FCC TEST REPORT

REPORT NO.:	RF981008L16
MODEL NO.:	DIR-601
RECEIVED:	Oct. 08, 2009
TESTED:	Oct. 09 ~ Oct. 11, 2009
ISSUED:	Oct. 14, 2009

APPLICANT:	D-Link Corporation
ADDRESS:	17595 Mt. Herrmann, Fountain Valley, CA 92708, U.S.A.

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.

TABLE OF CONTENTS

1. CERTIFICATION

PRODUCT: Wireless N 150 Home Router
MODEL: DIR-601
BRAND: D-Link
APPLICANT: D-Link Corporation
TESTED: Oct. 09 ~ Oct. 11, 2009
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS: **FCC Part 15, Subpart C (Section 15.247)**
ANSI C63.4-2003

The above equipment (model: DIR-601) 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 : Rennie Wang , **DATE:** Oct. 14, 2009
Rennie Wang / Supervisor

TECHNICAL ACCEPTANCE : Long Chen , **DATE:** Oct. 14, 2009
Responsible for RF
Long Chen / Senior Engineer

APPROVED BY : Gary Chang , **DATE:** Oct. 14, 2009
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 -13.28dB at 1.434MHz.
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 Peak 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 -1.31dB at 2483.5MHz.
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	3.19 dB
	200MHz ~1000MHz	3.21 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

PRODUCT	Wireless N 150 Home Router
MODEL NO.	DIR-601
FCC ID	KA2DIR601A1
POWER SUPPLY	5Vdc
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 150Mbps
OPRTAING FREQUENCY	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz)
MAXIMUM OUTPUT POWER	261.82mW
ANTENNA TYPE	Dipole antenna with 2.0dBi gain
ANTENNA CONNECTOR	NA
DATA CABLE	NA
I/O PORTS	RJ45
ACCESSORY DEVICES	AC adapter

NOTE:

1. The EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11n (20MHz)	1TX
802.11n (40MHz)	1TX

2. The EUT was operated with following power adapter:

ADAPTER 1	
BRAND:	D-Link
MODEL:	CF0605-B IW
INPUT:	100-120Vac, 50-60Hz, 0.18A
OUTPUT:	5Vdc, 1.2A
POWER LINE:	DC:1.5m non-shielded cable without core

ADAPTER 2	
BRAND:	D-Link
MODEL:	CF0605-B
INPUT:	100-120Vac, 50-60Hz, 0.15A
OUTPUT:	5Vdc, 1.2A
POWER LINE:	DC:1.5m non-shielded cable without core

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

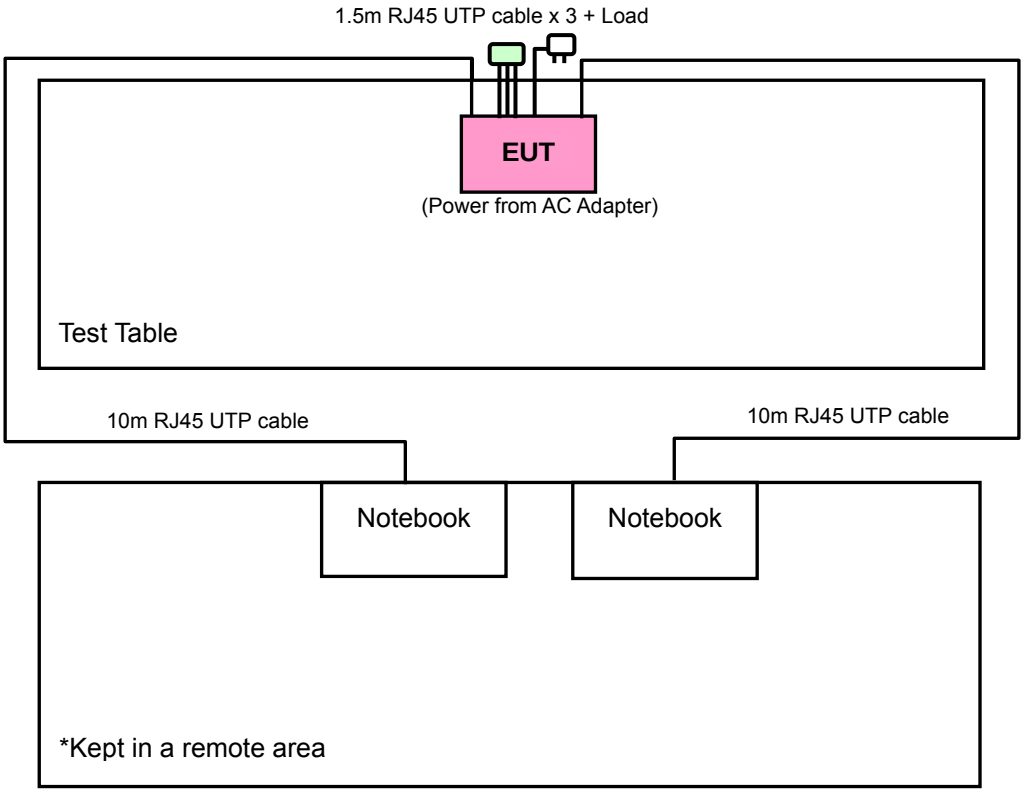
Eleven channels are provided for 802.11b, 802.11g and 802.11n (20MHz):

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		

Seven channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2422MHz	5	2442MHz
2	2427MHz	6	2447MHz
3	2432MHz	7	2452MHz
4	2437MHz		

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



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 1
B	-	√	√	-	Power from Adapter 2

Where **PLC:** Power Line Conducted Emission **RE<1G:** Radiated Emission below 1GHz
RE≥1G: Radiated Emission above 1GHz **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	1.0	X
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	X
A	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5	X
A	802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	13.5	X

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	1	OFDM	BPSK	6.0	X
B	802.11g	1 to 11	1	OFDM	BPSK	6.0	X

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	1	OFDM	BPSK	6.0
B	802.11g	1 to 11	1	OFDM	BPSK	6.0

BANDEDGE MEASUREMENT:

☒ 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, 11	DSSS	DBPSK	1.0	X
A	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0	X
A	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	6.5	X
A	802.11n (40MHz)	1 to 7	1, 7	OFDM	BPSK	13.5	X

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 (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
A	802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	25deg. C, 65%RH, 1008 hPa	120Vac, 60Hz	Lori Chiu
RE<1G	25deg. C, 65%RH, 1008 hPa	120Vac, 60Hz	Lori Chiu
PLC	25deg. C, 65%RH, 1008 hPa	120Vac, 60Hz	Brad Wu
APCM	25deg. C, 68%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 COMPUTER	DELL	PP05L	25191592336	E2K24CLNS
2	NOTEBOOK COMPUTER	DELL	PP05L	12130898320	E2K24CLNS

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	10m UTP RJ45 cable
2	10m UTP RJ45 cable

NOTE: 1. All power cords of the above support units are non shielded (1.8m).
2. Item 1-2 acted as a communication partner to transfer data.

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	ESIB7	100212	May 25, 2009	May 24, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 30, 2009	Apr. 29, 2010
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Aug. 10, 2009	Aug. 09, 2010
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 06, 2009	Jan. 05, 2010
Preamplifier Agilent	8449B	3008A01910	Sep. 11, 2009	Sep. 10, 2010
Preamplifier Agilent	8447D	2944A10638	Dec. 26, 2008	Dec. 25, 2009
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218190/4 231241/4	May 13, 2009	May 12, 2010
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 17, 2009	Aug. 16, 2010
Software	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn Table Controller EMCO	2090	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 Chamber 9.
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 460141.
5. The IC Site Registration No. is IC 7450F-4.

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 or average method as specified and then reported in a data sheet.

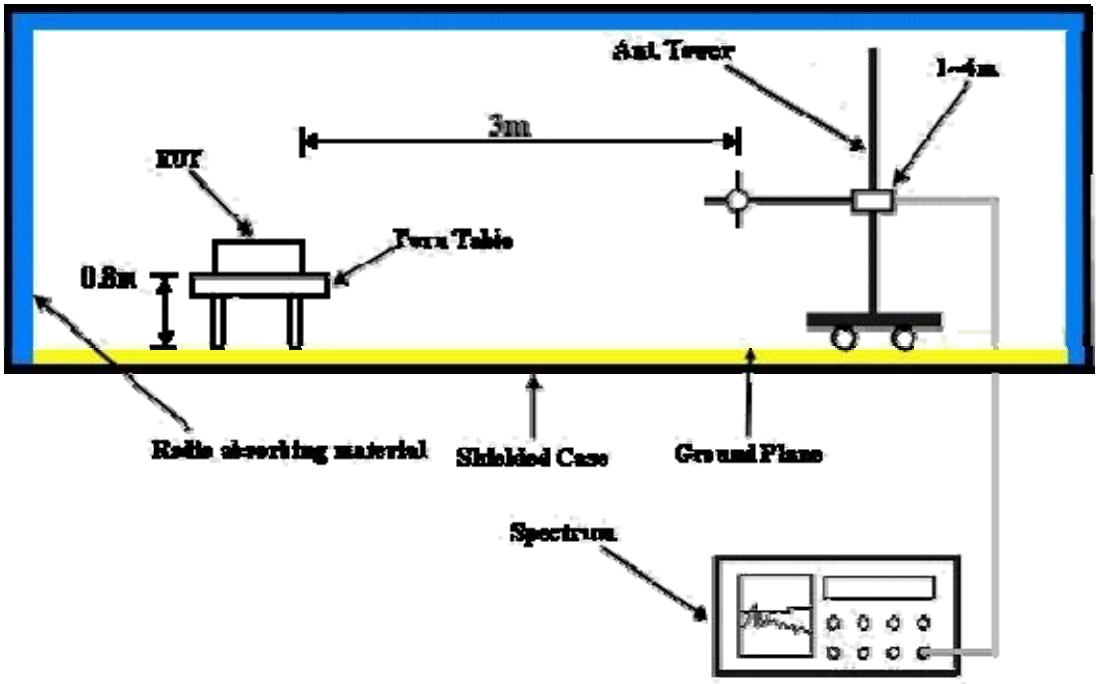
NOTE:

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 1MHz and the video bandwidth is 10Hz 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

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

4.1.7 TEST RESULTS

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	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	50.51 PK	81.55	-31.04	1.02 H	208	20.49	30.02
2	#1750.00	48.88 AV	76.61	-27.73	1.02 H	208	18.86	30.02
3	2390.00	57.86 PK	74.00	-16.14	1.21 H	54	25.64	32.22
4	2390.00	46.89 AV	54.00	-7.11	1.21 H	54	14.67	32.22
5	*2412.00	101.55 PK			1.21 H	54	69.25	32.30
6	*2412.00	96.61 AV			1.21 H	54	64.31	32.30
7	4824.00	48.41 PK	74.00	-25.59	1.50 H	258	10.08	38.33
8	4824.00	35.66 AV	54.00	-18.34	1.50 H	258	-2.67	38.33
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	#1750.00	53.22 PK	92.39	-39.17	1.22 V	258	23.20	30.02
2	#1750.00	51.39 AV	88.11	-36.72	1.22 V	258	21.37	30.02
3	2390.00	60.32 PK	74.00	-13.68	1.11 V	200	28.10	32.22
4	2390.00	51.60 AV	54.00	-2.40	1.11 V	200	19.38	32.22
5	*2412.00	112.39 PK			1.11 V	200	80.09	32.30
6	*2412.00	108.11 AV			1.11 V	200	75.81	32.30
7	4824.00	52.81 PK	74.00	-21.19	1.10 V	136	14.48	38.33
8	4824.00	47.71 AV	54.00	-6.29	1.10 V	136	9.38	38.33
9	#7236.00	52.32 PK	92.39	-40.07	1.30 V	46	7.87	44.45
10	#7236.00	41.97 AV	88.11	-46.14	1.30 V	46	-2.48	44.45

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

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	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	50.43 PK	81.46	-31.03	1.20 H	158	20.41	30.02
2	#1750.00	48.86 AV	76.58	-27.72	1.20 H	158	18.84	30.02
3	*2437.00	101.46 PK			1.23 H	159	69.07	32.39
4	*2437.00	96.58 AV			1.23 H	159	64.19	32.39
5	4874.00	48.55 PK	74.00	-25.45	1.40 H	68	10.14	38.41
6	4874.00	35.81 AV	54.00	-18.19	1.40 H	68	-2.60	38.41
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	#1750.00	51.24 PK	92.29	-41.05	1.01 V	311	21.22	30.02
2	#1750.00	49.12 AV	87.72	-38.60	1.01 V	311	19.10	30.02
3	*2437.00	112.29 PK			1.16 V	90	79.90	32.39
4	*2437.00	107.72 AV			1.16 V	90	75.33	32.39
5	4874.00	53.11 PK	74.00	-20.89	1.40 V	248	14.70	38.41
6	4874.00	47.38 AV	54.00	-6.62	1.40 V	248	8.97	38.41
7	7311.00	53.71 PK	74.00	-20.29	1.35 V	206	9.07	44.64
8	7311.00	44.36 AV	54.00	-9.64	1.35 V	206	-0.28	44.64

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

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

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	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	50.71 PK	81.39	-30.68	1.14 H	179	20.69	30.02
2	#1750.00	48.69 AV	75.43	-26.74	1.14 H	179	18.67	30.02
3	*2462.00	101.39 PK			1.36 H	354	68.91	32.48
4	*2462.00	95.43 AV			1.36 H	354	62.95	32.48
5	2483.50	58.51 PK	74.00	-15.49	1.36 H	354	25.95	32.56
6	2483.50	47.83 AV	54.00	-6.17	1.36 H	354	15.27	32.56
7	4924.00	48.33 PK	74.00	-25.67	1.00 H	219	9.82	38.51
8	4924.00	35.62 AV	54.00	-18.38	1.00 H	219	-2.89	38.51
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	#1750.00	53.01 PK	92.10	-39.09	1.01 V	2	22.99	30.02
2	#1750.00	51.69 AV	87.59	-35.90	1.01 V	2	21.67	30.02
3	*2462.00	112.10 PK			1.10 V	121	79.62	32.48
4	*2462.00	107.59 AV			1.10 V	121	75.11	32.48
5	2483.50	59.97 PK	74.00	-14.03	1.10 V	121	27.41	32.56
6	2483.50	52.31 AV	54.00	-1.69	1.10 V	121	19.75	32.56
7	4924.00	50.37 PK	74.00	-23.63	1.32 V	268	11.86	38.51
8	4924.00	42.22 AV	54.00	-11.78	1.32 V	268	3.71	38.51
9	7386.00	53.72 PK	74.00	-20.28	1.37 V	52	8.89	44.83
10	7386.00	41.39 AV	54.00	-12.61	1.37 V	52	-3.44	44.83

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

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	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	50.99 PK	79.73	-28.74	1.01 H	19	20.97	30.02
2	#1750.00	49.14 AV	69.61	-20.47	1.01 H	19	19.12	30.02
3	2390.00	59.86 PK	74.00	-14.14	1.45 H	301	27.64	32.22
4	2390.00	48.15 AV	54.00	-5.85	1.45 H	301	15.93	32.22
5	*2412.00	99.73 PK			1.45 H	301	67.43	32.30
6	*2412.00	89.61 AV			1.45 H	301	57.31	32.30
7	4824.00	49.32 PK	74.00	-24.68	1.21 H	263	10.99	38.33
8	4824.00	35.60 AV	54.00	-18.40	1.21 H	263	-2.73	38.33
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	#1750.00	53.24 PK	89.73	-36.49	1.05 V	66	23.22	30.02
2	#1750.00	51.45 AV	79.46	-28.01	1.05 V	66	21.43	30.02
3	2390.00	66.32 PK	74.00	-7.68	1.20 V	136	34.10	32.22
4	2390.00	52.39 AV	54.00	-1.61	1.20 V	136	20.17	32.22
5	*2412.00	109.73 PK			1.20 V	136	77.43	32.30
6	*2412.00	99.46 AV			1.20 V	136	67.16	32.30
7	4824.00	48.63 PK	74.00	-25.37	1.19 V	357	10.30	38.33
8	4824.00	36.32 AV	54.00	-17.68	1.19 V	357	-2.01	38.33

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

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	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	50.51 PK	79.83	-29.32	1.23 H	159	20.49	30.02
2	#1750.00	49.30 AV	69.70	-20.40	1.23 H	159	19.28	30.02
3	*2437.00	99.83 PK			1.33 H	50	67.44	32.39
4	*2437.00	89.70 AV			1.33 H	50	57.31	32.39
5	4874.00	49.36 PK	74.00	-24.64	1.23 H	190	10.95	38.41
6	4874.00	35.97 AV	54.00	-18.03	1.23 H	190	-2.44	38.41
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	#1750.00	53.46 PK	89.82	-36.36	1.21 V	58	23.44	30.02
2	#1750.00	51.74 AV	79.57	-27.83	1.21 V	58	21.72	30.02
3	2390.00	62.97 PK	74.00	-11.03	1.16 V	201	30.75	32.22
4	2390.00	50.61 AV	54.00	-3.39	1.16 V	201	18.39	32.22
5	*2437.00	109.82 PK			1.16 V	200	77.43	32.39
6	*2437.00	99.57 AV			1.16 V	200	67.18	32.39
7	2483.50	64.52 PK	74.00	-9.48	1.16 V	200	31.96	32.56
8	2483.50	52.50 AV	54.00	-1.50	1.16 V	200	19.94	32.56
9	4874.00	50.01 PK	74.00	-23.99	1.02 V	253	11.60	38.41
10	4874.00	35.93 AV	54.00	-18.07	1.02 V	253	-2.48	38.41

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

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

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	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	50.33 PK	79.52	-29.19	1.54 H	319	20.31	30.02
2	#1750.00	48.63 AV	69.60	-20.97	1.54 H	319	18.61	30.02
3	*2462.00	99.52 PK			1.00 H	219	67.04	32.48
4	*2462.00	89.60 AV			1.00 H	219	57.12	32.48
5	2483.50	59.51 PK	74.00	-14.49	1.00 H	220	26.95	32.56
6	2483.50	47.96 AV	54.00	-6.04	1.00 H	220	15.40	32.56
7	4924.00	49.54 PK	74.00	-24.46	1.17 H	5	11.03	38.51
8	4924.00	35.61 AV	54.00	-18.39	1.17 H	5	-2.90	38.51
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	#1750.00	53.46 PK	89.50	-36.04	1.52 V	258	23.44	30.02
2	#1750.00	51.63 AV	78.98	-27.35	1.52 V	258	21.61	30.02
3	*2462.00	109.50 PK			1.40 V	359	77.02	32.48
4	*2462.00	98.98 AV			1.40 V	359	66.50	32.48
5	2483.50	68.80 PK	74.00	-5.20	1.41 V	360	36.24	32.56
6	2483.50	52.61 AV	54.00	-1.39	1.41 V	360	20.05	32.56
7	4924.00	49.36 PK	74.00	-24.64	1.08 V	314	10.85	38.51
8	4924.00	35.91 AV	54.00	-18.09	1.08 V	314	-2.60	38.51

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

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

802.11n (20MHz)

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	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	51.11 PK	77.16	-26.05	1.06 H	64	21.09	30.02
2	#1750.00	48.90 AV	67.01	-18.11	1.06 H	64	18.88	30.02
3	2390.00	58.42 PK	74.00	-15.58	1.28 H	200	26.20	32.22
4	2390.00	47.71 AV	54.00	-6.29	1.28 H	200	15.49	32.22
5	*2412.00	97.16 PK			1.28 H	200	64.86	32.30
6	*2412.00	87.01 AV			1.28 H	200	54.71	32.30
7	4824.00	48.10 PK	74.00	-25.90	1.31 H	247	9.77	38.33
8	4824.00	35.41 AV	54.00	-18.59	1.31 H	247	-2.92	38.33
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	#1750.00	53.24 PK	89.23	-35.99	1.02 V	36	23.22	30.02
2	#1750.00	51.36 AV	77.97	-26.61	1.02 V	36	21.34	30.02
3	2390.00	67.33 PK	74.00	-6.67	1.22 V	156	35.11	32.22
4	2390.00	52.37 AV	54.00	-1.63	1.22 V	156	20.15	32.22
5	*2412.00	109.23 PK			1.22 V	156	76.93	32.30
6	*2412.00	97.97 AV			1.22 V	156	65.67	32.30
7	4824.00	50.01 PK	74.00	-23.99	1.03 V	168	11.68	38.33
8	4824.00	36.18 AV	54.00	-17.82	1.03 V	168	-2.15	38.33

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

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	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	50.84 PK	77.67	-26.83	1.00 H	102	20.82	30.02
2	#1750.00	48.86 AV	67.64	-18.78	1.00 H	102	18.84	30.02
3	*2437.00	97.67 PK			1.22 H	300	65.28	32.39
4	*2437.00	87.64 AV			1.22 H	300	55.25	32.39
5	4874.00	48.20 PK	74.00	-25.80	1.07 H	65	9.79	38.41
6	4874.00	35.63 AV	54.00	-18.37	1.07 H	65	-2.78	38.41
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	#1750.00	53.42 PK	89.34	-35.92	1.00 V	157	23.40	30.02
2	#1750.00	51.49 AV	78.01	-26.52	1.00 V	157	21.47	30.02
3	2390.00	60.43 PK	74.00	-13.57	1.21 V	245	28.21	32.22
4	2390.00	49.32 AV	54.00	-4.68	1.21 V	245	17.10	32.22
5	*2437.00	109.34 PK			1.21 V	245	76.95	32.39
6	*2437.00	98.01 AV			1.21 V	245	65.62	32.39
7	2483.50	64.86 PK	74.00	-9.14	1.22 V	250	32.30	32.56
8	2483.50	52.43 AV	54.00	-1.57	1.22 V	250	19.87	32.56
9	4874.00	49.10 PK	74.00	-24.90	1.21 V	20	10.69	38.41
10	4874.00	36.11 AV	54.00	-17.89	1.21 V	20	-2.30	38.41

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

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

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	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	50.83 PK	73.71	-22.88	1.40 H	32	20.81	30.02
2	#1750.00	48.55 AV	63.11	-14.56	1.40 H	32	18.53	30.02
3	*2462.00	93.71 PK			1.02 H	224	61.23	32.48
4	*2462.00	83.11 AV			1.02 H	224	50.63	32.48
5	2483.50	57.63 PK	74.00	-16.37	1.02 H	224	25.07	32.56
6	2483.50	46.40 AV	54.00	-7.60	1.02 H	224	13.84	32.56
7	4924.00	47.20 PK	74.00	-26.80	1.21 H	205	8.69	38.51
8	4924.00	35.69 AV	54.00	-18.31	1.21 H	205	-2.82	38.51
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	#1750.00	53.20 PK	85.30	-32.10	1.02 V	116	23.18	30.02
2	#1750.00	51.33 AV	73.28	-21.95	1.02 V	116	21.31	30.02
3	*2462.00	105.30 PK			1.11 V	150	72.82	32.48
4	*2462.00	93.28 AV			1.11 V	150	60.80	32.48
5	2483.50	60.89 PK	74.00	-13.11	1.11 V	150	28.33	32.56
6	2483.50	52.60 AV	54.00	-1.40	1.11 V	150	20.04	32.56
7	4924.00	49.37 PK	74.00	-24.63	1.47 V	201	10.86	38.51
8	4924.00	36.60 AV	54.00	-17.40	1.47 V	201	-1.91	38.51

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

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

802.11n (40MHz)

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	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	51.20 PK	68.43	-17.23	1.00 H	360	21.18	30.02
2	#1750.00	49.37 AV	57.82	-8.45	1.00 H	360	19.35	30.02
3	2390.00	58.89 PK	74.00	-15.11	1.02 H	52	26.67	32.22
4	2390.00	47.70 AV	54.00	-6.30	1.02 H	52	15.48	32.22
5	*2422.00	88.43 PK			1.02 H	52	56.09	32.34
6	*2422.00	77.82 AV			1.02 H	52	45.48	32.34
7	4844.00	49.32 PK	74.00	-24.68	1.00 H	159	10.96	38.36
8	4844.00	35.70 AV	54.00	-18.30	1.00 H	159	-2.66	38.36
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	#1750.00	53.14 PK	80.46	-27.32	1.42 V	215	23.12	30.02
2	#1750.00	51.36 AV	68.94	-17.58	1.42 V	215	21.34	30.02
3	2390.00	67.43 PK	74.00	-6.57	1.06 V	266	35.21	32.22
4	2390.00	52.16 AV	54.00	-1.84	1.06 V	266	19.94	32.22
5	*2422.00	100.46 PK			1.06 V	266	68.12	32.34
6	*2422.00	88.94 AV			1.06 V	266	56.60	32.34
7	4844.00	49.24 PK	74.00	-24.76	1.23 V	99	10.88	38.36
8	4844.00	36.41 AV	54.00	-17.59	1.23 V	99	-1.95	38.36

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	51.36 PK	73.25	-21.89	1.00 H	14	21.34	30.02
2	#1750.00	48.96 AV	63.16	-14.20	1.00 H	14	18.94	30.02
3	*2437.00	93.25 PK			1.08 H	336	60.86	32.39
4	*2437.00	83.16 AV			1.08 H	336	50.77	32.39
5	4874.00	49.20 PK	74.00	-24.80	1.06 H	68	10.79	38.41
6	4874.00	35.19 AV	54.00	-18.81	1.06 H	68	-3.22	38.41
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	#1750.00	53.45 PK	85.79	-32.34	1.40 V	159	23.43	30.02
2	#1750.00	51.66 AV	74.62	-22.96	1.40 V	159	21.64	30.02
3	2390.00	61.61 PK	74.00	-12.39	1.21 V	56	29.39	32.22
4	2390.00	50.21 AV	54.00	-3.79	1.21 V	56	17.99	32.22
5	*2437.00	105.79 PK			1.02 V	31	73.40	32.39
6	*2437.00	94.62 AV			1.02 V	31	62.23	32.39
7	2483.50	66.84 PK	74.00	-7.16	1.02 V	35	34.28	32.56
8	**2483.50**	**52.69 AV**	**54.00**	**-1.31**	**1.02 V**	**35**	**20.13**	**32.56**
9	4874.00	49.37 PK	74.00	-24.63	1.00 V	140	10.96	38.41
10	4874.00	36.01 AV	54.00	-17.99	1.00 V	140	-2.40	38.41

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

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu

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	#1750.00	51.60 PK	68.51	-16.91	1.32 H	56	21.58	30.02
2	#1750.00	49.22 AV	58.20	-8.98	1.32 H	56	19.20	30.02
3	*2452.00	88.51 PK			1.08 H	100	56.06	32.45
4	*2452.00	78.20 AV			1.08 H	100	45.75	32.45
5	2483.50	58.89 PK	74.00	-15.11	1.20 H	215	26.33	32.56
6	2483.50	47.90 AV	54.00	-6.10	1.20 H	215	15.34	32.56
7	4904.00	48.39 PK	74.00	-25.61	1.13 H	159	9.93	38.46
8	4904.00	35.60 AV	54.00	-18.40	1.13 H	159	-2.86	38.46
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	#1750.00	53.33 PK	80.02	-26.69	1.06 V	315	23.31	30.02
2	#1750.00	51.29 AV	68.50	-17.21	1.06 V	315	21.27	30.02
3	*2452.00	100.02 PK			1.11 V	153	67.57	32.45
4	*2452.00	88.50 AV			1.11 V	153	56.05	32.45
5	2483.50	68.63 PK	74.00	-5.37	1.11 V	153	36.07	32.56
6	2483.50	52.67 AV	54.00	-1.33	1.11 V	153	20.11	32.56
7	4904.00	49.33 PK	74.00	-24.67	1.20 V	205	10.87	38.46
8	4904.00	36.38 AV	54.00	-17.62	1.20 V	205	-2.08	38.46

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

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

BELOW 1GHz WORST-CASE DATA：802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu
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	30.00	28.16 QP	40.00	-11.84	1.50 H	94	15.88	12.28
2	525.69	33.08 QP	46.00	-12.92	1.75 H	169	13.06	20.02
3	624.85	35.96 QP	46.00	-10.04	1.25 H	217	13.85	22.11
4	700.68	44.21 QP	46.00	-1.79	1.25 H	217	21.46	22.75
5	751.23	33.30 QP	46.00	-12.70	1.00 H	211	9.33	23.98
6	949.55	36.14 QP	46.00	-9.86	1.00 H	10	9.66	26.49
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	47.40	37.59 QP	40.00	-2.41	1.00 V	10	24.53	13.06
2	64.90	34.39 QP	40.00	-5.61	1.00 V	247	21.90	12.49
3	105.73	36.06 QP	43.50	-7.44	1.50 V	292	26.04	10.02
4	144.61	33.97 QP	43.50	-9.53	1.25 V	241	20.80	13.16
5	525.69	36.34 QP	46.00	-9.66	1.75 V	109	16.32	20.02
6	700.68	38.97 QP	46.00	-7.03	2.00 V	196	16.22	22.75
7	906.77	36.81 QP	46.00	-9.19	1.75 V	205	10.65	26.16
8	949.55	36.03 QP	46.00	-9.97	1.00 V	217	9.54	26.49

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 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1008 hPa	TESTED BY	Lori Chiu
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	30.00	27.92 QP	40.00	-12.08	1.50 H	271	15.64	12.28
2	253.49	33.27 QP	46.00	-12.73	1.00 H	127	20.37	12.89
3	624.85	35.70 QP	46.00	-10.30	1.25 H	208	13.58	22.11
4	700.03	44.43 QP	46.00	-1.57	1.11 H	224	21.70	22.73
5	751.23	33.23 QP	46.00	-12.77	1.00 H	202	9.26	23.98
6	949.55	37.07 QP	46.00	-8.93	2.00 H	253	10.59	26.49
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	43.82	37.39 QP	40.00	-2.61	1.27 V	343	24.92	12.47
2	64.90	32.12 QP	40.00	-7.88	1.00 V	301	19.63	12.49
3	105.73	36.56 QP	43.50	-6.94	1.00 V	292	26.54	10.02
4	525.69	33.93 QP	46.00	-12.07	2.00 V	22	13.91	20.02
5	700.68	39.17 QP	46.00	-6.83	1.25 V	196	16.42	22.75
6	949.55	39.75 QP	46.00	-6.25	1.00 V	10	13.27	26.49

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	66 to 56	56 to 46
0.5-5	56	46
5-30	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 0.50 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, 2008	Dec. 30, 2009
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Dec. 29, 2008	Dec. 28, 2009
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.

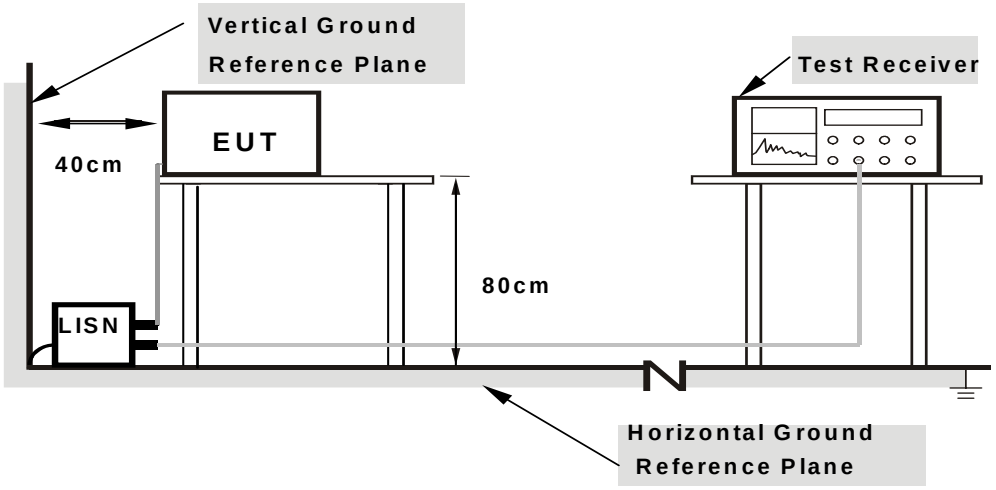
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

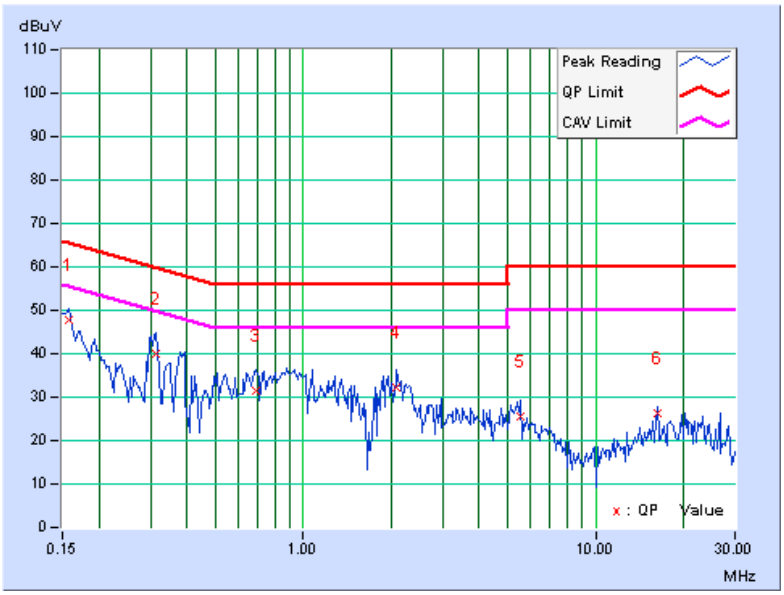
Same as 4.1.6.

4.2.7 TEST RESULTS

PHASE	Line 1	6dB BANDWIDTH	9kHz
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	0.158	0.13	47.75	-	47.88	-	65.58	55.58	-17.70	-
2	0.314	0.14	39.72	-	39.86	-	59.86	49.86	-20.01	-
3	0.685	0.15	31.19	-	31.34	-	56.00	46.00	-24.66	-
4	2.094	0.19	32.06	-	32.25	-	56.00	46.00	-23.75	-
5	5.551	0.32	25.06	-	25.38	-	60.00	50.00	-34.62	-
6	16.227	0.58	25.90	-	26.48	-	60.00	50.00	-33.52	-

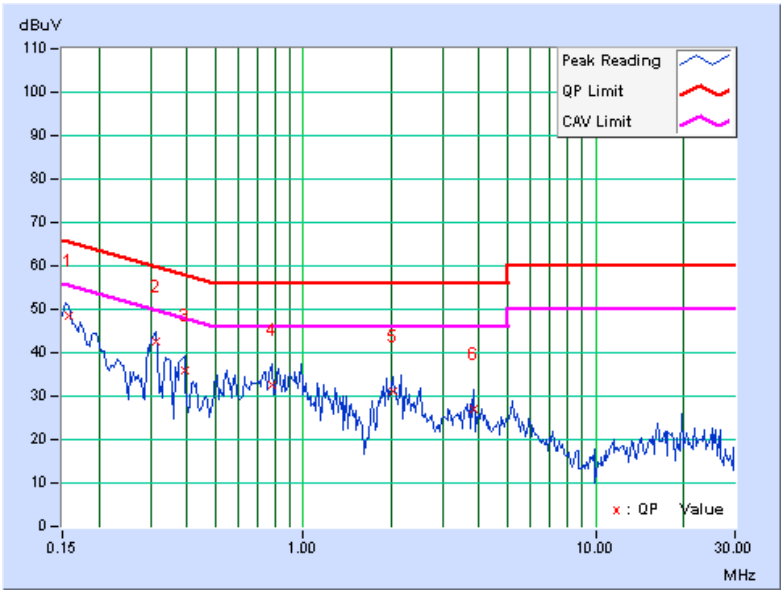
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



PHASE	Line 2	6dB BANDWIDTH	9kHz
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	0.158	0.13	48.46	-	48.59	-	65.58	55.58	-16.99	-
2	0.314	0.14	42.32	-	42.46	-	59.86	49.86	-17.40	-
3	0.392	0.15	35.77	-	35.92	-	58.02	48.02	-22.10	-
4	0.783	0.16	32.56	-	32.72	-	56.00	46.00	-23.28	-
5	2.020	0.20	31.02	-	31.22	-	56.00	46.00	-24.78	-
6	3.836	0.29	26.63	-	26.92	-	56.00	46.00	-29.08	-

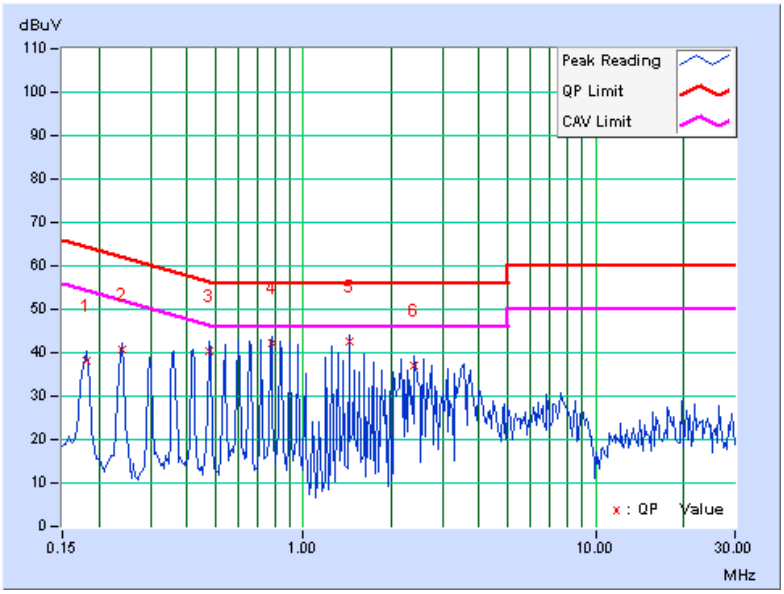
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.13	38.19	-	38.32	-	64.43	54.43	-26.11	-
2	0.240	0.13	40.46	-	40.59	-	62.10	52.10	-21.51	-
3	0.478	0.14	40.24	-	40.38	-	56.37	46.37	-15.99	-
4	0.779	0.16	41.93	-	42.09	-	56.00	46.00	-13.91	-
5	**1.434**	**0.18**	**42.54**	**-**	**42.72**	**-**	**56.00**	**46.00**	**-13.28**	**-**
6	2.395	0.21	36.85	-	37.06	-	56.00	46.00	-18.94	-

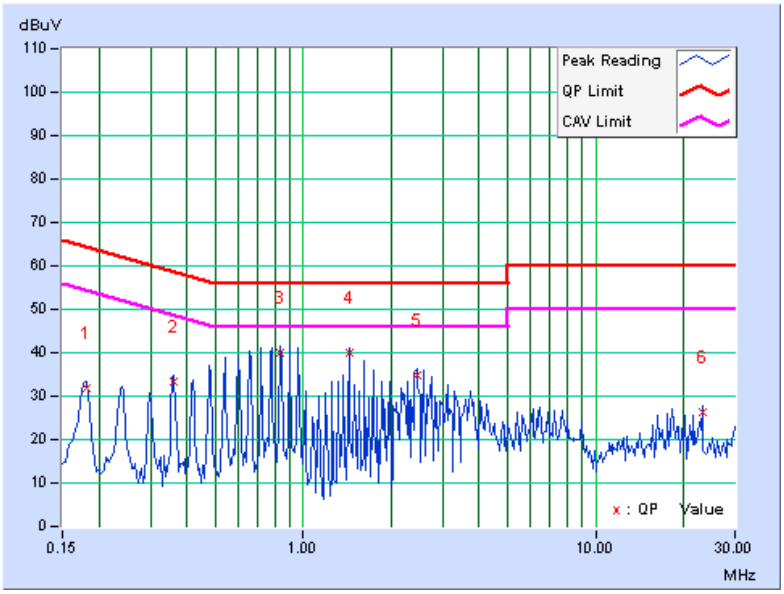
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.13	31.60	-	31.73	-	64.43	54.43	-32.70	-
2	0.361	0.15	33.06	-	33.21	-	58.71	48.71	-25.50	-
3	0.838	0.16	39.73	-	39.89	-	56.00	46.00	-16.11	-
4	1.438	0.18	39.86	-	40.04	-	56.00	46.00	-15.96	-
5	2.453	0.22	34.64	-	34.86	-	56.00	46.00	-21.14	-
6	23.129	0.80	25.39	-	26.19	-	60.00	50.00	-33.81	-

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	CALIBRATED UNTIL
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 100kHz RBW and 100kHz 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

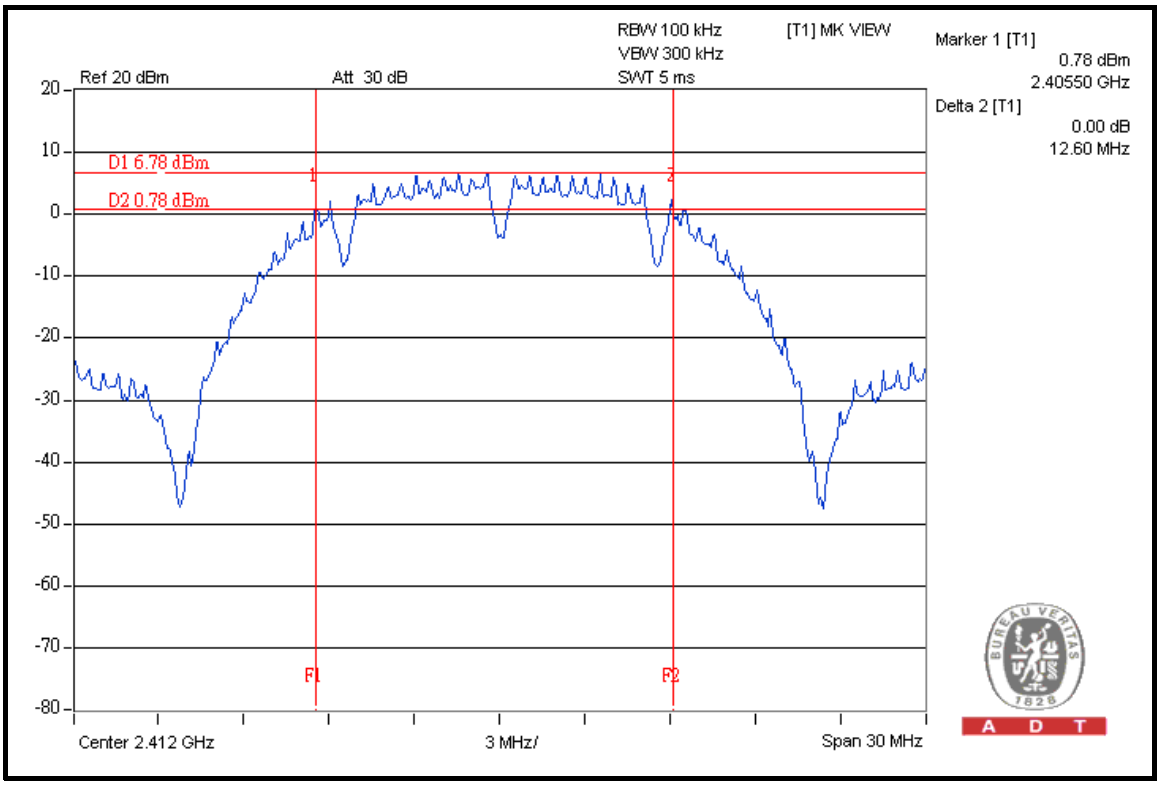
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	12.60	0.5	PASS
6	2437	12.11	0.5	PASS
11	2462	12.11	0.5	PASS

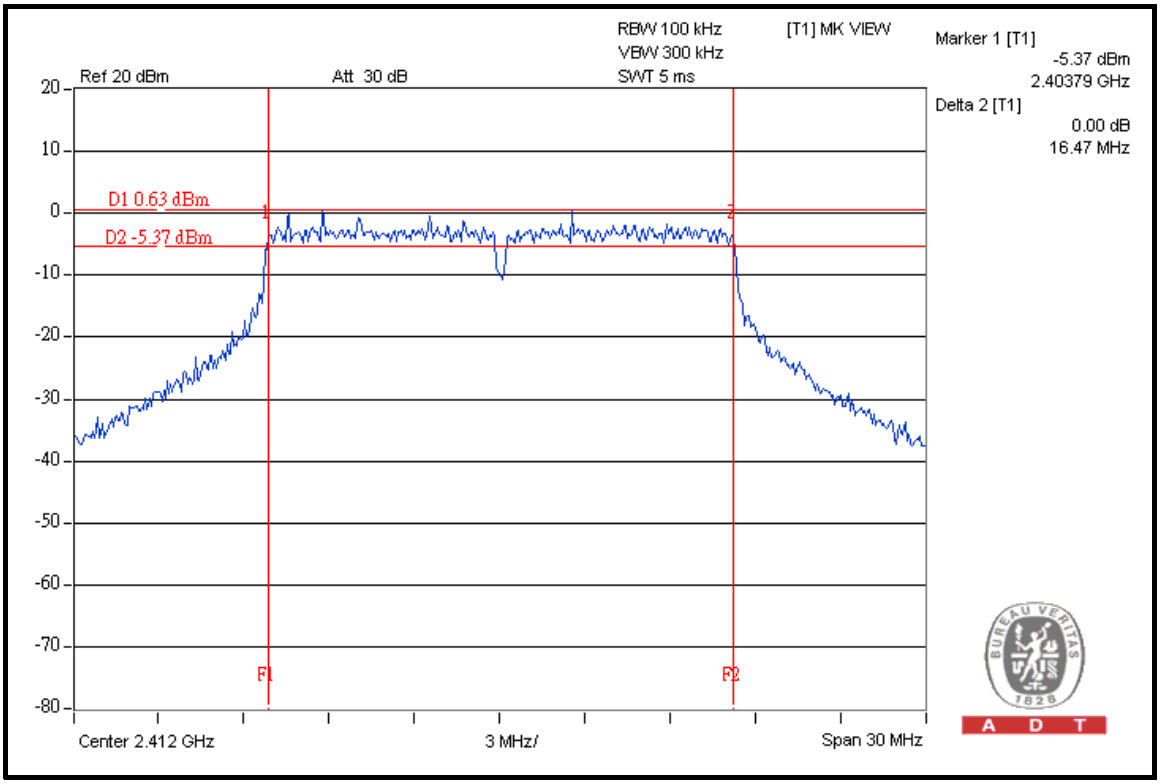
CH 1



802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.47	0.5	PASS
6	2437	16.47	0.5	PASS
11	2462	16.44	0.5	PASS

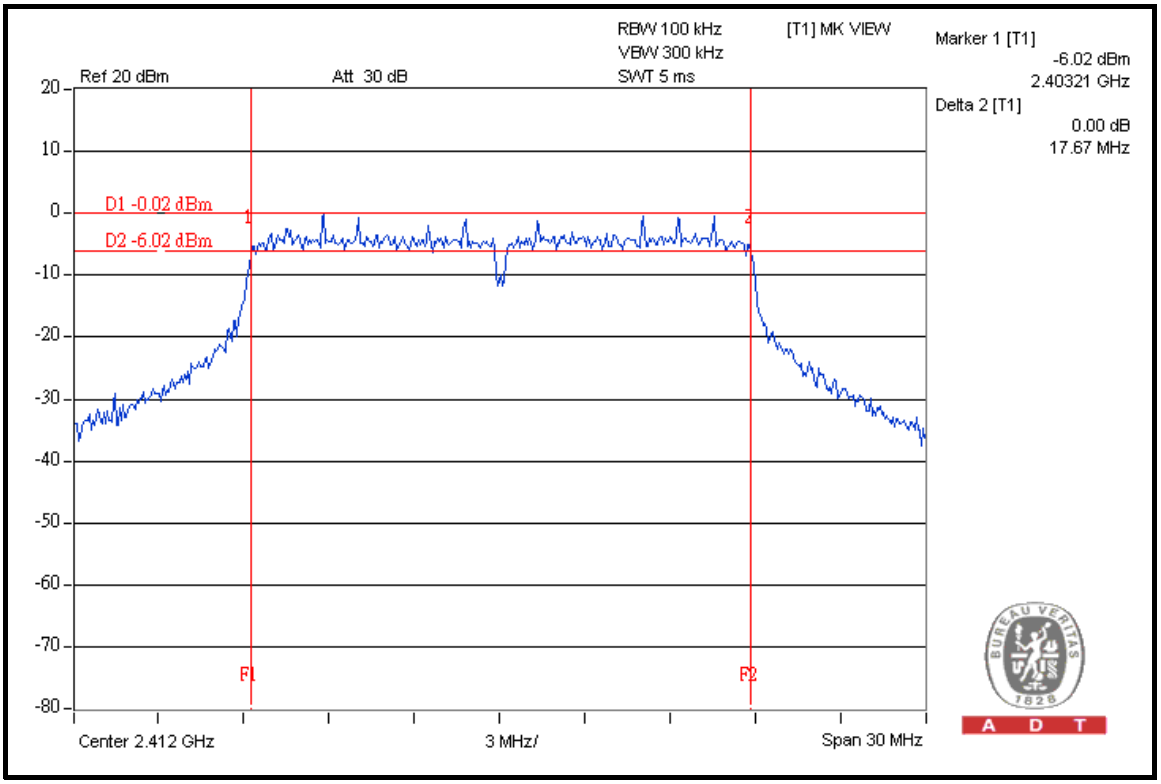
CH 1



802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.67	0.5	PASS
6	2437	17.65	0.5	PASS
11	2462	17.66	0.5	PASS

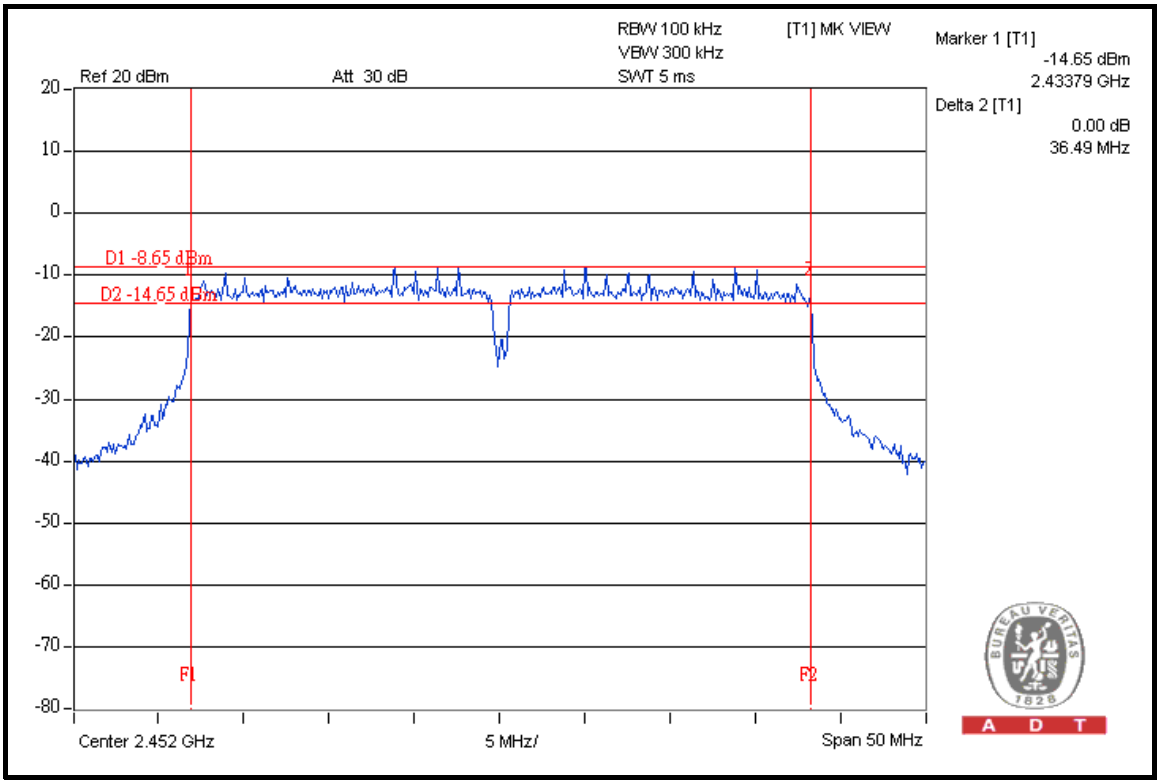
CH 1



802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2422	36.48	0.5	PASS
4	2437	36.34	0.5	PASS
7	2452	36.49	0.5	PASS

CH 7



4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	CALIBRATED UNTIL
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.

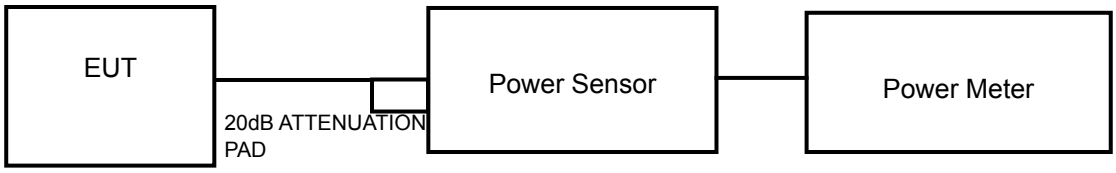
4.4.3 TEST PROCEDURES

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 Item 4.3.6.

4.4.7 TEST RESULTS

802.11b

CHAN	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	127.64	21.06	30	PASS
6	2437	128.23	21.08	30	PASS
11	2462	127.35	21.05	30	PASS

802.11g

CHAN	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	261.82	24.18	30	PASS
6	2437	234.96	23.71	30	PASS
11	2462	257.63	24.11	30	PASS

802.11n (20MHz)

CHAN	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	193.64	22.87	30	PASS
6	2437	240.99	23.82	30	PASS
11	2462	92.05	19.64	30	PASS

802.11n (40MHz)

CHAN	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2422	51.76	17.14	30	PASS
4	2437	178.65	22.52	30	PASS
7	2452	56.62	17.53	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	CALIBRATED UNTIL
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 CONDITION

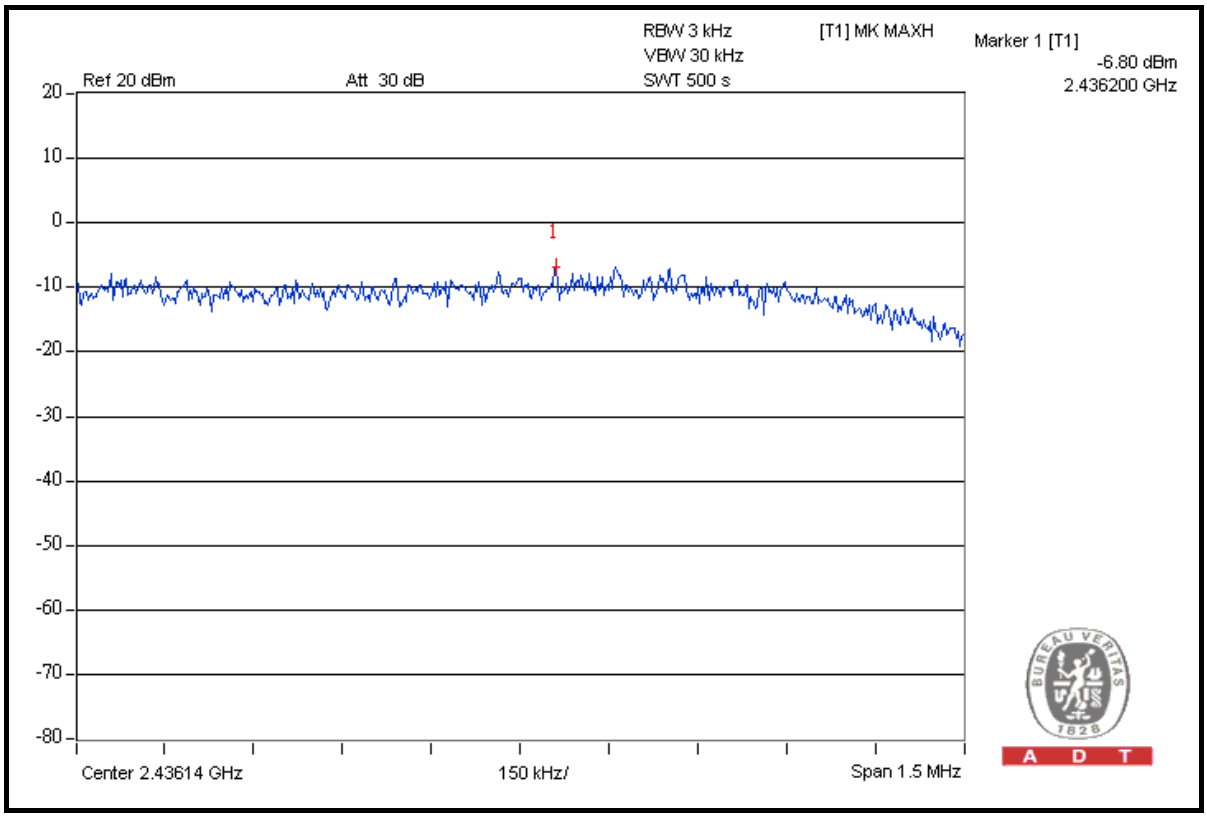
Same as Item 4.3.6.

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	-7.04	8	PASS
6	2437	-6.80	8	PASS
11	2462	-7.26	8	PASS

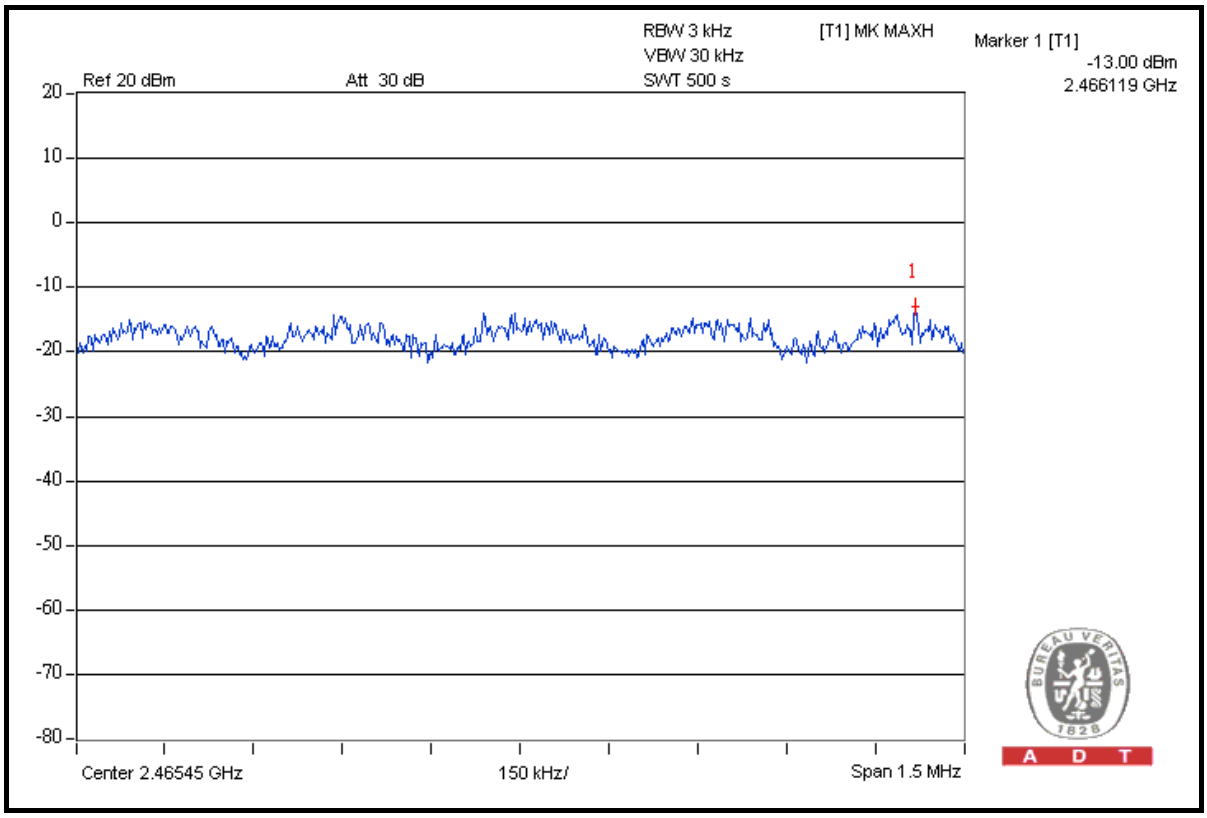
CH 6



802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-13.18	8	PASS
6	2437	-13.49	8	PASS
11	2462	-13.00	8	PASS

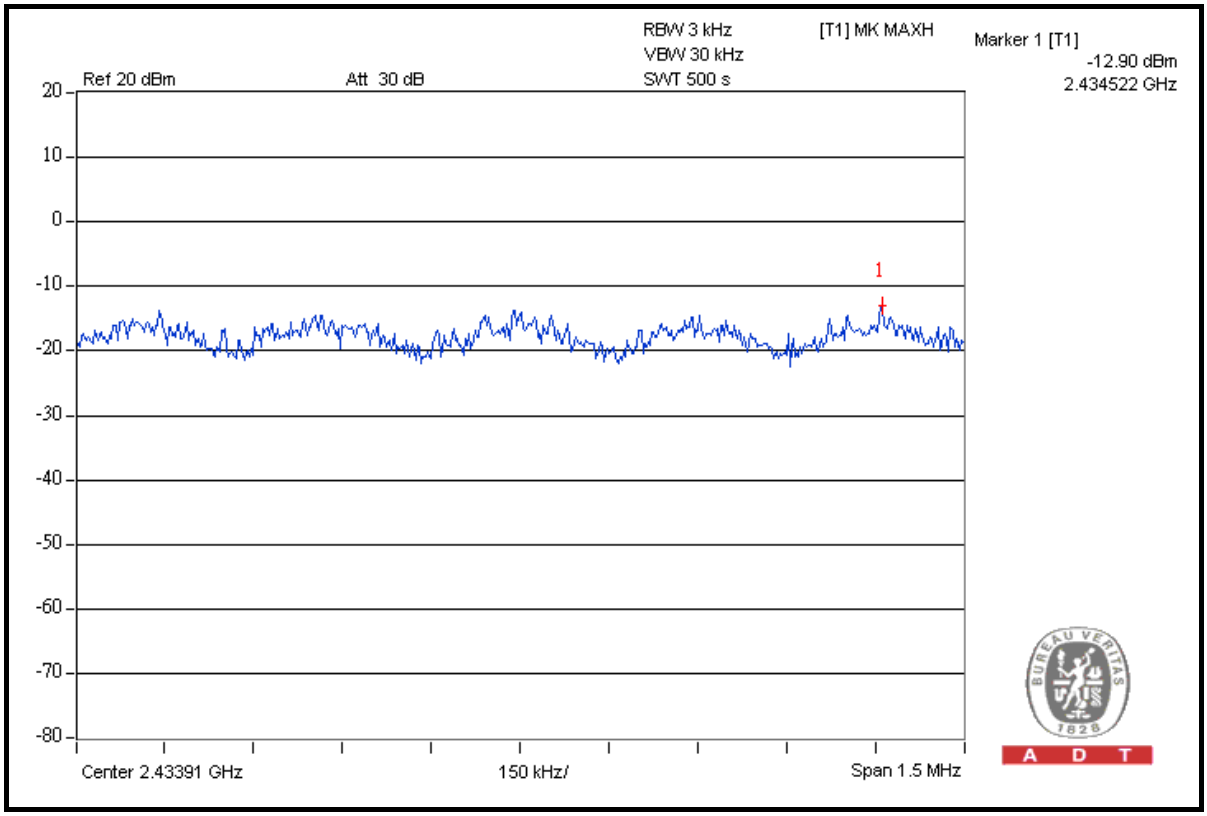
CH 11



802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-13.81	8	PASS
6	2437	-12.90	8	PASS
11	2462	-17.05	8	PASS

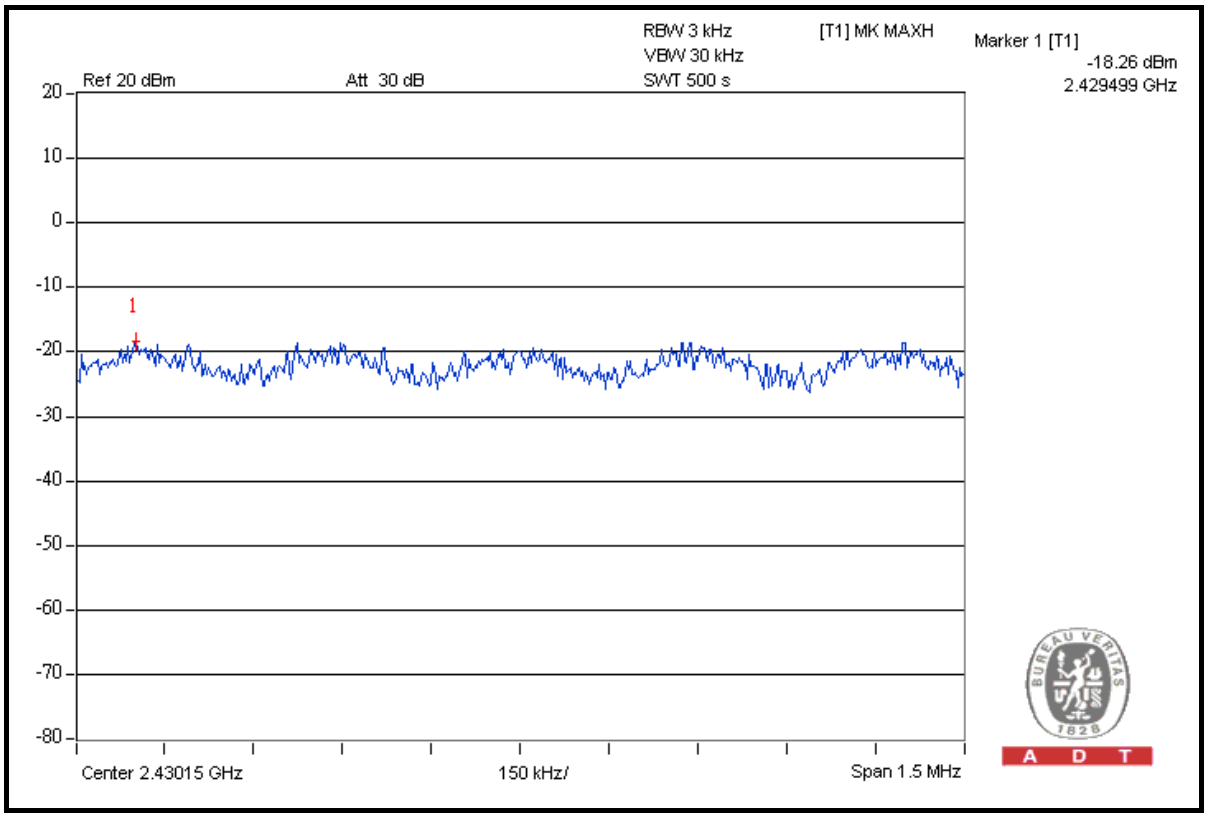
CH 6



802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2422	-23.45	8	PASS
4	2437	-18.26	8	PASS
7	2452	-23.17	8	PASS

CH 4



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	CALIBRATED UNTIL
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 Item 4.3.6.

4.6.6 TEST RESULTS

The spectrum plots are attached on the following 24 images. 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)

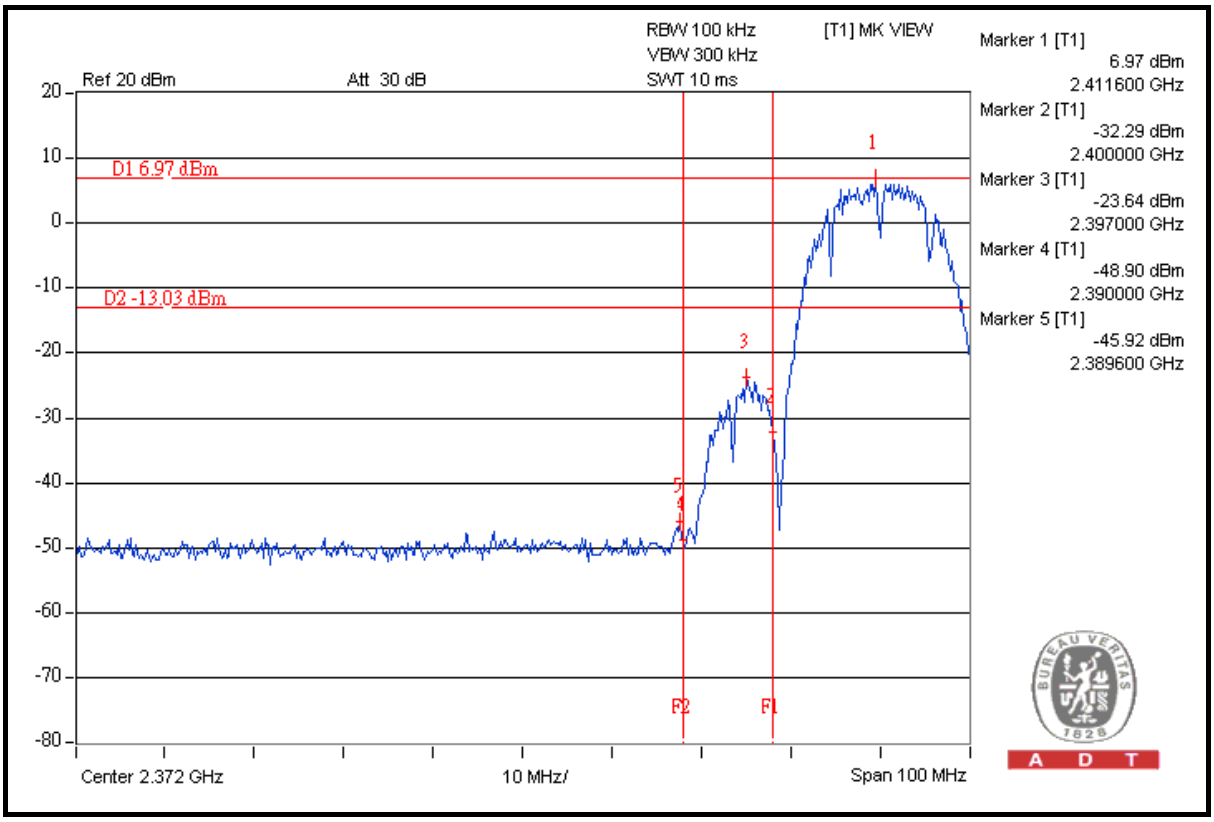
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	112.39	52.89	59.50	74.00
2412.00 (AV)	108.11	56.62	51.49	54.00

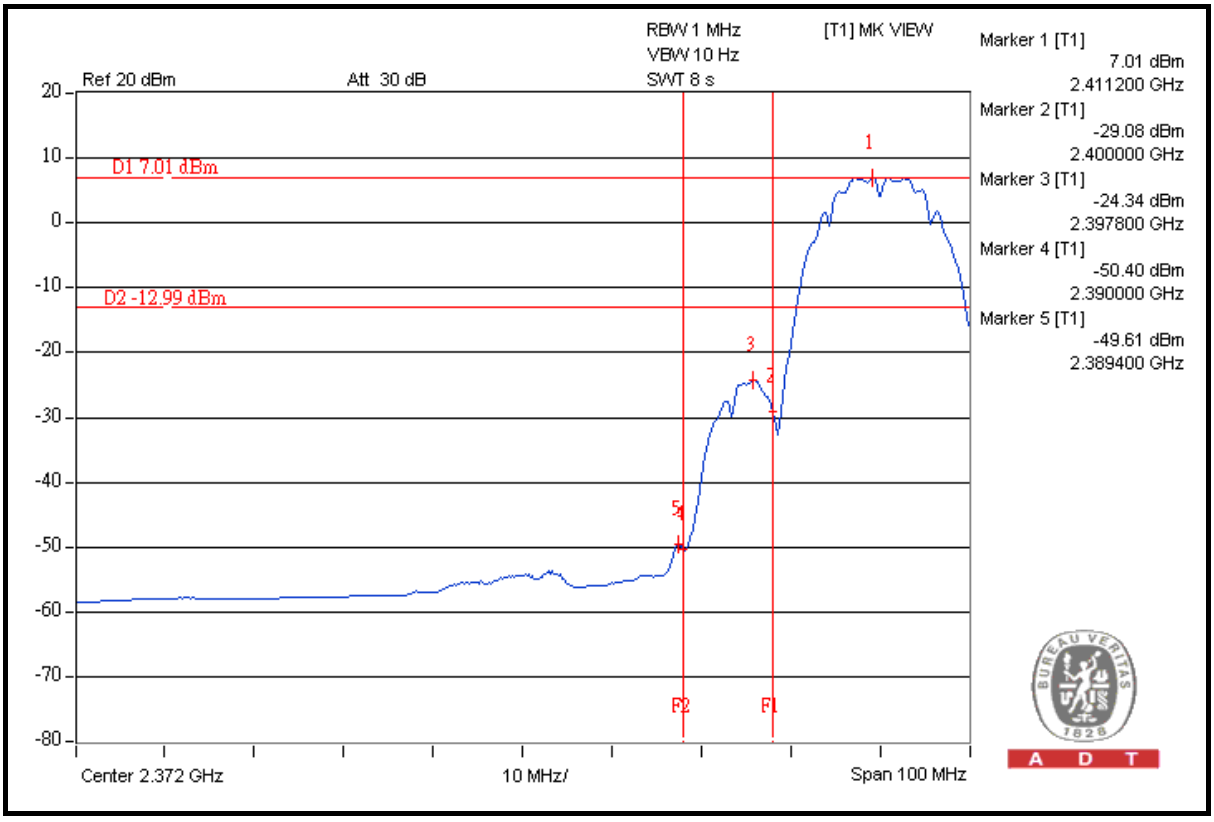
RESTRICT BAND (2483.5 ~ 2500 MHz)

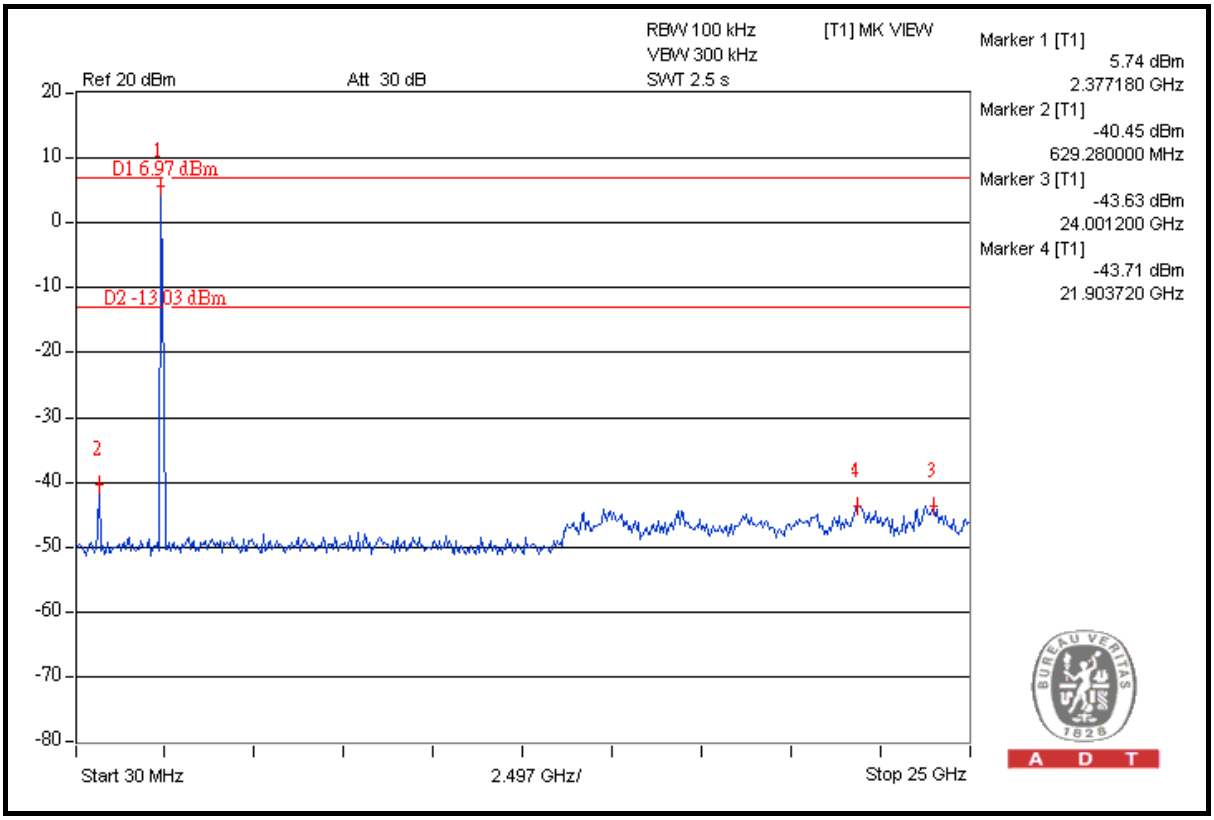
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	112.10	53.76	58.34	74.00
2462.00 (AV)	107.59	56.78	50.81	54.00

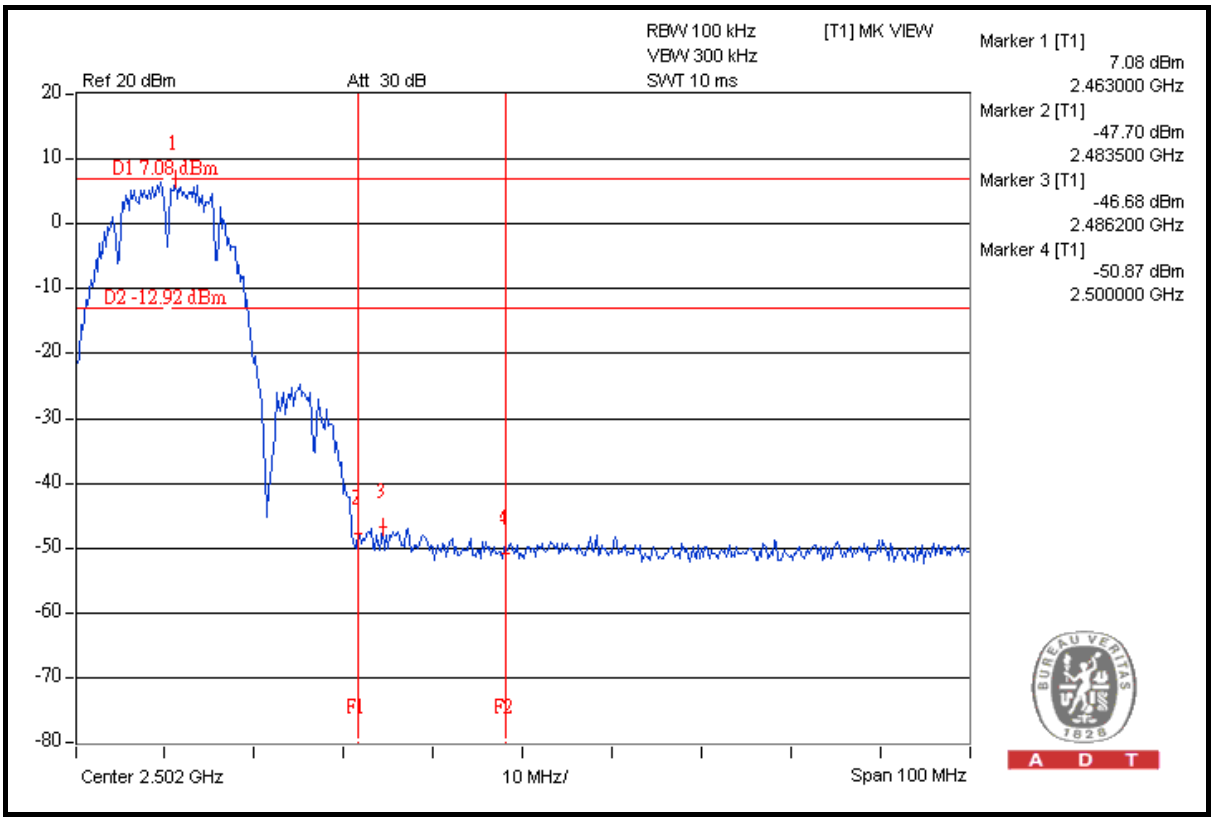
NOTE:

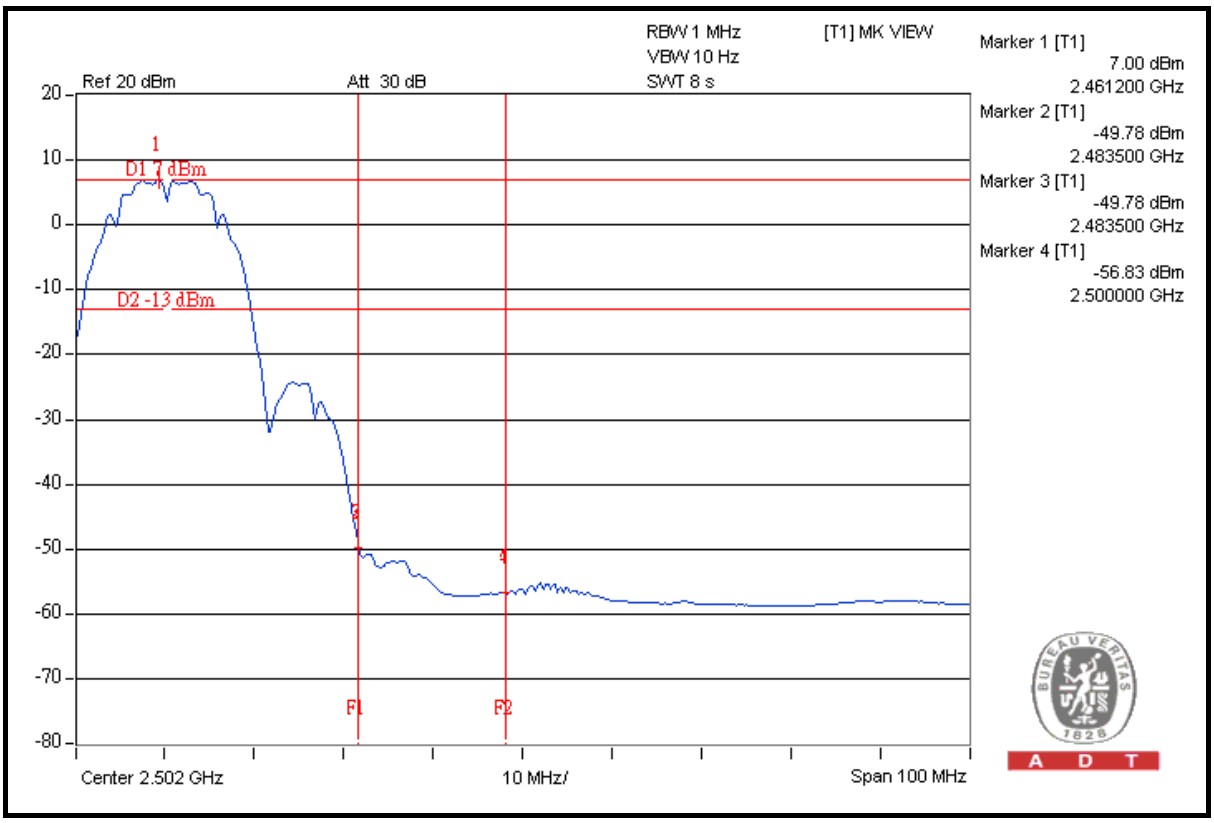
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

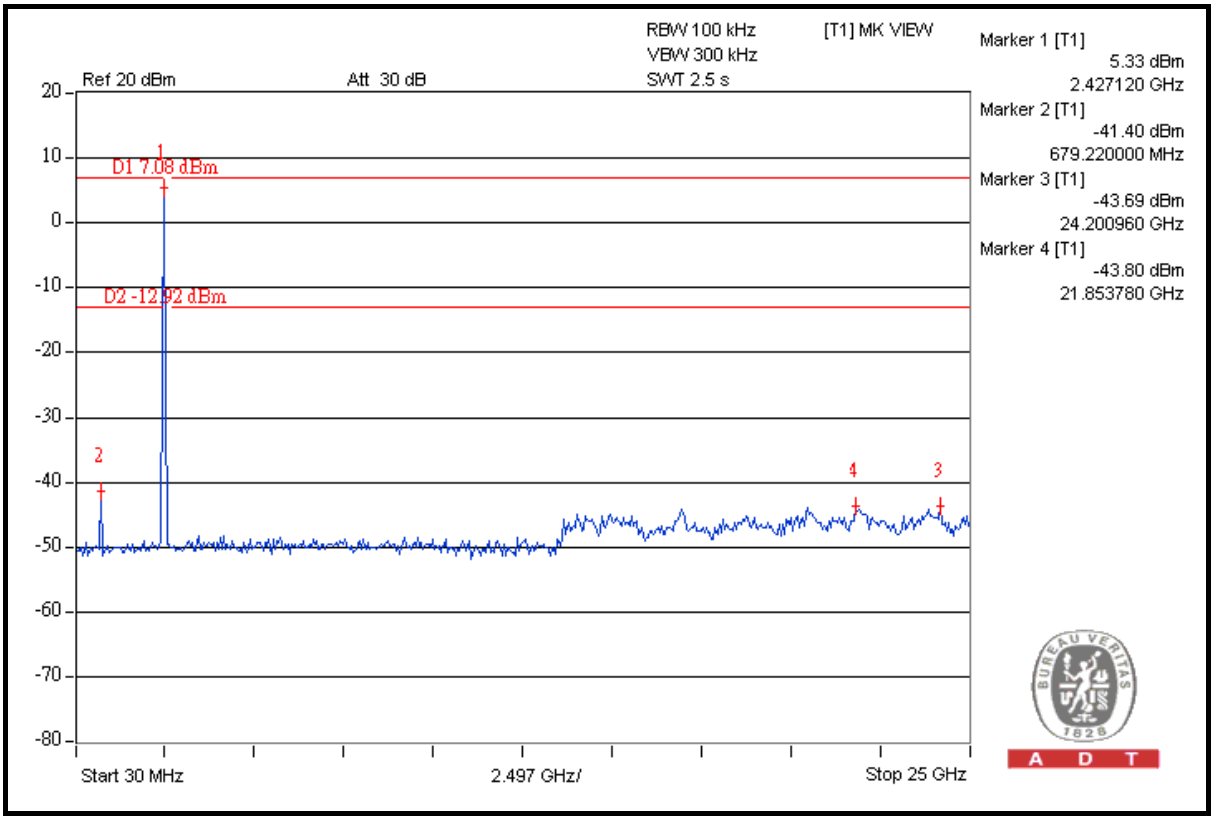

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 6.97 dBm
D2 -13.03 dBm
Marker 1 [T1]
6.97 dBm
2.411600 GHz
Marker 2 [T1]
-32.29 dBm
2.400000 GHz
Marker 3 [T1]
-23.64 dBm
2.397000 GHz
Marker 4 [T1]
-48.90 dBm
2.390000 GHz
Marker 5 [T1]
-45.92 dBm
2.389600 GHz
Center 2.372 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.01 dBm
D2 -12.99 dBm
Marker 1 [T1]
7.01 dBm
2.411200 GHz
Marker 2 [T1]
-29.08 dBm
2.400000 GHz
Marker 3 [T1]
-24.34 dBm
2.397800 GHz
Marker 4 [T1]
-50.40 dBm
2.390000 GHz
Marker 5 [T1]
-49.61 dBm
2.389400 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 6.97 dBm
D2 -13.03 dBm
Marker 1 [T1]
5.74 dBm
2.377180 GHz
Marker 2 [T1]
-40.45 dBm
629.280000 MHz
Marker 3 [T1]
-43.63 dBm
24.001200 GHz
Marker 4 [T1]
-43.71 dBm
21.903720 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 7.08 dBm
D2 -12.92 dBm
Marker 1 [T1]
7.08 dBm
2.463000 GHz
Marker 2 [T1]
-47.70 dBm
2.483500 GHz
Marker 3 [T1]
-46.68 dBm
2.486200 GHz
Marker 4 [T1]
-50.87 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 7 dBm
D2 -13 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
Marker 1 [T1]
7.00 dBm
2.461200 GHz
Marker 2 [T1]
-49.78 dBm
2.483500 GHz
Marker 3 [T1]
-49.78 dBm
2.483500 GHz
Marker 4 [T1]
-56.83 dBm
2.500000 GHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.08 dBm
D2 -12.92 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz
Marker 1 [T1]
5.33 dBm
2.427120 GHz
Marker 2 [T1]
-41.40 dBm
679.220000 MHz
Marker 3 [T1]
-43.69 dBm
24.200960 GHz
Marker 4 [T1]
-43.80 dBm
21.853780 GHz

802.11g

RESTRICT BAND (2310 ~ 2390 MHz)

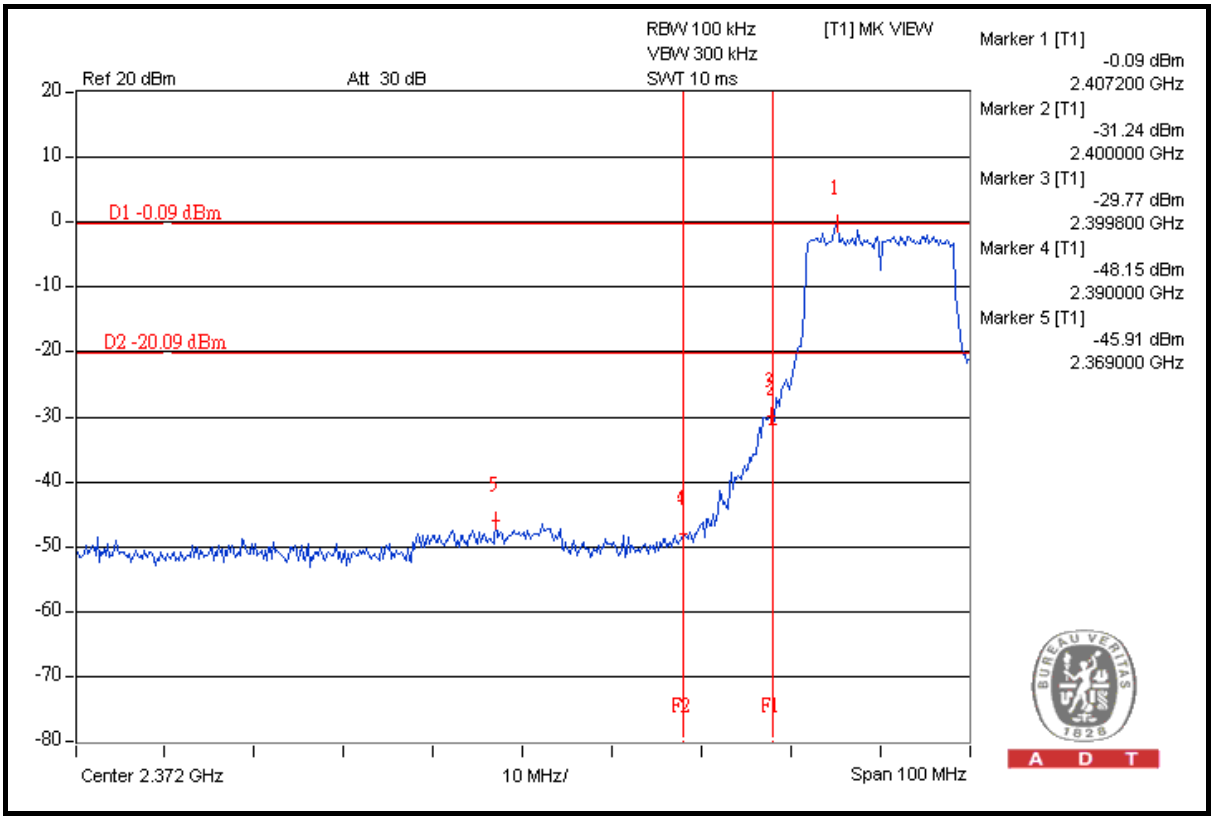
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	109.73	45.82	63.91	74.00
2412.00 (AV)	99.46	49.07	50.39	54.00

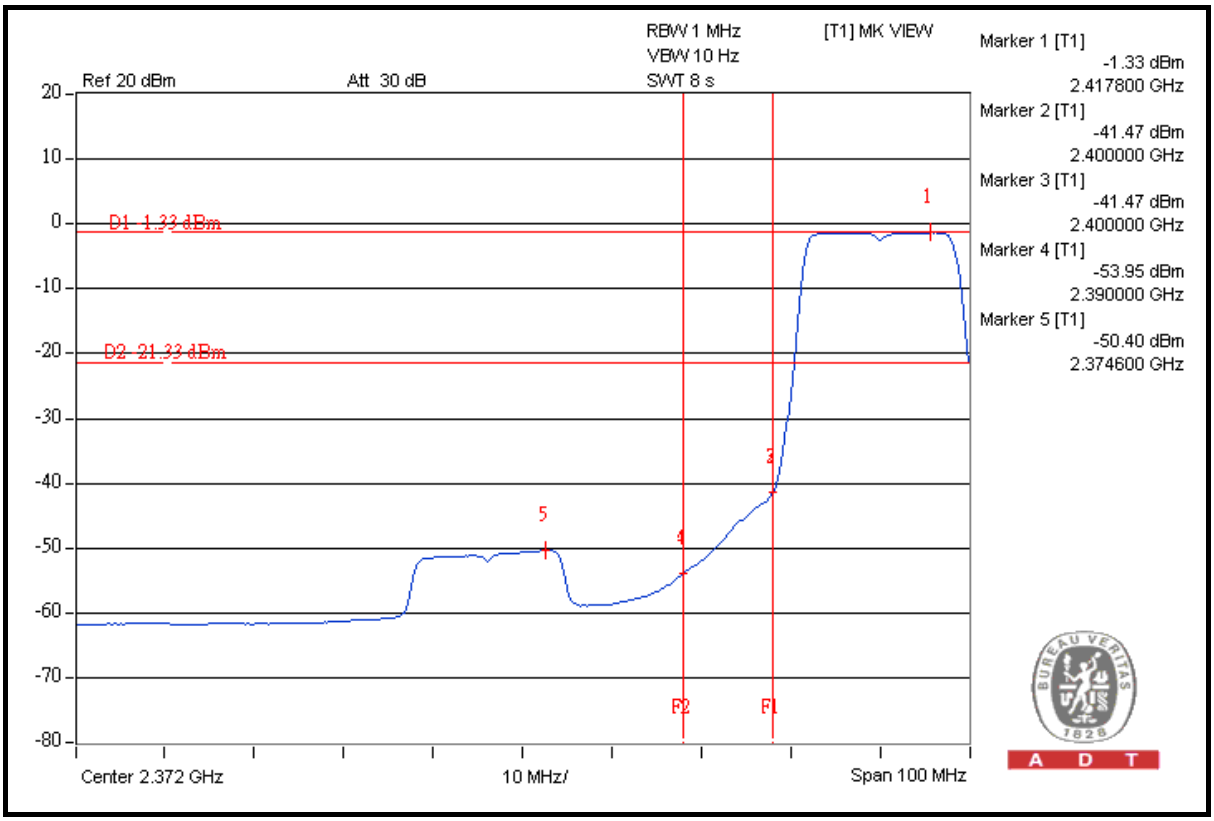
RESTRICT BAND (2483.5 ~ 2500 MHz)

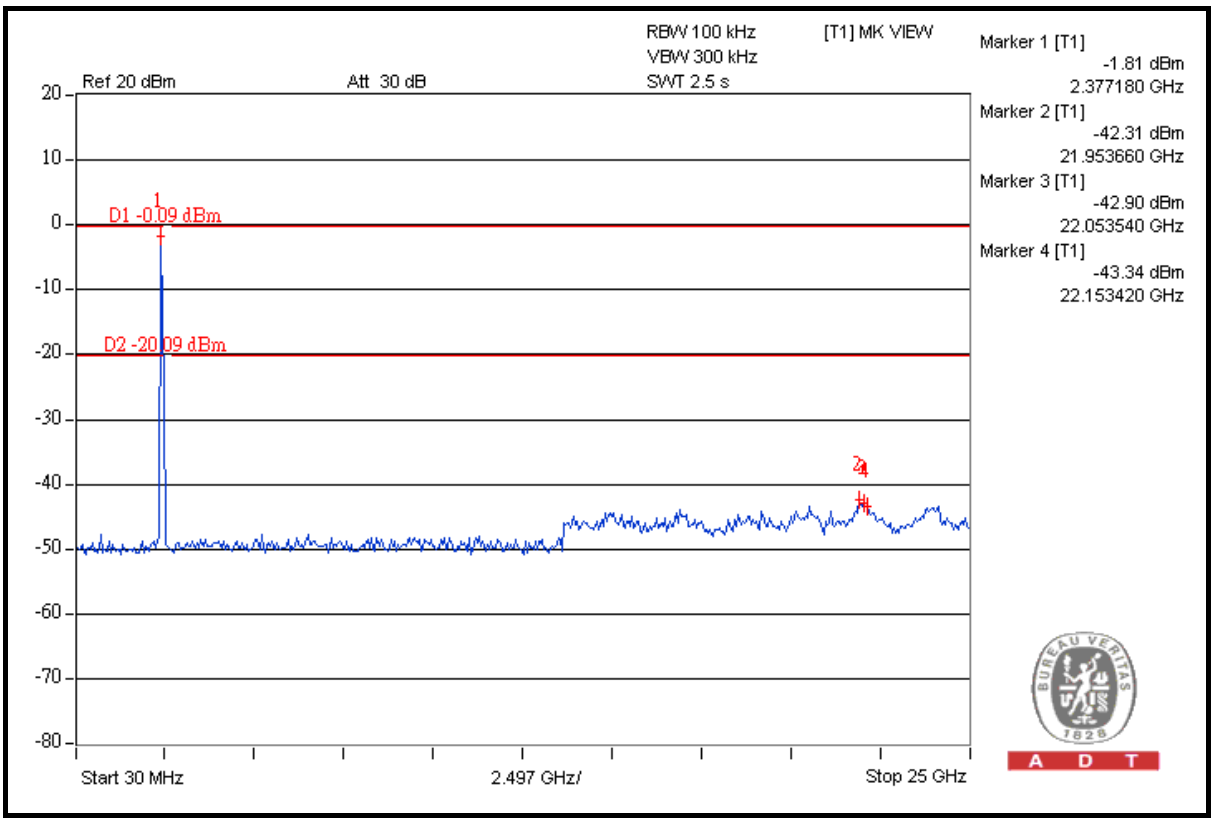
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	109.50	43.90	65.60	74.00
2462.00 (AV)	98.98	46.17	52.81	54.00

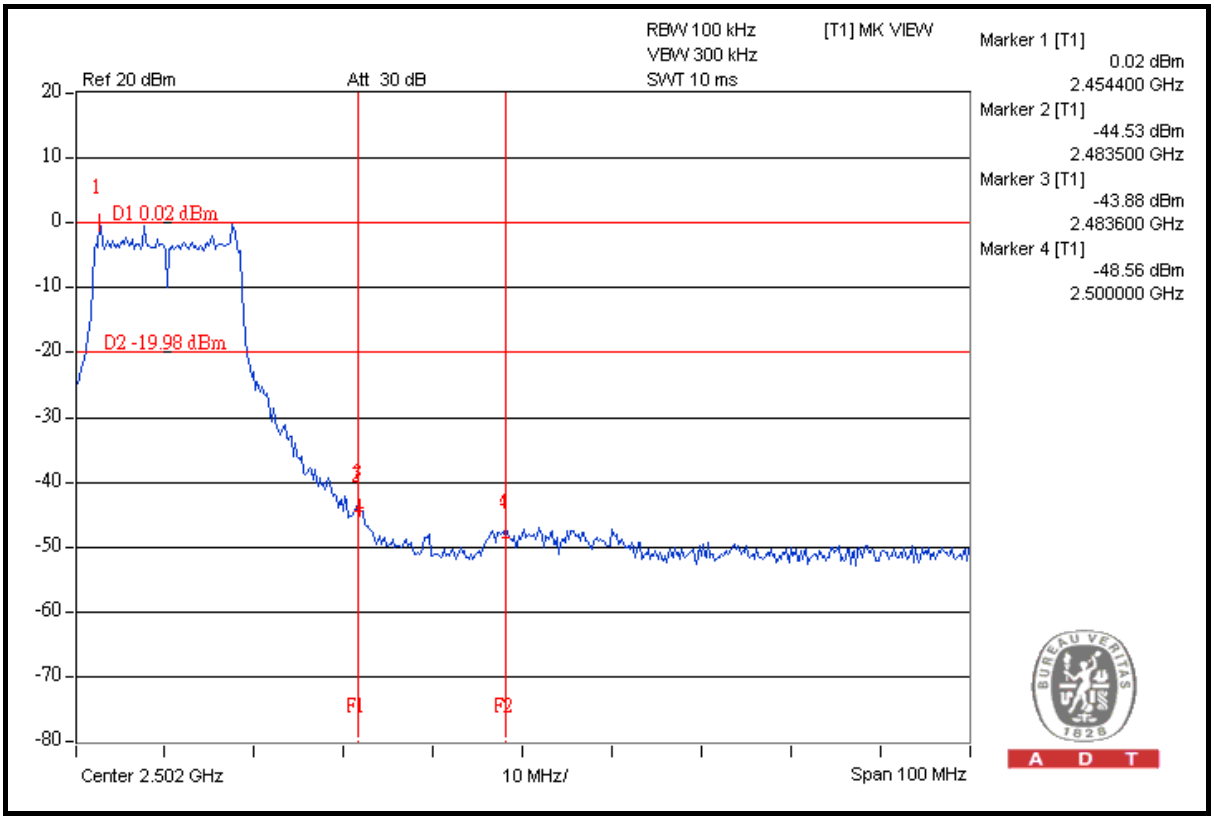
NOTE:

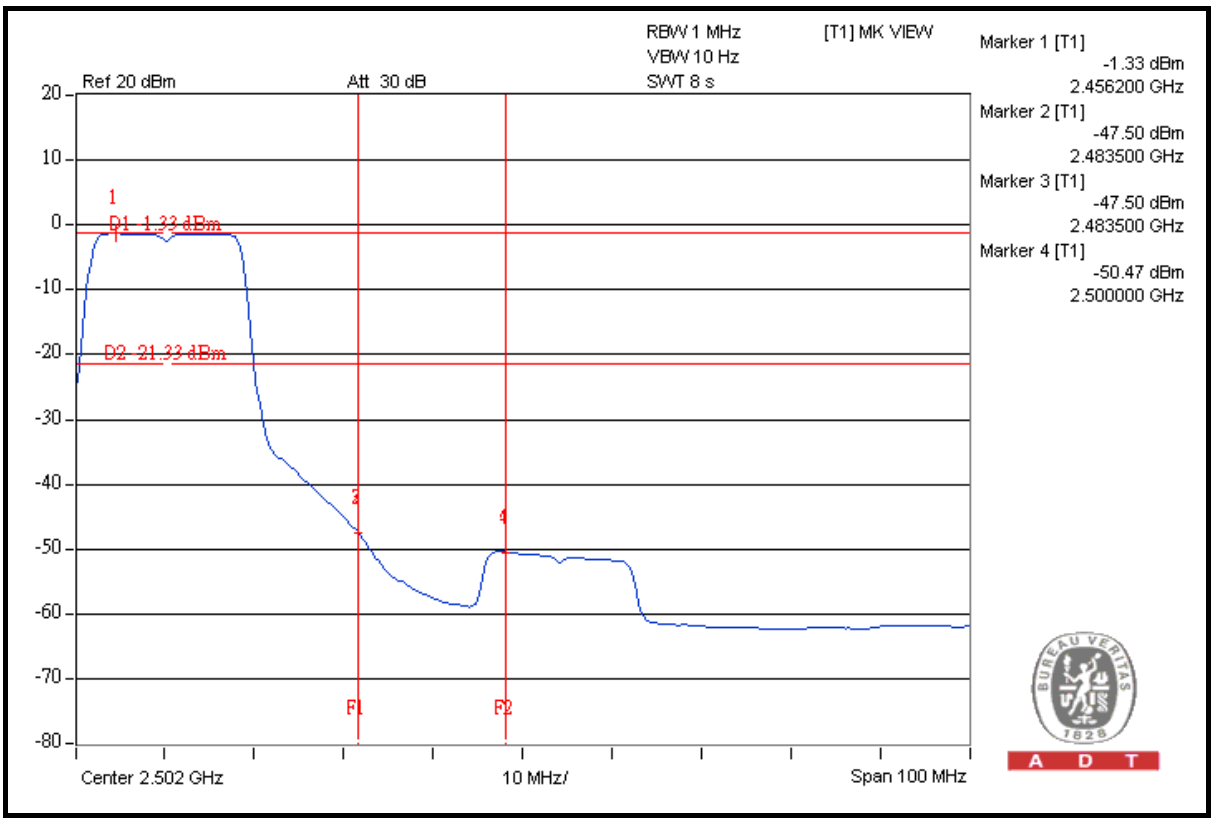
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

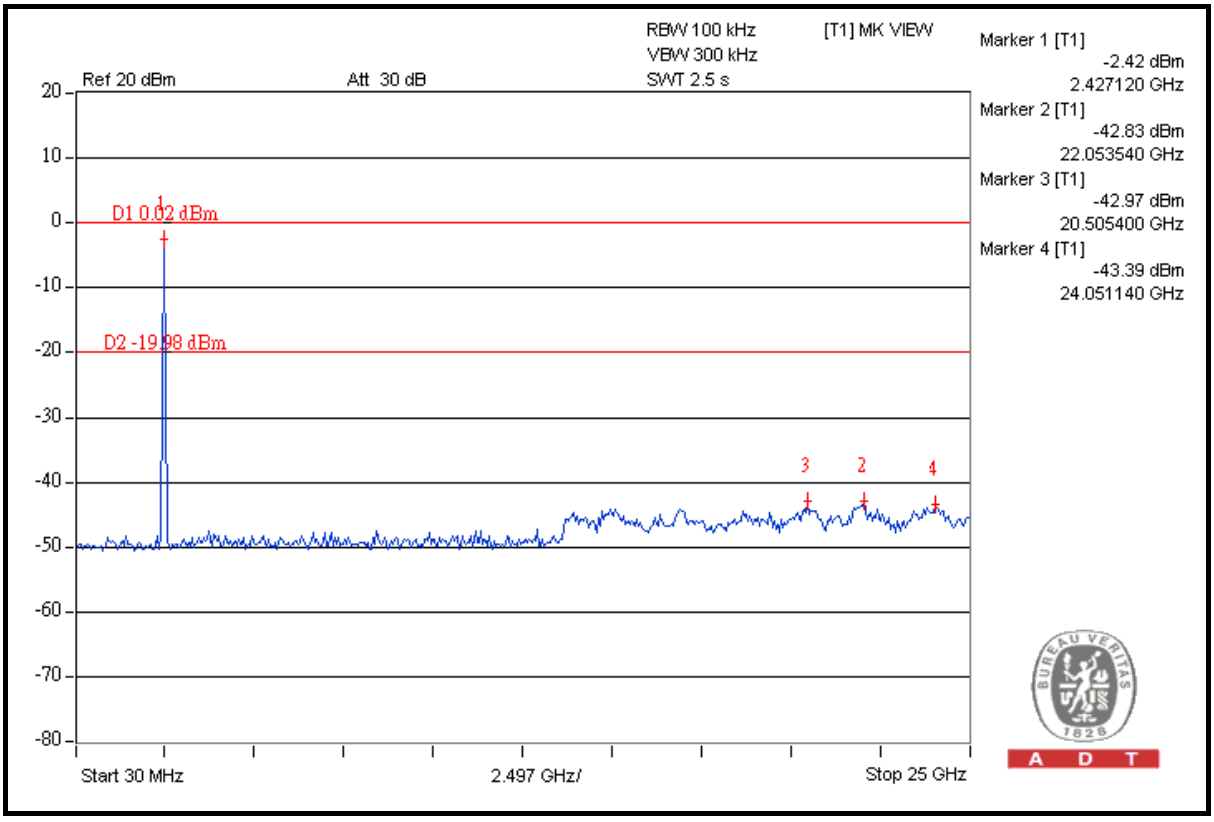

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -0.09 dBm
D2 -20.09 dBm
Marker 1 [T1]
-0.09 dBm
2.407200 GHz
Marker 2 [T1]
-31.24 dBm
2.400000 GHz
Marker 3 [T1]
-29.77 dBm
2.399800 GHz
Marker 4 [T1]
-48.15 dBm
2.390000 GHz
Marker 5 [T1]
-45.91 dBm
2.369000 GHz
Center 2.372 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -1.33 dBm
D2 -21.33 dBm
Marker 1 [T1]
-1.33 dBm
2.417800 GHz
Marker 2 [T1]
-41.47 dBm
2.400000 GHz
Marker 3 [T1]
-41.47 dBm
2.400000 GHz
Marker 4 [T1]
-53.95 dBm
2.390000 GHz
Marker 5 [T1]
-50.40 dBm
2.374600 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 -0.09 dBm
D2 -20.09 dBm
Marker 1 [T1]
-1.81 dBm
2.377180 GHz
Marker 2 [T1]
-42.31 dBm
21.953660 GHz
Marker 3 [T1]
-42.90 dBm
22.053540 GHz
Marker 4 [T1]
-43.34 dBm
22.153420 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 0.02 dBm
D2 -19.98 dBm
Marker 1 [T1]
0.02 dBm
2.454400 GHz
Marker 2 [T1]
-44.53 dBm
2.483500 GHz
Marker 3 [T1]
-43.88 dBm
2.483600 GHz
Marker 4 [T1]
-48.56 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
Marker 1 [T1]
-1.33 dBm
2.456200 GHz
Marker 2 [T1]
-47.50 dBm
2.483500 GHz
Marker 3 [T1]
-47.50 dBm
2.483500 GHz
Marker 4 [T1]
-50.47 dBm
2.500000 GHz
D1 -1.33 dBm
D2 -21.33 dBm
F1
F2
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
Marker 1 [T1]
-2.42 dBm
2.427120 GHz
Marker 2 [T1]
-42.83 dBm
22.053540 GHz
Marker 3 [T1]
-42.97 dBm
20.505400 GHz
Marker 4 [T1]
-43.39 dBm
24.051140 GHz
D1 0.02 dBm
D2 -19.98 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11n (20MHz)

RESTRICT BAND (2310 ~ 2390 MHz)

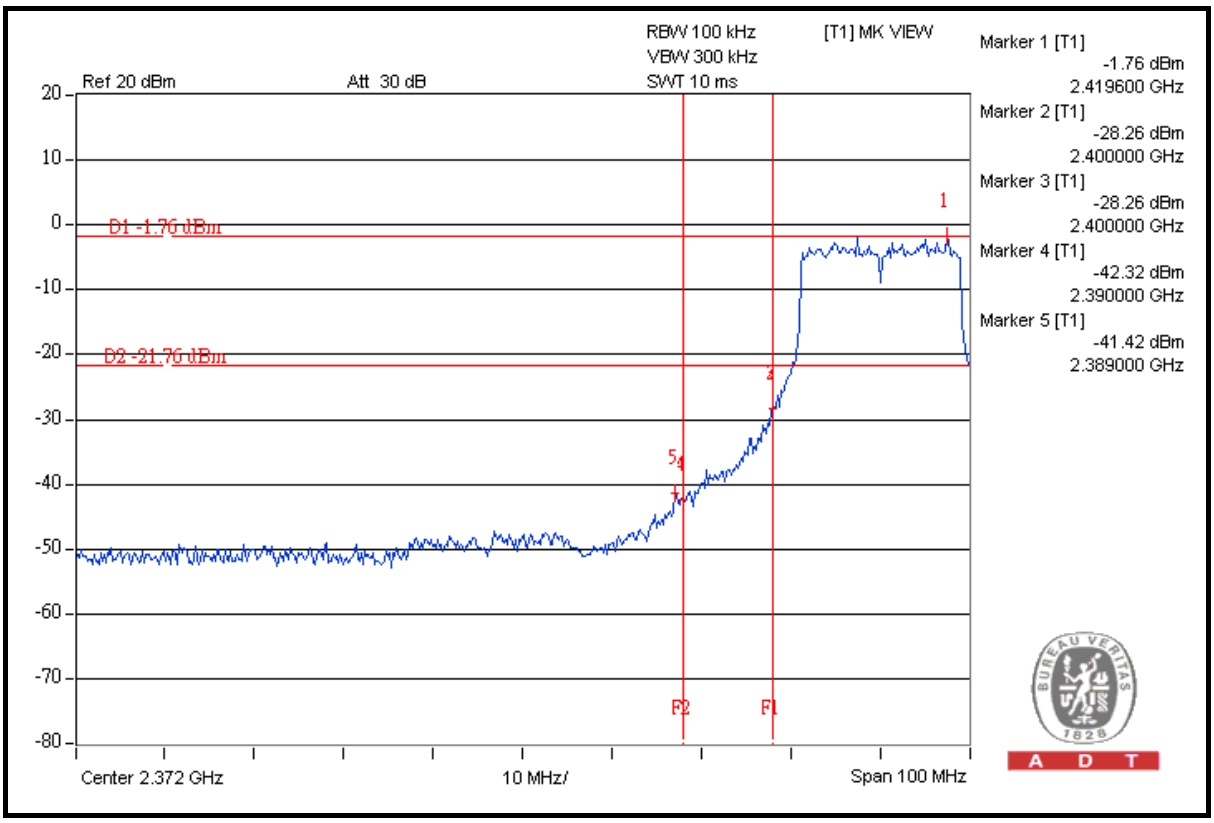
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	109.23	39.66	69.57	74.00
2412.00 (AV)	97.97	49.35	48.62	54.00

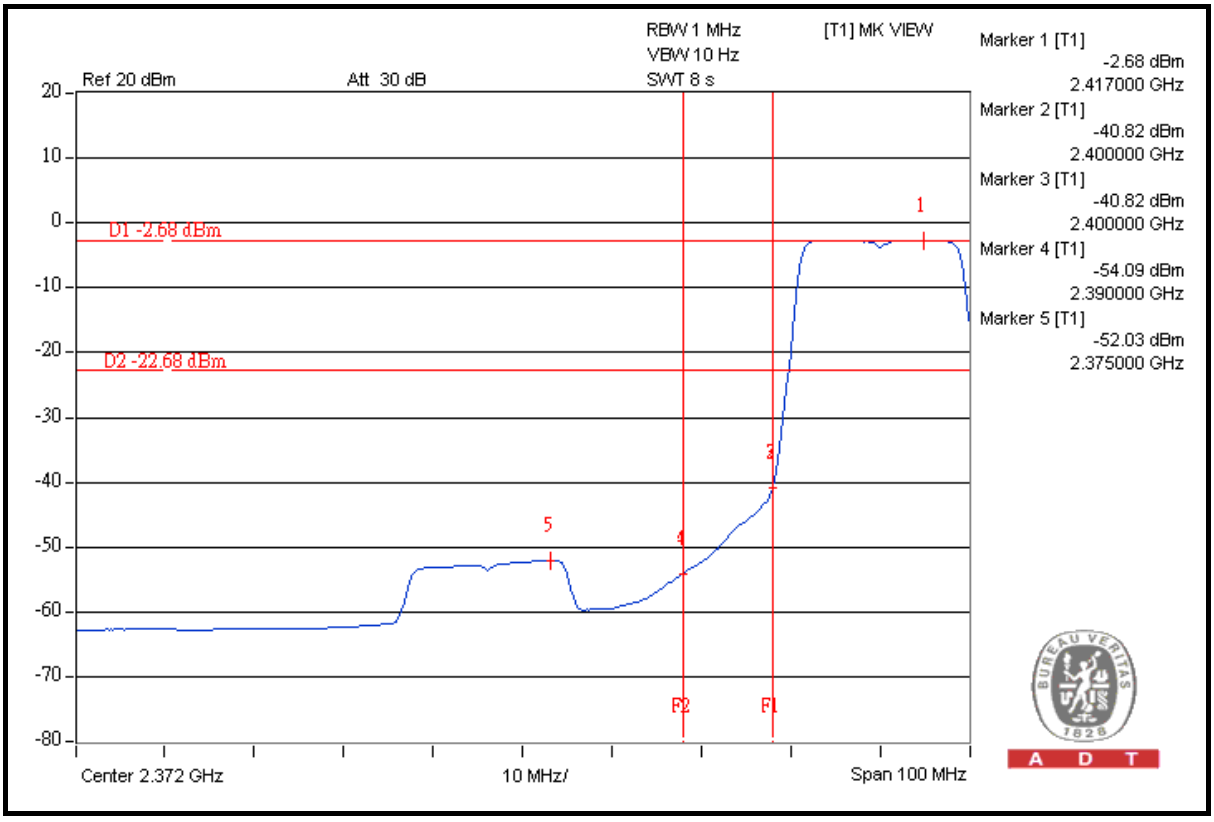
RESTRICT BAND (2483.5 ~ 2500 MHz)

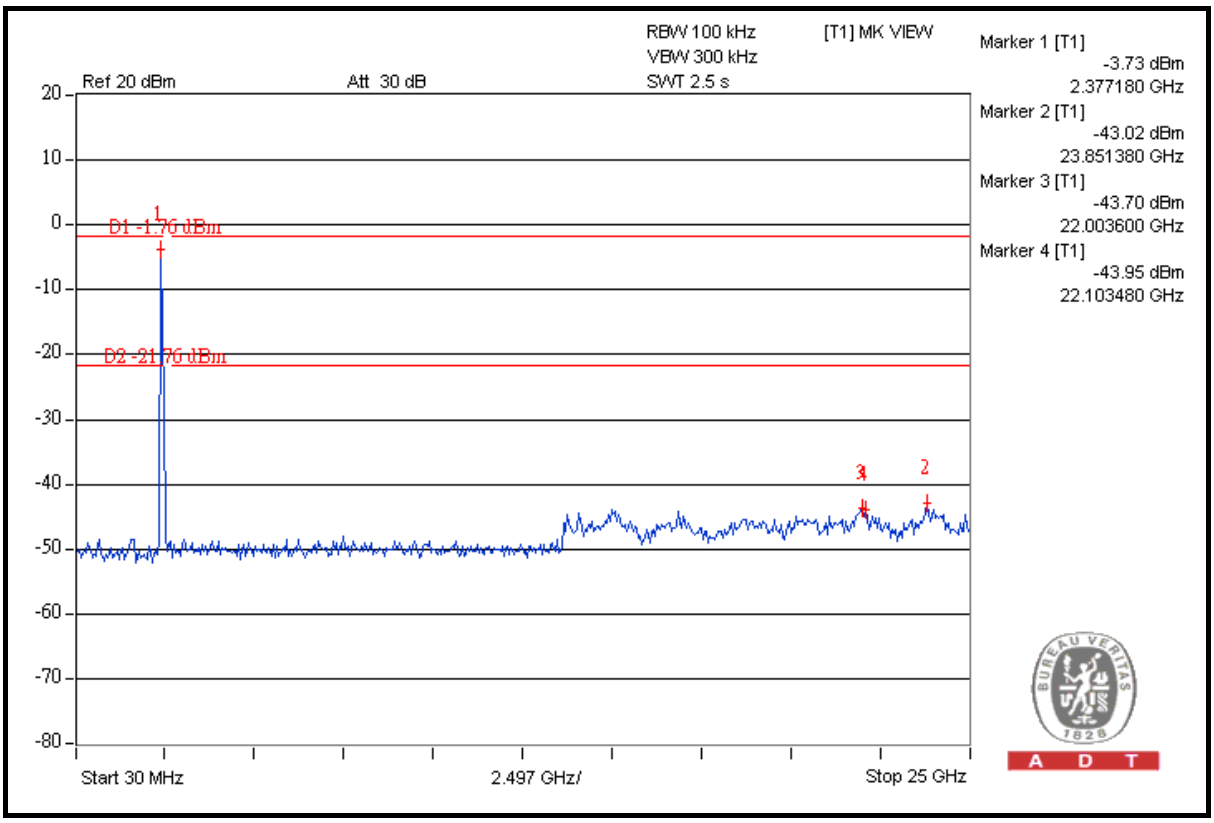
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	105.30	39.99	65.31	74.00
2462.00 (AV)	93.28	41.82	51.46	54.00

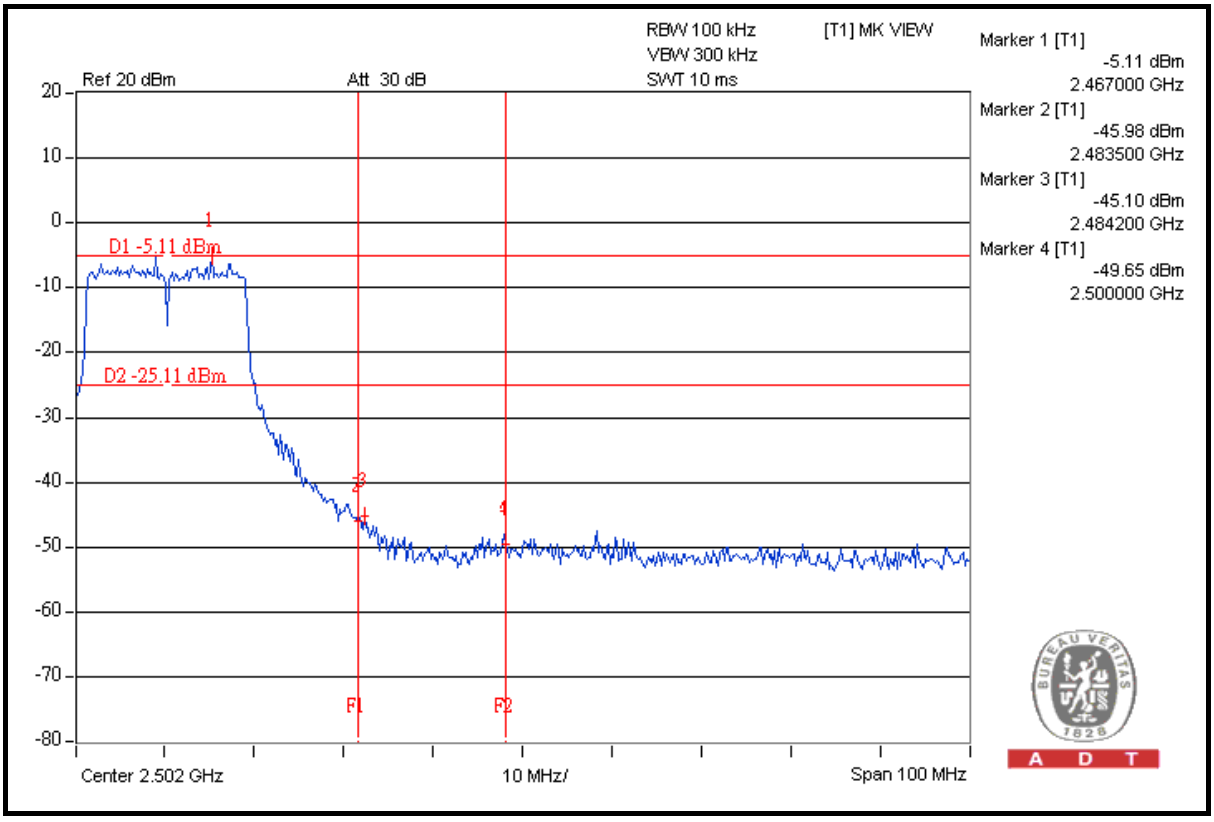
NOTE:

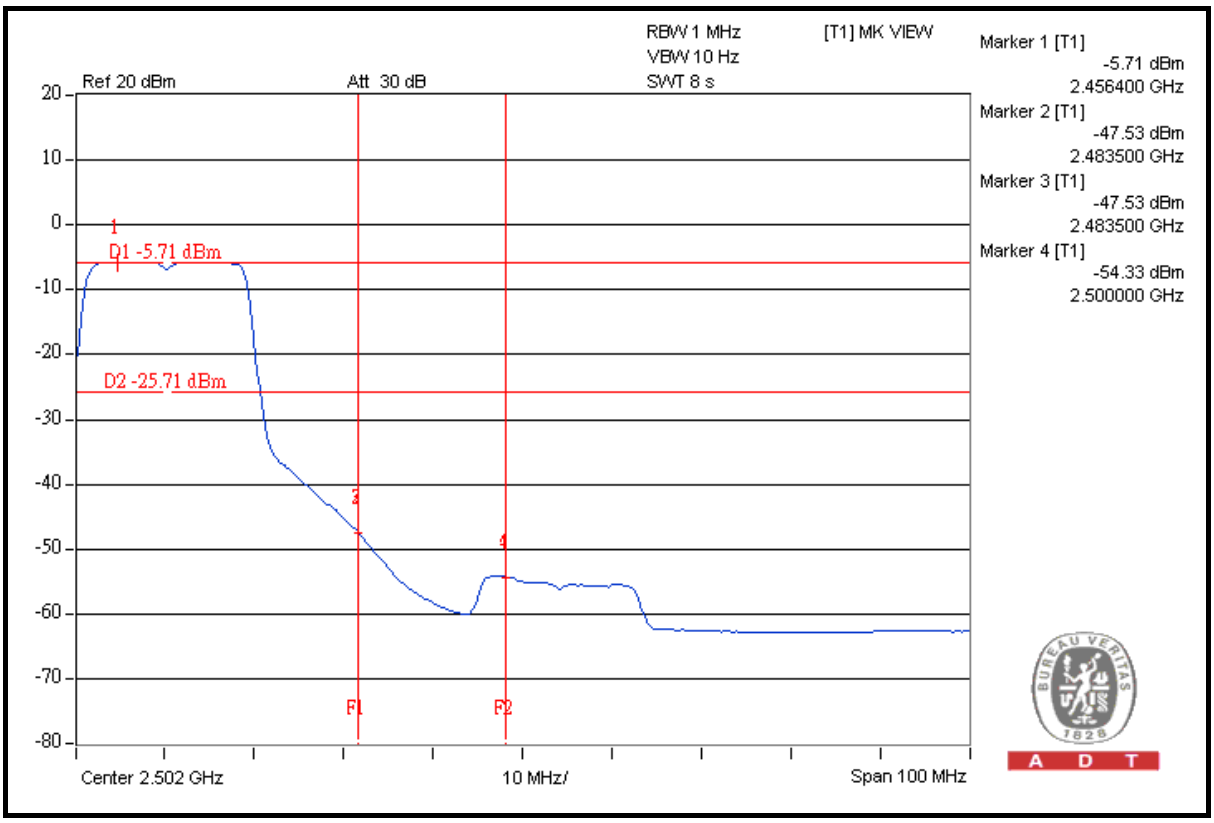
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

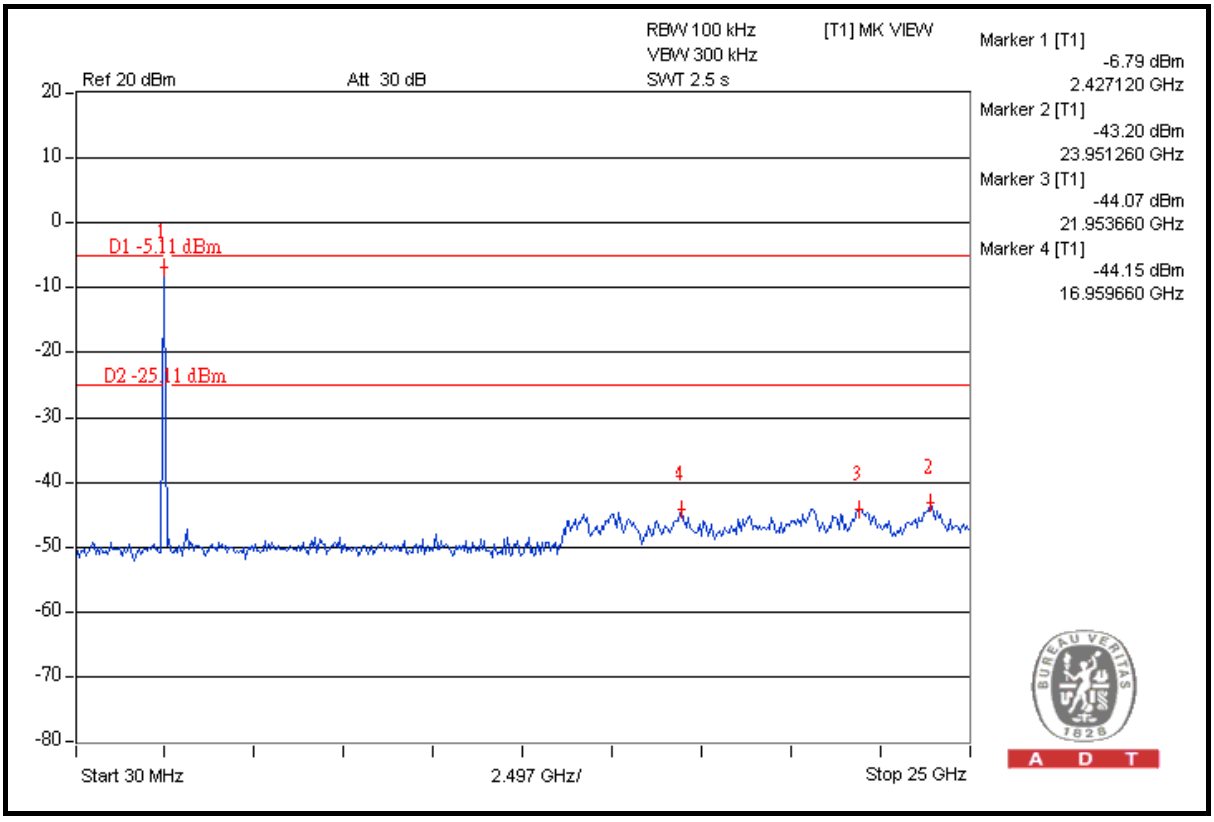

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-1.76 dBm
2.419600 GHz
Marker 2 [T1]
-28.26 dBm
2.400000 GHz
Marker 3 [T1]
-28.26 dBm
2.400000 GHz
Marker 4 [T1]
-42.32 dBm
2.390000 GHz
Marker 5 [T1]
-41.42 dBm
2.389000 GHz
D1 -1.76 dBm
D2 -21.76 dBm
F2
F1
Center 2.372 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-2.68 dBm
2.417000 GHz
Marker 2 [T1]
-40.82 dBm
2.400000 GHz
Marker 3 [T1]
-40.82 dBm
2.400000 GHz
Marker 4 [T1]
-54.09 dBm
2.390000 GHz
Marker 5 [T1]
-52.03 dBm
2.375000 GHz
D1 -2.68 dBm
D2 -22.68 dBm
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]
-3.73 dBm
2.377180 GHz
Marker 2 [T1]
-43.02 dBm
23.851380 GHz
Marker 3 [T1]
-43.70 dBm
22.003600 GHz
Marker 4 [T1]
-43.95 dBm
22.103480 GHz
D1 -1.76 dBm
D2 -21.76 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]
-5.11 dBm
2.467000 GHz
Marker 2 [T1]
-45.98 dBm
2.483500 GHz
Marker 3 [T1]
-45.10 dBm
2.484200 GHz
Marker 4 [T1]
-49.65 dBm
2.500000 GHz
D1 -5.11 dBm
D2 -25.11 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 -5.71 dBm
D2 -25.71 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
Marker 1 [T1]
-5.71 dBm
2.456400 GHz
Marker 2 [T1]
-47.53 dBm
2.483500 GHz
Marker 3 [T1]
-47.53 dBm
2.483500 GHz
Marker 4 [T1]
-54.33 dBm
2.500000 GHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -5.11 dBm
D2 -25.11 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz
Marker 1 [T1]
-6.79 dBm
2.427120 GHz
Marker 2 [T1]
-43.20 dBm
23.951260 GHz
Marker 3 [T1]
-44.07 dBm
21.953660 GHz
Marker 4 [T1]
-44.15 dBm
16.959660 GHz

802.11n (40MHz)

RESTRICT BAND (2310 ~ 2390 MHz)

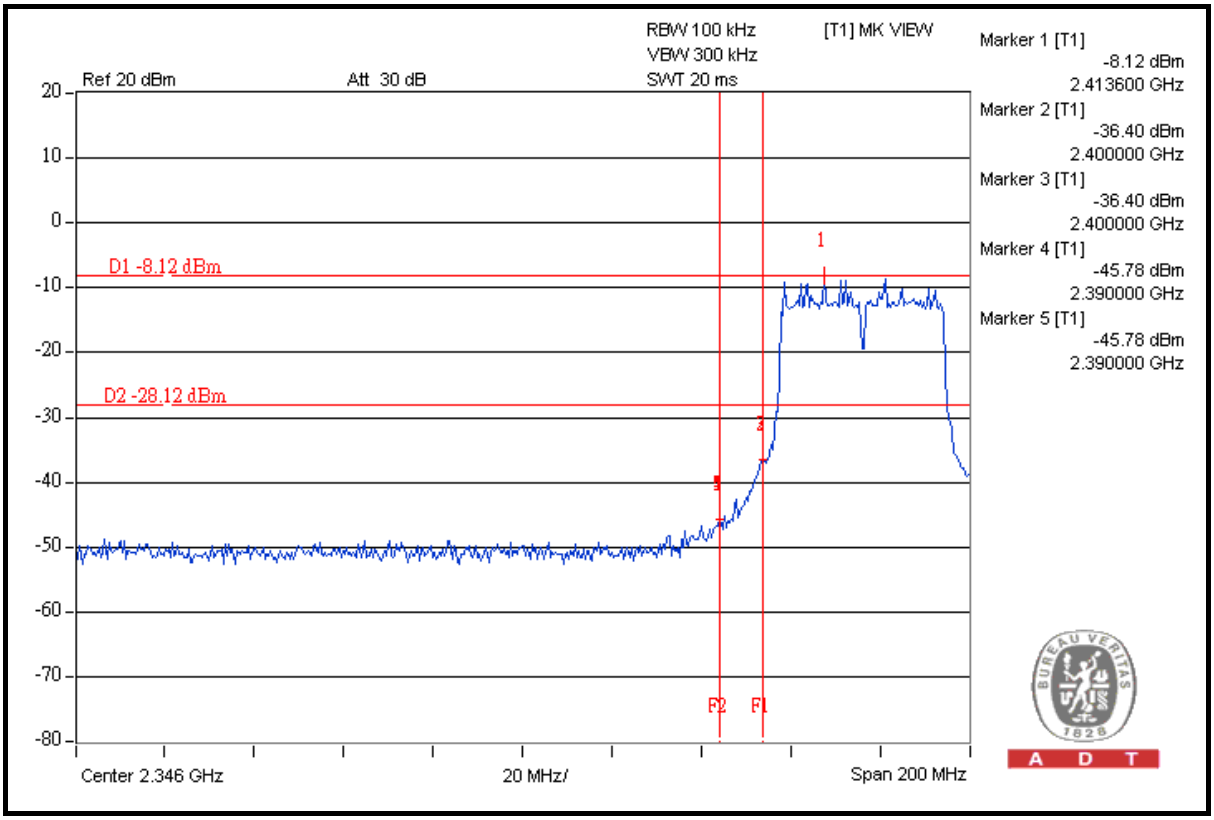
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2422.00 (PK)	100.46	37.66	62.80	74.00
2422.00 (AV)	88.94	39.59	49.35	54.00

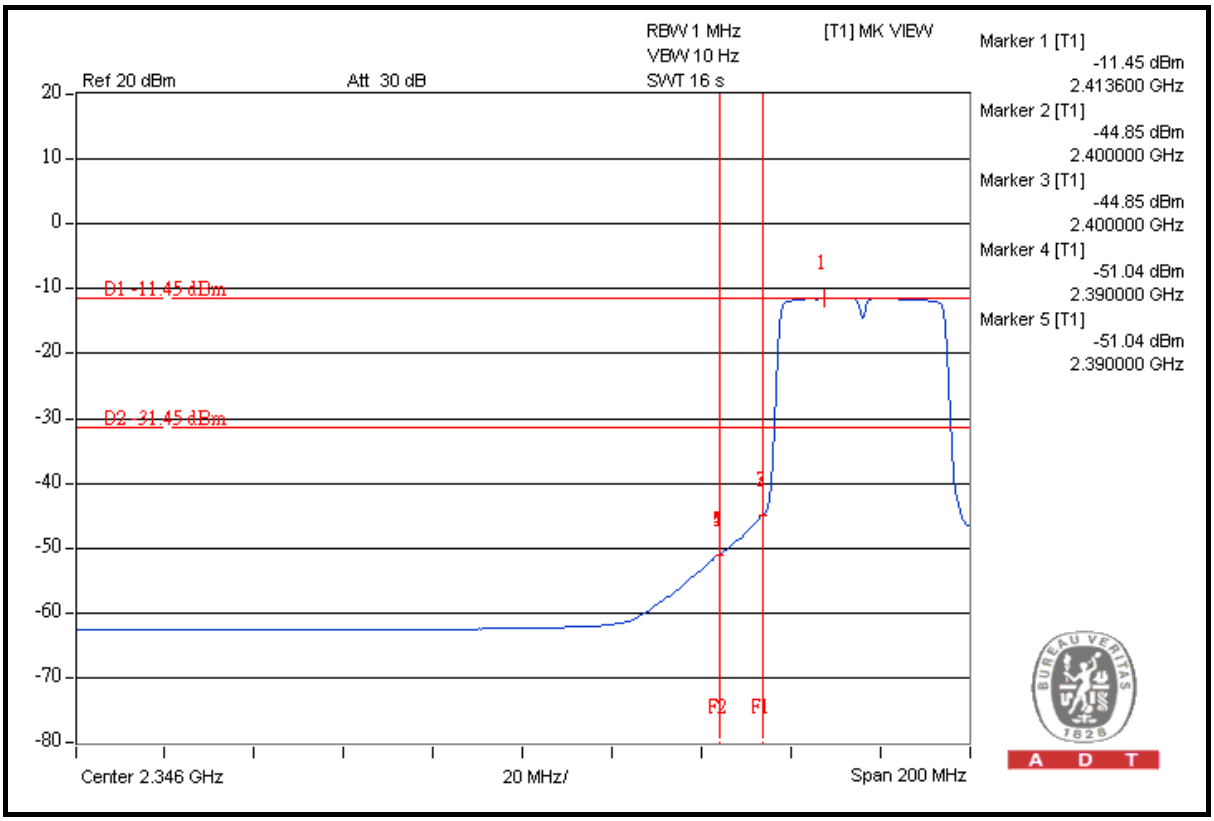
RESTRICT BAND (2483.5 ~ 2500 MHz)

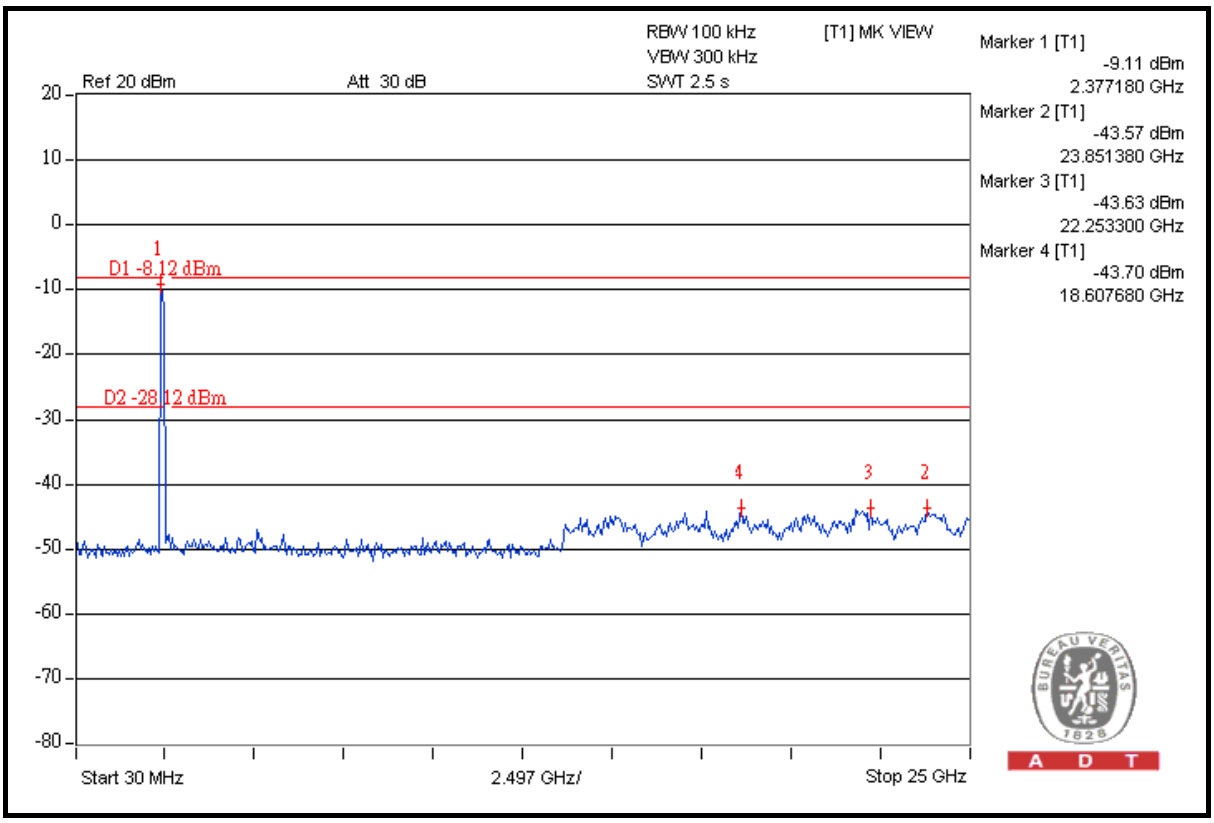
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2452.00 (PK)	100.02	34.70	65.32	74.00
2452.00 (AV)	88.50	37.12	51.38	54.00

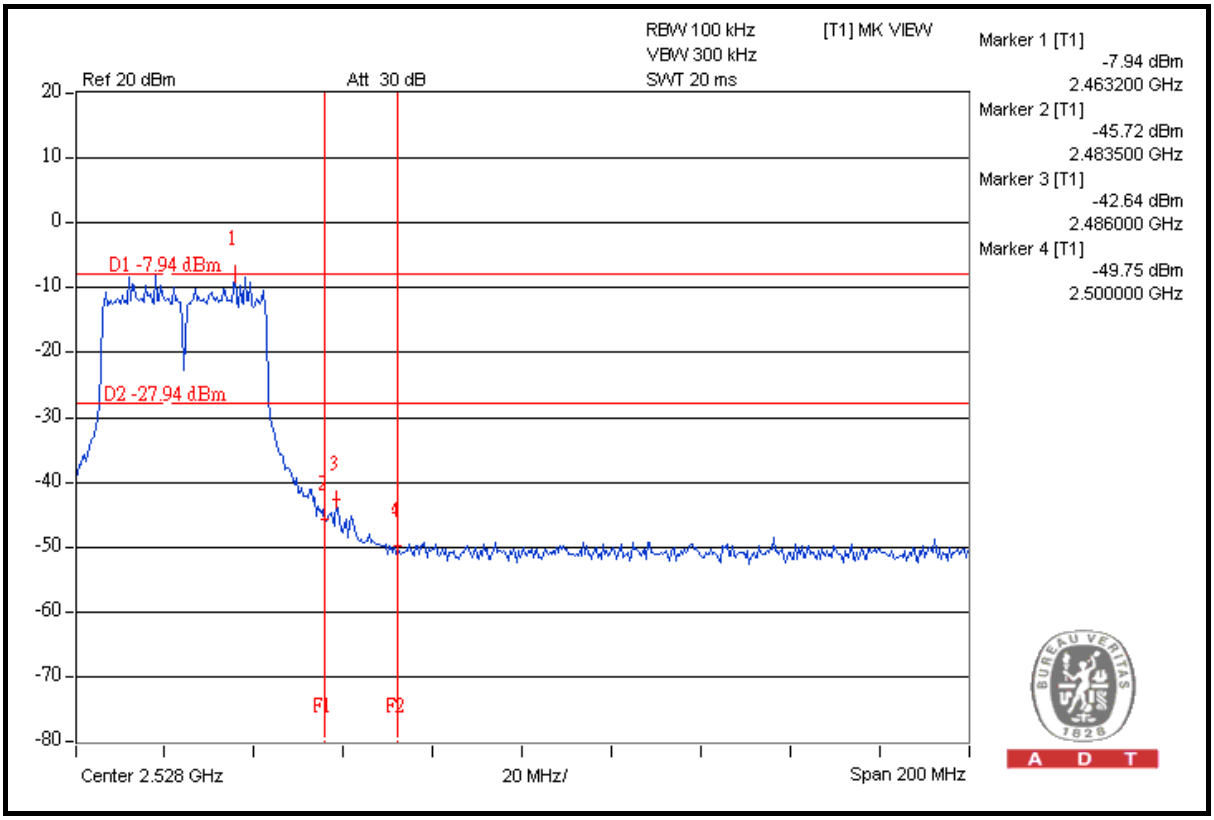
NOTE:

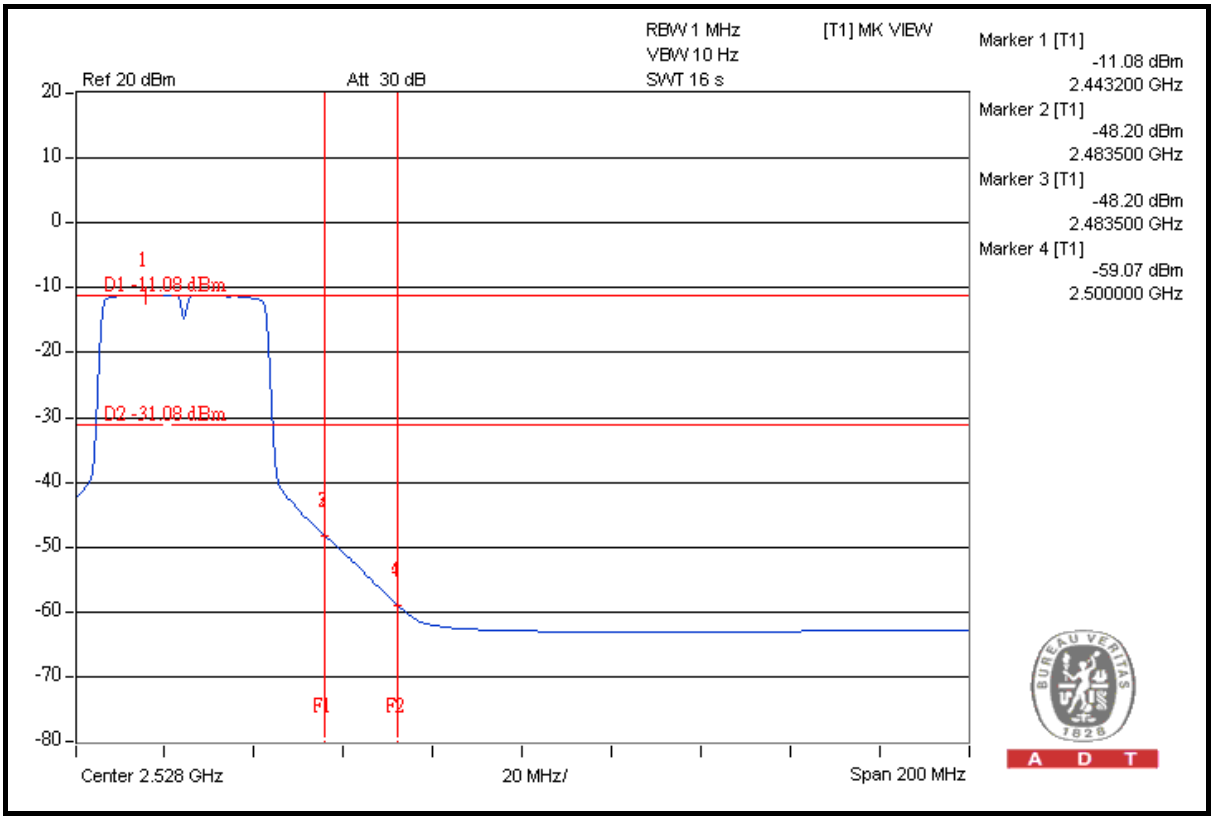
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

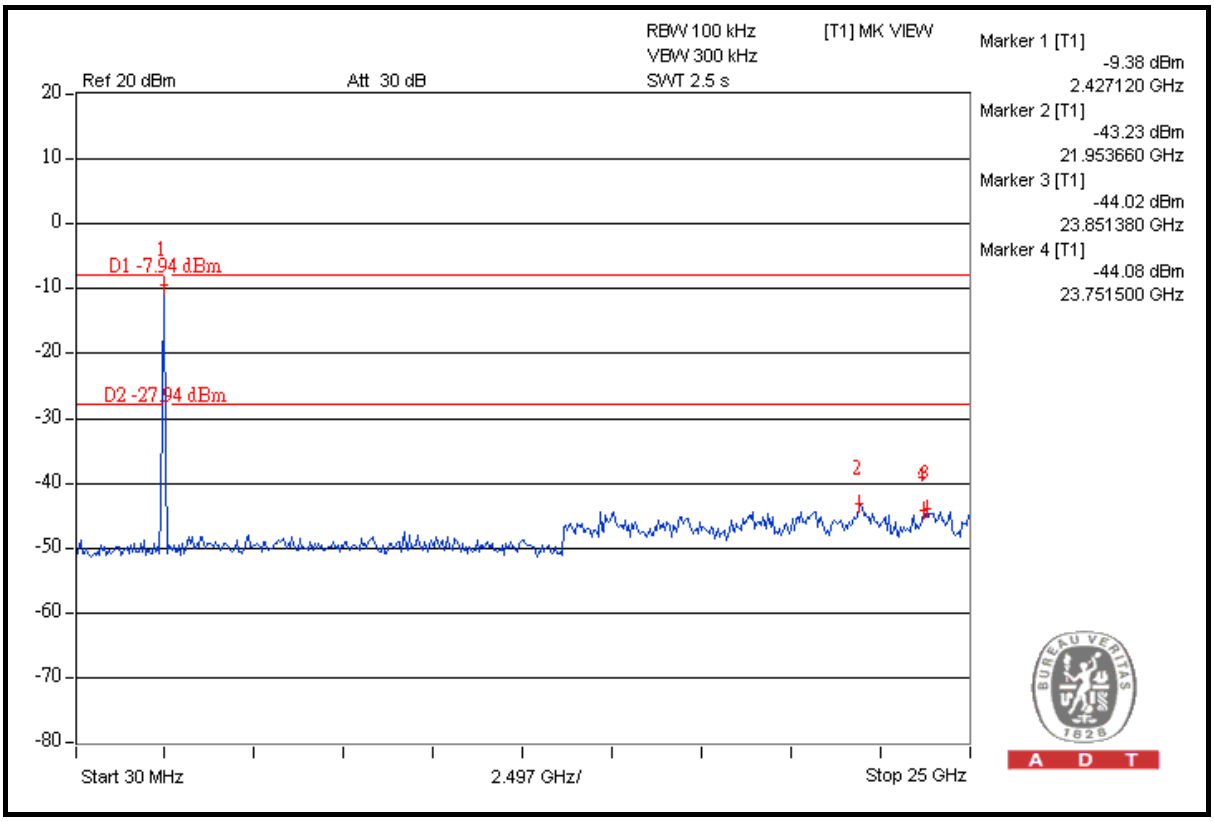

RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-8.12 dBm
2.413600 GHz
Marker 2 [T1]
-36.40 dBm
2.400000 GHz
Marker 3 [T1]
-36.40 dBm
2.400000 GHz
Marker 4 [T1]
-45.78 dBm
2.390000 GHz
Marker 5 [T1]
-45.78 dBm
2.390000 GHz
D1 -8.12 dBm
D2 -28.12 dBm
F2
F1
Center 2.346 GHz
20 MHz/
Span 200 MHz


RBW 1 MHz
VBW 10 Hz
SWT 16 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-11.45 dBm
2.413600 GHz
Marker 2 [T1]
-44.85 dBm
2.400000 GHz
Marker 3 [T1]
-44.85 dBm
2.400000 GHz
Marker 4 [T1]
-51.04 dBm
2.390000 GHz
Marker 5 [T1]
-51.04 dBm
2.390000 GHz
D1 -11.45 dBm
D2 -31.45 dBm
F2
F1
Center 2.346 GHz
20 MHz/
Span 200 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-9.11 dBm
2.377180 GHz
Marker 2 [T1]
-43.57 dBm
23.851380 GHz
Marker 3 [T1]
-43.63 dBm
22.253300 GHz
Marker 4 [T1]
-43.70 dBm
18.607680 GHz
D1 -8.12 dBm
D2 -28.12 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz


RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-7.94 dBm
2.463200 GHz
Marker 2 [T1]
-45.72 dBm
2.483500 GHz
Marker 3 [T1]
-42.64 dBm
2.486000 GHz
Marker 4 [T1]
-49.75 dBm
2.500000 GHz
D1 -7.94 dBm
D2 -27.94 dBm
F1
F2
Center 2.528 GHz
20 MHz/
Span 200 MHz


RBW 1 MHz
VBW 10 Hz
SWT 16 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-11.08 dBm
2.443200 GHz
Marker 2 [T1]
-48.20 dBm
2.483500 GHz
Marker 3 [T1]
-48.20 dBm
2.483500 GHz
Marker 4 [T1]
-59.07 dBm
2.500000 GHz
D1 -11.08 dBm
D2 -31.08 dBm
F1
F2
Center 2.528 GHz
20 MHz/
Span 200 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-9.38 dBm
2.427120 GHz
Marker 2 [T1]
-43.23 dBm
21.953660 GHz
Marker 3 [T1]
-44.02 dBm
23.851380 GHz
Marker 4 [T1]
-44.08 dBm
23.751500 GHz
D1 -7.94 dBm
D2 -27.94 dBm
Start 30 MHz
2.497 GHz/
Stop 25 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 by the following approval agencies according to ISO/IEC 17025.

USA	FCC, NVLAP
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	TAF, BSMI, NCC
Netherlands	Telefication
Singapore	GOST-ASIA(MOU)
Russia	CERTIS(MOU)

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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