FCC TEST REPORT (15.247: WLAN)

REPORT NO.:	RF120717C06
MODEL NO.:	VC6090
FCC ID:	UZ7VC6090
RECEIVED:	Jul. 17, 2012
TESTED:	Jul. 17 ~ Jul. 24, 2012
ISSUED:	Jul. 25, 2012

APPLICANT:	Motorola Solutions, Inc.
ADDRESS:	One Motorola Plaza, Holtsville, NY 11742-1300 USA

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.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120717C06	Original release	Jul. 25, 2012

1. CERTIFICATION

PRODUCT:	Vehicle Computer
MODEL NO.:	VC6090
BRAND:	Motorola
APPLICANT:	Motorola Solutions, Inc.
TESTED:	Jul. 17 ~ Jul. 24, 2012
TEST SAMPLE:	Identical Prototype
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)**
	ANSI C63.10-2009

The above equipment (model: VC6090) 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. 25, 2012
Pettie Chen / Specialist

APPROVED BY : _____ , DATE : Jul. 25, 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	NA	Power supply is 12Vdc from car battery
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.1dB at 2320.0MHz.
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 I-PEX 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
Radiated emissions	30MHz ~ 200MHz	3.34 dB
	200MHz ~1000MHz	3.35 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	Vehicle Computer
MODEL NO.	VC6090
HW VERSION	Rev A
SW VERSION	05.02.23096
FUSION VERSION	5.2.5302.38000
BSP VERSION	81.38.0007
POWER SUPPLY	12Vdc
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps
OPERATING FREQUENCY	**2.4GHz:** 2412 ~ 2472MHz **5.0GHz:** 5745 ~ 5825MHz
NUMBER OF CHANNEL	**2.4GHz:** 13 **5.0GHz:** 5
OUTPUT POWER	129.718mW for 2412 ~ 2462MHz 74.473mW for 5745 ~ 5825MHz
ANTENNA TYPE	**2.4GHz:** PIFA antenna with 3dBi gain **5.0GHz:** PIFA antenna with 4dBi gain
ANTENNA CONNECTOR	I-PEX
I/O PORTS	Refer to user's manual
DATA CABLE	NA
ACCESSORY DEVICES	DC-to-DC Converter

NOTE:

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

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX

2. The EUT consumes power from the following accessory.

DC-to-DC Converter	
BRAND:	Motorola
MODEL:	50-14000-251R
PART NUMBER:	PWRS-14000-251R
INPUT:	18-75Vdc, 2.4A
OUTPUT:	12Vdc, 2.5A

3. AC power adapter is not available for this product.
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:

13 channels are provided for 802.11b, 802.11g:

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412MHz	8	2447MHz
2	2417MHz	9	2452MHz
3	2422MHz	10	2457MHz
4	2427MHz	11	2462MHz
5	2432MHz	12	2467MHz
6	2437MHz	13	2472MHz
7	2442MHz		

FOR 5.0GHz (5745 ~ 5825MHz):

5 channels are provided for 802.11a:

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

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

FOR 2.4GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	NOTE 2	√	-

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

NOTE 1:
The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane.**
NOTE 2: No need to concern of Conducted Emission due to the EUT is powered by car battery.

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 13	1, 6, 11, 12, 13	DSSS	DBPSK	1.0
-	802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.0

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)
-	802.11g	1 to 13	6	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)
-	802.11b	1 to 13	1, 11, 12, 13	DSSS	DBPSK	1.0
-	802.11g	1 to 13	1, 11, 12, 13	OFDM	BPSK	6.0

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 13	1, 6, 11, 12, 13	DSSS	DBPSK	1.0
-	802.11g	1 to 13	1, 6, 11, 12, 13	OFDM	BPSK	6.0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	12Vdc	Haru Yang
RE<1G	25deg. C, 65%RH	12Vdc	Haru Yang
APCM	25deg. C, 65%RH	12Vdc	Haru Yang

FOR 5.0GHz (5745 ~ 5825MHz):

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	NOTE 2	√	-

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

NOTE 1:
The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane.**
NOTE 2: No need to concern of Conducted Emission due to the EUT is powered by car battery.

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

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)
-	802.11a	149 to 165	157	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)
-	802.11a	149 to 165	149, 165	OFDM	BPSK	6.0

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

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	12Vdc	Haru Yang
RE<1G	25deg. C, 65%RH	12Vdc	Haru Yang
APCM	25deg. C, 65%RH	12Vdc	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.

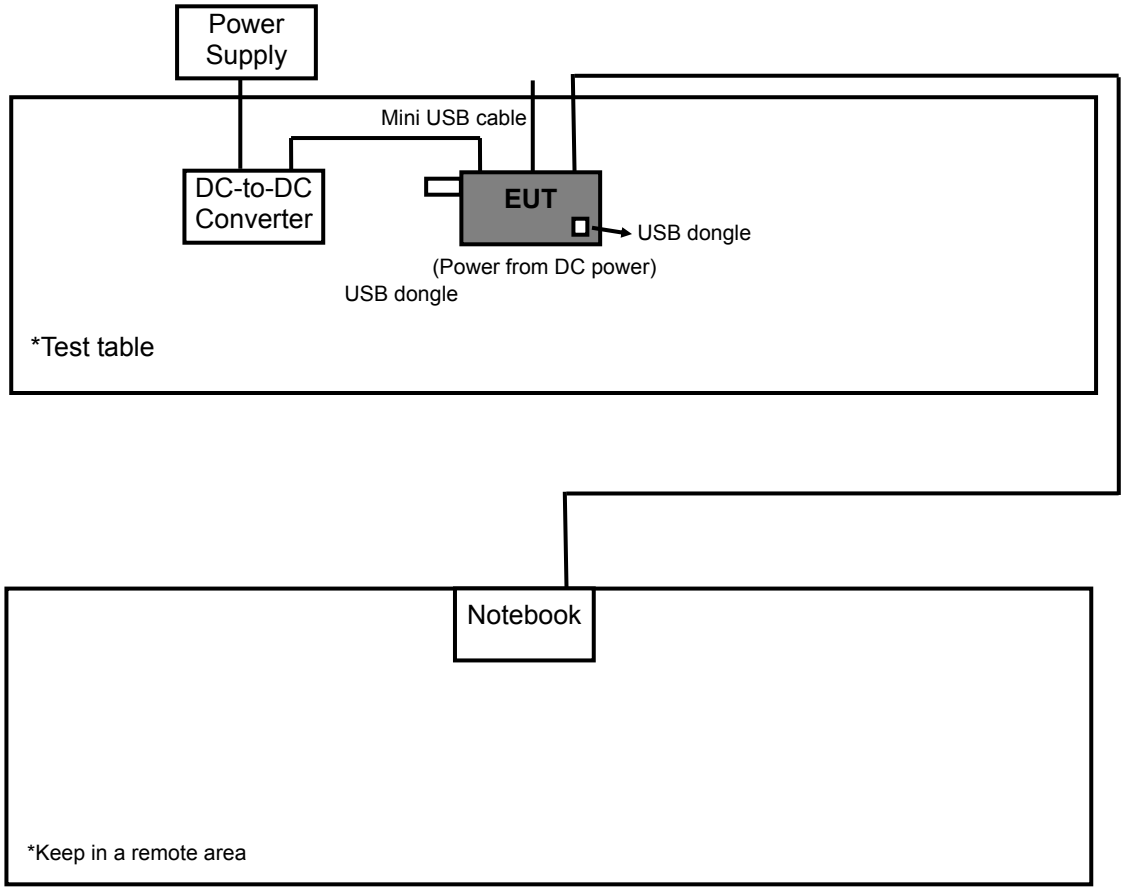
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	USB DONGLE	Transcend	V85	569992-8208	NA
2	USB DONGLE	Transcend	V85	569992-8271	NA
3	NOTEBOOK	Dell	E5420	33MJMQ1	FCC DoC Approved
4	POWER SUPPLY	TOPWARD	6303D	802236	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	10m RJ45 UTP cable
4	NA

NOTE:

1. All power cords of the above support units are non shielded (1.8m).
2. Item 3 acted as communication partner to transfer data.
3. Item 4 was placed under the testing table.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



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.

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	100039	Feb. 03, 2012	Feb. 02, 2013
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. 11, 2012	Jul. 10, 2013
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
Turn Table Controller ADT.	SC100.	SC93021704	NA	NA
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.

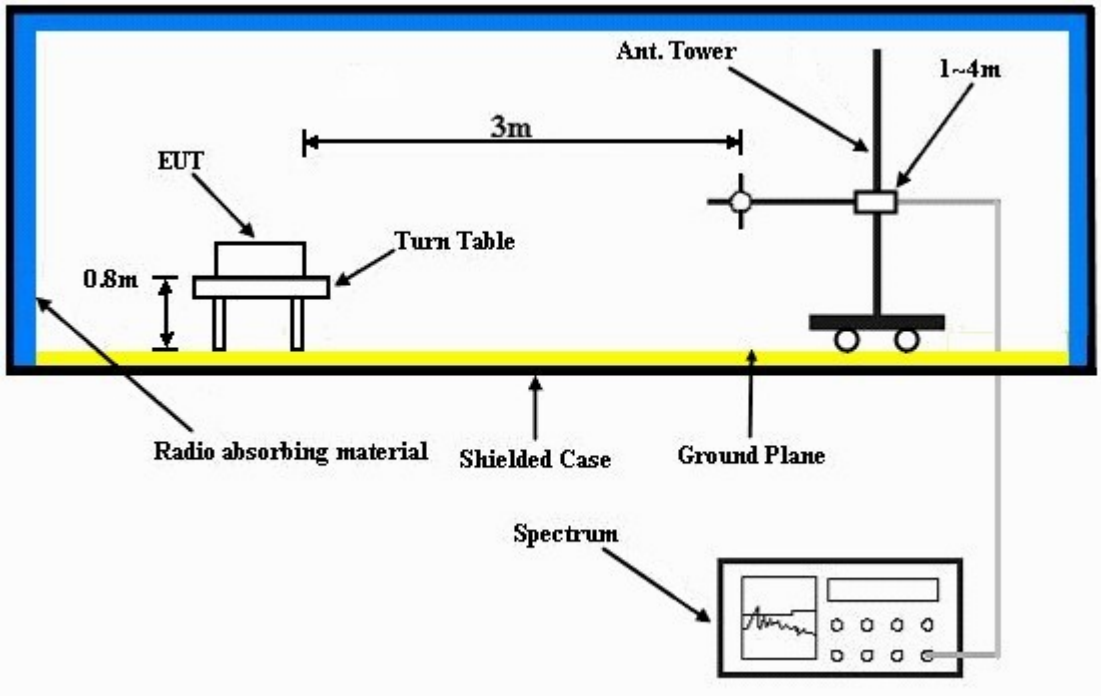
NOTE:

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

a. Placed the EUT on the testing table.
b. Prepared notebook to act as communication partner and placed it outside of testing area.
c. 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

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	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	60.0 PK	74.0	-14.0	1.10 H	286	28.70	31.30
2	2390.00	49.3 AV	54.0	-4.7	1.10 H	286	18.00	31.30
3	*2412.00	99.5 PK			1.10 H	286	68.10	31.40
4	*2412.00	92.8 AV			1.10 H	286	61.40	31.40
5	4824.00	51.4 PK	74.0	-22.6	1.04 H	280	14.20	37.20
6	4824.00	45.7 AV	54.0	-8.3	1.04 H	280	8.50	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	60.3 PK	74.0	-13.7	1.00 V	246	29.00	31.30
2	2390.00	49.4 AV	54.0	-4.6	1.00 V	246	18.10	31.30
3	*2412.00	100.5 PK			1.38 V	246	69.10	31.40
4	*2412.00	94.2 AV			1.38 V	246	62.80	31.40
5	4824.00	52.3 PK	74.0	-21.7	1.19 V	254	15.10	37.20
6	4824.00	45.8 AV	54.0	-8.2	1.19 V	254	8.60	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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	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	2320.00	60.1 PK	74.0	-13.9	1.94 H	25	29.00	31.10
2	2320.00	49.0 AV	54.0	-5.0	1.94 H	25	17.90	31.10
3	*2437.00	101.2 PK			1.12 H	21	69.70	31.50
4	*2437.00	93.9 AV			1.12 H	21	62.40	31.50
5	4874.00	48.5 PK	74.0	-25.5	1.12 H	281	11.20	37.30
6	4874.00	41.8 AV	54.0	-12.2	1.12 H	281	4.50	37.30
7	7311.00	53.1 PK	74.0	-20.9	1.00 H	271	9.60	43.50
8	7311.00	40.4 AV	54.0	-13.6	1.00 H	271	-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	2320.00	62.3 PK	74.0	-11.7	1.20 V	96	31.20	31.10
2	2320.00	49.3 AV	54.0	-4.7	1.20 V	96	18.20	31.10
3	*2437.00	101.9 PK			1.15 V	258	70.40	31.50
4	*2437.00	94.1 AV			1.15 V	258	62.60	31.50
5	4874.00	53.0 PK	74.0	-21.0	1.34 V	213	15.70	37.30
6	4874.00	42.3 AV	54.0	-11.7	1.34 V	213	5.00	37.30
7	7311.00	54.7 PK	74.0	-19.3	1.07 V	324	11.20	43.50
8	7311.00	41.0 AV	54.0	-13.0	1.07 V	324	-2.50	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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	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	99.8 PK			1.09 H	143	68.20	31.60
2	*2462.00	92.0 AV			1.09 H	143	60.40	31.60
3	2483.50	59.8 PK	74.0	-14.2	1.09 H	143	28.20	31.60
4	2483.50	48.2 AV	54.0	-5.8	1.09 H	143	16.60	31.60
5	4924.00	48.5 PK	74.0	-25.5	1.02 H	284	11.10	37.40
6	4924.00	42.8 AV	54.0	-11.2	1.02 H	284	5.40	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	101.2 PK			1.57 V	262	69.60	31.60
2	*2462.00	93.6 AV			1.57 V	262	62.00	31.60
3	2483.50	60.2 PK	74.0	-13.8	1.57 V	262	28.60	31.60
4	2483.50	48.3 AV	54.0	-5.7	1.57 V	262	16.70	31.60
5	4924.00	49.6 PK	74.0	-24.4	1.00 V	212	12.20	37.40
6	4924.00	42.6 AV	54.0	-11.4	1.00 V	212	5.20	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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 12	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	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	*2467.00	86.9 PK			1.09 H	158	55.30	31.60
2	*2467.00	79.1 AV			1.09 H	158	47.50	31.60
3	2483.50	61.0 PK	74.0	-13.0	1.09 H	158	29.40	31.60
4	2483.50	48.2 AV	54.0	-5.8	1.09 H	158	16.60	31.60
5	4934.00	46.6 PK	74.0	-27.4	1.06 H	352	9.20	37.40
6	4934.00	34.4 AV	54.0	-19.6	1.06 H	352	-3.00	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	*2467.00	87.8 PK			1.58 V	256	56.20	31.60
2	*2467.00	81.4 AV			1.58 V	256	49.80	31.60
3	2483.50	60.4 PK	74.0	-13.6	1.58 V	256	28.80	31.60
4	2483.50	48.4 AV	54.0	-5.6	1.58 V	256	16.80	31.60
5	4934.00	46.1 PK	74.0	-27.9	1.24 V	256	8.70	37.40
6	4934.00	34.5 AV	54.0	-19.5	1.24 V	256	-2.90	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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 13	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	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	*2472.00	87.20 PK			1.31 H	229	55.60	31.60
2	*2472.00	80.90 AV			1.31 H	229	49.30	31.60
3	2483.50	60.30 PK	74.0	-13.7	1.31 H	229	28.70	31.60
4	2483.50	47.90 AV	54.0	-6.1	1.31 H	229	16.30	31.60
5	4944.00	45.80 PK	74.0	-28.2	1.11 H	283	8.40	37.40
6	4944.00	34.80 AV	54.0	-19.2	1.11 H	283	-2.60	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	*2472.00	88.30 PK			1.55 V	269	56.70	31.60
2	*2472.00	81.60 AV			1.55 V	269	50.00	31.60
3	2483.50	61.10 PK	74.0	-12.9	1.55 V	269	29.50	31.60
4	2483.50	48.20 AV	54.0	-5.8	1.55 V	269	16.60	31.60
5	4944.00	46.20 PK	74.0	-27.8	1.24 V	250	8.80	37.40
6	4944.00	34.70 AV	54.0	-19.3	1.24 V	250	-2.70	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.

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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	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	2320.00	62.6 PK	74.0	-11.4	1.41 H	35	31.50	31.10
2	2320.00	52.6 AV	54.0	-1.4	1.41 H	35	21.50	31.10
3	2390.00	63.2 PK	74.0	-10.8	1.13 H	20	31.90	31.30
4	2390.00	48.7 AV	54.0	-5.3	1.13 H	20	17.40	31.30
5	*2412.00	100.4 PK			1.13 H	20	69.00	31.40
6	*2412.00	89.5 AV			1.13 H	20	58.10	31.40
7	4824.00	52.4 PK	74.0	-21.6	1.04 H	282	15.20	37.20
8	4824.00	36.0 AV	54.0	-18.0	1.04 H	282	-1.20	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	2320.00	62.1 PK	74.0	-11.9	1.20 V	90	31.00	31.10
2	2320.00	51.7 AV	54.0	-2.3	1.20 V	90	20.60	31.10
3	2390.00	63.6 PK	74.0	-10.4	1.38 V	259	32.30	31.30
4	2390.00	48.9 AV	54.0	-5.1	1.38 V	259	17.60	31.30
5	*2412.00	101.9 PK			1.38 V	259	70.50	31.40
6	*2412.00	90.7 AV			1.38 V	259	59.30	31.40
7	4824.00	53.3 PK	74.0	-20.7	1.18 V	257	16.10	37.20
8	4824.00	36.0 AV	54.0	-18.0	1.18 V	257	-1.20	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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	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	2320.00	64.0 PK	74.0	-10.0	1.40 H	36	32.90	31.10
2	2320.00	52.7 AV	54.0	-1.3	1.40 H	36	21.60	31.10
3	*2437.00	102.2 PK			1.10 H	22	70.70	31.50
4	*2437.00	91.3 AV			1.10 H	22	59.80	31.50
5	4874.00	50.5 PK	74.0	-23.5	1.12 H	279	13.20	37.30
6	4874.00	36.2 AV	54.0	-17.8	1.12 H	279	-1.10	37.30
7	7311.00	52.2 PK	74.0	-21.8	1.01 H	206	8.70	43.50
8	7311.00	41.3 AV	54.0	-12.7	1.01 H	206	-2.20	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	2320.00	62.1 PK	74.0	-11.9	1.19 V	99	31.00	31.10
2	2320.00	52.0 AV	54.0	-2.0	1.19 V	99	20.90	31.10
3	*2437.00	102.8 PK			1.36 V	256	71.30	31.50
4	*2437.00	92.1 AV			1.36 V	256	60.60	31.50
5	4874.00	50.1 PK	74.0	-23.9	1.33 V	211	12.80	37.30
6	4874.00	36.5 AV	54.0	-17.5	1.33 V	211	-0.80	37.30
7	7311.00	52.5 PK	74.0	-21.5	1.18 V	359	9.00	43.50
8	7311.00	41.5 AV	54.0	-12.5	1.18 V	359	-2.00	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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	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	2320.00	61.6 PK	74.0	-12.4	1.39 H	40	30.50	31.10
2	**2320.00**	**52.9 AV**	**54.0**	**-1.1**	**1.39 H**	**40**	**21.80**	**31.10**
3	*2462.00	97.7 PK			1.09 H	132	66.10	31.60
4	*2462.00	86.9 AV			1.09 H	132	55.30	31.60
5	2483.50	61.0 PK	74.0	-13.0	1.09 H	132	29.40	31.60
6	2483.50	48.4 AV	54.0	-5.6	1.09 H	132	16.80	31.60
7	4924.00	47.4 PK	74.0	-26.6	1.01 H	280	10.00	37.40
8	4924.00	35.1 AV	54.0	-18.9	1.01 H	280	-2.30	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	2320.00	61.2 PK	74.0	-12.8	1.21 V	99	30.10	31.10
2	2320.00	52.1 AV	54.0	-1.9	1.21 V	99	21.00	31.10
3	*2462.00	99.0 PK			1.55 V	260	67.40	31.60
4	*2462.00	87.8 AV			1.55 V	260	56.20	31.60
5	2483.50	59.3 PK	74.0	-14.7	1.56 V	255	27.70	31.60
6	2483.50	48.6 AV	54.0	-5.4	1.56 V	255	17.00	31.60
7	4924.00	45.6 PK	74.0	-28.4	1.00 V	210	8.20	37.40
8	4924.00	34.5 AV	54.0	-19.5	1.00 V	210	-2.90	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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 12	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	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	2320.00	60.9 PK	74.0	-13.1	1.38 H	41	29.80	31.10
2	2320.00	49.7 AV	54.0	-4.3	1.38 H	41	18.60	31.10
3	*2467.00	86.9 PK			1.09 H	24	55.30	31.60
4	*2467.00	76.6 AV			1.09 H	24	45.00	31.60
5	2483.50	60.6 PK	74.0	-13.4	1.09 H	24	29.00	31.60
6	2483.50	48.3 AV	54.0	-5.7	1.09 H	24	16.70	31.60
7	4934.00	46.0 PK	74.0	-28.0	1.06 H	339	8.60	37.40
8	4934.00	33.4 AV	54.0	-20.6	1.06 H	339	-4.00	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	2320.00	60.8 PK	74.0	-13.2	1.19 V	98	29.70	31.10
2	2320.00	49.2 AV	54.0	-4.8	1.19 V	98	18.10	31.10
3	*2467.00	88.8 PK			1.58 V	268	57.20	31.60
4	*2467.00	77.9 AV			1.58 V	268	46.30	31.60
5	2483.50	61.2 PK	74.0	-12.8	1.58 V	268	29.60	31.60
6	2483.50	48.5 AV	54.0	-5.5	1.58 V	268	16.90	31.60
7	4934.00	46.7 PK	74.0	-27.3	1.18 V	256	9.30	37.40
8	4934.00	34.2 AV	54.0	-19.8	1.18 V	256	-3.20	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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 13	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	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	2320.00	61.4 PK	74.0	-12.6	1.40 H	42	30.30	31.10
2	2320.00	49.8 AV	54.0	-4.2	1.40 H	42	18.70	31.10
3	*2472.00	87.9 PK			1.08 H	23	56.30	31.60
4	*2472.00	77.1 AV			1.08 H	23	45.50	31.60
5	2483.50	61.1 PK	74.0	-12.9	1.08 H	23	29.50	31.60
6	2483.50	48.4 AV	54.0	-5.6	1.08 H	23	16.80	31.60
7	4944.00	45.4 PK	74.0	-28.6	1.06 H	342	8.00	37.40
8	4944.00	34.4 AV	54.0	-19.6	1.06 H	342	-3.00	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	2320.00	60.4 PK	74.0	-13.6	1.21 V	90	29.30	31.10
2	2320.00	49.1 AV	54.0	-4.9	1.21 V	90	18.00	31.10
3	*2472.00	89.1 PK			1.34 V	258	57.50	31.60
4	*2472.00	78.3 AV			1.34 V	258	46.70	31.60
5	2483.50	61.3 PK	74.0	-12.7	1.34 V	258	29.70	31.60
6	2483.50	48.5 AV	54.0	-5.5	1.34 V	258	16.90	31.60
7	4944.00	45.9 PK	74.0	-28.1	1.15 V	254	8.50	37.40
8	4944.00	34.7 AV	54.0	-19.3	1.15 V	254	-2.70	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.

BELOW 1GHz WORST-CASE DATA：802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
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	131.00	36.4 QP	43.5	-7.1	2.00 H	255	23.60	12.80
2	234.05	31.9 QP	46.0	-14.1	1.25 H	272	19.50	12.40
3	292.38	26.6 QP	46.0	-19.4	1.00 H	218	11.90	14.70
4	370.15	26.9 QP	46.0	-19.1	1.00 H	62	10.10	16.80
5	486.81	23.2 QP	46.0	-22.8	1.00 H	195	3.60	19.60
6	634.57	23.8 QP	46.0	-22.2	1.75 H	49	1.40	22.40
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	62.95	30.0 QP	40.0	-10.0	1.00 V	16	16.90	13.10
2	158.22	37.3 QP	43.5	-6.2	1.00 V	273	23.20	14.10
3	234.05	30.1 QP	46.0	-15.9	1.74 V	141	17.70	12.40
4	370.15	28.0 QP	46.0	-18.0	1.50 V	332	11.20	16.80
5	442.09	26.9 QP	46.0	-19.1	1.00 V	16	8.30	18.60
6	727.90	26.9 QP	46.0	-19.1	1.24 V	325	3.20	23.70

REMARKS:

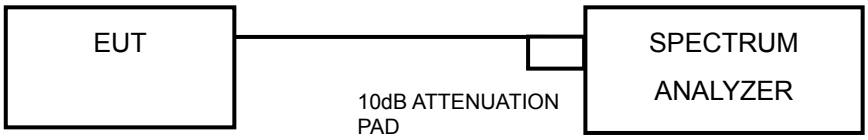
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

4.2 6dB BANDWIDTH MEASUREMENT

4.2.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.2.2 TEST SETUP



4.2.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.2.4 TEST PROCEDURE

a. Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. 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

4.2.5 DEVIATION FROM TEST STANDARD

No deviation.

4.2.6 EUT OPERATING CONDITIONS

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

4.2.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	12.27	0.5	PASS
6	2437	12.27	0.5	PASS
11	2462	12.26	0.5	PASS
12	2467	12.25	0.5	PASS
13	2472	12.25	0.5	PASS

802.11g

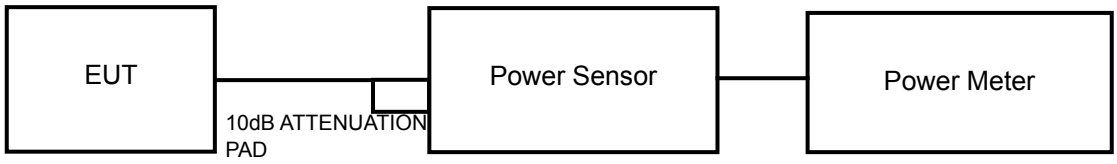
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.52	0.5	PASS
6	2437	16.53	0.5	PASS
11	2462	16.52	0.5	PASS
12	2467	16.53	0.5	PASS
13	2472	16.55	0.5	PASS

4.3 CONDUCTED OUTPUT POWER

4.3.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

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 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.

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

4.3.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	Power Setting	POWER (dBm)			
			Data Rate			
			1Mbps	2Mbps	5.5Mbps	11Mbps
1	2412	14/228	15.95	15.59	15.61	15.6
6	2437	14/228	**16.44**	15.22	15.15	15.15
11	2462	14/228	15.24	14.92	14.92	14.93
12	2467	0/9	2.62	2.64	2.50	2.65
13	2472	0/9	2.68	2.69	2.49	2.60

802.11g

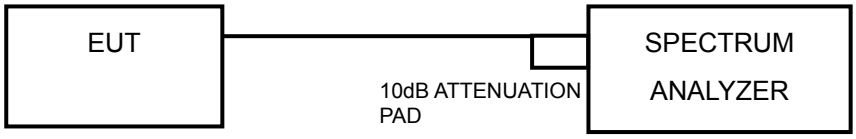
CHANNEL	FREQUENCY (MHz)	POWER (dBm)							
		Data Rate							
		6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
CH 1	Power Setting	12/192	12/192	12/192	12/192	12/192	12/192	12/192	12/192
	2412 MHz	19.85	19.52	19.34	19.37	20.16	19.49	19.09	19.79
CH 6	Power Setting	14/238	14/238	14/238	14/238	14/238	14/238	13/218	13/218
	2437 MHz	**21.13**	20.52	20.47	20.5	20.85	20.49	19.81	20.33
CH 11	Power Setting	12/192	12/192	12/192	12/192	12/192	12/192	12/192	12/192
	2462 MHz	19.88	18.74	18.5	18.65	19.39	18.75	18.21	19.04
CH 12	Power Setting	0/10	0/10	0/10	0/10	0/10	0/10	0/10	0/10
	2467 MHz	8.81	8.39	8.4	7.84	9.44	8.52	7.99	8.41
CH 13	Power Setting	0/10	0/10	0/10	0/10	0/10	0/10	0/10	0/10
	2472 MHz	8.92	8.34	8.63	7.82	9.36	8.45	8.1	8.34

4.4 POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

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 PROCEDURE

a. Set the RBW = 100 kHz, VBW =300 kHz, Detector = peak.
b. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
c. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
d. 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 = 10log(3 kHz/100kHz)

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.4.7 TEST RESULTS

802.11b

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	0.72	-14.51	8	PASS
6	2437	1.03	-14.20	8	PASS
11	2462	0.25	-14.98	8	PASS
12	2467	-11.92	-27.15	8	PASS
13	2472	-12.01	-27.24	8	PASS

802.11g

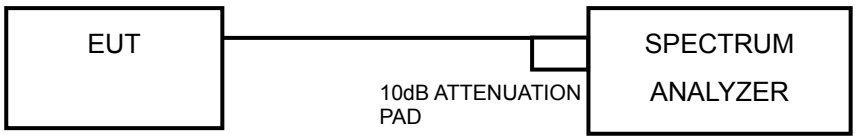
Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2422	-1.18	-16.41	8	PASS
6	2437	0.57	-14.66	8	PASS
11	2462	-1.34	-16.57	8	PASS
12	2467	-11.72	-26.95	8	PASS
13	2472	-12.00	-27.23	8	PASS

4.5 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

4.5.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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

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

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 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 OOBE

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

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

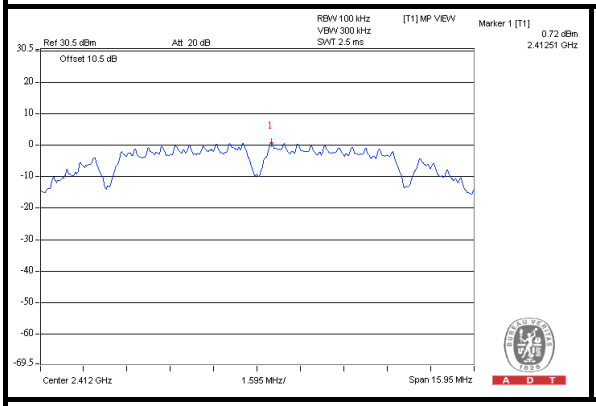
4.5.7 TEST RESULTS

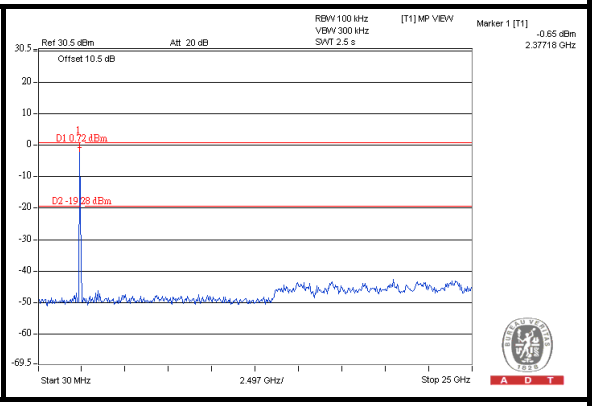
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

4.5.8 TEST RESULTS

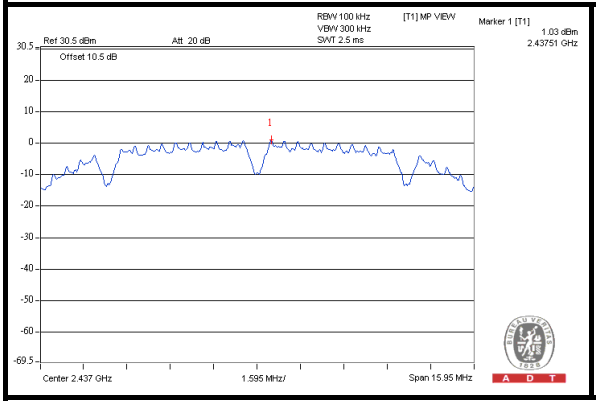
802.11b

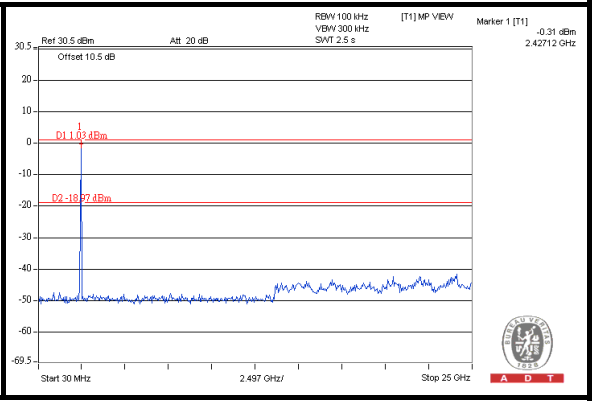
CH 1



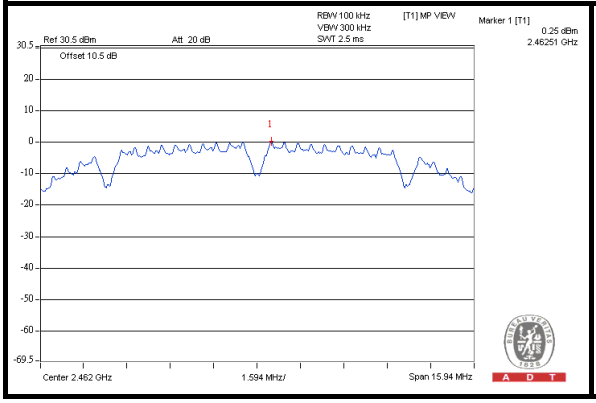


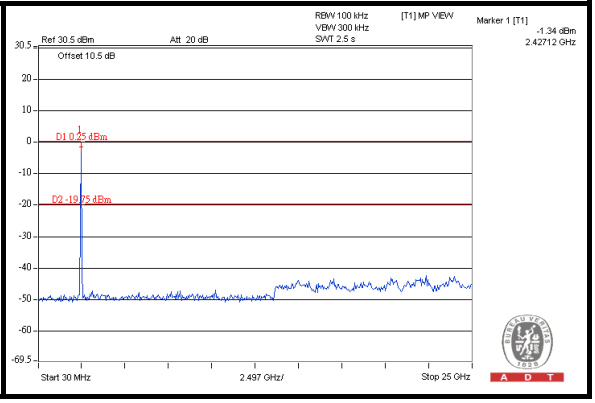
CH 6



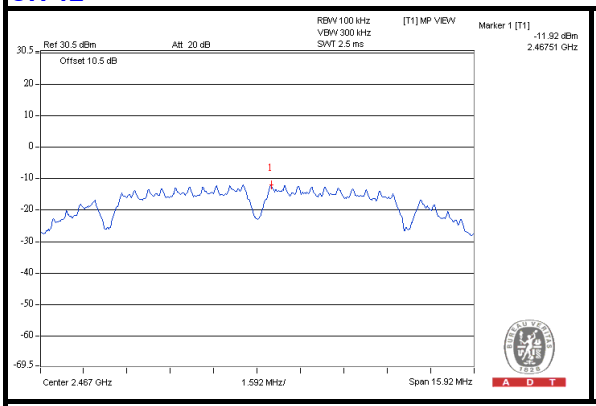


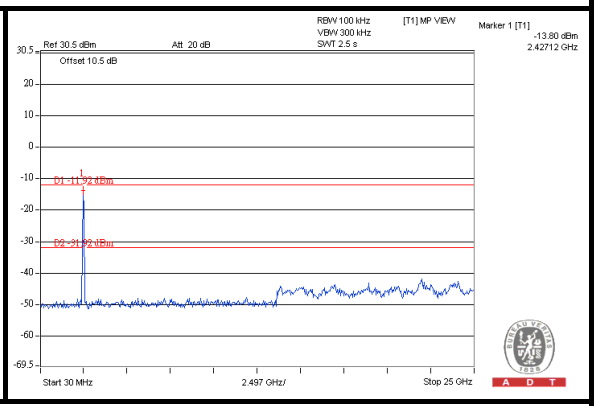
CH 11



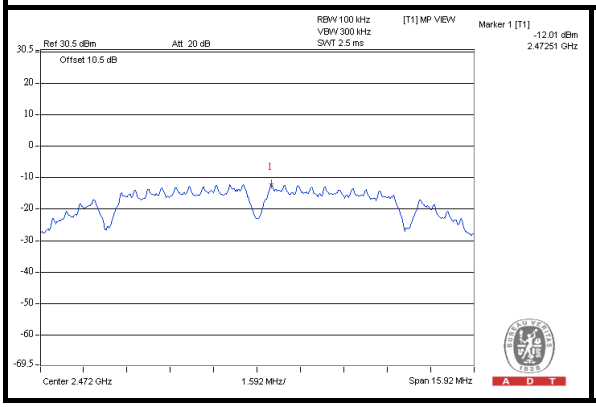


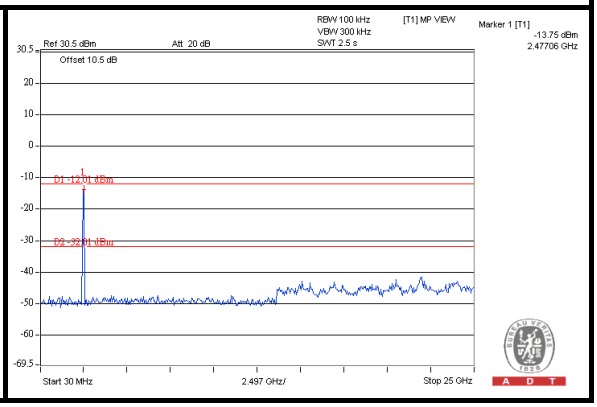
CH 12


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MP VIEW
Marker 1 [T1]
-11.92 dBm
2.46751 GHz
Ref 30.5 dBm
Att 20 dB
Offset 10.5 dB
Center 2.467 GHz
1.592 MHz/
Span 15.92 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MP VIEW
Marker 1 [T1]
-13.80 dBm
2.42712 GHz
Ref 30.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -11.92 dBm
D2 -31.92 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz

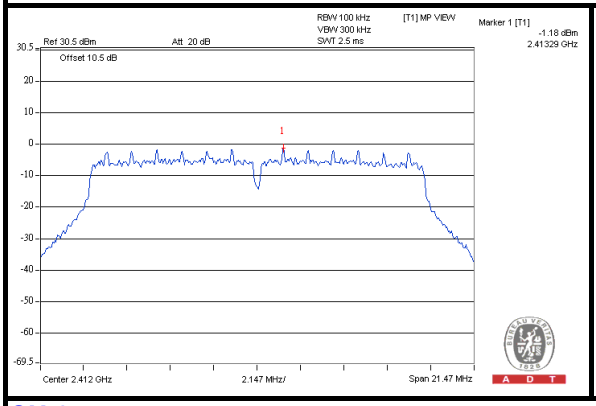
CH 13

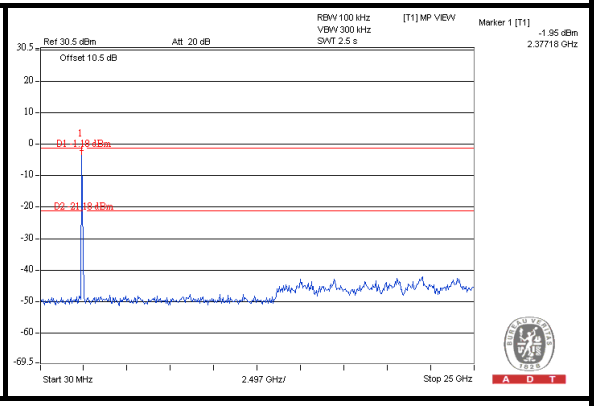

RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MP VIEW
Marker 1 [T1]
-12.01 dBm
2.47251 GHz
Ref 30.5 dBm
Att 20 dB
Offset 10.5 dB
Center 2.472 GHz
1.592 MHz/
Span 15.92 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MP VIEW
Marker 1 [T1]
-13.75 dBm
2.47706 GHz
Ref 30.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -12.01 dBm
D2 -32.01 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz

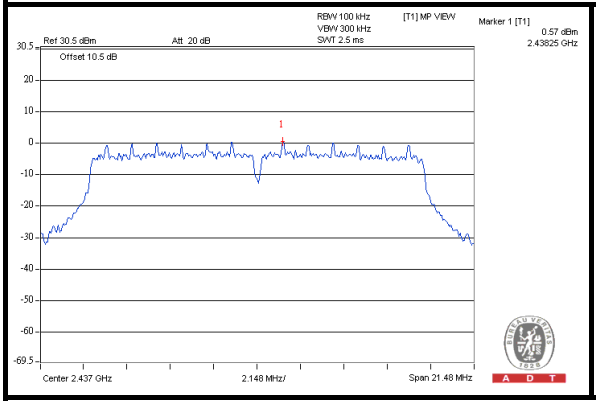
802.11g

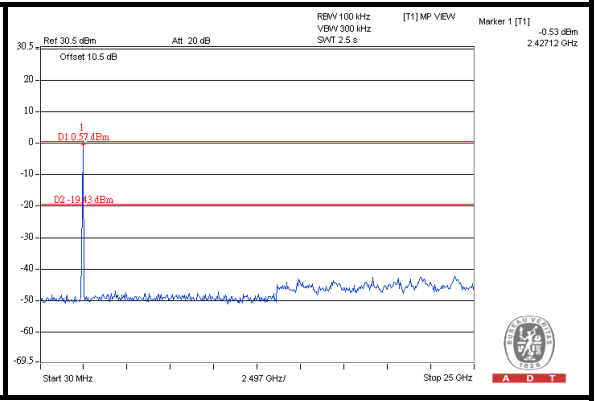
CH 1



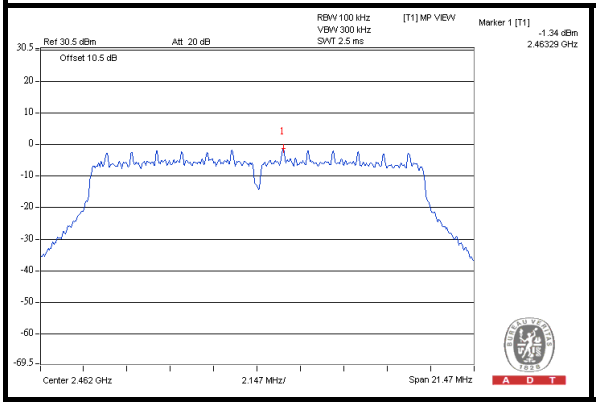


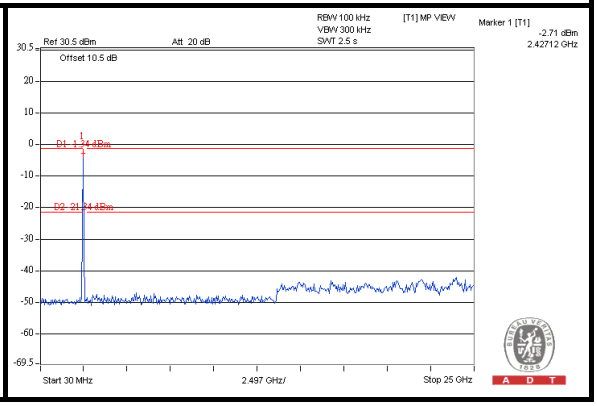
CH 6



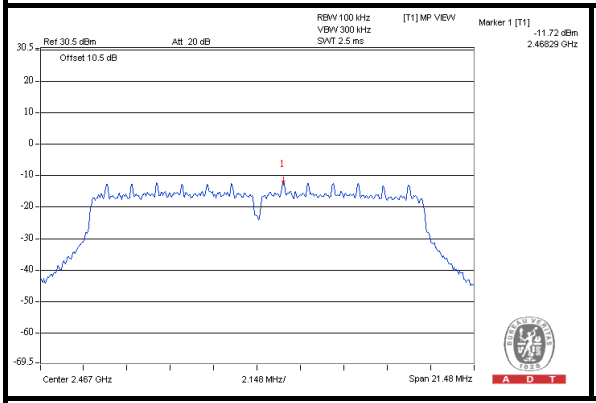


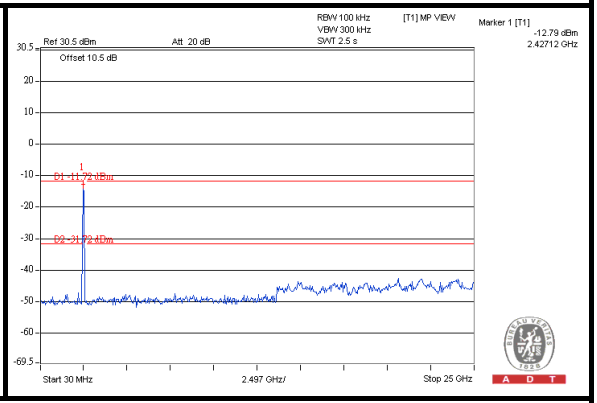
CH 11



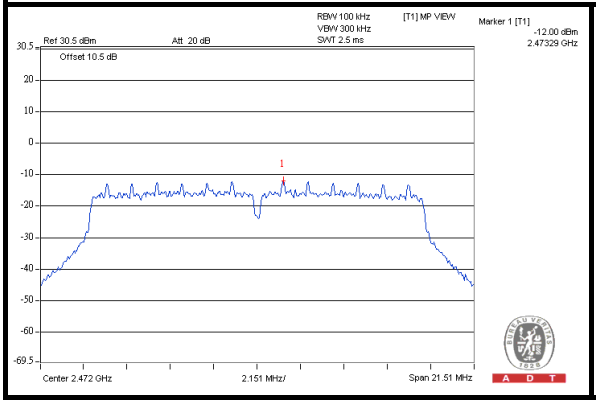


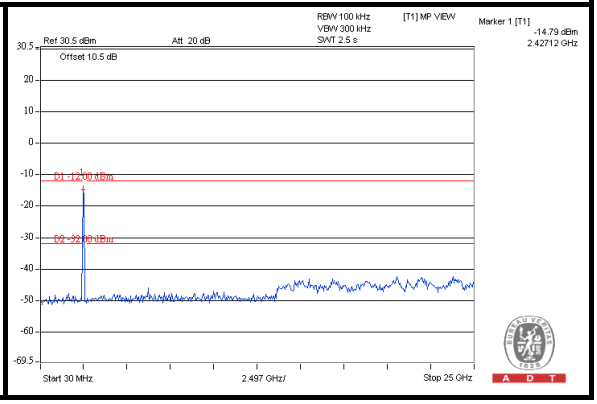
CH 12


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MP VIEW
Marker 1 [T1]
-11.72 dBm
2.46829 GHz
Ref 30.5 dBm
Att 20 dB
Offset 10.5 dB
Center 2.467 GHz
2.148 MHz/
Span 21.48 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MP VIEW
Marker 1 [T1]
-12.79 dBm
2.42712 GHz
Ref 30.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -11.72 dBm
D2 -31.72 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH 13


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MP VIEW
Marker 1 [T1]
-12.00 dBm
2.47329 GHz
Ref 30.5 dBm
Att 20 dB
Offset 10.5 dB
Center 2.472 GHz
2.151 MHz/
Span 21.51 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MP VIEW
Marker 1 [T1]
-14.79 dBm
2.42712 GHz
Ref 30.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -12.00 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz

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.

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

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	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	#5725.00	72.0 PK	85.1	-13.1	1.15 H	337	33.20	38.80
2	#5725.00	61.1 AV	74.2	-13.1	1.15 H	337	22.30	38.80
3	*5745.00	105.1 PK			1.15 H	337	66.30	38.80
4	*5745.00	94.2 AV			1.15 H	337	55.40	38.80
5	11490.00	60.3 PK	74.0	-13.7	1.08 H	346	10.20	50.10
6	11490.00	48.0 AV	54.0	-6.0	1.08 H	346	-2.10	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	#5725.00	77.9 PK	88.5	-10.6	1.13 V	215	39.10	38.80
2	#5725.00	67.3 AV	77.9	-10.6	1.13 V	215	28.50	38.80
3	*5745.00	108.5 PK			1.13 V	206	69.70	38.80
4	*5745.00	97.9 AV			1.13 V	206	59.10	38.80
5	11490.00	58.7 PK	74.0	-15.3	1.19 V	279	8.60	50.10
6	11490.00	48.1 AV	54.0	-5.9	1.19 V	279	-2.00	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 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	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	#5725.00	59.3 PK	85.8	-26.5	1.20 H	337	20.50	38.80
2	#5725.00	48.8 AV	75.3	-26.5	1.20 H	337	10.00	38.80
3	*5785.00	105.8 PK			1.20 H	337	66.90	38.90
4	*5785.00	95.3 AV			1.20 H	337	56.40	38.90
5	11570.00	58.9 PK	74.0	-15.1	1.07 H	352	8.90	50.00
6	11570.00	48.2 AV	54.0	-5.8	1.07 H	352	-1.80	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	#5725.00	59.2 PK	88.9	-29.7	1.12 V	203	20.40	38.80
2	#5725.00	48.6 AV	78.3	-29.7	1.12 V	203	9.80	38.80
3	*5785.00	108.9 PK			1.12 V	203	70.00	38.90
4	*5785.00	98.3 AV			1.12 V	203	59.40	38.90
5	11570.00	58.4 PK	74.0	-15.6	1.15 V	263	8.40	50.00
6	11570.00	47.8 AV	54.0	-6.2	1.15 V	263	-2.20	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.

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	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	*5825.00	104.6 PK			1.11 H	334	65.70	38.90
2	*5825.00	93.5 AV			1.11 H	334	54.60	38.90
3	#5850.00	65.0 PK	84.6	-19.6	1.11 H	334	26.00	39.00
4	#5850.00	53.9 AV	73.5	-19.6	1.11 H	334	14.90	39.00
5	11650.00	61.2 PK	74.0	-12.8	1.04 H	349	11.20	50.00
6	11650.00	48.1 AV	54.0	-5.9	1.04 H	349	-1.90	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	107.7 PK			1.30 V	209	68.80	38.90
2	*5825.00	97.1 AV			1.30 V	209	58.20	38.90
3	#5850.00	70.3 PK	87.7	-17.4	1.18 V	208	31.30	39.00
4	#5850.00	59.7 AV	77.1	-17.4	1.18 V	208	20.70	39.00
5	11650.00	61.4 PK	74.0	-12.6	1.14 V	281	11.40	50.00
6	11650.00	48.0 AV	54.0	-6.0	1.14 V	281	-2.00	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.

BELOW 1GHz WORST-CASE DATA：802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	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	129.06	36.6 QP	43.5	-6.9	1.74 H	253	24.00	12.60
2	181.55	34.9 QP	43.5	-8.6	1.74 H	14	22.40	12.50
3	234.05	32.2 QP	46.0	-13.8	1.25 H	263	19.80	12.40
4	292.38	27.8 QP	46.0	-18.2	1.00 H	237	13.10	14.70
5	370.15	26.7 QP	46.0	-19.3	1.00 H	76	9.90	16.80
6	566.52	23.5 QP	46.0	-22.5	1.74 H	288	2.10	21.40
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	62.95	29.3 QP	40.0	-10.7	1.00 V	15	16.20	13.10
2	160.17	37.0 QP	43.5	-6.5	1.00 V	258	22.90	14.10
3	234.05	28.4 QP	46.0	-17.6	1.74 V	197	16.00	12.40
4	370.15	28.1 QP	46.0	-17.9	1.50 V	328	11.30	16.80
5	486.81	27.8 QP	46.0	-18.2	1.50 V	97	8.20	19.60
6	624.85	26.7 QP	46.0	-19.3	1.25 V	5	4.40	22.30

REMARKS:

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

5.2 6dB BANDWIDTH MEASUREMENT

5.2.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

5.2.2 TEST SETUP

Same as item 4.3.2.

5.2.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.2.4 TEST PROCEDURE

Same as item 4.3.4.

5.2.5 DEVIATION FROM TEST STANDARD

No deviation.

5.2.6 EUT OPERATING CONDITIONS

Same as item 4.3.6.

5.2.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.50	0.5	PASS
157	5785	16.57	0.5	PASS
165	5825	16.57	0.5	PASS

5.3 CONDUCTED OUTPUT POWER

5.3.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

5.3.2 TEST SETUP

Same as Item 4.4.2.

5.3.3 INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.3.4 TEST PROCEDURES

Same as Item 4.4.4.

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)	POWER (dBm)							
		Data Rate							
		6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
CH 149	Power Setting	14/233	14/233	14/233	14/233	13/219	13/219	11/179	11/179
	5745 MHz	18.70	18.26	18.19	18.23	18.36	18.04	16.7	17.18
CH 157	Power Setting	14/235	14/235	14/235	14/235	13/220	13/220	11/179	11/179
	5785 MHz	18.68	18.60	18.58	18.64	**18.72**	18.49	17.11	17.68
CH 165	Power Setting	14/235	14/235	14/235	14/235	13/216	13/216	10/175	10/175
	5805 MHz	17.68	17.48	17.34	17.38	17.42	17.06	15.39	16.14

5.4 POWER SPECTRAL DENSITY MEASUREMENT

5.4.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.4.2 TEST SETUP

Same as item 4.5.2.

5.4.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.4.4 TEST PROCEDURE.

Same as item 4.5.4.

5.4.5 DEVIATION FROM TEST STANDARD

No deviation.

5.4.6 EUT OPERATING CONDITION

Same as item 4.3.6.

5.4.7 TEST RESULTS

802.11a

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	0.71	-14.52	8	PASS
157	5785	1.30	-13.93	8	PASS
165	5825	-0.35	-15.58	8	PASS

5.5 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

5.5.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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

5.5.2 TEST SETUP

Same as Item 4.6.2

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 4.6.4

5.5.5 DEVIATION FROM TEST STANDARD

No deviation.

5.5.6 EUT OPERATING CONDITION

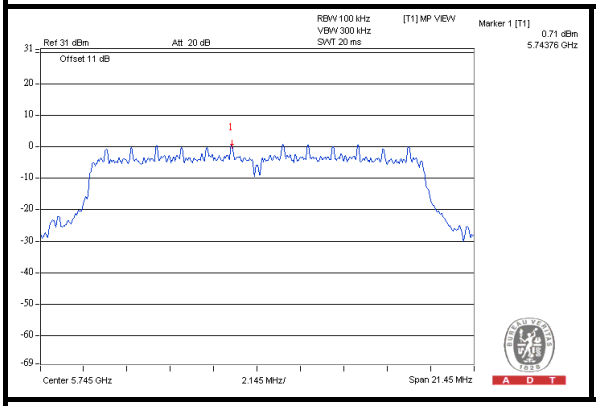
Same as Item 4.3.6

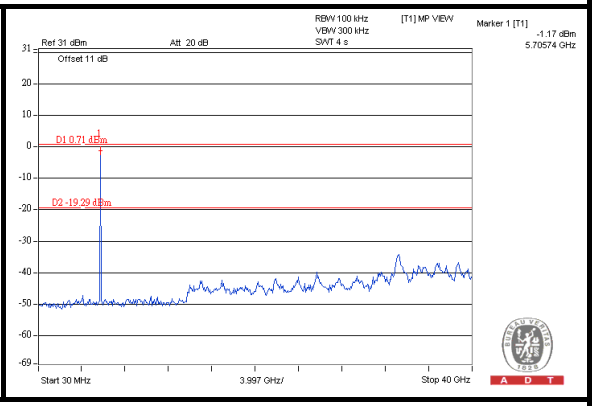
5.5.7 TEST RESULTS

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.

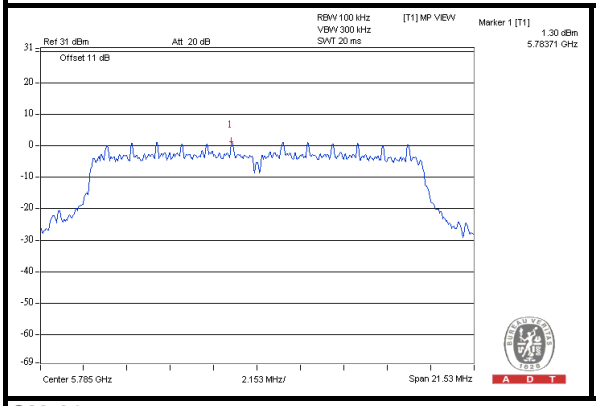
802.11a

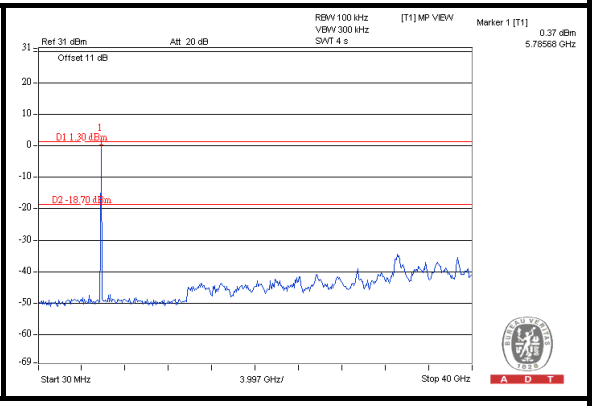
CH 149



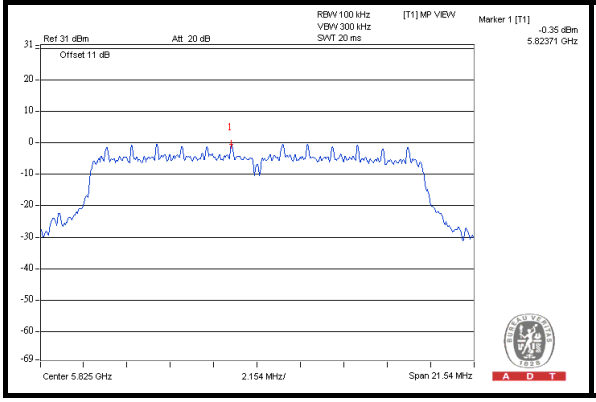


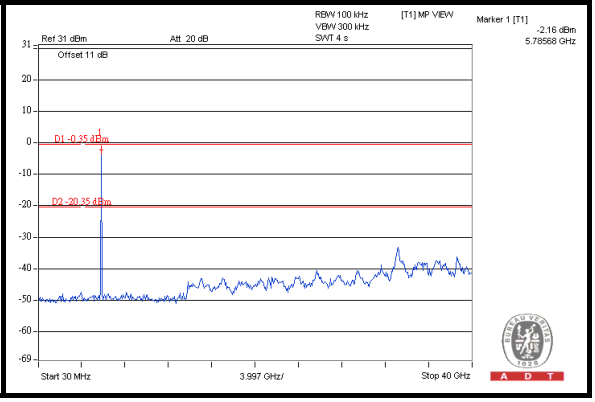
CH 157





CH 165





6. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

7. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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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.

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---