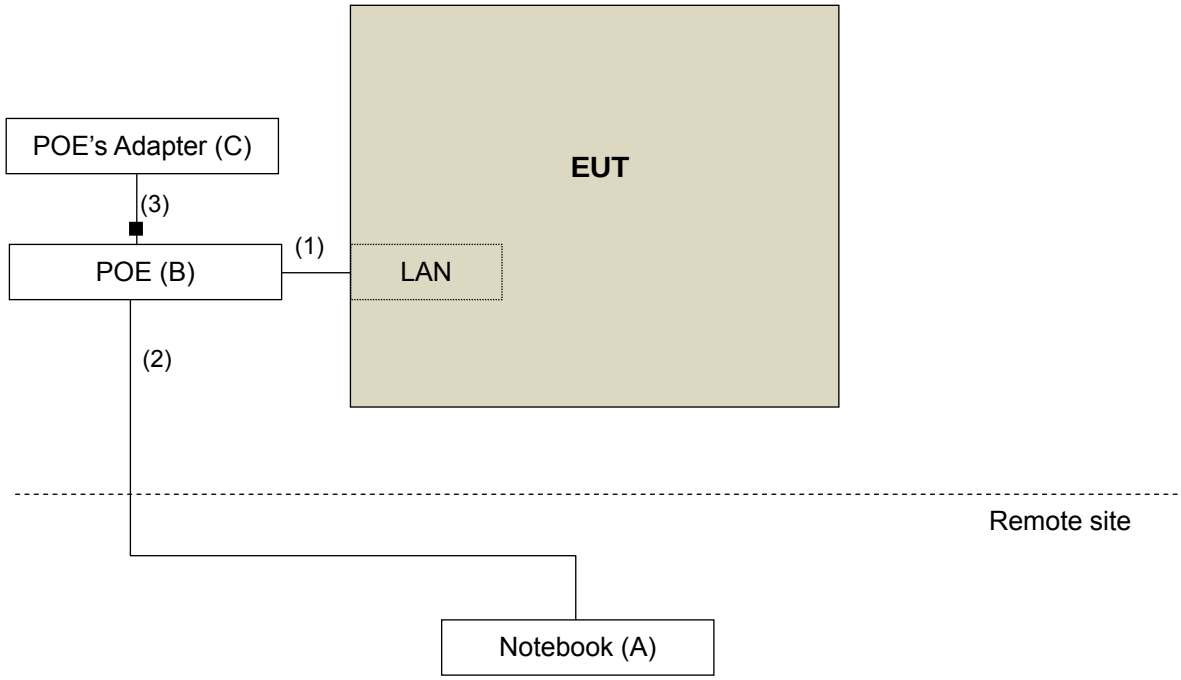
Note:
1. All power cords of the above support units are non-shielded (1.8m).
2. Item A~C acted as communication partners to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	1.8	N	0	Cat5e Accessory of EUT
2.	LAN cable	1	10	N	0	Cat5e
3.	Power cable	1	1.55	N	1	Attached on adapter Provided by manufacturer

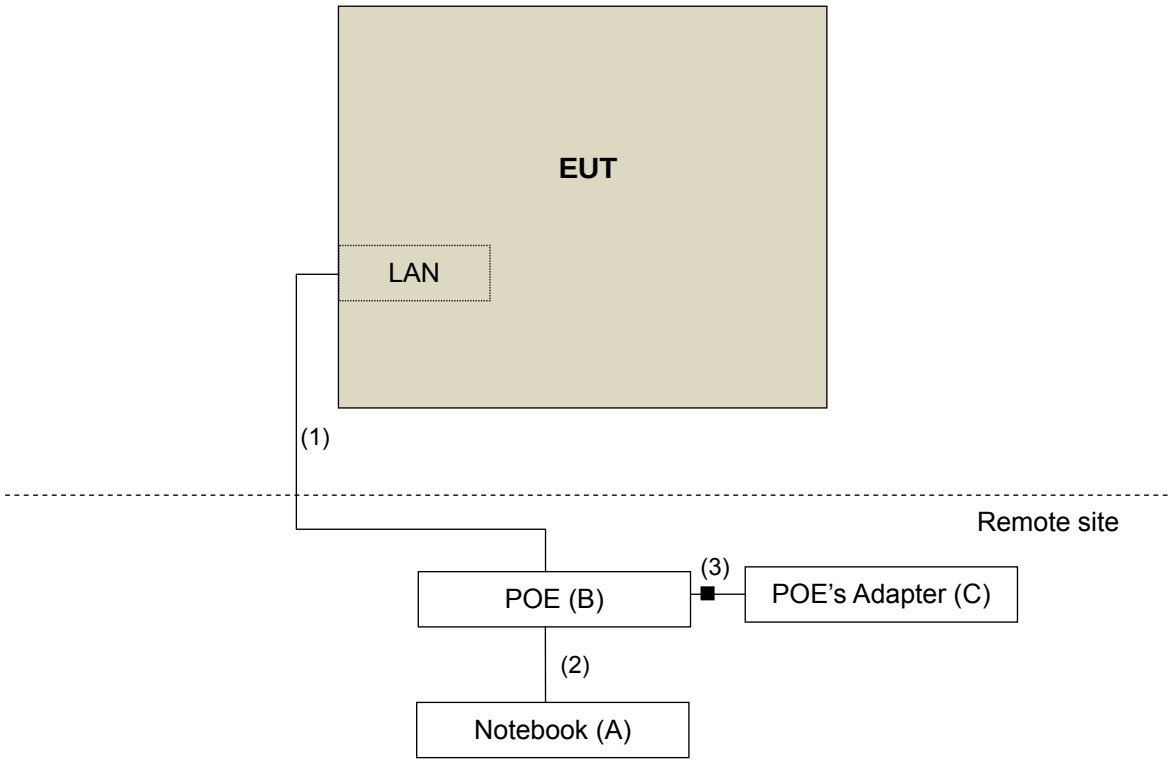
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

Conducted emission test:



Radiated emission tests



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)
558074 D01 DTS Meas Guidance v03r03
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 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	ESIB7	100187	Apr. 10, 2015	Apr. 09, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Sep. 02, 2015	Sep. 01, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Feb. 05, 2015	Feb. 04, 2016
HORN Antenna SCHWARZBECK	9120D	209	Feb. 09, 2015	Feb. 08, 2016
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Feb. 09, 2015	Feb. 08, 2016
Preamplifier Agilent	8447D	2944A10738	Oct.18, 2015	Oct. 17, 2016
Preamplifier Agilent	8449B	3008A01964	Aug. 22, 2015	Aug. 21, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (214378)	Aug. 22, 2015	Aug. 21, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 106	Cable-CH3-03 (309224+12738)	Aug. 22, 2015	Aug. 21, 2016
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
High Speed Peak Power Meter	ML2495A	0824011	Jul. 09, 2015	Jul. 08, 2016
Power Sensor	MA2411B	0738171	Jul. 09, 2015	Jul. 08, 2016

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 3.

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 988962.

5. The IC Site Registration No. is IC 7450F-3.

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:

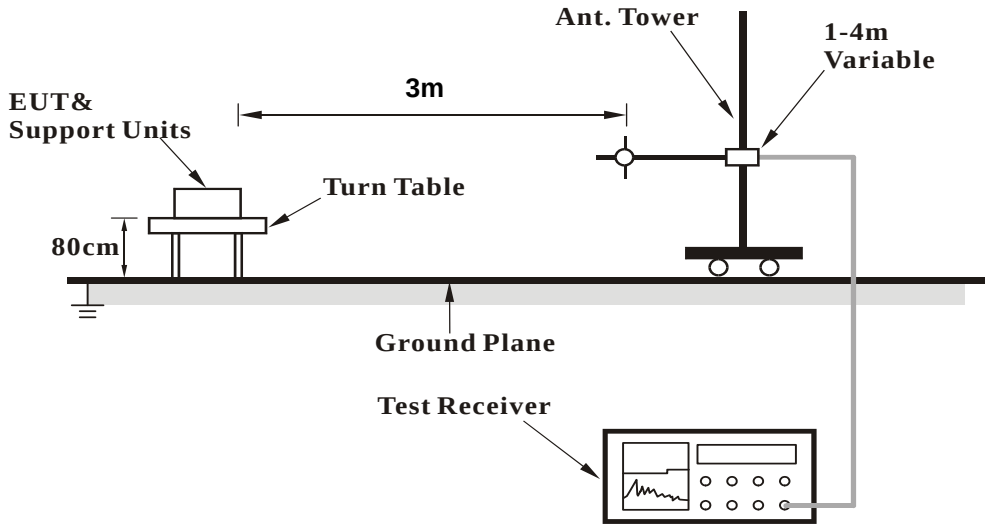
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

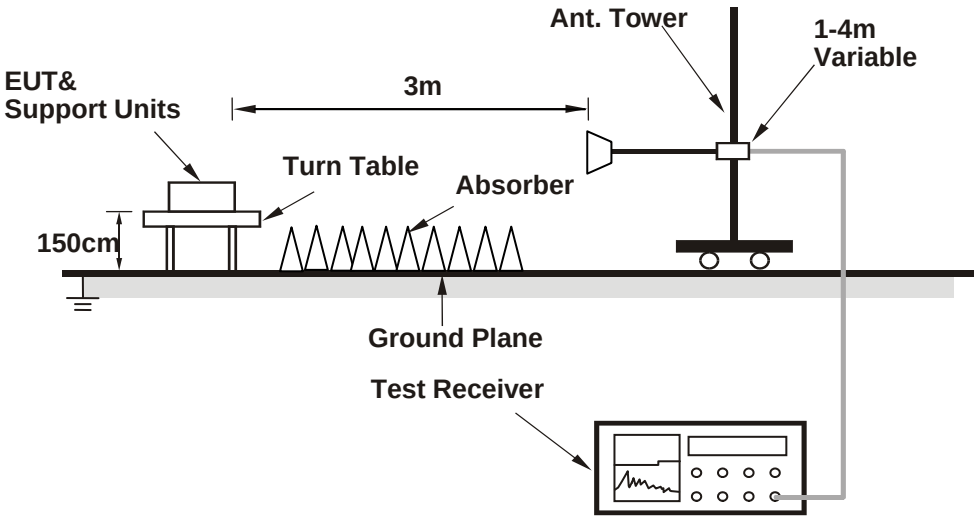
No deviation.

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

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

4.1.7 Test Results

Above 1GHz Worst-case Data：

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2371.00	63.2 PK	74.0	-10.8	1.58 H	346	30.70	32.50
2	2371.00	49.6 AV	54.0	-4.4	1.58 H	346	17.10	32.50
3	*2412.00	118.7 PK			1.60 H	346	86.10	32.60
4	*2412.00	115.1 AV			1.60 H	346	82.50	32.60
5	4824.00	53.2 PK	74.0	-20.8	1.16 H	171	47.10	6.10
6	4824.00	47.9 AV	54.0	-6.1	1.16 H	171	41.80	6.10
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	2371.00	58.9 PK	74.0	-15.1	2.10 V	199	26.40	32.50
2	2371.00	47.8 AV	54.0	-6.2	2.10 V	199	15.30	32.50
3	*2412.00	113.9 PK			1.85 V	199	81.30	32.60
4	*2412.00	110.3 AV			1.85 V	199	77.70	32.60
5	4824.00	51.4 PK	74.0	-22.6	1.51 V	174	45.30	6.10
6	4824.00	45.6 AV	54.0	-8.4	1.51 V	174	39.50	6.10

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	120.0 PK			1.88 H	340	87.30	32.70
2	*2437.00	116.1 AV			1.88 H	340	83.40	32.70
3	4874.00	54.1 PK	74.0	-19.9	1.72 H	349	47.90	6.20
4	4874.00	48.1 AV	54.0	-5.9	1.72 H	349	41.90	6.20
5	7311.00	57.1 PK	74.0	-16.9	1.65 H	191	44.50	12.60
6	7311.00	49.0 AV	54.0	-5.0	1.65 H	191	36.40	12.60
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	117.9 PK			1.89 V	336	85.20	32.70
2	*2437.00	114.0 AV			1.89 V	336	81.30	32.70
3	4874.00	53.4 PK	74.0	-20.6	1.52 V	297	47.20	6.20
4	4874.00	48.4 AV	54.0	-5.6	1.52 V	297	42.20	6.20
5	7311.00	55.7 PK	74.0	-18.3	1.55 V	16	43.10	12.60
6	7311.00	44.4 AV	54.0	-9.6	1.55 V	16	31.80	12.60

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	119.2 PK			1.70 H	345	86.60	32.60
2	*2462.00	115.4 AV			1.70 H	345	82.80	32.60
3	2483.50	60.8 PK	74.0	-13.2	2.25 H	343	28.10	32.70
4	2483.50	49.3 AV	54.0	-4.7	2.25 H	343	16.60	32.70
5	4924.00	52.4 PK	74.0	-21.6	2.24 H	181	46.10	6.30
6	4924.00	45.4 AV	54.0	-8.6	2.24 H	181	39.10	6.30
7	7386.00	58.5 PK	74.0	-15.5	2.16 H	208	46.10	12.40
8	7386.00	52.0 AV	54.0	-2.0	2.16 H	208	39.60	12.40
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	117.7 PK			2.06 V	335	85.10	32.60
2	*2462.00	114.2 AV			2.06 V	335	81.60	32.60
3	2483.50	60.1 PK	74.0	-13.9	1.45 V	349	27.40	32.70
4	2483.50	48.2 AV	54.0	-5.8	1.45 V	349	15.50	32.70
5	4924.00	53.9 PK	74.0	-20.1	1.61 V	299	47.60	6.30
6	4924.00	48.9 AV	54.0	-5.1	1.61 V	299	42.60	6.30
7	7386.00	56.8 PK	74.0	-17.2	1.68 V	23	44.40	12.40
8	7386.00	49.2 AV	54.0	-4.8	1.68 V	23	36.80	12.40

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	72.0 PK	74.0	-2.0	1.78 H	177	39.50	32.50
2	2390.00	52.7 AV	54.0	-1.3	1.78 H	177	20.20	32.50
3	*2412.00	113.9 PK			1.60 H	176	81.30	32.60
4	*2412.00	105.0 AV			1.60 H	176	72.40	32.60
5	4824.00	47.4 PK	74.0	-26.6	1.52 H	241	41.30	6.10
6	4824.00	34.8 AV	54.0	-19.2	1.52 H	241	28.70	6.10
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	60.8 PK	74.0	-13.2	1.43 V	343	28.30	32.50
2	2390.00	48.6 AV	54.0	-5.4	1.43 V	343	16.10	32.50
3	*2412.00	108.6 PK			1.39 V	199	76.00	32.60
4	*2412.00	98.9 AV			1.39 V	199	66.30	32.60
5	4824.00	49.8 PK	74.0	-24.2	1.50 V	189	43.70	6.10
6	4824.00	36.9 AV	54.0	-17.1	1.50 V	189	30.80	6.10

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	67.6 PK	74.0	-6.4	2.36 H	353	35.10	32.50
2	2390.00	50.6 AV	54.0	-3.4	2.36 H	353	18.10	32.50
3	*2437.00	120.1 PK			2.56 H	349	87.40	32.70
4	*2437.00	110.5 AV			2.56 H	349	77.80	32.70
5	2483.50	67.6 PK	74.0	-6.4	2.37 H	337	34.90	32.70
6	2483.50	50.6 AV	54.0	-3.4	2.37 H	337	17.90	32.70
7	4874.00	50.1 PK	74.0	-23.9	1.14 H	173	43.90	6.20
8	4874.00	37.5 AV	54.0	-16.5	1.14 H	173	31.30	6.20
9	7311.00	71.2 PK	74.0	-2.8	2.42 H	202	58.60	12.60
10	7311.00	47.4 AV	54.0	-6.6	2.42 H	202	34.80	12.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	116.9 PK			1.79 V	338	84.20	32.70
2	*2437.00	106.1 AV			1.79 V	338	73.40	32.70
3	4874.00	50.6 PK	74.0	-23.4	1.53 V	33	44.40	6.20
4	4874.00	38.1 AV	54.0	-15.9	1.53 V	33	31.90	6.20
5	7311.00	68.1 PK	74.0	-5.9	1.73 V	20	55.50	12.60
6	7311.00	45.9 AV	54.0	-8.1	1.73 V	20	33.30	12.60

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	112.9 PK			2.59 H	3	80.30	32.60
2	*2462.00	104.0 AV			2.59 H	3	71.40	32.60
3	2483.50	72.6 PK	74.0	-1.4	2.61 H	344	39.90	32.70
4	2483.50	51.2 AV	54.0	-2.8	2.61 H	344	18.50	32.70
5	4924.00	47.6 PK	74.0	-26.4	2.15 H	216	41.30	6.30
6	4924.00	34.9 AV	54.0	-19.1	2.15 H	216	28.60	6.30
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	112.5 PK			2.06 V	339	79.90	32.60
2	*2462.00	101.8 AV			2.06 V	339	69.20	32.60
3	2483.50	66.7 PK	74.0	-7.3	1.85 V	199	34.00	32.70
4	2483.50	51.2 AV	54.0	-2.8	1.85 V	199	18.50	32.70
5	4924.00	50.1 PK	74.0	-23.9	1.66 V	221	43.80	6.30
6	4924.00	37.3 AV	54.0	-16.7	1.66 V	221	31.00	6.30

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	70.3 PK	74.0	-3.7	1.95 H	348	37.80	32.50
2	2390.00	52.2 AV	54.0	-1.8	1.95 H	348	19.70	32.50
3	*2412.00	113.9 PK			2.54 H	349	81.30	32.60
4	*2412.00	104.0 AV			2.54 H	349	71.40	32.60
5	4824.00	48.6 PK	74.0	-25.4	1.61 H	167	42.50	6.10
6	4824.00	35.7 AV	54.0	-18.3	1.61 H	167	29.60	6.10
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	61.4 PK	74.0	-12.6	1.68 V	172	28.20	33.20
2	2390.00	48.7 AV	54.0	-5.3	1.68 V	172	15.50	33.20
3	*2412.00	107.6 PK			1.57 V	340	74.30	33.30
4	*2412.00	97.7 AV			1.57 V	340	64.40	33.30
5	4824.00	47.4 PK	74.0	-26.6	1.50 V	30	42.00	5.40
6	4824.00	34.3 AV	54.0	-19.7	1.50 V	30	28.90	5.40

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	69.2 PK	74.0	-4.8	1.80 H	172	36.70	32.50
2	2390.00	50.3 AV	54.0	-3.7	1.80 H	172	17.80	32.50
3	*2437.00	117.8 PK			2.50 H	352	85.10	32.70
4	*2437.00	108.7 AV			2.50 H	352	76.00	32.70
5	2483.50	70.0 PK	74.0	-4.0	1.88 H	347	37.30	32.70
6	2483.50	51.2 AV	54.0	-2.8	1.88 H	347	18.50	32.70
7	4874.00	49.8 PK	74.0	-24.2	1.52 H	165	43.60	6.20
8	4874.00	37.6 AV	54.0	-16.4	1.52 H	165	31.40	6.20
9	**7311.00**	**72.9 PK**	**74.0**	**-1.1**	**1.49 H**	**193**	**60.30**	**12.60**
10	7311.00	47.2 AV	54.0	-6.8	1.49 H	193	34.60	12.60
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	115.1 PK			1.81 V	340	81.60	33.50
2	*2437.00	105.7 AV			1.81 V	340	72.20	33.50
3	4874.00	48.2 PK	74.0	-25.8	1.76 V	166	42.60	5.60
4	4874.00	35.2 AV	54.0	-18.8	1.76 V	166	29.60	5.60
5	7311.00	67.6 PK	74.0	-6.4	1.94 V	26	54.30	13.30
6	7311.00	43.0 AV	54.0	-11.0	1.94 V	26	29.70	13.30

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	114.9 PK			2.50 H	348	82.30	32.60
2	*2462.00	104.6 AV			2.50 H	348	72.00	32.60
3	2483.50	72.5 PK	74.0	-1.5	1.73 H	346	39.80	32.70
4	2483.50	52.2 AV	54.0	-1.8	1.73 H	346	19.50	32.70
5	4924.00	50.2 PK	74.0	-23.8	1.90 H	288	43.90	6.30
6	4924.00	37.7 AV	54.0	-16.3	1.90 H	288	31.40	6.30
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	111.7 PK			1.79 V	331	78.30	33.40
2	*2462.00	102.1 AV			1.79 V	331	68.70	33.40
3	2483.50	70.6 PK	74.0	-3.4	1.79 V	345	37.10	33.50
4	2483.50	52.0 AV	54.0	-2.0	1.79 V	345	18.50	33.50
5	4924.00	48.1 PK	74.0	-25.9	1.71 V	173	42.30	5.80
6	4924.00	35.0 AV	54.0	-19.0	1.71 V	173	29.20	5.80

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	69.5 PK	74.0	-4.5	1.98 H	174	36.30	33.20
2	2390.00	52.8 AV	54.0	-1.2	1.98 H	174	19.60	33.20
3	*2422.00	107.6 PK			2.48 H	351	74.30	33.30
4	*2422.00	98.3 AV			2.48 H	351	65.00	33.30
5	4844.00	47.0 PK	74.0	-27.0	1.60 H	173	41.50	5.50
6	4844.00	34.8 AV	54.0	-19.2	1.60 H	173	29.30	5.50
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	63.5 PK	74.0	-10.5	1.70 V	339	30.30	33.20
2	2390.00	48.9 AV	54.0	-5.1	1.70 V	339	15.70	33.20
3	*2422.00	103.7 PK			1.95 V	340	70.40	33.30
4	*2422.00	93.6 AV			1.95 V	340	60.30	33.30
5	4844.00	47.0 PK	74.0	-27.0	1.65 V	23	41.50	5.50
6	4844.00	34.1 AV	54.0	-19.9	1.65 V	23	28.60	5.50

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.
6. " # ": The radiated frequency is out of the restricted band.

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	69.7 PK	74.0	-4.3	1.79 H	174	36.50	33.20
2	**2390.00**	**52.9 AV**	**54.0**	**-1.1**	**1.79 H**	**174**	**19.70**	**33.20**
3	*2437.00	112.8 PK			2.48 H	349	79.30	33.50
4	*2437.00	103.4 AV			2.48 H	349	69.90	33.50
5	2483.50	72.8 PK	74.0	-1.2	2.40 H	340	39.30	33.50
6	2483.50	52.6 AV	54.0	-1.4	2.40 H	340	19.10	33.50
7	4874.00	48.0 PK	74.0	-26.0	1.81 H	175	42.40	5.60
8	4874.00	35.0 AV	54.0	-19.0	1.81 H	175	29.40	5.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.3 PK			1.95 V	337	75.80	33.50
2	*2437.00	99.2 AV			1.95 V	337	65.70	33.50
3	4874.00	47.3 PK	74.0	-26.7	1.80 V	340	41.70	5.60
4	4874.00	34.5 AV	54.0	-19.5	1.80 V	340	28.90	5.60

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	110.5 PK			2.53 H	343	77.00	33.50
2	*2452.00	101.1 AV			2.53 H	343	67.60	33.50
3	2483.50	69.9 PK	74.0	-4.1	1.94 H	337	36.40	33.50
4	2483.50	52.5 AV	54.0	-1.5	1.94 H	337	19.00	33.50
5	4904.00	48.5 PK	74.0	-25.5	1.90 H	178	42.90	5.60
6	4904.00	35.4 AV	54.0	-18.6	1.90 H	178	29.80	5.60
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	106.8 PK			1.61 V	341	73.30	33.50
2	*2452.00	97.3 AV			1.61 V	341	63.80	33.50
3	2483.50	70.0 PK	74.0	-4.0	1.77 V	340	36.50	33.50
4	**2483.50**	**52.9 AV**	**54.0**	**-1.1**	**1.77 V**	**340**	**19.40**	**33.50**
5	4904.00	48.1 PK	74.0	-25.9	1.98 V	161	42.50	5.60
6	4904.00	34.9 AV	54.0	-19.1	1.98 V	161	29.30	5.60

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:

802.11b

CHANNEL	TX Channel 6	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	57.12	31.2 QP	40.0	-8.8	2.00 H	338	46.00	-14.80
2	90.17	35.8 QP	43.5	-7.7	2.00 H	72	55.70	-19.90
3	148.50	38.4 QP	43.5	-5.1	2.00 H	230	52.40	-14.00
4	195.16	29.1 QP	43.5	-14.4	1.50 H	213	45.50	-16.40
5	249.60	23.3 QP	46.0	-22.7	1.00 H	226	37.70	-14.40
6	278.77	23.8 QP	46.0	-22.2	1.50 H	156	36.80	-13.00
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	29.90	37.6 QP	40.0	-2.4	1.00 V	242	53.70	-16.10
2	45.45	35.8 QP	40.0	-4.2	1.00 V	13	50.60	-14.80
3	92.12	32.3 QP	43.5	-11.2	1.00 V	150	52.20	-19.90
4	148.50	40.0 QP	43.5	-3.5	1.00 V	132	54.00	-14.00
5	193.22	30.0 QP	43.5	-13.5	1.00 V	158	46.30	-16.30
6	280.71	26.3 QP	46.0	-19.7	1.49 V	242	39.20	-12.90

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	ESCS 30	100288	Apr. 27, 2015	Apr. 26, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Dec. 26, 2014	Dec. 25, 2015
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 30, 2014	Dec. 29, 2015
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 21, 2015	Jul. 20, 2016
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Notes: 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 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 Test Procedures

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

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

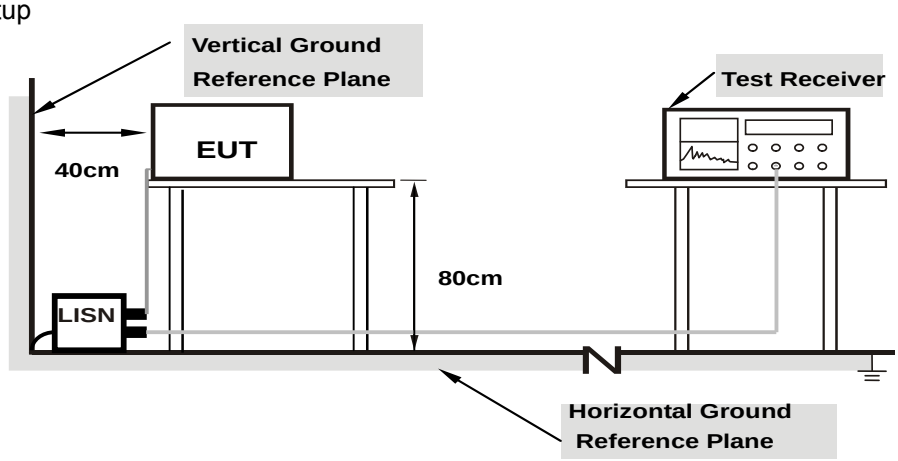
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

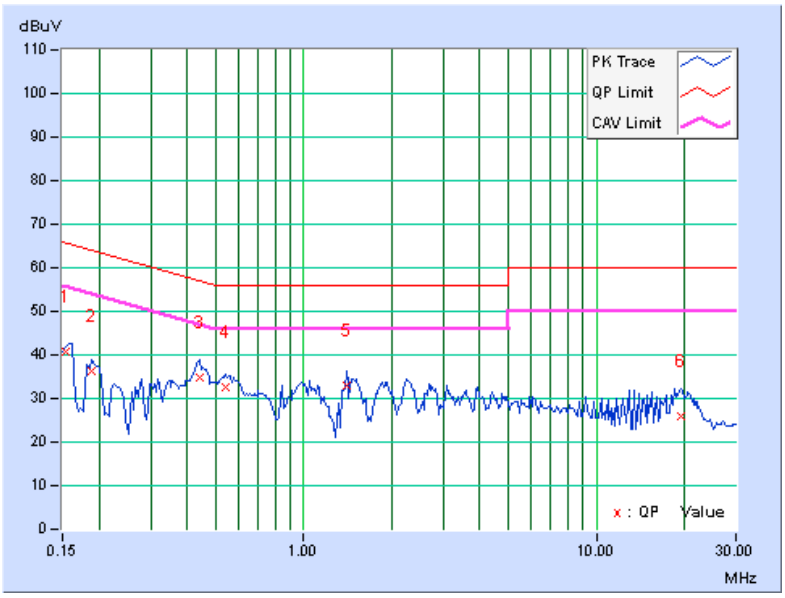
4.2.7 Test Results

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15356	9.94	30.86	22.61	40.80	32.55	65.81	55.81	-25.01	-23.26
2	0.18906	9.94	26.18	19.31	36.12	29.25	64.08	54.08	-27.95	-24.82
3	0.44297	9.96	24.75	13.44	34.71	23.40	57.01	47.01	-22.30	-23.61
4	0.54063	9.98	22.66	13.70	32.64	23.68	56.00	46.00	-23.36	-22.32
5	1.40625	10.10	22.90	16.70	33.00	26.80	56.00	46.00	-23.00	-19.20
6	19.53906	10.66	15.27	7.45	25.93	18.11	60.00	50.00	-34.07	-31.89

REMARKS:

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

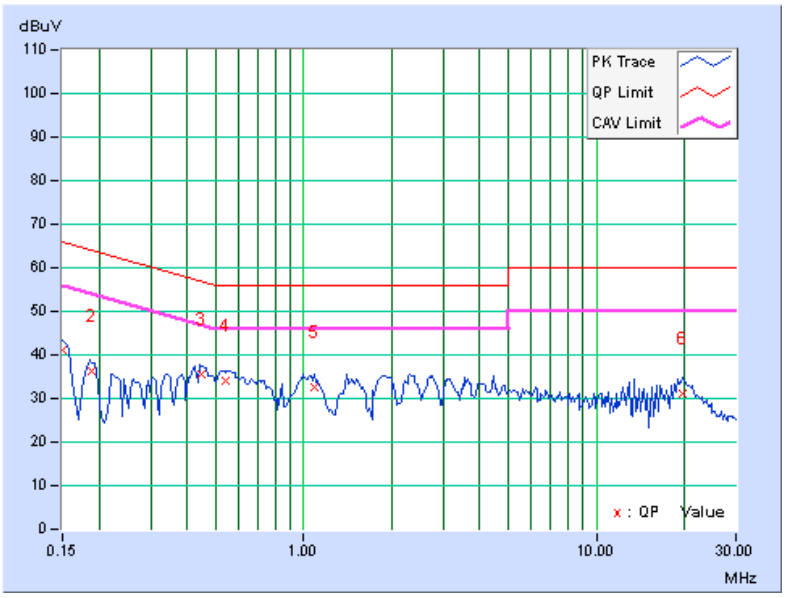


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.95	31.09	24.18	41.04	34.13	66.00	56.00	-24.96	-21.87
2	0.18771	9.96	26.48	21.30	36.44	31.26	64.14	54.14	-27.70	-22.88
3	**0.44562**	**10.01**	**25.55**	**17.83**	**35.56**	**27.84**	**56.96**	**46.96**	**-21.40**	**-19.12**
4	0.54063	10.02	23.94	13.98	33.96	24.00	56.00	46.00	-22.04	-22.00
5	1.08203	10.09	22.65	13.81	32.74	23.90	56.00	46.00	-23.26	-22.10
6	19.64844	10.83	20.39	17.11	31.22	27.94	60.00	50.00	-28.78	-22.06

REMARKS:

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

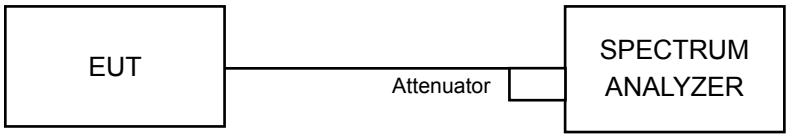


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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

4.3.5 Deviation 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

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	7.10	7.08	7.10	0.5	PASS
6	2437	7.08	7.09	7.09	0.5	PASS
11	2462	7.07	7.11	7.11	0.5	PASS

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	16.41	16.41	16.43	0.5	PASS
6	2437	16.39	16.38	16.38	0.5	PASS
11	2462	16.40	16.39	16.40	0.5	PASS

802.11n (HT20)

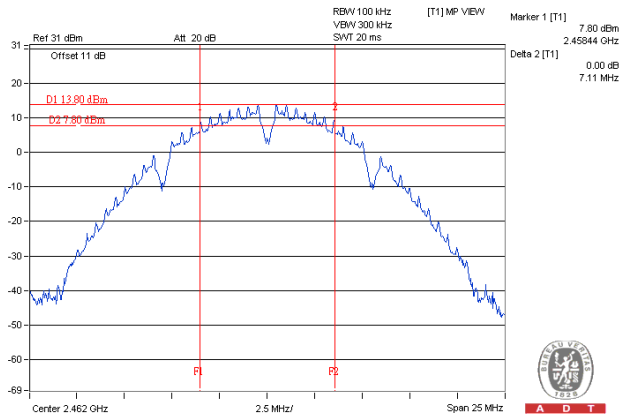
Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	17.64	17.62	17.65	0.5	PASS
6	2437	17.52	17.61	17.60	0.5	PASS
11	2462	17.62	17.62	17.62	0.5	PASS

802.11n (HT40)

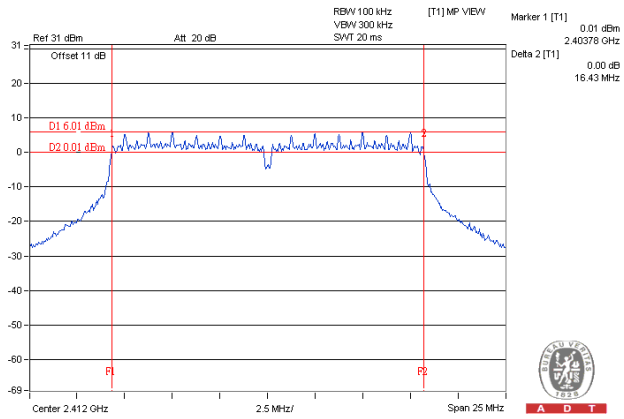
Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		CHAIN 0	CHAIN 1	CHAIN 2		
3	2422	36.42	36.42	36.44	0.5	PASS
6	2437	36.36	36.11	36.38	0.5	PASS
9	2452	36.36	36.13	36.38	0.5	PASS

Spectrum Plot of Worst Value

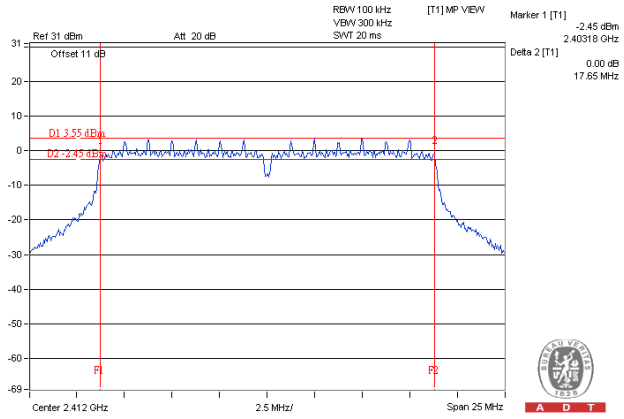
802.11b



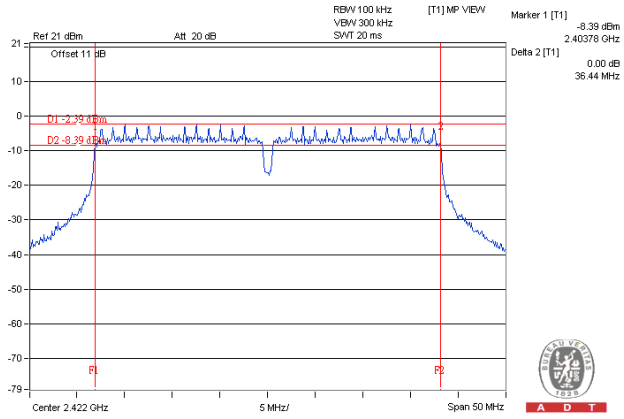
802.11g



802.11n (HT20)



802.11n (HT40)



4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

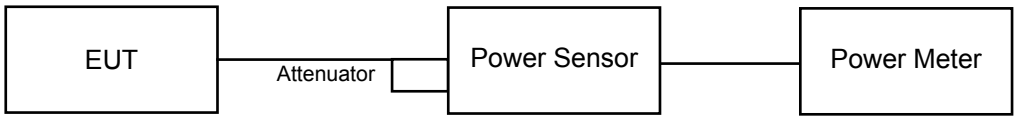
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

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

FOR AVERAGE POWER

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	23.95	21.64	21.59	538.406	27.31	30	Pass
6	2437	23.64	22.06	22.17	**556.716**	27.46	30	Pass
11	2462	23.34	21.52	21.58	501.560	27.00	30	Pass

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	19.22	16.20	16.77	172.781	22.37	30	Pass
6	2437	23.32	22.21	22.32	551.732	27.42	30	Pass
11	2462	18.15	16.42	15.99	148.885	21.73	30	Pass

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	17.20	14.32	14.68	108.897	20.37	30	Pass
6	2437	22.26	20.94	20.75	411.282	26.14	30	Pass
11	2462	17.85	16.91	16.20	151.732	21.81	30	Pass

802.11n (HT40)

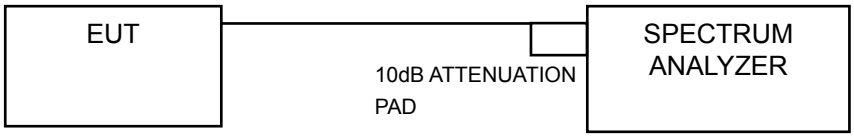
Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
3	2422	14.47	11.76	12.08	59.131	17.72	30	Pass
6	2437	19.30	17.03	17.52	192.074	22.83	30	Pass
9	2452	16.29	14.04	14.31	94.888	19.77	30	Pass

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 AVG. power (duty cycle ≥ 98%)
a) Set instrument center frequency to DTS channel center frequency.
b) Set span to at least 1.5 times the OBW.
c) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz. .
d) Set VBW ≥3 x RBW.
e) Detector = power averaging (RMS) or sample detector (when RMS not available).
f) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
g) Sweep time = auto couple.
h) Employ trace averaging (RMS) mode over a minimum of 100 traces.
i) Use the peak marker function to determine the maximum amplitude level.

For AVG. power (duty cycle < 98%)
a) Measure the duty cycle (x).
b) Set instrument center frequency to DTS channel center frequency.
c) Set span to at least 1.5 times the OBW.
d) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
e) Set VBW ≥3 x RBW.
f) Detector = power averaging (RMS) or sample detector (when RMS not available).
g) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
h) Sweep time = auto couple.
i) Do not use sweep triggering. Allow sweep to “free run”.
j) Employ trace averaging (RMS) mode over a minimum of 100 traces.
k) Use the peak marker function to determine the maximum amplitude level.
l) Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6

4.5.7 Test Results

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=3) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-3.35	4.77	1.42	5.468	Pass
	6	2437	-3.39	4.77	1.38	5.468	Pass
	11	2462	-4.16	4.77	0.61	5.468	Pass
1	1	2412	-5.07	4.77	-0.30	5.468	Pass
	6	2437	-5.26	4.77	-0.49	5.468	Pass
	11	2462	-5.68	4.77	-0.91	5.468	Pass
2	1	2412	-4.50	4.77	0.27	5.468	Pass
	6	2437	-4.60	4.77	0.17	5.468	Pass
	11	2462	-5.59	4.77	-0.82	5.468	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 = 3.762dBi + 10log(3) = 8.532dBi > 6dBi , so the power density limit shall be reduced to 8-(8.532-6) = 5.468dBm.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=3) dB	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-11.88	4.77	0.12	-6.99	5.468	Pass
	6	2437	-8.17	4.77	0.12	-3.28	5.468	Pass
	11	2462	-5.92	4.77	0.12	-1.03	5.468	Pass
1	1	2412	-10.45	4.77	0.12	-5.56	5.468	Pass
	6	2437	-8.43	4.77	0.12	-3.54	5.468	Pass
	11	2462	-11.19	4.77	0.12	-6.30	5.468	Pass
2	1	2412	-13.63	4.77	0.12	-8.74	5.468	Pass
	6	2437	-7.81	4.77	0.12	-2.92	5.468	Pass
	11	2462	-14.84	4.77	0.12	-9.95	5.468	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 = 3.762dBi + 10log(3) = 8.532dBi > 6dBi , so the power density limit shall be reduced to 8-(8.532-6) = 5.468dBm.

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=3) dB	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-14.06	4.77	0.12	-9.17	5.468	Pass
	6	2437	-9.04	4.77	0.12	-4.15	5.468	Pass
	11	2462	-12.88	4.77	0.12	-7.99	5.468	Pass
1	1	2412	-10.09	4.77	0.12	-5.20	5.468	Pass
	6	2437	-6.83	4.77	0.12	-1.94	5.468	Pass
	11	2462	-6.41	4.77	0.12	-1.52	5.468	Pass
2	1	2412	-16.09	4.77	0.12	-11.20	5.468	Pass
	6	2437	-10.26	4.77	0.12	-5.37	5.468	Pass
	11	2462	-14.72	4.77	0.12	-9.83	5.468	Pass

NOTE:

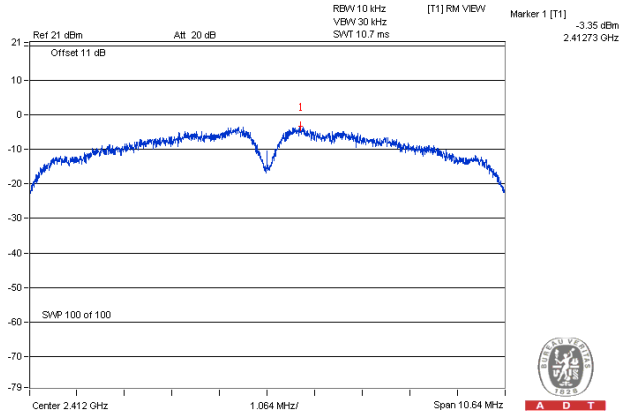
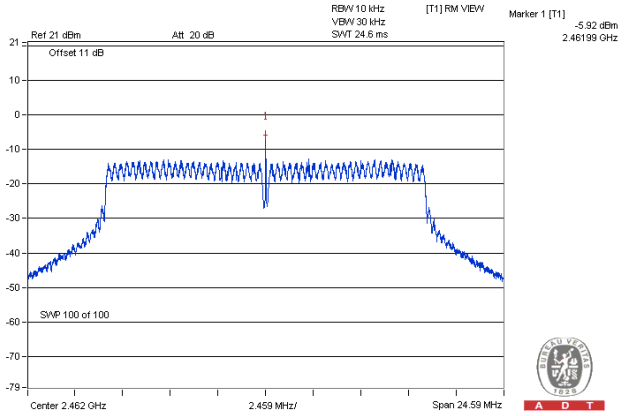
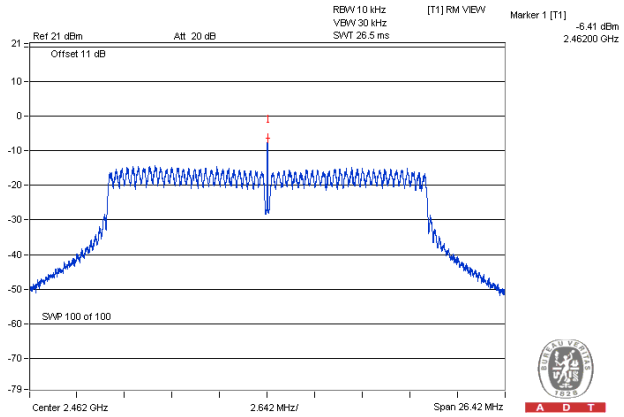
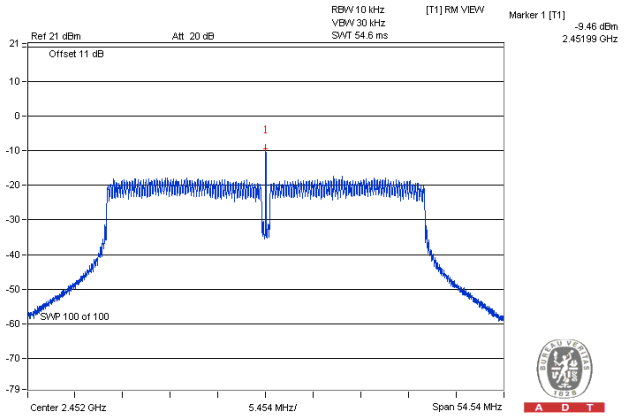
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 3.762dBi + 10log(3) = 8.532dBi > 6dBi , so the power density limit shall be reduced to 8-(8.532-6) = 5.468dBm.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=3) dB	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass /Fail
0	3	2422	-11.20	4.77	0.18	-6.25	5.468	Pass
	6	2437	-14.10	4.77	0.18	-9.15	5.468	Pass
	9	2452	-9.46	4.77	0.18	-4.51	5.468	Pass
1	3	2422	-21.85	4.77	0.18	-16.90	5.468	Pass
	6	2437	-12.42	4.77	0.18	-7.47	5.468	Pass
	9	2452	-9.96	4.77	0.18	-5.01	5.468	Pass
2	3	2422	-22.10	4.77	0.18	-17.15	5.468	Pass
	6	2437	-15.91	4.77	0.18	-10.96	5.468	Pass
	9	2452	-18.99	4.77	0.18	-14.04	5.468	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 = 3.762dBi + 10log(3) = 8.532dBi > 6dBi , so the power density limit shall be reduced to 8-(8.532-6) = 5.468dBm.

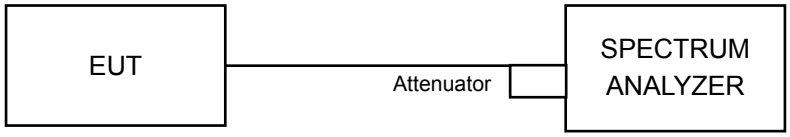
Spectrum Plot of Worst Value	
802.11b	**802.11g**
	
802.11n (HT20)	**802.11n (HT40)**
	

4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOBE

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

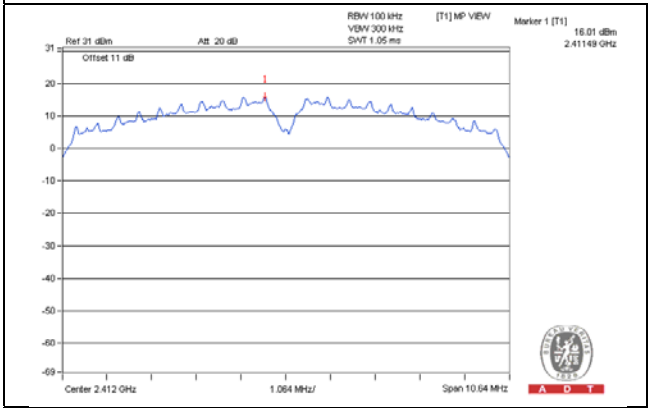
Same as Item 4.3.6

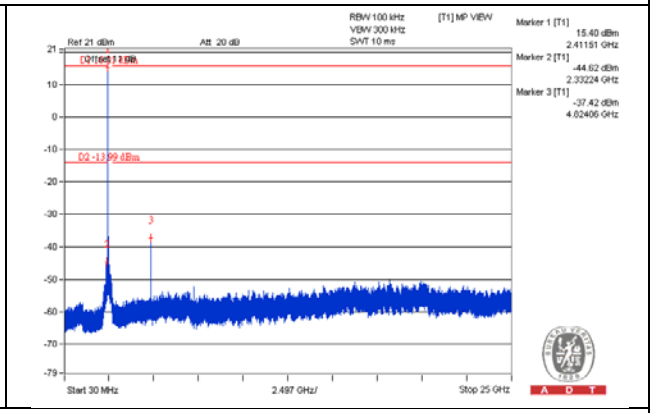
4.6.7 Test Results

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

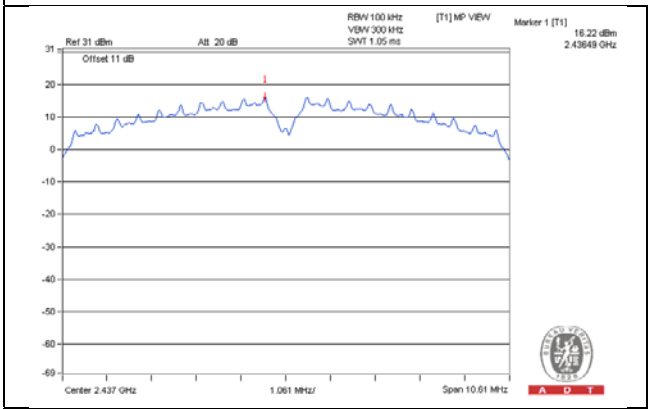
802.11b
CHAIN 0

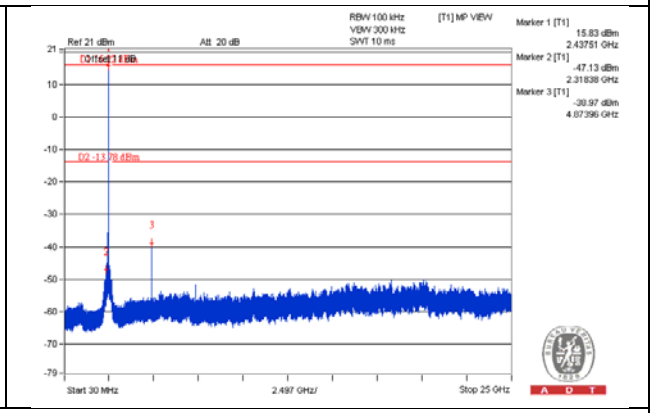
CH 1



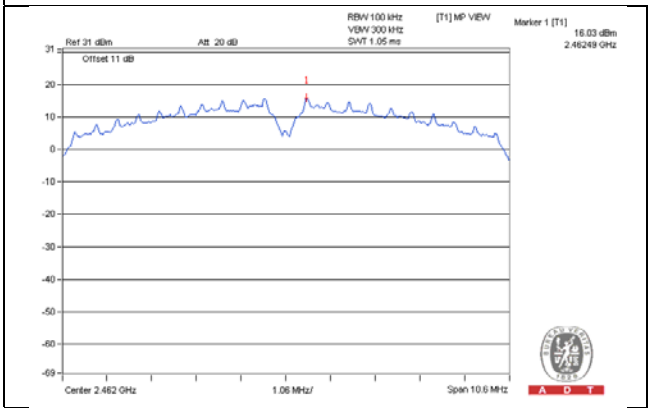


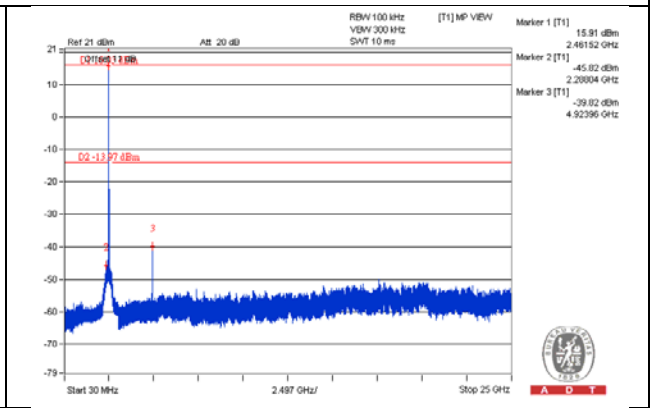
CH 6



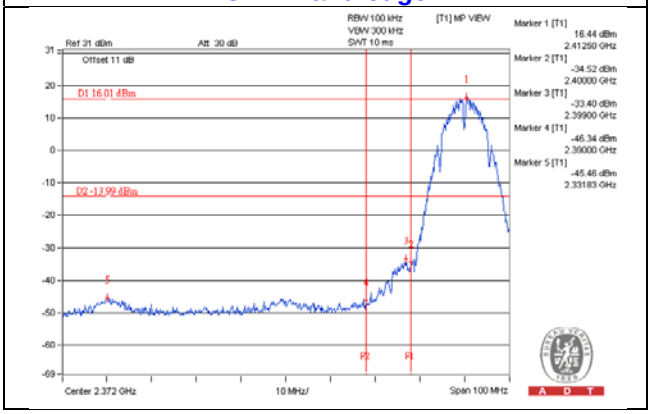


CH 11

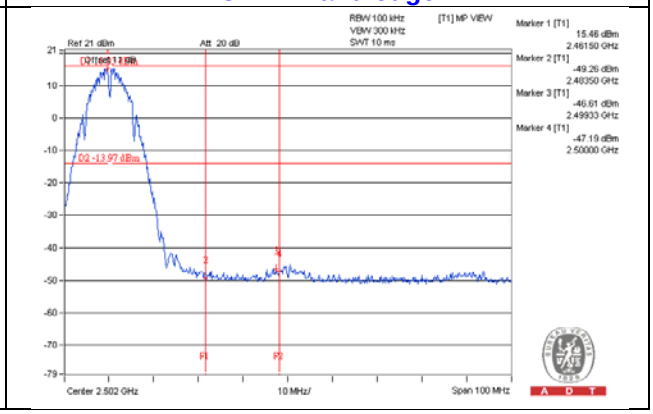




CH 1 Band edge

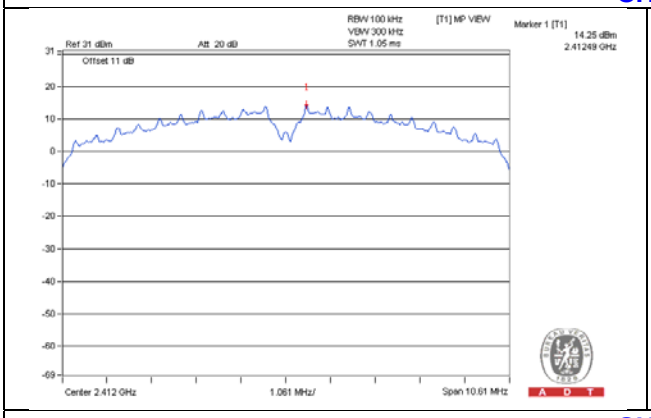


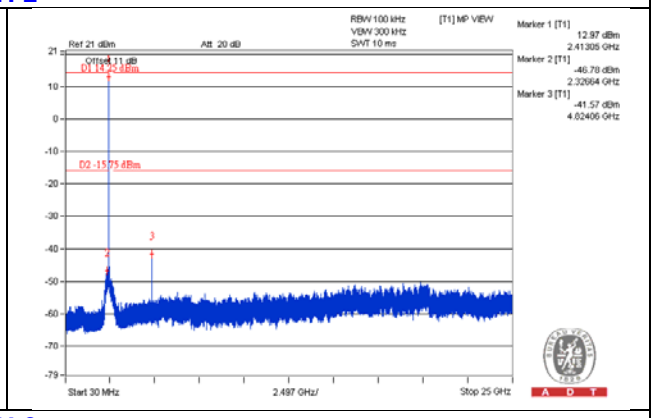
CH 11 Band edge



CHAIN 1

CH 1





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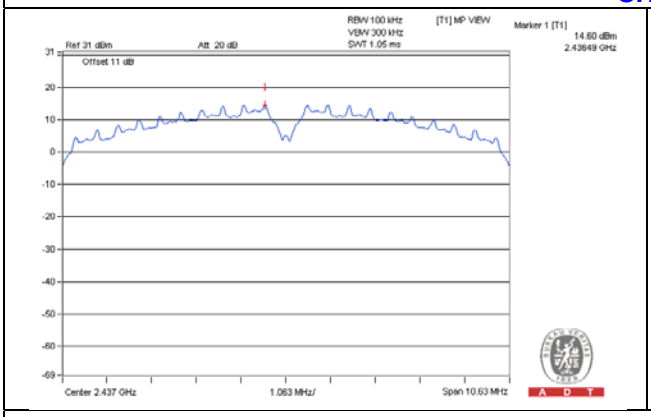

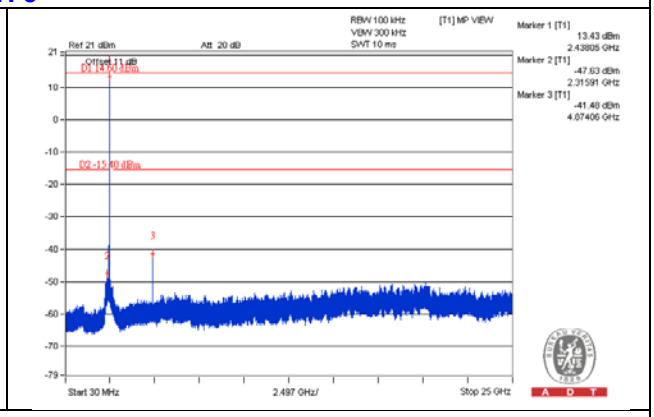

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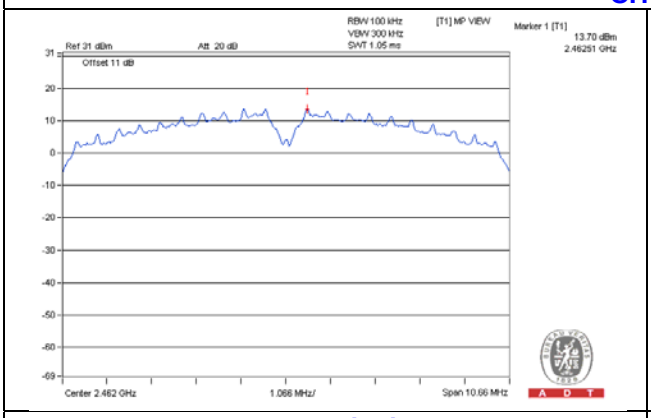
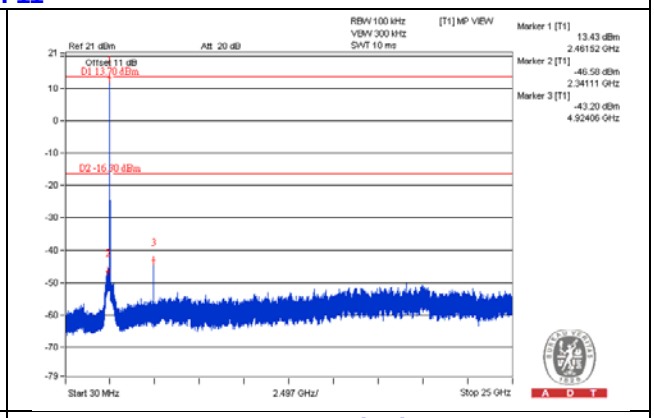
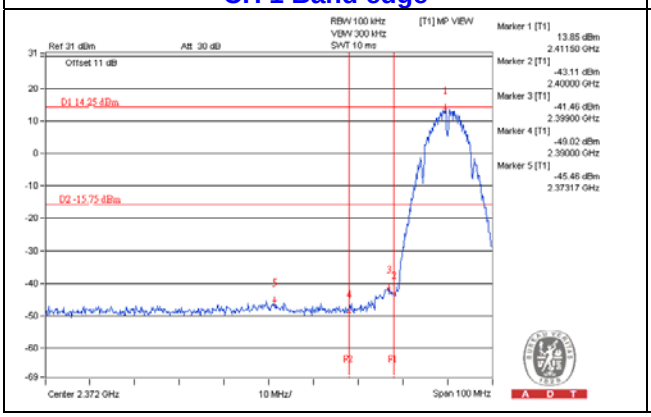
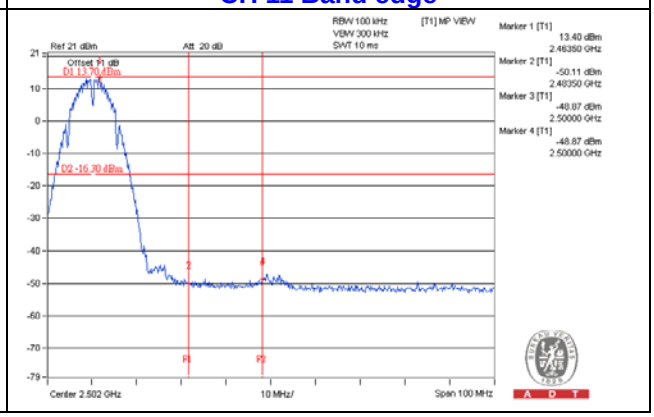




CH 1 Band edge

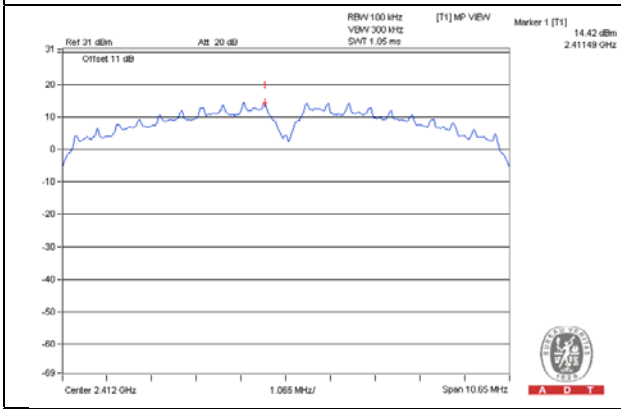


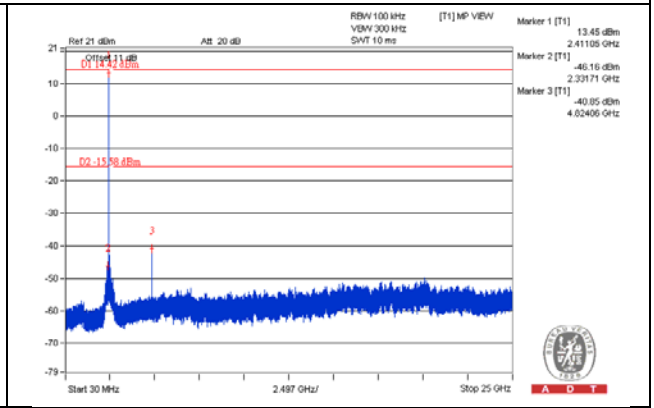
CH 11 Band edge



CHAIN 2

CH 1





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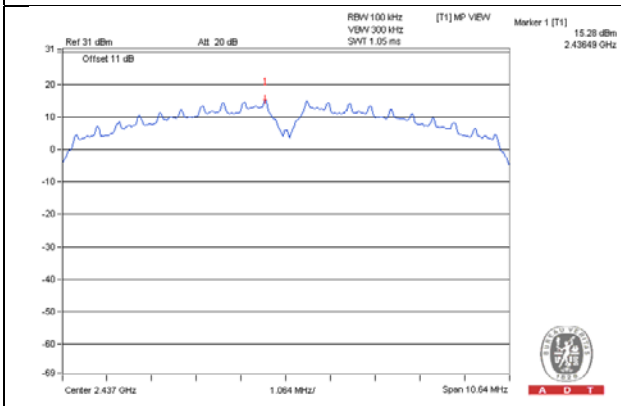

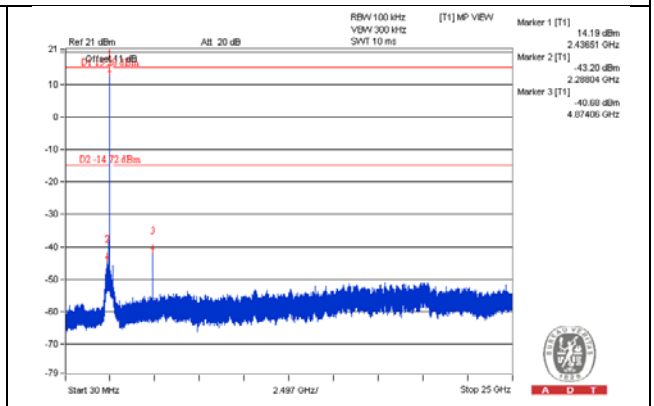

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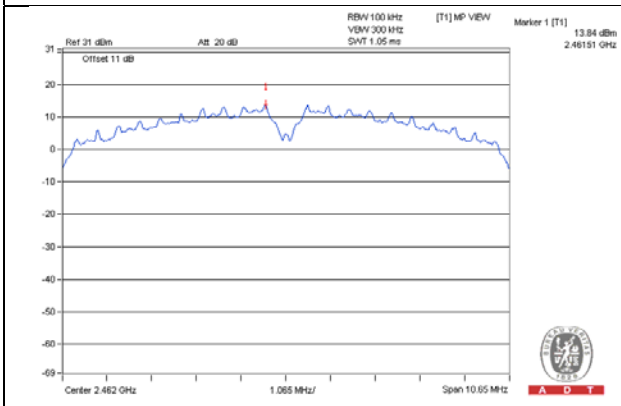
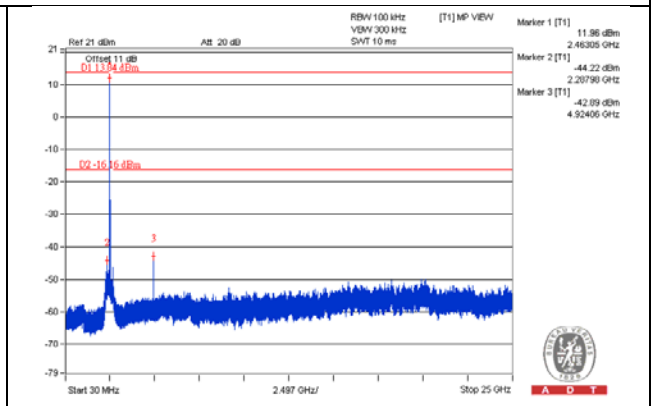
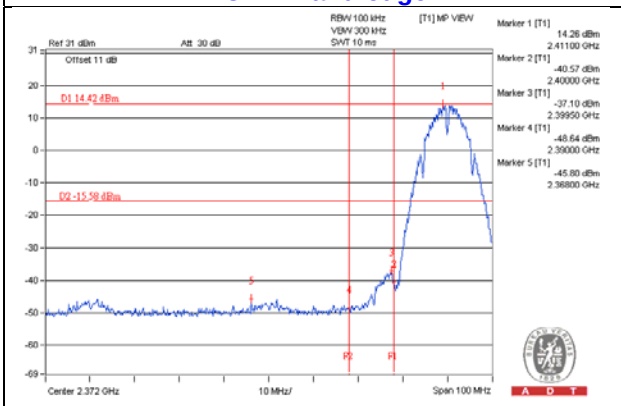




CH 1 Band edge



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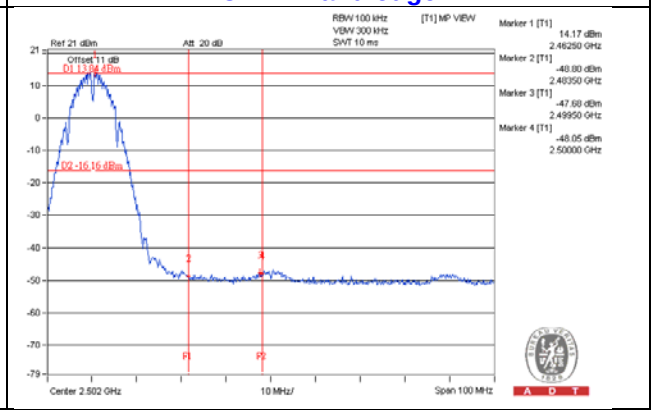
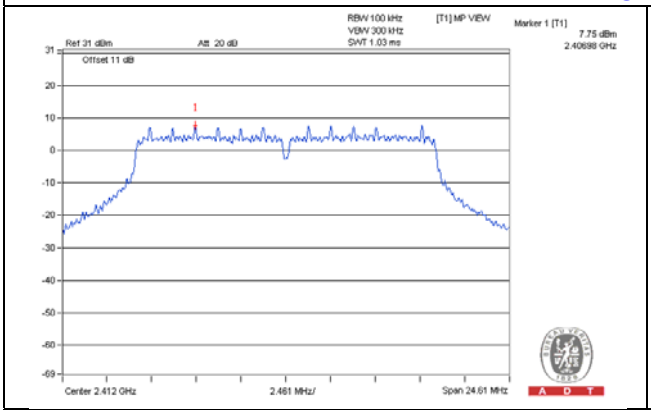
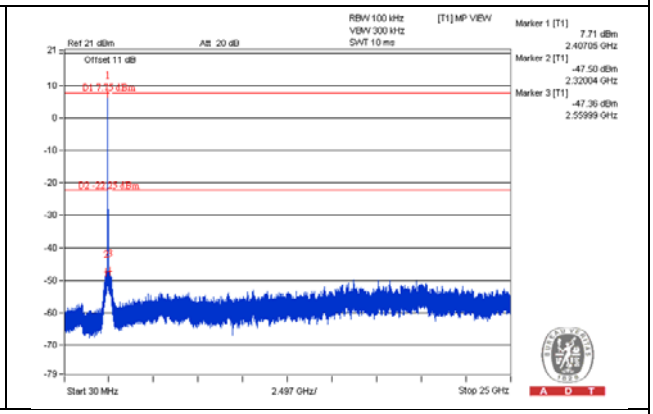


802.11g
CHAIN 0

CH 1





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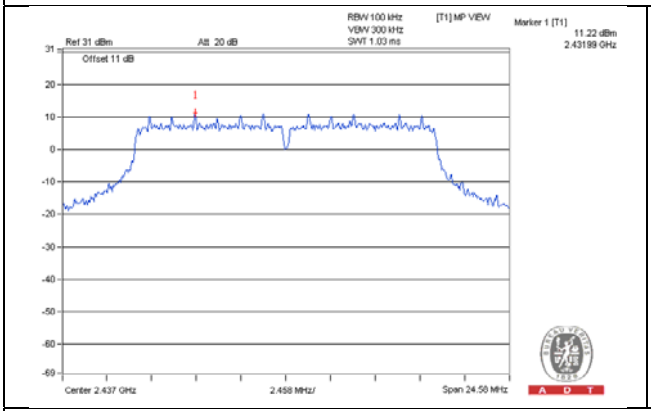

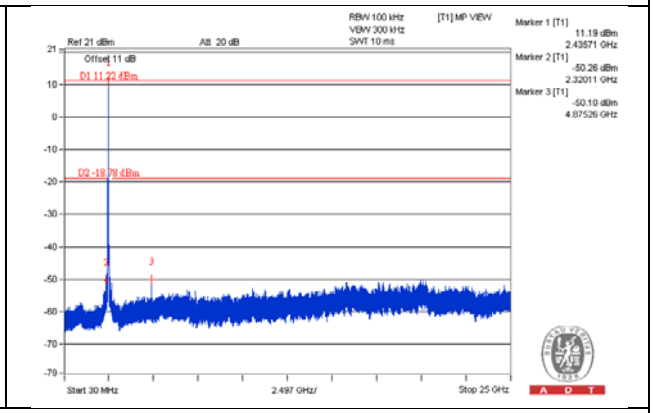

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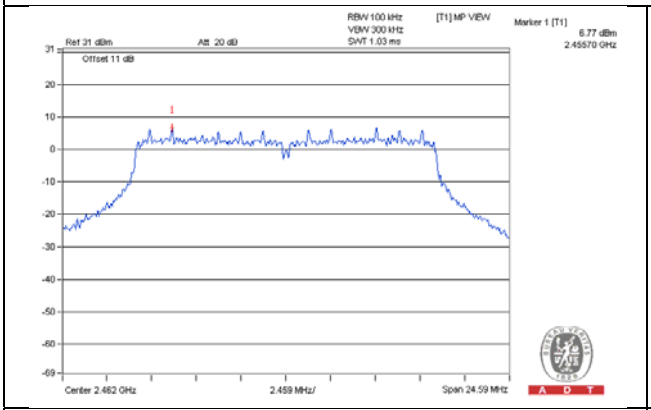

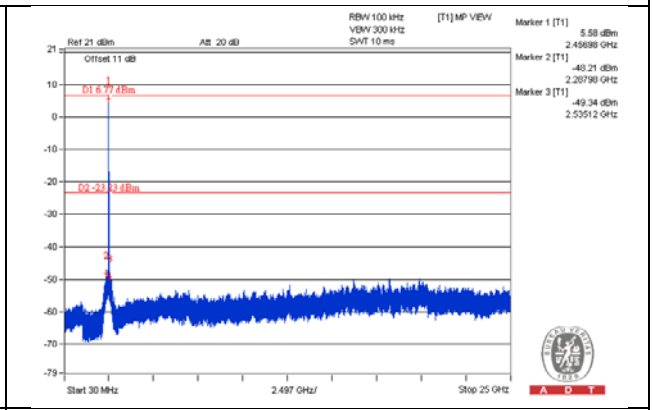

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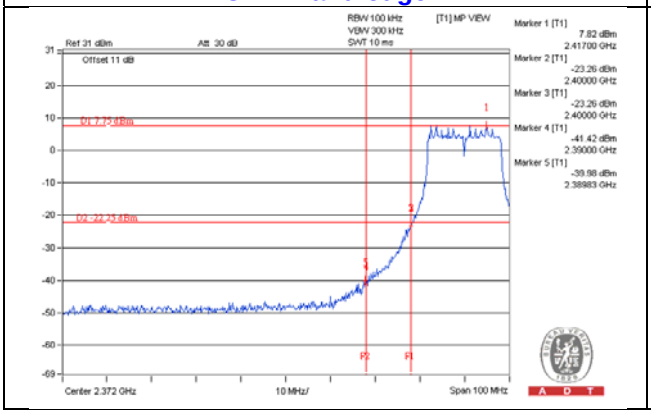
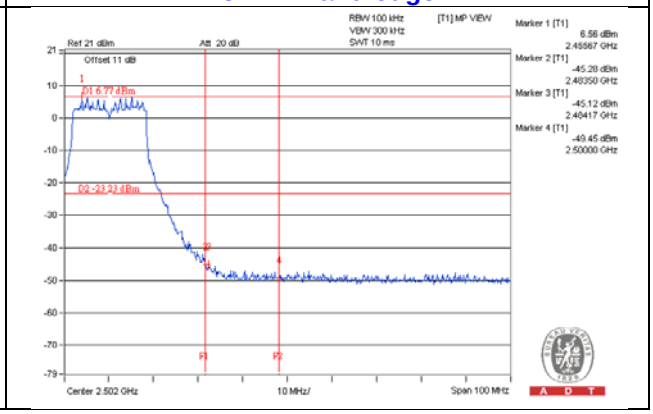
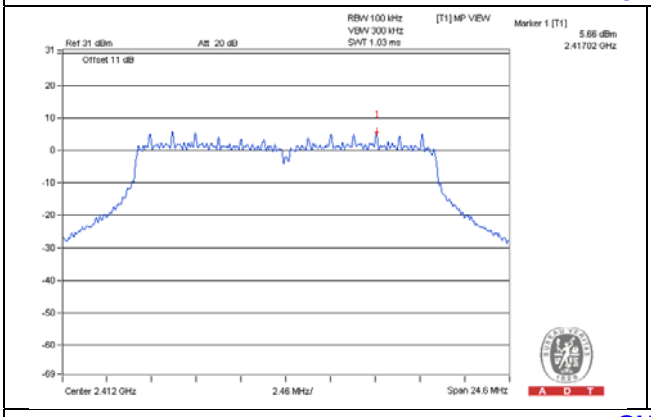


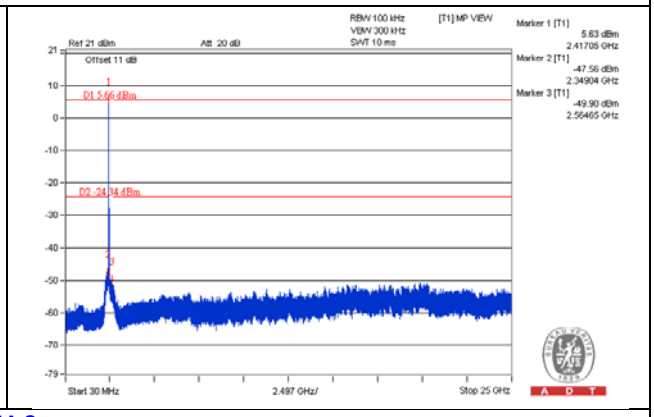
CH 11 Band edge



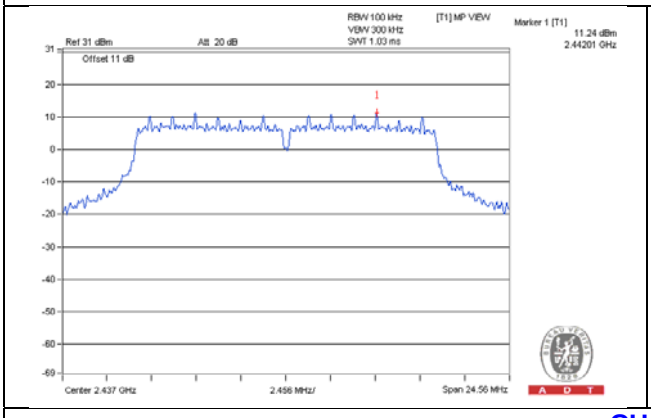
CHAIN 1

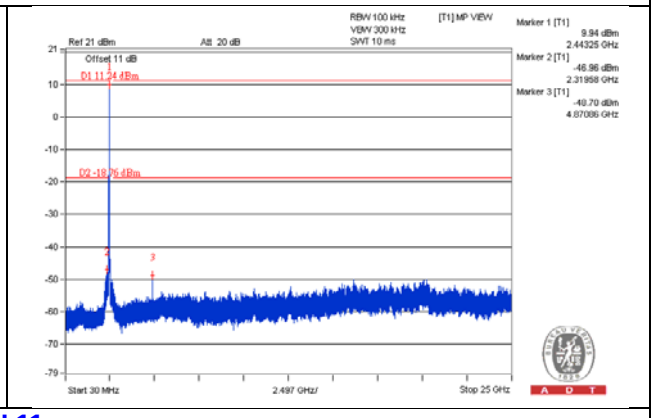
CH 1





CH 6





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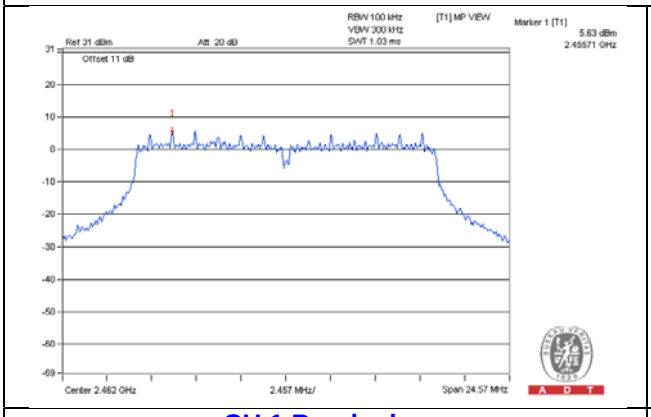
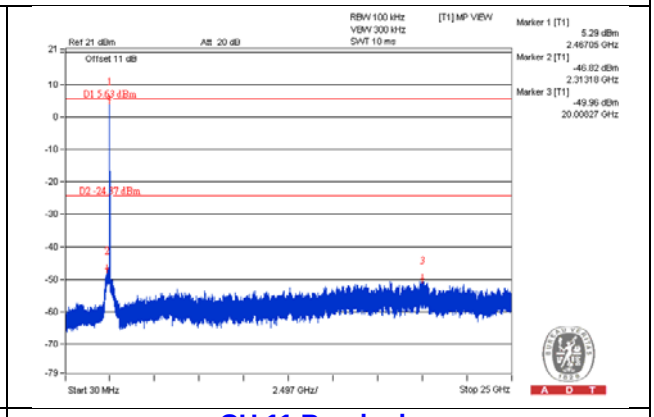
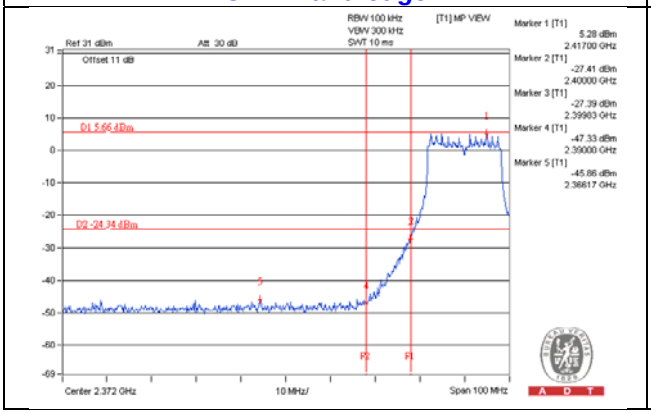
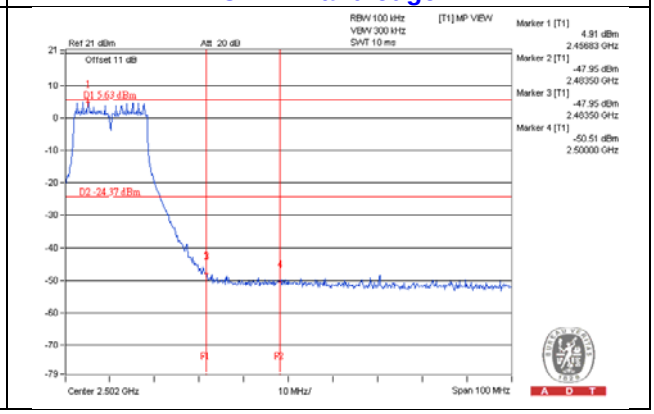




CH 1 Band edge

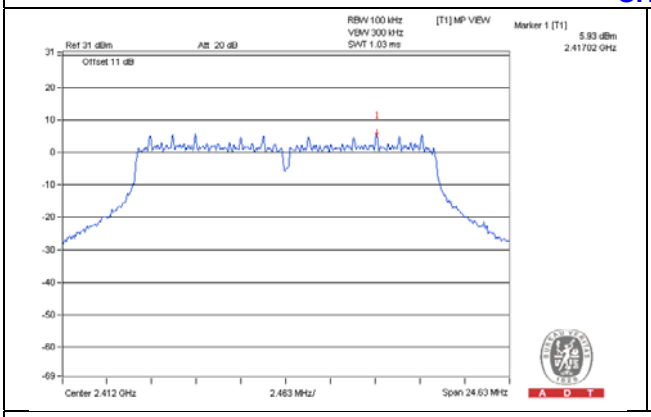


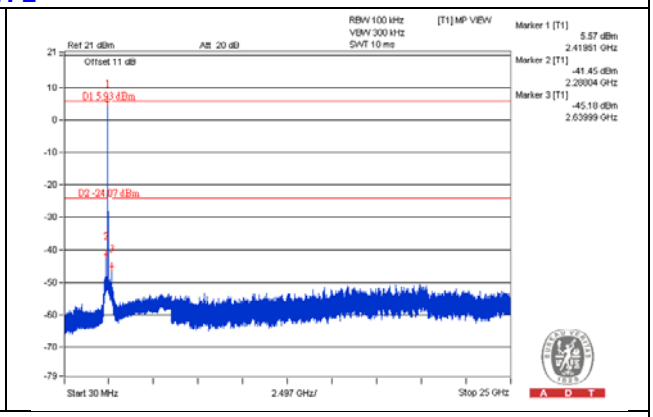
CH 11 Band edge



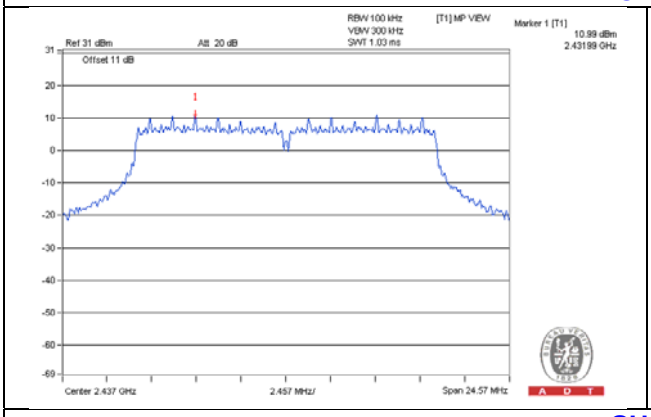
CHAIN 2

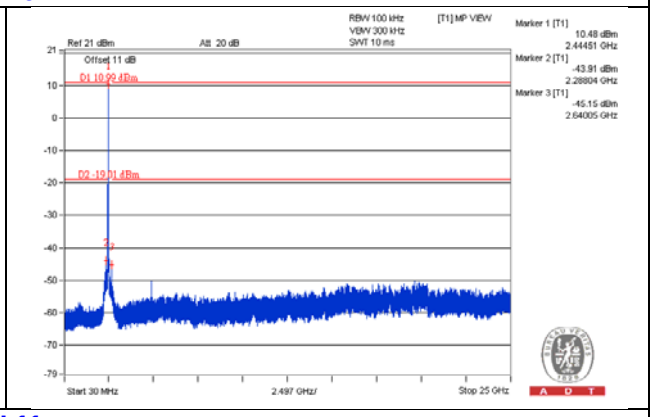
CH 1



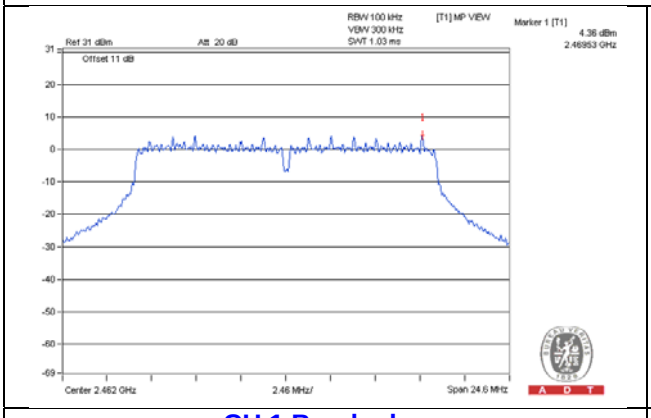


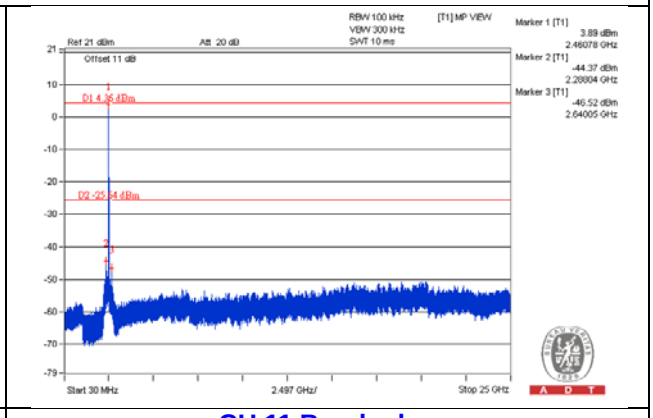
CH 6



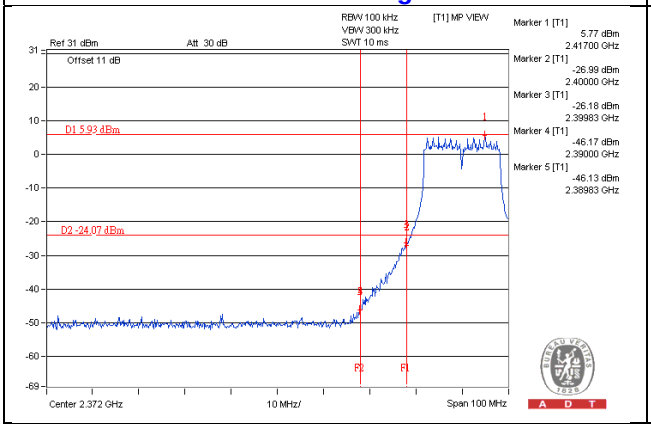


CH 11

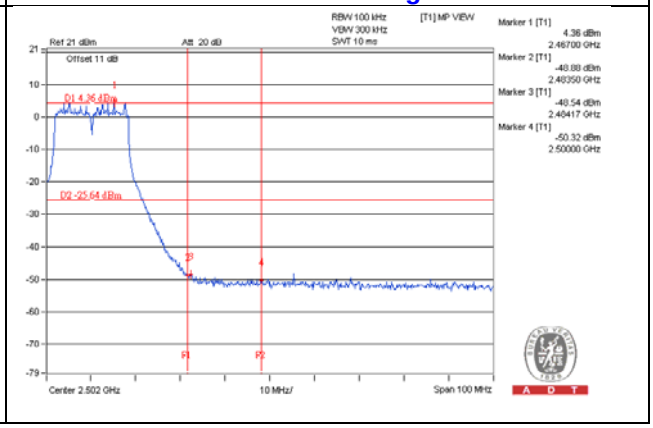




CH 1 Band edge



CH 11 Band edge



802.11n (HT20)
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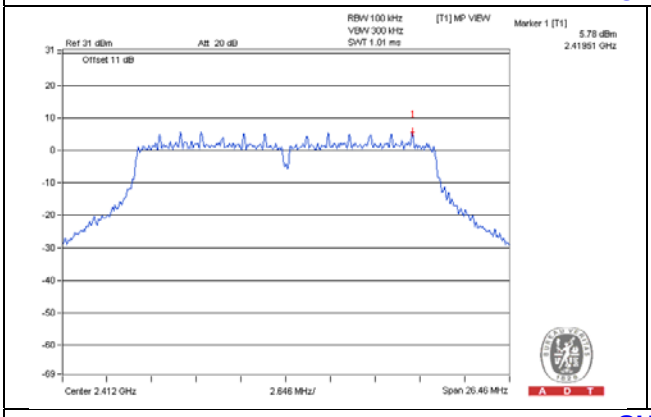
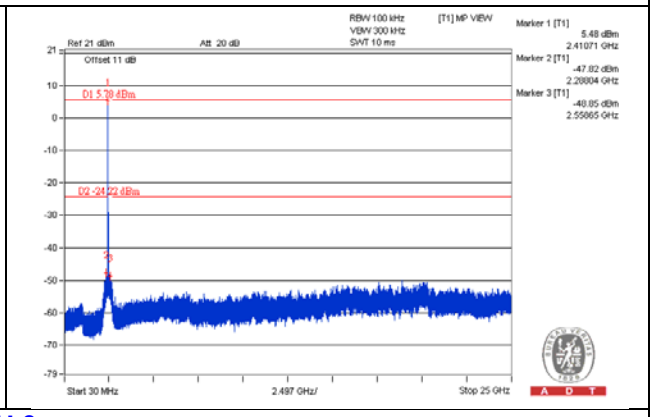
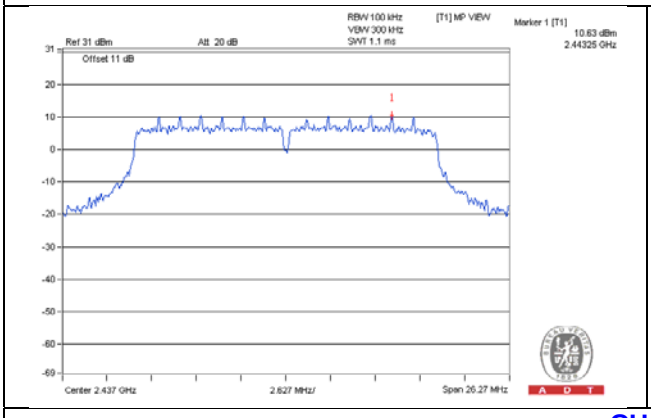
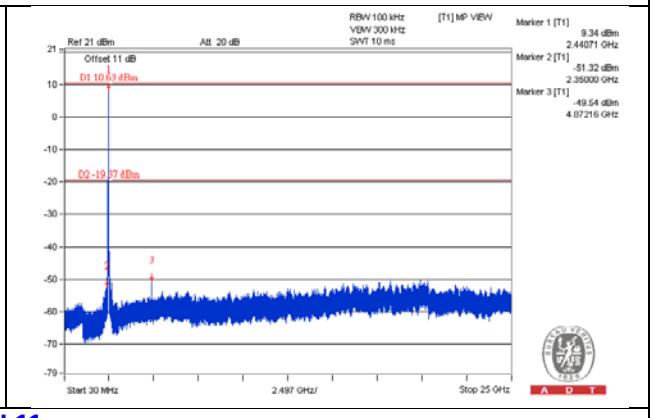
CH 1



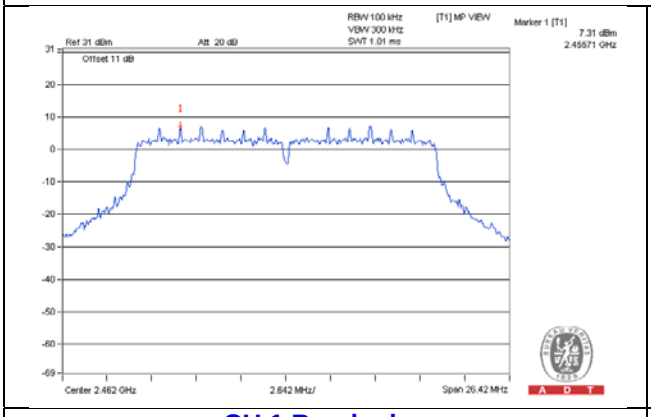


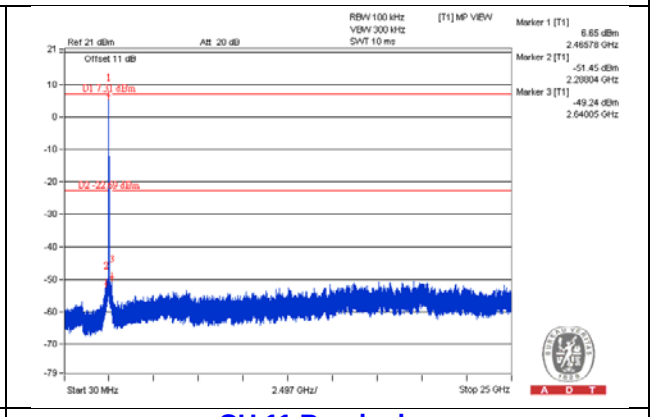
CH 6



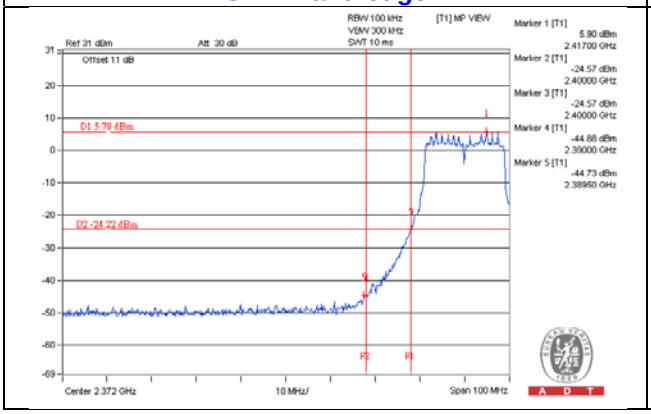


CH 11

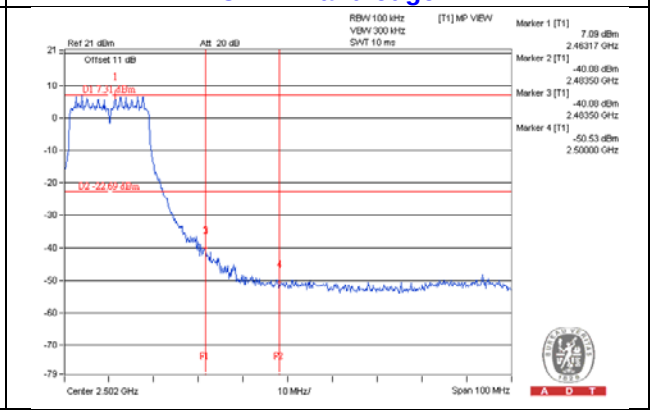




CH 1 Band edge

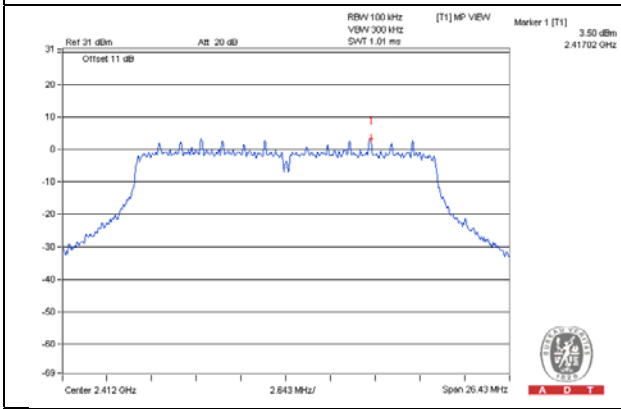


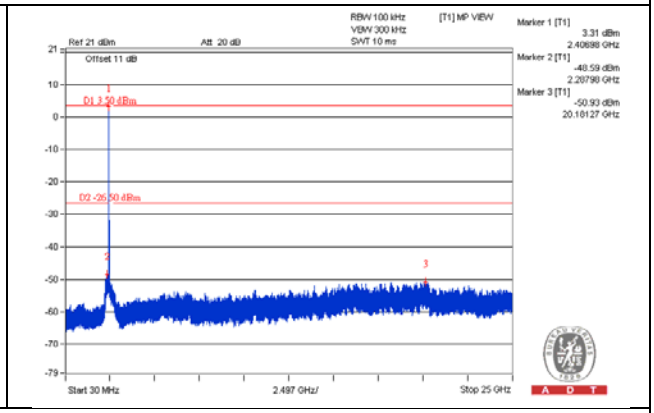
CH 11 Band edge



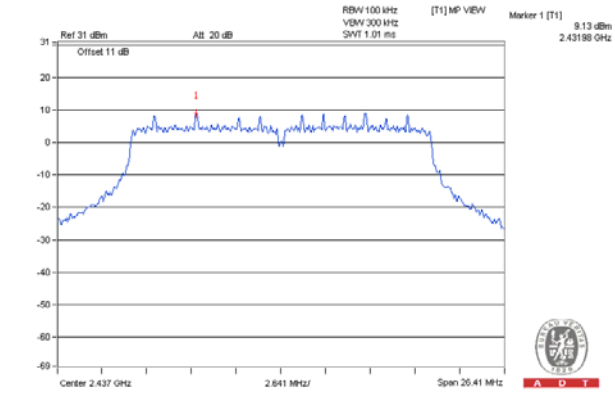
CHAIN 1

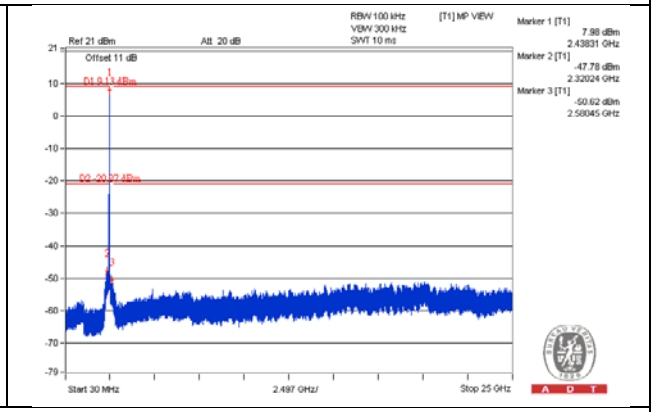
CH 1





CH 6





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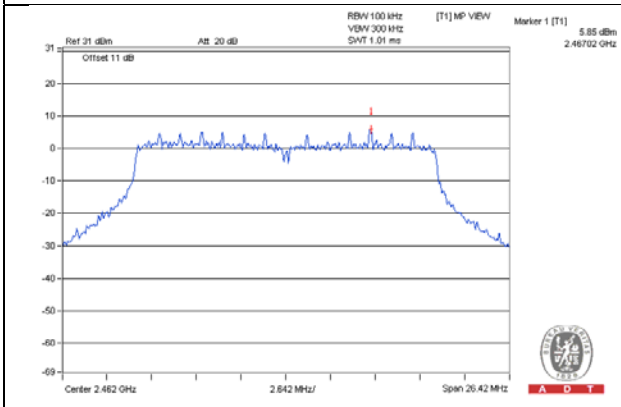
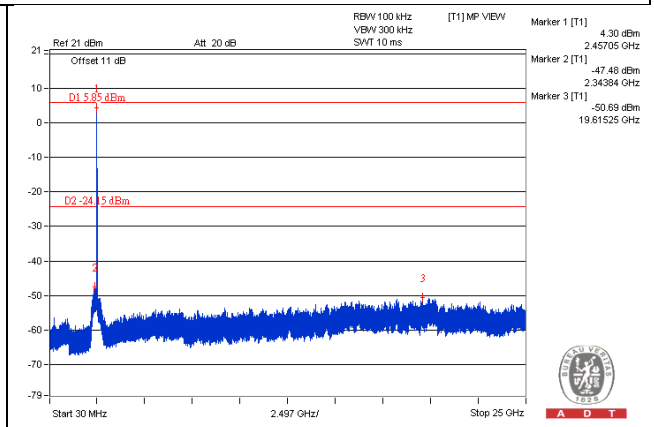
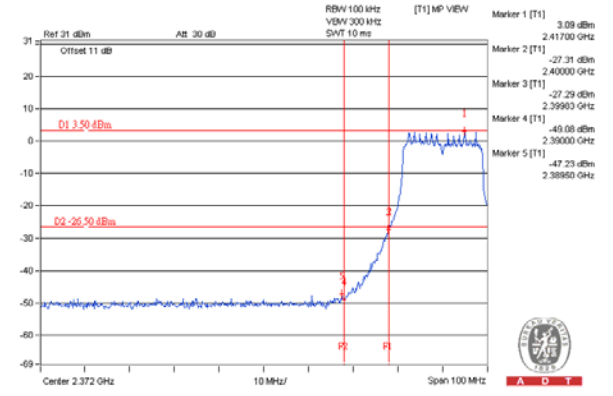
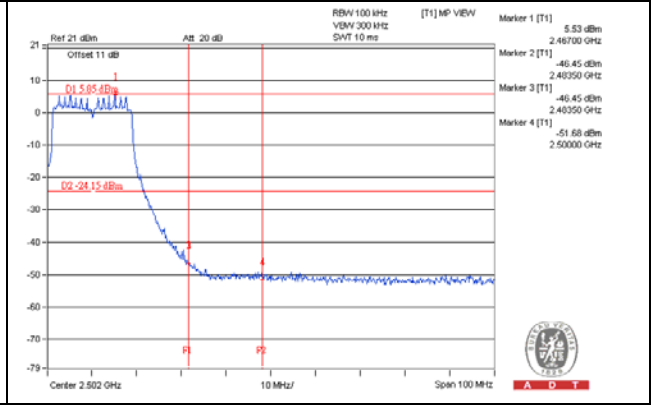




CH 1 Band edge

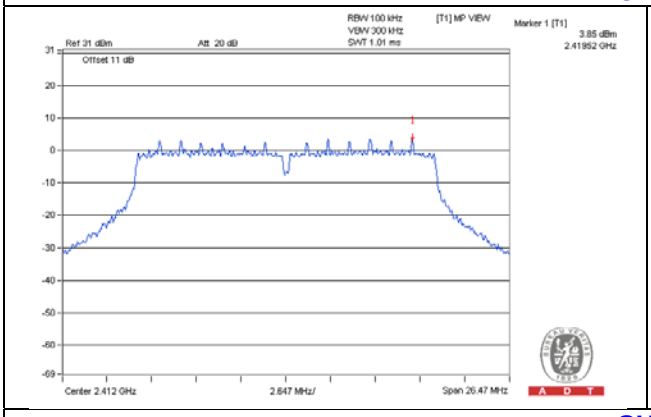


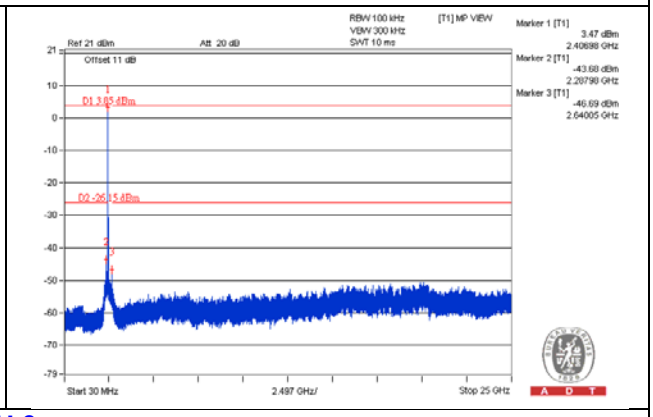
CH 11 Band edge



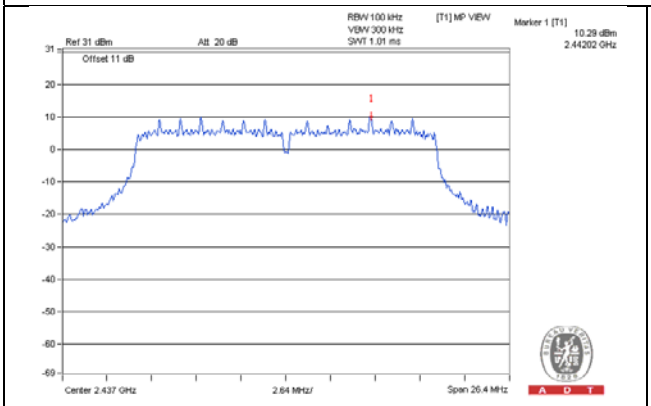
CHAIN 2

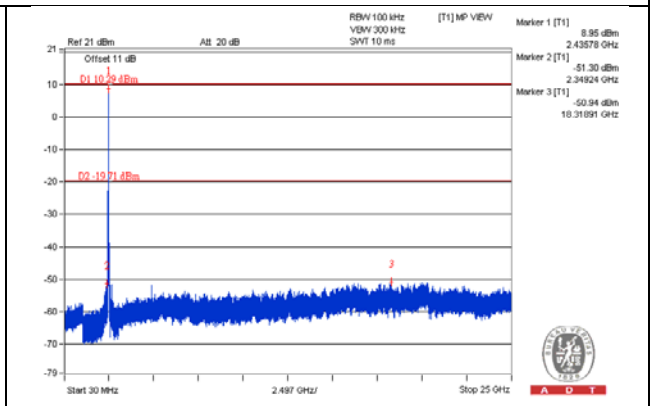
CH 1



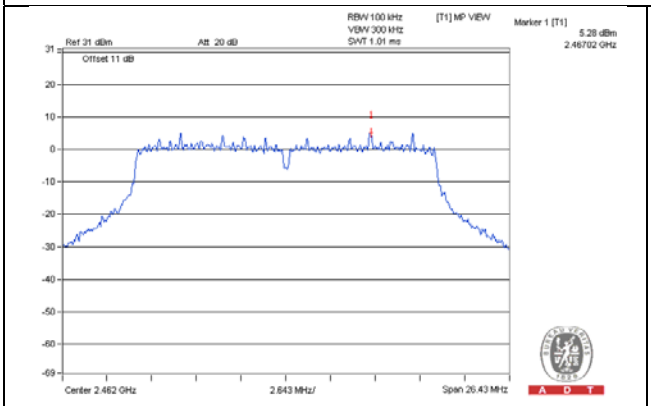


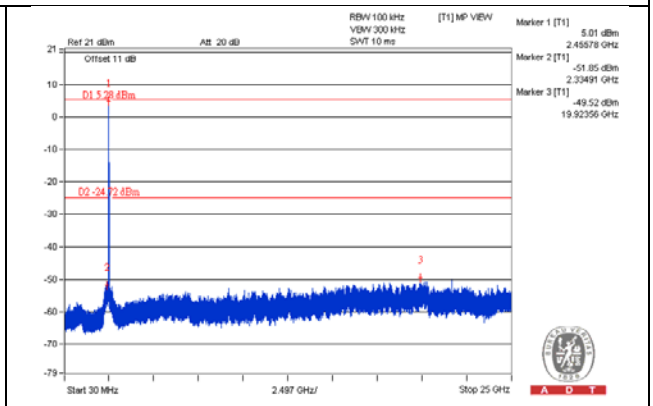
CH 6



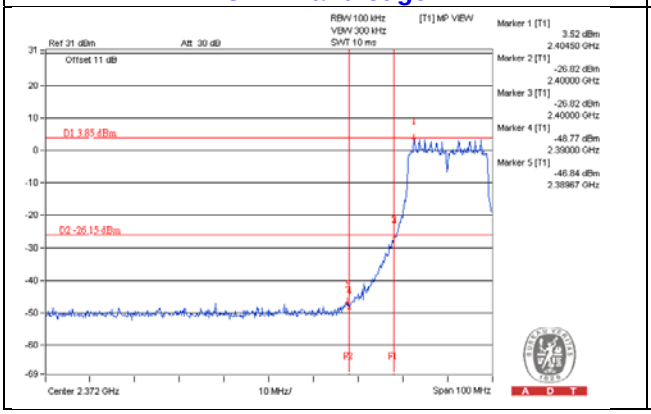


CH 11





CH 1 Band edge



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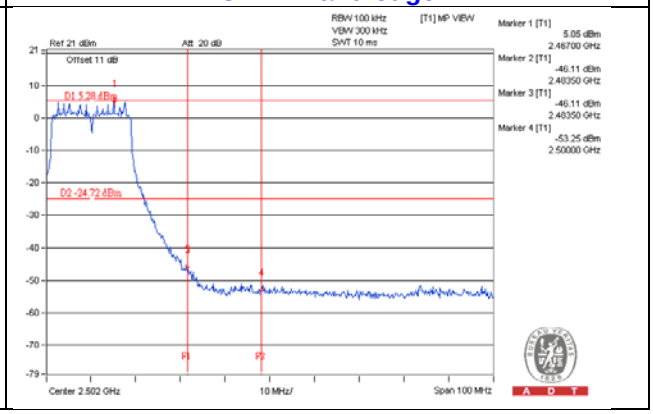
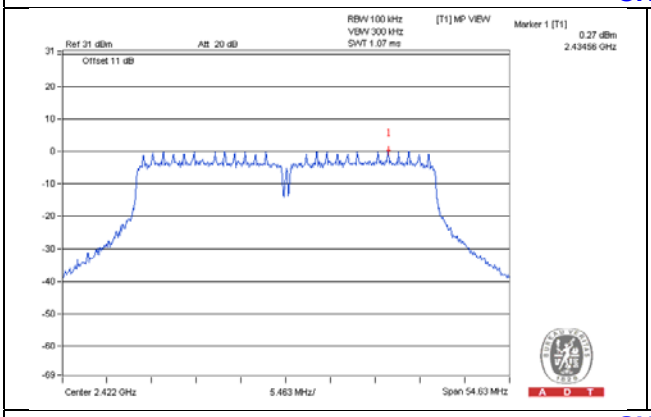
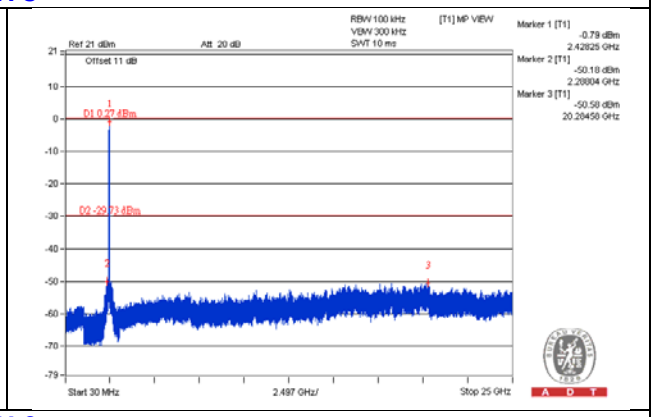


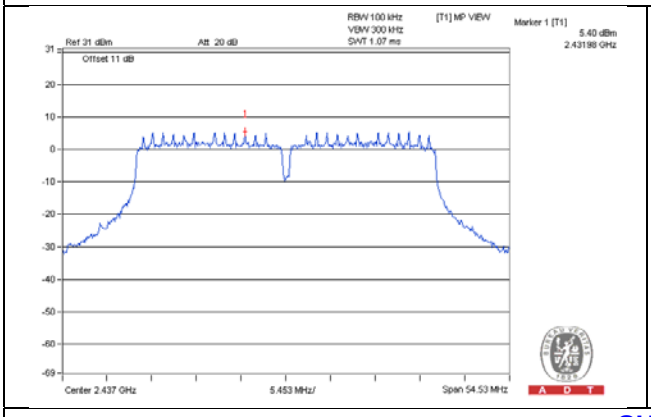
802.11n (HT40)
CHAIN 0

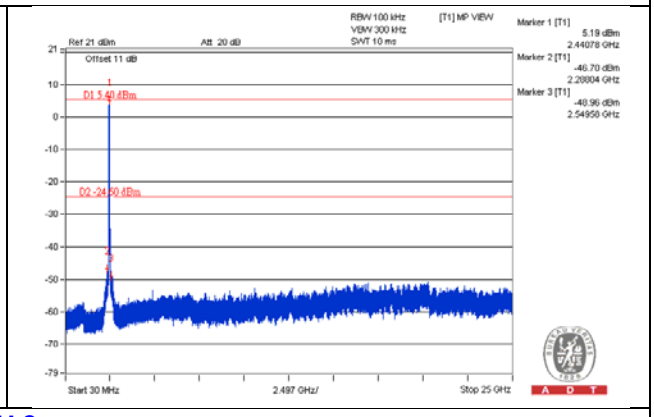
CH 3



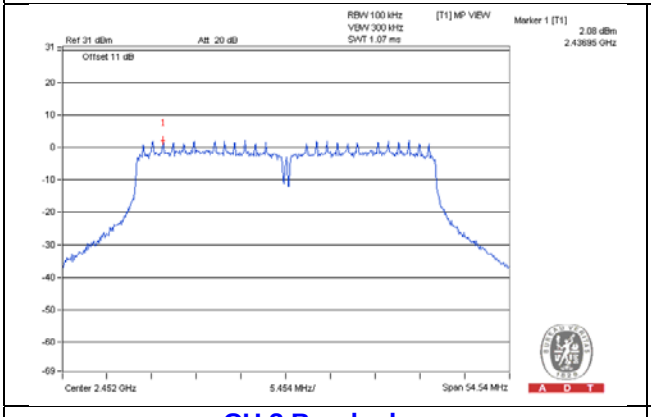


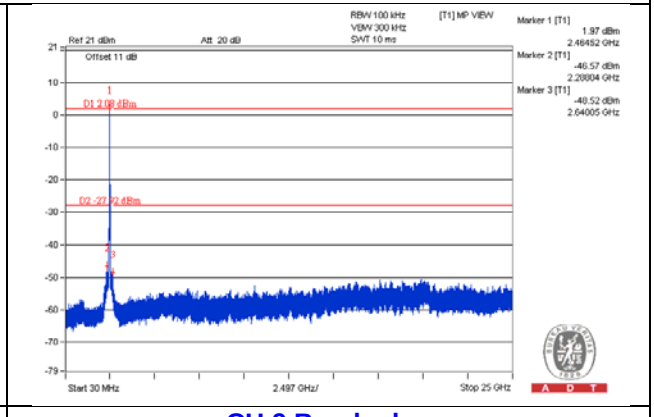
CH 6



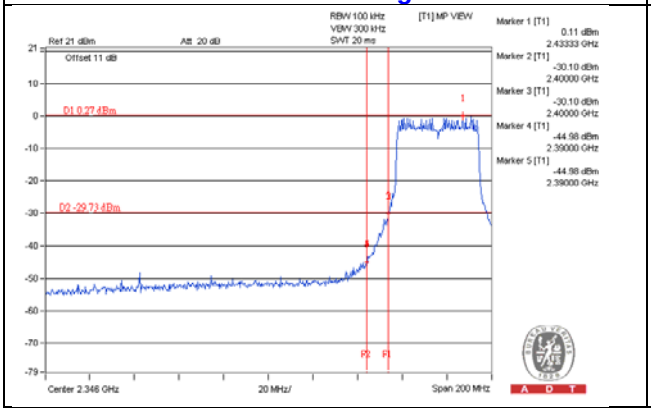


CH 9

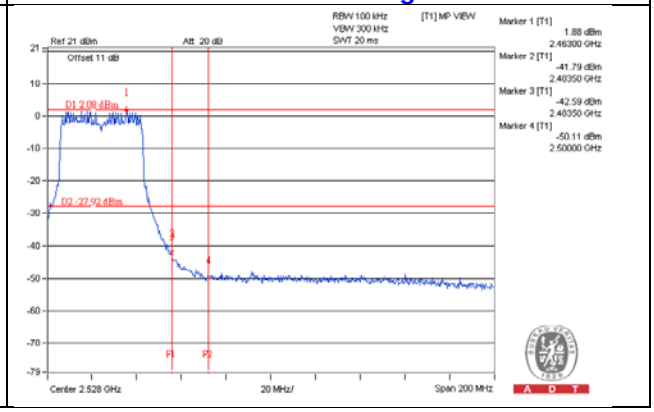




CH 3 Band edge

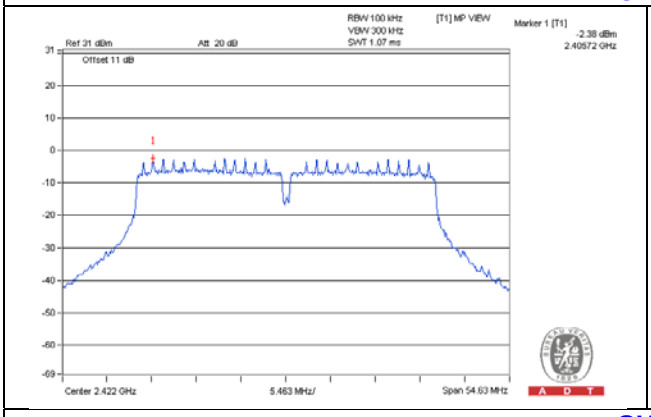


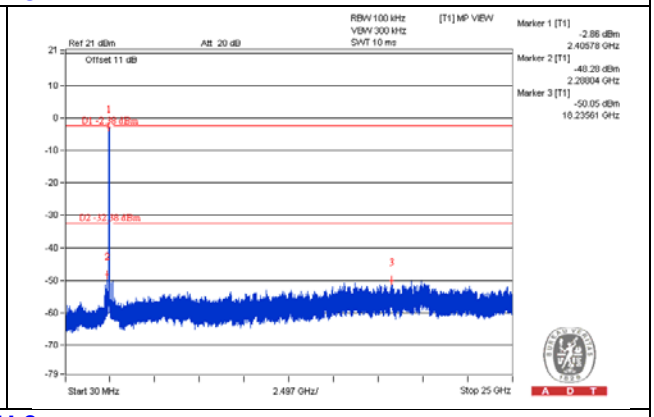
CH 9 Band edge



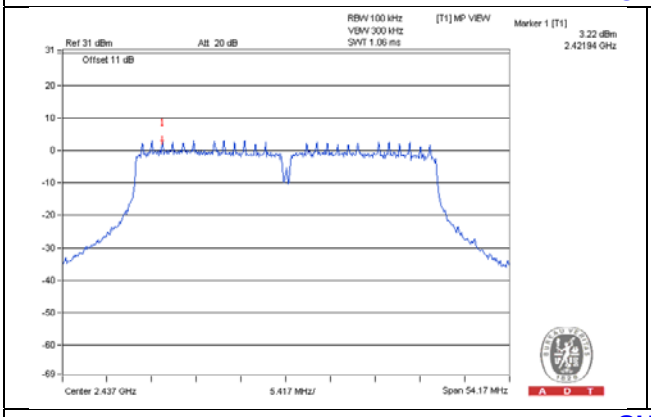
CHAIN 1

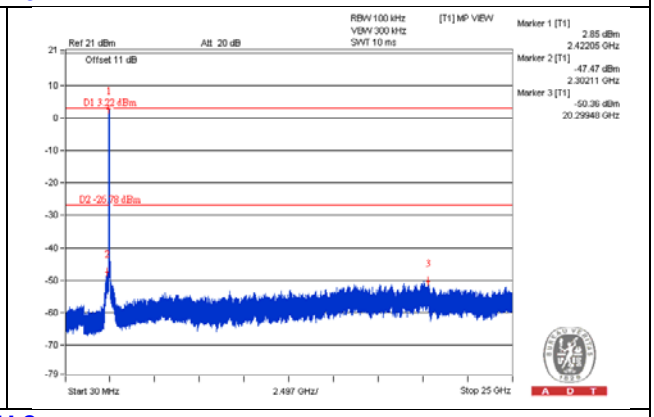
CH 3



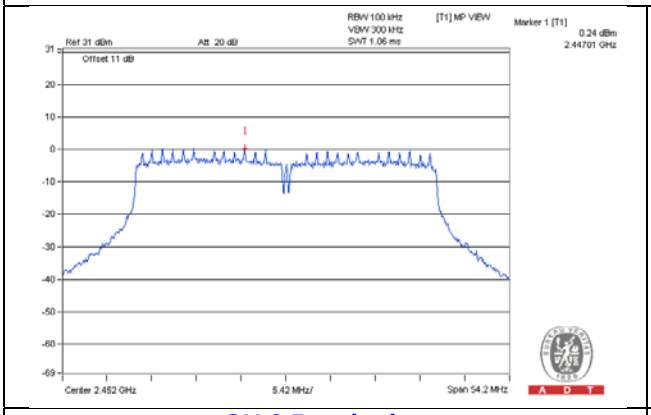


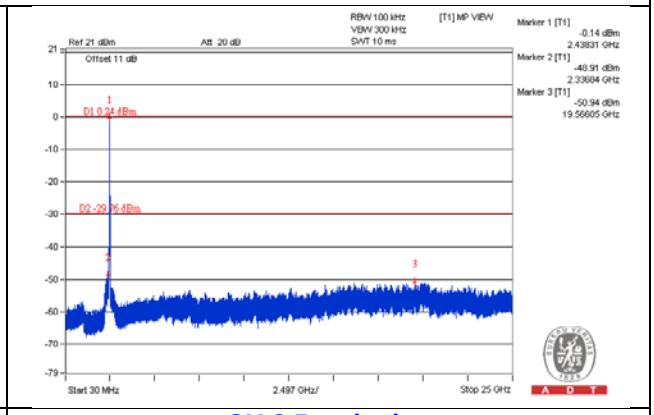
CH 6



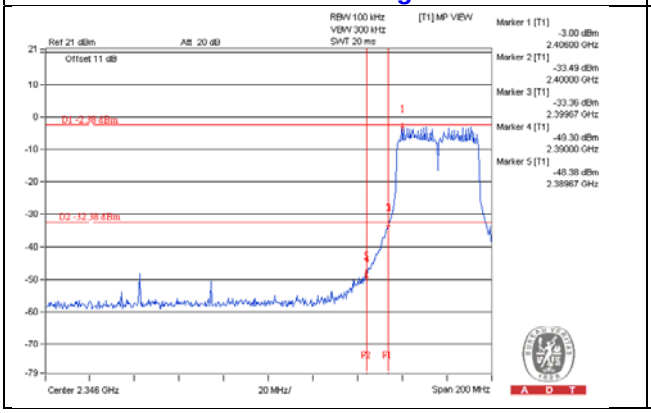


CH 9

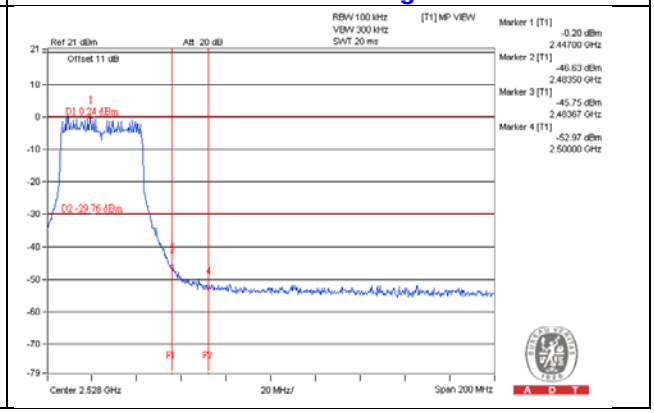




CH 3 Band edge

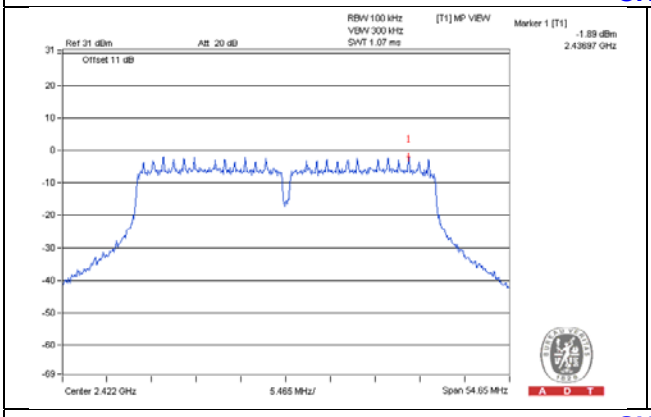


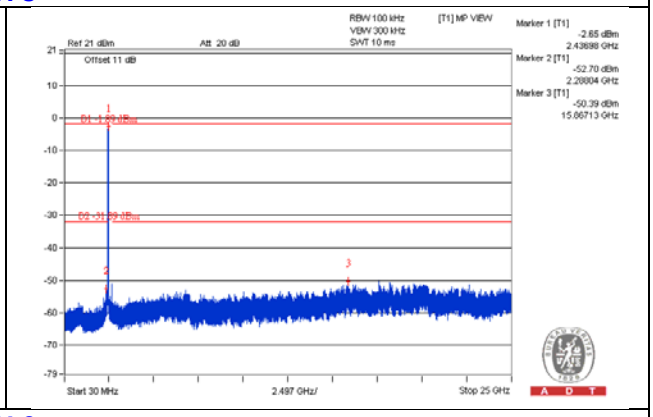
CH 9 Band edge



CHAIN 2

CH 3





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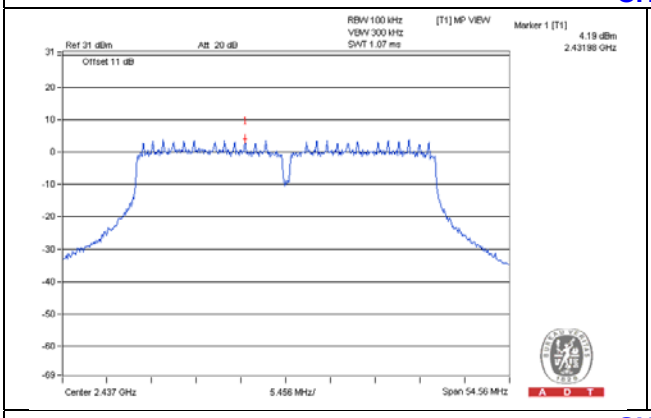

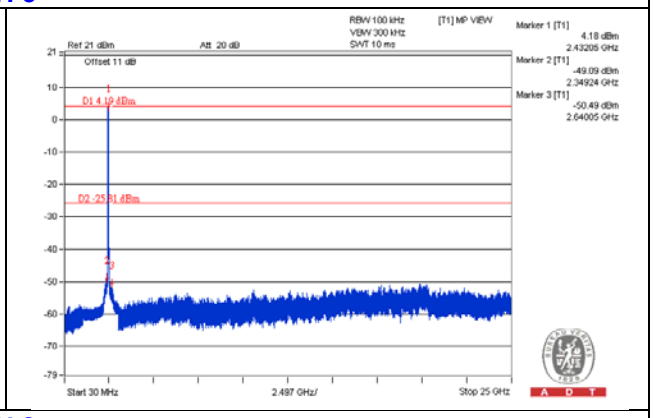

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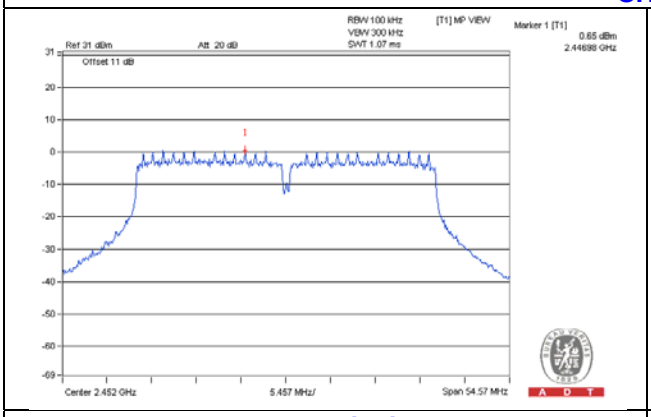
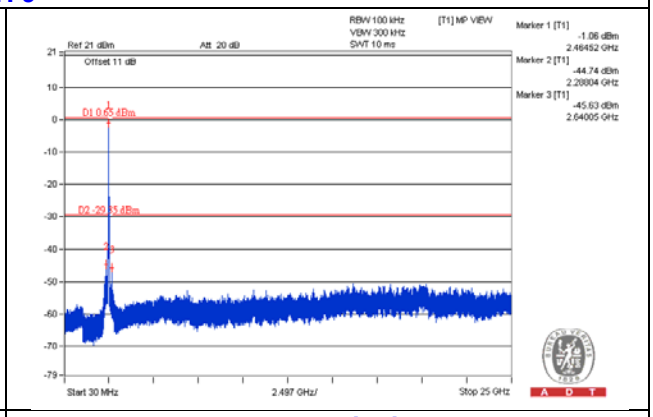
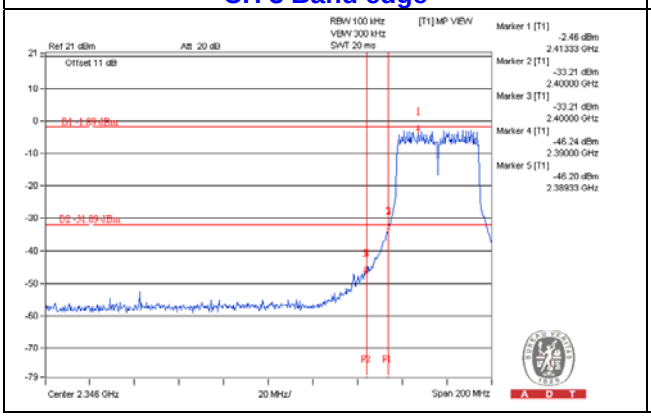
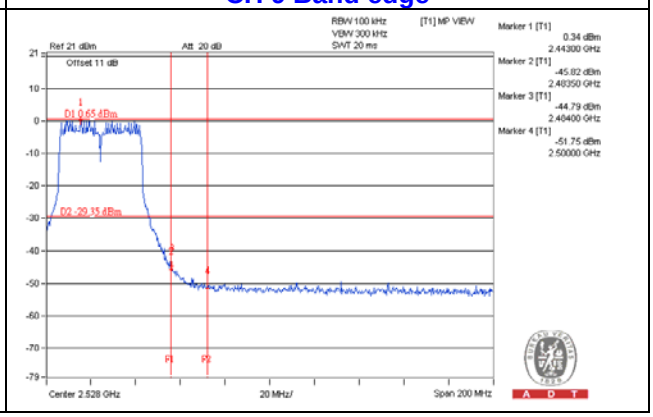




CH 3 Band edge



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.

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