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FCC TEST REPORT (15.247)

REPORT NO.: RF990901C29

MODEL NO.: WMDR-129N

FCC ID: XV4-WMDR129N

RECEIVED: Sep. 01, 2010

TESTED: Dec. 29, 2010 ~ Jan. 04, 2011

ISSUED: Jan. 14, 2011

APPLICANT: Brickcom Corporation

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	N/A	Jan. 14, 2011



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1. CERTIFICATION

PRODUCT: Wi-Fi Dual Band Module

MODEL: WMDR-129N

BRAND: Brickcom

APPLICANT: Brickcom Corporation

TESTED: Dec. 29, 2010 ~ Jan. 04, 2011

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 15, Subpart C (Section 15.247)

ANSI C63.4-2003

ANSI C63.10-2009

The above equipment (Model: WMDR-129N) 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 : Jan. 14, 2011
Andrea Hsia / Specialist

APPROVED BY : Gary Chang , DATE : Jan. 14, 2011
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 -11.86dB at 0.564MHz.
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 2483.50MHz.
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	Dipole antenna connector is UFL not a standard connector. Printed antenna 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	3.19 dB
	200MHz ~1000MHz	3.21 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Wi-Fi Dual Band Module
MODEL NO.	WMDR-129N
FCC ID	XV4-WMDR129N
POWER SUPPLY	5Vdc
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11a: 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 ~ 2462MHz 5.0GHz: 5745 ~ 5825MHz
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	186.2mW for 2412 ~ 2462MHz 151.4mW for 5745 ~ 5825MHz
ANTENNA TYPE	2.4GHz: Antenna 1: Printed antenna with 1.69dBi gain Antenna 2: Dipole antenna with 1.01dBi gain 5.0GHz: Antenna 1: Printed antenna with 1.97dBi gain Antenna 2: Dipole antenna with 2.02dBi gain
ANTENNA CONNECTOR	UFL (for Dipole antenna)
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	NA

NOTE:

- 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)	RF990901C29
WLAN 802.11a, 802.11n (5745~5825 MHz)		
WLAN 802.11a, 802.11n (5180~ 5240MHz)	FCC Part 15, Subpart E (Section 15.407)	RF990901C29-1

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

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

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 above EUT information is 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 (5745 ~ 5825MHz):

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

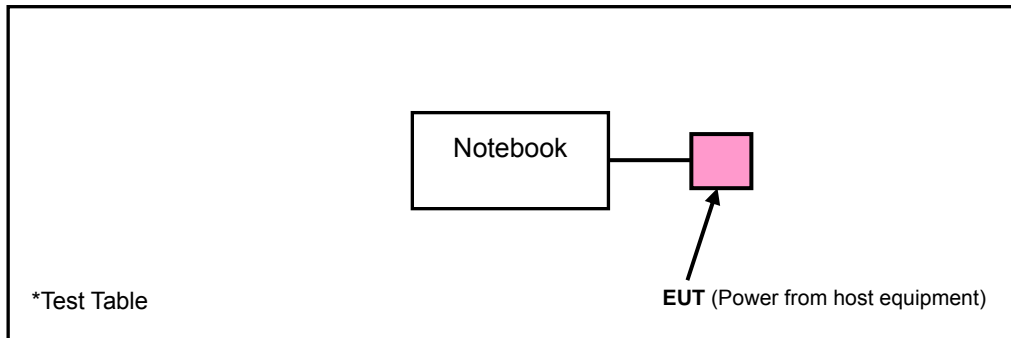
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

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

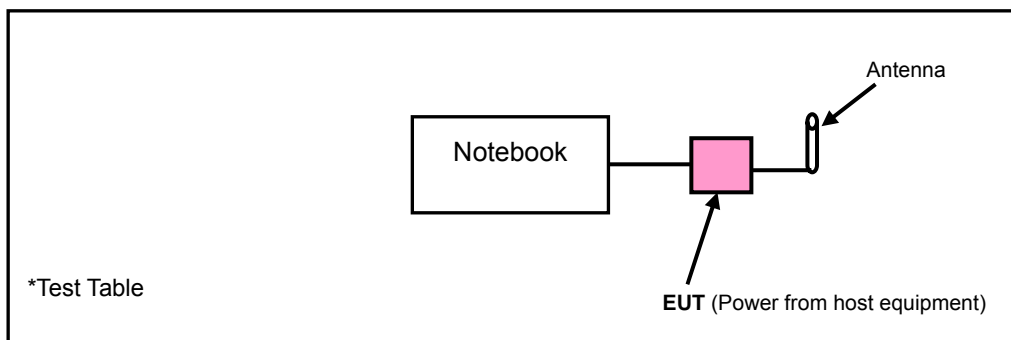
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

TEST MODE A



TEST MODE B



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

FOR 2.4GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE<1G	PLC	APCM	
A	√	√	√	√	EUT with antenna 1 (Printed antenna)
B	√	√	√	-	EUT with antenna 2 (Dipole antenna)

Where **RE \geq 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, 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	1, 6, 11	DSSS	DBPSK	1.0	Z
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	Z
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	Z
	802.11n (40MHz)	1 to 7	1, 4, 7	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, 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	802.11n (20MHz)	1 to 11	6	OFDM	BPSK	7.2	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 & B	802.11n (20MHz)	1 to 11	6	OFDM	BPSK	7.2

BANDEDGE MEASUREMENT:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A & B	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	7.2
	802.11n (40MHz)	1 to 7	1, 7	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)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
	802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	15.0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE \geq 1G	28deg. C, 45%RH, 1016 hPa	120Vac, 60Hz	David Huang
RE $<$ 1G	24deg. C, 65%RH, 1013 hPa	120Vac, 60Hz	Brad Wu Match Tsui
PLC	25deg. C, 65%RH, 1013 hPa	120Vac, 60Hz	James Fan
APCM	25deg. C, 65%RH, 1017 hPa	120Vac, 60Hz	David Huang

FOR 5.745 ~ 5.825GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE<1G	PLC	APCM	
A	√	√	√	√	EUT with antenna 1 (Printed antenna)
B	√	√	√	-	EUT with antenna 2 (Dipole antenna)

Where **RE \geq 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, 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	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0	Z
	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2	Z
	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 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	802.11a	149 to 165	165	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 & B	802.11a	149 to 165	165	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)
A & B	802.11a	149 to 165	149, 165	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	7.2
	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)
A	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE \geq 1G	28deg. C, 45%RH, 1016 hPa	120Vac, 60Hz	David Huang
RE $<$ 1G	24deg. C, 65%RH, 1013 hPa	120Vac, 60Hz	Brad Wu Match Tsui
PLC	25deg. C, 65%RH, 1013 hPa	120Vac, 60Hz	James Fan
APCM	25deg. C, 65%RH, 1017 hPa	120Vac, 60Hz	David Huang



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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

ANSI C63.10-2009

All test items have been performed and recorded as per the above standards.

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

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	PP05L	25191592336	E2K24CLNS

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

NOTE: All power cords of the above support units are non shielded (1.8m).

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	ESI7	838496/016	Dec. 27, 2010	Dec. 26, 2011
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	100115	Aug. 02, 2010	Aug. 01, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 28, 2010	Apr. 27, 2011
HORN Antenna SCHWARZBECK	9120D	9120D-405	Feb. 03, 2010	Feb. 02, 2011
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 27, 2010	Dec. 26, 2011
Preamplifier Agilent	8449B	3008A01961	Nov. 02, 2010	Nov. 01, 2011
Preamplifier Agilent	8447D	2944A10738	Nov. 02, 2010	Nov. 01, 2011
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

- 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.

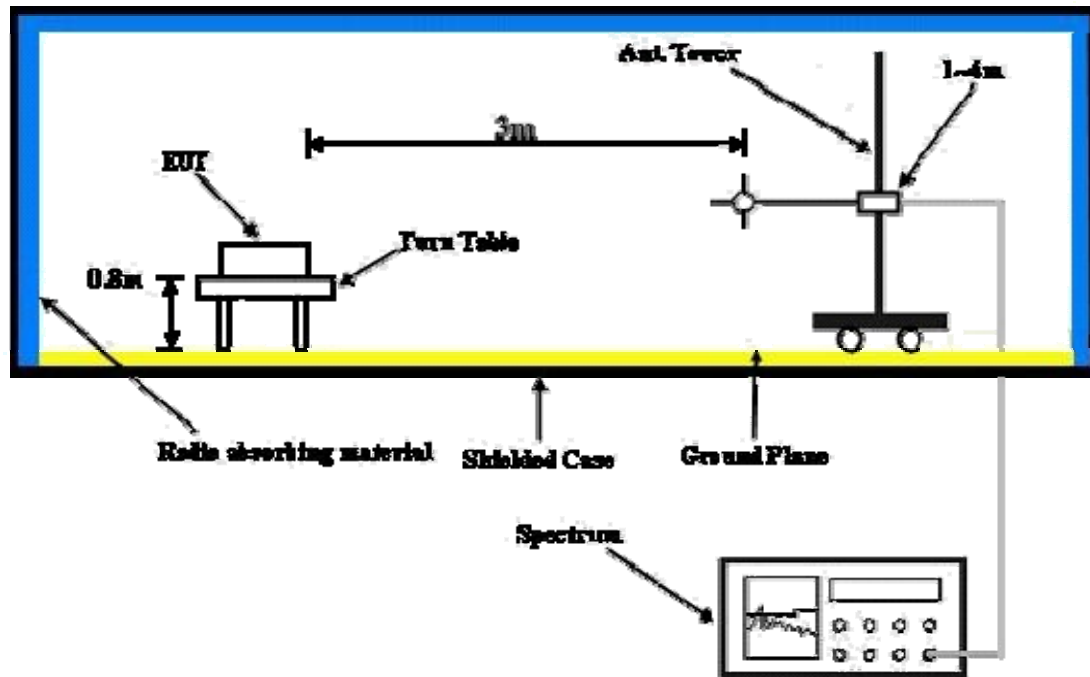
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for 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 1kHz 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

Set the EUT under transmission condition continuously at specific channel frequency.



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4.1.7 TEST RESULTS

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.2 PK	74.0	-15.8	1.07 H	46	24.70	33.50
2	2390.00	46.4 AV	54.0	-7.6	1.07 H	46	12.90	33.50
3	*2412.00	98.6 PK			1.07 H	46	65.00	33.60
4	*2412.00	94.7 AV			1.07 H	46	61.10	33.60
5	4824.00	51.5 PK	74.0	-22.5	1.00 H	120	11.50	40.00
6	4824.00	43.4 AV	54.0	-10.6	1.00 H	120	3.40	40.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.9 PK	74.0	-15.1	1.00 V	277	25.40	33.50
2	2390.00	47.0 AV	54.0	-7.0	1.00 V	277	13.50	33.50
3	*2412.00	102.6 PK			1.00 V	279	69.00	33.60
4	*2412.00	98.9 AV			1.00 V	279	65.30	33.60
5	4824.00	53.3 PK	74.0	-20.7	1.19 V	101	13.30	40.00
6	4824.00	48.0 AV	54.0	-6.0	1.19 V	101	8.00	40.00

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	99.5 PK			1.06 H	46	65.80	33.70
2	*2437.00	95.7 AV			1.06 H	46	62.00	33.70
3	4874.00	51.3 PK	74.0	-22.7	1.24 H	129	11.20	40.10
4	4874.00	45.4 AV	54.0	-8.6	1.24 H	129	5.30	40.10
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	*2437.00	105.8 PK			1.00 V	277	72.10	33.70
2	*2437.00	102.0 AV			1.00 V	277	68.30	33.70
3	4874.00	54.8 PK	74.0	-19.2	1.00 V	28	14.70	40.10
4	4874.00	50.7 AV	54.0	-3.3	1.00 V	28	10.60	40.10

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	100.0 PK			1.07 H	43	68.00	32.00
2	*2462.00	96.2 AV			1.07 H	43	64.20	32.00
3	2483.50	57.1 PK	74.0	-16.9	1.07 H	43	25.00	32.10
4	2483.50	45.4 AV	54.0	-8.6	1.07 H	43	13.30	32.10
5	4924.00	50.2 PK	74.0	-23.8	1.03 H	159	12.30	37.90
6	4924.00	45.3 AV	54.0	-8.7	1.03 H	159	7.40	37.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.0 PK			1.00 V	297	73.00	32.00
2	*2462.00	101.2 AV			1.00 V	297	69.20	32.00
3	2483.50	56.8 PK	74.0	-17.2	1.00 V	298	24.70	32.10
4	2483.50	45.7 AV	54.0	-8.3	1.00 V	298	13.60	32.10
5	4924.00	56.0 PK	74.0	-18.0	1.00 V	16	18.10	37.90
6	4924.00	52.3 AV	54.0	-1.7	1.00 V	16	14.40	37.90

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.3 PK	74.0	-14.7	1.31 H	305	27.60	31.70
2	2390.00	43.9 AV	54.0	-10.1	1.31 H	305	12.20	31.70
3	*2412.00	106.0 PK			1.31 H	305	74.20	31.80
4	*2412.00	101.4 AV			1.31 H	305	69.60	31.80
5	4824.00	49.7 PK	74.0	-24.3	1.00 H	254	12.00	37.70
6	4824.00	39.1 AV	54.0	-14.9	1.00 H	254	1.40	37.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.7 PK	74.0	-18.3	1.16 V	31	24.00	31.70
2	2390.00	45.4 AV	54.0	-8.6	1.16 V	31	13.70	31.70
3	*2412.00	110.3 PK			1.16 V	31	78.50	31.80
4	*2412.00	105.7 AV			1.16 V	31	73.90	31.80
5	4824.00	49.3 PK	74.0	-24.7	1.08 V	280	11.60	37.70
6	4824.00	41.9 AV	54.0	-12.1	1.08 V	280	4.20	37.70

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	106.2 PK			1.31 H	312	74.30	31.90
2	*2437.00	101.6 AV			1.31 H	312	69.70	31.90
3	4874.00	49.8 PK	74.0	-24.2	1.00 H	269	12.00	37.80
4	4874.00	39.7 AV	54.0	-14.3	1.00 H	269	1.90	37.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.8 PK			1.13 V	160	77.90	31.90
2	*2437.00	105.0 AV			1.13 V	160	73.10	31.90
3	4874.00	47.4 PK	74.0	-26.6	1.41 V	257	9.60	37.80
4	4874.00	37.8 AV	54.0	-16.2	1.41 V	257	0.00	37.80

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	2379.00	57.3 PK	74.0	-16.7	1.24 H	310	25.60	31.70
2	2379.00	44.6 AV	54.0	-9.4	1.24 H	310	12.90	31.70
3	*2462.00	105.2 PK			1.24 H	310	73.20	32.00
4	*2462.00	100.7 AV			1.24 H	310	68.70	32.00
5	4924.00	47.6 PK	74.0	-26.4	1.22 H	282	9.70	37.90
6	4924.00	39.2 AV	54.0	-14.8	1.22 H	282	1.30	37.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2379.00	61.3 PK	74.0	-12.7	1.13 V	10	29.60	31.70
2	2379.00	49.4 AV	54.0	-4.6	1.13 V	10	17.70	31.70
3	*2462.00	109.3 PK			1.13 V	10	77.30	32.00
4	*2462.00	104.6 AV			1.13 V	10	72.60	32.00
5	4924.00	48.2 PK	74.0	-25.8	1.36 V	311	10.30	37.90
6	4924.00	41.3 AV	54.0	-12.7	1.36 V	311	3.40	37.90

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.5 PK	74.0	-17.5	1.07 H	44	24.80	31.70
2	2390.00	44.6 AV	54.0	-9.4	1.07 H	44	12.90	31.70
3	*2412.00	97.7 PK			1.07 H	44	65.90	31.80
4	*2412.00	87.5 AV			1.07 H	44	55.70	31.80
5	4824.00	43.9 PK	74.0	-30.1	1.00 H	134	6.20	37.70
6	4824.00	31.0 AV	54.0	-23.0	1.00 H	134	-6.70	37.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.6 PK	74.0	-16.4	1.00 V	277	25.90	31.70
2	2390.00	45.3 AV	54.0	-8.7	1.00 V	277	13.60	31.70
3	*2412.00	101.9 PK			1.00 V	280	70.10	31.80
4	*2412.00	91.7 AV			1.00 V	280	59.90	31.80
5	4824.00	45.9 PK	74.0	-28.1	1.00 V	145	8.20	37.70
6	4824.00	32.7 AV	54.0	-21.3	1.00 V	145	-5.00	37.70

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	98.8 PK			1.07 H	45	66.90	31.90
2	*2437.00	88.6 AV			1.07 H	45	56.70	31.90
3	4874.00	44.8 PK	74.0	-29.2	1.00 H	49	7.00	37.80
4	4874.00	31.0 AV	54.0	-23.0	1.00 H	49	-6.80	37.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	103.9 PK			1.00 V	278	72.00	31.90
2	*2437.00	94.0 AV			1.00 V	278	62.10	31.90
3	4874.00	44.9 PK	74.0	-29.1	1.00 V	221	7.10	37.80
4	4874.00	33.1 AV	54.0	-20.9	1.00 V	221	-4.70	37.80

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	99.3 PK			1.06 H	44	67.30	32.00
2	*2462.00	89.2 AV			1.06 H	44	57.20	32.00
3	2483.50	62.0 PK	74.0	-12.0	1.06 H	44	29.90	32.10
4	2483.50	47.0 AV	54.0	-7.0	1.06 H	44	14.90	32.10
5	4924.00	45.3 PK	74.0	-28.7	1.00 H	152	7.40	37.90
6	4924.00	31.7 AV	54.0	-22.3	1.00 H	152	-6.20	37.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.5 PK			1.00 V	305	70.50	32.00
2	*2462.00	92.6 AV			1.00 V	305	60.60	32.00
3	2483.50	63.5 PK	74.0	-10.5	1.00 V	305	31.40	32.10
4	2483.50	47.9 AV	54.0	-6.1	1.00 V	305	15.80	32.10
5	4924.00	46.2 PK	74.0	-27.8	1.00 V	226	8.30	37.90
6	4924.00	33.5 AV	54.0	-20.5	1.00 V	226	-4.40	37.90

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	2359.00	55.9 PK	74.0	-18.1	1.30 H	280	24.30	31.60
2	2359.00	46.4 AV	54.0	-7.6	1.30 H	280	14.80	31.60
3	*2412.00	104.2 PK			1.30 H	280	72.40	31.80
4	*2412.00	93.6 AV			1.30 H	280	61.80	31.80
5	4824.00	45.7 PK	74.0	-28.3	1.00 H	49	8.00	37.70
6	4824.00	32.5 AV	54.0	-21.5	1.00 H	49	-5.20	37.70
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	2359.00	60.7 PK	74.0	-13.3	1.18 V	136	29.10	31.60
2	2359.00	50.7 AV	54.0	-3.3	1.18 V	136	19.10	31.60
3	*2412.00	111.0 PK			1.18 V	136	79.20	31.80
4	*2412.00	100.4 AV			1.18 V	136	68.60	31.80
5	4824.00	47.0 PK	74.0	-27.0	1.00 V	142	9.30	37.70
6	4824.00	33.6 AV	54.0	-20.4	1.00 V	142	-4.10	37.70

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	2385.00	56.9 PK	74.0	-17.1	1.00 H	231	25.20	31.70
2	2385.00	46.4 AV	54.0	-7.6	1.00 H	231	14.70	31.70
3	*2437.00	104.7 PK			1.31 H	277	72.80	31.90
4	*2437.00	93.7 AV			1.31 H	277	61.80	31.90
5	4874.00	45.6 PK	74.0	-28.4	1.00 H	156	7.80	37.80
6	4874.00	33.2 AV	54.0	-20.8	1.00 H	156	-4.60	37.80
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	2385.00	61.9 PK	74.0	-12.1	1.10 V	114	30.20	31.70
2	2385.00	50.6 AV	54.0	-3.4	1.10 V	114	18.90	31.70
3	*2437.00	111.3 PK			1.18 V	139	79.40	31.90
4	*2437.00	100.7 AV			1.18 V	139	68.80	31.90
5	4874.00	46.9 PK	74.0	-27.1	1.00 V	195	9.10	37.80
6	4874.00	34.1 AV	54.0	-19.9	1.00 V	195	-3.70	37.80

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	2379.00	58.2 PK	74.0	-15.8	1.13 H	173	26.50	31.70
2	2379.00	46.3 AV	54.0	-7.7	1.13 H	173	14.60	31.70
3	*2462.00	105.1 PK			1.32 H	284	73.10	32.00
4	*2462.00	94.2 AV			1.32 H	284	62.20	32.00
5	4924.00	45.2 PK	74.0	-28.8	1.00 H	225	7.30	37.90
6	4924.00	33.2 AV	54.0	-20.8	1.00 H	225	-4.70	37.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2379.00	63.4 PK	74.0	-10.6	1.20 V	194	31.70	31.70
2	2379.00	50.7 AV	54.0	-3.3	1.20 V	194	19.00	31.70
3	*2462.00	112.7 PK			1.17 V	140	80.70	32.00
4	*2462.00	101.4 AV			1.17 V	140	69.40	32.00
5	4924.00	48.7 PK	74.0	-25.3	1.00 V	320	10.80	37.90
6	4924.00	39.2 AV	54.0	-14.8	1.00 V	320	1.30	37.90

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



A D T

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.7 PK	74.0	-17.3	1.07 H	47	25.00	31.70
2	2390.00	43.1 AV	54.0	-10.9	1.07 H	360	11.40	31.70
3	*2412.00	97.4 PK			1.07 H	47	65.60	31.80
4	*2412.00	87.6 AV			1.07 H	47	55.80	31.80
5	4824.00	44.0 PK	74.0	-30.0	1.00 H	122	6.30	37.70
6	4824.00	30.9 AV	54.0	-23.1	1.00 H	122	-6.80	37.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.7 PK	74.0	-15.3	1.00 V	280	27.00	31.70
2	2390.00	45.1 AV	54.0	-8.9	1.00 V	280	13.40	31.70
3	*2412.00	101.6 PK			1.00 V	280	69.80	31.80
4	*2412.00	91.6 AV			1.00 V	280	59.80	31.80
5	4824.00	46.0 PK	74.0	-28.0	1.00 V	178	8.30	37.70
6	4824.00	32.9 AV	54.0	-21.1	1.00 V	178	-4.80	37.70

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	98.6 PK			1.07 H	48	66.70	31.90
2	*2437.00	88.7 AV			1.07 H	48	56.80	31.90
3	4874.00	44.7 PK	74.0	-29.3	1.00 H	103	6.90	37.80
4	4874.00	31.6 AV	54.0	-22.4	1.00 H	103	-6.20	37.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	103.7 PK			1.00 V	279	71.80	31.90
2	*2437.00	94.3 AV			1.00 V	279	62.40	31.90
3	4874.00	45.8 PK	74.0	-28.2	1.00 V	139	8.00	37.80
4	4874.00	35.4 AV	54.0	-18.6	1.00 V	139	-2.40	37.80

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	99.6 PK			1.06 H	48	67.60	32.00
2	*2462.00	89.7 AV			1.06 H	48	57.70	32.00
3	2483.50	62.9 PK	74.0	-11.1	1.06 H	48	30.80	32.10
4	2483.50	48.6 AV	54.0	-5.4	1.06 H	48	16.50	32.10
5	4924.00	47.4 PK	74.0	-26.6	1.00 H	98	9.50	37.90
6	4924.00	33.9 AV	54.0	-20.1	1.00 H	98	-4.00	37.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.7 PK			1.00 V	301	70.70	32.00
2	*2462.00	92.8 AV			1.00 V	301	60.80	32.00
3	2483.50	64.7 PK	74.0	-9.3	1.00 V	301	32.60	32.10
4	2483.50	48.6 AV	54.0	-5.4	1.00 V	301	16.50	32.10
5	4924.00	48.4 PK	74.0	-25.6	1.00 V	155	10.50	37.90
6	4924.00	37.0 AV	54.0	-17.0	1.00 V	155	-0.90	37.90

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	2359.00	54.2 PK	74.0	-19.8	1.31 H	178	22.60	31.60
2	2359.00	48.1 AV	54.0	-5.9	1.31 H	178	16.50	31.60
3	*2412.00	105.4 PK			1.17 H	138	73.60	31.80
4	*2412.00	94.4 AV			1.17 H	138	62.60	31.80
5	4824.00	46.5 PK	74.0	-27.5	1.00 H	117	8.80	37.70
6	4824.00	33.2 AV	54.0	-20.8	1.00 H	117	-4.50	37.70
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	2359.00	59.5 PK	74.0	-14.5	1.32 V	151	27.90	31.60
2	2359.00	49.3 AV	54.0	-4.7	1.32 V	151	17.70	31.60
3	*2412.00	112.4 PK			1.17 V	132	80.60	31.80
4	*2412.00	101.3 AV			1.17 V	132	69.50	31.80
5	4824.00	47.5 PK	74.0	-26.5	1.00 V	204	9.80	37.70
6	4824.00	34.2 AV	54.0	-19.8	1.00 V	204	-3.50	37.70

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	2385.00	55.3 PK	74.0	-18.7	1.01 H	198	23.60	31.70
2	2385.00	45.3 AV	54.0	-8.7	1.01 H	198	13.60	31.70
3	*2437.00	105.2 PK			1.31 H	285	73.30	31.90
4	*2437.00	94.1 AV			1.31 H	285	62.20	31.90
5	4874.00	45.5 PK	74.0	-28.5	1.00 H	321	7.70	37.80
6	4874.00	33.4 AV	54.0	-20.6	1.00 H	321	-4.40	37.80
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	2385.00	60.1 PK	74.0	-13.9	1.07 V	132	28.40	31.70
2	2385.00	49.8 AV	54.0	-4.2	1.07 V	132	18.10	31.70
3	*2437.00	112.2 PK			1.16 V	133	80.30	31.90
4	*2437.00	101.3 AV			1.16 V	133	69.40	31.90
5	4874.00	47.5 PK	74.0	-26.5	1.00 V	121	9.70	37.80
6	4874.00	36.4 AV	54.0	-17.6	1.00 V	121	-1.40	37.80

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	2379.00	57.3 PK	74.0	-16.7	1.10 H	154	25.60	31.70
2	2379.00	44.7 AV	54.0	-9.3	1.10 H	154	13.00	31.70
3	*2462.00	105.2 PK			1.17 H	141	73.20	32.00
4	*2462.00	94.5 AV			1.17 H	141	62.50	32.00
5	4924.00	44.8 PK	74.0	-29.2	1.00 H	206	6.90	37.90
6	4924.00	37.4 AV	54.0	-16.6	1.00 H	206	-0.50	37.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2379.00	61.3 PK	74.0	-12.7	1.00 V	214	29.60	31.70
2	2379.00	48.4 AV	54.0	-5.6	1.00 V	214	16.70	31.70
3	*2462.00	112.4 PK			1.17 V	136	80.40	32.00
4	*2462.00	101.3 AV			1.17 V	136	69.30	32.00
5	4924.00	49.3 PK	74.0	-24.7	1.00 V	185	11.40	37.90
6	4924.00	40.4 AV	54.0	-13.6	1.00 V	185	2.50	37.90

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

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.3 PK	74.0	-16.7	1.08 H	46	25.60	31.70
2	2390.00	46.3 AV	54.0	-7.7	1.08 H	46	14.60	31.70
3	*2422.00	95.5 PK			1.08 H	46	63.60	31.90
4	*2422.00	85.4 AV			1.08 H	46	53.50	31.90
5	4844.00	46.0 PK	74.0	-28.0	1.00 H	115	8.30	37.70
6	4844.00	31.8 AV	54.0	-22.2	1.00 H	115	-5.90	37.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.2 PK	74.0	-13.8	1.00 V	278	28.50	31.70
2	2390.00	48.6 AV	54.0	-5.4	1.00 V	278	16.90	31.70
3	*2422.00	101.6 PK			1.00 V	278	69.70	31.90
4	*2422.00	90.8 AV			1.00 V	278	58.90	31.90
5	4844.00	46.5 PK	74.0	-27.5	1.00 V	259	8.80	37.70
6	4844.00	33.5 AV	54.0	-20.5	1.00 V	259	-4.20	37.70

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	96.0 PK			1.07 H	44	64.10	31.90
2	*2437.00	85.6 AV			1.07 H	44	53.70	31.90
3	4874.00	45.7 PK	74.0	-28.3	1.00 H	181	7.90	37.80
4	4874.00	32.1 AV	54.0	-21.9	1.00 H	181	-5.70	37.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	102.0 PK			1.00 V	277	70.10	31.90
2	*2437.00	91.9 AV			1.00 V	277	60.00	31.90
3	4874.00	46.6 PK	74.0	-27.4	1.00 V	224	8.80	37.80
4	4874.00	33.9 AV	54.0	-20.1	1.00 V	224	-3.90	37.80

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	96.8 PK			1.02 H	46	64.80	32.00
2	*2452.00	86.8 AV			1.02 H	46	54.80	32.00
3	2483.50	65.9 PK	74.0	-8.1	1.02 H	46	33.80	32.10
4	2483.50	50.7 AV	54.0	-3.3	1.02 H	46	18.60	32.10
5	4904.00	45.2 PK	74.0	-28.8	1.00 H	105	7.40	37.80
6	4904.00	33.0 AV	54.0	-21.0	1.00 H	105	-4.80	37.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	101.5 PK			1.00 V	280	69.50	32.00
2	*2452.00	91.3 AV			1.00 V	280	59.30	32.00
3	2483.50	70.6 PK	74.0	-3.4	1.00 V	280	38.50	32.10
4	2483.50	53.0 AV	54.0	-1.0	1.00 V	280	20.90	32.10
5	4904.00	47.0 PK	74.0	-27.0	1.00 V	224	9.20	37.80
6	4904.00	33.8 AV	54.0	-20.2	1.00 V	224	-4.00	37.80

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.9 PK	74.0	-17.1	1.24 H	123	25.20	31.70
2	2390.00	44.6 AV	54.0	-9.4	1.24 H	123	12.90	31.70
3	*2422.00	98.5 PK			1.24 H	123	66.60	31.90
4	*2422.00	87.7 AV			1.24 H	123	55.80	31.90
5	4844.00	45.6 PK	74.0	-28.4	1.00 H	221	7.90	37.70
6	4844.00	32.9 AV	54.0	-21.1	1.00 H	221	-4.80	37.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	64.6 PK	74.0	-9.4	1.11 V	133	32.90	31.70
2	2390.00	49.9 AV	54.0	-4.1	1.11 V	133	18.20	31.70
3	*2422.00	108.2 PK			1.11 V	133	76.30	31.90
4	*2422.00	97.4 AV			1.11 V	133	65.50	31.90
5	4844.00	47.0 PK	74.0	-27.0	1.00 V	245	9.30	37.70
6	4844.00	33.7 AV	54.0	-20.3	1.00 V	245	-4.00	37.70

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	98.3 PK			1.20 H	113	66.40	31.90
2	*2437.00	87.3 AV			1.20 H	113	55.40	31.90
3	4874.00	43.5 PK	74.0	-30.5	1.00 H	210	5.70	37.80
4	4874.00	32.7 AV	54.0	-21.3	1.00 H	210	-5.10	37.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	108.4 PK			1.10 V	143	76.50	31.90
2	*2437.00	97.3 AV			1.10 V	143	65.40	31.90
3	4874.00	47.0 PK	74.0	-27.0	1.00 V	354	9.20	37.80
4	4874.00	34.1 AV	54.0	-19.9	1.00 V	354	-3.70	37.80

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	98.1 PK			1.25 H	131	66.10	32.00
2	*2462.00	87.3 AV			1.25 H	131	55.30	32.00
3	2483.50	57.7 PK	74.0	-16.3	1.25 H	131	25.60	32.10
4	2483.50	47.3 AV	54.0	-6.7	1.25 H	131	15.20	32.10
5	4904.00	45.5 PK	74.0	-28.5	1.00 H	157	7.70	37.80
6	4904.00	33.1 AV	54.0	-20.9	1.00 H	157	-4.70	37.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.0 PK			1.10 V	141	76.00	32.00
2	*2462.00	97.1 AV			1.10 V	141	65.10	32.00
3	2483.50	62.3 PK	74.0	-11.7	1.10 V	142	30.20	32.10
4	2483.50	50.3 AV	54.0	-3.7	1.10 V	142	18.20	32.10
5	4904.00	46.8 PK	74.0	-27.2	1.00 V	191	9.00	37.80
6	4904.00	33.8 AV	54.0	-20.2	1.00 V	191	-4.00	37.80

- 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.



A D T

BELOW 1GHz WORST-CASE DATA : 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH 1008 hPa	TEST MODE	A
TESTED BY	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	193.22	34.0 QP	43.5	-9.5	2.00 H	109	22.50	11.50
2	212.66	39.3 QP	43.5	-4.2	1.00 H	106	27.30	12.00
3	239.88	40.6 QP	46.0	-5.4	1.25 H	187	26.70	13.90
4	360.43	38.2 QP	46.0	-7.8	1.00 H	193	20.80	17.40
5	797.89	38.8 QP	46.0	-7.2	1.00 H	7	10.90	27.90
6	840.67	37.9 QP	46.0	-8.1	1.00 H	184	8.90	29.00
7	947.60	37.7 QP	46.0	-8.3	2.00 H	61	6.80	30.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.84	37.0 QP	40.0	-3.0	1.25 V	130	23.60	13.40
2	206.83	33.0 QP	43.5	-10.5	1.50 V	217	21.40	11.60
3	685.13	35.2 QP	46.0	-10.8	2.00 V	22	8.90	26.30
4	797.89	39.2 QP	46.0	-6.8	1.50 V	358	11.30	27.90
5	840.67	40.1 QP	46.0	-5.9	1.50 V	115	11.10	29.00
6	869.83	35.6 QP	46.0	-10.4	1.25 V	148	5.90	29.70
7	937.88	38.7 QP	46.0	-7.3	1.00 V	121	7.80	30.90

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	Brad Wu		

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	66.84	30.6 QP	40.0	-9.4	2.00 H	154	17.50	13.10
2	164.06	35.7 QP	43.5	-7.8	1.50 H	19	21.10	14.60
3	239.88	32.2 QP	46.0	-13.8	1.00 H	10	19.00	13.20
4	360.43	38.1 QP	46.0	-7.9	1.00 H	142	20.80	17.30
5	663.74	40.1 QP	46.0	-5.9	1.25 H	46	15.50	24.60
6	840.67	41.3 QP	46.0	-4.7	1.50 H	265	13.30	28.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	66.84	33.6 QP	40.0	-6.4	1.00 V	145	20.50	13.10
2	140.72	31.5 QP	43.5	-12.0	1.25 V	352	16.60	14.90
3	360.43	29.9 QP	46.0	-16.1	1.25 V	91	12.60	17.30
4	498.47	31.4 QP	46.0	-14.6	1.00 V	112	10.10	21.30
5	667.63	35.4 QP	46.0	-10.6	2.00 V	181	10.80	24.60
6	840.67	37.0 QP	46.0	-9.0	1.50 V	142	9.00	28.00

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

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	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	Nov. 30, 2010	Nov. 29, 2011
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 30, 2010	Dec. 29, 2011
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
V-LISN SCHWARZBECK	NNBL 8226-2	8226-142	Jul. 12, 2010	Jul. 11, 2011
Software ADT	ADT_Conc_ 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

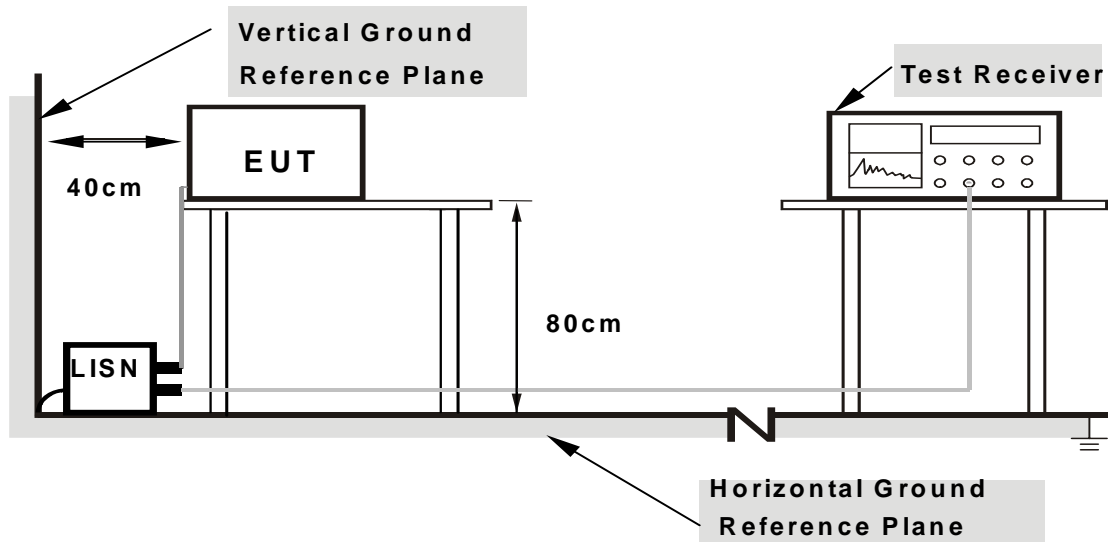
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

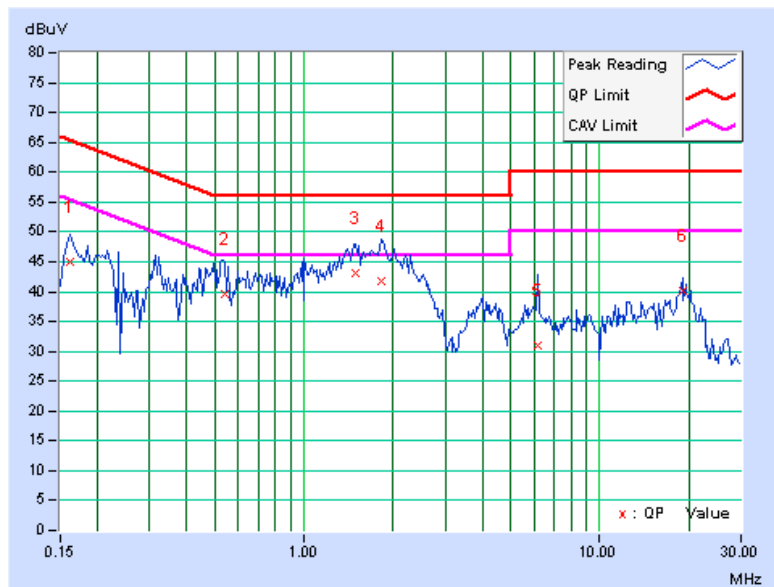
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA : 802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.162	0.12	44.73	-	44.85	-	65.38	55.38	-20.53	-
2	0.537	0.14	39.57	-	39.71	-	56.00	46.00	-16.29	-
3	1.488	0.21	42.89	-	43.10	-	56.00	46.00	-12.90	-
4	1.832	0.24	41.62	-	41.86	-	56.00	46.00	-14.14	-
5	6.188	0.46	30.54	-	31.00	-	60.00	50.00	-29.00	-
6	19.043	1.41	38.70	-	40.11	-	60.00	50.00	-19.89	-

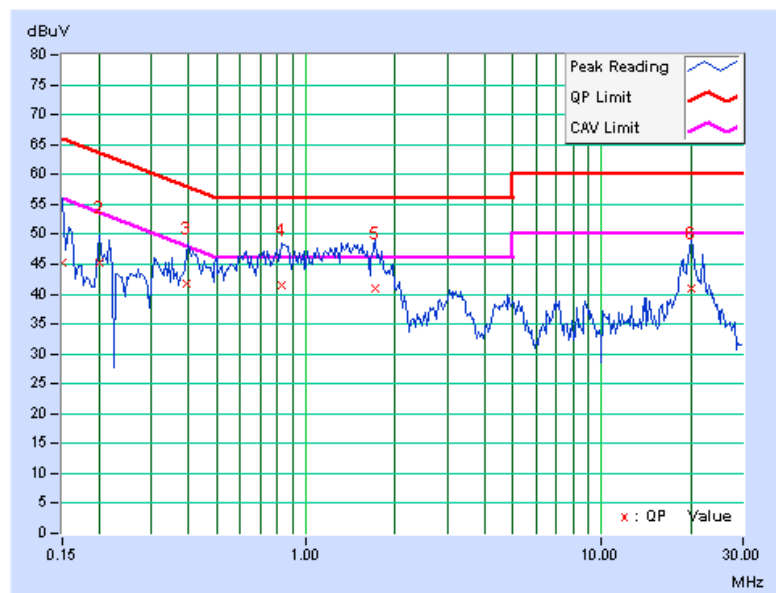
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.10	45.27	-	45.37	-	66.00	56.00	-20.63	-
2	0.201	0.10	45.18	-	45.28	-	63.58	53.58	-18.30	-
3	0.392	0.12	41.67	-	41.79	-	58.02	48.02	-16.23	-
4	0.830	0.16	41.39	-	41.55	-	56.00	46.00	-14.45	-
5	1.711	0.22	40.84	-	41.06	-	56.00	46.00	-14.94	-
6	20.055	1.31	39.76	-	41.07	-	60.00	50.00	-18.93	-

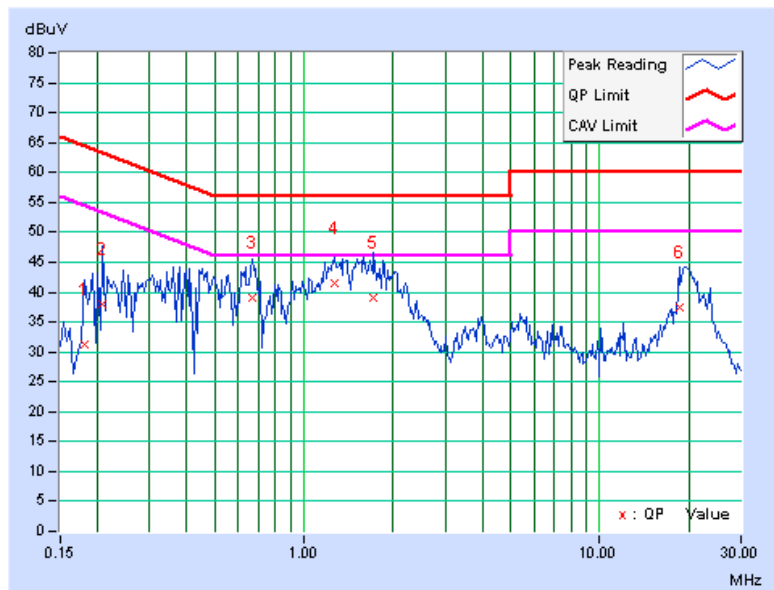
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	0.181	0.11	31.26	-	31.37	-	64.43	54.43	-33.05	-
2	0.209	0.11	37.99	-	38.10	-	63.26	53.26	-25.16	-
3	0.670	0.15	38.95	-	39.10	-	56.00	46.00	-16.90	-
4	1.262	0.20	41.27	-	41.47	-	56.00	46.00	-14.53	-
5	1.723	0.23	38.87	-	39.10	-	56.00	46.00	-16.90	-
6	18.605	1.38	36.01	-	37.39	-	60.00	50.00	-22.61	-

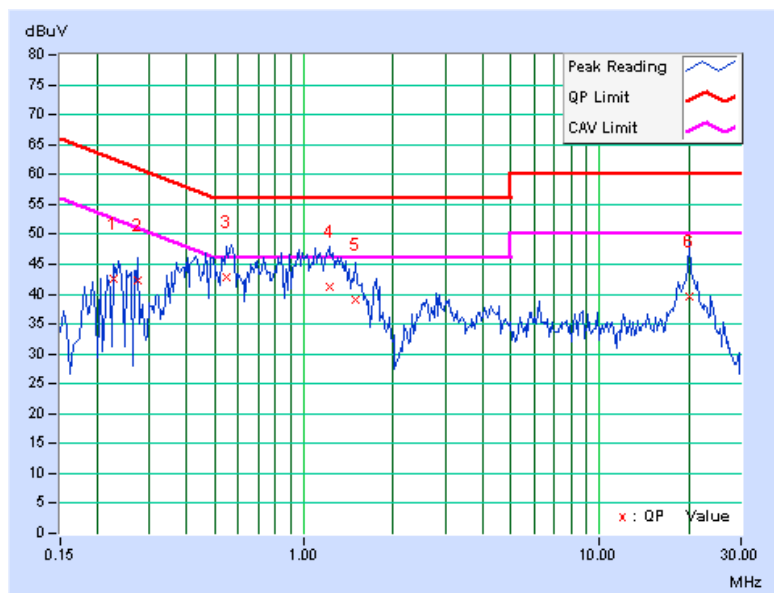
- REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value =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



PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.228	0.10	42.34	-	42.44	-	62.52	52.52	-20.08	-
2	0.275	0.11	42.29	-	42.40	-	60.97	50.97	-18.57	-
3	0.545	0.13	42.80	-	42.93	-	56.00	46.00	-13.07	-
4	1.215	0.19	40.91	-	41.10	-	56.00	46.00	-14.90	-
5	1.484	0.20	38.99	-	39.19	-	56.00	46.00	-16.81	-
6	20.043	1.31	38.16	-	39.47	-	60.00	50.00	-20.53	-

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



4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
R&S SPECTRUM ANALYZER	FSP40	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.

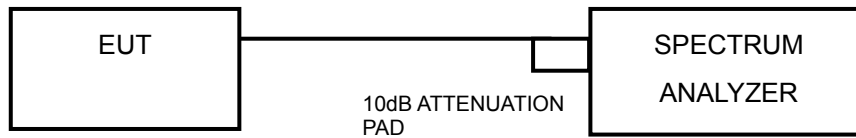
4.3.3 TEST PROCEDURE

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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

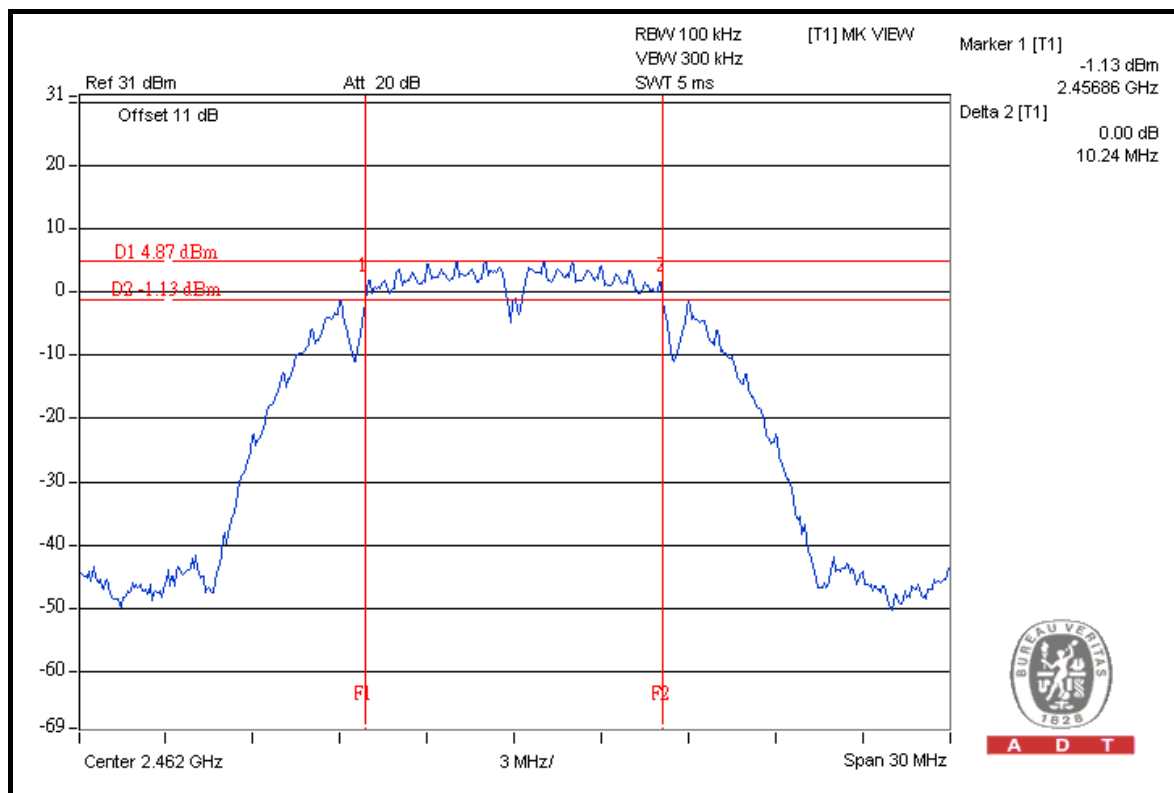
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	10.23	0.5	PASS
6	2437	10.22	0.5	PASS
11	2462	10.24	0.5	PASS

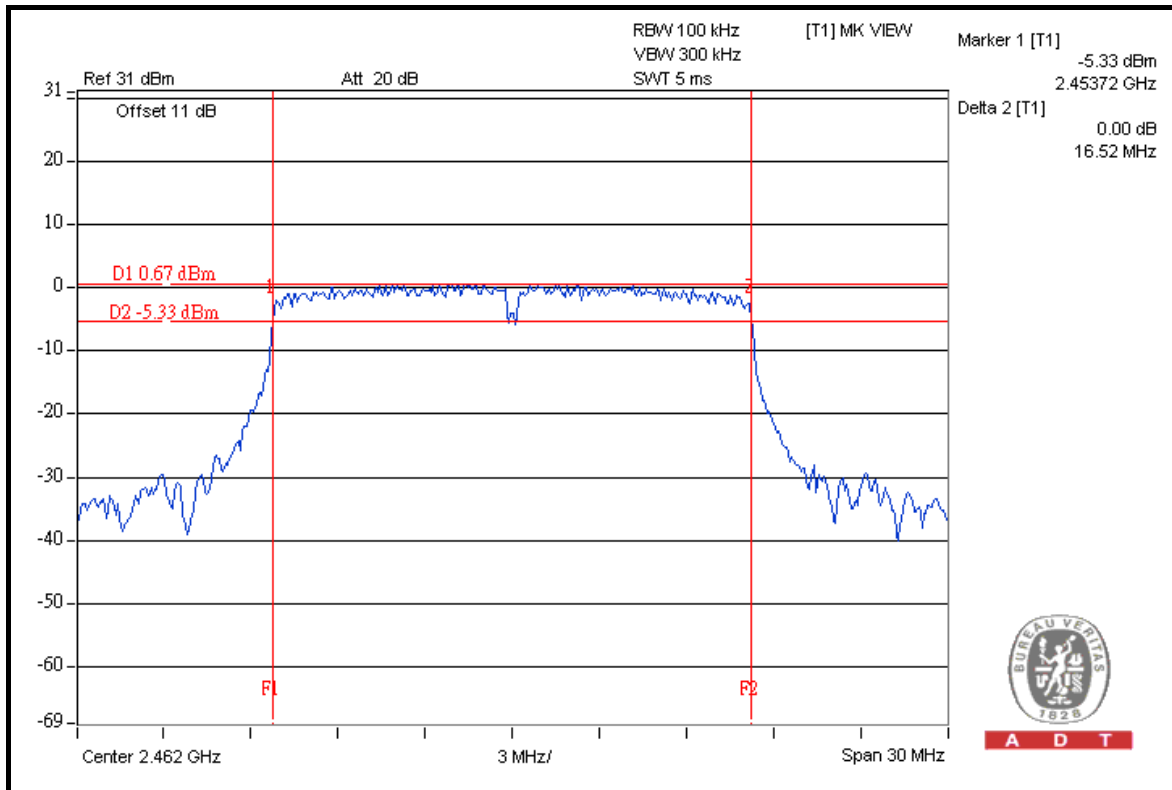
CH 11



802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.49	0.5	PASS
6	2437	16.49	0.5	PASS
11	2462	16.52	0.5	PASS

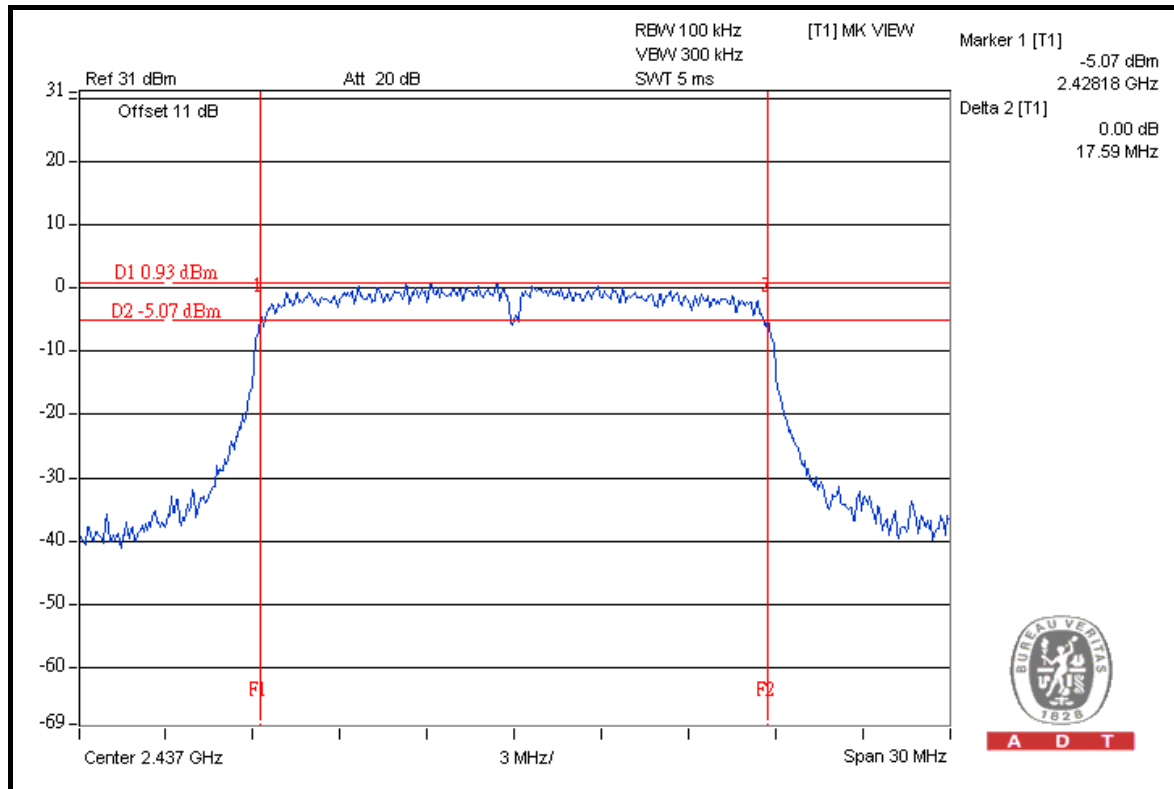
CH 11



802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.42	0.5	PASS
6	2437	17.59	0.5	PASS
11	2462	17.44	0.5	PASS

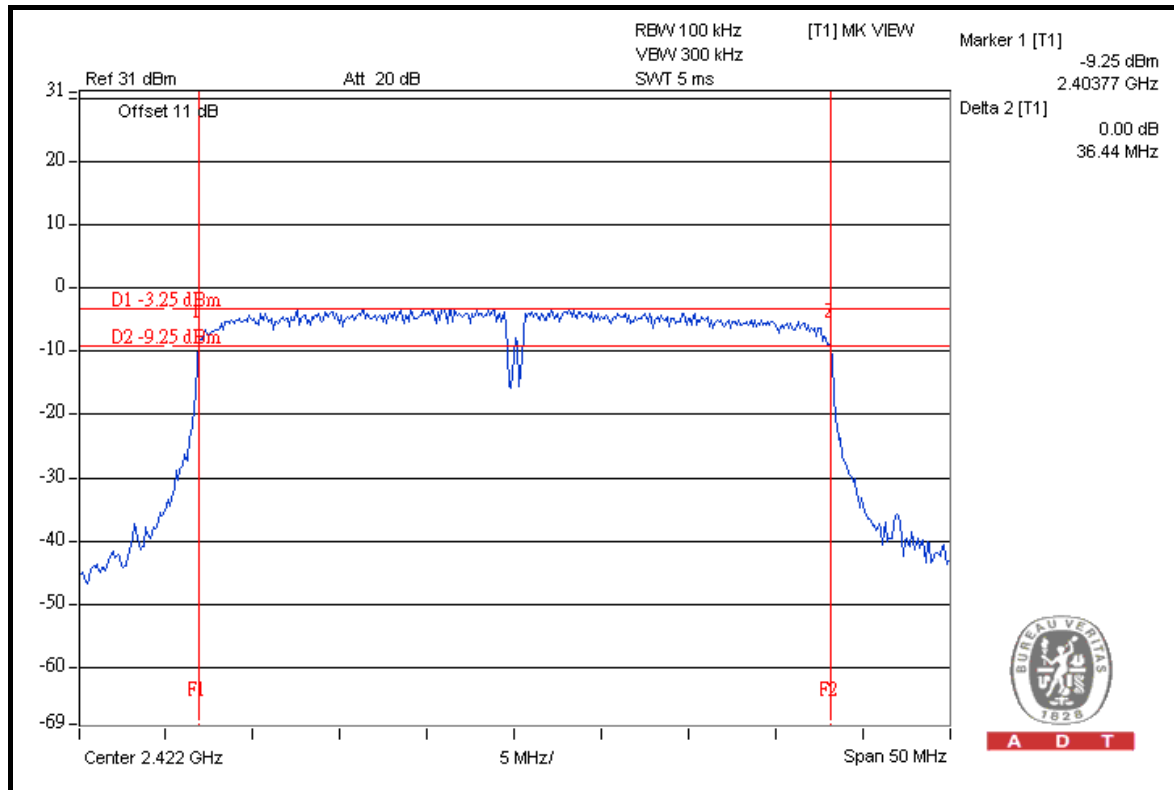
CH 6



802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2422	36.44	0.5	PASS
4	2437	36.30	0.5	PASS
7	2452	36.23	0.5	PASS

CH 1



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	DUE DATE OF CALIBRATION
High Speed Peak Power Meter	ML2495A	0842014	Apr. 21, 2010	Apr. 20, 2011
Power Sensor	MA2411B	0738404	Apr. 21, 2010	Apr. 20, 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. Measurement Bandwidth of ML2495A is 65MHz greater than 6dB bandwidth of emission.

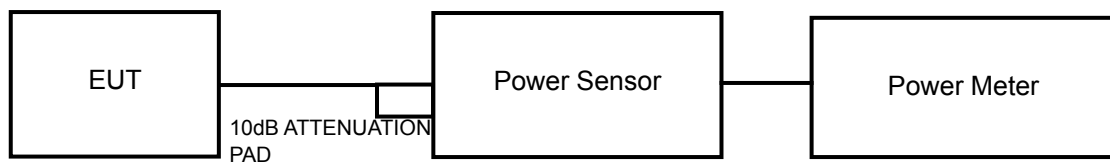
4.4.3 TEST PROCEDURES

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

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

4.4.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS/FAIL
1	2412	66.1	18.2	30	PASS
6	2437	66.1	18.2	30	PASS
11	2462	67.6	18.3	30	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS/FAIL
1	2412	162.2	22.1	30	PASS
6	2437	173.8	22.4	30	PASS
11	2462	186.2	22.7	30	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS/FAIL
1	2412	166.0	22.2	30	PASS
6	2437	186.2	22.7	30	PASS
11	2462	177.8	22.5	30	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS/FAIL
1	2412	162.2	22.1	30	PASS
6	2437	182.0	22.6	30	PASS
11	2462	177.8	22.5	30	PASS

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
R&S SPECTRUM ANALYZER	FSP40	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.

4.5.3 TEST PROCEDURE

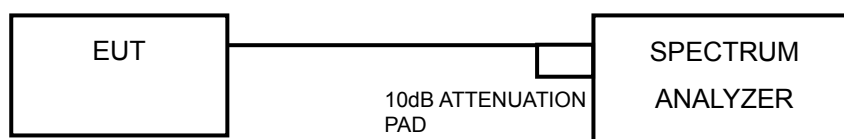
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

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

4.5.4 DEVIATION FROM TEST STANDARD

No deviation.

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

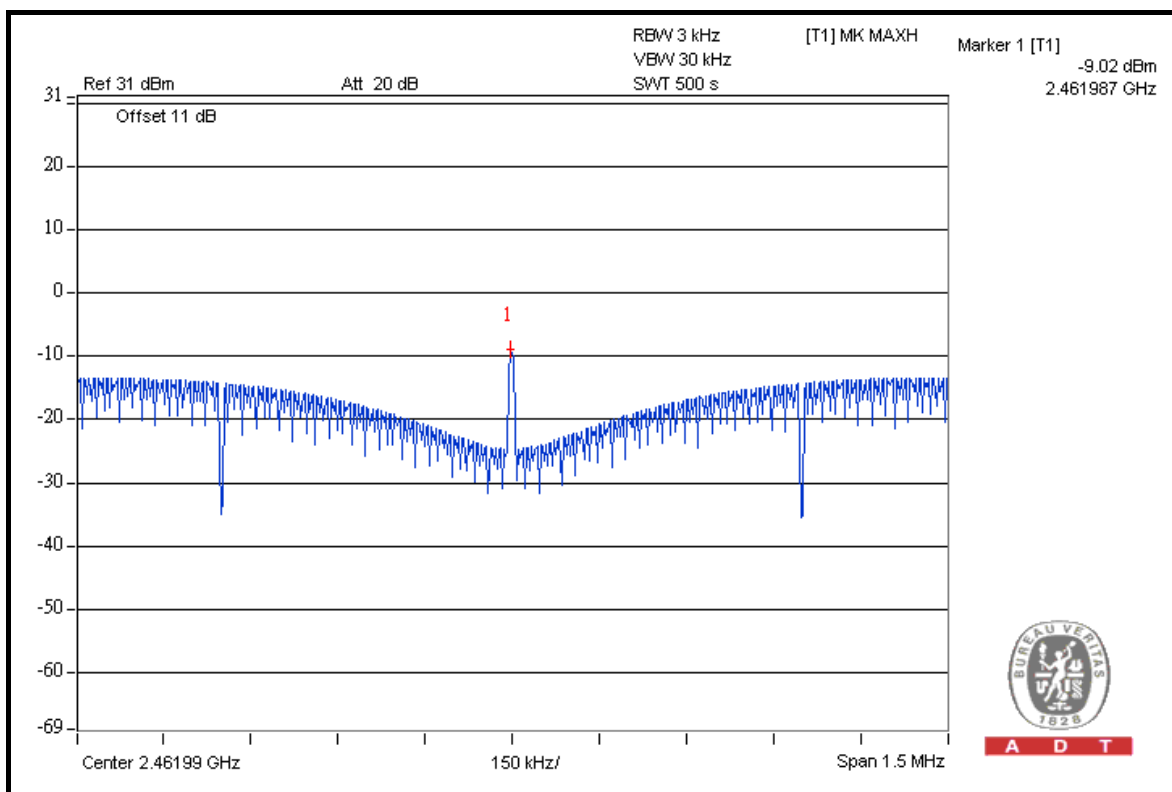
Same as Item 4.3.6.

4.5.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-9.2	8	PASS
6	2437	-9.3	8	PASS
11	2462	-9.0	8	PASS

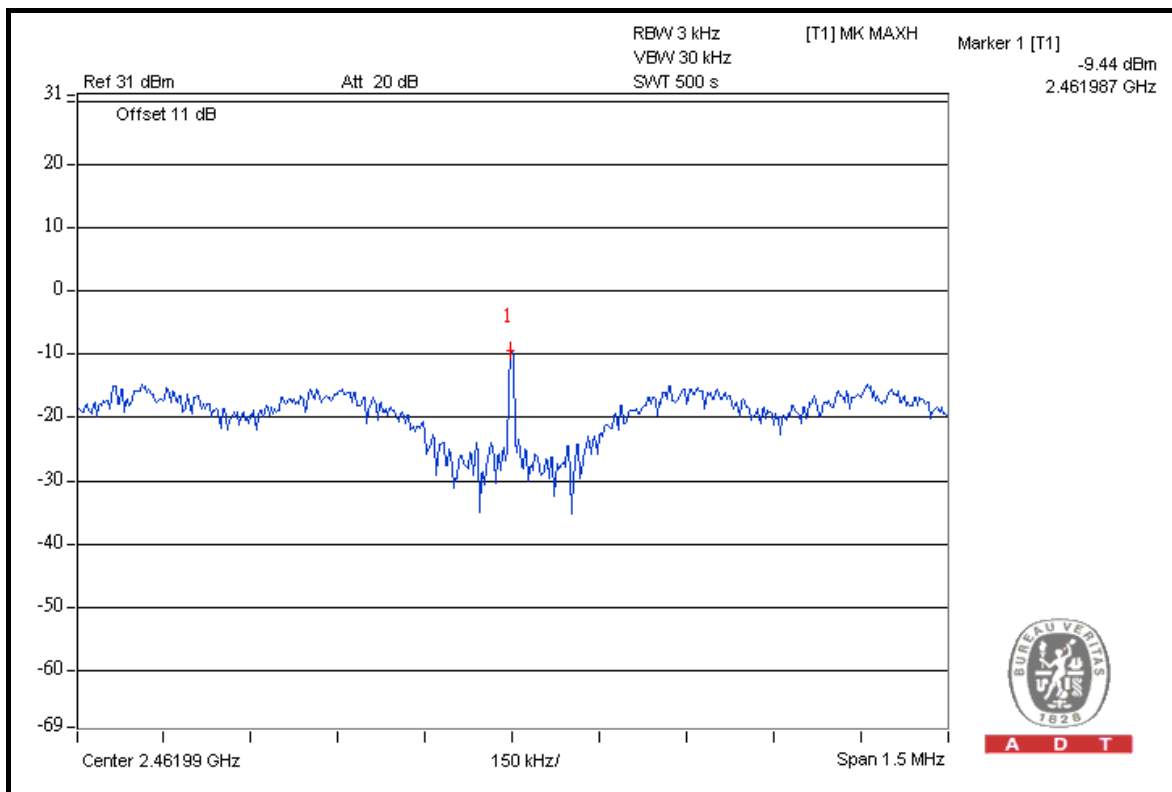
CH 11



802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-10.1	8	PASS
6	2437	-9.8	8	PASS
11	2462	-9.4	8	PASS

CH 11



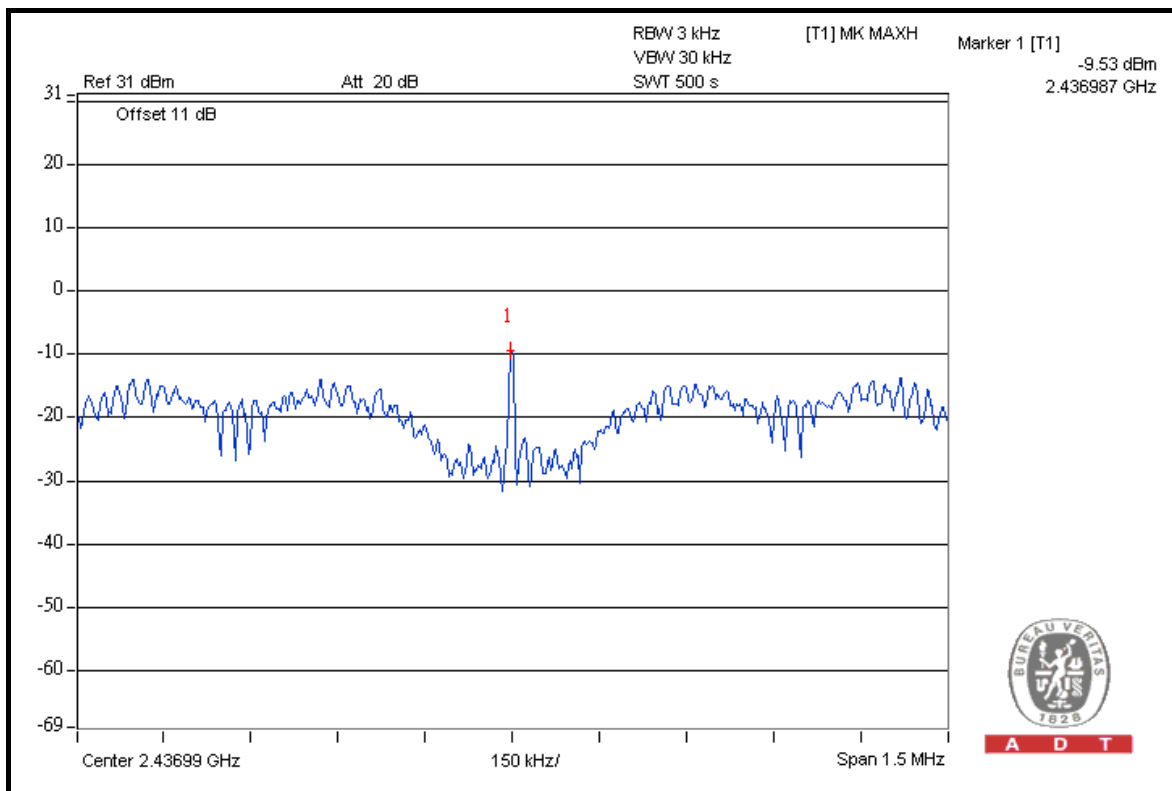


A D T

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-10.0	8	PASS
6	2437	-9.5	8	PASS
11	2462	-9.7	8	PASS

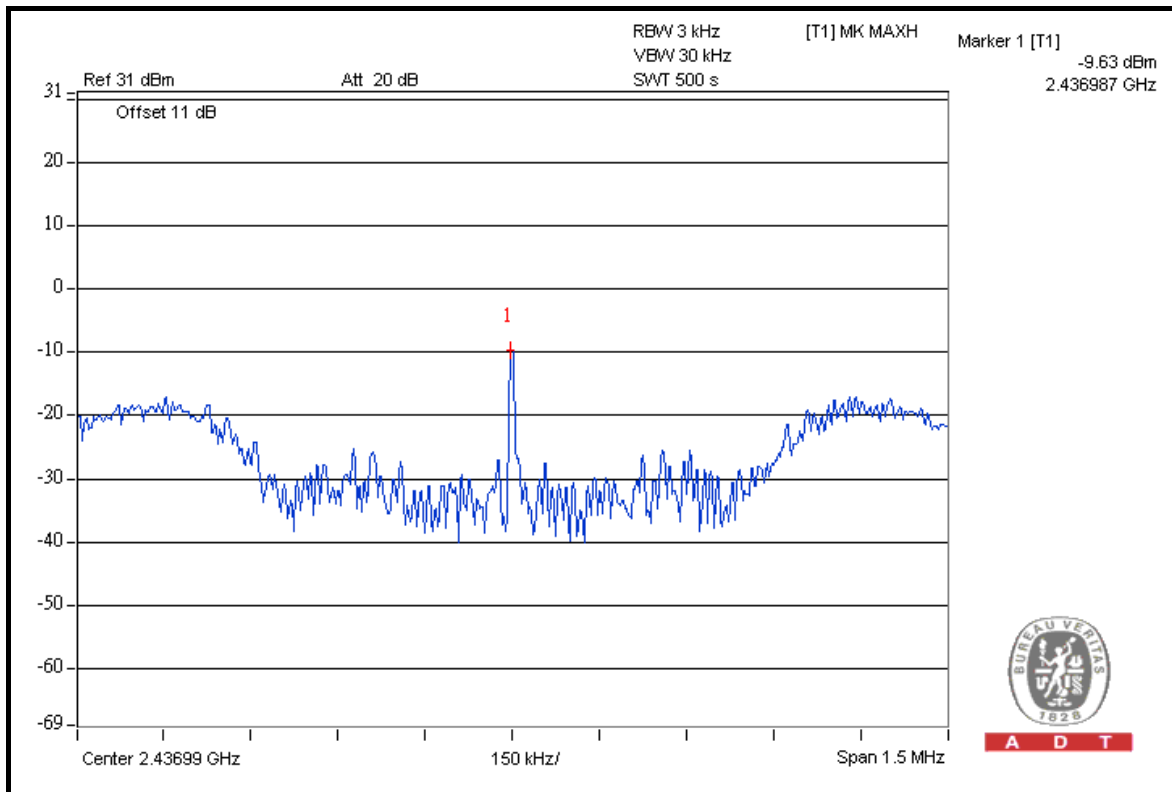
CH 6



802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2422	-10.2	8	PASS
4	2437	-9.6	8	PASS
7	2452	-9.6	8	PASS

CH 4



4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

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

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 with suitable frequency span including 300kHz bandwidth from band edge. The band edges was measured and recorded.

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

4.6.4 DEVIATION FROM TEST STANDARD

No deviation.

4.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6.

4.6.6 TEST RESULTS

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

802.11b

TEST MODE A

RESTRICT BAND (2310 ~ 2390 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	102.6	50.35	52.25	74.00
2412.00 (AV)	98.9	58.13	40.77	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	105.0	52.76	52.44	74.00
2462.00 (AV)	101.2	60.69	40.51	54.00

NOTE:

- Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check page 72-74.
- Maximum field strength in restrict band = Fundamental emission – Delta.

TEST MODE B
RESTRICT BAND (2310 ~ 2390 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	110.3	50.35	59.95	74.00
2412.00 (AV)	105.7	58.13	47.57	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

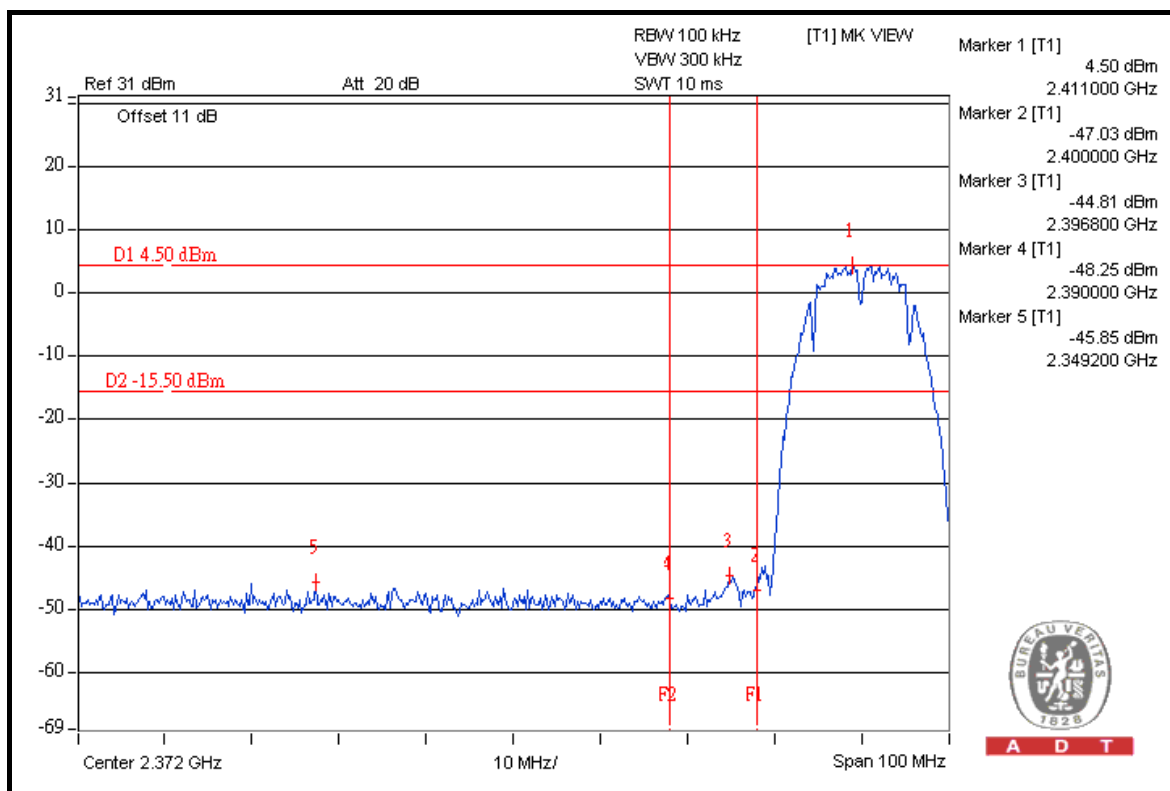
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	109.3	52.76	56.54	74.00
2462.00 (AV)	104.6	60.69	43.91	54.00

NOTE:

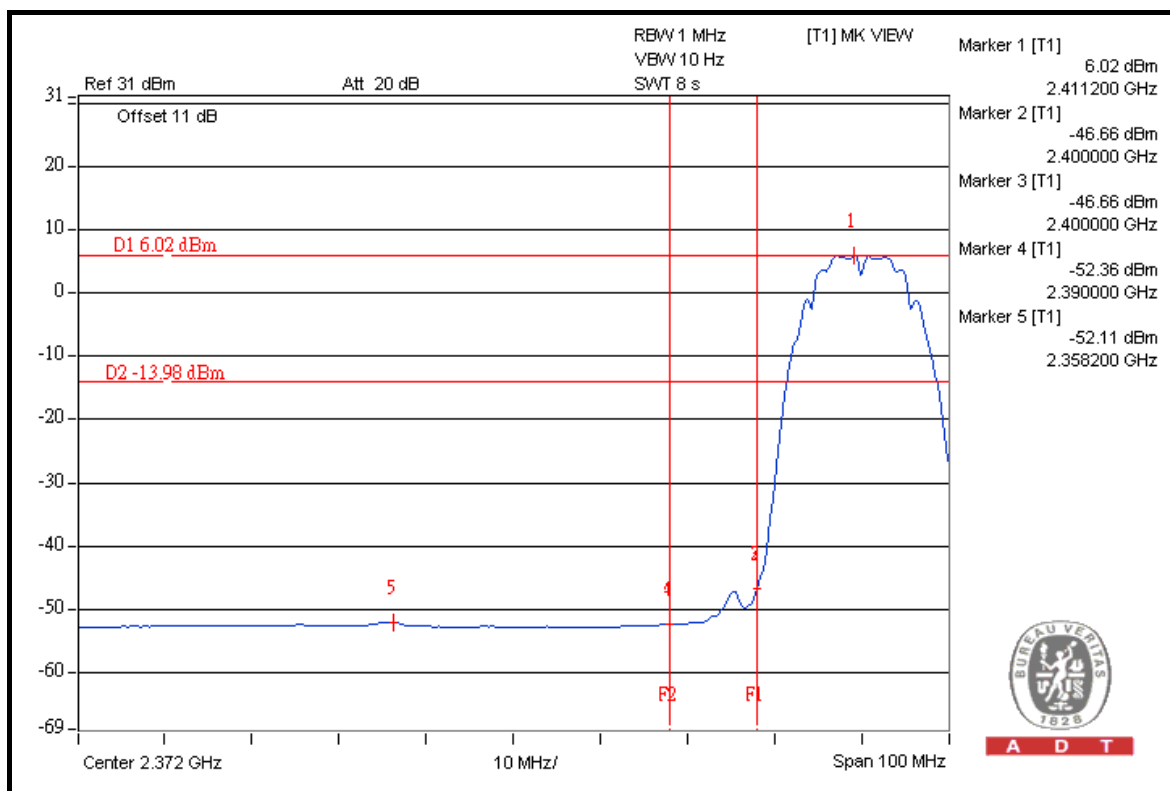
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.



A D T



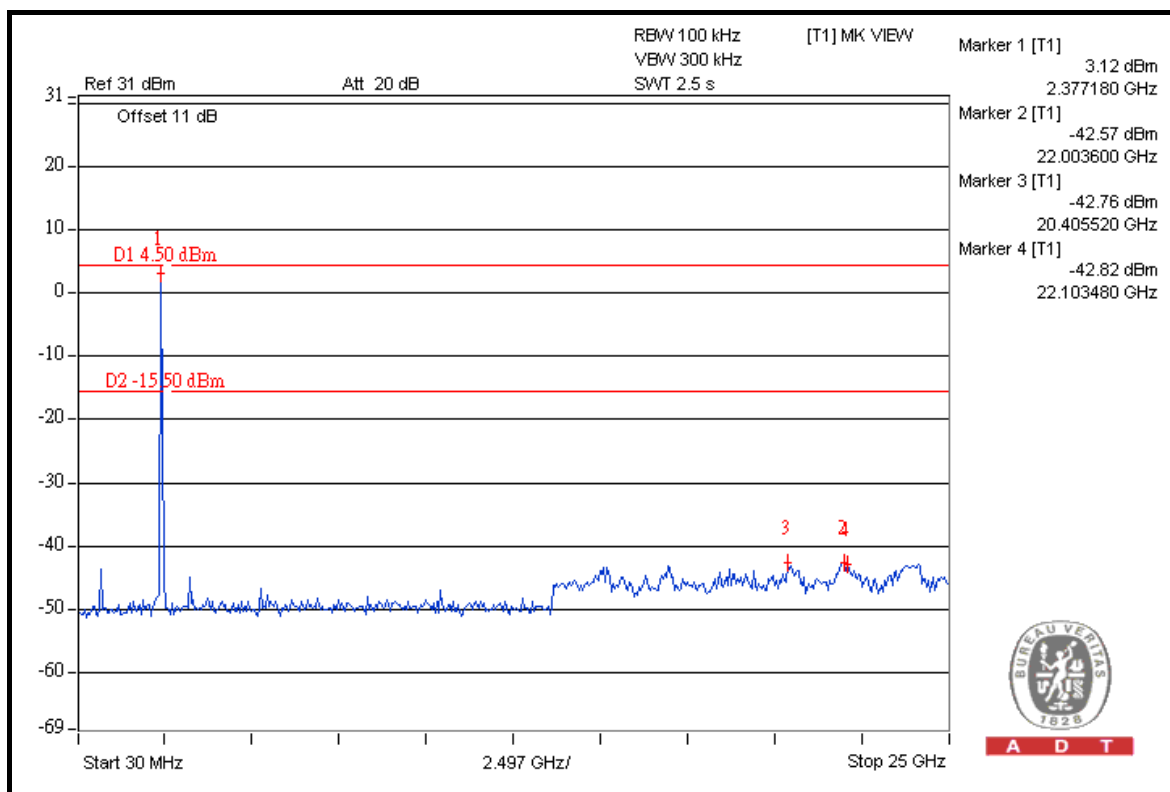
A D T



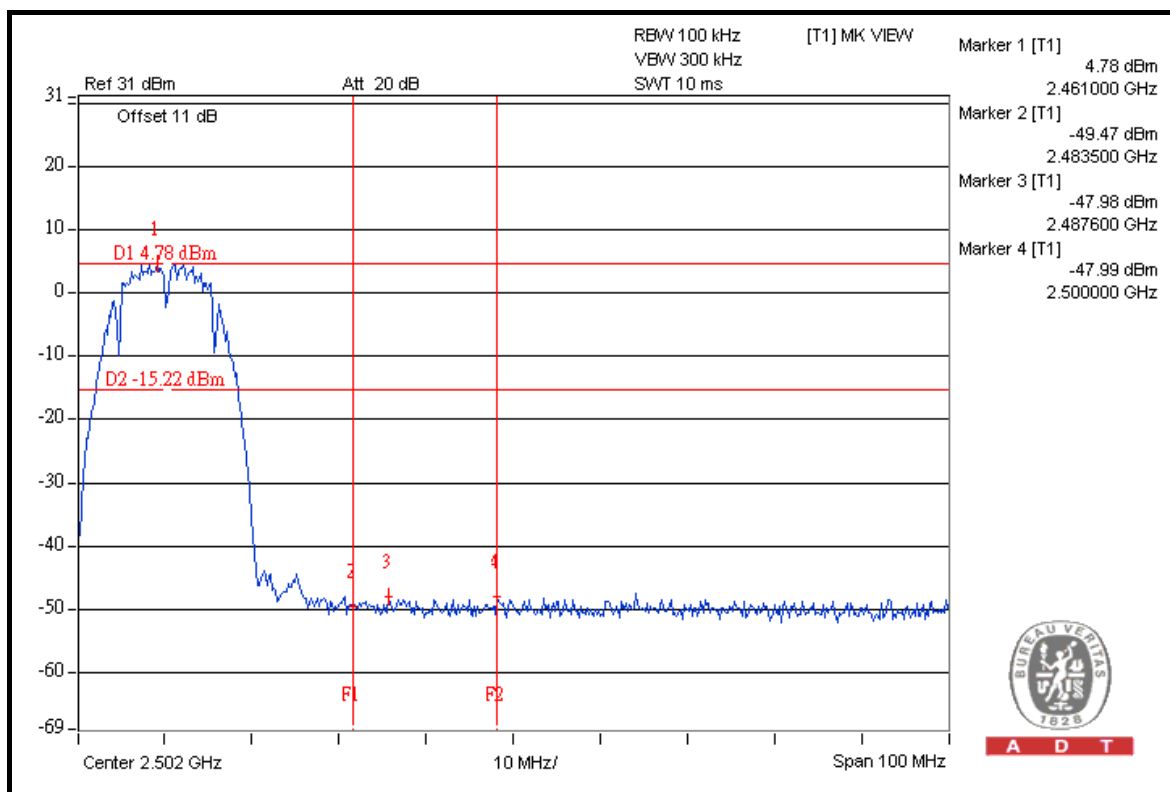
A D T



A D T



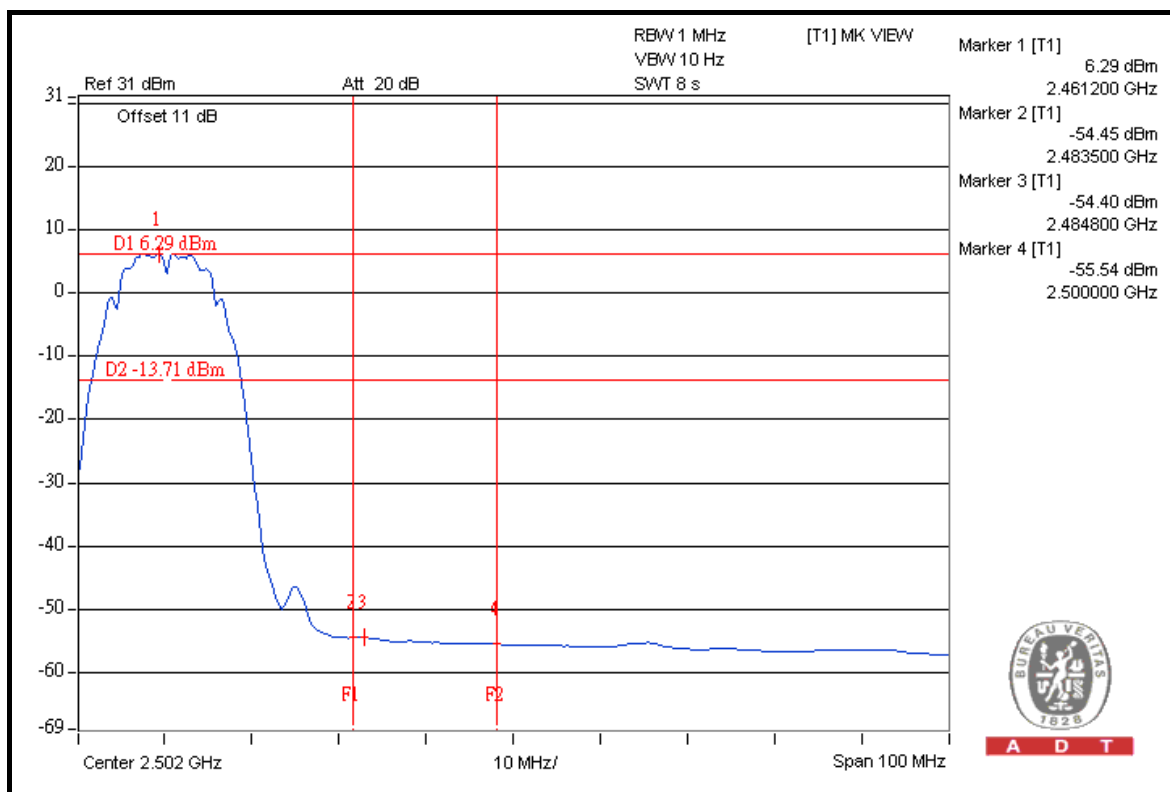
A D T



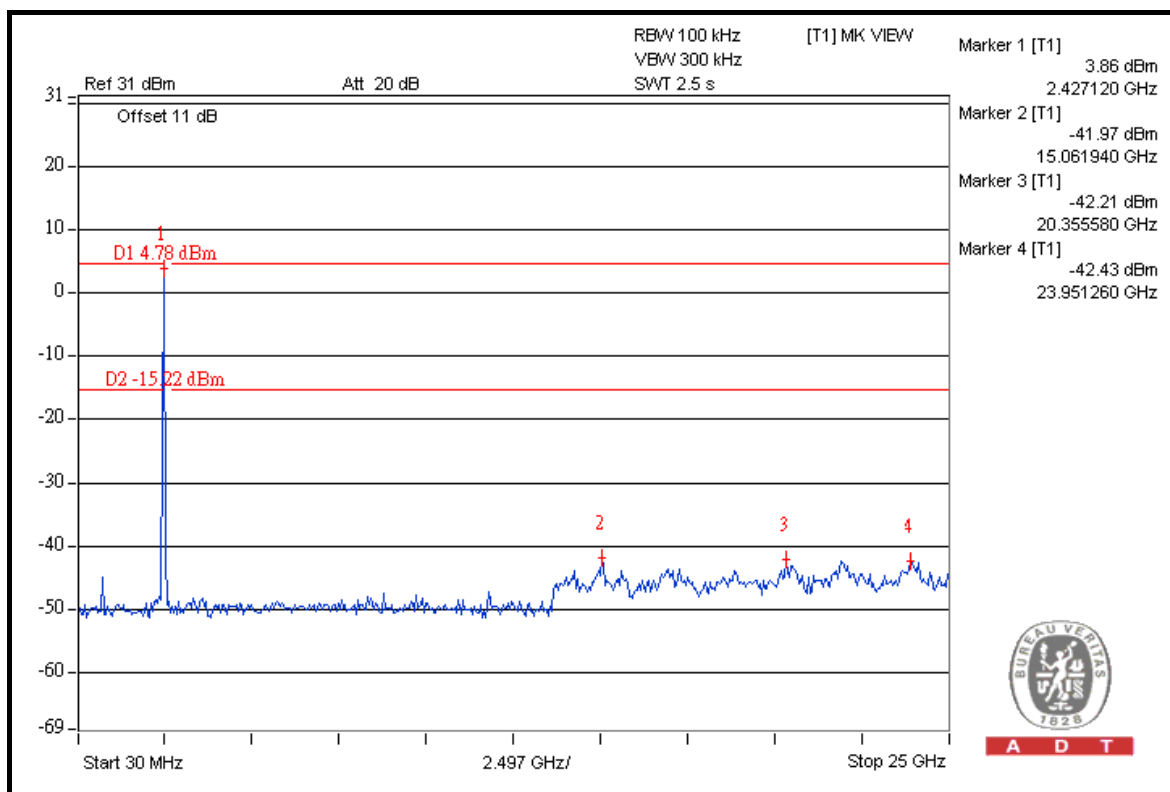
A D T



A D T



A D T



A D T

**A D T****802.11g****TEST MODE A****RESTRICT BAND (2310 ~ 2390 MHz)**

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	101.9	45.83	56.07	74.00
2412.00 (AV)	91.7	51.07	40.63	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	102.5	44.88	57.62	74.00
2462.00 (AV)	92.6	52.37	40.23	54.00

TEST MODE B**RESTRICT BAND (2310 ~ 2390 MHz)**

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	111.0	45.83	65.17	74.00
2412.00 (AV)	100.4	51.07	49.33	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	112.7	44.88	67.82	74.00
2462.00 (AV)	101.4	52.37	49.03	54.00

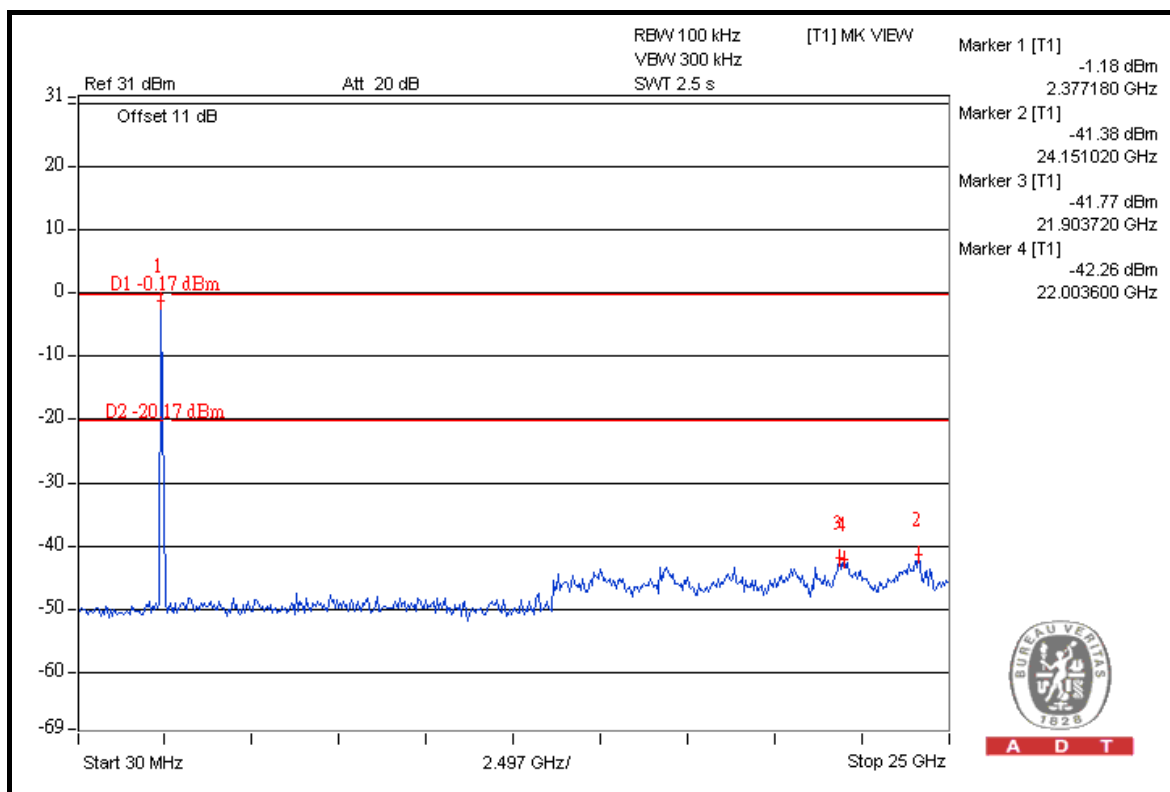
NOTE:

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

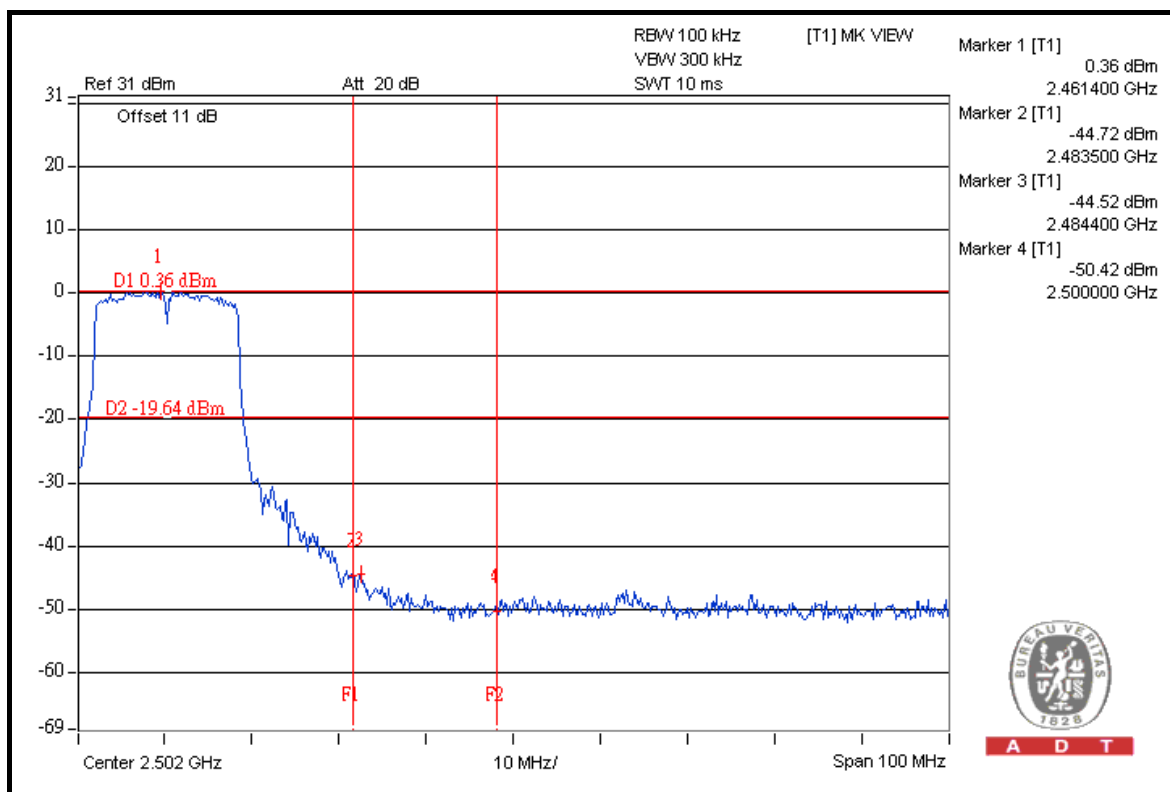




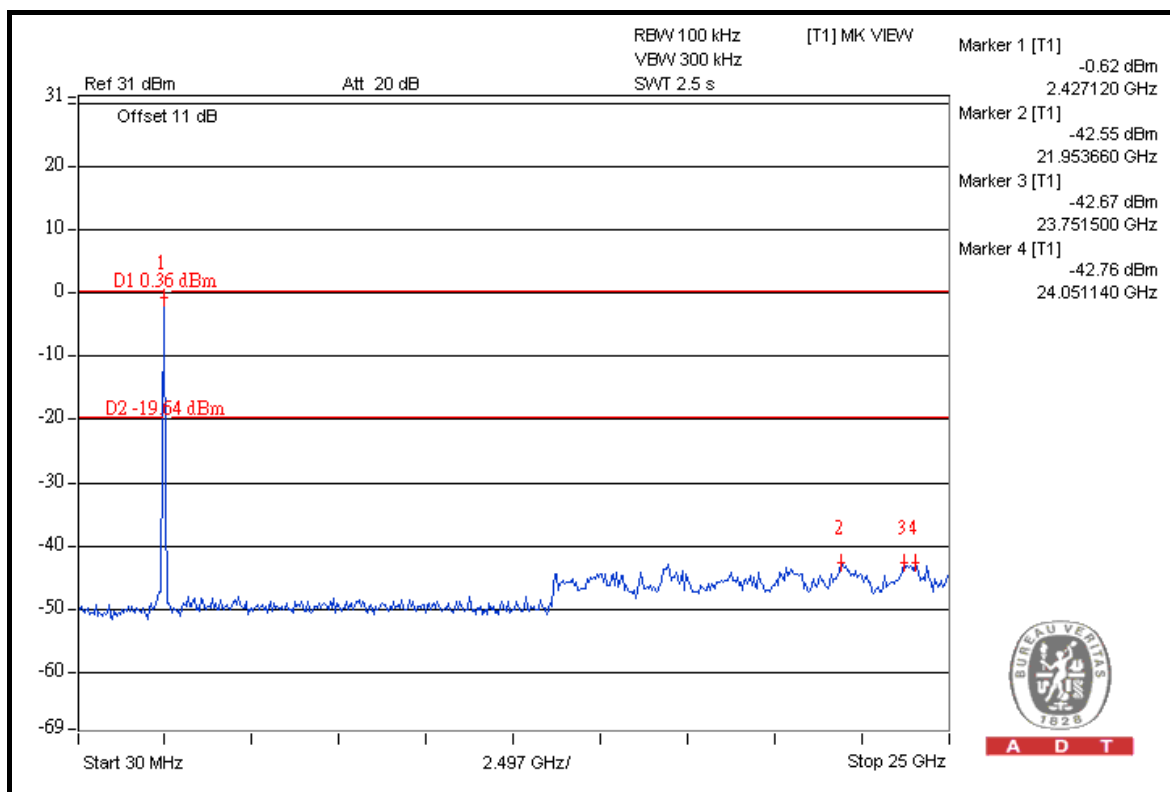
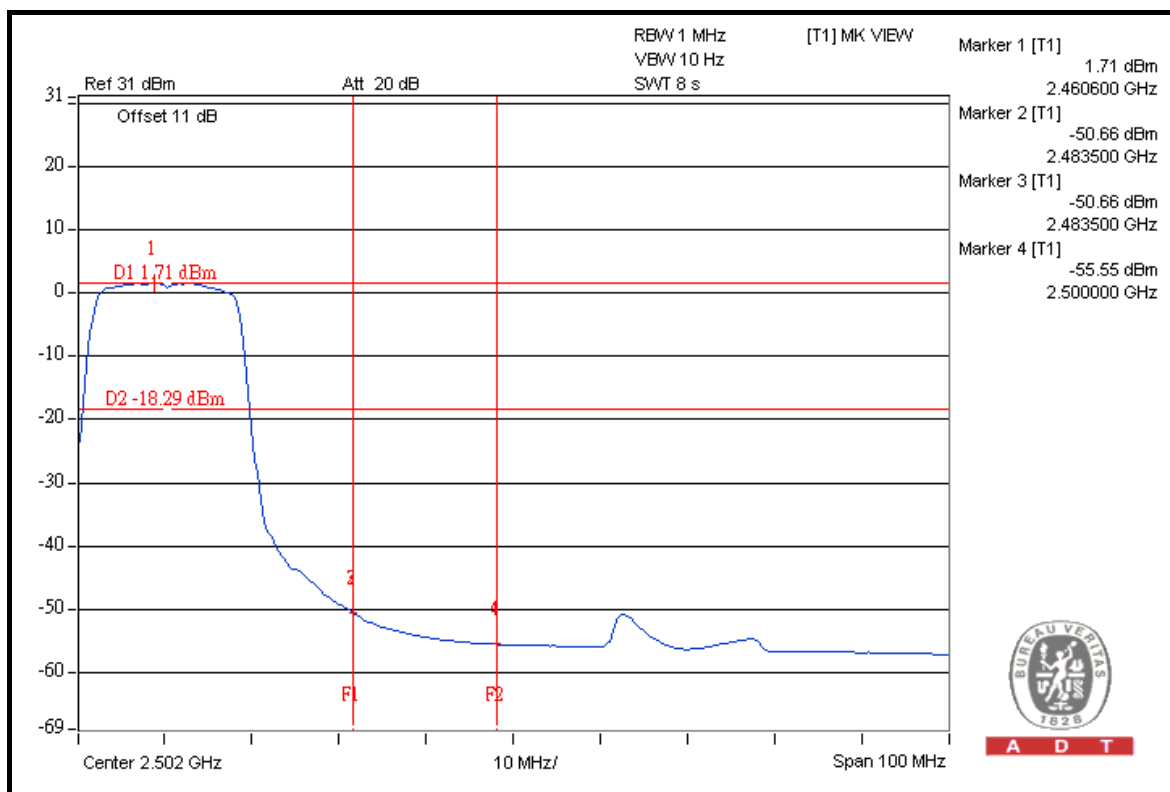
A D T



A D T



A D T



802.11n (20MHz)

TEST MODE A

RESTRICT BAND (2310 ~ 2390 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	101.6	46.59	55.01	74.00
2412.00 (AV)	91.6	50.46	41.14	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	102.7	45.43	57.27	74.00
2462.00 (AV)	92.8	52.31	40.49	54.00

TEST MODE B

RESTRICT BAND (2310 ~ 2390 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	112.4	46.59	65.81	74.00
2412.00 (AV)	101.3	50.46	50.84	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

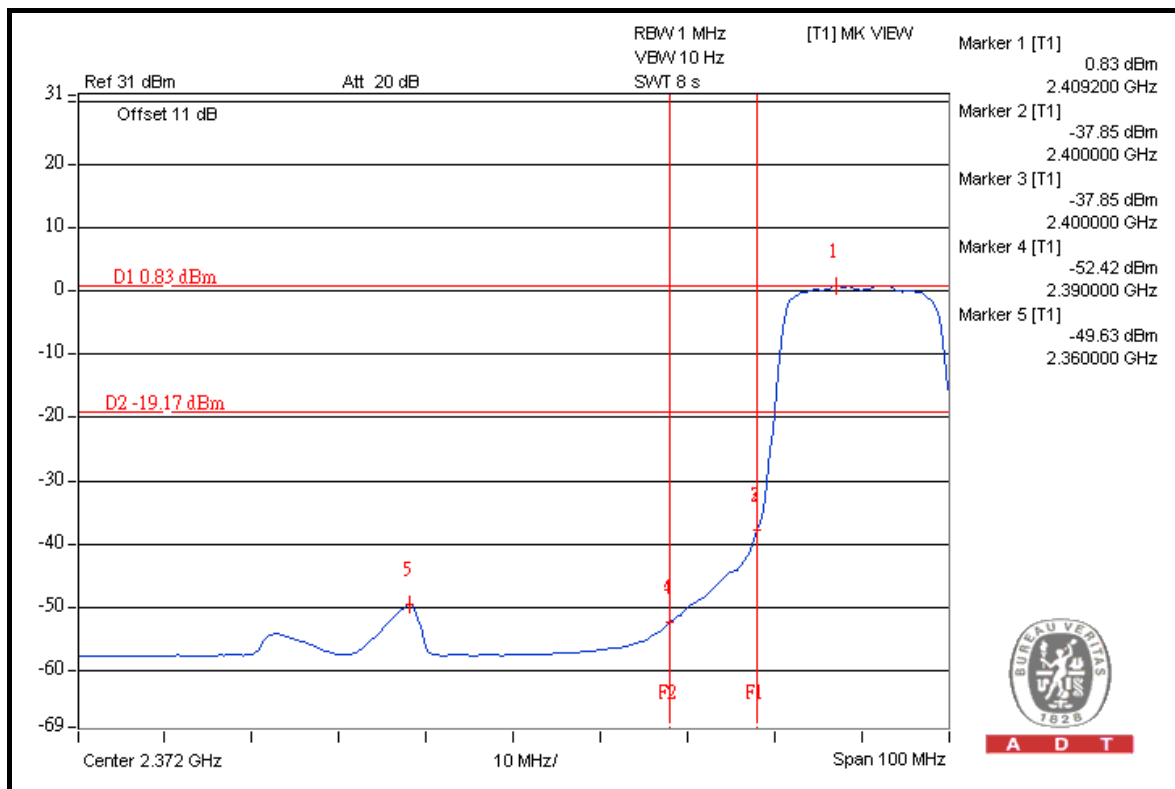
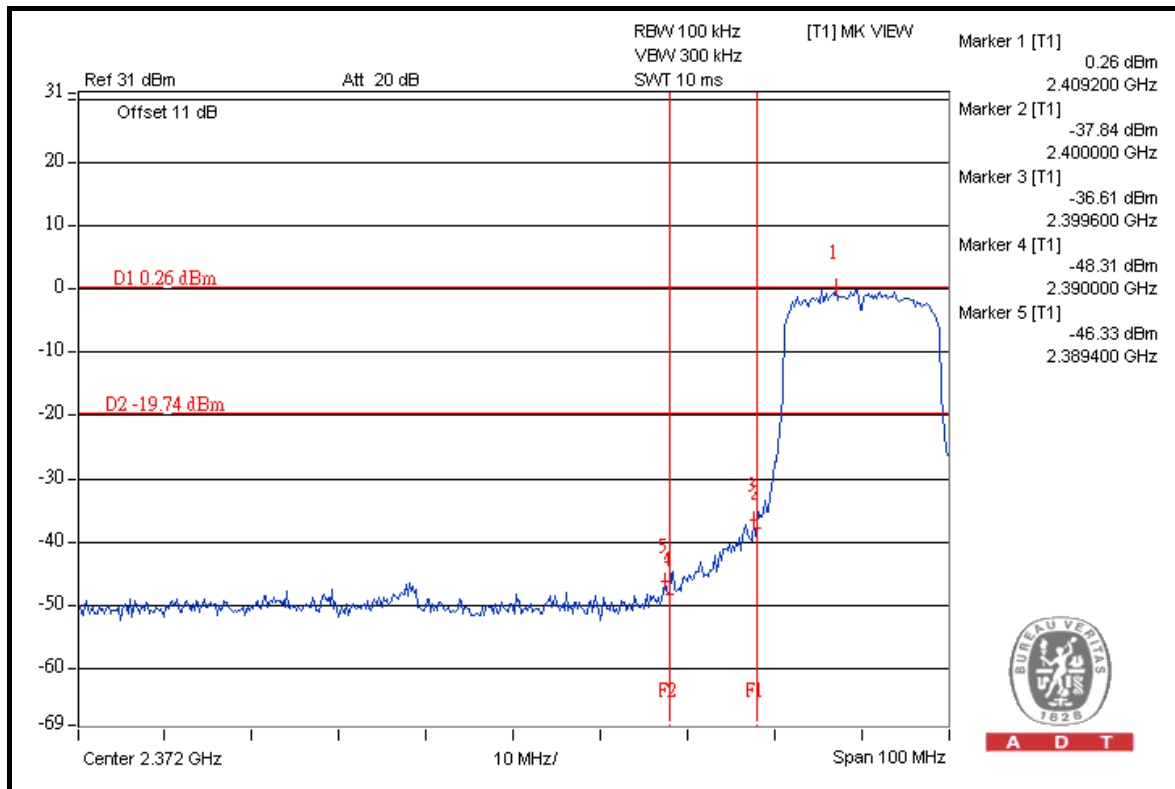
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	112.4	45.43	66.97	74.00
2462.00 (AV)	101.3	52.31	48.99	54.00

NOTE:

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

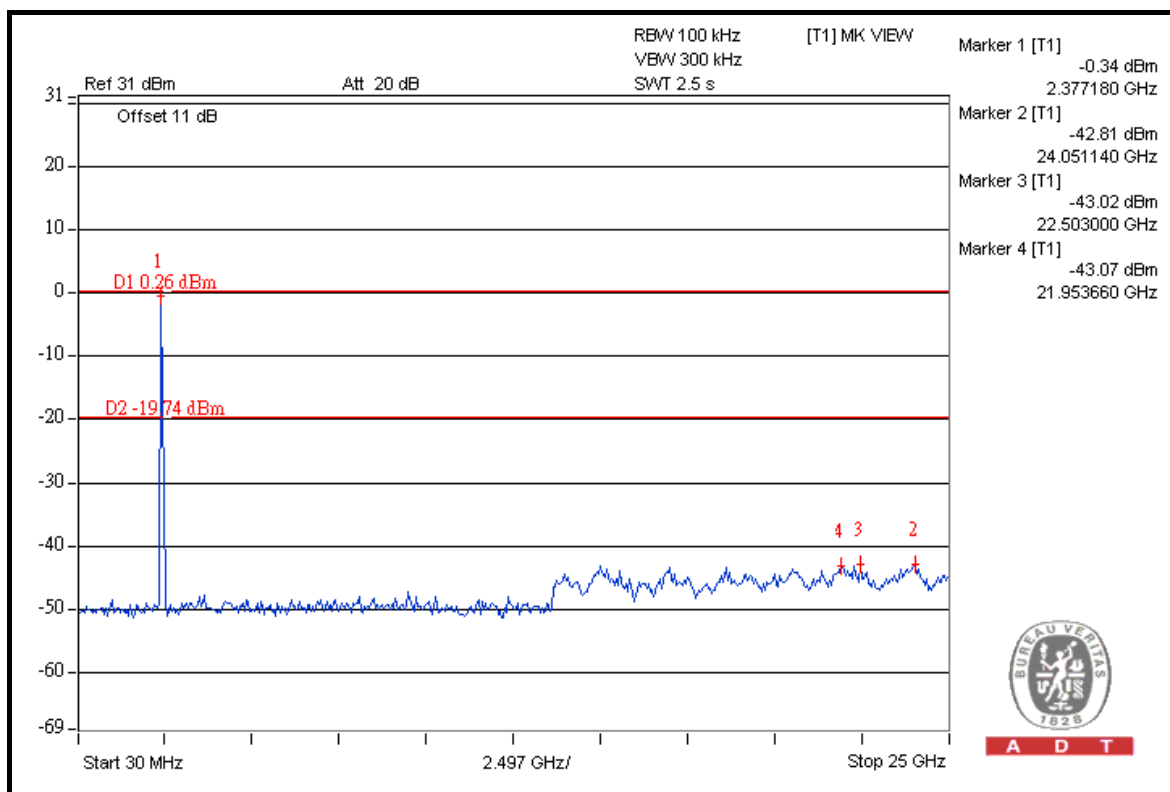


A D T

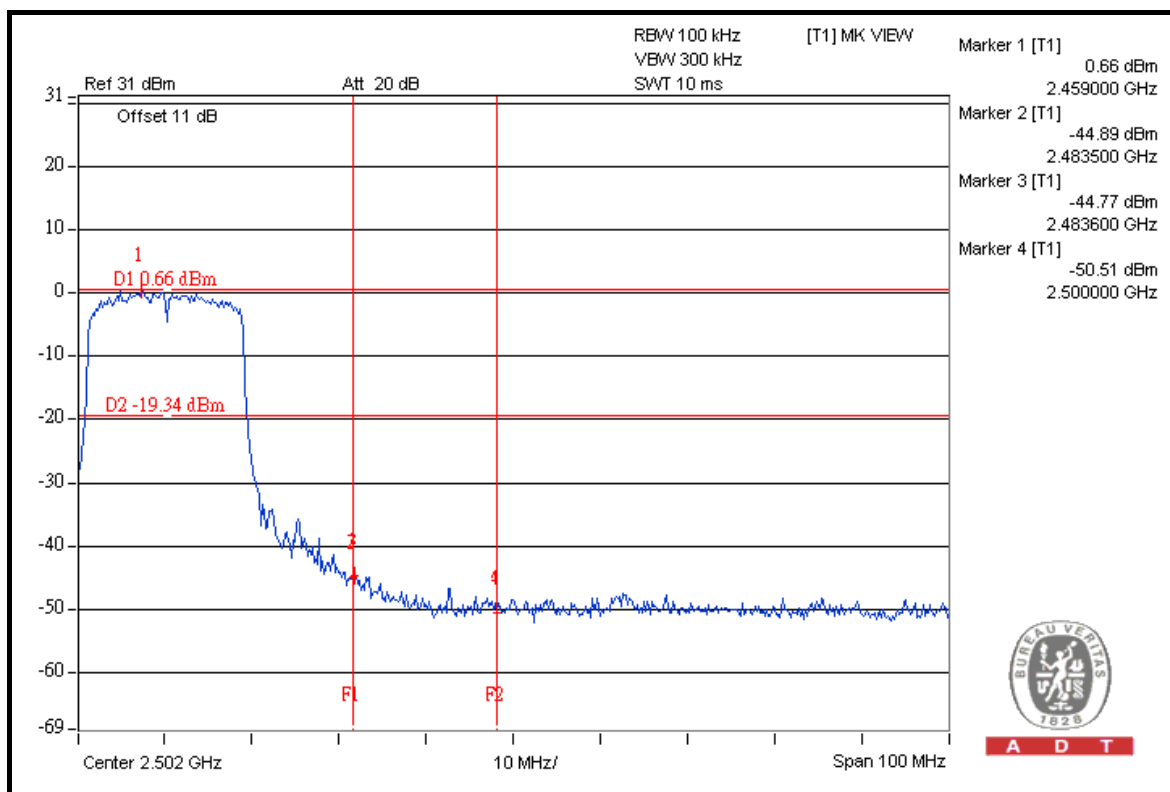




A D T



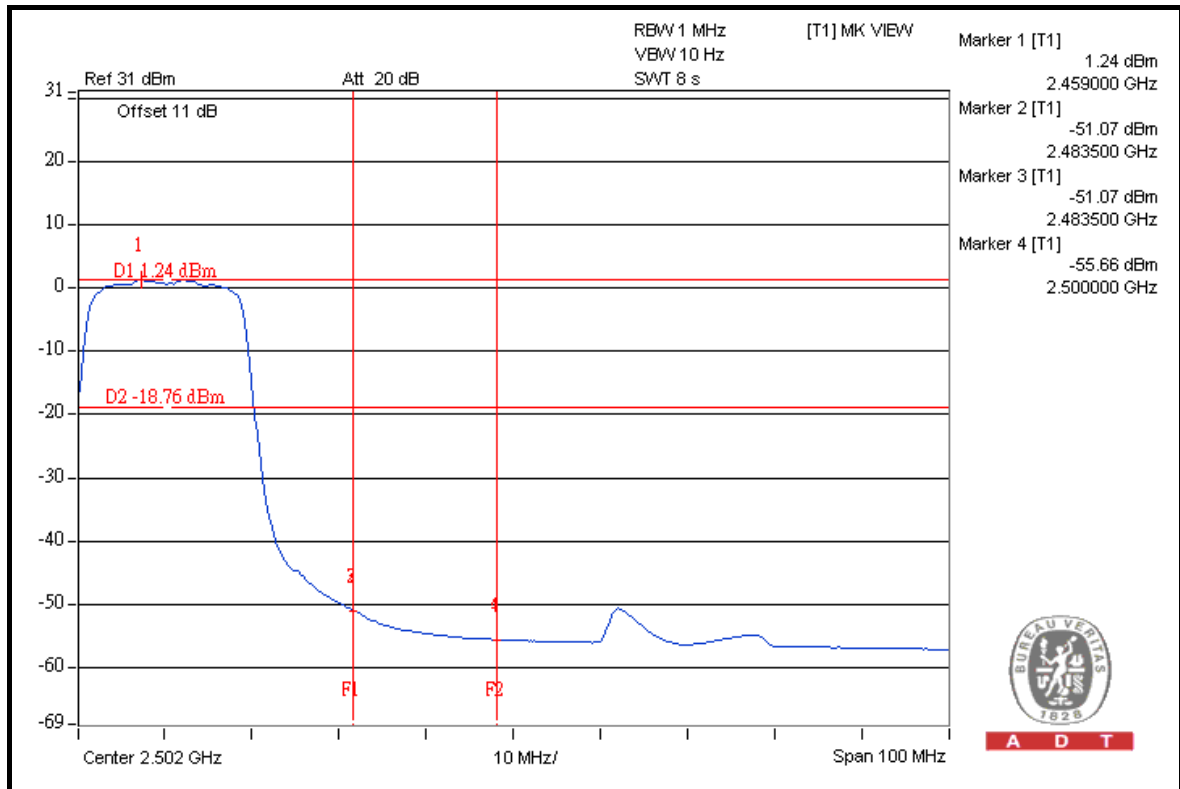
A D T



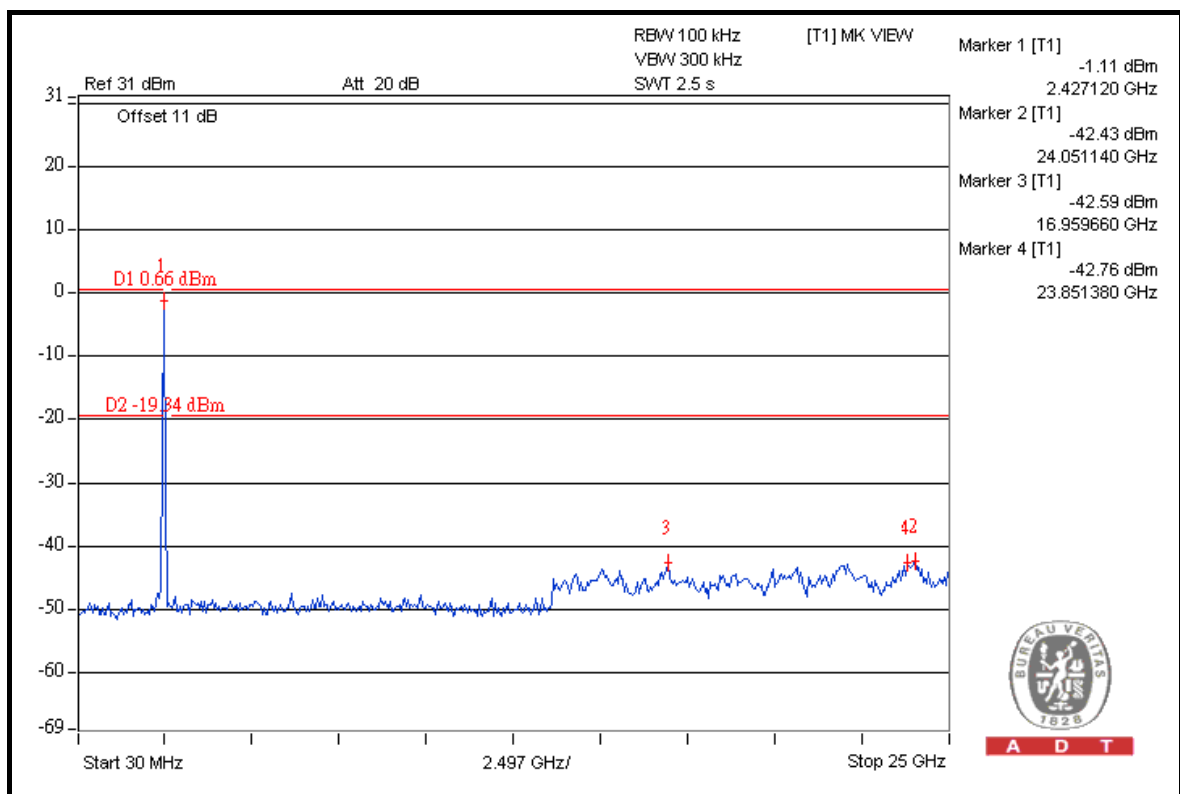
A D T



A D T



A D T



A D T



A D T

802.11n (40MHz)**TEST MODE A****RESTRICT BAND (2310 ~ 2390 MHz)**

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2422.00 (PK)	101.6	41.51	60.09	74.00
2422.00 (AV)	90.8	47.60	43.20	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2452.00 (PK)	101.5	38.11	63.39	74.00
2452.00 (AV)	91.3	45.44	45.86	54.00

TEST MODE B**RESTRICT BAND (2310 ~ 2390 MHz)**

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2422.00 (PK)	108.2	41.51	66.69	74.00
2422.00 (AV)	97.4	47.60	49.80	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

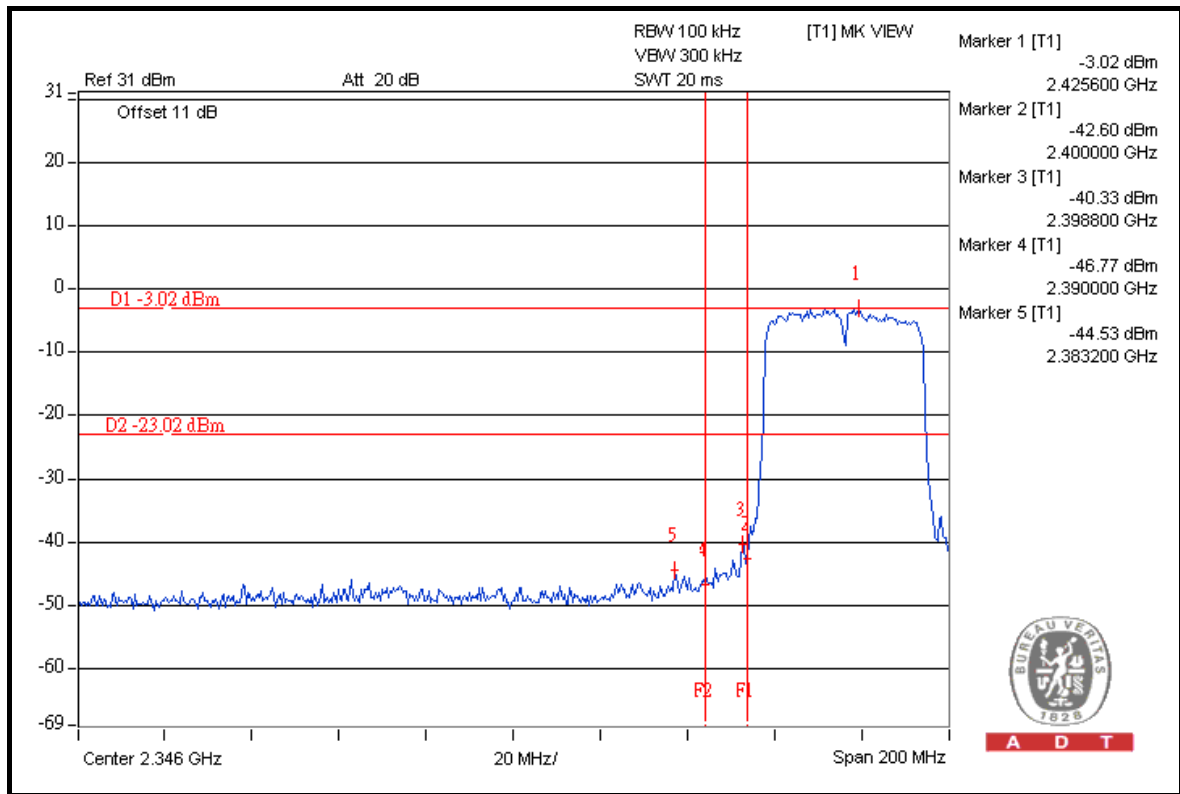
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2452.00 (PK)	108.0	38.11	69.89	74.00
2452.00 (AV)	97.1	45.44	51.66	54.00

NOTE:

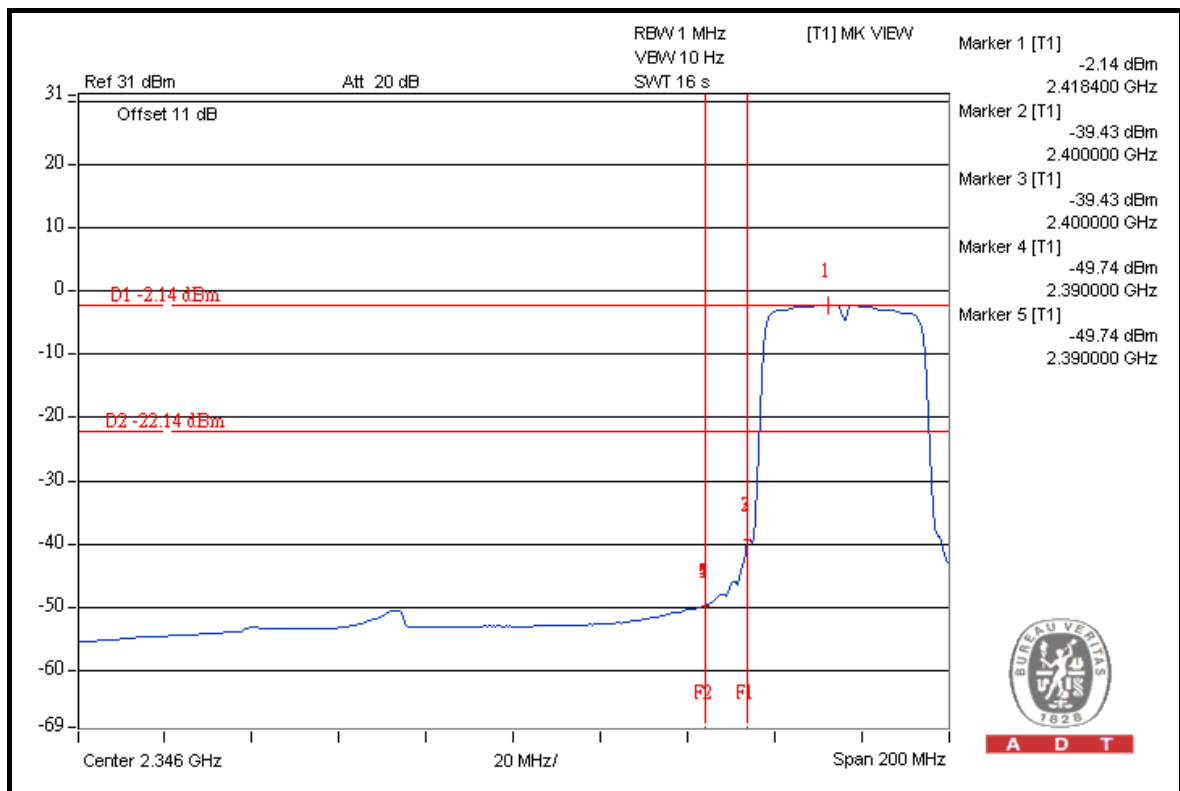
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.



A D T



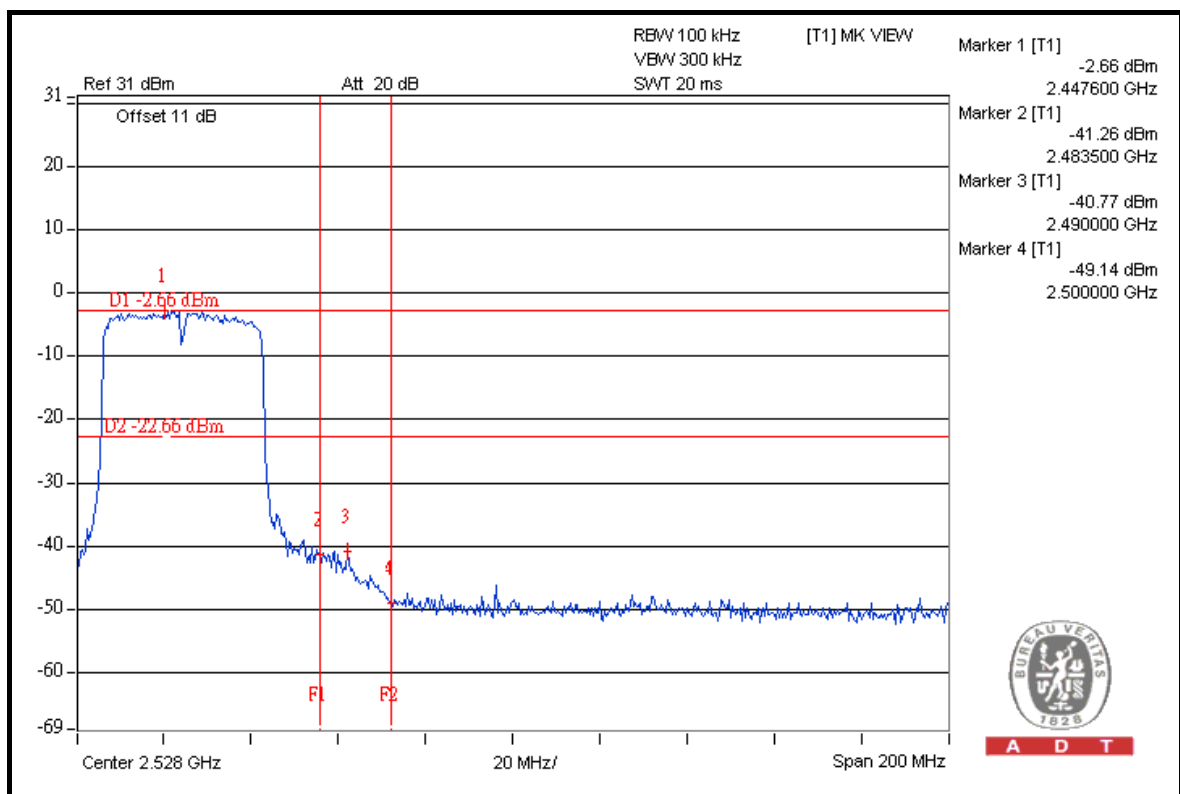
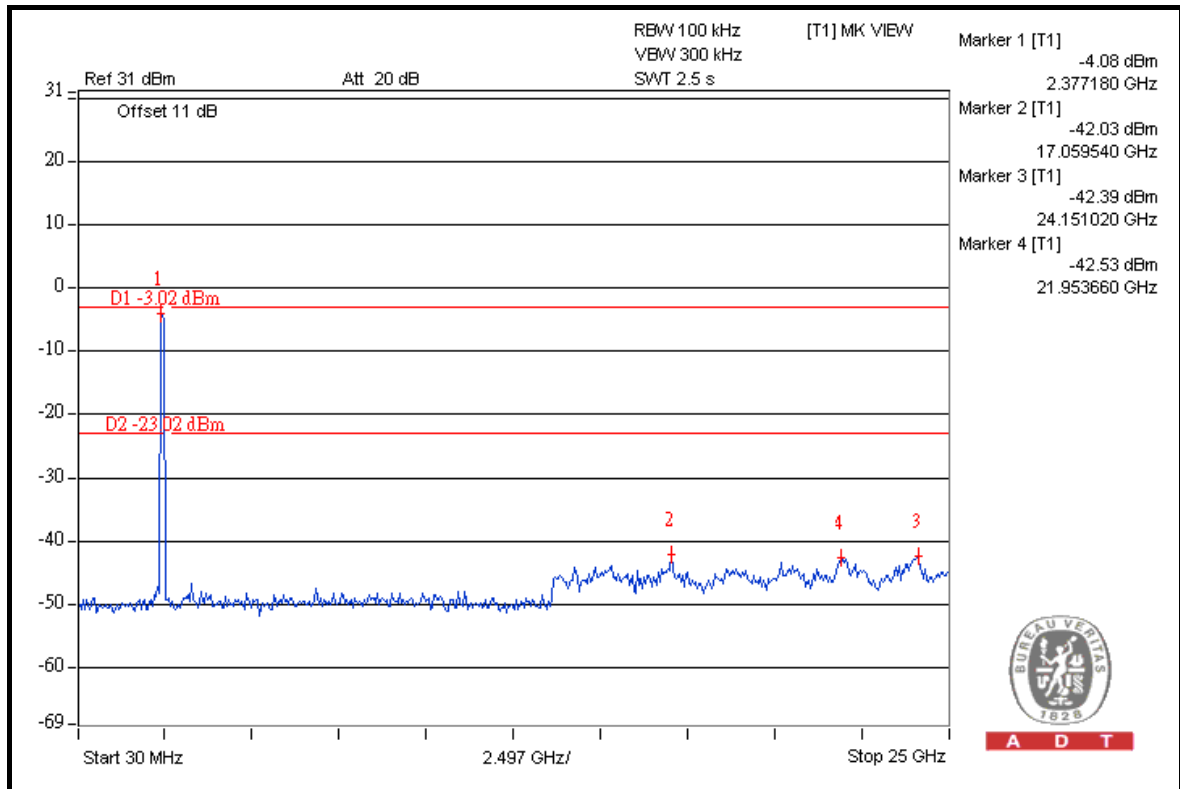
A D T



A D T

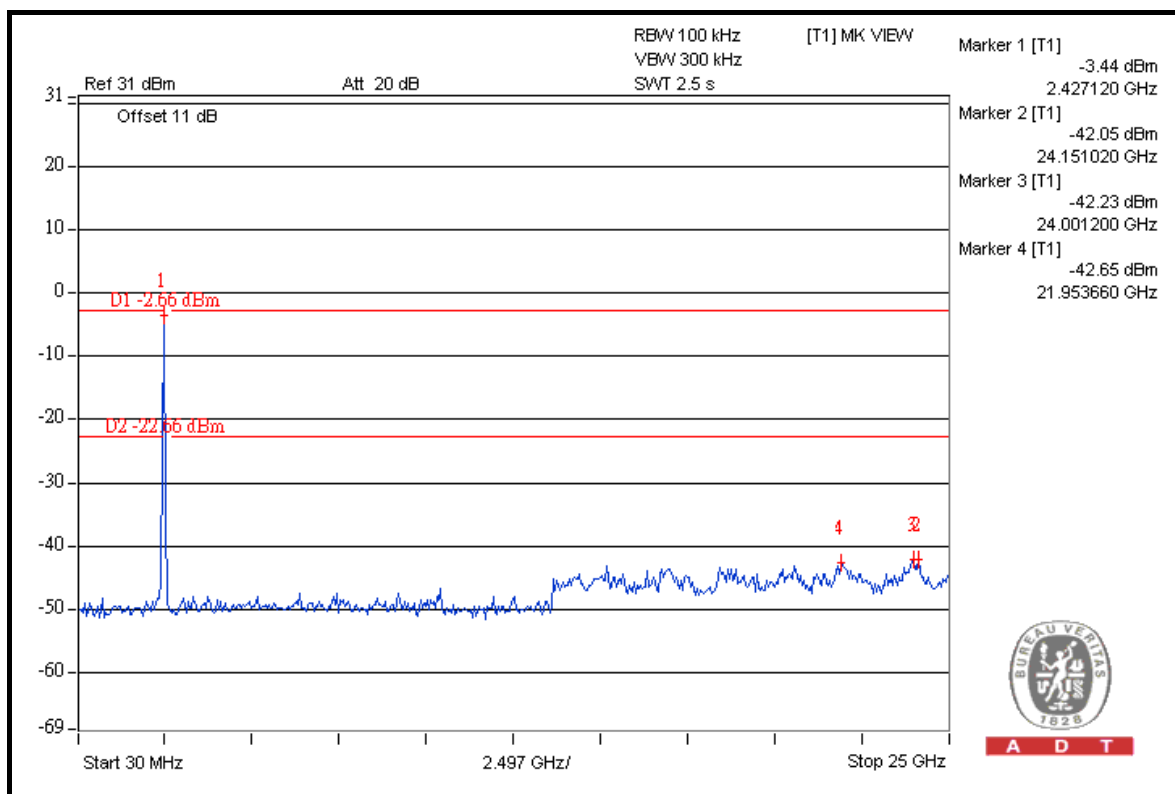
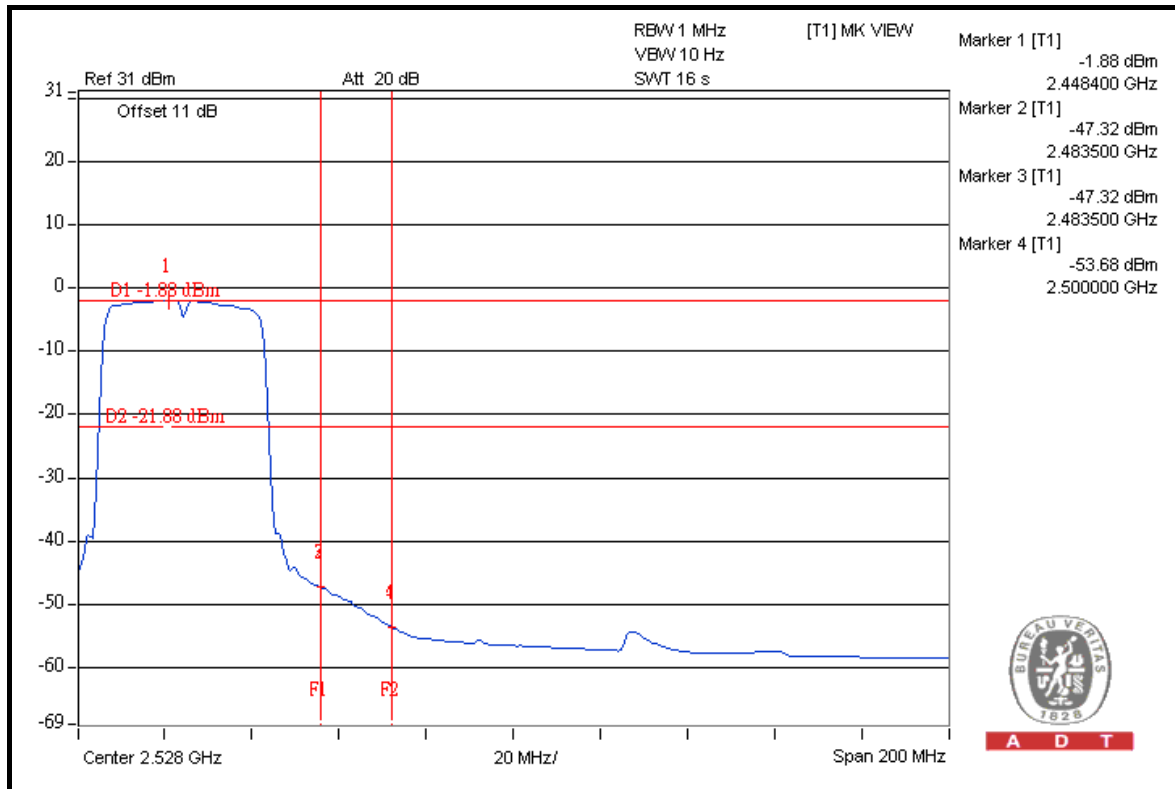


A D T





A D T



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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Dec. 27, 2010	Dec. 26, 2011
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	100115	Aug. 02, 2010	Aug. 01, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 28, 2010	Apr. 27, 2011
HORN Antenna SCHWARZBECK	9120D	9120D-405	Feb. 03, 2010	Feb. 02, 2011
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 27, 2010	Dec. 26, 2011
Preamplifier Agilent	8449B	3008A01961	Nov. 02, 2010	Nov. 01, 2011
Preamplifier Agilent	8447D	2944A10738	Nov. 02, 2010	Nov. 01, 2011
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.

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 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.

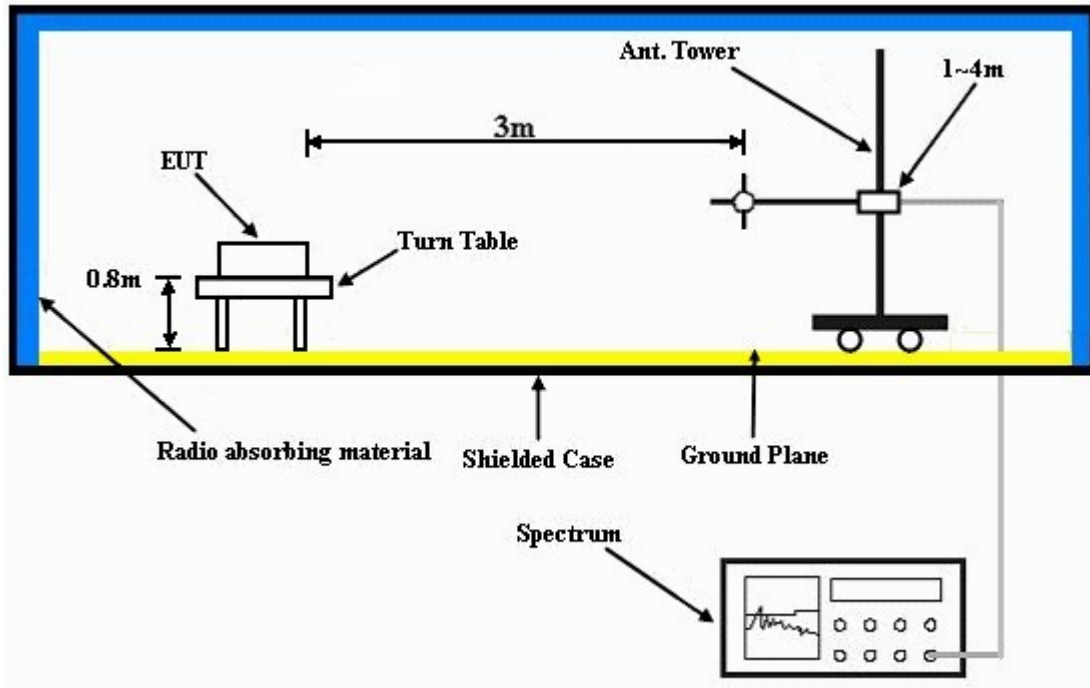
NOTE:

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 1kHz 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.



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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	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

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	69.5 PK	86.2	-16.7	1.20 H	104	30.30	39.20
2	#5725.00	54.5 AV	76.3	-21.8	1.20 H	104	15.30	39.20
3	*5745.00	106.2 PK			1.20 H	104	67.00	39.20
4	*5745.00	96.3 AV			1.20 H	104	57.10	39.20
5	11490.00	59.8 PK	74.0	-14.2	1.00 H	211	9.40	50.40
6	11490.00	48.7 AV	54.0	-5.3	1.00 H	211	-1.70	50.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	68.2 PK	86.4	-18.2	1.17 V	59	29.00	39.20
2	#5725.00	51.5 AV	76.5	-25.0	1.17 V	59	12.30	39.20
3	*5745.00	106.4 PK			1.09 V	53	67.20	39.20
4	*5745.00	96.5 AV			1.09 V	53	57.30	39.20
5	11490.00	57.8 PK	74.0	-16.2	1.00 V	59	7.40	50.40
6	11490.00	46.4 AV	54.0	-7.6	1.00 V	59	-4.00	50.40

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



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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	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

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	106.6 PK			1.19 H	98	67.30	39.30
2	*5785.00	96.7 AV			1.19 H	98	57.40	39.30
3	11570.00	58.5 PK	74.0	-15.5	1.00 H	311	8.30	50.20
4	11570.00	47.9 AV	54.0	-6.1	1.00 H	311	-2.30	50.20
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	*5785.00	106.8 PK			1.10 V	65	67.50	39.30
2	*5785.00	96.9 AV			1.10 V	65	57.60	39.30
3	11570.00	56.5 PK	74.0	-17.5	1.00 V	241	6.30	50.20
4	11570.00	45.5 AV	54.0	-8.5	1.00 V	241	-4.70	50.20

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



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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	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

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	106.8 PK			1.07 H	72	67.40	39.40
2	*5825.00	96.5 AV			1.07 H	72	57.10	39.40
3	#5850.00	59.1 PK	86.8	-27.7	1.07 H	72	19.70	39.40
4	#5850.00	43.4 AV	76.5	-33.1	1.07 H	72	4.00	39.40
5	11650.00	61.2 PK	74.0	-12.8	1.00 H	145	11.20	50.00
6	11650.00	47.7 AV	54.0	-6.3	1.00 H	145	-2.30	50.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	107.1 PK			1.00 V	44	67.70	39.40
2	*5825.00	96.7 AV			1.00 V	44	57.30	39.40
3	#5850.00	54.0 PK	87.1	-33.1	1.00 V	44	14.60	39.40
4	#5850.00	40.5 AV	76.7	-36.2	1.00 V	44	1.10	39.40
5	11650.00	58.9 PK	74.0	-15.1	1.00 V	212	8.90	50.00
6	11650.00	46.4 AV	54.0	-7.6	1.00 V	212	-3.60	50.00

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



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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	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	57.8 PK	81.9	-24.1	1.58 H	91	18.60	39.20
2	#5725.00	43.6 AV	71.5	-27.9	1.58 H	91	4.40	39.20
3	*5745.00	101.9 PK			1.58 H	91	62.70	39.20
4	*5745.00	91.5 AV			1.58 H	91	52.30	39.20
5	11490.00	59.4 PK	74.0	-14.6	1.20 H	174	9.00	50.40
6	11490.00	47.7 AV	54.0	-6.3	1.20 H	174	-2.70	50.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	65.1 PK	90.6	-25.5	1.00 V	191	25.90	39.20
2	#5725.00	49.1 AV	80.5	-31.4	1.00 V	191	9.90	39.20
3	*5745.00	110.6 PK			1.00 V	191	71.40	39.20
4	*5745.00	100.5 AV			1.00 V	191	61.30	39.20
5	11490.00	61.8 PK	74.0	-12.2	1.10 V	145	11.40	50.40
6	11490.00	48.9 AV	54.0	-5.1	1.10 V	145	-1.50	50.40

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



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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	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	101.2 PK			1.53 H	102	61.90	39.30
2	*5785.00	91.3 AV			1.53 H	102	52.00	39.30
3	11570.00	56.1 PK	74.0	-17.9	1.00 H	249	5.90	50.20
4	11570.00	43.5 AV	54.0	-10.5	1.00 H	249	-6.70	50.20
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	*5785.00	110.2 PK			1.00 V	198	70.90	39.30
2	*5785.00	100.3 AV			1.00 V	198	61.00	39.30
3	11570.00	61.2 PK	74.0	-12.8	1.00 V	151	11.00	50.20
4	11570.00	48.5 AV	54.0	-5.5	1.00 V	151	-1.70	50.20

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



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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	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	100.2 PK			1.34 H	192	60.80	39.40
2	*5825.00	89.6 AV			1.34 H	192	50.20	39.40
3	#5850.00	51.1 PK	80.2	-29.1	1.34 H	192	11.70	39.40
4	#5850.00	43.9 AV	69.6	-25.7	1.34 H	192	4.50	39.40
5	11650.00	57.0 PK	74.0	-17.0	1.00 H	225	7.00	50.00
6	11650.00	44.2 AV	54.0	-9.8	1.00 H	225	-5.80	50.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	108.9 PK			1.54 V	162	69.50	39.40
2	*5825.00	98.6 AV			1.54 V	162	59.20	39.40
3	#5850.00	55.2 PK	88.9	-33.7	1.54 V	162	15.80	39.40
4	#5850.00	47.4 AV	78.6	-31.2	1.54 V	162	8.00	39.40
5	11650.00	61.0 PK	74.0	-13.0	1.00 V	327	11.00	50.00
6	11650.00	47.7 AV	54.0	-6.3	1.00 V	327	-2.30	50.00

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



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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	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

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	74.4 PK	91.3	-16.9	1.05 H	272	35.20	39.20
2	#5725.00	55.0 AV	80.4	-25.4	1.05 H	272	15.80	39.20
3	*5745.00	111.3 PK			1.05 H	272	72.10	39.20
4	*5745.00	100.4 AV			1.05 H	272	61.20	39.20
5	11490.00	60.9 PK	74.0	-13.1	1.00 H	225	10.50	50.40
6	11490.00	48.6 AV	54.0	-5.4	1.00 H	225	-1.80	50.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	71.8 PK	89.4	-17.6	1.19 V	236	32.60	39.20
2	#5725.00	52.4 AV	78.5	-26.1	1.19 V	236	13.20	39.20
3	*5745.00	109.4 PK			1.19 V	236	70.20	39.20
4	*5745.00	98.5 AV			1.19 V	236	59.30	39.20
5	11490.00	59.8 PK	74.0	-14.2	1.00 V	210	9.40	50.40
6	11490.00	47.6 AV	54.0	-6.4	1.00 V	210	-2.80	50.40

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



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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	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

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	112.2 PK			1.04 H	274	72.90	39.30
2	*5785.00	101.4 AV			1.04 H	274	62.10	39.30
3	11570.00	60.4 PK	74.0	-13.6	1.00 H	133	10.20	50.20
4	11570.00	47.5 AV	54.0	-6.5	1.00 H	133	-2.70	50.20
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	*5785.00	110.7 PK			1.00 V	216	71.40	39.30
2	*5785.00	100.0 AV			1.00 V	216	60.70	39.30
3	11570.00	59.1 PK	74.0	-14.9	1.20 V	135	8.90	50.20
4	11570.00	46.2 AV	54.0	-7.8	1.20 V	135	-4.00	50.20

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



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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	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

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	110.3 PK			1.10 H	297	70.90	39.40
2	*5825.00	99.3 AV			1.10 H	297	59.90	39.40
3	#5850.00	69.2 PK	90.3	-21.1	1.10 H	297	29.80	39.40
4	#5850.00	45.7 AV	79.3	-33.6	1.10 H	297	6.30	39.40
5	11650.00	61.3 PK	74.0	-12.7	1.00 H	242	11.30	50.00
6	11650.00	47.9 AV	54.0	-6.1	1.00 H	242	-2.10	50.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	107.8 PK			1.10 V	213	68.40	39.40
2	*5825.00	96.9 AV			1.10 V	213	57.50	39.40
3	#5850.00	55.7 PK	87.8	-32.1	1.10 V	213	16.30	39.40
4	#5850.00	41.3 AV	76.9	-35.6	1.10 V	213	1.90	39.40
5	11650.00	58.0 PK	74.0	-16.0	1.00 V	278	8.00	50.00
6	11650.00	46.6 AV	54.0	-7.4	1.00 V	278	-3.40	50.00

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



A D T

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	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	64.9 PK	84.1	-19.2	1.00 H	192	25.70	39.20
2	#5725.00	52.4 AV	72.6	-20.2	1.00 H	192	13.20	39.20
3	*5745.00	104.1 PK			1.00 H	192	64.90	39.20
4	*5745.00	92.6 AV			1.00 H	192	53.40	39.20
5	11490.00	60.5 PK	74.0	-13.5	1.00 H	0	10.10	50.40
6	11490.00	47.7 AV	54.0	-6.3	1.00 H	0	-2.70	50.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	70.0 PK	90.9	-20.9	1.41 V	321	30.80	39.20
2	#5725.00	58.1 AV	79.1	-21.0	1.41 V	321	18.90	39.20
3	*5745.00	110.9 PK			1.41 V	327	71.70	39.20
4	*5745.00	99.1 AV			1.41 V	327	59.90	39.20
5	11490.00	60.6 PK	74.0	-13.4	1.00 V	0	10.20	50.40
6	11490.00	47.8 AV	54.0	-6.2	1.00 V	0	-2.60	50.40

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



A D T

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	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	103.8 PK			1.00 H	189	64.50	39.30
2	*5785.00	91.8 AV			1.00 H	189	52.50	39.30
3	11570.00	60.4 PK	74.0	-13.6	1.00 H	360	10.20	50.20
4	11570.00	47.5 AV	54.0	-6.5	1.00 H	360	-2.70	50.20
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	*5785.00	110.4 PK			1.00 V	29	71.10	39.30
2	*5785.00	98.9 AV			1.00 V	29	59.60	39.30
3	11570.00	60.4 PK	74.0	-13.6	1.00 V	360	10.20	50.20
4	11570.00	47.9 AV	54.0	-6.1	1.00 V	360	-2.30	50.20

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



A D T

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	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	103.2 PK			1.00 H	188	63.80	39.40
2	*5825.00	91.5 AV			1.00 H	188	52.10	39.40
3	#5850.00	64.3 PK	83.2	-18.9	1.00 H	188	24.90	39.40
4	#5850.00	52.7 AV	71.5	-18.8	1.00 H	188	13.30	39.40
5	11650.00	60.1 PK	74.0	-13.9	1.00 H	0	10.10	50.00
6	11650.00	47.3 AV	54.0	-6.7	1.00 H	0	-2.70	50.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	110.0 PK			1.00 V	31	70.60	39.40
2	*5825.00	98.7 AV			1.00 V	31	59.30	39.40
3	#5850.00	63.7 PK	90.0	-26.3	1.00 V	360	24.30	39.40
4	#5850.00	53.3 AV	78.7	-25.4	1.00 V	360	13.90	39.40
5	11650.00	60.2 PK	74.0	-13.8	1.00 V	0	10.20	50.00
6	11650.00	47.5 AV	54.0	-6.5	1.00 V	0	-2.50	50.00

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
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	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

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	73.2 PK	88.1	-14.9	1.04 H	271	34.00	39.20
2	#5725.00	56.8 AV	77.6	-20.8	1.04 H	271	17.60	39.20
3	*5755.00	108.1 PK			1.04 H	271	68.90	39.20
4	*5755.00	97.6 AV			1.04 H	271	58.40	39.20
5	11510.00	60.8 PK	74.0	-13.2	1.00 H	298	10.40	50.40
6	11510.00	48.3 AV	54.0	-5.7	1.00 H	298	-2.10	50.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	69.5 PK	86.6	-17.1	1.09 V	236	30.30	39.20
2	#5725.00	54.3 AV	76.0	-21.7	1.09 V	236	15.10	39.20
3	*5755.00	106.6 PK			1.09 V	236	67.40	39.20
4	*5755.00	96.0 AV			1.09 V	236	56.80	39.20
5	11510.00	59.3 PK	74.0	-14.7	1.00 V	221	8.90	50.40
6	11510.00	46.8 AV	54.0	-7.2	1.00 V	221	-3.60	50.40

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



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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	28deg. C, 45%RH 1008 hPa	TEST MODE	A
TESTED BY	David Huang		

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	107.7 PK			1.04 H	264	68.40	39.30
2	*5795.00	97.4 AV			1.04 H	264	58.10	39.30
3	#5850.00	78.7 PK	87.7	-9.0	1.04 H	264	39.30	39.40
4	#5850.00	59.4 AV	77.4	-18.0	1.04 H	264	20.00	39.40
5	11590.00	59.0 PK	74.0	-15.0	1.00 H	289	8.90	50.10
6	11590.00	46.0 AV	54.0	-8.0	1.00 H	289	-4.10	50.10
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	106.2 PK			1.04 V	264	66.90	39.30
2	*5795.00	93.1 AV			1.04 V	264	53.80	39.30
3	#5850.00	75.4 PK	86.2	-10.8	1.04 V	264	36.00	39.40
4	#5850.00	57.3 AV	73.1	-15.8	1.04 V	264	17.90	39.40
5	11590.00	59.0 PK	74.0	-15.0	1.00 V	289	8.90	50.10
6	11590.00	46.0 AV	54.0	-8.0	1.00 V	289	-4.10	50.10

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.

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	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	64.1 PK	80.8	-16.7	1.00 H	188	24.90	39.20
2	#5725.00	53.0 AV	69.1	-16.1	1.00 H	188	13.80	39.20
3	*5755.00	100.8 PK			1.00 H	188	61.60	39.20
4	*5755.00	89.1 AV			1.00 H	188	49.90	39.20
5	11510.00	60.4 PK	74.0	-13.6	1.00 H	360	10.00	50.40
6	11510.00	47.7 AV	54.0	-6.3	1.00 H	360	-2.70	50.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	62.5 PK	87.8	-25.3	1.00 V	201	23.30	39.20
2	#5725.00	54.1 AV	76.2	-22.1	1.00 V	201	14.90	39.20
3	*5755.00	107.8 PK			1.00 V	201	68.60	39.20
4	*5755.00	96.2 AV			1.00 V	201	57.00	39.20
5	11510.00	60.6 PK	74.0	-13.4	1.00 V	360	10.20	50.40
6	11510.00	47.8 AV	54.0	-6.2	1.00 V	360	-2.60	50.40

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



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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	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	David Huang		

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	101.0 PK			1.00 H	191	61.70	39.30
2	*5795.00	90.1 AV			1.00 H	191	50.80	39.30
3	#5850.00	61.3 PK	81.0	-19.7	1.00 H	190	21.90	39.40
4	#5850.00	52.0 AV	70.1	-18.1	1.00 H	190	12.60	39.40
5	11590.00	60.2 PK	74.0	-13.8	1.00 H	0	10.10	50.10
6	11590.00	47.4 AV	54.0	-6.6	1.00 H	0	-2.70	50.10
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	108.2 PK			1.00 V	199	68.90	39.30
2	*5795.00	96.5 AV			1.00 V	199	57.20	39.30
3	#5850.00	63.0 PK	88.2	-25.2	1.00 V	199	23.60	39.40
4	#5850.00	52.4 AV	76.5	-24.1	1.00 V	199	13.00	39.40
5	11590.00	60.3 PK	74.0	-13.7	1.00 V	360	10.20	50.10
6	11590.00	47.6 AV	54.0	-6.4	1.00 V	360	-2.50	50.10

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.



A D T

BELOW 1GHz WORST-CASE DATA : 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH 1008 hPa	TEST MODE	A
TESTED BY	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	193.22	34.5 QP	43.5	-9.0	1.25 H	94	23.00	11.50
2	206.83	39.7 QP	43.5	-3.8	1.25 H	88	28.10	11.60
3	239.88	40.2 QP	46.0	-5.8	1.25 H	166	26.30	13.90
4	339.04	36.9 QP	46.0	-9.1	1.00 H	223	20.50	16.40
5	360.43	39.4 QP	46.0	-6.6	1.00 H	142	22.00	17.40
6	440.14	36.9 QP	46.0	-9.1	2.00 H	67	16.70	20.20
7	795.95	41.9 QP	46.0	-4.1	1.00 H	358	14.10	27.80
8	949.55	39.8 QP	46.0	-6.2	1.25 H	67	8.80	31.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.84	36.7 QP	40.0	-3.3	1.00 V	10	23.30	13.40
2	212.66	32.5 QP	43.5	-11.0	1.00 V	199	20.50	12.00
3	399.31	34.3 QP	46.0	-11.7	2.00 V	142	15.20	19.10
4	685.13	34.5 QP	46.0	-11.5	1.50 V	163	8.20	26.30
5	797.89	38.4 QP	46.0	-7.6	1.25 V	1	10.50	27.90
6	920.38	36.6 QP	46.0	-9.4	1.50 V	1	5.90	30.70
7	947.60	37.6 QP	46.0	-8.4	1.00 V	127	6.70	30.90

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH 1008 hPa	TEST MODE	B
TESTED BY	Brad Wu		

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	162.11	35.8 QP	43.5	-7.7	2.00 H	34	21.00	14.80
2	239.88	32.2 QP	46.0	-13.8	1.50 H	190	19.00	13.20
3	360.43	38.1 QP	46.0	-7.9	1.00 H	175	20.80	17.30
4	599.58	28.1 QP	46.0	-17.9	2.00 H	304	4.40	23.70
5	663.74	38.0 QP	46.0	-8.0	1.00 H	43	13.40	24.60
6	840.67	42.0 QP	46.0	-4.0	1.50 H	262	14.00	28.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	59.06	27.7 QP	40.0	-12.3	1.50 V	124	13.40	14.30
2	144.61	31.2 QP	43.5	-12.3	1.00 V	10	16.40	14.80
3	360.43	29.6 QP	46.0	-16.4	1.00 V	10	12.30	17.30
4	665.68	35.8 QP	46.0	-10.2	1.50 V	352	11.20	24.60
5	825.11	41.2 QP	46.0	-4.8	1.50 V	157	13.40	27.80
6	961.21	33.5 QP	54.0	-20.5	1.00 V	112	4.10	29.40

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

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 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100291	Nov. 30, 2010	Nov. 29, 2011
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 30, 2010	Dec. 29, 2011
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
V-LISN SCHWARZBECK	NNBL 8226-2	8226-142	Jul. 12, 2010	Jul. 11, 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

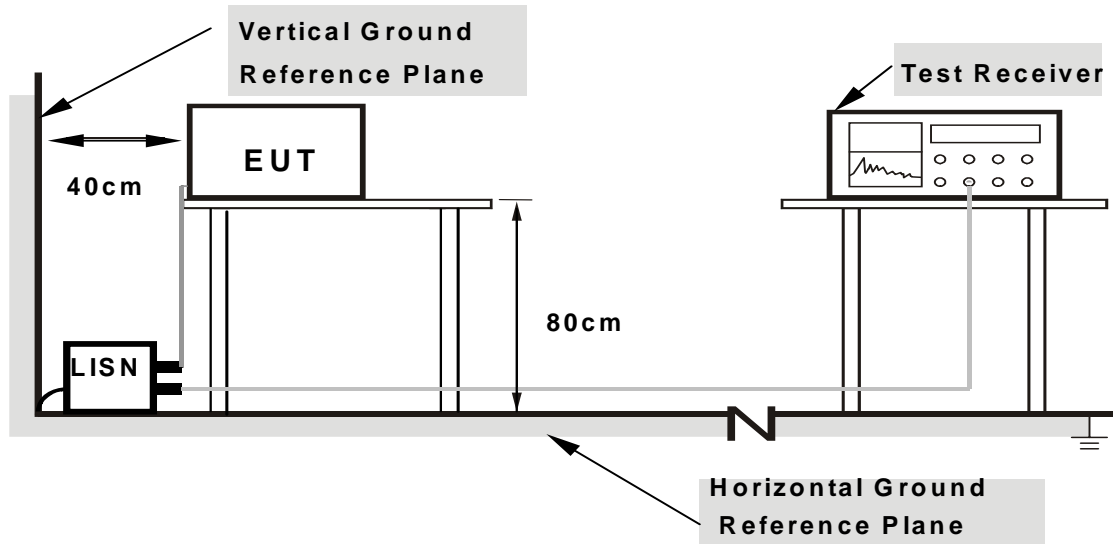
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

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.

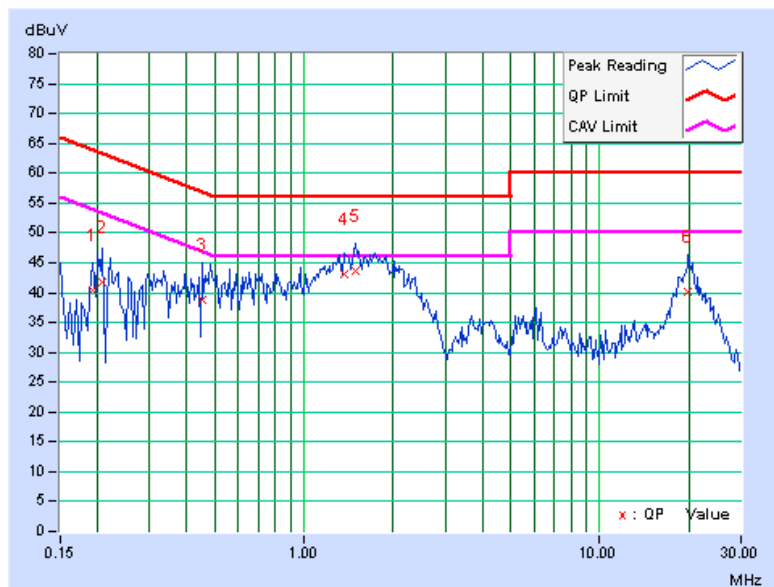
5.2.7 TEST RESULTS

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	0.193	0.11	40.23	-	40.34	-	63.91	53.91	-23.57	-
2	0.209	0.11	41.65	-	41.76	-	63.26	53.26	-21.50	-
3	0.455	0.13	38.76	-	38.89	-	56.79	46.79	-17.89	-
4	1.367	0.21	42.94	-	43.15	-	56.00	46.00	-12.85	-
5	1.484	0.21	43.42	-	43.63	-	56.00	46.00	-12.37	-
6	19.918	1.49	38.53	-	40.02	-	60.00	50.00	-19.98	-

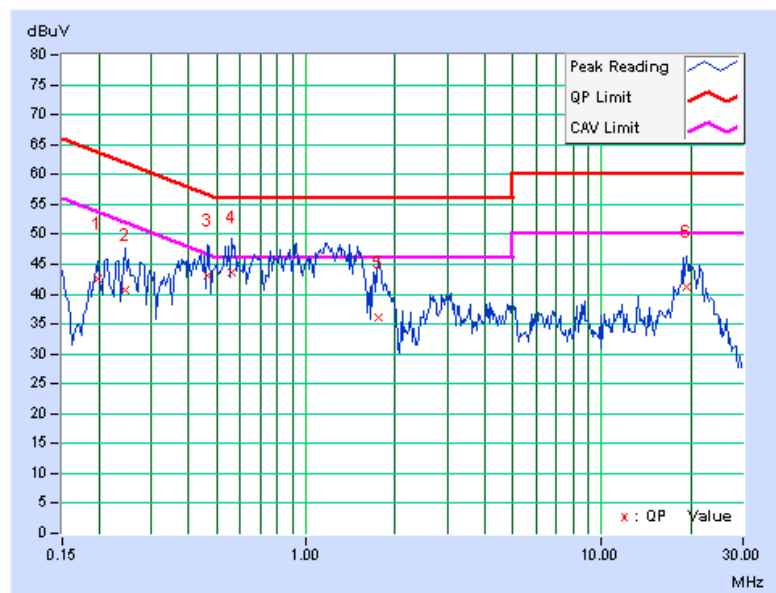
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	0.197	0.10	42.51	-	42.61	-	63.74	53.74	-21.13	-
2	0.244	0.10	40.53	-	40.63	-	61.97	51.97	-21.33	-
3	0.466	0.13	42.94	-	43.07	-	56.58	46.58	-13.51	-
4	0.564	0.13	43.49	-	43.62	-	56.00	46.00	-12.38	-
5	1.750	0.22	35.83	-	36.05	-	56.00	46.00	-19.95	-
6	19.371	1.26	39.87	-	41.13	-	60.00	50.00	-18.87	-

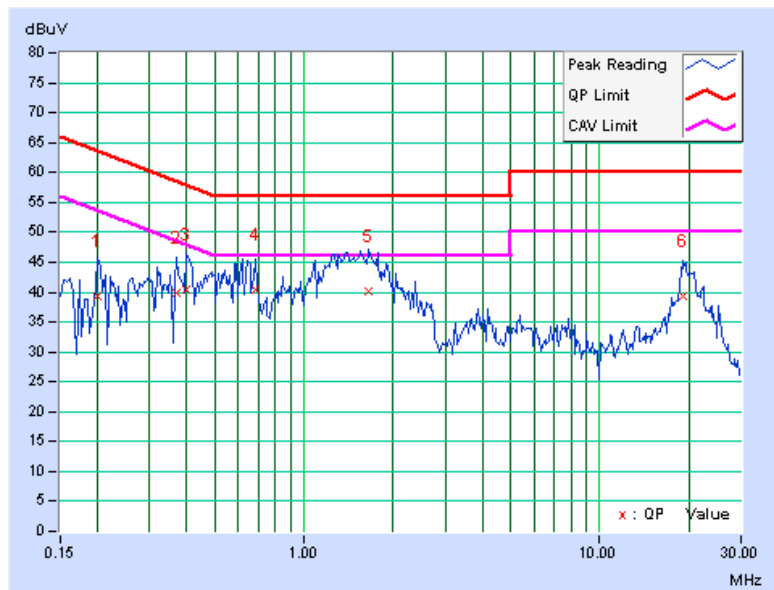
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	0.201	0.11	39.23	-	39.34	-	63.58	53.58	-24.24	-
2	0.373	0.13	39.83	-	39.96	-	58.44	48.44	-18.48	-
3	0.400	0.13	40.20	-	40.33	-	57.85	47.85	-17.52	-
4	0.685	0.15	40.18	-	40.33	-	56.00	46.00	-15.67	-
5	1.641	0.22	39.95	-	40.17	-	56.00	46.00	-15.83	-
6	19.000	1.41	37.83	-	39.24	-	60.00	50.00	-20.76	-

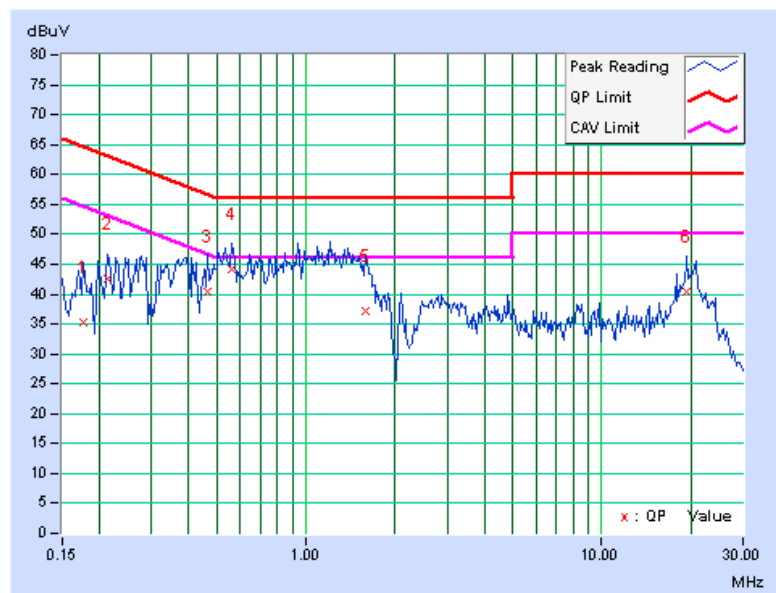
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	0.177	0.10	35.17	-	35.27	-	64.61	54.61	-29.34	-
2	0.213	0.10	42.35	-	42.45	-	63.11	53.11	-20.66	-
3	0.463	0.13	40.22	-	40.35	-	56.65	46.65	-16.30	-
4	0.564	0.13	44.01	-	44.14	-	56.00	46.00	-11.86	-
5	1.594	0.21	37.02	-	37.23	-	56.00	46.00	-18.77	-
6	19.305	1.26	39.01	-	40.27	-	60.00	50.00	-19.73	-

- 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.

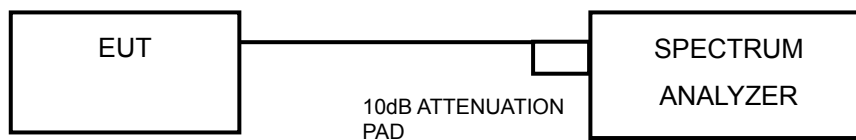
5.3.3 TEST PROCEDURE

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

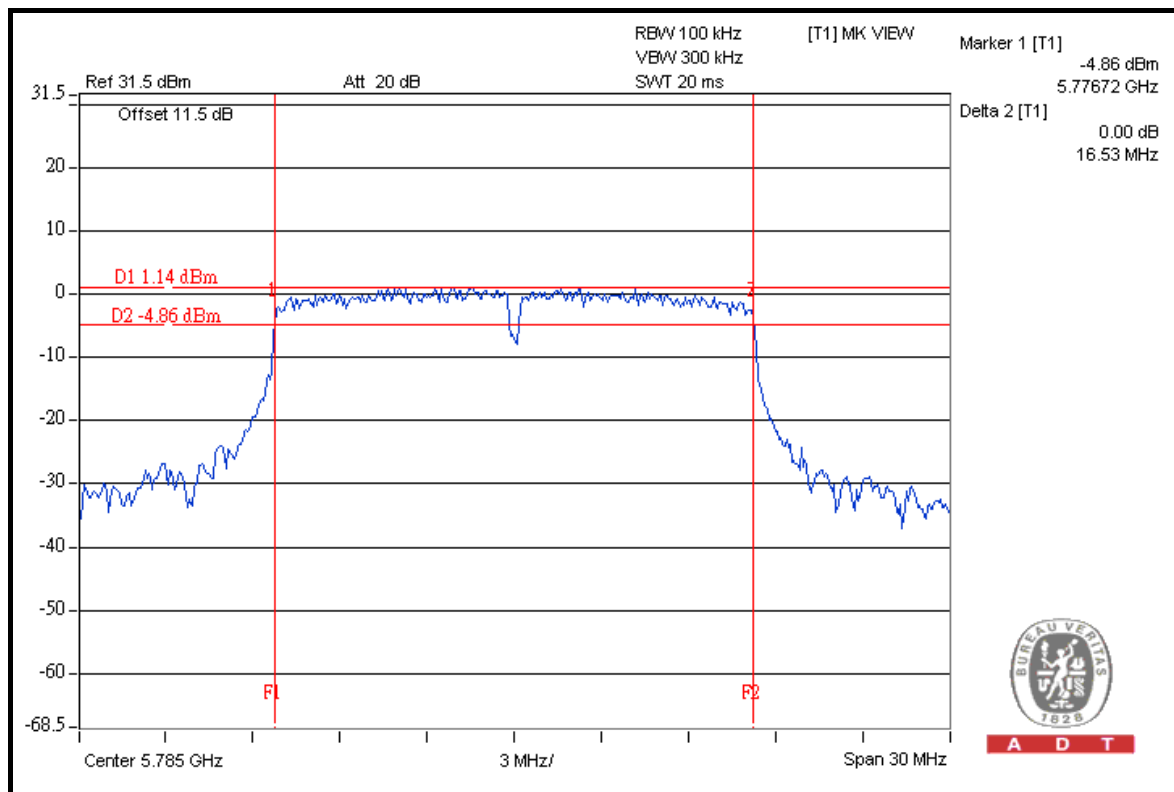
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

5.3.7 TEST RESULTS

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.49	0.5	PASS
157	5785	16.53	0.5	PASS
165	5825	16.49	0.5	PASS

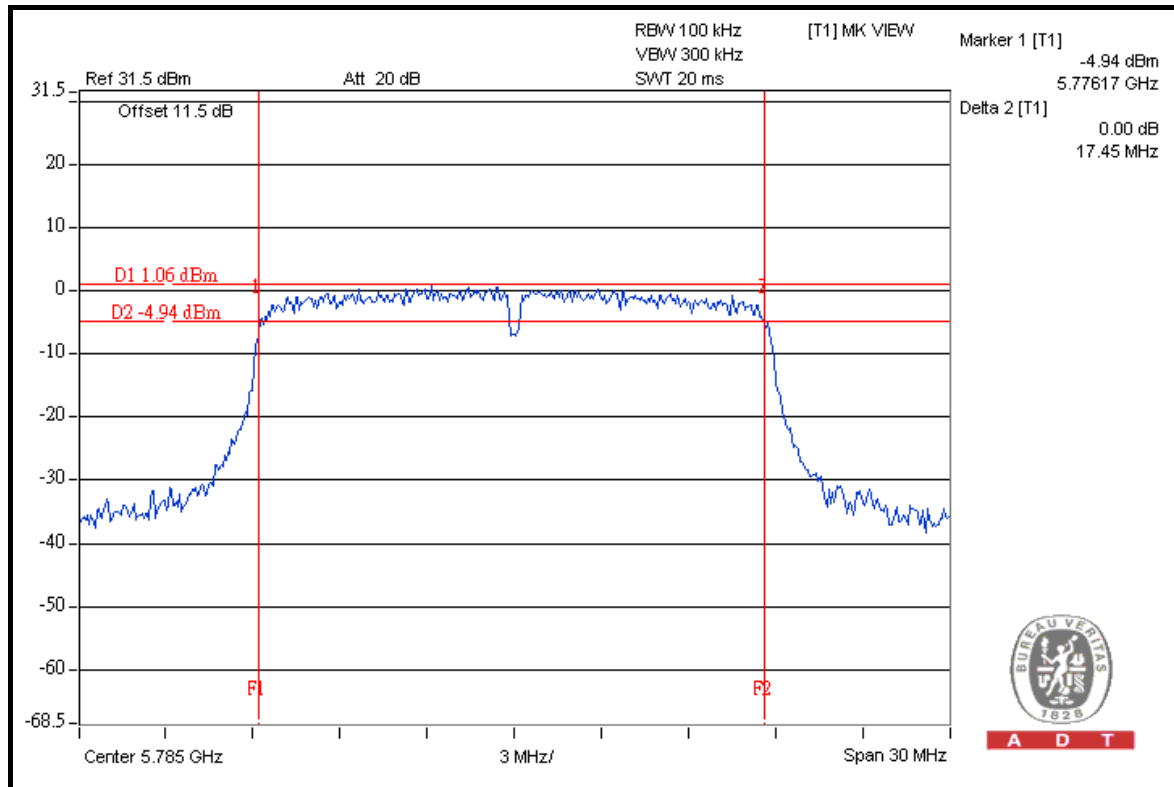
CH 157



802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	17.38	0.5	PASS
157	5785	17.45	0.5	PASS
165	5825	17.41	0.5	PASS

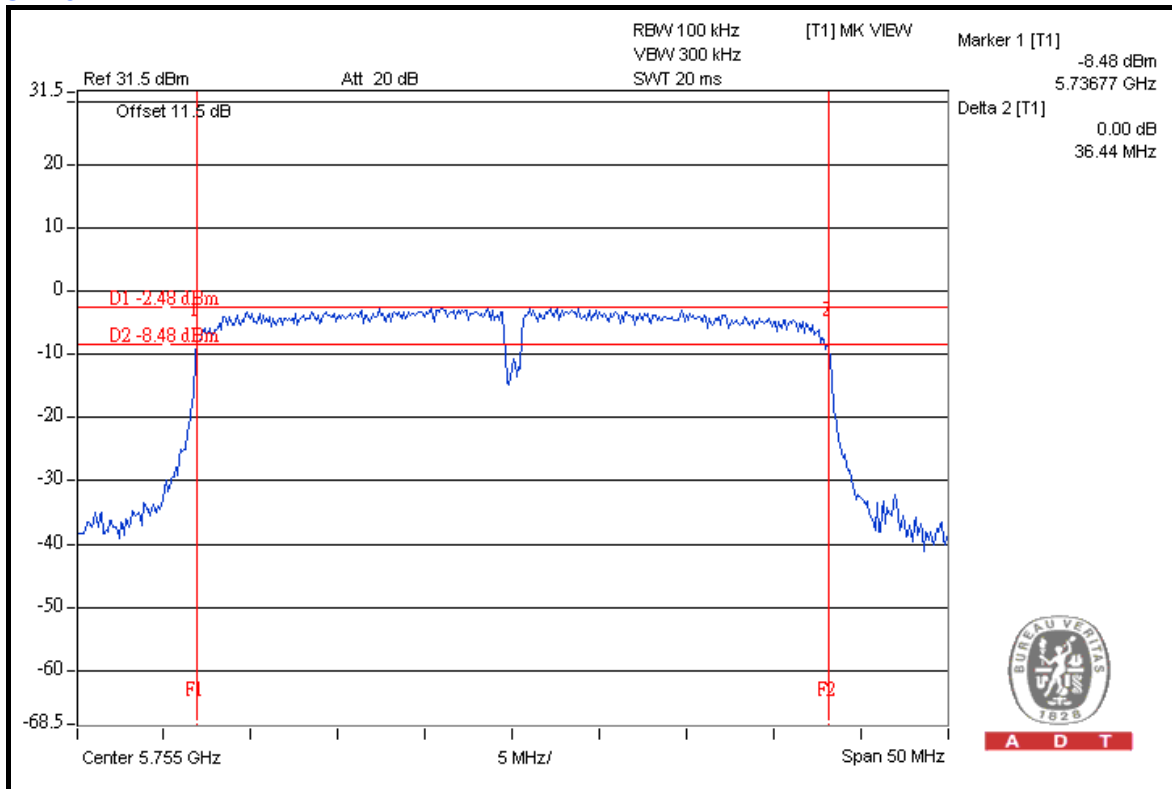
CH 157



802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	36.44	0.5	PASS
159	5795	36.23	0.5	PASS

CH 151



5.4 MAXIMUM OUTPUT POWER

5.4.1 LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT

The Maximum Output Power Measurement is 30dBm.

5.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
High Speed Peak Power Meter	ML2495A	0842014	Apr. 21, 2010	Apr. 20, 2011
Power Sensor	MA2411B	0738404	Apr. 21, 2010	Apr. 20, 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. Measurement Bandwidth of ML2495A is 65MHz greater than 6dB bandwidth of emission.

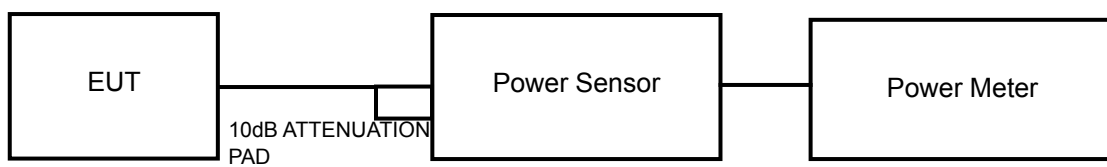
5.4.3 TEST PROCEDURES

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.

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

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
149	5745	141.3	21.5	30	PASS
157	5785	134.9	21.3	30	PASS
165	5825	151.4	21.8	30	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
149	5745	141.3	21.5	30	PASS
157	5785	144.5	21.6	30	PASS
165	5825	134.9	21.3	30	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
151	5755	141.3	21.5	30	PASS
159	5795	138.0	21.4	30	PASS

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
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.

5.5.3 TEST PROCEDURE

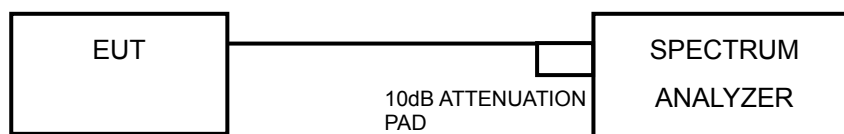
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

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

5.5.4 DEVIATION FROM TEST STANDARD

No deviation.

5.5.5 TEST SETUP



5.5.6 EUT OPERATING CONDITION

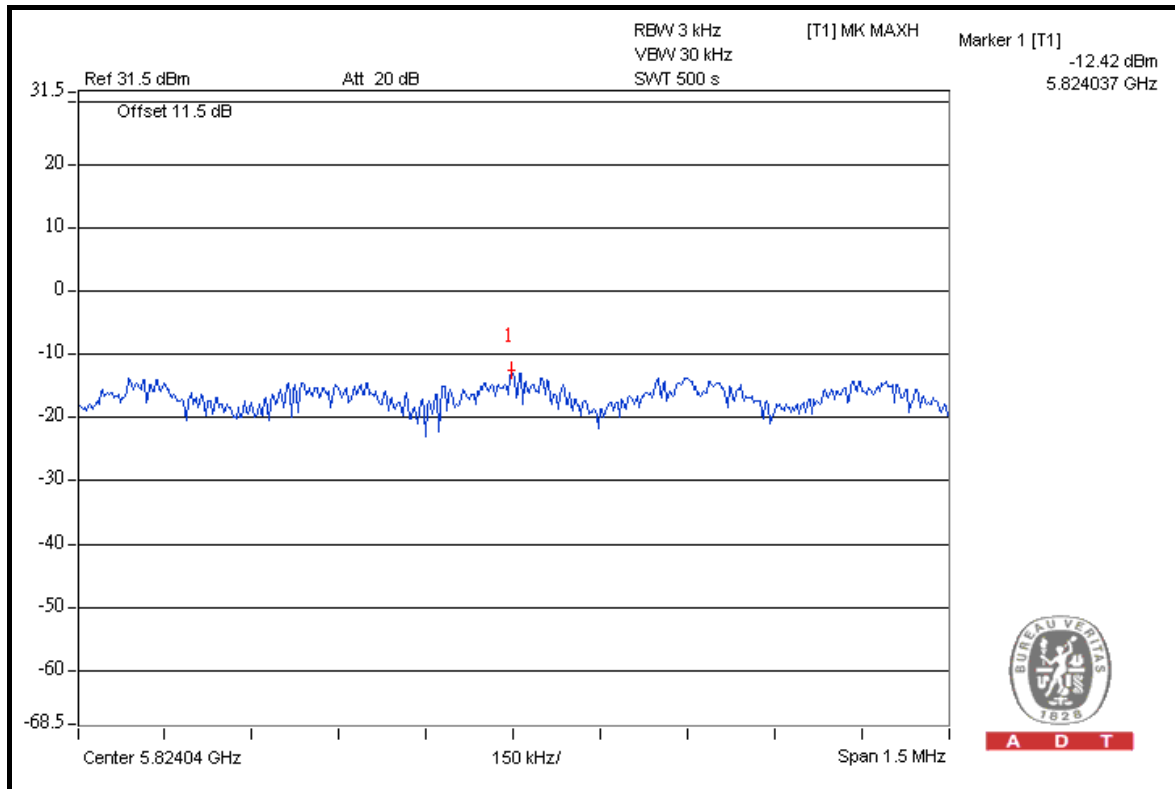
Same as Item 5.3.6.

5.5.7 TEST RESULTS

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
149	5745	-12.9	8	PASS
157	5785	-12.9	8	PASS
165	5825	-12.4	8	PASS

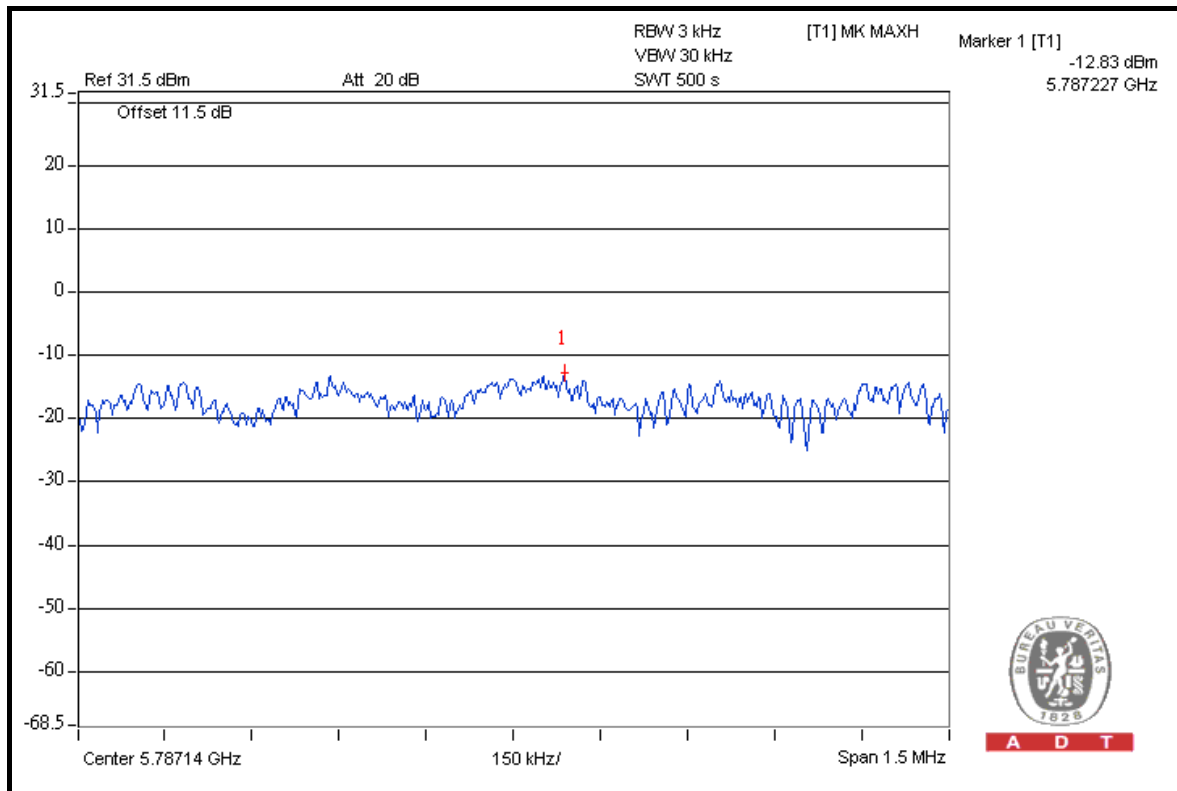
CH 165



802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
149	5745	-13.1	8	PASS
157	5785	-12.8	8	PASS
165	5825	-13.1	8	PASS

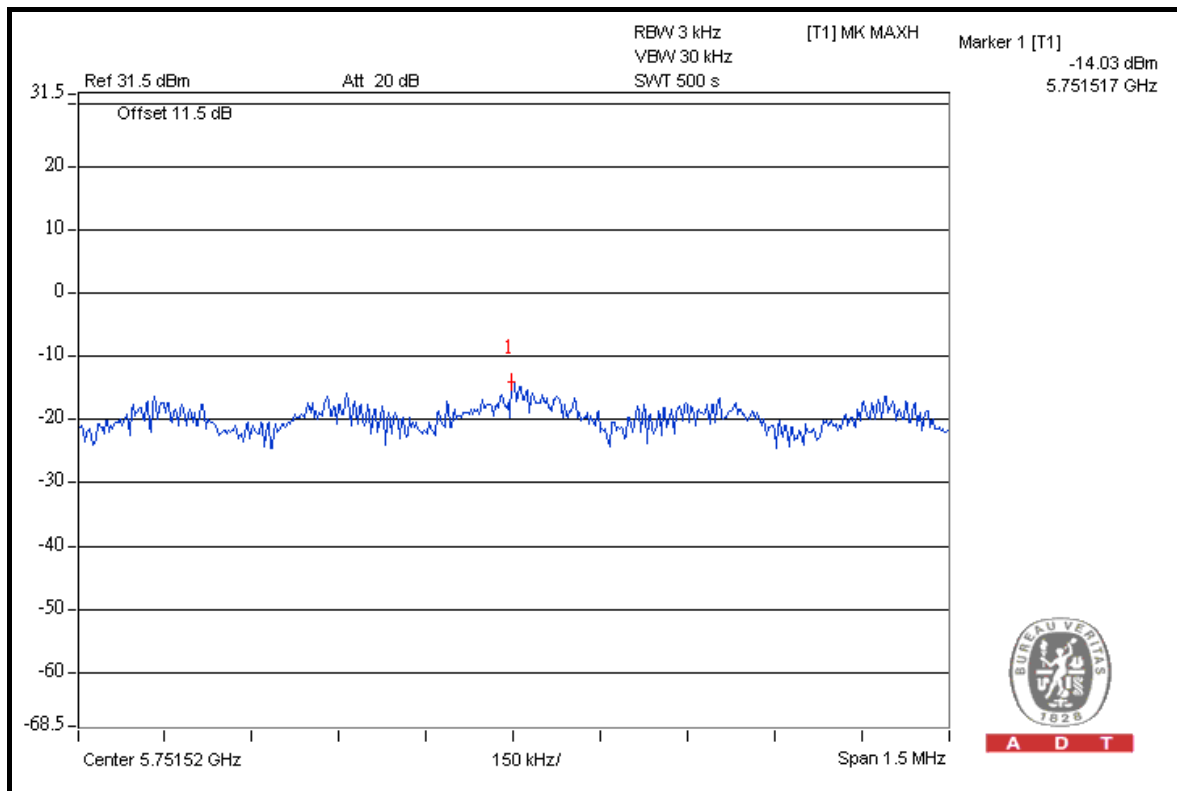
CH 157



802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
151	5755	-14.0	8	PASS
159	5795	-14.1	8	PASS

CH 151



5.6 BAND EDGES MEASUREMENT

5.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below -20dB 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
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.

5.6.3 TEST PROCEDURE

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

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

5.6.4 DEVIATION FROM TEST STANDARD

No deviation.

5.6.5 EUT OPERATING CONDITION

Same as Item 5.3.6.

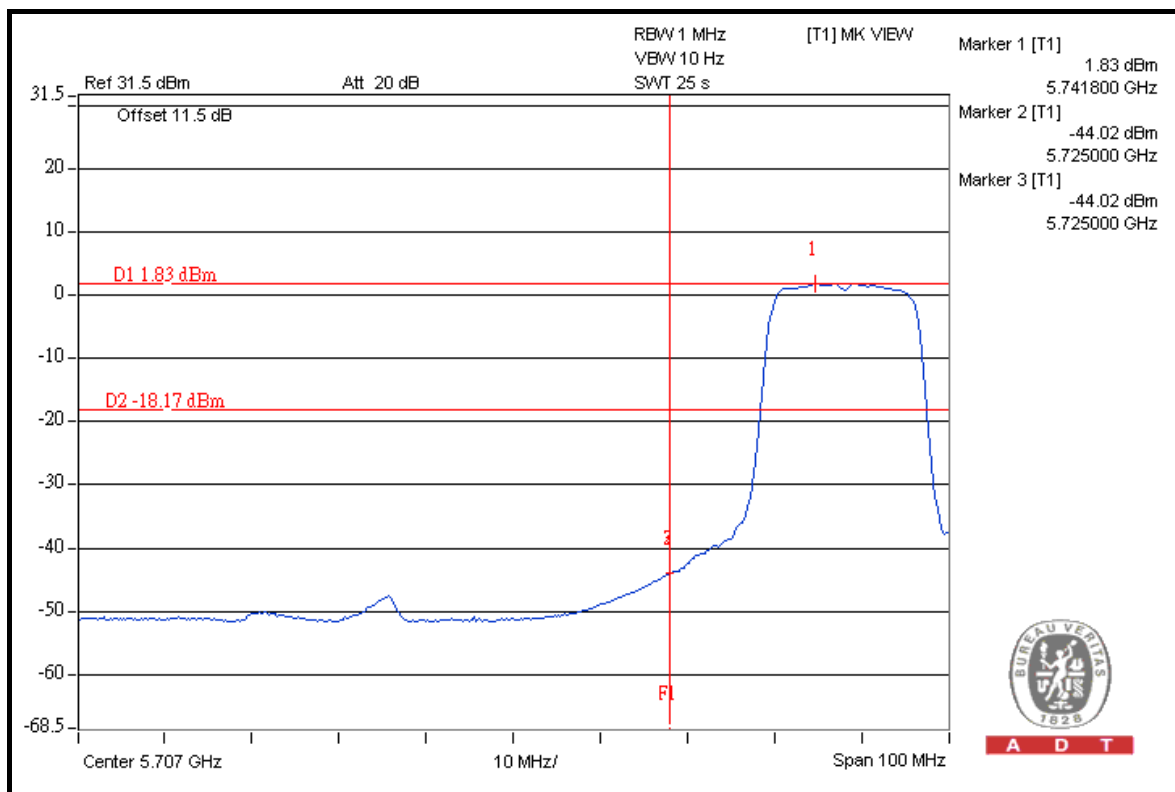
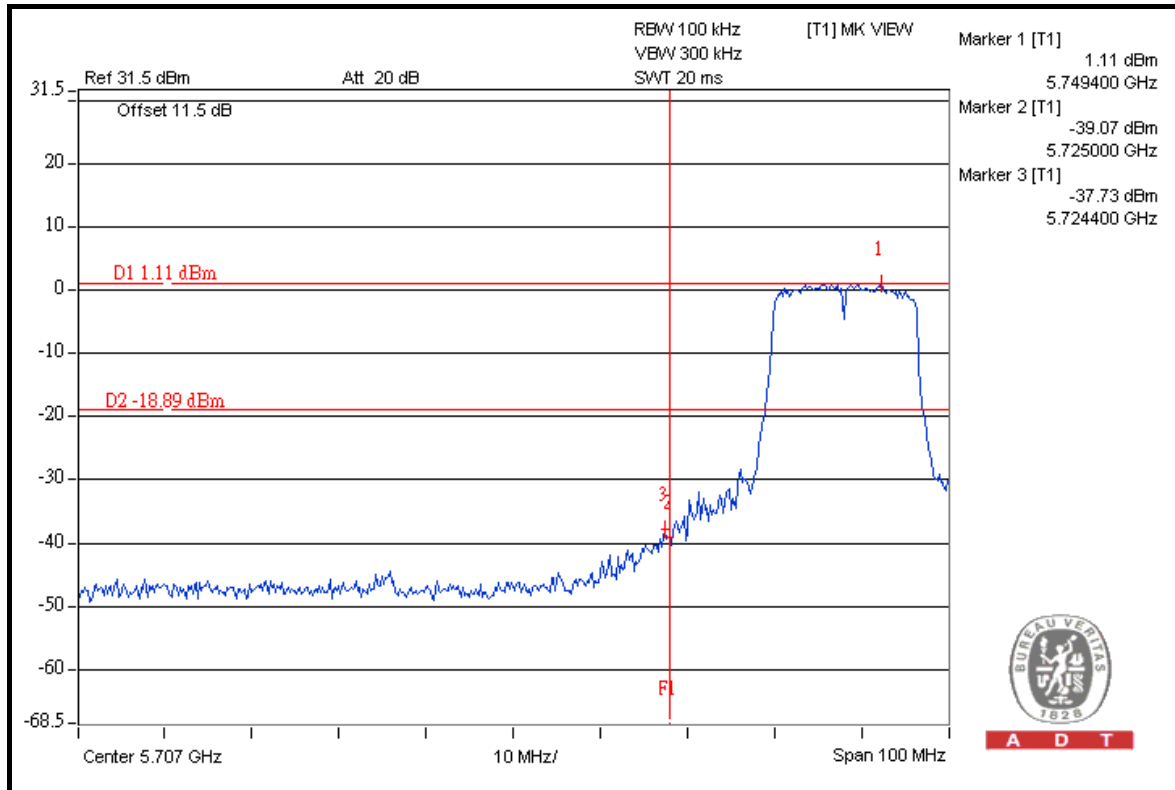


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5.6.6 TEST RESULTS

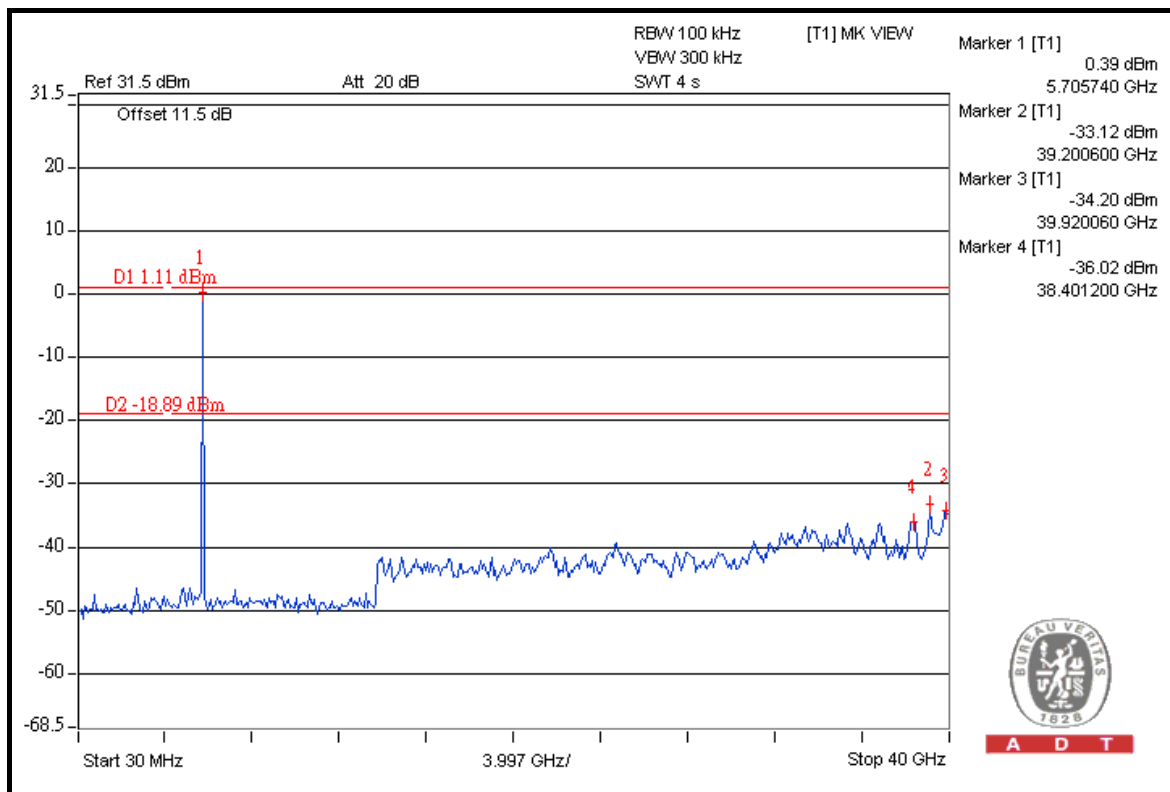
The spectrum plots are attached on the following pages. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

802.11a

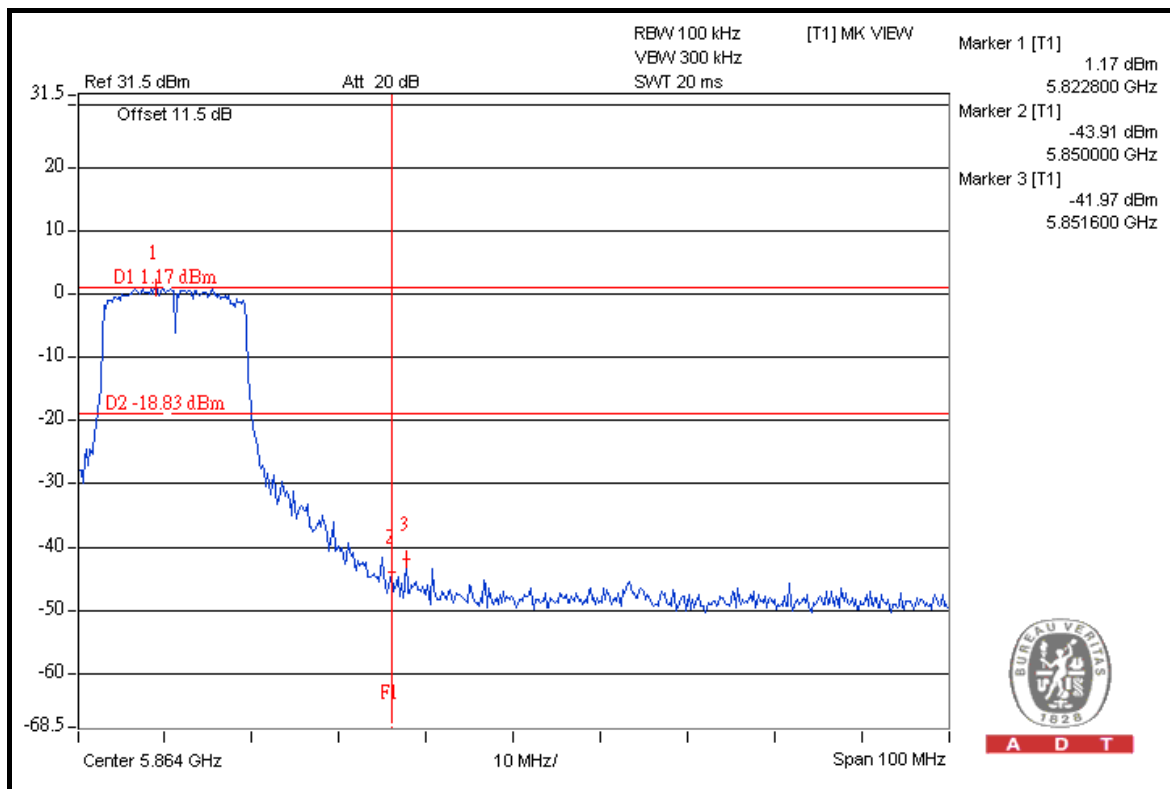




A D T



A D T



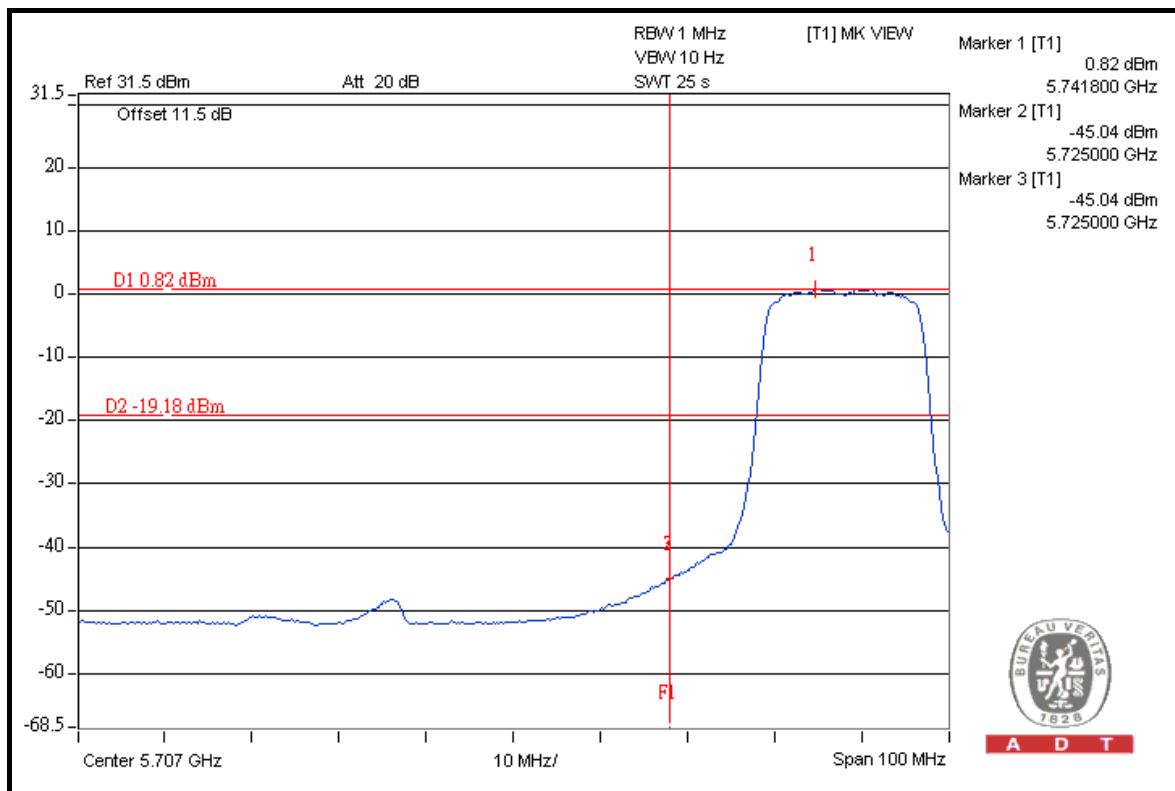
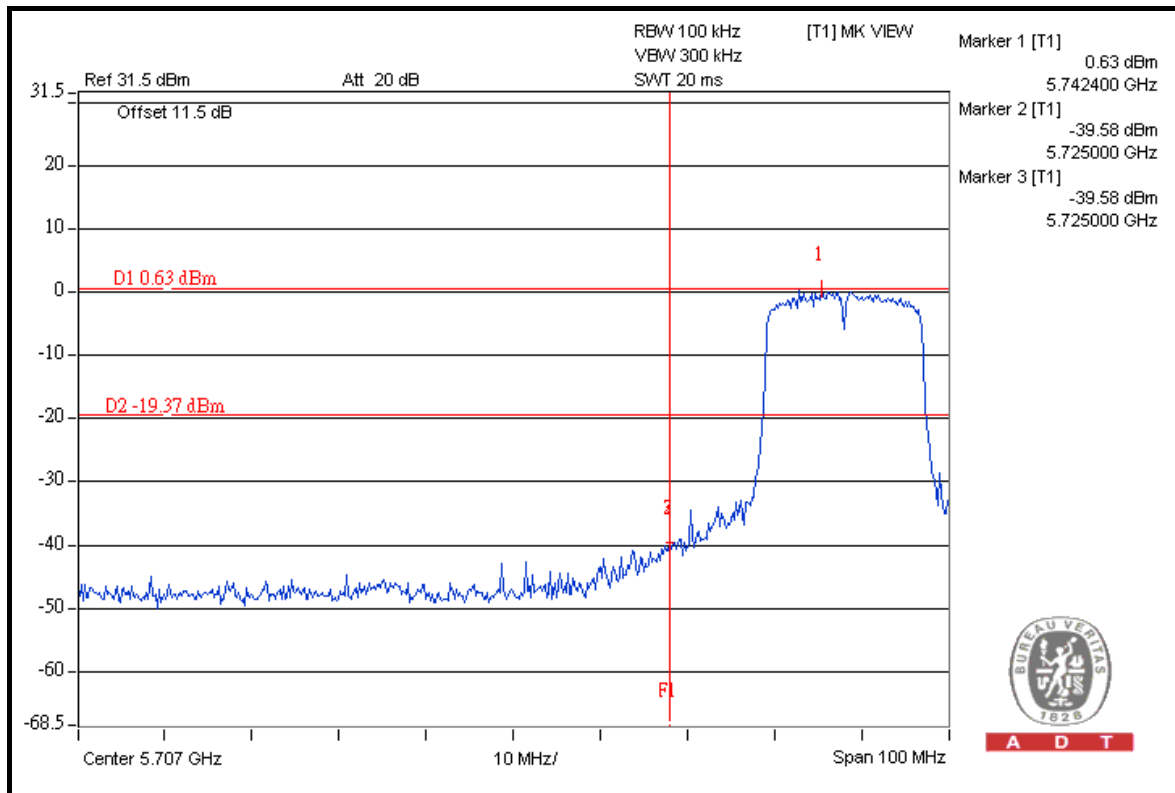
A D T





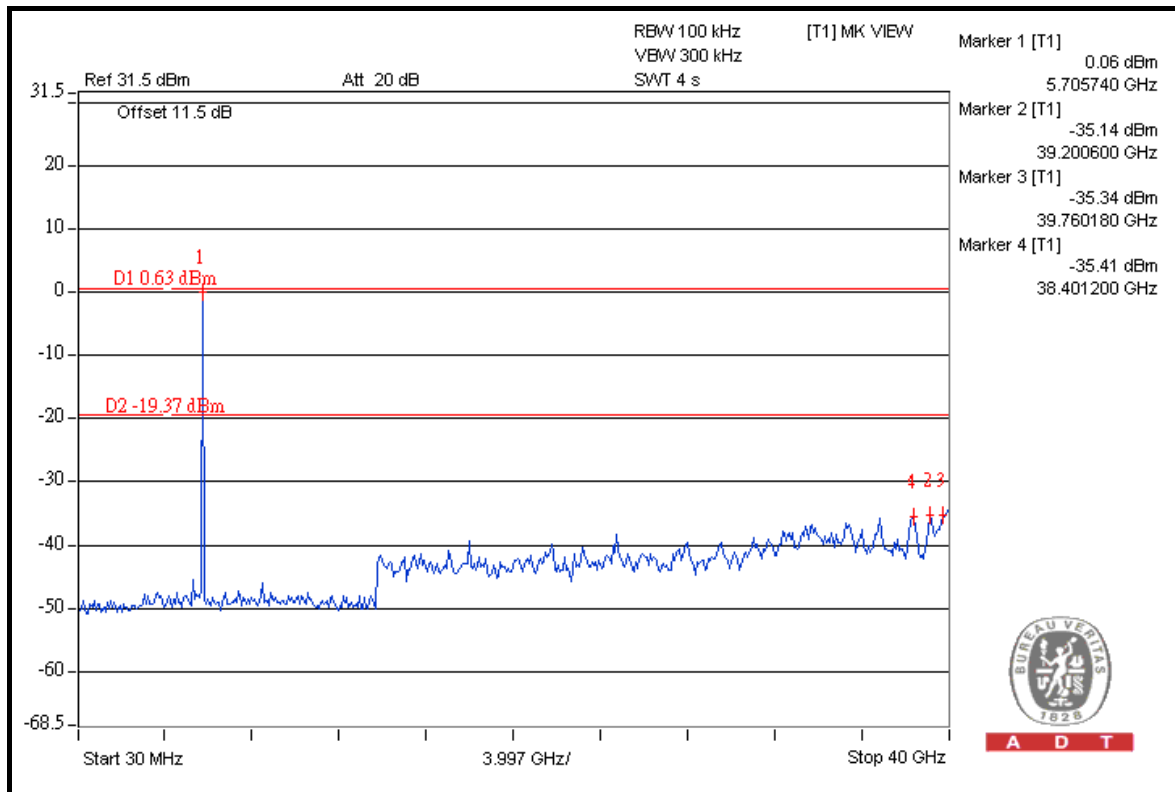
A D T

802.11n (20MHz)

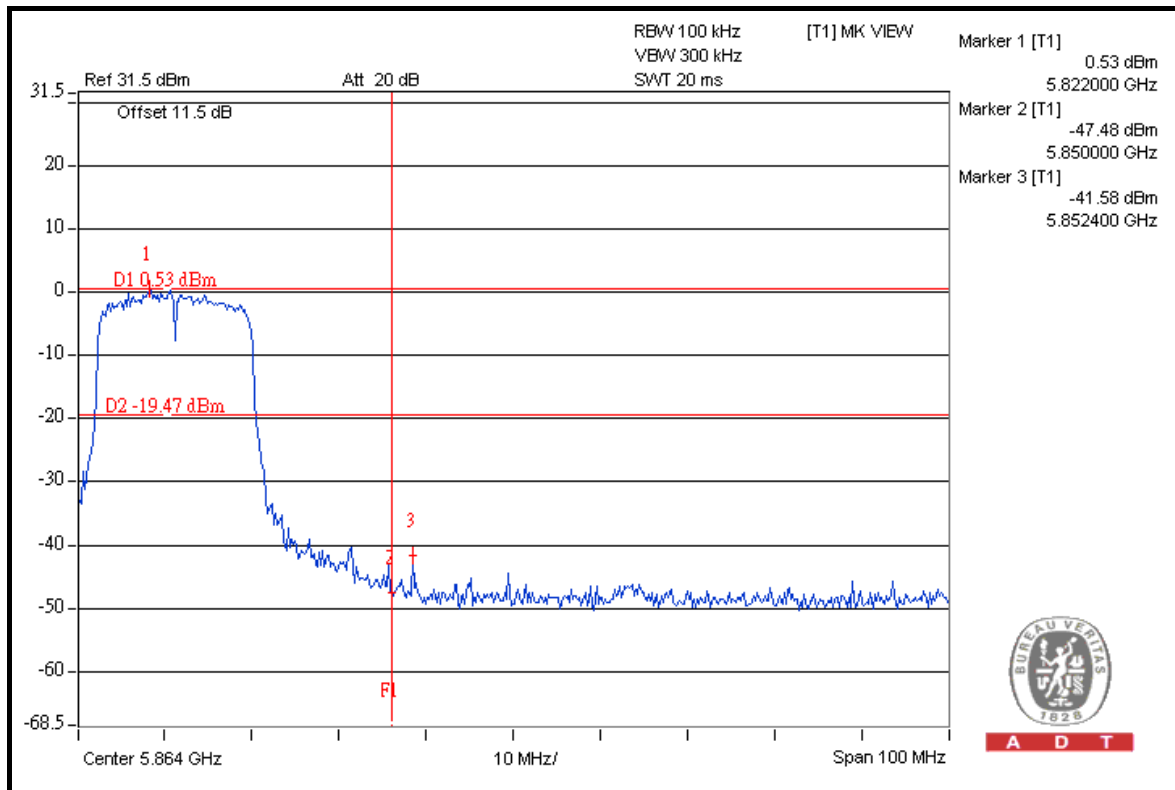




A D T



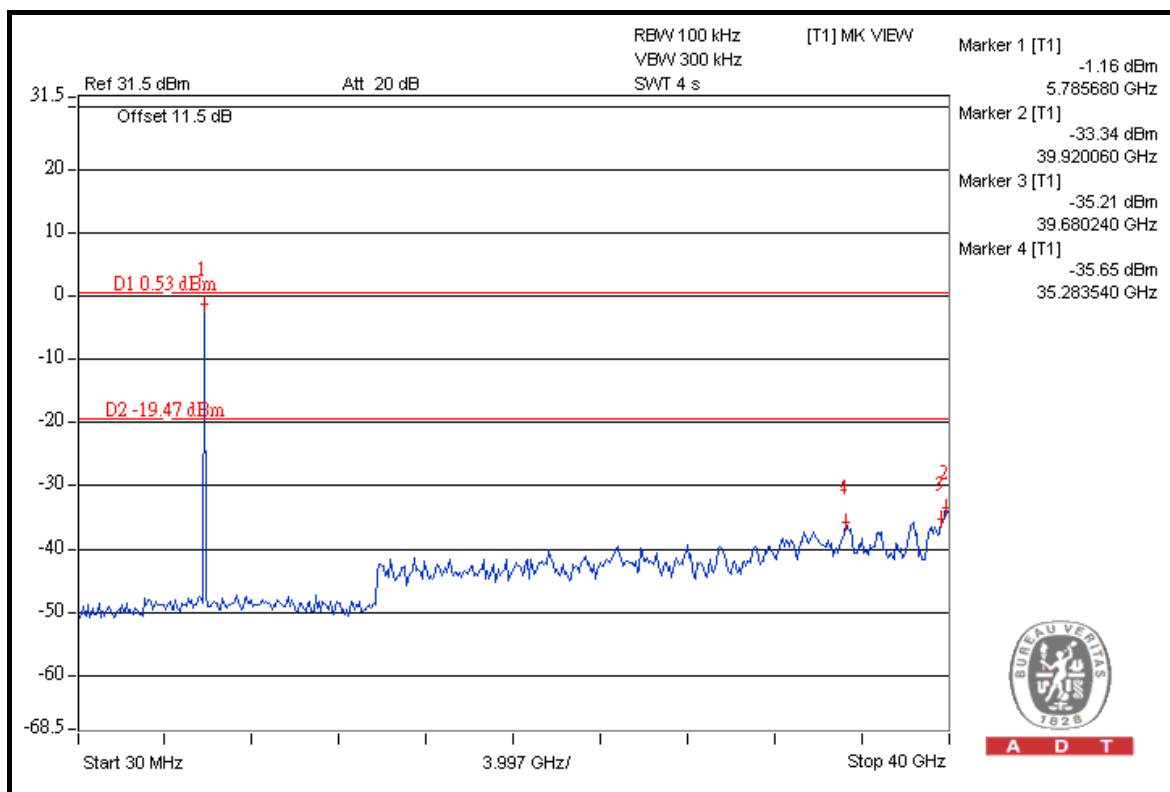
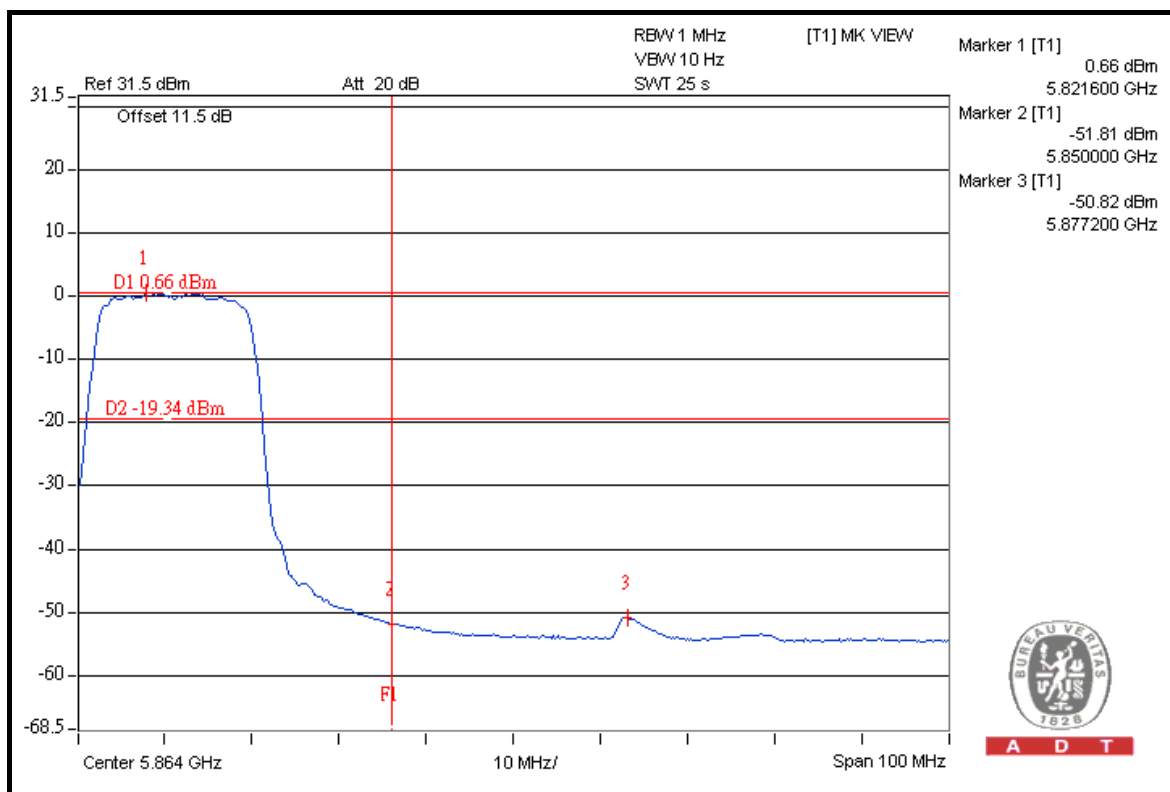
A D T



A D T



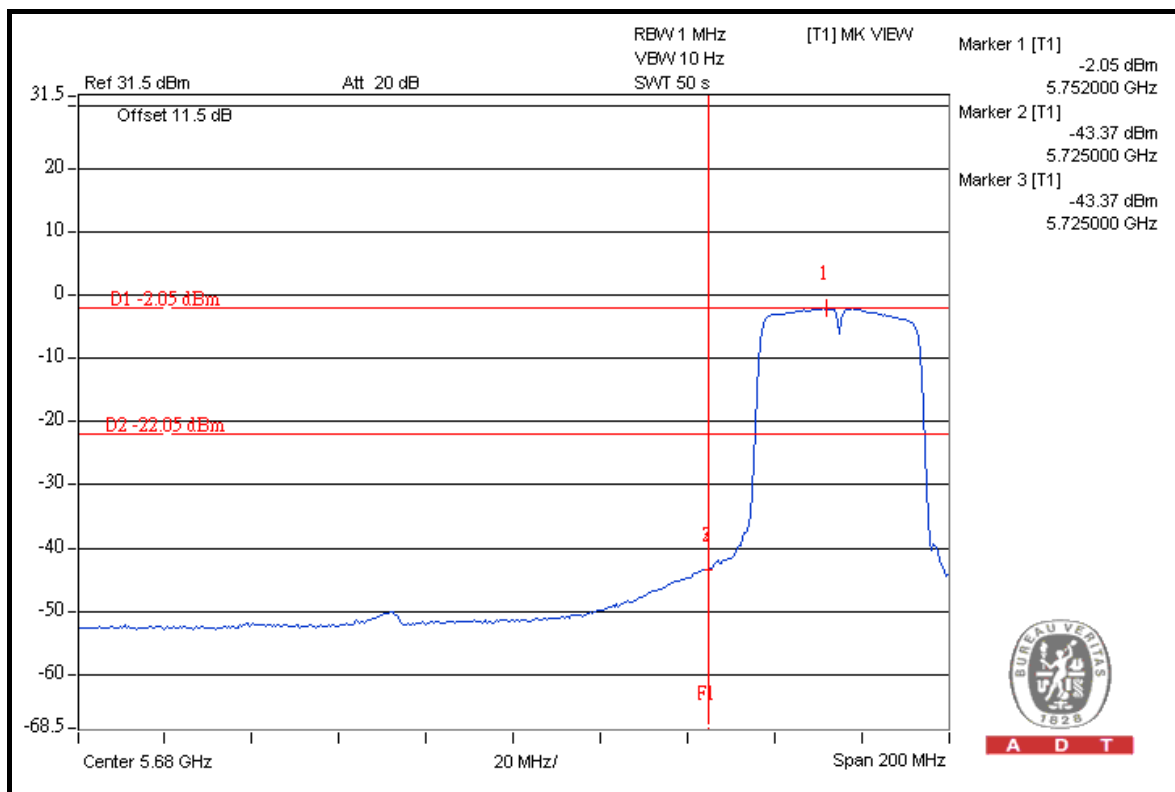
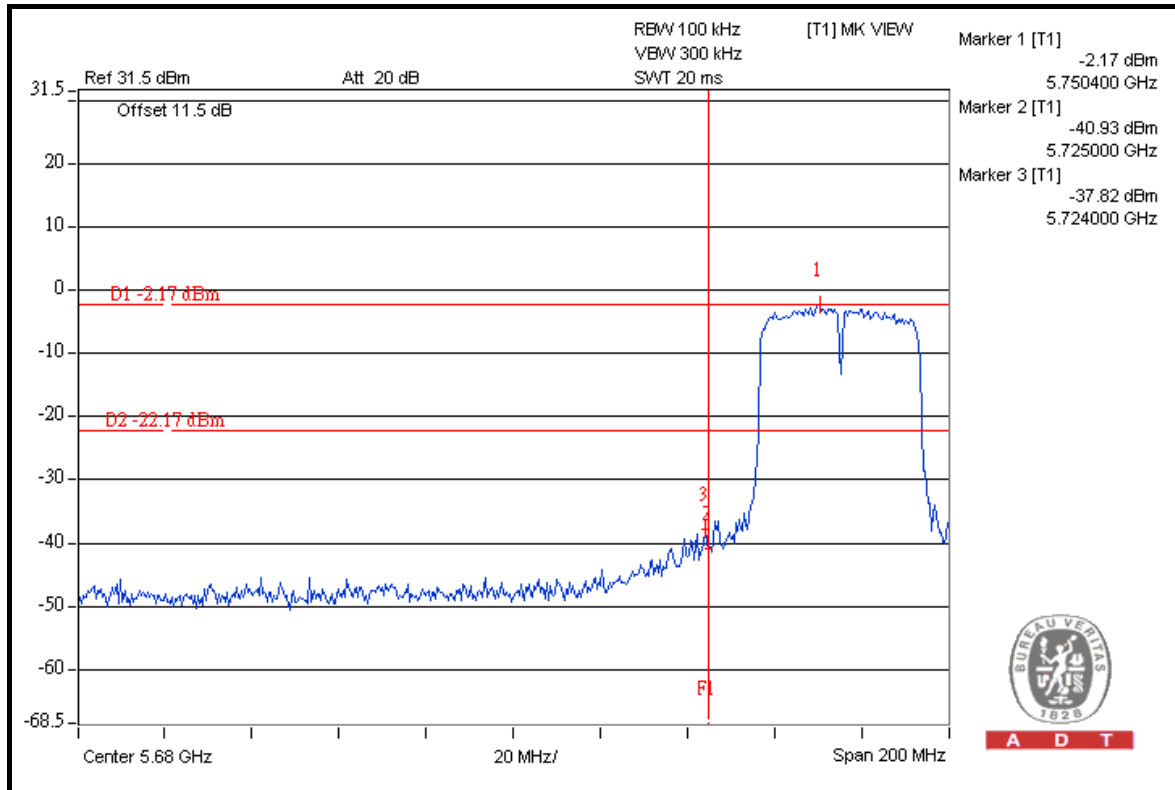
A D T





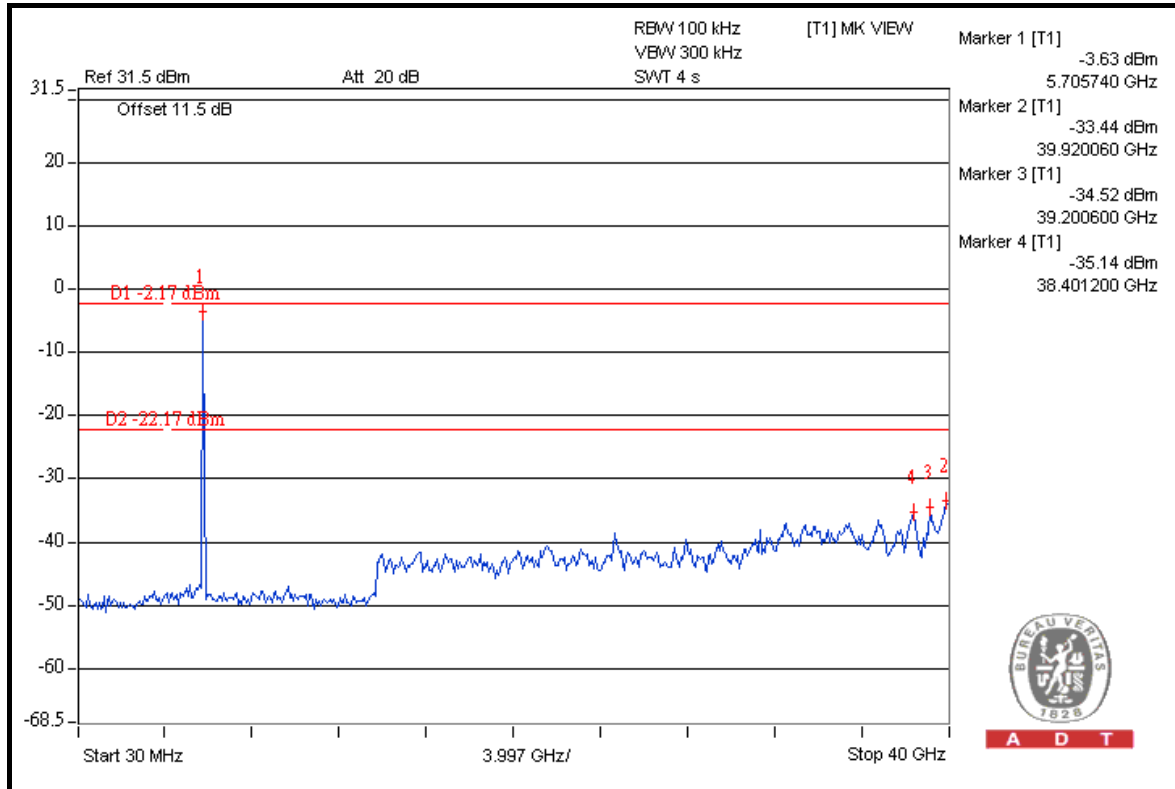
A D T

802.11n (40MHz)

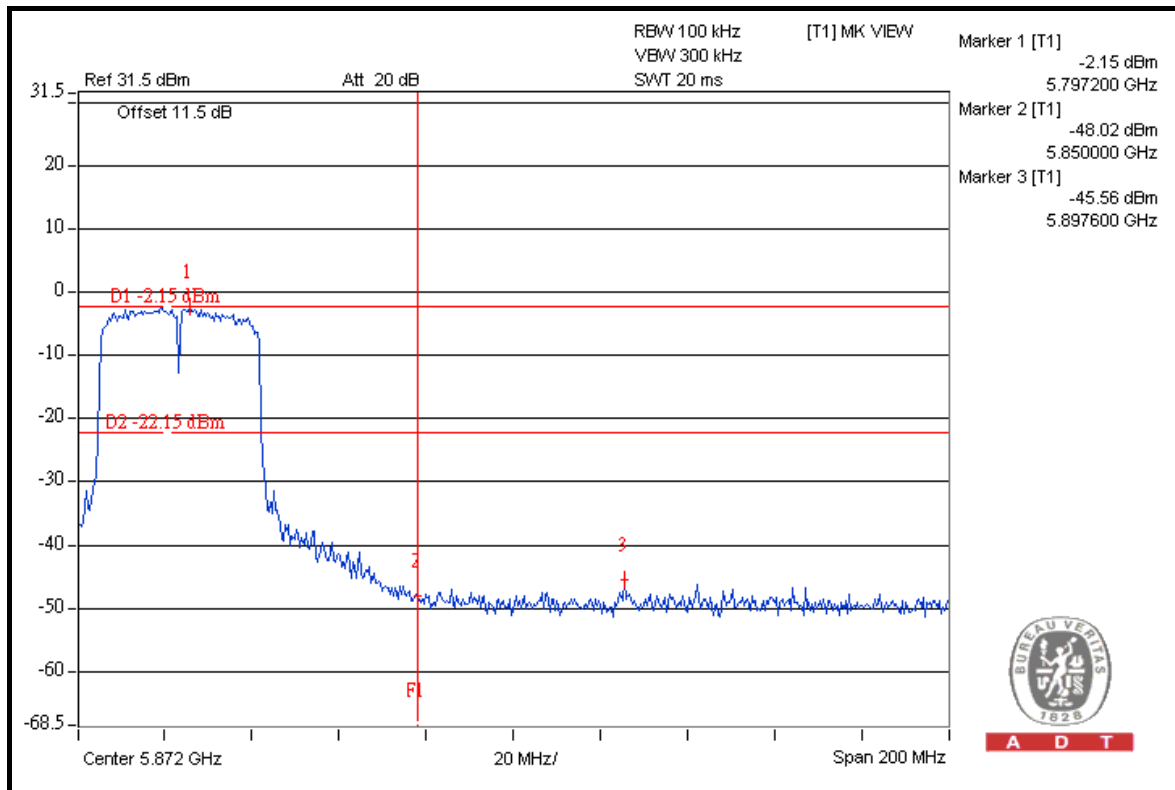




A D T



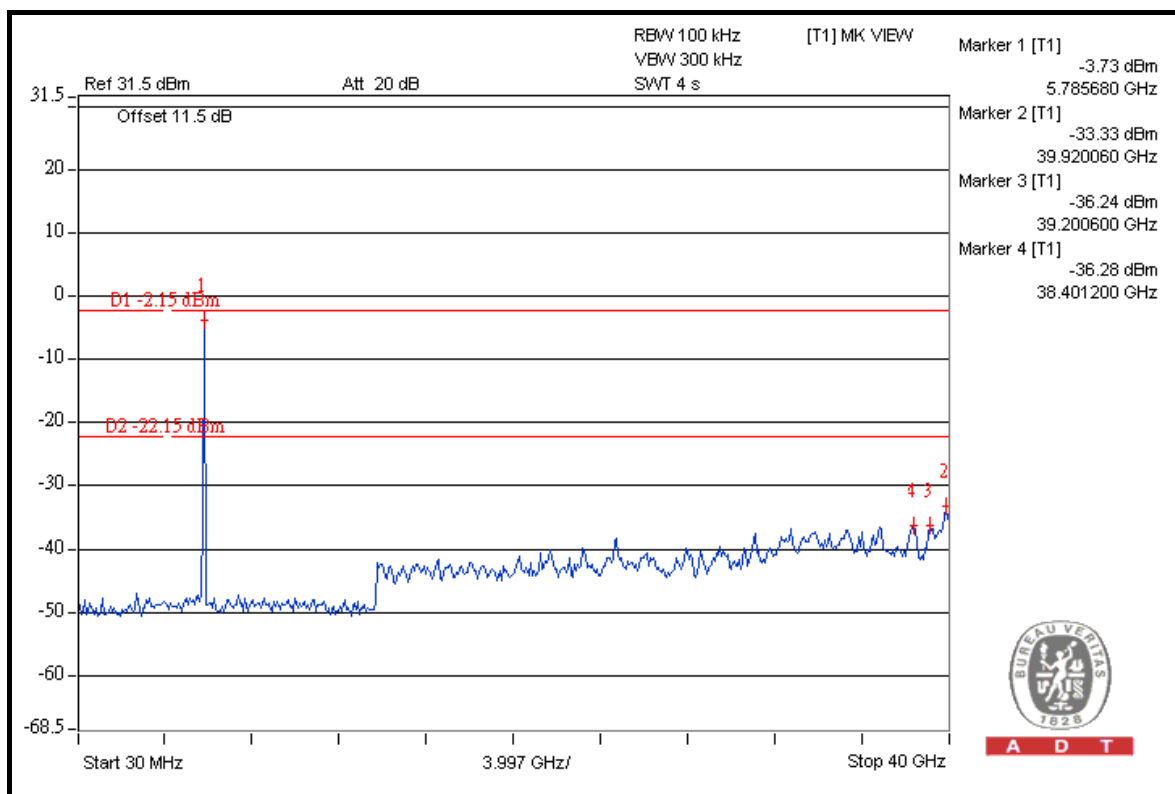
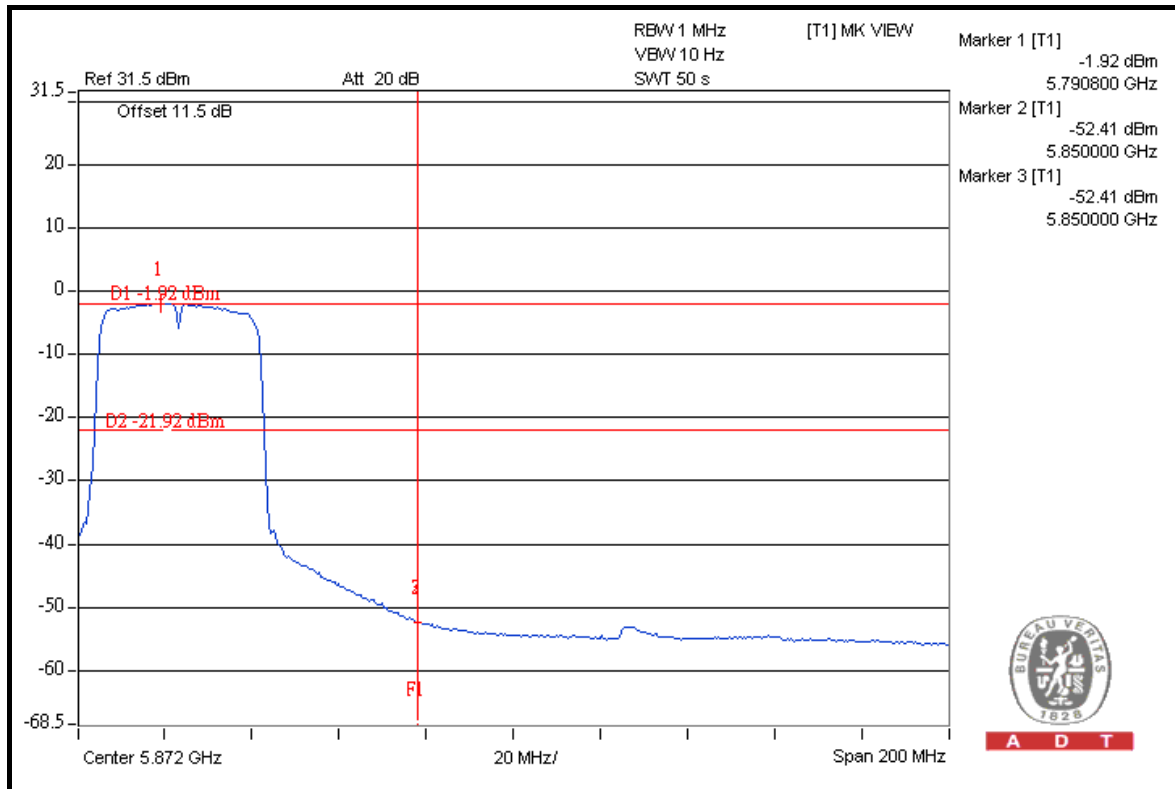
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A D T



A D T





A D T

6. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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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.



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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---