FCC Test Report

Report No.:	RF150714C42
FCC ID:	PD5-WAP150
Test Model:	WAP150
Received Date:	Jul. 15, 2015
Test Date:	Jul. 15 ~ Aug. 12, 2015
Issued Date:	Aug. 19, 2015
Applicant:	Delta Networks, Inc.
Address:	No. 252, Shanying Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
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
RF150714C42	Original release.	Aug. 19, 2015

1 Certificate of Conformity

Product:	Wireless-AC/N Dual Radio Access Point with PoE
Brand:	Cisco
Test Model:	WAP150
Sample Status:	Engineering sample
Applicant:	Delta Networks, Inc.
Test Date:	Jul. 15 ~ Aug. 12, 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:** Aug. 19, 2015

Pettie Chen / Senior Specialist

Approved by : _____ , **Date:** Aug. 19, 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 -3.73dB at 0.42242MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -5.3dB at 142.52MHz.
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 IPEX 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	Expended 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	Wireless-AC/N Dual Radio Access Point with PoE
Brand	Cisco
Test Model	WAP150
Status of EUT	Engineering sample
Power Supply Rating	12Vdc from adapter 48-56Vdc 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 300.0Mbps
Operating Frequency	2412 ~ 2462MHz
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	433.107mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter
Data Cable Supplied	NA

Note:

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

Modulation Mode	TX Function
802.11b	1TX
802.11g	2TX
802.11a	2TX
802.11n (HT20), 802.11ac (VHT20)	2TX
802.11n (HT40), 802.11ac (VHT40)	2TX
802.11ac (VHT80)	2TX

*The modulation and bandwidth are similar for 802.11n mode for HT20/HT40 and 802.11ac mode for VHT20/VHT40, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT consumes power from the following adapter and PoE.

Adapter	
Brand	DVE
Model	DSA-18PFM-12 FUS 120150
Input Power	100-240Vac, 50/60Hz, 0.6A
Output Power	+12Vdc, 1.5A
Power Line	DC 1.5m power cable w/o core attached on adapter

PoE (Support unit)	
Model	LM-GP201XRA
Output Power	56V

3. The following antennas were provided to the EUT.

Antenna Type	PCB				
Antenna Connector	IPEX				
Gain (dBi)	Frequency (MHz)				
	2400	2450	2500		
Ant. 1	2.93	3.03	3.61		
Ant. 2	2.52	3.13	2.84		
Antenna Type	PIFA				
Antenna Connector	IPEX				
Gain (dBi)	Frequency (MHz)				
	5150	5250	5350	5725	5825
Ant. 3	3.19	3.50	3.84	3.57	3.44
Ant. 4	3.42	2.92	3.53	3.85	3.77

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	
A	√	√	√	√	Power from adapter
B	-	√	√	-	Power from PoE

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

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

NOTE: 1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
2. "-" means no effect.

Radiated Emission Test (Above 1GHz):

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

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

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

Radiated Emission Test (Below 1GHz):

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

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11n (HT20)	1 to 11	1	OFDM	BPSK	6.5

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)
A, B	802.11n (HT20)	1 to 11	1	OFDM	BPSK	6.5

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

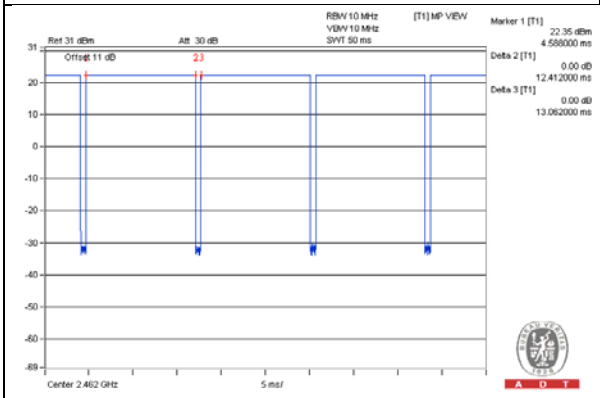
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Tank Wu
RE<1G	25deg. C, 65%RH	120Vac, 60Hz 56Vdc	Tank Wu
PLC	25deg. C, 60%RH	120Vac, 60Hz 56Vdc	Tank Wu
APCM	25deg. C, 60%RH	120Vac, 60Hz	Nick Chen

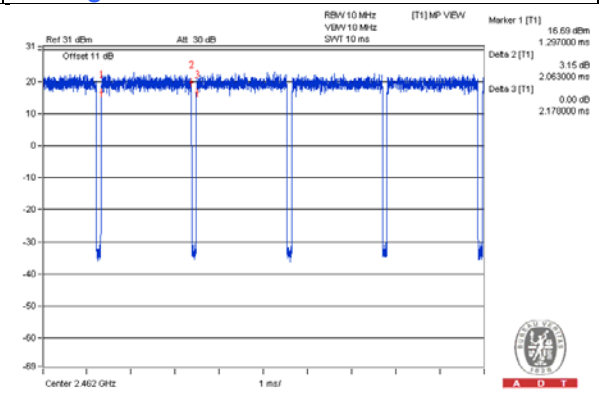
3.3 Duty Cycle of Test Signal

802.11b: Duty cycle = 12.412/13.062 = 0.95
802.11g: Duty cycle = 2.063/2.178 = 0.947
802.11n (HT20): Duty cycle = 1.906/2.006 = 0.95
802.11n (HT40): Duty cycle = 0.93/1.041 = 0.893

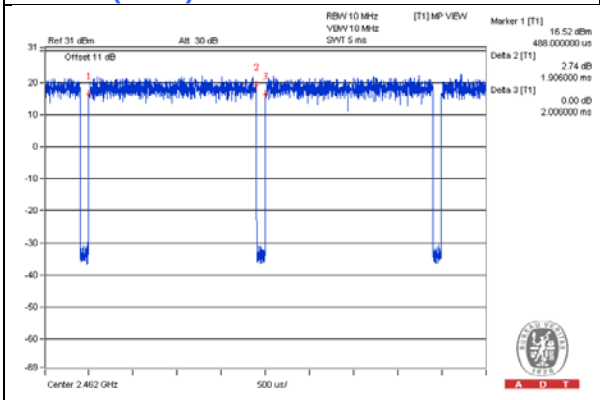
802.11b



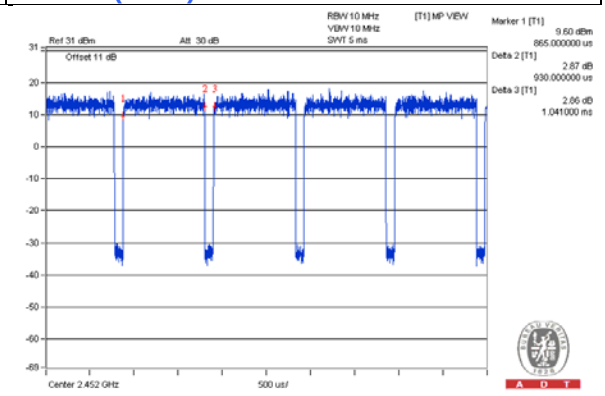
802.11g



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	E5420	33MKMQ1	FCC DoC Approved	-
B.	PoE	NA	LM-GP201XRA	-	-	Provided by client

Note:

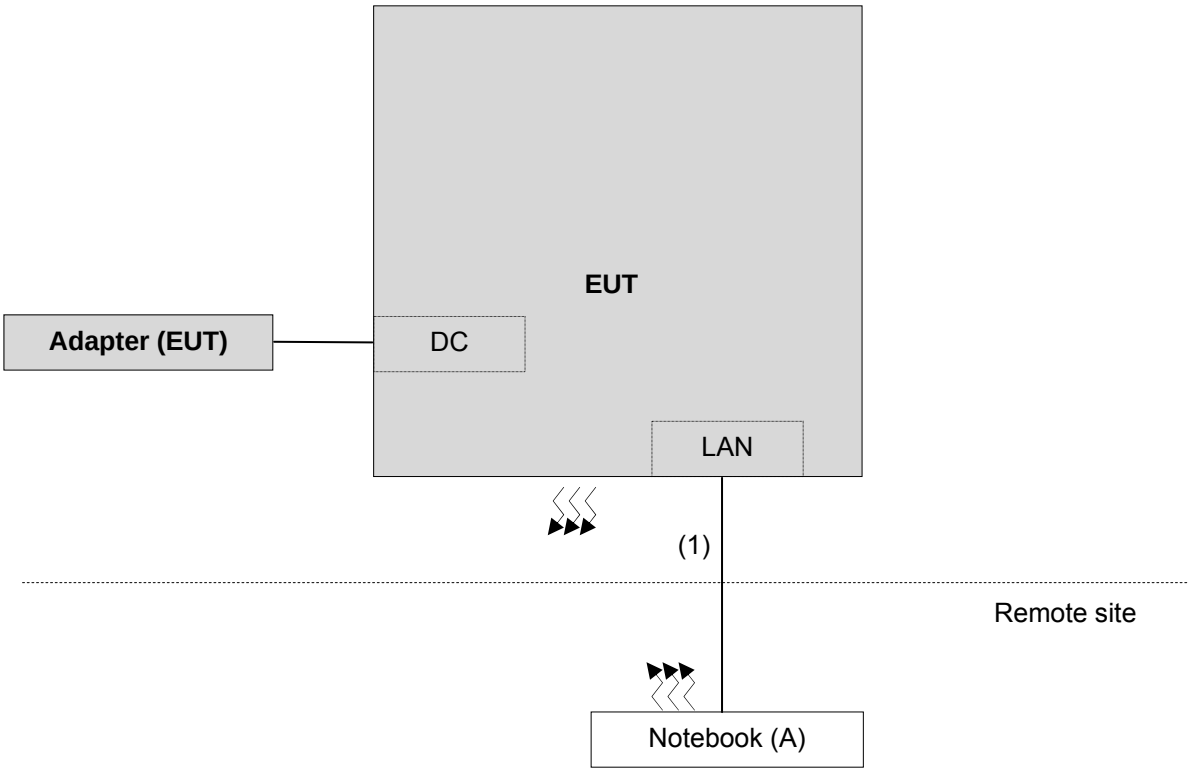
1. All power cords of the above support units are non-shielded (1.8m).
2. Items A, B acted as communication partners to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	3	N	0	-
2.	LAN cable	1	0.5	N	0	-

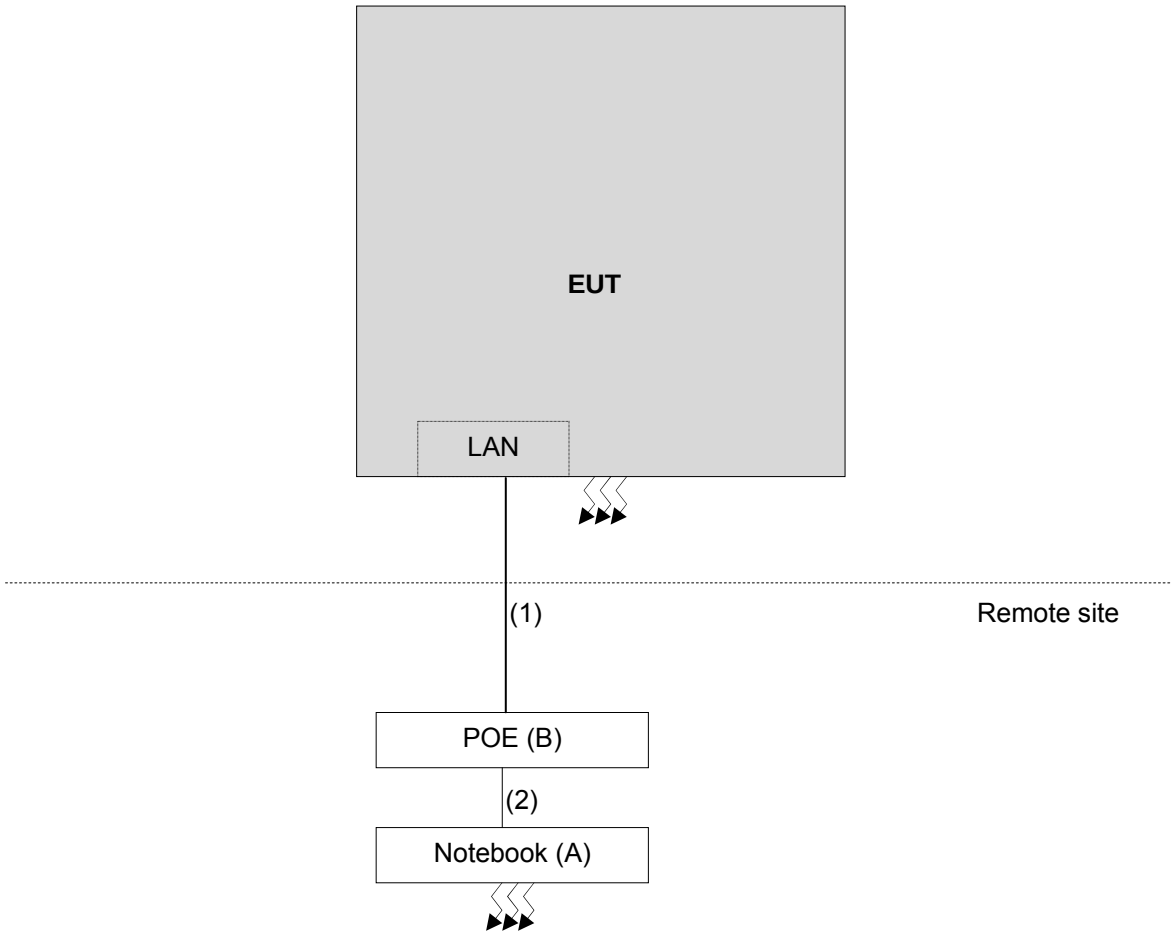
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

Test Mode A



Test Mode B



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 20dB below the highest level of the desired power:

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

NOTE:

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

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 06, 2014	Oct. 05, 2015
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Jul. 08, 2015	Jul. 07, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Feb. 06, 2015	Feb. 05, 2016
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Feb. 05, 2015	Feb. 04, 2016
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Feb. 09, 2015	Feb. 08, 2016
Loop Antenna R&S	HFH2-Z2	100070	Mar. 06, 2014	Mar. 05, 2016
Preamplifier Agilent	8449B	3008A01960	Aug. 09, 2015	Aug. 08, 2016
Preamplifier Agilent	8447D	2944A10631	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Aug. 09, 2015	Aug. 08, 2016
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
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2014	Oct. 17, 2015
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 calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 4.
4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
5. The FCC Site Registration No. is 460141.
6. 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:

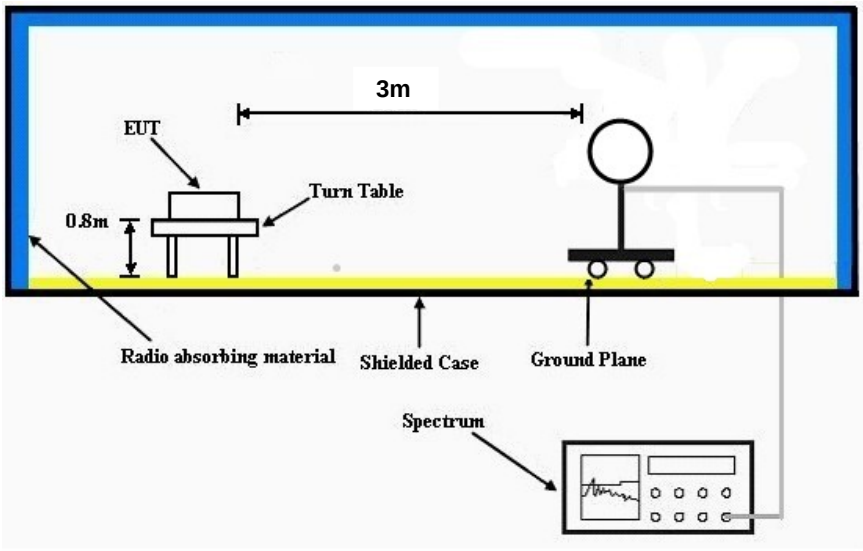
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

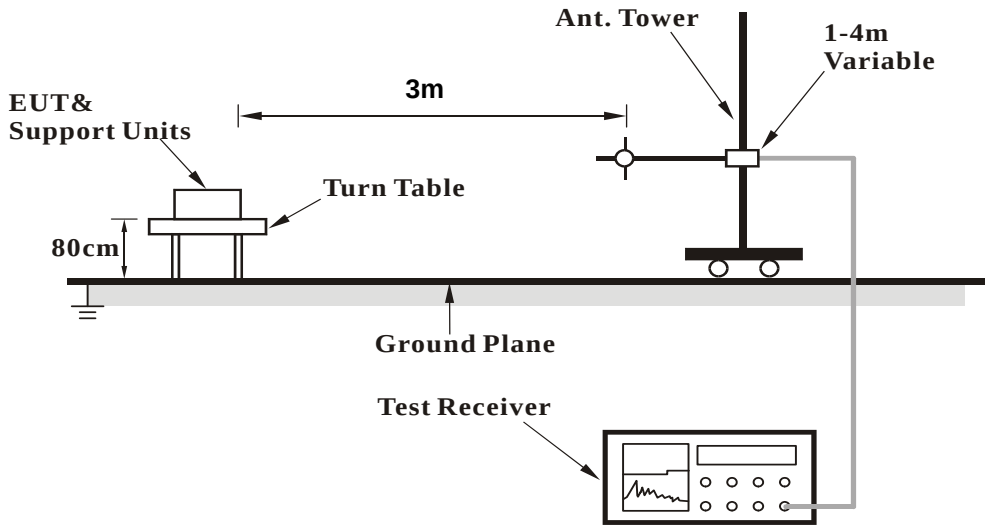
No deviation.

4.1.5 Test Set Up

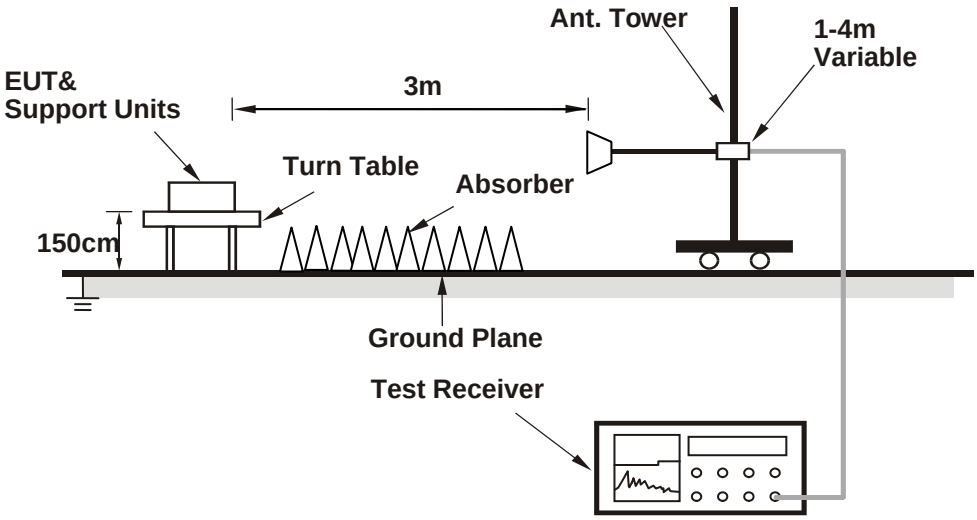
<Frequency Range 9k~30MHz >



<Frequency Range 30MHz ~ 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 a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".
e. The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz Data：

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.9 PK	74.0	-12.1	1.53 H	28	29.80	32.10
2	2390.00	52.9 AV	54.0	-1.1	1.53 H	28	20.80	32.10
3	*2412.00	107.5 PK			1.56 H	36	75.30	32.20
4	*2412.00	103.8 AV			1.56 H	36	71.60	32.20
5	4824.00	47.9 PK	74.0	-26.1	1.14 H	28	42.70	5.20
6	4824.00	37.6 AV	54.0	-16.4	1.14 H	28	32.40	5.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.7 PK	74.0	-16.3	1.00 V	222	25.60	32.10
2	2390.00	47.8 AV	54.0	-6.2	1.00 V	222	15.70	32.10
3	*2412.00	100.8 PK			1.00 V	220	68.60	32.20
4	*2412.00	97.4 AV			1.00 V	220	65.20	32.20
5	4824.00	49.2 PK	74.0	-24.8	1.00 V	351	44.00	5.20
6	4824.00	40.2 AV	54.0	-13.8	1.00 V	351	35.00	5.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.8 PK			1.69 H	30	77.60	32.20
2	*2437.00	106.0 AV			1.69 H	30	73.80	32.20
3	4874.00	49.4 PK	74.0	-24.6	1.42 H	27	44.20	5.20
4	4874.00	41.0 AV	54.0	-13.0	1.42 H	27	35.80	5.20
5	7311.00	57.9 PK	74.0	-16.1	1.20 H	338	46.20	11.70
6	7311.00	50.5 AV	54.0	-3.5	1.20 H	338	38.80	11.70
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	102.2 PK			1.00 V	220	70.00	32.20
2	*2437.00	98.4 AV			1.00 V	220	66.20	32.20
3	4874.00	51.2 PK	74.0	-22.8	1.73 V	352	46.00	5.20
4	4874.00	44.5 AV	54.0	-9.5	1.73 V	352	39.30	5.20
5	7311.00	58.1 PK	74.0	-15.9	1.05 V	350	46.40	11.70
6	7311.00	50.9 AV	54.0	-3.1	1.05 V	350	39.20	11.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.7 PK			2.02 H	34	76.40	32.30
2	*2462.00	105.1 AV			2.02 H	34	72.80	32.30
3	2483.50	61.6 PK	74.0	-12.4	2.04 H	35	29.30	32.30
4	2483.50	53.0 AV	54.0	-1.0	2.04 H	35	20.70	32.30
5	4924.00	48.1 PK	74.0	-25.9	1.75 H	25	42.80	5.30
6	4924.00	38.6 AV	54.0	-15.4	1.75 H	25	33.30	5.30
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	101.3 PK			1.00 V	219	69.00	32.30
2	*2462.00	97.7 AV			1.00 V	219	65.40	32.30
3	2483.50	56.5 PK	74.0	-17.5	1.00 V	211	24.20	32.30
4	2483.50	46.3 AV	54.0	-7.7	1.00 V	211	14.00	32.30
5	4924.00	49.8 PK	74.0	-24.2	1.70 V	351	44.50	5.30
6	4924.00	41.1 AV	54.0	-12.9	1.70 V	351	35.80	5.30

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.0 PK	74.0	-2.0	2.60 H	267	39.90	32.10
2	2390.00	52.8 AV	54.0	-1.2	2.60 H	267	20.70	32.10
3	*2412.00	107.2 PK			2.57 H	246	75.00	32.20
4	*2412.00	96.8 AV			2.57 H	246	64.60	32.20
5	4824.00	48.2 PK	74.0	-25.8	1.00 H	20	43.00	5.20
6	4824.00	35.4 AV	54.0	-18.6	1.00 H	20	30.20	5.20
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	66.5 PK	74.0	-7.5	1.00 V	321	34.40	32.10
2	2390.00	50.1 AV	54.0	-3.9	1.00 V	321	18.00	32.10
3	*2412.00	102.0 PK			1.00 V	329	69.80	32.20
4	*2412.00	91.9 AV			1.00 V	329	59.70	32.20
5	4824.00	49.2 PK	74.0	-24.8	1.00 V	348	44.00	5.20
6	4824.00	37.0 AV	54.0	-17.0	1.00 V	348	31.80	5.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.3 PK	74.0	-5.7	1.08 H	248	36.20	32.10
2	2390.00	52.8 AV	54.0	-1.2	1.08 H	248	20.70	32.10
3	*2437.00	110.6 PK			1.06 H	248	78.40	32.20
4	*2437.00	101.2 AV			1.06 H	248	69.00	32.20
5	2483.50	70.6 PK	74.0	-3.4	1.08 H	248	38.30	32.30
6	2483.50	52.4 AV	54.0	-1.6	1.08 H	248	20.10	32.30
7	4874.00	48.8 PK	74.0	-25.2	1.00 H	26	43.60	5.20
8	4874.00	36.0 AV	54.0	-18.0	1.00 H	26	30.80	5.20
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	60.9 PK	74.0	-13.1	1.00 V	167	28.80	32.10
2	2390.00	47.7 AV	54.0	-6.3	1.00 V	167	15.60	32.10
3	*2437.00	103.9 PK			1.00 V	162	71.70	32.20
4	*2437.00	94.2 AV			1.00 V	162	62.00	32.20
5	2483.50	63.8 PK	74.0	-10.2	1.00 V	167	31.50	32.30
6	2483.50	47.0 AV	54.0	-7.0	1.00 V	167	14.70	32.30
7	4874.00	50.0 PK	74.0	-24.0	1.00 V	341	44.80	5.20
8	4874.00	37.9 AV	54.0	-16.1	1.00 V	341	32.70	5.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.6 PK			1.08 H	242	74.30	32.30
2	*2462.00	96.5 AV			1.08 H	242	64.20	32.30
3	2483.50	71.1 PK	74.0	-2.9	1.03 H	244	38.80	32.30
4	2483.50	52.9 AV	54.0	-1.1	1.03 H	244	20.60	32.30
5	4924.00	47.9 PK	74.0	-26.1	1.00 H	26	42.60	5.30
6	4924.00	35.1 AV	54.0	-18.9	1.00 H	26	29.80	5.30
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	102.8 PK			1.00 V	344	70.50	32.30
2	*2462.00	92.7 AV			1.00 V	344	60.40	32.30
3	2483.50	64.1 PK	74.0	-9.9	1.00 V	345	31.80	32.30
4	2483.50	46.5 AV	54.0	-7.5	1.00 V	345	14.20	32.30
5	4924.00	49.0 PK	74.0	-25.0	1.00 V	340	43.70	5.30
6	4924.00	36.9 AV	54.0	-17.1	1.00 V	340	31.60	5.30

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

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	71.8 PK	74.0	-2.2	1.05 H	247	39.70	32.10
2	2390.00	53.0 AV	54.0	-1.0	1.05 H	247	20.90	32.10
3	*2412.00	106.2 PK			1.08 H	241	74.00	32.20
4	*2412.00	96.0 AV			1.08 H	241	63.80	32.20
5	4824.00	47.8 PK	74.0	-26.2	1.00 H	29	42.60	5.20
6	4824.00	35.1 AV	54.0	-18.9	1.00 H	29	29.90	5.20
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	66.9 PK	74.0	-7.1	1.00 V	328	34.80	32.10
2	2390.00	51.5 AV	54.0	-2.5	1.00 V	328	19.40	32.10
3	*2412.00	100.5 PK			1.00 V	327	68.30	32.20
4	*2412.00	90.7 AV			1.00 V	327	58.50	32.20
5	4824.00	49.1 PK	74.0	-24.9	1.00 V	341	43.90	5.20
6	4824.00	36.7 AV	54.0	-17.3	1.00 V	341	31.50	5.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.4 PK	74.0	-5.6	1.05 H	248	36.30	32.10
2	2390.00	52.6 AV	54.0	-1.4	1.05 H	248	20.50	32.10
3	*2437.00	110.6 PK			1.07 H	247	78.40	32.20
4	*2437.00	100.1 AV			1.07 H	247	67.90	32.20
5	2483.50	70.2 PK	74.0	-3.8	1.05 H	248	37.90	32.30
6	2483.50	51.7 AV	54.0	-2.3	1.05 H	248	19.40	32.30
7	4874.00	48.6 PK	74.0	-25.4	1.00 H	23	43.40	5.20
8	4874.00	35.6 AV	54.0	-18.4	1.00 H	23	30.40	5.20
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	61.1 PK	74.0	-12.9	1.00 V	164	29.00	32.10
2	2390.00	48.4 AV	54.0	-5.6	1.00 V	164	16.30	32.10
3	*2437.00	104.7 PK			1.00 V	161	72.50	32.20
4	*2437.00	95.4 AV			1.00 V	161	63.20	32.20
5	2483.50	66.4 PK	74.0	-7.6	1.00 V	164	34.10	32.30
6	2483.50	48.2 AV	54.0	-5.8	1.00 V	164	15.90	32.30
7	4874.00	49.7 PK	74.0	-24.3	1.00 V	344	44.50	5.20
8	4874.00	37.6 AV	54.0	-16.4	1.00 V	344	32.40	5.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.8 PK			1.04 H	249	73.50	32.30
2	*2462.00	95.2 AV			1.04 H	249	62.90	32.30
3	2483.50	71.1 PK	74.0	-2.9	1.02 H	244	38.80	32.30
4	2483.50	52.9 AV	54.0	-1.1	1.02 H	244	20.60	32.30
5	4924.00	47.3 PK	74.0	-26.7	1.00 H	29	42.00	5.30
6	4924.00	34.6 AV	54.0	-19.4	1.00 H	29	29.30	5.30
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	100.4 PK			1.00 V	342	68.10	32.30
2	*2462.00	91.0 AV			1.00 V	342	58.70	32.30
3	2483.50	67.1 PK	74.0	-6.9	1.00 V	344	34.80	32.30
4	2483.50	50.7 AV	54.0	-3.3	1.00 V	344	18.40	32.30
5	4924.00	48.7 PK	74.0	-25.3	1.00 V	345	43.40	5.30
6	4924.00	36.5 AV	54.0	-17.5	1.00 V	345	31.20	5.30

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

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	70.7 PK	74.0	-3.3	1.56 H	249	38.60	32.10
2	2390.00	52.4 AV	54.0	-1.6	1.56 H	249	20.30	32.10
3	*2422.00	103.6 PK			1.51 H	244	71.40	32.20
4	*2422.00	93.5 AV			1.51 H	244	61.30	32.20
5	4844.00	47.5 PK	74.0	-26.5	1.00 H	23	42.30	5.20
6	4844.00	34.8 AV	54.0	-19.2	1.00 H	23	29.60	5.20
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	64.1 PK	74.0	-9.9	1.00 V	323	32.00	32.10
2	2390.00	47.0 AV	54.0	-7.0	1.00 V	323	14.90	32.10
3	*2422.00	97.2 PK			1.00 V	327	65.00	32.20
4	*2422.00	87.5 AV			1.00 V	327	55.30	32.20
5	4844.00	48.9 PK	74.0	-25.1	1.00 V	344	43.70	5.20
6	4844.00	36.2 AV	54.0	-17.8	1.00 V	344	31.00	5.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	101.7 PK			1.05 H	246	69.50	32.20
2	*2437.00	91.2 AV			1.05 H	246	59.00	32.20
3	2483.50	71.5 PK	74.0	-2.5	1.08 H	244	39.20	32.30
4	2483.50	53.0 AV	54.0	-1.0	1.08 H	244	20.70	32.30
5	4874.00	48.2 PK	74.0	-25.8	1.00 H	22	43.00	5.20
6	4874.00	35.2 AV	54.0	-18.8	1.00 H	22	30.00	5.20
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	96.2 PK			1.00 V	327	64.00	32.20
2	*2437.00	86.1 AV			1.00 V	327	53.90	32.20
3	2483.50	68.1 PK	74.0	-5.9	1.00 V	321	35.80	32.30
4	2483.50	50.6 AV	54.0	-3.4	1.00 V	321	18.30	32.30
5	4874.00	49.2 PK	74.0	-24.8	1.00 V	349	44.00	5.20
6	4874.00	37.0 AV	54.0	-17.0	1.00 V	349	31.80	5.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	100.4 PK			2.09 H	249	68.20	32.20
2	*2452.00	89.5 AV			2.09 H	249	57.30	32.20
3	2483.50	71.4 PK	74.0	-2.6	2.05 H	247	39.10	32.30
4	2483.50	52.9 AV	54.0	-1.1	2.05 H	247	20.60	32.30
5	4904.00	47.0 PK	74.0	-27.0	1.00 H	28	41.80	5.20
6	4904.00	34.4 AV	54.0	-19.6	1.00 H	28	29.20	5.20
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	93.9 PK			1.00 V	346	61.70	32.20
2	*2452.00	83.5 AV			1.00 V	346	51.30	32.20
3	2483.50	66.0 PK	74.0	-8.0	1.00 V	347	33.70	32.30
4	2483.50	48.3 AV	54.0	-5.7	1.00 V	347	16.00	32.30
5	4904.00	48.6 PK	74.0	-25.4	1.00 V	342	43.40	5.20
6	4904.00	35.8 AV	54.0	-18.2	1.00 V	342	30.60	5.20

REMARKS:

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

Below 1GHz Data:

802.11n(HT20)

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

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	35.82	21.0 QP	40.0	-19.0	1.99 H	89	36.60	-15.60
2	57.16	19.6 QP	40.0	-20.4	1.99 H	54	34.30	-14.70
3	173.56	24.6 QP	43.5	-18.9	1.49 H	97	39.10	-14.50
4	284.14	32.0 QP	46.0	-14.0	1.00 H	266	44.90	-12.90
5	348.16	25.8 QP	46.0	-20.2	1.00 H	251	37.60	-11.80
6	524.70	29.0 QP	46.0	-17.0	1.49 H	8	37.20	-8.20
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	30.00	34.4 QP	40.0	-5.6	2.00 V	102	50.20	-15.80
2	57.16	31.3 QP	40.0	-8.7	1.00 V	34	46.00	-14.70
3	**142.52**	**38.2 QP**	**43.5**	**-5.3**	**1.25 V**	**246**	**52.80**	**-14.60**
4	284.14	27.5 QP	46.0	-18.5	1.25 V	45	40.40	-12.90
5	344.28	24.6 QP	46.0	-21.4	1.00 V	203	36.40	-11.80
6	932.10	31.7 QP	46.0	-14.3	1.51 V	0	32.30	-0.60

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)– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

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

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	53.28	18.3 QP	40.0	-21.7	1.99 H	5	32.50	-14.20
2	140.58	35.1 QP	43.5	-8.4	1.49 H	252	49.80	-14.70
3	274.44	29.6 QP	46.0	-16.4	1.00 H	133	42.90	-13.30
4	321.00	25.9 QP	46.0	-20.1	1.00 H	141	37.90	-12.00
5	350.10	25.7 QP	46.0	-20.3	1.00 H	240	37.30	-11.60
6	528.58	28.6 QP	46.0	-17.4	1.49 H	31	36.80	-8.20
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	37.76	32.4 QP	40.0	-7.6	1.01 V	138	47.50	-15.10
2	68.80	34.6 QP	40.0	-5.4	1.01 V	149	50.50	-15.90
3	142.52	34.7 QP	43.5	-8.8	2.00 V	268	49.30	-14.60
4	274.44	24.4 QP	46.0	-21.6	1.01 V	353	37.70	-13.30
5	462.62	25.8 QP	46.0	-20.2	1.01 V	196	35.00	-9.20
6	615.88	28.1 QP	46.0	-17.9	1.50 V	202	34.10	-6.00

REMARKS:

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

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.	Date Of Calibration	Due Date Of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 11, 2014	Nov. 10, 2015
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 26, 2014	Dec. 25, 2015
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2015	Feb. 25, 2016
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 24, 2015	Jul. 23, 2016
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.

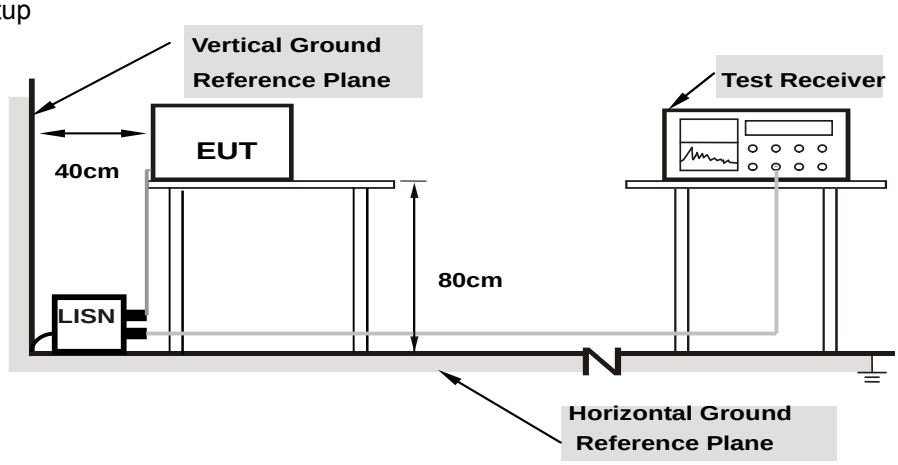
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

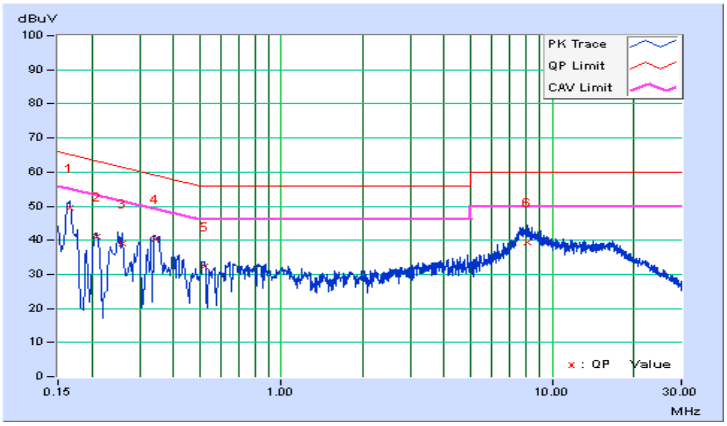
4.2.7 Test Results

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

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	0.16535	0.05	49.56	37.60	49.61	37.65	65.19	55.19	-15.58	-17.54
2	0.21000	0.06	40.87	25.73	40.93	25.79	63.21	53.21	-22.28	-27.42
3	0.25800	0.06	39.09	28.04	39.15	28.10	61.50	51.50	-22.35	-23.40
4	0.34124	0.06	40.18	30.58	40.24	30.64	59.17	49.17	-18.93	-18.53
5	0.51800	0.06	32.26	24.10	32.32	24.16	56.00	46.00	-23.68	-21.84
6	8.12600	0.37	39.01	32.23	39.38	32.60	60.00	50.00	-20.62	-17.40

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.

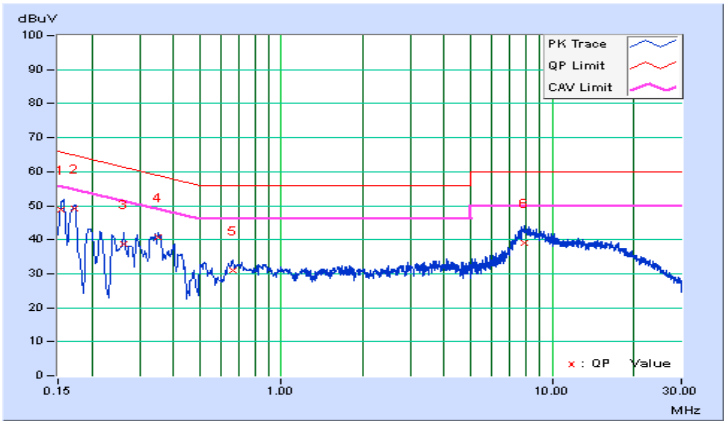


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	0.15400	0.05	48.63	33.03	48.68	33.08	65.78	55.78	-17.10	-22.70
2	0.17157	0.05	49.06	38.47	49.11	38.52	64.88	54.88	-15.77	-16.36
3	0.26221	0.05	38.57	26.44	38.62	26.49	61.36	51.36	-22.74	-24.87
4	0.35000	0.06	40.74	30.74	40.80	30.80	58.96	48.96	-18.16	-18.16
5	0.66200	0.07	30.81	20.37	30.88	20.44	56.00	46.00	-25.12	-25.56
6	7.94200	0.34	38.67	32.09	39.01	32.43	60.00	50.00	-20.99	-17.57

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.

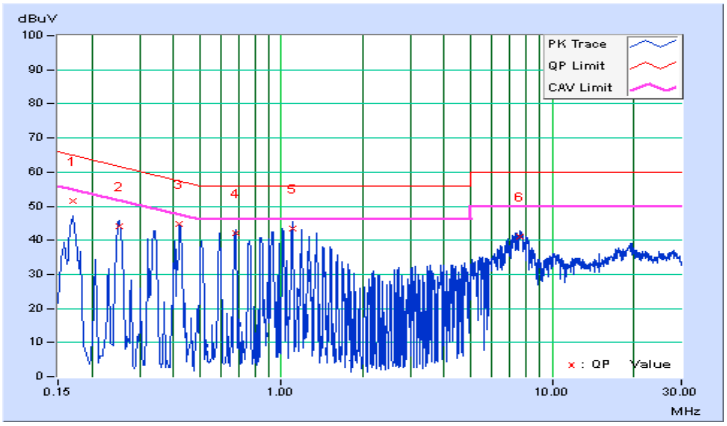


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.17000	0.05	51.34	47.73	51.39	47.78	64.96	54.96	-13.57	-7.18
2	0.25338	0.06	44.12	42.10	44.18	42.16	61.65	51.65	-17.47	-9.49
3	**0.42242**	**0.06**	**44.80**	**43.61**	**44.86**	**43.67**	**57.40**	**47.40**	**-12.54**	**-3.73**
4	0.67800	0.07	41.93	40.94	42.00	41.01	56.00	46.00	-14.00	-4.99
5	1.10200	0.08	43.39	39.91	43.47	39.99	56.00	46.00	-12.53	-6.01
6	7.59400	0.35	40.68	27.33	41.03	27.68	60.00	50.00	-18.97	-22.32

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.

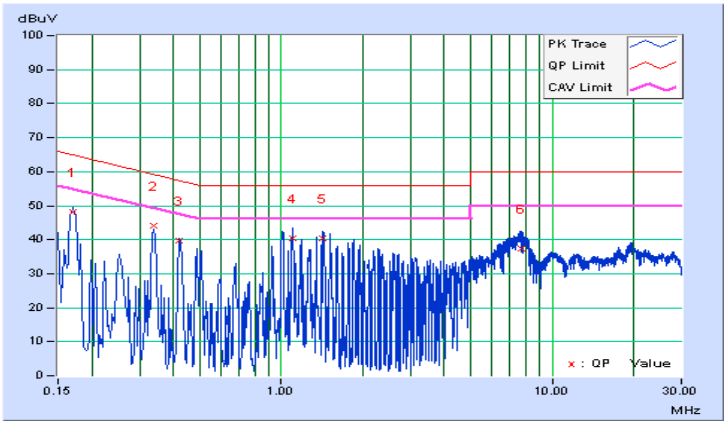


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.17000	0.05	48.23	42.39	48.28	42.44	64.96	54.96	-16.68	-12.52
2	0.33800	0.06	44.10	42.39	44.16	42.45	59.25	49.25	-15.10	-6.81
3	0.42242	0.06	39.59	39.31	39.65	39.37	57.40	47.40	-17.75	-8.03
4	1.09800	0.08	40.43	37.11	40.51	37.19	56.00	46.00	-15.49	-8.81
5	1.42600	0.09	40.35	31.47	40.44	31.56	56.00	46.00	-15.56	-14.44
6	7.71400	0.33	37.10	17.74	37.43	18.07	60.00	50.00	-22.57	-31.93

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.

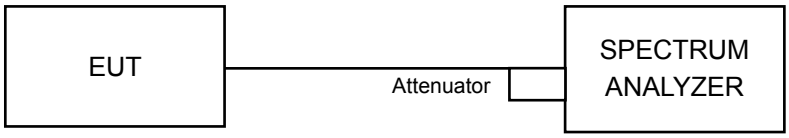


4.3 6dB Bandwidth Measurement

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
1	2412	8.10	0.5	PASS
6	2437	8.11	0.5	PASS
11	2462	8.10	0.5	PASS

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.14	15.13	0.5	PASS
6	2437	15.13	15.66	0.5	PASS
11	2462	15.11	15.14	0.5	PASS

802.11n (HT20)

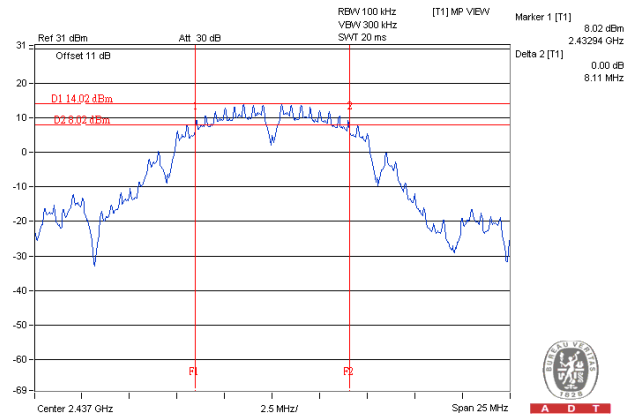
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.14	16.33	0.5	PASS
6	2437	15.15	15.18	0.5	PASS
11	2462	15.13	15.96	0.5	PASS

802.11n (HT40)

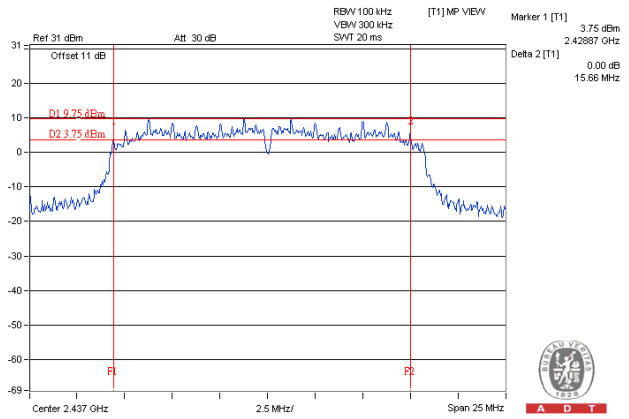
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	35.43	35.82	0.5	PASS
6	2437	35.40	35.82	0.5	PASS
9	2452	35.24	36.37	0.5	PASS

Spectrum Plot of Worst Value

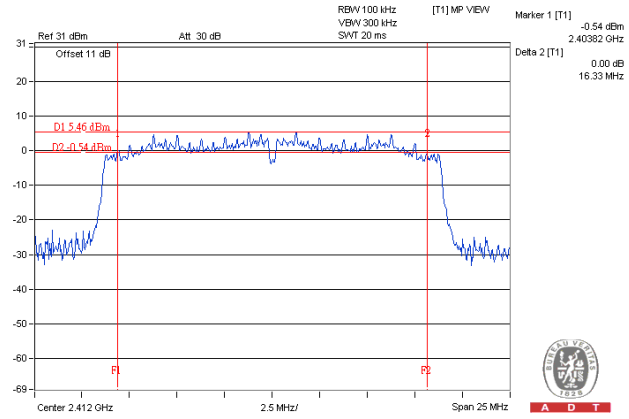
802.11b



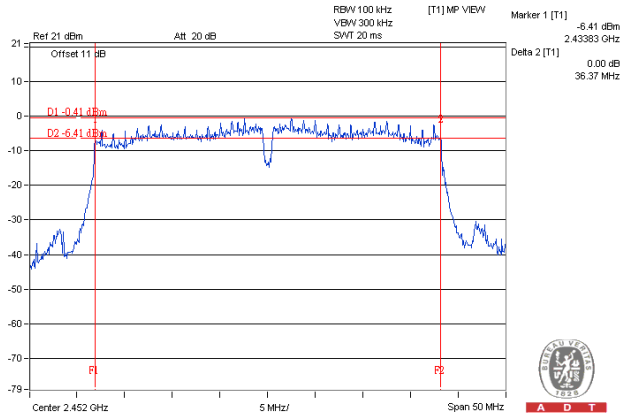
802.11g



802.11n (HT20)



802.11n (HT40)



4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

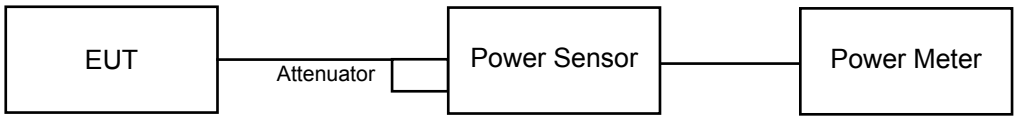
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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

A peak / average power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak / 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 PEAK POWER

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	198.153	22.97	30	Pass
6	2437	283.139	24.52	30	Pass
11	2462	165.959	22.20	30	Pass

802.11g

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	23.28	23.43	**433.107**	26.37	30	Pass
6	2437	23.39	23.28	431.087	26.35	30	Pass
11	2462	23.42	22.89	414.322	26.17	30	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	23.21	23.48	432.255	26.36	30	Pass
6	2437	23.29	23.37	430.574	26.34	30	Pass
11	2462	22.71	22.97	384.791	25.85	30	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	22.33	23.02	371.449	25.70	30	Pass
6	2437	22.49	23.04	378.791	25.78	30	Pass
9	2452	20.32	20.40	217.295	23.37	30	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	91.833	19.63
6	2437	169.824	22.30
11	2462	77.983	18.92

802.11g

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	16.15	16.04	81.389	19.11
6	2437	19.47	19.43	176.212	22.46
11	2462	14.48	14.42	55.723	17.46

802.11n (HT20)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	16.11	15.96	80.278	19.05
6	2437	19.83	19.81	191.880	22.83
11	2462	14.40	14.82	57.881	17.63

802.11n (HT40)

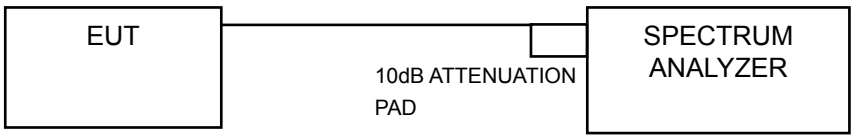
Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	15.66	15.89	75.628	18.79
6	2437	14.77	15.17	62.877	17.98
9	2452	12.46	13.10	38.037	15.80

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

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6

4.5.7 Test Results

802.11b

Channel	Freq. (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-2.40	8	Pass
6	2437	0.46	8	Pass
11	2462	-3.17	8	Pass

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-7.33	3.01	-4.32	7.36	Pass
	6	2437	-4.37	3.01	-1.36	7.36	Pass
	11	2462	-9.04	3.01	-6.03	7.36	Pass
1	1	2412	-8.63	3.01	-5.62	7.36	Pass
	6	2437	-3.96	3.01	-0.95	7.36	Pass
	11	2462	-10.18	3.01	-7.17	7.36	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[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/2$]= 6.38 dBi > 6dBi, so the power density limit shall be reduced to 8-(6.38-6) = 7.36dBm.

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-6.88	3.01	-3.87	7.36	Pass
	6	2437	-3.53	3.01	-0.52	7.36	Pass
	11	2462	-10.39	3.01	-7.38	7.36	Pass
1	1	2412	-8.92	3.01	-5.91	7.36	Pass
	6	2437	-4.21	3.01	-1.20	7.36	Pass
	11	2462	-9.62	3.01	-6.61	7.36	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[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/2$]= 6.38 dBi > 6dBi, so the power density limit shall be reduced to 8-(6.38-6) = 7.36dBm.

802.11n (HT40)

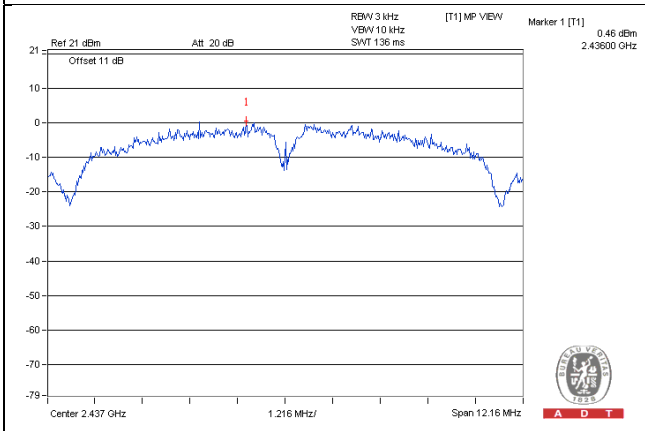
TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	3	2422	-11.38	3.01	-8.37	7.36	Pass
	6	2437	-13.04	3.01	-10.03	7.36	Pass
	9	2452	-15.33	3.01	-12.32	7.36	Pass
1	3	2422	-11.70	3.01	-8.69	7.36	Pass
	6	2437	-10.39	3.01	-7.38	7.36	Pass
	9	2452	-14.03	3.01	-11.02	7.36	Pass

NOTE:

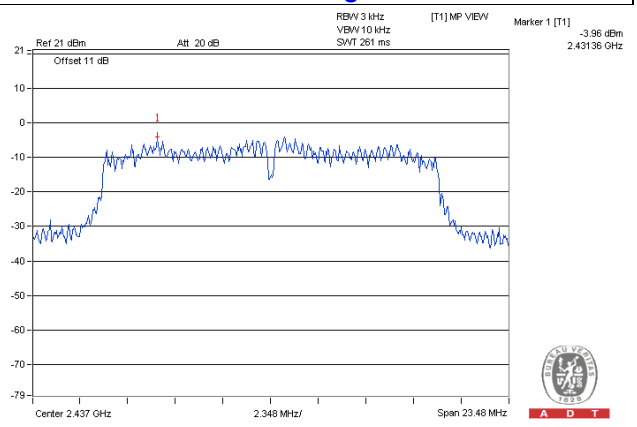
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[($10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20}$)^2/2]= 6.38 dBi > 6dBi, so the power density limit shall be reduced to 8-(6.38-6) = 7.36dBm.

Spectrum Plot of Worst Value

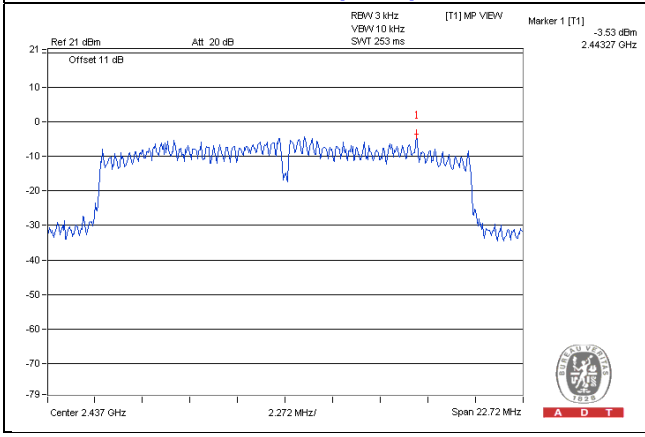
802.11b



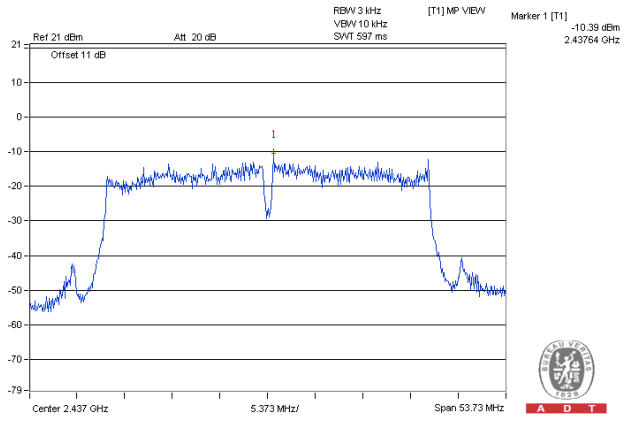
802.11g



802.11n (HT20)



802.11n (HT40)

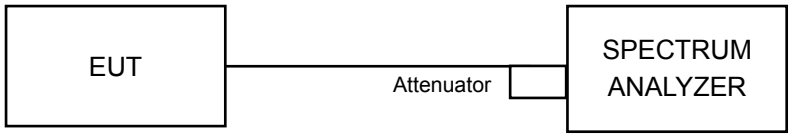


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

Below 20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOBE

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

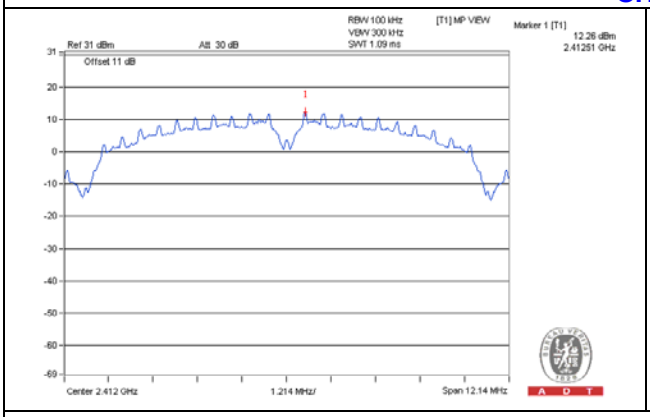
Same as Item 4.3.6

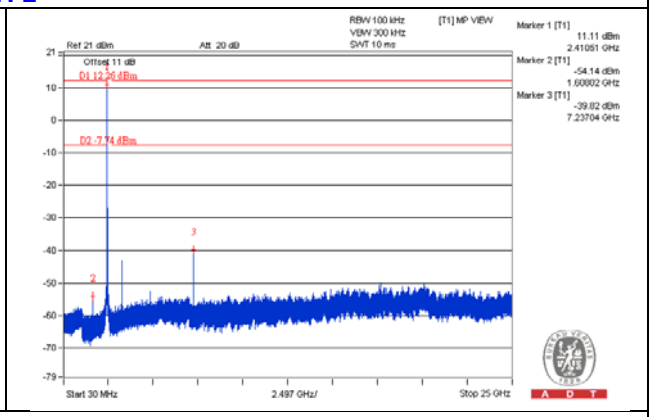
4.6.7 Test Results

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

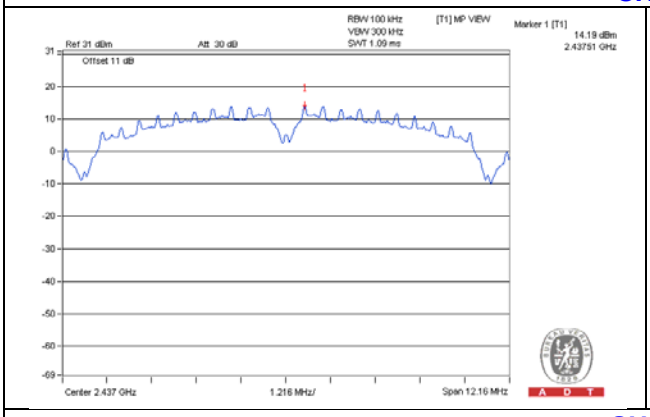
802.11b

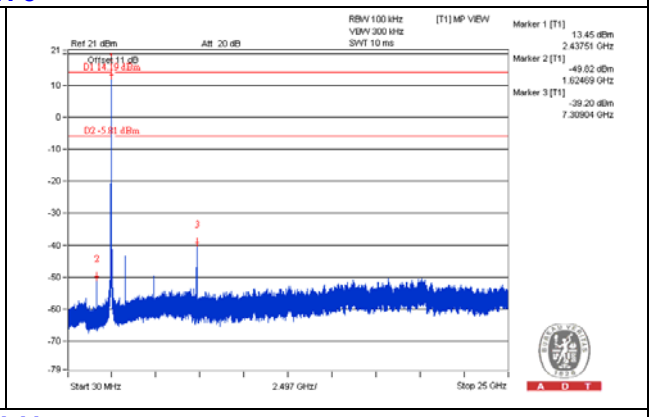
CH 1



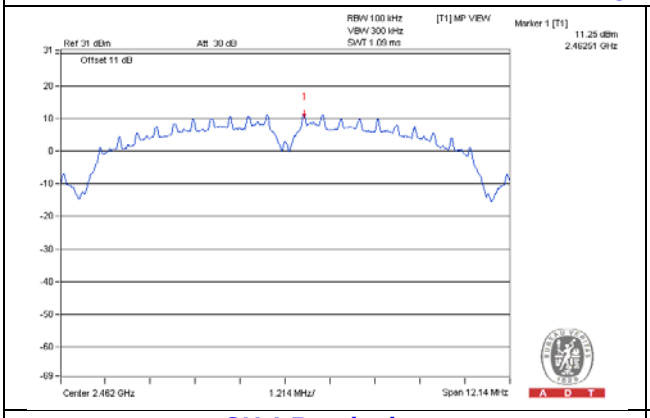


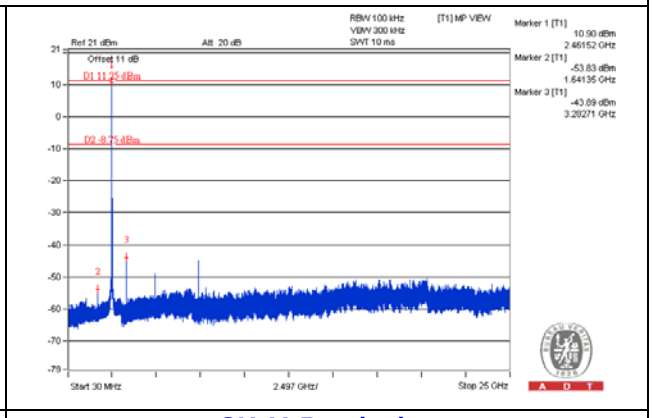
CH 6



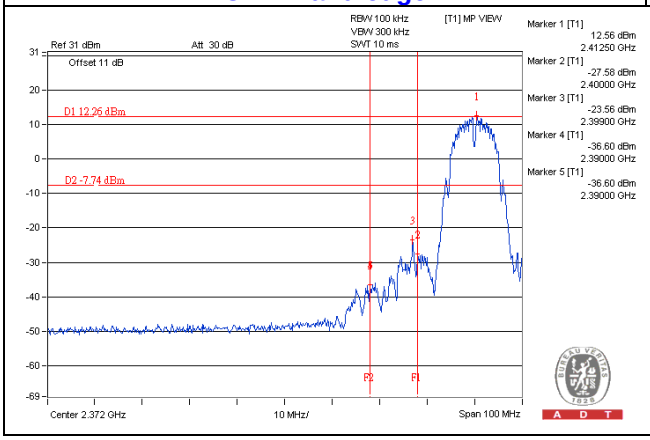


CH 11

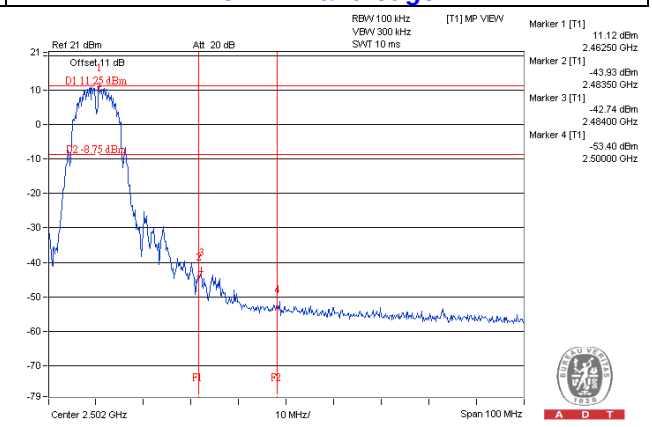




CH 1 Band edge

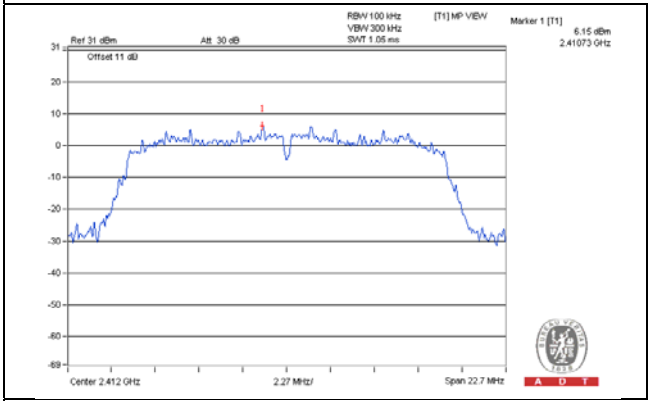


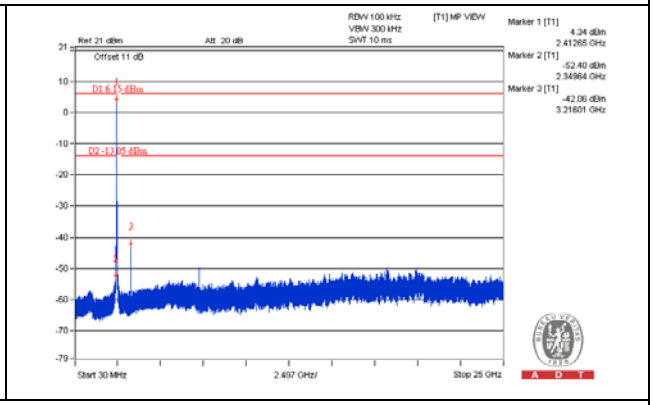
CH 11 Band edge



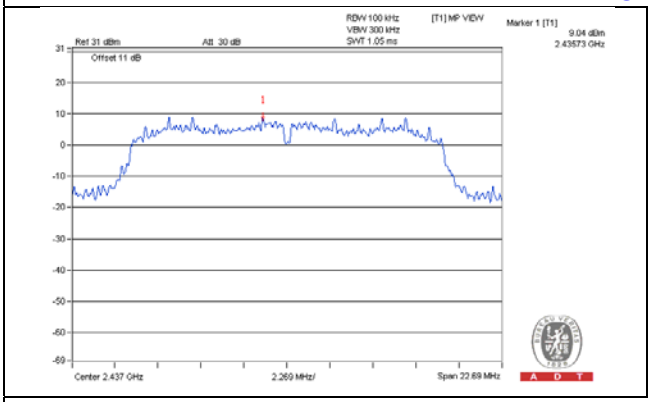
802.11g
CHAIN 0

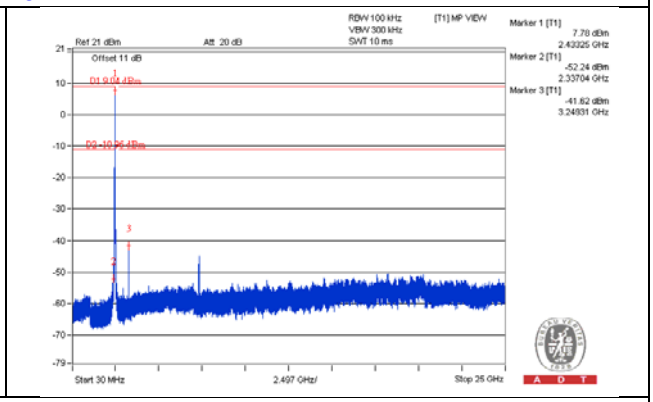
CH 1



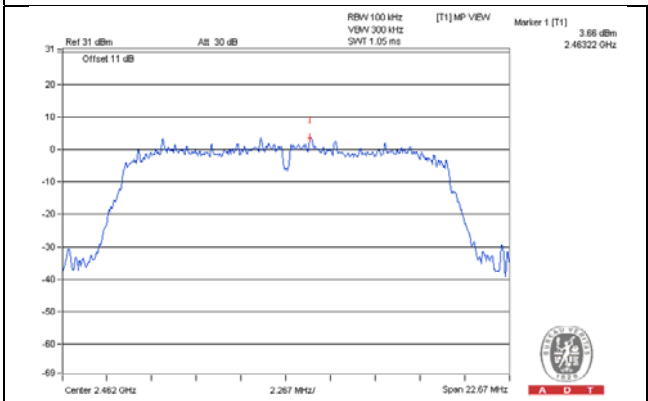


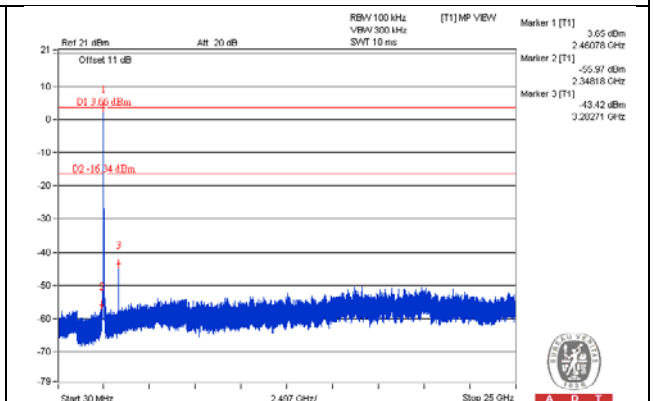
CH 6



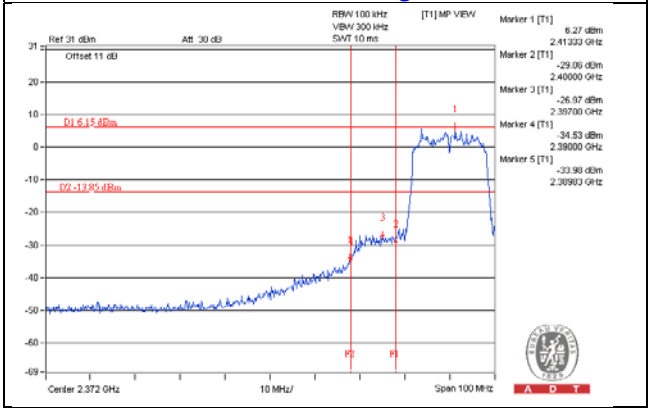


CH 11

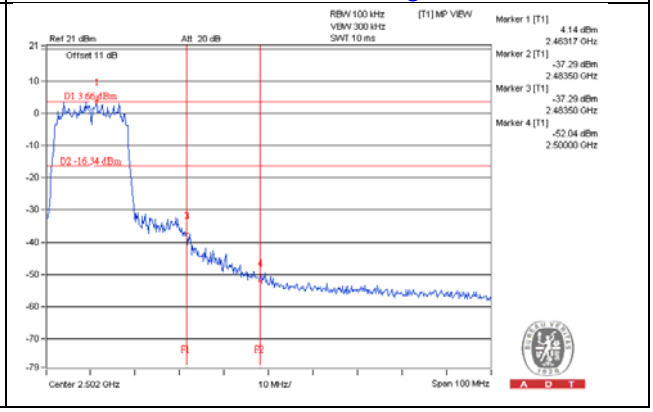




CH 1 Band edge

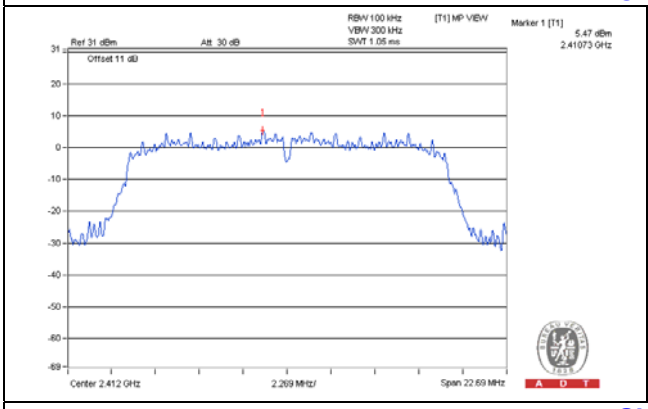


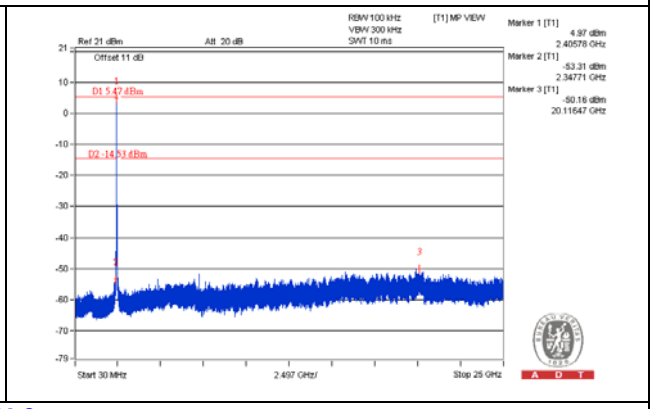
CH 11 Band edge



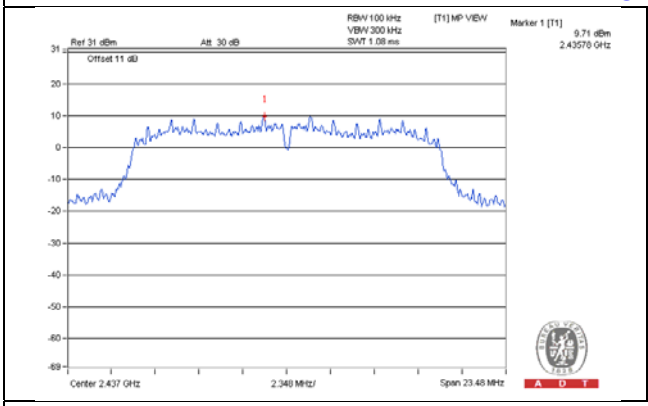
CHAIN 1

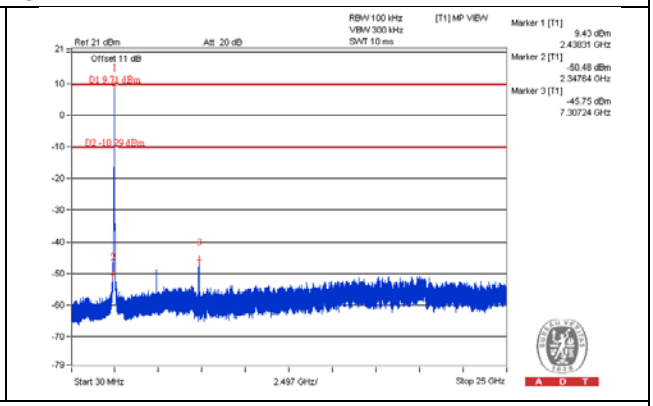
CH 1



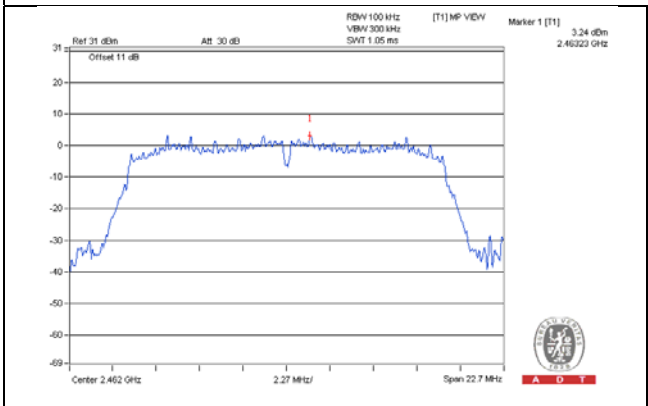


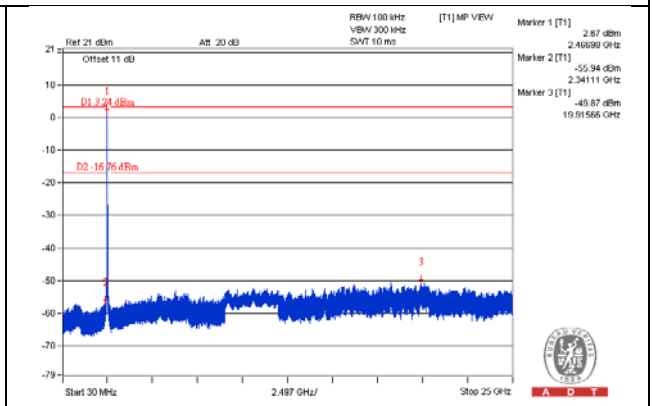
CH 6



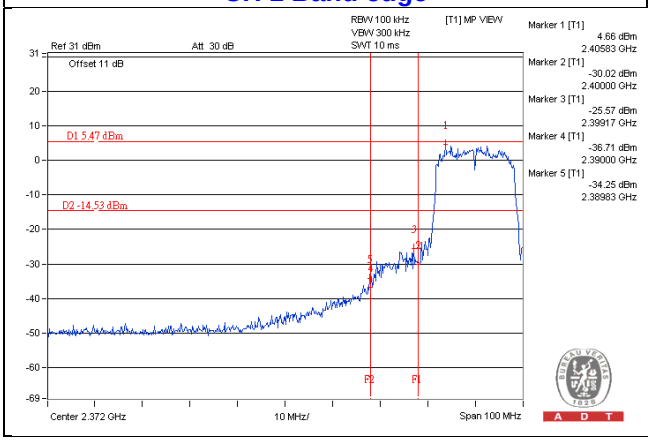


CH 11

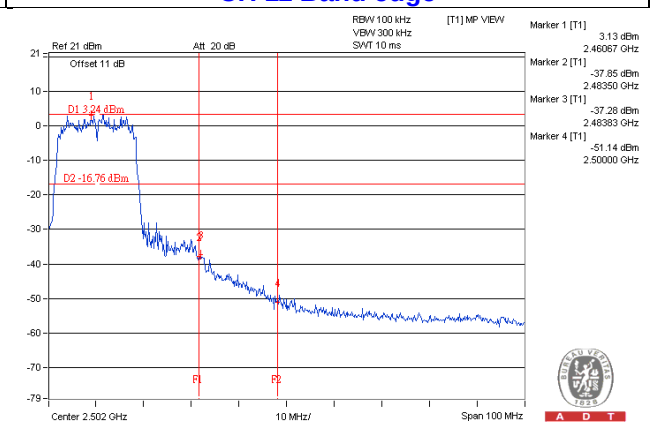




CH 1 Band edge

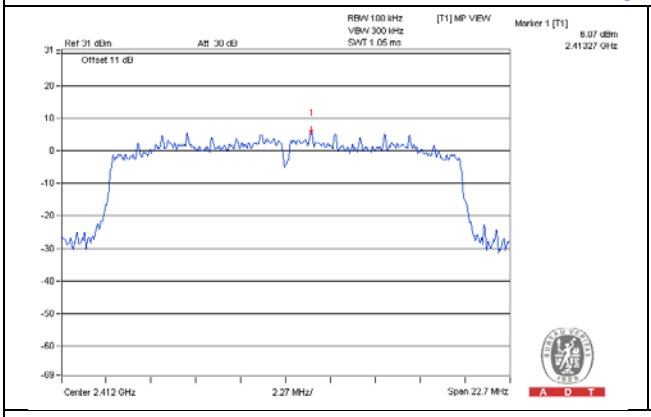


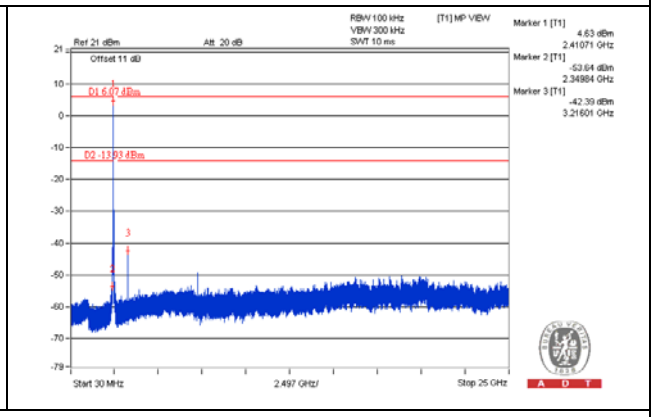
CH 11 Band edge



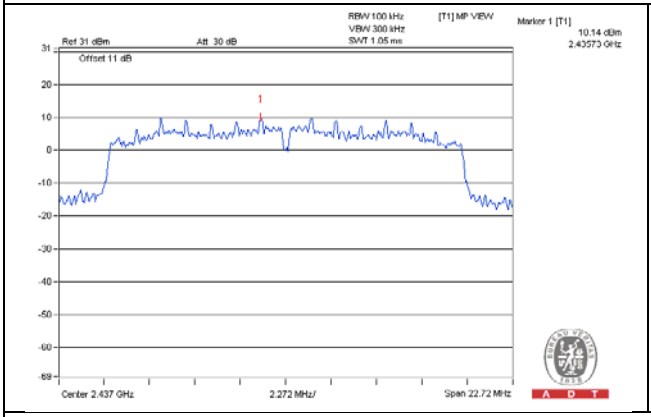
802.11n (HT20)
CHAIN 0

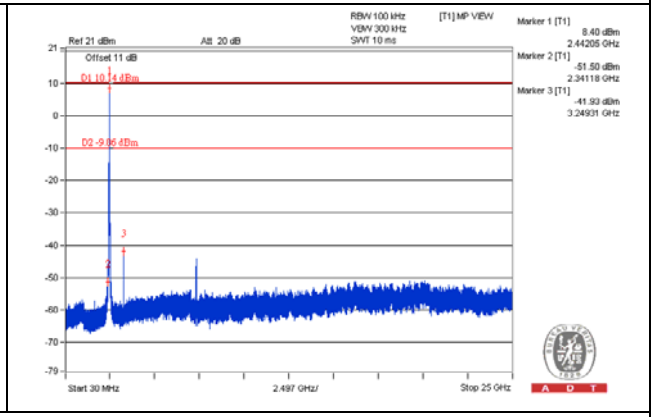
CH 1



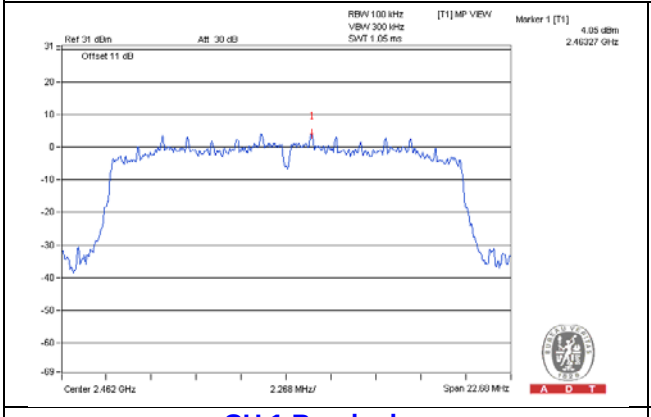


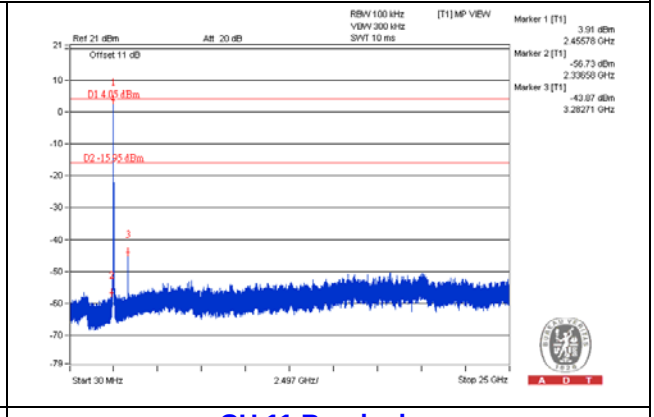
CH 6



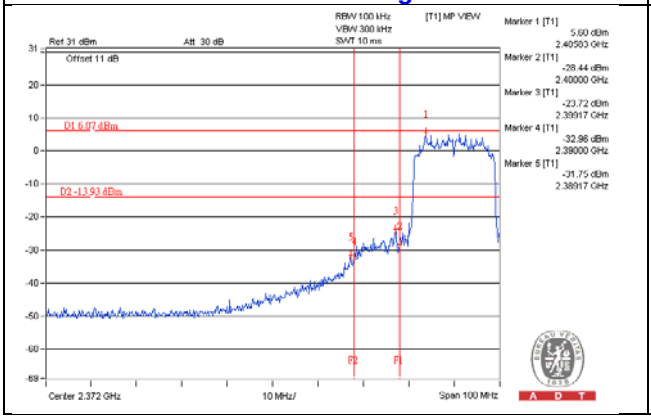


CH 11

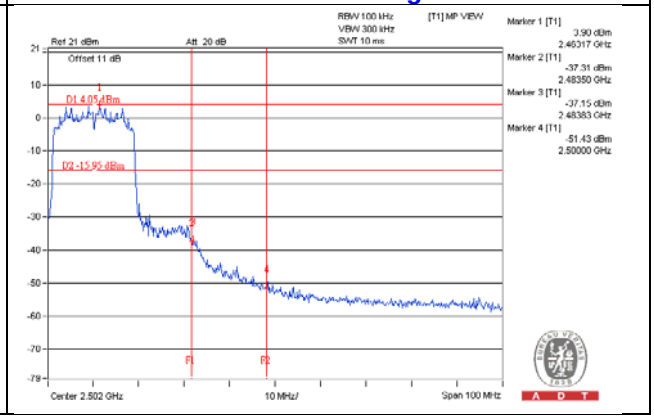




CH 1 Band edge

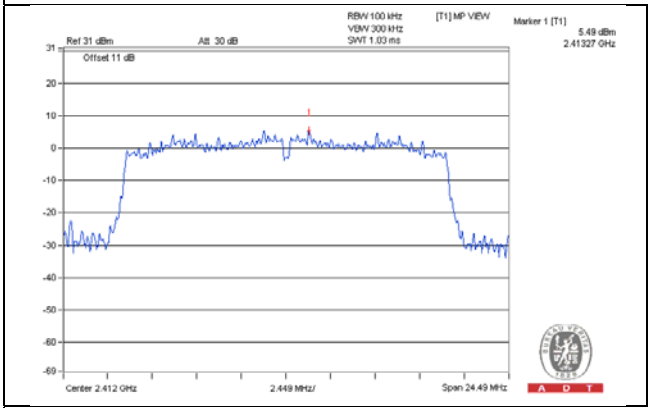


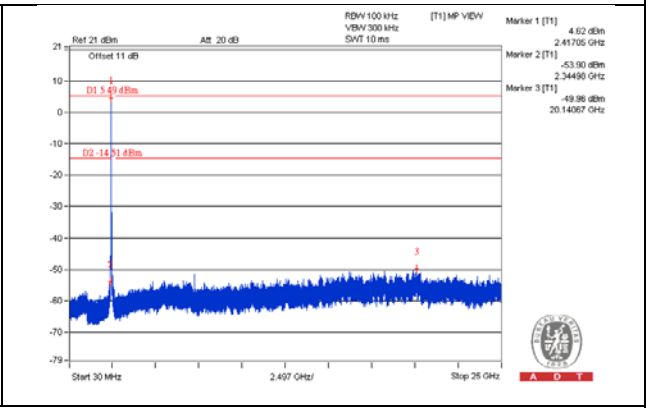
CH 11 Band edge



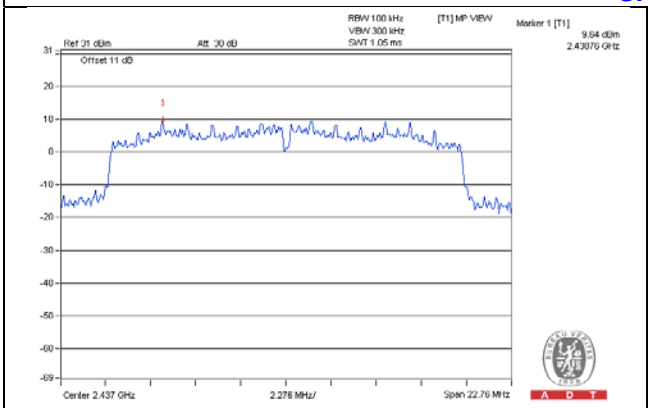
CHAIN 1

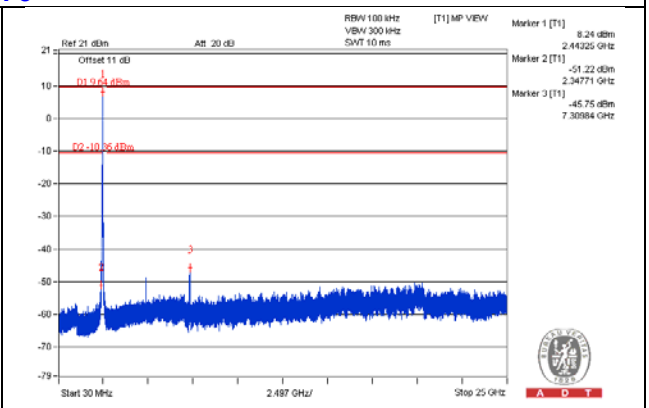
CH 1



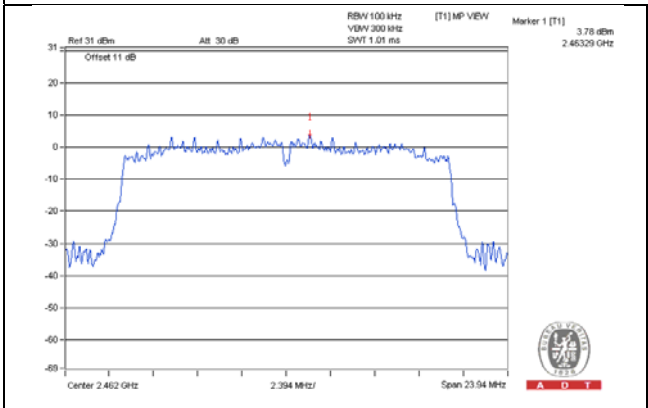


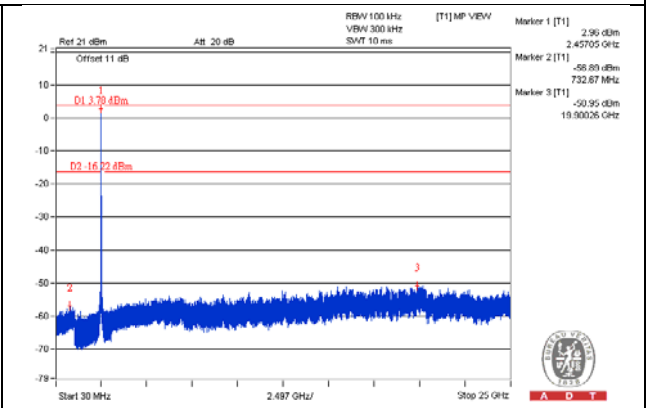
CH 6



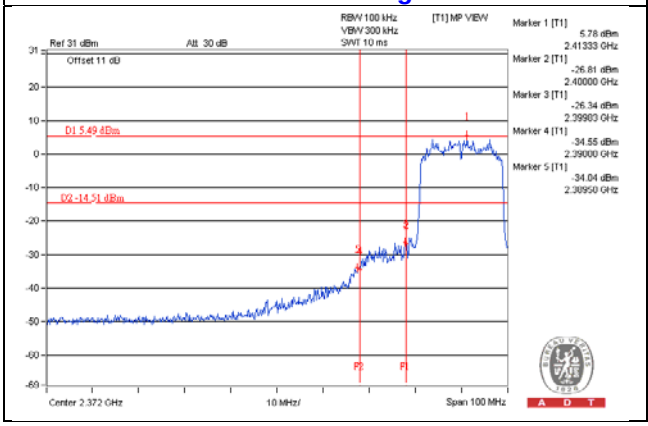


CH 11

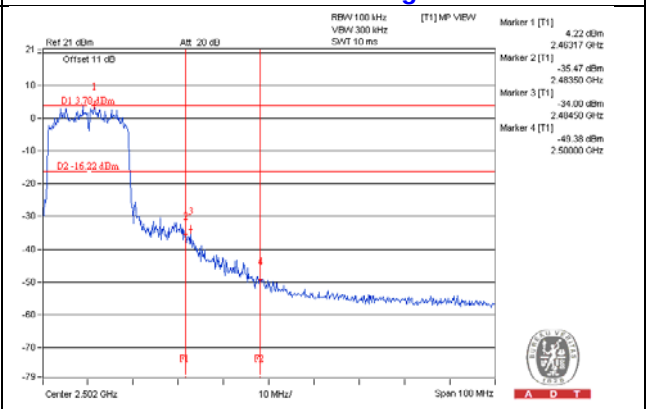




CH 1 Band edge

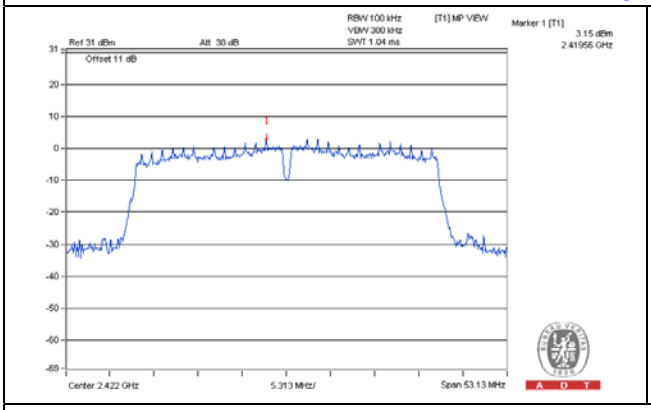


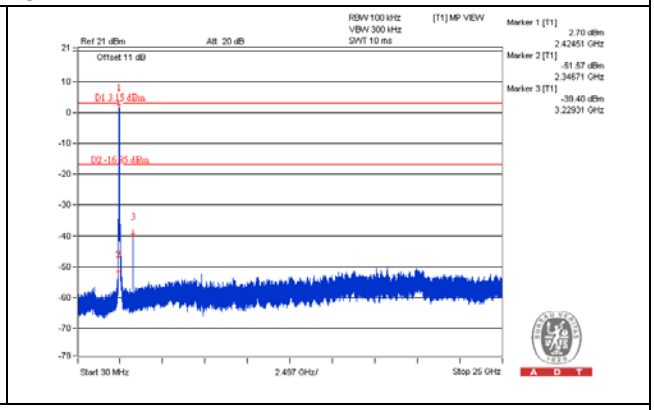
CH 11 Band edge



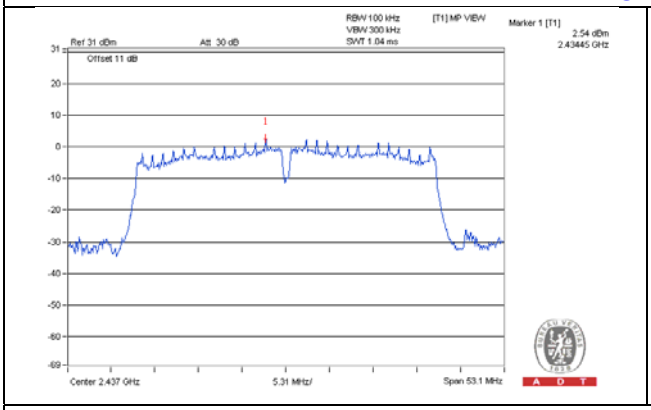
802.11n (HT40)
CHAIN 0

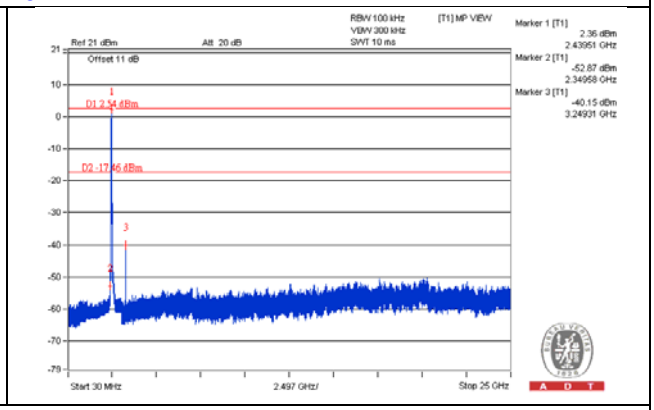
CH 3



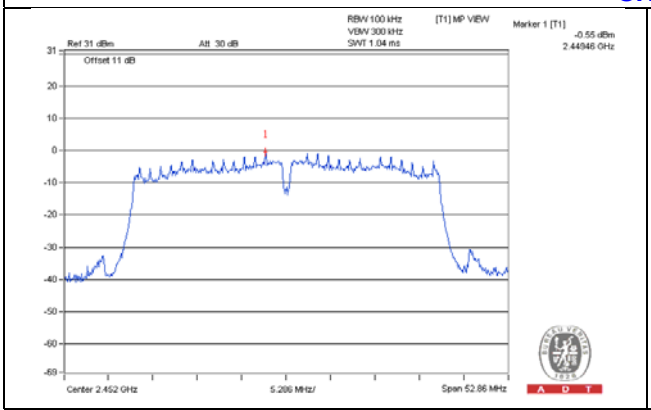


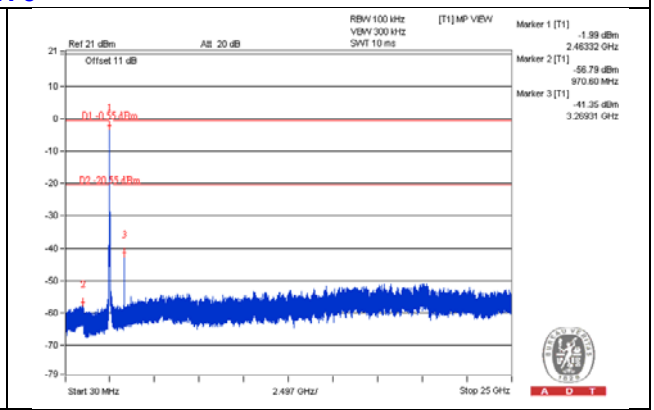
CH 6



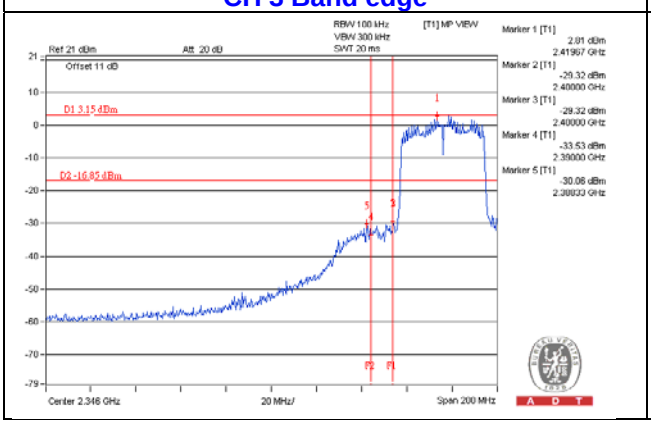


CH 9

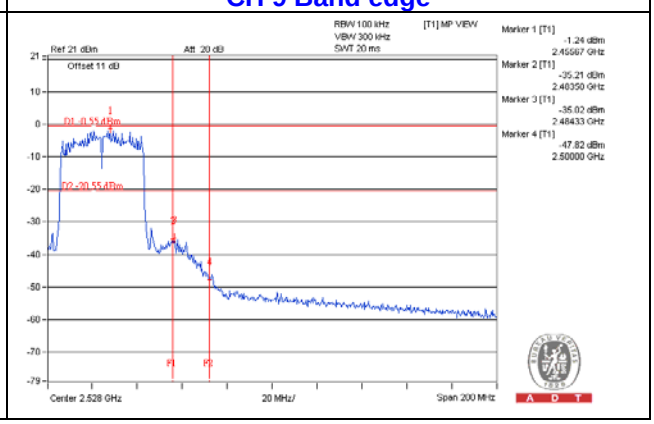




CH 3 Band edge

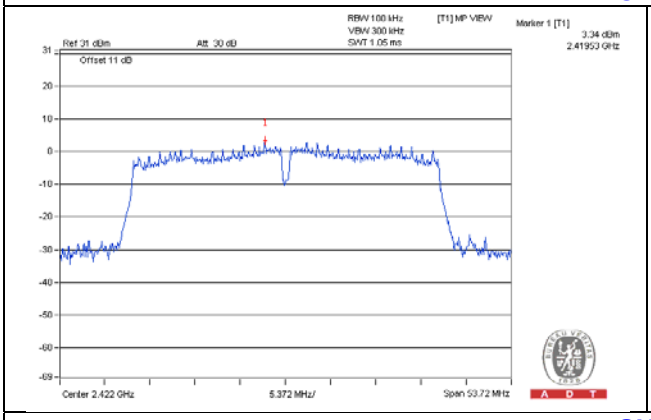


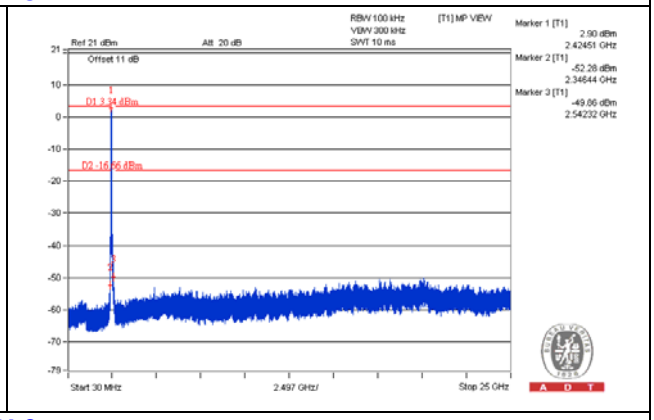
CH 9 Band edge



CHAIN 1

CH 3





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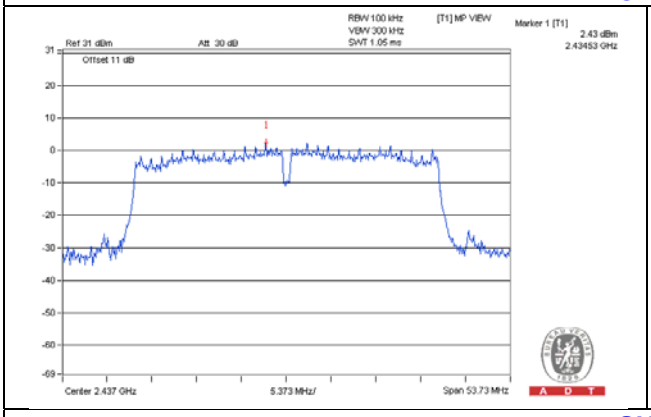
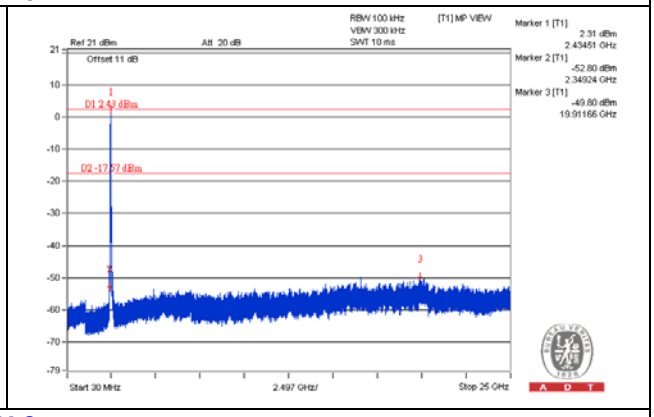
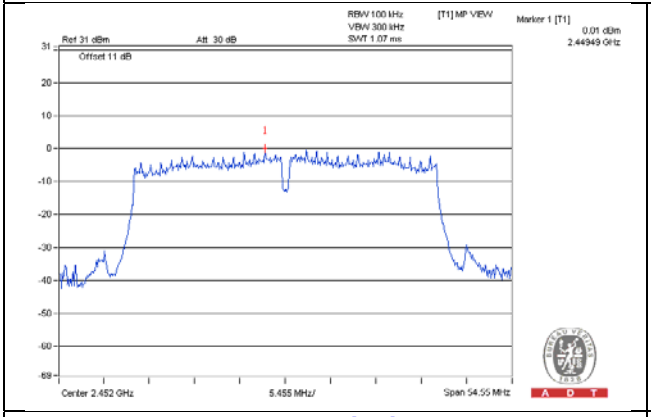
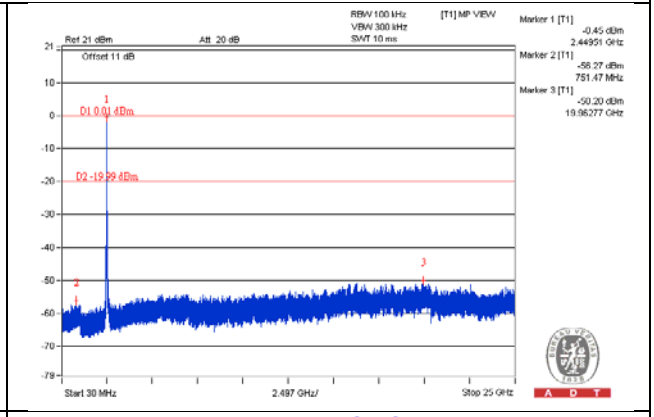


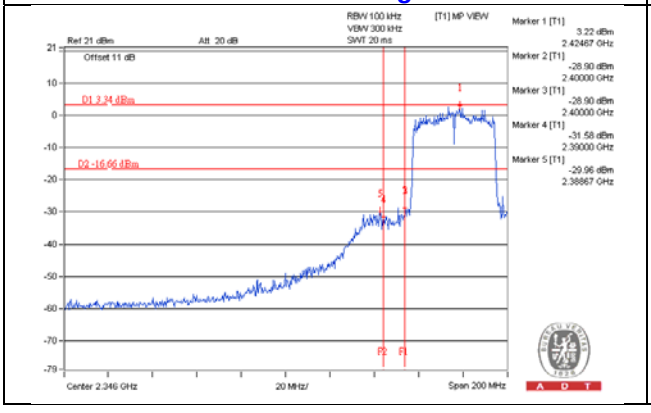


CH 9

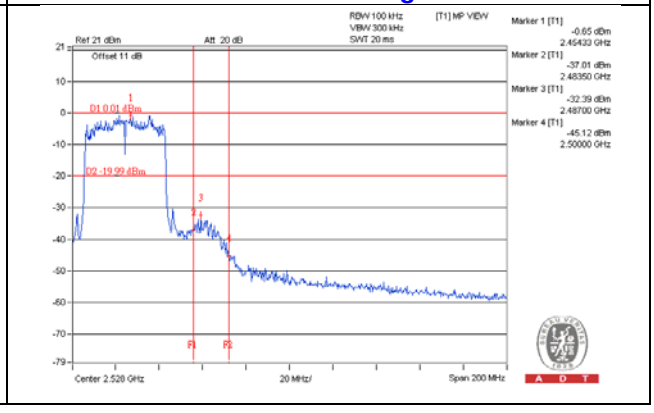




CH 3 Band edge



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:

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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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