FCC Test Report

Report No.:	RF150911C33
FCC ID:	PD5-WAP361
Test Model:	WAP361
Received Date:	Sep. 10, 2015
Test Date:	Sep. 22 ~ Oct. 07, 2015
Issued Date:	Oct. 14, 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, R.O.C.
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Release Control Record

Issue No.	Description	Date Issued
RF150911C33	Original release.	Oct. 14, 2015

1 Certificate of Conformity

Product:	Wireless-AC/N Dual Radio Wall Plate Access Point with PoE
Brand:	Cisco
Test Model:	WAP361
Sample Status:	Engineering sample
Applicant:	Delta Networks, Inc.
Test Date:	Sep. 22 ~ Oct. 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 : Celine Chou , **Date:** Oct. 14, 2015

Celine Chou / Specialist

Approved by : Ken Liu , **Date:** Oct. 14, 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 -12.85dB at 0.33396MHz
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.0dB at 2483.50MHz.
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	Pass	Meet the requirement of limit.
15.247(b)	Conducted power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is I-PEX 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 Wall Plate Access Point with PoE
Brand	Cisco
Test Model	WAP361
Sample Status	Engineering sample
Power Supply Rating	48Vdc 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 300Mbps
Operating Frequency	2412 ~ 2462MHz
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	366.438mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Adapter
Data Cable Supplied	N/A

Note:

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

Modulation Mode	TX Function
802.11b	1TX
802.11g	2TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX

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

Adapter 1	
Brand	LEADER ELECTRONICS INC.
Model	NU60-U480125-I1
Input Power	100-240Vac, 50/60Hz, 1.4A
Output Power	48Vdc, 1.25A
Power Line	1.8m power cable with one core attached on adapter

Adapter 2	
Brand	DELTA Electronics, INC.
Model	ADP-48DR BL
Input Power	100-240Vac, 50-60Hz, 1.5A
Output Power	48Vdc, 1.25A
Power Line	1.8m power cable without core attached on adapter

POE	
Brand	N/A
Model	LM-GP201XRA
Input Power	100-240Vac
Output Power	56Vdc

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

No.	Ant. Type	Connector	Gain(dBi)							
			2400MHz	2450MHz	2500MHz	5150MHz	5250MHz	5350MHz	5725MHz	5825MHz
1	PIFA	I-PEX	4.14	4.35	4.04	3.58	3.23	3.64	3.67	3.81
2			3.08	3.76	4.19	3.68	3.48	3.96	3.92	3.95

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	√	√	√	√	Powered by adapter
B	-	√	√	-	Powered by 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: 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)
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	7.2
A	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)
A, B	802.11b	1 to 11	1	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)
A, B	802.11b	1 to 11	1	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)
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	7.2
A	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 63%RH	120Vac, 60Hz	Alan Wu
RE<1G	27deg. C, 65%RH	120Vac, 60Hz 56Vdc	Alan Wu
PLC	25deg. C, 65%RH	120Vac, 60Hz 56Vdc	Chris Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Nick Hsu

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98%

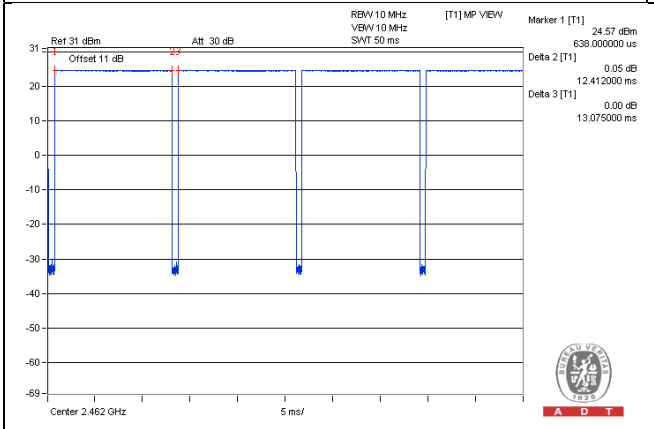
802.11b: Duty cycle = 12.412/13.075 =0.949, Duty factor = 10 * log(1/0.949) = 0.23

802.11g: Duty cycle = 2.065/2.172 =0.951, Duty factor = 10 * log(1/0.951) = 0.22

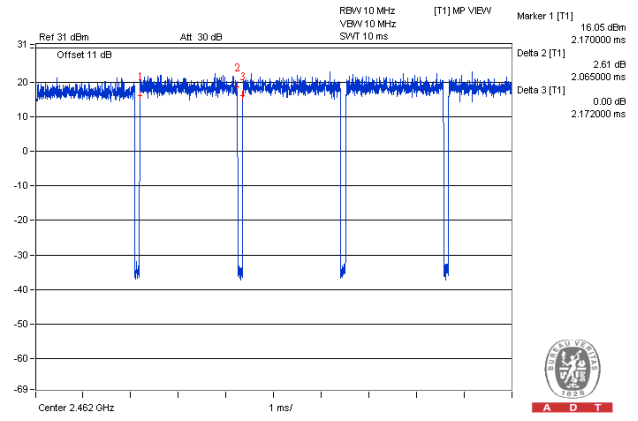
802.11n (HT20): Duty cycle = 1.902/2.017 = 0.943, Duty factor = 10 * log(1/0.943) = 0.25

802.11n (HT40): Duty cycle = 0.930/1.031 =0.902, Duty factor = 10 * log(1/0.902) = 0.45

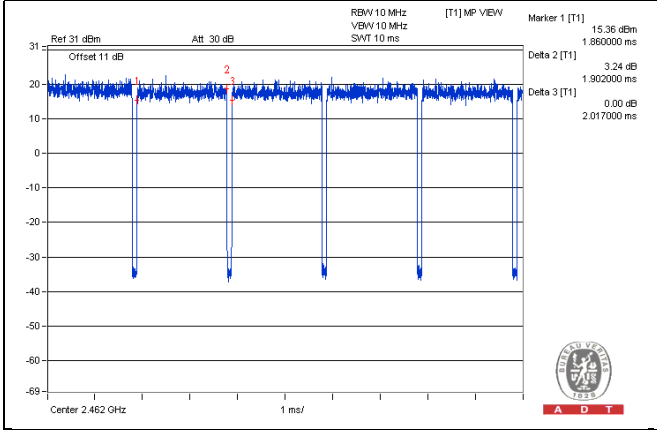
802.11b



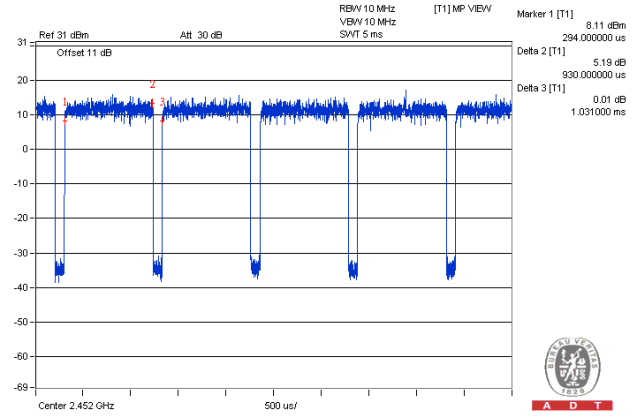
802.11g



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	E5430	2RL3YW1	FCC DoC Approved	-
B.	Load	NA	NA	NA	NA	-
C.	POE	N/A	LM-GP201XRA	NA	NA	Provided by manufacturer For test mode B

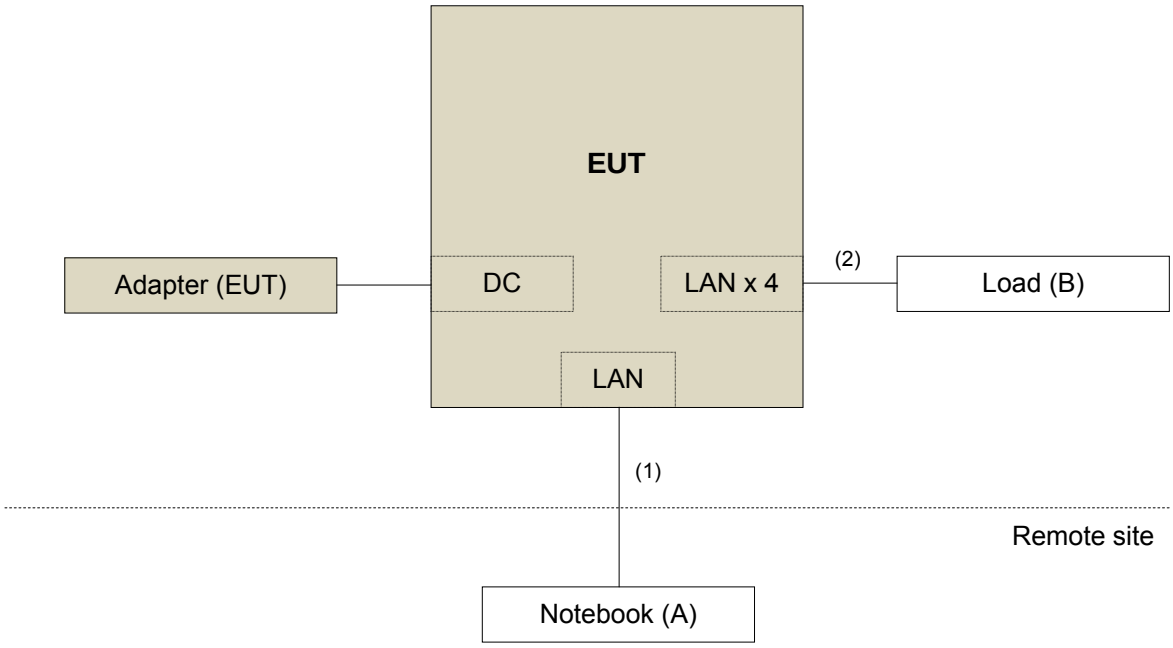
Note:

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

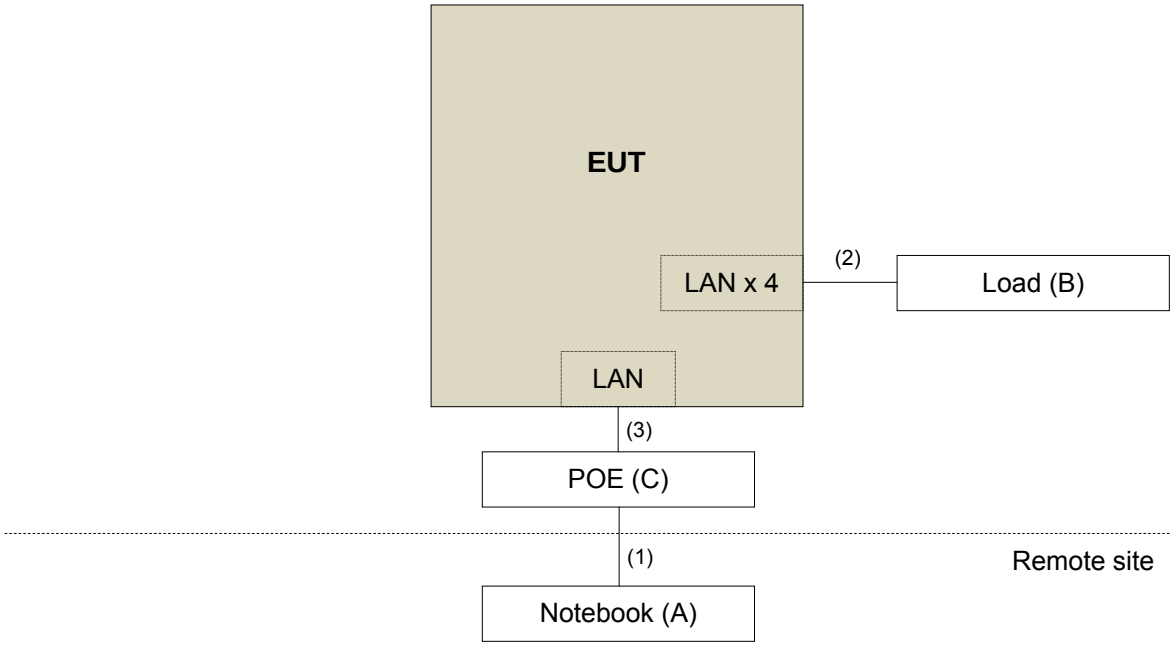
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	3	N	0	-
2.	LAN cable	4	1.8	N	0	-
3.	LAN cable	1	1.8	N	0	For test mode B

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 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.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 06, 2014	Oct. 05, 2015
			Oct. 06, 2015	Oct. 05, 2016
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
Preamplifier Agilent	8449B	3008A01960	Aug. 09, 2015	Aug. 08, 2016
Preamplifier Agilent	8447D	2944A10631	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-02(295012+ 309220)	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03(250724)	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
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 4.
3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 460141.
5. The IC Site Registration No. is IC7450F-4.

4.1.3 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

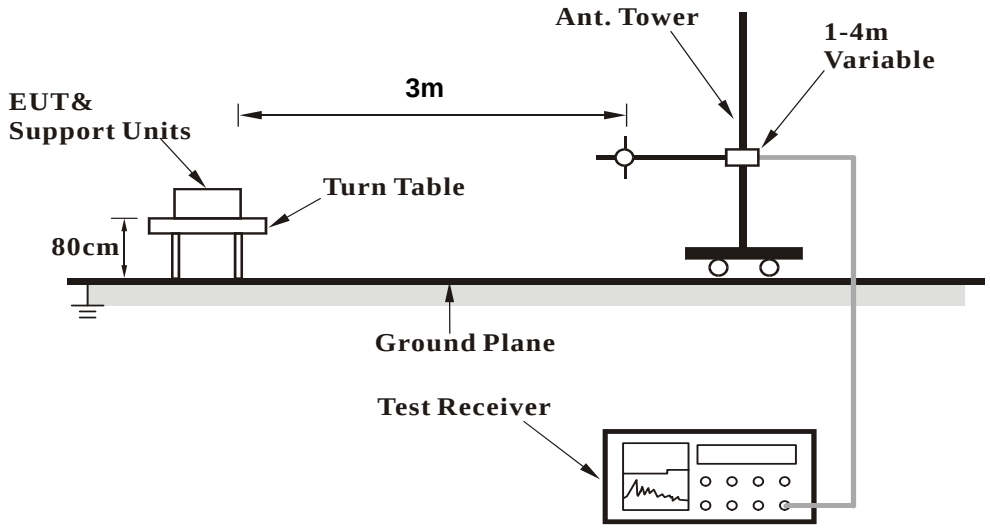
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

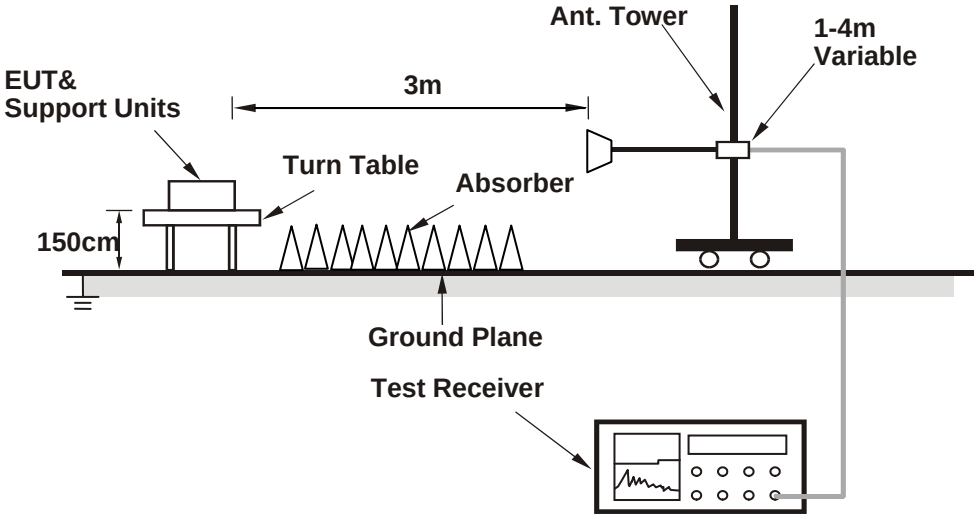
No deviation.

4.1.5 Test Set Up

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

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".
e. The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz worst-case data:

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.8 PK	74.0	-18.2	1.13 H	200	24.20	31.60
2	2390.00	45.9 AV	54.0	-8.1	1.13 H	200	14.30	31.60
3	*2412.00	102.8 PK			1.14 H	208	71.00	31.80
4	*2412.00	99.1 AV			1.14 H	208	67.30	31.80
5	4824.00	48.1 PK	74.0	-25.9	1.00 H	293	43.20	4.90
6	4824.00	40.0 AV	54.0	-14.0	1.00 H	293	35.10	4.90
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	62.0 PK	74.0	-12.0	1.02 V	134	30.40	31.60
2	2390.00	52.8 AV	54.0	-1.2	1.02 V	134	21.20	31.60
3	*2412.00	111.2 PK			1.03 V	135	79.40	31.80
4	*2412.00	107.6 AV			1.03 V	135	75.80	31.80
5	4824.00	48.3 PK	74.0	-25.7	1.22 V	166	43.40	4.90
6	4824.00	40.4 AV	54.0	-13.6	1.22 V	166	35.50	4.90

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
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	101.4 PK			1.00 H	204	69.50	31.90
2	*2437.00	97.8 AV			1.00 H	204	65.90	31.90
3	4874.00	49.4 PK	74.0	-24.6	1.00 H	297	44.40	5.00
4	4874.00	42.5 AV	54.0	-11.5	1.00 H	297	37.50	5.00
5	7311.00	58.0 PK	74.0	-16.0	1.18 H	119	46.80	11.20
6	7311.00	50.1 AV	54.0	-3.9	1.18 H	119	38.90	11.20
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	112.1 PK			1.00 V	134	80.20	31.90
2	*2437.00	108.5 AV			1.00 V	134	76.60	31.90
3	4874.00	50.2 PK	74.0	-23.8	1.32 V	165	45.20	5.00
4	4874.00	42.9 AV	54.0	-11.1	1.32 V	165	37.90	5.00
5	7311.00	59.9 PK	74.0	-14.1	1.00 V	191	48.70	11.20
6	7311.00	52.8 AV	54.0	-1.2	1.00 V	191	41.60	11.20

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)
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	101.5 PK			1.00 H	217	69.50	32.00
2	*2462.00	97.8 AV			1.00 H	217	65.80	32.00
3	2483.50	55.2 PK	74.0	-18.8	1.00 H	219	23.20	32.00
4	2483.50	45.0 AV	54.0	-9.0	1.00 H	219	13.00	32.00
5	4924.00	48.4 PK	74.0	-25.6	1.00 H	299	43.30	5.10
6	4924.00	40.1 AV	54.0	-13.9	1.00 H	299	35.00	5.10
7	7386.00	57.8 PK	74.0	-16.2	1.19 H	110	46.60	11.20
8	7386.00	49.8 AV	54.0	-4.2	1.19 H	110	38.60	11.20
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	*2462.00	112.1 PK			1.00 V	136	80.10	32.00
2	*2462.00	108.5 AV			1.00 V	136	76.50	32.00
3	2483.50	62.5 PK	74.0	-11.5	1.00 V	136	30.50	32.00
4	**2483.50**	**53.0 AV**	**54.0**	**-1.0**	**1.00 V**	**136**	**21.00**	**32.00**
5	4924.00	48.6 PK	74.0	-25.4	1.00 V	166	43.50	5.10
6	4924.00	40.6 AV	54.0	-13.4	1.00 V	166	35.50	5.10
7	7386.00	58.3 PK	74.0	-15.7	1.00 V	224	47.10	11.20
8	7386.00	52.0 AV	54.0	-2.0	1.00 V	224	40.80	11.20

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.6 PK	74.0	-7.4	1.13 H	151	35.00	31.60
2	2390.00	49.1 AV	54.0	-4.9	1.13 H	151	17.50	31.60
3	*2412.00	103.4 PK			1.14 H	155	71.60	31.80
4	*2412.00	94.5 AV			1.14 H	155	62.70	31.80
5	4824.00	49.7 PK	74.0	-24.3	1.00 H	294	44.80	4.90
6	4824.00	36.2 AV	54.0	-17.8	1.00 H	294	31.30	4.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.5 PK	74.0	-5.5	1.00 V	133	36.90	31.60
2	2390.00	52.7 AV	54.0	-1.3	1.00 V	133	21.10	31.60
3	*2412.00	111.3 PK			1.48 V	200	79.50	31.80
4	*2412.00	101.5 AV			1.48 V	200	69.70	31.80
5	4824.00	50.4 PK	74.0	-23.6	1.12 V	202	45.50	4.90
6	4824.00	37.2 AV	54.0	-16.8	1.12 V	202	32.30	4.90

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
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	64.8 PK	74.0	-9.2	1.00 H	158	33.20	31.60
2	2390.00	47.4 AV	54.0	-6.6	1.00 H	158	15.80	31.60
3	*2437.00	107.3 PK			1.00 H	158	75.40	31.90
4	*2437.00	97.4 AV			1.00 H	158	65.50	31.90
5	4874.00	50.0 PK	74.0	-24.0	1.00 H	290	45.00	5.00
6	4874.00	37.1 AV	54.0	-16.9	1.00 H	290	32.10	5.00
7	7311.00	60.0 PK	74.0	-14.0	1.00 H	253	48.80	11.20
8	7311.00	46.5 AV	54.0	-7.5	1.00 H	253	35.30	11.20
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	72.9 PK	74.0	-1.1	1.04 V	205	41.30	31.60
2	2390.00	52.7 AV	54.0	-1.3	1.04 V	205	21.10	31.60
3	*2437.00	115.2 PK			1.02 V	156	83.30	31.90
4	*2437.00	106.1 AV			1.02 V	156	74.20	31.90
5	4874.00	50.7 PK	74.0	-23.3	1.10 V	200	45.70	5.00
6	4874.00	37.9 AV	54.0	-16.1	1.10 V	200	32.90	5.00
7	7311.00	63.7 PK	74.0	-10.3	1.07 V	177	52.50	11.20
8	7311.00	50.7 AV	54.0	-3.3	1.07 V	177	39.50	11.20

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)
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	101.4 PK			1.00 H	154	69.40	32.00
2	*2462.00	90.9 AV			1.00 H	154	58.90	32.00
3	2483.50	59.5 PK	74.0	-14.5	1.00 H	153	27.50	32.00
4	2483.50	44.1 AV	54.0	-9.9	1.00 H	153	12.10	32.00
5	4924.00	49.8 PK	74.0	-24.2	1.00 H	293	44.70	5.10
6	4924.00	36.9 AV	54.0	-17.1	1.00 H	293	31.80	5.10
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	*2462.00	109.0 PK			1.00 V	194	77.00	32.00
2	*2462.00	99.7 AV			1.00 V	194	67.70	32.00
3	2483.50	71.6 PK	74.0	-2.4	1.00 V	177	39.60	32.00
4	2483.50	52.6 AV	54.0	-1.4	1.00 V	177	20.60	32.00
5	4924.00	50.0 PK	74.0	-24.0	1.10 V	205	44.90	5.10
6	4924.00	37.6 AV	54.0	-16.4	1.10 V	205	32.50	5.10

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.

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	66.8 PK	74.0	-7.2	1.14 H	154	35.20	31.60
2	2390.00	47.8 AV	54.0	-6.2	1.14 H	154	16.20	31.60
3	*2412.00	101.3 PK			1.14 H	155	69.50	31.80
4	*2412.00	92.1 AV			1.14 H	155	60.30	31.80
5	4824.00	49.4 PK	74.0	-24.6	1.00 H	298	44.50	4.90
6	4824.00	35.4 AV	54.0	-18.6	1.00 H	298	30.50	4.90
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	72.0 PK	74.0	-2.0	1.04 V	194	40.40	31.60
2	2390.00	52.6 AV	54.0	-1.4	1.04 V	194	21.00	31.60
3	*2412.00	109.6 PK			1.02 V	175	77.80	31.80
4	*2412.00	99.6 AV			1.02 V	175	67.80	31.80
5	4824.00	49.5 PK	74.0	-24.5	1.15 V	207	44.60	4.90
6	4824.00	36.5 AV	54.0	-17.5	1.15 V	207	31.60	4.90

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
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	66.6 PK	74.0	-7.4	1.00 H	151	35.00	31.60
2	2390.00	47.4 AV	54.0	-6.6	1.00 H	151	15.80	31.60
3	*2437.00	107.0 PK			1.00 H	158	75.10	31.90
4	*2437.00	97.1 AV			1.00 H	158	65.20	31.90
5	4874.00	49.6 PK	74.0	-24.4	1.00 H	291	44.60	5.00
6	4874.00	36.8 AV	54.0	-17.2	1.00 H	291	31.80	5.00
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	2390.00	72.2 PK	74.0	-1.8	1.04 V	196	40.60	31.60
2	2390.00	52.6 AV	54.0	-1.4	1.04 V	196	21.00	31.60
3	*2437.00	114.8 PK			1.00 V	160	83.00	31.80
4	*2437.00	105.7 AV			1.00 V	160	73.90	31.80
5	4874.00	50.3 PK	74.0	-23.7	1.17 V	200	45.40	4.90
6	4874.00	37.6 AV	54.0	-16.4	1.17 V	200	32.70	4.90

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
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	99.5 PK			1.00 H	157	67.50	32.00
2	*2462.00	89.3 AV			1.00 H	157	57.30	32.00
3	2483.50	60.6 PK	74.0	-13.4	1.00 H	159	28.60	32.00
4	2483.50	45.2 AV	54.0	-8.8	1.00 H	159	13.20	32.00
5	4924.00	49.2 PK	74.0	-24.8	1.00 H	290	44.10	5.10
6	4924.00	35.2 AV	54.0	-18.8	1.00 H	290	30.10	5.10
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	*2462.00	108.7 PK			1.00 V	177	76.70	32.00
2	*2462.00	98.4 AV			1.00 V	177	66.40	32.00
3	2483.50	69.9 PK	74.0	-4.1	1.00 V	164	37.90	32.00
4	2483.50	52.8 AV	54.0	-1.2	1.00 V	164	20.80	32.00
5	4924.00	49.4 PK	74.0	-24.6	1.10 V	208	44.30	5.10
6	4924.00	36.2 AV	54.0	-17.8	1.10 V	208	31.10	5.10

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.9 PK	74.0	-8.1	1.00 H	145	34.30	31.60
2	2390.00	46.8 AV	54.0	-7.2	1.00 H	145	15.20	31.60
3	*2422.00	96.2 PK			1.00 H	146	64.40	31.80
4	*2422.00	86.8 AV			1.00 H	146	55.00	31.80
5	4844.00	48.8 PK	74.0	-25.2	1.00 H	294	43.90	4.90
6	4844.00	34.8 AV	54.0	-19.2	1.00 H	294	29.90	4.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.2 PK	74.0	-4.8	1.02 V	132	37.60	31.60
2	2390.00	52.6 AV	54.0	-1.4	1.02 V	132	21.00	31.60
3	*2422.00	104.4 PK			1.02 V	164	72.60	31.80
4	*2422.00	95.1 AV			1.02 V	164	63.30	31.80
5	4844.00	49.0 PK	74.0	-25.0	1.10 V	208	44.10	4.90
6	4844.00	36.4 AV	54.0	-17.6	1.10 V	208	31.50	4.90

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
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	97.1 PK			1.00 H	151	65.20	31.90
2	*2437.00	87.6 AV			1.00 H	151	55.70	31.90
3	2483.50	63.2 PK	74.0	-10.8	1.00 H	150	31.20	32.00
4	2483.50	46.7 AV	54.0	-7.3	1.00 H	150	14.70	32.00
5	4874.00	49.3 PK	74.0	-24.7	1.00 H	290	44.30	5.00
6	4874.00	36.3 AV	54.0	-17.7	1.00 H	290	31.30	5.00
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	*2437.00	105.1 PK			1.00 V	164	73.20	31.90
2	*2437.00	96.2 AV			1.00 V	164	64.30	31.90
3	2483.50	71.5 PK	74.0	-2.5	1.00 V	161	39.50	32.00
4	2483.50	52.9 AV	54.0	-1.1	1.00 V	161	20.90	32.00
5	4874.00	49.6 PK	74.0	-24.4	1.14 V	204	44.60	5.00
6	4874.00	37.5 AV	54.0	-16.5	1.14 V	204	32.50	5.00

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)
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	94.6 PK			1.14 H	157	62.70	31.90
2	*2452.00	85.1 AV			1.14 H	157	53.20	31.90
3	2483.50	62.7 PK	74.0	-11.3	1.14 H	156	30.70	32.00
4	2483.50	46.2 AV	54.0	-7.8	1.14 H	156	14.20	32.00
5	4904.00	48.3 PK	74.0	-25.7	1.00 H	292	43.30	5.00
6	4904.00	34.6 AV	54.0	-19.4	1.00 H	292	29.60	5.00
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	*2452.00	102.8 PK			1.00 V	173	70.90	31.90
2	*2452.00	93.0 AV			1.00 V	173	61.10	31.90
3	2483.50	70.7 PK	74.0	-3.3	1.00 V	172	38.70	32.00
4	**2483.50**	**53.0 AV**	**54.0**	**-1.0**	**1.00 V**	**172**	**21.00**	**32.00**
5	4904.00	48.9 PK	74.0	-25.1	1.12 V	202	43.90	5.00
6	4904.00	36.1 AV	54.0	-17.9	1.12 V	202	31.10	5.00

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)
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 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 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	43.48	33.5 QP	40.0	-6.5	1.99 H	12	47.60	-14.10
2	91.99	36.1 QP	43.5	-7.4	1.99 H	112	55.50	-19.40
3	148.26	37.2 QP	43.5	-6.3	1.49 H	111	50.90	-13.70
4	223.94	34.2 QP	46.0	-11.8	1.24 H	265	50.80	-16.60
5	400.52	31.6 QP	46.0	-14.4	1.99 H	160	42.80	-11.20
6	499.48	38.1 QP	46.0	-7.9	1.49 H	148	47.40	-9.30
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	37.66	36.5 QP	40.0	-3.5	1.00 V	104	51.10	-14.60
2	60.95	36.6 QP	40.0	-3.4	1.00 V	345	51.20	-14.60
3	148.26	35.9 QP	43.5	-7.6	1.00 V	85	49.60	-13.70
4	216.18	33.0 QP	46.0	-13.0	1.00 V	10	49.60	-16.60
5	499.48	35.3 QP	46.0	-10.7	1.00 V	215	44.60	-9.30
6	796.36	36.4 QP	46.0	-9.6	1.49 V	343	39.40	-3.00

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)
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	30MHz ~ 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	39.60	32.1 QP	40.0	-7.9	1.99 H	12	46.50	-14.40
2	150.20	32.6 QP	43.5	-10.9	1.49 H	154	46.30	-13.70
3	315.14	29.1 QP	46.0	-16.9	1.00 H	234	41.40	-12.30
4	499.48	36.4 QP	46.0	-9.6	1.99 H	136	45.70	-9.30
5	743.97	37.2 QP	46.0	-8.8	1.00 H	7	40.80	-3.60
6	936.07	38.3 QP	46.0	-7.7	1.00 H	225	39.30	-1.00
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	33.68	36.5 QP	40.0	-3.5	1.00 V	19	51.70	-15.20
2	64.00	34.3 QP	40.0	-5.7	1.00 V	0	49.10	-14.80
3	439.32	29.6 QP	46.0	-16.4	1.00 V	215	39.80	-10.20
4	499.48	35.4 QP	46.0	-10.6	1.00 V	240	44.70	-9.30
5	780.83	34.4 QP	46.0	-11.6	1.24 V	257	37.50	-3.10
6	901.14	33.5 QP	46.0	-12.5	1.49 V	189	34.90	-1.40

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 11, 2014	Nov. 10, 2015
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	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.

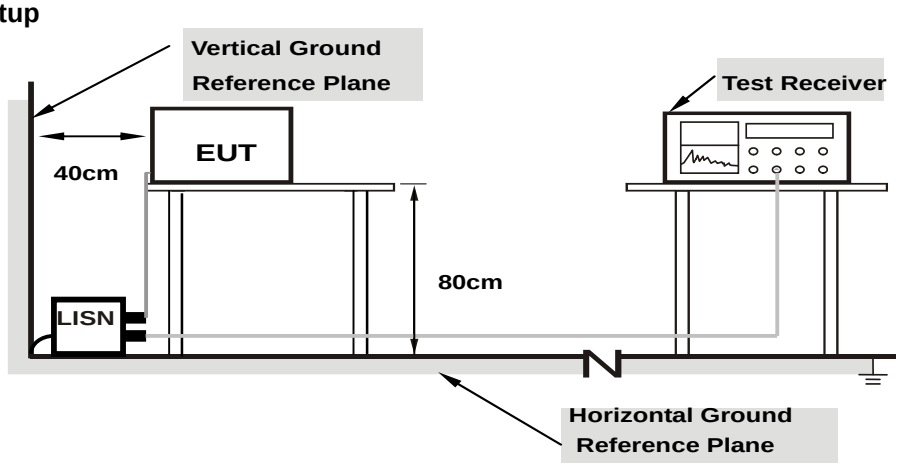
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

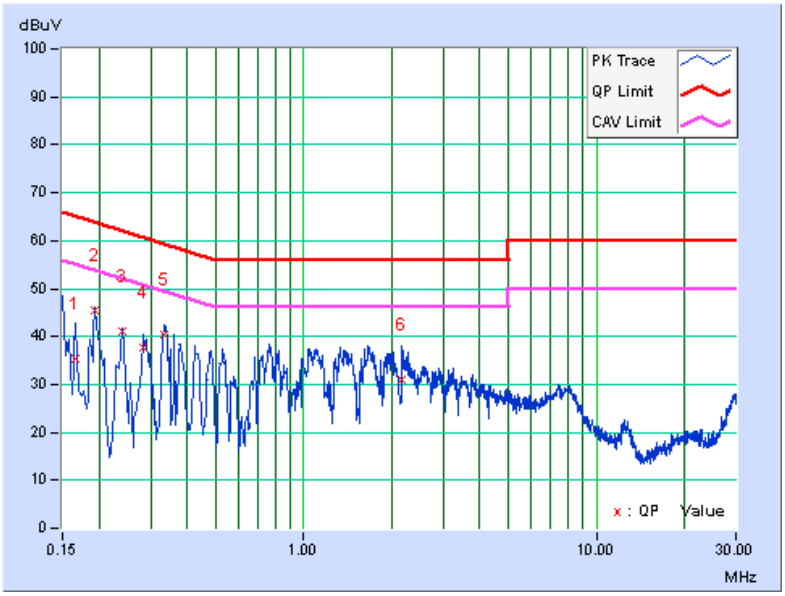
4.2.7 Test Results

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	0.16569	9.83	25.58	3.46	35.41	13.29	65.17	55.17	-29.77	-41.89
2	0.19305	9.84	35.60	26.40	45.44	36.24	63.90	53.90	-18.47	-17.67
3	0.23993	9.85	31.10	22.38	40.95	32.23	62.10	52.10	-21.15	-19.87
4	0.28288	9.86	27.72	22.12	37.58	31.98	60.73	50.73	-23.15	-18.75
5	**0.33396**	**9.87**	**30.62**	**26.64**	**40.49**	**36.51**	**59.35**	**49.35**	**-18.87**	**-12.85**
6	2.17147	10.01	20.83	9.86	30.84	19.87	56.00	46.00	-25.16	-26.13

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.

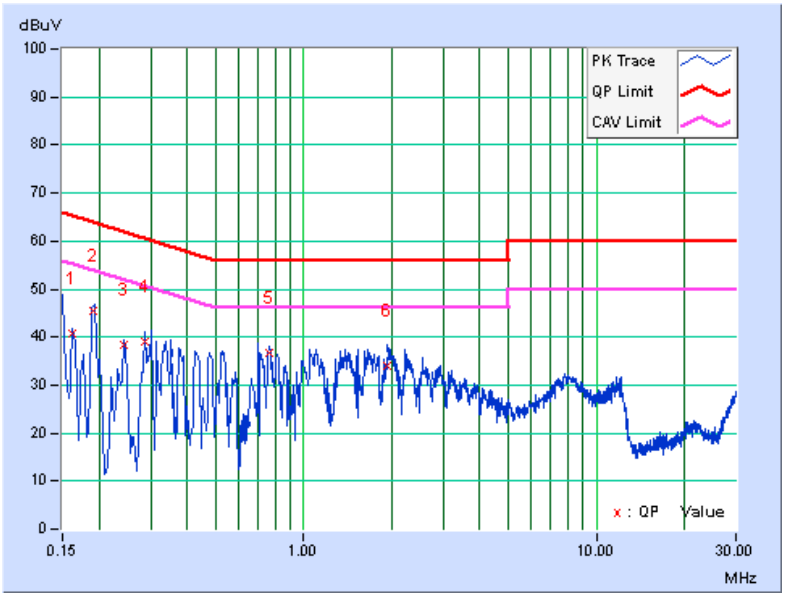


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16181	9.82	30.99	6.60	40.81	16.42	65.37	55.37	-24.56	-38.95
2	0.19003	9.83	35.67	25.98	45.50	35.81	64.04	54.04	-18.54	-18.23
3	0.24407	9.84	28.38	19.23	38.22	29.07	61.96	51.96	-23.74	-22.89
4	0.28685	9.85	29.33	26.26	39.18	36.11	60.62	50.62	-21.43	-14.50
5	0.75984	9.91	26.70	20.52	36.61	30.43	56.00	46.00	-19.39	-15.57
6	1.94078	9.99	23.86	16.35	33.85	26.34	56.00	46.00	-22.15	-19.66

Remarks:

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

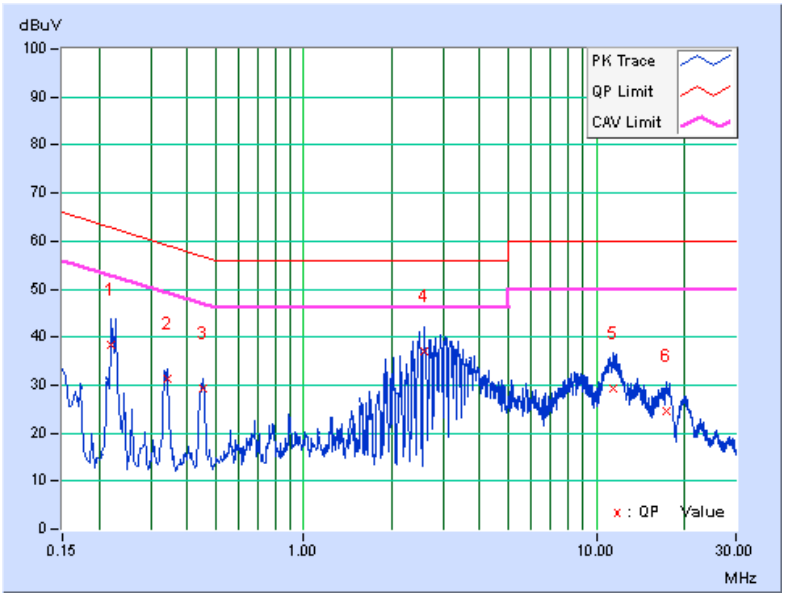


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22038	9.84	28.44	16.31	38.28	26.15	62.80	52.80	-24.52	-26.65
2	0.34159	9.87	21.51	15.34	31.38	25.21	59.16	49.16	-27.79	-23.96
3	0.45455	9.88	19.42	15.26	29.30	25.14	56.79	46.79	-27.49	-21.65
4	2.59375	10.04	27.05	17.99	37.09	28.03	56.00	46.00	-18.91	-17.97
5	11.46945	10.60	18.61	10.69	29.21	21.29	60.00	50.00	-30.79	-28.71
6	17.47521	10.95	13.54	7.75	24.49	18.70	60.00	50.00	-35.51	-31.30

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.

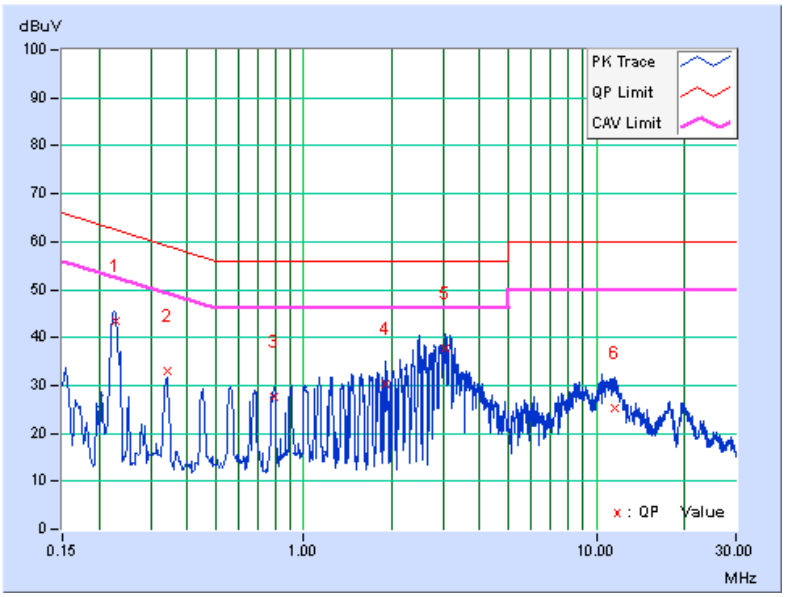


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22820	9.84	33.57	23.54	43.41	33.38	62.51	52.51	-19.11	-19.14
2	0.34108	9.87	23.06	17.25	32.93	27.12	59.18	49.18	-26.25	-22.06
3	0.79124	9.91	17.83	14.66	27.74	24.57	56.00	46.00	-28.26	-21.43
4	1.90168	9.98	20.24	9.44	30.22	19.42	56.00	46.00	-25.78	-26.58
5	3.06295	10.06	27.67	16.68	37.73	26.74	56.00	46.00	-18.27	-19.26
6	11.52419	10.55	14.79	7.24	25.34	17.79	60.00	50.00	-34.66	-32.21

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.

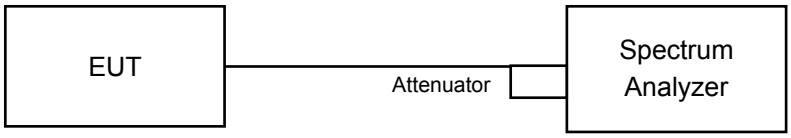


4.3 6dB Bandwidth Measurement

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	8.08	0.5	Pass
6	2437	8.10	0.5	Pass
11	2462	8.09	0.5	Pass

802.11g

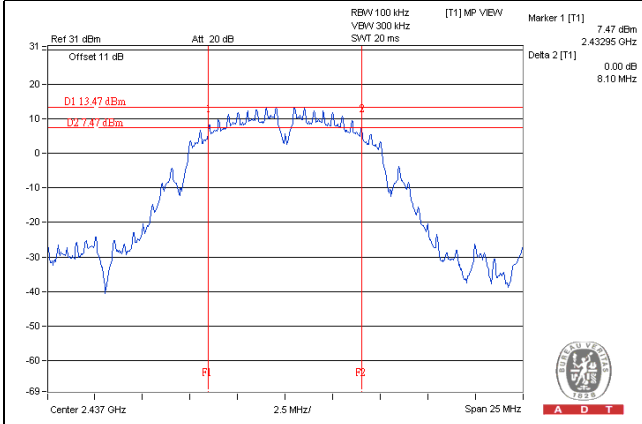
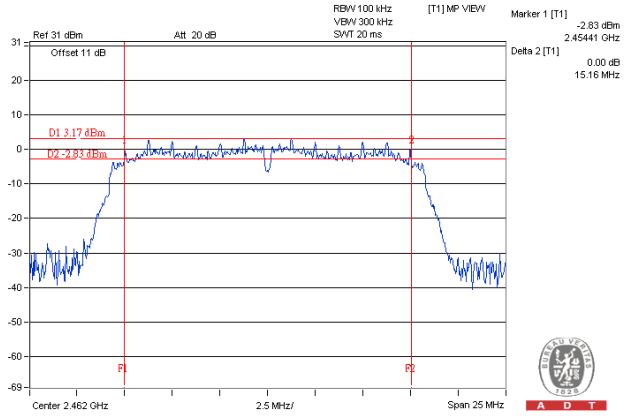
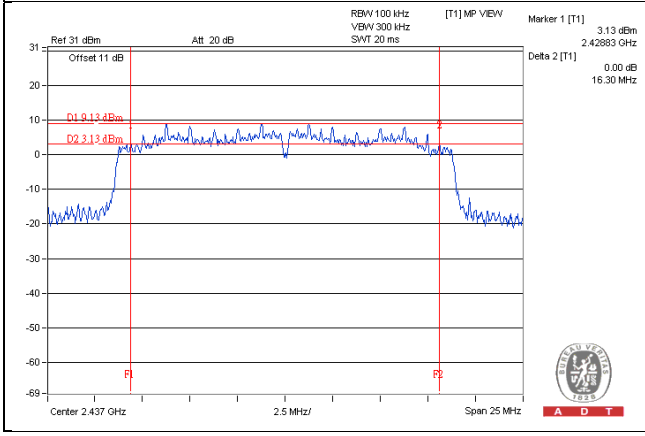
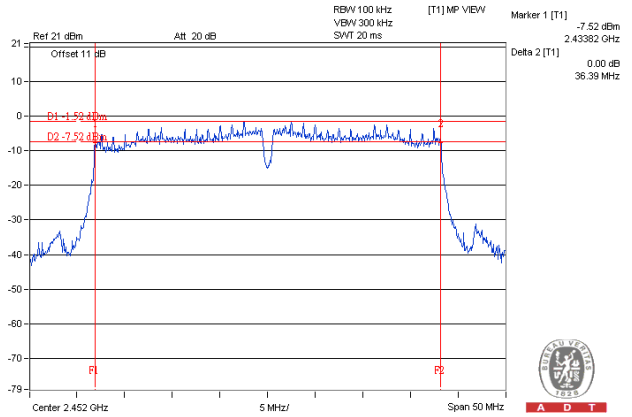
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.14	15.15	0.5	Pass
6	2437	15.13	15.13	0.5	Pass
11	2462	15.13	15.16	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	15.15	15.74	0.5	Pass
6	2437	15.13	16.30	0.5	Pass
11	2462	15.16	16.30	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	35.27	35.85	0.5	Pass
6	2437	35.18	35.83	0.5	Pass
9	2452	35.19	36.39	0.5	Pass

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

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

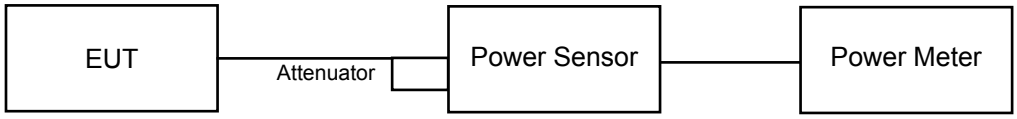
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

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

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

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	293.765	24.68	30	Pass
6	2437	350.752	25.45	30	Pass
11	2462	**366.438**	25.64	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.03	22.24	327.082	25.15	30	Pass
6	2437	22.58	22.67	366.061	25.64	30	Pass
11	2462	22.08	22.21	327.777	25.16	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.58	22.03	340.722	25.32	30	Pass
6	2437	22.48	22.75	365.376	25.63	30	Pass
11	2462	22.23	22.42	341.691	25.34	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	21.68	21.37	284.319	24.54	30	Pass
6	2437	22.16	22.53	343.498	25.36	30	Pass
9	2452	20.87	20.85	243.799	23.87	30	Pass

For Average Power

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	131.826	21.20
6	2437	153.462	21.86
11	2462	169.434	22.29

802.11g

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	16.01	16.02	79.896	19.03
6	2437	19.82	20.35	204.333	23.10
11	2462	14.61	14.08	54.493	17.36

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	15.31	15.27	67.614	18.30
6	2437	19.85	19.71	190.146	22.79
11	2462	14.54	14.01	53.622	17.29

802.11n (HT40)

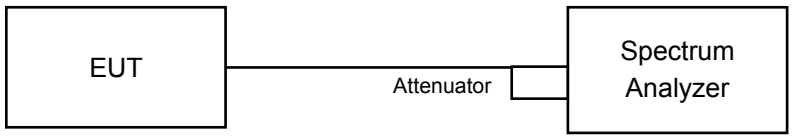
Channel	Frequency (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	13.59	14.15	48.858	16.89
6	2437	15.62	15.04	68.390	18.35
9	2452	11.79	12.05	31.133	14.93

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	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Pass / Fail
1	2412	-1.77	8.00	Pass
6	2437	-0.48	8.00	Pass
11	2462	0.16	8.00	Pass

802.11g

TX chain	Channel	Frequency (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass / Fail
0	1	2412	-9.08	3.01	-6.07	6.72	Pass
	6	2437	-5.21	3.01	-2.20	6.72	Pass
	11	2462	-11.33	3.01	-8.32	6.72	Pass
1	1	2412	-8.14	3.01	-5.13	6.72	Pass
	6	2437	-5.02	3.01	-2.01	6.72	Pass
	11	2462	-9.99	3.01	-6.98	6.72	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[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/2$]= 7.28 dBi > 6dBi , so the power density limit shall be reduced to 8-(7.28-6) = 6.72dBm.

802.11n (HT20)

TX chain	Channel	Frequency (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass / Fail
0	1	2412	-8.82	3.01	-5.81	6.72	Pass
	6	2437	-5.13	3.01	-2.12	6.72	Pass
	11	2462	-10.66	3.01	-7.65	6.72	Pass
1	1	2412	-9.35	3.01	-6.34	6.72	Pass
	6	2437	-5.01	3.01	-2.00	6.72	Pass
	11	2462	-9.56	3.01	-6.55	6.72	Pass

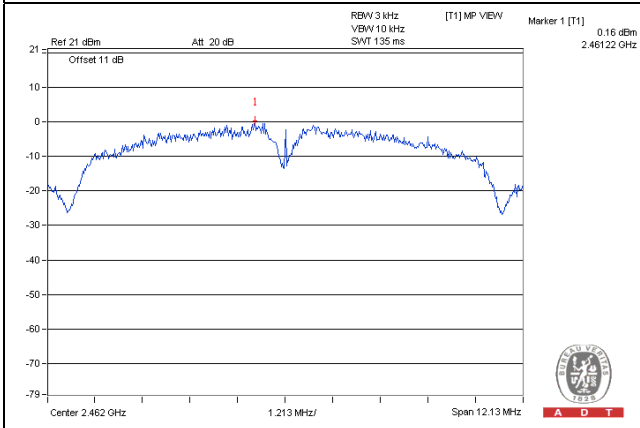
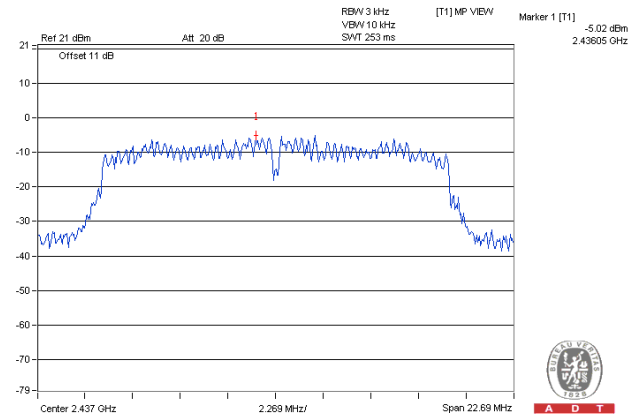
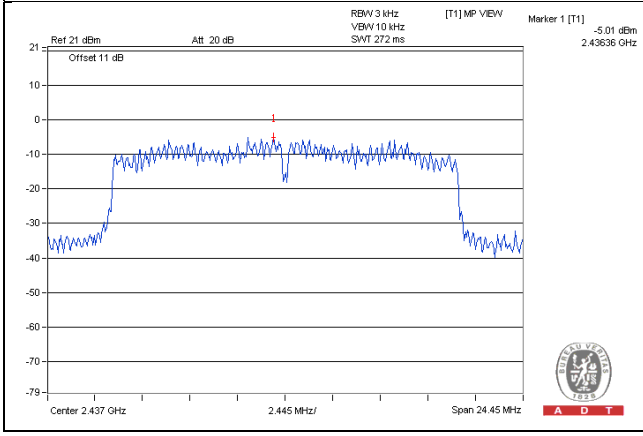
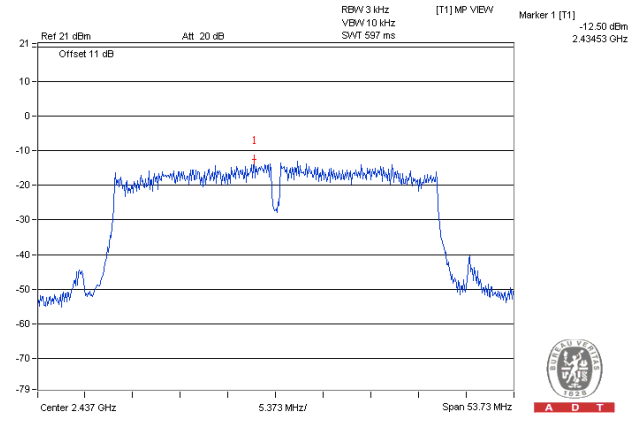
Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/2$]= 7.28 dBi > 6dBi , so the power density limit shall be reduced to 8-(7.28-6) = 6.72dBm.

802.11n (HT40)

TX chain	Channel	Frequency (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass / Fail
0	3	2422	-14.60	3.01	-11.59	6.72	Pass
	6	2437	-12.84	3.01	-9.83	6.72	Pass
	9	2452	-16.78	3.01	-13.77	6.72	Pass
1	3	2422	-13.81	3.01	-10.80	6.72	Pass
	6	2437	-12.50	3.01	-9.49	6.72	Pass
	9	2452	-15.55	3.01	-12.54	6.72	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$^{G2/20}$ + ... + 10$^{GN/20}$)^2/2]= 7.28 dBi > 6dBi , so the power density limit shall be reduced to 8-(7.28-6) = 6.72dBm.

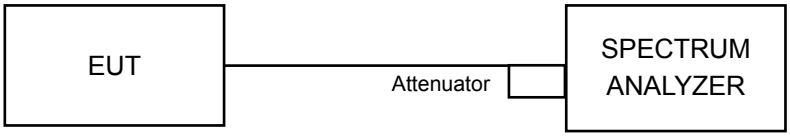
Spectrum Plot of Worst Value	
802.11b	802.11g
	
802.11n (HT20)	802.11n (HT40)
	

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

a. Set the RBW = 100 kHz.

b. Set the VBW ≥ 300 kHz.

c. Detector = peak.

d. Sweep time = auto couple.

e. Trace mode = max hold.

f. Allow trace to fully stabilize.

g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

a. Set RBW = 100 kHz.

b. Set VBW ≥ 300 kHz.

c. Ensure that the number of measurement points ≥ span/RBW

d. According to measurement points to set differ measurement span.

e. Detector = peak.

f. Trace Mode = max hold.

g. Sweep = auto couple.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

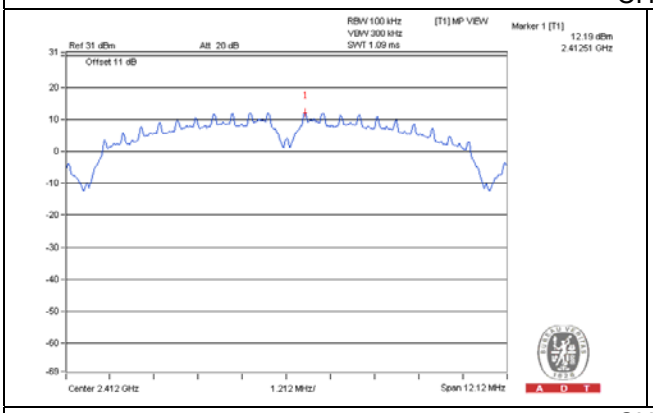
Same as Item 4.3.6

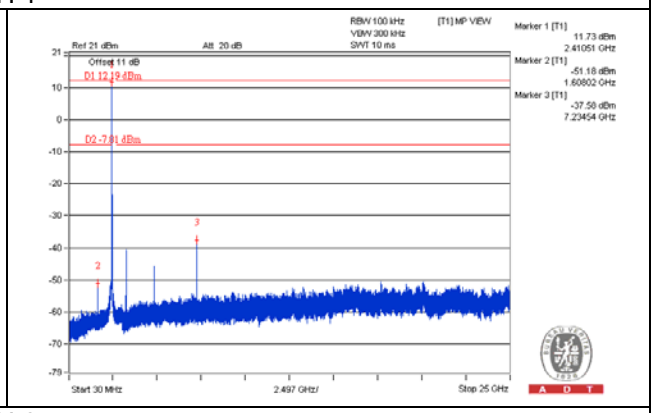
4.6.7 Test Results

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

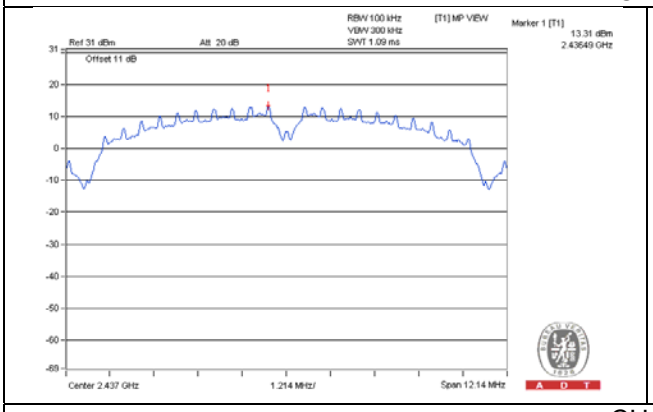
802.11b

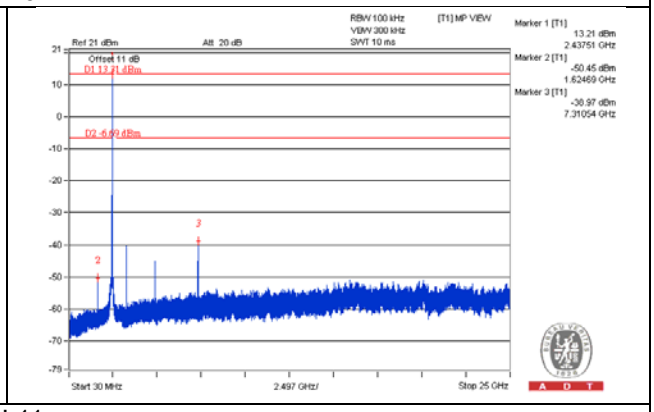
CH 1



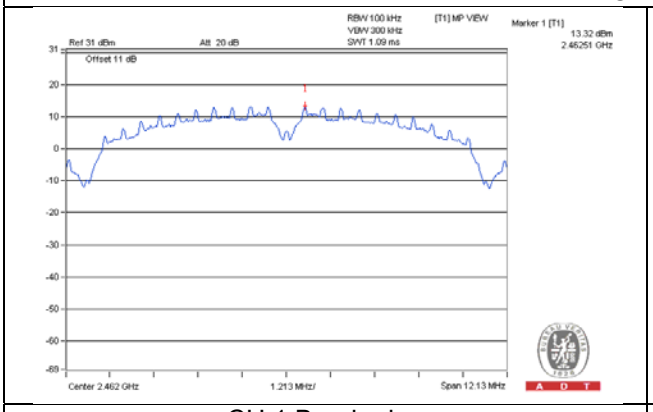


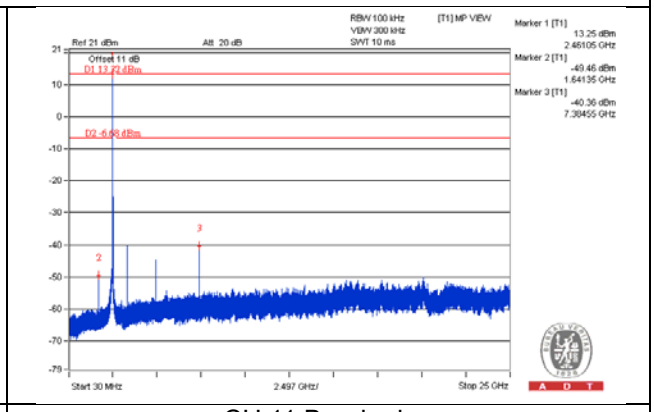
CH 6



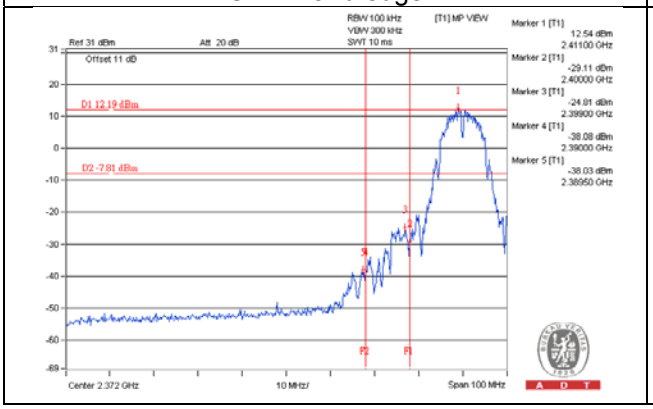


CH 11

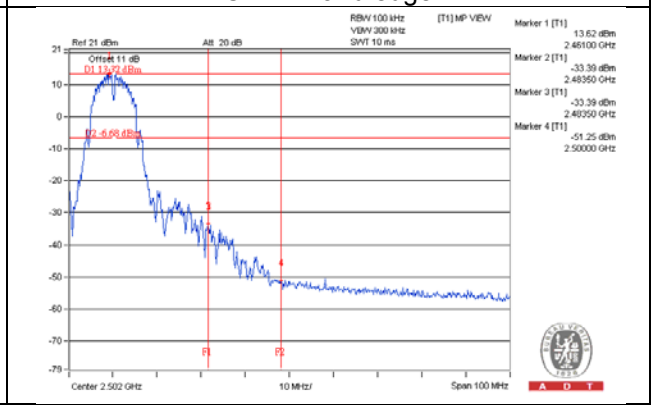




CH 1 Band edge

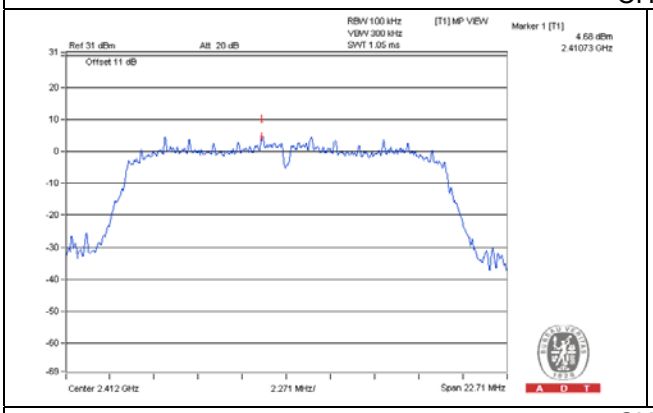


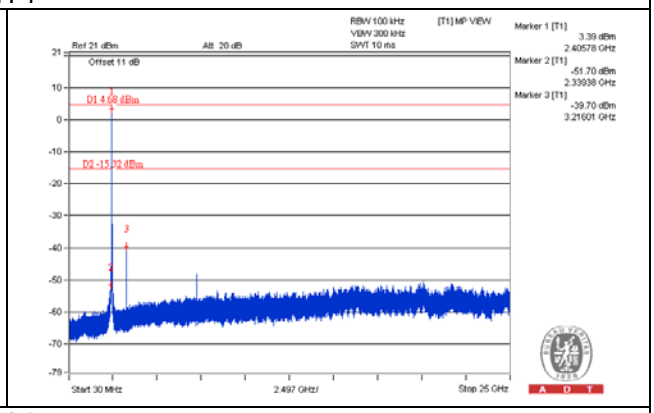
CH 11 Band edge



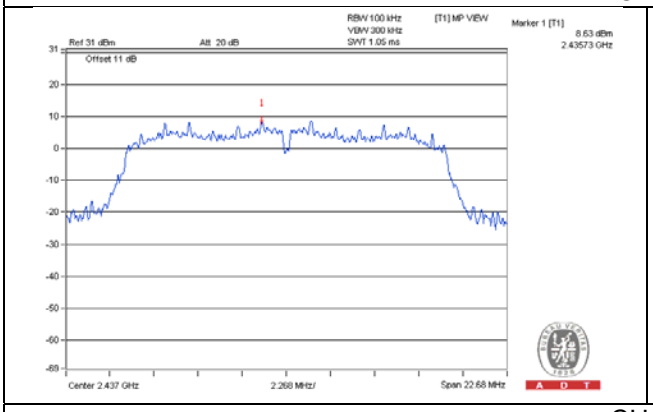
802.11g_Chain 0

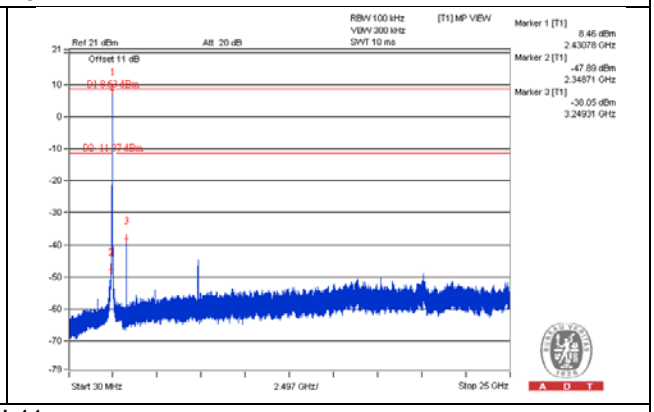
CH 1



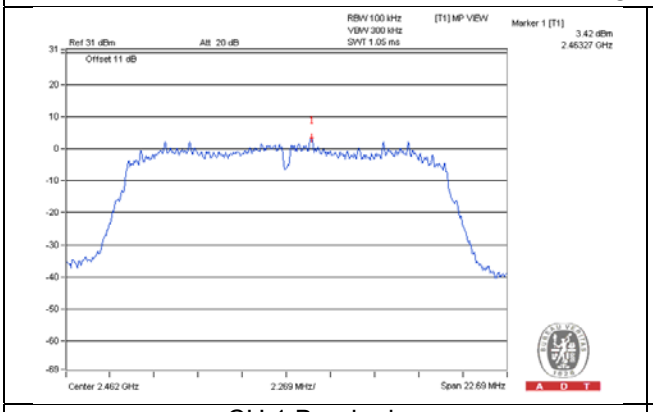


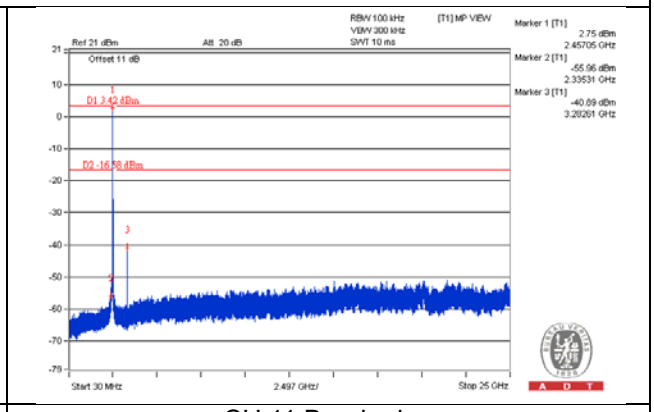
CH 6



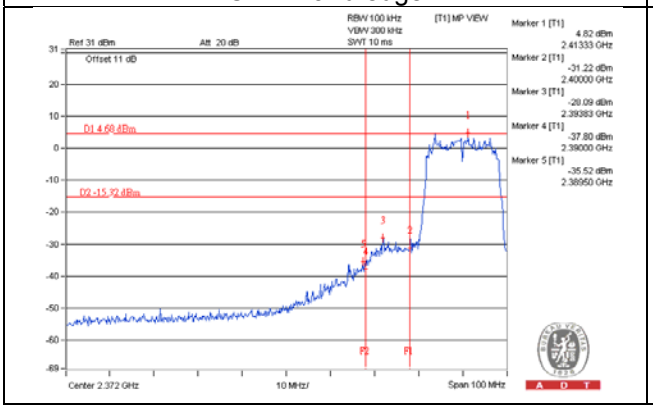


CH 11

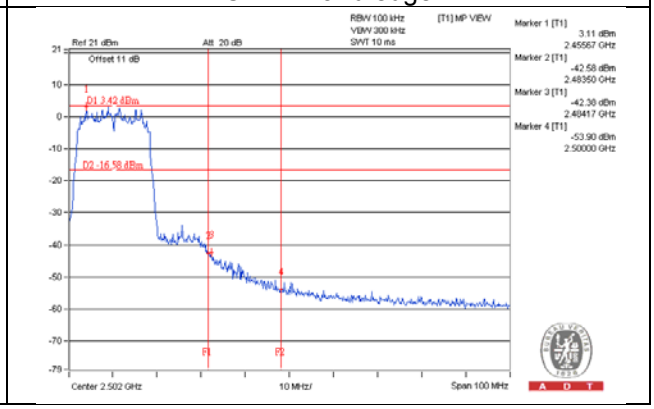




CH 1 Band edge

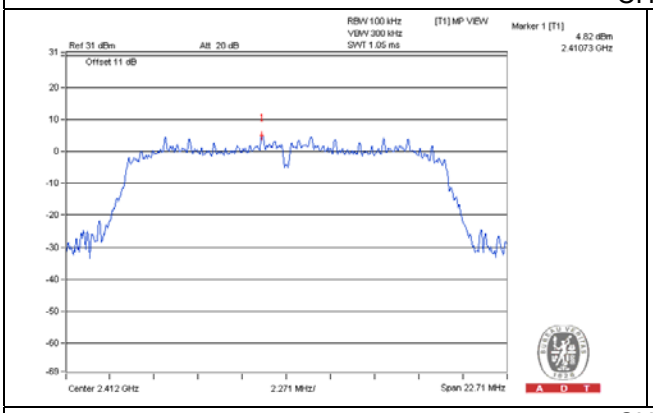


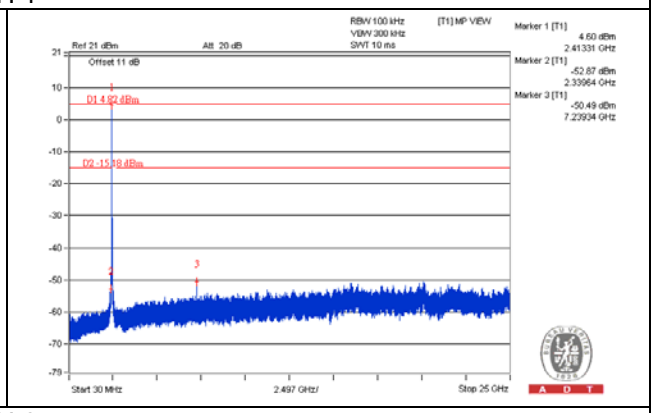
CH 11 Band edge



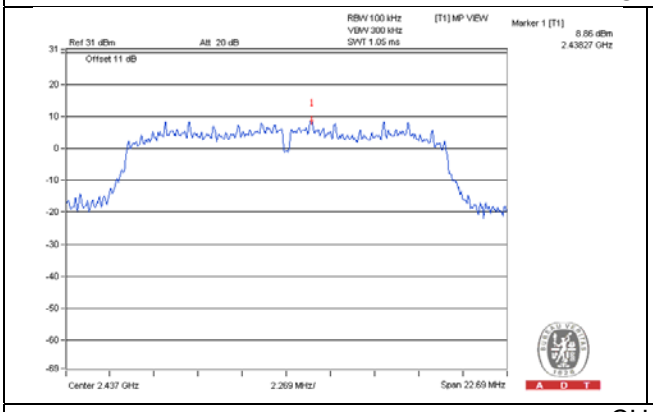
802.11g_Chain 1

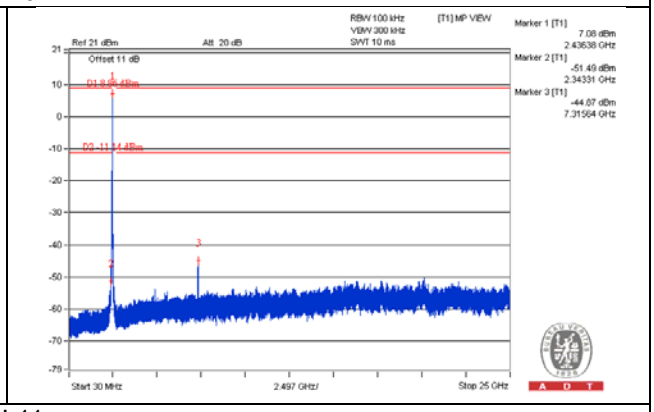
CH 1



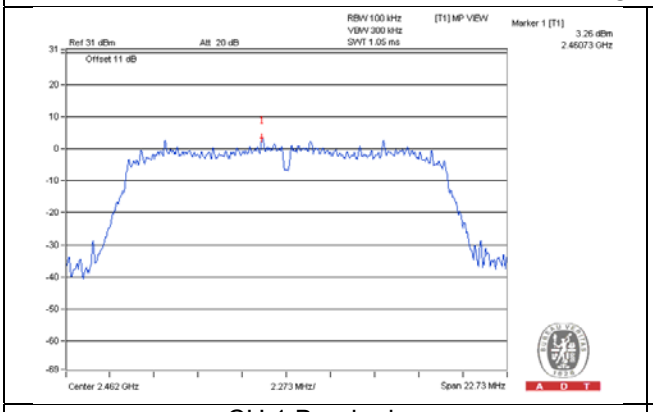


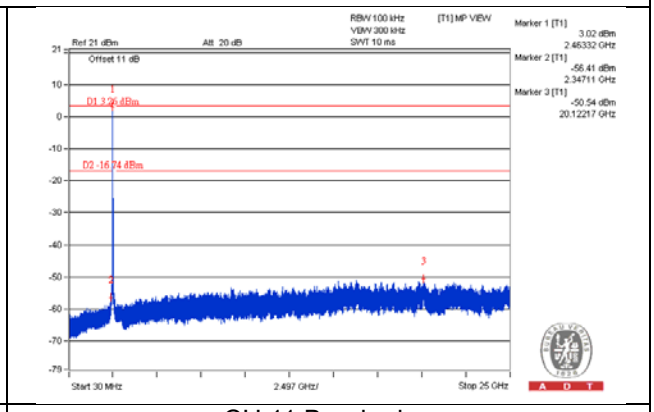
CH 6



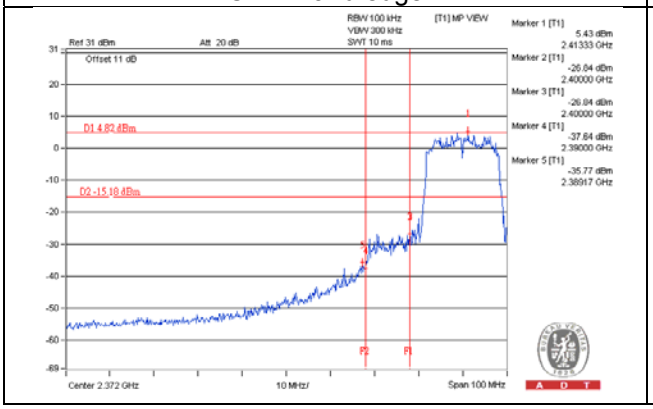


CH 11

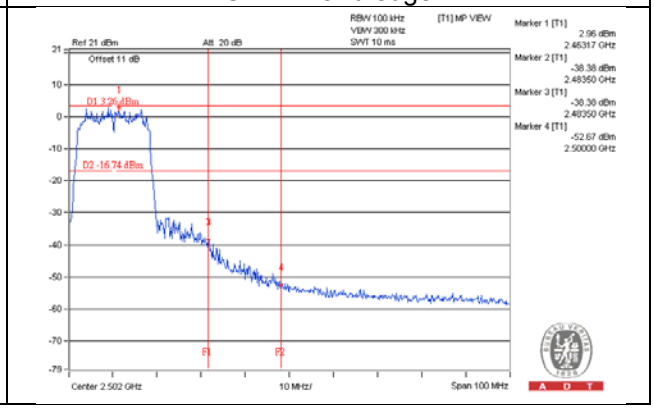




CH 1 Band edge

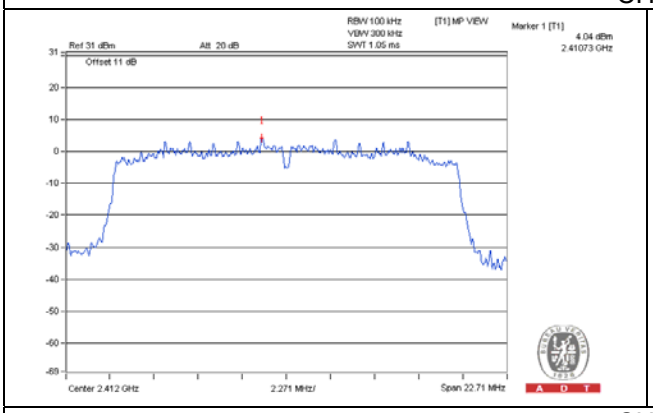


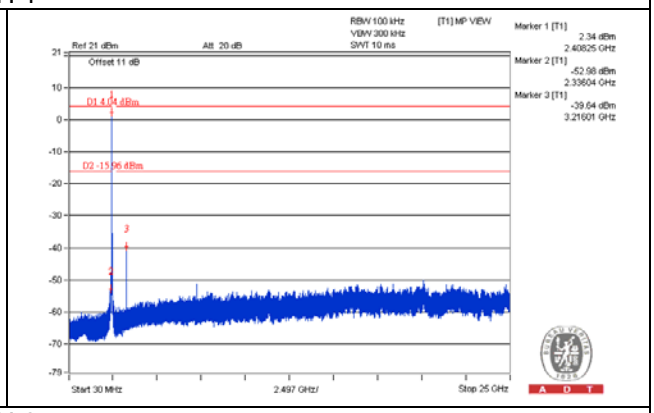
CH 11 Band edge



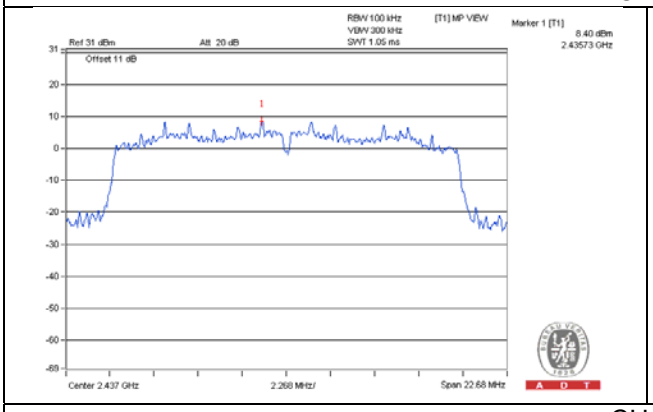
802.11n (HT20)_Chain 0

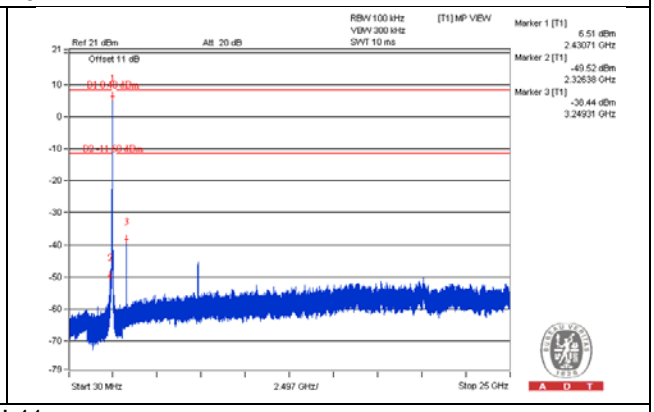
CH 1



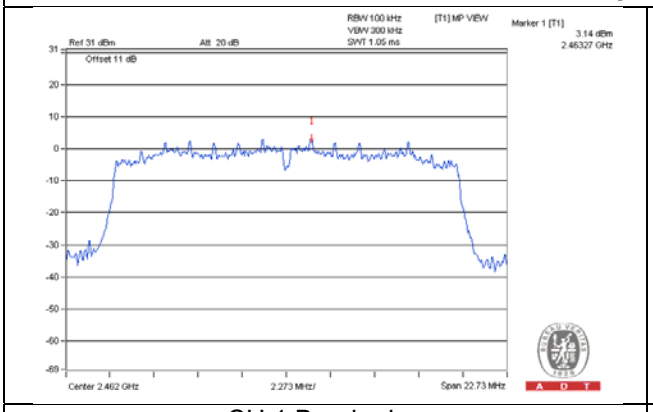


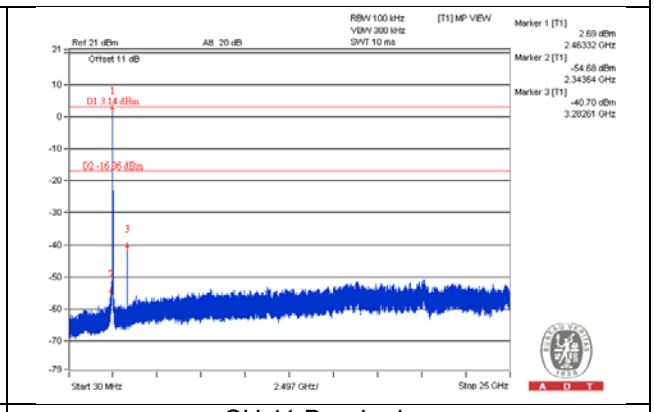
CH 6



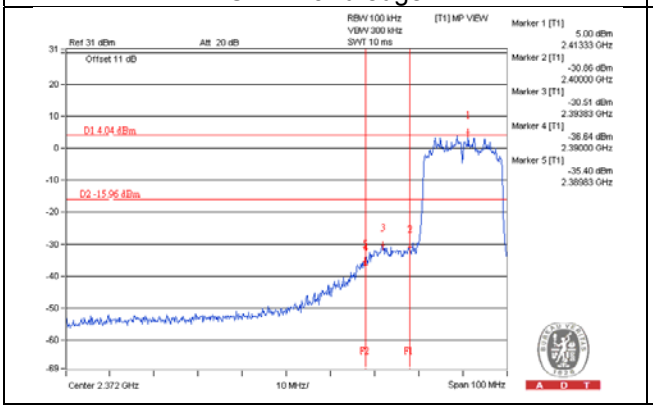


CH 11

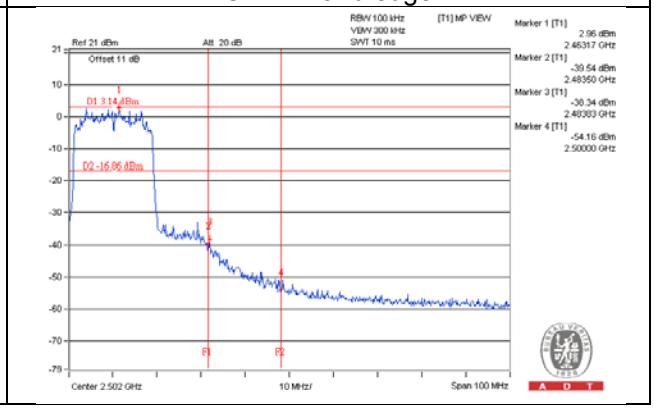




CH 1 Band edge

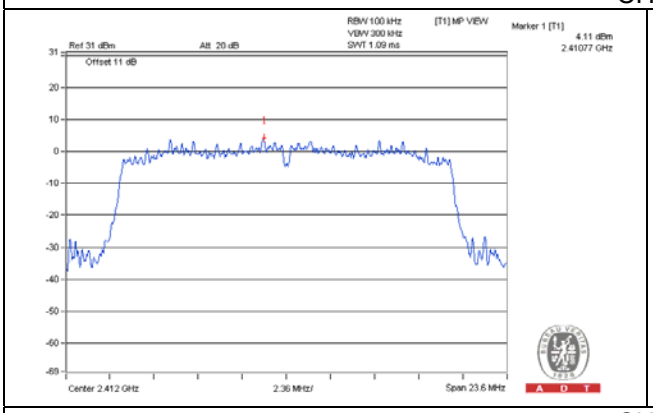


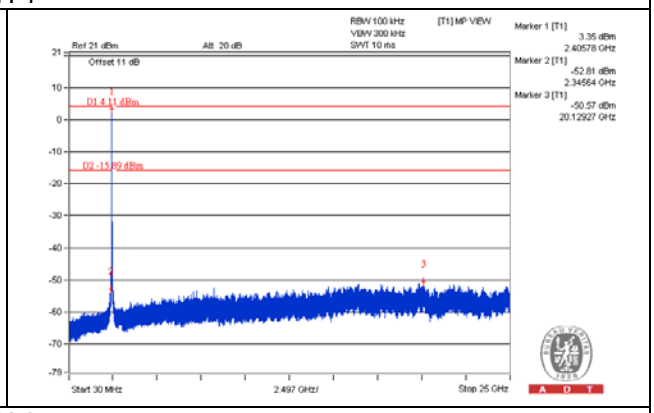
CH 11 Band edge



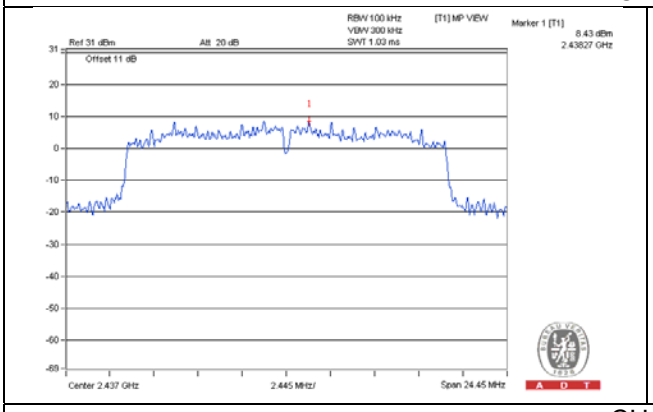
802.11n (HT20)_Chain 1

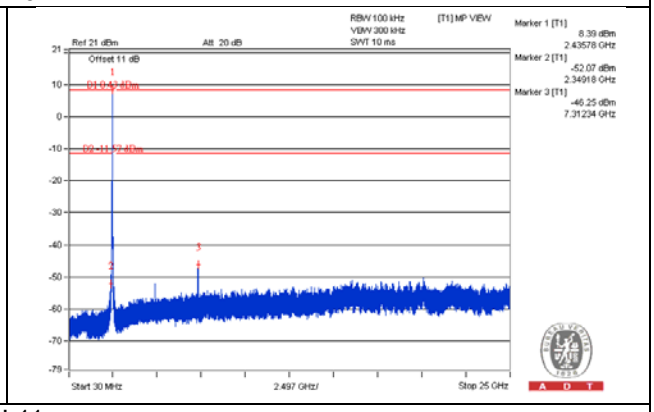
CH 1



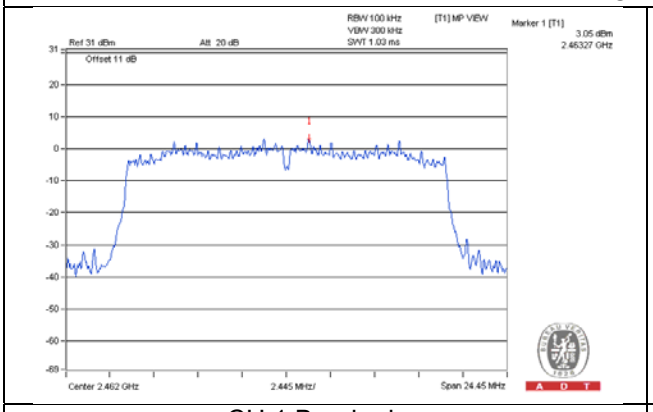


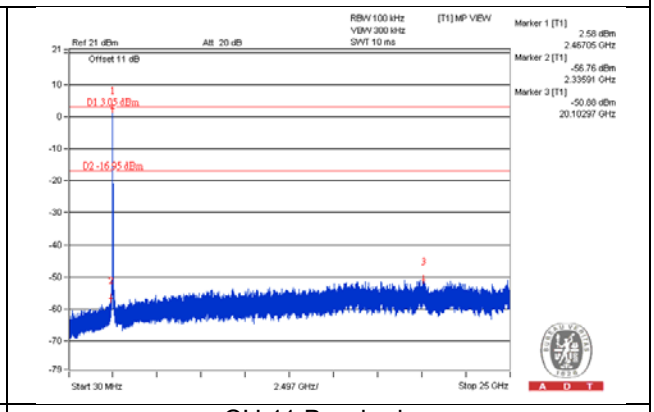
CH 6



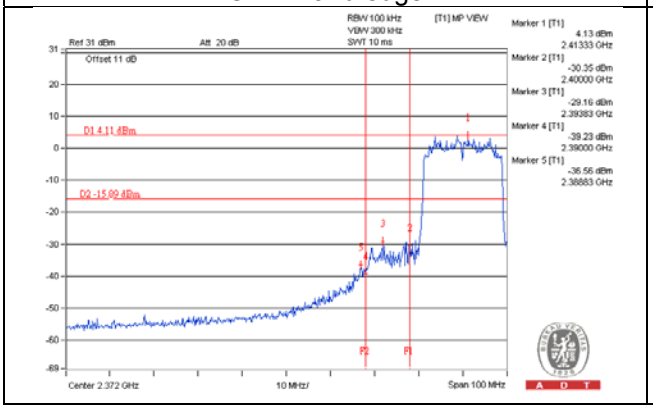


CH 11

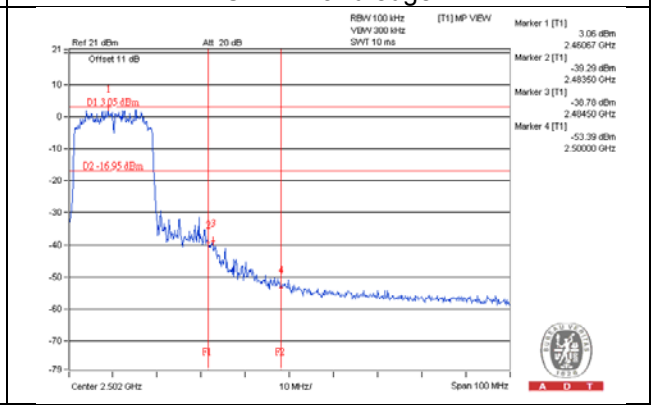




CH 1 Band edge

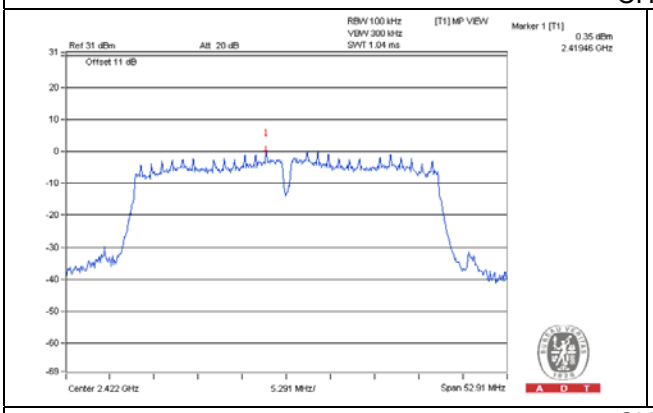


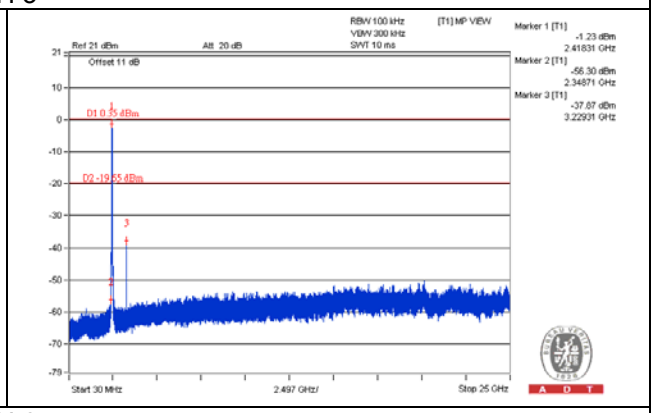
CH 11 Band edge



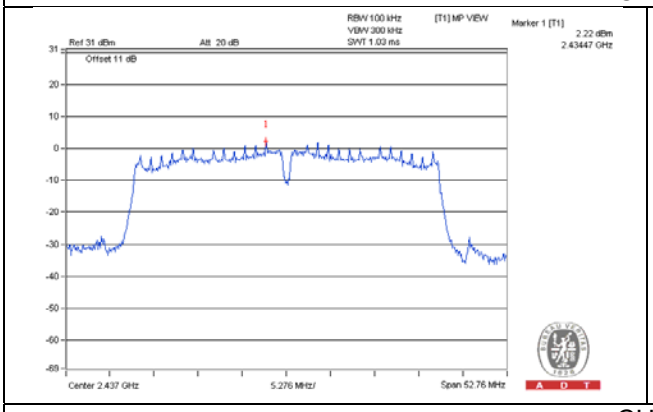
802.11n (HT40)_Chain 0

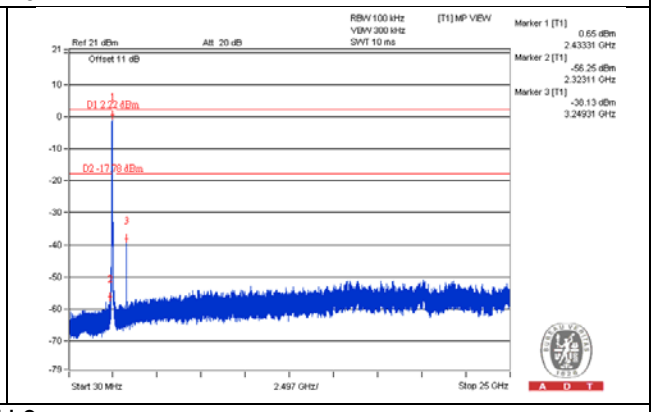
CH 3



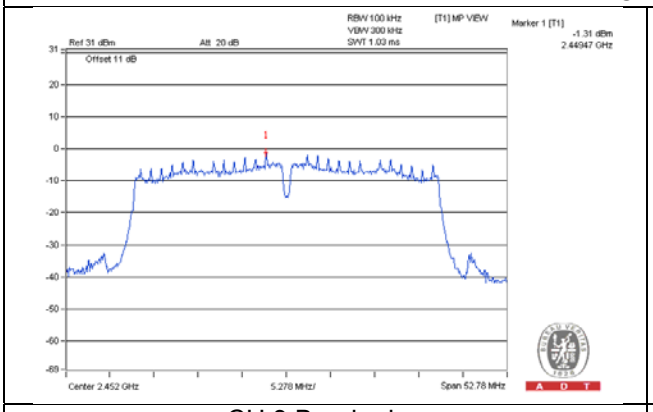


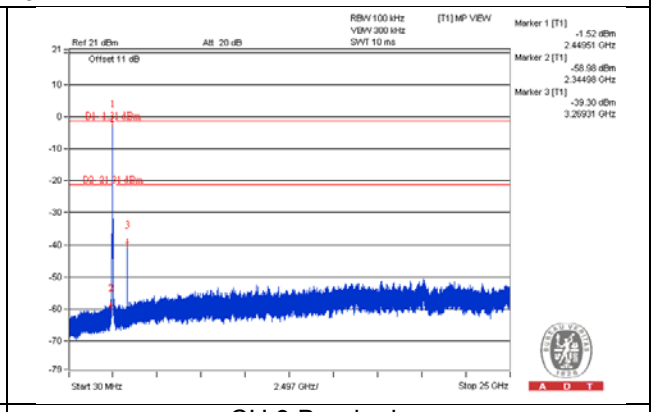
CH 6



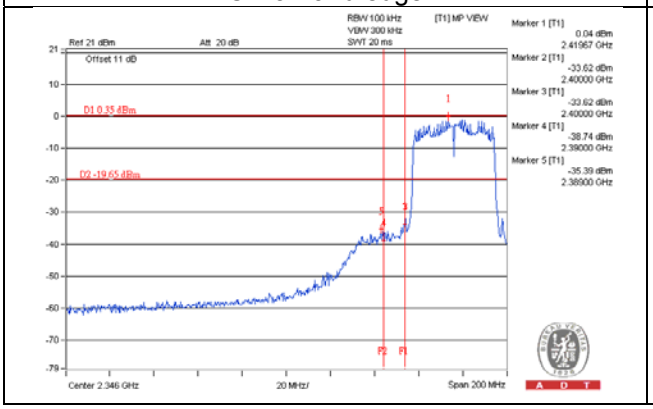


CH 9

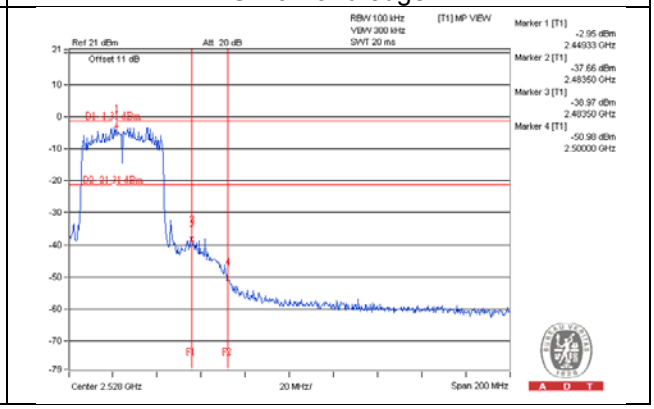




CH 3 Band edge

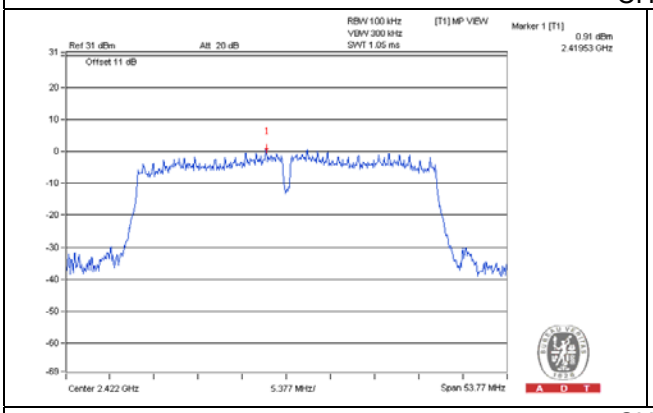


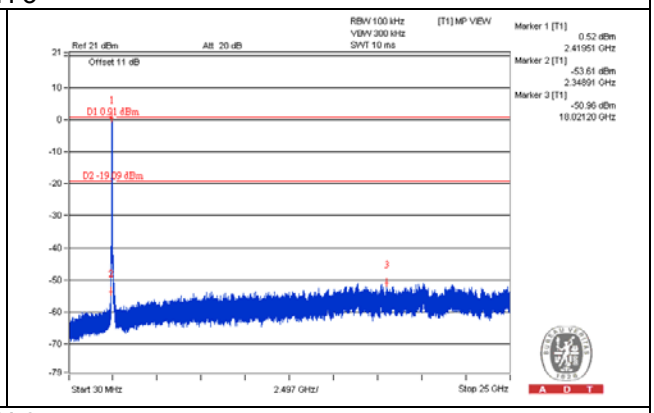
CH 9 Band edge



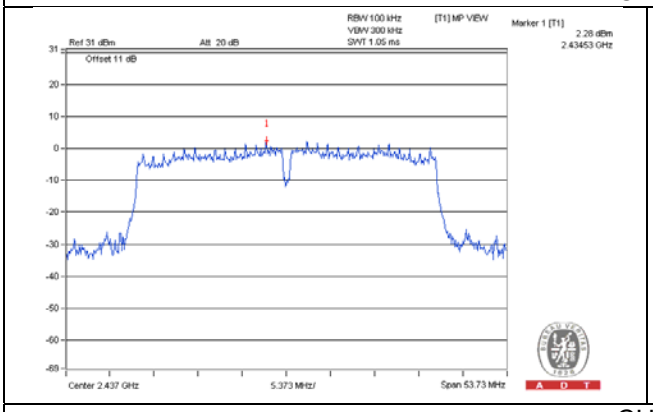
802.11n (HT40)_Chain 1

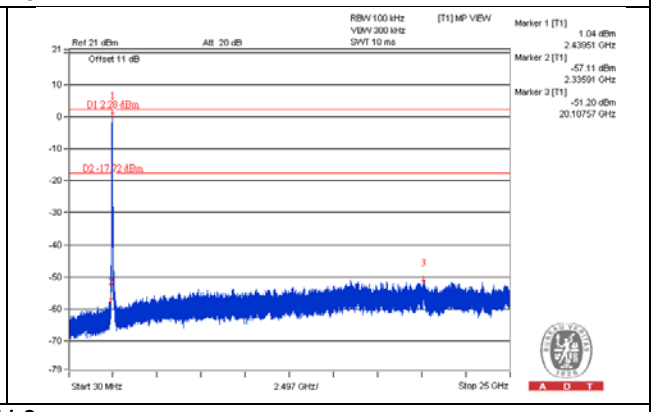
CH 3



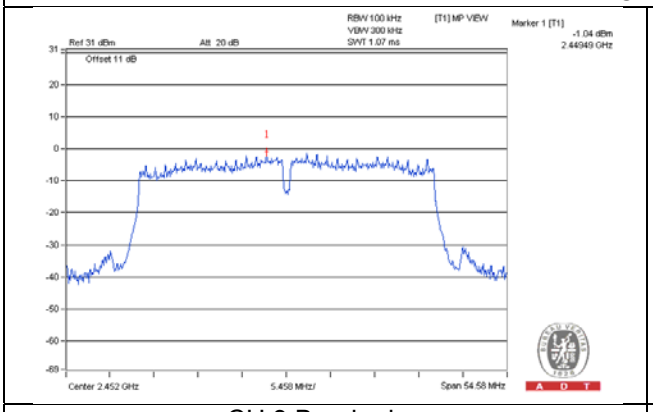


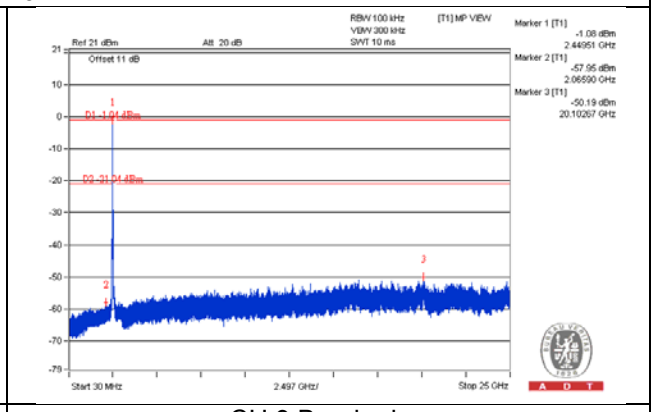
CH 6



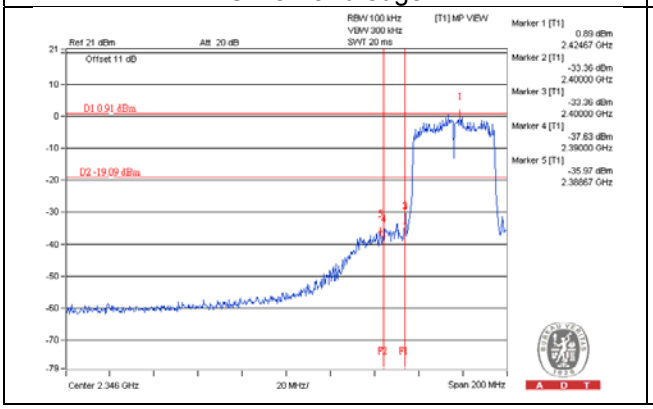


CH 9

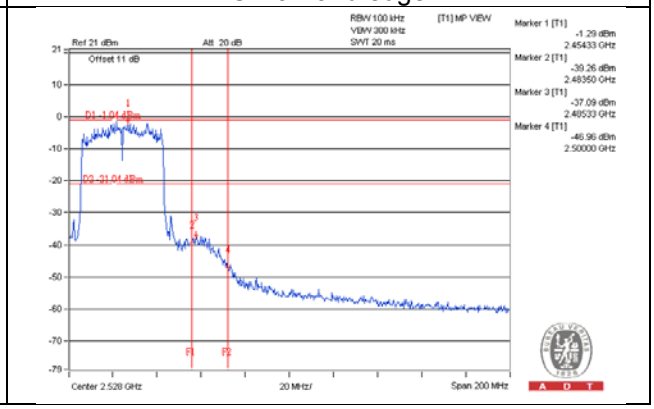




CH 3 Band edge



CH 9 Band edge



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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