

FCC Test Report

Report No.: RF150415E06H-1

FCC ID: HEDIRAC750

Test Model: IR-AC750

Series Model: IR-AC750-EU

Received Date: Dec. 28, 2015

Test Date: Dec. 29, 2015 to Jan. 15, 2016

Issued Date: Jan. 25, 2016

Applicant: Accton Technology Corporation

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Modification Record	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Description of Test Modes	9
3.2.1 Test Mode Applicability and Tested Channel Detail.....	10
3.3 Duty Cycle of Test Signal	12
3.4 Description of Support Units	13
3.4.1 Configuration of System under Test	14
3.5 General Description of Applied Standard.....	15
4 Test Types and Results	16
4.1 Radiated Emission and Bandedge Measurement.....	16
4.1.1 Limits of Radiated Emission and Bandedge Measurement	16
4.1.2 Test Instruments	17
4.1.3 Test Procedure	19
4.1.4 Deviation from Test Standard	19
4.1.5 Test Setup.....	20
4.1.6 EUT Operating Condition	20
4.1.7 Test Results	21
4.2 Conducted Emission Measurement	40
4.2.1 Limits of Conducted Emission Measurement	40
4.2.2 Test Instruments	40
4.2.3 Test Procedure	41
4.2.4 Deviation from Test Standard	41
4.2.5 Test Setup.....	41
4.2.6 EUT Operating Condition	41
4.2.7 Test Results (Mode 1).....	42
4.2.8 Test Results (Mode 2).....	44
4.3 Transmit Power Measurement	46
4.3.1 Limits of Transmit Power Measurement	46
4.3.2 Test Setup.....	46
4.3.3 Test Instruments	46
4.3.4 Test Procedure	46
4.3.5 Deviation from Test Standard	46
4.3.6 EUT Operating Condition	46
4.3.7 Test Result.....	47
4.4 Peak Power Spectral Density Measurement	48
4.4.1 Limits of Peak Power Spectral Density Measurement	48
4.4.2 Test Setup.....	48
4.4.3 Test Instruments	48
4.4.4 Test Procedure	48
4.4.5 Deviation from Test Standard	48
4.4.6 EUT Operating Condition	48
4.4.7 Test Results	49
4.5 Frequency Stability Measurement	53
4.5.1 Limits of Frequency Stability Measurement	53
4.5.2 Test Setup.....	53
4.5.3 Test Instruments	53
4.5.4 Test Procedure	53
4.5.5 Deviation from Test Standard	53



4.5.6 EUT Operating Condition	53
4.5.7 Test Results	54
4.6 6dB Bandwidth Measurement	55
4.6.1 Limits of 6dB Bandwidth Measurement	55
4.6.2 Test Setup	55
4.6.3 Test Instruments	55
4.6.4 Test Procedure	55
4.6.5 Deviation from Test Standard	55
4.6.6 EUT Operating Condition	55
4.6.7 Test Results	56
5 Pictures of Test Arrangements	58
Appendix – Information on the Testing Laboratories	59



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Release Control Record

Issue No.	Description	Date Issued
RF150415E06H-1	Original release.	Jan. 25, 2016



1 Certificate of Conformity

Product: Cloud-Enabled Enterprise Access Point
Brand: IgniteNet
Test Model: IR-AC750
Series Model: IR-AC750-EU
Sample Status: ENGINEERING SAMPLE
Applicant: Accton Technology Corporation
Test Date: Dec. 29, 2015 to Jan. 15, 2016
Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10: 2013

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

Prepared by :  , **Date:** Jan. 25, 2016
Lori Chung / Specialist

Approved by :  , **Date:** Jan. 25, 2016
May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (SECTION 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -11.76dB at 0.42734MHz.
15.407(b)(1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 5150.00MHz & 5399.00MHz & 5725.00MHz & 5860.00MHz & 5850.00MHz.
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 MMCX-plug not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.86 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.37 dB
	1GHz ~6GHz	3.65 dB
Radiated Emissions above 1 GHz	6GHz ~ 18GHz	3.88 dB
	18GHz ~ 40GHz	4.11 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Cloud-Enabled Enterprise Access Point
Brand	IgniteNet
Test Model	IR-AC750
Series Model	IR-AC750-EU
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12-48Vdc from power adapter or 24Vdc from POE
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a / g: up to 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 433.3Mbps
Operating Frequency	For 15.407 5.18 ~ 5.24GHz, 5.745 ~ 5.825GHz
	For 15.247 2.412 ~ 2.462GHz
Number of Channel	For 15.407 9 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 4 for 802.11n (HT40), 802.11ac (VHT40) 2 for 802.11ac (VHT80)
	For 15.247 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	For 15.407 802.11a: 212.814mW 802.11ac (VHT20): 187.932mW 802.11ac (VHT40): 179.473mW 802.11ac (VHT80): 72.946mW
	For 15.247 802.11b: 114.551mW 802.11g: 564.937mW 802.11n (HT20): 967.697mW 802.11n (HT40): 652.316mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1, POE x 1
Data Cable Supplied	NA

Note:

- The EUT has below Model names, which are identical to each other in all aspects except for the following information:

Model Name	Difference
IR-AC750	For marketing purpose.
IR-AC750-EU	

From the above models, model: **SP-AC750** was selected as representative model for the test and its data was recorded in this report.

- The emission of the simultaneous operation (2.4GHz & 5GHz) has been evaluated and no non-compliance was found.

3. The antennas provided to the EUT, please refer to the following table:

2.4GHz Band						
Antenna No.	PCB Chain No.	Ant. Gain(dBi)	Frequency Range (GHz to GHz)	Ant. Type	Connector Type	Cable Length (mm)
1 (White)	Chain (0)	4.3	2.4~2.4835	PCB	i-pex(MHF)	130
2 (Gray)	Chain (1)	4.01	2.4~2.4835	PCB	i-pex(MHF)	90

**For 802.11bg mode will fix transmission on Chain (0).

5GHz Band					
Antenna No.	Ant. Gain(dBi)	Frequency Range (GHz to GHz)	Ant. Type	Connector Type	Cable Length (mm)
3 (Black)	5	5.15~5.85	PCB	MMCX-plug	60

4. The EUT must be supplied with a power adapter or a POE as following table:

Power Adapter		
Brand	Model No.	Spec.
APD	WB-18D12FU	AC Input: 100-240V, 0.5A, 50-60Hz DC Output: 12V, 1.5A DC Output cable: Unshielded, 1.8m

POE		
Brand	Model No.	Spec.
LEI	NU24-F240100-I2	AC Input: 100-240V, 0.7A, 50/60Hz AC Input cable: Unshielded, 0.8m DC Output: 24V, 1A

For Radiated Emission test, the EUT was pre-tested with adapter and POE, the worst case was found in POE. Therefore only the test data of the POE was recorded in this report.

5. The EUT incorporates a MIMO function.

2.4GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	1TX (fix on chain 0)	2RX
802.11g	6 ~ 54Mbps	1TX (fix on chain 0)	2RX
802.11n (HT20)	MCS 0~7	1TX (fix on chain 0)	2RX
	MCS 8~15*	2TX	2RX
802.11n (HT40)	MCS 0~7	1TX (fix on chain 0)	2RX
	MCS 8~15*	2TX	2RX

5GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11a	6 ~ 54Mbps	1TX	1RX
802.11n (HT20)	MCS 0~7	1TX	1RX
802.11n (HT40)	MCS 0~7	1TX	1RX
802.11ac (VHT20)	MCS 0~8, Nss=1	1TX	1RX
802.11ac (VHT40)	MCS 0~9, Nss=1	1TX	1RX
802.11ac (VHT80)	MCS 0~9, Nss=1	1TX	1RX

Note: 1. "*" means the device operate with two spatial stream (Nss = 2) with different data, and two signals are not correlated.
2. 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)

6. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

FOR 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 5745 ~ 5825MHz:

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

Channel	Frequency	Channel	Frequency
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE $<$ 1G	PLC	APCM	
1	√	√	√	√	POE Mode
2	-	-	√	-	Adapter Mode

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:
 1. The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on Laying-flat type (for below 1GHz) and Wall-mount type (for above 1GHz).
 2. "-" means no effect.

Radiated Emission Test (Above 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, 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, 40, 48	OFDM	BPSK	6
802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (VHT80)		42	42	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240 5745-5825	36 to 48 149 to 165	40	OFDM	BPSK	6

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)
802.11a	5180-5240 5745-5825	36 to 48 149 to 165	40	OFDM	BPSK	6

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, 40, 48	OFDM	BPSK	6
802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (VHT80)		42	42	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

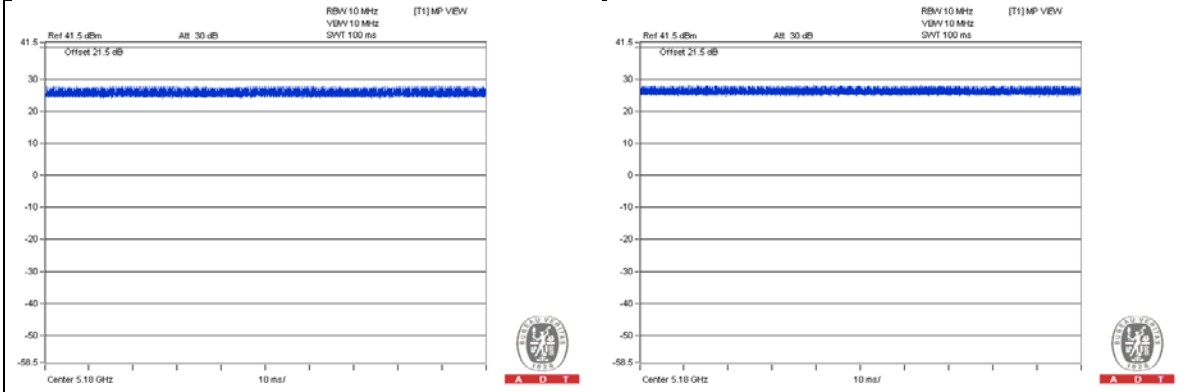
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE\geq1G	22deg. C, 61%RH	120Vac, 60Hz	Jyunchun Lin
RE$<$1G	23deg. C, 66%RH	120Vac, 60Hz	Weiwei Lo
PLC	26deg. C, 65%RH	120Vac, 60Hz	Jason Huang
APCM	16deg. C, 59%RH	120Vac, 60Hz	Anderson Chen

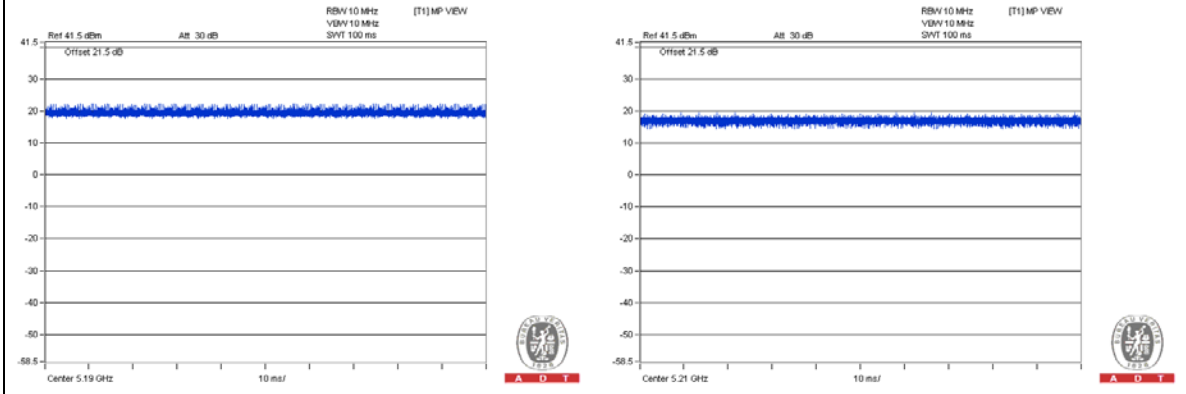
3.3 Duty Cycle of Test Signal

Duty cycle of test signal is 100 %, duty factor is not required.

802.11a **802.11ac (VHT20)**



802.11ac (VHT40) **802.11ac (VHT80)**



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	Remark
A	iPod shuffle	Apple	MD778TA/A	CC4JMCMXF4T1	NA	Provided by Lab
B	Notebook Computer	DELL	E6440	F9LYQ32	FCC DoC	Provided by Lab
C	Notebook Computer	DELL	E5430	4YV4VY1	FCC DoC	Provided by Lab
D	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC	Provided by Lab

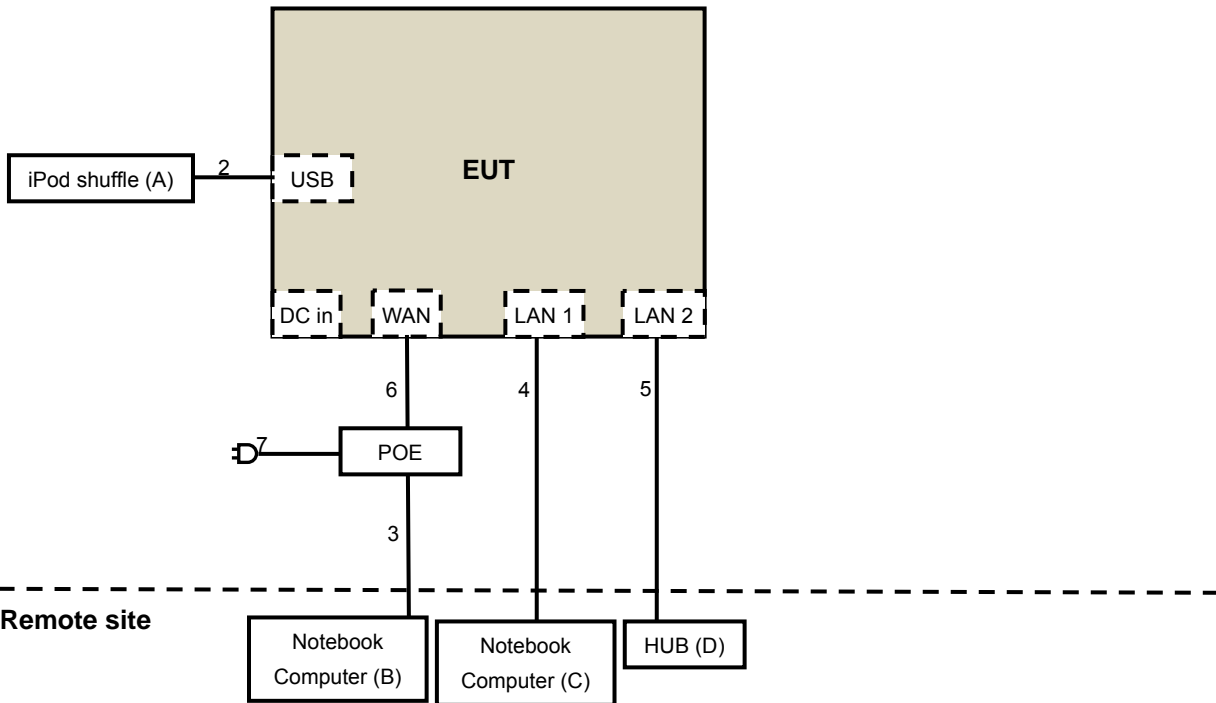
NOTE:

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

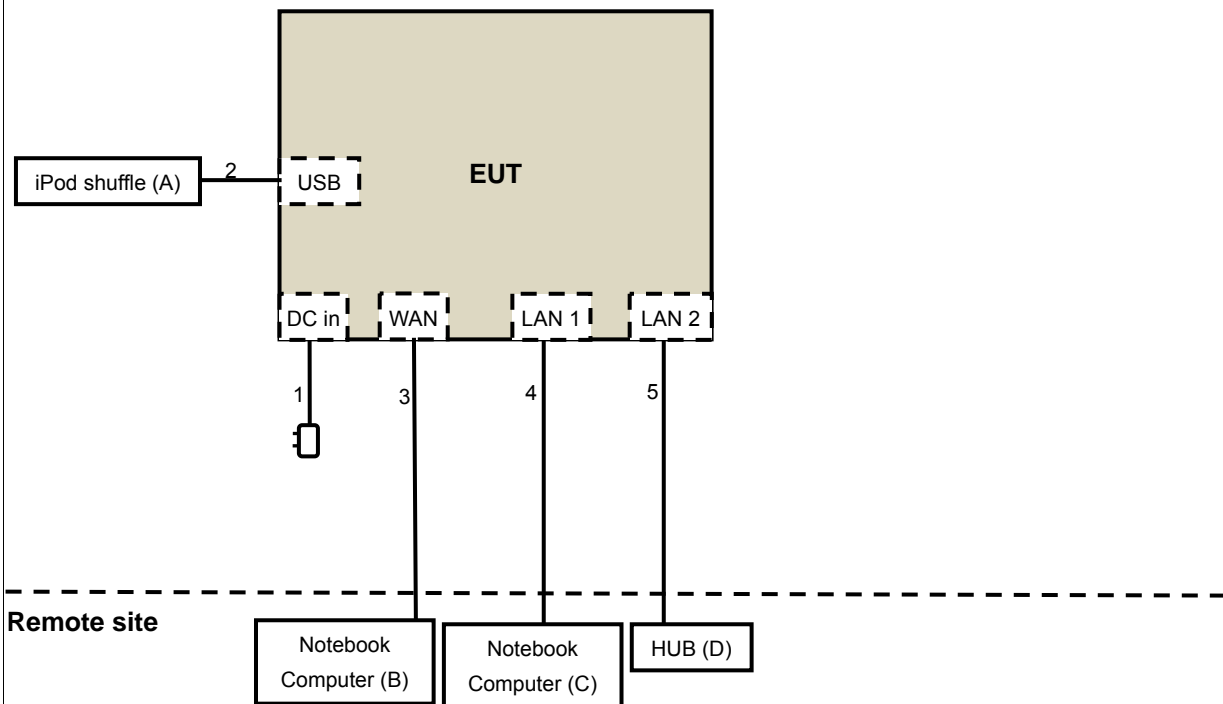
No.	Cable	Qty.	Length (m)	Shielded (Yes/ No)	Cores (Number)	Remark
1	DC	1	1.8	No	0	Supplied by Client
2	USB	1	0.1	Yes	0	Provided by Lab
3	RJ45	1	10	No	0	Provided by Lab
4	RJ45	1	10	No	0	Provided by Lab
5	RJ45	1	10	No	0	Provided by Lab
6	RJ45	1	1.5	No	0	Provided by Lab
7	AC	1	0.8	No	0	Supplied by Client

3.4.1 Configuration of System under Test

POE Mode:



Adapter Mode:



3.5 General Description of Applied Standard

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)
KDB 789033 D02 General UNII Test Procedure New Rules v01r01
ANSI C63.10-2013

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

NOTE: The EUT 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.

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
789033 D02 General UNII Test Procedure New Rules v01r01	FIELD STRENGTH AT 3m	
	PK:74 (dBuV/m)	AV:54 (dBuV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBuV/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(dBuV/m) ^{*1} PK:78.2 (dBuV/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:

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

4.1.2 Test Instruments

For below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210105	July 24, 2015	July 23, 2016
Pre-Amplifier ^(*) EMCI	EMC001340	980142	Jan. 13, 2014	Jan. 12, 2016
Loop Antenna ^(*) Electro-Metrics	EM-6879	264	Dec. 16, 2014	Dec. 15, 2016
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 18, 2015	Jan. 17, 2016
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 11, 2015	Nov. 10, 2016
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 06, 2015	Feb. 05, 2016
RF Cable	8D-FB	CHGCAB-001 -1 CHGCAB-001 -2	Oct. 03, 2015	Oct. 02, 2016
	RF-141	CHGCAB-004	Oct. 03, 2015	Oct. 02, 2016
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. Loop antenna was used for all emissions below 30 MHz.
4. The test was performed in 966 Chamber No. G.
5. The FCC Site Registration No. is 966073.
6. The CANADA Site Registration No. is IC 7450H-2.
7. Tested Date: Dec. 30, 2015

For Other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210105	July 24, 2015	July 23, 2016
Horn_Antenna AISI	AIH.8018	000032009111 0	Feb. 09, 2015	Feb. 08, 2016
Pre-Amplifier Agilent	8449B	3008A02578	June 23, 2015	June 22, 2016
RF Cable	NA	131205 131216 131217 SNMY23684/ 4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer Agilent	E4446A	MY48250254	Nov. 25, 2015	Nov. 24, 2016
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 11, 2015	Dec. 10, 2016
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	SUCOFLEX 102	36442/2 36434/2	Dec. 10, 2015	Dec. 09, 2016
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA
Power Meter Anritsu	ML2495A	1014008	Apr. 28, 2015	Apr. 27, 2016
Power Sensor Anritsu	MA2411B	0917122	Apr. 28, 2015	Apr. 27, 2016
Spectrum Analyzer R&S	FSP40	100060	May 08, 2015	May 07, 2016
Temperature & Humidity Chamber TERCHY	MHU-225AU	911033	Dec. 03, 2015	Dec. 02, 2016

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 966 Chamber No. G.
3. The FCC Site Registration No. is 966073.
4. The VCCI Site Registration No. is G-137.
5. The CANADA Site Registration No. is IC 7450H-2.
6. Tested Date: Jan. 05 to 14, 2016

4.1.3 Test Procedure

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. 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 height of antenna 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

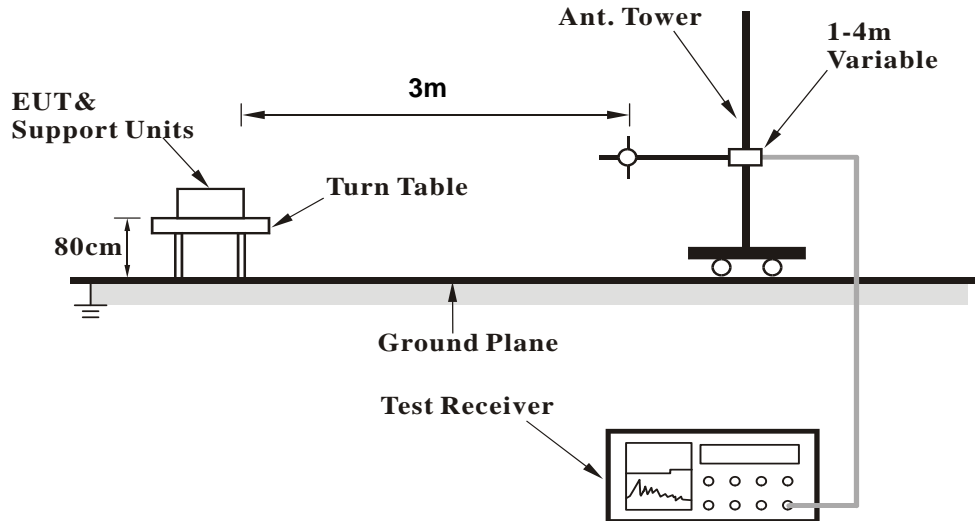
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

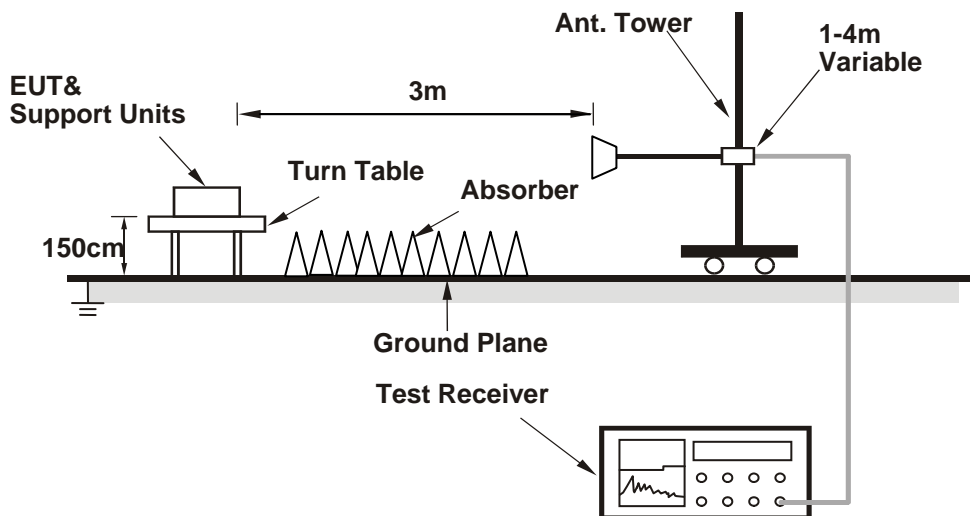
No deviation.

4.1.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Condition

1. Connect the EUT with the support units B & C (Notebook Computer) which is placed on remote site.
2. Controlling software (MP_TEST.exe [V1.3.8.0]) has been activated to set the EUT on specific status.

4.1.7 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	4986.00	62.4 PK	74.0	-11.6	1.69 H	299	54.63	7.77
2	4986.00	42.2 AV	54.0	-11.8	1.69 H	299	34.43	7.77
3	5150.00	65.2 PK	74.0	-8.8	1.69 H	299	56.87	8.33
4	5150.00	48.4 AV	54.0	-5.6	1.69 H	299	40.07	8.33
5	*5180.00	106.4 PK			1.69 H	299	97.93	8.47
6	*5180.00	97.5 AV			1.69 H	299	89.03	8.47
7	#10360.00	53.8 PK	74.0	-20.2	1.32 H	222	39.30	14.50
8	#10360.00	43.1 AV	54.0	-10.9	1.32 H	222	28.60	14.50
9	15540.00	61.1 PK	74.0	-12.9	1.28 H	237	42.42	18.68
10	15540.00	47.0 AV	54.0	-7.0	1.28 H	237	28.32	18.68

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	4986.00	68.4 PK	74.0	-5.6	1.83 V	164	60.63	7.77
2	4986.00	50.7 AV	54.0	-3.3	1.83 V	164	42.93	7.77
3	5150.00	70.8 PK	74.0	-3.2	1.83 V	164	62.47	8.33
4	5150.00	53.9 AV	54.0	-0.1	1.83 V	164	45.57	8.33
5	*5180.00	115.0 PK			1.83 V	164	106.53	8.47
6	*5180.00	105.5 AV			1.83 V	164	97.03	8.47
7	#10360.00	57.3 PK	74.0	-16.7	1.14 V	88	42.80	14.50
8	#10360.00	45.4 AV	54.0	-8.6	1.14 V	88	30.90	14.50
9	15540.00	59.8 PK	74.0	-14.2	1.11 V	72	41.12	18.68
10	15540.00	47.3 AV	54.0	-6.7	1.11 V	72	28.62	18.68

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": 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	59.8 PK	74.0	-14.2	1.74 H	284	51.47	8.33
2	5150.00	47.1 AV	54.0	-6.9	1.74 H	284	38.77	8.33
3	*5200.00	107.7 PK			1.74 H	284	99.16	8.54
4	*5200.00	98.9 AV			1.74 H	284	90.36	8.54
5	5399.00	58.3 PK	74.0	-15.7	1.74 H	284	49.37	8.93
6	5399.00	48.3 AV	54.0	-5.7	1.74 H	284	39.37	8.93
7	#10400.00	54.7 PK	74.0	-19.3	1.30 H	237	40.10	14.60
8	#10400.00	43.9 AV	54.0	-10.1	1.30 H	237	29.30	14.60
9	15600.00	62.0 PK	74.0	-12.0	1.30 H	237	43.10	18.90
10	15600.00	48.1 AV	54.0	-5.9	1.30 H	237	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	5150.00	65.4 PK	74.0	-8.6	1.20 V	289	57.07	8.33
2	5150.00	52.6 AV	54.0	-1.4	1.20 V	289	44.27	8.33
3	*5200.00	116.3 PK			1.20 V	289	107.76	8.54
4	*5200.00	106.9 AV			1.20 V	289	98.36	8.54
5	5399.00	63.9 PK	74.0	-10.1	1.20 V	290	54.97	8.93
6	5399.00	53.9 AV	54.0	-0.1	1.20 V	290	44.97	8.93
7	#10400.00	58.2 PK	74.0	-15.8	1.16 V	74	43.60	14.60
8	#10400.00	46.2 AV	54.0	-7.8	1.16 V	74	31.60	14.60
9	15600.00	60.8 PK	74.0	-13.2	1.16 V	74	41.90	18.90
10	15600.00	48.2 AV	54.0	-5.8	1.16 V	74	29.30	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.
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	5034.00	56.0 PK	74.0	-18.0	1.63 H	305	48.06	7.94
2	5034.00	48.3 AV	54.0	-5.7	1.63 H	305	40.36	7.94
3	*5240.00	106.1 PK			1.63 H	305	97.50	8.60
4	*5240.00	99.5 AV			1.63 H	305	90.90	8.60
5	5350.00	55.3 PK	74.0	-18.7	1.63 H	305	46.50	8.80
6	5350.00	42.8 AV	54.0	-11.2	1.63 H	305	34.00	8.80
7	5440.00	57.1 PK	74.0	-16.9	1.63 H	305	48.03	9.07
8	5440.00	47.8 AV	54.0	-6.2	1.63 H	305	38.73	9.07
9	#10480.00	54.1 PK	74.0	-19.9	1.26 H	230	39.63	14.47
10	#10480.00	43.3 AV	54.0	-10.7	1.26 H	230	28.83	14.47
11	15720.00	61.5 PK	74.0	-12.5	1.34 H	242	42.46	19.04
12	15720.00	47.6 AV	54.0	-6.4	1.34 H	242	28.56	19.04

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	5034.00	61.6 PK	74.0	-12.4	1.55 V	99	53.66	7.94
2	5034.00	53.8 AV	54.0	-0.2	1.55 V	99	45.86	7.94
3	*5240.00	114.7 PK			1.55 V	99	106.10	8.60
4	*5240.00	107.5 AV			1.55 V	99	98.90	8.60
5	5350.00	60.8 PK	74.0	-13.2	1.55 V	99	52.00	8.80
6	5350.00	48.3 AV	54.0	-5.7	1.55 V	99	39.50	8.80
7	5440.00	62.6 PK	74.0	-11.4	1.55 V	99	53.53	9.07
8	5440.00	53.3 AV	54.0	-0.7	1.55 V	99	44.23	9.07
9	#10480.00	57.7 PK	74.0	-16.3	1.20 V	86	43.23	14.47
10	#10480.00	45.8 AV	54.0	-8.2	1.20 V	86	31.33	14.47
11	15720.00	60.2 PK	74.0	-13.8	1.18 V	59	41.16	19.04
12	15720.00	47.9 AV	54.0	-6.1	1.18 V	59	28.86	19.04

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 149	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	#5551.00	55.6 PK	74.0	-18.4	1.27 H	95	46.27	9.33
2	#5551.00	43.5 AV	54.0	-10.5	1.27 H	95	34.17	9.33
3	#5715.00	55.6 PK	74.0	-18.4	1.27 H	95	45.92	9.68
4	#5715.00	42.4 AV	54.0	-11.6	1.27 H	95	32.72	9.68
5	#5725.00	73.4 PK	78.2	-4.8	1.27 H	95	63.70	9.70
6	*5745.00	106.6 PK			1.27 H	95	96.84	9.76
7	*5745.00	97.5 AV			1.27 H	95	87.74	9.76
8	#5945.00	57.6 PK	74.0	-16.4	1.27 H	95	47.45	10.15
9	#5945.00	47.3 AV	54.0	-6.7	1.27 H	95	37.15	10.15
10	11490.00	52.1 PK	74.0	-21.9	1.29 H	242	37.24	14.86
11	11490.00	45.7 AV	54.0	-8.3	1.29 H	242	30.84	14.86
12	#17235.00	59.6 PK	74.0	-14.4	1.39 H	239	36.37	23.23
13	#17235.00	41.0 AV	54.0	-13.0	1.39 H	239	17.77	23.23

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	#5551.00	65.5 PK	74.0	-8.5	1.47 V	313	56.17	9.33
2	#5551.00	51.4 AV	54.0	-2.6	1.47 V	313	42.07	9.33
3	#5715.00	61.1 PK	74.0	-12.9	1.47 V	313	51.42	9.68
4	#5715.00	48.4 AV	54.0	-5.6	1.47 V	313	38.72	9.68
5	#5725.00	78.1 PK	78.2	-0.1	1.47 V	313	68.40	9.70
6	*5745.00	112.7 PK			1.47 V	313	102.94	9.76
7	*5745.00	103.8 AV			1.47 V	313	94.04	9.76
8	#5945.00	68.2 PK	74.0	-5.8	1.47 V	313	58.05	10.15
9	#5945.00	53.8 AV	54.0	-0.2	1.47 V	313	43.65	10.15
10	11490.00	55.9 PK	74.0	-18.1	1.24 V	91	41.04	14.86
11	11490.00	44.1 AV	54.0	-9.9	1.24 V	91	29.24	14.86
12	#17235.00	58.4 PK	74.0	-15.6	1.18 V	61	35.17	23.23
13	#17235.00	46.0 AV	54.0	-8.0	1.18 V	61	22.77	23.23

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 157	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	#5625.00	56.6 PK	68.2	-11.6	1.42 H	183	47.17	9.43
2	*5785.00	110.5 PK			1.42 H	183	100.65	9.85
3	*5785.00	101.4 AV			1.42 H	183	91.55	9.85
4	#5985.00	57.8 PK	68.2	-10.4	1.42 H	183	47.46	10.34
5	11570.00	55.4 PK	74.0	-18.6	1.27 H	250	40.20	15.20
6	11570.00	44.4 AV	54.0	-9.6	1.27 H	250	29.20	15.20
7	#17355.00	61.8 PK	68.2	-6.4	1.27 H	250	38.24	23.56

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	#5625.00	61.8 PK	68.2	-6.4	1.31 V	308	52.37	9.43
2	*5785.00	116.6 PK			1.31 V	308	106.75	9.85
3	*5785.00	107.7 AV			1.31 V	308	97.85	9.85
4	#5985.00	67.9 PK	68.2	-0.3	1.31 V	308	57.56	10.34
5	11570.00	58.5 PK	74.0	-15.5	1.17 V	59	43.30	15.20
6	11570.00	46.5 AV	54.0	-7.5	1.17 V	59	31.30	15.20
7	#17355.00	61.2 PK	68.2	-7.0	1.17 V	59	37.64	23.56

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 165	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	*5825.00	107.1 PK			1.40 H	178	97.19	9.91
2	*5825.00	97.1 AV			1.40 H	178	87.19	9.91
3	#5850.00	67.4 PK	78.2	-10.8	1.40 H	178	57.48	9.92
4	#5860.00	63.9 PK	74.0	-10.1	1.40 H	178	53.97	9.93
5	#5860.00	51.6 AV	54.0	-2.4	1.40 H	178	41.67	9.93
6	11650.00	57.6 PK	74.0	-16.4	1.54 H	5	42.20	15.40
7	11650.00	44.6 AV	54.0	-9.4	1.54 H	5	29.20	15.40
8	#17475.00	67.6 PK	74.0	-6.4	1.54 H	5	43.51	24.09
9	#17475.00	51.3 AV	54.0	-2.7	1.54 H	5	27.21	24.09

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	112.7 PK			1.23 V	317	102.79	9.91
2	*5825.00	103.1 AV			1.23 V	317	93.19	9.91
3	#5850.00	70.8 PK	78.2	-7.4	1.23 V	317	60.88	9.92
4	#5860.00	68.4 PK	74.0	-5.6	1.23 V	317	58.47	9.93
5	#5860.00	53.9 AV	54.0	-0.1	1.23 V	317	43.97	9.93
6	11650.00	58.2 PK	74.0	-15.8	1.55 V	300	42.80	15.40
7	11650.00	44.9 AV	54.0	-9.1	1.55 V	300	29.50	15.40
8	#17475.00	68.5 PK	74.0	-5.5	1.55 V	300	44.41	24.09
9	#17475.00	51.6 AV	54.0	-2.4	1.55 V	300	27.51	24.09

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 (VHT20)

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	4985.00	54.5 PK	74.0	-19.5	1.45 H	183	46.73	7.77
2	4985.00	45.8 AV	54.0	-8.2	1.45 H	183	38.03	7.77
3	5150.00	60.7 PK	74.0	-13.3	1.45 H	183	52.37	8.33
4	5150.00	48.1 AV	54.0	-5.9	1.45 H	183	39.77	8.33
5	*5180.00	108.2 PK			1.45 H	183	99.73	8.47
6	*5180.00	99.1 AV			1.45 H	183	90.63	8.47
7	5380.00	57.2 PK	74.0	-16.8	1.45 H	183	48.32	8.88
8	5380.00	45.7 AV	54.0	-8.3	1.45 H	183	36.82	8.88
9	#10360.00	55.4 PK	74.0	-18.6	1.23 H	257	40.90	14.50
10	#10360.00	44.5 AV	54.0	-9.5	1.23 H	257	30.00	14.50
11	15540.00	61.6 PK	74.0	-12.4	1.24 H	248	42.92	18.68
12	15540.00	47.6 AV	54.0	-6.4	1.24 H	248	28.92	18.68

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	4985.00	59.9 PK	74.0	-14.1	1.48 V	329	52.13	7.77
2	4985.00	51.2 AV	54.0	-2.8	1.48 V	329	43.43	7.77
3	5150.00	66.3 PK	74.0	-7.7	1.48 V	329	57.97	8.33
4	5150.00	53.6 AV	54.0	-0.4	1.48 V	329	45.27	8.33
5	*5180.00	113.8 PK			1.48 V	329	105.33	8.47
6	*5180.00	105.1 AV			1.48 V	329	96.63	8.47
7	5380.00	62.6 PK	74.0	-11.4	1.48 V	329	53.72	8.88
8	5380.00	51.2 AV	54.0	-2.8	1.48 V	329	42.32	8.88
9	#10360.00	58.5 PK	74.0	-15.5	1.18 V	66	44.00	14.50
10	#10360.00	46.3 AV	54.0	-7.7	1.18 V	66	31.80	14.50
11	15540.00	61.4 PK	74.0	-12.6	1.16 V	47	42.72	18.68
12	15540.00	48.6 AV	54.0	-5.4	1.16 V	47	29.92	18.68

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	5005.00	58.6 PK	74.0	-15.4	1.34 H	171	50.75	7.85
2	5005.00	47.9 AV	54.0	-6.1	1.34 H	171	40.05	7.85
3	*5200.00	110.2 PK			1.34 H	171	101.66	8.54
4	*5200.00	100.2 AV			1.34 H	171	91.66	8.54
5	5380.00	57.1 PK	74.0	-16.9	1.34 H	171	48.22	8.88
6	5380.00	45.6 AV	54.0	-8.4	1.34 H	171	36.72	8.88
7	5394.00	59.2 PK	74.0	-14.8	1.34 H	171	50.28	8.92
8	5394.00	48.0 AV	54.0	-6.0	1.34 H	171	39.08	8.92
9	#10400.00	55.0 PK	74.0	-19.0	1.26 H	252	40.40	14.60
10	#10400.00	44.3 AV	54.0	-9.7	1.26 H	252	29.70	14.60
11	15600.00	61.0 PK	74.0	-13.0	1.29 H	260	42.10	18.90
12	15600.00	47.2 AV	54.0	-6.8	1.29 H	260	28.30	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	5005.00	64.1 PK	74.0	-9.9	1.43 V	330	56.25	7.85
2	5005.00	53.5 AV	54.0	-0.5	1.43 V	330	45.65	7.85
3	*5200.00	115.8 PK			1.43 V	330	107.26	8.54
4	*5200.00	106.2 AV			1.43 V	330	97.66	8.54
5	5380.00	62.6 PK	74.0	-11.4	1.43 V	330	53.72	8.88
6	5380.00	51.2 AV	54.0	-2.8	1.43 V	330	42.32	8.88
7	5394.00	64.6 PK	74.0	-9.4	1.43 V	330	55.68	8.92
8	5394.00	53.4 AV	54.0	-0.6	1.43 V	330	44.48	8.92
9	#10400.00	58.0 PK	74.0	-16.0	1.16 V	48	43.40	14.60
10	#10400.00	46.1 AV	54.0	-7.9	1.16 V	48	31.50	14.60
11	15600.00	60.8 PK	74.0	-13.2	1.14 V	50	41.90	18.90
12	15600.00	48.3 AV	54.0	-5.7	1.14 V	50	29.40	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.
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	5045.00	57.7 PK	74.0	-16.3	1.42 H	164	49.73	7.97
2	5045.00	47.9 AV	54.0	-6.1	1.42 H	164	39.93	7.97
3	*5240.00	111.1 PK			1.42 H	164	102.50	8.60
4	*5240.00	101.9 AV			1.42 H	164	93.30	8.60
5	5350.00	47.4 PK	74.0	-26.6	1.42 H	164	38.60	8.80
6	5350.00	39.9 AV	54.0	-14.1	1.42 H	164	31.10	8.80
7	5440.00	56.4 PK	74.0	-17.6	1.42 H	164	47.33	9.07
8	5440.00	47.2 AV	54.0	-6.8	1.42 H	164	38.13	9.07
9	#10480.00	55.3 PK	74.0	-18.7	1.29 H	247	40.83	14.47
10	#10480.00	44.4 AV	54.0	-9.6	1.29 H	247	29.93	14.47
11	15720.00	60.5 PK	74.0	-13.5	1.26 H	274	41.46	19.04
12	15720.00	46.8 AV	54.0	-7.2	1.26 H	274	27.76	19.04

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	5045.00	63.2 PK	74.0	-10.8	1.54 V	327	55.23	7.97
2	5045.00	53.5 AV	54.0	-0.5	1.54 V	327	45.53	7.97
3	*5240.00	116.7 PK			1.54 V	327	108.10	8.60
4	*5240.00	107.9 AV			1.54 V	327	99.30	8.60
5	5350.00	53.0 PK	74.0	-21.0	1.54 V	327	44.20	8.80
6	5350.00	44.8 AV	54.0	-9.2	1.54 V	327	36.00	8.80
7	5440.00	61.9 PK	74.0	-12.1	1.54 V	327	52.83	9.07
8	5440.00	52.8 AV	54.0	-1.2	1.54 V	327	43.73	9.07
9	#10480.00	57.8 PK	74.0	-16.2	1.13 V	44	43.33	14.47
10	#10480.00	45.9 AV	54.0	-8.1	1.13 V	44	31.43	14.47
11	15720.00	61.0 PK	74.0	-13.0	1.10 V	65	41.96	19.04
12	15720.00	48.6 AV	54.0	-5.4	1.10 V	65	29.56	19.04

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 149	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	#5500.00	61.7 PK	74.0	-12.3	1.46 H	190	52.41	9.29
2	#5500.00	45.9 AV	54.0	-8.1	1.46 H	190	36.61	9.29
3	#5725.00	72.6 PK	78.2	-5.6	1.46 H	190	62.90	9.70
4	*5745.00	107.3 PK			1.46 H	190	97.54	9.76
5	*5745.00	98.0 AV			1.46 H	190	88.24	9.76
6	#5945.00	58.4 PK	74.0	-15.6	1.46 H	190	48.25	10.15
7	#5945.00	48.3 AV	54.0	-5.7	1.46 H	190	38.15	10.15
8	11490.00	51.7 PK	74.0	-22.3	1.29 H	230	36.84	14.86
9	11490.00	45.3 AV	54.0	-8.7	1.29 H	230	30.44	14.86
10	#17235.00	59.6 PK	74.0	-14.4	1.37 H	235	36.37	23.23
11	#17235.00	41.0 AV	54.0	-13.0	1.37 H	235	17.77	23.23

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	#5500.00	67.3 PK	74.0	-6.7	1.48 V	316	58.01	9.29
2	#5500.00	51.4 AV	54.0	-2.6	1.48 V	316	42.11	9.29
3	#5725.00	78.1 PK	78.2	-0.1	1.48 V	316	68.40	9.70
4	*5745.00	112.9 PK			1.48 V	316	103.14	9.76
5	*5745.00	104.0 AV			1.48 V	316	94.24	9.76
6	#5945.00	63.9 PK	74.0	-10.1	1.48 V	316	53.75	10.15
7	#5945.00	53.8 AV	54.0	-0.2	1.48 V	316	43.65	10.15
8	11490.00	55.1 PK	74.0	-18.9	1.30 V	86	40.24	14.86
9	11490.00	43.6 AV	54.0	-10.4	1.30 V	86	28.74	14.86
10	#17235.00	58.2 PK	74.0	-15.8	1.19 V	48	34.97	23.23
11	#17235.00	45.6 AV	54.0	-8.4	1.19 V	48	22.37	23.23

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 157	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	#5704.00	59.1 PK	68.2	-9.1	1.40 H	192	49.45	9.65
2	*5785.00	111.7 PK			1.40 H	192	101.85	9.85
3	*5785.00	102.2 AV			1.40 H	192	92.35	9.85
4	#5984.00	62.3 PK	68.2	-5.9	1.40 H	192	51.97	10.33
5	11570.00	55.4 PK	74.0	-18.6	1.27 H	249	40.20	15.20
6	11570.00	44.6 AV	54.0	-9.4	1.27 H	249	29.40	15.20
7	#17355.00	61.2 PK	68.2	-7.0	1.24 H	237	37.64	23.56

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	#5704.00	64.6 PK	68.2	-3.6	1.41 V	313	54.95	9.65
2	*5785.00	117.3 PK			1.41 V	313	107.45	9.85
3	*5785.00	108.2 AV			1.41 V	313	98.35	9.85
4	#5984.00	67.9 PK	68.2	-0.3	1.41 V	313	57.57	10.33
5	11570.00	58.2 PK	74.0	-15.8	1.13 V	75	43.00	15.20
6	11570.00	46.3 AV	54.0	-7.7	1.13 V	75	31.10	15.20
7	#17355.00	60.9 PK	68.2	-7.3	1.14 V	35	37.34	23.56

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 165	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	*5825.00	108.2 PK			1.46 H	163	98.29	9.91
2	*5825.00	98.8 AV			1.46 H	163	88.89	9.91
3	#5850.00	72.5 PK	78.2	-5.7	1.46 H	163	62.58	9.92
4	#5860.00	65.4 PK	74.0	-8.6	1.46 H	163	55.47	9.93
5	#5860.00	46.1 AV	54.0	-7.9	1.46 H	163	36.17	9.93
6	11650.00	52.2 PK	74.0	-21.8	1.25 H	240	36.80	15.40
7	11650.00	46.1 AV	54.0	-7.9	1.25 H	240	30.70	15.40
8	#17475.00	59.8 PK	74.0	-14.2	1.35 H	228	35.71	24.09
9	#17475.00	41.5 AV	54.0	-12.5	1.35 H	228	17.41	24.09

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	113.8 PK			1.36 V	314	103.89	9.91
2	*5825.00	104.8 AV			1.36 V	314	94.89	9.91
3	#5850.00	78.1 PK	78.2	-0.1	1.36 V	314	68.18	9.92
4	#5860.00	70.8 PK	74.0	-3.2	1.36 V	314	60.87	9.93
5	#5860.00	51.6 AV	54.0	-2.4	1.36 V	314	41.67	9.93
6	11650.00	56.3 PK	74.0	-17.7	1.22 V	92	40.90	15.40
7	11650.00	44.4 AV	54.0	-9.6	1.22 V	92	29.00	15.40
8	#17475.00	58.6 PK	74.0	-15.4	1.17 V	74	34.51	24.09
9	#17475.00	45.8 AV	54.0	-8.2	1.17 V	74	21.71	24.09

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 (VHT40)

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	67.8 PK	74.0	-6.2	1.44 H	175	59.47	8.33
2	5150.00	47.7 AV	54.0	-6.3	1.44 H	175	39.37	8.33
3	*5190.00	103.7 PK			1.44 H	175	95.20	8.50
4	*5190.00	93.7 AV			1.44 H	175	85.20	8.50
5	5350.00	52.8 PK	74.0	-21.2	1.44 H	175	44.00	8.80
6	5350.00	40.6 AV	54.0	-13.4	1.44 H	175	31.80	8.80
7	#10380.00	52.2 PK	74.0	-21.8	1.31 H	252	37.65	14.55
8	#10380.00	46.0 AV	54.0	-8.0	1.31 H	252	31.45	14.55
9	15570.00	59.5 PK	74.0	-14.5	1.41 H	241	40.71	18.79
10	15570.00	41.1 AV	54.0	-12.9	1.41 H	241	22.31	18.79

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	73.4 PK	74.0	-0.6	1.23 V	291	65.07	8.33
2	5150.00	53.5 AV	54.0	-0.5	1.23 V	291	45.17	8.33
3	*5190.00	109.3 PK			1.23 V	291	100.80	8.50
4	*5190.00	99.7 AV			1.23 V	291	91.20	8.50
5	5350.00	58.3 PK	74.0	-15.7	1.23 V	291	49.50	8.80
6	5350.00	46.1 AV	54.0	-7.9	1.23 V	291	37.30	8.80
7	#10380.00	55.6 PK	74.0	-18.4	1.22 V	84	41.05	14.55
8	#10380.00	44.0 AV	54.0	-10.0	1.22 V	84	29.45	14.55
9	15570.00	57.8 PK	74.0	-16.2	1.15 V	79	39.01	18.79
10	15570.00	45.2 AV	54.0	-8.8	1.15 V	79	26.41	18.79

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	60.7 PK	74.0	-13.3	1.45 H	171	52.37	8.33
2	5150.00	48.1 AV	54.0	-5.9	1.45 H	171	39.77	8.33
3	*5230.00	108.0 PK			1.45 H	171	99.41	8.59
4	*5230.00	98.1 AV			1.45 H	171	89.51	8.59
5	5350.00	53.1 PK	74.0	-20.9	1.45 H	171	44.30	8.80
6	5350.00	40.9 AV	54.0	-13.1	1.45 H	171	32.10	8.80
7	#10460.00	54.8 PK	74.0	-19.2	1.30 H	250	40.29	14.51
8	#10460.00	44.1 AV	54.0	-9.9	1.30 H	250	29.59	14.51
9	15690.00	60.8 PK	74.0	-13.2	1.28 H	246	41.83	18.97
10	15690.00	47.0 AV	54.0	-7.0	1.28 H	246	28.03	18.97

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	66.3 PK	74.0	-7.7	1.27 V	334	57.97	8.33
2	5150.00	53.5 AV	54.0	-0.5	1.27 V	334	45.17	8.33
3	*5230.00	113.6 PK			1.27 V	334	105.01	8.59
4	*5230.00	104.1 AV			1.27 V	334	95.51	8.59
5	5350.00	58.3 PK	74.0	-15.7	1.27 V	334	49.50	8.80
6	5350.00	46.7 AV	54.0	-7.3	1.27 V	334	37.90	8.80
7	#10460.00	58.4 PK	74.0	-15.6	1.08 V	76	43.89	14.51
8	#10460.00	46.4 AV	54.0	-7.6	1.08 V	76	31.89	14.51
9	15690.00	60.5 PK	74.0	-13.5	1.09 V	34	41.53	18.97
10	15690.00	48.0 AV	54.0	-6.0	1.09 V	34	29.03	18.97

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 151	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	#5715.00	65.1 PK	74.0	-8.9	1.42 H	187	55.42	9.68
2	#5715.00	45.9 AV	54.0	-8.1	1.42 H	187	36.22	9.68
3	#5725.00	72.0 PK	78.2	-6.2	1.42 H	187	62.30	9.70
4	*5755.00	104.2 PK			1.42 H	187	94.43	9.77
5	*5755.00	94.4 AV			1.42 H	187	84.63	9.77
6	11510.00	51.7 PK	74.0	-22.3	1.25 H	248	36.85	14.85
7	11510.00	45.9 AV	54.0	-8.1	1.25 H	248	31.05	14.85
8	#17265.00	59.6 PK	74.0	-14.4	1.34 H	242	36.37	23.23
9	#17265.00	41.1 AV	54.0	-12.9	1.34 H	242	17.87	23.23

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	#5715.00	70.7 PK	74.0	-3.3	1.16 V	293	61.02	9.68
2	#5715.00	51.4 AV	54.0	-2.6	1.16 V	293	41.72	9.68
3	#5725.00	77.7 PK	78.2	-0.5	1.16 V	293	68.00	9.70
4	*5755.00	109.8 PK			1.16 V	293	100.03	9.77
5	*5755.00	100.4 AV			1.16 V	293	90.63	9.77
6	11510.00	55.0 PK	74.0	-19.0	1.19 V	81	40.15	14.85
7	11510.00	43.6 AV	54.0	-10.4	1.19 V	81	28.75	14.85
8	#17265.00	57.2 PK	74.0	-16.8	1.17 V	87	33.97	23.23
9	#17265.00	44.5 AV	54.0	-9.5	1.17 V	87	21.27	23.23

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 159	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	*5795.00	106.8 PK			1.41 H	102	96.92	9.88
2	*5795.00	97.4 AV			1.41 H	102	87.52	9.88
3	#5850.00	68.6 PK	78.2	-9.6	1.41 H	102	58.68	9.92
4	#5860.00	66.2 PK	74.0	-7.8	1.41 H	102	56.27	9.93
5	#5860.00	50.2 AV	54.0	-3.8	1.41 H	102	40.27	9.93
6	11590.00	52.2 PK	74.0	-21.8	1.29 H	259	36.89	15.31
7	11590.00	46.3 AV	54.0	-7.7	1.29 H	259	30.99	15.31
8	#17385.00	60.0 PK	74.0	-14.0	1.29 H	249	36.24	23.76
9	#17385.00	41.7 AV	54.0	-12.3	1.29 H	249	17.94	23.76

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	112.3 PK			1.12 V	292	102.42	9.88
2	*5795.00	102.5 AV			1.12 V	292	92.62	9.88
3	#5850.00	74.0 PK	78.2	-4.2	1.12 V	292	64.08	9.92
4	#5860.00	69.4 PK	74.0	-4.6	1.12 V	292	59.47	9.93
5	#5860.00	53.9 AV	54.0	-0.1	1.12 V	292	43.97	9.93
6	11590.00	55.6 PK	74.0	-18.4	1.17 V	87	40.29	15.31
7	11590.00	44.1 AV	54.0	-9.9	1.17 V	87	28.79	15.31
8	#17385.00	57.8 PK	74.0	-16.2	1.21 V	90	34.04	23.76
9	#17385.00	44.9 AV	54.0	-9.1	1.21 V	90	21.14	23.76

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	66.1 PK	74.0	-7.9	1.41 H	173	57.77	8.33
2	5150.00	48.2 AV	54.0	-5.8	1.41 H	173	39.87	8.33
3	*5210.00	99.7 PK			1.41 H	173	91.15	8.55
4	*5210.00	90.7 AV			1.41 H	173	82.15	8.55
5	5350.00	51.8 PK	74.0	-22.2	1.41 H	173	43.00	8.80
6	5350.00	40.1 AV	54.0	-13.9	1.41 H	173	31.30	8.80
7	#10420.00	52.1 PK	74.0	-21.9	1.23 H	245	37.53	14.57
8	#10420.00	45.8 AV	54.0	-8.2	1.23 H	245	31.23	14.57
9	15630.00	59.3 PK	74.0	-14.7	1.36 H	218	40.37	18.93
10	15630.00	41.0 AV	54.0	-13.0	1.36 H	218	22.07	18.93

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	71.6 PK	74.0	-2.4	1.33 V	360	63.27	8.33
2	5150.00	53.8 AV	54.0	-0.2	1.33 V	360	45.47	8.33
3	*5210.00	105.2 PK			1.33 V	360	96.65	8.55
4	*5210.00	95.8 AV			1.33 V	360	87.25	8.55
5	5350.00	56.7 PK	74.0	-17.3	1.33 V	360	47.90	8.80
6	5350.00	44.6 AV	54.0	-9.4	1.33 V	360	35.80	8.80
7	#10420.00	55.0 PK	74.0	-19.0	1.15 V	72	40.43	14.57
8	#10420.00	43.9 AV	54.0	-10.1	1.15 V	72	29.33	14.57
9	15630.00	57.4 PK	74.0	-16.6	1.20 V	78	38.47	18.93
10	15630.00	44.2 AV	54.0	-9.8	1.20 V	78	25.27	18.93

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 155	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	#5715.00	55.3 PK	74.0	-18.7	1.44 H	168	45.62	9.68
2	#5715.00	45.2 AV	54.0	-8.8	1.44 H	168	35.52	9.68
3	#5725.00	58.4 PK	78.2	-19.8	1.44 H	168	48.70	9.70
4	*5775.00	100.2 PK			1.44 H	168	90.37	9.83
5	*5775.00	90.3 AV			1.44 H	168	80.47	9.83
6	#5850.00	59.3 PK	78.2	-18.9	1.44 H	168	49.38	9.92
7	#5860.00	54.4 PK	74.0	-19.6	1.44 H	168	44.47	9.93
8	#5860.00	41.2 AV	54.0	-12.8	1.44 H	168	31.27	9.93
9	11550.00	52.2 PK	74.0	-21.8	1.22 H	249	37.11	15.09
10	11550.00	46.0 AV	54.0	-8.0	1.22 H	249	30.91	15.09
11	#17325.00	59.7 PK	74.0	-14.3	1.41 H	244	36.32	23.38
12	#17325.00	41.2 AV	54.0	-12.8	1.41 H	244	17.82	23.38

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	#5715.00	60.7 PK	74.0	-13.3	1.01 V	320	51.02	9.68
2	#5715.00	50.6 AV	54.0	-3.4	1.01 V	320	40.92	9.68
3	#5725.00	63.9 PK	78.2	-14.3	1.01 V	320	54.20	9.70
4	*5775.00	105.7 PK			1.01 V	320	95.87	9.83
5	*5775.00	95.4 AV			1.01 V	320	85.57	9.83
6	#5850.00	64.8 PK	78.2	-13.4	1.01 V	320	54.88	9.92
7	#5860.00	59.9 PK	74.0	-14.1	1.01 V	320	49.97	9.93
8	#5860.00	46.5 AV	54.0	-7.5	1.01 V	320	36.57	9.93
9	11550.00	55.3 PK	74.0	-18.7	1.22 V	89	40.21	15.09
10	11550.00	43.7 AV	54.0	-10.3	1.22 V	89	28.61	15.09
11	#17325.00	57.7 PK	74.0	-16.3	1.18 V	75	34.32	23.38
12	#17325.00	44.8 AV	54.0	-9.2	1.18 V	75	21.42	23.38

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 Data:

802.11a

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	Below 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	310.52	36.7 QP	46.0	-9.3	1.50 H	360	43.14	-6.43
2	375.01	38.5 QP	46.0	-7.5	1.00 H	360	43.15	-4.68
3	499.99	38.2 QP	46.0	-7.8	2.00 H	143	39.91	-1.73
4	625.00	38.1 QP	46.0	-7.9	1.00 H	360	36.66	1.40
5	749.98	36.1 QP	46.0	-9.9	2.00 H	126	32.26	3.83
6	874.99	36.8 QP	46.0	-9.2	1.00 H	360	31.48	5.35

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	155.59	34.9 QP	43.5	-8.6	1.50 V	360	42.57	-7.66
2	258.34	37.8 QP	46.0	-8.2	1.50 V	37	46.26	-8.48
3	375.01	35.8 QP	46.0	-10.2	1.50 V	268	40.47	-4.68
4	499.99	36.6 QP	46.0	-9.4	1.50 V	182	38.29	-1.73
5	625.00	37.2 QP	46.0	-8.8	1.00 V	118	35.82	1.40
6	749.98	34.0 QP	46.0	-12.0	1.50 V	319	30.14	3.83

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 (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	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.

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	100375	May 06, 2015	May 05, 2016
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-522	Sep. 01, 2015	Aug. 31, 2016
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 11, 2015	June 10, 2016
RF Cable	5D-FB	COCCAB-001	Mar. 09, 2015	Mar. 08, 2016
50 ohms Terminator	N/A	EMC-03	Sep. 23, 2015	Sep. 22, 2016
50 ohms Terminator	N/A	EMC-02	Oct. 01, 2015	Sep. 30, 2016
Software BVADT	BVADT_Cond_ V7.3.7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
- 3 The VCCI Con C Registration No. is C-3611.
- 4 Tested Date: Dec. 29 to 30, 2015

4.2.3 Test Procedure

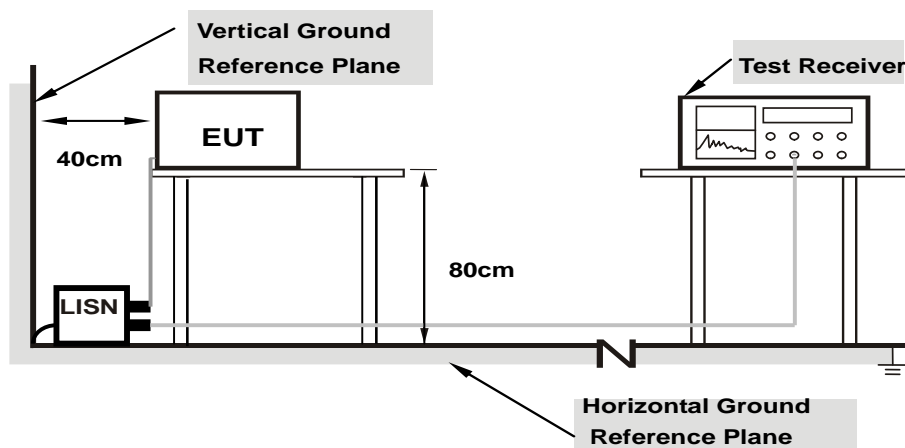
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

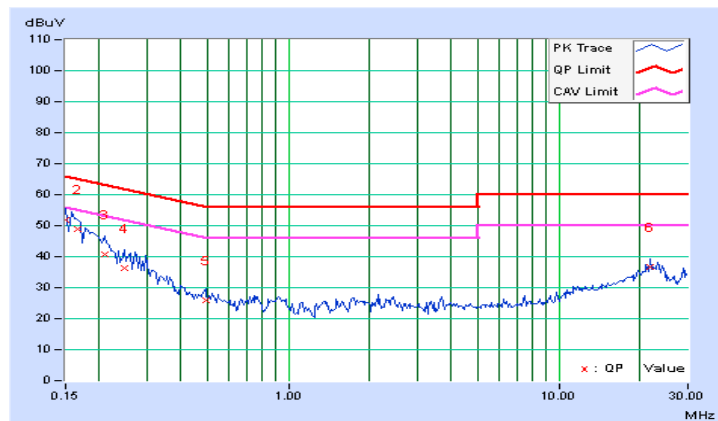
4.2.7 Test Results (Mode 1)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	
1	0.15000	10.26	41.72	25.38	51.98	35.64	66.00	56.00	-14.02	-20.36
2	0.16562	10.25	38.80	25.26	49.05	35.51	65.18	55.18	-16.13	-19.67
3	0.20859	10.22	30.42	16.92	40.64	27.14	63.26	53.26	-22.62	-26.12
4	0.24766	10.22	26.12	14.12	36.34	24.34	61.84	51.84	-25.49	-27.49
5	0.49375	10.23	15.63	10.50	25.86	20.73	56.10	46.10	-30.25	-25.38
6	21.66406	10.94	25.89	22.93	36.83	33.87	60.00	50.00	-23.17	-16.13

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

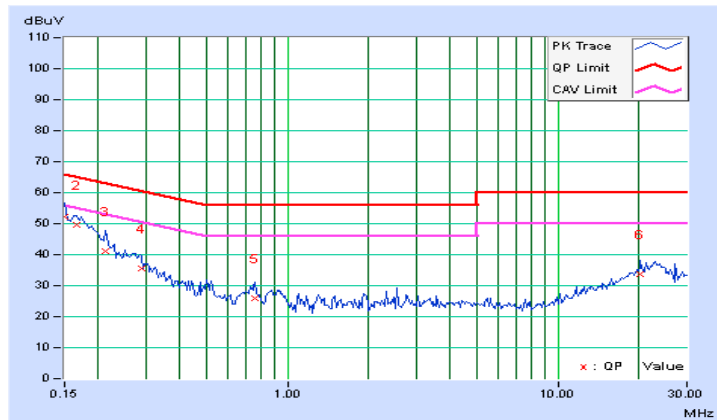


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.24	41.86	25.60	52.10	35.84	66.00	56.00	-13.90	-20.16
2	0.16562	10.23	39.22	25.28	49.45	35.51	65.18	55.18	-15.73	-19.67
3	0.21250	10.20	30.98	15.97	41.18	26.17	63.11	53.11	-21.93	-26.94
4	0.28756	10.21	25.52	17.03	35.73	27.24	60.59	50.59	-24.87	-23.36
5	0.75547	10.18	15.92	11.75	26.10	21.93	56.00	46.00	-29.90	-24.07
6	20.26172	10.95	22.66	18.38	33.61	29.33	60.00	50.00	-26.39	-20.67

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



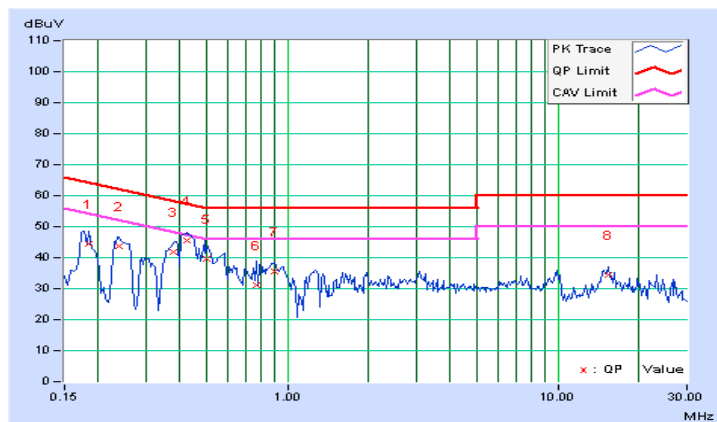
4.2.8 Test Results (Mode 2)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor (dB)	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18516	10.35	34.16	25.87	44.51	36.22	64.25	54.25	-19.74	-18.03
2	0.23984	10.35	33.20	26.01	43.55	36.36	62.10	52.10	-18.56	-15.75
3	0.37656	10.37	31.62	21.29	41.99	31.66	58.35	48.35	-16.37	-16.70
4	0.42734	10.37	35.18	24.27	45.55	34.64	57.30	47.30	-11.76	-12.67
5	0.50000	10.36	29.30	17.86	39.66	28.22	56.00	46.00	-16.34	-17.78
6	0.76719	10.34	20.92	10.09	31.26	20.43	56.00	46.00	-24.74	-25.57
7	0.89219	10.33	25.19	14.86	35.52	25.19	56.00	46.00	-20.48	-20.81
8	15.32422	11.24	23.14	15.64	34.38	26.88	60.00	50.00	-25.62	-23.12

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

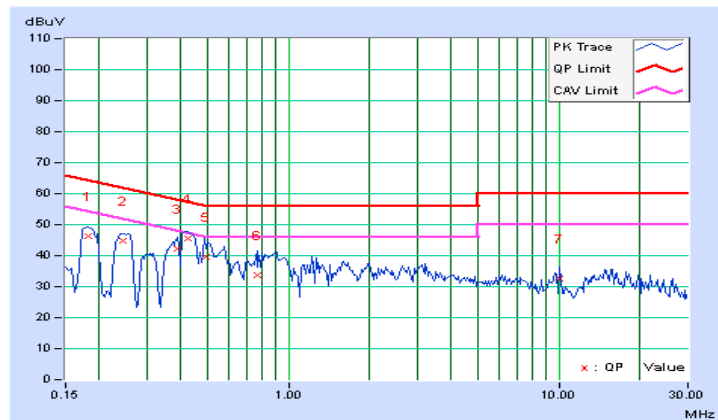


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	
1	0.18125	10.39	35.86	28.43	46.25	38.82	64.43	54.43	-18.18	-15.61
2	0.24375	10.40	34.36	27.02	44.76	37.42	61.97	51.97	-17.21	-14.55
3	0.38828	10.42	31.75	16.30	42.17	26.72	58.10	48.10	-15.93	-21.38
4	0.42344	10.42	35.00	24.81	45.42	35.23	57.38	47.38	-11.96	-12.15
5	0.49659	10.41	29.21	17.59	39.62	28.00	56.06	46.06	-16.43	-18.05
6	0.76328	10.39	23.22	12.90	33.61	23.29	56.00	46.00	-22.39	-22.71
7	10.05469	10.92	21.61	14.86	32.53	25.78	60.00	50.00	-27.47	-24.22

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



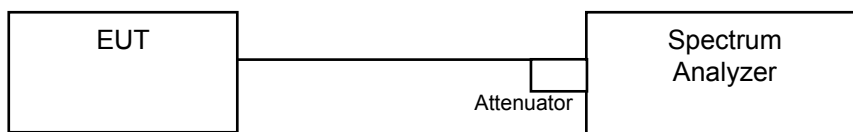
4.3 Transmit Power Measurement

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 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Result

POWER OUTPUT:

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)	Average Power (mW)	Limit (dBm)	Pass / Fail
36	5180	143.219	21.56	30	Pass
40	5200	212.814	23.28	30	Pass
48	5240	184.927	22.67	30	Pass
149	5745	56.105	17.49	30	Pass
157	5785	197.242	22.95	30	Pass
165	5825	110.662	20.44	30	Pass

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)	Average Power (mW)	Limit (dBm)	Pass / Fail
36	5180	170.608	22.32	30	Pass
40	5200	186.209	22.70	30	Pass
48	5240	187.932	22.74	30	Pass
149	5745	58.479	17.67	30	Pass
157	5785	174.985	22.43	30	Pass
165	5825	73.961	18.69	30	Pass

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)	Average Power (mW)	Limit (dBm)	Pass / Fail
38	5190	69.024	18.39	30	Pass
46	5230	179.473	22.54	30	Pass
151	5755	52.845	17.23	30	Pass
159	5795	92.045	19.64	30	Pass

802.11ac (VHT80)

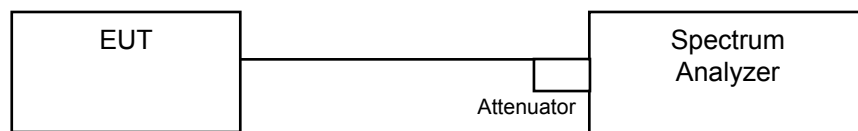
Chan.	Chan. Freq. (MHz)	Average Power (dBm)	Average Power (mW)	Limit (dBm)	Pass / Fail
42	5210	69.502	18.42	30	Pass
155	5775	72.946	18.63	30	Pass

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/ 500kHz

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedure

For U-NII-1 band:

Using method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 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

For U-NII-3:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500\text{ kHz}/300\text{kHz})$
5. Sweep time = auto, trigger set to “free run”.
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Condition

Same as Item 4.3.6.

4.4.7 Test Results

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	MAX. Limit (dBm)	Pass / Fail
36	5180	8.71	17	Pass
40	5200	9.97	17	Pass
48	5240	10.06	17	Pass

802.11ac (VHT20)

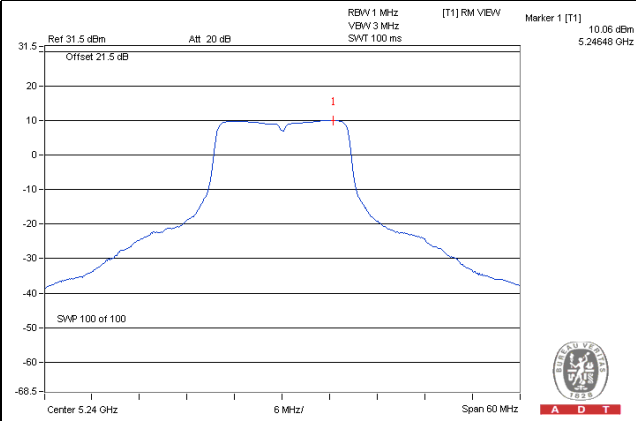
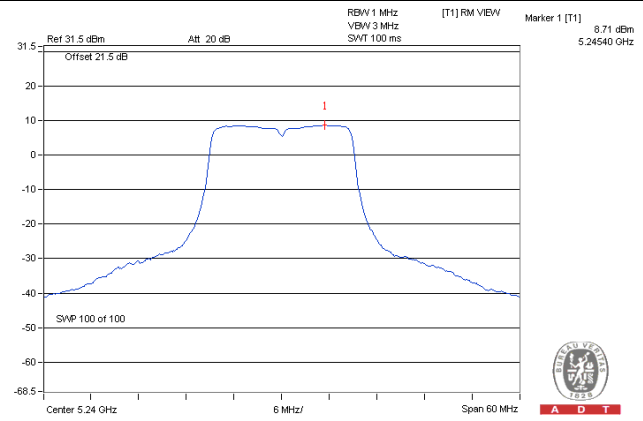
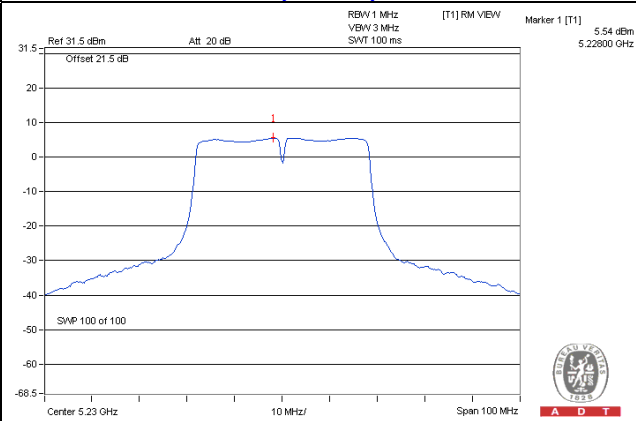
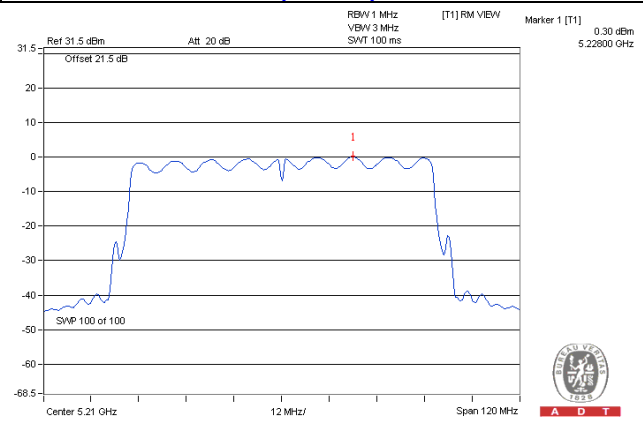
Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	MAX. Limit (dBm)	Pass / Fail
36	5180	7.10	17	Pass
40	5200	8.11	17	Pass
48	5240	8.71	17	Pass

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	MAX. Limit (dBm)	Pass / Fail
38	5190	1.58	17	Pass
46	5230	5.54	17	Pass

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	MAX. Limit (dBm)	Pass / Fail
42	5210	0.30	17	Pass

Spectrum Plot of Worst Value**802.11a – CH 48****802.11ac (VHT20) – CH 48****802.11ac (VHT40) – CH 46****802.11ac (VHT80) – CH 42**

For U-NII-3 Band

802.11a

Chan.	Chan. Freq. (MHz)	PSD		Limit (dBm/500kHz)	Pass /Fail
		(dBm/300kHz)	(dBm/500kHz)		
149	5745	-1.81	0.41	30	Pass
157	5785	1.69	3.91	30	Pass
165	5825	0.01	2.23	30	Pass

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD		Limit (dBm/500kHz)	Pass /Fail
		(dBm/300kHz)	(dBm/500kHz)		
149	5745	-2.23	-0.01	30	Pass
157	5785	1.51	3.73	30	Pass
165	5825	-1.90	0.32	30	Pass

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD		Limit (dBm/500kHz)	Pass /Fail
		(dBm/300kHz)	(dBm/500kHz)		
151	5755	-6.13	-3.91	30	Pass
159	5795	-4.27	-2.05	30	Pass

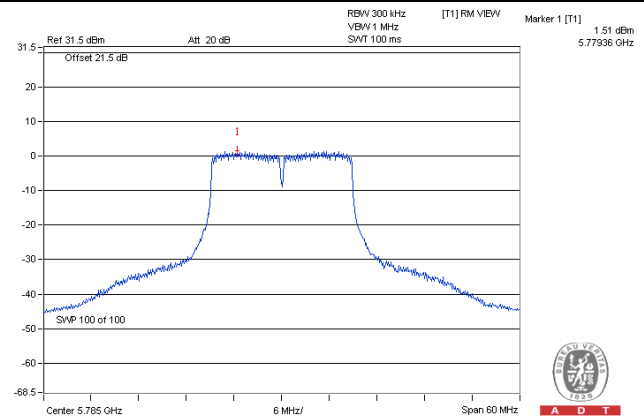
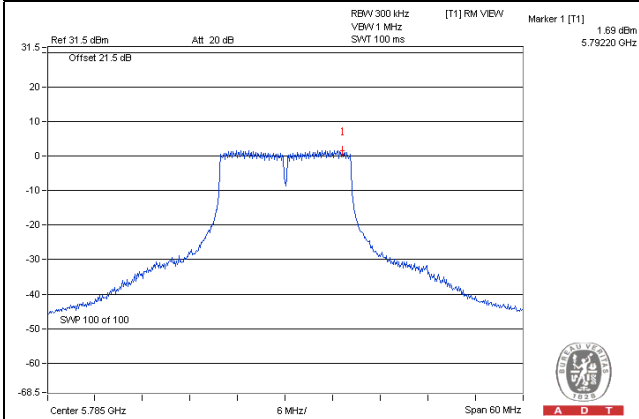
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD		Limit (dBm/500kHz)	Pass /Fail
		(dBm/300kHz)	(dBm/500kHz)		
155	5775	-6.96	-4.74	30	Pass

Spectrum Plot of Worst Value

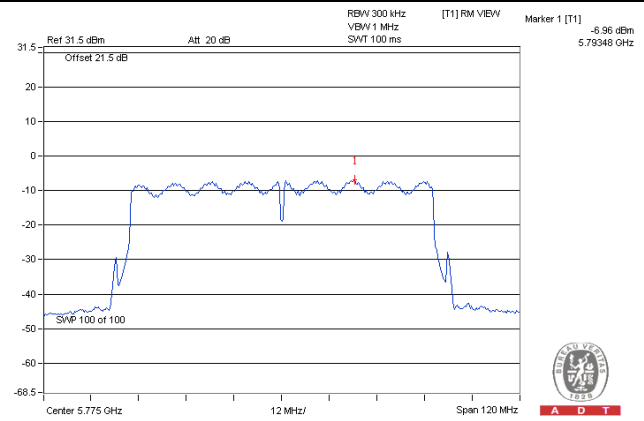
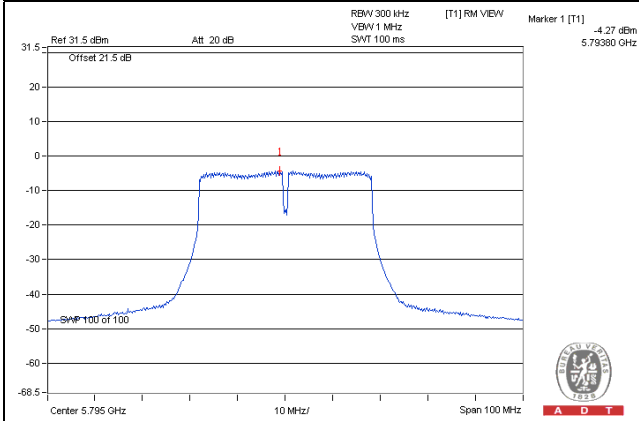
802.11a – CH 157

802.11ac (VHT20) – CH 157



802.11ac (VHT40) – CH 159

802.11ac (VHT80) – CH 155

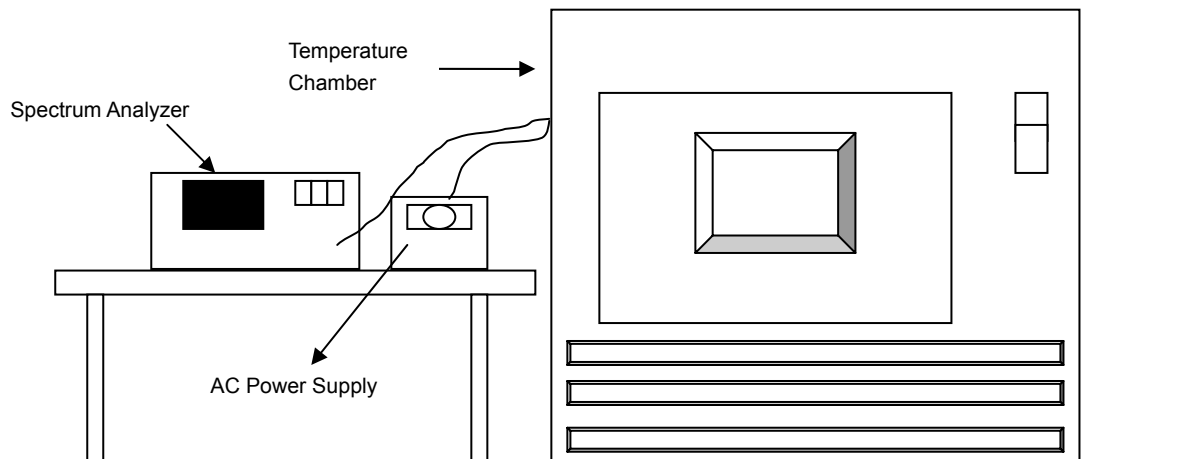


4.5 Frequency Stability Measurement

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 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- 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.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- 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: 5180MHz									
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	5179.9854	-0.00028	5179.9807	-0.00037	5179.9812	-0.00036	5179.9821	-0.00035
40	120	5179.9932	-0.00013	5179.9942	-0.00011	5179.9944	-0.00011	5179.9943	-0.00011
30	120	5180.0093	0.00018	5180.0141	0.00027	5180.012	0.00023	5180.014	0.00027
20	120	5180.0094	0.00018	5180.0082	0.00016	5180.008	0.00015	5180.0119	0.00023
10	120	5179.9956	-0.00008	5179.9952	-0.00009	5179.9964	-0.00007	5179.9969	-0.00006
0	120	5179.9803	-0.00038	5179.9832	-0.00032	5179.9799	-0.00039	5179.984	-0.00031
-10	120	5180.0244	0.00047	5180.0242	0.00047	5180.0236	0.00046	5180.0198	0.00038
-20	120	5180.0192	0.00037	5180.0196	0.00038	5180.0233	0.00045	5180.0207	0.00040
-30	120	5180.0105	0.00020	5180.0093	0.00018	5180.0127	0.00025	5180.0121	0.00023

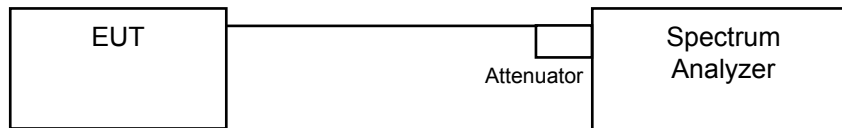
FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5180MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5180.0093	0.00018	5180.0088	0.00017	5180.008	0.00015	5180.0122	0.00024
	120	5180.0094	0.00018	5180.0082	0.00016	5180.008	0.00015	5180.0119	0.00023
	102	5180.0103	0.00020	5180.0073	0.00014	5180.0082	0.00016	5180.0129	0.00025

4.6 6dB Bandwidth Measurement

4.6.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.61	0.5	Pass
157	5785	16.61	0.5	Pass
165	5825	16.62	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.80	0.5	Pass
157	5785	17.82	0.5	Pass
165	5825	17.81	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	36.63	0.5	Pass
159	5795	36.60	0.5	Pass

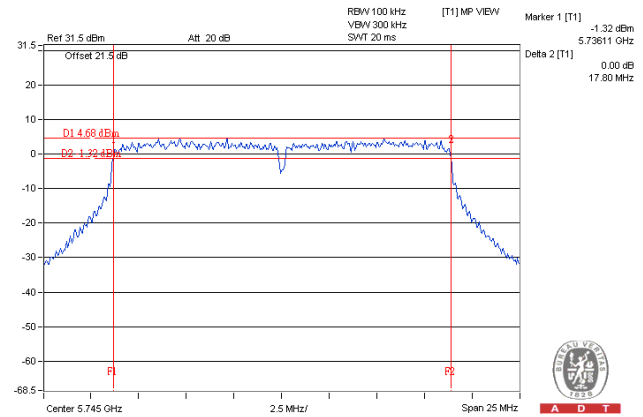
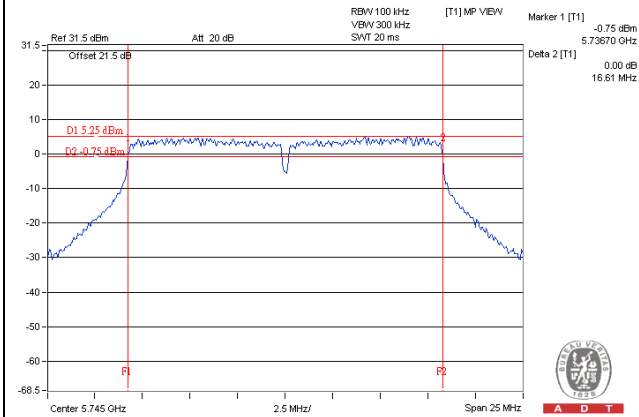
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	76.67	0.5	Pass

Spectrum Plot of Worst Value

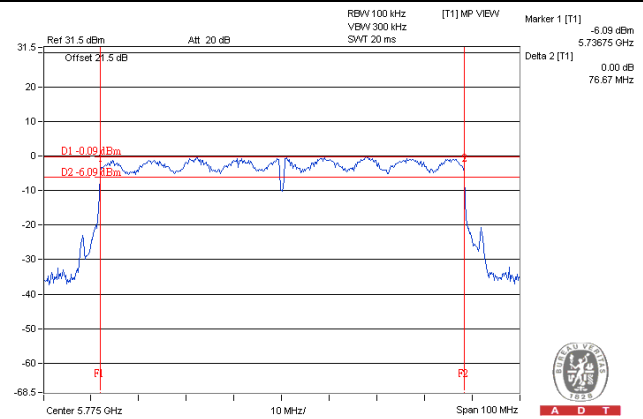
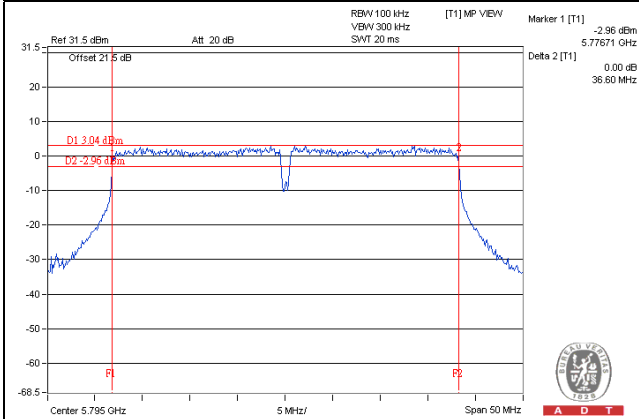
802.11a – CH 149

802.11ac (VHT20) – CH 149



802.11ac (VHT40) – CH 159

802.11ac (VHT80) – CH 155



5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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The address and road map of all our labs can be found in our web site also.

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