FCC TEST REPORT (15.247)

REPORT NO.: RF981009L07

MODEL NO.: WMDA-118AN

RECEIVED: Oct. 09, 2009

TESTED: Dec. 24, 2009 ~ Jan. 08, 2010

ISSUED: Jan. 15, 2010

APPLICANT: LG Electronics USA

ADDRESS: 1000 Sylvan Avenue, Englewood Cliffs, NJ 07632, United States

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:	RF Receiver
MODEL NO.:	WMDA-118AN
BRAND:	LG
APPLICANT:	LG Electronics USA
TESTED:	Dec. 24, 2009 ~ Jan. 08, 2010
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)**
	ANSI C63.4-2003

The above equipment (Model: WMDA-118AN) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ **, DATE :** Jan. 15, 2010
Joanna Wang / Senior Specialist

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

APPROVED BY : _____ **, DATE :** Jan. 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 (Section 15.247)			
Standard Section	**Test Type and Limit**	**Result**	**Remark**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –11.58dB at 0.181MHz.
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 –1.1dB at 11610.00MHz.
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 30dB 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	2.44dB
Radiated emissions	30MHz ~ 200MHz	3.19dB
	200MHz ~1000MHz	3.21dB
	1GHz ~ 18GHz	2.26dB
	18GHz ~ 40GHz	1.94dB

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	RF Receiver
MODEL NO.	WMDA-118AN
FCC ID	BEJ-118AN
POWER SUPPLY	12Vdc
MODULATION TYPE	OOK
MODULATION TECHNOLOGY	OFDM
OPERATING FREQUENCY	5745 ~ 5805MHz
NUMBER OF CHANNEL	20MHz channel bandwidth: 4 40MHz channel bandwidth: 2
OUTPUT POWER	177.8mW
ANTENNA TYPE	PIFA antenna with 3.5dBi gain
ANTENNA CONNECTOR	NA
DATA CABLE	NA
I/O PORTS	HDMI
ACCESSORY DEVICES	NA

NOTE:

1. The EUT is a RF Receiver. The reports are listed as below:

OPERATING FREQUENCY BAND	TEST STANDARD	REFERENCE REPORT
5745~5805 MHz	FCC Part 15, Subpart C (Section 15.247)	RF981009L07
5180~5320MHz, 5500~5560MHz	FCC Part 15, Subpart E (Section 15.407)	RF981009L07-1
5260~5320MHz, 5500~5560MHz (For DFS report)	FCC Part 15, Subpart E (Section 15.407)	RF981009L07-2

2. The frequency bands used in this EUT are listed as follows.

FREQUENCY BAND (MHz)	5180~5320	5500~5560	5745~5805
TX (20MHz)	√	√	√
TX (40MHz)	√	√	√

3. The EUT incorporates a MIMO function. Physically, the EUT provides one completed transmitter and five receivers.

MODULATION MODE	TX FUNCTION
TX (20MHz)	1TX
TX (40MHz)	1TX

4. 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

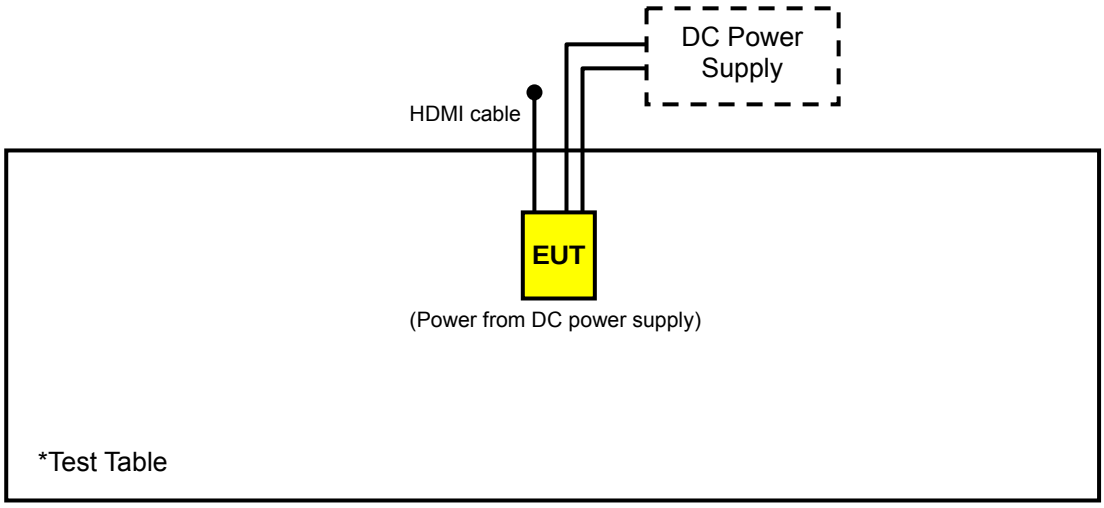
4 channels are provided for TX (20MHz)

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	5745MHz	3	5785MHz
2	5765MHz	4	5805MHz

2 channels are provided for TX (40MHz)

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	5755MHz	2	5795MHz

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	
-	√	√	√	√	-

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

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

RADIATED EMISSION TEST (ABOVE 1GHz):

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	AXIS
TX (20MHz)	1 to 4	1, 3, 4	Z
TX (40MHz)	1 to 2	1, 2	Z

RADIATED EMISSION TEST (BELOW 1GHz):

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	AXIS
TX (20MHz)	1 to 4	1	Z

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL
TX (20MHz)	1 to 4	1

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	AXIS
TX (20MHz)	1 to 4	1, 4	Z
TX (40MHz)	1 to 2	1, 2	Z

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL
TX (20MHz)	1 to 4	1, 3, 4
TX (40MHz)	1 to 2	1, 2

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	25deg. C, 65%RH, 1021 hPa	120Vac, 60 Hz	Mark Liao
RE<1G	25deg. C, 65%RH, 1017 hPa	120Vac, 60 Hz	Mark Liao
PLC	23deg. C, 68%RH, 1016 hPa	120Vac, 60 Hz	Sun Lin
APCM	25deg. C, 63%RH, 1015 hPa	120Vac, 60 Hz	Dean Wang

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	DC POWER SUPPLY	TOP WARD	6603A	725906	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

NOTE:
1. All power cords of the above support units are non-shielded (1.8m).
2. Item 1 was under test table during test.

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	838496/016	Dec. 29, 2009	Dec. 28, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100076	May 26, 2009	May 25, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 29, 2009	Apr. 28, 2010
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-405	Jan. 12, 2009	Jan. 11, 2010
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170148	Jul. 06, 2009	Jul. 05, 2010
Preamplifier Agilent	8449B	3008A01961	Nov. 04, 2009	Nov. 03, 2010
Preamplifier Agilent	8447D	2944A10738	Nov. 04, 2009	Nov. 03, 2010
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	274041/4	Aug. 28, 2009	Aug. 27, 2010
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	283397/4	Aug. 28, 2009	Aug. 27, 2010
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA	NA
Turn Table ADT.	TT100.	TT93021704	NA	NA
Turn Table Controller ADT.	SC100.	SC93021704	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	07026401	Aug. 27, 2009	Aug. 26, 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. The test was performed in HwaYa Chamber 4.

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 IC7450F-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.

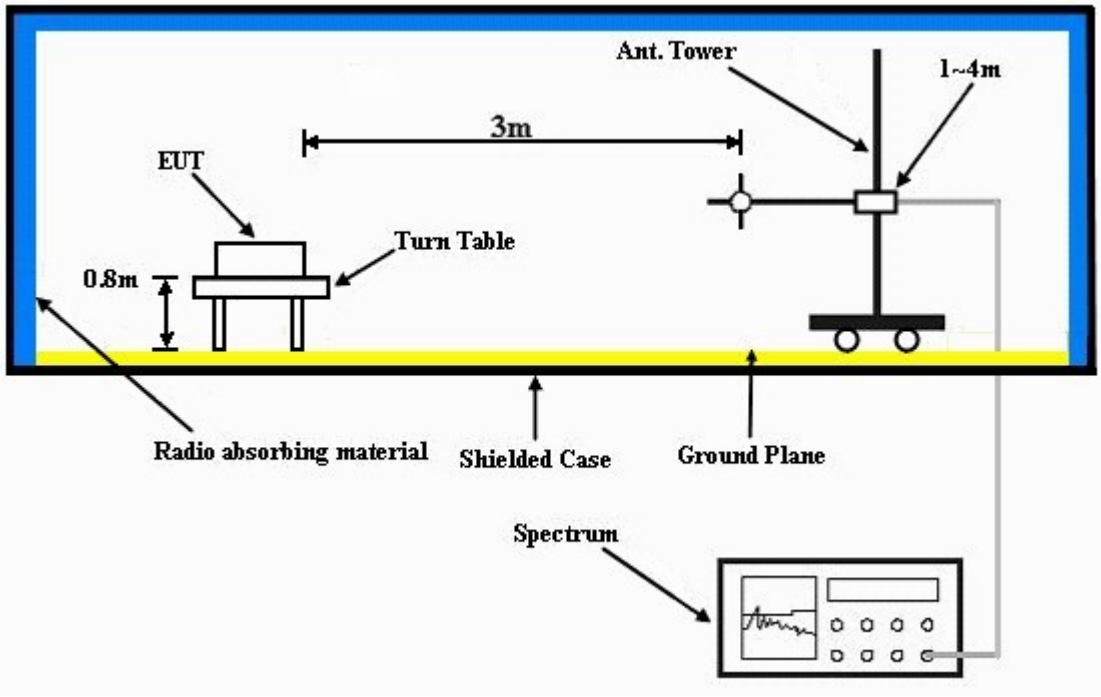
NOTE:

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 1MHz 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. The EUT ran a test program (provided by manufacturer) to enable all functions under transmission condition continuously at specific channel frequency.

4.1.7 TEST RESULTS

ABOVE 1GHz WORST-CASE DATA：TX (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL / FREQUENCY	Channel 1 / 5745MHz	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1021 hPa	TESTED BY	Mark Liao

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	#5725.00	81.3 PK	89.8	-8.5	1.88 H	268	39.70	41.60
2	#5725.00	59.4 AV	79.9	-20.5	1.88 H	268	17.80	41.60
3	*5745.00	109.8 PK			1.88 H	251	68.20	41.60
4	*5745.00	99.9 AV			1.88 H	251	58.30	41.60
5	11490.00	62.7 PK	74.0	-11.3	1.28 H	70	9.40	53.30
6	11490.00	51.6 AV	54.0	-2.4	1.28 H	70	-1.70	53.30
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	#5725.00	75.4 PK	84.3	-8.9	1.68 V	312	33.80	41.60
2	#5725.00	53.1 AV	74.6	-21.5	1.68 V	312	11.50	41.60
3	*5745.00	104.3 PK			1.68 V	322	62.70	41.60
4	*5745.00	94.6 AV			1.68 V	322	53.00	41.60
5	11490.00	63.9 PK	74.0	-10.1	1.35 V	157	10.60	53.30
6	11490.00	52.6 AV	54.0	-1.4	1.35 V	157	-0.70	53.30

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL / FREQUENCY	Channel 3 / 5785MHz	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1021 hPa	TESTED BY	Mark Liao

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	*5785.00	110.0 PK			1.65 H	281	68.30	41.70
2	*5785.00	100.1 AV			1.65 H	281	58.40	41.70
3	11570.00	62.4 PK	74.0	-11.6	1.39 H	50	9.30	53.10
4	11570.00	51.2 AV	54.0	-2.8	1.39 H	50	-1.90	53.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	104.3 PK			1.72 V	322	62.60	41.70
2	*5785.00	93.2 AV			1.72 V	322	51.50	41.70
3	11570.00	63.6 PK	74.0	-10.4	1.62 V	328	10.50	53.10
4	11570.00	52.7 AV	54.0	-1.3	1.62 V	328	-0.40	53.10

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL / FREQUENCY	Channel 4 / 5805MHz	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1021 hPa	TESTED BY	Mark Liao

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	*5805.00	110.1 PK			1.81 H	259	68.40	41.70
2	*5805.00	100.3 AV			1.81 H	259	58.60	41.70
3	#5850.00	72.7 PK	88.3	-15.6.	1.53 H	241	31.00	41.70
4	#5850.00	52.8 AV	68.3	-15.5	1.53 H	241	11.10	41.70
5	11610.00	62.7 PK	74.0	-11.3	1.33 H	239	9.60	53.10
6	**11610.00**	**52.9 AV**	**54.0**	**-1.1**	**1.33 H**	**239**	**-0.20**	**53.10**
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5805.00	104.0 PK			1.53 V	211	62.30	41.70
2	*5805.00	94.1 AV			1.53 V	211	52.40	41.70
3	#5850.00	62.8 PK	88.3	-25.5	1.69 V	145	21.10	41.70
4	#5850.00	45.1 AV	68.3	-23.2	1.69 V	145	3.40	41.70
5	11610.00	63.4 PK	74.0	-10.6	1.25 V	299	10.30	53.10
6	11610.00	52.8 AV	54.0	-1.2	1.25 V	299	-0.30	53.10

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

TX (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL / FREQUENCY	Channel 1 / 5755MHz	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1021 hPa	TESTED BY	Mark Liao

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	#5725.00	82.4 PK	87.6	-5.2	1.75 H	269	40.80	41.60
2	#5725.00	63.6 AV	75.5	-11.9	1.75 H	269	22.00	41.60
3	*5755.00	107.6 PK			1.69 H	251	65.90	41.70
4	*5755.00	95.5 AV			1.69 H	251	53.80	41.70
5	11510.00	66.9 PK	74.0	-7.1	1.35 H	266	13.60	53.30
6	11510.00	51.8 AV	54.0	-2.2	1.35 H	266	-1.50	53.30
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	#5725.00	73.6 PK	80.5	-6.9	2.11 V	77	32.00	41.60
2	#5725.00	55.5 AV	69.9	-14.4	2.11 V	77	13.90	41.60
3	*5755.00	100.5 PK			2.05 V	53	58.80	41.70
4	*5755.00	89.9 AV			2.05 V	53	48.20	41.70
5	11510.00	69.4 PK	74.0	-4.6	1.53 V	127	16.10	53.30
6	11510.00	52.8 AV	54.0	-1.2	1.53 V	127	-0.50	53.30

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL / FREQUENCY	Channel 2 / 5795MHz	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1021 hPa	TESTED BY	Mark Liao

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	*5795.00	107.3 PK			1.63 H	217	65.60	41.70
2	*5795.00	95.3 AV			1.63 H	217	53.60	41.70
3	#5850.00	81.3 PK	87.3	-6.0	1.65 H	233	39.60	41.70
4	#5850.00	62.5 AV	75.3	-12.8	1.65 H	233	20.80	41.70
5	11590.00	66.4 PK	74.0	-7.6	1.27 H	352	13.30	53.10
6	11590.00	51.5 AV	54.0	-2.5	1.27 H	352	-1.60	53.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	100.7 PK			2.03 V	57	59.00	41.70
2	*5795.00	90.1 AV			2.03 V	57	48.40	41.70
3	#5850.00	73.7 PK	80.7	-7.0	2.00 V	69	32.00	41.70
4	#5850.00	56.4 AV	70.1	-13.7	2.00 V	69	14.70	41.70
5	11590.00	68.4 PK	74.0	-5.6	1.39 V	177	15.30	53.10
6	11590.00	52.8 AV	54.0	-1.2	1.39 V	177	-0.30	53.10

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

BELOW 1GHz WORST-CASE DATA：TX (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL / FREQUENCY	Channel 1 / 5745MHz	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 1017 hPa	TESTED BY	Mark Liao

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	98.64	34.4 QP	43.5	-9.1	2.25 H	153	25.10	9.30
2	165.25	31.7 QP	43.5	-11.8	1.75 H	59	17.70	14.00
3	203.70	40.4 QP	43.5	-3.1	1.75 H	299	28.70	11.70
4	229.35	38.6 QP	46.0	-7.4	1.25 H	239	26.00	12.60
5	270.43	31.6 QP	46.0	-14.4	1.25 H	28	17.40	14.20
6	326.37	28.9 QP	46.0	-17.1	1.25 H	59	12.70	16.20
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	63.56	33.6 QP	40.0	-6.4	1.75 V	139	20.70	12.90
2	108.69	41.5 QP	43.5	-2.0	1.75 V	58	31.10	10.40
3	156.31	30.2 QP	43.5	-13.3	1.50 V	189	15.80	14.40
4	205.09	40.1 QP	43.5	-3.4	1.75 V	169	28.40	11.70
5	225.12	36.1 QP	46.0	-9.9	1.25 V	172	23.70	12.40
6	270.29	26.9 QP	46.0	-19.1	2.00 V	34	12.70	14.20

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	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 0.50MHz.

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	100291	Dec. 16, 2009	Dec. 15, 2010
RF signal cable Woken	5D-FB	Cable-HYC01-01	Nov. 12, 2009	Nov. 11, 2010
LISN ROHDE & SCHWARZ	ESH3-Z5	100312	Jun. 18, 2009	Jun. 17, 2010
LISN ROHDE & SCHWARZ	ESH3-Z5	835239/001	Feb. 24, 2009	Feb. 23, 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 1.

3. The VCCI Site Registration No. is C-2040.

4.2.3 TEST PROCEDURES

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

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

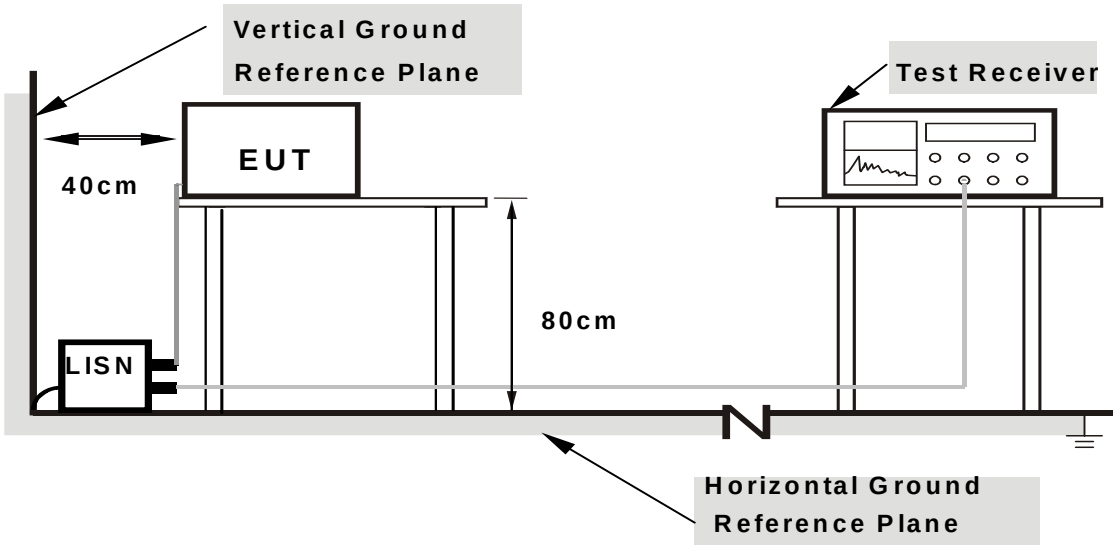
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: 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.

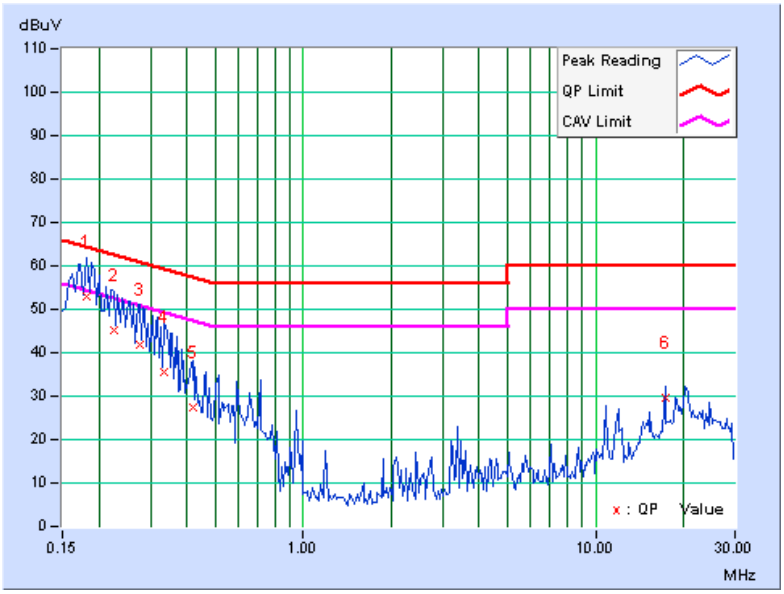
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA: TX (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
CHANNEL / FREQUENCY	Channel 1 / 5745MHz		

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[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**	**52.72**	**-**	**52.85**	**-**	**64.43**	**54.43**	**-11.58**	**-**
2	0.224	0.13	45.15	-	45.28	-	62.66	52.66	-17.38	-
3	0.275	0.13	41.68	-	41.81	-	60.97	50.97	-19.15	-
4	0.334	0.14	35.55	-	35.69	-	59.36	49.36	-23.67	-
5	0.420	0.14	27.31	-	27.45	-	57.46	47.46	-30.01	-
6	17.387	1.21	28.43	-	29.64	-	60.00	50.00	-30.36	-

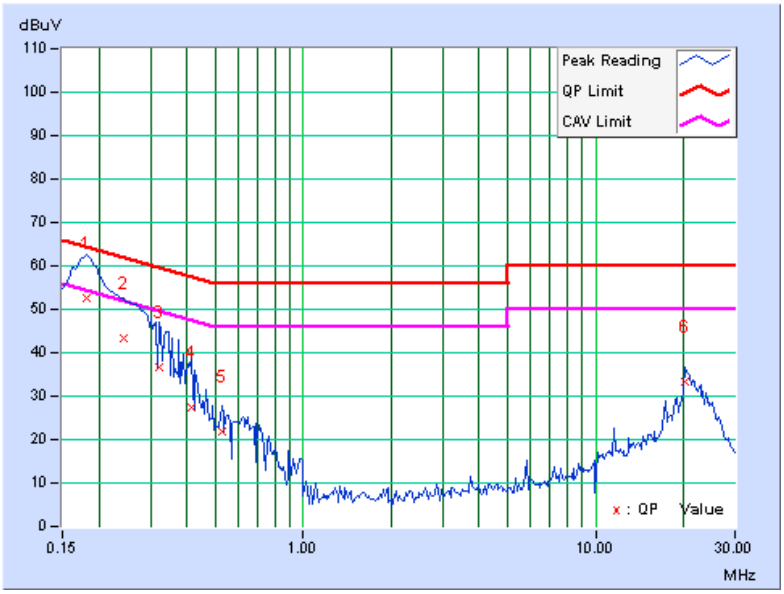
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



PHASE	Line 2	6dB BANDWIDTH	9kHz
CHANNEL / FREQUENCY	Channel 1 / 5745MHz		

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.09	52.66	-	52.75	-	64.43	54.43	-11.68	-
2	0.244	0.09	43.18	-	43.27	-	61.97	51.97	-18.70	-
3	0.322	0.10	36.45	-	36.55	-	59.66	49.66	-23.11	-
4	0.416	0.10	27.21	-	27.31	-	57.54	47.54	-30.22	-
5	0.525	0.10	21.57	-	21.67	-	56.00	46.00	-34.33	-
6	20.285	0.94	32.32	-	33.26	-	60.00	50.00	-26.74	-

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.



4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	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.

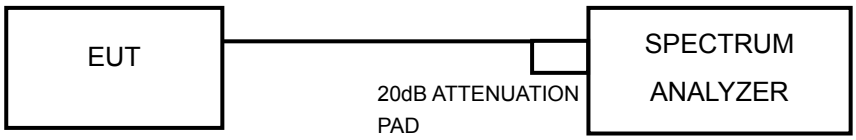
4.3.3 TEST PROCEDURE

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

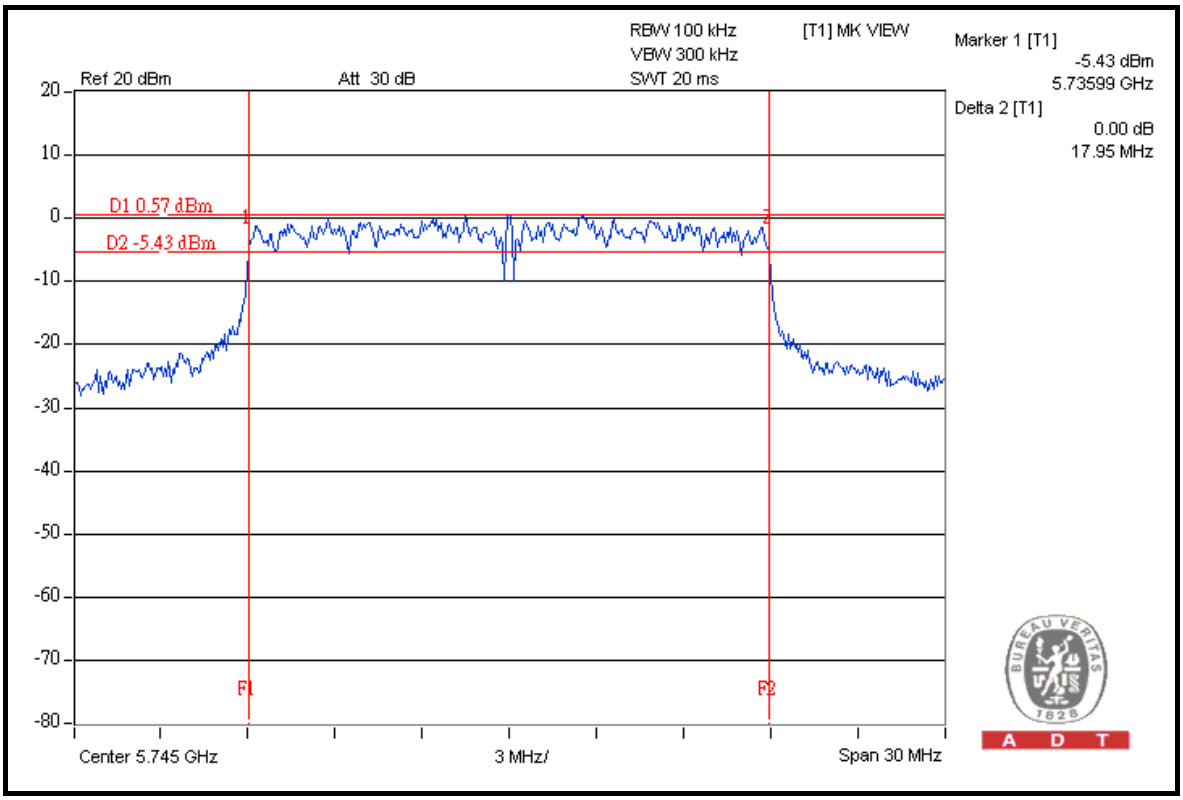
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

TX (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	5745	17.95	0.5	PASS
3	5785	17.88	0.5	PASS
4	5805	17.94	0.5	PASS

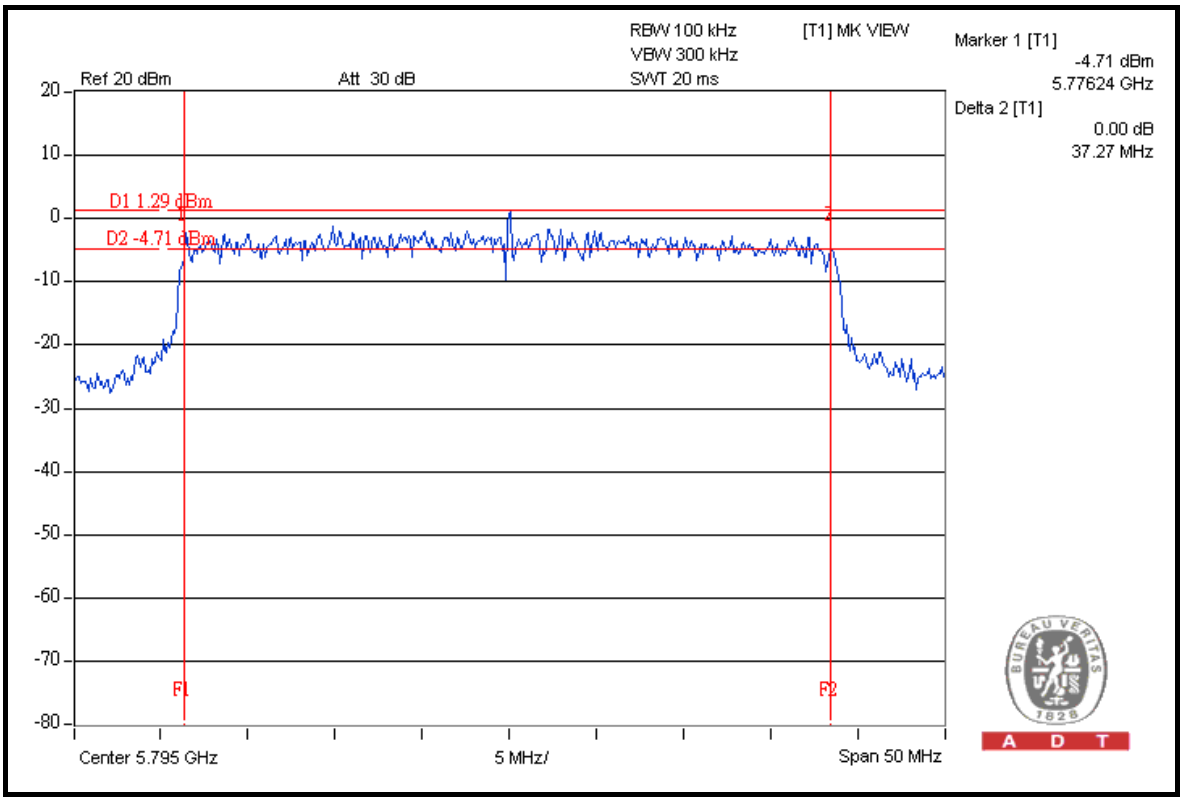
CH 1



TX (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	5755	33.76	0.5	PASS
2	5795	37.27	0.5	PASS

CH 2



4.4 MAXIMUM OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT

The Maximum 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.

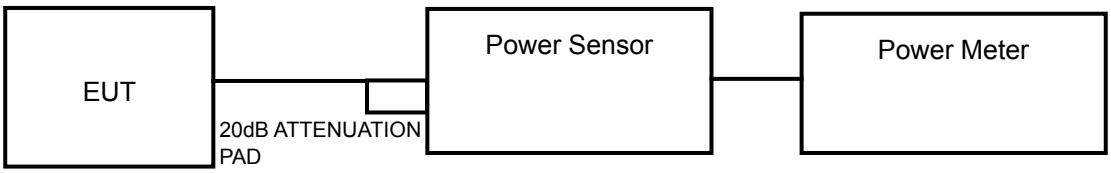
4.4.3 TEST PROCEDURES

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

TX (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS / FAIL
1	5745	177.8	22.5	30	PASS
3	5785	166.0	22.2	30	PASS
4	5805	166.0	22.2	30	PASS

TX (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS / FAIL
1	5755	95.5	19.8	30	PASS
2	5795	112.2	20.5	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
SPECTRUM ANALYZER R&S	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

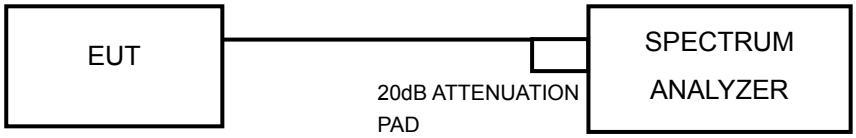
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

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

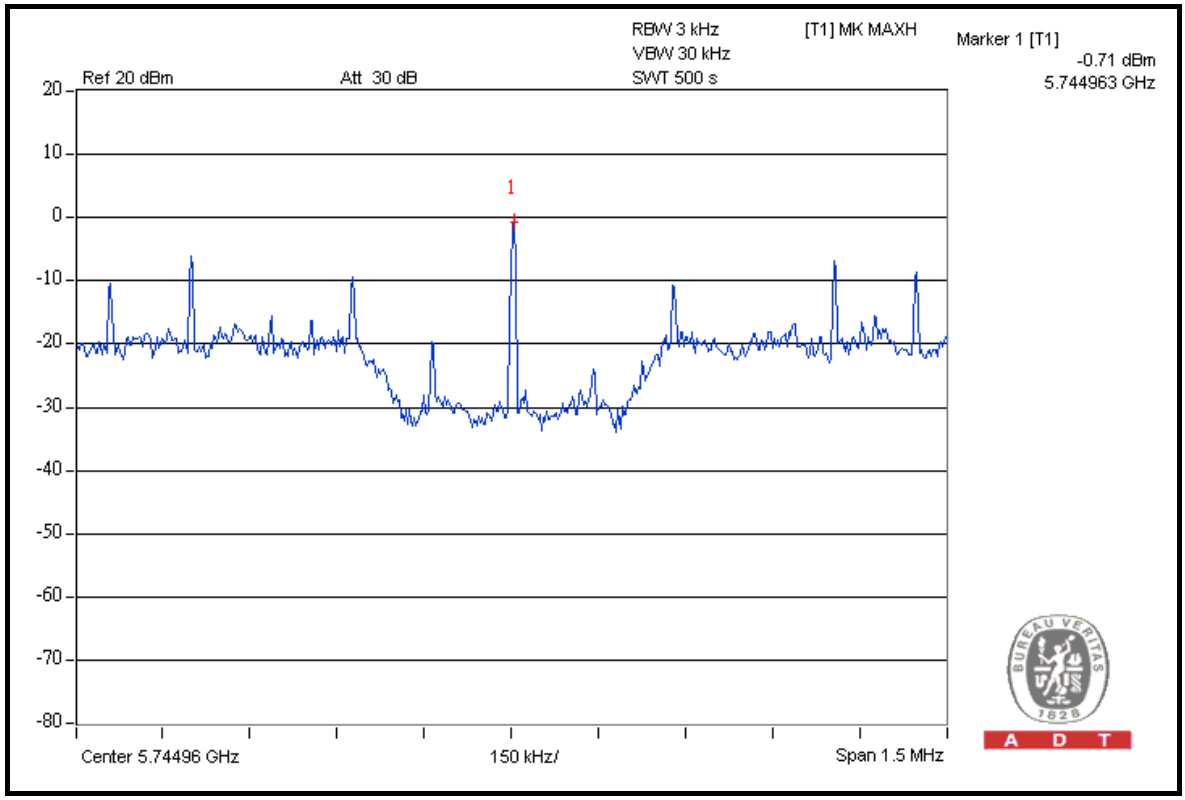
Same as Item 5.3.6.

4.5.7 TEST RESULTS

TX (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	5745	-0.7	8	PASS
3	5785	-0.8	8	PASS
4	5805	-1.1	8	PASS

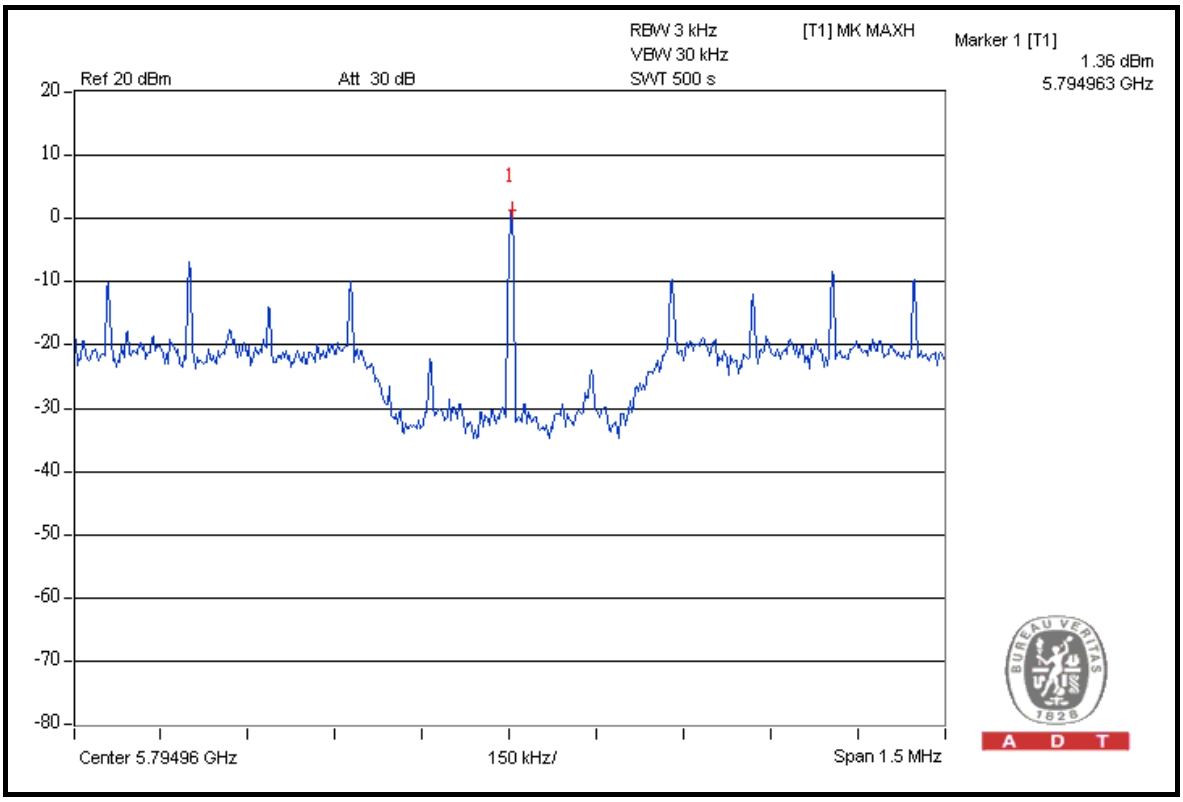
CH 1



TX (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	5755	0.5	8	PASS
2	5795	1.4	8	PASS

CH 2



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
SPECTRUM ANALYZER R&S	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.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation.

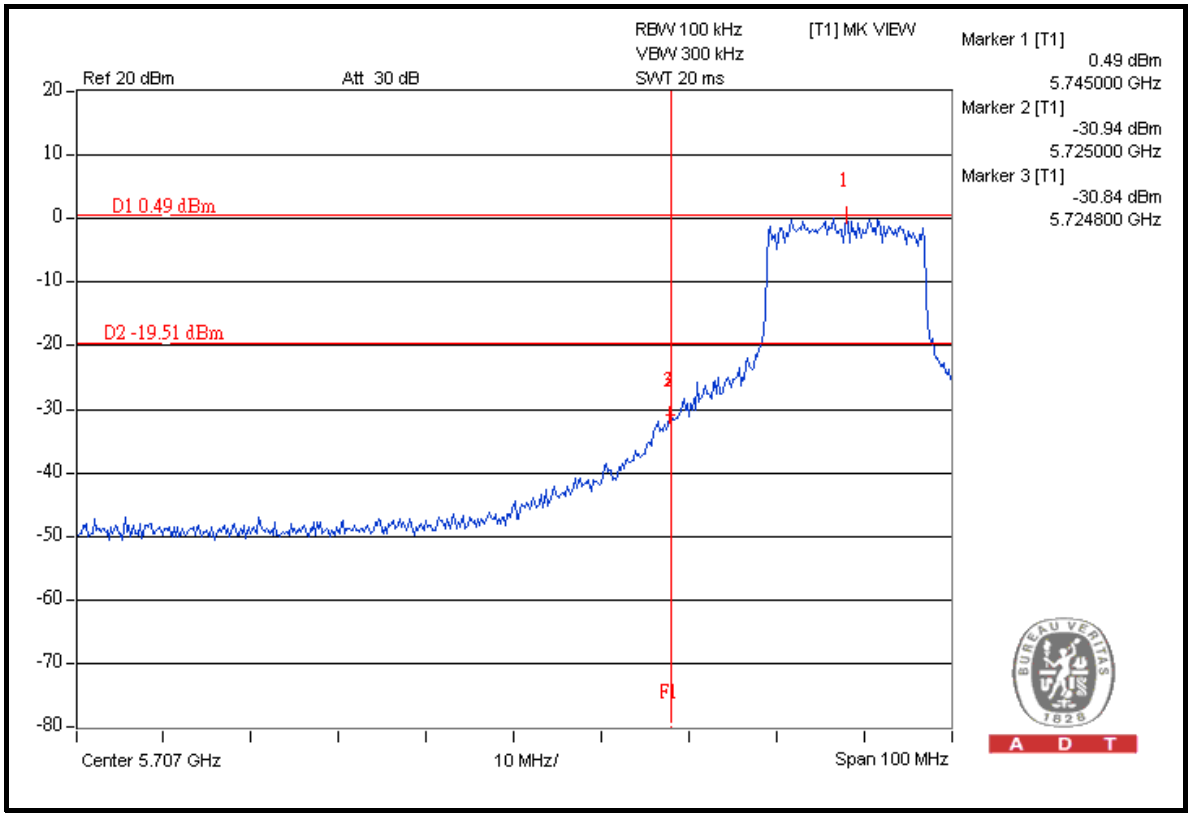
4.6.5 EUT OPERATING CONDITION

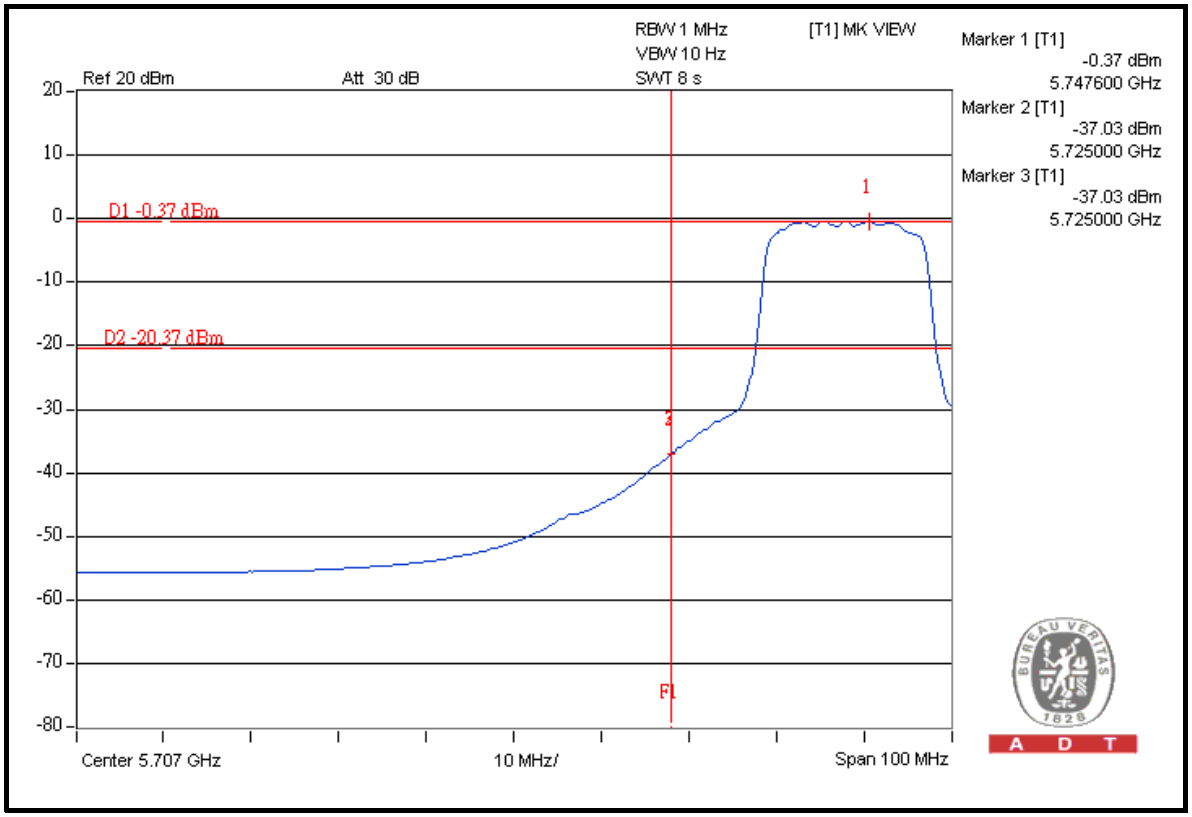
Same as Item 5.3.6.

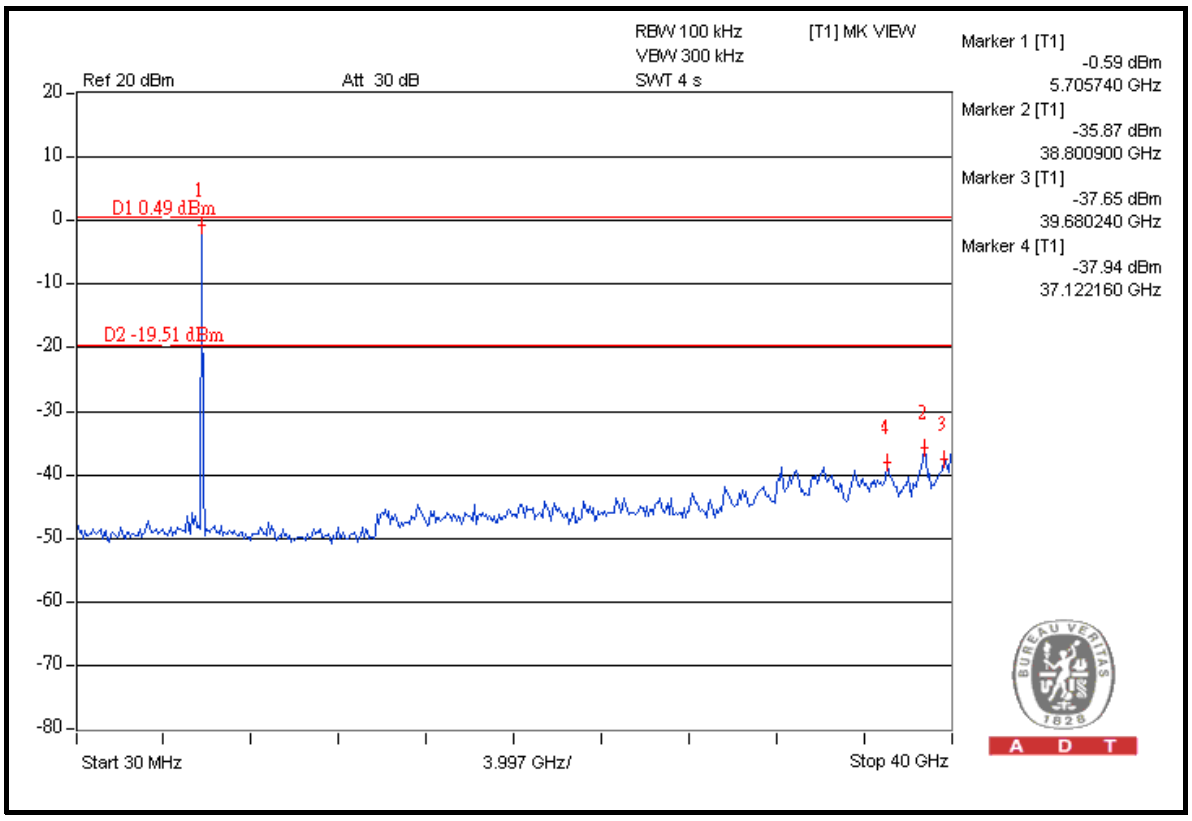
4.6.6 TEST RESULTS

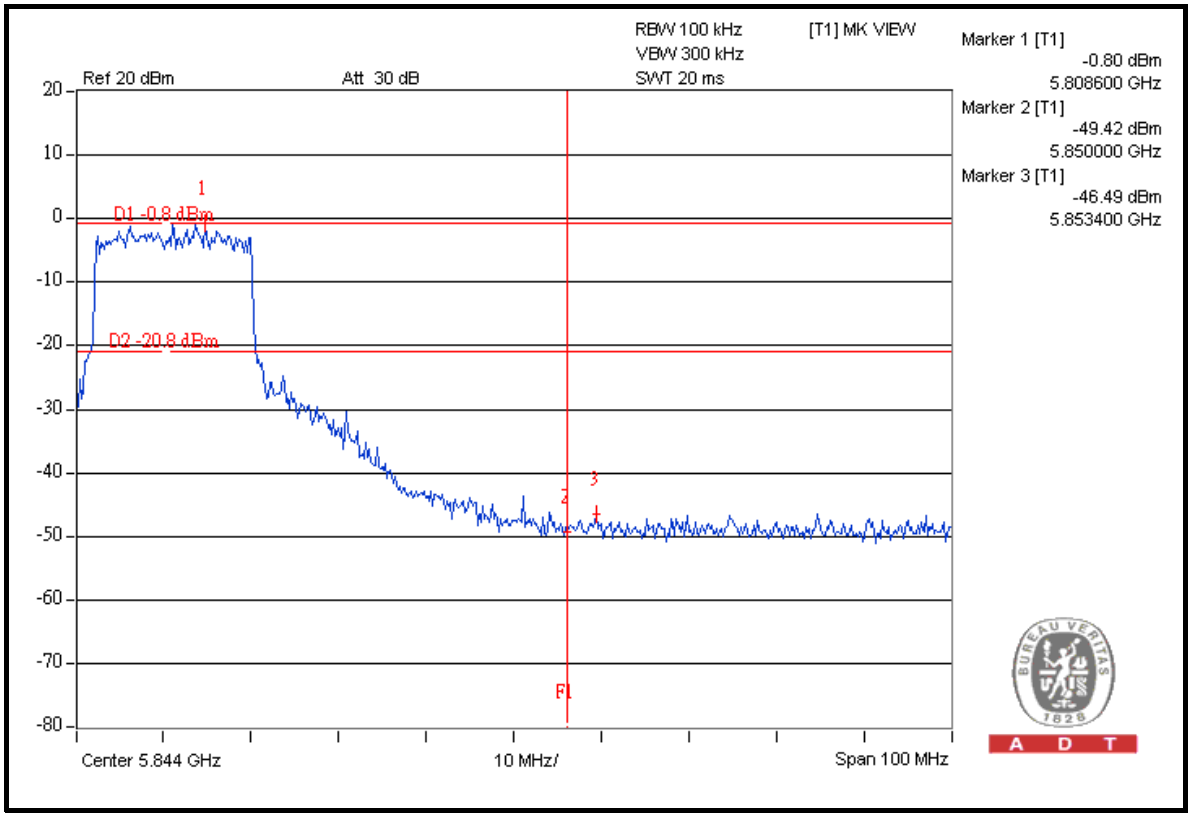
The spectrum plots are attached on the following pages. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

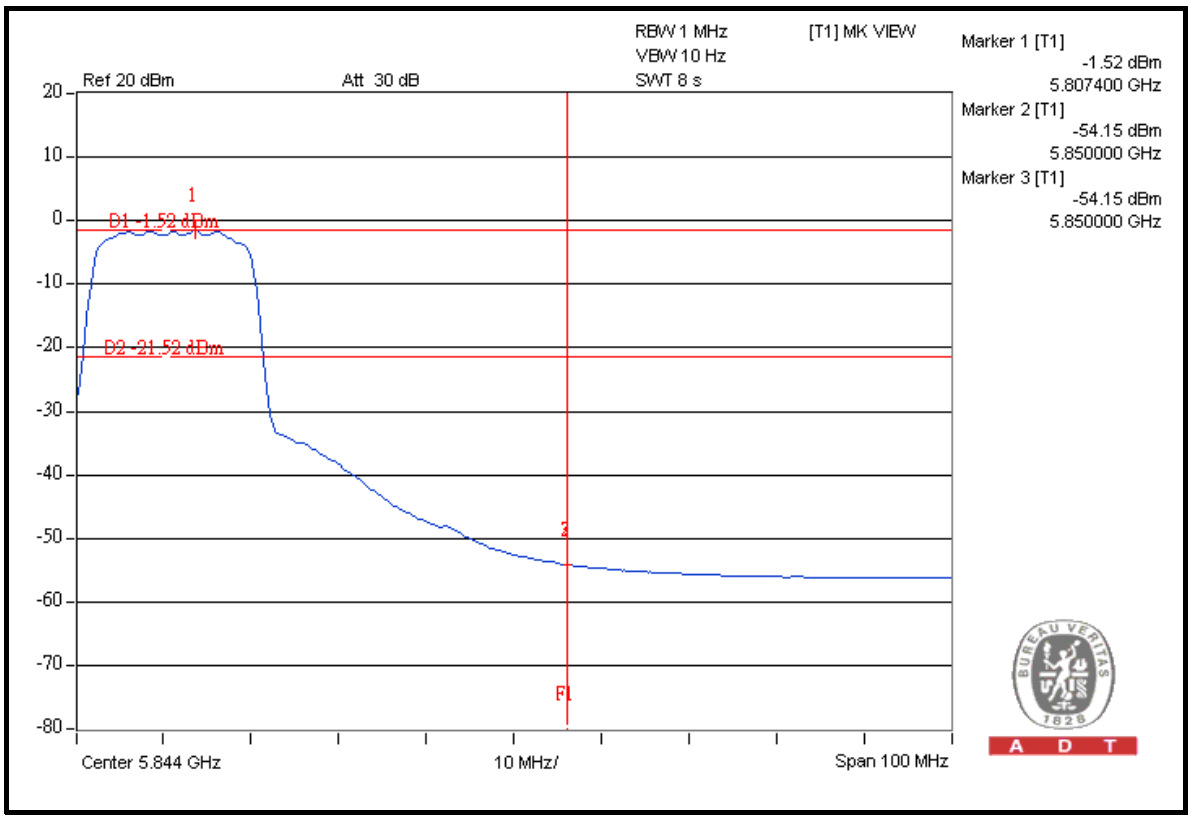
TX (20MHz)

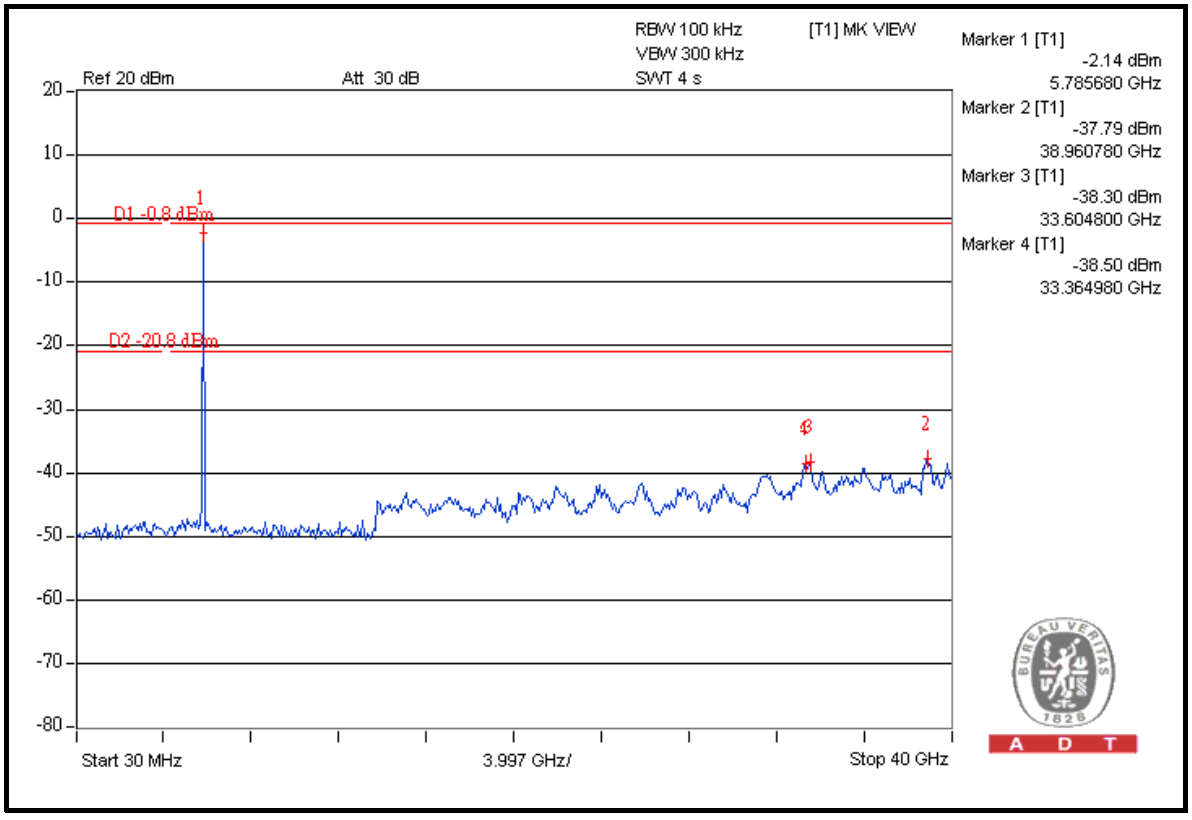

RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
0.49 dBm
5.745000 GHz
Marker 2 [T1]
-30.94 dBm
5.725000 GHz
Marker 3 [T1]
-30.84 dBm
5.724800 GHz
D1 0.49 dBm
D2 -19.51 dBm
Center 5.707 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-0.37 dBm
5.747600 GHz
Marker 2 [T1]
-37.03 dBm
5.725000 GHz
Marker 3 [T1]
-37.03 dBm
5.725000 GHz
D1 -0.37 dBm
D2 -20.37 dBm
Center 5.707 GHz
10 MHz/
Span 100 MHz

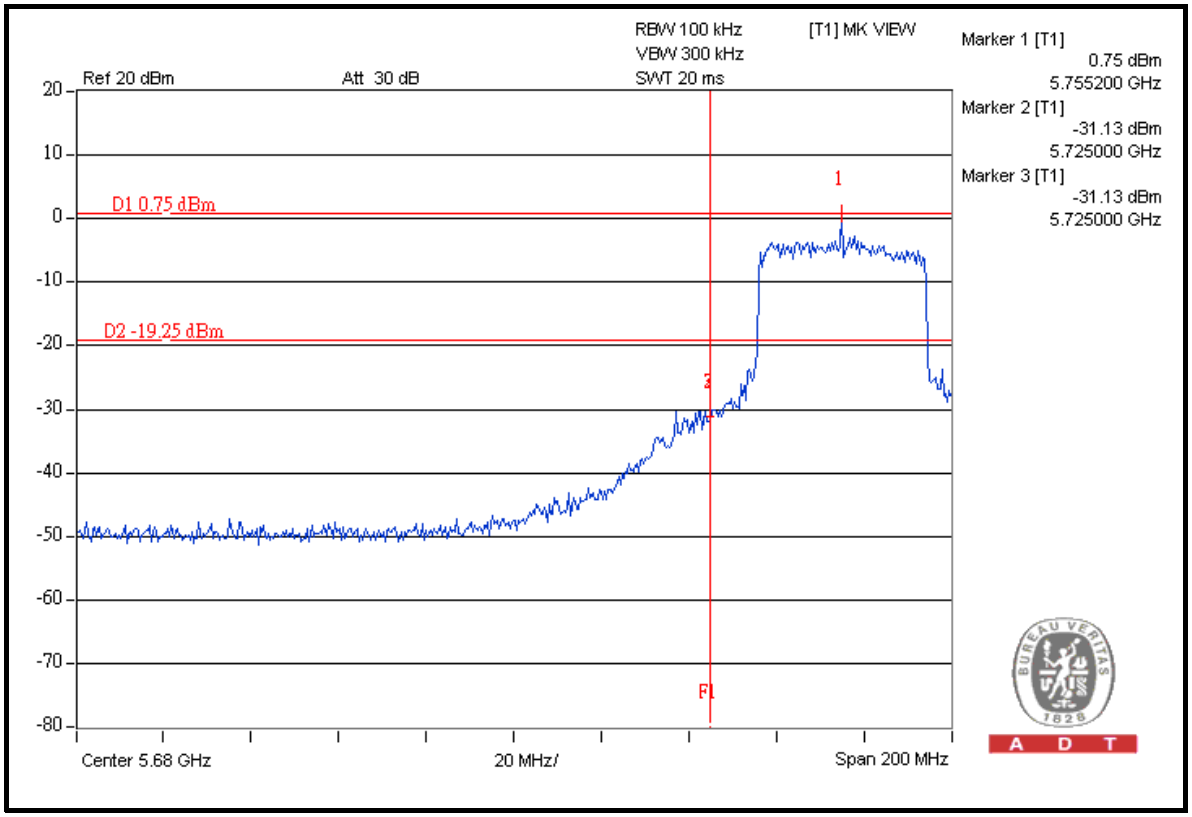

RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-0.59 dBm
5.705740 GHz
Marker 2 [T1]
-35.87 dBm
38.800900 GHz
Marker 3 [T1]
-37.65 dBm
39.680240 GHz
Marker 4 [T1]
-37.94 dBm
37.122160 GHz
D1 0.49 dBm
D2 -19.51 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz

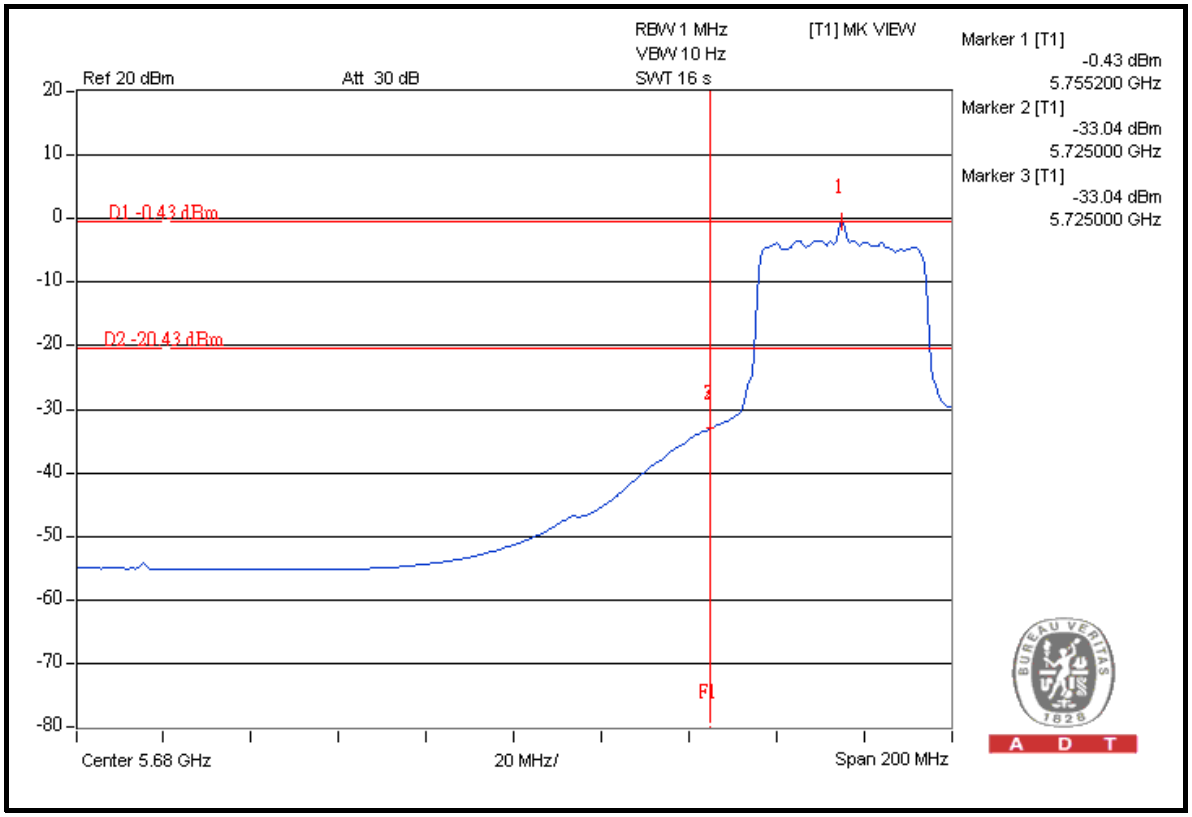

RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-0.80 dBm
5.808600 GHz
Marker 2 [T1]
-49.42 dBm
5.850000 GHz
Marker 3 [T1]
-46.49 dBm
5.853400 GHz
D1 -0.8 dBm
D2 -20.8 dBm
Center 5.844 GHz
10 MHz/
Span 100 MHz

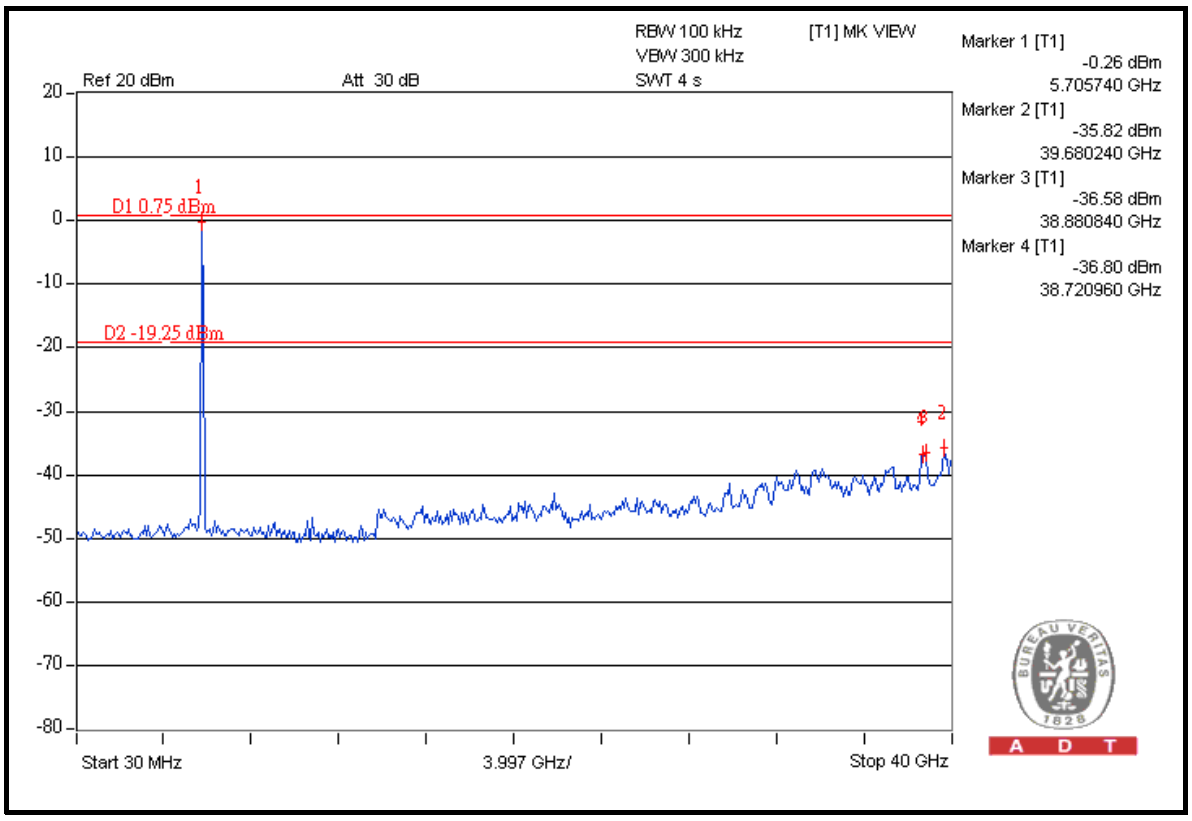

RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-1.52 dBm
5.807400 GHz
Marker 2 [T1]
-54.15 dBm
5.850000 GHz
Marker 3 [T1]
-54.15 dBm
5.850000 GHz
D1 -1.52 dBm
D2 -21.52 dBm
Center 5.844 GHz
10 MHz/
Span 100 MHz

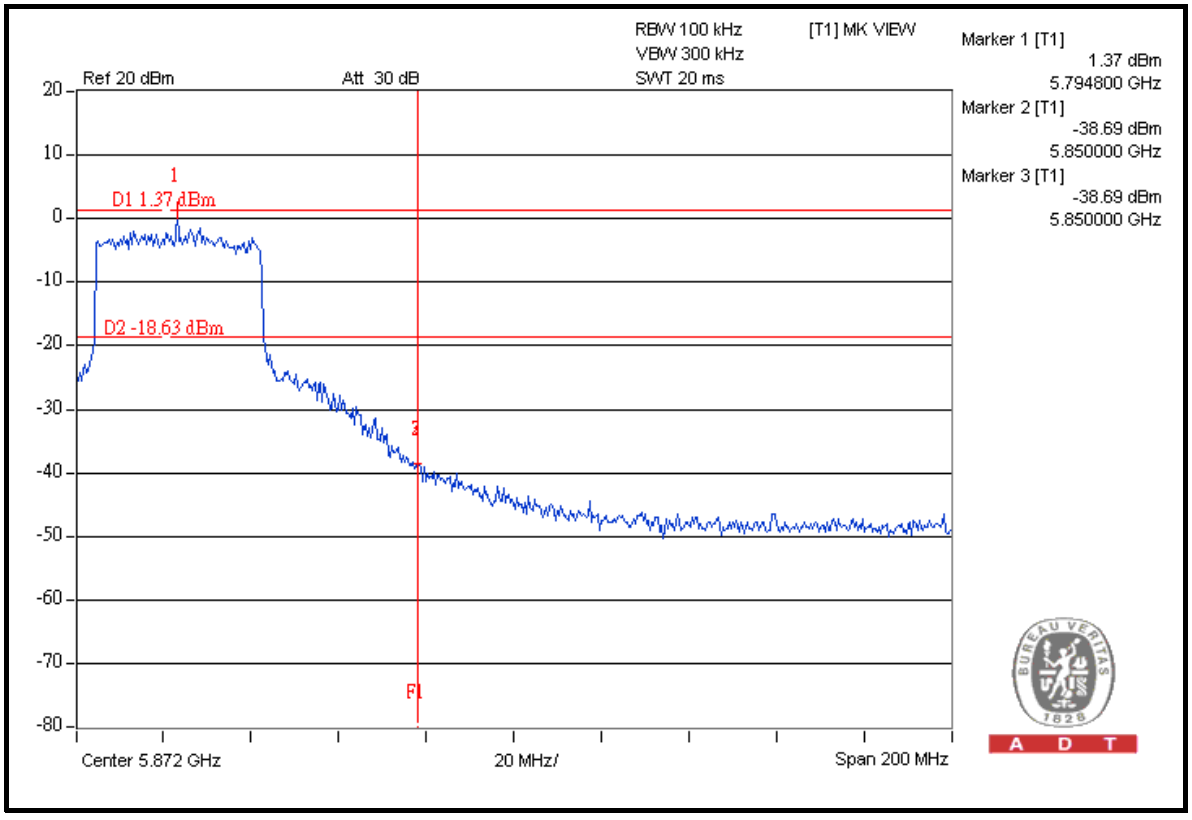

RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-2.14 dBm
5.785680 GHz
Marker 2 [T1]
-37.79 dBm
38.960780 GHz
Marker 3 [T1]
-38.30 dBm
33.604800 GHz
Marker 4 [T1]
-38.50 dBm
33.364980 GHz
D1 -0.8 dBm
D2 -20.8 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz

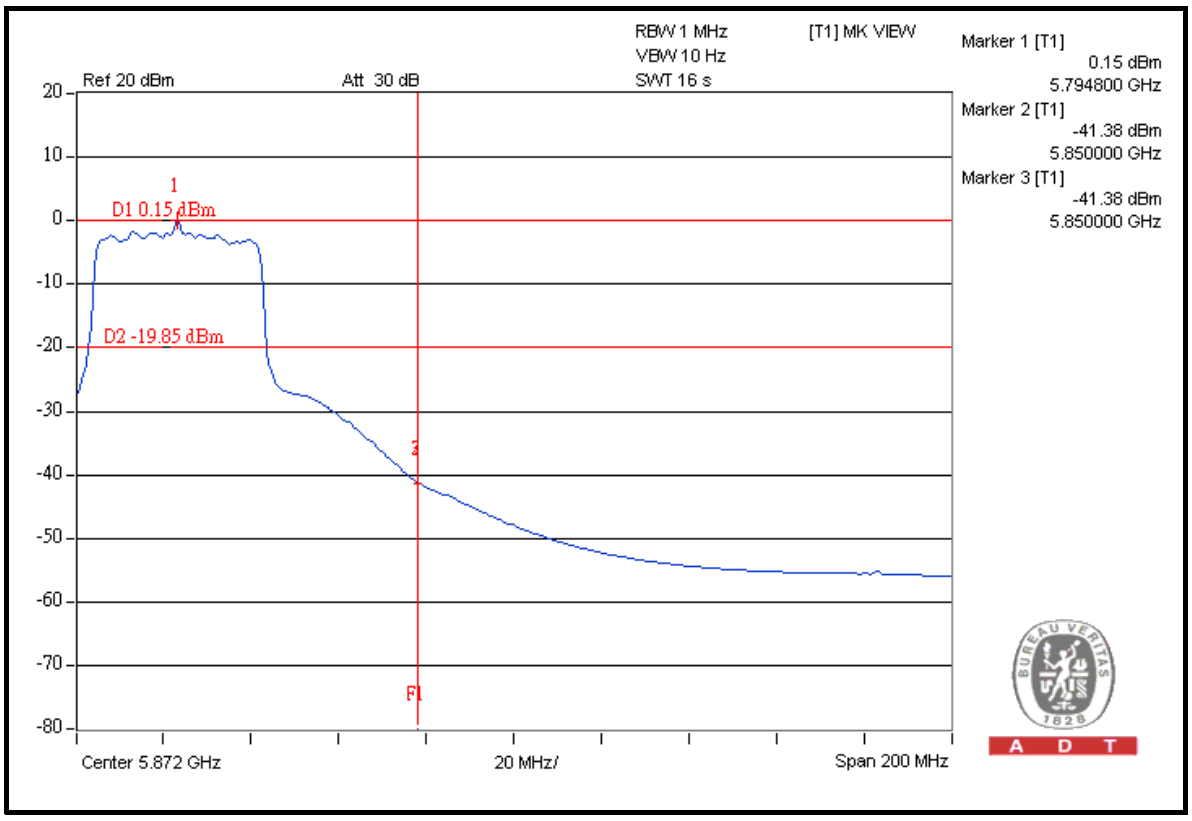
TX (40MHz)

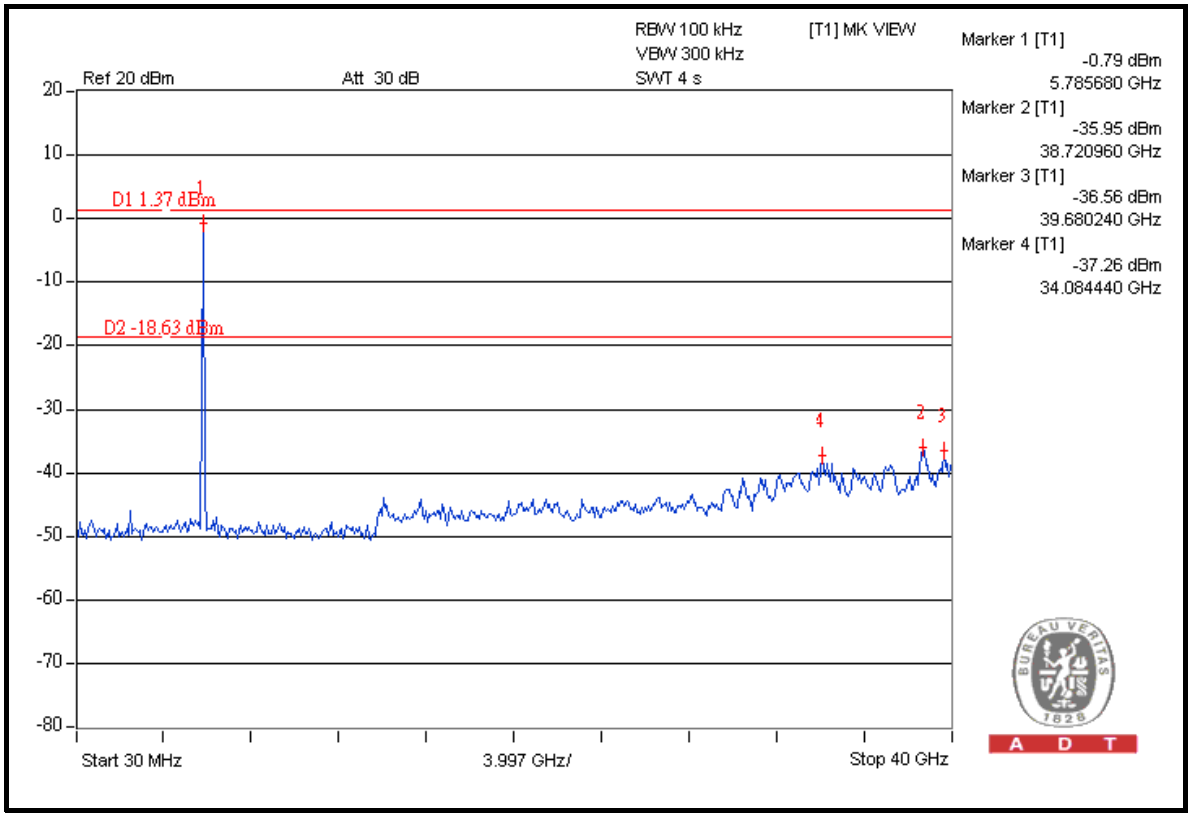

RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
0.75 dBm
5.755200 GHz
Marker 2 [T1]
-31.13 dBm
5.725000 GHz
Marker 3 [T1]
-31.13 dBm
5.725000 GHz
D1 0.75 dBm
D2 -19.25 dBm
Center 5.68 GHz
20 MHz/
Span 200 MHz


RBW 1 MHz
VBW 10 Hz
SWT 16 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-0.43 dBm
5.755200 GHz
Marker 2 [T1]
-33.04 dBm
5.725000 GHz
Marker 3 [T1]
-33.04 dBm
5.725000 GHz
D1 -0.43 dBm
D2 -20.43 dBm
Center 5.68 GHz
20 MHz/
Span 200 MHz


RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-0.26 dBm
5.705740 GHz
Marker 2 [T1]
-35.82 dBm
39.680240 GHz
Marker 3 [T1]
-36.58 dBm
38.880840 GHz
Marker 4 [T1]
-36.80 dBm
38.720960 GHz
D1 0.75 dBm
D2 -19.25 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz


RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
1.37 dBm
5.794800 GHz
Marker 2 [T1]
-38.69 dBm
5.850000 GHz
Marker 3 [T1]
-38.69 dBm
5.850000 GHz
D1 1.37 dBm
D2 -18.63 dBm
Center 5.872 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]
0.15 dBm
5.794800 GHz
Marker 2 [T1]
-41.38 dBm
5.850000 GHz
Marker 3 [T1]
-41.38 dBm
5.850000 GHz
D1 0.15 dBm
D2 -19.85 dBm
Center 5.872 GHz
20 MHz/
Span 200 MHz


RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-0.79 dBm
5.785680 GHz
Marker 2 [T1]
-35.95 dBm
38.720960 GHz
Marker 3 [T1]
-36.56 dBm
39.680240 GHz
Marker 4 [T1]
-37.26 dBm
34.084440 GHz
D1 1.37 dBm
D2 -18.63 dBm
Start 30 MHz
3.997 GHz/
Stop 40 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.

--- END ---