

FCC TEST REPORT (15.247)

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MODEL NO.: SBG6580-G228
FCC ID: W5HSBG6580-G228
RECEIVED: May 22, 2012
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ISSUED: Jul. 24, 2012

APPLICANT: GENERAL INSTRUMENT OF TAIWAN, LTD.

ADDRESS: 1, Lane 232 , Pao Chiao Road , Shin Dian, Taipei,
Taiwan 231 , R.O.C.

ISSUED BY: Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist.,
New Taipei City, Taiwan, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei
Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120522C16	Original release	Jul. 02, 2012
RF120522C16 R1	Revised the model name and FCC ID.	Jul. 24, 2012



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1. CERTIFICATION

PRODUCT: DOCSIS 3.0 Wi-Fi Gateway

MODEL NO.: SBG6580-G228

BRAND: MOTOROLA

APPLICANT: GENERAL INSTRUMENT OF TAIWAN, LTD.

TESTED: May 30 ~ Jun. 28, 2012

TEST SAMPLE: ENGINEERING SAMPLE

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

ANSI C63.10-2009

The above equipment (model: SBG6580-G228) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY :  , DATE : Jul. 24, 2012
Joanna Wang / Senior Specialist

APPROVED BY :  , DATE : Jul. 24, 2012
Gary Chang / Technical 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	RESULT	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -6.16dB at 0.42734MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 2333.00MHz.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is UFL not a standard connector.

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	2.44dB
Radiated emissions	30MHz ~ 200MHz	3.34dB
	200MHz ~1000MHz	3.35dB
	1GHz ~ 18GHz	2.26dB
	18GHz ~ 40GHz	1.94dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	DOCSIS 3.0 Wi-Fi Gateway
MODEL NO.	SBG6580-G228
POWER SUPPLY	12Vdc (Adapter)
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	422.5mW for 2412 ~ 2462MHz 289.4mW for 5745 ~ 5825MHz
ANTENNA TYPE	2.4GHz: Printed antenna with 2.58dBi gain (Antenna 1) Printed antenna with 4.08dBi gain (Antenna 2) 5.0GHz: Printed antenna with 2.05dBi gain (Antenna 1) Printed antenna with 2.65dBi gain (Antenna 2)
ANTENNA CONNECTOR	UFL
DATA CABLE	1.8m non-shielded RJ45 cable without core
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Adapter

NOTE:

- 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)	√	√	√

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

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX

3. The EUT consumes power from the following adapter.

BRAND:	Asian Power Devices Inc.
MODEL:	WA-18X12FU
INPUT:	100-240Vac, 50-60Hz, 0.5A Max.
OUTPUT:	12Vdc, 1.5A
POWER LINE:	1.8m non-shielded cable without core

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
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	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 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

FOR 2.4GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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:

The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.

RADIATED EMISSION TEST (ABOVE 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates 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)
-	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)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

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)
-	802.11n (20MHz)	1 to 11	6	OFDM	BPSK	7.2

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)
-	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)
-	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)	3 to 9	3, 9	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)
-	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)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE \geq 1G	25deg. C, 65%RH	120Vac, 60Hz	Haru Yang
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Sun Lin
PLC	22deg. C, 63%RH	120Vac, 60Hz	Ben Huang
APCM	26deg. C, 65%RH	120Vac, 60Hz	Haru Yang

FOR 5.0GHz (5745 ~ 5825MHz):

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM**: Antenna Port Conducted Measurement

NOTE:

The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.

RADIATED EMISSION TEST (ABOVE 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates 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)
-	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

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)
-	802.11n (20MHz)	149 to 165	165	OFDM	BPSK	7.2

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)
-	802.11n (20MHz)	149 to 165	165	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)
-	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)
-	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	TESTED BY
RE \geq 1G	25deg. C, 68%RH	120Vac, 60Hz	Haru Yang
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Sun Lin
PLC	22deg. C, 63%RH	120Vac, 60Hz	Ben Huang
APCM	26deg. C, 65%RH	120Vac, 60Hz	Haru Yang

3.3 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.

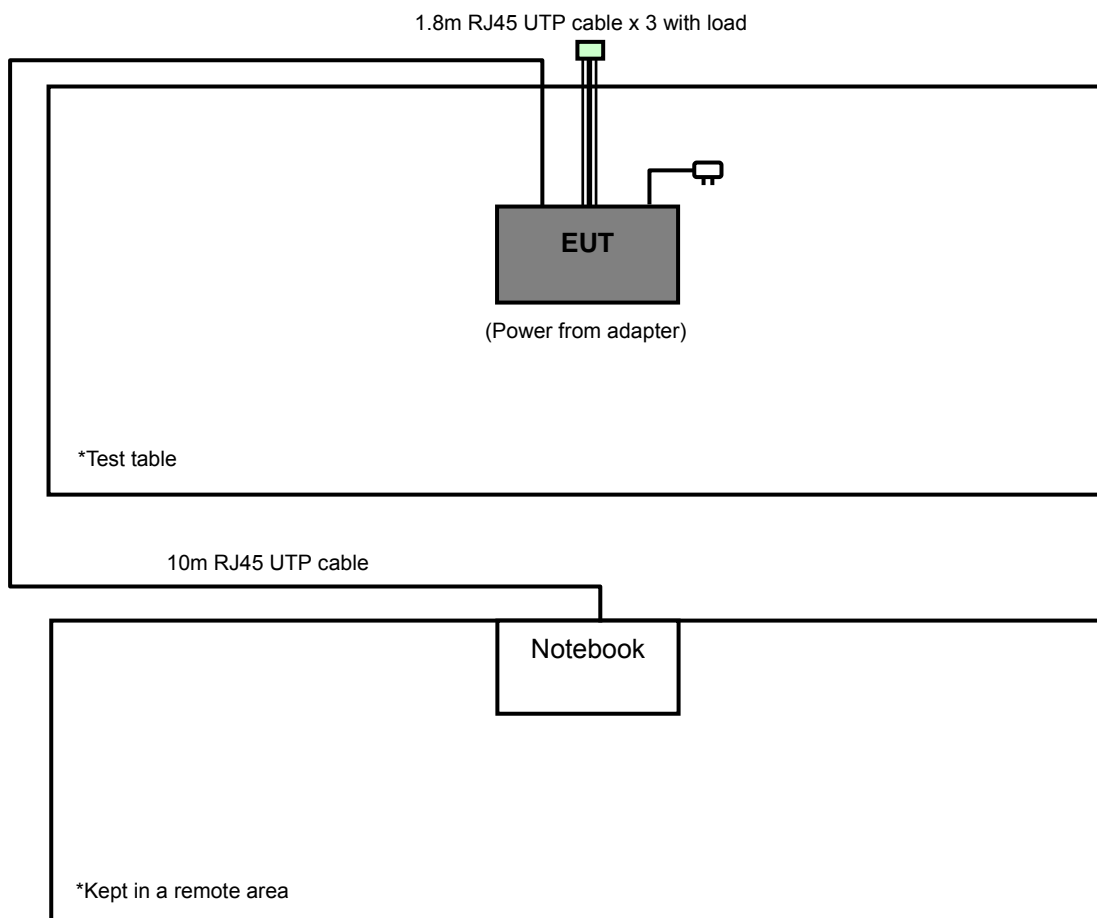
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	HP	Compaq 69109	N/A	N/A

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

NOTE:

1. All power cords of the above support units are non-shielded (1.8 m).
2. Item 1 acted as communication partner to transfer data.
3. Item 1 is provided by the manufacturer.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST





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3.4 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)

558074 D01 DTS Meas Guidance v01

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.

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

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	Aug. 02, 2011	Aug. 01, 2012
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Jul. 21, 2011	Jul. 20, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Apr. 06, 2012	Apr. 05, 2013
HORN Antenna SCHWARZBECK	9120D	209	Aug. 25, 2011	Aug. 24, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 20, 2011	Jul. 19, 2012
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier Agilent	8447D	2944A10633	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8449B	3008A01964	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250723/4	Aug. 30, 2011	Aug. 29, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 106	12738/6+309224/ 4	Aug. 30, 2011	Aug. 29, 2012
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table ADT.	TT100	TT93021703	NA	NA
Turn Table Controller ADT.	SC100	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 29, 2011	Oct. 28, 2012
SUHNER RF cable	SF102	Cable-CH6	Aug. 19, 2011	Aug. 18, 2012
High Speed Peak Power Meter	ML2495A	0842014	Apr. 28, 2012	Apr. 27, 2013
Power Sensor	MA2411B	0738404	Apr. 28, 2012	Apr. 27, 2013

- 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 calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. The test was performed in HwaYa Chamber 3.
 4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 5. The FCC Site Registration No. is 988962.
 6. The IC Site Registration No. is IC 7450F-3.

4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

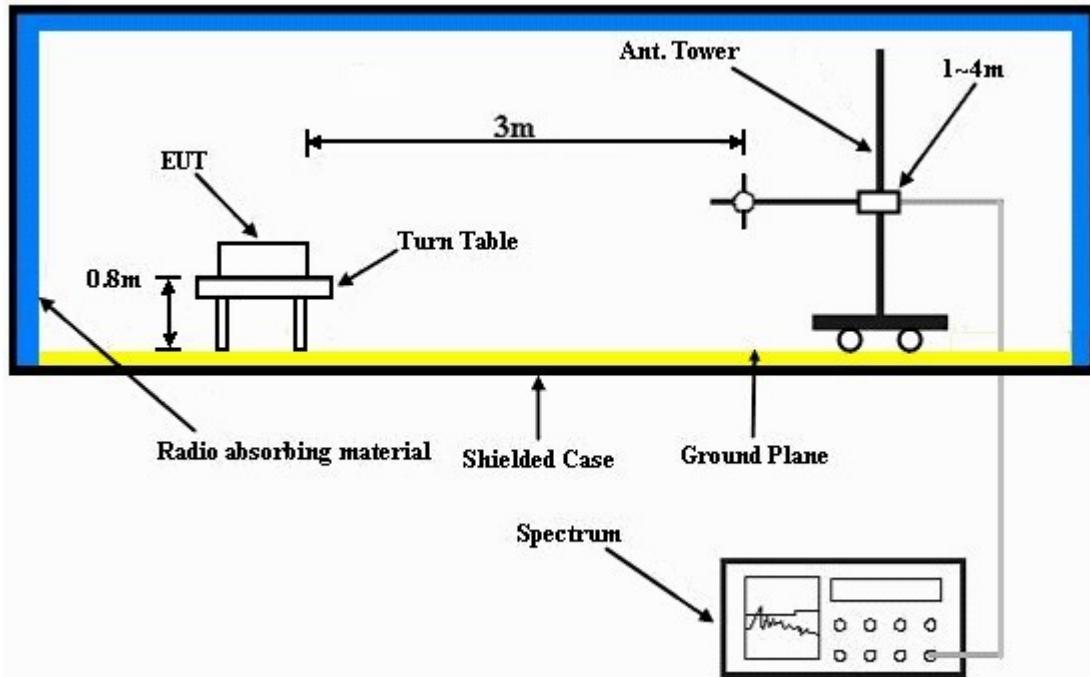
NOTE:

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

- Placed the EUT on the testing table.
- Prepared the notebook to act as communication partner and placed it outside of testing area.
- The communication partner connected with EUT via a RJ45 cable and run a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

4.1.7 TEST RESULTS

ABOVE 1GHz DATA :

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	2333.00	57.4 PK	74.0	-16.6	1.00 H	228	26.30	31.10
2	2333.00	49.7 AV	54.0	-4.3	1.00 H	228	18.60	31.10
3	2390.00	56.1 PK	74.0	-17.9	1.05 H	348	24.80	31.30
4	2390.00	45.0 AV	54.0	-9.0	1.05 H	348	13.70	31.30
5	*2412.00	105.8 PK			1.05 H	348	74.40	31.40
6	*2412.00	102.2 AV			1.05 H	348	70.80	31.40
7	4666.00	46.6 PK	74.0	-27.4	1.05 H	360	9.80	36.80
8	4666.00	36.9 AV	54.0	-17.1	1.05 H	360	0.10	36.80
9	4824.00	46.7 PK	74.0	-27.3	1.23 H	294	9.50	37.20
10	4824.00	35.3 AV	54.0	-18.7	1.23 H	294	-1.90	37.20
11	5000.00	51.3 PK	74.0	-22.7	1.39 H	318	13.70	37.60
12	5000.00	45.0 AV	54.0	-9.0	1.39 H	318	7.40	37.60

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	2333.00	60.0 PK	74.0	-14.0	1.35 V	51	28.90	31.10
2	2333.00	52.9 AV	54.0	-1.1	1.35 V	51	21.80	31.10
3	2390.00	57.6 PK	74.0	-16.4	1.68 V	78	26.30	31.30
4	2390.00	46.4 AV	54.0	-7.6	1.68 V	78	15.10	31.30
5	*2412.00	108.9 PK			1.68 V	78	77.50	31.40
6	*2412.00	105.3 AV			1.68 V	78	73.90	31.40
7	4666.00	46.8 PK	74.0	-27.2	1.00 V	337	10.00	36.80
8	4666.00	38.9 AV	54.0	-15.1	1.00 V	337	2.10	36.80
9	4824.00	45.9 PK	74.0	-28.1	1.12 V	58	8.70	37.20
10	4824.00	32.3 AV	54.0	-21.7	1.12 V	58	-4.90	37.20
11	5000.00	49.6 PK	74.0	-24.4	1.03 V	160	12.00	37.60
12	5000.00	44.5 AV	54.0	-9.5	1.03 V	160	6.90	37.60

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	2333.00	57.6 PK	74.0	-16.4	1.00 H	233	26.50	31.10
2	2333.00	49.5 AV	54.0	-4.5	1.00 H	233	18.40	31.10
3	*2437.00	106.9 PK			1.55 H	349	75.40	31.50
4	*2437.00	103.2 AV			1.55 H	349	71.70	31.50
5	4874.00	45.6 PK	74.0	-28.4	1.13 H	313	8.30	37.30
6	4874.00	34.7 AV	54.0	-19.3	1.13 H	313	-2.60	37.30
7	5000.00	50.5 PK	74.0	-23.5	1.25 H	316	12.90	37.60
8	5000.00	45.5 AV	54.0	-8.5	1.25 H	316	7.90	37.60
9	7311.00	51.8 PK	74.0	-22.2	1.00 H	291	8.30	43.50
10	7311.00	38.6 AV	54.0	-15.4	1.00 H	291	-4.90	43.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2333.00	60.0 PK	74.0	-14.0	1.36 V	49	28.90	31.10
2	2333.00	53.0 AV	54.0	-1.0	1.36 V	49	21.90	31.10
3	*2437.00	108.6 PK			1.15 V	277	77.10	31.50
4	*2437.00	105.3 AV			1.15 V	277	73.80	31.50
5	4874.00	45.8 PK	74.0	-28.2	1.11 V	75	8.50	37.30
6	4874.00	32.5 AV	54.0	-21.5	1.11 V	75	-4.80	37.30
7	5000.00	49.8 PK	74.0	-24.2	1.03 V	154	12.20	37.60
8	5000.00	44.3 AV	54.0	-9.7	1.03 V	154	6.70	37.60
9	7311.00	51.7 PK	74.0	-22.3	1.19 V	325	8.20	43.50
10	7311.00	38.4 AV	54.0	-15.6	1.19 V	325	-5.10	43.50

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	2333.00	57.0 PK	74.0	-17.0	1.00 H	231	25.90	31.10
2	2333.00	49.4 AV	54.0	-4.6	1.00 H	231	18.30	31.10
3	*2462.00	105.6 PK			1.81 H	345	74.00	31.60
4	*2462.00	101.9 AV			1.81 H	345	70.30	31.60
5	2483.50	57.9 PK	74.0	-16.1	1.81 H	345	26.30	31.60
6	2483.50	46.9 AV	54.0	-7.1	1.81 H	345	15.30	31.60
7	4924.00	46.7 PK	74.0	-27.3	1.26 H	277	9.30	37.40
8	4924.00	35.6 AV	54.0	-18.4	1.26 H	277	-1.80	37.40
9	5000.00	51.1 PK	74.0	-22.9	1.25 H	314	13.50	37.60
10	5000.00	45.8 AV	54.0	-8.2	1.25 H	314	8.20	37.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2333.00	60.7 PK	74.0	-13.3	1.35 V	50	29.60	31.10
2	2333.00	52.9 AV	54.0	-1.1	1.35 V	50	21.80	31.10
3	*2462.00	109.5 PK			1.63 V	69	77.90	31.60
4	*2462.00	105.9 AV			1.63 V	69	74.30	31.60
5	2483.50	59.1 PK	74.0	-14.9	1.63 V	69	27.50	31.60
6	2483.50	48.5 AV	54.0	-5.5	1.63 V	69	16.90	31.60
7	4924.00	45.6 PK	74.0	-28.4	1.15 V	41	8.20	37.40
8	4924.00	33.1 AV	54.0	-20.9	1.15 V	41	-4.30	37.40
9	5000.00	50.4 PK	74.0	-23.6	1.03 V	158	12.80	37.60
10	5000.00	44.5 AV	54.0	-9.5	1.03 V	158	6.90	37.60

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	2333.00	60.1 PK	74.0	-13.9	1.37 H	48	29.00	31.10
2	2333.00	52.9 AV	54.0	-1.1	1.37 H	48	21.80	31.10
3	2390.00	59.6 PK	74.0	-14.4	1.06 H	303	28.30	31.30
4	2390.00	48.6 AV	54.0	-5.4	1.06 H	303	17.30	31.30
5	*2412.00	100.3 PK			1.06 H	303	68.90	31.40
6	*2412.00	89.3 AV			1.06 H	303	57.90	31.40
7	4824.00	46.4 PK	74.0	-27.6	1.00 H	207	9.20	37.20
8	4824.00	32.9 AV	54.0	-21.1	1.00 H	207	-4.30	37.20
9	5000.00	50.8 PK	74.0	-23.2	1.02 H	161	13.20	37.60
10	5000.00	45.9 AV	54.0	-8.1	1.02 H	161	8.30	37.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2333.00	58.4 PK	74.0	-15.6	1.00 V	128	27.30	31.10
2	2333.00	49.5 AV	54.0	-4.5	1.00 V	128	18.40	31.10
3	2390.00	66.8 PK	74.0	-7.2	1.00 V	350	35.50	31.30
4	2390.00	52.6 AV	54.0	-1.4	1.00 V	350	21.30	31.30
5	*2412.00	108.5 PK			1.00 V	348	77.10	31.40
6	*2412.00	96.7 AV			1.00 V	348	65.30	31.40
7	4824.00	48.3 PK	74.0	-25.7	1.00 V	271	11.10	37.20
8	4824.00	34.7 AV	54.0	-19.3	1.00 V	271	-2.50	37.20
9	5000.00	50.4 PK	74.0	-23.6	1.13 V	317	12.80	37.60
10	5000.00	46.1 AV	54.0	-7.9	1.13 V	317	8.50	37.60

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	2333.00	59.5 PK	74.0	-14.5	1.34 H	50	28.40	31.10
2	2333.00	52.8 AV	54.0	-1.2	1.34 H	50	21.70	31.10
3	2390.00	55.9 PK	74.0	-18.1	1.25 H	58	24.60	31.30
4	2390.00	43.9 AV	54.0	-10.1	1.25 H	58	12.60	31.30
5	*2437.00	102.6 PK			1.25 H	58	71.10	31.50
6	*2437.00	90.4 AV			1.25 H	58	58.90	31.50
7	4874.00	47.1 PK	74.0	-26.9	1.14 H	104	9.80	37.30
8	4874.00	33.5 AV	54.0	-20.5	1.14 H	104	-3.80	37.30
9	5000.00	51.1 PK	74.0	-22.9	1.03 H	160	13.50	37.60
10	5000.00	45.9 AV	54.0	-8.1	1.03 H	160	8.30	37.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2333.00	57.6 PK	74.0	-16.4	1.00 V	127	26.50	31.10
2	2333.00	49.6 AV	54.0	-4.4	1.00 V	127	18.50	31.10
3	2390.00	57.1 PK	74.0	-16.9	1.18 V	353	25.80	31.30
4	2390.00	46.1 AV	54.0	-7.9	1.18 V	353	14.80	31.30
5	*2437.00	109.9 PK			1.21 V	348	78.40	31.50
6	*2437.00	97.4 AV			1.21 V	348	65.90	31.50
7	4874.00	49.8 PK	74.0	-24.2	1.14 V	248	12.50	37.30
8	4874.00	36.3 AV	54.0	-17.7	1.14 V	248	-1.00	37.30
9	5000.00	49.8 PK	74.0	-24.2	1.40 V	328	12.20	37.60
10	5000.00	45.1 AV	54.0	-8.9	1.40 V	328	7.50	37.60

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	2333.00	59.8 PK	74.0	-14.2	1.36 H	47	28.70	31.10
2	2333.00	52.9 AV	54.0	-1.1	1.36 H	47	21.80	31.10
3	*2462.00	101.2 PK			1.03 H	6	69.60	31.60
4	*2462.00	88.9 AV			1.03 H	6	57.30	31.60
5	2483.50	59.7 PK	74.0	-14.3	1.03 H	6	28.10	31.60
6	2483.50	47.3 AV	54.0	-6.7	1.03 H	6	15.70	31.60
7	4924.00	46.5 PK	74.0	-27.5	1.00 H	70	9.10	37.40
8	4924.00	31.6 AV	54.0	-22.4	1.00 H	70	-5.80	37.40
9	5000.00	50.1 PK	74.0	-23.9	1.01 H	160	12.50	37.60
10	5000.00	45.6 AV	54.0	-8.4	1.01 H	160	8.00	37.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2333.00	58.6 PK	74.0	-15.4	1.00 V	126	27.50	31.10
2	2333.00	49.8 AV	54.0	-4.2	1.00 V	126	18.70	31.10
3	*2462.00	109.2 PK			1.19 V	327	77.60	31.60
4	*2462.00	98.0 AV			1.19 V	327	66.40	31.60
5	2483.50	67.7 PK	74.0	-6.3	1.17 V	305	36.10	31.60
6	2483.50	52.9 AV	54.0	-1.1	1.17 V	305	21.30	31.60
7	4924.00	48.2 PK	74.0	-25.8	1.10 V	273	10.80	37.40
8	4924.00	34.2 AV	54.0	-19.8	1.10 V	273	-3.20	37.40
9	5000.00	50.5 PK	74.0	-23.5	1.12 V	317	12.90	37.60
10	5000.00	46.3 AV	54.0	-7.7	1.12 V	317	8.70	37.60

REMARKS:

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



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802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	64.1 PK	74.0	-9.9	1.74 H	82	32.80	31.30
2	2390.00	50.7 AV	54.0	-3.3	1.74 H	82	19.40	31.30
3	*2412.00	108.1 PK			1.74 H	82	76.70	31.40
4	*2412.00	95.4 AV			1.74 H	82	64.00	31.40
5	4824.00	46.7 PK	74.0	-27.3	1.00 H	211	9.50	37.20
6	4824.00	33.3 AV	54.0	-20.7	1.00 H	211	-3.90	37.20
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	2390.00	66.0 PK	74.0	-8.0	1.00 V	350	34.70	31.30
2	2390.00	52.6 AV	54.0	-1.4	1.00 V	350	21.30	31.30
3	*2412.00	110.9 PK			1.00 V	358	79.50	31.40
4	*2412.00	97.2 AV			1.00 V	358	65.80	31.40
5	4824.00	48.1 PK	74.0	-25.9	1.00 V	253	10.90	37.20
6	4824.00	34.6 AV	54.0	-19.4	1.00 V	253	-2.60	37.20

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	57.5 PK	74.0	-16.5	1.15 H	70	26.20	31.30
2	2390.00	47.6 AV	54.0	-6.4	1.15 H	70	16.30	31.30
3	*2437.00	110.6 PK			1.15 H	70	79.10	31.50
4	*2437.00	97.7 AV			1.15 H	70	66.20	31.50
5	4874.00	47.3 PK	74.0	-26.7	1.12 H	92	10.00	37.30
6	4874.00	33.9 AV	54.0	-20.1	1.12 H	92	-3.40	37.30
7	7311.00	54.3 PK	74.0	-19.7	1.20 H	319	10.80	43.50
8	7311.00	40.4 AV	54.0	-13.6	1.20 H	319	-3.10	43.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.4 PK	74.0	-14.6	1.00 V	354	28.10	31.30
2	2390.00	46.5 AV	54.0	-7.5	1.00 V	354	15.20	31.30
3	*2437.00	111.6 PK			1.80 V	346	80.10	31.50
4	*2437.00	98.2 AV			1.80 V	346	66.70	31.50
5	4874.00	50.1 PK	74.0	-23.9	1.11 V	253	12.80	37.30
6	4874.00	36.4 AV	54.0	-17.6	1.11 V	253	-0.90	37.30
7	7311.00	54.4 PK	74.0	-19.6	1.00 V	284	10.90	43.50
8	7311.00	40.7 AV	54.0	-13.3	1.00 V	284	-2.80	43.50

REMARKS:

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	108.1 PK			1.71 H	79	76.50	31.60
2	*2462.00	95.8 AV			1.71 H	79	64.20	31.60
3	2483.50	64.6 PK	74.0	-9.4	1.71 H	79	33.00	31.60
4	2483.50	50.8 AV	54.0	-3.2	1.71 H	79	19.20	31.60
5	4924.00	46.7 PK	74.0	-27.3	1.00 H	69	9.30	37.40
6	4924.00	32.4 AV	54.0	-21.6	1.00 H	69	-5.00	37.40
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	*2462.00	111.2 PK			1.20 V	329	79.60	31.60
2	*2462.00	96.8 AV			1.20 V	329	65.20	31.60
3	2483.50	67.1 PK	74.0	-6.9	1.46 V	354	35.50	31.60
4	2483.50	52.9 AV	54.0	-1.1	1.46 V	354	21.30	31.60
5	4924.00	48.0 PK	74.0	-26.0	1.08 V	260	10.60	37.40
6	4924.00	33.8 AV	54.0	-20.2	1.08 V	260	-3.60	37.40

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.



A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	2333.00	59.8 PK	74.0	-14.2	1.34 H	48	28.70	31.10
2	2333.00	53.0 AV	54.0	-1.0	1.34 H	48	21.90	31.10
3	2390.00	61.4 PK	74.0	-12.6	1.68 H	78	30.10	31.30
4	2390.00	49.4 AV	54.0	-4.6	1.68 H	78	18.10	31.30
5	*2422.00	101.5 PK			1.68 H	78	70.10	31.40
6	*2422.00	92.1 AV			1.68 H	78	60.70	31.40
7	4844.00	46.5 PK	74.0	-27.5	1.11 H	56	9.20	37.30
8	4844.00	33.4 AV	54.0	-20.6	1.11 H	56	-3.90	37.30
9	5000.00	50.0 PK	74.0	-24.0	1.03 H	156	12.40	37.60
10	5000.00	45.1 AV	54.0	-8.9	1.03 H	156	7.50	37.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2333.00	57.8 PK	74.0	-16.2	1.00 V	215	26.70	31.10
2	2333.00	49.8 AV	54.0	-4.2	1.00 V	215	18.70	31.10
3	2390.00	65.8 PK	74.0	-8.2	1.00 V	328	34.50	31.30
4	2390.00	52.9 AV	54.0	-1.1	1.00 V	328	21.60	31.30
5	*2422.00	104.2 PK			1.19 V	320	72.80	31.40
6	*2422.00	93.3 AV			1.19 V	320	61.90	31.40
7	4844.00	46.0 PK	74.0	-28.0	1.27 V	322	8.70	37.30
8	4844.00	33.5 AV	54.0	-20.5	1.27 V	322	-3.80	37.30
9	5000.00	50.9 PK	74.0	-23.1	1.39 V	318	13.30	37.60
10	5000.00	46.3 AV	54.0	-7.7	1.39 V	318	8.70	37.60

REMARKS:

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	2333.00	59.4 PK	74.0	-14.6	1.36 H	48	28.30	31.10
2	2333.00	52.9 AV	54.0	-1.1	1.36 H	48	21.80	31.10
3	2390.00	61.4 PK	74.0	-12.6	1.14 H	71	30.10	31.30
4	2390.00	50.1 AV	54.0	-3.9	1.14 H	71	18.80	31.30
5	*2437.00	103.6 PK			1.14 H	71	72.10	31.50
6	*2437.00	93.9 AV			1.14 H	71	62.40	31.50
7	4874.00	46.1 PK	74.0	-27.9	1.12 H	73	8.80	37.30
8	4874.00	33.4 AV	54.0	-20.6	1.12 H	73	-3.90	37.30
9	5000.00	49.8 PK	74.0	-24.2	1.02 H	159	12.20	37.60
10	5000.00	44.9 AV	54.0	-9.1	1.02 H	159	7.30	37.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2333.00	57.1 PK	74.0	-16.9	1.00 V	216	26.00	31.10
2	2333.00	49.5 AV	54.0	-4.5	1.00 V	216	18.40	31.10
3	2390.00	65.7 PK	74.0	-8.3	1.00 V	326	34.40	31.30
4	2390.00	52.7 AV	54.0	-1.3	1.00 V	326	21.40	31.30
5	*2437.00	105.4 PK			1.21 V	331	73.90	31.50
6	*2437.00	95.3 AV			1.21 V	331	63.80	31.50
7	4874.00	46.6 PK	74.0	-27.4	1.14 V	298	9.30	37.30
8	4874.00	34.3 AV	54.0	-19.7	1.14 V	298	-3.00	37.30
9	5000.00	50.8 PK	74.0	-23.2	1.07 V	292	13.20	37.60
10	5000.00	46.6 AV	54.0	-7.4	1.07 V	292	9.00	37.60

REMARKS:

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Haru Yang

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	2333.00	59.1 PK	74.0	-14.9	1.36 H	50	28.00	31.10
2	2333.00	52.8 AV	54.0	-1.2	1.36 H	50	21.70	31.10
3	*2452.00	100.2 PK			1.64 H	66	68.70	31.50
4	*2452.00	90.4 AV			1.64 H	66	58.90	31.50
5	2483.50	62.5 PK	74.0	-11.5	1.64 H	66	30.90	31.60
6	2483.50	50.1 AV	54.0	-3.9	1.64 H	66	18.50	31.60
7	4904.00	47.0 PK	74.0	-27.0	1.08 H	61	9.60	37.40
8	4904.00	33.6 AV	54.0	-20.4	1.08 H	61	-3.80	37.40
9	5000.00	49.7 PK	74.0	-24.3	1.02 H	151	12.10	37.60
10	5000.00	44.9 AV	54.0	-9.1	1.02 H	151	7.30	37.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2333.00	57.1 PK	74.0	-16.9	1.00 V	231	26.00	31.10
2	2333.00	49.7 AV	54.0	-4.3	1.00 V	231	18.60	31.10
3	*2452.00	103.2 PK			1.20 V	352	71.70	31.50
4	*2452.00	92.6 AV			1.20 V	352	61.10	31.50
5	2483.50	65.2 PK	74.0	-8.8	1.46 V	351	33.60	31.60
6	2483.50	52.9 AV	54.0	-1.1	1.46 V	351	21.30	31.60
7	4904.00	45.8 PK	74.0	-28.2	1.22 V	314	8.40	37.40
8	4904.00	33.7 AV	54.0	-20.3	1.22 V	314	-3.70	37.40
9	5000.00	50.3 PK	74.0	-23.7	1.38 V	318	12.70	37.60
10	5000.00	45.6 AV	54.0	-8.4	1.38 V	318	8.00	37.60

REMARKS:

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



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	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Sun Lin

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	163.86	31.8 QP	43.5	-11.7	1.50 H	135	18.00	13.80
2	198.78	38.3 QP	43.5	-5.2	1.00 H	279	27.00	11.30
3	249.22	32.3 QP	46.0	-13.7	1.00 H	301	19.30	13.00
4	499.48	35.1 QP	46.0	-10.9	1.50 H	245	15.00	20.10
5	668.26	37.6 QP	46.0	-8.4	1.00 H	234	14.90	22.70
6	749.74	33.5 QP	46.0	-12.5	1.00 H	348	9.50	24.00
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	70.74	33.9 QP	40.0	-6.1	1.00 V	254	21.70	12.20
2	144.46	34.4 QP	43.5	-9.1	1.00 V	198	20.70	13.70
3	249.22	30.8 QP	46.0	-15.2	1.50 V	232	17.80	13.00
4	499.48	37.4 QP	46.0	-8.6	1.00 V	253	17.30	20.10
5	666.32	37.4 QP	46.0	-8.6	1.50 V	245	14.70	22.70
6	749.74	36.3 QP	46.0	-9.7	1.25 V	120	12.30	24.00

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. 23, 2011	Nov. 22, 2012
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 29, 2011	Dec. 28, 2012
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 14, 2011	Jul. 13, 2012
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 07, 2012	Feb. 06, 2013
Software ADT	BV ADT_Cond_ V7.3.7.3	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

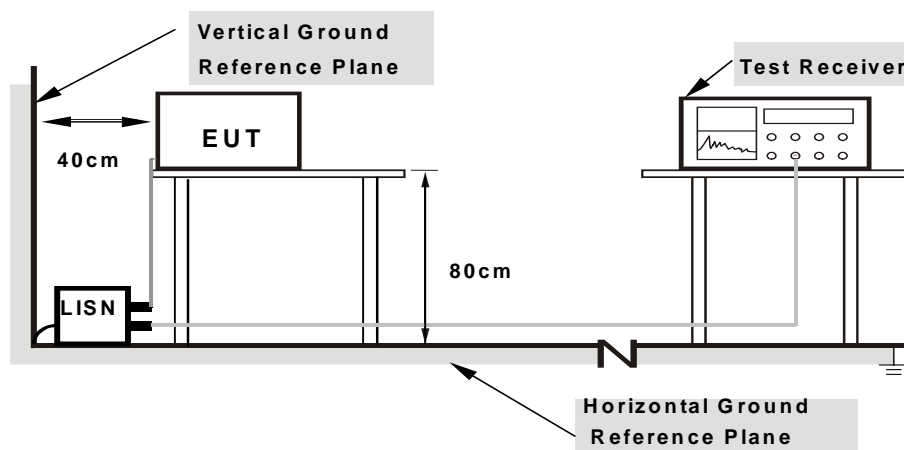
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

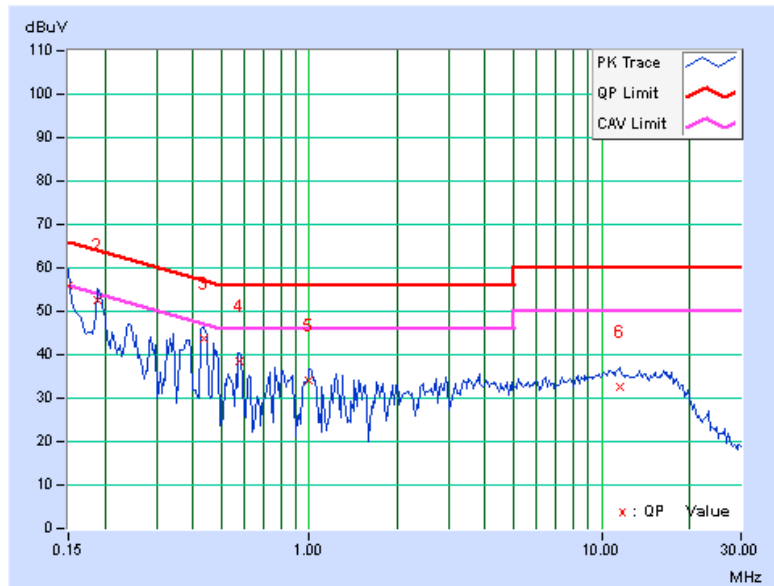
CONDUCTED WORST-CASE DATA : 802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
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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	0.15000	0.14	55.83	42.20	55.97	42.34	66.00	56.00	-10.03	-13.66
2	0.18906	0.21	52.26	43.52	52.47	43.73	64.08	54.08	-11.61	-10.35
3	0.43516	0.16	43.49	39.28	43.65	39.44	57.15	47.15	-13.50	-7.71
4	0.57969	0.17	38.39	34.50	38.56	34.67	56.00	46.00	-17.44	-11.33
5	0.99766	0.21	34.00	25.82	34.21	26.03	56.00	46.00	-21.79	-19.97
6	11.52734	0.62	31.85	26.73	32.47	27.35	60.00	50.00	-27.53	-22.65

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

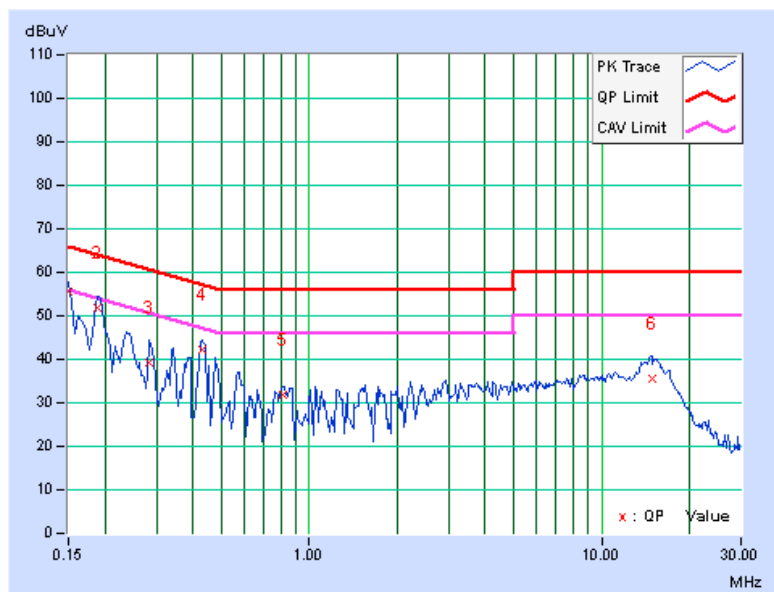


PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.23	55.40	41.04	55.63	41.27	66.00	56.00	-10.37	-14.73
2	0.18906	0.29	51.40	40.69	51.69	40.98	64.08	54.08	-12.38	-13.09
3	0.28281	0.29	38.97	26.45	39.26	26.74	60.73	50.73	-21.48	-24.00
4	0.43125	0.25	41.80	38.79	42.05	39.04	57.23	47.23	-15.18	-8.19
5	0.81406	0.28	31.58	25.06	31.86	25.34	56.00	46.00	-24.14	-20.66
6	14.84375	0.81	34.65	29.64	35.46	30.45	60.00	50.00	-24.54	-19.55

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

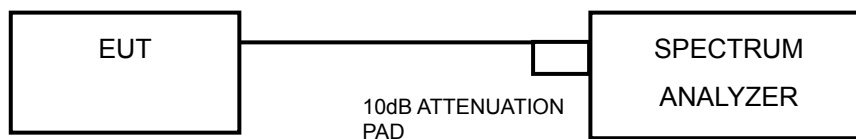


4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST SETUP



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.3.4 TEST PROCEDURE

- Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

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	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	8.09	0.5	PASS
6	2437	8.59	0.5	PASS
11	2462	8.15	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.03	0.5	PASS
6	2437	15.94	0.5	PASS
11	2462	16.04	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	17.25	17.23	0.5	PASS
6	2437	17.30	17.15	0.5	PASS
11	2462	17.29	17.03	0.5	PASS

802.11n (40MHz)

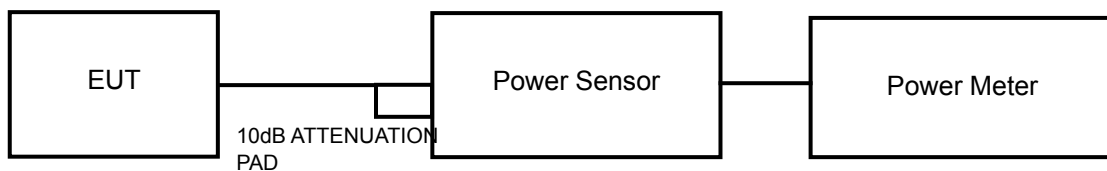
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
3	2422	36.30	36.14	0.5	PASS
6	2437	36.52	36.45	0.5	PASS
9	2452	36.56	36.48	0.5	PASS

4.4 CONDUCTED OUTPUT POWER

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.4.4 TEST PROCEDURES

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

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

4.4.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	135.8	21.33	30	PASS
6	2437	122.5	20.88	30	PASS
11	2462	135.5	21.32	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	144.9	21.61	30	PASS
6	2437	259.4	24.14	30	PASS
11	2462	312.6	24.95	30	PASS

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	22.18	22.27	333.9	25.2	30	PASS
6	2437	22.84	23.62	422.5	26.3	30	PASS
11	2462	21.74	22.36	321.5	25.1	30	PASS

802.11n (40MHz)

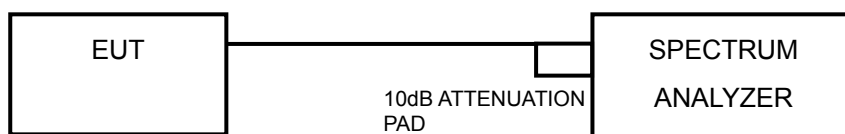
CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
3	2422	20.38	20.70	226.6	23.6	30	PASS
6	2437	20.95	21.12	253.9	24.0	30	PASS
9	2452	18.84	18.68	150.4	21.8	30	PASS

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 SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.5.4 TEST PROCEDURE

- Set the RBW = 100 kHz, VBW = 300 kHz, Detector = peak.
- Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
- Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(3 \text{ kHz}/100\text{kHz})$

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6



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4.5.7 TEST RESULTS

802.11b

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	9.02	-6.21	8	PASS
6	2437	8.73	-6.50	8	PASS
11	2462	9.21	-6.02	8	PASS

802.11g

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	3.22	-12.01	8	PASS
6	2437	5.62	-9.61	8	PASS
11	2462	5.10	-10.13	8	PASS

802.11n (20MHz)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	3.08	-12.15	3.01	-9.14	8	PASS
	6	2437	3.61	-11.62	3.01	-8.61	8	PASS
	11	2462	2.76	-12.47	3.01	-9.46	8	PASS
1	1	2412	3.04	-12.19	3.01	-9.18	8	PASS
	6	2437	4.55	-10.68	3.01	-7.67	8	PASS
	11	2462	3.18	-12.05	3.01	-9.04	8	PASS

802.11n (40MHz)

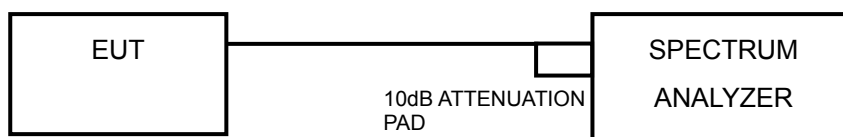
TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-2.97	-18.20	3.01	-15.19	8	PASS
	6	2437	-2.21	-17.44	3.01	-14.43	8	PASS
	9	2452	-4.45	-19.68	3.01	-16.67	8	PASS
1	3	2422	-2.87	-18.10	3.01	-15.09	8	PASS
	6	2437	-2.27	-17.50	3.01	-14.49	8	PASS
	9	2452	-4.74	-19.97	3.01	-16.96	8	PASS

4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.6.4 TEST PROCEDURE

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW \geq 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOB

1. Set RBW = 100 kHz.
2. Set VBW \geq 300 kHz.
3. Set span to encompass the spectrum to be examined.
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.7 TEST RESULTS

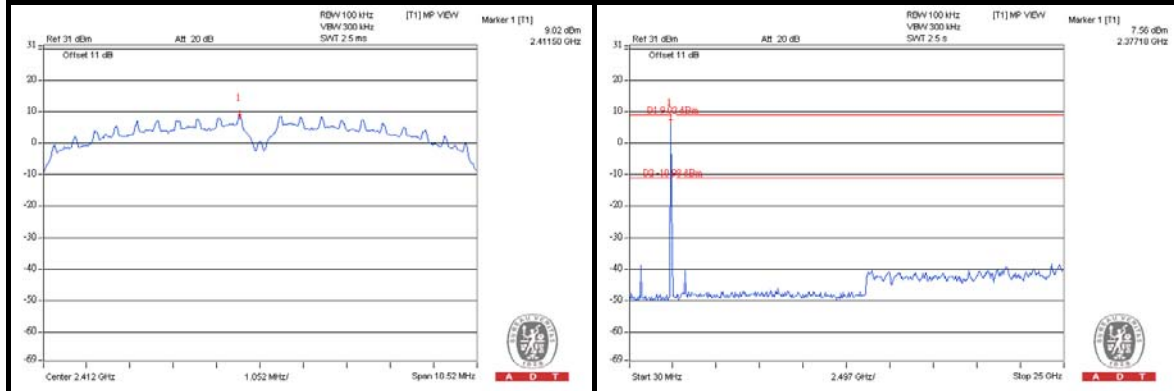
The conducted emission test is performed on each TX port of operating mode without summing or adding $10\log(N)$ since the limit is relative emission limit. Only worst data of each operating mode is presented.

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.

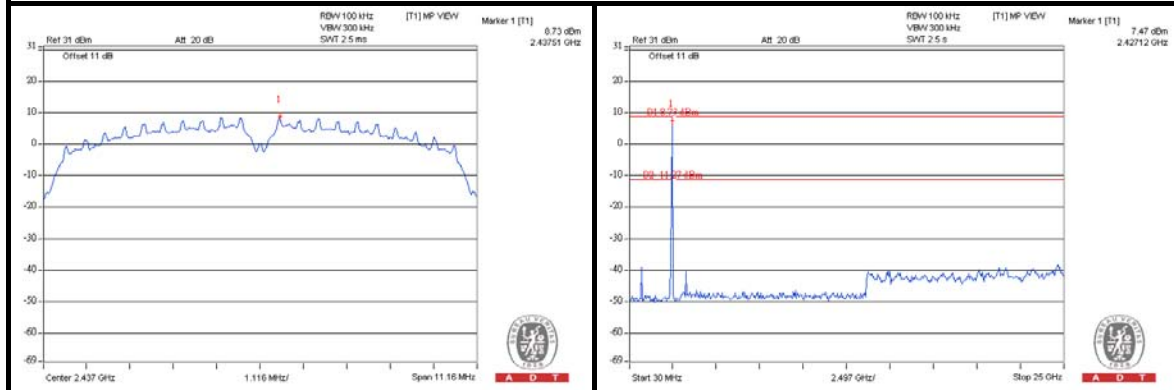
4.6.8 TEST RESULTS

802.11b

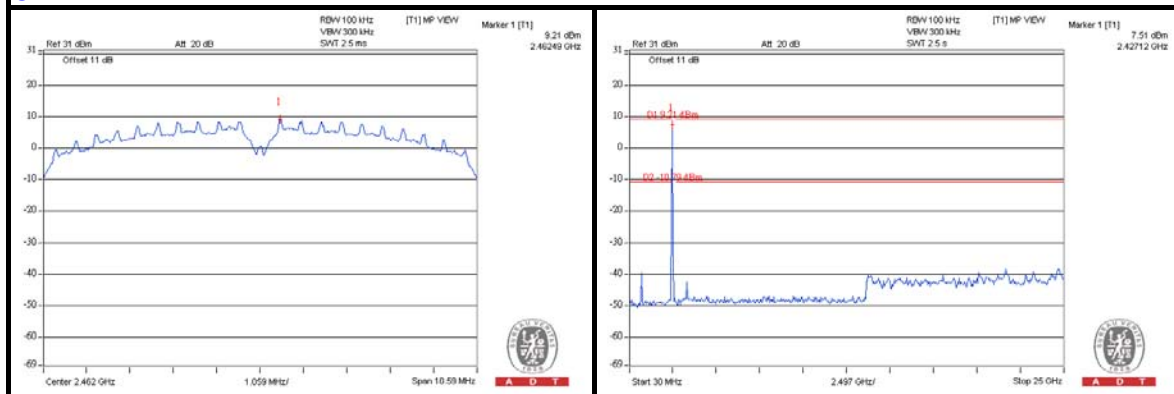
CH 1



CH 6

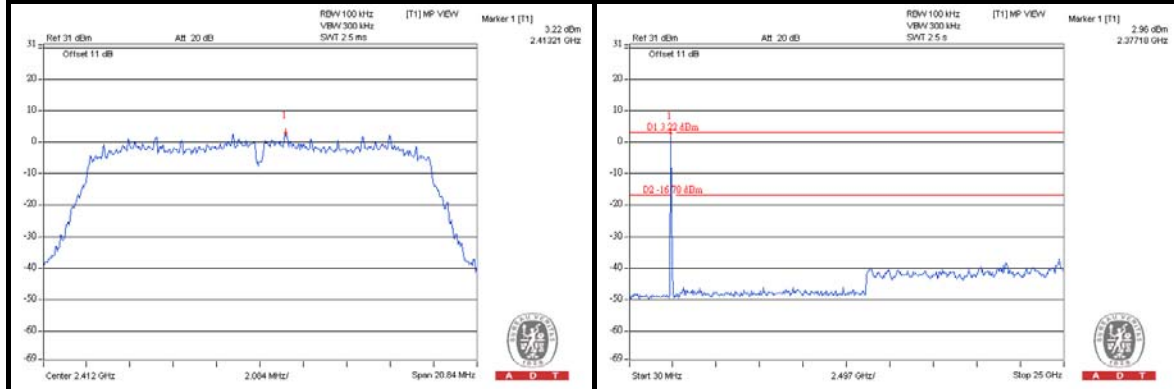


CH 11

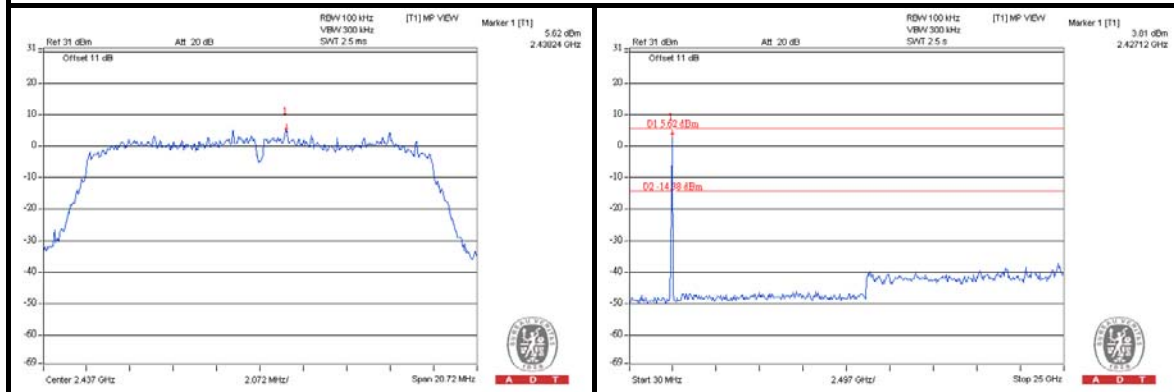


802.11g

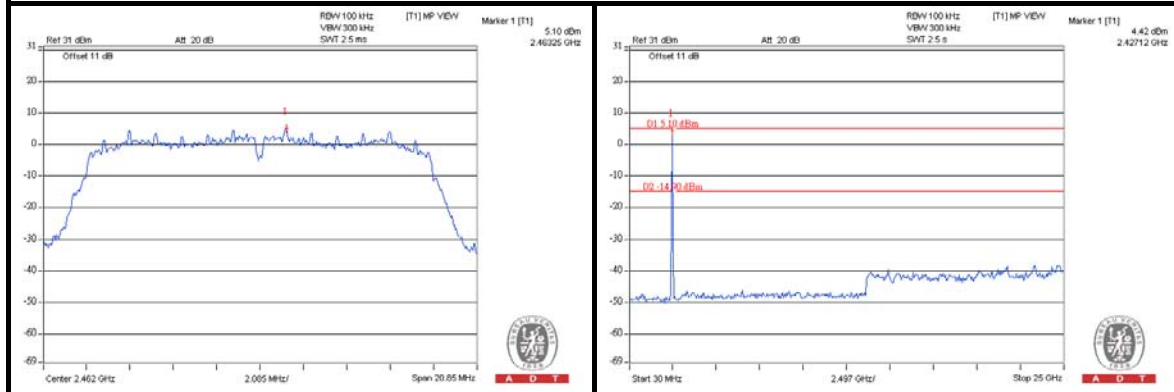
CH 1



CH 6

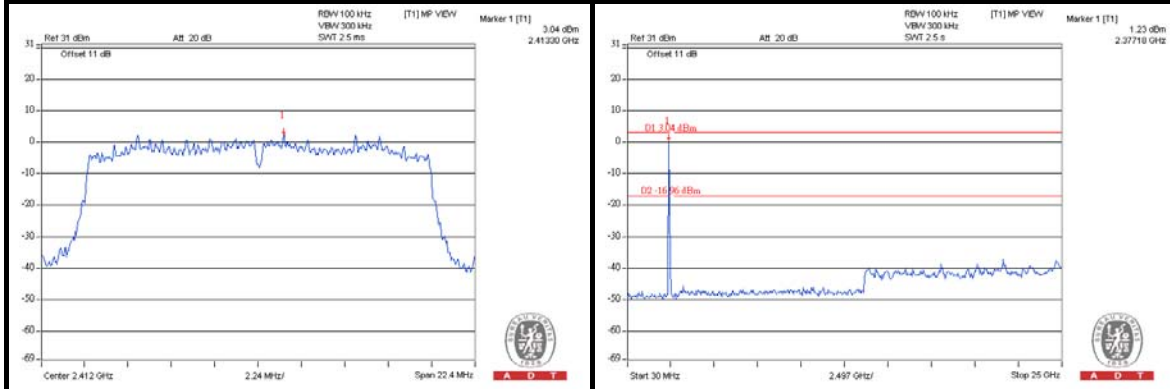


CH 11

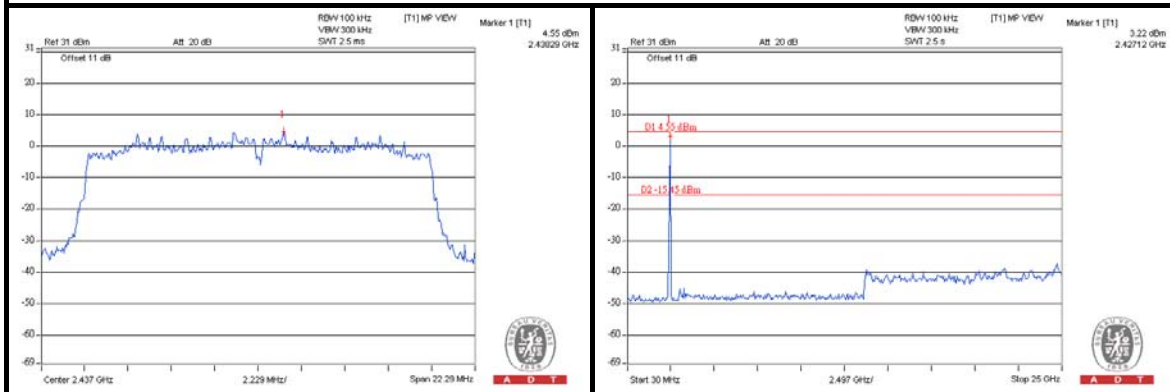


802.11n (20MHz)

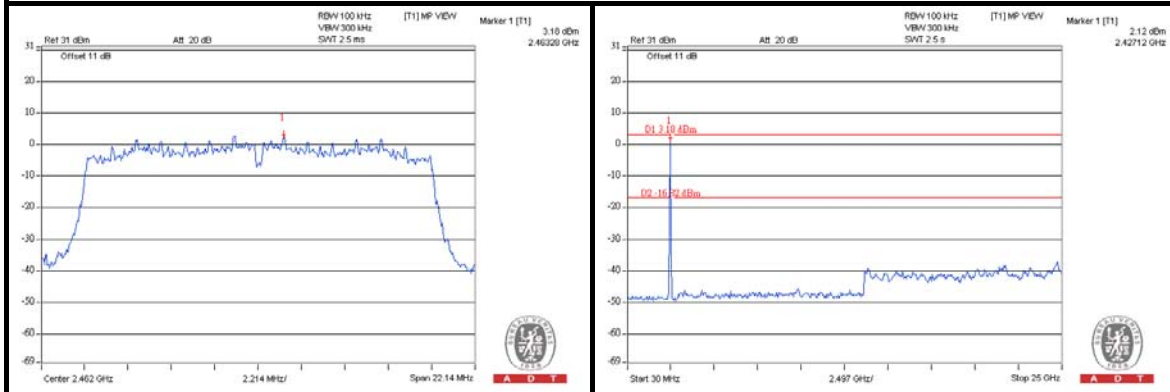
CH 1



CH 6

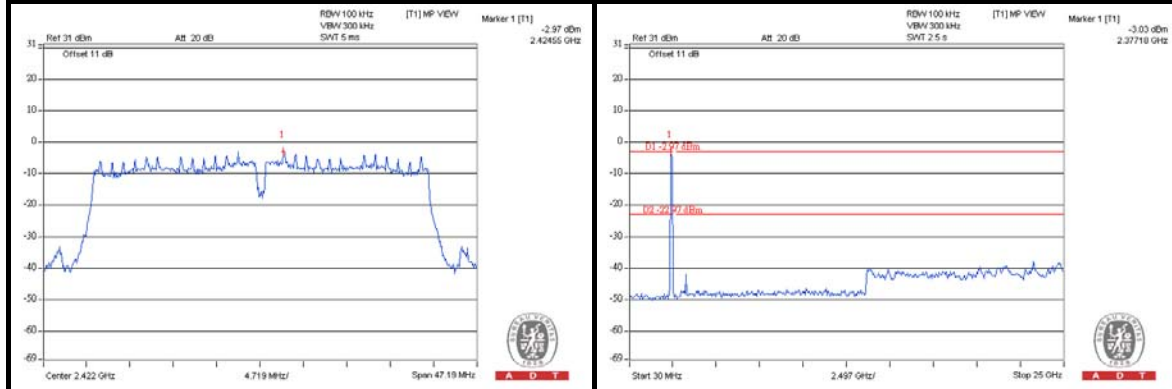


CH 11

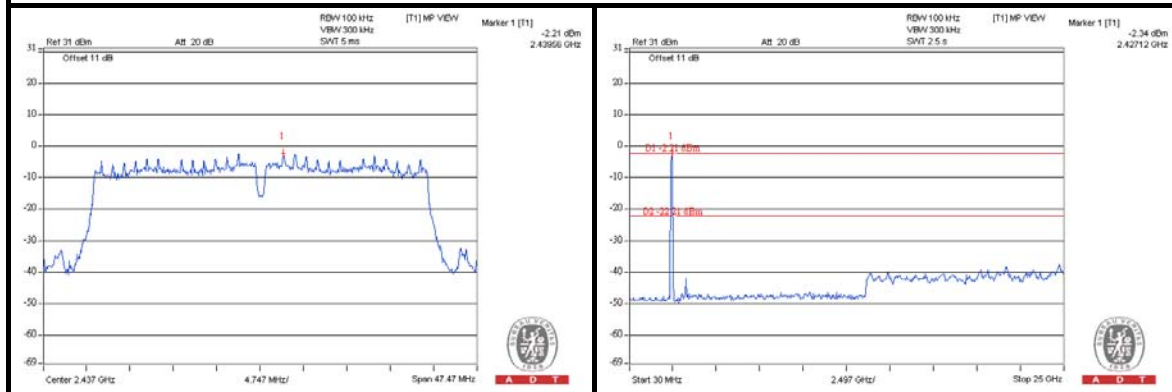


802.11n (40MHz)

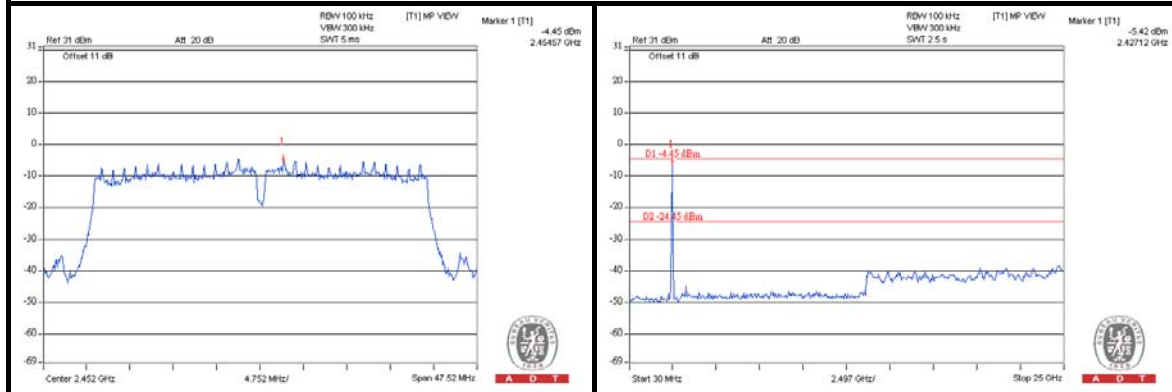
CH 3



CH 6



CH 9



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

5.1 RADIATED EMISSION MEASUREMENT

5.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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. 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.



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5.1.2 TEST INSTRUMENTS

Same as item 4.1.2.

5.1.3 TEST PROCEDURES

Same as item 4.1.3.

5.1.4 DEVIATION FROM TEST STANDARD

No deviation.

5.1.5 TEST SETUP

Same as item 4.1.5.

5.1.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

5.1.7 TEST RESULTS

ABOVE 1GHz DATA :

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Haru Yang

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	2333.00	60.2 PK	74.0	-13.8	1.36 H	50	29.10	31.10
2	2333.00	52.9 AV	54.0	-1.1	1.36 H	50	21.80	31.10
3	5000.00	56.8 PK	74.0	-17.2	1.03 H	163	19.20	37.60
4	5000.00	47.2 AV	54.0	-6.8	1.03 H	163	9.60	37.60
5	#5725.00	59.4 PK	80.3	-20.9	1.00 H	152	20.60	38.80
6	#5725.00	48.2 AV	69.1	-20.9	1.00 H	152	9.40	38.80
7	*5745.00	100.3 PK			1.00 H	152	61.50	38.80
8	*5745.00	89.1 AV			1.00 H	152	50.30	38.80
9	11490.00	60.0 PK	74.0	-14.0	1.00 H	193	9.90	50.10
10	11490.00	45.6 AV	54.0	-8.4	1.00 H	193	-4.50	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Haru Yang

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	2333.00	57.9 PK	74.0	-16.1	1.01 V	127	26.80	31.10
2	2333.00	49.4 AV	54.0	-4.6	1.01 V	127	18.30	31.10
3	5000.00	57.3 PK	74.0	-16.7	1.05 V	353	19.70	37.60
4	5000.00	46.3 AV	54.0	-7.7	1.05 V	353	8.70	37.60
5	#5725.00	70.5 PK	90.0	-19.5	1.03 V	351	31.70	38.80
6	#5725.00	58.2 AV	77.7	-19.5	1.03 V	351	19.40	38.80
7	*5745.00	110.0 PK			1.37 V	0	71.20	38.80
8	*5745.00	97.7 AV			1.37 V	0	58.90	38.80
9	11490.00	59.5 PK	74.0	-14.5	1.24 V	228	9.40	50.10
10	11490.00	45.2 AV	54.0	-8.8	1.24 V	228	-4.90	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Haru Yang

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	2333.00	60.1 PK	74.0	-13.9	1.35 H	48	29.00	31.10
2	2333.00	52.9 AV	54.0	-1.1	1.35 H	48	21.80	31.10
3	5000.00	57.5 PK	74.0	-16.5	1.04 H	164	19.90	37.60
4	5000.00	47.1 AV	54.0	-6.9	1.04 H	164	9.50	37.60
5	#5725.00	54.8 PK	81.4	-26.6	1.09 H	156	16.00	38.80
6	#5725.00	42.5 AV	70.4	-27.9	1.09 H	156	3.70	38.80
7	*5785.00	101.4 PK			1.09 H	156	62.50	38.90
8	*5785.00	90.4 AV			1.09 H	156	51.50	38.90
9	11570.00	59.8 PK	74.0	-14.2	1.00 H	187	9.80	50.00
10	11570.00	45.7 AV	54.0	-8.3	1.00 H	187	-4.30	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	2333.00	58.1 PK	74.0	-15.9	1.00 V	128	27.00	31.10
2	2333.00	49.5 AV	54.0	-4.5	1.00 V	128	18.40	31.10
3	5000.00	56.4 PK	74.0	-17.6	1.03 V	341	18.80	37.60
4	5000.00	46.3 AV	54.0	-7.7	1.03 V	341	8.70	37.60
5	#5725.00	56.7 PK	90.0	-33.3	1.15 V	340	17.90	38.80
6	#5725.00	43.8 AV	77.1	-33.3	1.15 V	340	5.00	38.80
7	*5785.00	110.0 PK			1.15 V	340	71.10	38.90
8	*5785.00	97.1 AV			1.15 V	340	58.20	38.90
9	11570.00	59.2 PK	74.0	-14.8	1.22 V	237	9.20	50.00
10	11570.00	44.7 AV	54.0	-9.3	1.22 V	237	-5.30	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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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Haru Yang

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	2333.00	59.6 PK	74.0	-14.4	1.34 H	60	28.50	31.10
2	2333.00	52.9 AV	54.0	-1.1	1.34 H	60	21.80	31.10
3	5000.00	56.5 PK	74.0	-17.5	1.03 H	170	18.90	37.60
4	5000.00	46.8 AV	54.0	-7.2	1.03 H	170	9.20	37.60
5	*5825.00	102.4 PK			1.06 H	130	63.50	38.90
6	*5825.00	90.8 AV			1.06 H	130	51.90	38.90
7	#5850.00	58.0 PK	82.4	-24.4	1.06 H	130	19.00	39.00
8	#5850.00	46.4 AV	70.8	-24.4	1.06 H	130	7.40	39.00
9	11650.00	59.7 PK	74.0	-14.3	1.00 H	193	9.70	50.00
10	11650.00	45.9 AV	54.0	-8.1	1.00 H	193	-4.10	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	2333.00	58.2 PK	74.0	-15.8	1.00 V	127	27.10	31.10
2	2333.00	49.2 AV	54.0	-4.8	1.00 V	127	18.10	31.10
3	5000.00	57.1 PK	74.0	-16.9	1.04 V	263	19.50	37.60
4	5000.00	47.6 AV	54.0	-6.4	1.04 V	263	10.00	37.60
5	*5825.00	110.4 PK			1.12 V	346	71.50	38.90
6	*5825.00	98.0 AV			1.12 V	346	59.10	38.90
7	#5850.00	65.8 PK	90.4	-24.6	1.13 V	0	26.80	39.00
8	#5850.00	53.4 AV	78.0	-24.6	1.13 V	0	14.40	39.00
9	11650.00	59.5 PK	74.0	-14.5	1.25 V	216	9.50	50.00
10	11650.00	45.0 AV	54.0	-9.0	1.25 V	216	-5.00	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

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Haru Yang

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	2333.00	59.9 PK	74.0	-14.1	1.36 H	48	28.80	31.10
2	2333.00	52.8 AV	54.0	-1.2	1.36 H	48	21.70	31.10
3	5000.00	56.8 PK	74.0	-17.2	1.02 H	167	19.20	37.60
4	5000.00	47.1 AV	54.0	-6.9	1.02 H	167	9.50	37.60
5	#5725.00	64.8 PK	84.4	-19.6	1.18 H	135	26.00	38.80
6	#5725.00	52.0 AV	71.6	-19.6	1.18 H	135	13.20	38.80
7	*5745.00	104.4 PK			1.18 H	135	65.60	38.80
8	*5745.00	91.6 AV			1.18 H	135	52.80	38.80
9	11490.00	59.8 PK	74.0	-14.2	1.00 H	199	9.70	50.10
10	11490.00	45.3 AV	54.0	-8.7	1.00 H	199	-4.80	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	2333.00	57.8 PK	74.0	-16.2	1.00 V	126	26.70	31.10
2	2333.00	49.5 AV	54.0	-4.5	1.00 V	126	18.40	31.10
3	5000.00	56.9 PK	74.0	-17.1	1.05 V	350	19.30	37.60
4	5000.00	46.9 AV	54.0	-7.1	1.05 V	350	9.30	37.60
5	#5725.00	71.3 PK	91.0	-19.7	1.00 V	351	32.50	38.80
6	#5725.00	57.8 AV	77.5	-19.7	1.00 V	351	19.00	38.80
7	*5745.00	111.0 PK			1.08 V	334	72.20	38.80
8	*5745.00	97.5 AV			1.08 V	334	58.70	38.80
9	#10490.00	58.8 PK	91.0	-32.2	1.22 V	219	9.30	49.50
10	#10490.00	44.8 AV	77.5	-32.7	1.22 V	219	-4.70	49.50

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
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	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Haru Yang

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	2333.00	59.8 PK	74.0	-14.2	1.36 H	47	28.70	31.10
2	2333.00	52.8 AV	54.0	-1.2	1.36 H	47	21.70	31.10
3	5000.00	56.0 PK	74.0	-18.0	1.05 H	166	18.40	37.60
4	5000.00	46.9 AV	54.0	-7.1	1.05 H	166	9.30	37.60
5	#5725.00	55.3 PK	84.8	-29.5	1.05 H	142	16.50	38.80
6	#5725.00	42.0 AV	71.8	-29.8	1.05 H	142	3.20	38.80
7	*5785.00	104.8 PK			1.05 H	142	65.90	38.90
8	*5785.00	91.8 AV			1.05 H	142	52.90	38.90
9	11570.00	60.0 PK	74.0	-14.0	1.00 H	176	10.00	50.00
10	11570.00	45.9 AV	54.0	-8.1	1.00 H	176	-4.10	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	2333.00	58.2 PK	74.0	-15.8	1.00 V	126	27.10	31.10
2	2333.00	49.6 AV	54.0	-4.4	1.00 V	126	18.50	31.10
3	5000.00	56.7 PK	74.0	-17.3	1.05 V	352	19.10	37.60
4	5000.00	46.8 AV	54.0	-7.2	1.05 V	352	9.20	37.60
5	#5725.00	56.4 PK	90.3	-33.9	1.00 V	345	17.60	38.80
6	#5725.00	43.3 AV	77.2	-33.9	1.00 V	345	4.50	38.80
7	*5785.00	110.3 PK			1.00 V	345	71.40	38.90
8	*5785.00	97.2 AV			1.00 V	345	58.30	38.90
9	11570.00	59.3 PK	74.0	-14.7	1.24 V	225	9.30	50.00
10	11570.00	44.9 AV	54.0	-9.1	1.24 V	225	-5.10	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 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Haru Yang

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	2333.00	59.7 PK	74.0	-14.3	1.34 H	48	28.60	31.10
2	2333.00	52.9 AV	54.0	-1.1	1.34 H	48	21.80	31.10
3	5000.00	56.9 PK	74.0	-17.1	1.05 H	167	19.30	37.60
4	5000.00	46.7 AV	54.0	-7.3	1.05 H	167	9.10	37.60
5	*5825.00	105.3 PK			1.06 H	132	66.40	38.90
6	*5825.00	92.5 AV			1.06 H	132	53.60	38.90
7	#5850.00	61.1 PK	85.3	-24.2	1.06 H	132	22.10	39.00
8	#5850.00	48.3 AV	72.5	-24.2	1.06 H	132	9.30	39.00
9	11650.00	59.9 PK	74.0	-14.1	1.00 H	199	9.90	50.00
10	11650.00	46.2 AV	54.0	-7.8	1.00 H	199	-3.80	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	2333.00	57.6 PK	74.0	-16.4	1.00 V	125	26.50	31.10
2	2333.00	49.4 AV	54.0	-4.6	1.00 V	125	18.30	31.10
3	5000.00	56.7 PK	74.0	-17.3	1.05 V	351	19.10	37.60
4	5000.00	46.6 AV	54.0	-7.4	1.05 V	351	9.00	37.60
5	*5825.00	110.9 PK			1.14 V	349	72.00	38.90
6	*5825.00	97.0 AV			1.14 V	349	58.10	38.90
7	#5850.00	64.7 PK	90.9	-26.2	1.14 V	349	25.70	39.00
8	#5850.00	50.8 AV	77.0	-26.2	1.14 V	349	11.80	39.00
9	11650.00	59.3 PK	74.0	-14.7	1.22 V	231	9.30	50.00
10	11650.00	49.4 AV	54.0	-4.6	1.22 V	231	-0.60	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.



A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Haru Yang

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	2333.00	59.1 PK	74.0	-14.9	1.35 H	46	28.00	31.10
2	2333.00	52.8 AV	54.0	-1.2	1.35 H	46	21.70	31.10
3	5000.00	57.3 PK	74.0	-16.7	1.00 H	157	19.70	37.60
4	5000.00	47.5 AV	54.0	-6.5	1.00 H	157	9.90	37.60
5	#5725.00	66.6 PK	80.7	-14.1	1.06 H	142	27.80	38.80
6	#5725.00	56.1 AV	70.2	-14.1	1.06 H	142	17.30	38.80
7	*5755.00	100.7 PK			1.06 H	142	61.90	38.80
8	*5755.00	90.2 AV			1.06 H	142	51.40	38.80
9	11510.00	60.0 PK	74.0	-14.0	1.00 H	207	9.90	50.10
10	11510.00	45.8 AV	54.0	-8.2	1.00 H	207	-4.30	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	2333.00	57.8 PK	74.0	-16.2	1.00 V	126	26.70	31.10
2	2333.00	49.7 AV	54.0	-4.3	1.00 V	126	18.60	31.10
3	5000.00	56.6 PK	74.0	-17.4	1.05 V	351	19.00	37.60
4	5000.00	47.4 AV	54.0	-6.6	1.05 V	351	9.80	37.60
5	#5725.00	72.0 PK	86.3	-14.3	1.00 V	12	33.20	38.80
6	#5725.00	60.8 AV	75.1	-14.3	1.00 V	12	22.00	38.80
7	*5755.00	106.3 PK			1.27 V	7	67.50	38.80
8	*5755.00	95.1 AV			1.27 V	7	56.30	38.80
9	11510.00	59.6 PK	74.0	-14.4	1.20 V	216	9.50	50.10
10	11510.00	45.5 AV	54.0	-8.5	1.20 V	216	-4.60	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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Haru Yang

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	2333.00	59.8 PK	74.0	-14.2	1.36 H	50	28.70	31.10
2	2333.00	52.9 AV	54.0	-1.1	1.36 H	50	21.80	31.10
3	5000.00	56.1 PK	74.0	-17.9	1.00 H	162	18.50	37.60
4	5000.00	47.3 AV	54.0	-6.7	1.00 H	162	9.70	37.60
5	*5795.00	101.4 PK			1.05 H	130	62.50	38.90
6	*5795.00	90.6 AV			1.05 H	130	51.70	38.90
7	#5850.00	57.6 PK	81.4	-23.8	1.05 H	130	18.60	39.00
8	#5850.00	46.8 AV	70.6	-23.8	1.05 H	130	7.80	39.00
9	11590.00	59.7 PK	74.0	-14.3	1.00 H	211	9.70	50.00
10	11590.00	45.8 AV	54.0	-8.2	1.00 H	211	-4.20	50.00
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	2333.00	57.4 PK	74.0	-16.6	1.00 V	127	26.30	31.10
2	2333.00	49.7 AV	54.0	-4.3	1.00 V	127	18.60	31.10
3	5000.00	56.1 PK	74.0	-17.9	1.04 V	352	18.50	37.60
4	5000.00	47.3 AV	54.0	-6.7	1.04 V	352	9.70	37.60
5	*5795.00	106.2 PK			1.38 V	1	67.30	38.90
6	*5795.00	95.1 AV			1.38 V	1	56.20	38.90
7	#5850.00	58.8 PK	86.2	-27.4	1.38 V	1	19.80	39.00
8	#5850.00	47.7 AV	75.1	-27.4	1.38 V	1	8.70	39.00
9	11590.00	59.3 PK	74.0	-14.7	1.19 V	237	9.30	50.00
10	11590.00	45.6 AV	54.0	-8.4	1.19 V	237	-4.40	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

BELOW 1GHz WORST-CASE DATA : 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Sun Lin

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	158.04	32.0 QP	43.5	-11.5	1.50 H	273	18.00	14.00
2	198.78	39.5 QP	43.5	-4.0	1.00 H	281	28.20	11.30
3	249.22	31.5 QP	46.0	-14.5	1.25 H	299	18.50	13.00
4	499.48	37.2 QP	46.0	-8.8	1.50 H	239	17.10	20.10
5	668.26	37.5 QP	46.0	-8.5	1.00 H	233	14.80	22.70
6	749.74	34.8 QP	46.0	-11.2	1.00 H	327	10.80	24.00
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	62.71	35.3 QP	40.0	-4.7	1.13 V	12	22.10	13.20
2	146.40	30.9 QP	43.5	-12.6	1.25 V	127	17.10	13.80
3	198.78	28.7 QP	43.5	-14.8	1.50 V	89	17.40	11.30
4	249.22	28.2 QP	46.0	-17.8	1.50 V	237	15.20	13.00
5	499.48	35.1 QP	46.0	-10.9	1.00 V	63	15.00	20.10
6	668.26	37.8 QP	46.0	-8.2	1.50 V	254	15.10	22.70

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.

5.2 CONDUCTED EMISSION MEASUREMENT

5.2.1 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.

5.2.2 TEST INSTRUMENTS

Same as item 4.2.2.

5.2.3 TEST PROCEDURES

Same as item 4.2.3.

5.2.4 DEVIATION FROM TEST STANDARD

No deviation.

5.2.5 TEST SETUP

Same as item 4.2.5.

5.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

5.2.7 TEST RESULTS

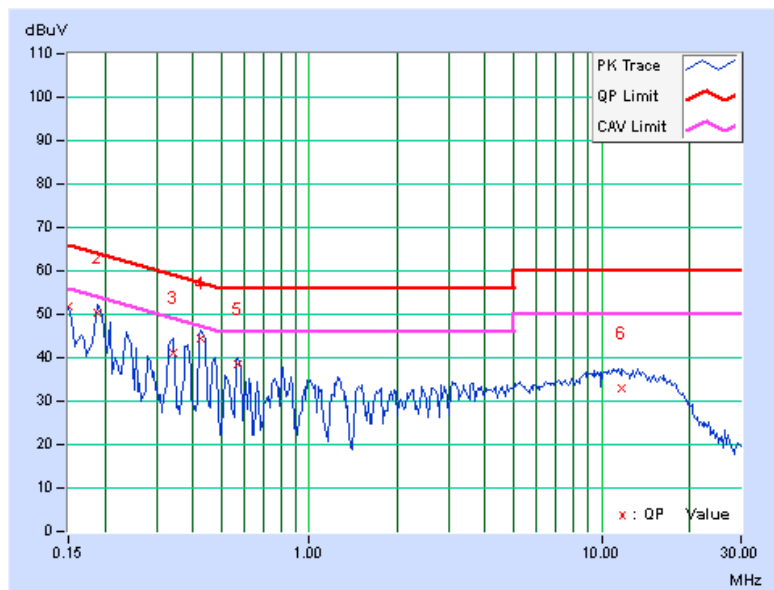
CONDUCTED WORST-CASE DATA : 802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
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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	0.15000	0.14	51.67	37.76	51.81	37.90	66.00	56.00	-14.19	-18.10
2	0.18906	0.21	50.24	42.17	50.45	42.38	64.08	54.08	-13.63	-11.70
3	0.34141	0.18	40.87	31.67	41.05	31.85	59.17	49.17	-18.12	-17.32
4	0.42734	0.16	44.10	40.98	44.26	41.14	57.30	47.30	-13.04	-6.16
5	0.57188	0.17	38.31	34.66	38.48	34.83	56.00	46.00	-17.52	-11.17
6	11.76953	0.62	32.28	27.09	32.90	27.71	60.00	50.00	-27.10	-22.29

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

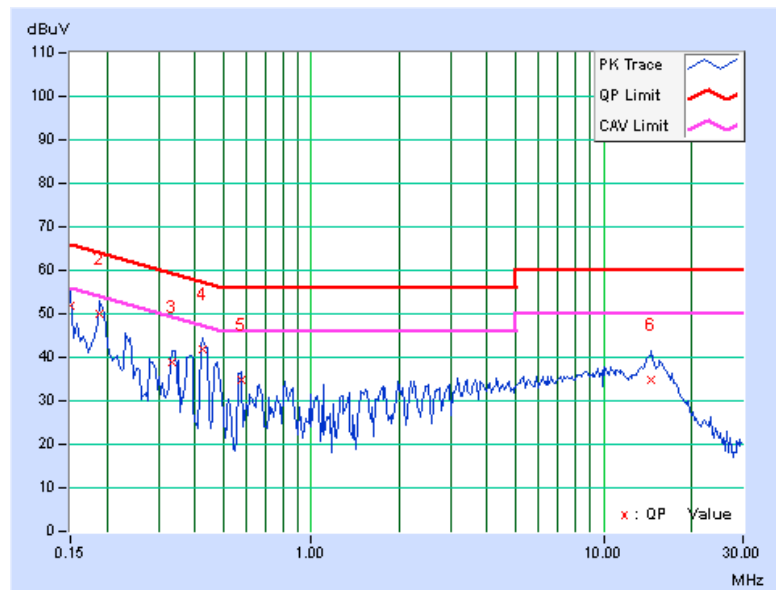


PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.23	51.45	35.34	51.68	35.57	66.00	56.00	-14.32	-20.43
2	0.18906	0.29	49.71	39.74	50.00	40.03	64.08	54.08	-14.07	-14.04
3	0.33359	0.27	38.50	32.68	38.77	32.95	59.36	49.36	-20.59	-16.41
4	0.42344	0.25	41.44	34.06	41.69	34.31	57.38	47.38	-15.69	-13.07
5	0.57578	0.26	34.49	30.20	34.75	30.46	56.00	46.00	-21.25	-15.54
6	14.56250	0.81	34.09	29.03	34.90	29.84	60.00	50.00	-25.10	-20.16

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.





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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 SETUP

Same as item 4.3.2.

5.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.3.4 TEST PROCEDURE

Same as item 4.3.4.

5.3.5 DEVIATION FROM TEST STANDARD

No deviation.

5.3.6 EUT OPERATING CONDITIONS

Same as item 4.3.6.

5.3.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	15.89	0.5	PASS
157	5785	16.14	0.5	PASS
165	5825	16.01	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.12	16.58	0.5	PASS
157	5785	16.42	16.75	0.5	PASS
165	5825	17.11	16.64	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	36.37	36.36	0.5	PASS
159	5795	36.56	36.38	0.5	PASS

5.4 CONDUCTED OUTPUT POWER

5.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 5725 –5850 MHz bands: 1 Watt (30dBm)

5.4.2 TEST SETUP

Same as Item 4.4.2.

5.4.3 INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.4.4 TEST PROCEDURES

Same as Item 4.4.4.

5.4.5 DEVIATION FROM TEST STANDARD

No deviation.

5.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

5.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	154.2	21.88	30	PASS
157	5785	158.9	22.01	30	PASS
165	5825	168.7	22.27	30	PASS

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	20.85	21.66	268.2	24.3	30	PASS
157	5785	20.64	21.85	269.0	24.3	30	PASS
165	5825	21.31	21.88	289.4	24.6	30	PASS

802.11n (40MHz)

CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
151	5755	18.46	20.47	181.6	22.6	30	PASS
159	5795	19.41	20.41	197.2	22.9	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 SETUP

Same as item 4.5.2.

5.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.5.4 TEST PROCEDURE.

Same as item 4.5.4.

5.5.5 DEVIATION FROM TEST STANDARD

No deviation.

5.5.6 EUT OPERATING CONDITION

Same as item 4.3.6.

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5.5.7 TEST RESULTS

802.11a

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	4.42	-10.81	8	PASS
157	5785	4.69	-10.54	8	PASS
165	5825	4.98	-10.25	8	PASS

802.11n (20MHz)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	3.47	-11.76	3.01	-8.75	8	PASS
	157	5785	3.45	-11.78	3.01	-8.77	8	PASS
	165	5825	4.13	-11.10	3.01	-8.09	8	PASS
1	149	5745	3.63	-11.60	3.01	-8.59	8	PASS
	157	5785	4.05	-11.18	3.01	-8.17	8	PASS
	165	5825	4.40	-10.83	3.01	-7.82	8	PASS

802.11n (40MHz)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	151	5755	-1.37	-16.60	3.01	-13.59	8	PASS
	159	5795	-0.49	-15.72	3.01	-12.71	8	PASS
1	151	5755	-0.28	-15.51	3.01	-12.50	8	PASS
	159	5795	-0.15	-15.38	3.01	-12.37	8	PASS

5.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

5.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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

5.6.2 TEST SETUP

Same as Item 4.6.2

5.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.6.4 TEST PROCEDURE

Same as Item 4.6.4

5.6.5 DEVIATION FROM TEST STANDARD

No deviation.

5.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

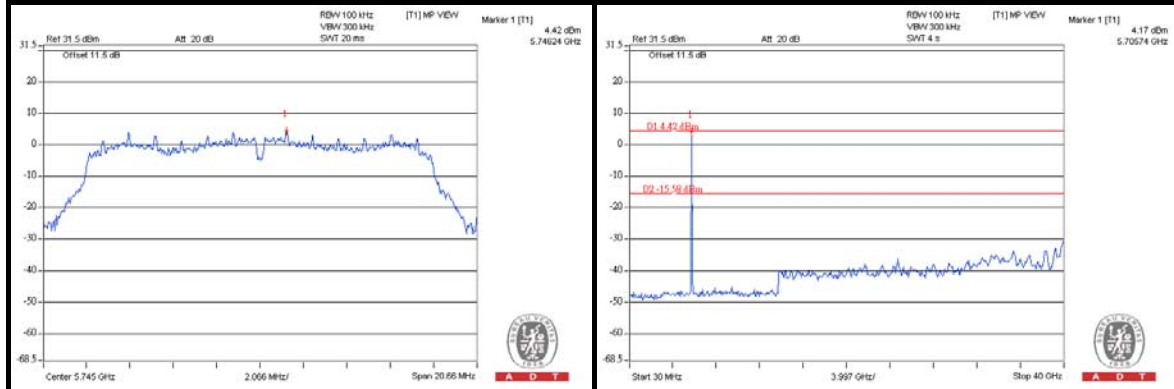
5.6.7 TEST RESULTS

The conducted emission test is performed on each TX port of operating mode without summing or adding $10\log(N)$ since the limit is relative emission limit. Only worst data of each operating mode is presented.

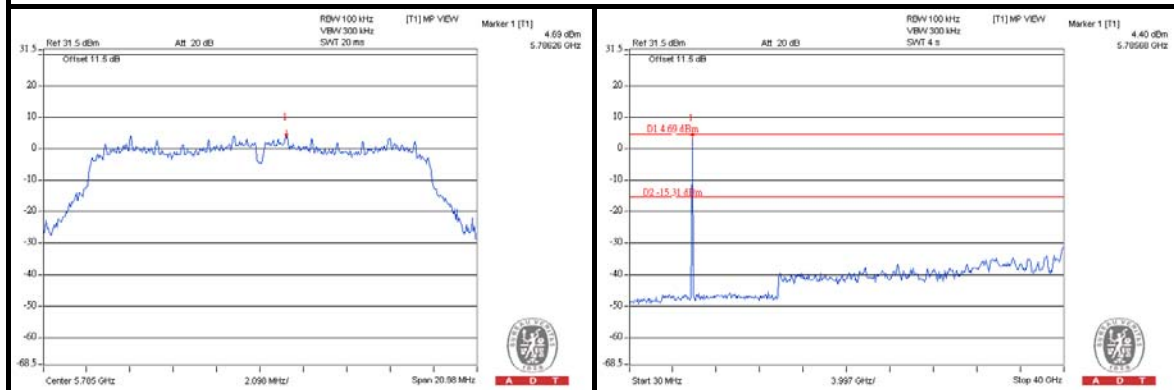
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11a

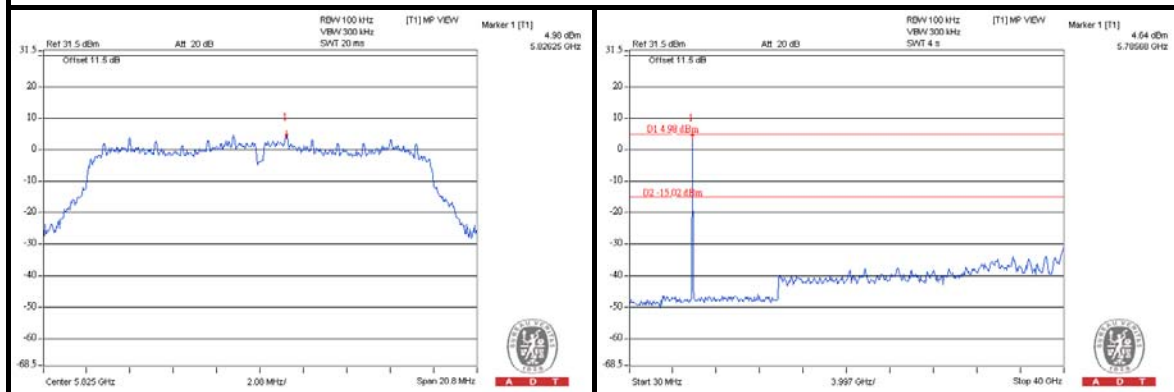
CH 149



CH 157

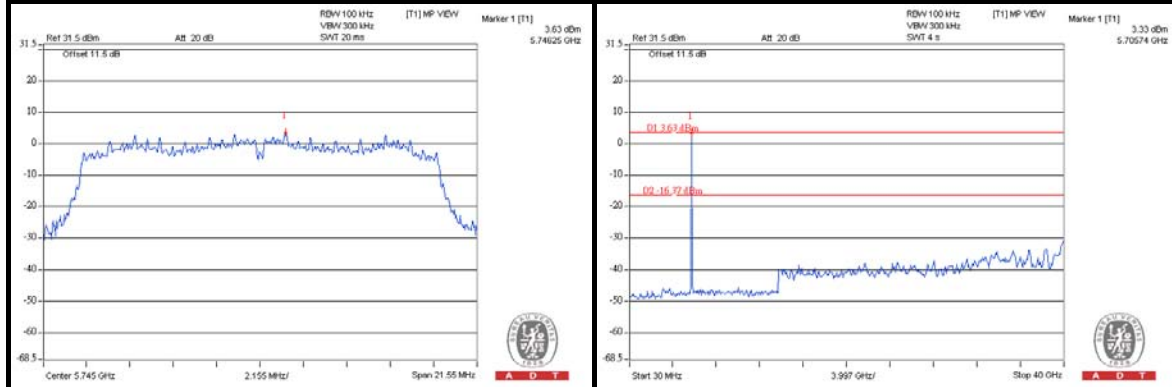


CH 165

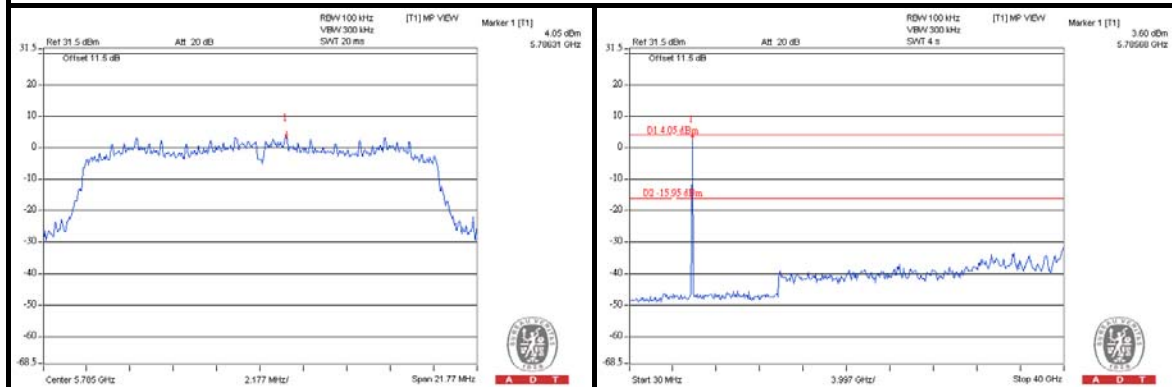


802.11n (20MHz)

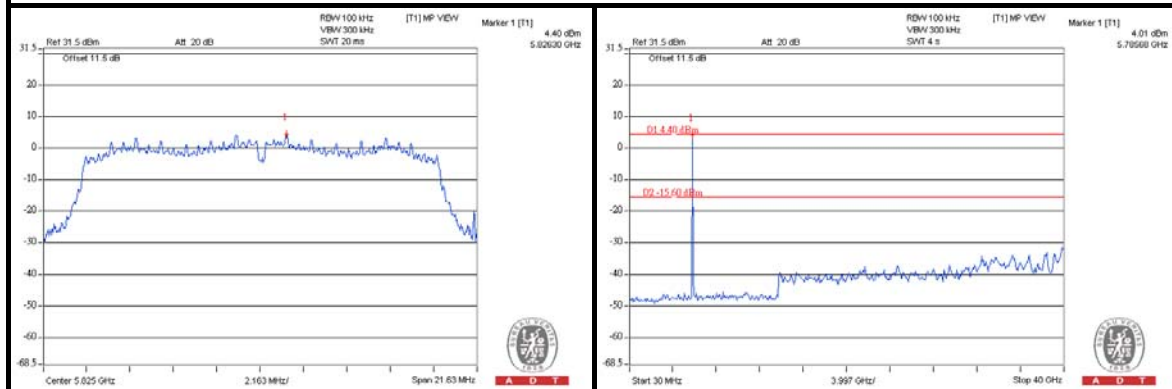
CH 149



CH 157



CH 165

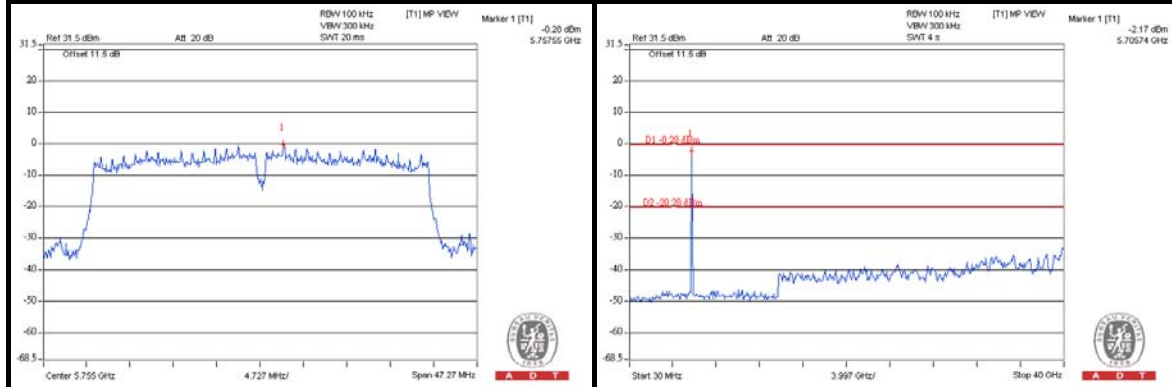




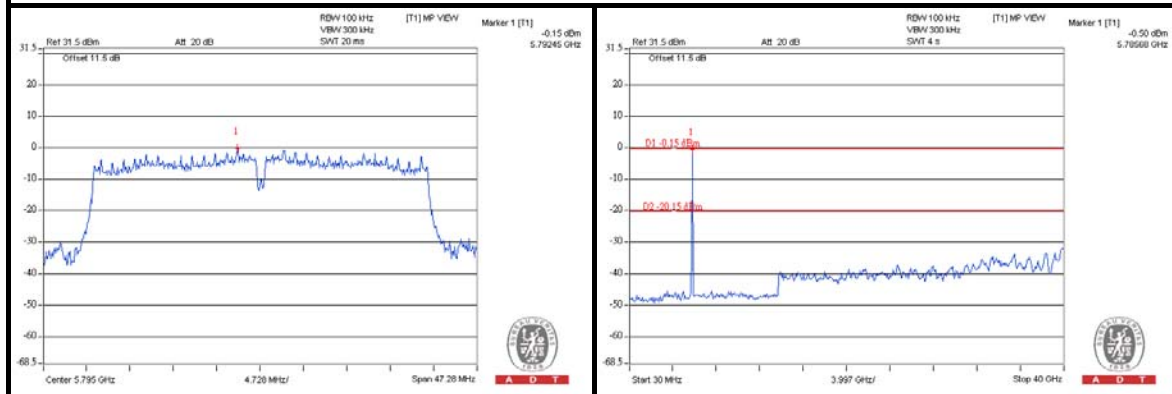
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802.11n (40MHz)

CH 151



CH 159



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.

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: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

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 modifications were made to the EUT by the lab during the test.

---END---