FCC TEST REPORT

(WLAN)

REPORT NO.:	RF990210L08-2
MODEL NO.:	PC36100
RECEIVED:	Feb. 23, 2010
TESTED:	Feb. 24 ~ Mar. 11, 2010
ISSUED:	Mar. 15, 2010

APPLICANT:	HTC Corporation
ADDRESS:	No. 23, Xinghua Rd., Taoyuan City, Taiwan, R.O.C.

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
LAB ADDRESS:	No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang, Taipei Hsien 244, Taiwan, R.O.C.
TEST LOCATION:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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1 CERTIFICATION

PRODUCT:	Smart Phone
MODEL NO.:	PC36100
APPLICANT:	HTC Corporation
TESTED :	Feb. 24 ~ Mar. 11, 2010
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)**
	ANSI C63.4-2003

The above equipment (Model: PC36100) 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 : Peggy Chen , **DATE:** Mar. 15, 2010
Peggy Chen / Specialist

TECHNICAL ACCEPTANCE : Long Chen , **DATE:** Mar. 15, 2010
Responsible for RF
Long Chen / Senior Engineer

APPROVED BY : Gary Chang , **DATE:** Mar. 15, 2010
Gary Chang / Assistant Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**Remark**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -8.04dB at 0.408MHz.
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -1.1dB at 4824.00MHz.
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	150kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.34 dB
	200MHz ~1000MHz	3.35 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Smart Phone
MODEL NO.	PC36100
FCC ID	NM8PC36100
POWER SUPPLY	3.7Vdc from rechargeable lithium battery 5.0Vdc from power adapter 5.0Vdc from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps
OPERATING FREQUENCY	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
MAXIMUM OUTPUT POWER	141.3mW
ANTENNA TYPE	PIFA
MAX. ANTENNA GAIN	-4dBi
DATA CABLE	Refer to NOTE 2
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to NOTE 2

NOTE:

1. The EUT is a Smart Phone. The functions of EUT listed as below:

	TEST STANDARD	REFERENCE REPORT
CDMA 850	FCC Part 22	RF990210L08
CDMA 1900	FCC Part 24	RF990210L08-1
WLAN 802.11b/g	FCC Part 15, Subpart C (Section 15.247)	RF990210L08-2
BLUETOOTH V2.1 with EDR		RF990210L08-3
WiMAX	FCC Part 27	RF990210L08-4

2. The EUT has following accessories.

NO.	PRODUCT	BRAND	MANU-FACTURE	MODEL	DESCRIPTION	REMARK
1	Power Adapter	hTC	Delta	TC U250	I/P: 100-240Vac, 50-60Hz, 200mA O/P: 5Vdc, 1A	-
2			Emerson	TC U250		-
3	USB cable	MEC	-	DC M410	1.4m shielded cable without core (For data transmission & charging use)	See NOTE1
4		Foxlink	-			
5	Battery	HT ENERGY	-	RHOD160	Rating: 3.7Vdc, 1500mAh	See NOTE2
6		Formosa	-			

NOTE:
1. We pre-tested two brands of USB cables and Foxlink USB cable was the worst case for the final test.
2. We pre-tested two brands of batteries and Formosa battery was found to be the worst case for final test.

3. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

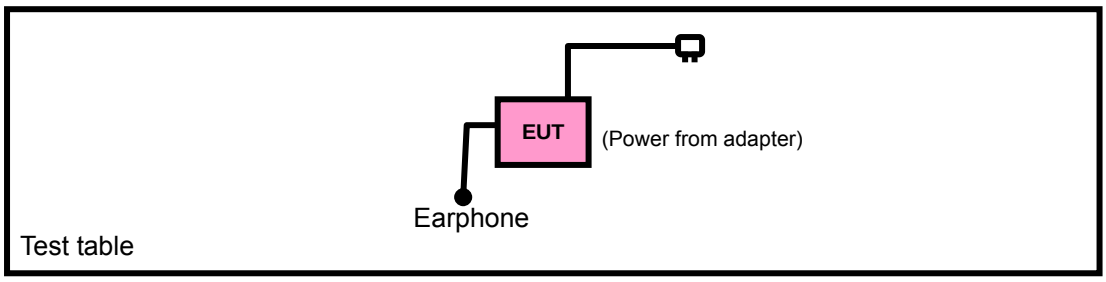
3.2 DESCRIPTION OF TEST MODES

Eleven channels are provided to this EUT.

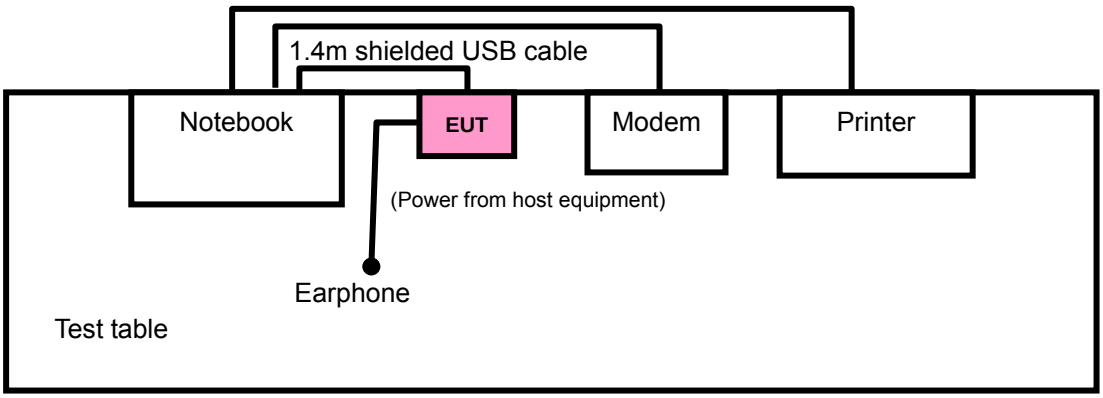
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

TEST MODE A, B



TEST MODE C



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Power from Adapter (Manufacture: Delta, Model: TC U250)
B	-	√	√	-	Power from Adapter (Manufacture: Emerson, Model: TC U250)
C	-	√	√	-	Power from host equipment (USB cable brand: Foxlink)

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement
NOTE: "-"means no effect.

RADIATED EMISSION TEST (ABOVE 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ Axis 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)	AXIS
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	Y
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	Y

RADIATED EMISSION TEST (BELOW 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ Axis 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)	AXIS
A	802.11g	1 to 11	11	OFDM	BPSK	6	Y
B	802.11g	1 to 11	11	OFDM	BPSK	6	Y
C	802.11g	1 to 11	11	OFDM	BPSK	6	Y

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	802.11g	1 to 11	11	OFDM	BPSK	6
B	802.11g	1 to 11	11	OFDM	BPSK	6
C	802.11g	1 to 11	11	OFDM	BPSK	6

BANDEDGE MEASUREMENT:

☒ 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, 11	DSSS	DBPSK	1
A	802.11g	1 to 11	1, 11	OFDM	BPSK	6

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
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	24deg. C, 64%RH, 1006 hPa	120Vac, 60Hz	Match Tsui
RE<1G	23deg. C, 65%RH, 1006 hPa	120Vac, 60Hz	Brad Wu
PLC	25deg. C, 65%RH, 1005 hPa	120Vac, 60Hz	Lori Chiu
APCM	23deg. C, 63%RH, 1008 hPa	120Vac, 60Hz	Brad Wu

3.3 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)

ANSI C63.4- 2003

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.

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.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	D600	CN-0G5152-48643-49C-8226	FCC DoC Approved
2	PRINTER	EPSON	LQ-300+	DCGY054146	FCC DoC Approved
3	MODEM	ACEEX	1414V/3	0401008277	IFAXDM1414
4	EARPHONE	NA	NA	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.8m braid shielded wire, DB25 connector, w/o core.
3	1.2m braid shielded wire, DB25 & DB9 connector, w/o core.
4	1.3m non-shielded audio cable without core.

NOTE:

1. All power cords of the above support units are non shielded (1.8m).
2. Item 4 was provided by client.

4 TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

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. As shown in 15.35(b), 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	ESI7	100033	Jul. 06, 2009	Jul. 05, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100076	May 26, 2009	May 25, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Apr. 27, 2009	Apr. 26, 2010
HORN Antenna SCHWARZBECK	9120D	9120D-209	Jul. 01, 2009	Jun. 30, 2010
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 25, 2009	Dec. 24, 2010
Preamplifier Agilent	8447D	2944A10633	Nov. 10, 2009	Nov. 09, 2010
Preamplifier Agilent	8449B	3008A01964	Nov. 09, 2009	Nov. 08, 2010
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	238141/4	May 13, 2009	May 12, 2010
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	12738/6	May 13, 2009	May 12, 2010
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table ADT.	TT100.	TT93021703	NA	NA
Turn Table Controller ADT.	SC100.	SC93021703	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 Chamber 3.

3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 988962.

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

4.1.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. 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 antenna is a broadband antenna, and its height 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak method or average method as specified and then reported in data sheet.

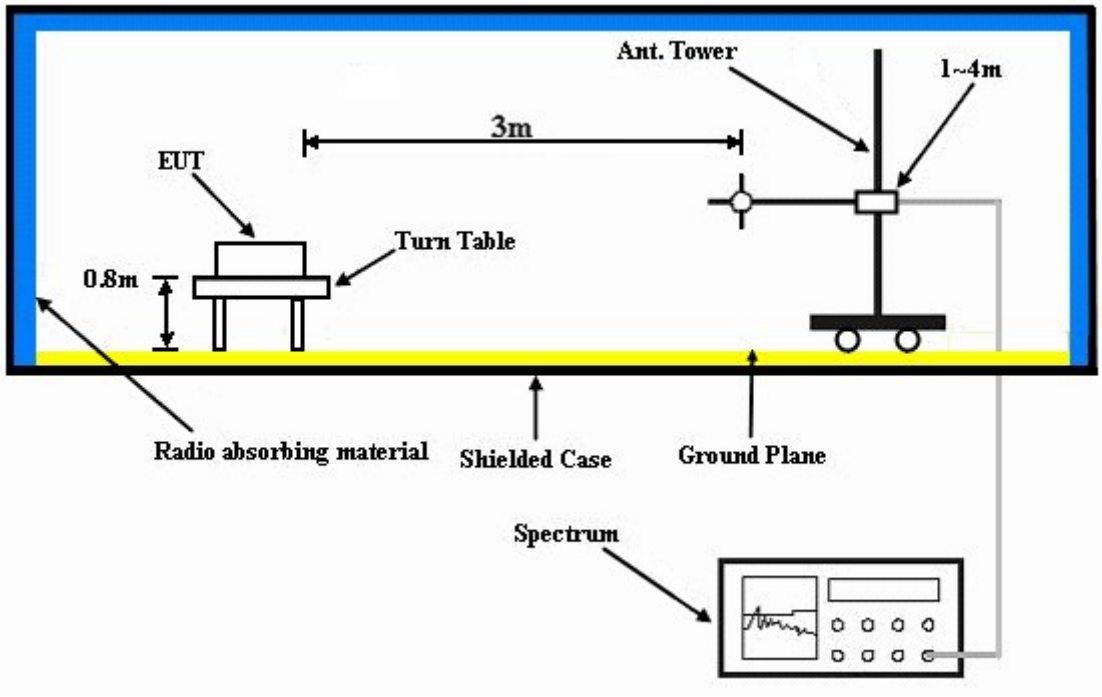
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

4.1.5 TEST SETUP



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

4.1.6 EUT OPERATING CONDITIONS

TEST MODE A & B

a. Placed the EUT on a testing table.

b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

TEST MODE C

a. Connected the EUT to notebook and placed on a testing table.

b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

c. The necessary accessories enable the system in full functions.

4.1.7 TEST RESULTS

ABOVE 1GHz WORST-CASE DATA：802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1006 hPa	TESTED BY	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.9 PK	74.0	-15.1	1.25 H	225	28.20	30.70
2	2390.00	47.0 AV	54.0	-7.0	1.25 H	225	16.30	30.70
3	*2412.00	104.7 PK			1.25 H	225	73.90	30.80
4	*2412.00	100.4 AV			1.25 H	225	69.60	30.80
5	4824.00	53.7 PK	74.0	-20.3	1.05 H	334	17.20	36.50
6	4824.00	49.2 AV	54.0	-4.8	1.05 H	334	12.70	36.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.3 PK	74.0	-13.7	1.00 V	20	29.60	30.70
2	2390.00	49.0 AV	54.0	-5.0	1.00 V	20	18.30	30.70
3	*2412.00	107.6 PK			1.00 V	20	76.80	30.80
4	*2412.00	102.9 AV			1.00 V	20	72.10	30.80
5	4824.00	56.6 PK	74.0	-17.4	1.03 V	240	20.10	36.50
6	**4824.00**	**52.9 AV**	**54.0**	**-1.1**	**1.03 V**	**240**	**16.40**	**36.50**

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1006 hPa	TESTED BY	Match Tsui

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	106.9 PK			1.24 H	228	76.00	30.90
2	*2437.00	102.6 AV			1.24 H	228	71.70	30.90
3	4874.00	53.5 PK	74.0	-20.5	1.02 H	326	17.00	36.50
4	4874.00	49.0 AV	54.0	-5.0	1.02 H	326	12.50	36.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.7 PK			1.00 V	352	78.80	30.90
2	*2437.00	105.3 AV			1.00 V	352	74.40	30.90
3	4874.00	57.0 PK	74.0	-17.0	1.16 V	16	20.50	36.50
4	4874.00	52.6 AV	54.0	-1.4	1.16 V	16	16.10	36.50

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1006 hPa	TESTED BY	Match Tsui

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	106.3 PK			1.26 H	226	75.40	30.90
2	*2462.00	102.0 AV			1.26 H	226	71.10	30.90
3	2483.50	58.4 PK	74.0	-15.6	1.26 H	226	27.40	31.00
4	2483.50	46.6 AV	54.0	-7.4	1.26 H	226	15.60	31.00
5	4924.00	53.1 PK	74.0	-20.9	1.09 H	319	16.50	36.60
6	4924.00	48.6 AV	54.0	-5.4	1.09 H	319	12.00	36.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	109.2 PK			1.00 V	347	78.30	30.90
2	*2462.00	104.5 AV			1.00 V	347	73.60	30.90
3	2483.50	60.4 PK	74.0	-13.6	1.00 V	347	29.40	31.00
4	2483.50	48.2 AV	54.0	-5.8	1.00 V	347	17.20	31.00
5	4924.00	55.7 PK	74.0	-18.3	1.00 V	355	19.10	36.60
6	4924.00	52.7 AV	54.0	-1.3	1.00 V	355	16.10	36.60

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

5. " * ": Fundamental frequency.

802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1006 hPa	TESTED BY	Match Tsui

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	63.6 PK	74.0	-10.4	1.56 H	74	32.90	30.70
2	2390.00	50.3 AV	54.0	-3.7	1.56 H	74	19.60	30.70
3	*2412.00	102.9 PK			1.56 H	74	72.10	30.80
4	*2412.00	92.1 AV			1.56 H	74	61.30	30.80
5	4824.00	50.0 PK	74.0	-24.0	1.05 H	334	13.50	36.50
6	4824.00	36.9 AV	54.0	-17.1	1.05 H	334	0.40	36.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.5 PK	74.0	-5.5	1.00 V	18	37.80	30.70
2	2390.00	52.2 AV	54.0	-1.8	1.00 V	18	21.50	30.70
3	*2412.00	105.6 PK			1.00 V	18	74.80	30.80
4	*2412.00	95.3 AV			1.00 V	18	64.50	30.80
5	4824.00	53.3 PK	74.0	-20.7	1.18 V	15	16.80	36.50
6	4824.00	38.7 AV	54.0	-15.3	1.18 V	15	2.20	36.50

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1006 hPa	TESTED BY	Match Tsui

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	102.2 PK			1.54 H	76	71.30	30.90
2	*2437.00	92.4 AV			1.54 H	76	61.50	30.90
3	4874.00	50.3 PK	74.0	-23.7	1.02 H	336	13.80	36.50
4	4874.00	37.2 AV	54.0	-16.8	1.02 H	336	0.70	36.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	105.9 PK			1.01 V	21	75.00	30.90
2	*2437.00	95.6 AV			1.01 V	21	64.70	30.90
3	4874.00	53.5 PK	74.0	-20.5	1.02 V	34	17.00	36.50
4	4874.00	38.9 AV	54.0	-15.1	1.02 V	34	2.40	36.50

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1006 hPa	TESTED BY	Match Tsui

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	102.9 PK			1.49 H	78	72.00	30.90
2	*2462.00	92.8 AV			1.49 H	78	61.90	30.90
3	2483.50	62.2 PK	74.0	-11.8	1.49 H	78	31.20	31.00
4	2483.50	49.5 AV	54.0	-4.5	1.49 H	78	18.50	31.00
5	4924.00	50.6 PK	74.0	-23.4	1.14 H	23	14.00	36.60
6	4924.00	37.5 AV	54.0	-16.5	1.14 H	23	0.90	36.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.4 PK			1.00 V	18	75.50	30.90
2	*2462.00	95.8 AV			1.00 V	18	64.90	30.90
3	2483.50	64.5 PK	74.0	-9.5	1.00 V	18	33.50	31.00
4	2483.50	51.8 AV	54.0	-2.2	1.00 V	18	20.80	31.00
5	4924.00	53.8 PK	74.0	-20.2	1.03 V	24	17.20	36.60
6	4924.00	39.3 AV	54.0	-14.7	1.03 V	24	2.70	36.60

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

BELOW 1GHz WORST-CASE DATA：802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH 1006 hPa	TESTED BY	Brad Wu
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	39.62	33.8 QP	40.0	-6.2	2.00 H	88	18.70	15.10
2	72.67	29.3 QP	40.0	-10.7	2.00 H	70	17.40	11.90
3	117.39	29.3 QP	43.5	-14.2	1.50 H	16	17.90	11.40
4	160.17	31.1 QP	43.5	-12.4	1.25 H	166	16.70	14.40
5	218.50	37.2 QP	46.0	-8.8	1.25 H	49	25.40	11.80
6	228.22	34.6 QP	46.0	-11.4	1.25 H	55	22.20	12.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	39.62	32.7 QP	40.0	-7.3	1.00 V	76	17.60	15.10
2	62.95	33.6 QP	40.0	-6.4	1.00 V	274	20.60	13.00
3	117.39	29.0 QP	43.5	-14.5	1.00 V	157	17.60	11.40
4	144.61	25.0 QP	43.5	-18.5	1.00 V	121	11.50	13.50
5	216.55	31.1 QP	46.0	-14.9	1.25 V	163	19.50	11.60
6	922.33	25.7 QP	46.0	-20.3	1.00 V	10	-2.50	28.20

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH 1006 hPa	TESTED BY	Brad Wu
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	37.68	33.6 QP	40.0	-6.4	2.00 H	97	18.80	14.80
2	78.51	30.6 QP	40.0	-9.4	1.50 H	136	21.70	8.90
3	162.11	26.2 QP	43.5	-17.3	2.00 H	265	12.00	14.20
4	782.34	25.2 QP	46.0	-20.8	1.50 H	97	-0.70	25.90
5	869.83	25.4 QP	46.0	-20.6	1.50 H	289	-2.00	27.40
6	928.16	25.5 QP	46.0	-20.5	1.50 H	169	-2.80	28.30
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	35.73	33.2 QP	40.0	-6.8	1.00 V	355	18.80	14.40
2	62.95	32.4 QP	40.0	-7.6	1.00 V	283	19.40	13.00
3	107.67	24.9 QP	43.5	-18.6	1.50 V	343	13.40	11.50
4	214.61	23.8 QP	43.5	-19.7	1.50 V	178	12.30	11.50
5	899.00	25.5 QP	46.0	-20.5	1.00 V	268	-2.40	27.90
6	937.88	26.4 QP	46.0	-19.6	2.00 V	184	-2.10	28.50

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH 1006 hPa	TESTED BY	Brad Wu
TEST MODE	C		

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	37.68	31.5 QP	40.0	-8.5	1.00 H	52	16.70	14.80
2	171.83	30.2 QP	43.5	-13.3	2.00 H	262	16.60	13.60
3	467.36	27.1 QP	46.0	-18.9	1.50 H	244	7.40	19.70
4	597.63	25.8 QP	46.0	-20.2	1.50 H	139	3.40	22.40
5	729.84	33.6 QP	46.0	-12.4	1.00 H	31	8.20	25.40
6	862.06	31.1 QP	46.0	-14.9	2.00 H	199	3.90	27.20
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	41.57	34.1 QP	40.0	-5.9	1.50 V	67	19.20	14.90
2	68.79	32.3 QP	40.0	-7.7	1.00 V	76	19.00	13.30
3	230.16	27.8 QP	46.0	-18.2	1.50 V	25	15.30	12.50
4	599.58	28.9 QP	46.0	-17.1	1.00 V	181	6.50	22.40
5	733.73	39.1 QP	46.0	-6.9	1.50 V	208	13.70	25.40
6	862.06	36.0 QP	46.0	-10.0	1.00 V	157	8.80	27.20

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.

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5 0.5 ~ 5 5 ~ 30	66 to 56 56 60	56 to 46 46 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 0.50 MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Sep. 24, 2009	Sep. 23, 2010
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 31, 2009	Dec. 30, 2010
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Aug. 24, 2009	Aug. 23, 2010
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jul. 29, 2009	Jul. 28, 2010
Software ADT	ADT_Cond_ V7.3.7	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 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 TEST PROCEDURES

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

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

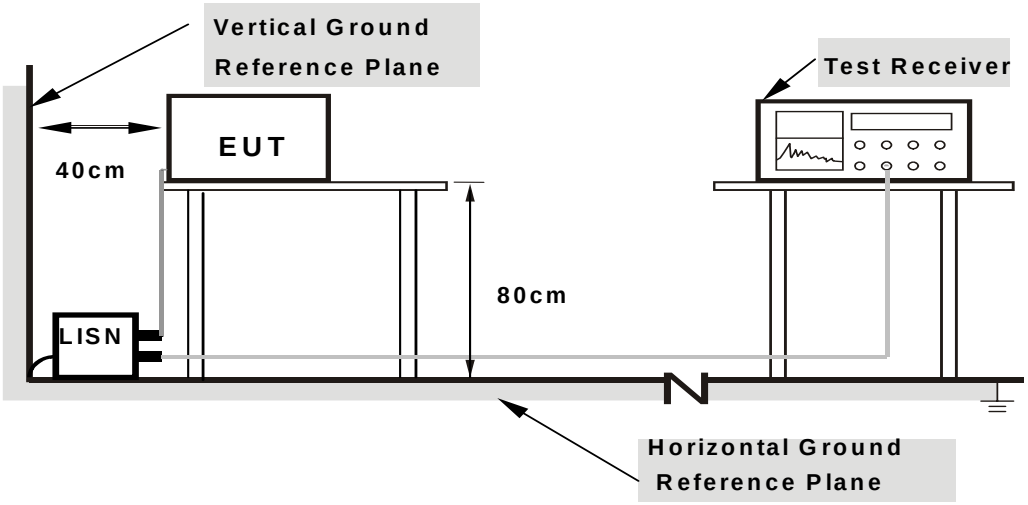
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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.

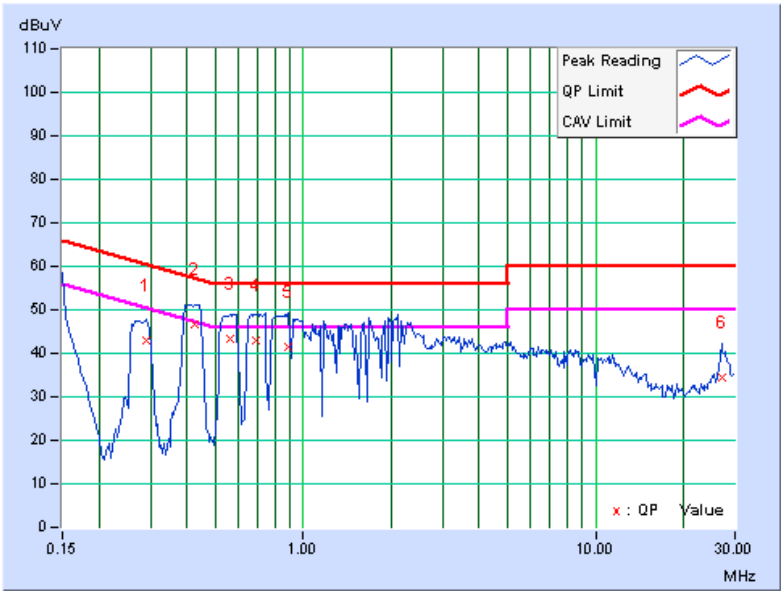
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA：802.11g

PHASE	Line 1	6dB BANDWIDTH	9 kHz
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	0.291	0.17	42.83	-	43.00	-	60.51	50.51	-17.51	-
2	0.423	0.18	46.31	-	46.49	-	57.38	47.38	-10.89	-
3	0.564	0.19	43.08	-	43.27	-	56.00	46.00	-12.73	-
4	0.685	0.20	42.69	-	42.89	-	56.00	46.00	-13.11	-
5	0.888	0.22	41.31	-	41.53	-	56.00	46.00	-14.47	-
6	26.945	0.55	33.71	-	34.26	-	60.00	50.00	-25.74	-

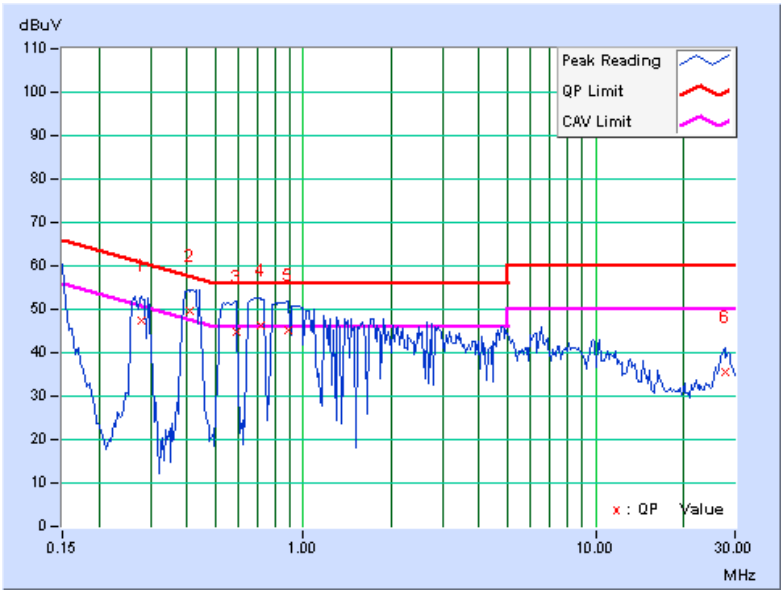
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



PHASE	Line 2	6dB BANDWIDTH	9 kHz
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	0.279	0.14	47.25	-	47.39	-	60.85	50.85	-13.46	-
2	**0.408**	**0.16**	**49.49**	**28.86**	**49.65**	**29.02**	**57.69**	**47.69**	**-8.04**	**-18.67**
3	0.591	0.18	44.76	-	44.94	-	56.00	46.00	-11.06	-
4	0.713	0.19	46.00	22.86	46.19	23.05	56.00	46.00	-9.81	-22.95
5	0.884	0.21	44.90	-	45.11	-	56.00	46.00	-10.89	-
6	27.652	0.82	34.77	-	35.59	-	60.00	50.00	-24.41	-

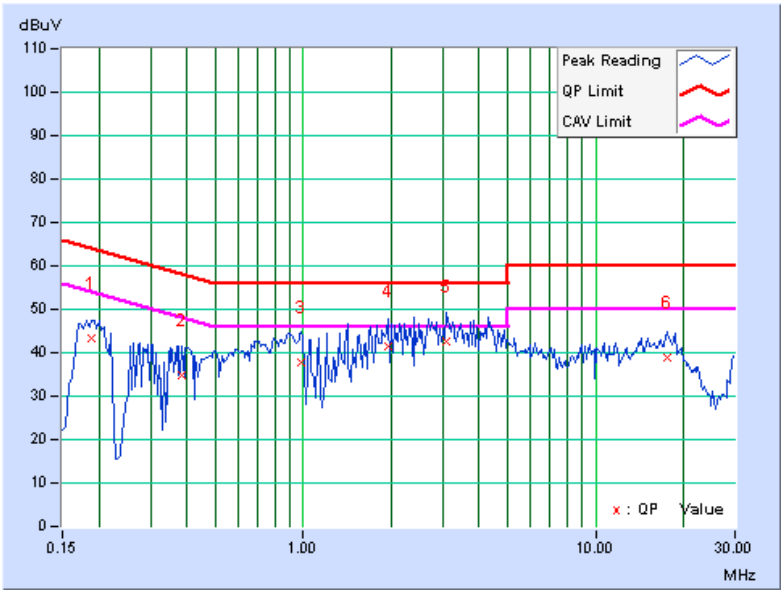
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



PHASE	Line 1	6dB BANDWIDTH	9 kHz
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	0.189	0.16	43.07	-	43.23	-	64.08	54.08	-20.85	-
2	0.384	0.18	34.70	-	34.88	-	58.18	48.18	-23.31	-
3	0.986	0.23	37.68	-	37.91	-	56.00	46.00	-18.09	-
4	1.941	0.31	41.04	-	41.35	-	56.00	46.00	-14.65	-
5	3.098	0.33	42.23	-	42.56	-	56.00	46.00	-13.44	-
6	17.598	0.60	38.16	-	38.76	-	60.00	50.00	-21.24	-

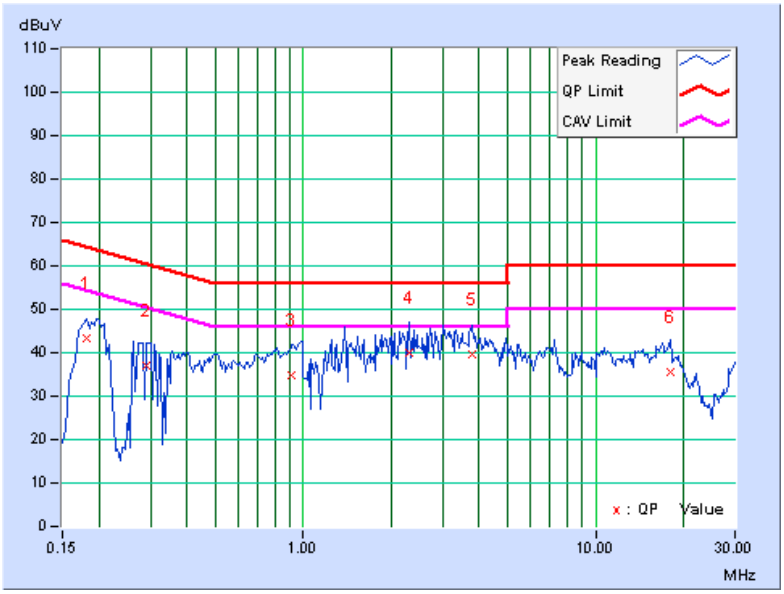
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



PHASE	Line 2	6dB BANDWIDTH	9 kHz
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	0.181	0.13	43.15	-	43.28	-	64.43	54.43	-21.15	-
2	0.291	0.14	36.76	-	36.90	-	60.51	50.51	-23.60	-
3	0.916	0.21	34.78	-	34.99	-	56.00	46.00	-21.01	-
4	2.316	0.31	39.66	-	39.97	-	56.00	46.00	-16.03	-
5	3.766	0.35	39.43	-	39.78	-	56.00	46.00	-16.22	-
6	17.938	0.81	34.71	-	35.52	-	60.00	50.00	-24.48	-

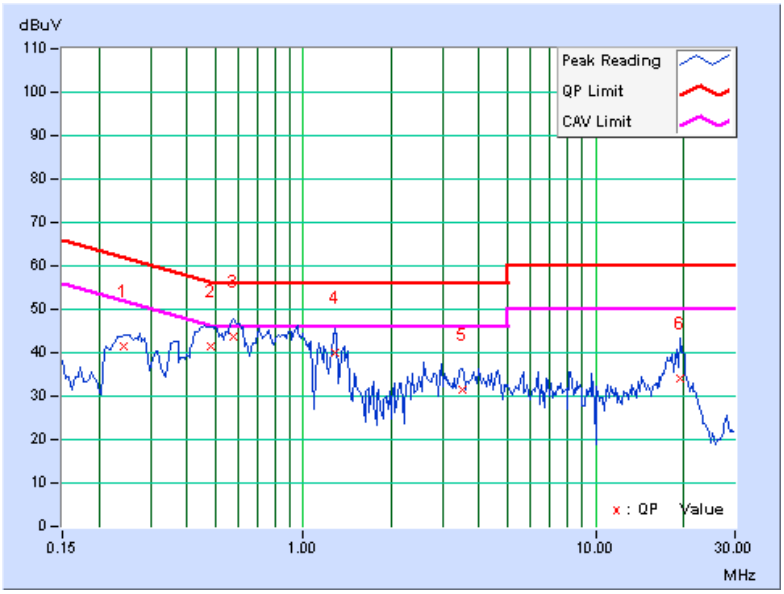
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



PHASE	Line 1	6dB BANDWIDTH	9 kHz
TEST MODE	C		

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	0.244	0.16	41.25	-	41.41	-	61.97	51.97	-20.55	-
2	0.482	0.19	41.43	-	41.62	-	56.30	46.30	-14.69	-
3	0.580	0.19	43.53	-	43.72	-	56.00	46.00	-12.28	-
4	1.277	0.25	39.60	-	39.85	-	56.00	46.00	-16.15	-
5	3.504	0.34	30.98	-	31.32	-	56.00	46.00	-24.68	-
6	19.520	0.67	33.24	-	33.91	-	60.00	50.00	-26.09	-

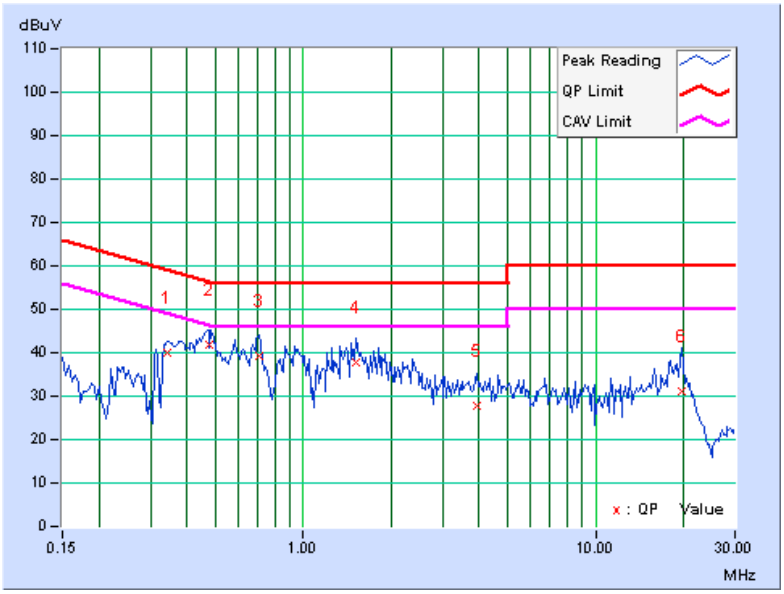
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



PHASE	Line 2	6dB BANDWIDTH	9 kHz
TEST MODE	C		

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	0.341	0.15	40.03	-	40.18	-	59.17	49.17	-18.99	-
2	0.474	0.17	41.80	-	41.97	-	56.44	46.44	-14.47	-
3	0.705	0.19	39.05	-	39.24	-	56.00	46.00	-16.76	-
4	1.523	0.26	37.38	-	37.64	-	56.00	46.00	-18.36	-
5	3.922	0.36	27.35	-	27.71	-	56.00	46.00	-28.29	-
6	19.668	0.90	30.39	-	31.29	-	60.00	50.00	-28.71	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. 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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

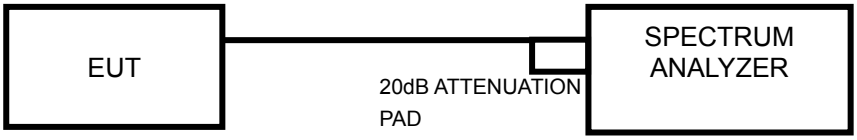
4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 kHz RBW and 300kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

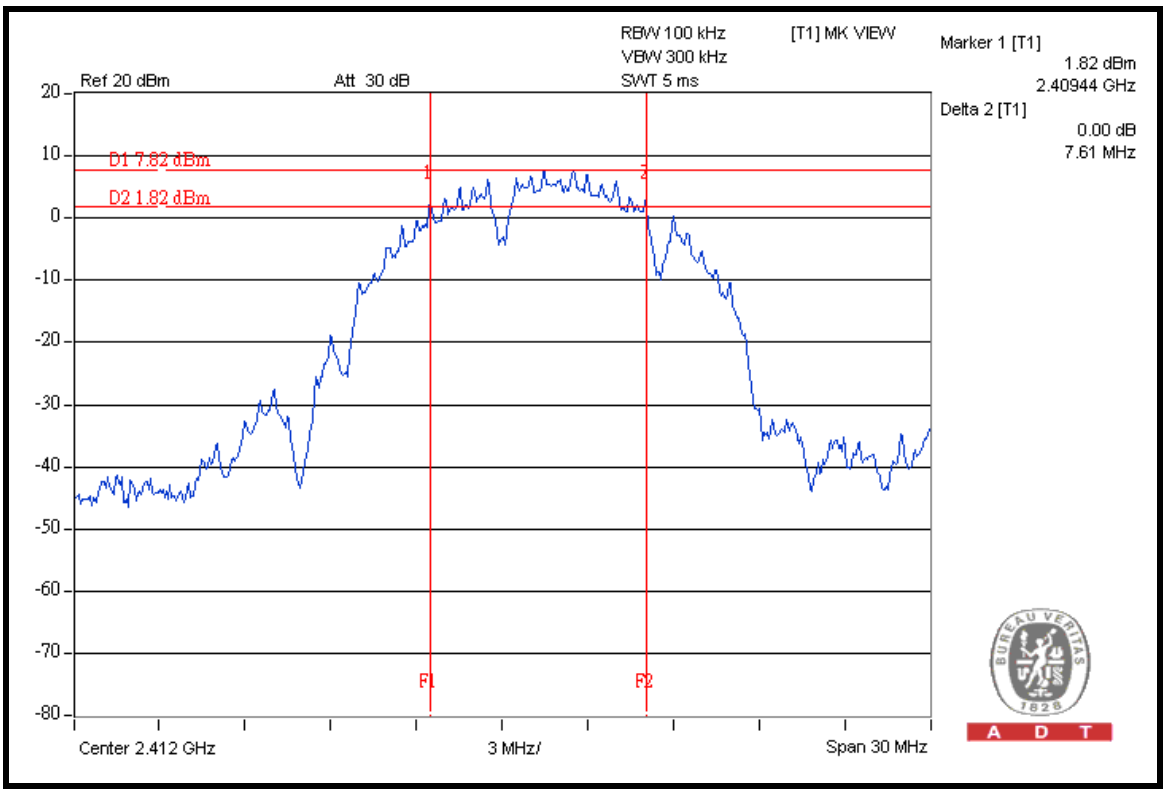
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	7.61	0.5	PASS
6	2437	7.59	0.5	PASS
11	2462	7.11	0.5	PASS

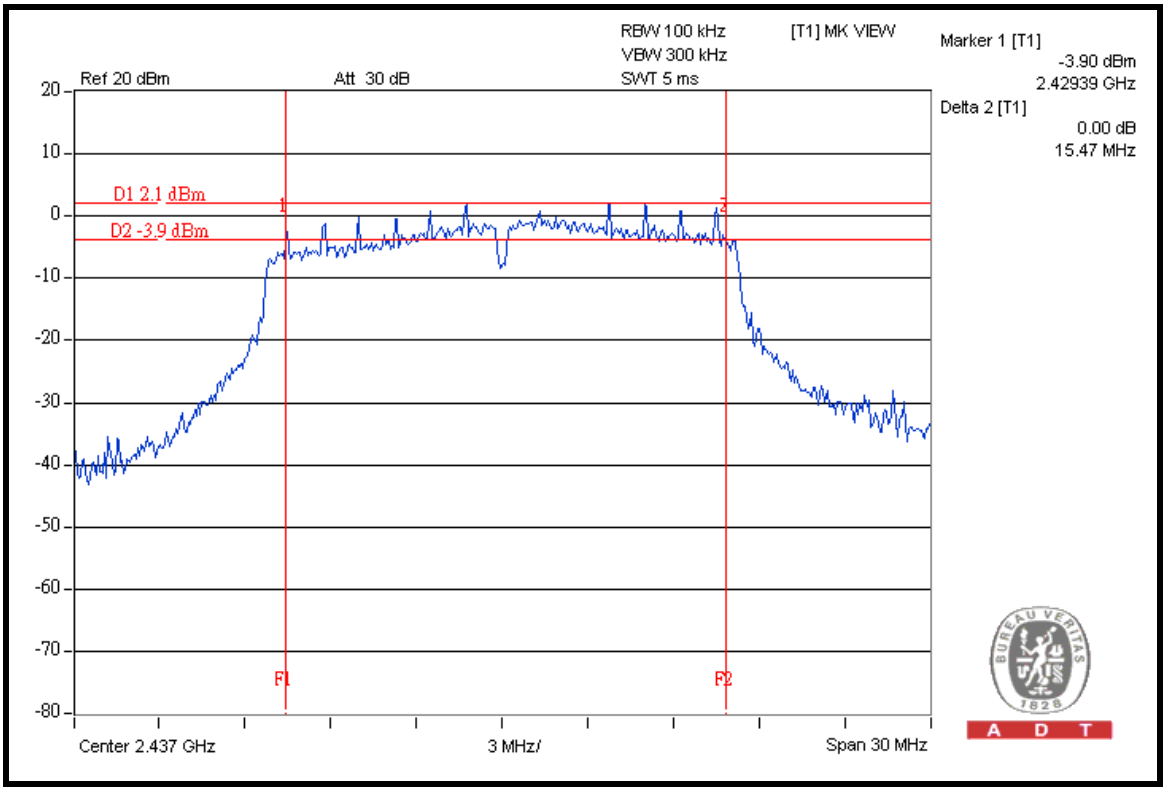
CH 1



802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.08	0.5	PASS
6	2437	15.47	0.5	PASS
11	2462	15.41	0.5	PASS

CH 6



4.4 MAXIMUM OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT

The Maximum Output Power Measurement is 30dBm.

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
High Speed Peak Power Meter	ML2495A	0824012	Aug. 10, 2009	Aug. 09, 2010
Power Sensor	MA2411B	0738138	Aug. 10, 2009	Aug. 09, 2010

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. Measurement Bandwidth of ML2495A is 65MHz greater than 6dB bandwidth of emission.

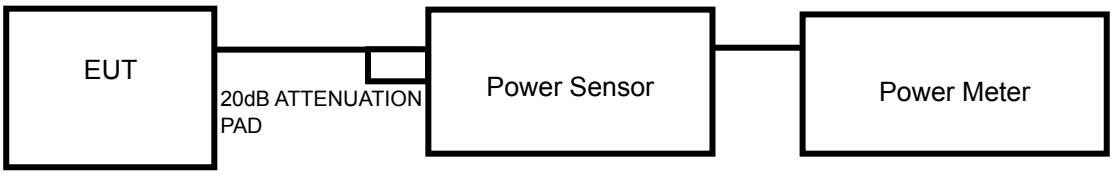
4.4.3 TEST PROCEDURES

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

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6.

4.4.7 TEST RESULTS

802.11b

CHAN	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS/FAIL
1	2412	100.0	20.0	30	PASS
6	2437	**141.3**	21.5	30	PASS
11	2462	128.8	21.1	30	PASS

802.11g

CHAN	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS/FAIL
1	2412	120.2	20.8	30	PASS
6	2437	131.8	21.2	30	PASS
11	2462	**141.3**	21.5	30	PASS

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.5.3 TEST PROCEDURE

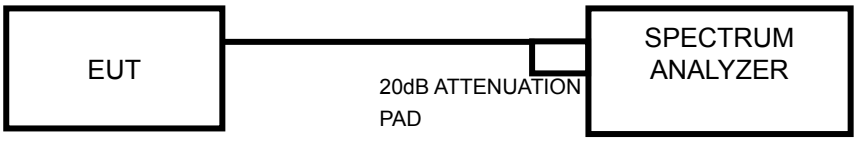
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation.

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

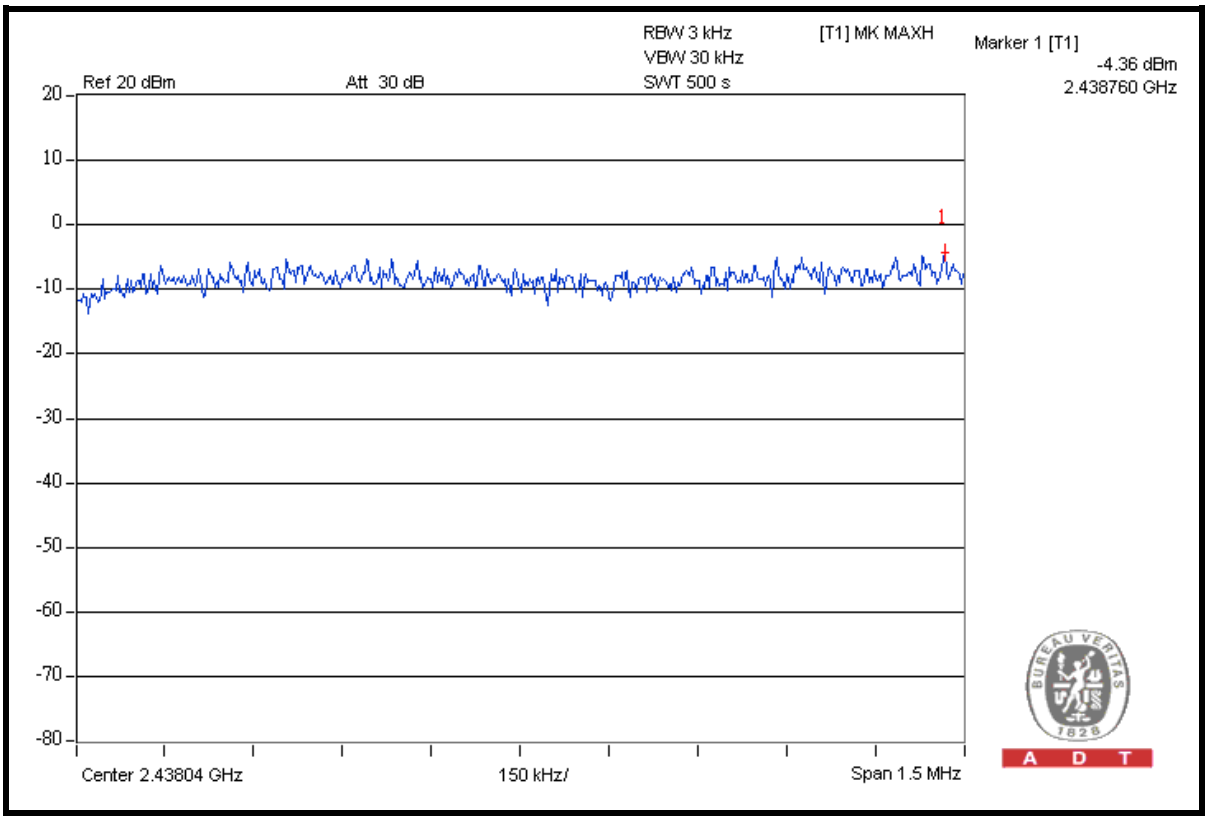
Same as 4.3.6.

4.5.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-6.04	8	PASS
6	2437	-4.36	8	PASS
11	2462	-4.76	8	PASS

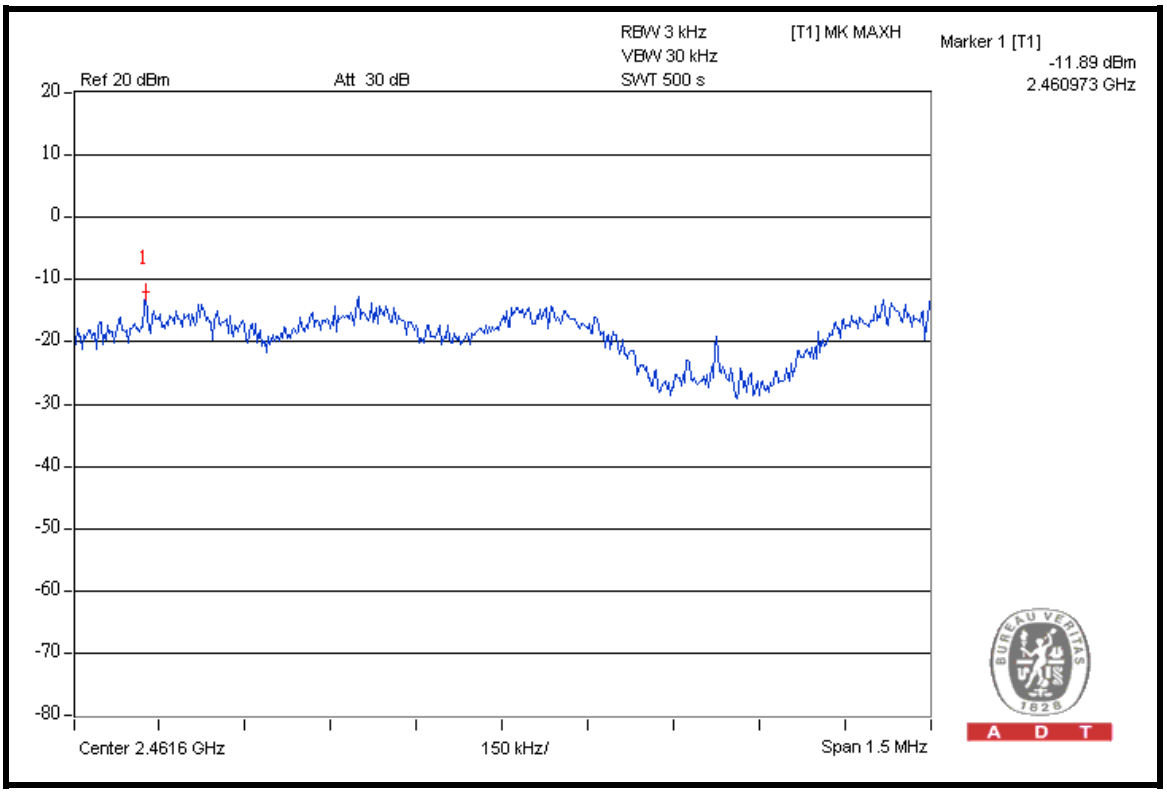
CH 6



802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-12.81	8	PASS
6	2437	-12.26	8	PASS
11	2462	-11.89	8	PASS

CH 11



4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.6.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100kHz and 300kHz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (Peak RBW=100kHz, VBW=300kHz; Average RBW=1MHz, VBW= 10Hz are attached on the following pages.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation.

4.6.5 EUT OPERATING CONDITION

Same as 4.3.6.

4.6.6 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 in part 15.247(d).

802.11b

RESTRICT BAND (2310 ~ 2390 MHz)

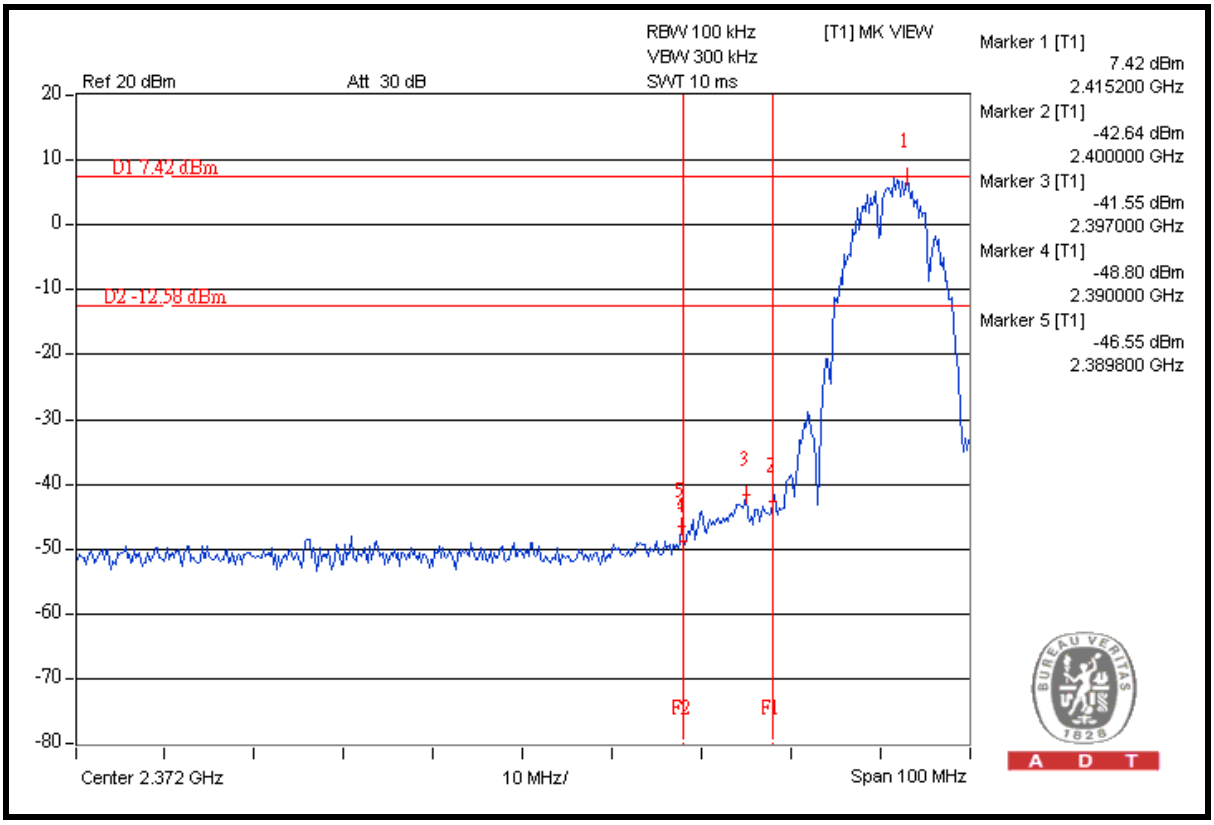
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	107.6	53.97	53.63	74.00
2412.00 (AV)	102.9	59.03	43.87	54.00

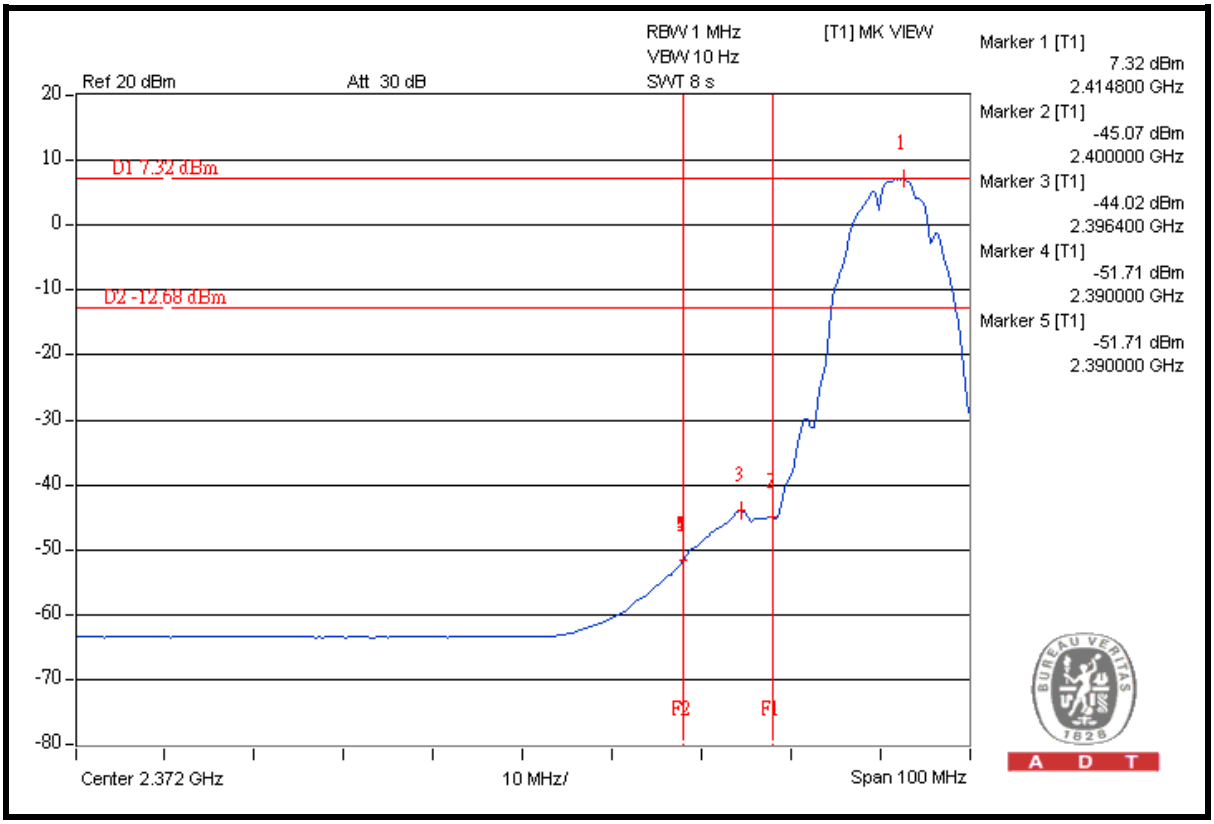
RESTRICT BAND (2483.5 ~ 2500 MHz)

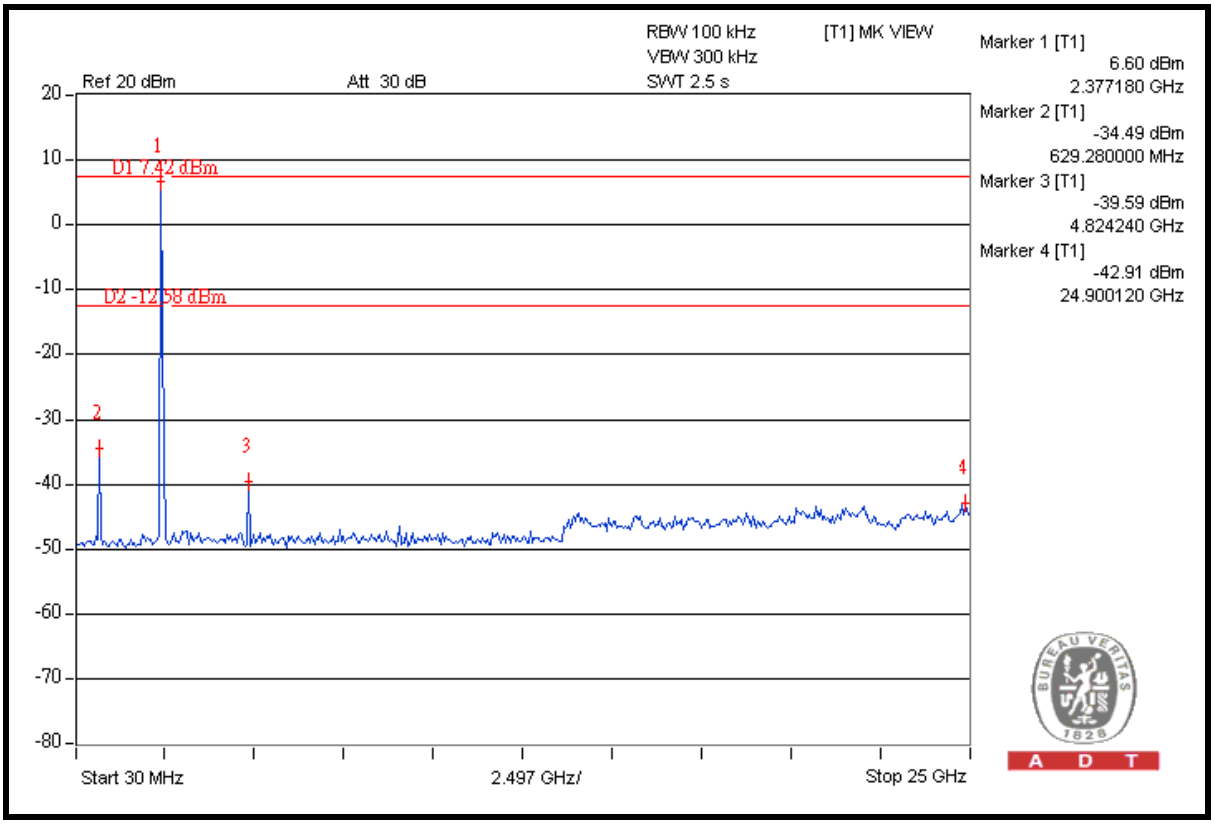
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	109.2	54.30	54.90	74.00
2462.00 (AV)	104.5	57.98	46.52	54.00

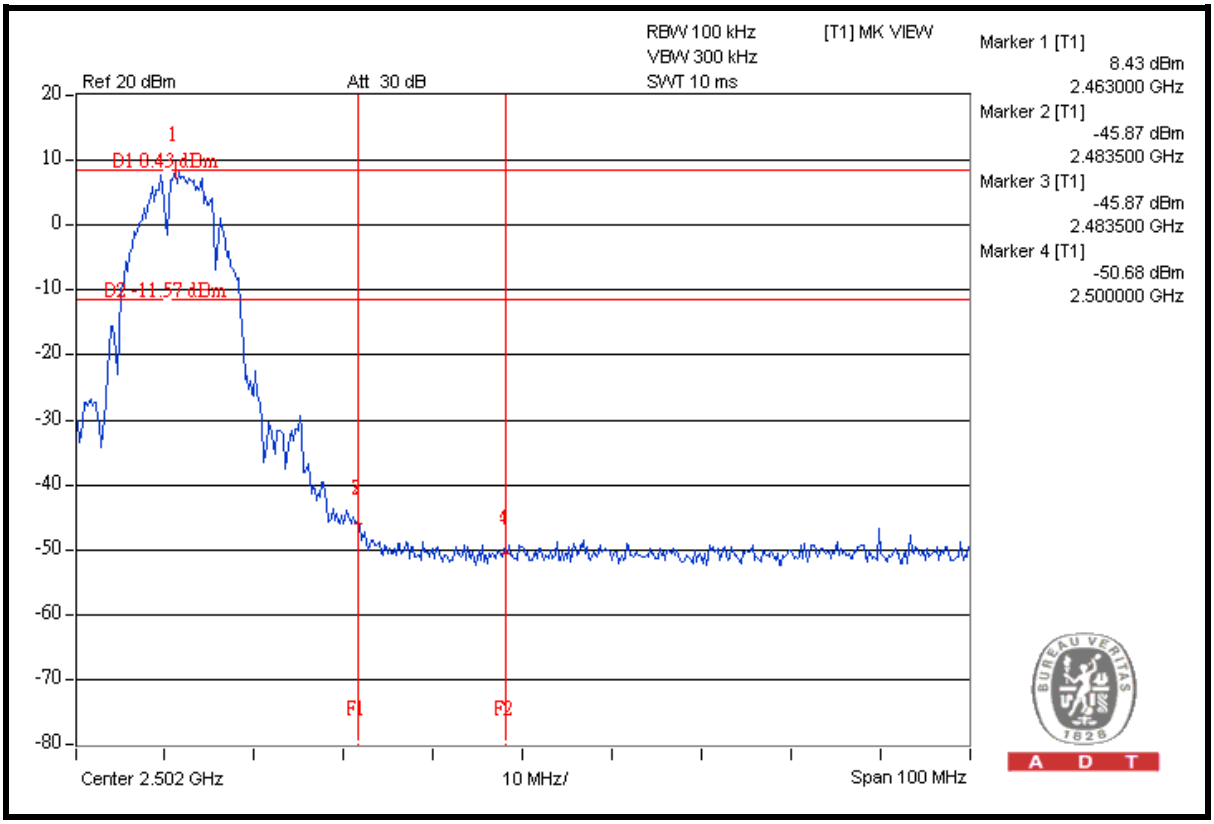
NOTE:

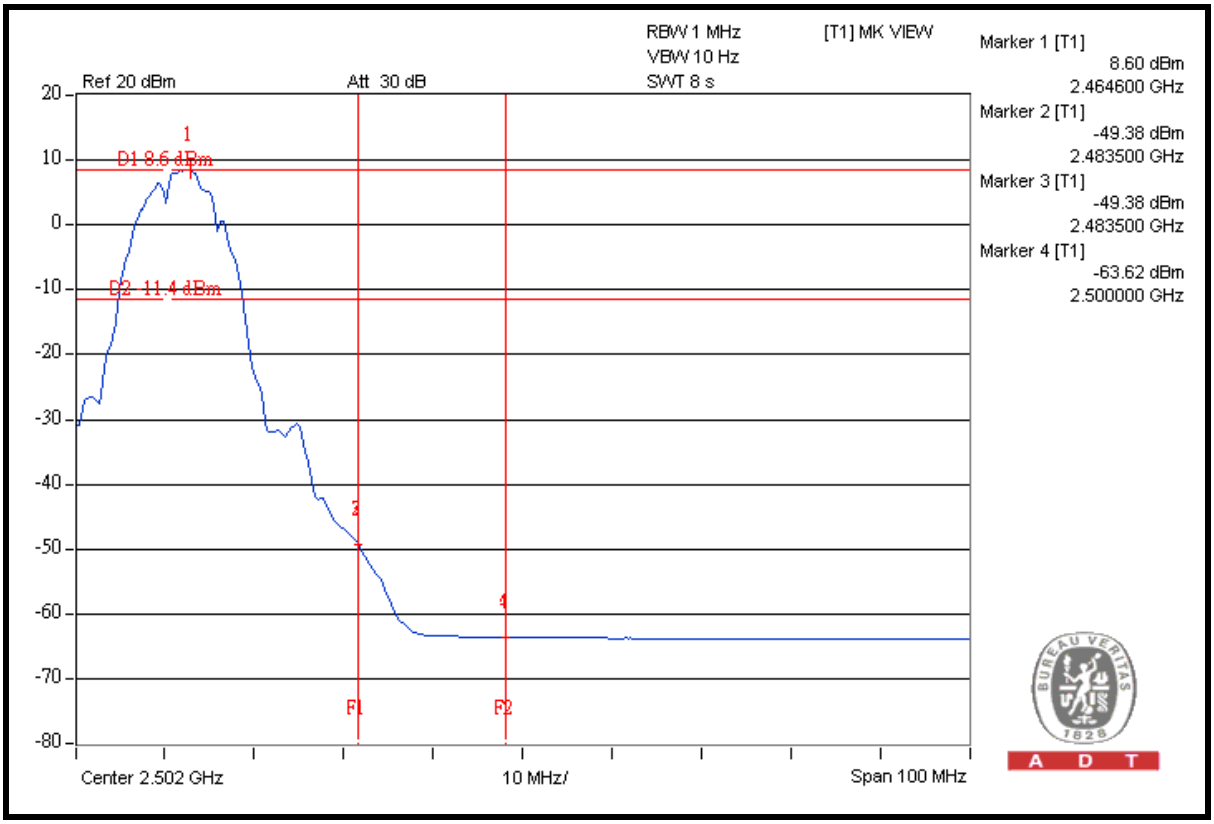
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

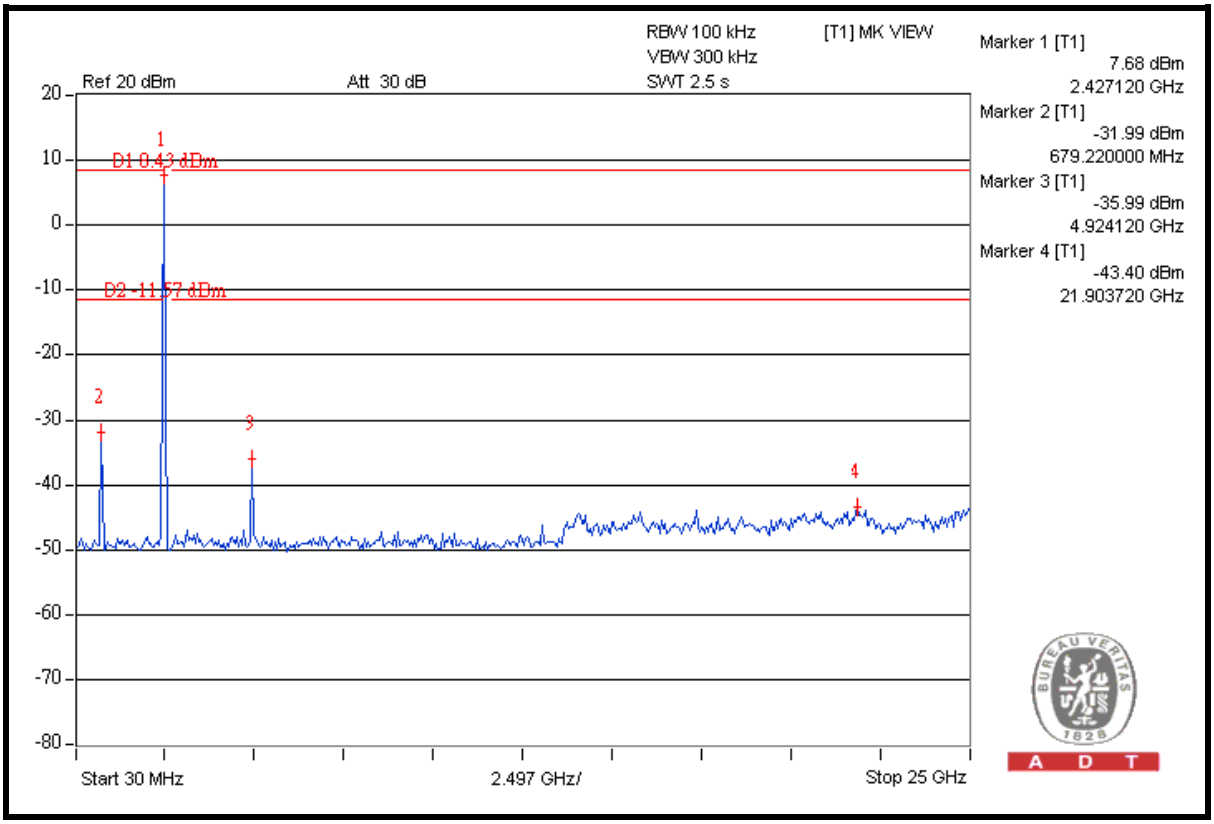

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.42 dBm
D2 -12.58 dBm
Marker 1 [T1]
7.42 dBm
2.415200 GHz
Marker 2 [T1]
-42.64 dBm
2.400000 GHz
Marker 3 [T1]
-41.55 dBm
2.397000 GHz
Marker 4 [T1]
-48.80 dBm
2.390000 GHz
Marker 5 [T1]
-46.55 dBm
2.389800 GHz
Center 2.372 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.32 dBm
D2 -12.68 dBm
Marker 1 [T1]
7.32 dBm
2.414800 GHz
Marker 2 [T1]
-45.07 dBm
2.400000 GHz
Marker 3 [T1]
-44.02 dBm
2.396400 GHz
Marker 4 [T1]
-51.71 dBm
2.390000 GHz
Marker 5 [T1]
-51.71 dBm
2.390000 GHz
Center 2.372 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.42 dBm
D2 -12.58 dBm
Marker 1 [T1]
6.60 dBm
2.377180 GHz
Marker 2 [T1]
-34.49 dBm
629.280000 MHz
Marker 3 [T1]
-39.59 dBm
4.824240 GHz
Marker 4 [T1]
-42.91 dBm
24.900120 GHz
Start 30 MHz
2.497 GHz/
Stop 25 GHz


RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 8.43 dBm
D2 -11.57 dBm
Marker 1 [T1]
8.43 dBm
2.463000 GHz
Marker 2 [T1]
-45.87 dBm
2.483500 GHz
Marker 3 [T1]
-45.87 dBm
2.483500 GHz
Marker 4 [T1]
-50.68 dBm
2.500000 GHz
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 8.6 dBm
D2 -11.4 dBm
Marker 1 [T1]
8.60 dBm
2.464600 GHz
Marker 2 [T1]
-49.38 dBm
2.483500 GHz
Marker 3 [T1]
-49.38 dBm
2.483500 GHz
Marker 4 [T1]
-63.62 dBm
2.500000 GHz
Center 2.502 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 0.43 dBm
D2 -11.57 dBm
Marker 1 [T1]
7.68 dBm
2.427120 GHz
Marker 2 [T1]
-31.99 dBm
679.220000 MHz
Marker 3 [T1]
-35.99 dBm
4.924120 GHz
Marker 4 [T1]
-43.40 dBm
21.903720 GHz
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11g

RESTRICT BAND (2310 ~ 2390 MHz)

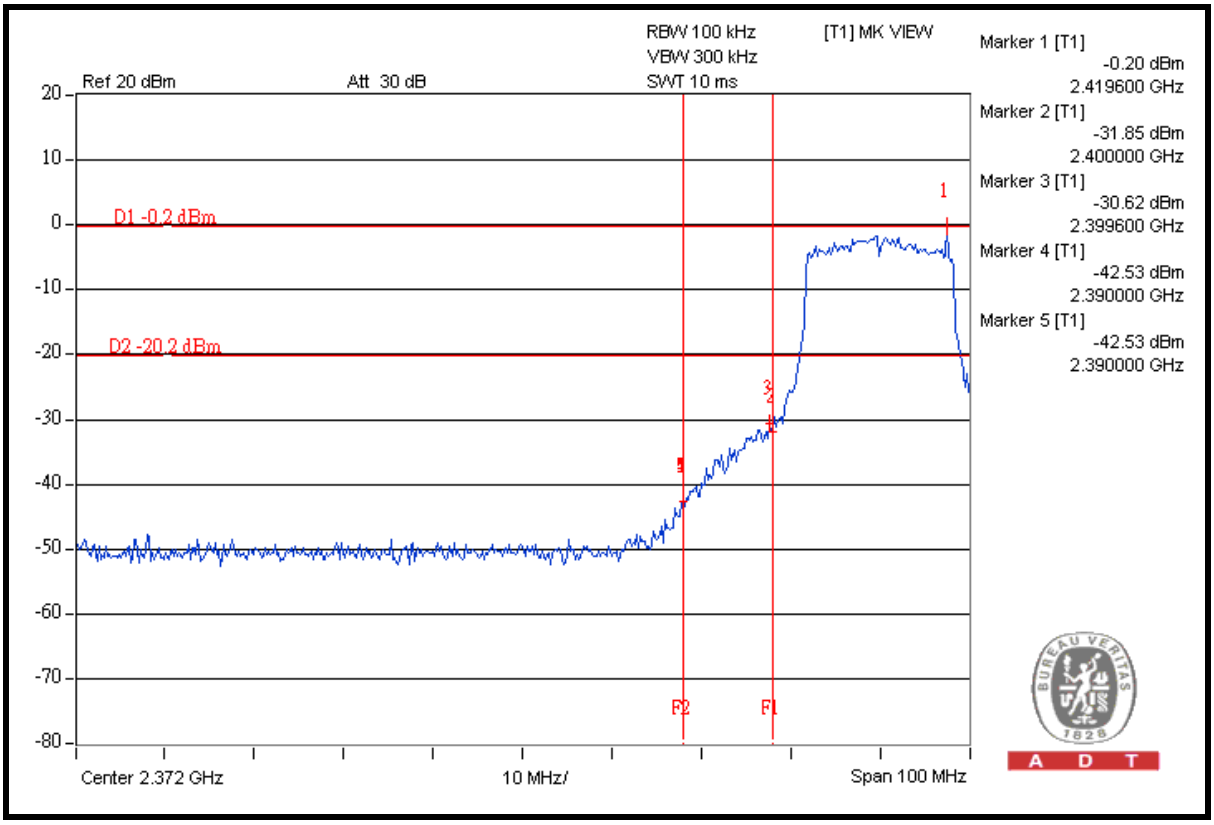
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	105.6	42.33	63.27	74.00
2412.00 (AV)	95.3	43.65	51.65	54.00

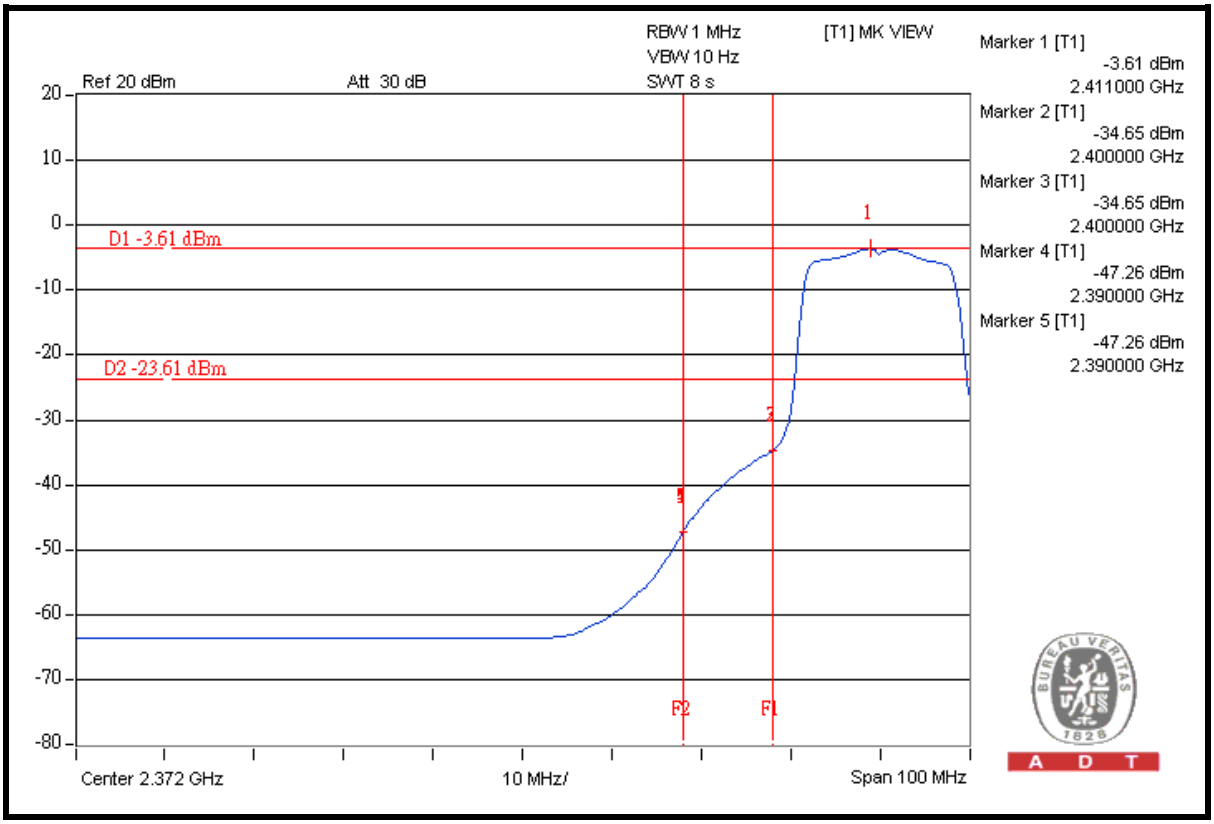
RESTRICT BAND (2483.5 ~ 2500 MHz)

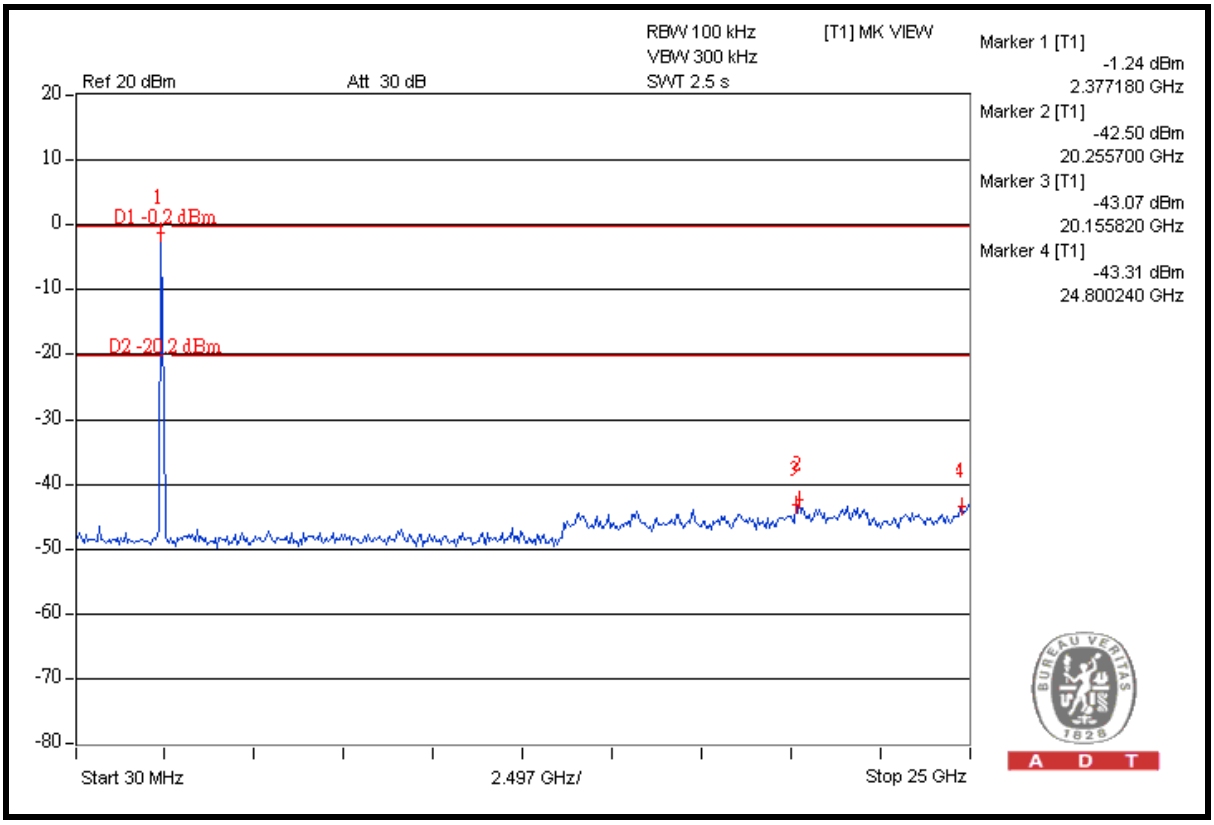
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	106.4	45.58	60.82	74.00
2462.00 (AV)	95.8	44.58	51.22	54.00

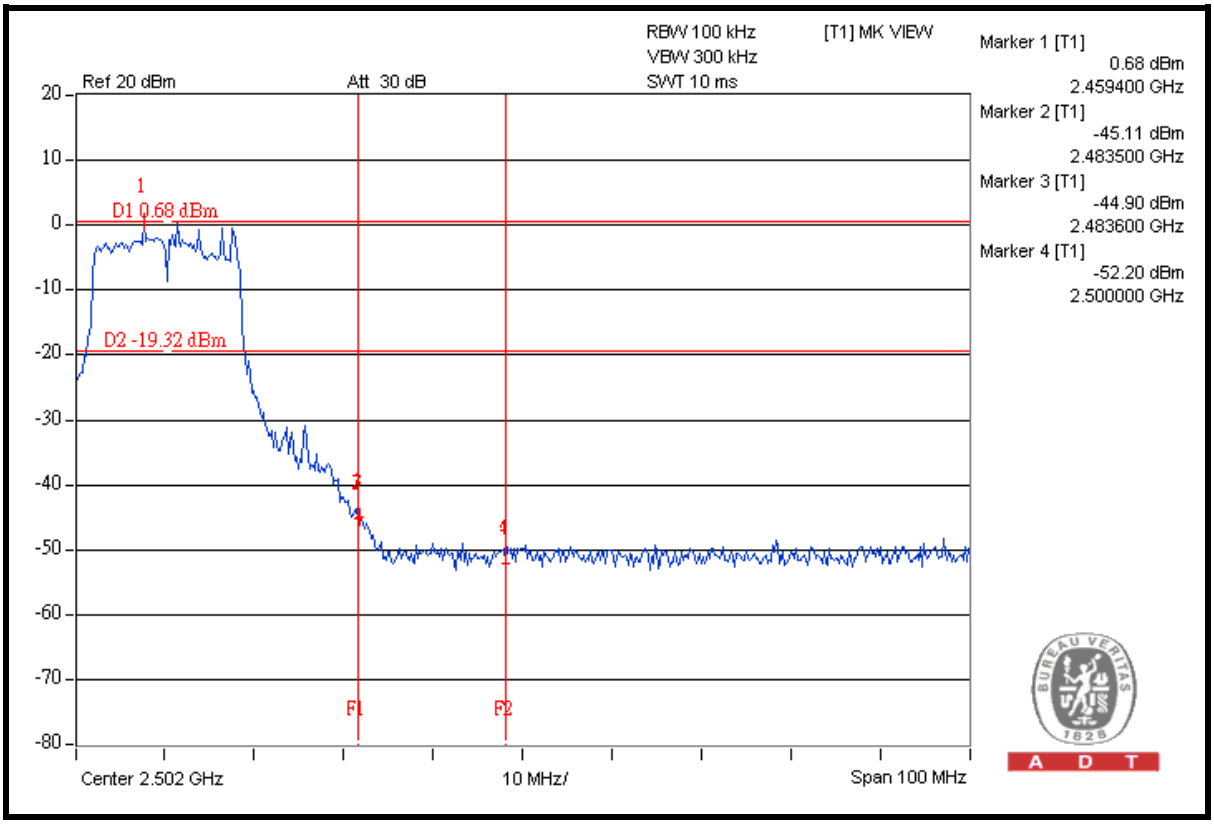
NOTE:

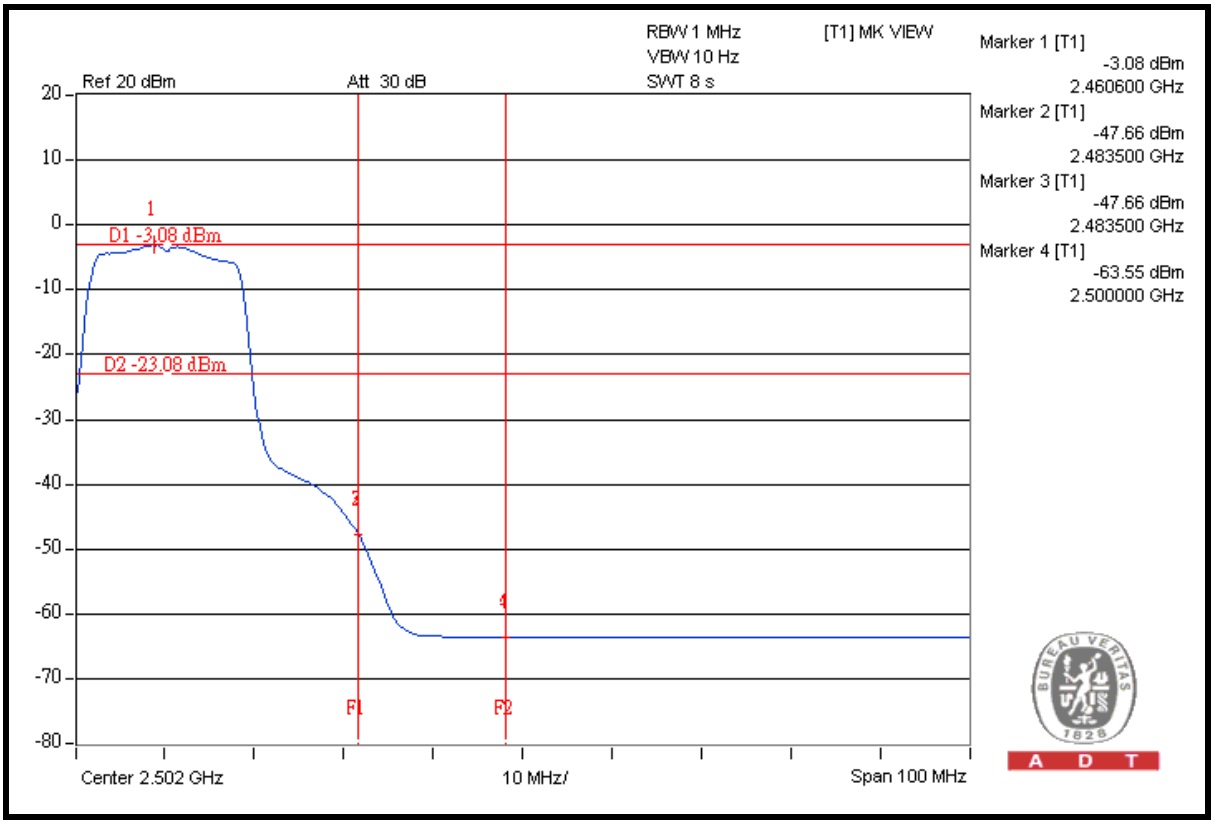
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

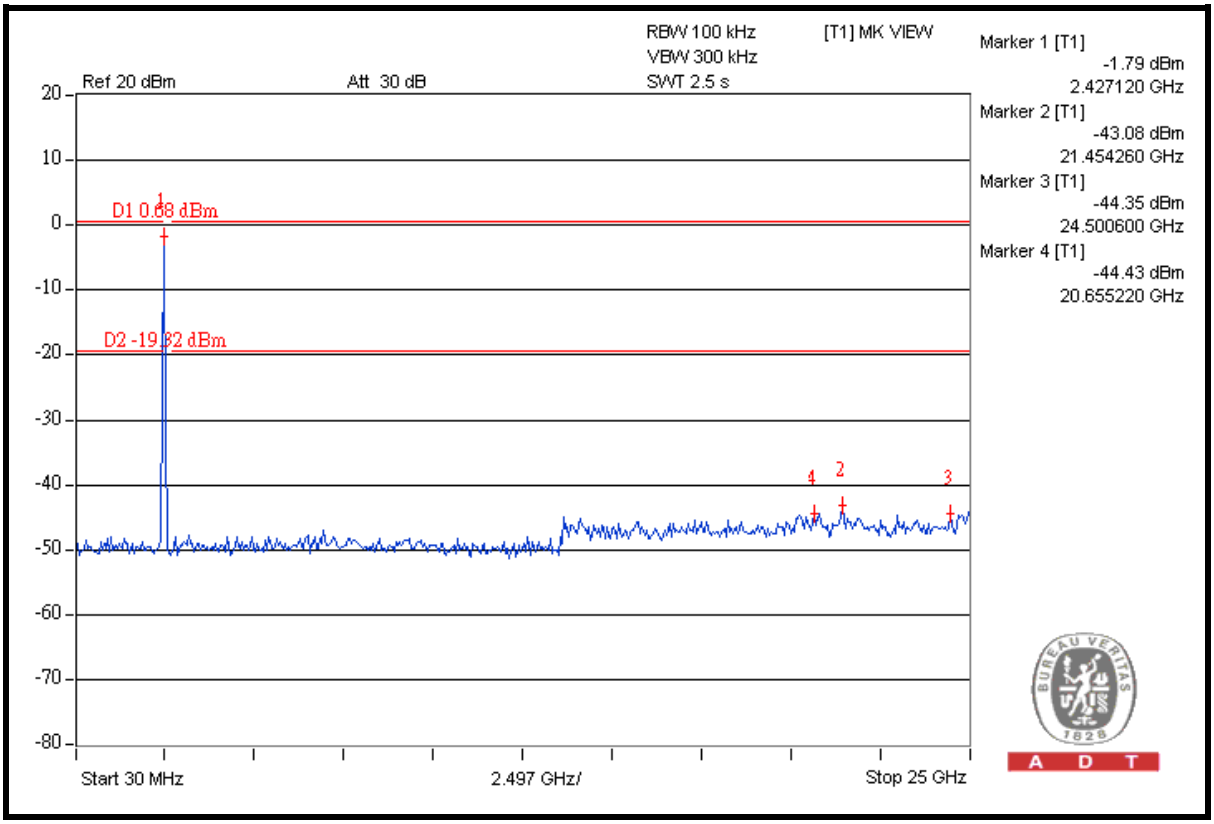

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -0.2 dBm
D2 -20.2 dBm
Marker 1 [T1]
-0.20 dBm
2.419600 GHz
Marker 2 [T1]
-31.85 dBm
2.400000 GHz
Marker 3 [T1]
-30.62 dBm
2.399600 GHz
Marker 4 [T1]
-42.53 dBm
2.390000 GHz
Marker 5 [T1]
-42.53 dBm
2.390000 GHz
F2
F1
Center 2.372 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -3.61 dBm
D2 -23.61 dBm
Marker 1 [T1]
-3.61 dBm
2.411000 GHz
Marker 2 [T1]
-34.65 dBm
2.400000 GHz
Marker 3 [T1]
-34.65 dBm
2.400000 GHz
Marker 4 [T1]
-47.26 dBm
2.390000 GHz
Marker 5 [T1]
-47.26 dBm
2.390000 GHz
F2
F1
Center 2.372 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-1.24 dBm
2.377180 GHz
Marker 2 [T1]
-42.50 dBm
20.255700 GHz
Marker 3 [T1]
-43.07 dBm
20.155820 GHz
Marker 4 [T1]
-43.31 dBm
24.800240 GHz
D1 -0.2 dBm
D2 -20.2 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz


RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
0.68 dBm
2.459400 GHz
Marker 2 [T1]
-45.11 dBm
2.483500 GHz
Marker 3 [T1]
-44.90 dBm
2.483600 GHz
Marker 4 [T1]
-52.20 dBm
2.500000 GHz
D1 0.68 dBm
D2 -19.32 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -3.08 dBm
D2 -23.08 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
Marker 1 [T1]
-3.08 dBm
2.460600 GHz
Marker 2 [T1]
-47.66 dBm
2.483500 GHz
Marker 3 [T1]
-47.66 dBm
2.483500 GHz
Marker 4 [T1]
-63.55 dBm
2.500000 GHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 0.68 dBm
D2 -19.32 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz
Marker 1 [T1]
-1.79 dBm
2.427120 GHz
Marker 2 [T1]
-43.08 dBm
21.454260 GHz
Marker 3 [T1]
-44.35 dBm
24.500600 GHz
Marker 4 [T1]
-44.43 dBm
20.655220 GHz

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6 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.

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

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

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Web Site: www.adt.com.tw

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

7 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

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