



FCC TEST REPORT (15.407)

REPORT NO.: RF140716C24-1 R1

MODEL NO.: T2UH

FCC ID: TE7T2UH

RECEIVED: Jul. 16, 2014

TESTED: Aug. 06 ~ Aug. 16, 2014

ISSUED: Oct. 01, 2014

APPLICANT: TP-LINK TECHNOLOGIES CO., LTD.

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ISSUED BY: Bureau Veritas Consumer Products Services
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF140716C24-1	Original release.	Aug. 25, 2014
RF140716C24-1 R1	Update output power.	Oct. 01, 2014



1. CERTIFICATION

PRODUCT: AC600 High Gain Wireless Dual Band USB Adapter

MODEL: T2UH

BRAND: TP-LINK

APPLICANT: TP-LINK TECHNOLOGIES CO., LTD.

TESTED: Aug. 06 ~ Aug. 16, 2014

TEST SAMPLE: Prototype

STANDARDS: **FCC Part 15, Subpart E (Section 15.407)**
ANSI C63.10-2009

The above equipment (model: T2UH) 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 : *Sunt Lee* , **DATE :** Oct. 01, 2014
Sunt Lee / Specialist

APPROVED BY : *Ken Liu* , **DATE :** Oct. 01, 2014
Ken Liu / Senior 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 Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -6.61dB at 2.16600MHz.
15.407(b)(1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.9dB at 5150.00 & 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(e)	6dB bandwidth	PASS	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is SMA Female Reverse not a standard connector.
15.215	20dBc Bandwidth	PASS	Meet the requirement of limit.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.19 dB
	200MHz ~ 1000MHz	3.21 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	AC600 High Gain Wireless Dual Band USB Adapter
MODEL NO.	T2UH
POWER SUPPLY	5Vdc (host equipment)
MODULATION TYPE	256QAM, 64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 150Mbps 802.11ac: up to 433.3Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5500 ~ 5700MHz: 11 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 5 for 802.11n (HT40), 802.11ac (VHT40) 2 for 802.11ac (VHT80)
OUTPUT POWER	5180 ~ 5240MHz: 58.479mW 5260 ~ 5320MHz: 58.479mW 5500 ~ 5700MHz: 58.210mW
ANTENNA TYPE	Dipole antenna with 3dBi gain
ANTENNA CONNECTOR	SMA Female Reverse
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	NA

NOTE:

1. Physically, the EUT provides 1 completed transmitter and 1 receiver.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (HT20)	1TX
802.11n (HT40)	1TX
802.11ac (VHT80)	1TX

*The modulation and bandwidth are similar for 802.11n mode for 20MHz/40MHz and 802.11ac mode for 20MHz/40MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The above EUT information is declared by manufacturer and for more detailed feature 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 (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
42	5210MHz

FOR 5260 ~ 5320MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
58	5290MHz



FOR 5500 ~ 5700MHz

11 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz		

5 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz		

2 channels are provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
106	5530MHz	122	5610 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

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

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

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
-	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
-	802.11ac (VHT80)		42	42	OFDM	BPSK	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
-	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	15.0
-	802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
-	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
-	802.11ac (VHT80)		106	106	OFDM	BPSK	29.3

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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11n (HT20)	5180-5700	36 to 140	60	OFDM	BPSK	7.2

POWER LINE CONDUCTED EMISSION TEST:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11n (HT20)	5180-5700	36 to 140	60	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.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
-	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
-	802.11ac (VHT80)		42	42	OFDM	BPSK	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
-	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	15.0
-	802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
-	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
-	802.11ac (VHT80)		106	106	OFDM	BPSK	29.3

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE \geq 1G	26deg. C, 64%RH	120Vac, 60Hz	Alan Wu
RE $<$ 1G	25deg. C, 65%RH	120Vac, 60Hz	Chris Lin
PLC	23deg. C, 74%RH	120Vac, 60Hz	Brad Tung
APCM	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui



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3.3 DUTY CYCLE OF TEST SIGNAL

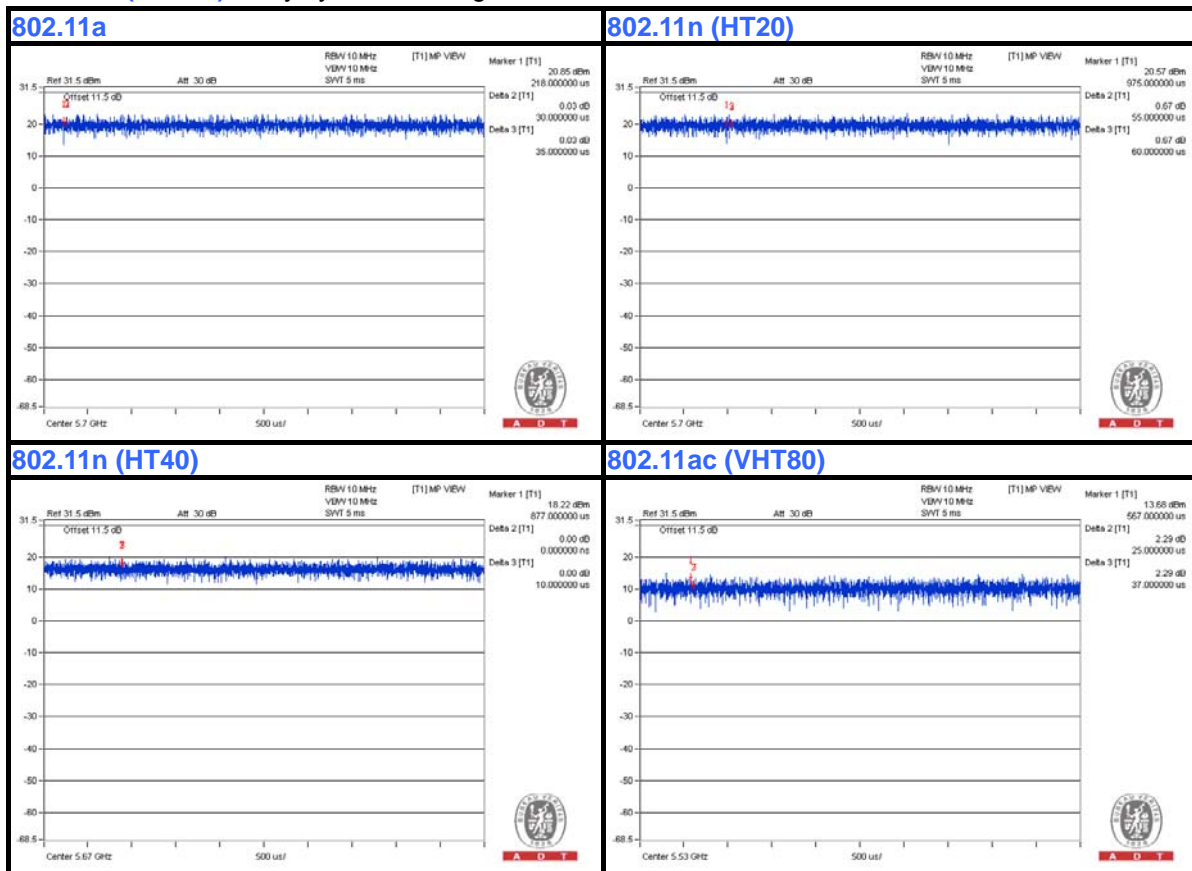
Duty cycle of test signal is > 98 %, duty factor is not required.

802.11a: Duty cycle of test signal is > 98 %

802.11n (HT20): Duty cycle of test signal is > 98 %

802.11n (HT40): Duty cycle of test signal is > 98 %

802.11ac (VHT80): Duty cycle of test signal is > 98 %



3.4 DESCRIPTION OF SUPPORT UNITS

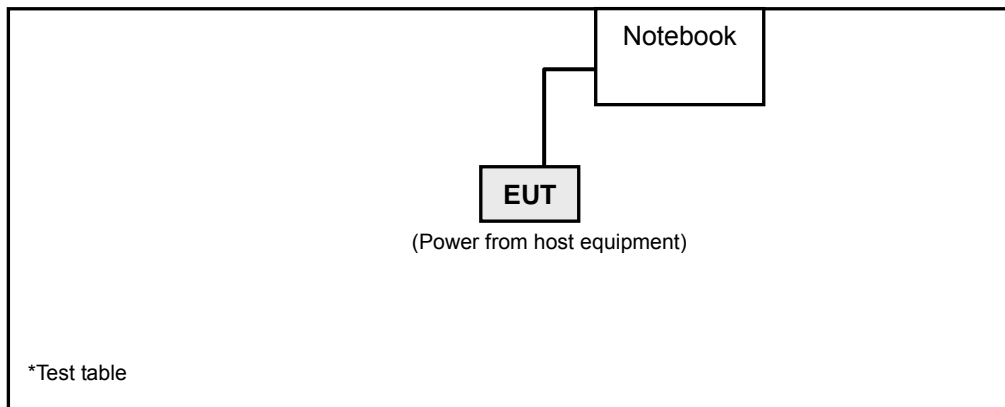
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Notebook	DELL	D531	CN-0XM006-48643-8 1U-2610	QDS-BRCM1020

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.8m USB cable

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

3.4.1 CONFIGURATION OF SYSTEM UNDER TEST



3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specification of the EUT declared by the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)

789033 D02 General UNII Test Procedures New Rules v01

ANSI C63.10-2009

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

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

4. TEST TYPES AND RESULTS

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

APPLICABLE TO	LIMIT	
789033 D02 General UNII Test Procedures New Rules v01	FIELD STRENGTH AT 3m	
	PK: 74 (dBµV/m)	AV: 54 (dBµV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBµV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK: -27 (dBm/MHz) ^{*1} PK: -17 (dBm/MHz) ^{*2}	PK: 68.2 (dBµV/m) ^{*1} PK: 78.2 (dBµV/m) ^{*2}

NOTE: ^{*1} beyond 10MHz of the band edge ^{*2} within 10 MHz of band edge

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	ESCI	100424	Sep. 09, 2013	Sep. 08, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU 43	100115	Dec. 18, 2013	Dec. 17, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Feb. 26, 2014	Feb. 25, 2015
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-404	Jan. 05, 2014	Jan. 04, 2015
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Feb. 17, 2014	Feb. 16, 2015
Loop Antenna	HFH2-Z2	100070	Mar. 06, 2014	Mar. 05, 2016
Preamplifier Agilent	8449B	3008A01961	Oct. 28, 2013	Oct. 27, 2014
Preamplifier Agilent	8447D	2944A10738	Oct. 18, 2013	Oct. 17, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Aug. 26, 2013	Aug. 25, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Aug. 26, 2013	Aug. 25, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Aug. 26, 2013	Aug. 25, 2014
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA	NA
Turn Table BV ADT	TT100.	TT93021704	NA	NA
Turn Table Controller BV ADT	SC100.	SC93021704	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2013	Oct. 17, 2014
High Speed Peak Power Meter	ML2495A	0824011	Jul. 26, 2014	Jul. 25, 2015
Power Sensor	MA2411B	0738171	Jul. 26, 2014	Jul. 25, 2015
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 9, 2014	Jun. 08, 2015

- 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 4.
 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 460141.
 6. The IC Site Registration No. is IC7450F-4.

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:

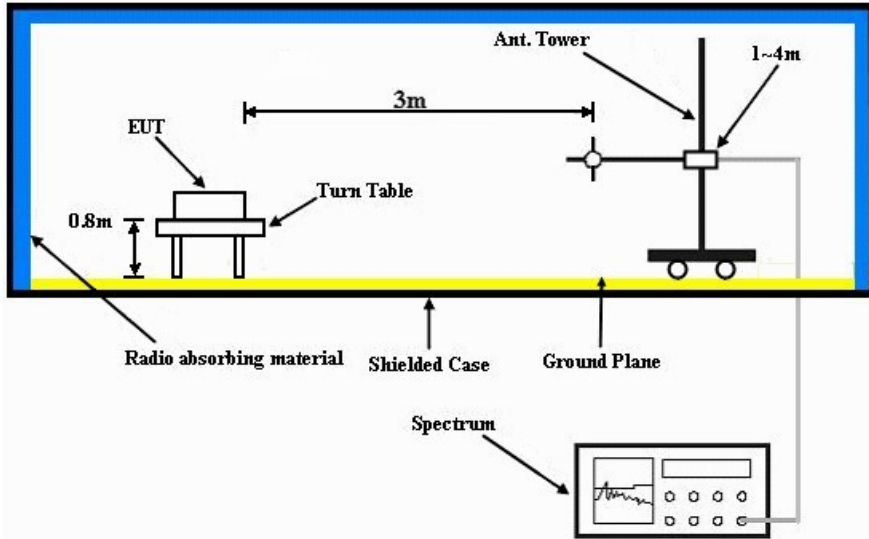
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz(Duty cycle > 98%) 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

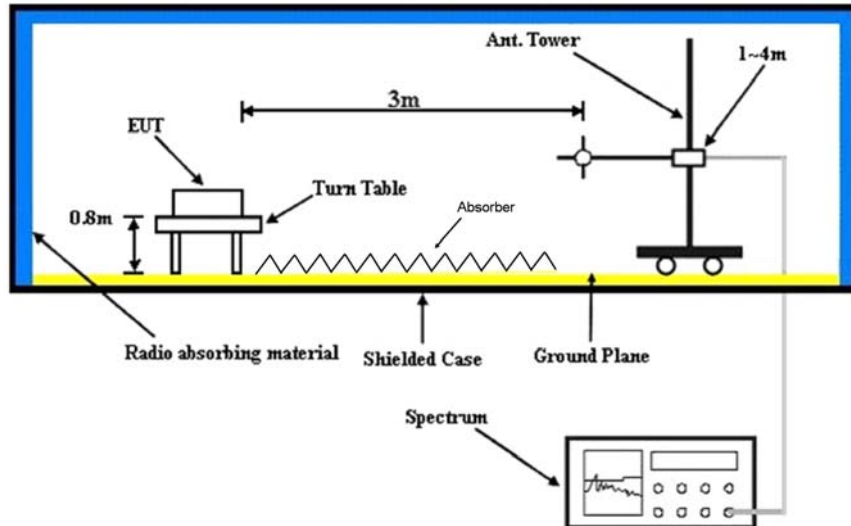
No deviation.

4.1.6 TEST SETUP

Frequency range 30MHz~1GHz



Frequency range above 1GHz



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

4.1.7 EUT OPERATING CONDITION

- a. Connected the EUT with a notebook through a USB cable and placed on a testing table.
- b. The notebook ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

4.1.8 TEST RESULTS

ABOVE 1GHz DATA

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	61.8 PK	74.0	-12.2	1.22 H	38	56.70	5.10
2	5150.00	47.4 AV	54.0	-6.6	1.22 H	38	42.30	5.10
3	*5180.00	100.5 PK			1.47 H	36	62.80	37.70
4	*5180.00	90.7 AV			1.47 H	36	53.00	37.70
5	#10360.00	62.8 PK	74.0	-11.2	1.11 H	284	44.50	18.30
6	#10360.00	50.0 AV	54.0	-4.0	1.11 H	284	31.70	18.30

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	5150.00	70.9 PK	74.0	-3.1	1.00 V	288	65.80	5.10
2	5150.00	49.0 AV	54.0	-5.0	1.00 V	288	43.90	5.10
3	*5180.00	109.5 PK			1.19 V	57	71.80	37.70
4	*5180.00	100.0 AV			1.19 V	57	62.30	37.70
5	#10360.00	61.1 PK	74.0	-12.9	1.19 V	307	42.80	18.30
6	#10360.00	48.8 AV	54.0	-5.2	1.19 V	307	30.50	18.30

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) – Pre-Amplifier 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 of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	57.9 PK	74.0	-16.1	1.30 H	55	52.80	5.10
2	5150.00	46.7 AV	54.0	-7.3	1.30 H	55	41.60	5.10
3	*5200.00	102.8 PK			1.36 H	42	65.00	37.80
4	*5200.00	93.2 AV			1.36 H	42	55.40	37.80
5	#10400.00	64.9 PK	74.0	-9.1	1.29 H	255	46.20	18.70
6	#10400.00	51.7 AV	54.0	-2.3	1.29 H	255	33.00	18.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.6 PK	74.0	-9.4	1.00 V	84	59.50	5.10
2	5150.00	47.7 AV	54.0	-6.3	1.00 V	84	42.60	5.10
3	*5200.00	108.4 PK			1.25 V	34	70.60	37.80
4	*5200.00	99.2 AV			1.25 V	34	61.40	37.80
5	#10400.00	61.7 PK	74.0	-12.3	1.05 V	300	43.00	18.70
6	#10400.00	49.1 AV	54.0	-4.9	1.05 V	300	30.40	18.70

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) – Pre-Amplifier 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 of the restricted band.



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CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5240.00	98.5 PK			1.34 H	43	60.60	37.90
2	*5240.00	88.8 AV			1.34 H	43	50.90	37.90
3	5350.00	57.8 PK	74.0	-16.2	1.28 H	59	52.40	5.40
4	5350.00	46.5 AV	54.0	-7.5	1.28 H	59	41.10	5.40
5	#10480.00	65.2 PK	74.0	-8.8	1.22 H	282	45.70	19.50
6	#10480.00	51.9 AV	54.0	-2.1	1.22 H	282	32.40	19.50

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	*5240.00	108.9 PK			1.18 V	286	71.00	37.90
2	*5240.00	99.9 AV			1.18 V	286	62.00	37.90
3	5350.00	58.0 PK	74.0	-16.0	1.01 V	60	52.60	5.40
4	5350.00	47.1 AV	54.0	-6.9	1.01 V	60	41.70	5.40
5	#10480.00	62.4 PK	74.0	-11.6	1.13 V	289	42.90	19.50
6	#10480.00	49.0 AV	54.0	-5.0	1.13 V	289	29.50	19.50

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) – Pre-Amplifier 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 of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	1.17 H	183	52.00	5.10
2	5150.00	46.8 AV	54.0	-7.2	1.17 H	183	41.70	5.10
3	*5260.00	100.6 PK			1.21 H	34	62.70	37.90
4	*5260.00	91.1 AV			1.21 H	34	53.20	37.90
5	#10520.00	61.3 PK	74.0	-12.7	1.17 H	229	41.90	19.40
6	#10520.00	48.3 AV	54.0	-5.7	1.17 H	229	28.90	19.40
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	5150.00	56.3 PK	74.0	-17.7	1.12 V	299	51.20	5.10
2	5150.00	45.6 AV	54.0	-8.4	1.12 V	299	40.50	5.10
3	*5260.00	110.0 PK			1.12 V	299	72.10	37.90
4	*5260.00	100.4 AV			1.12 V	299	62.50	37.90
5	#10520.00	61.8 PK	74.0	-12.2	1.15 V	302	42.40	19.40
6	#10520.00	48.4 AV	54.0	-5.6	1.15 V	302	29.00	19.40

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) – Pre-Amplifier 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 of the restricted band.



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CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	100.8 PK			1.18 H	39	62.90	37.90
2	*5300.00	91.6 AV			1.18 H	39	53.70	37.90
3	10600.00	60.8 PK	74.0	-13.2	1.15 H	269	41.80	19.00
4	10600.00	48.3 AV	54.0	-5.7	1.15 H	269	29.30	19.00

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	*5300.00	110.4 PK			1.13 V	299	72.50	37.90
2	*5300.00	101.4 AV			1.13 V	299	63.50	37.90
3	10600.00	61.2 PK	74.0	-12.8	1.19 V	256	42.20	19.00
4	10600.00	47.8 AV	54.0	-6.2	1.19 V	256	28.80	19.00

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)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	100.4 PK			1.18 H	39	62.40	38.00
2	*5320.00	91.1 AV			1.18 H	39	53.10	38.00
3	5350.00	60.3 PK	74.0	-13.7	1.30 H	41	54.90	5.40
4	5350.00	45.9 AV	54.0	-8.1	1.30 H	41	40.50	5.40
5	10640.00	61.3 PK	74.0	-12.7	1.00 H	290	42.50	18.80
6	10640.00	48.0 AV	54.0	-6.0	1.00 H	290	29.20	18.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	110.5 PK			1.12 V	299	72.50	38.00
2	*5320.00	101.4 AV			1.12 V	299	63.40	38.00
3	5350.00	58.4 PK	74.0	-15.6	1.11 V	299	53.00	5.40
4	5350.00	52.2 AV	54.0	-1.8	1.11 V	299	46.80	5.40
5	10640.00	61.3 PK	74.0	-12.7	1.18 V	289	42.50	18.80
6	10640.00	47.5 AV	54.0	-6.5	1.18 V	289	28.70	18.80

REMARKS:

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

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	48.7 PK	74.0	-25.3	1.25 H	28	43.10	5.60
2	5460.00	48.0 AV	54.0	-6.0	1.25 H	28	42.40	5.60
3	#5470.00	59.7 PK	74.0	-14.3	1.26 H	53	54.00	5.70
4	#5470.00	48.5 AV	54.0	-5.5	1.26 H	53	42.80	5.70
5	*5500.00	100.5 PK			1.13 H	32	62.20	38.30
6	*5500.00	91.3 AV			1.13 H	32	53.00	38.30
7	11000.00	62.2 PK	74.0	-11.8	1.00 H	251	42.40	19.80
8	11000.00	48.8 AV	54.0	-5.2	1.09 H	251	29.00	19.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	65.0 PK	74.0	-9.0	1.10 V	309	59.40	5.60
2	5460.00	48.5 AV	54.0	-5.5	1.10 V	309	42.90	5.60
3	#5470.00	70.2 PK	74.0	-3.8	1.10 V	314	64.50	5.70
4	#5470.00	52.2 AV	54.0	-1.8	1.10 V	314	46.50	5.70
5	*5500.00	109.3 PK			1.18 V	301	71.00	38.30
6	*5500.00	99.7 AV			1.18 V	301	61.40	38.30
7	11000.00	62.4 PK	74.0	-11.6	1.09 V	307	42.60	19.80
8	11000.00	48.9 AV	54.0	-5.1	1.09 V	307	29.10	19.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier 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 of the restricted band.



CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5580.00	102.3 PK			1.23 H	45	64.00	38.30
2	*5580.00	92.3 AV			1.23 H	45	54.00	38.30
3	11160.00	63.7 PK	74.0	-10.3	1.15 H	286	43.80	19.90
4	11160.00	50.1 AV	54.0	-3.9	1.15 H	286	30.20	19.90
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	*5580.00	108.4 PK			1.07 V	313	70.10	38.30
2	*5580.00	99.3 AV			1.07 V	313	61.00	38.30
3	11160.00	62.8 PK	74.0	-11.2	1.08 V	245	42.90	19.90
4	11160.00	49.2 AV	54.0	-4.8	1.08 V	245	29.30	19.90

REMARKS:

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

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	102.2 PK			1.22 H	35	63.70	38.50
2	*5700.00	93.4 AV			1.22 H	35	54.90	38.50
3	#5725.00	62.1 PK	74.0	-11.9	1.30 H	66	56.10	6.00
4	#5725.00	50.6 AV	54.0	-3.4	1.30 H	66	44.60	6.00
5	11400.00	62.8 PK	74.0	-11.2	1.00 H	303	42.80	20.00
6	11400.00	49.5 AV	54.0	-4.5	1.00 H	303	29.50	20.00
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	*5700.00	108.3 PK			1.02 V	300	69.80	38.50
2	*5700.00	98.8 AV			1.02 V	300	60.30	38.50
3	#5725.00	69.7 PK	74.0	-4.3	1.12 V	302	63.70	6.00
4	#5725.00	53.0 AV	54.0	-1.0	1.12 V	302	47.00	6.00
5	11400.00	62.6 PK	74.0	-11.4	1.13 V	253	42.60	20.00
6	11400.00	49.0 AV	54.0	-5.0	1.13 V	253	29.00	20.00

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) – Pre-Amplifier 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 of the restricted band.

802.11n (HT20)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	58.1 PK	74.0	-15.9	1.23 H	38	53.00	5.10
2	5150.00	46.6 AV	54.0	-7.4	1.23 H	38	41.50	5.10
3	*5180.00	98.5 PK			1.34 H	28	60.80	37.70
4	*5180.00	88.9 AV			1.34 H	28	51.20	37.70
5	#10360.00	61.5 PK	74.0	-12.5	1.09 H	286	43.20	18.30
6	#10360.00	48.7 AV	54.0	-5.3	1.09 H	286	30.40	18.30
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	5150.00	68.9 PK	74.0	-5.1	1.00 V	283	63.80	5.10
2	5150.00	50.1 AV	54.0	-3.9	1.00 V	283	45.00	5.10
3	*5180.00	110.6 PK			1.00 V	55	72.90	37.70
4	*5180.00	100.2 AV			1.00 V	55	62.50	37.70
5	#10360.00	61.0 PK	74.0	-13.0	1.04 V	255	42.70	18.30
6	#10360.00	48.3 AV	54.0	-5.7	1.04 V	255	30.00	18.30

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) – Pre-Amplifier 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 of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	57.0 PK	74.0	-17.0	1.35 H	44	51.90	5.10
2	5150.00	45.8 AV	54.0	-8.2	1.35 H	44	40.70	5.10
3	*5200.00	98.1 PK			1.35 H	42	60.30	37.80
4	*5200.00	88.1 AV			1.35 H	42	50.30	37.80
5	#10400.00	67.0 PK	74.0	-7.0	1.08 H	279	48.30	18.70
6	#10400.00	52.5 AV	54.0	-1.5	1.08 H	279	33.80	18.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	68.5 PK	74.0	-5.5	1.03 V	203	63.40	5.10
2	5150.00	50.2 AV	54.0	-3.8	1.03 V	203	45.10	5.10
3	*5200.00	110.1 PK			1.02 V	187	72.30	37.80
4	*5200.00	100.2 AV			1.02 V	187	62.40	37.80
5	#10400.00	61.5 PK	74.0	-12.5	1.20 V	254	42.80	18.70
6	#10400.00	49.4 AV	54.0	-4.6	1.20 V	254	30.70	18.70

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) – Pre-Amplifier 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 of the restricted band.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5240.00	98.1 PK			1.43 H	46	60.20	37.90
2	*5240.00	88.1 AV			1.43 H	46	50.20	37.90
3	5350.00	58.0 PK	74.0	-16.0	1.30 H	99	52.60	5.40
4	5350.00	46.5 AV	54.0	-7.5	1.30 H	99	41.10	5.40
5	#10480.00	65.0 PK	74.0	-9.0	1.07 H	279	45.50	19.50
6	#10480.00	52.0 AV	54.0	-2.0	1.07 H	279	32.50	19.50
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	*5240.00	109.3 PK			1.23 V	44	71.40	37.90
2	*5240.00	99.6 AV			1.23 V	44	61.70	37.90
3	5350.00	56.9 PK	74.0	-17.1	1.20 V	60	51.50	5.40
4	5350.00	45.8 AV	54.0	-8.2	1.20 V	60	40.40	5.40
5	#10480.00	62.5 PK	74.0	-11.5	1.10 V	295	43.00	19.50
6	#10480.00	48.7 AV	54.0	-5.3	1.10 V	295	29.20	19.50

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) – Pre-Amplifier 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 of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	56.4 PK	74.0	-17.6	1.30 H	36	51.30	5.10
2	5150.00	45.5 AV	54.0	-8.5	1.30 H	36	40.40	5.10
3	*5260.00	104.8 PK			1.20 H	44	66.90	37.90
4	*5260.00	95.0 AV			1.20 H	44	57.10	37.90
5	#10520.00	62.0 PK	74.0	-12.0	1.00 H	302	42.60	19.40
6	#10520.00	48.4 AV	54.0	-5.6	1.00 H	302	29.00	19.40
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	5150.00	57.1 PK	74.0	-16.9	1.00 V	270	52.00	5.10
2	5150.00	46.4 AV	54.0	-7.6	1.00 V	270	41.30	5.10
3	*5260.00	114.9 PK			1.00 V	301	77.00	37.90
4	*5260.00	105.2 AV			1.00 V	301	67.30	37.90
5	#10520.00	61.3 PK	74.0	-12.7	1.13 V	291	41.90	19.40
6	#10520.00	48.0 AV	54.0	-6.0	1.13 V	291	28.60	19.40

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) – Pre-Amplifier 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 of the restricted band.

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	105.6 PK			1.18 H	34	67.70	37.90
2	*5300.00	95.8 AV			1.18 H	34	57.90	37.90
3	10600.00	61.4 PK	74.0	-12.6	1.00 H	280	42.40	19.00
4	10600.00	47.7 AV	54.0	-6.3	1.00 H	280	28.70	19.00
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	*5300.00	115.3 PK			1.11 V	298	77.40	37.90
2	*5300.00	105.1 AV			1.11 V	298	67.20	37.90
3	10600.00	61.1 PK	74.0	-12.9	1.14 V	299	42.10	19.00
4	10600.00	47.7 AV	54.0	-6.3	1.14 V	299	28.70	19.00

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)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " : Fundamental frequency.

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	100.5 PK			1.30 H	43	62.50	38.00
2	*5320.00	90.7 AV			1.30 H	43	52.70	38.00
3	5350.00	56.4 PK	74.0	-17.6	1.31 H	56	51.00	5.40
4	5350.00	45.5 AV	54.0	-8.5	1.31 H	56	40.10	5.40
5	10640.00	61.1 PK	74.0	-12.9	1.00 H	276	42.30	18.80
6	10640.00	47.5 AV	54.0	-6.5	1.00 H	276	28.70	18.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	110.5 PK			1.10 V	298	72.50	38.00
2	*5320.00	100.7 AV			1.10 V	298	62.70	38.00
3	5350.00	71.1 PK	74.0	-2.9	1.09 V	301	65.70	5.40
4	5350.00	51.8 AV	54.0	-2.2	1.09 V	301	46.40	5.40
5	10640.00	60.9 PK	74.0	-13.1	1.11 V	265	42.10	18.80
6	10640.00	47.3 AV	54.0	-6.7	1.10 V	265	28.50	18.80

REMARKS:

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

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	57.4 PK	74.0	-16.6	1.27 H	33	51.80	5.60
2	5460.00	46.1 AV	54.0	-7.9	1.27 H	33	40.50	5.60
3	#5470.00	59.6 PK	74.0	-14.4	1.24 H	239	53.90	5.70
4	#5470.00	48.3 AV	54.0	-5.7	1.24 H	239	42.60	5.70
5	*5500.00	99.0 PK			1.25 H	26	60.70	38.30
6	*5500.00	89.3 AV			1.25 H	26	51.00	38.30
7	11000.00	62.3 PK	74.0	-11.7	1.00 H	257	42.50	19.80
8	11000.00	48.9 AV	54.0	-5.1	1.00 H	257	29.10	19.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.2 PK	74.0	-13.8	1.10 V	299	54.60	5.60
2	5460.00	49.5 AV	54.0	-4.5	1.10 V	299	43.90	5.60
3	#5470.00	69.8 PK	74.0	-4.2	1.08 V	308	64.10	5.70
4	#5470.00	52.4 AV	54.0	-1.6	1.08 V	308	46.70	5.70
5	*5500.00	109.1 PK			1.17 V	300	70.80	38.30
6	*5500.00	99.3 AV			1.17 V	300	61.00	38.30
7	11000.00	62.0 PK	74.0	-12.0	1.21 V	315	42.20	19.80
8	11000.00	48.7 AV	54.0	-5.3	1.21 V	315	28.90	19.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier 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 of the restricted band.



CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5580.00	99.5 PK			1.22 H	39	61.20	38.30
2	*5580.00	89.5 AV			1.22 H	39	51.20	38.30
3	11160.00	62.7 PK	74.0	-11.3	1.00 H	278	42.80	19.90
4	11160.00	49.7 AV	54.0	-4.3	1.00 H	278	29.80	19.90
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	*5580.00	109.3 PK			1.15 V	300	71.00	38.30
2	*5580.00	98.8 AV			1.15 V	300	60.50	38.30
3	11160.00	62.3 PK	74.0	-11.7	1.14 V	308	42.40	19.90
4	11160.00	49.2 AV	54.0	-4.8	1.14 V	308	29.30	19.90

REMARKS:

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

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	103.1 PK			1.22 H	35	64.60	38.50
2	*5700.00	93.2 AV			1.22 H	35	54.70	38.50
3	#5725.00	62.1 PK	74.0	-11.9	1.20 H	240	56.10	6.00
4	#5725.00	50.5 AV	54.0	-3.5	1.20 H	240	44.50	6.00
5	11400.00	62.6 PK	74.0	-11.4	1.00 H	268	42.60	20.00
6	11400.00	49.3 AV	54.0	-4.7	1.00 H	268	29.30	20.00
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	*5700.00	107.8 PK			1.05 V	314	69.30	38.50
2	*5700.00	98.2 AV			1.05 V	314	59.70	38.50
3	#5725.00	71.3 PK	74.0	-2.7	1.06 V	337	65.30	6.00
4	#5725.00	53.0 AV	54.0	-1.0	1.06 V	337	47.00	6.00
5	11400.00	62.4 PK	74.0	-11.6	1.11 V	328	42.40	20.00
6	11400.00	49.1 AV	54.0	-4.9	1.11 V	328	29.10	20.00

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)
– Pre-Amplifier 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 of the restricted band.

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	58.6 PK	74.0	-15.4	1.31 H	50	53.50	5.10
2	5150.00	47.3 AV	54.0	-6.7	1.31 H	50	42.20	5.10
3	*5190.00	97.2 PK			1.34 H	42	59.40	37.80
4	*5190.00	87.7 AV			1.34 H	42	49.90	37.80
5	#10380.00	61.4 PK	74.0	-12.6	1.00 H	257	43.00	18.40
6	#10380.00	48.6 AV	54.0	-5.4	1.00 H	257	30.20	18.40
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	5150.00	66.5 PK	74.0	-7.5	1.00 V	288	61.40	5.10
2	5150.00	53.1 AV	54.0	-0.9	1.00 V	288	48.00	5.10
3	*5190.00	107.1 PK			1.00 V	278	69.30	37.80
4	*5190.00	97.4 AV			1.00 V	278	59.60	37.80
5	#10380.00	60.8 PK	74.0	-13.2	1.11 V	319	42.40	18.40
6	#10380.00	47.5 AV	54.0	-6.5	1.11 V	319	29.10	18.40

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)
– Pre-Amplifier 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 of the restricted band.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	1.34 H	52	51.00	5.10
2	5150.00	45.5 AV	54.0	-8.5	1.34 H	52	40.40	5.10
3	*5230.00	99.4 PK			1.32 H	43	61.50	37.90
4	*5230.00	90.1 AV			1.32 H	43	52.20	37.90
5	5350.00	56.2 PK	74.0	-17.8	1.28 H	60	50.80	5.40
6	5350.00	45.0 AV	54.0	-9.0	1.28 H	60	39.60	5.40
7	#10460.00	64.1 PK	74.0	-9.9	1.19 H	279	44.90	19.20
8	#10460.00	51.5 AV	54.0	-2.5	1.19 H	279	32.30	19.20
9	15690.00	63.5 PK	74.0	-10.5	1.00 H	304	44.70	18.80
10	15690.00	51.0 AV	54.0	-3.0	1.00 H	304	32.20	18.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.5 PK	74.0	-7.5	1.00 V	284	61.40	5.10
2	5150.00	51.4 AV	54.0	-2.6	1.00 V	284	46.30	5.10
3	*5230.00	108.4 PK			1.00 V	300	70.50	37.90
4	*5230.00	98.8 AV			1.00 V	300	60.90	37.90
5	5350.00	58.5 PK	74.0	-15.5	1.00 V	243	53.10	5.40
6	5350.00	47.0 AV	54.0	-7.0	1.00 V	243	41.60	5.40
7	#10460.00	61.3 PK	74.0	-12.7	1.00 V	280	42.10	19.20
8	#10460.00	48.6 AV	54.0	-5.4	1.00 V	280	29.40	19.20
9	15690.00	62.0 PK	74.0	-12.0	1.10 V	321	43.20	18.80
10	15690.00	49.2 AV	54.0	-4.8	1.10 V	321	30.40	18.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier 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 of the restricted band.

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	1.29 H	56	51.60	5.10
2	5150.00	45.5 AV	54.0	-8.5	1.29 H	56	40.40	5.10
3	*5270.00	98.2 PK			1.20 H	35	60.30	37.90
4	*5270.00	88.5 AV			1.20 H	35	50.60	37.90
5	5350.00	59.4 PK	74.0	-14.6	1.31 H	45	54.00	5.40
6	5350.00	47.5 AV	54.0	-6.5	1.31 H	45	42.10	5.40
7	#10540.00	61.1 PK	74.0	-12.9	1.00 H	255	41.80	19.30
8	#10540.00	48.1 AV	54.0	-5.9	1.00 H	255	28.80	19.30
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	5150.00	58.1 PK	74.0	-15.9	1.00 V	272	53.00	5.10
2	5150.00	46.4 AV	54.0	-7.6	1.00 V	272	41.30	5.10
3	*5270.00	107.8 PK			1.00 V	300	69.90	37.90
4	*5270.00	98.3 AV			1.00 V	300	60.40	37.90
5	5350.00	66.0 PK	74.0	-8.0	1.09 V	302	60.60	5.40
6	5350.00	52.3 AV	54.0	-1.7	1.09 V	302	46.90	5.40
7	#10540.00	61.7 PK	74.0	-12.3	1.12 V	310	42.40	19.30
8	#10540.00	49.3 AV	54.0	-4.7	1.12 V	310	30.00	19.30

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) – Pre-Amplifier 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 of the restricted band.



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CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5310.00	96.9 PK			1.19 H	33	59.00	37.90
2	*5310.00	87.6 AV			1.19 H	33	49.70	37.90
3	5350.00	56.8 PK	74.0	-17.2	1.33 H	60	51.40	5.40
4	5350.00	46.1 AV	54.0	-7.9	1.33 H	60	40.70	5.40
5	10620.00	61.0 PK	74.0	-13.0	1.00 H	283	42.10	18.90
6	10620.00	48.1 AV	54.0	-5.9	1.16 H	313	29.20	18.90

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	*5310.00	105.9 PK			1.11 V	299	68.00	37.90
2	*5310.00	95.9 AV			1.11 V	299	58.00	37.90
3	5350.00	73.0 PK	74.0	-1.0	1.10 V	299	67.60	5.40
4	5350.00	51.5 AV	54.0	-2.5	1.10 V	299	46.10	5.40
5	10620.00	61.4 PK	74.0	-12.6	1.16 V	313	42.50	18.90
6	10620.00	48.7 AV	54.0	-5.3	1.16 V	313	29.80	18.90

REMARKS:

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

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	1.18 H	34	51.60	5.60
2	5460.00	45.9 AV	54.0	-8.1	1.18 H	34	40.30	5.60
3	#5470.00	59.6 PK	74.0	-14.4	1.22 H	227	53.90	5.70
4	#5470.00	48.2 AV	54.0	-5.8	1.22 H	227	42.50	5.70
5	*5510.00	96.1 PK			1.38 H	34	57.80	38.30
6	*5510.00	86.3 AV			1.38 H	34	48.00	38.30
7	11020.00	62.2 PK	74.0	-11.8	1.00 H	240	42.30	19.90
8	11020.00	48.9 AV	54.0	-5.1	1.00 H	240	29.00	19.90
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	5460.00	66.0 PK	74.0	-8.0	1.08 V	300	60.40	5.60
2	5460.00	50.8 AV	54.0	-3.2	1.08 V	300	45.20	5.60
3	#5470.00	71.3 PK	74.0	-2.7	1.09 V	309	65.60	5.70
4	#5470.00	53.1 AV	54.0	-0.9	1.09 V	309	47.40	5.70
5	*5510.00	106.1 PK			1.08 V	300	67.80	38.30
6	*5510.00	96.3 AV			1.08 V	300	58.00	38.30
7	11020.00	61.9 PK	74.0	-12.1	1.12 V	323	42.00	19.90
8	11020.00	48.7 AV	54.0	-5.3	1.12 V	323	28.80	19.90

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier 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 of the restricted band.

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	58.4 PK	74.0	-15.6	1.20 H	30	52.80	5.60
2	5460.00	46.6 AV	54.0	-7.4	1.20 H	30	41.00	5.60
3	#5470.00	60.8 PK	74.0	-13.2	1.22 H	244	55.10	5.70
4	#5470.00	48.9 AV	54.0	-5.1	1.22 H	244	43.20	5.70
5	*5550.00	98.6 PK			1.14 H	33	60.30	38.30
6	*5550.00	88.6 AV			1.14 H	33	50.30	38.30
7	11020.00	62.1 PK	74.0	-11.9	1.00 H	220	42.20	19.90
8	11020.00	49.2 AV	54.0	-4.8	1.00 H	220	29.30	19.90

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	5460.00	63.7 PK	74.0	-10.3	1.20 V	50	58.10	5.60
2	5460.00	51.6 AV	54.0	-2.4	1.20 V	50	46.00	5.60
3	#5470.00	67.3 PK	74.0	-6.7	1.19 V	43	61.60	5.70
4	#5470.00	52.4 AV	54.0	-1.6	1.19 V	43	46.70	5.70
5	*5550.00	106.4 PK			1.06 V	300	68.10	38.30
6	*5550.00	96.4 AV			1.06 V	300	58.10	38.30
7	11020.00	62.8 PK	74.0	-11.2	1.16 V	325	42.90	19.90
8	11020.00	49.8 AV	54.0	-4.2	1.16 V	325	29.90	19.90

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier 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 of the restricted band.



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CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5670.00	98.2 PK			1.02 H	29	59.80	38.40
2	*5670.00	88.7 AV			1.02 H	29	50.30	38.40
3	#5725.00	60.3 PK	74.0	-13.7	1.18 H	214	54.30	6.00
4	#5725.00	48.9 AV	54.0	-5.1	1.18 H	214	42.90	6.00
5	11340.00	62.4 PK	74.0	-11.6	1.01 H	210	42.50	19.90
6	11340.00	48.8 AV	54.0	-5.2	1.01 H	210	28.90	19.90

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	*5670.00	106.1 PK			1.04 V	299	67.70	38.40
2	*5670.00	96.0 AV			1.04 V	299	57.60	38.40
3	#5725.00	69.0 PK	74.0	-5.0	1.04 V	163	63.00	6.00
4	#5725.00	52.0 AV	54.0	-2.0	1.04 V	163	46.00	6.00
5	11340.00	62.2 PK	74.0	-11.8	1.12 V	310	42.30	19.90
6	11340.00	48.7 AV	54.0	-5.3	1.12 V	310	28.80	19.90

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier 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 of the restricted band.

802.11ac (VHT80)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	58.3 PK	74.0	-15.7	1.23 H	38	53.20	5.10
2	5150.00	47.1 AV	54.0	-6.9	1.23 H	38	42.00	5.10
3	*5210.00	88.5 PK			1.33 H	42	50.70	37.80
4	*5210.00	80.6 AV			1.33 H	42	42.80	37.80
5	5350.00	57.0 PK	74.0	-17.0	1.30 H	51	51.60	5.40
6	5350.00	45.9 AV	54.0	-8.1	1.30 H	51	40.50	5.40
7	#10420.00	61.1 PK	74.0	-12.9	1.00 H	302	42.30	18.80
8	#10420.00	48.1 AV	54.0	-5.9	1.00 H	302	29.30	18.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.5 PK	74.0	-6.5	1.00 V	288	62.40	5.10
2	5150.00	53.0 AV	54.0	-1.0	1.00 V	288	47.90	5.10
3	*5210.00	101.1 PK			1.01 V	289	63.30	37.80
4	*5210.00	92.0 AV			1.01 V	289	54.20	37.80
5	5350.00	56.9 PK	74.0	-17.1	1.00 V	313	51.50	5.40
6	5350.00	45.6 AV	54.0	-8.4	1.00 V	313	40.20	5.40
7	#10420.00	60.8 PK	74.0	-13.2	1.13 V	242	42.00	18.80
8	#10420.00	47.9 AV	54.0	-6.1	1.13 V	242	29.10	18.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier 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 of the restricted band.



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CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5290.00	93.8 PK			1.19 H	32	55.90	37.90
2	*5290.00	83.2 AV			1.19 H	32	45.30	37.90
3	5350.00	59.6 PK	74.0	-14.4	1.33 H	45	54.20	5.40
4	5350.00	48.5 AV	54.0	-5.5	1.33 H	45	43.10	5.40
5	#10580.00	60.7 PK	74.0	-13.3	1.00 H	259	41.50	19.20
6	#10580.00	47.7 AV	54.0	-6.3	1.00 H	259	28.50	19.20

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	*5290.00	102.8 PK			1.00 V	301	64.90	37.90
2	*5290.00	92.4 AV			1.00 V	301	54.50	37.90
3	5350.00	69.3 PK	74.0	-4.7	1.10 V	301	63.90	5.40
4	5350.00	53.0 AV	54.0	-1.0	1.10 V	301	47.60	5.40
5	#10580.00	61.0 PK	74.0	-13.0	1.14 V	320	41.80	19.20
6	#10580.00	47.9 AV	54.0	-6.1	1.14 V	320	28.70	19.20

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) – Pre-Amplifier 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 of the restricted band.

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	59.0 PK	74.0	-15.0	1.18 H	46	53.40	5.60
2	5460.00	46.7 AV	54.0	-7.3	1.18 H	46	41.10	5.60
3	#5470.00	61.1 PK	74.0	-12.9	1.14 H	190	55.40	5.70
4	#5470.00	48.0 AV	54.0	-6.0	1.14 H	190	42.30	5.70
5	*5530.00	92.9 PK			1.14 H	32	54.70	38.20
6	*5530.00	82.3 AV			1.14 H	32	44.10	38.20
7	#5725.00	56.8 PK	74.0	-17.2	1.10 H	249	50.80	6.00
8	#5725.00	45.5 AV	54.0	-8.5	1.10 H	249	39.50	6.00
9	11060.00	61.8 PK	74.0	-12.2	1.00 H	271	42.10	19.70
10	11060.00	48.5 AV	54.0	-5.5	1.00 H	271	28.80	19.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.8 PK	74.0	-12.2	1.09 V	40	56.20	5.60
2	5460.00	49.7 AV	54.0	-4.3	1.09 V	40	44.10	5.60
3	#5470.00	67.7 PK	74.0	-6.3	1.07 V	43	62.00	5.70
4	#5470.00	53.0 AV	54.0	-1.0	1.07 V	43	47.30	5.70
5	*5530.00	100.2 PK			1.07 V	299	62.00	38.20
6	*5530.00	89.5 AV			1.07 V	299	51.30	38.20
7	#5725.00	57.5 PK	74.0	-16.5	1.10 V	289	51.50	6.00
8	#5725.00	46.1 AV	54.0	-7.9	1.10 V	289	40.10	6.00
9	11060.00	61.5 PK	74.0	-12.5	1.17 V	320	41.80	19.70
10	11060.00	48.2 AV	54.0	-5.8	1.17 V	320	28.50	19.70

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) – Pre-Amplifier 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 of the restricted band.

BELOW 1GHz WORST-CASE DATA:

802.11n (HT20)

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	99.89	33.6 QP	43.5	-9.9	1.99 H	48	52.40	-18.80
2	166.00	42.2 QP	43.5	-1.3	1.50 H	132	56.20	-14.00
3	232.11	37.6 QP	46.0	-8.4	1.24 H	97	53.30	-15.70
4	292.38	36.2 QP	46.0	-9.8	1.00 H	144	48.70	-12.50
5	527.64	33.2 QP	46.0	-12.8	1.50 H	111	41.00	-7.80
6	900.94	35.1 QP	46.0	-10.9	1.24 H	94	35.50	-0.40

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	45.45	35.2 QP	40.0	-4.8	1.25 V	329	49.90	-14.70
2	166.00	31.3 QP	43.5	-12.2	2.00 V	307	45.30	-14.00
3	265.16	31.5 QP	46.0	-14.5	1.50 V	39	45.00	-13.50
4	370.15	28.5 QP	46.0	-17.5	1.25 V	217	39.30	-10.80
5	527.64	32.4 QP	46.0	-13.6	1.25 V	12	40.20	-7.80
6	900.94	33.6 QP	46.0	-12.4	1.00 V	103	34.00	-0.40

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)
– Pre-Amplifier 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. 29, 2013	Nov. 28, 2014
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 27, 2013	Dec. 26, 2014
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 13, 2014	Feb. 12, 2015
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 21, 2014	Jul. 20, 2015
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

- Notes:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Shielded Room 1.
 3. The VCCI Site Registration No. is C-2040.

4.2.3 TEST PROCEDURES

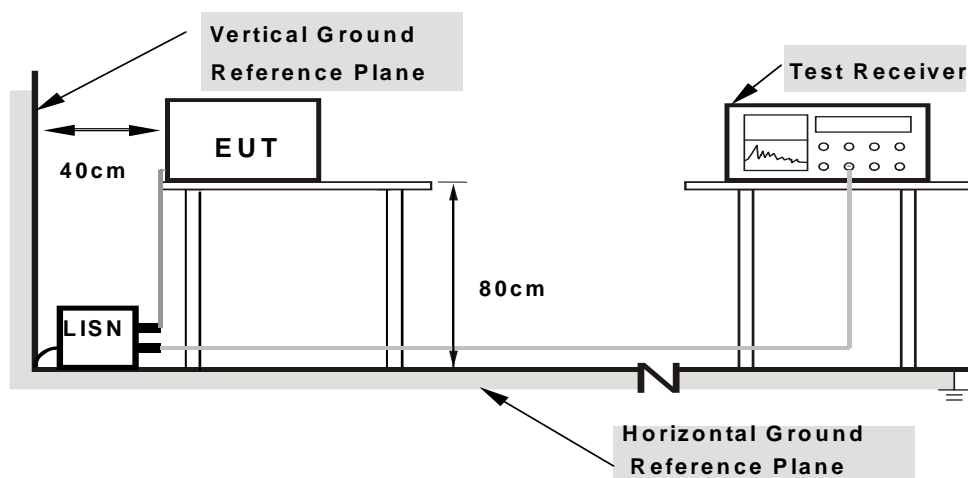
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

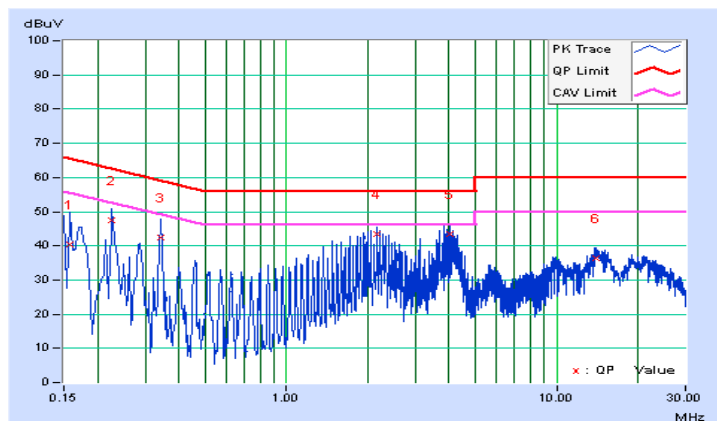
CONDUCTED WORST-CASE DATA: 802.11n (HT20)

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

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	0.15811	0.08	40.23	18.50	40.31	18.58	65.56	55.56	-25.25	-36.98
2	0.22600	0.07	47.37	37.73	47.44	37.80	62.60	52.60	-15.15	-14.79
3	0.34200	0.08	42.19	33.79	42.27	33.87	59.15	49.15	-16.89	-15.29
4	2.16600	0.16	43.39	39.23	43.55	39.39	56.00	46.00	-12.45	-6.61
5	4.04999	0.23	43.05	29.22	43.28	29.45	56.00	46.00	-12.72	-16.55
6	13.96600	0.72	35.73	30.09	36.45	30.81	60.00	50.00	-23.55	-19.19

REMARKS:

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





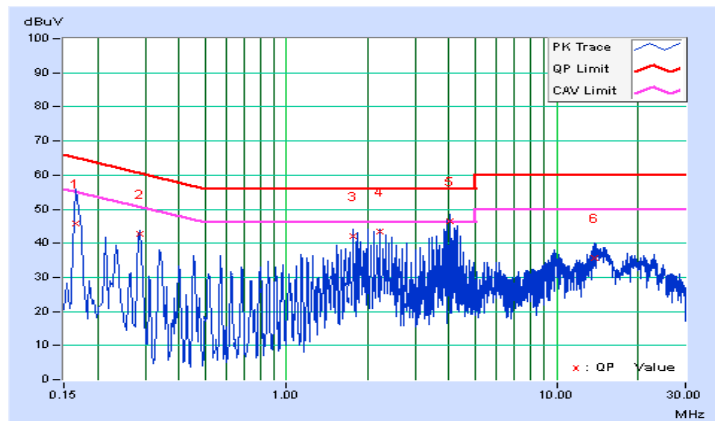
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PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

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	0.16600	0.05	45.85	37.99	45.90	38.04	65.16	55.16	-19.26	-17.12
2	0.28600	0.06	42.56	36.77	42.62	36.83	60.64	50.64	-18.02	-13.81
3	1.76618	0.13	42.01	38.27	42.14	38.40	56.00	46.00	-13.86	-7.60
4	2.22200	0.15	43.12	38.75	43.27	38.90	56.00	46.00	-12.73	-7.10
5	4.04600	0.21	46.25	32.53	46.46	32.74	56.00	46.00	-9.54	-13.26
6	13.79400	0.62	35.21	29.52	35.83	30.14	60.00	50.00	-24.17	-19.86

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



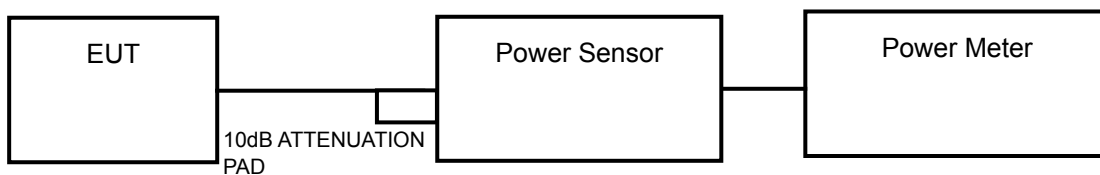
4.3 TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p \leq 125mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	√	---	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√	---	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3		---	1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

4.3.2 TEST SETUP



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

For 802.11a, 802.11n (HT20), 802.11n (HT40)

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

For 802.11ac (VHT80)

- 1) Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- 2) Set sweep trigger to "free run".
- 3) Set RBW = 1 MHz.
- 4) Set VBW \geq 3 MHz
- 5) Number of points in sweep \geq 2 Span / RBW.
- 6) Sweep time \leq (number of points in sweep) * T
- 7) Detector = RMS.
- 8) Trace mode = max hold.
- 9) Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

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)	MAXIMUM CONDUCTED POWER (mW)	MAXIMUM CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	51.404	17.11	24	PASS
40	5200	51.050	17.08	24	PASS
48	5240	51.523	17.12	24	PASS
52	5260	57.280	17.58	24	PASS
60	5300	57.148	17.57	24	PASS
64	5320	57.412	17.59	24	PASS
100	5500	56.624	17.53	24	PASS
116	5580	57.810	17.62	24	PASS
140	5700	58.210	17.65	24	PASS

NOTE:

For U-NII-2A, U-NII-2C Band:

1. $11\text{dBm} + 10\log(25.65) = 25.09\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(24.86) = 24.96\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(24.81) = 24.95\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(27.55) = 25.40\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(25.52) = 25.07\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(24.72) = 24.93\text{ dBm} > 24\text{dBm}$.



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802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	MAXIMUM CONDUCTED POWER (mW)	MAXIMUM CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	57.412	17.59	24	PASS
40	5200	57.943	17.63	24	PASS
48	5240	58.479	17.67	24	PASS
52	5260	57.677	17.61	24	PASS
60	5300	58.479	17.67	24	PASS
64	5320	56.754	17.54	24	PASS
100	5500	58.210	17.65	24	PASS
116	5580	58.210	17.65	24	PASS
140	5700	57.016	17.56	24	PASS

NOTE:

For U-NII-2A, U-NII-2C Band:

1. $11\text{dBm} + 10\log(22.84) = 24.59\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(22.97) = 24.61\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(22.84) = 24.59\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(29.02) = 25.63\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(27.49) = 25.39\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(23.09) = 24.63\text{ dBm} > 24\text{dBm}$.

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	MAXIMUM CONDUCTED POWER (mW)	MAXIMUM CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	55.081	17.41	24	PASS
46	5230	56.754	17.54	24	PASS
54	5270	57.943	17.63	24	PASS
62	5310	55.463	17.44	24	PASS
102	5510	55.976	17.48	24	PASS
110	5550	57.148	17.57	24	PASS
134	5670	57.544	17.60	24	PASS

NOTE:
For U-NII-2A, U-NII-2C Band:

1. $11\text{dBm} + 10\log(56.56) = 28.53\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(56.60) = 28.53\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(56.71) = 28.54\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(72.41) = 29.60\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(61.99) = 28.92\text{ dBm} > 24\text{dBm}$.

802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	MAXIMUM CONDUCTED POWER (mW)	MAXIMUM CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
42	5210	31.989	15.05	24	PASS
58	5290	39.264	15.94	24	PASS
106	5530	26.002	14.15	24	PASS

NOTE:
For U-NII-2A, U-NII-2C Band:

1. $11\text{dBm} + 10\log(95.94) = 30.82\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(97.00) = 30.87\text{ dBm} > 24\text{dBm}$.

**26dB BANDWIDTH:****802.11a**

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
52	5260	25.65	PASS
60	5300	24.86	PASS
64	5320	24.81	PASS
100	5500	27.55	PASS
116	5580	25.52	PASS
140	5700	24.72	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
52	5260	22.84	PASS
60	5300	22.97	PASS
64	5320	22.84	PASS
100	5500	29.02	PASS
116	5580	27.49	PASS
140	5700	23.09	PASS

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
54	5270	56.56	PASS
62	5310	56.60	PASS
102	5510	56.71	PASS
110	5550	72.41	PASS
134	5670	61.99	PASS

802.11ac (VHT80)

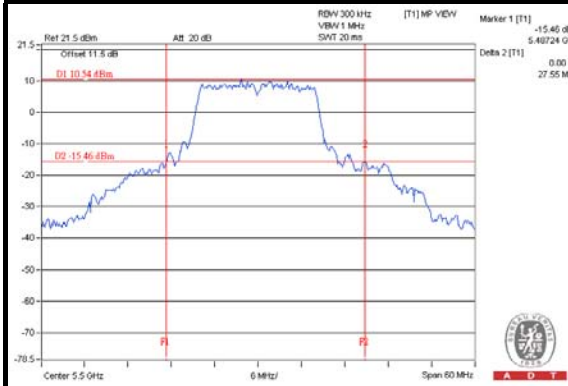
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
58	5290	95.94	PASS
106	5530	97.00	PASS



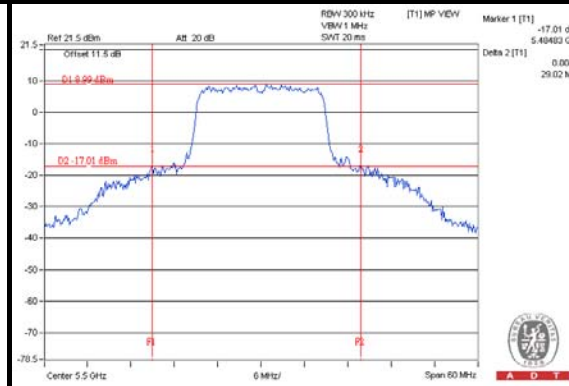
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SPECTRUM PLOT OF WORST VALUE

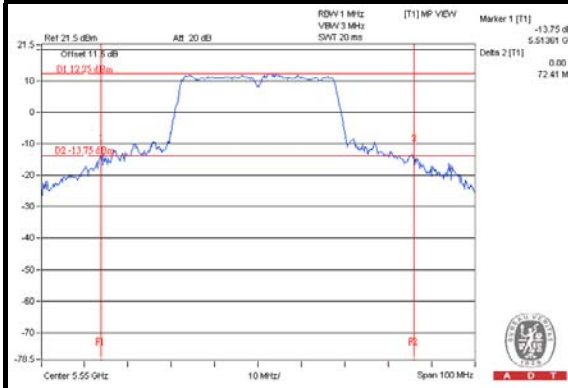
802.11a



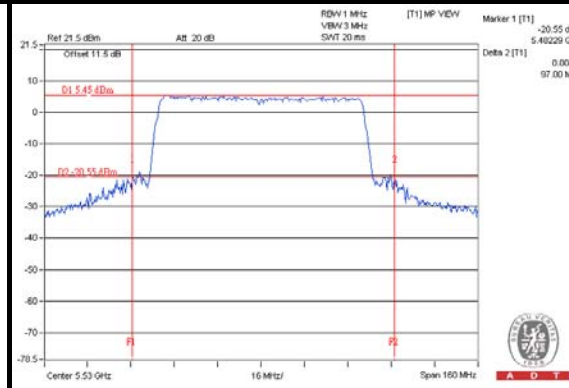
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

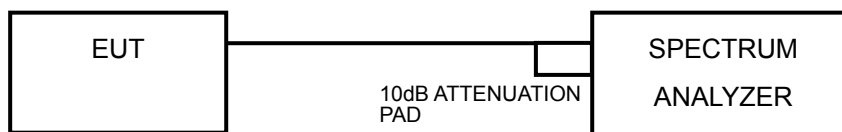


4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
	√	Mobile and Portable client device	11dBm/ MHz
U-NII-2A	√	---	11dBm/ MHz
U-NII-2C	√	---	11dBm/ MHz
U-NII-3		---	30dBm/ MHz

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

Using method SA-1

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 30 kHz, Set VBW \geq 1 MHz, Detector = RMS
- 3) Set Channel power measure = 1MHz
- 4) Sweep time = auto, trigger set to "free run".
- 5) Trace average at least 100 traces in power averaging mode.
- 6) 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	5.38	11	PASS
40	5200	5.47	11	PASS
48	5240	5.39	11	PASS
52	5260	5.61	11	PASS
60	5300	5.67	11	PASS
64	5320	5.68	11	PASS
100	5500	5.89	11	PASS
116	5580	5.63	11	PASS
140	5700	5.55	11	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	4.92	11	PASS
40	5200	5.12	11	PASS
48	5240	5.17	11	PASS
52	5260	5.15	11	PASS
60	5300	5.23	11	PASS
64	5320	5.10	11	PASS
100	5500	4.91	11	PASS
116	5580	5.19	11	PASS
140	5700	5.17	11	PASS



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802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
38	5190	1.78	11	PASS
46	5230	1.49	11	PASS
54	5270	1.43	11	PASS
62	5310	1.47	11	PASS
102	5510	1.47	11	PASS
110	5550	2.05	11	PASS
134	5670	1.80	11	PASS

802.11ac (VHT80):

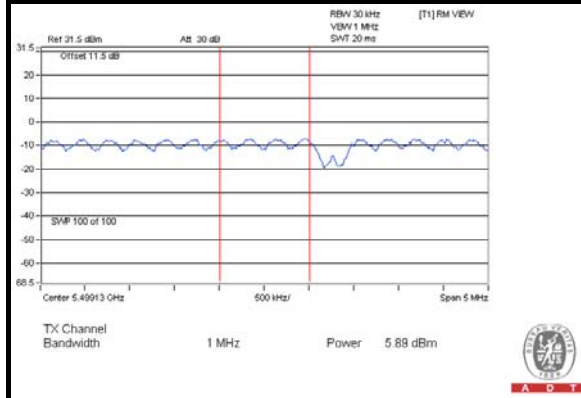
CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
42	5210	-3.56	11	PASS
58	5290	-3.07	11	PASS
106	5530	-4.04	11	PASS



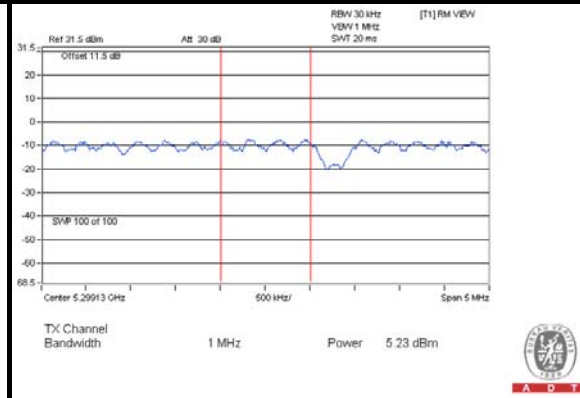
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SPECTRUM PLOT OF WORST VALUE

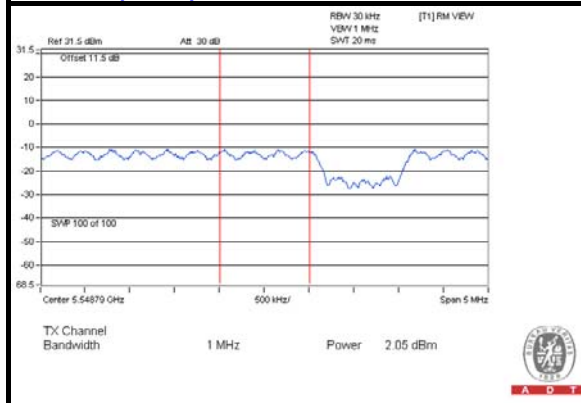
802.11a



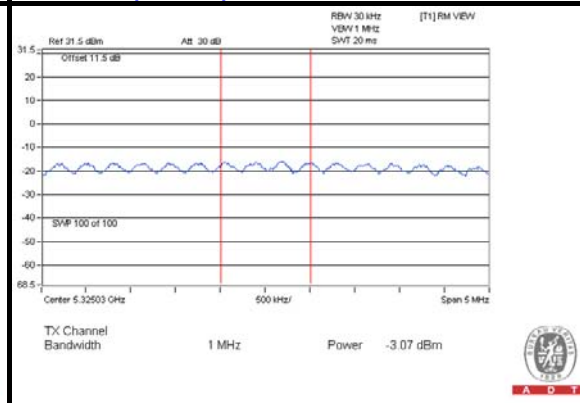
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

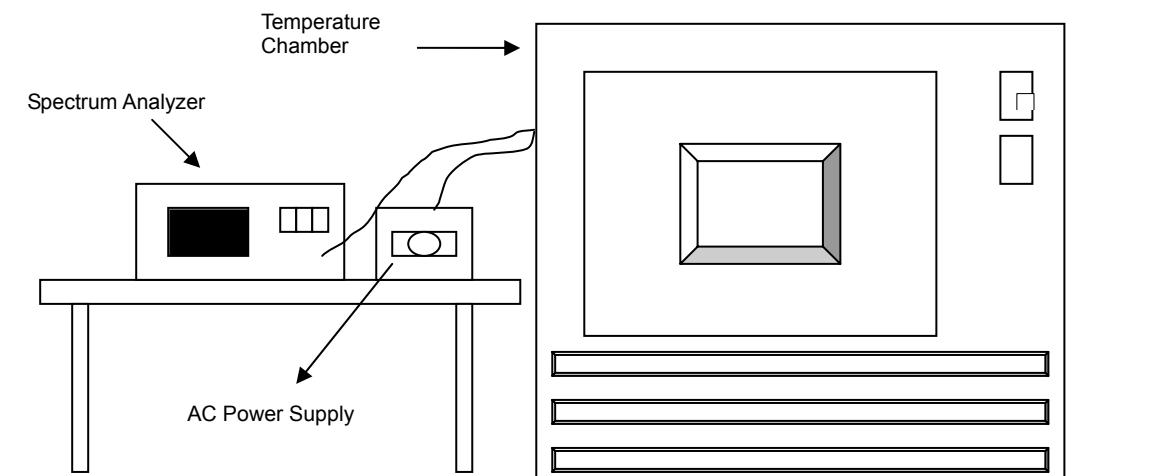


4.5 FREQUENCY STABILITY

4.5.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

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

- a. The EUT was placed inside the environmental test chamber and powered by nominal AC 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.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

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



4.5.7 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 (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5320.0032	0.00006	5320.0047	0.00009	5320.0032	0.00006	5320.002	0.00004
40	120	5319.9884	-0.00022	5319.9835	-0.00031	5319.9876	-0.00023	5319.985	-0.00028
30	120	5319.9989	-0.00002	5320.0031	0.00006	5320.0014	0.00003	5320.0016	0.00003
20	120	5319.9979	-0.00004	5319.998	-0.00004	5319.9987	-0.00002	5320.0011	0.00002
10	120	5319.9977	-0.00004	5319.995	-0.00009	5319.9987	-0.00002	5319.9997	-0.00001
0	120	5320.0005	0.00001	5320.0043	0.00008	5320.0006	0.00001	5320.0043	0.00008
-10	120	5319.9847	-0.00029	5319.9821	-0.00034	5319.9816	-0.00035	5319.9824	-0.00033
-20	120	5320.0177	0.00033	5320.0154	0.00029	5320.0164	0.00031	5320.0177	0.00033
-30	120	5319.9849	-0.00028	5319.9876	-0.00023	5319.9853	-0.00028	5319.9886	-0.00021

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 (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5319.9988	-0.00002	5319.9981	-0.00004	5319.9994	-0.00001	5320.0011	0.00002
	120	5319.9979	-0.00004	5319.998	-0.00004	5319.9987	-0.00002	5320.0011	0.00002
	102	5319.9987	-0.00002	5319.9988	-0.00002	5319.9982	-0.00003	5320.0017	0.00003

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.

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/Telecom Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Lab:

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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.

---END---