FCC TEST REPORT (15.247)

REPORT NO.: RF980618L05C

MODEL NO.: WNDR3700v2

FCC ID: PY308300092

RECEIVED: Sep. 01, 2010

TESTED: Sep. 03 ~ Sep. 13, 2010

ISSUED: Sep. 16, 2010

APPLICANT: NETGEAR, INC.

ADDRESS: 350 East Plumeria Drive San Jose, CA 95134

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: N600 Wireless Dual Band Gigabit Router
MODEL NO.: WNDR3700v2
BRAND: NETGEAR
APPLICANT: NETGEAR, INC.
TEST SAMPLE: ENGINEERING SAMPLE
TESTED: Sep. 03 ~ Sep. 13, 2010
STANDARDS: **FCC Part 15, Subpart C (Section 15.247)**
ANSI C63.4-2003

The above equipment (Model: WNDR3700v2) 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 : Andrea Hsia , **DATE:** Sep. 16, 2010
Andrea Hsia / Specialist

TECHNICAL ACCEPTANCE : Long Chen , **DATE:** Sep. 16, 2010
Responsible for RF
Long Chen / Senior Engineer

APPROVED BY : Gary Chang , **DATE:** Sep. 16, 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 -4.32dB at 0.158MHz
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 –1.0dB at 5350.00MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	4.12 dB
	200MHz ~1000MHz	4.12 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	N600 Wireless Dual Band Gigabit Router
MODEL NO.	WNDR3700v2
FCC ID	PY308300092
NOMINAL VOLTAGE	12Vdc
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 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300.0Mbps
OPERATING FREQUENCY	2.4GHz: 2412.0 ~ 2462.0MHz 5.0GHz: 5745.0 ~ 5825.0MHz
NUMBER OF CHANNEL	2.4GHz: 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) 5.0GHz: 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
OUTPUT POWER	454.0mW for 2412 ~ 2462MHz 178.8mW for 5745 ~ 5825MHz
ANTENNA TYPE	Refer to Note as below
ANTENNA CONNECTER	NA
I/O PORTS	USB, RJ45
DATA CABLE	1.5m shielded RJ45 cable without core
ACCESSORY DEVICES	Adapter

NOTE:

1. This report is prepared for FCC class II permissive change. The differences compared with the original report are changing model name, product name, 5GHz antenna and re-layout the board. Therefore, for 2.4GHz band only radiated emission below 1GHz test & conducted emission test were re-tested, for 5.0GHz band the all the test items were re-tested and presented in the report.
2. The EUT is an N600 Wireless Dual Band Gigabit Router. The test data are separated into following test reports.

	TEST STANDARD	REFERENCE REPORT
WLAN 802.11b/g, 802.11n	FCC Part 15, Subpart C (Section 15.247)	RF980618L05C
WLAN 802.11a, 802.11n (5745~5825 MHz)		
WLAN 802.11a, 802.11n (5180~ 5240MHz)	FCC Part 15, Subpart E (Section 15.407)	RF980618L05C-1

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

Frequency Band (MHz)	2412~2462	5180~5240	5745~5825
802.11b	√		
802.11g	√		
802.11a		√	√
802.11n (20MHz)	√	√	√
802.11n (40MHz)	√	√	√

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

MODULATION MODE	TX FUNCTION
802.11b	2TX
802.11g	2TX
802.11a	2TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX

5. The EUT were powered by the following adapter:

ADAPTER 1	
BRAND:	NETGEAR
MODEL:	P030WF120B
P/N:	332-10100-01
INPUT:	100-240Vac, 1.0A, 50/60Hz
OUTPUT:	12Vdc, 2.5A
POWER LINE:	DC 1.8m non-shielded cable without core

ADAPTER 2	
BRAND:	NETGEAR
MODEL:	MU30-5120250-A1
P/N:	332-10100-01
INPUT:	100-240Vac, 0.8A, 50/60Hz
OUTPUT:	12Vdc, 2.5A
POWER LINE:	DC 1.8m non-shielded cable without core

6. The following antennas are used in this EUT.

Antenna Item	Type	Gain (dBi)
2.4GHz		
1	Printed	2.8
2	Printed	1.5
3	Printed	1.2
4	Printed	2.2

Frequency	Type	Gain (dBi)	
		Top antenna	Side antenna
5.0GHz			
5180	Printed	2.9	2.5
5200		3.0	2.8
5220		2.8	2.8
5240		2.6	2.8
5260		2.6	3.1
5280		2.9	3.5
5300		3.0	3.5
5320		3.0	3.5
5500		3.4	3.5
5520		3.5	3.6
5540		3.4	3.4
5560		3.5	3.4
5580		3.5	3.6
5600		3.6	3.6
5620		3.8	3.5
5640		3.8	3.4
5660		3.8	3.2
5680		3.7	2.9
5700		3.9	2.8
5745		3.6	2.5
5765		3.5	2.4
5785		3.4	2.4
5805		3.1	2.5

**For the 2.4GHz that had 4 antennas and 5GHz had 2 antennas, listed as above.

7. Antenna pair for transmission is defined by client

2.4GHz		
Antenna Pair	Antenna item	Antenna item
1	4	2
2	**4**	**1**
3	3	2
4	3	1

**After pretesting of radiated power and emission, Antenna pair 2 is worst case of 2.4GHz

8. 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

FOR 2.4GHz:

11 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		

7 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		

FOR 5.0GHz (5725 ~ 5850MHz):

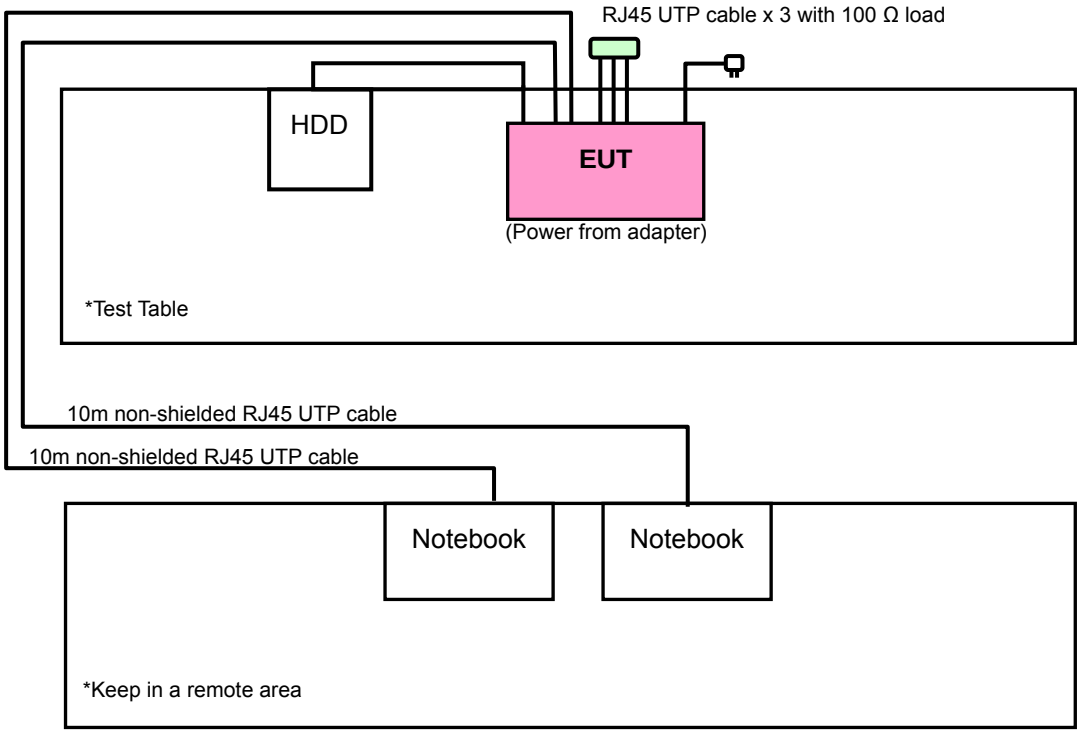
5 channels are provided for 802.11a and 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

FOR 2.400 ~ 2.4835GHz:

EUT CONFIGURE MODE	APPLICABLE TO		DESCRIPTION
	RE<1G	PLC	
A	√	√	Power from AC Adapter 1
B	√	√	Power from AC Adapter 2

Where **RE<1G:** Radiated Emission below 1GHz **PLC:** Power Line Conducted Emission
NOTE: "-"means no effect.

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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
A & B	802.11b	1 to 11	6	DSSS	DBPSK	1.0	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 & B	802.11b	1 to 11	6	DSSS	DBPSK	1.0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE<1G	23deg. C, 71%RH, 1020 hPa	120Vac, 60Hz	Jacky Lee
PLC	20deg. C, 60%RH, 1020 hPa	120Vac, 60Hz	Match Tsui

FOR 5.725 ~ 5.850GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	-	√	√	-	Power from AC Adapter 1
B	√	√	√	√	Power from AC Adapter 2

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

RADIATED EMISSION TEST (ABOVE 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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
B	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0	Z
B	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2	Z
B	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
A	802.11a	149 to 165	149	OFDM	BPSK	6.0	Z
B	802.11a	149 to 165	149	OFDM	BPSK	6.0	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	149 to 165	149	OFDM	BPSK	6.0
B	802.11a	149 to 165	149	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 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)
B	802.11a	149 to 165	149, 165	OFDM	BPSK	6.0
B	802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	7.2
B	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0

ANTENNA PORT CONDUCTED MEASUREMENT:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

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

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
B	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
B	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2
B	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	26deg. C, 64%RH, 1020 hPa	120Vac, 60Hz	Antony Lee
RE<1G	23deg. C, 71%RH, 1008 hPa	120Vac, 60Hz	Jacky Lee
PLC	20deg. C, 60%RH, 1020 hPa	120Vac, 60Hz	Match Tsui
APCM	26deg. C, 64%RH, 1020 hPa	120Vac, 60Hz	Antony Lee

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	EXTERNAL HARD DISK	DELL	RD1000	HK-0XM763-72953-77P-000F	NA
2	NOTEBOOK	DELL	PP05L	12130898320	E2K24CLNS
3	NOTEBOOK	DELL	PP05L	25191592336	E2K24CLNS

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	2 m shielded cable, terminated with USB connector, with core.
2	10m non-shielded RJ45 UTP cable
3	10m non-shielded RJ45 UTP cable

NOTE: 1. All power cords of the above support units are non shielded (1.8m).
2. Item 2 ~ 3 acted as communication partners to transfer data.

4. TEST TYPES AND RESULTS (FOR 2.4GHz BAND)

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	100186	Dec. 11, 2009	Dec. 10, 2010
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	Sep. 18, 2009	Sep. 17, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Dec. 31, 2009	Dec. 30, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-148	Apr. 27, 2010	Apr. 26, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-149	Apr. 27, 2010	Apr. 26, 2011
HORN Antenna EMCO	3115	5623	Jul. 13, 2010	Jul. 12, 2011
Preamplifier Agilent	8447D	2944A10636	Dec. 10, 2009	Dec. 09, 2010
Preamplifier Agilent	8447D	2944A10637	Dec. 10, 2009	Dec. 09, 2010
Preamplifier Agilent	8449B	3008A01959	Dec. 10, 2009	Dec. 09, 2010
RF signal cable Woken	8D-FB	Cable-Hych1-01	Oct. 24, 2009	Oct. 23, 2010
RF signal cable Woken	8D-FB	Cable-Hych1-02	Oct. 24, 2009	Oct. 23, 2010
Software ADT	ADT_Radiated_ V 7.7.03.6	NA	NA	NA
Antenna Tower(V)	MFA-440	9707	NA	NA
Antenna Tower(H)	MFA-440	970705	NA	NA
Turn Table	DS430	50303	NA	NA
Controller	MF7802	074	NA	NA
Controller	MF7802	08093	NA	NA
RF signal cable EAST COST Microwave	HP 160S-29	NA	Feb. 12, 2010	Feb. 11, 2011

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 1.

3. The FCC Site Registration No. is 477732.

4. The IC Site Registration No. is IC 7450F-1.

5. The VCCI Site Registration No. is R-1893, G-113.

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 10 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.

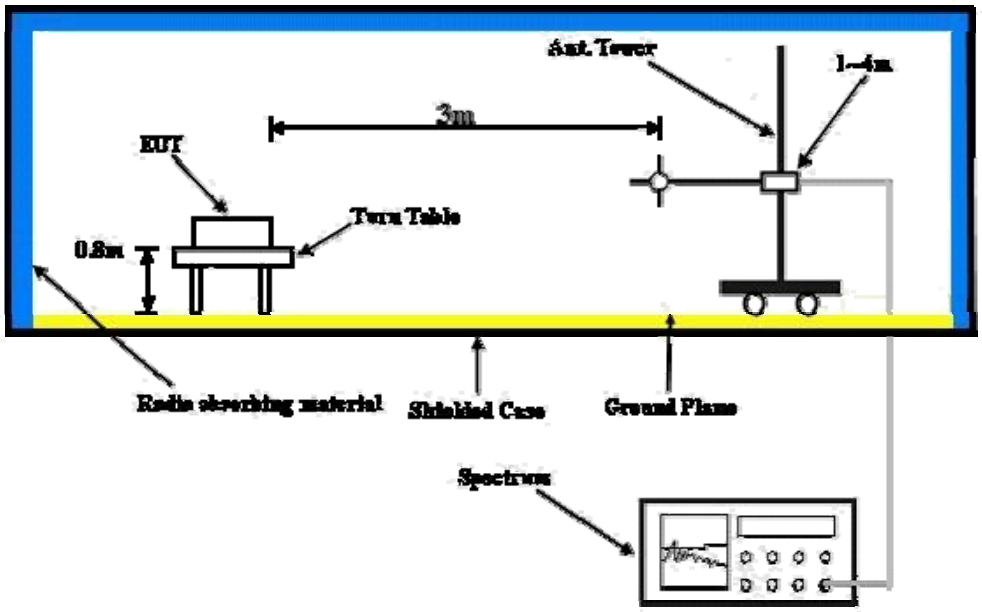
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 100kHz and video bandwidth is 300kHz for Peak detection at frequency above 1GHz.
3. 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 system outside of testing area to act as a communication partners.
c. The communication partner connected with EUT via a RJ45 UTP cable and run a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".

4.1.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA：802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 71%RH 1008 hPa	TEST MODE	A
TESTED BY	Jacky Lee		

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	125.35	34.8 QP	43.5	-8.7	1.00 H	282	22.32	12.46
2	199.22	38.8 QP	43.5	-4.7	1.50 H	228	27.71	11.08
3	399.64	36.2 QP	46.0	-9.9	1.00 H	332	18.41	17.74
4	500.32	43.4 QP	46.0	-2.6	2.50 H	177	23.49	19.95
5	533.77	40.4 QP	46.0	-5.6	1.50 H	49	19.61	20.79
6	751.18	35.9 QP	46.0	-10.1	1.00 H	158	11.09	24.78
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.00	36.3 QP	40.0	-3.7	1.00 V	125	23.50	12.84
2	54.27	36.2 QP	40.0	-3.8	1.00 V	193	22.71	13.45
3	375.07	36.4 QP	46.0	-9.6	1.00 V	222	19.23	17.19
4	500.42	44.0 QP	46.0	-2.0	3.00 V	74	23.78	20.20
5	750.18	36.2 QP	46.0	-9.8	4.00 V	281	11.29	24.94
6	1000.00	40.6 QP	54.0	-13.4	1.50 V	36	12.28	28.31

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 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 71%RH 1008 hPa	TEST MODE	B
TESTED BY	Jacky Lee		

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	199.12	38.8 QP	43.5	-4.7	1.00 H	265	27.76	11.08
2	249.66	36.6 QP	46.0	-9.4	2.00 H	142	23.43	13.20
3	374.07	39.6 QP	46.0	-6.4	1.00 H	30	22.63	17.01
4	399.34	37.2 QP	46.0	-8.8	1.00 H	333	19.48	17.73
5	500.42	43.2 QP	46.0	-2.8	2.00 H	26	23.27	19.95
6	533.47	41.0 QP	46.0	-5.0	1.50 H	13	20.25	20.78
7	751.18	36.5 QP	46.0	-9.5	1.00 H	160	11.69	24.78
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	45.55	35.6 QP	40.0	-4.4	1.00 V	102	20.87	14.70
2	53.33	35.9 QP	40.0	-4.1	1.00 V	228	22.40	13.52
3	64.99	35.1 QP	40.0	-4.9	1.00 V	110	22.64	12.45
4	374.07	37.1 QP	46.0	-8.9	1.50 V	63	19.94	17.17
5	500.42	39.4 QP	46.0	-6.6	1.50 V	257	19.17	20.20
6	533.47	36.1 QP	46.0	-9.9	1.50 V	131	15.10	20.96
7	751.18	41.7 QP	46.0	-4.3	3.50 V	57	16.70	24.97

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. 28, 2010	Jun. 27, 2011
LISN ROHDE & SCHWARZ	ESH3-Z5	835239/001	Feb. 10, 2010	Feb. 09, 2011
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.

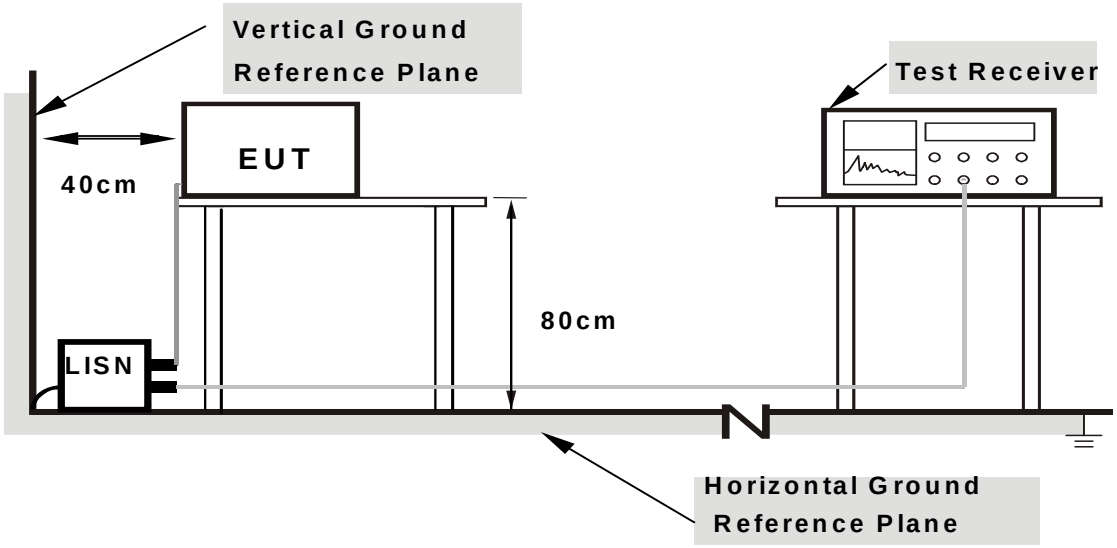
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

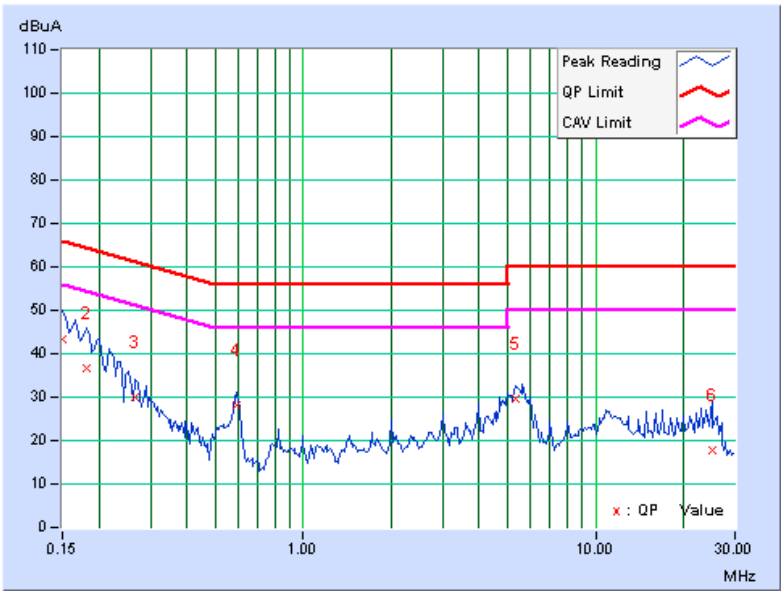
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA：802.11b

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

	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	0.150	0.12	43.21	-	43.33	-	66.00	56.00	-22.67	-
2	0.181	0.11	36.42	-	36.53	-	64.43	54.43	-27.89	-
3	0.267	0.12	29.80	-	29.92	-	61.20	51.20	-31.29	-
4	0.591	0.15	28.06	-	28.21	-	56.00	46.00	-27.79	-
5	5.352	0.42	29.26	-	29.68	-	60.00	50.00	-30.32	-
6	25.020	1.79	16.12	-	17.91	-	60.00	50.00	-42.09	-

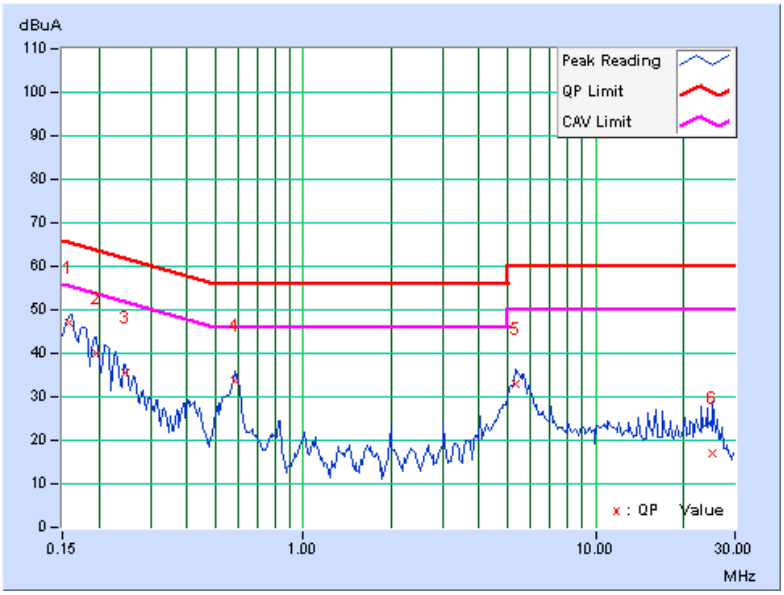
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

	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	0.158	0.10	47.04	-	47.14	-	65.58	55.58	-18.44	-
2	0.197	0.10	39.83	-	39.93	-	63.74	53.74	-23.81	-
3	0.248	0.10	35.40	-	35.50	-	61.84	51.84	-26.33	-
4	0.584	0.14	33.72	-	33.86	-	56.00	46.00	-22.14	-
5	5.340	0.37	32.51	-	32.88	-	60.00	50.00	-27.12	-
6	25.121	1.57	15.61	-	17.18	-	60.00	50.00	-42.82	-

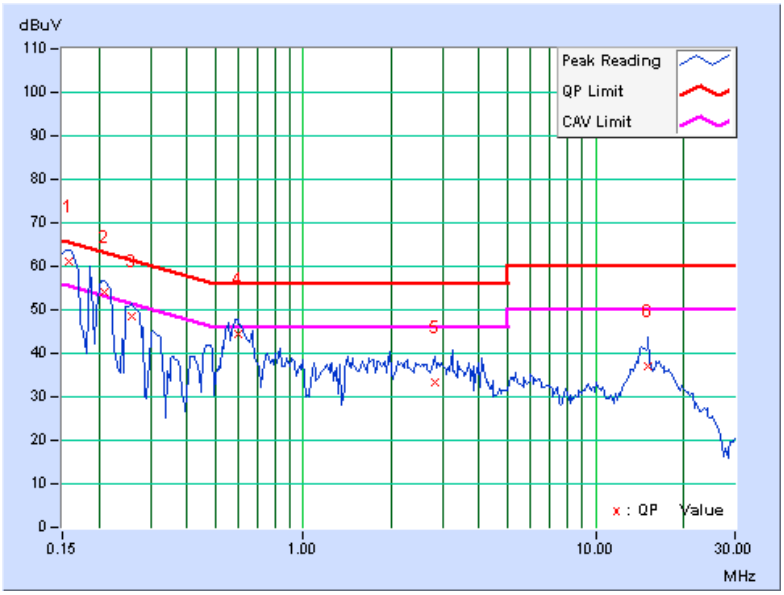
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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

	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	**0.158**	**0.12**	**61.14**	**49.64**	**61.26**	**49.76**	**65.58**	**55.58**	**-4.32**	**-5.82**
2	0.209	0.11	54.03	43.31	54.14	43.42	63.26	53.26	-9.12	-9.84
3	0.259	0.12	48.34	-	48.46	-	61.45	51.45	-13.00	-
4	0.599	0.15	44.16	-	44.31	-	56.00	46.00	-11.69	-
5	2.816	0.29	33.11	-	33.40	-	56.00	46.00	-22.60	-
6	15.137	1.07	35.94	-	37.01	-	60.00	50.00	-22.99	-

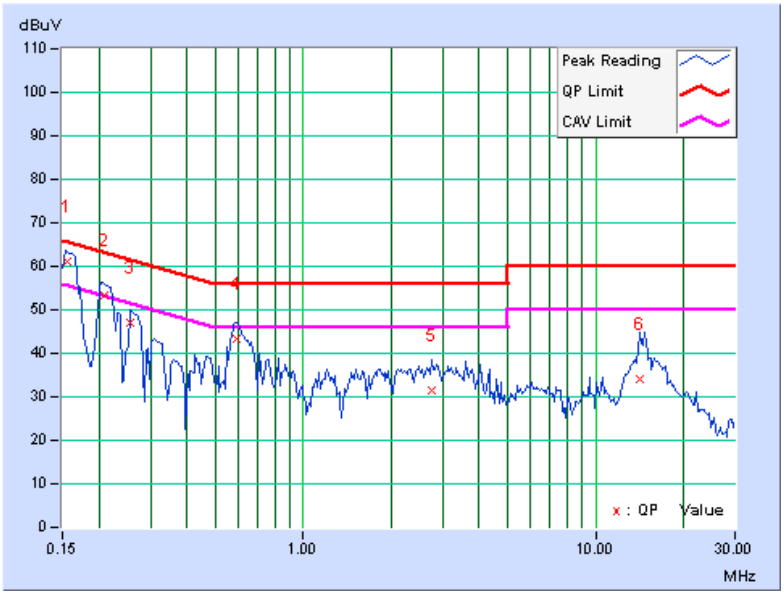
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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

	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	0.157	0.10	60.83	48.87	60.93	48.97	65.64	55.64	-4.71	-6.67
2	0.209	0.10	53.36	42.17	53.46	42.27	63.26	53.26	-9.80	-10.99
3	0.255	0.11	47.05	-	47.16	-	61.58	51.58	-14.42	-
4	0.595	0.14	43.07	-	43.21	-	56.00	46.00	-12.79	-
5	2.750	0.27	31.35	-	31.62	-	56.00	46.00	-24.38	-
6	14.246	0.87	33.35	-	34.22	-	60.00	50.00	-25.78	-

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.



5. TEST TYPES AND RESULTS (FOR 5.0GHz BAND)

5.1 RADIATED EMISSION MEASUREMENT

5.1.1 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.

5.1.2 TEST INSTRUMENTS

Above 1GHz Test:

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	100039	Jan. 11, 2010	Jan. 10, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 28, 2010	Apr. 27, 2011
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-408	Jan. 05, 2010	Jan. 04, 2011
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Dec. 25, 2009	Dec. 24, 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. 21, 2010	Aug. 20, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	283397/4	Aug. 21, 2010	Aug. 20, 2011
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. 25, 2010	Aug. 24, 2011

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.

Below 1GHz Test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100186	Dec. 11, 2009	Dec. 10, 2010
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	Sep. 18, 2009	Sep. 17, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Dec. 31, 2009	Dec. 30, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-148	Apr. 27, 2010	Apr. 26, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-149	Apr. 27, 2010	Apr. 26, 2011
HORN Antenna EMCO	3115	5623	Jul. 13, 2010	Jul. 12, 2011
Preamplifier Agilent	8447D	2944A10636	Dec. 10, 2009	Dec. 09, 2010
Preamplifier Agilent	8447D	2944A10637	Dec. 10, 2009	Dec. 09, 2010
Preamplifier Agilent	8449B	3008A01959	Dec. 10, 2009	Dec. 09, 2010
RF signal cable Woken	8D-FB	Cable-Hych1-01	Oct. 24, 2009	Oct. 23, 2010
RF signal cable Woken	8D-FB	Cable-Hych1-02	Oct. 24, 2009	Oct. 23, 2010
Software ADT	ADT_Radiated_ V 7.7.03.6	NA	NA	NA
Antenna Tower(V)	MFA-440	9707	NA	NA
Antenna Tower(H)	MFA-440	970705	NA	NA
Turn Table	DS430	50303	NA	NA
Controller	MF7802	074	NA	NA
Controller	MF7802	08093	NA	NA
RF signal cable EAST COST Microwave	HP 160S-29	NA	Feb. 12, 2010	Feb. 11, 2011

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 1.
3. The FCC Site Registration No. is 477732.
4. The IC Site Registration No. is IC 7450F-1.
5. The VCCI Site Registration No. is R-1893, G-113.

5.1.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 & 10 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.

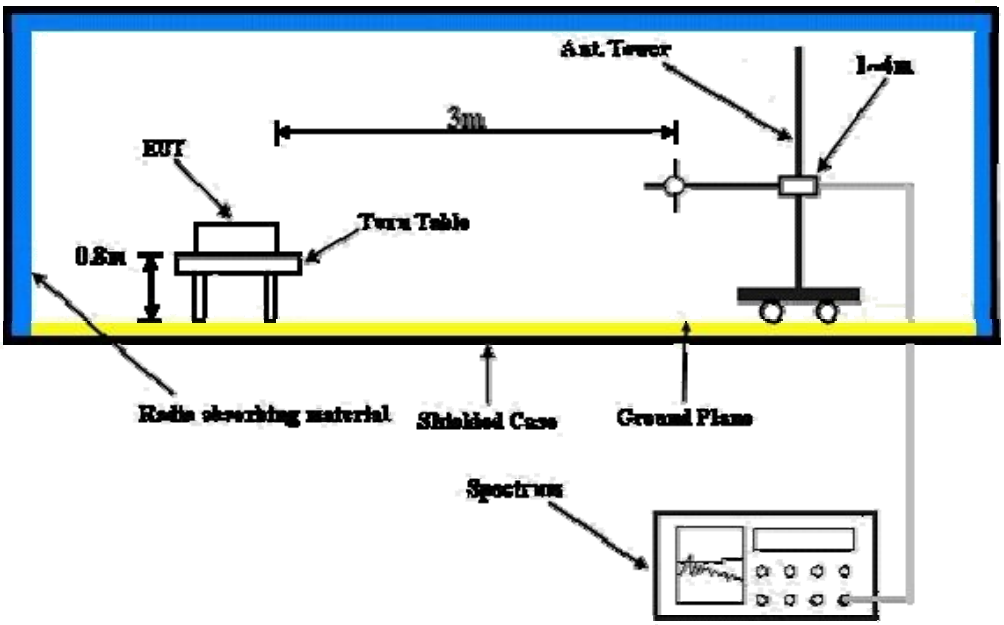
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 100kHz and video bandwidth is 300kHz 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.

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 TEST SETUP



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

5.1.6 EUT OPERATING CONDITIONS

Same as 4.1.6

5.1.7 TEST RESULTS

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH 1020 hPa	TESTED BY	Antony Lee

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	82.3 PK	86.8	-4.5	1.00 H	96	40.70	41.60
2	#5725.00	63.1 AV	74.5	-11.4	1.00 H	96	21.50	41.60
3	*5745.00	116.8 PK			1.00 H	95	75.20	41.60
4	*5745.00	104.5 AV			1.00 H	95	62.90	41.60
5	11490.00	63.2 PK	74.0	-10.8	1.00 H	269	9.90	53.30
6	11490.00	49.9 AV	54.0	-4.1	1.00 H	269	-3.40	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	5350.00	67.9 PK	74.0	-6.1	1.02 V	65	27.00	40.90
2	5350.00	52.3 AV	54.0	-1.7	1.02 V	65	11.40	40.90
3	#5725.00	87.6 PK	88.8	-1.2	1.00 V	64	46.00	41.60
4	#5725.00	65.6 AV	76.8	-11.2	1.00 V	64	24.00	41.60
5	*5745.00	118.8 PK			1.00 V	64	77.20	41.60
6	*5745.00	106.8 AV			1.00 V	64	65.20	41.60
7	11490.00	65.0 PK	74.0	-9.0	1.00 V	253	11.70	53.30
8	11490.00	51.4 AV	54.0	-2.6	1.00 V	253	-1.90	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	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH 1020 hPa	TESTED BY	Antony Lee

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	115.3 PK			1.00 H	94	73.60	41.70
2	*5785.00	103.3 AV			1.00 H	94	61.60	41.70
3	11570.00	62.3 PK	74.0	-11.7	1.02 H	36	9.20	53.10
4	11570.00	49.6 AV	54.0	-4.4	1.02 H	36	-3.50	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	5350.00	65.0 PK	74.0	-9.0	1.00 V	77	24.10	40.90
2	5350.00	52.6 AV	54.0	-1.4	1.00 V	77	11.70	40.90
3	*5785.00	118.7 PK			1.00 V	65	77.00	41.70
4	*5785.00	106.7 AV			1.00 V	65	65.00	41.70
5	11570.00	63.5 PK	74.0	-10.5	1.70 V	261	10.40	53.10
6	11570.00	50.1 AV	54.0	-3.9	1.70 V	261	-3.00	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	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH 1020 hPa	TESTED BY	Antony Lee

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	*5825.00	115.7 PK			1.39 H	93	74.00	41.70
2	*5825.00	104.0 AV			1.39 H	93	62.30	41.70
3	#5850.00	71.1 PK	85.7	-14.6	1.39 H	94	29.40	41.70
4	#5850.00	54.3 AV	74.0	-19.7	1.39 H	94	12.60	41.70
5	11650.00	62.4 PK	74.0	-11.6	1.00 H	210	9.30	53.10
6	11650.00	49.0 AV	54.0	-5.0	1.00 H	210	-4.10	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	5350.00	66.8 PK	74.0	-7.2	1.00 V	70	25.90	40.90
2	**5350.00**	**53.0 AV**	**54.0**	**-1.0**	**1.00 V**	**70**	**12.10**	**40.90**
3	*5825.00	118.2 PK			1.00 V	62	76.50	41.70
4	*5825.00	106.7 AV			1.00 V	62	65.00	41.70
5	#5850.00	75.4 PK	88.2	-12.8	1.00 V	63	33.70	41.70
6	#5850.00	57.5 AV	76.7	-19.2	1.00 V	63	15.80	41.70
7	11650.00	62.0 PK	74.0	-12.0	1.00 V	263	8.90	53.10
8	11650.00	50.1 AV	54.0	-3.9	1.00 V	263	-3.00	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.

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH 1020 hPa	TESTED BY	Antony Lee

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	83.6 PK	86.3	-2.7	1.00 H	93	42.00	41.60
2	#5725.00	64.5 AV	73.9	-9.4	1.00 H	93	22.90	41.60
3	*5745.00	116.3 PK			1.00 H	96	74.70	41.60
4	*5745.00	103.9 AV			1.00 H	96	62.30	41.60
5	11490.00	63.5 PK	74.0	-10.5	1.00 H	271	10.20	53.30
6	11490.00	50.2 AV	54.0	-3.8	1.00 H	271	-3.10	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	5350.00	67.9 PK	74.0	-6.1	1.00 V	63	27.00	40.90
2	5350.00	52.6 AV	54.0	-1.4	1.00 V	63	11.70	40.90
3	#5725.00	87.4 PK	88.5	-1.1	1.00 V	65	45.80	41.60
4	#5725.00	64.9 AV	76.4	-11.5	1.00 V	65	23.30	41.60
5	*5745.00	118.5 PK			1.00 V	66	76.90	41.60
6	*5745.00	106.4 AV			1.00 V	66	64.80	41.60
7	11490.00	63.1 PK	74.0	-10.9	1.00 V	261	9.80	53.30
8	11490.00	50.8 AV	54.0	-3.2	1.00 V	261	-2.50	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	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH 1020 hPa	TESTED BY	Antony Lee

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	115.7 PK			1.00 H	88	74.00	41.70
2	*5785.00	102.9 AV			1.00 H	88	61.20	41.70
3	11570.00	62.6 PK	74.0	-11.4	1.01 H	41	9.50	53.10
4	11570.00	49.5 AV	54.0	-4.5	1.01 H	41	-3.60	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	5350.00	64.6 PK	74.0	-9.4	1.00 V	72	23.70	40.90
2	5350.00	52.1 AV	54.0	-1.9	1.00 V	72	11.20	40.90
3	*5785.00	118.5 PK			1.00 V	65	76.80	41.70
4	*5785.00	106.7 AV			1.00 V	65	65.00	41.70
5	11570.00	63.8 PK	74.0	-10.2	1.73 V	266	10.70	53.10
6	11570.00	50.5 AV	54.0	-3.5	1.73 V	266	-2.60	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	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH 1020 hPa	TESTED BY	Antony Lee

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	*5825.00	115.3 PK			1.41 H	89	73.60	41.70
2	*5825.00	103.8 AV			1.41 H	89	62.10	41.70
3	#5850.00	71.4 PK	85.3	-13.9	1.35 H	89	29.70	41.70
4	#5850.00	54.8 AV	73.8	-19.0	1.35 H	89	13.10	41.70
5	11650.00	62.0 PK	74.0	-12.0	1.00 H	213	8.90	53.10
6	11650.00	49.3 AV	54.0	-4.7	1.00 H	213	-3.80	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	5350.00	59.5 PK	74.0	-14.5	1.00 V	78	18.60	40.90
2	**5350.00**	**53.0 AV**	**54.0**	**-1.0**	**1.00 V**	**78**	**12.10**	**40.90**
3	*5825.00	118.8 PK			1.40 V	86	77.10	41.70
4	*5825.00	105.3 AV			1.40 V	86	63.60	41.70
5	#5850.00	77.4 PK	88.8	-11.4	1.40 V	85	35.70	41.70
6	#5850.00	58.5 AV	75.3	-16.8	1.40 V	85	16.80	41.70
7	11650.00	62.8 PK	74.0	-11.2	1.00 V	271	9.70	53.10
8	11650.00	50.6 AV	54.0	-3.4	1.00 V	271	-2.50	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.

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH 1020 hPa	TESTED BY	Antony Lee

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	82.0 PK	83.6	-1.6	1.00 H	99	40.40	41.60
2	#5725.00	63.8 AV	70.0	-6.2	1.00 H	99	22.20	41.60
3	*5755.00	113.6 PK			1.00 H	92	71.90	41.70
4	*5755.00	100.0 AV			1.00 H	92	58.30	41.70
5	11510.00	63.1 PK	74.0	-10.9	1.00 H	15	9.80	53.30
6	11510.00	49.7 AV	54.0	-4.3	1.00 H	15	-3.60	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	5350.00	67.4 PK	74.0	-6.6	1.00 V	71	26.50	40.90
2	5350.00	52.3 AV	54.0	-1.7	1.00 V	71	11.40	40.90
3	#5725.00	84.2 PK	86.2	-2.0	1.00 V	66	42.60	41.60
4	#5725.00	68.0 AV	73.0	-5.0	1.00 V	66	26.40	41.60
5	*5755.00	116.2 PK			1.00 V	64	74.50	41.70
6	*5755.00	103.0 AV			1.00 V	64	61.30	41.70
7	11510.00	64.2 PK	74.0	-9.8	1.00 V	164	10.90	53.30
8	11510.00	51.0 AV	54.0	-3.0	1.00 V	164	-2.30	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	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH 1020 hPa	TESTED BY	Antony Lee

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	113.3 PK			1.00 H	90	71.60	41.70
2	*5795.00	100.5 AV			1.00 H	90	58.80	41.70
3	#5850.00	69.5 PK	83.3	-13.8	1.00 H	92	27.80	41.70
4	#5850.00	51.5 AV	70.5	-19.0	1.00 H	92	9.80	41.70
5	11590.00	63.2 PK	74.0	-10.8	1.00 H	16	10.10	53.10
6	11590.00	50.2 AV	54.0	-3.8	1.00 H	16	-2.90	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	5350.00	66.6 PK	74.0	-7.4	1.00 V	69	25.70	40.90
2	5350.00	52.4 AV	54.0	-1.6	1.00 V	69	11.50	40.90
3	*5795.00	116.3 PK			1.00 V	90	74.60	41.70
4	*5795.00	103.7 AV			1.00 V	90	62.00	41.70
5	#5850.00	77.9 PK	86.3	-8.4	1.00 V	16	36.20	41.70
6	#5850.00	57.7 AV	73.7	-16.0	1.00 V	16	16.00	41.70
7	11590.00	63.9 PK	74.0	-10.1	1.00 V	158	10.80	53.10
8	11590.00	50.4 AV	54.0	-3.6	1.00 V	158	-2.70	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：802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 71%RH 1008 hPa	TESTED BY	Jackey Lee
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	123.72	34.8 QP	43.5	-8.7	1.00 H	264	22.42	12.36
2	199.47	37.9 QP	43.5	-5.6	2.00 H	28	26.80	11.06
3	337.48	38.5 QP	46.0	-7.6	1.50 H	51	22.47	15.98
4	374.77	37.8 QP	46.0	-8.2	1.50 H	214	20.74	17.03
5	500.12	43.4 QP	46.0	-2.6	1.50 H	186	23.50	19.94
6	533.67	41.8 QP	46.0	-4.2	4.00 H	89	20.99	20.79
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.00	37.9 QP	40.0	-2.1	1.00 V	193	25.07	12.84
2	58.78	36.8 QP	40.0	-3.2	1.00 V	72	23.65	13.12
3	199.89	34.6 QP	43.5	-8.9	1.00 V	53	23.31	11.26
4	374.67	35.5 QP	46.0	-10.6	3.00 V	348	18.27	17.18
5	500.41	43.0 QP	46.0	-3.0	2.00 V	294	22.84	20.20
6	751.08	35.5 QP	46.0	-10.5	1.50 V	289	10.51	24.96

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 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 71%RH 1008 hPa	TESTED BY	Jackey Lee
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	249.06	37.7 QP	46.0	-8.3	2.00 H	155	24.52	13.17
2	375.27	37.5 QP	46.0	-8.5	2.00 H	34	20.47	17.05
3	399.64	37.6 QP	46.0	-8.4	1.50 H	328	19.87	17.74
4	500.62	42.3 QP	46.0	-3.7	2.00 H	95	22.36	19.96
5	624.13	38.1 QP	46.0	-7.9	2.00 H	215	15.28	22.84
6	875.19	38.6 QP	46.0	-7.4	1.50 H	315	11.73	26.85
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	48.85	37.9 QP	40.0	-2.1	1.00 V	171	23.87	14.01
2	68.99	36.1 QP	40.0	-3.9	1.50 V	115	24.11	11.99
3	199.22	37.1 QP	43.5	-6.4	1.50 V	158	25.82	11.30
4	375.67	38.6 QP	46.0	-7.4	1.00 V	140	21.35	17.21
5	500.12	39.6 QP	46.0	-6.4	1.50 V	294	19.42	20.19
6	751.88	41.2 QP	46.0	-4.8	4.00 V	56	16.19	24.98

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.

5.2 CONDUCTED EMISSION MEASUREMENT

5.2.1 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.

5.2.2 T EST 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. 28, 2010	Jun. 27, 2011
LISN ROHDE & SCHWARZ	ESH3-Z5	835239/001	Feb. 10, 2010	Feb. 09, 2011
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.

5.2.3 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.

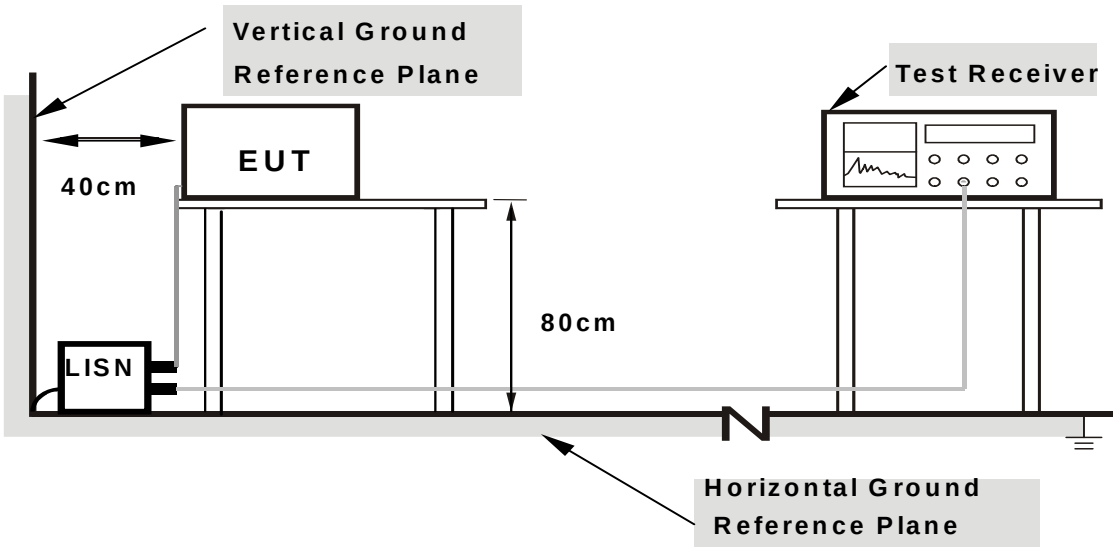
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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

5.2.4 DEVIATION FROM TEST STANDARD

No deviation

5.2.5 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).

5.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

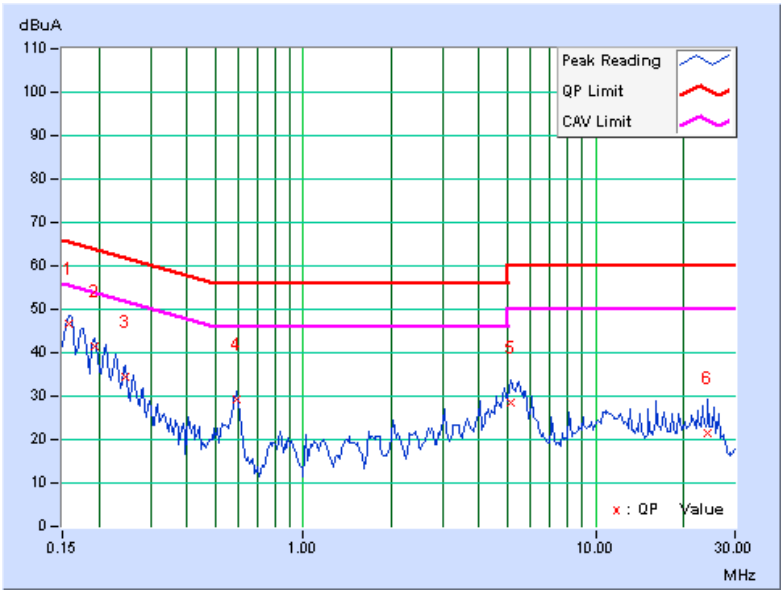
5.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA：802.11a

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

	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	0.158	0.12	46.37	-	46.49	-	65.58	55.58	-19.09	-
2	0.193	0.11	41.40	-	41.51	-	63.91	53.91	-22.40	-
3	0.248	0.11	34.27	-	34.38	-	61.84	51.84	-27.45	-
4	0.595	0.15	29.05	-	29.20	-	56.00	46.00	-26.80	-
5	5.152	0.41	28.18	-	28.59	-	60.00	50.00	-31.41	-
6	24.297	1.75	19.56	-	21.31	-	60.00	50.00	-38.69	-

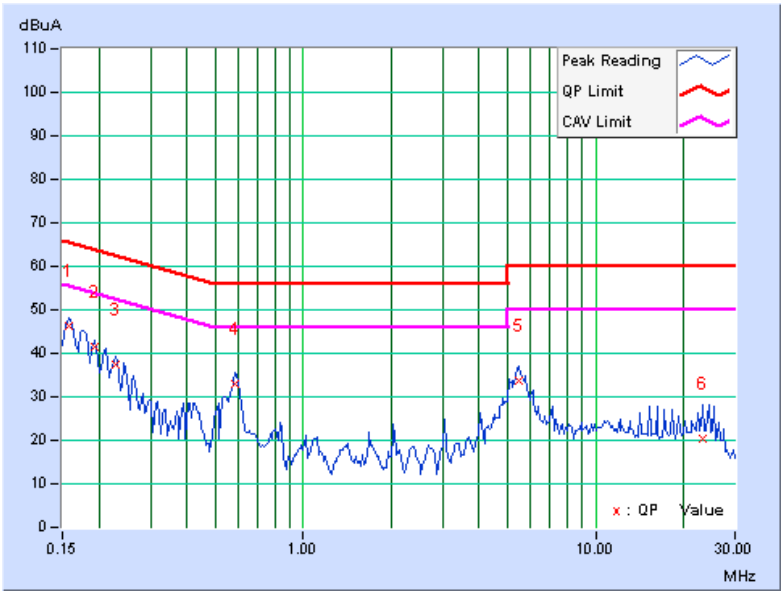
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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

	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	0.158	0.10	46.31	-	46.41	-	65.58	55.58	-19.17	-
2	0.193	0.10	41.21	-	41.31	-	63.91	53.91	-22.60	-
3	0.228	0.10	37.45	-	37.55	-	62.52	52.52	-24.97	-
4	0.584	0.14	32.74	-	32.88	-	56.00	46.00	-23.12	-
5	5.457	0.38	33.31	-	33.69	-	60.00	50.00	-26.31	-
6	23.344	1.48	19.02	-	20.50	-	60.00	50.00	-39.50	-

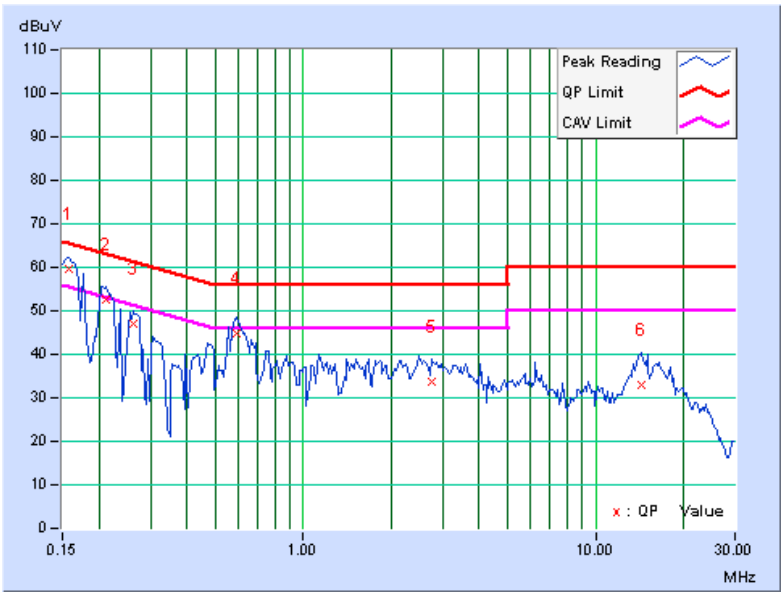
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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

	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	0.158	0.12	59.44	48.34	59.56	48.46	65.58	55.58	-6.02	-7.12
2	0.213	0.11	52.49	-	52.60	-	63.11	53.11	-10.51	-
3	0.263	0.12	46.82	-	46.94	-	61.33	51.33	-14.39	-
4	0.591	0.15	44.82	-	44.97	-	56.00	46.00	-11.03	-
5	2.762	0.29	33.47	-	33.76	-	56.00	46.00	-22.24	-
6	14.387	1.00	31.97	-	32.97	-	60.00	50.00	-27.03	-

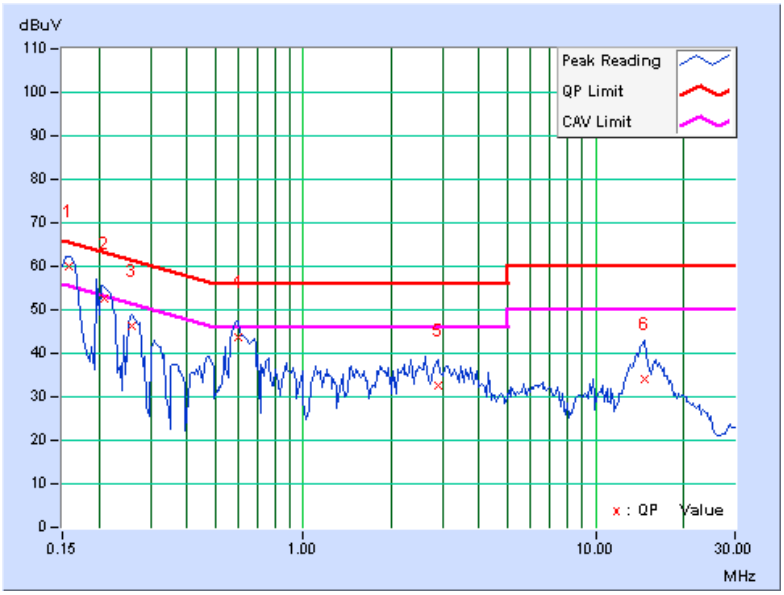
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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

	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	0.158	0.10	59.77	48.06	59.87	48.16	65.58	55.58	-5.71	-7.42
2	0.210	0.10	52.36	-	52.46	-	63.21	53.21	-10.75	-
3	0.259	0.11	46.12	-	46.23	-	61.45	51.45	-15.23	-
4	0.599	0.14	43.42	-	43.56	-	56.00	46.00	-12.44	-
5	2.879	0.28	32.24	-	32.52	-	56.00	46.00	-23.48	-
6	14.664	0.90	33.08	-	33.98	-	60.00	50.00	-26.02	-

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.



5.3 6dB BANDWIDTH MEASUREMENT

5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

5.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
R&S SPECTRUM ANALYZER	FSP40	100039	Jan. 11, 2010	Jan. 10, 2011

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

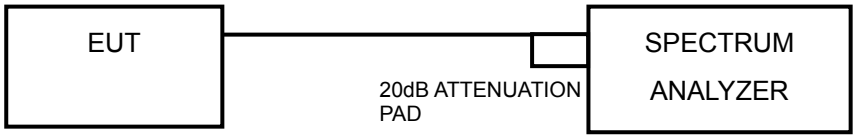
5.3.3 TEST PROCEDURE

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 300kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

5.3.4 DEVIATION FROM TEST STANDARD

No deviation

5.3.5 TEST SETUP



5.3.6 EUT OPERATING CONDITIONS

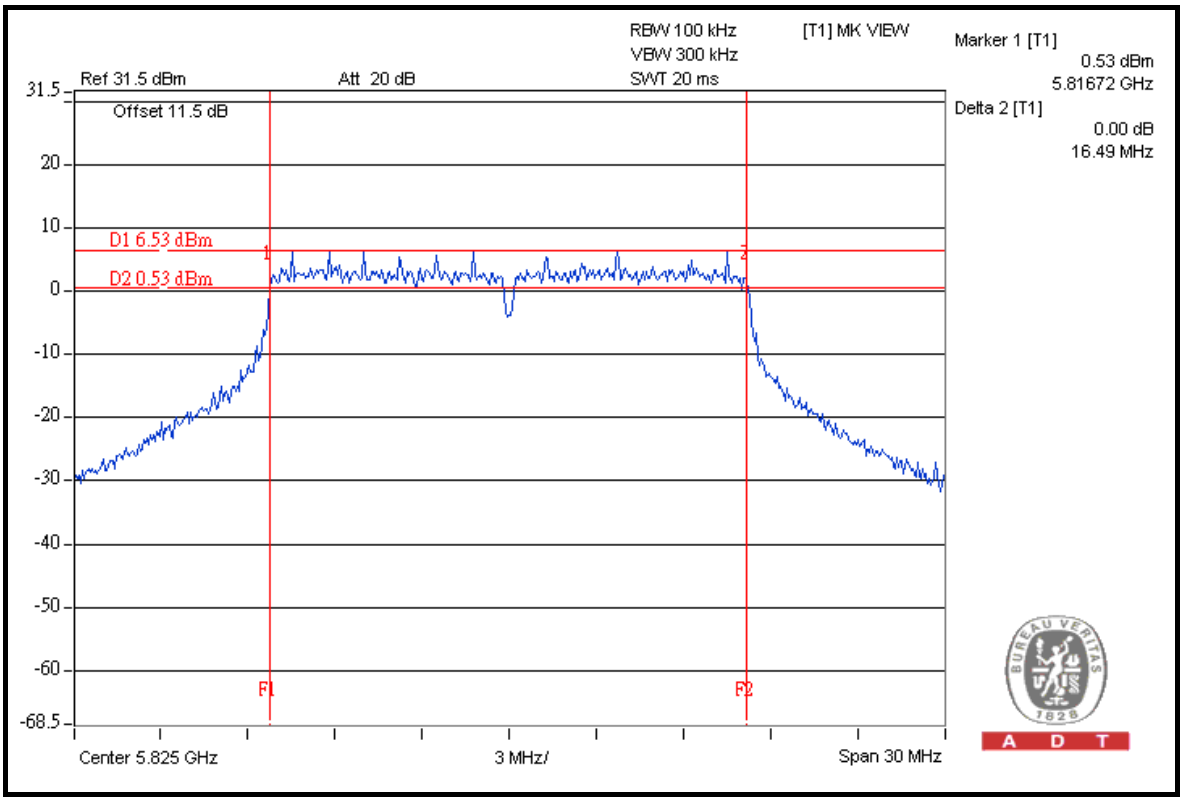
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

5.3.7 TEST RESULTS

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	16.47	16.45	0.5	PASS
157	5785	16.48	16.46	0.5	PASS
165	5825	16.49	16.46	0.5	PASS

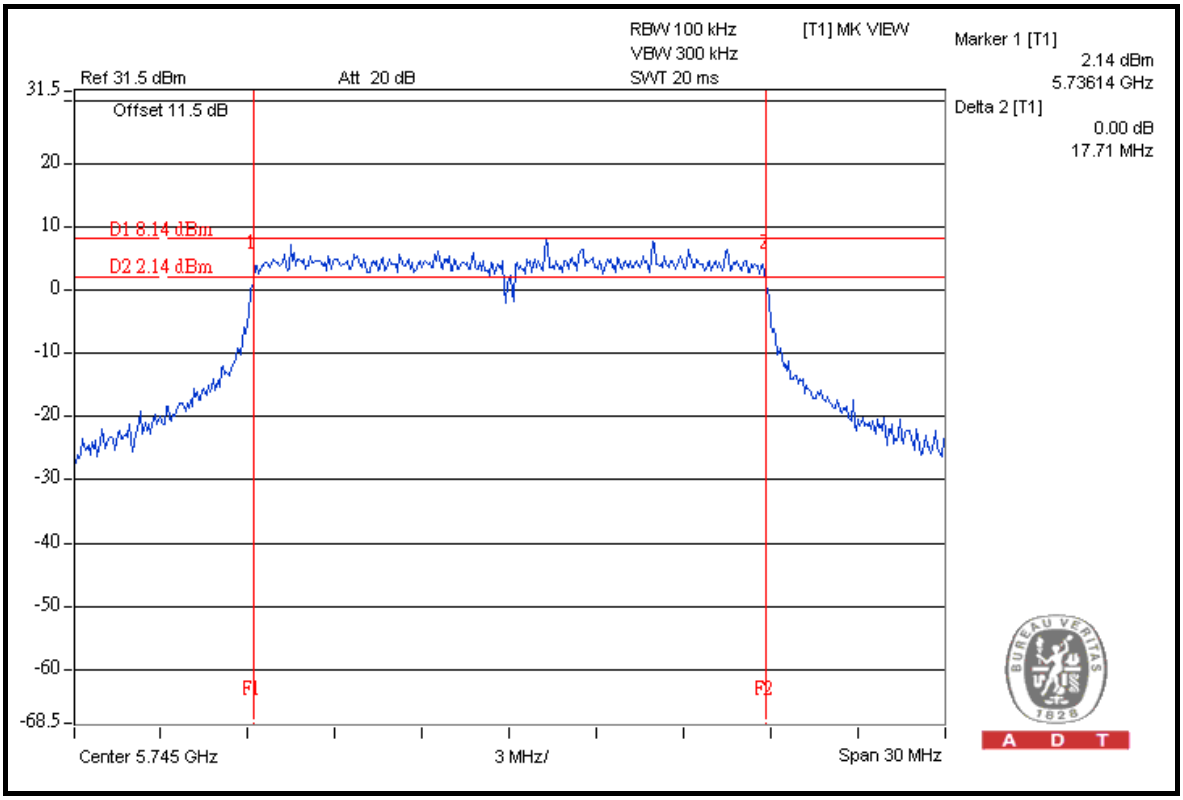
FOR CHAIN 0: CH 165



802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.69	17.71	0.5	PASS
157	5785	17.68	17.66	0.5	PASS
165	5825	17.66	17.66	0.5	PASS

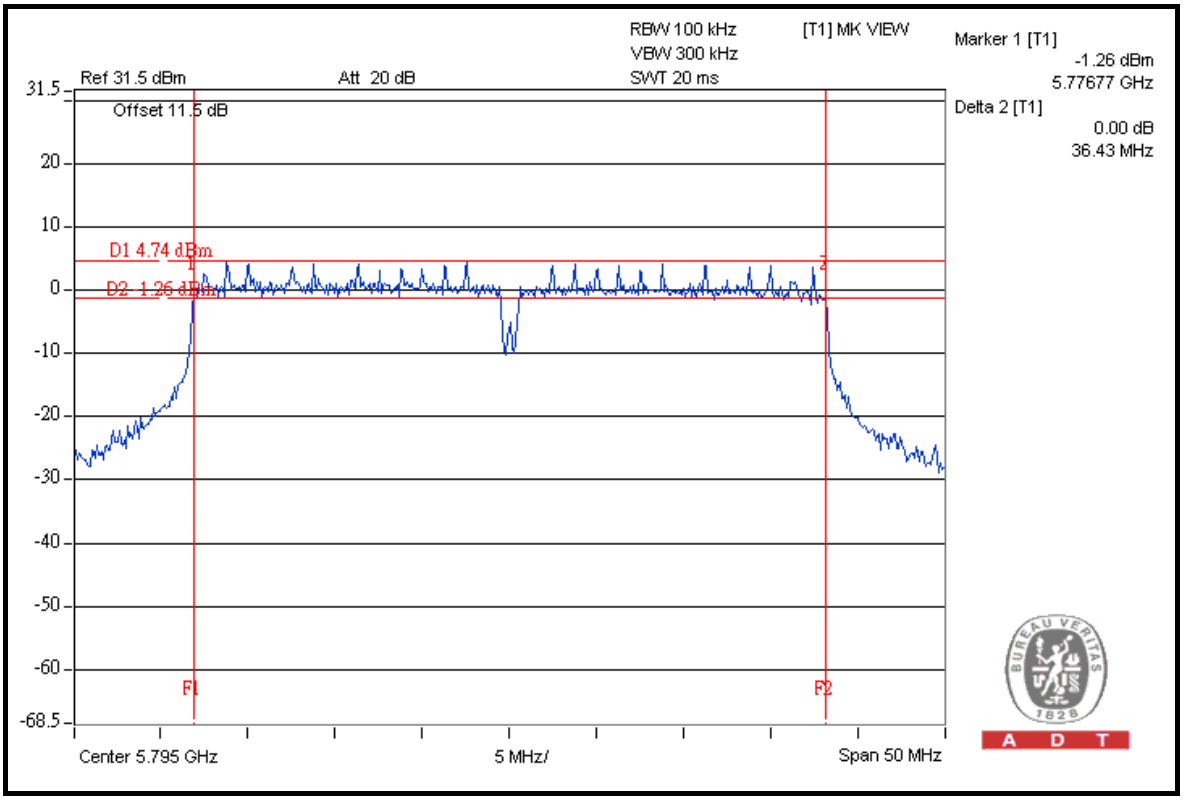
FOR CHAIN 1: CH 149



802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	36.13	36.43	0.5	PASS
159	5795	36.43	36.42	0.5	PASS

FOR CHAIN 0: CH 159



5.4 MAXIMUM OUTPUT POWER

5.4.1 LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

5.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER	FSP40	100039	Jan. 11, 2010	Jan. 10, 2011

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

5.4.3 TEST PROCEDURES

1. Follow DTS measurement (Power Output Option 2), the transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer.
2. Set span to encompass the entire emission bandwidth (EBW) of the signal.
3. Set RBW = 1 MHz ;VBW $\geqq$3 MHz.
4. Use sample detector mode and video trigger with the trigger level set to enable triggering only on full power pulses.
5. Trace average 100 traces in power averaging mode.
6. Compute power by integrating the spectrum across the 26 dB EBW of the signal.
7. Record the power level.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation

5.4.5 TEST SETUP

5.4.6 EUT OPERATING CONDITIONS

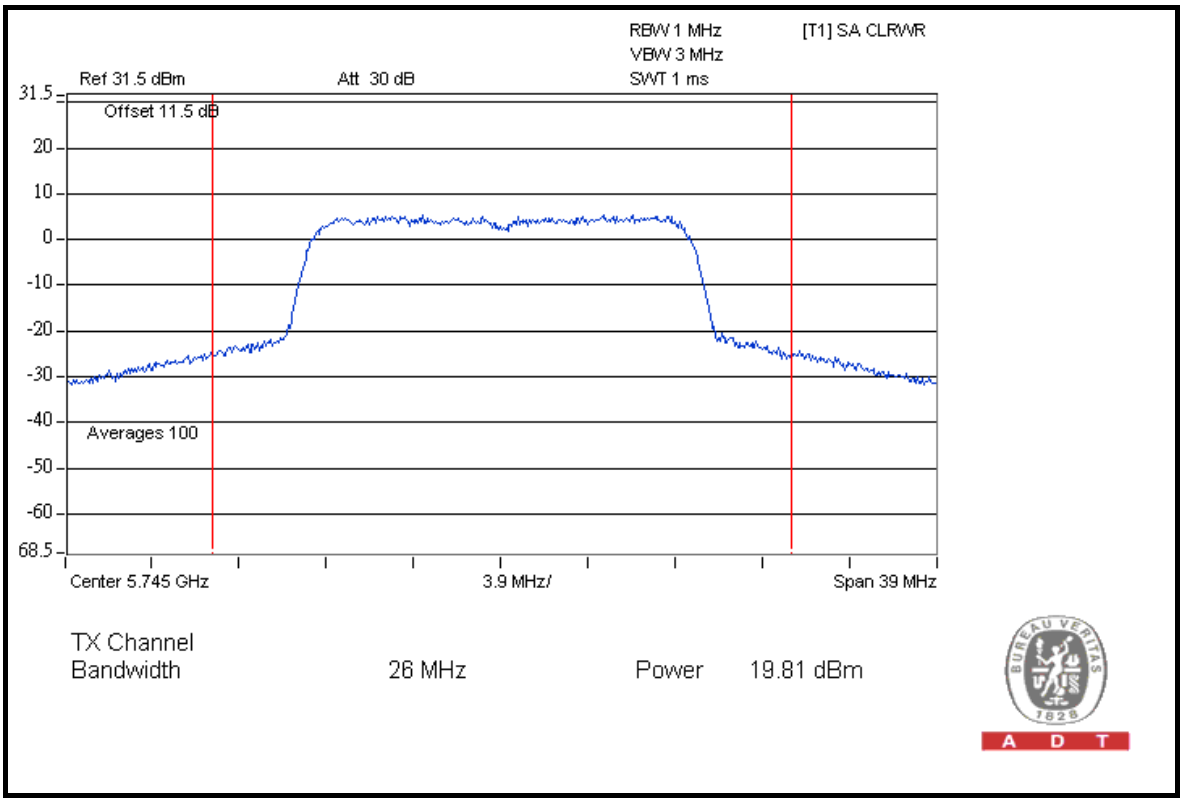
Same as Item 5.3.6

5.4.7 TEST RESULTS

FOR POWER OUTPUT MEASUREMENT: 802.11a

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	19.1	19.8	176.4	22.5	30	PASS
157	5785	18.9	19.4	165.1	22.2	30	PASS
165	5825	18.8	19.7	169.2	22.3	30	PASS

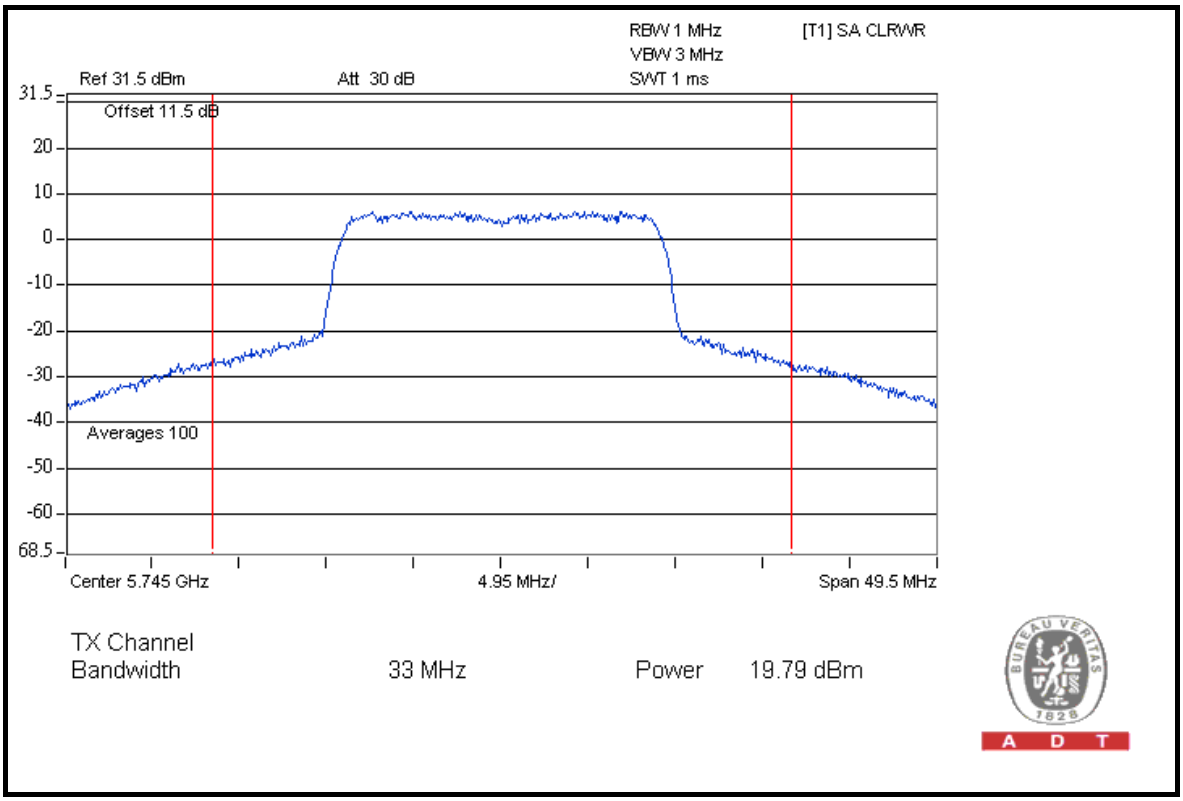
CHAIN 1: CH 149



802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	19.2	19.8	178.8	22.5	30	PASS
157	5785	18.6	19.4	160.5	22.1	30	PASS
165	5825	18.7	18.7	148.9	21.7	30	PASS

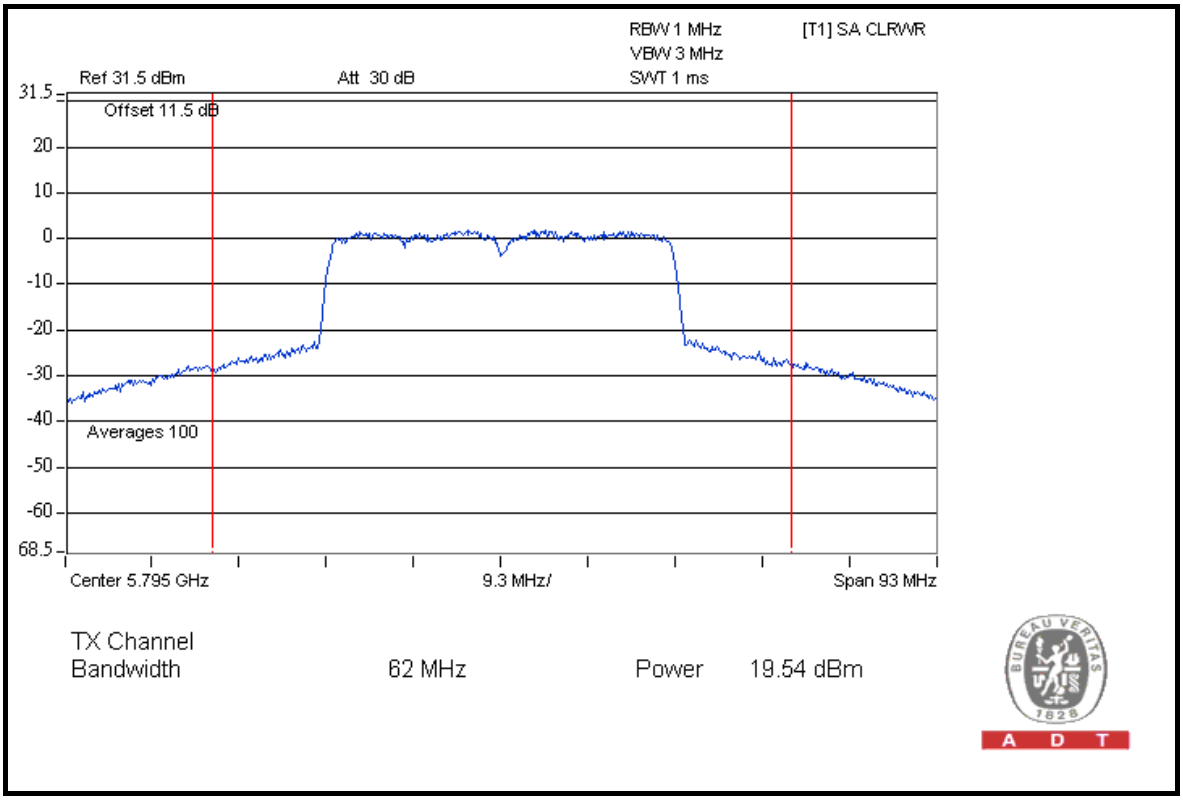
CHAIN 1: CH 149



802.11n (40MHz)

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
151	5755	18.8	19.5	163.3	22.1	30	PASS
159	5795	18.6	19.5	162.6	22.1	30	PASS

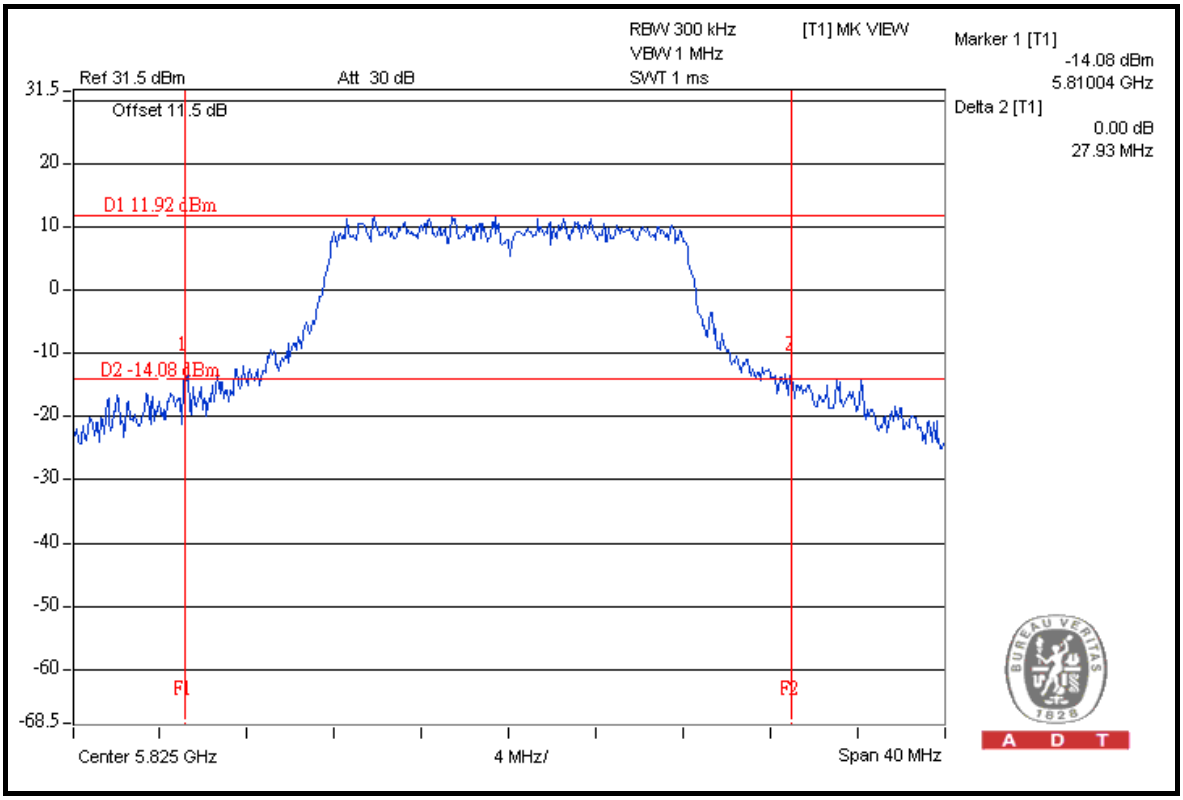
CHAIN 1: CH 159



26dB OCCUPIED BANDWIDTH: 802.11a

CHAN.	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)		PASS/FAIL
		CHAIN 0	CHAIN 1	
149	5745	24.34	25.96	PASS
157	5785	24.87	27.71	PASS
165	5825	24.71	27.93	PASS

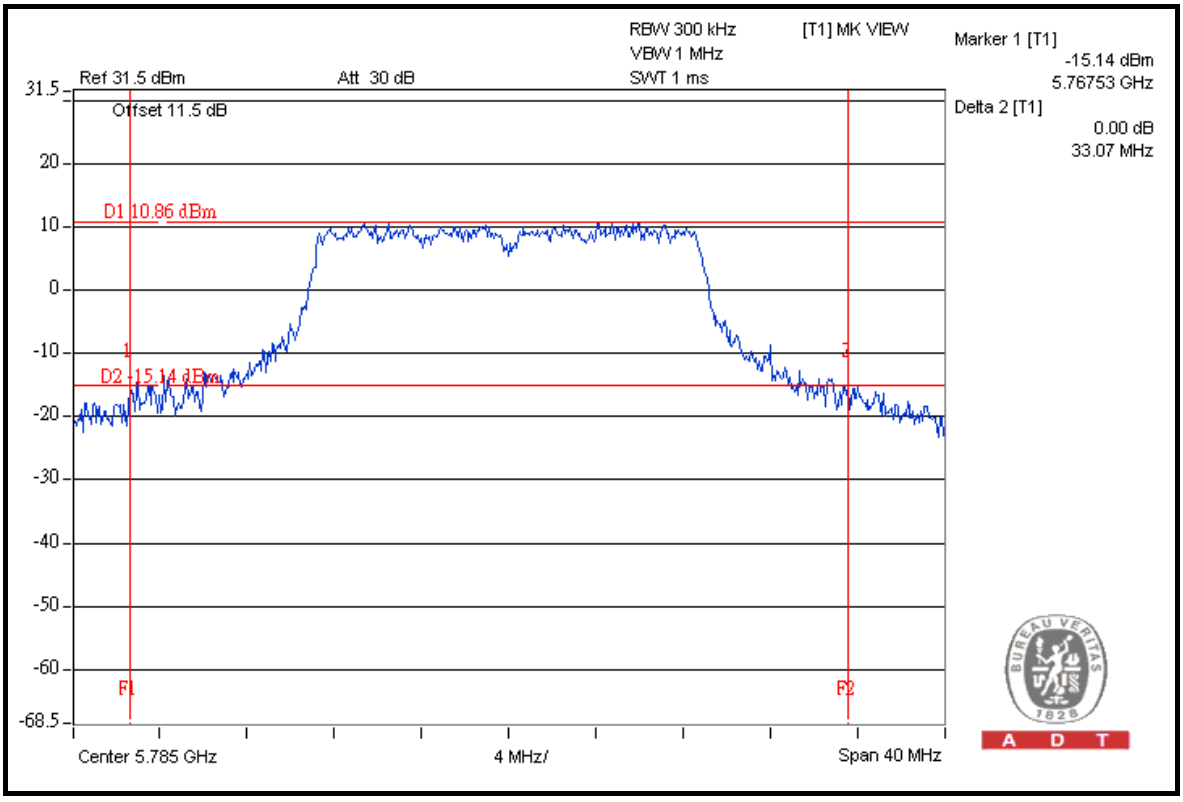
CHAIN 1: CH 165



802.11n (20MHz)

CHAN.	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)		PASS/FAIL
		CHAIN 0	CHAIN 1	
149	5745	27.44	32.69	PASS
157	5785	27.95	33.07	PASS
165	5825	25.25	26.64	PASS

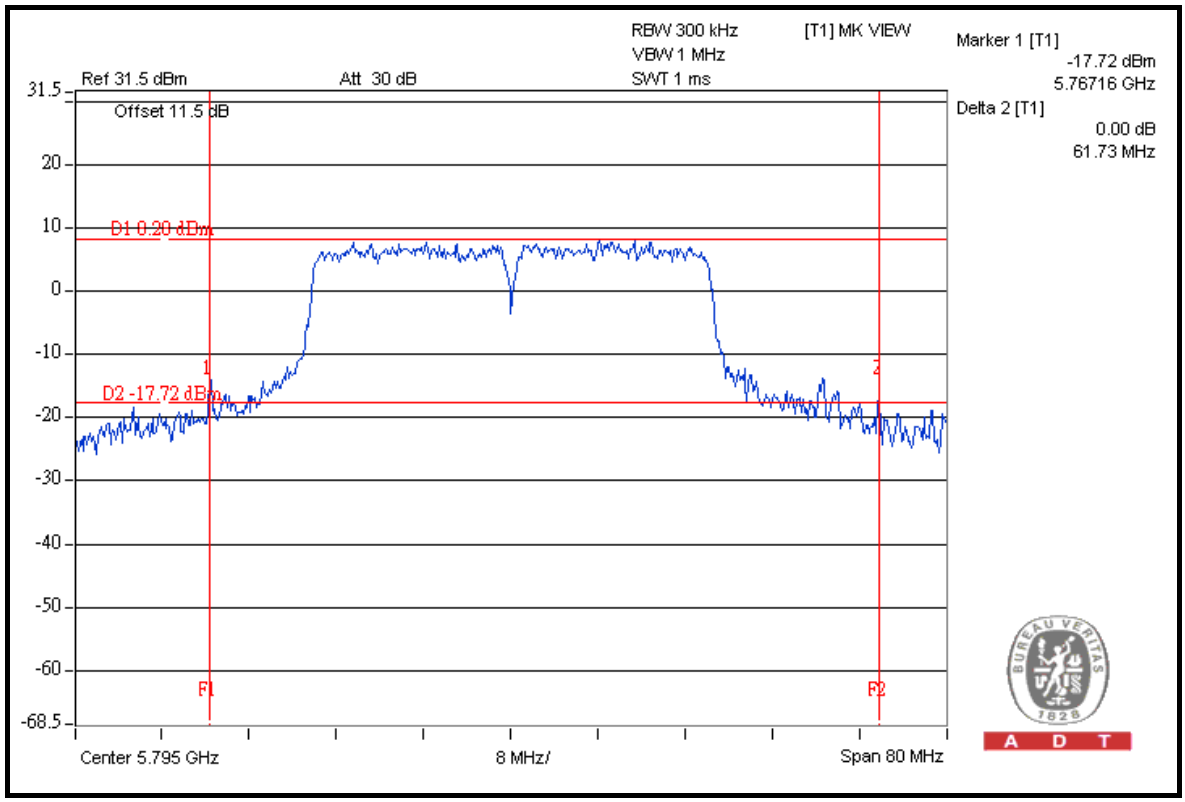
CHAIN 1: CH 157



802.11n (40MHz)

CHAN.	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)		PASS/FAIL
		CHAIN 0	CHAIN 1	
151	5755	58.80	58.84	PASS
159	5795	50.18	61.73	PASS

CHAIN 1: CH 159



5.5 POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER	FSP40	100039	Jan. 11, 2010	Jan. 10, 2011

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

5.5.3 TEST PROCEDURE

1. Follow DTS measurement (PSD Option 2), the transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer. Locate and zoom in on emission peak(s) within the pass band.
2. Set RBW = 3 kHz /VBW > 9 kHz and sweep time to Automatic.
3. Detector use peak mode and a video trigger with the trigger level set to enable triggering only on full power pulses.
4. Trace average 100 traces in power averaging mode. The power spectral density was measured and recorded.

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP

5.5.6 EUT OPERATING CONDITION

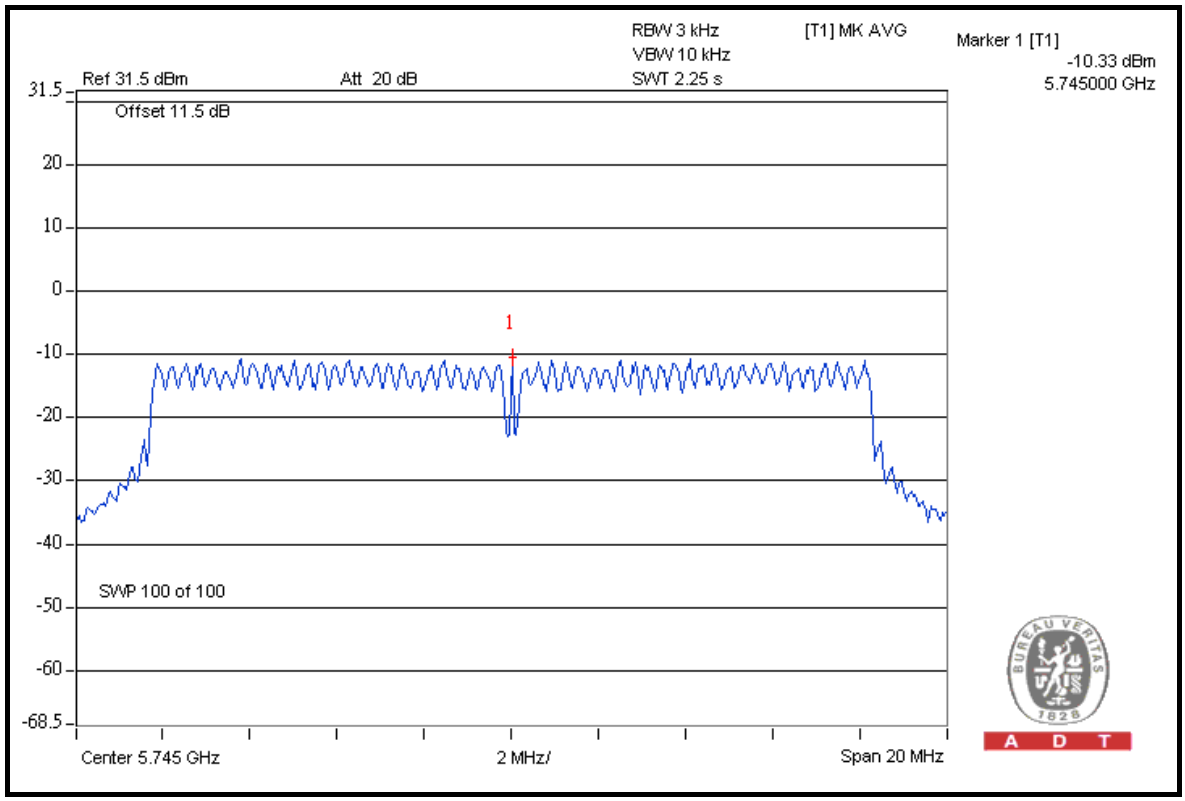
Same as Item 5.3.6

5.5.7 TEST RESULTS

802.11a

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
149	5745	-10.3	-10.8	-7.5	8	PASS
157	5785	-10.6	-10.9	-7.7	8	PASS
165	5825	-10.5	-11.2	-7.8	8	PASS

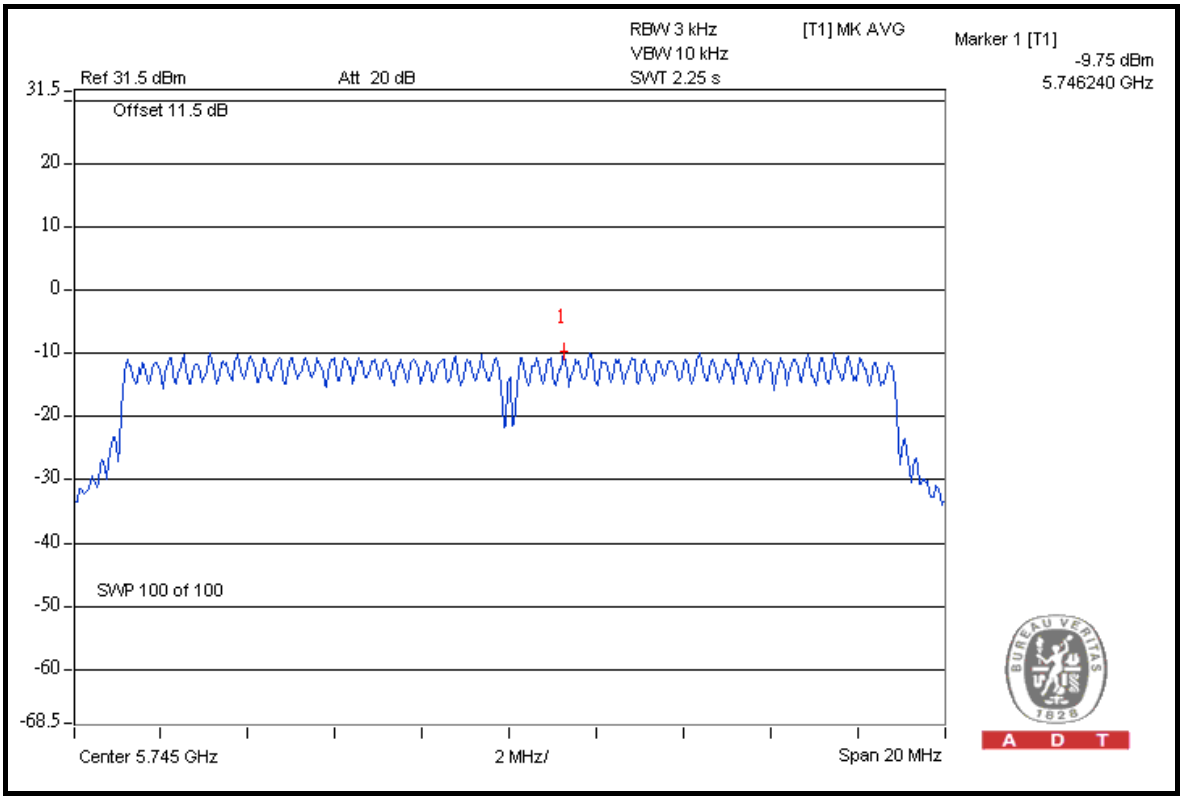
FOR CHAIN 0: CH 149



802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
149	5745	-10.0	-9.8	-6.9	8	PASS
157	5785	-10.4	-10.1	-7.2	8	PASS
165	5825	-10.4	-10.1	-7.2	8	PASS

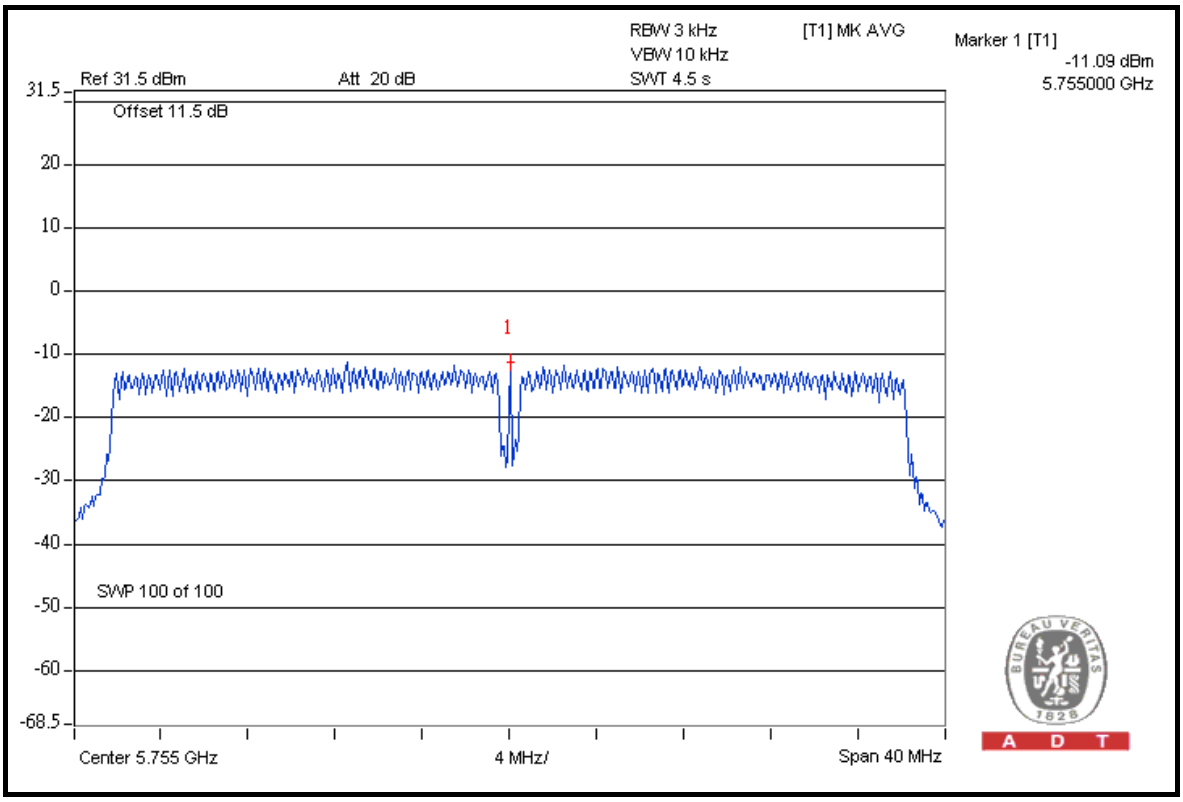
FOR CHAIN 1: CH 149



802.11n (40MHz)

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
151	5755	-12.1	-11.1	-8.6	8	PASS
159	5795	-12.1	-11.3	-7.7	8	PASS

FOR CHAIN 1: CH 151



5.6 BAND EDGES MEASUREMENT

5.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below –30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

5.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100186	Dec. 11, 2009	Dec. 10, 2010
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	Sep. 18, 2009	Sep. 17, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Dec. 31, 2009	Dec. 30, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-148	Apr. 27, 2010	Apr. 26, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-149	Apr. 27, 2010	Apr. 26, 2011
HORN Antenna EMCO	3115	5623	Jul. 13, 2010	Jul. 12, 2011
Preamplifier Agilent	8447D	2944A10636	Dec. 10, 2009	Dec. 09, 2010
Preamplifier Agilent	8447D	2944A10637	Dec. 10, 2009	Dec. 09, 2010
Preamplifier Agilent	8449B	3008A01959	Dec. 10, 2009	Dec. 09, 2010
RF signal cable Woken	8D-FB	Cable-Hych1-01	Oct. 24, 2009	Oct. 23, 2010
RF signal cable Woken	8D-FB	Cable-Hych1-02	Oct. 24, 2009	Oct. 23, 2010
Software ADT	ADT_Radiated_ V 7.7.03.6	NA	NA	NA
Antenna Tower(V)	MFA-440	9707	NA	NA
Antenna Tower(H)	MFA-440	970705	NA	NA
Turn Table	DS430	50303	NA	NA
Controller	MF7802	074	NA	NA
Controller	MF7802	08093	NA	NA
RF signal cable EAST COST Microwave	HP 160S-29	NA	Feb. 12, 2010	Feb. 11, 2011

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

5.6.3 TEST PROCEDURE

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter 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. 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.

NOTE: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection (AV) at frequency above 1GHz.

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

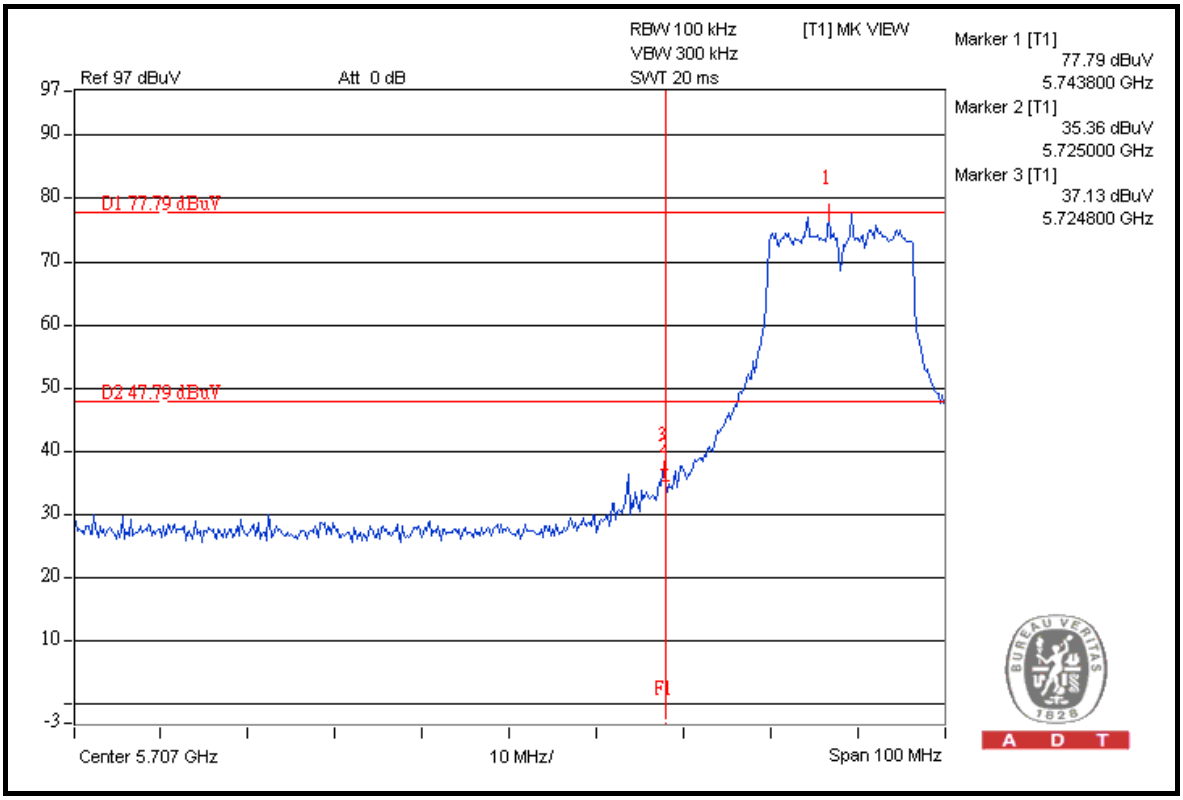
5.6.5 EUT OPERATING CONDITION

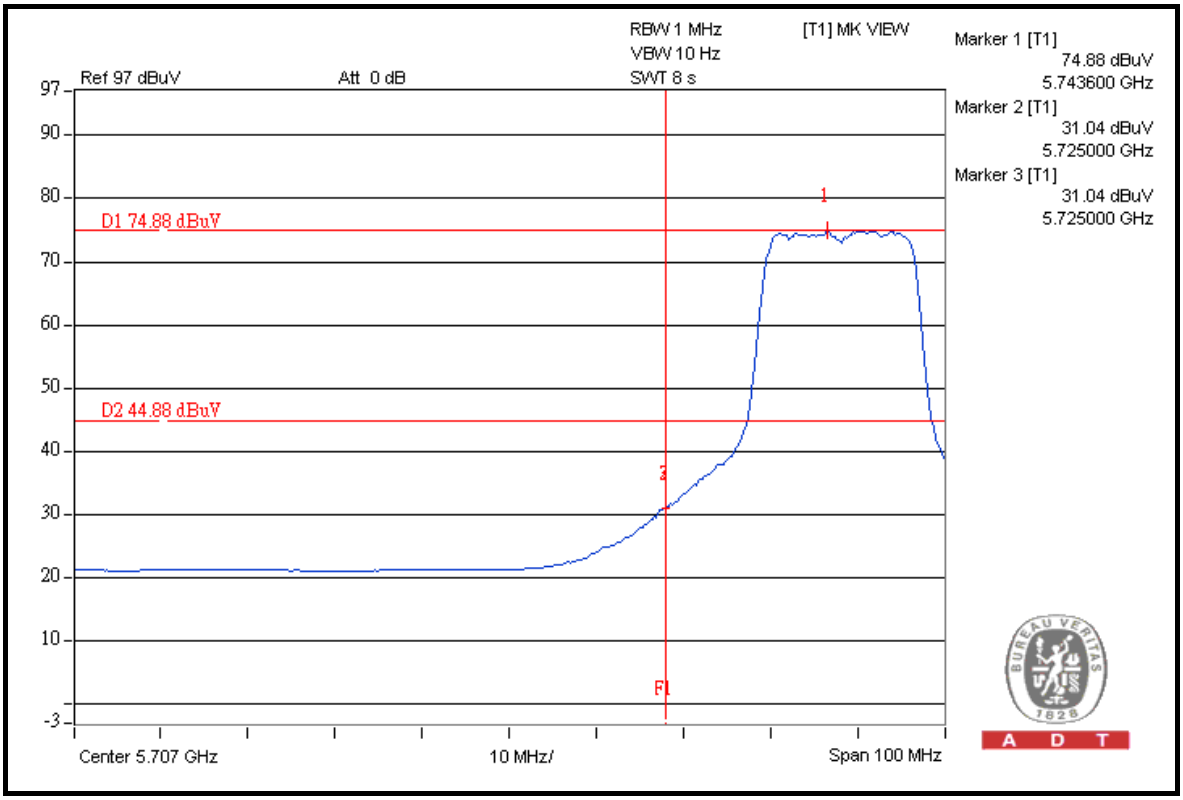
Same as Item 5.3.6

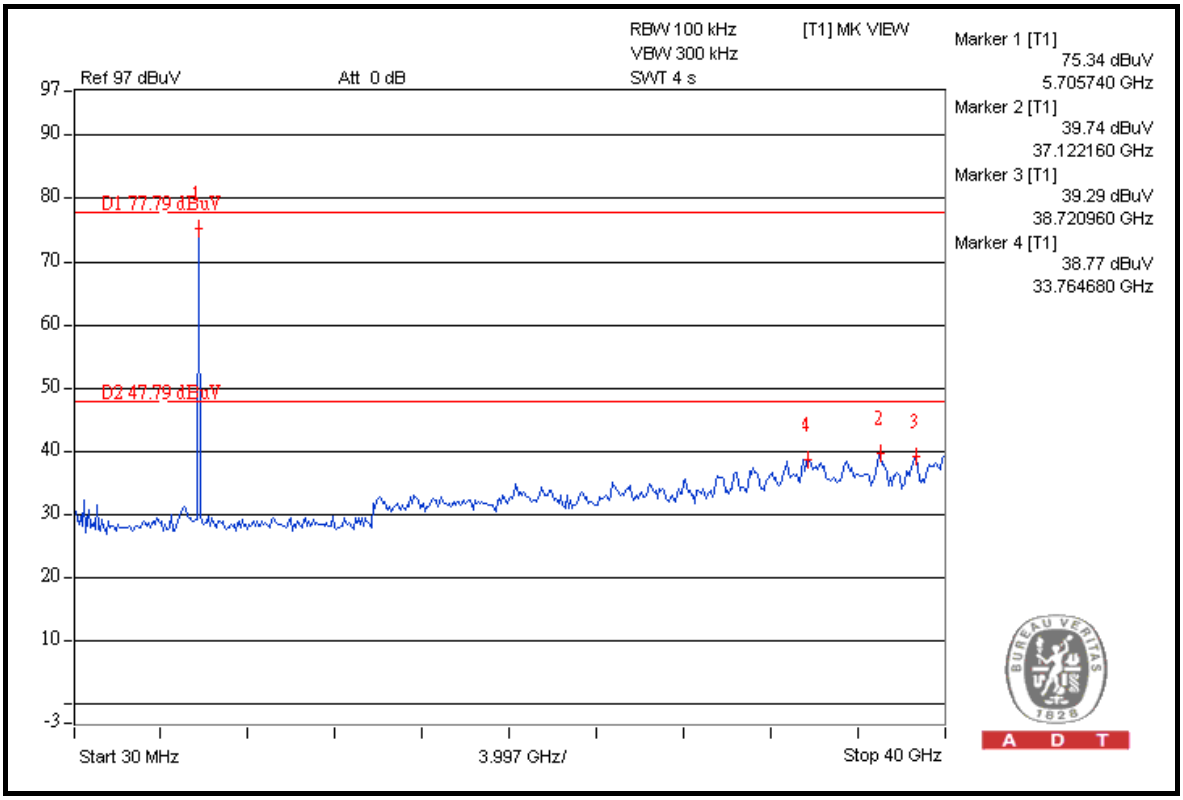
5.6.6 TEST RESULTS

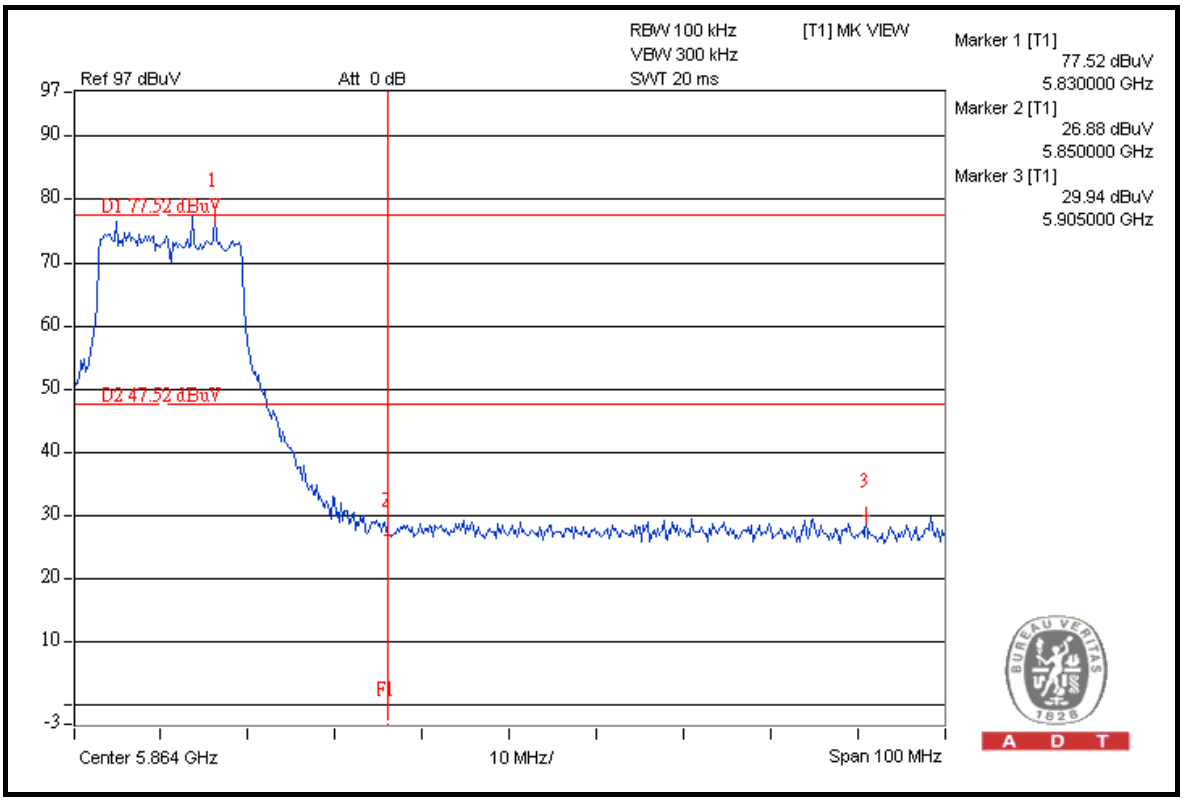
The spectrum plots are attached on the following pages. D1 line indicates the highest level, D2 line indicates the 30dB offset below D1. It shows compliance with the requirement in part 15.247(d).

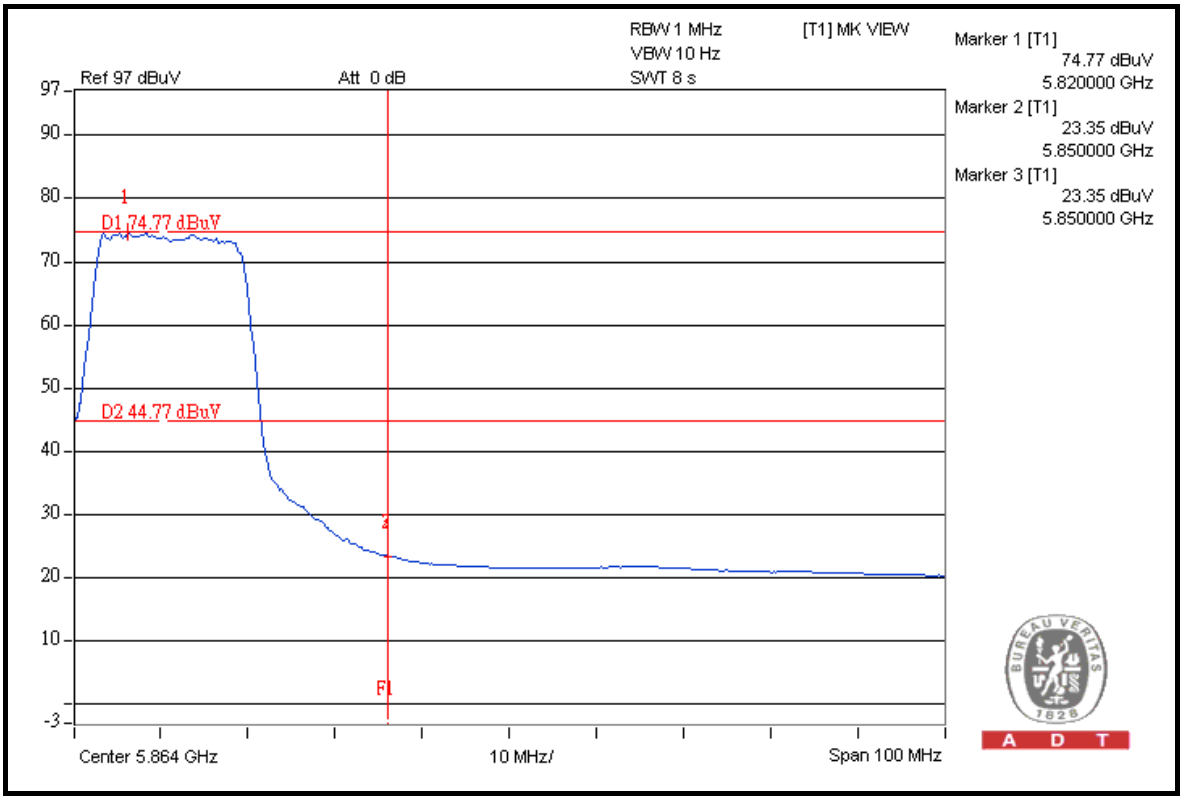
802.11a

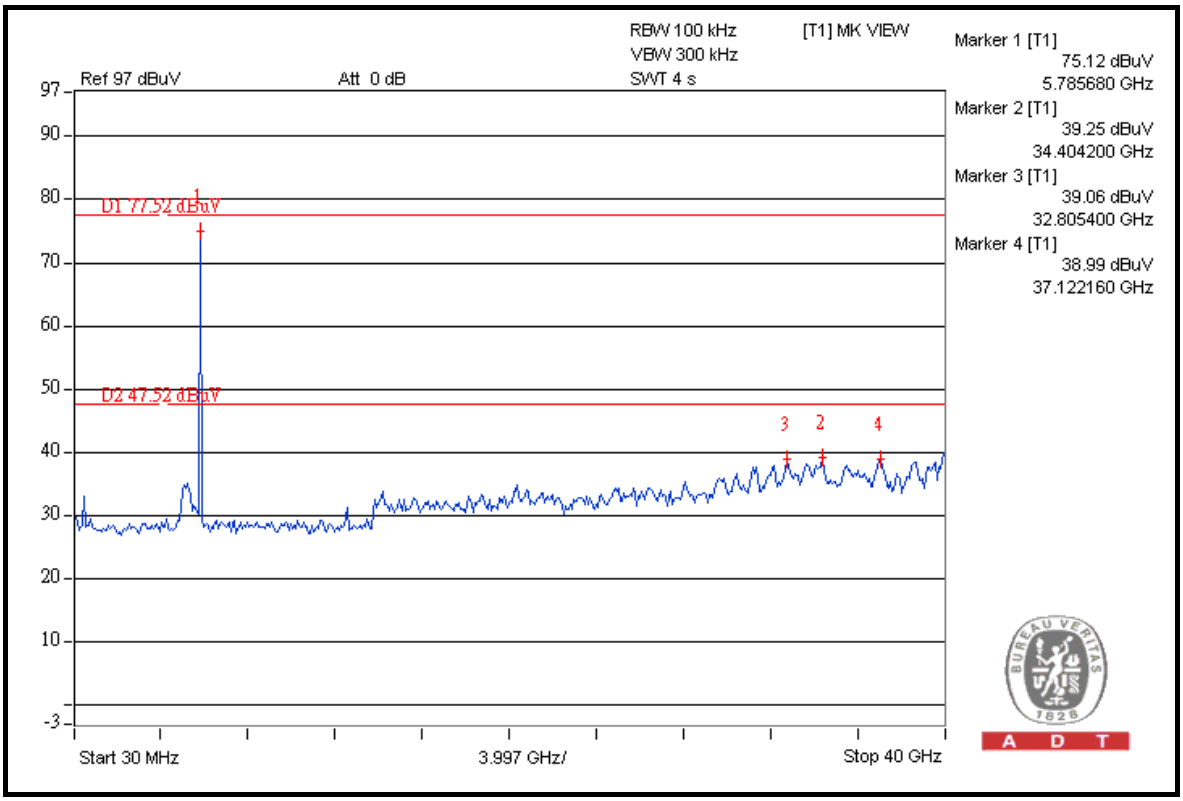

RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
77.79 dBuV
5.743800 GHz
Marker 2 [T1]
35.36 dBuV
5.725000 GHz
Marker 3 [T1]
37.13 dBuV
5.724800 GHz
D1 77.79 dBuV
D2 47.79 dBuV
97
90
80
70
60
50
40
30
20
10
-3
Center 5.707 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
74.88 dBuV
5.743600 GHz
Marker 2 [T1]
31.04 dBuV
5.725000 GHz
Marker 3 [T1]
31.04 dBuV
5.725000 GHz
D1 74.88 dBuV
D2 44.88 dBuV
97
90
80
70
60
50
40
30
20
10
-3
Center 5.707 GHz
10 MHz/
Span 100 MHz

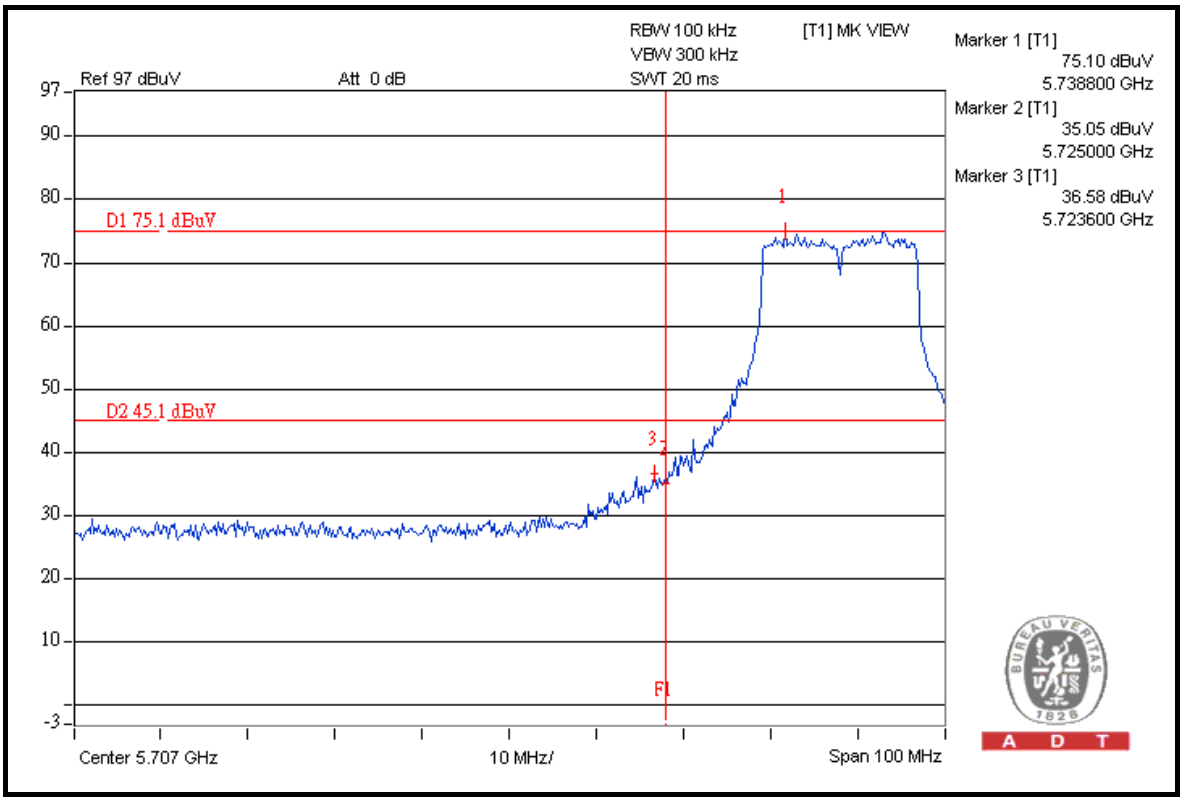

RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 77.79 dBuV
D2 47.79 dBuV
Marker 1 [T1]
75.34 dBuV
5.705740 GHz
Marker 2 [T1]
39.74 dBuV
37.122160 GHz
Marker 3 [T1]
39.29 dBuV
38.720960 GHz
Marker 4 [T1]
38.77 dBuV
33.764680 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

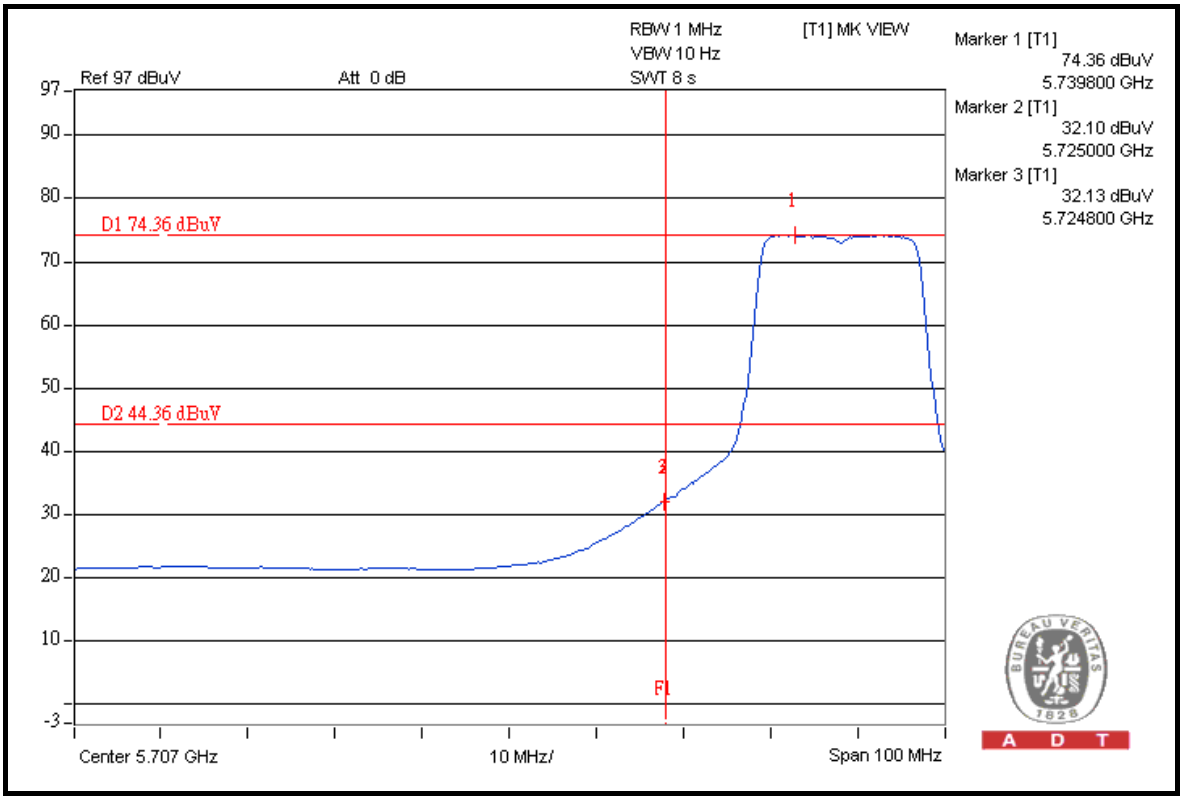

RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 77.52 dBuV
D2 47.52 dBuV
Marker 1 [T1]
77.52 dBuV
5.830000 GHz
Marker 2 [T1]
26.88 dBuV
5.850000 GHz
Marker 3 [T1]
29.94 dBuV
5.905000 GHz
Center 5.864 GHz
10 MHz/
Span 100 MHz

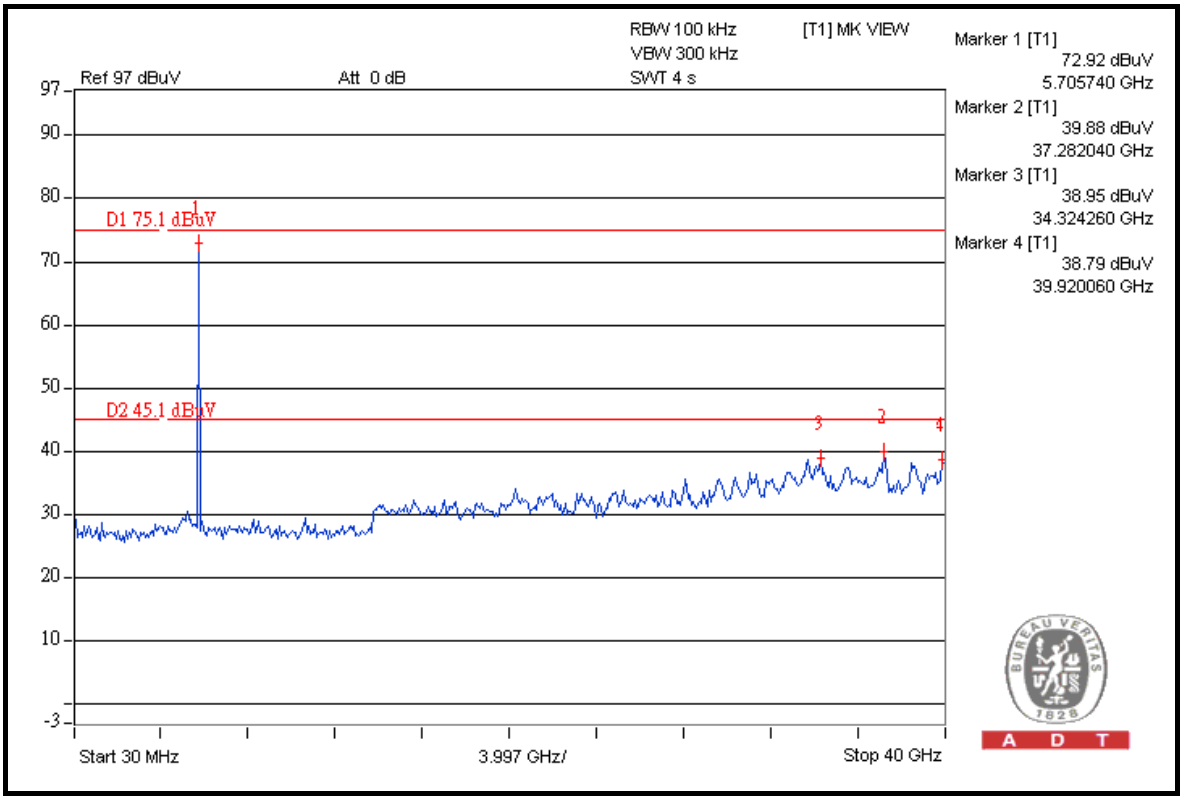

RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
74.77 dBuV
5.820000 GHz
Marker 2 [T1]
23.35 dBuV
5.850000 GHz
Marker 3 [T1]
23.35 dBuV
5.850000 GHz
D1 74.77 dBuV
D2 44.77 dBuV
Center 5.864 GHz
10 MHz/
Span 100 MHz

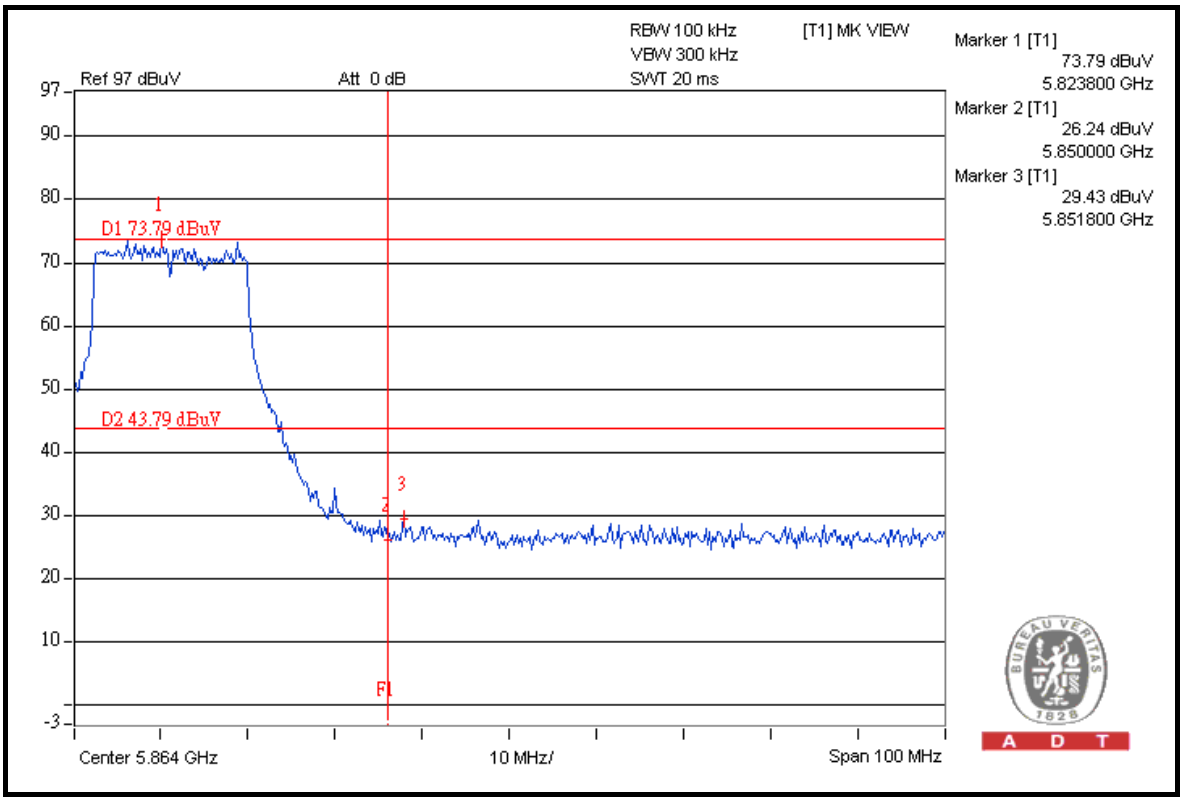

RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
75.12 dBuV
5.785680 GHz
Marker 2 [T1]
39.25 dBuV
34.404200 GHz
Marker 3 [T1]
39.06 dBuV
32.805400 GHz
Marker 4 [T1]
38.99 dBuV
37.122160 GHz
D1 77.52 dBuV
D2 47.52 dBuV
Start 30 MHz
3.997 GHz/
Stop 40 GHz

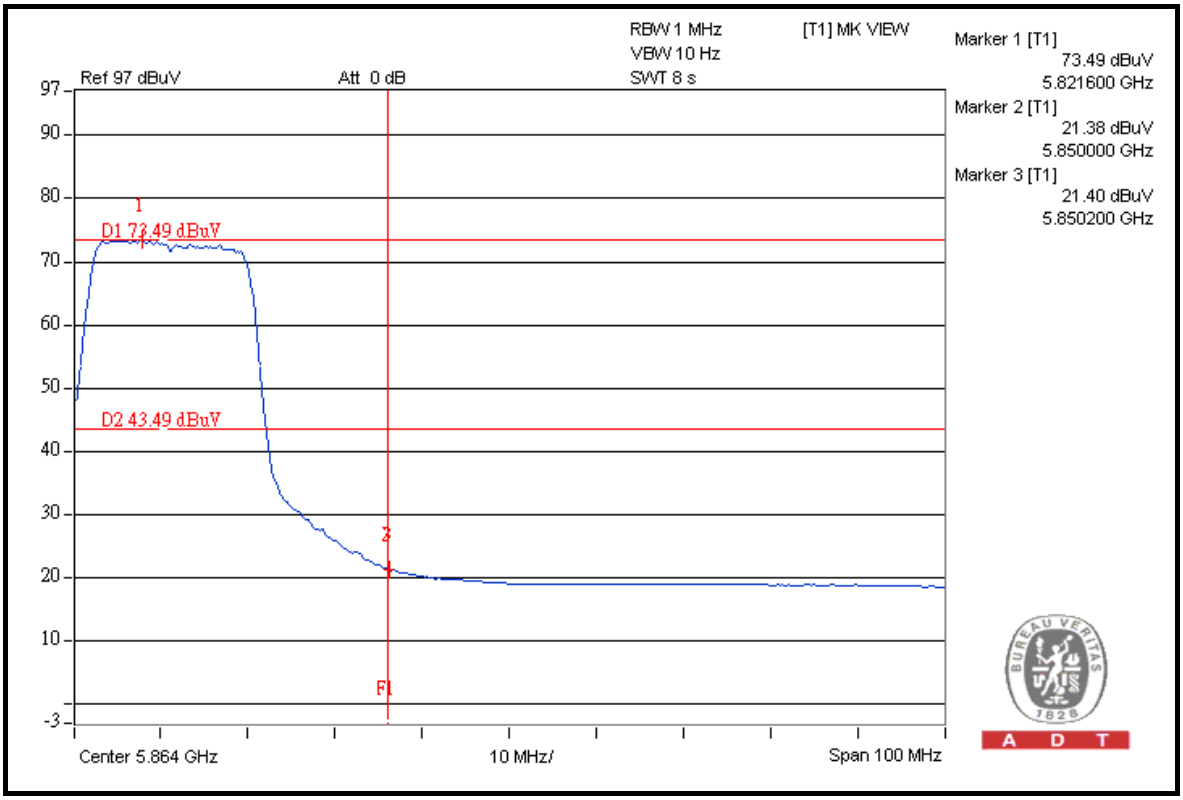
802.11n (20MHz)

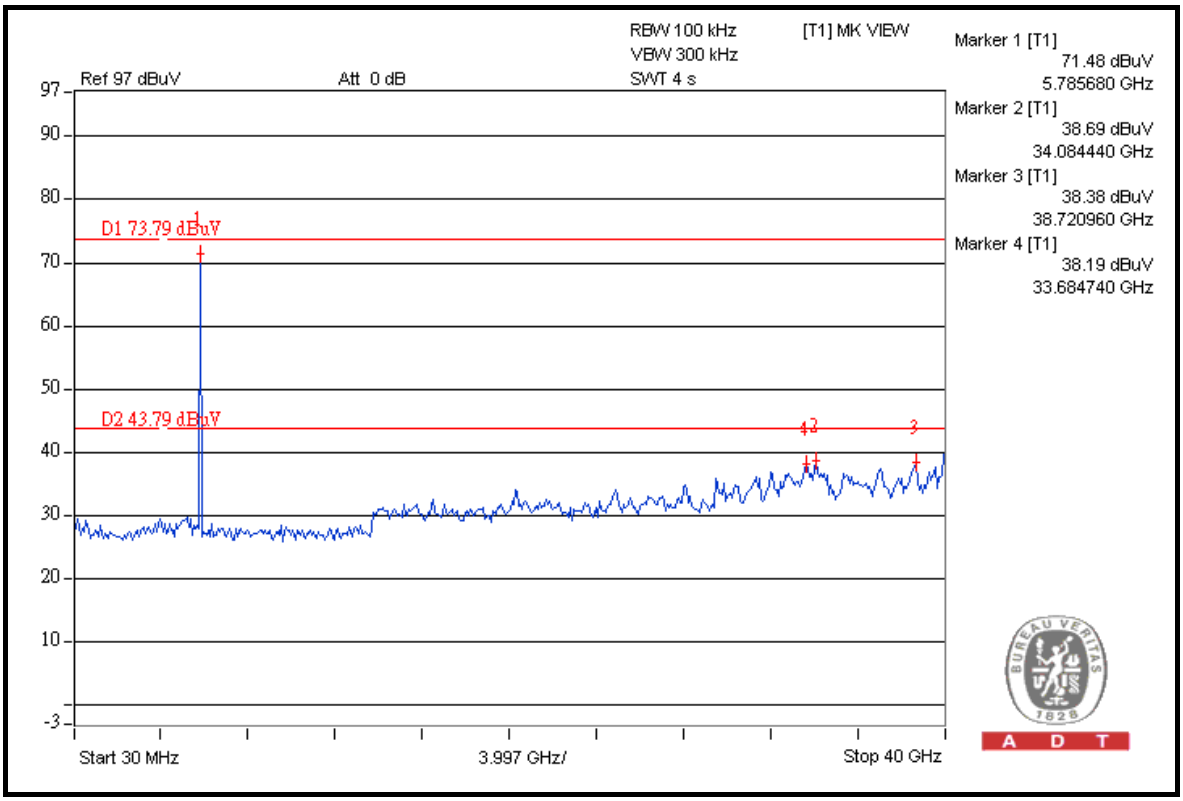




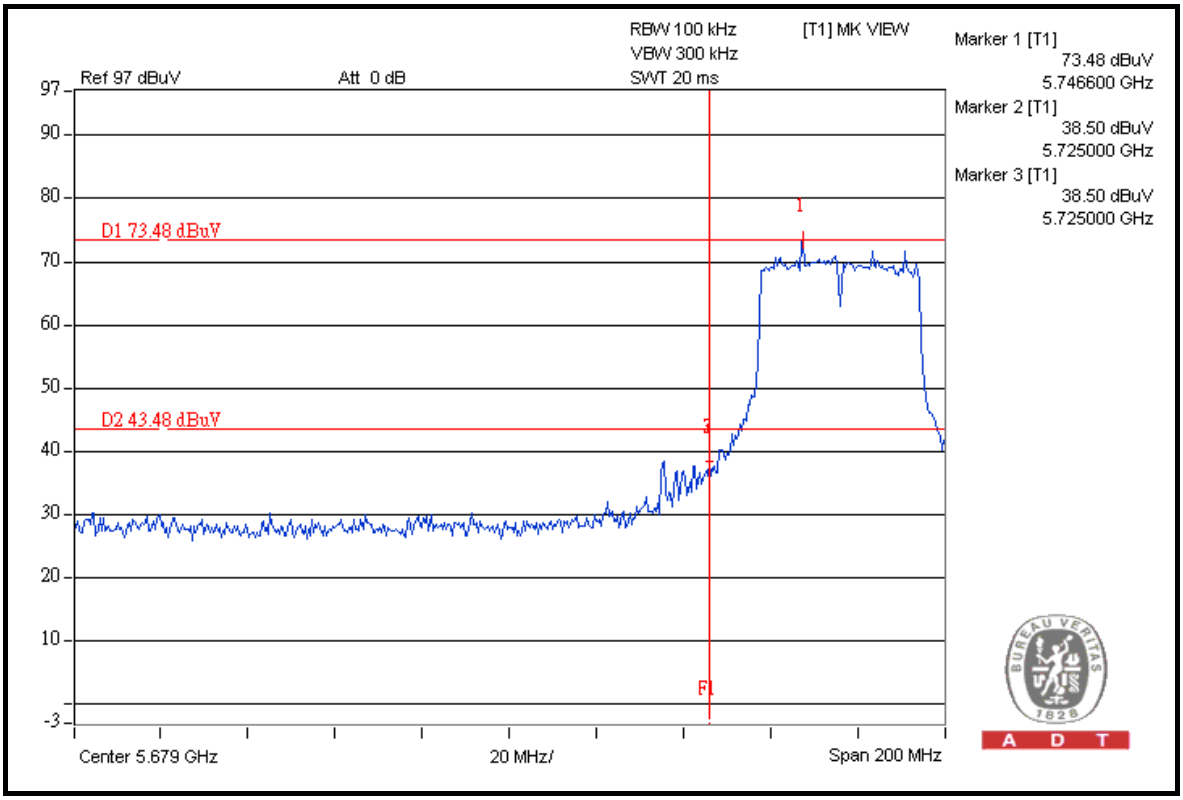

RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
72.92 dBuV
5.705740 GHz
Marker 2 [T1]
39.88 dBuV
37.282040 GHz
Marker 3 [T1]
38.95 dBuV
34.324260 GHz
Marker 4 [T1]
38.79 dBuV
39.920060 GHz
D1 75.1 dBuV
D2 45.1 dBuV
97
90
80
70
60
50
40
30
20
10
-3
Start 30 MHz
3.997 GHz/
Stop 40 GHz

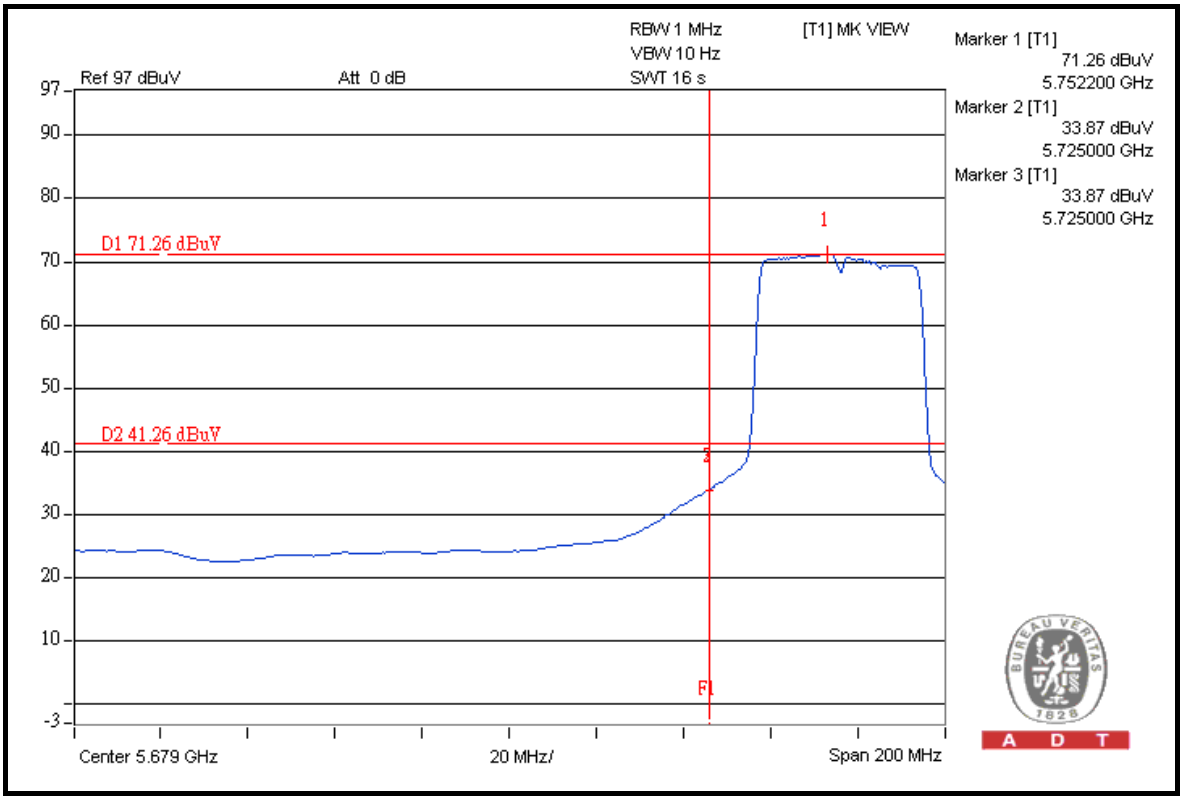

RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
73.79 dBuV
5.823800 GHz
Marker 2 [T1]
26.24 dBuV
5.850000 GHz
Marker 3 [T1]
29.43 dBuV
5.851800 GHz
D1 73.79 dBuV
D2 43.79 dBuV
97
90
80
70
60
50
40
30
20
10
-3
Center 5.864 GHz
10 MHz/
Span 100 MHz

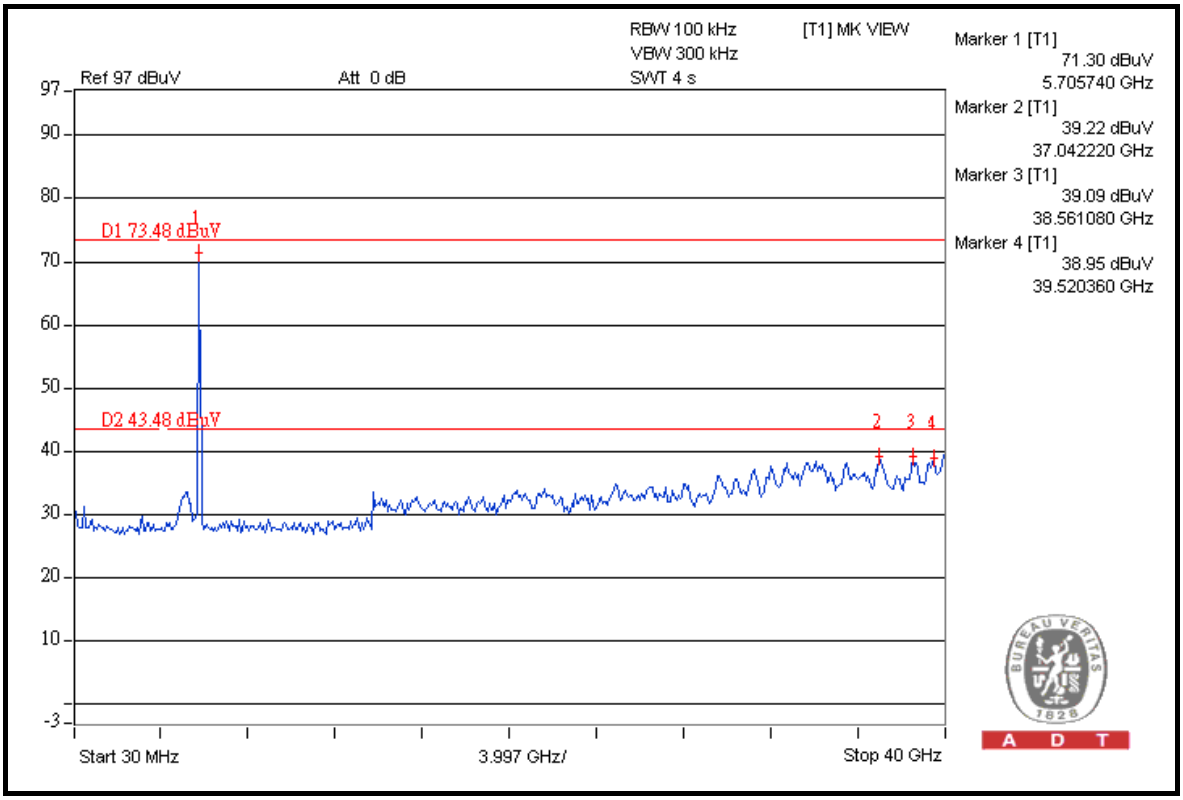

RBW 1 MHz
VBW 10 Hz
SWT 8 s
[T1] MK VIEW
Marker 1 [T1]
73.49 dBuV
5.821600 GHz
Marker 2 [T1]
21.38 dBuV
5.850000 GHz
Marker 3 [T1]
21.40 dBuV
5.850200 GHz
Ref 97 dBuV
Att 0 dB
D1 73.49 dBuV
D2 43.49 dBuV
Center 5.864 GHz
10 MHz/
Span 100 MHz

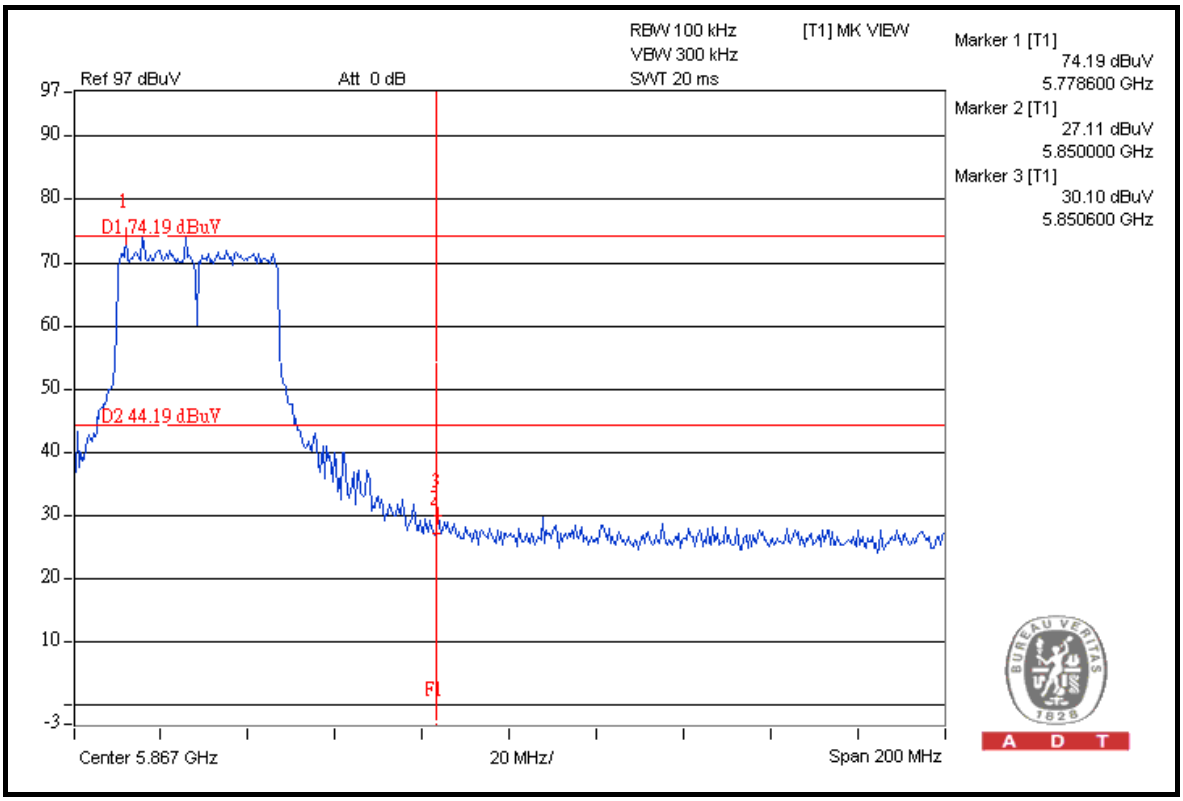

RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Marker 1 [T1]
71.48 dBuV
5.785680 GHz
Marker 2 [T1]
38.69 dBuV
34.084440 GHz
Marker 3 [T1]
38.38 dBuV
38.720960 GHz
Marker 4 [T1]
38.19 dBuV
33.684740 GHz
Ref 97 dBuV
Att 0 dB
D1 73.79 dBuV
D2 43.79 dBuV
Start 30 MHz
3.997 GHz/
Stop 40 GHz

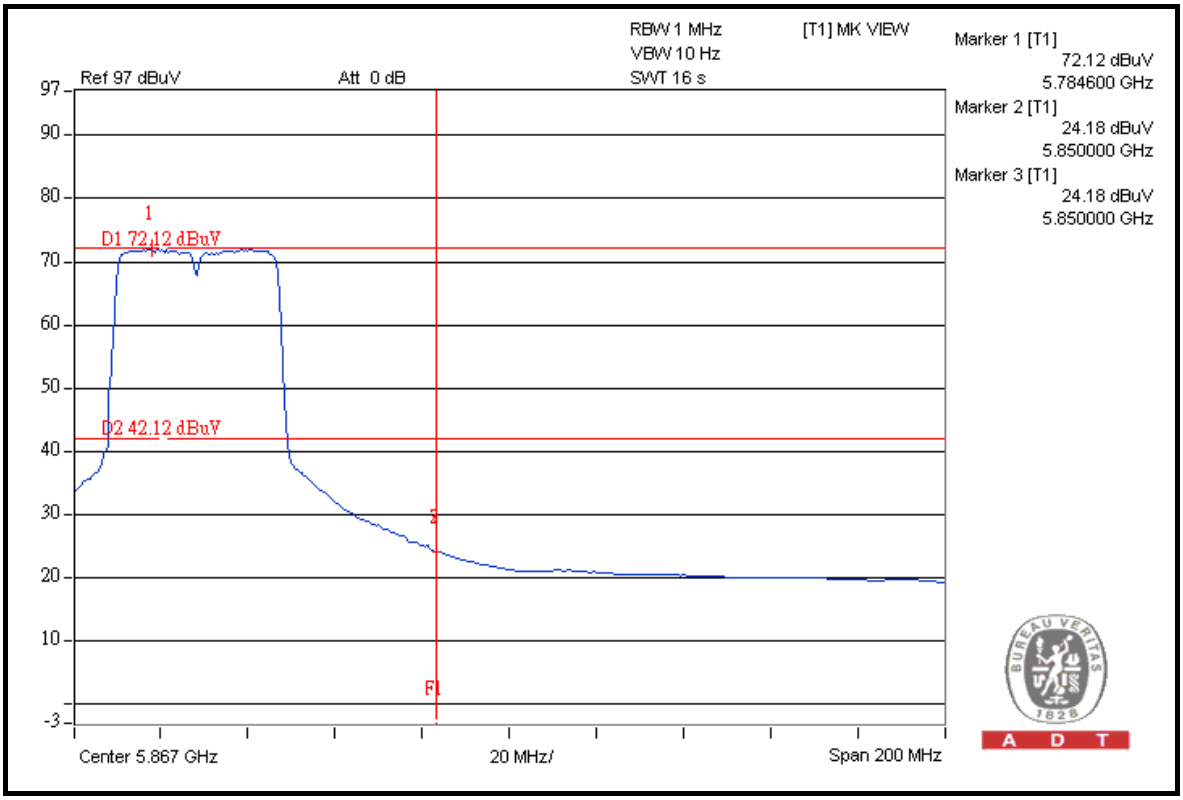
802.11n (40MHz)

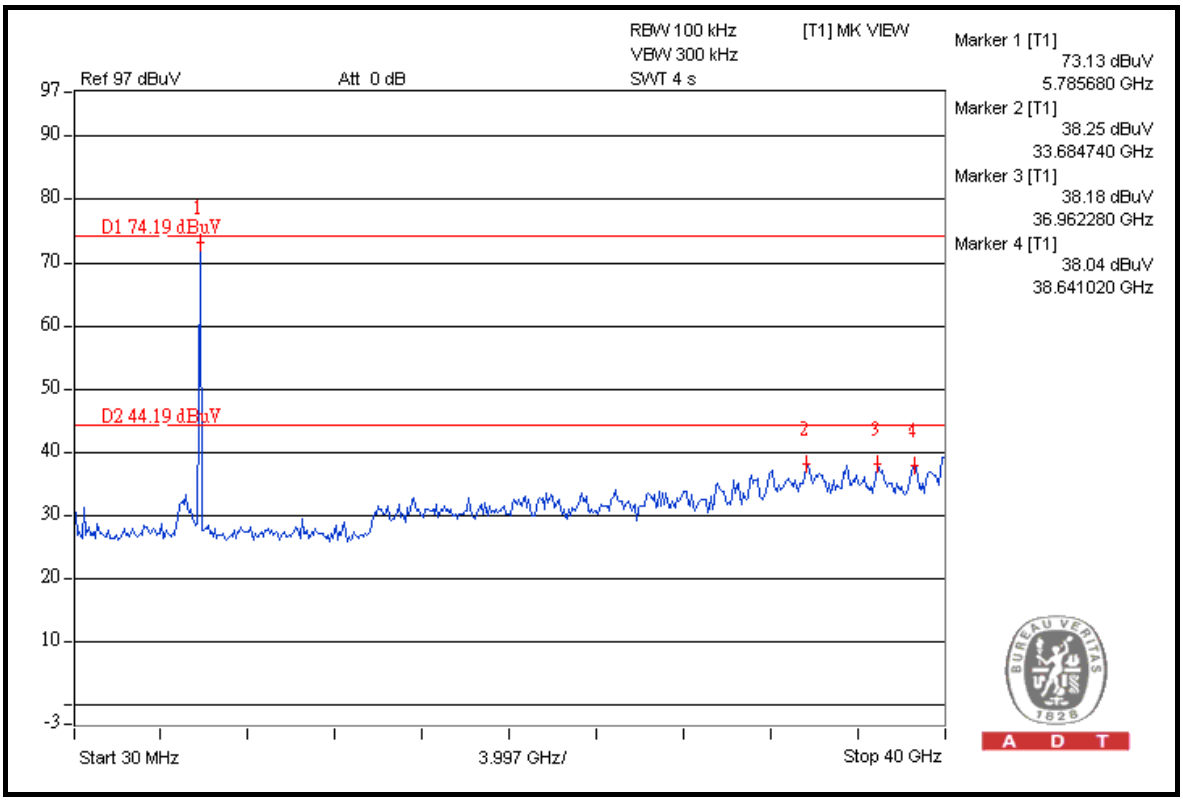





RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
71.30 dBuV
5.705740 GHz
Marker 2 [T1]
39.22 dBuV
37.042220 GHz
Marker 3 [T1]
39.09 dBuV
38.561080 GHz
Marker 4 [T1]
38.95 dBuV
39.520360 GHz
D1 73.48 dBuV
D2 43.48 dBuV
97
90
80
70
60
50
40
30
20
10
-3
Start 30 MHz
3.997 GHz/
Stop 40 GHz


RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
74.19 dBuV
5.778600 GHz
Marker 2 [T1]
27.11 dBuV
5.850000 GHz
Marker 3 [T1]
30.10 dBuV
5.850600 GHz
D1 74.19 dBuV
D2 44.19 dBuV
97
90
80
70
60
50
40
30
20
10
-3
Center 5.867 GHz
20 MHz/
Span 200 MHz


RBW 1 MHz
VBW 10 Hz
SWT 16 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
72.12 dBuV
5.784600 GHz
Marker 2 [T1]
24.18 dBuV
5.850000 GHz
Marker 3 [T1]
24.18 dBuV
5.850000 GHz
D1 72.12 dBuV
D2 42.12 dBuV
Center 5.867 GHz
20 MHz/
Span 200 MHz


RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
73.13 dBuV
5.785680 GHz
Marker 2 [T1]
38.25 dBuV
33.684740 GHz
Marker 3 [T1]
38.18 dBuV
36.962280 GHz
Marker 4 [T1]
38.04 dBuV
38.641020 GHz
D1 74.19 dBuV
D2 44.19 dBuV
Start 30 MHz
3.997 GHz/
Stop 40 GHz

6. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

7. 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.

8. 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---