FCC Test Report (WLAN-15.407)

Report No.: RF141225E06-1

FCC ID: MCLT77H566

Test Model: T77H566

Received Date: Dec. 24, 2014

Test Date: Dec. 24, 2014 to Jan. 21, 2015

Issued Date: Feb. 10, 2015

Applicant: HON HAI PRECISION IND.CO.,LTD

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory

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Release Control Record

Issue No.	Description	Date Issued
RF141225E06-1	Original release.	Feb. 10, 2015

1 Certificate of Conformity

Product: WiFi/BT Module

Brand: FOXCONN

Test Model: T77H566

Sample Status: ENGINEERING SAMPLE

Applicant: HON HAI PRECISION IND.CO.,LTD

Test Date: Dec. 24, 2014 to Jan. 21, 2015

Standards: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10:2009

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:** Feb. 10, 2015
Lori Chung / Specialist

Approved by : _____ , **Date:** Feb. 10, 2015
May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (SECTION 15.407 Under New Rule)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -16.16dB at 2.02734MHz.
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, 5725.00MHz, 5470.00MHz & 5715.00MHz
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 i-pex(MHF) not a standard connector.

NOTE: 1. For WLAN: The EUT was operating in 2400 ~ 2483.5MHz, 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz. For the 2400 ~ 2483.5MHz RF parameters was recorded in another test report.

2. The DFS report was recorded in another test report.

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	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.86 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.43 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.72 dB
	6GHz ~ 18GHz	4.00 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 (WLAN)

Product	WiFi/BT Module
Brand	FOXCONN
Test Model	T77H566
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 3.3±10%V from host equipment
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 866.7Mbps
Operating Frequency	**For 15.407** 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.5~5.70GHz, 5.745 ~ 5.825GHz
	For 15.247 2.412 ~ 2.462GHz
Number of Channel	**For 15.407** 24 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 11 for 802.11n (HT40), 802.11ac (VHT40) 5 for 802.11ac (VHT80)
	For 15.247 11 for 802.11b, 802.11g, 802.11n (HT20)
Output Power	**For 15.407** 802.11a: 162.194mW 802.11ac (VHT20): 167.513mW 802.11ac (VHT40): 154.719mW 802.11ac (VHT80): 125.758mW
	For 15.247 802.11b: 231.739mW 802.11g: 378.935mW 802.11n (HT20): 344.836mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. There are Bluetooth 4.0 and WLAN technology used for the EUT.
2. For WLAN, 2.4GHz and 5GHz technology can not transmit at same time.
3. WLAN and Bluetooth technology can transmit at same time.
4. The antennas provided to the EUT, please refer to the following table:

Antenna No	PCB Chain No.	Brand	Model	Gain (dBi)	Antenna Type	Connector Type	Frequency range (GHz to GHz)
1	Chain (0) Main	NA	NA	1.88	PCB	i-pex(MHF)	2.4~2483.5
				2.51			5.15~5.25
				2.27			5.25~5.35
				1.77			5.47~5.725
				1.54			5.725~5.825
2	Chain (1) Aux	NA	NA	1.73	PCB	i-pex(MHF)	2.4~2483.5
				3.02			5.15~5.25
				3.4			5.25~5.35
				2.48			5.47~5.725
				-0.16			5.725~5.825
Note: For Bluetooth configuration mode will fix transmission on Chain (0).							

5. The EUT incorporates a MIMO function, with beamforming for 5GHz.

2.4GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11b	1 ~ 11Mbps	1TX (Diversity)	2RX
802.11g	6 ~ 54Mbps	2TX / 1TX (Diversity)	2RX
802.11n (HT20)	MCS 0~7	2TX / 1TX (Diversity)	2RX
	MCS 8~15	2TX	2RX
5GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11a	6 ~ 54Mbps	2TX / 1TX (Diversity)	2RX
802.11n (HT20)	MCS 0~7	2TX / 1TX (Diversity)	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX / 1TX (Diversity)	2RX
	MCS 8~15	2TX	2RX
802.11ac (VHT20)	MCS0~8 Nss= 1	2TX / 1TX (Diversity)	2RX
	MCS0~8 Nss= 2	2TX	2RX
802.11ac (VHT40)	MCS0~9 Nss= 1	2TX / 1TX (Diversity)	2RX
	MCS0~9 Nss= 2	2TX	2RX
802.11ac (VHT80)	MCS0~9 Nss= 1	2TX / 1TX (Diversity)	2RX
	MCS0~9 Nss= 2	2TX	2RX

* 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. WLAN/BT coexistence mode:

Condition	Technology	
1	WLAN(2.4GHz) 1TX only	BT
2	WLAN(5GHz) 2TX only	BT

From above coexistence mode, emission of the simultaneous operation has been evaluated and no non-compliance was found.

- 1x1 WLAN (2.4GHz) + BT: timely shared coexistence.
- 2x2 WLAN (5GHz) + BT: transmit concurrent with BT

7. 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 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

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≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

NOTE:
1. The EUT's antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on X-plane (for below 1GHz) and Z-plane (for above 1GHz).

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	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)		106	106	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	5180-5320	36 to 64	60	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	5180-5320	36 to 64	60	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	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)		106	106	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

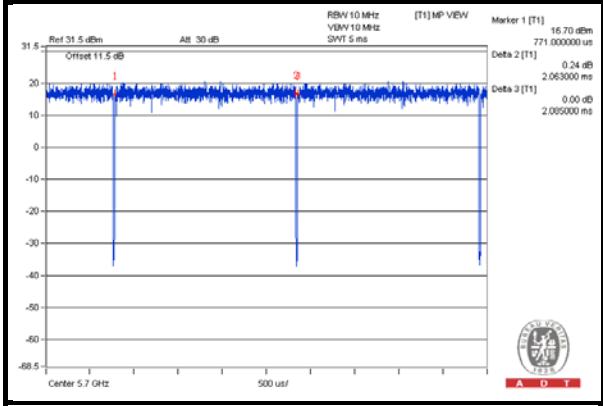
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	23deg. C, 66%RH 20deg. C, 68%RH	120Vac, 60Hz	Robert Cheng
RE<1G	23deg. C, 69%RH	120Vac, 60Hz	Gary Cheng
PLC	25deg. C, 65%RH	120Vac, 60Hz	Barry Lee
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

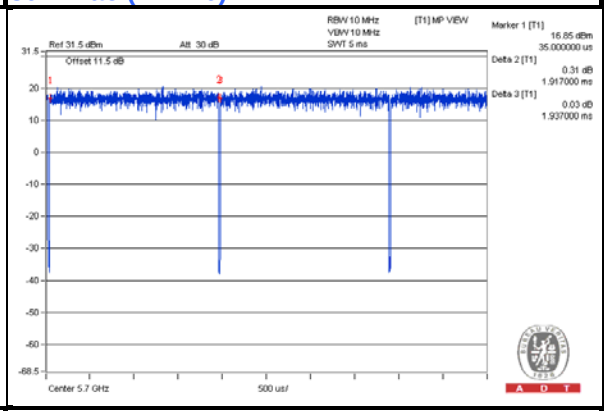
3.3 Duty Cycle of Test Signal

If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.
802.11a: Duty cycle = 2.063 ms/2.085 ms = 0.989
802.11ac (VHT20): Duty cycle = 1.917 ms/1.937 ms = 0.99
802.11ac (VHT40): Duty cycle = 0.942 ms/0.962 ms = 0.979, Duty factor = 10 * log(1/0.979) = 0.09
802.11ac (VHT80): Duty cycle = 0.459 ms/0.48 ms = 0.956, Duty factor = 10 * log(1/0.956) = 0.19

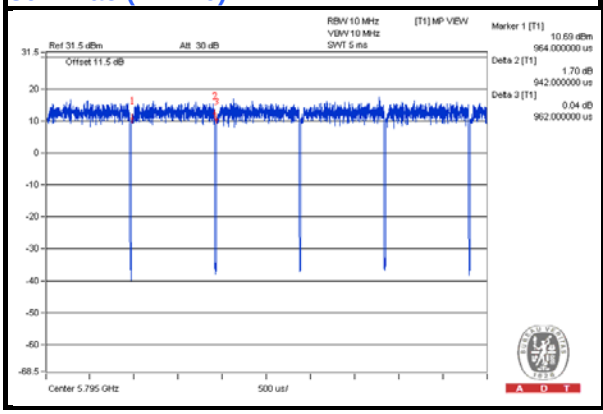
802.11a



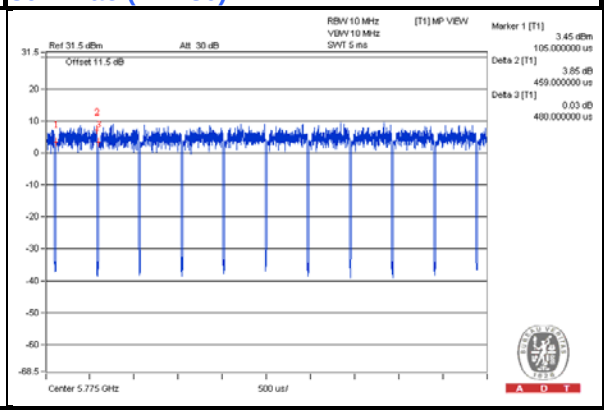
802.11ac (VHT20)



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.

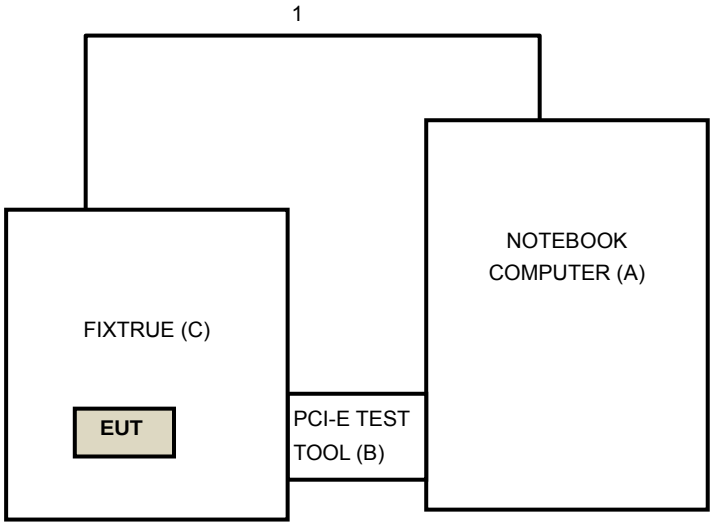
No.	Product	Brand	Model No.	Serial No.	FCC ID	Remark
A	NOTEBOOK COMPUTER	DELL	E6420	482T3R1	FCC DoC	Provided by Lab
B	PCI-E TEST TOOL	FOXCONN	NA	NA	NA	Supplied by client
C	FIXTRUE	FOXCONN	NA	NA	NA	Supplied by client

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	Mini USB	1	1.8	No	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)
789033 D02 General UNII Test Procedures New Rules v01
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2009

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

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. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

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:

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

4.1.2 Test Instruments

Below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY50010156	Aug. 11, 2014	Aug. 10, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 27, 2014	Feb. 26, 2015
RF Cable	NA	CHHCAB_001	Oct. 05, 2014	Oct. 04, 2015
Horn_Antenna AISI	AIH.8018	0000220091110	Aug. 26, 2014	Aug. 25, 2015
Pre-Amplifier Agilent	8449B	300801923	Oct. 28, 2014	Oct. 27, 2015
RF Cable	NA	131206 131215 SNMY23685/4	Jan. 17, 2014	Jan. 16, 2015
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier EMCI	EMC184045	980143	Jan. 17, 2014	Jan. 16, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Aug. 26, 2014	Aug. 25, 2015
RF Cable	NA	RF104-121 RF104-204	Dec. 11, 2014	Dec. 10, 2015
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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5 The CANADA Site Registration No. is IC 7450H-3.
6 Tested Date: Dec. 24, 2014

Above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY50010156	Aug. 11, 2014	Aug. 10, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 27, 2014	Feb. 26, 2015
RF Cable	NA	CHHCAB_001	Oct. 05, 2014	Oct. 04, 2015
Horn_Antenna AISI	AIH.8018	0000220091110	Aug. 26, 2014	Aug. 25, 2015
Pre-Amplifier Agilent	8449B	300801923	Oct. 28, 2014	Oct. 27, 2015
RF Cable	NA	131206 131215 SNMY23685/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier EMCI	EMC184045	980143	Jan. 16, 2015	Jan. 15, 2016
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Aug. 26, 2014	Aug. 25, 2015
RF Cable	NA	RF104-121 RF104-204	Dec. 11, 2014	Dec. 10, 2015
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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5 The CANADA Site Registration No. is IC 7450H-3.
6 Tested Date: Jan. 20 to 21, 2015

4.1.3 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters 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:

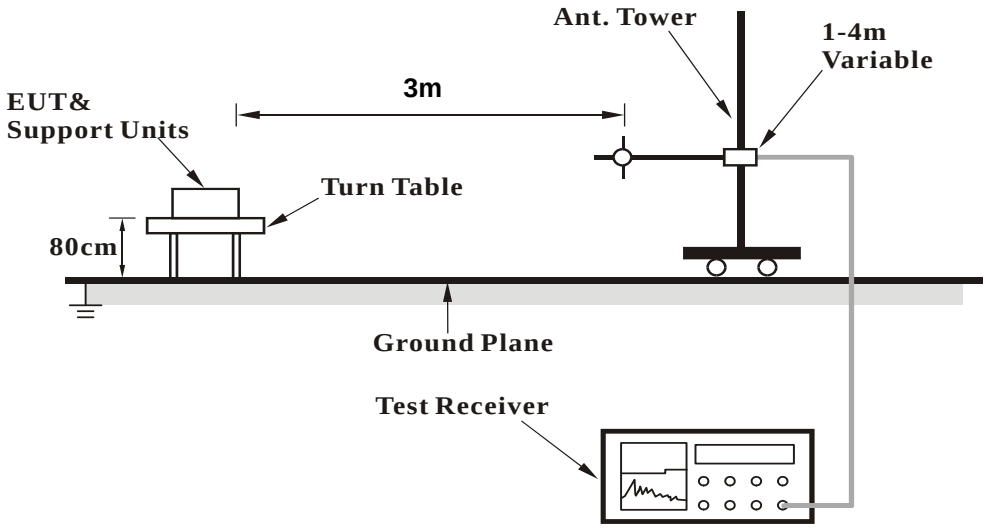
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 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

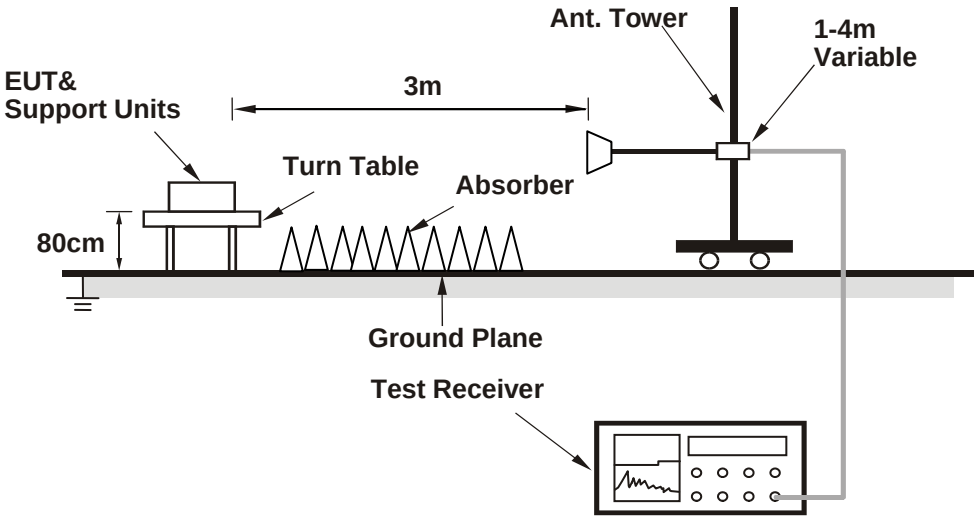
No deviation.

4.1.5 Test Set Up

<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 Conditions

1. Connect the EUT with the support unit A (Notebook computer) which is placed on a testing table.
2. The communication partner run test program “MTOOL 2.0.2.1.msi” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.1.7 Test Results

ABOVE 1GHz DATA

802.11a

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

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	4750.00	50.5 PK	74.0	-23.5	1.10 H	97	45.16	5.34
2	4750.00	39.4 AV	54.0	-14.6	1.10 H	97	34.06	5.34
3	5150.00	60.8 PK	74.0	-13.2	1.00 H	99	54.00	6.80
4	5150.00	46.6 AV	54.0	-7.4	1.00 H	99	39.80	6.80
5	*5180.00	105.6 PK			1.00 H	100	98.65	6.95
6	*5180.00	96.1 AV			1.00 H	100	89.15	6.95
7	#10360.00	56.5 PK	74.0	-17.5	1.00 H	360	43.39	13.11
8	#10360.00	44.2 AV	54.0	-9.8	1.00 H	360	31.09	13.11
9	15540.00	62.6 PK	74.0	-11.4	1.00 H	0	43.91	18.69
10	15540.00	50.4 AV	54.0	-3.6	1.00 H	0	31.71	18.69
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	4750.00	51.5 PK	74.0	-22.5	1.00 V	360	46.16	5.34
2	4750.00	40.1 AV	54.0	-13.9	1.00 V	360	34.76	5.34
3	5150.00	72.1 PK	74.0	-1.9	1.00 V	4	65.30	6.80
4	5150.00	53.2 AV	54.0	-0.8	1.00 V	4	46.40	6.80
5	*5180.00	110.3 PK			1.01 V	11	103.35	6.95
6	*5180.00	100.2 AV			1.01 V	11	93.25	6.95
7	#10360.00	60.2 PK	74.0	-13.8	1.46 V	12	47.09	13.11
8	#10360.00	47.7 AV	54.0	-6.3	1.46 V	12	34.59	13.11
9	15540.00	62.8 PK	74.0	-11.2	1.00 V	360	44.11	18.69
10	15540.00	50.6 AV	54.0	-3.4	1.00 V	360	31.91	18.69

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	4768.00	52.8 PK	74.0	-21.2	1.24 H	278	47.36	5.44
2	4768.00	39.9 AV	54.0	-14.1	1.24 H	278	34.46	5.44
3	5150.00	58.6 PK	74.0	-15.4	1.24 H	278	51.80	6.80
4	5150.00	47.2 AV	54.0	-6.8	1.24 H	278	40.40	6.80
5	*5200.00	107.4 PK			1.24 H	278	100.35	7.05
6	*5200.00	97.1 AV			1.24 H	278	90.05	7.05
7	#10400.00	57.2 PK	74.0	-16.8	1.00 H	102	43.98	13.22
8	#10400.00	44.5 AV	54.0	-9.5	1.00 H	102	31.28	13.22
9	15600.00	63.2 PK	74.0	-10.8	1.00 H	19	44.50	18.70
10	15600.00	51.4 AV	54.0	-2.6	1.00 H	19	32.70	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	4768.00	51.8 PK	74.0	-22.2	1.00 V	0	46.36	5.44
2	4768.00	39.5 AV	54.0	-14.5	1.00 V	0	34.06	5.44
3	5150.00	62.6 PK	74.0	-11.4	1.00 V	360	55.80	6.80
4	5150.00	51.4 AV	54.0	-2.6	1.00 V	360	44.60	6.80
5	*5200.00	111.4 PK			1.00 V	3	104.35	7.05
6	*5200.00	101.2 AV			1.00 V	3	94.15	7.05
7	#10400.00	63.5 PK	74.0	-10.5	1.32 V	360	50.28	13.22
8	#10400.00	50.2 AV	54.0	-3.8	1.32 V	360	36.98	13.22
9	15600.00	64.5 PK	74.0	-9.5	1.00 V	176	45.80	18.70
10	15600.00	50.3 AV	54.0	-3.7	1.00 V	176	31.60	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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	106.3 PK			1.25 H	265	99.14	7.16
2	*5240.00	95.8 AV			1.25 H	265	88.64	7.16
3	#10480.00	60.8 PK	74.0	-13.2	1.07 H	82	47.64	13.16
4	#10480.00	47.3 AV	54.0	-6.7	1.07 H	82	34.14	13.16
5	15720.00	63.2 PK	74.0	-10.8	1.02 H	14	44.80	18.40
6	15720.00	51.6 AV	54.0	-2.4	1.02 H	14	33.20	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	*5240.00	110.8 PK			1.00 V	360	103.64	7.16
2	*5240.00	100.1 AV			1.00 V	360	92.94	7.16
3	#10480.00	63.7 PK	74.0	-10.3	1.31 V	359	50.54	13.16
4	#10480.00	50.6 AV	54.0	-3.4	1.31 V	359	37.44	13.16
5	15720.00	62.7 PK	74.0	-11.3	1.05 V	360	44.30	18.40
6	15720.00	50.4 AV	54.0	-3.6	1.05 V	360	32.00	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 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5260.00	104.9 PK			1.19 H	265	97.72	7.18
2	*5260.00	94.5 AV			1.19 H	265	87.32	7.18
3	#10520.00	60.1 PK	74.0	-13.9	1.07 H	79	46.88	13.22
4	#10520.00	47.5 AV	54.0	-6.5	1.07 H	79	34.28	13.22
5	15780.00	62.9 PK	74.0	-11.1	1.00 H	21	44.39	18.51
6	15780.00	51.2 AV	54.0	-2.8	1.00 H	21	32.69	18.51
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	*5260.00	108.9 PK			1.00 V	360	101.72	7.18
2	*5260.00	98.3 AV			1.00 V	360	91.12	7.18
3	#10520.00	63.6 PK	74.0	-10.4	1.29 V	360	50.38	13.22
4	#10520.00	50.5 AV	54.0	-3.5	1.29 V	360	37.28	13.22
5	15780.00	63.3 PK	74.0	-10.7	1.00 V	358	44.79	18.51
6	15780.00	51.1 AV	54.0	-2.9	1.00 V	358	32.59	18.51

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	103.0 PK			1.17 H	276	95.71	7.29
2	*5300.00	93.3 AV			1.17 H	276	86.01	7.29
3	10600.00	60.1 PK	74.0	-13.9	1.09 H	95	46.57	13.53
4	10600.00	48.2 AV	54.0	-5.8	1.09 H	95	34.67	13.53
5	15900.00	62.9 PK	74.0	-11.1	1.08 H	33	44.25	18.65
6	15900.00	51.4 AV	54.0	-2.6	1.08 H	33	32.75	18.65
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	107.8 PK			1.11 V	360	100.51	7.29
2	*5300.00	97.8 AV			1.11 V	360	90.51	7.29
3	10600.00	63.7 PK	74.0	-10.3	1.34 V	360	50.17	13.53
4	10600.00	50.3 AV	54.0	-3.7	1.34 V	360	36.77	13.53
5	15900.00	63.3 PK	74.0	-10.7	1.05 V	350	44.65	18.65
6	15900.00	51.1 AV	54.0	-2.9	1.05 V	350	32.45	18.65

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	104.5 PK			1.00 H	34	97.12	7.38
2	*5320.00	94.7 AV			1.00 H	34	87.32	7.38
3	5350.00	68.5 PK	74.0	-5.5	1.00 H	33	61.01	7.49
4	5350.00	51.0 AV	54.0	-3.0	1.00 H	33	43.51	7.49
5	10640.00	61.2 PK	74.0	-12.8	1.14 H	95	47.57	13.63
6	10640.00	49.2 AV	54.0	-4.8	1.14 H	95	35.57	13.63
7	15960.00	63.7 PK	74.0	-10.3	1.05 H	11	45.09	18.61
8	15960.00	51.8 AV	54.0	-2.2	1.05 H	11	33.19	18.61
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	109.5 PK			1.01 V	77	102.12	7.38
2	*5320.00	99.0 AV			1.01 V	77	91.62	7.38
3	5350.00	71.3 PK	74.0	-2.7	1.00 V	77	63.81	7.49
4	5350.00	53.8 AV	54.0	-0.2	1.00 V	77	46.31	7.49
5	10640.00	63.3 PK	74.0	-10.7	1.34 V	360	49.67	13.63
6	10640.00	49.8 AV	54.0	-4.2	1.34 V	360	36.17	13.63
7	15960.00	62.3 PK	74.0	-11.7	1.05 V	360	43.69	18.61
8	15960.00	50.2 AV	54.0	-3.8	1.05 V	360	31.59	18.61

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5470.00	70.9 PK	74.0	-3.1	1.27 H	279	62.97	7.93
2	#5470.00	51.9 AV	54.0	-2.1	1.27 H	279	43.97	7.93
3	*5500.00	108.9 PK			1.25 H	279	100.88	8.02
4	*5500.00	99.8 AV			1.25 H	279	91.78	8.02
5	11000.00	59.8 PK	74.0	-14.2	1.49 H	92	45.38	14.42
6	11000.00	48.3 AV	54.0	-5.7	1.49 H	92	33.88	14.42
7	#16500.00	63.0 PK	74.0	-11.0	1.00 H	28	42.06	20.94
8	#16500.00	51.2 AV	54.0	-2.8	1.00 H	28	30.26	20.94
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	#5470.00	72.3 PK	74.0	-1.7	1.47 V	40	64.37	7.93
2	#5470.00	53.2 AV	54.0	-0.8	1.47 V	40	45.27	7.93
3	*5500.00	111.2 PK			1.12 V	43	103.18	8.02
4	*5500.00	101.2 AV			1.12 V	43	93.18	8.02
5	11000.00	62.9 PK	74.0	-11.1	1.36 V	360	48.48	14.42
6	11000.00	49.8 AV	54.0	-4.2	1.36 V	360	35.38	14.42
7	#16500.00	62.7 PK	74.0	-11.3	1.05 V	360	41.76	20.94
8	#16500.00	50.7 AV	54.0	-3.3	1.05 V	360	29.76	20.94

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 120	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5470.00	51.5 PK	74.0	-22.5	1.28 H	256	43.57	7.93
2	#5470.00	38.9 AV	54.0	-15.1	1.28 H	256	30.97	7.93
3	*5600.00	108.6 PK			1.28 H	256	100.39	8.21
4	*5600.00	99.3 AV			1.28 H	256	91.09	8.21
5	#5725.00	52.4 PK	74.0	-21.6	1.28 H	256	44.01	8.39
6	#5725.00	42.0 AV	54.0	-12.0	1.28 H	256	33.61	8.39
7	11200.00	59.2 PK	74.0	-14.8	1.48 H	92	44.94	14.26
8	11200.00	47.7 AV	54.0	-6.3	1.48 H	92	33.44	14.26
9	#16800.00	63.1 PK	74.0	-10.9	1.00 H	25	41.80	21.30
10	#16800.00	51.5 AV	54.0	-2.5	1.00 H	25	30.20	21.30
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	#5470.00	51.6 PK	74.0	-22.4	1.07 V	79	43.67	7.93
2	#5470.00	39.2 AV	54.0	-14.8	1.07 V	79	31.27	7.93
3	*5600.00	111.1 PK			1.07 V	79	102.89	8.21
4	*5600.00	100.4 AV			1.07 V	79	92.19	8.21
5	#5725.00	53.0 PK	74.0	-21.0	1.07 V	79	44.61	8.39
6	#5725.00	39.1 AV	54.0	-14.9	1.07 V	79	30.71	8.39
7	11200.00	63.5 PK	74.0	-10.5	1.31 V	360	49.24	14.26
8	11200.00	50.4 AV	54.0	-3.6	1.31 V	360	36.14	14.26
9	#16800.00	62.7 PK	74.0	-11.3	1.05 V	354	41.40	21.30
10	#16800.00	50.3 AV	54.0	-3.7	1.05 V	354	29.00	21.30

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

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	108.5 PK			1.23 H	265	100.15	8.35
2	*5700.00	98.7 AV			1.23 H	265	90.35	8.35
3	#5725.00	69.1 PK	74.0	-4.9	1.23 H	265	60.71	8.39
4	#5725.00	53.2 AV	54.0	-0.8	1.23 H	265	44.81	8.39
5	11400.00	58.5 PK	74.0	-15.5	1.00 H	96	44.08	14.42
6	11400.00	46.7 AV	54.0	-7.3	1.00 H	96	32.28	14.42
7	#17100.00	62.8 PK	74.0	-11.2	1.00 H	32	41.03	21.77
8	#17100.00	51.3 AV	54.0	-2.7	1.00 H	32	29.53	21.77
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	110.9 PK			1.04 V	79	102.55	8.35
2	*5700.00	99.1 AV			1.04 V	79	90.75	8.35
3	#5725.00	68.9 PK	74.0	-5.1	1.03 V	79	60.51	8.39
4	#5725.00	50.8 AV	54.0	-3.2	1.03 V	79	42.41	8.39
5	11400.00	63.8 PK	74.0	-10.2	1.30 V	359	49.38	14.42
6	11400.00	50.7 AV	54.0	-3.3	1.30 V	359	36.28	14.42
7	#17100.00	62.6 PK	74.0	-11.4	1.03 V	355	40.83	21.77
8	#17100.00	50.4 AV	54.0	-3.6	1.03 V	355	28.63	21.77

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	66.2 PK	74.0	-7.8	1.23 H	283	61.30	4.90
2	#5715.00	47.7 AV	54.0	-6.3	1.23 H	283	42.80	4.90
3	#5725.00	72.4 PK	78.2	-5.8	1.23 H	283	67.47	4.93
4	*5745.00	110.0 PK			1.23 H	283	105.08	4.92
5	*5745.00	100.0 AV			1.23 H	283	95.08	4.92
6	11490.00	58.1 PK	74.0	-15.9	1.04 H	103	47.45	10.65
7	11490.00	45.5 AV	54.0	-8.5	1.04 H	103	34.85	10.65
8	#17235.00	63.2 PK	74.0	-10.8	1.05 H	38	43.75	19.45
9	#17235.00	51.6 AV	54.0	-2.4	1.05 H	38	32.15	19.45
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	68.5 PK	74.0	-5.5	1.03 V	16	63.60	4.90
2	#5715.00	53.3 AV	54.0	-0.7	1.03 V	16	48.40	4.90
3	#5725.00	75.7 PK	78.2	-2.5	1.01 V	15	70.77	4.93
4	*5745.00	111.1 PK			1.03 V	16	106.18	4.92
5	*5745.00	100.8 AV			1.03 V	16	95.88	4.92
6	11490.00	64.3 PK	74.0	-9.7	1.28 V	360	53.65	10.65
7	11490.00	50.6 AV	54.0	-3.4	1.28 V	360	39.95	10.65
8	#17235.00	62.9 PK	74.0	-11.1	1.08 V	360	43.45	19.45
9	#17235.00	50.9 AV	54.0	-3.1	1.08 V	360	31.45	19.45

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	1.22 H	281	50.40	4.90
2	#5715.00	41.8 AV	54.0	-12.2	1.22 H	281	36.90	4.90
3	#5725.00	61.0 PK	78.2	-17.2	1.22 H	281	56.07	4.93
4	*5785.00	110.4 PK			1.22 H	281	105.45	4.95
5	*5785.00	100.4 AV			1.22 H	281	95.45	4.95
6	#5850.00	56.8 PK	78.2	-21.4	1.22 H	281	51.78	5.02
7	#5860.00	54.2 PK	74.0	-19.8	1.22 H	281	49.16	5.04
8	#5860.00	41.5 AV	54.0	-12.5	1.22 H	281	36.46	5.04
9	11570.00	57.9 PK	74.0	-16.1	1.06 H	95	47.22	10.68
10	11570.00	45.0 AV	54.0	-9.0	1.06 H	95	34.32	10.68
11	#17355.00	63.4 PK	74.0	-10.6	1.03 H	30	43.64	19.76
12	#17355.00	51.5 AV	54.0	-2.5	1.03 H	30	31.74	19.76

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	#5715.00	57.8 PK	74.0	-16.2	1.00 V	5	52.90	4.90
2	#5715.00	43.5 AV	54.0	-10.5	1.00 V	5	38.60	4.90
3	#5725.00	64.8 PK	78.2	-13.4	1.00 V	15	59.87	4.93
4	*5785.00	110.9 PK			1.00 V	3	105.95	4.95
5	*5785.00	101.3 AV			1.00 V	3	96.35	4.95
6	#5850.00	44.5 PK	78.2	-33.7	1.00 V	3	39.48	5.02
7	#5860.00	56.4 PK	74.0	-17.6	1.00 V	3	51.36	5.04
8	#5860.00	42.3 AV	54.0	-11.7	1.00 V	3	37.26	5.04
9	11570.00	64.1 PK	74.0	-9.9	1.27 V	360	53.42	10.68
10	11570.00	50.5 AV	54.0	-3.5	1.27 V	360	39.82	10.68
11	#17355.00	63.0 PK	74.0	-11.0	1.00 V	360	43.24	19.76
12	#17355.00	50.8 AV	54.0	-3.2	1.00 V	360	31.04	19.76

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.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	110.0 PK			1.19 H	282	105.02	4.98
2	*5825.00	100.5 AV			1.19 H	282	95.52	4.98
3	#5850.00	75.1 PK	78.2	-3.1	1.00 H	264	70.08	5.02
4	#5860.00	62.8 PK	74.0	-11.2	1.00 H	260	57.76	5.04
5	#5860.00	47.9 AV	54.0	-6.1	1.00 H	260	42.86	5.04
6	11650.00	58.5 PK	74.0	-15.5	1.06 H	84	47.91	10.59
7	11650.00	45.5 AV	54.0	-8.5	1.06 H	84	34.91	10.59
8	#17475.00	62.9 PK	74.0	-11.1	1.00 H	24	42.95	19.95
9	#17475.00	51.1 AV	54.0	-2.9	1.00 H	24	31.15	19.95
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	110.4 PK			1.00 V	4	105.42	4.98
2	*5825.00	101.0 AV			1.00 V	4	96.02	4.98
3	#5850.00	77.9 PK	78.2	-0.3	1.00 V	360	72.88	5.02
4	#5860.00	66.2 PK	74.0	-7.8	1.00 V	5	61.16	5.04
5	#5860.00	50.9 AV	54.0	-3.1	1.00 V	5	45.86	5.04
6	11650.00	64.4 PK	74.0	-9.6	1.27 V	360	53.81	10.59
7	11650.00	50.8 AV	54.0	-3.2	1.27 V	360	40.21	10.59
8	#17475.00	62.6 PK	74.0	-11.4	1.02 V	360	42.65	19.95
9	#17475.00	50.5 AV	54.0	-3.5	1.02 V	360	30.55	19.95

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	64.7 PK	74.0	-9.3	1.54 H	267	60.42	4.28
2	5150.00	52.1 AV	54.0	-1.9	1.54 H	267	47.82	4.28
3	*5180.00	108.6 PK			1.47 H	267	104.21	4.39
4	*5180.00	98.4 AV			1.47 H	267	94.01	4.39
5	#10360.00	56.2 PK	74.0	-17.8	1.03 H	360	46.14	10.06
6	#10360.00	43.8 AV	54.0	-10.2	1.03 H	360	33.74	10.06
7	15540.00	62.6 PK	74.0	-11.4	1.04 H	0	47.76	14.84
8	15540.00	50.1 AV	54.0	-3.9	1.04 H	0	35.26	14.84
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	68.1 PK	74.0	-5.9	1.05 V	360	63.82	4.28
2	**5150.00**	**53.9 AV**	**54.0**	**-0.1**	**1.05 V**	**360**	**49.62**	**4.28**
3	*5180.00	110.1 PK			1.17 V	6	105.71	4.39
4	*5180.00	100.5 AV			1.17 V	6	96.11	4.39
5	#10360.00	63.5 PK	74.0	-10.5	1.34 V	360	53.44	10.06
6	#10360.00	50.2 AV	54.0	-3.8	1.34 V	360	40.14	10.06
7	15540.00	64.1 PK	74.0	-9.9	1.03 V	162	49.26	14.84
8	15540.00	50.1 AV	54.0	-3.9	1.03 V	162	35.26	14.84

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	4768.00	52.8 PK	74.0	-21.2	1.28 H	274	48.99	3.81
2	4768.00	40.3 AV	54.0	-13.7	1.28 H	274	36.49	3.81
3	5150.00	57.7 PK	74.0	-16.3	1.26 H	286	53.42	4.28
4	5150.00	46.6 AV	54.0	-7.4	1.26 H	286	42.32	4.28
5	*5200.00	108.3 PK			1.26 H	286	103.86	4.44
6	*5200.00	97.9 AV			1.26 H	286	93.46	4.44
7	#10400.00	57.2 PK	74.0	-16.8	1.02 H	113	47.13	10.07
8	#10400.00	44.3 AV	54.0	-9.7	1.02 H	113	34.23	10.07
9	15600.00	62.6 PK	74.0	-11.4	1.00 H	17	47.54	15.06
10	15600.00	50.9 AV	54.0	-3.1	1.00 H	17	35.84	15.06
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	4768.00	51.9 PK	74.0	-22.1	1.03 V	15	48.09	3.81
2	4768.00	39.4 AV	54.0	-14.6	1.03 V	15	35.59	3.81
3	5150.00	61.8 PK	74.0	-12.2	1.00 V	0	57.52	4.28
4	5150.00	51.3 AV	54.0	-2.7	1.00 V	0	47.02	4.28
5	*5200.00	111.3 PK			1.00 V	0	106.86	4.44
6	*5200.00	101.2 AV			1.00 V	0	96.76	4.44
7	#10400.00	63.2 PK	74.0	-10.8	1.33 V	360	53.13	10.07
8	#10400.00	50.0 AV	54.0	-4.0	1.33 V	360	39.93	10.07
9	15600.00	64.7 PK	74.0	-9.3	1.06 V	169	49.64	15.06
10	15600.00	50.8 AV	54.0	-3.2	1.06 V	169	35.74	15.06

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	107.6 PK			1.20 H	270	103.19	4.41
2	*5240.00	97.7 AV			1.20 H	270	93.29	4.41
3	#10480.00	57.2 PK	74.0	-16.8	1.00 H	116	46.94	10.26
4	#10480.00	44.0 AV	54.0	-10.0	1.00 H	116	33.74	10.26
5	15720.00	62.8 PK	74.0	-11.2	1.05 H	0	48.13	14.67
6	15720.00	50.9 AV	54.0	-3.1	1.05 H	0	36.23	14.67
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	111.4 PK			1.03 V	0	106.99	4.41
2	*5240.00	101.6 AV			1.03 V	0	97.19	4.41
3	#10480.00	63.4 PK	74.0	-10.6	1.28 V	360	53.14	10.26
4	#10480.00	50.0 AV	54.0	-4.0	1.28 V	360	39.74	10.26
5	15720.00	64.7 PK	74.0	-9.3	1.00 V	181	50.03	14.67
6	15720.00	50.4 AV	54.0	-3.6	1.00 V	181	35.73	14.67

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5260.00	107.1 PK			1.23 H	277	102.71	4.39
2	*5260.00	97.2 AV			1.23 H	277	92.81	4.39
3	#10520.00	57.2 PK	74.0	-16.8	1.00 H	128	46.83	10.37
4	#10520.00	43.9 AV	54.0	-10.1	1.00 H	128	33.53	10.37
5	15780.00	62.8 PK	74.0	-11.2	1.06 H	0	48.08	14.72
6	15780.00	50.9 AV	54.0	-3.1	1.06 H	0	36.18	14.72
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	*5260.00	111.3 PK			1.06 V	12	106.91	4.39
2	*5260.00	101.7 AV			1.06 V	12	97.31	4.39
3	#10520.00	63.0 PK	74.0	-11.0	1.31 V	360	52.63	10.37
4	#10520.00	49.9 AV	54.0	-4.1	1.31 V	360	39.53	10.37
5	15780.00	64.3 PK	74.0	-9.7	1.06 V	167	49.58	14.72
6	15780.00	50.0 AV	54.0	-4.0	1.06 V	167	35.28	14.72

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	106.9 PK			1.23 H	282	102.54	4.36
2	*5300.00	97.0 AV			1.23 H	282	92.64	4.36
3	10600.00	56.6 PK	74.0	-17.4	1.00 H	134	45.92	10.68
4	10600.00	43.6 AV	54.0	-10.4	1.00 H	134	32.92	10.68
5	15900.00	62.4 PK	74.0	-11.6	1.10 H	10	47.35	15.05
6	15900.00	50.5 AV	54.0	-3.5	1.10 H	10	35.45	15.05
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	111.4 PK			1.02 V	13	107.04	4.36
2	*5300.00	101.9 AV			1.02 V	13	97.54	4.36
3	10600.00	63.1 PK	74.0	-10.9	1.29 V	360	52.42	10.68
4	10600.00	50.1 AV	54.0	-3.9	1.29 V	360	39.42	10.68
5	15900.00	64.6 PK	74.0	-9.4	1.00 V	160	49.55	15.05
6	15900.00	50.4 AV	54.0	-3.6	1.00 V	160	35.35	15.05

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	105.7 PK			1.61 H	267	101.28	4.42
2	*5320.00	94.6 AV			1.61 H	267	90.18	4.42
3	5350.00	65.9 PK	74.0	-8.1	1.54 H	267	61.39	4.51
4	5350.00	49.0 AV	54.0	-5.0	1.54 H	267	44.49	4.51
5	10640.00	56.9 PK	74.0	-17.1	1.01 H	133	46.27	10.63
6	10640.00	44.0 AV	54.0	-10.0	1.01 H	133	33.37	10.63
7	15960.00	61.8 PK	74.0	-12.2	1.09 H	0	46.83	14.97
8	15960.00	50.3 AV	54.0	-3.7	1.09 H	0	35.33	14.97
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	*5320.00	110.2 PK			1.10 V	360	105.78	4.42
2	*5320.00	99.5 AV			1.10 V	360	95.08	4.42
3	5350.00	70.8 PK	74.0	-3.2	1.10 V	360	66.29	4.51
4	5350.00	53.6 AV	54.0	-0.4	1.10 V	360	49.09	4.51
5	10640.00	63.4 PK	74.0	-10.6	1.35 V	360	52.77	10.63
6	10640.00	49.9 AV	54.0	-4.1	1.35 V	360	39.27	10.63
7	15960.00	64.5 PK	74.0	-9.5	1.03 V	171	49.53	14.97
8	15960.00	50.5 AV	54.0	-3.5	1.03 V	171	35.53	14.97

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.

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

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	#5470.00	70.6 PK	74.0	-3.4	1.47 H	268	65.99	4.61
2	#5470.00	53.4 AV	54.0	-0.6	1.47 H	268	48.79	4.61
3	*5500.00	113.0 PK			1.50 H	267	108.41	4.59
4	*5500.00	104.3 AV			1.50 H	267	99.71	4.59
5	11000.00	56.3 PK	74.0	-17.7	1.02 H	121	45.45	10.85
6	11000.00	43.6 AV	54.0	-10.4	1.02 H	121	32.75	10.85
7	#16500.00	62.0 PK	74.0	-12.0	1.12 H	12	45.01	16.99
8	#16500.00	50.7 AV	54.0	-3.3	1.12 H	12	33.71	16.99
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	#5470.00	65.1 PK	74.0	-8.9	1.20 V	344	60.49	4.61
2	#5470.00	53.1 AV	54.0	-0.9	1.20 V	344	48.49	4.61
3	*5500.00	111.6 PK			1.20 V	344	107.01	4.59
4	*5500.00	100.6 AV			1.20 V	344	96.01	4.59
5	11000.00	63.4 PK	74.0	-10.6	1.27 V	360	52.55	10.85
6	11000.00	49.9 AV	54.0	-4.1	1.27 V	360	39.05	10.85
7	#16500.00	64.8 PK	74.0	-9.2	1.06 V	190	47.81	16.99
8	#16500.00	50.5 AV	54.0	-3.5	1.06 V	190	33.51	16.99

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 120	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5600.00	107.3 PK			1.28 H	289	102.34	4.96
2	*5600.00	97.1 AV			1.28 H	289	92.14	4.96
3	11200.00	55.9 PK	74.0	-18.1	1.02 H	133	45.16	10.74
4	11200.00	42.9 AV	54.0	-11.1	1.02 H	133	32.16	10.74
5	#16800.00	61.3 PK	74.0	-12.7	1.16 H	22	43.08	18.22
6	#16800.00	49.7 AV	54.0	-4.3	1.16 H	22	31.48	18.22
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	*5600.00	110.4 PK			1.00 V	15	105.44	4.96
2	*5600.00	101.5 AV			1.00 V	15	96.54	4.96
3	11200.00	63.9 PK	74.0	-10.1	1.32 V	360	53.16	10.74
4	11200.00	50.4 AV	54.0	-3.6	1.32 V	360	39.66	10.74
5	#16800.00	65.0 PK	74.0	-9.0	1.35 V	180	46.78	18.22
6	#16800.00	50.8 AV	54.0	-3.2	1.35 V	180	32.58	18.22

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

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	107.5 PK			1.40 H	268	102.59	4.91
2	*5700.00	98.7 AV			1.40 H	268	93.79	4.91
3	#5725.00	67.6 PK	74.0	-6.4	1.22 H	264	62.67	4.93
4	#5725.00	53.2 AV	54.0	-0.8	1.22 H	264	48.27	4.93
5	11400.00	55.7 PK	74.0	-18.3	1.02 H	99	45.07	10.63
6	11400.00	43.3 AV	54.0	-10.7	1.02 H	99	32.67	10.63
7	#17100.00	61.2 PK	74.0	-12.8	1.16 H	22	42.65	18.55
8	#17100.00	50.2 AV	54.0	-3.8	1.16 H	22	31.65	18.55
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	109.7 PK			1.03 V	356	104.79	4.91
2	*5700.00	100.0 AV			1.03 V	356	95.09	4.91
3	#5725.00	67.6 PK	74.0	-6.4	1.00 V	360	62.67	4.93
4	#5725.00	52.1 AV	54.0	-1.9	1.00 V	360	47.17	4.93
5	11400.00	63.5 PK	74.0	-10.5	1.37 V	359	52.87	10.63
6	11400.00	50.1 AV	54.0	-3.9	1.37 V	359	39.47	10.63
7	#17100.00	64.1 PK	74.0	-9.9	1.00 V	170	45.55	18.55
8	#17100.00	50.2 AV	54.0	-3.8	1.00 V	170	31.65	18.55

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	69.6 PK	74.0	-4.4	1.45 H	275	64.70	4.90
2	**#5715.00**	**53.9 AV**	**54.0**	**-0.1**	**1.45 H**	**275**	**49.00**	**4.90**
3	**#5725.00**	**78.1 PK**	**78.2**	**-0.1**	**1.45 H**	**274**	**73.17**	**4.93**
4	*5745.00	112.9 PK			1.46 H	274	107.98	4.92
5	*5745.00	103.6 AV			1.46 H	274	98.68	4.92
6	11490.00	62.7 PK	74.0	-11.3	1.29 H	360	52.05	10.65
7	11490.00	46.9 AV	54.0	-7.1	1.29 H	360	36.25	10.65
8	#17235.00	63.8 PK	74.0	-10.2	1.01 H	144	44.35	19.45
9	#17235.00	49.5 AV	54.0	-4.5	1.01 H	144	30.05	19.45
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	65.9 PK	74.0	-8.1	1.07 V	356	61.00	4.90
2	#5715.00	50.3 AV	54.0	-3.7	1.07 V	356	45.40	4.90
3	#5725.00	76.1 PK	78.2	-2.1	1.07 V	356	71.17	4.93
4	*5745.00	109.1 PK			1.05 V	359	104.18	4.92
5	*5745.00	99.1 AV			1.05 V	359	94.18	4.92
6	11490.00	63.2 PK	74.0	-10.8	1.34 V	360	52.55	10.65
7	11490.00	50.1 AV	54.0	-3.9	1.34 V	360	39.45	10.65
8	#17235.00	63.4 PK	74.0	-10.6	1.00 V	155	43.95	19.45
9	#17235.00	49.6 AV	54.0	-4.4	1.00 V	155	30.15	19.45

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	59.4 PK	74.0	-14.6	1.45 H	271	54.50	4.90
2	#5715.00	47.5 AV	54.0	-6.5	1.45 H	271	42.60	4.90
3	#5725.00	60.2 PK	78.2	-18.0	1.45 H	271	55.27	4.93
4	*5785.00	113.5 PK			1.51 H	272	108.55	4.95
5	*5785.00	104.3 AV			1.51 H	272	99.35	4.95
6	#5850.00	59.1 PK	78.2	-19.1	1.45 H	274	54.08	5.02
7	#5860.00	58.1 PK	74.0	-15.9	1.45 H	274	53.06	5.04
8	#5860.00	45.6 AV	54.0	-8.4	1.45 H	274	40.56	5.04
9	11570.00	63.3 PK	74.0	-10.7	1.29 H	360	52.62	10.68
10	11570.00	47.3 AV	54.0	-6.7	1.29 H	360	36.62	10.68
11	#17355.00	64.2 PK	74.0	-9.8	1.00 H	143	44.44	19.76
12	#17355.00	49.6 AV	54.0	-4.4	1.00 H	143	29.84	19.76

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	#5715.00	56.7 PK	74.0	-17.3	1.06 V	14	51.80	4.90
2	#5715.00	49.3 AV	54.0	-4.7	1.06 V	14	44.40	4.90
3	#5725.00	64.1 PK	78.2	-14.1	1.06 V	14	59.17	4.93
4	*5785.00	110.6 PK			1.06 V	14	105.65	4.95
5	*5785.00	101.3 AV			1.06 V	14	96.35	4.95
6	#5850.00	43.2 PK	78.2	-35.0	1.06 V	14	38.18	5.02
7	#5860.00	56.0 PK	74.0	-18.0	1.06 V	14	50.96	5.04
8	#5860.00	43.4 AV	54.0	-10.6	1.06 V	14	38.36	5.04
9	11570.00	63.9 PK	74.0	-10.1	1.25 V	360	53.22	10.68
10	11570.00	50.3 AV	54.0	-3.7	1.25 V	360	39.62	10.68
11	#17355.00	63.4 PK	74.0	-10.6	1.05 V	360	43.64	19.76
12	#17355.00	50.9 AV	54.0	-3.1	1.05 V	360	31.14	19.76

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.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	112.6 PK			1.47 H	274	107.62	4.98
2	*5825.00	102.5 AV			1.47 H	274	97.52	4.98
3	#5850.00	76.8 PK	78.2	-1.4	1.65 H	271	71.78	5.02
4	#5860.00	73.7 PK	74.0	-0.3	1.65 H	271	68.66	5.04
5	#5860.00	53.6 AV	54.0	-0.4	1.65 H	271	48.56	5.04
6	11650.00	63.4 PK	74.0	-10.6	1.36 H	360	52.81	10.59
7	11650.00	47.5 AV	54.0	-6.5	1.36 H	360	36.91	10.59
8	#17475.00	64.0 PK	74.0	-10.0	1.01 H	142	44.05	19.95
9	#17475.00	49.3 AV	54.0	-4.7	1.01 H	142	29.35	19.95
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	109.7 PK			1.02 V	346	104.72	4.98
2	*5825.00	99.6 AV			1.02 V	346	94.62	4.98
3	#5850.00	74.3 PK	78.2	-3.9	1.02 V	346	69.28	5.02
4	#5860.00	70.6 PK	74.0	-3.4	1.02 V	346	65.56	5.04
5	#5860.00	51.2 AV	54.0	-2.8	1.02 V	346	46.16	5.04
6	11650.00	63.6 PK	74.0	-10.4	1.29 V	360	53.01	10.59
7	11650.00	50.4 AV	54.0	-3.6	1.29 V	360	39.81	10.59
8	#17475.00	63.5 PK	74.0	-10.5	1.06 V	164	43.55	19.95
9	#17475.00	49.5 AV	54.0	-4.5	1.06 V	164	29.55	19.95

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	64.2 PK	74.0	-9.8	1.47 H	255	59.92	4.28
2	5150.00	50.2 AV	54.0	-3.8	1.47 H	255	45.92	4.28
3	*5190.00	103.7 PK			1.42 H	264	99.29	4.41
4	*5190.00	94.1 AV			1.42 H	264	89.69	4.41
5	#10380.00	56.0 PK	74.0	-18.0	1.00 H	110	45.93	10.07
6	#10380.00	43.4 AV	54.0	-10.6	1.00 H	110	33.33	10.07
7	15570.00	61.1 PK	74.0	-12.9	1.10 H	14	46.15	14.95
8	15570.00	50.4 AV	54.0	-3.6	1.10 H	14	35.45	14.95
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	67.6 PK	74.0	-6.4	1.02 V	360	63.32	4.28
2	**5150.00**	**53.9 AV**	**54.0**	**-0.1**	**1.02 V**	**360**	**49.62**	**4.28**
3	*5190.00	106.2 PK			1.00 V	328	101.79	4.41
4	*5190.00	95.7 AV			1.00 V	328	91.29	4.41
5	#10380.00	63.6 PK	74.0	-10.4	1.37 V	360	53.53	10.07
6	#10380.00	47.8 AV	54.0	-6.2	1.37 V	360	37.73	10.07
7	15570.00	64.1 PK	74.0	-9.9	1.00 V	163	49.15	14.95
8	15570.00	49.4 AV	54.0	-4.6	1.00 V	163	34.45	14.95

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	60.9 PK	74.0	-13.1	1.28 H	104	56.62	4.28
2	5150.00	47.6 AV	54.0	-6.4	1.28 H	104	43.32	4.28
3	*5230.00	104.4 PK			1.28 H	104	99.98	4.42
4	*5230.00	97.0 AV			1.28 H	104	92.58	4.42
5	5350.00	62.4 PK	74.0	-11.6	1.28 H	104	57.89	4.51
6	5350.00	42.0 AV	54.0	-12.0	1.28 H	104	37.49	4.51
7	#10460.00	55.4 PK	74.0	-18.6	1.03 H	96	45.19	10.21
8	#10460.00	43.1 AV	54.0	-10.9	1.03 H	96	32.89	10.21
9	15690.00	61.3 PK	74.0	-12.7	1.20 H	35	46.62	14.68
10	15690.00	50.1 AV	54.0	-3.9	1.20 H	35	35.42	14.68
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	5150.00	62.3 PK	74.0	-11.7	1.18 V	20	58.02	4.28
2	5150.00	53.7 AV	54.0	-0.3	1.18 V	20	49.42	4.28
3	*5230.00	107.2 PK			1.00 V	327	102.78	4.42
4	*5230.00	98.2 AV			1.00 V	327	93.78	4.42
5	5350.00	64.5 PK	74.0	-9.5	1.20 V	20	59.99	4.51
6	5350.00	45.0 AV	54.0	-9.0	1.20 V	20	40.49	4.51
7	#10460.00	63.4 PK	74.0	-10.6	1.33 V	360	53.19	10.21
8	#10460.00	47.8 AV	54.0	-6.2	1.33 V	360	37.59	10.21
9	15690.00	63.9 PK	74.0	-10.1	1.00 V	175	49.22	14.68
10	15690.00	49.1 AV	54.0	-4.9	1.00 V	175	34.42	14.68

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

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	60.8 PK	74.0	-13.2	1.26 H	90	56.52	4.28
2	5150.00	41.3 AV	54.0	-12.7	1.26 H	90	37.02	4.28
3	*5270.00	104.7 PK			1.26 H	90	100.32	4.38
4	*5270.00	97.1 AV			1.26 H	90	92.72	4.38
5	5350.00	66.5 PK	74.0	-7.5	1.22 H	96	61.99	4.51
6	5350.00	50.9 AV	54.0	-3.1	1.22 H	96	46.39	4.51
7	#10540.00	55.5 PK	74.0	-18.5	1.00 H	84	45.05	10.45
8	#10540.00	43.4 AV	54.0	-10.6	1.00 H	84	32.95	10.45
9	15810.00	61.2 PK	74.0	-12.8	1.15 H	36	46.42	14.78
10	15810.00	50.3 AV	54.0	-3.7	1.15 H	36	35.52	14.78
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	63.3 PK	74.0	-10.7	1.00 V	300	59.02	4.28
2	5150.00	44.3 AV	54.0	-9.7	1.00 V	300	40.02	4.28
3	*5270.00	107.5 PK			1.00 V	300	103.12	4.38
4	*5270.00	98.5 AV			1.00 V	300	94.12	4.38
5	5350.00	72.3 PK	74.0	-1.7	1.01 V	6	67.79	4.51
6	5350.00	53.8 AV	54.0	-0.2	1.01 V	6	49.29	4.51
7	#10540.00	63.8 PK	74.0	-10.2	1.34 V	360	53.35	10.45
8	#10540.00	48.1 AV	54.0	-5.9	1.34 V	360	37.65	10.45
9	15810.00	64.2 PK	74.0	-9.8	1.00 V	161	49.42	14.78
10	15810.00	49.8 AV	54.0	-4.2	1.00 V	161	35.02	14.78

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

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	104.2 PK			1.23 H	94	99.81	4.39
2	*5310.00	93.5 AV			1.23 H	94	89.11	4.39
3	5350.00	66.8 PK	74.0	-7.2	1.00 H	94	62.29	4.51
4	5350.00	53.5 AV	54.0	-0.5	1.00 H	94	48.99	4.51
5	10620.00	55.3 PK	74.0	-18.7	1.03 H	106	44.65	10.65
6	10620.00	43.2 AV	54.0	-10.8	1.03 H	106	32.55	10.65
7	15930.00	60.9 PK	74.0	-13.1	1.16 H	24	45.89	15.01
8	15930.00	49.9 AV	54.0	-4.1	1.16 H	24	34.89	15.01
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	104.8 PK			1.00 V	18	100.41	4.39
2	*5310.00	94.5 AV			1.00 V	18	90.11	4.39
3	5350.00	66.5 PK	74.0	-7.5	1.35 V	21	61.99	4.51
4	5350.00	52.8 AV	54.0	-1.2	1.35 V	21	48.29	4.51
5	10620.00	63.7 PK	74.0	-10.3	1.32 V	360	53.05	10.65
6	10620.00	48.1 AV	54.0	-5.9	1.32 V	360	37.45	10.65
7	15930.00	64.5 PK	74.0	-9.5	1.00 V	154	49.49	15.01
8	15930.00	49.8 AV	54.0	-4.2	1.00 V	154	34.79	15.01

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5470.00	68.7 PK	74.0	-5.3	1.00 H	102	64.09	4.61
2	#5470.00	53.7 AV	54.0	-0.3	1.00 H	102	49.09	4.61
3	*5510.00	103.2 PK			1.40 H	260	98.57	4.63
4	*5510.00	93.2 AV			1.40 H	260	88.57	4.63
5	11020.00	55.2 PK	74.0	-18.8	1.00 H	100	44.38	10.82
6	11020.00	42.8 AV	54.0	-11.2	1.00 H	100	31.98	10.82
7	#16530.00	61.4 PK	74.0	-12.6	1.19 H	26	44.36	17.04
8	#16530.00	50.7 AV	54.0	-3.3	1.19 H	26	33.66	17.04
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	#5470.00	67.9 PK	74.0	-6.1	1.19 V	7	63.29	4.61
2	#5470.00	52.8 AV	54.0	-1.2	1.19 V	7	48.19	4.61
3	*5510.00	105.4 PK			1.00 V	20	100.77	4.63
4	*5510.00	95.1 AV			1.00 V	20	90.47	4.63
5	11020.00	63.8 PK	74.0	-10.2	1.37 V	360	52.98	10.82
6	11020.00	47.7 AV	54.0	-6.3	1.37 V	360	36.88	10.82
7	#16530.00	64.3 PK	74.0	-9.7	1.02 V	178	47.26	17.04
8	#16530.00	49.8 AV	54.0	-4.2	1.02 V	178	32.76	17.04

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 118	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5470.00	69.1 PK	74.0	-4.9	1.16 H	112	64.49	4.61
2	#5470.00	53.7 AV	54.0	-0.3	1.16 H	112	49.09	4.61
3	*5590.00	109.4 PK			1.16 H	112	104.48	4.92
4	*5590.00	98.7 AV			1.16 H	112	93.78	4.92
5	#5725.00	58.3 PK	74.0	-15.7	1.00 H	110	53.37	4.93
6	#5725.00	45.4 AV	54.0	-8.6	1.00 H	110	40.47	4.93
7	11180.00	55.0 PK	74.0	-19.0	1.03 H	82	44.28	10.72
8	11180.00	43.7 AV	54.0	-10.3	1.03 H	82	32.98	10.72
9	#16770.00	61.3 PK	74.0	-12.7	1.21 H	16	43.26	18.04
10	#16770.00	50.3 AV	54.0	-3.7	1.21 H	16	32.26	18.04
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	#5470.00	56.4 PK	74.0	-17.6	1.15 V	8	51.79	4.61
2	#5470.00	43.2 AV	54.0	-10.8	1.15 V	8	38.59	4.61
3	*5590.00	110.1 PK			1.17 V	9	105.18	4.92
4	*5590.00	100.6 AV			1.17 V	9	95.68	4.92
5	#5725.00	57.2 PK	74.0	-16.8	1.15 V	8	52.27	4.93
6	#5725.00	43.9 AV	54.0	-10.1	1.15 V	8	38.97	4.93
7	11180.00	63.2 PK	74.0	-10.8	1.33 V	360	52.48	10.72
8	11180.00	47.3 AV	54.0	-6.7	1.33 V	360	36.58	10.72
9	#16770.00	64.2 PK	74.0	-9.8	1.00 V	158	46.16	18.04
10	#16770.00	49.7 AV	54.0	-4.3	1.00 V	158	31.66	18.04

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

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	103.0 PK			1.19 H	92	98.07	4.93
2	*5670.00	95.7 AV			1.19 H	92	90.77	4.93
3	#5725.00	71.2 PK	74.0	-2.8	1.00 H	104	66.27	4.93
4	**#5725.00**	**53.9 AV**	**54.0**	**-0.1**	**1.00 H**	**104**	**48.97**	**4.93**
5	11340.00	55.6 PK	74.0	-18.4	1.00 H	88	44.84	10.76
6	11340.00	44.0 AV	54.0	-10.0	1.00 H	88	33.24	10.76
7	#17010.00	61.3 PK	74.0	-12.7	1.14 H	19	42.93	18.37
8	#17010.00	50.4 AV	54.0	-3.6	1.14 H	19	32.03	18.37

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	105.4 PK			1.00 V	280	100.47	4.93
2	*5670.00	97.1 AV			1.00 V	280	92.17	4.93
3	#5725.00	70.2 PK	74.0	-3.8	1.00 V	344	65.27	4.93
4	#5725.00	52.8 AV	54.0	-1.2	1.00 V	344	47.87	4.93
5	11340.00	63.5 PK	74.0	-10.5	1.41 V	360	52.74	10.76
6	11340.00	47.6 AV	54.0	-6.4	1.41 V	360	36.84	10.76
7	#17010.00	64.2 PK	74.0	-9.8	1.00 V	150	45.83	18.37
8	#17010.00	49.5 AV	54.0	-4.5	1.00 V	150	31.13	18.37

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	66.9 PK	74.0	-7.1	1.53 H	105	62.00	4.90
2	#5715.00	53.3 AV	54.0	-0.7	1.53 H	105	48.40	4.90
3	#5725.00	66.4 PK	78.2	-11.8	1.54 H	273	61.47	4.93
4	*5755.00	105.9 PK			1.51 H	273	100.97	4.93
5	*5755.00	95.4 AV			1.51 H	273	90.47	4.93
6	11510.00	62.8 PK	74.0	-11.2	1.31 H	360	52.14	10.66
7	11510.00	46.9 AV	54.0	-7.1	1.31 H	360	36.24	10.66
8	#17265.00	64.0 PK	74.0	-10.0	1.00 H	159	44.48	19.52
9	#17265.00	49.7 AV	54.0	-4.3	1.00 H	159	30.18	19.52
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	68.6 PK	74.0	-5.4	1.13 V	23	63.70	4.90
2	#5715.00	52.8 AV	54.0	-1.2	1.13 V	23	47.90	4.90
3	#5725.00	70.1 PK	78.2	-8.1	1.13 V	23	65.17	4.93
4	*5755.00	99.5 PK			1.51 V	335	94.57	4.93
5	*5755.00	89.3 AV			1.51 V	335	84.37	4.93
6	11510.00	63.6 PK	74.0	-10.4	1.39 V	360	52.94	10.66
7	11510.00	47.3 AV	54.0	-6.7	1.39 V	360	36.64	10.66
8	#17265.00	64.3 PK	74.0	-9.7	1.02 V	163	44.78	19.52
9	#17265.00	50.1 AV	54.0	-3.9	1.02 V	163	30.58	19.52

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	110.7 PK			1.50 H	271	105.74	4.96
2	*5795.00	101.2 AV			1.50 H	271	96.24	4.96
3	#5850.00	68.3 PK	78.2	-9.9	1.46 H	272	63.28	5.02
4	#5860.00	67.4 PK	74.0	-6.6	1.46 H	272	62.36	5.04
5	#5860.00	53.5 AV	54.0	-0.5	1.46 H	272	48.46	5.04
6	11590.00	62.7 PK	74.0	-11.3	1.30 H	360	52.01	10.69
7	11590.00	46.8 AV	54.0	-7.2	1.30 H	360	36.11	10.69
8	#17385.00	64.4 PK	74.0	-9.6	1.00 H	173	44.54	19.86
9	#17385.00	49.9 AV	54.0	-4.1	1.00 H	173	30.04	19.86
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	103.9 PK			1.39 V	101	98.94	4.96
2	*5795.00	93.6 AV			1.39 V	101	88.64	4.96
3	#5850.00	65.2 PK	78.2	-13.0	1.39 V	101	60.18	5.02
4	#5860.00	63.1 PK	74.0	-10.9	1.39 V	101	58.06	5.04
5	#5860.00	47.8 AV	54.0	-6.2	1.39 V	101	42.76	5.04
6	11590.00	63.5 PK	74.0	-10.5	1.35 V	349	52.81	10.69
7	11590.00	48.3 AV	54.0	-5.7	1.35 V	349	37.61	10.69
8	#17385.00	64.4 PK	74.0	-9.6	1.00 V	150	44.54	19.86
9	#17385.00	49.6 AV	54.0	-4.4	1.00 V	150	29.74	19.86

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	66.4 PK	74.0	-7.6	1.12 H	314	62.12	4.28
2	5150.00	52.6 AV	54.0	-1.4	1.12 H	314	48.32	4.28
3	*5210.00	99.6 PK			1.34 H	88	95.17	4.43
4	*5210.00	90.4 AV			1.34 H	88	85.97	4.43
5	#10420.00	55.6 PK	74.0	-18.4	1.00 H	90	45.49	10.11
6	#10420.00	43.9 AV	54.0	-10.1	1.00 H	90	33.79	10.11
7	15630.00	61.6 PK	74.0	-12.4	1.16 H	0	46.66	14.94
8	15630.00	50.5 AV	54.0	-3.5	1.16 H	0	35.56	14.94
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	62.2 PK	74.0	-11.8	1.34 V	264	57.92	4.28
2	5150.00	53.5 AV	54.0	-0.5	1.34 V	264	49.22	4.28
3	*5210.00	101.8 PK			1.03 V	0	97.37	4.43
4	*5210.00	92.3 AV			1.03 V	0	87.87	4.43
5	#10420.00	63.7 PK	74.0	-10.3	1.31 V	357	53.59	10.11
6	#10420.00	46.3 AV	54.0	-7.7	1.31 V	357	36.19	10.11
7	15630.00	64.2 PK	74.0	-9.8	1.00 V	156	49.26	14.94
8	15630.00	48.6 AV	54.0	-5.4	1.00 V	156	33.66	14.94

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

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	99.2 PK			1.35 H	89	94.83	4.37
2	*5290.00	89.9 AV			1.35 H	89	85.53	4.37
3	5350.00	70.5 PK	74.0	-3.5	1.34 H	89	65.99	4.51
4	5350.00	53.8 AV	54.0	-0.2	1.34 H	89	49.29	4.51
5	#10580.00	55.7 PK	74.0	-18.3	1.05 H	89	45.09	10.61
6	#10580.00	44.1 AV	54.0	-9.9	1.05 H	89	33.49	10.61
7	15870.00	62.2 PK	74.0	-11.8	1.11 H	12	47.24	14.96
8	15870.00	51.0 AV	54.0	-3.0	1.11 H	12	36.04	14.96
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	101.5 PK			1.00 V	2	97.13	4.37
2	*5290.00	92.4 AV			1.00 V	2	88.03	4.37
3	5350.00	69.5 PK	74.0	-4.5	1.11 V	345	64.99	4.51
4	5350.00	52.1 AV	54.0	-1.9	1.11 V	345	47.59	4.51
5	#10580.00	63.7 PK	74.0	-10.3	1.28 V	360	53.09	10.61
6	#10580.00	46.3 AV	54.0	-7.7	1.28 V	360	35.69	10.61
7	15870.00	63.9 PK	74.0	-10.1	1.00 V	141	48.94	14.96
8	15870.00	48.3 AV	54.0	-5.7	1.00 V	141	33.34	14.96

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5470.00	64.7 PK	74.0	-9.3	1.51 H	87	60.09	4.61
2	#5470.00	52.6 AV	54.0	-1.4	1.51 H	87	47.99	4.61
3	*5530.00	99.4 PK			1.30 H	88	94.70	4.70
4	*5530.00	90.3 AV			1.30 H	88	85.60	4.70
5	11060.00	55.7 PK	74.0	-18.3	1.07 H	75	44.95	10.75
6	11060.00	43.9 AV	54.0	-10.1	1.07 H	75	33.15	10.75
7	#16590.00	61.8 PK	74.0	-12.2	1.03 H	1	44.64	17.16
8	#16590.00	50.7 AV	54.0	-3.3	1.03 H	1	33.54	17.16
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	#5470.00	69.1 PK	74.0	-4.9	1.25 V	75	64.49	4.61
2	**#5470.00**	**53.9 AV**	**54.0**	**-0.1**	**1.25 V**	**75**	**49.29**	**4.61**
3	*5530.00	101.6 PK			1.07 V	6	96.90	4.70
4	*5530.00	92.9 AV			1.07 V	6	88.20	4.70
5	11060.00	63.7 PK	74.0	-10.3	1.33 V	360	52.95	10.75
6	11060.00	46.5 AV	54.0	-7.5	1.33 V	360	35.75	10.75
7	#16590.00	64.7 PK	74.0	-9.3	1.00 V	172	47.54	17.16
8	#16590.00	48.9 AV	54.0	-5.1	1.00 V	172	31.74	17.16

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 122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5610.00	104.2 PK			1.31 H	90	99.24	4.96
2	*5610.00	95.4 AV			1.31 H	90	90.44	4.96
3	#5725.00	69.4 PK	74.0	-4.6	1.54 H	75	64.47	4.93
4	#5725.00	53.8 AV	54.0	-0.2	1.54 H	75	48.87	4.93
5	11220.00	57.6 PK	74.0	-16.4	1.06 H	54	46.83	10.77
6	11220.00	45.6 AV	54.0	-8.4	1.06 H	54	34.83	10.77
7	#16830.00	63.3 PK	74.0	-10.7	1.09 H	0	45.03	18.27
8	#16830.00	52.3 AV	54.0	-1.7	1.09 H	0	34.03	18.27
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	*5610.00	106.6 PK			1.07 V	10	101.64	4.96
2	*5610.00	97.4 AV			1.07 V	10	92.44	4.96
3	#5725.00	68.2 PK	74.0	-5.8	1.15 V	29	63.27	4.93
4	#5725.00	52.5 AV	54.0	-1.5	1.15 V	29	47.57	4.93
5	11220.00	63.4 PK	74.0	-10.6	1.34 V	360	52.63	10.77
6	11220.00	45.9 AV	54.0	-8.1	1.34 V	360	35.13	10.77
7	#16830.00	64.4 PK	74.0	-9.6	1.00 V	171	46.13	18.27
8	#16830.00	48.9 AV	54.0	-5.1	1.00 V	171	30.63	18.27

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 155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	69.2 PK	74.0	-4.8	1.52 H	272	64.30	4.90
2	**#5715.00**	**53.9 AV**	**54.0**	**-0.1**	**1.52 H**	**272**	**49.00**	**4.90**
3	#5725.00	70.1 PK	78.2	-8.1	1.52 H	272	65.17	4.93
4	*5775.00	102.6 PK			1.48 H	272	97.67	4.93
5	*5775.00	93.8 AV			1.48 H	272	88.87	4.93
6	#5850.00	67.3 PK	78.2	-10.9	1.52 H	272	62.28	5.02
7	#5860.00	66.6 PK	74.0	-7.4	1.52 H	272	61.56	5.04
8	#5860.00	50.1 AV	54.0	-3.9	1.52 H	272	45.06	5.04
9	11550.00	62.6 PK	74.0	-11.4	1.27 H	360	51.93	10.67
10	11550.00	46.8 AV	54.0	-7.2	1.27 H	360	36.13	10.67
11	#17325.00	64.2 PK	74.0	-9.8	1.00 H	172	44.51	19.69
12	#17325.00	49.5 AV	54.0	-4.5	1.00 H	172	29.81	19.69

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	64.8 PK	74.0	-9.2	1.42 V	86	59.90	4.90
2	#5715.00	51.4 AV	54.0	-2.6	1.42 V	86	46.50	4.90
3	#5725.00	65.4 PK	78.2	-12.8	1.42 V	86	60.47	4.93
4	*5775.00	96.4 PK			1.42 V	86	91.47	4.93
5	*5775.00	87.7 AV			1.42 V	86	82.77	4.93
6	#5850.00	56.4 PK	78.2	-21.8	1.42 V	86	51.38	5.02
7	#5860.00	55.4 PK	74.0	-18.6	1.42 V	86	50.36	5.04
8	#5860.00	44.2 AV	54.0	-9.8	1.42 V	86	39.16	5.04
9	11550.00	63.1 PK	74.0	-10.9	1.42 V	86	52.43	10.67
10	11550.00	45.7 AV	54.0	-8.3	1.42 V	86	35.03	10.67
11	#17325.00	64.2 PK	74.0	-9.8	1.00 V	147	44.51	19.69
12	#17325.00	49.0 AV	54.0	-5.0	1.00 V	147	29.31	19.69

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

802.11a

CHANNEL	TX Channel 60	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	99.88	37.1 QP	43.5	-6.4	1.80 H	62	54.82	-17.70
2	335.90	37.8 QP	46.0	-8.2	1.00 H	107	48.57	-10.80
3	365.82	35.1 QP	46.0	-10.9	1.00 H	200	45.43	-10.31
4	432.00	41.9 QP	46.0	-4.1	1.20 H	360	50.31	-8.41
5	497.92	40.0 QP	46.0	-6.0	1.20 H	146	47.25	-7.25
6	698.40	38.7 QP	46.0	-7.3	1.00 H	150	42.14	-3.46
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	32.72	30.3 QP	40.0	-9.7	1.00 V	154	44.81	-14.49
2	90.70	33.3 QP	43.5	-10.2	1.40 V	102	52.19	-18.87
3	240.12	34.2 QP	46.0	-11.8	1.20 V	140	48.29	-14.07
4	298.86	38.5 QP	46.0	-7.5	1.00 V	102	50.43	-11.94
5	432.00	40.8 QP	46.0	-5.2	1.00 V	102	49.19	-8.41
6	498.76	38.7 QP	46.0	-7.3	2.00 V	122	45.94	-7.22

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 ROHDE & SCHWARZ	ESCS 30	100375	Apr. 29, 2014	Apr. 28, 2015
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-522	Sep. 15, 2014	Sep. 14, 2015
Line-Impedance Stabilization Network (for Peripheral) ROHDE & SCHWARZ	ENV216	100071	Nov. 10, 2014	Nov. 09, 2015
RF Cable (JYEBAO)	5DFB	COCCAB-001	Mar. 10 , 2014	Mar. 09, 2015
50 ohms Terminator	N/A	EMC-03	Sep. 22, 2014	Sep. 21, 2015
50 ohms Terminator	N/A	EMC-02	Sep. 30, 2014	Sep. 29, 2015
Software ADT	BV ADT_Cond_V7.3.7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3 The VCCI Con C Registration No. is C-3611.
4 Tested Date: Jan. 07, 2015

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.

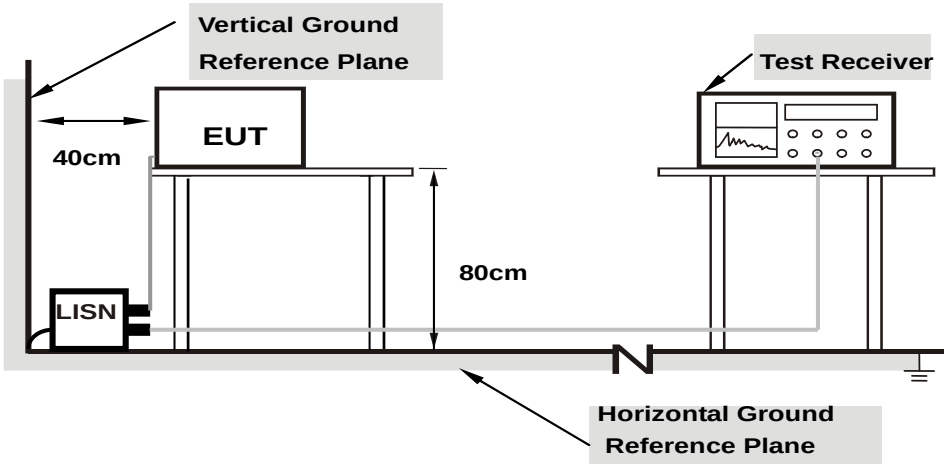
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

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 Conditions

Same as 4.1.6.

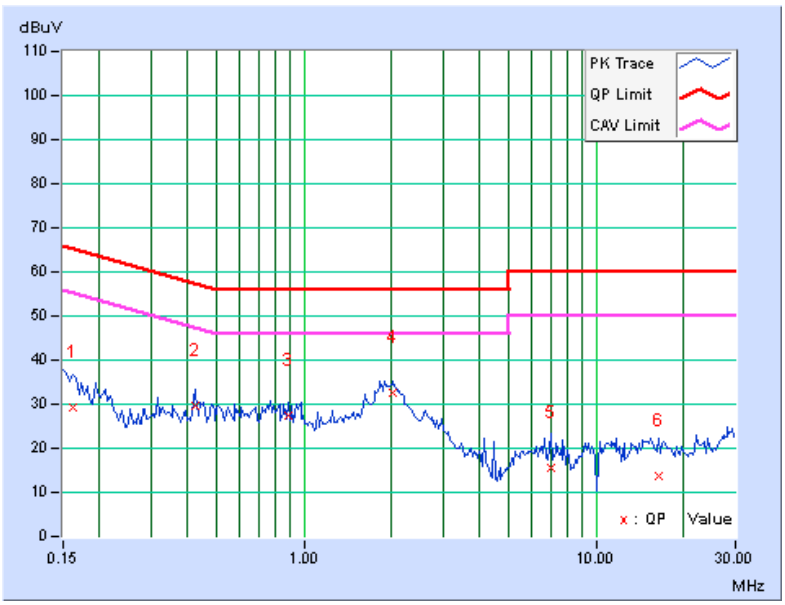
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	0.07	29.07	23.65	29.14	23.72	65.38	55.38	-36.24	-31.66
2	0.42344	0.09	29.48	24.98	29.57	25.07	57.38	47.38	-27.81	-22.31
3	0.88047	0.12	27.34	24.65	27.46	24.77	56.00	46.00	-28.54	-21.23
4	**2.02734**	**0.18**	**32.52**	**29.66**	**32.70**	**29.84**	**56.00**	**46.00**	**-23.30**	**-16.16**
5	7.03516	0.35	15.31	9.43	15.66	9.78	60.00	50.00	-44.34	-40.22
6	16.34375	0.62	13.19	9.41	13.81	10.03	60.00	50.00	-46.19	-39.97

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

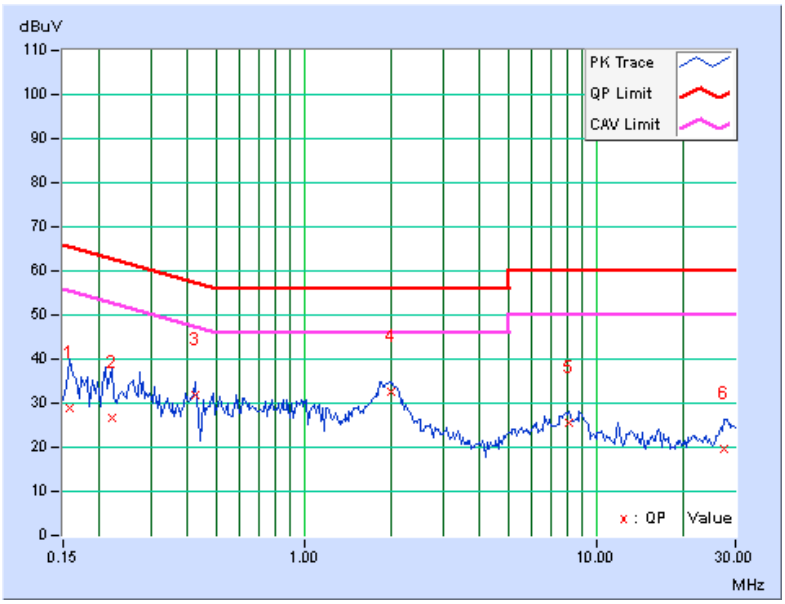


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.06	28.89	23.63	28.95	23.69	65.58	55.58	-36.62	-31.88
2	0.22031	0.06	26.76	24.45	26.82	24.51	62.81	52.81	-35.98	-28.29
3	0.42344	0.09	31.58	26.98	31.67	27.07	57.38	47.38	-25.71	-20.31
4	1.98047	0.18	32.46	29.25	32.64	29.43	56.00	46.00	-23.36	-16.57
5	8.10938	0.40	24.99	21.59	25.39	21.99	60.00	50.00	-34.61	-28.01
6	27.39063	0.91	18.71	13.55	19.62	14.46	60.00	50.00	-40.38	-35.54

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 Measurment

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 ≦ 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

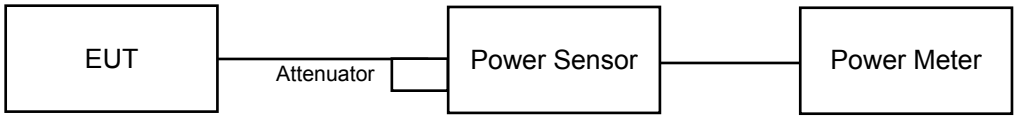
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

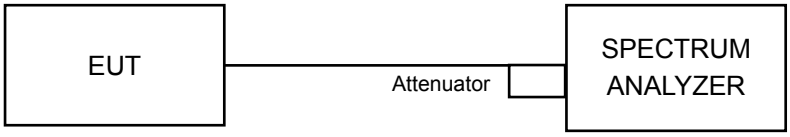
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

FOR POWER OUTPUT MEASUREMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	1014008	Apr. 30, 2014	Apr. 29, 2015
Power sensor Anritsu	MA2411B	0917122	Apr. 30, 2014	Apr. 29, 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. Tested date : Jan. 20, 2015

FOR 26dB OCCUPIED BANDWIDTH

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2014	May 07, 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. Tested date : Jan. 20, 2015

4.3.4 Test Procedure

FOR POWER OUTPUT MEASUREMENT

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 26dB OCCUPIED BANDWIDTH

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

4.3.5 Deviation fromTest Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

POWER OUTPUT:

802.11a

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	16.39	16.62	89.471	19.52	30.00	PASS
40	5200	18.92	18.95	156.507	21.95	30.00	PASS
48	5240	18.93	18.92	156.146	21.94	30.00	PASS
52	5260	18.89	18.94	155.789	21.93	24.00	PASS
60	5300	18.92	18.99	157.233	21.97	24.00	PASS
64	5320	17.67	17.53	115.103	20.61	24.00	PASS
100	5500	17.35	17.07	105.258	20.22	24.00	PASS
120	5600	19.11	18.96	160.175	22.05	24.00	PASS
140	5700	16.85	16.89	97.282	19.88	24.00	PASS
149	5745	17.35	17.39	109.153	20.38	30.00	PASS
157	5785	19.07	19.11	162.194	22.10	30.00	PASS
165	5825	16.34	16.43	87.007	19.40	30.00	PASS

26dB OCCUPIED BANDWIDTH

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
36	5180	23.50	21.95
40	5200	30.91	28.61
48	5240	36.92	38.12
52	5260	33.77	29.62
60	5300	28.97	28.41
64	5320	21.87	21.93
100	5500	21.91	21.85
120	5600	33.87	35.32
140	5700	21.86	21.84

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	29.62	25.71 > 24
60	5300	28.41	25.53 > 24
64	5320	21.87	24.39 > 24
100	5500	21.85	24.39 > 24
120	5600	33.87	26.29 > 24
140	5700	21.84	24.39 > 24

802.11ac (VHT20)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	16.35	16.49	87.718	19.43	30.00	PASS
40	5200	18.85	18.88	154.004	21.88	30.00	PASS
48	5240	18.86	18.95	155.437	21.92	30.00	PASS
52	5260	18.86	18.99	156.163	21.94	24.00	PASS
60	5300	18.85	18.92	154.719	21.90	24.00	PASS
64	5320	17.56	17.62	114.826	20.60	24.00	PASS
100	5500	17.42	17.13	106.85	20.29	24.00	PASS
120	5600	19.07	19.01	160.34	22.05	24.00	PASS
140	5700	16.96	17.95	112.032	20.49	24.00	PASS
149	5745	15.24	15.24	66.84	18.25	30.00	PASS
157	5785	19.27	19.19	167.513	22.24	30.00	PASS
165	5825	15.57	15.76	73.728	18.68	30.00	PASS

Note:

5150~5250MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.78dBi < 6dBi , so the power limit shall not be reduced.

5250~5350MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.86dBi < 6dBi , so the power limit shall not be reduced.

5470~5725MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.14dBi < 6dBi , so the power limit shall not be reduced.

5725~5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 3.74dBi < 6dBi , so the power limit shall not be reduced..

26dB OCCUPIED BANDWIDTH

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
36	5180	22.40	21.99
40	5200	33.04	31.82
48	5240	34.30	33.38
52	5260	32.05	29.32
60	5300	28.96	24.32
64	5320	22.05	21.96
100	5500	22.25	22.17
120	5600	38.79	28.67
140	5700	22.15	21.82

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	29.32	25.67 > 24
60	5300	24.32	24.85 > 24
64	5320	21.96	24.41 > 24
100	5500	22.17	24.45 > 24
120	5600	28.67	25.57 > 24
140	5700	21.82	24.38 > 24

802.11ac (VHT40)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	12.27	12.35	34.045	15.32	30.00	PASS
46	5230	18.57	18.49	142.577	21.54	30.00	PASS
54	5270	18.83	18.79	152.067	21.82	24.00	PASS
62	5310	15.13	15.10	64.943	18.13	24.00	PASS
102	5510	11.87	11.76	30.379	14.83	24.00	PASS
118	5590	18.92	18.85	154.719	21.90	24.00	PASS
134	5670	17.32	17.21	106.553	20.28	24.00	PASS
151	5755	11.53	11.42	28.091	14.49	30.00	PASS
159	5795	15.37	15.21	67.624	18.30	30.00	PASS

Note:

5150~5250MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.78dBi < 6dBi , so the power limit shall not be reduced.

5250~5350MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.86dBi < 6dBi , so the power limit shall not be reduced.

5470~5725MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.14dBi < 6dBi , so the power limit shall not be reduced.

5725~5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 3.74dBi < 6dBi , so the power limit shall not be reduced..

26dB OCCUPIED BANDWIDTH

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
38	5190	41.79	41.55
46	5230	96.25	83.97
54	5270	92.77	74.86
62	5310	41.54	41.31
102	5510	41.79	41.35
118	5590	98.64	96.31
134	5670	52.07	41.87

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	74.86	29.74 > 24
62	5310	41.31	27.16 > 24
102	5510	41.35	27.16 > 24
118	5590	96.31	30.83 > 24
134	5670	41.87	27.21 > 24

802.11ac (VHT80)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
42	5210	12.85	12.76	38.155	15.82	30.00	PASS
58	5290	14.32	14.24	53.586	17.29	24.00	PASS
106	5530	13.01	12.96	39.769	16.00	24.00	PASS
122	5610	18.01	17.96	125.758	21.00	24.00	PASS
155	5775	11.01	10.95	25.063	13.99	30.00	PASS

Note:

5150~5250MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.78dBi < 6dBi , so the power limit shall not be reduced.

5250~5350MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.86dBi < 6dBi , so the power limit shall not be reduced.

5470~5725MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.14dBi < 6dBi , so the power limit shall not be reduced.

5725~5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 3.74dBi < 6dBi , so the power limit shall not be reduced..

26dB OCCUPIED BANDWIDTH

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
42	5210	82.51	82.44
58	5290	82.77	82.31
106	5530	82.55	82.31
122	5610	142.80	97.25

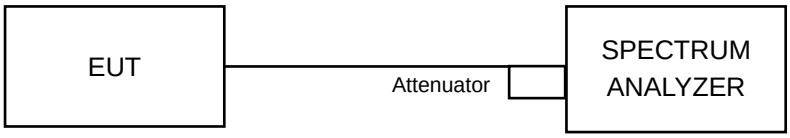
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.31	30.15 > 24
106	5530	82.31	30.15 > 24
122	5610	97.25	30.87 > 24

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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2014	May 07, 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. Tested date : Jan. 20, 2015

4.4.4 Test Procedures

※For U-NII-1, U-NII-2A & U-NII-2C:

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 and for duty cycle of test signal is < 98% add 10 log (1/duty cycle)

※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 = 10log(500 kHz/300kHz)
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 and for duty cycle of test signal is < 98% add 10 log (1/duty cycle)

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

For U-NII-1, U-NII-2A, U-NII-2C Band
802.11a

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	1.13	1.30	4.23	17.00	PASS
40	5200	4.20	4.62	7.43	17.00	PASS
48	5240	4.07	4.53	7.32	17.00	PASS
52	5260	3.74	3.75	6.76	11.00	PASS
60	5300	3.70	3.74	6.73	11.00	PASS
64	5320	1.27	0.85	4.08	11.00	PASS
100	5500	1.46	1.24	4.36	11.00	PASS
120	5600	4.32	4.82	7.59	11.00	PASS
140	5700	1.71	1.81	4.77	11.00	PASS

Note:

Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

5150~5250MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 5.78dBi < 6dBi , so the power density limit shall not be reduced.

5250~5350MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 5.86dBi < 6dBi , so the power density limit shall not be reduced.

5470~5725MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 5.14dBi < 6dBi , so the power density limit shall not be reduced.

5725~5825MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 3.74dBi < 6dBi , so the power density limit shall not be reduced.

802.11ac (VHT20)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	0.68	0.79	3.75	17.00	PASS
40	5200	3.74	4.15	6.96	17.00	PASS
48	5240	3.65	4.18	6.93	17.00	PASS
52	5260	3.27	3.37	6.33	11.00	PASS
60	5300	3.39	3.29	6.35	11.00	PASS
64	5320	0.89	0.47	3.70	11.00	PASS
100	5500	0.91	0.81	3.87	11.00	PASS
120	5600	3.95	4.37	7.18	11.00	PASS
140	5700	1.39	1.21	4.31	11.00	PASS

Note:

Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

5150~5250MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.78dBi < 6dBi , so the power density limit shall not be reduced.

5250~5350MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.86dBi < 6dBi , so the power density limit shall not be reduced.

5470~5725MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.14dBi < 6dBi , so the power density limit shall not be reduced.

5725~5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 3.74dBi < 6dBi , so the power density limit shall not be reduced.

802.11ac (VHT40)

CHAN.	FREQ. (MHz)	PSD (dBm)		DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	-5.14	-5.45	0.09	-2.19	17.00	PASS
46	5230	0.64	0.49	0.09	3.67	17.00	PASS
54	5270	0.31	0.16	0.09	3.34	11.00	PASS
62	5310	-3.01	-3.67	0.09	-0.23	11.00	PASS
102	5510	-5.34	-5.42	0.09	-2.28	11.00	PASS
118	5590	1.94	2.03	0.09	5.09	11.00	PASS
134	5670	-0.93	-0.64	0.09	2.32	11.00	PASS

Note:

Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

5150~5250MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 5.78$dBi < 6dBi , so the power density limit shall not be reduced.

5250~5350MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 5.86$dBi < 6dBi , so the power density limit shall not be reduced.

5470~5725MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 5.14$dBi < 6dBi , so the power density limit shall not be reduced.

5725~5825MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 3.74$dBi < 6dBi , so the power density limit shall not be reduced.

Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80):

CHAN.	FREQ. (MHz)	PSD (dBm)		DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
42	5210	-8.18	-8.54	0.19	-5.15	17.00	PASS
58	5290	-7.32	-7.94	0.19	-4.41	11.00	PASS
106	5530	-7.58	-7.95	0.19	-4.56	11.00	PASS
122	5610	-3.50	-3.31	0.19	-0.20	11.00	

Note:

Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

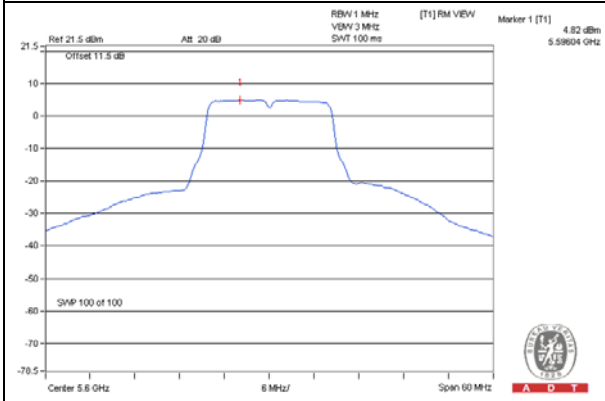
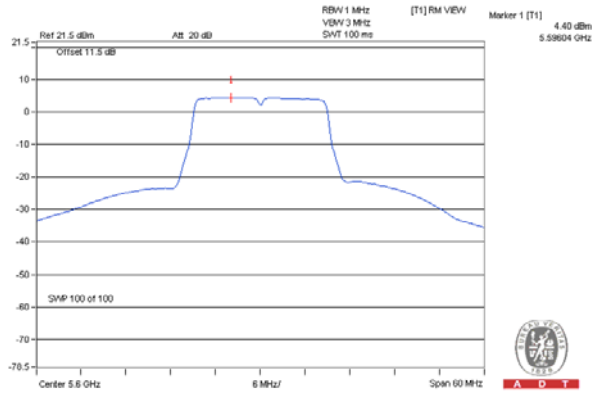
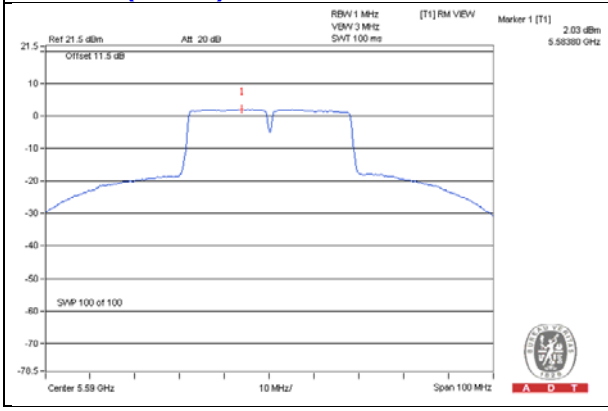
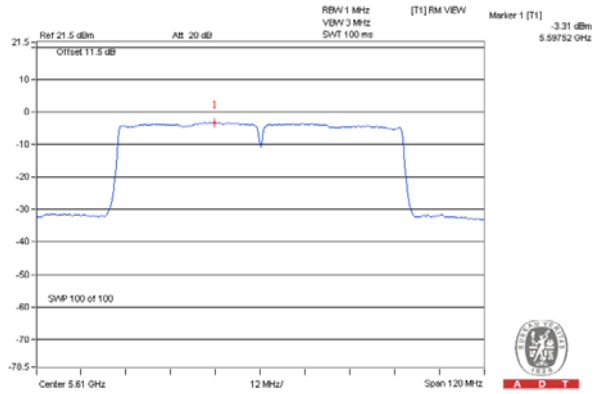
5150~5250MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.78dBi < 6dBi , so the power density limit shall not be reduced.

5250~5350MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.86dBi < 6dBi , so the power density limit shall not be reduced.

5470~5725MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.14dBi < 6dBi , so the power density limit shall not be reduced.

5725~5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 3.74dBi < 6dBi , so the power density limit shall not be reduced.

Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE	
802.11a / Chain 1 : CH 120	**802.11ac (VHT20) / Chain 1 : CH 120**
	
802.11ac (VHT40) / Chain 1 : CH 118	**802.11ac (VHT80) / Chain 1 : CH 122**
	

For U-NII-3 Band

802.11a

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	TOTAL PSD (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
0	149	5745	-4.46	-2.24	3.01	0.77	30.00	PASS
	157	5785	-3.41	-1.19	3.01	1.82	30.00	PASS
	165	5825	-5.43	-3.21	3.01	-0.20	30.00	PASS
1	149	5745	-4.71	-2.49	3.01	0.52	30.00	PASS
	157	5785	-3.37	-1.15	3.01	1.86	30.00	PASS
	165	5825	-5.40	-3.18	3.01	-0.17	30.00	PASS

Note:

Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

5725~5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 3.74dBi < 6dBi , so the power density limit shall not be reduced.

802.11ac (VHT20)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	TOTAL PSD (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
0	149	5745	-6.87	-4.65	3.01	-1.64	30.00	PASS
	157	5785	-3.76	-1.54	3.01	1.47	30.00	PASS
	165	5825	-6.62	-4.40	3.01	-1.39	30.00	PASS
1	149	5745	-6.85	-4.63	3.01	-1.62	30.00	PASS
	157	5785	-3.97	-1.75	3.01	1.26	30.00	PASS
	165	5825	-6.71	-4.49	3.01	-1.48	30.00	PASS

Note:

Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

5725~5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 3.74dBi < 6dBi , so the power density limit shall not be reduced.

802.11ac (VHT40)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR		10 log (N=2) dB	DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
			(dBm/300kHz)	(dBm/500kHz)					
0	151	5755	-13.79	-11.57	3.01	0.09	-8.47	30.00	PASS
	159	5795	-10.12	-7.90	3.01	0.09	-4.80	30.00	PASS
1	151	5755	-13.91	-11.69	3.01	0.09	-8.59	30.00	PASS
	159	5795	-10.33	-8.11	3.01	0.09	-5.01	30.00	PASS

Note:

Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

5725~5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 3.74dBi < 6dBi , so the power density limit shall not be reduced.

Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR		10 log (N=2) dB	DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS /FAIL
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-17.86	-15.64	3.01	0.19	-12.44	30.00	PASS
1	155	5775	-17.85	-15.63	3.01	0.19	-12.43	30.00	PASS

Note:

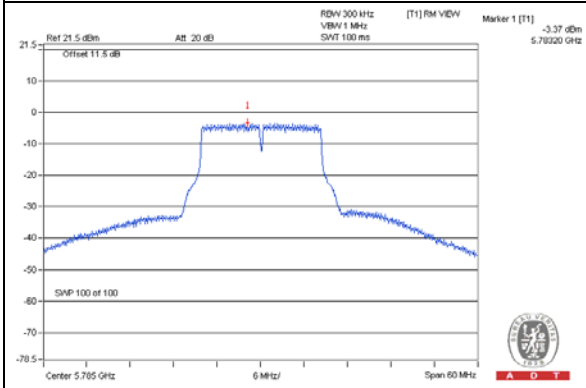
Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

5725~5825MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 3.74dBi < 6dBi , so the power density limit shall not be reduced.

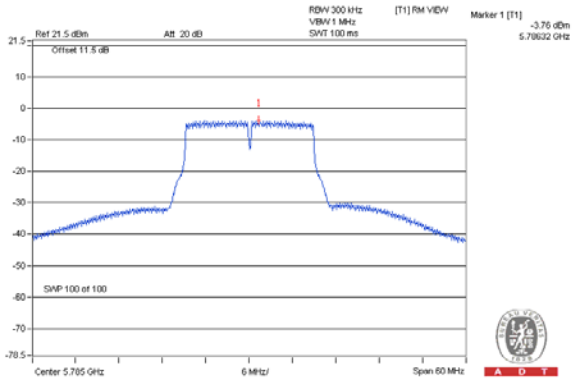
Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE

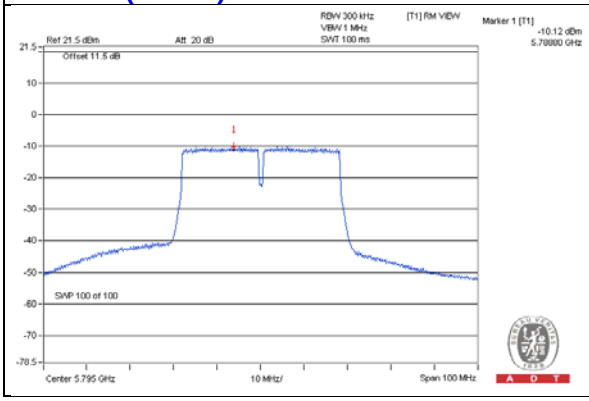
802.11a / Chain 1 : CH 157



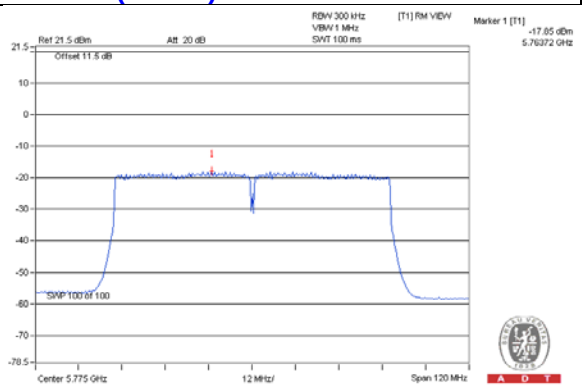
802.11ac (VHT20) / Chain 0 : CH 157



802.11ac (VHT40) / Chain 0 : CH 159



802.11ac (VHT80) / Chain 1 : CH 155

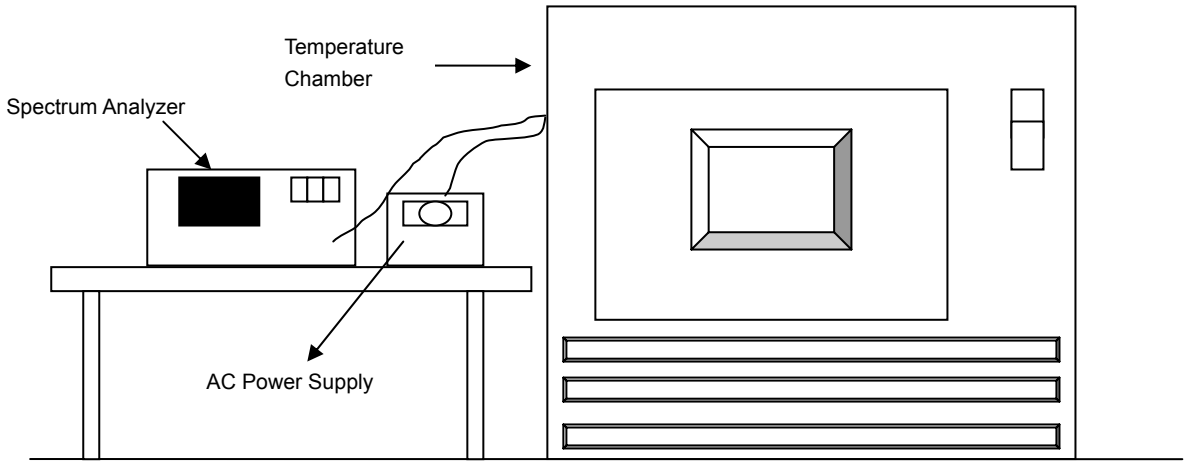


4.5 Frequency Stability

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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2014	May 07, 2015
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40-SP-AR	MAA0812-008	Jan. 12, 2015	Jan. 11, 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. Tested date : Jan. 20, 2015

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

FREQUEMCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (℃)	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	5320.004	0.00008	5320.004	0.00008	5320.0044	0.00008	5320.0062	0.00012
40	120	5320.0229	0.00043	5320.0235	0.00044	5320.0256	0.00048	5320.0234	0.00044
30	120	5319.9957	-0.00008	5319.9961	-0.00007	5319.9948	-0.00010	5319.9949	-0.00010
20	120	5320.0098	0.00018	5320.0099	0.00019	5320.0118	0.00022	5320.0075	0.00014
10	120	5319.99	-0.00019	5319.995	-0.00009	5319.9937	-0.00012	5319.9918	-0.00015
0	120	5320.0061	0.00011	5320.0057	0.00011	5320.0076	0.00014	5320.0048	0.00009
-10	120	5319.9998	0.00000	5320.0026	0.00005	5320.0015	0.00003	5319.9998	0.00000
-20	120	5319.9916	-0.00016	5319.9928	-0.00014	5319.9895	-0.00020	5319.9901	-0.00019
-30	120	5320.0074	0.00014	5320.0079	0.00015	5320.0094	0.00018	5320.0103	0.00019

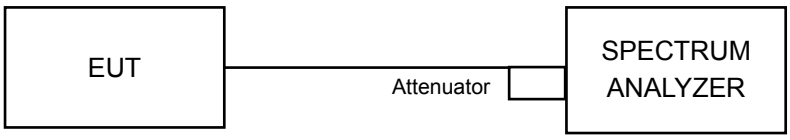
FREQUEMCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (℃)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5320.0094	0.00018	5320.0097	0.00018	5320.0123	0.00023	5320.0079	0.00015
	120	5320.0098	0.00018	5320.0099	0.00019	5320.0118	0.00022	5320.0075	0.00014
	102	5320.0102	0.00019	5320.0093	0.00017	5320.0123	0.00023	5320.0074	0.00014

4.6 6dB Bandwidth Measurment

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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2014	May 07, 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. Tested date : Jan. 20, 2015

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.6.5 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
		CHAIN 0	CHAIN 1		
149	5745	16.41	16.42	0.5	PASS
157	5785	16.39	16.39	0.5	PASS
165	5825	16.41	16.42	0.5	PASS

802.11ac (VHT20)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.66	17.68	0.5	PASS
157	5785	17.64	17.66	0.5	PASS
165	5825	17.67	17.69	0.5	PASS

802.11ac (VHT40)

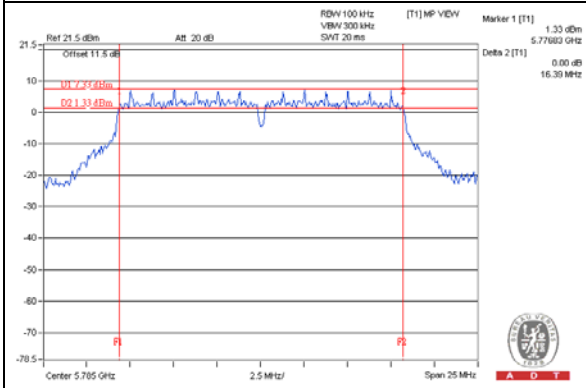
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	36.42	36.48	0.5	PASS
159	5795	36.42	36.49	0.5	PASS

802.11ac (VHT80)

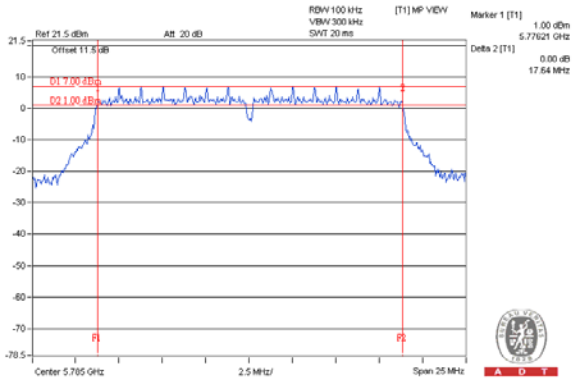
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
155	5775	76.02	76.40	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

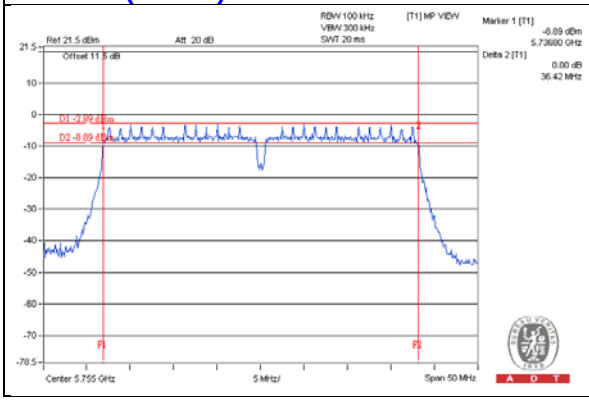
802.11a / Chain 0 : CH157



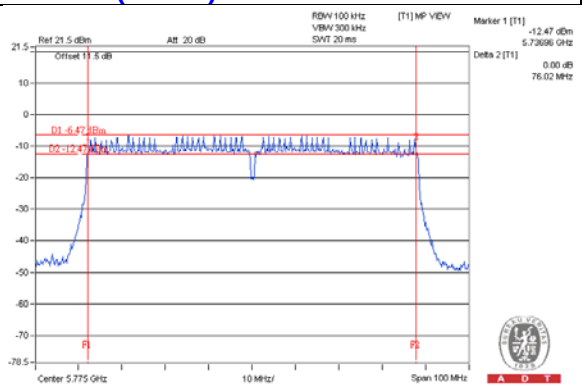
802.11ac (VHT20) / Chain 0 : CH157



802.11ac (VHT40) / Chain 0 : CH151



802.11ac (VHT80) / Chain 0 : CH155



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:

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

Hsin Chu EMC/RF Lab/Telecom Lab
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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.

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