

FCC TEST REPORT (15.407)

REPORT NO.: RF120131C05-1
MODEL NO.: T-02D
FCC ID: VQK-T02D
RECEIVED: Jan. 31, 2012
TESTED: Mar. 21 ~ Apr. 20, 2012
ISSUED: Apr. 25, 2012

APPLICANT: FUJITSU LIMITED

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120131C05-1	Original release	Apr. 25, 2012

1. CERTIFICATION

PRODUCT: Mobile Phone

MODEL: T-02D

BRAND: Xi

APPLICANT: FUJITSU LIMITED

TESTED: Mar. 21 ~ Apr. 20, 2012

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 15, Subpart E (Section 15.407)

ANSI C63.10-2009

The above equipment (model: T-02D) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Andrea Hsia , **DATE** : Apr. 25, 2012
Andrea Hsia / Specialist

APPROVED BY : Gary Chang , **DATE** : Apr. 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 E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -16.54dB at 0.46641MHz.
15.407(b/1/2/3)(b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.1dB at 5725.00MHz.
15.407(a/1/2)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	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	Mobile Phone
MODEL NO.	T-02D
POWER SUPPLY	3.7Vdc (Li-ion battery) 5.0Vdc (Adapter)
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 72.2Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz & 5500 ~ 5700MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz)
OUTPUT POWER	9.183mW for 5180 ~ 5240MHz 8.995mW for 5260 ~ 5320MHz 9.141mW for 5500 ~ 5700MHz
ANTENNA TYPE	$\lambda/4$ Monopole Antenna with -1.9dBi gain (5180 ~ 5240MHz) $\lambda/4$ Monopole Antenna with -1.1dBi gain (5260 ~ 5320MHz) $\lambda/4$ Monopole Antenna with -2.2dBi gain (5500 ~ 5700MHz)
ANTENNA CONNECTOR	NA
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Adapter, Battery

NOTE:

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

Frequency Band (MHz)	2412~2462	5180~5240	5260~5320	5500~5700	5745~5825
802.11b	√				
802.11g	√				
802.11a		√	√	√	√
802.11n (20MHz)	√	√	√	√	√

- The EUT provides one completed transmitter and one receiver.

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

3. The EUT consumes power from the following adapter & internal Li-ion battery.

ADAPTER	
BRAND:	NTT docomo
MODEL:	TA08017-B219
INPUT:	100-240Vac, 50/60Hz, 0.22A
OUTPUT:	5Vdc, 1.8A

BATTERY	
BRAND	Fujitsu Limited
MODEL	F25
RATING	3.7Vdc, 1800mAh, 6.7Wh

4. The following accessory is for support units only.

PRODUCT	BRAND	DESCRIPTION
USB cable	NA	1.1m non-shielded cable without core

5. SW version is R07.1.
6. HW version is V2.1.0.
7. IMEI Code: 351537050016878, 351537050013651.
8. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

FOR 5180 ~ 5240MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

FOR 5260 ~ 5320MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

FOR 5500 ~ 5700MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz

3.2.1 DESCRIPTION OF SUPPORT UNITS

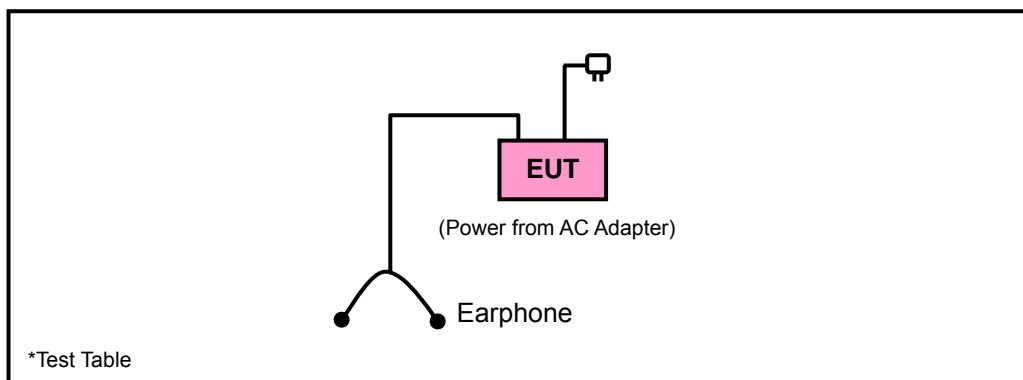
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	EARPHONE	Apple	NA	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.15m non-shielded cable

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

3.2.2 CONFIGURATION OF SYSTEM UNDER TEST



3.2.3 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

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

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	7.2
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	7.2

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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (20MHz)	5180-5320	36 to 64	48	OFDM	BPSK	7.2
802.11a	5500-5700	100 to 140	100	OFDM	BPSK	6.0

POWER LINE CONDUCTED EMISSION TEST:

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (20MHz)	5180-5320	36 to 64	48	OFDM	BPSK	7.2
802.11a	5500-5700	100 to 140	100	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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 48	OFDM	BPSK	7.2
802.11a	5260-5320	52 to 64	52, 64	OFDM	BPSK	6.0
802.11n (20MHz)		52 to 64	52, 64	OFDM	BPSK	7.2
802.11a	5500-5700	100 to 140	100, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 140	OFDM	BPSK	7.2

ANTENNA PORT CONDUCTED MEASUREMENT:

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	7.2
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	7.2

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	Aska Huang
PLC	23deg. C, 63%RH	120Vac, 60Hz	Brad Wu
APCM	25deg. C, 65%RH	120Vac, 60Hz	Aska Huang

3.3 DUTY CYCLE OF TEST SIGNAL

Duty cycle of test signal is > 98 %

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 E (15.407)

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

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:

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 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBμV/m)
PK	PK
-27	68.3

NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$

4.1.3 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	9168-472	Dec. 20, 2011	Dec. 19, 2012
HORN Antenna SCHWARZBECK	9120D	209	Aug. 25, 2011	Aug. 24, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 20, 2011	Jul. 19, 2012
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
High Speed Peak Power Meter	ML2495A	0842014	Apr. 26, 2011	Apr. 25, 2012
Power Sensor	MA2411B	0738404	Apr. 26, 2011	Apr. 25, 2012
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 15, 2011	Jun. 14, 2012

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 3.
 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 988962.
 5. The IC Site Registration No. is IC 7450F-3.

4.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. 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 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

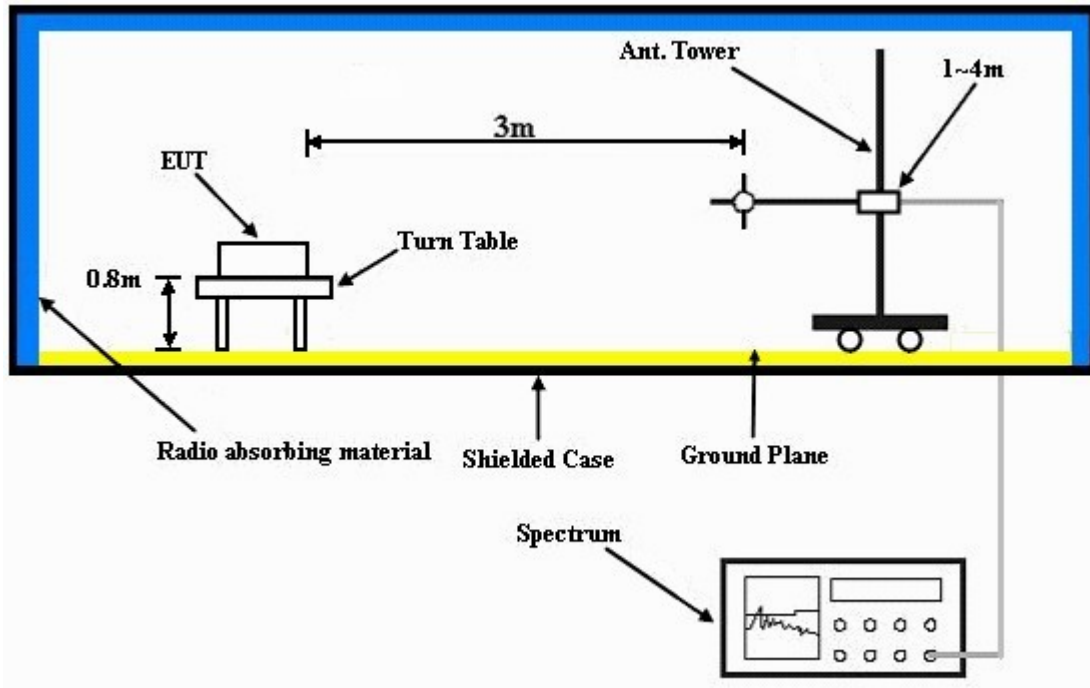
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1kHz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 DEVIATION FROM TEST STANDARD

No deviation.

4.1.6 TEST SETUP



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

4.1.7 EUT OPERATING CONDITION

- Placed the EUT on a testing table.
- Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.8 TEST RESULTS

ABOVE 1GHz DATA: 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	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	5150.00	57.1 PK	74.0	-16.9	1.00 H	192	19.30	37.80
2	5150.00	43.7 AV	54.0	-10.3	1.00 H	192	5.90	37.80
3	*5180.00	101.2 PK			1.00 H	192	63.30	37.90
4	*5180.00	89.7 AV			1.00 H	192	51.80	37.90
5	#10360.00	57.7 PK	68.3	-10.6	1.20 H	181	8.60	49.10
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	5150.00	59.5 PK	74.0	-14.5	1.22 V	231	21.70	37.80
2	5150.00	44.8 AV	54.0	-9.2	1.22 V	231	7.00	37.80
3	*5180.00	104.3 PK			1.22 V	231	66.40	37.90
4	*5180.00	92.8 AV			1.22 V	231	54.90	37.90
5	#10360.00	58.4 PK	68.3	-9.9	1.04 V	320	9.30	49.10

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 radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	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	5150.00	56.1 PK	74.0	-17.9	1.13 H	249	18.30	37.80
2	5150.00	43.1 AV	54.0	-10.9	1.13 H	249	5.30	37.80
3	*5200.00	101.6 PK			1.13 H	249	63.70	37.90
4	*5200.00	90.4 AV			1.13 H	249	52.50	37.90
5	#10400.00	58.8 PK	68.3	-9.5	1.12 H	182	9.70	49.10
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	5150.00	56.5 PK	74.0	-17.5	1.22 V	227	18.70	37.80
2	5150.00	43.5 AV	54.0	-10.5	1.22 V	227	5.70	37.80
3	*5200.00	103.7 PK			1.22 V	227	65.80	37.90
4	*5200.00	92.2 AV			1.22 V	227	54.30	37.90
5	#10400.00	58.6 PK	68.3	-9.7	1.05 V	284	9.50	49.10

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 radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	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	5150.00	53.6 PK	74.0	-20.4	1.01 H	249	15.80	37.80
2	5150.00	43.0 AV	54.0	-11.0	1.01 H	249	5.20	37.80
3	*5240.00	101.5 PK			1.01 H	249	63.60	37.90
4	*5240.00	90.0 AV			1.01 H	249	52.10	37.90
5	#10480.00	58.0 PK	68.3	-10.3	1.14 H	173	8.50	49.50
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	5150.00	55.4 PK	74.0	-18.6	1.19 V	226	17.60	37.80
2	5150.00	42.6 AV	54.0	-11.4	1.19 V	226	4.80	37.80
3	*5240.00	104.3 PK			1.19 V	226	66.40	37.90
4	*5240.00	93.0 AV			1.19 V	226	55.10	37.90
5	#10480.00	59.1 PK	68.3	-9.2	1.04 V	284	9.60	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 radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	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	5150.00	56.8 PK	74.0	-17.2	1.16 H	251	19.00	37.80
2	5150.00	45.6 AV	54.0	-8.4	1.16 H	251	7.80	37.80
3	*5260.00	102.3 PK			1.13 H	106	64.30	38.00
4	*5260.00	90.7 AV			1.13 H	106	52.70	38.00
5	#10520.00	58.4 PK	68.3	-9.9	1.26 H	117	8.80	49.60
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	5150.00	56.8 PK	74.0	-17.2	1.18 V	228	19.00	37.80
2	5150.00	42.3 AV	54.0	-11.7	1.18 V	228	4.50	37.80
3	*5260.00	104.9 PK			1.18 V	228	66.90	38.00
4	*5260.00	93.6 AV			1.18 V	228	55.60	38.00
5	#10520.00	58.9 PK	68.3	-9.4	1.90 V	287	9.30	49.60

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.
6. "#": The radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	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	*5300.00	102.8 PK			1.13 H	109	64.80	38.00
2	*5300.00	91.9 AV			1.13 H	109	53.90	38.00
3	5350.00	57.0 PK	74.0	-17.0	1.13 H	109	18.90	38.10
4	5350.00	43.9 AV	54.0	-10.1	1.13 H	109	5.80	38.10
5	10600.00	58.6 PK	74.0	-15.4	1.50 H	88	9.00	49.60
6	10600.00	46.8 AV	54.0	-7.2	1.50 H	88	-2.80	49.60
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	*5300.00	104.8 PK			1.17 V	228	66.80	38.00
2	*5300.00	93.8 AV			1.17 V	228	55.80	38.00
3	5350.00	57.8 PK	74.0	-16.2	1.17 V	217	19.70	38.10
4	5350.00	45.1 AV	54.0	-8.9	1.17 V	217	7.00	38.10
5	10600.00	59.9 PK	74.0	-14.1	1.45 V	296	10.30	49.60
6	10600.00	49.4 AV	54.0	-4.6	1.45 V	296	-0.20	49.60

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 64	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	*5320.00	103.8 PK			1.12 H	107	65.70	38.10
2	*5320.00	92.4 AV			1.12 H	107	54.30	38.10
3	5350.00	61.2 PK	74.0	-12.8	1.22 H	106	23.10	38.10
4	5350.00	46.7 AV	54.0	-7.3	1.22 H	106	8.60	38.10
5	10640.00	58.4 PK	74.0	-15.6	1.50 H	84	8.80	49.60
6	10640.00	47.0 AV	54.0	-7.0	1.50 H	84	-2.60	49.60
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	*5320.00	105.7 PK			1.08 V	212	67.60	38.10
2	*5320.00	94.9 AV			1.08 V	212	56.80	38.10
3	5350.00	64.4 PK	74.0	-9.6	1.06 V	213	26.30	38.10
4	5350.00	47.9 AV	54.0	-6.1	1.06 V	213	9.80	38.10
5	10640.00	58.7 PK	74.0	-15.3	1.87 V	273	9.10	49.60
6	10640.00	49.1 AV	54.0	-4.9	1.87 V	273	-0.50	49.60

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	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	5460.00	57.2 PK	74.0	-16.8	1.19 H	109	18.90	38.30
2	5460.00	44.1 AV	54.0	-9.9	1.19 H	109	5.80	38.30
3	#5470.00	60.4 PK	68.3	-7.9	1.19 H	109	22.10	38.30
4	*5500.00	103.5 PK			1.19 H	109	65.10	38.40
5	*5500.00	92.2 AV			1.19 H	109	53.80	38.40
6	11000.00	60.0 PK	74.0	-14.0	1.47 H	76	9.70	50.30
7	11000.00	48.9 AV	54.0	-5.1	1.47 H	76	-1.40	50.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.7 PK	74.0	-15.3	1.01 V	227	20.40	38.30
2	5460.00	45.0 AV	54.0	-9.0	1.01 V	227	6.70	38.30
3	#5470.00	63.6 PK	68.3	-4.7	1.01 V	227	25.30	38.30
4	*5500.00	106.9 PK			1.01 V	227	68.50	38.40
5	*5500.00	95.5 AV			1.01 V	227	57.10	38.40
6	11000.00	60.6 PK	74.0	-13.4	1.07 V	286	10.30	50.30
7	11000.00	50.4 AV	54.0	-3.6	1.07 V	286	0.10	50.30

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	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	5460.00	55.4 PK	74.0	-18.6	1.13 H	96	17.10	38.30
2	5460.00	43.5 AV	54.0	-10.5	1.13 H	96	5.20	38.30
3	*5580.00	103.6 PK			1.13 H	96	65.20	38.40
4	*5580.00	92.3 AV			1.13 H	96	53.90	38.40
5	11160.00	59.6 PK	74.0	-14.4	1.49 H	89	9.50	50.10
6	11160.00	49.2 AV	54.0	-4.8	1.49 H	89	-0.90	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	5460.00	56.4 PK	74.0	-17.6	1.01 V	213	18.10	38.30
2	5460.00	43.3 AV	54.0	-10.7	1.01 V	213	5.00	38.30
3	*5580.00	106.1 PK			1.01 V	213	67.70	38.40
4	*5580.00	94.6 AV			1.01 V	213	56.20	38.40
5	11160.00	60.2 PK	74.0	-13.8	1.07 V	283	10.10	50.10
6	11160.00	50.9 AV	54.0	-3.1	1.07 V	283	0.80	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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 132	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	5460.00	55.9 PK	74.0	-18.1	1.13 H	99	17.60	38.30
2	5460.00	43.3 AV	54.0	-10.7	1.13 H	99	5.00	38.30
3	*5660.00	104.4 PK			1.13 H	99	65.80	38.60
4	*5660.00	93.3 AV			1.13 H	99	54.70	38.60
5	11320.00	59.6 PK	74.0	-14.4	1.53 H	246	9.40	50.20
6	11320.00	50.4 AV	54.0	-3.6	1.53 H	246	0.20	50.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.5 PK	74.0	-18.5	1.00 V	211	17.20	38.30
2	5460.00	43.5 AV	54.0	-10.5	1.00 V	211	5.20	38.30
3	*5660.00	105.7 PK			1.00 V	211	67.10	38.60
4	*5660.00	94.3 AV			1.00 V	211	55.70	38.60
5	11320.00	60.1 PK	74.0	-13.9	1.85 V	315	9.90	50.20
6	11320.00	49.7 AV	54.0	-4.3	1.85 V	315	-0.50	50.20

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	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	*5700.00	105.4 PK			1.11 H	99	66.70	38.70
2	*5700.00	93.8 AV			1.11 H	99	55.10	38.70
3	#5725.00	67.2 PK	68.3	-1.1	1.11 H	99	28.40	38.80
4	11400.00	60.0 PK	74.0	-14.0	1.50 H	275	9.90	50.10
5	11400.00	50.1 AV	54.0	-3.9	1.50 H	275	0.00	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	*5700.00	104.6 PK			1.00 V	210	65.90	38.70
2	*5700.00	94.0 AV			1.00 V	210	55.30	38.70
3	#5725.00	66.0 PK	68.3	-2.3	1.00 V	210	27.20	38.80
4	11400.00	58.7 PK	74.0	-15.3	1.00 V	334	8.60	50.10
5	11400.00	48.9 AV	54.0	-5.1	1.00 V	334	-1.20	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 radiated frequency is out the restricted band.

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	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	5150.00	56.7 PK	74.0	-17.3	1.10 H	154	18.90	37.80
2	5150.00	43.9 AV	54.0	-10.1	1.10 H	154	6.10	37.80
3	*5180.00	101.6 PK			1.10 H	154	63.70	37.90
4	*5180.00	90.0 AV			1.10 H	154	52.10	37.90
5	#10360.00	59.2 PK	68.3	-9.1	1.49 H	110	10.10	49.10
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	5150.00	58.1 PK	74.0	-15.9	1.10 V	274	20.30	37.80
2	5150.00	45.0 AV	54.0	-9.0	1.10 V	274	7.20	37.80
3	*5180.00	103.2 PK			1.10 V	274	65.30	37.90
4	*5180.00	92.6 AV			1.10 V	274	54.70	37.90
5	#10360.00	58.8 PK	68.3	-9.5	1.00 V	187	9.70	49.10

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 radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	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	5150.00	47.0 PK	74.0	-27.0	1.06 H	118	9.20	37.80
2	5150.00	43.2 AV	54.0	-10.8	1.06 H	118	5.40	37.80
3	*5200.00	101.4 PK			2.06 H	118	63.50	37.90
4	*5200.00	90.5 AV			2.06 H	118	52.60	37.90
5	#10400.00	58.7 PK	68.3	-9.6	1.00 H	202	9.60	49.10
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	5150.00	55.6 PK	74.0	-18.4	1.17 V	271	17.80	37.80
2	5150.00	43.7 AV	54.0	-10.3	1.17 V	271	5.90	37.80
3	*5200.00	102.8 PK			1.17 V	271	64.90	37.90
4	*5200.00	92.1 AV			1.17 V	271	54.20	37.90
5	#10400.00	59.6 PK	68.3	-8.7	1.06 V	183	10.50	49.10

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 radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	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	5150.00	55.5 PK	74.0	-18.5	1.09 H	126	17.70	37.80
2	5150.00	42.7 AV	54.0	-11.3	1.09 H	126	4.90	37.80
3	*5240.00	102.1 PK			1.09 H	126	64.20	37.90
4	*5240.00	90.7 AV			1.09 H	126	52.80	37.90
5	#10480.00	58.3 PK	68.3	-10.0	1.00 H	205	8.80	49.50
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	5150.00	54.3 PK	74.0	-19.7	1.09 V	274	16.50	37.80
2	5150.00	43.2 AV	54.0	-10.8	1.09 V	274	5.40	37.80
3	*5240.00	104.1 PK			1.09 V	274	66.20	37.90
4	*5240.00	92.7 AV			1.09 V	274	54.80	37.90
5	#10480.00	58.9 PK	68.3	-9.4	1.05 V	179	9.40	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 radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	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	5150.00	54.1 PK	74.0	-19.9	1.07 H	125	16.30	37.80
2	5150.00	42.1 AV	54.0	-11.9	1.07 H	125	4.30	37.80
3	*5260.00	101.7 PK			1.07 H	125	63.70	38.00
4	*5260.00	90.8 AV			1.07 H	125	52.80	38.00
5	#10520.00	59.2 PK	68.3	-9.1	1.00 H	231	9.60	49.60
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	5150.00	55.3 PK	74.0	-18.7	1.21 V	270	17.50	37.80
2	5150.00	42.3 AV	54.0	-11.7	1.21 V	270	4.50	37.80
3	*5260.00	104.5 PK			1.21 V	270	66.50	38.00
4	*5260.00	93.3 AV			1.21 V	270	55.30	38.00
5	#10520.00	58.6 PK	68.3	-9.7	1.09 V	185	9.00	49.60

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.
6. "#": The radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	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	*5300.00	102.4 PK			1.06 H	145	64.40	38.00
2	*5300.00	91.3 AV			1.06 H	145	53.30	38.00
3	5350.00	57.8 PK	74.0	-16.2	1.06 H	145	19.70	38.10
4	5350.00	44.7 AV	54.0	-9.3	1.06 H	145	6.60	38.10
5	10600.00	59.4 PK	74.0	-14.6	1.00 H	165	9.80	49.60
6	10600.00	46.6 AV	54.0	-7.4	1.00 H	165	-3.00	49.60
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	*5300.00	104.9 PK			1.04 V	276	66.90	38.00
2	*5300.00	93.7 AV			1.04 V	276	55.70	38.00
3	5350.00	56.3 PK	74.0	-17.7	1.04 V	276	18.20	38.10
4	5350.00	43.7 AV	54.0	-10.3	1.04 V	276	5.60	38.10
5	10600.00	59.7 PK	74.0	-14.3	1.06 V	176	10.10	49.60
6	10600.00	50.1 AV	54.0	-3.9	1.06 V	176	0.50	49.60

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	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	*5320.00	103.4 PK			1.17 H	164	65.30	38.10
2	*5320.00	92.2 AV			1.17 H	164	54.10	38.10
3	5350.00	62.4 PK	74.0	-11.6	1.17 H	164	24.30	38.10
4	5350.00	46.9 AV	54.0	-7.1	1.17 H	164	8.80	38.10
5	10640.00	56.9 PK	74.0	-17.1	1.00 H	160	7.30	49.60
6	10640.00	46.2 AV	54.0	-7.8	1.00 H	160	-3.40	49.60
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	*5320.00	105.2 PK			1.15 V	274	67.10	38.10
2	*5320.00	94.5 AV			1.15 V	274	56.40	38.10
3	5350.00	64.1 PK	74.0	-9.9	1.15 V	274	26.00	38.10
4	5350.00	47.5 AV	54.0	-6.5	1.15 V	274	9.40	38.10
5	10640.00	59.3 PK	74.0	-14.7	1.08 V	185	9.70	49.60
6	10640.00	49.9 AV	54.0	-4.1	1.08 V	185	0.30	49.60

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 100	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	5460.00	59.1 PK	74.0	-14.9	1.06 H	96	20.80	38.30
2	5460.00	44.1 AV	54.0	-9.9	1.06 H	96	5.80	38.30
3	#5470.00	64.5 PK	68.3	-3.8	1.06 H	96	26.20	38.30
4	*5500.00	104.1 PK			1.06 H	96	65.70	38.40
5	*5500.00	92.7 AV			1.06 H	96	54.30	38.40
6	11000.00	60.5 PK	74.0	-13.5	1.55 H	248	10.20	50.30
7	11000.00	50.6 AV	54.0	-3.4	1.55 H	248	0.30	50.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.7 PK	74.0	-15.3	1.00 V	227	20.40	38.30
2	5460.00	44.6 AV	54.0	-9.4	1.00 V	227	6.30	38.30
3	#5470.00	64.3 PK	68.3	-4.0	1.00 V	227	26.00	38.30
4	*5500.00	105.6 PK			1.00 V	227	67.20	38.40
5	*5500.00	94.8 AV			1.00 V	227	56.40	38.40
6	11000.00	60.4 PK	74.0	-13.6	1.08 V	299	10.10	50.30
7	11000.00	51.0 AV	54.0	-3.0	1.08 V	299	0.70	50.30

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	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	5460.00	55.7 PK	74.0	-18.3	1.02 H	95	17.40	38.30
2	5460.00	43.1 AV	54.0	-10.9	1.02 H	95	4.80	38.30
3	*5580.00	102.9 PK			1.02 H	95	64.50	38.40
4	*5580.00	63.8 AV			1.02 H	95	53.80	38.40
5	11160.00	58.8 PK	74.0	-15.2	1.51 H	249	8.70	50.10
6	11160.00	49.8 AV	54.0	-4.2	1.51 H	249	-0.30	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	5460.00	44.0 PK	74.0	-30.0	1.01 V	212	5.70	38.30
2	5460.00	30.9 AV	54.0	-23.1	1.01 V	212	-7.40	38.30
3	*5580.00	105.6 PK			1.01 V	212	67.20	38.40
4	*5580.00	94.9AV			1.01 V	212	56.50	38.40
5	11160.00	60.3 PK	74.0	-13.7	1.06 V	315	10.20	50.10
6	11160.00	50.9 AV	54.0	-3.1	1.06 V	315	0.80	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 132	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	5460.00	56.3 PK	74.0	-17.7	1.11 H	98	18.00	38.30
2	5460.00	43.4 AV	54.0	-10.6	1.11 H	98	5.10	38.30
3	*5660.00	103.9 PK			1.11 H	98	65.30	38.60
4	*5660.00	93.2 AV			1.11 H	98	54.60	38.60
5	11320.00	59.8 PK	74.0	-14.2	1.51 H	250	9.60	50.20
6	11320.00	50.2 AV	54.0	-3.8	1.51 H	250	0.00	50.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.7 PK	74.0	-18.3	1.00 V	210	17.40	38.30
2	5460.00	44.1 AV	54.0	-9.9	1.00 V	210	5.80	38.30
3	*5660.00	104.6 PK			1.00 V	210	66.00	38.60
4	*5660.00	93.9 AV			1.00 V	210	55.30	38.60
5	11320.00	59.5 PK	74.0	-14.5	1.00 V	326	9.30	50.20
6	11320.00	49.2 AV	54.0	-4.8	1.00 V	326	-1.00	50.20

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	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	*5700.00	104.5 PK			1.11 H	98	65.80	38.70
2	*5700.00	93.6 AV			1.11 H	98	54.90	38.70
3	#5725.00	67.1 PK	68.3	-1.2	1.11 H	98	28.30	38.80
4	11400.00	60.1 PK	74.0	-13.9	1.52 H	245	10.00	50.10
5	11400.00	50.0 AV	54.0	-4.0	1.52 H	245	-0.10	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	*5700.00	103.7 PK			1.00 V	211	65.00	38.70
2	*5700.00	94.1 AV			1.00 V	211	55.40	38.70
3	#5725.00	66.9 PK	68.3	-1.4	1.00 V	211	28.10	38.80
4	11400.00	61.2 PK	74.0	-12.8	1.00 V	342	11.10	50.10
5	11400.00	49.7 AV	54.0	-4.3	1.00 V	342	-0.40	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 radiated frequency is out the restricted band.

BELOW 1GHz WORST-CASE DATA :

FOR 5180 ~ 5320MHz: 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Aska Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	45.45	21.9 QP	40.0	-18.1	2.00 H	3	7.90	14.00
2	142.67	18.1 QP	43.5	-25.4	1.50 H	10	4.40	13.70
3	169.89	18.7 QP	43.5	-24.8	1.50 H	58	5.20	13.50
4	251.55	18.0 QP	46.0	-28.0	1.00 H	167	4.90	13.10
5	313.77	16.8 QP	46.0	-29.2	1.00 H	235	1.50	15.30
6	486.81	20.4 QP	46.0	-25.6	1.25 H	52	0.80	19.60
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	45.45	26.1 QP	40.0	-13.9	1.25 V	206	12.10	14.00
2	53.23	24.9 QP	40.0	-15.1	1.00 V	349	11.10	13.80
3	74.62	17.4 QP	40.0	-22.6	1.00 V	319	6.20	11.20
4	101.84	14.6 QP	43.5	-28.9	2.00 V	15	4.90	9.70
5	222.39	14.2 QP	46.0	-31.8	1.50 V	11	2.30	11.90
6	358.49	16.8 QP	46.0	-29.2	1.25 V	15	0.30	16.50

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.

FOR 5500 ~ 5700MHz: 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Aska Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	45.45	21.6 QP	40.0	-18.4	2.00 H	109	7.60	14.00
2	53.23	16.5 QP	40.0	-23.5	1.00 H	300	2.70	13.80
3	167.94	19.2 QP	43.5	-24.3	1.50 H	89	5.60	13.60
4	249.61	18.4 QP	46.0	-27.6	1.00 H	350	5.40	13.00
5	329.32	17.3 QP	46.0	-28.7	2.00 H	335	1.60	15.70
6	412.93	17.3 QP	46.0	-28.7	1.25 H	312	-0.60	17.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	45.45	25.8 QP	40.0	-14.2	1.25 V	224	11.80	14.00
2	74.62	18.2 QP	40.0	-21.8	1.00 V	31	7.00	11.20
3	101.84	14.3 QP	43.5	-29.2	1.50 V	220	4.60	9.70
4	156.28	15.5 QP	43.5	-28.0	2.00 V	285	1.40	14.10
5	239.88	14.9 QP	46.0	-31.1	1.00 V	270	2.30	12.60
6	286.55	14.6 QP	46.0	-31.4	2.00 V	15	0.20	14.40

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.

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	100289	Nov. 19, 2011	Nov. 18, 2012
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 22, 2011	Dec. 21, 2012
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Dec. 30, 2011	Dec. 29, 2012
LISN ROHDE & SCHWARZ	ESH3-Z5	100312	Jul. 07, 2011	Jul. 06, 2012
V-LISN SCHWARZBECK	NNBL 8226-2	8226-142	Jun. 30, 2011	Jun. 29, 2012
LISN ROHDE & SCHWARZ	ENV216	100072	Jun. 10, 2011	Jun. 09, 2012
Software ADT	ADT_Cond_ V7.3.7	NA	NA	NA

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 TEST PROCEDURES

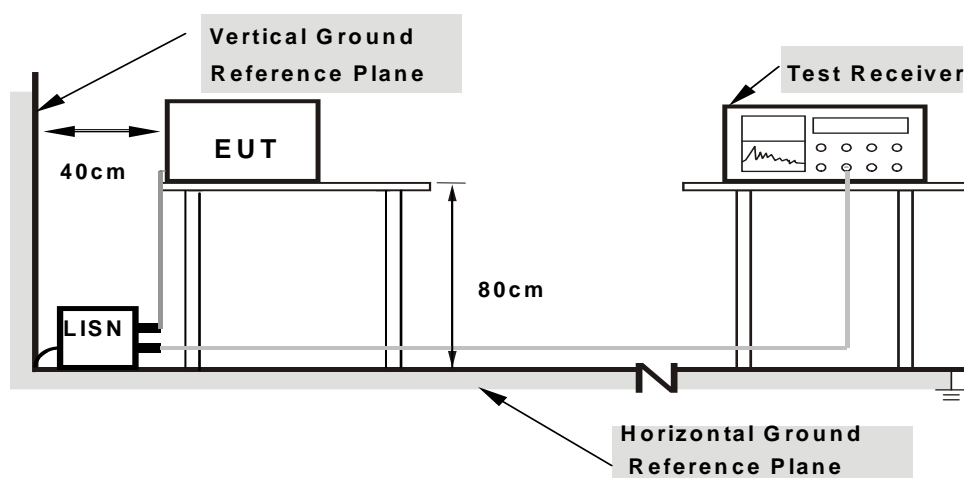
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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:**
- Support units were connected to second LISN.
 - Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

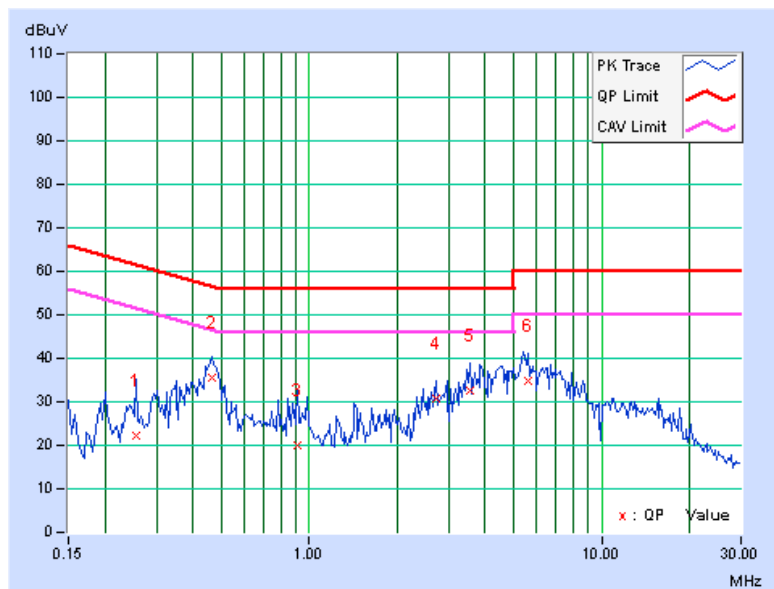
CONDUCTED WORST-CASE DATA :

FOR 5180 ~ 5320MHz: 802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.25547	0.18	22.06	14.87	22.24	15.05	61.58	51.58	-39.34	-36.53
2	0.46641	0.20	35.44	29.83	35.64	30.03	56.58	46.58	-20.93	-16.54
3	0.91172	0.23	19.80	11.84	20.03	12.07	56.00	46.00	-35.97	-33.93
4	2.70703	0.33	30.52	23.50	30.85	23.83	56.00	46.00	-25.15	-22.17
5	3.53906	0.37	32.10	25.31	32.47	25.68	56.00	46.00	-23.53	-20.32
6	5.58984	0.41	34.22	25.36	34.63	25.77	60.00	50.00	-25.37	-24.23

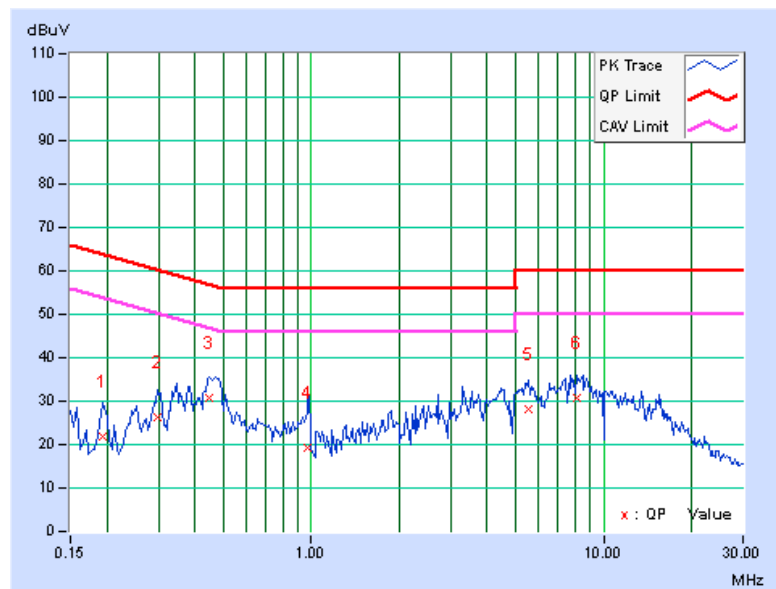
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. The emission levels of other frequencies were very low against the limit.
 3. Margin value = Emission level - Limit value
 4. Correction factor = Insertion loss + Cable loss
 5. Emission Level = Correction Factor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



PHASE	Line 2	6dB BANDWIDTH	9kHz
-------	--------	---------------	------

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19297	0.15	21.75	15.67	21.90	15.82	63.91	53.91	-42.00	-38.08
2	0.29844	0.16	26.10	15.62	26.26	15.78	60.29	50.29	-34.02	-34.50
3	0.44688	0.18	30.45	24.26	30.63	24.44	56.93	46.93	-26.30	-22.49
4	0.97422	0.19	18.95	9.91	19.14	10.10	56.00	46.00	-36.86	-35.90
5	5.55859	0.43	27.87	21.43	28.30	21.86	60.00	50.00	-31.70	-28.14
6	8.05469	0.51	30.20	20.77	30.71	21.28	60.00	50.00	-29.29	-28.72

- 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.

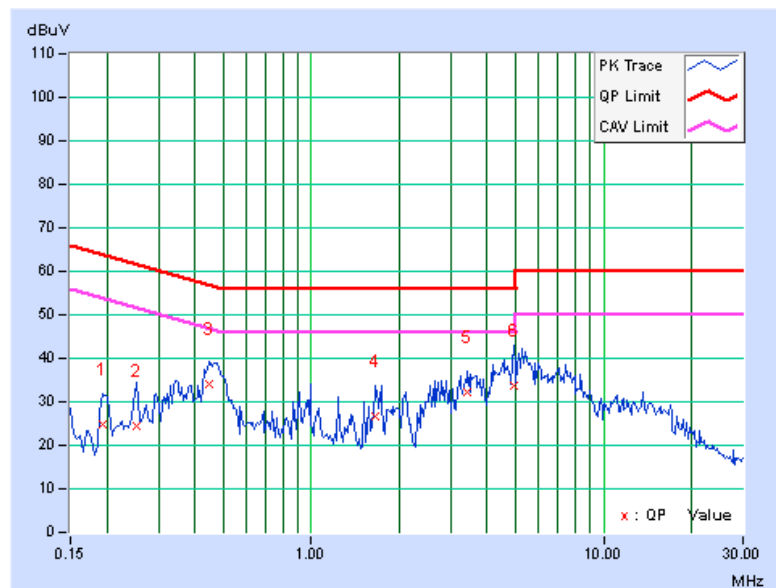


FOR 5180 ~ 5320MHz: 802.11a

PHASE	Line 1	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19297	0.17	24.66	19.23	24.83	19.40	63.91	53.91	-39.08	-34.51
2	0.25156	0.18	24.27	16.47	24.45	16.65	61.71	51.71	-37.26	-35.06
3	0.44688	0.20	34.03	28.20	34.23	28.40	56.93	46.93	-22.70	-18.53
4	1.65234	0.28	26.32	17.76	26.60	18.04	56.00	46.00	-29.40	-27.96
5	3.42578	0.36	31.87	25.28	32.23	25.64	56.00	46.00	-23.77	-20.36
6	4.94531	0.40	33.22	26.79	33.62	27.19	56.00	46.00	-22.38	-18.81

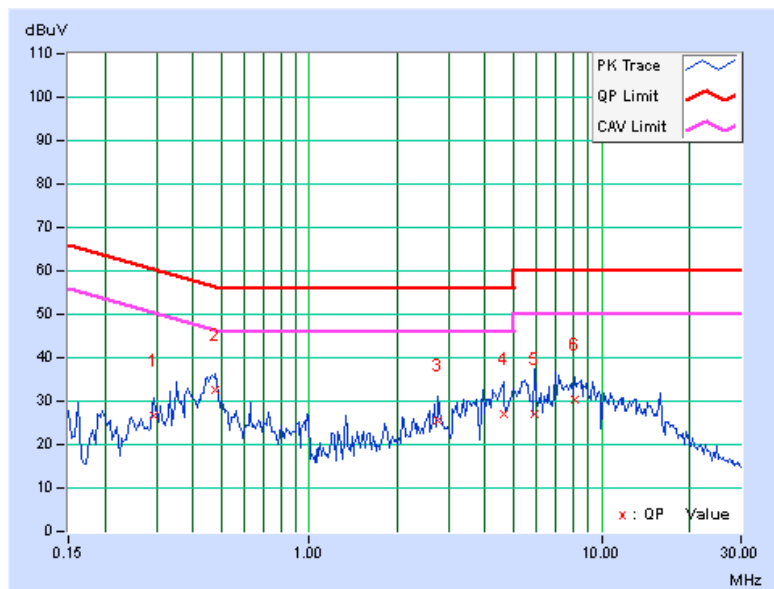
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. The emission levels of other frequencies were very low against the limit.
 3. Margin value = Emission level - Limit value
 4. Correction factor = Insertion loss + Cable loss
 5. Emission Level = Correction Factor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



PHASE	Line 2	6dB BANDWIDTH	9kHz
-------	--------	---------------	------

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.29453	0.16	26.52	15.52	26.68	15.68	60.40	50.40	-33.71	-34.71
2	0.47813	0.18	32.29	26.60	32.47	26.78	56.37	46.37	-23.90	-19.59
3	2.76563	0.31	25.21	18.18	25.52	18.49	56.00	46.00	-30.48	-27.51
4	4.60938	0.40	26.66	19.69	27.06	20.09	56.00	46.00	-28.94	-25.91
5	5.91797	0.44	26.73	18.34	27.17	18.78	60.00	50.00	-32.83	-31.22
6	8.10156	0.51	29.73	20.58	30.24	21.09	60.00	50.00	-29.76	-28.91

- 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 PEAK TRANSMIT POWER MEASUREMENT

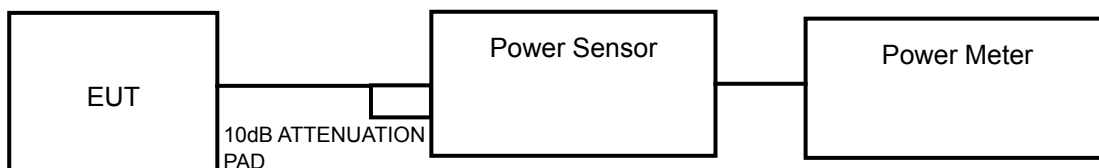
4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.250 ~ 5.350GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.470 ~ 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB

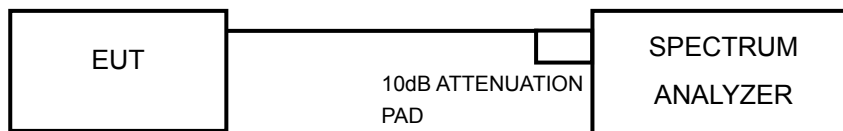
NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB BANDWIDTH



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.3.4 TEST PROCEDURE

FOR AVERAGE POWER MEASUREMENT

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

FOR 26dB BANDWIDTH

- 1) Set RBW = approximately 1% of the emission bandwidth.
- 2) Set the VBW > RBW.
- 3) Detector = Peak.
- 4) Trace mode = max hold.
- 5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

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 specific channel frequencies individually.

4.3.7 TEST RESULTS

POWER OUTPUT: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	7.261	8.61	17	PASS
44	5220	7.551	8.78	17	PASS
48	5240	8.337	9.21	17	PASS
52	5260	7.096	8.51	24	PASS
60	5300	8.147	9.11	24	PASS
64	5320	8.995	9.54	24	PASS
100	5500	9.141	9.61	24	PASS
116	5580	7.112	8.52	24	PASS
132	5660	8.035	9.05	24	PASS
140	5700	7.780	8.91	24	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	6.839	8.35	17	PASS
44	5220	7.211	8.58	17	PASS
48	5240	9.183	9.63	17	PASS
52	5260	6.855	8.36	24	PASS
60	5300	7.603	8.81	24	PASS
64	5320	8.128	9.1	24	PASS
100	5500	9.016	9.55	24	PASS
116	5580	7.691	8.86	24	PASS
132	5660	8.318	9.2	24	PASS
140	5700	7.638	8.83	24	PASS

26dB BANDWIDTH: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	22.42	PASS
44	5220	22.67	PASS
48	5240	22.67	PASS
52	5260	22.67	PASS
60	5300	22.59	PASS
64	5320	23.34	PASS
100	5500	22.49	PASS
116	5580	22.61	PASS
132	5660	22.63	PASS
140	5700	22.81	PASS

802.11n (20MHz)

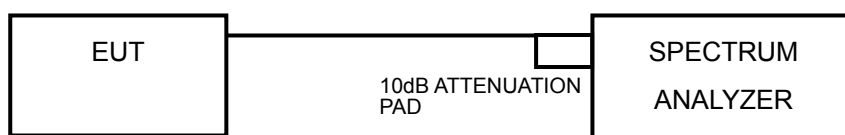
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	23.14	PASS
44	5220	23.10	PASS
48	5240	23.18	PASS
52	5260	23.13	PASS
60	5300	23.16	PASS
64	5320	23.08	PASS
100	5500	23.17	PASS
116	5580	23.09	PASS
132	5660	23.10	PASS
140	5700	23.11	PASS

4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	4dBm
5.250 ~ 5.350GHz	11dBm
5.470 ~ 5.725GHz	11dBm

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.4.4 TEST PROCEDURES

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1 MHz, Set VBW \geq 3 MHz, Detector = RMS
- 3) Sweep time = auto, trigger set to "free run".
- 4) Trace average at least 100 traces in power averaging mode.
- 5) Record the max value

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6.

4.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	-2.24	4	PASS
44	5220	-2.10	4	PASS
48	5240	-1.42	4	PASS
52	5260	-2.11	11	PASS
60	5300	-1.58	11	PASS
64	5320	-1.10	11	PASS
100	5500	-1.43	11	PASS
116	5580	-2.47	11	PASS
132	5660	-1.90	11	PASS
140	5700	-1.76	11	PASS

802.11n (20MHz)

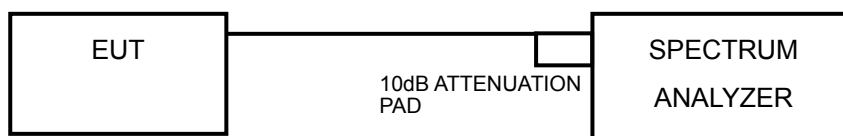
CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	-2.21	4	PASS
44	5220	-1.98	4	PASS
48	5240	-0.72	4	PASS
52	5260	-2.03	11	PASS
60	5300	-1.58	11	PASS
64	5320	-1.30	11	PASS
100	5500	-1.25	11	PASS
116	5580	-1.71	11	PASS
132	5660	-1.56	11	PASS
140	5700	-1.53	11	PASS

4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Shall not exceed 13 dB.

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.5.4 TEST PROCEDURE

- 1) Set RBW = 1 MHz, VBW \geq 3 MHz, Detector = peak.
- 2) Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.
- 3) Use the peak search function to find the peak of the spectrum.
- 4) Measure the PPSD.
- 5) Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

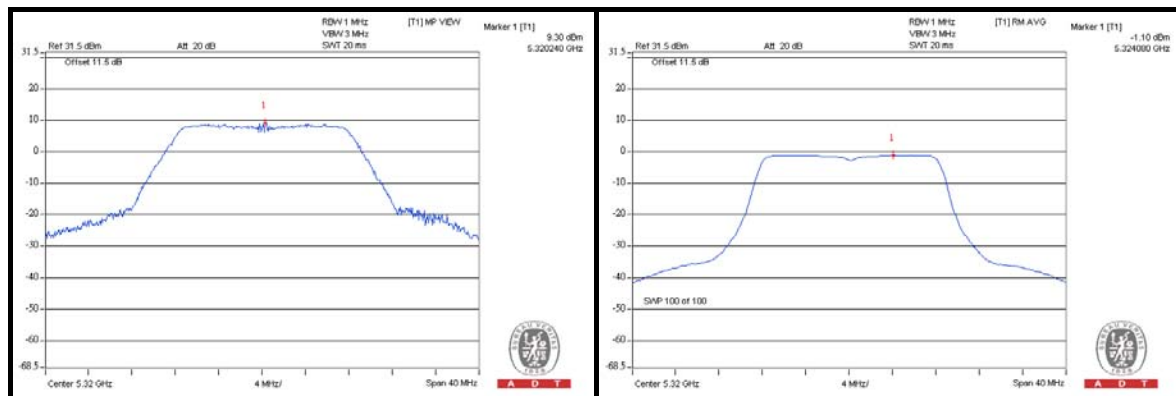
4.5.6 EUT OPERATING CONDITIONS

Same as 4.2.6

4.5.7 TEST RESULTS

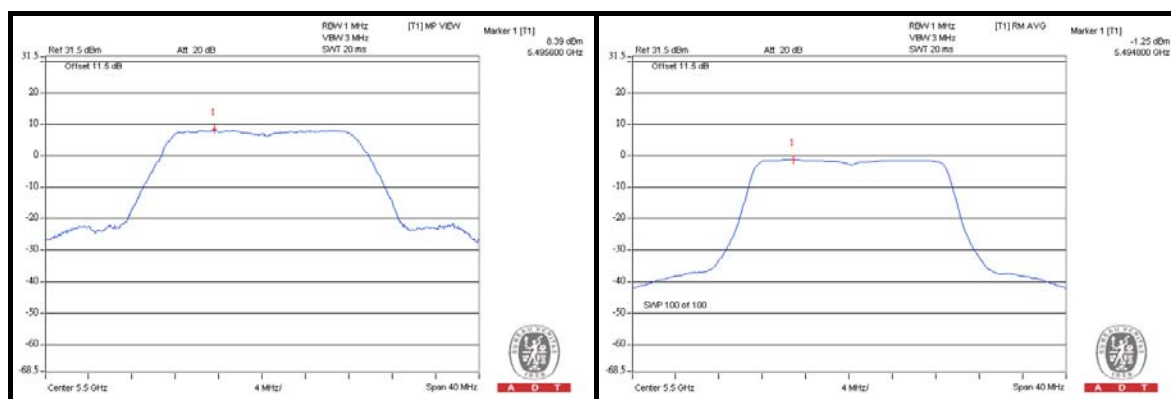
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	8.13	-2.24	10.37	13	PASS
44	5220	8.12	-2.10	10.22	13	PASS
48	5240	8.91	-1.42	10.33	13	PASS
52	5260	7.93	-2.11	10.04	13	PASS
60	5300	8.42	-1.58	10.00	13	PASS
64	5320	9.30	-1.10	10.40	13	PASS
100	5500	8.96	-1.43	10.39	13	PASS
116	5580	7.82	-2.47	10.29	13	PASS
132	5660	8.40	-1.90	10.30	13	PASS
140	5700	8.41	-1.76	10.17	13	PASS



802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	7.29	-2.21	9.50	13	PASS
44	5220	7.41	-1.98	9.39	13	PASS
48	5240	8.42	-0.72	9.14	13	PASS
52	5260	7.47	-2.03	9.50	13	PASS
60	5300	7.71	-1.58	9.29	13	PASS
64	5320	8.22	-1.30	9.52	13	PASS
100	5500	8.39	-1.25	9.64	13	PASS
116	5580	7.57	-1.71	9.28	13	PASS
132	5660	7.92	-1.56	9.48	13	PASS
140	5700	7.73	-1.53	9.26	13	PASS

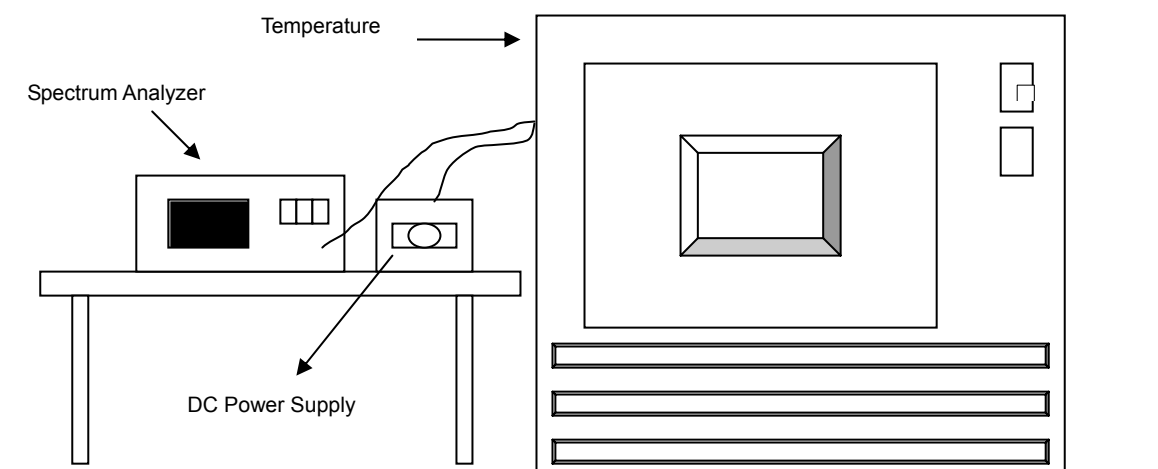


4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency of the carrier signal shall be maintained within band of operation

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.6.4 TEST PROCEDURE

- a. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- b. Turn the EUT on and couple its output to a spectrum analyzer.
- c. Turn the EUT off and set the chamber to the highest temperature specified.
- d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Set the EUT transmit at un-modulation mode to test frequency stability.

4.6.7 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
55	3.7	5319.988473	-2.167	5319.988618	-2.139	5319.988475	-2.166	5319.988615	-2.140
50	3.7	5319.988443	-2.172	5319.988830	-2.100	5319.988630	-2.137	5319.988843	-2.097
40	3.7	5319.989916	-1.896	5319.989914	-1.896	5319.990045	-1.871	5319.990033	-1.873
30	3.7	5319.991391	-1.618	5319.991660	-1.568	5319.991676	-1.565	5319.991859	-1.530
20	3.7	5319.988149	-2.228	5319.988117	-2.234	5319.991368	-1.623	5319.987667	-2.318
10	3.7	5319.991066	-1.679	5319.991618	-1.576	5319.990851	-1.720	5319.991175	-1.659
0	3.7	5319.989920	-1.895	5319.990335	-1.817	5319.990403	-1.804	5319.990532	-1.780
-10	3.7	5319.988566	-2.149	5319.988930	-2.081	5319.988421	-2.176	5319.989071	-2.054
-20	3.7	5319.987788	-2.296	5319.988252	-2.208	5319.987637	-2.324	5319.988072	-2.242
-30	3.7	5319.988265	-2.206	5319.988690	-2.126	5319.988441	-2.173	5319.988446	-2.172

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	4.20	5319.988917	-2.083	5319.988749	-2.115	5319.992940	-1.327	5319.988638	-2.136
	3.7	5319.988149	-2.228	5319.988117	-2.234	5319.991368	-1.623	5319.987667	-2.318
	3.60	5319.990283	-1.826	5319.988551	-2.152	5319.989978	-1.884	5319.988464	-2.168

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. INFORMATION ON THE TESTING LABORATORIES

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

Copies of accreditation and authorization certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5.phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3270892

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.

7. 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.

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