FCC Test Report

Report No.:	RF150812E02-1
FCC ID:	Q87-RE6300
Test Model:	RE6300
Received Date:	July 31, 2015
Test Date:	July 31 to Aug. 28, 2015
Issued Date:	Sep. 11, 2015
Applicant:	Linksys LLC
Address:	121 Theory Drive Irvine California 92617 United State
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.
Test Location (1):	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.
Test Location (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.
Test Location (3):	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
RF150812E02-1	Original release.	Sep. 11, 2015

1 Certificate of Conformity

Product:	Wireless Extender
Brand:	Linksys
Test Model:	RE6300
Sample Status:	ENGINEERING SAMPLE
Applicant:	Linksys LLC
Test Date:	July 31 to Aug. 28, 2015
Standard:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10: 2013 2013

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

Prepared by : _____, **Date:** Sep. 11, 2015

Midoli Peng / Specialist

Approved by : _____, **Date:** Sep. 11, 2015

May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (SECTION 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -8.21dB at 0.68906MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -3.0dB at 15690.00MHz.
15.407(b) (1/2/3/4)	Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 5725.00MHz & 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: The EUT was operating in 2400 ~ 2483.5MHz, 5150~5250MHz and 5725~5850MHz frequencies band. This report was recorded the RF parameters including 5150~5250MHz and 5725~5850MHz. For the 2400 ~ 2483.5MHz RF parameters 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	5.37 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.65 dB
	6GHz ~ 18GHz	3.88 dB
	18GHz ~ 40GHz	4.11 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wireless Extender
Brand	Linksys
Test Model	RE6300
Status of EUT	ENGINEERING SAMPLE
Driver version	1.1.00.001
Power Supply Rating	Refer to Note
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT20 and VHT40 mode of 2.4GHz Band.
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, 5.745 ~ 5.825GHz
	For 15.247 2.412 ~ 2.462GHz
Number of Channel	**For 15.407** 9 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 4 for 802.11n (HT40), 802.11ac (VHT40) 2 for 802.11ac (VHT80)
	For 15.247 11 for 802.11b, 802.11g, 802.11n (HT20), VHT20 7 for 802.11n (HT40), VHT40
Output Power	**For 15.407(5.18 ~ 5.24GHz)** **CDD Mode** 802.11a: 111.245mW **Beamforming Mode** 802.11ac (VHT20): 120.11mW 802.11ac (VHT40): 187.351mW 802.11ac (VHT80): 30.771mW **For 15.407(5.745 ~ 5.825GHz)** **CDD Mode** 802.11a: 220.008mW **Beamforming Mode** 802.11ac (VHT20): 191.049mW 802.11ac (VHT40): 104.343mW 802.11ac (VHT80): 19.114mW
	For 15.247 802.11b: 698.11mW 802.11g: 750.59mW 802.11n(HT20): 746.18mW 802.11n(HT40): 592.23mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. According to the applicant's requirement two test samples were tested for radiated (above 1GHz) emission only.
2. The antennas provided to the EUT, please refer to the following table:

Transmitter Circuit	Gain (dBi)	Frequency Range (GHz to GHz)	Antenna Type	Connecter Type	Cable Length (mm)
Chain (0)	3.97	2.4~2.4835	Dipole	i-pex(MHF)	160
	5.97	5.15~5.85			
Chain (1)	3.97	2.4~2.4835	Dipole	i-pex(MHF)	160
	5.97	5.15~5.85			

3. 2.4GHz and 5GHz technology can transmit at same time.
4. The EUT uses following internal power supply and following two different model names could be chosen:

No.	Brand	Model No.	Spec.
1	Amigo-PSU	AMS151-1201500F	Input: 100-240V, 0.8A, 47~63Hz Output: 12V, 1.5A
2	HON-KWANG	HK-XX18-A12	Input: 100-240V, 0.8A, 47~63Hz Output: 12V, 1.5A
Note: From the above modes, the worst radiated test was found in **internal power supply 2**. Therefore only the test data of the modes were recorded in this report.			

5. The EUT incorporates a MIMO function with beamforming.

2.4GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11b	1 ~ 11Mbps	2TX	2RX
802.11g	6 ~ 54Mbps	2TX	2RX
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
VHT20	MCS0~8 Nss=1	2TX	2RX
	MCS0~8 Nss=2	2TX	2RX
VHT40	MCS0~9 Nss=1	2TX	2RX
	MCS0~9 Nss=2	2TX	2RX
5GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11a	6 ~ 54Mbps	2TX	2RX
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11ac (VHT20)	MCS0~8 Nss= 1	2TX	2RX
	MCS0~8 Nss= 2	2TX	2RX
802.11ac (VHT40)	MCS0~9 Nss= 1	2TX	2RX
	MCS0~9 Nss= 2	2TX	2RX
802.11ac (VHT80)	MCS0~9 Nss= 1	2TX	2RX
	MCS0~9 Nss= 2	2TX	2RX
Note: 1. For 2.4GHz band and 5GHz band (802.11a), the EUT doesn't support beamforming mode. 2.The modulation and bandwidth are similar for 802.11n mode for 20MHz / 40MHz and 802.11ac mode for 20MHz / 40MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)			

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

3.2 Description of Test Modes

FOR 5180 ~ 5240MHz

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

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

FOR 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
1	-	-	√	-	Sample 1 + internal power supply 1
2	√	√	√	√	Sample 1 + internal power supply 2
3	√	-	-	-	Sample 2 + internal power supply 2

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

Note: 1. "-"means no effect.
2. The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on Y-plane.

Radiated Emission Test (Above 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

CDD Mode						
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
Beamforming Mode						
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11ac (VHT20)	5180-5240	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
802.11ac (VHT20)	5745-5825	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.

CDD Mode						
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240 5745-5825	36 to 48 149 to 165	157	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.

CDD Mode						
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240 5745-5825	36 to 48 149 to 165	157	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.

CDD Mode						
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
Beamforming Mode						
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11ac (VHT20)	5180-5240	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
802.11ac (VHT20)	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

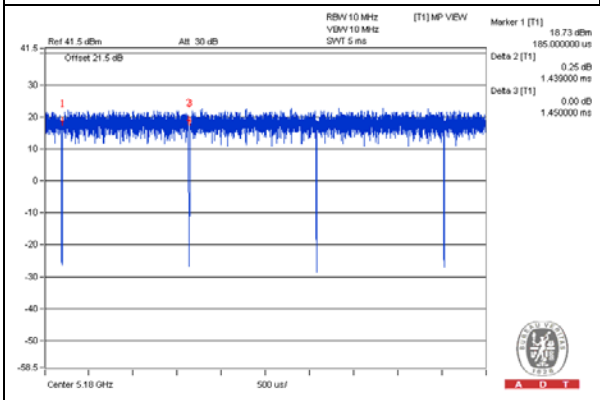
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	26deg. C, 64%RH	120Vac, 60Hz	Tim Ho
RE<1G	24deg. C, 70%RH	120Vac, 60Hz	Weiwei Lo
PLC	26deg. C, 60%RH 27deg. C, 65%RH	120Vac, 60Hz	Barry Lee Wythe Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

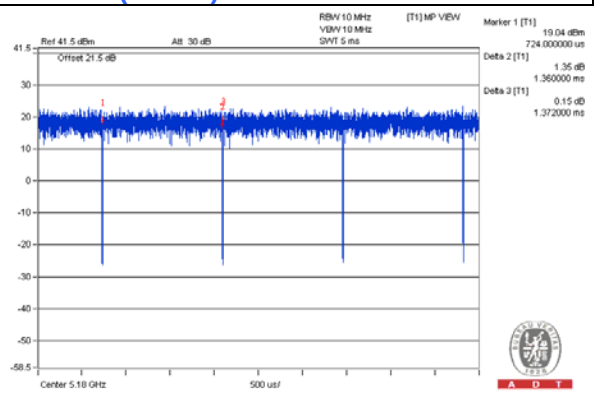
3.3 Duty Cycle of Test Signal

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 = 1.439 ms/1.45 ms = 0.992
802.11ac (VHT20): Duty cycle = 1.36 ms/1.372 ms = 0.991
802.11ac (VHT40): Duty cycle = 0.674 ms/0.686 ms = 0.983
802.11ac (VHT80): Duty cycle = 0.336 ms/0.345 ms = 0.974, Duty factor = 10 * log(1/0.974) = 0.11

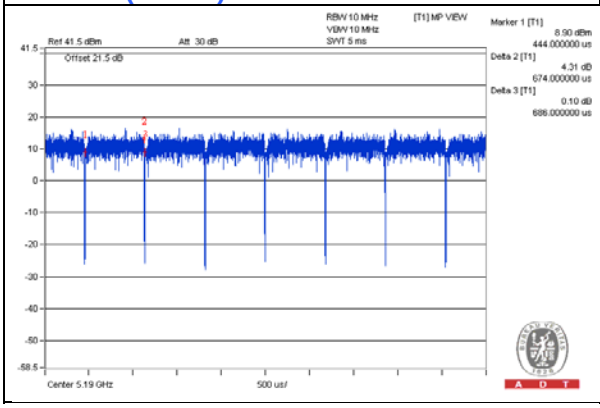
802.11a



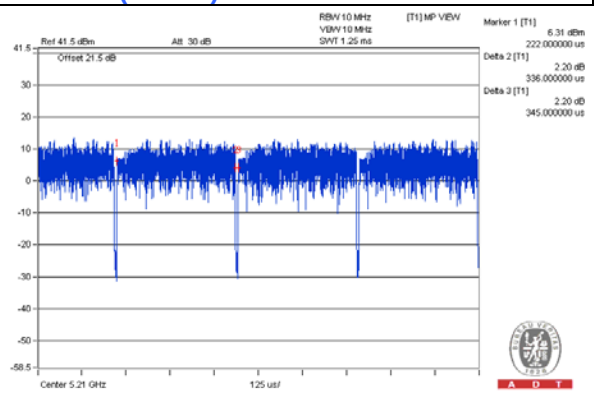
802.11ac (VHT20)



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.

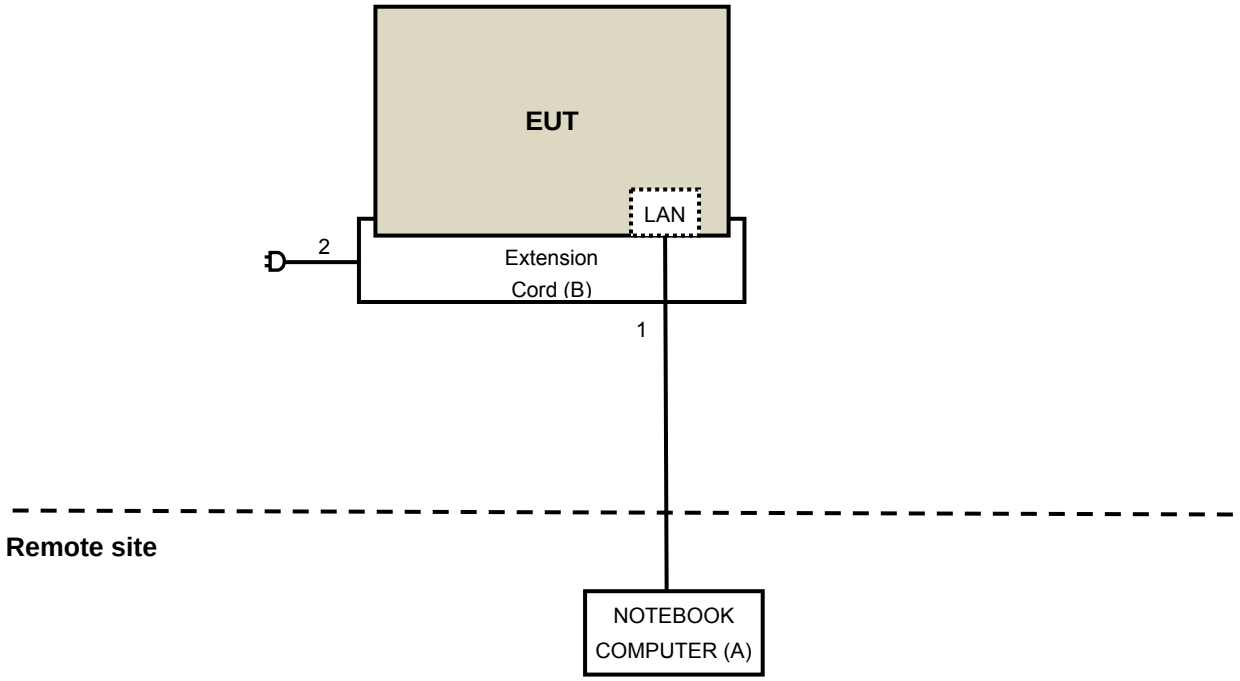
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	NOTEBOOK COMPUTER	DELL	E5430	4YV4VY1	FCC DoC	Provided by Lab
B.	Extension Cord	NA	NA	NA	NA	Provided by Lab

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45	1	10	No	0	Provided by Lab
2.	AC	1	1.8	Yes	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard

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

FCC Part 15, Subpart E (15.407)
789033 D02 General UNII Test Procedure New Rules v01
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013 2013

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

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

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

NOTE:

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

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	**LIMIT**	
789033 D02 General UNII Test Procedure New Rules 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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210105	July 24, 2015	July 23, 2016
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-03	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 06, 2015	Feb. 05, 2016
RF Cable	8D-FB	CHGCAB-001-1 CHGCAB-001-2	Oct. 04, 2014	Oct. 03, 2015
	RF-141	CHGCAB-004	Oct. 04, 2014	Oct. 03, 2015
Horn_Antenna AISI	AIH.8018	0000320091110	Feb. 09, 2015	Feb. 08, 2016
Pre-Amplifier Agilent	8449B	3008A02578	June 23, 2015	June 22, 2016
RF Cable	NA	131205 131216 131217 SNMY23684/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	June 26, 2015	June 25, 2016
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	NA	329751/4 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
Power Meter Anritsu	ML2495A	1014008	Apr. 28, 2015	Apr. 27, 2016
Power Sensor Anritsu	MA2411B	0917122	Apr. 28, 2015	Apr. 27, 2016
Spectrum Analyzer R&S	FSP 40	100060	May 08, 2015	May 07, 2016
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. The test was performed in 966 Chamber No. G.
3. The FCC Site Registration No. is 966073.
4. The VCCI Site Registration No. is G-137.
5. The CANADA Site Registration No. is IC 7450H-2.
6. Tested Date: July 31 to Aug. 28, 2015

4.1.3 Test Procedure

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

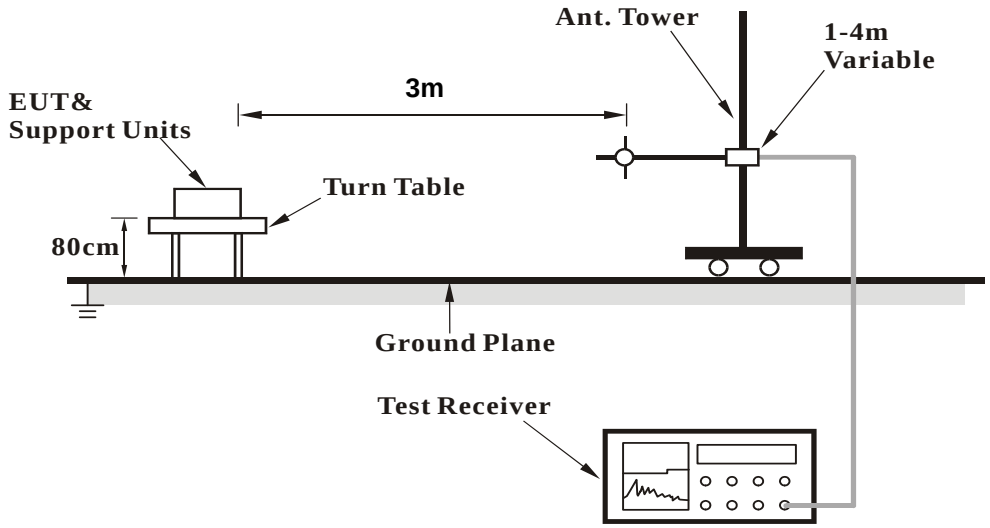
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/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

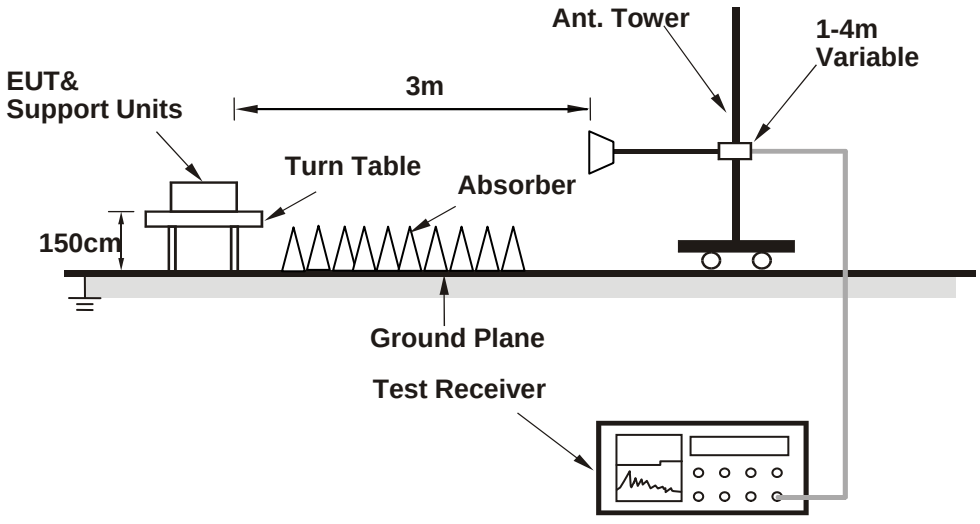
No deviation.

4.1.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Condition

1. Connect the EUT with the support unit A (Notebook Computer) which is placed on remote site.
2. Controlling software (MT76xxE_AP.exe V1.0.3.1) has been activated to set the EUT on specific status.

4.1.7 Test Results (Mode 2)

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	5150.00	61.1 PK	74.0	-12.9	1.70 H	90	50.97	10.13
2	5150.00	45.4 AV	54.0	-8.6	1.70 H	90	35.27	10.13
3	*5180.00	106.8 PK			1.70 H	90	96.50	10.30
4	*5180.00	96.8 AV			1.70 H	90	86.50	10.30
5	#10360.00	56.9 PK	74.0	-17.1	1.00 H	290	40.20	16.70
6	#10360.00	45.0 AV	54.0	-9.0	1.00 H	290	28.30	16.70
7	15540.00	63.2 PK	74.0	-10.8	1.55 H	323	41.64	21.56
8	15540.00	50.8 AV	54.0	-3.2	1.55 H	323	29.24	21.56
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	68.2 PK	74.0	-5.8	1.70 V	176	58.07	10.13
2	5150.00	50.9 AV	54.0	-3.1	1.70 V	176	40.77	10.13
3	*5180.00	114.7 PK			1.70 V	176	104.40	10.30
4	*5180.00	105.0 AV			1.70 V	176	94.70	10.30
5	#10360.00	55.4 PK	74.0	-18.6	1.00 V	223	38.70	16.70
6	#10360.00	43.2 AV	54.0	-10.8	1.00 V	223	26.50	16.70
7	15540.00	61.1 PK	74.0	-12.9	1.65 V	258	39.54	21.56
8	15540.00	47.4 AV	54.0	-6.6	1.65 V	258	25.84	21.56

REMARKS:

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

CHANNEL	TX Channel 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	*5200.00	107.4 PK			1.72 H	75	97.00	10.40
2	*5200.00	97.2 AV			1.72 H	75	86.80	10.40
3	#10400.00	56.2 PK	74.0	-17.8	1.03 H	298	39.29	16.91
4	#10400.00	44.4 AV	54.0	-9.6	1.03 H	298	27.49	16.91
5	15600.00	62.9 PK	74.0	-11.1	1.53 H	320	41.16	21.74
6	15600.00	50.2 AV	54.0	-3.8	1.53 H	320	28.46	21.74
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	*5200.00	114.8 PK			1.70 V	175	104.40	10.40
2	*5200.00	104.9 AV			1.70 V	175	94.50	10.40
3	#10400.00	55.7 PK	74.0	-18.3	1.00 V	245	38.79	16.91
4	#10400.00	43.3 AV	54.0	-10.7	1.00 V	245	26.39	16.91
5	15600.00	60.6 PK	74.0	-13.4	1.58 V	266	38.86	21.74
6	15600.00	47.0 AV	54.0	-7.0	1.58 V	266	25.26	21.74

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	106.4 PK			1.73 H	94	95.91	10.49
2	*5240.00	96.4 AV			1.73 H	94	85.91	10.49
3	5350.00	56.2 PK	74.0	-17.8	1.73 H	94	45.43	10.77
4	5350.00	43.3 AV	54.0	-10.7	1.73 H	94	32.53	10.77
5	#10480.00	57.3 PK	74.0	-16.7	1.01 H	293	40.81	16.49
6	#10480.00	45.3 AV	54.0	-8.7	1.01 H	293	28.81	16.49
7	15720.00	64.1 PK	74.0	-9.9	1.61 H	70	41.94	22.16
8	15720.00	50.5 AV	54.0	-3.5	1.61 H	70	28.34	22.16
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	*5240.00	114.9 PK			1.70 V	170	104.41	10.49
2	*5240.00	104.5 AV			1.70 V	170	94.01	10.49
3	5350.00	57.4 PK	74.0	-16.6	1.70 V	170	46.63	10.77
4	5350.00	45.1 AV	54.0	-8.9	1.70 V	170	34.33	10.77
5	#10480.00	56.0 PK	74.0	-18.0	1.00 V	237	39.51	16.49
6	#10480.00	43.7 AV	54.0	-10.3	1.00 V	237	27.21	16.49
7	15720.00	61.2 PK	74.0	-12.8	1.61 V	271	39.04	22.16
8	15720.00	47.5 AV	54.0	-6.5	1.61 V	271	25.34	22.16

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 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	59.8 PK	74.0	-14.2	1.66 H	62	48.34	11.46
2	#5715.00	45.1 AV	54.0	-8.9	1.66 H	62	33.64	11.46
3	#5725.00	72.9 PK	78.2	-5.3	1.66 H	62	61.41	11.49
4	*5745.00	105.3 PK			1.66 H	62	93.75	11.55
5	*5745.00	95.7 AV			1.66 H	62	84.15	11.55
6	11490.00	55.8 PK	74.0	-18.2	1.74 H	237	38.56	17.24
7	11490.00	43.9 AV	54.0	-10.1	1.74 H	237	26.66	17.24
8	#17235.00	60.9 PK	74.0	-13.1	1.59 H	14	34.35	26.55
9	#17235.00	49.4 AV	54.0	-4.6	1.59 H	14	22.85	26.55
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	#5715.00	63.2 PK	74.0	-10.8	1.84 V	303	51.74	11.46
2	#5715.00	49.4 AV	54.0	-4.6	1.84 V	303	37.94	11.46
3	**#5725.00**	**77.2 PK**	**78.2**	**-1.0**	**1.72 V**	**302**	**65.71**	**11.49**
4	*5745.00	113.6 PK			1.84 V	28	102.05	11.55
5	*5745.00	103.5 AV			1.84 V	28	91.95	11.55
6	11490.00	57.2 PK	74.0	-16.8	1.80 V	102	39.96	17.24
7	11490.00	44.2 AV	54.0	-9.8	1.80 V	102	26.96	17.24
8	#17235.00	60.3 PK	74.0	-13.7	1.60 V	314	33.75	26.55
9	#17235.00	48.2 AV	54.0	-5.8	1.60 V	314	21.65	26.55

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 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	*5785.00	106.2 PK			1.64 H	75	94.52	11.68
2	*5785.00	96.5 AV			1.64 H	75	84.82	11.68
3	11570.00	56.7 PK	74.0	-17.3	1.75 H	244	39.03	17.67
4	11570.00	44.7 AV	54.0	-9.3	1.75 H	244	27.03	17.67
5	#17355.00	63.9 PK	74.0	-10.1	1.75 H	18	37.17	26.73
6	#17355.00	50.9 AV	54.0	-3.1	1.75 H	18	24.17	26.73
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	#5705.00	58.1 PK	74.0	-15.9	1.83 V	28	46.68	11.42
2	#5705.00	48.8 AV	54.0	-5.2	1.83 V	28	37.38	11.42
3	#5725.00	55.8 PK	78.2	-22.4	1.96 V	311	44.31	11.49
4	*5785.00	116.2 PK			1.47 V	28	104.52	11.68
5	*5785.00	105.8 AV			1.47 V	28	94.12	11.68
6	#5850.00	61.5 PK	78.2	-16.7	1.68 V	27	49.77	11.73
7	#5860.00	58.2 PK	74.0	-15.8	1.57 V	28	46.47	11.73
8	#5860.00	47.2 AV	54.0	-6.8	1.57 V	28	35.47	11.73
9	11570.00	56.9 PK	74.0	-17.1	1.84 V	96	39.23	17.67
10	11570.00	44.2 AV	54.0	-9.8	1.84 V	96	26.53	17.67
11	#17355.00	60.4 PK	74.0	-13.6	1.57 V	321	33.67	26.73
12	#17355.00	48.5 AV	54.0	-5.5	1.57 V	321	21.77	26.73

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	105.8 PK			1.64 H	99	94.06	11.74
2	*5825.00	96.3 AV			1.64 H	99	84.56	11.74
3	#5850.00	71.7 PK	78.2	-6.5	1.64 H	99	59.97	11.73
4	#5860.00	61.8 PK	74.0	-12.2	1.64 H	99	50.07	11.73
5	#5860.00	46.3 AV	54.0	-7.7	1.64 H	99	34.57	11.73
6	11650.00	56.5 PK	74.0	-17.5	1.75 H	238	38.66	17.84
7	11650.00	44.4 AV	54.0	-9.6	1.75 H	238	26.56	17.84
8	#17475.00	63.3 PK	74.0	-10.7	1.81 H	11	35.99	27.31
9	#17475.00	50.2 AV	54.0	-3.8	1.81 H	11	22.89	27.31
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	115.7 PK			1.84 V	48	103.96	11.74
2	*5825.00	105.6 AV			1.84 V	48	93.86	11.74
3	#5850.00	76.7 PK	78.2	-1.5	1.84 V	48	64.97	11.73
4	#5860.00	66.0 PK	74.0	-8.0	1.84 V	48	54.27	11.73
5	#5860.00	50.5 AV	54.0	-3.5	1.84 V	48	38.77	11.73
6	#5905.00	58.9 PK	74.0	-15.1	1.84 V	48	47.14	11.76
7	#5905.00	48.4 AV	54.0	-5.6	1.84 V	48	36.64	11.76
8	11650.00	56.9 PK	74.0	-17.1	1.85 V	84	39.06	17.84
9	11650.00	44.3 AV	54.0	-9.7	1.85 V	84	26.46	17.84
10	#17475.00	60.5 PK	74.0	-13.5	1.62 V	321	33.19	27.31
11	#17475.00	48.3 AV	54.0	-5.7	1.62 V	321	20.99	27.31

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	61.7 PK	74.0	-12.3	1.64 H	77	51.57	10.13
2	5150.00	46.0 AV	54.0	-8.0	1.64 H	77	35.87	10.13
3	*5180.00	107.8 PK			1.64 H	77	97.50	10.30
4	*5180.00	97.7 AV			1.64 H	77	87.40	10.30
5	#10360.00	57.1 PK	74.0	-16.9	1.01 H	292	40.40	16.70
6	#10360.00	45.7 AV	54.0	-8.3	1.01 H	292	29.00	16.70
7	15540.00	64.9 PK	74.0	-9.1	1.55 H	322	43.34	21.56
8	15540.00	50.1 AV	54.0	-3.9	1.55 H	322	28.54	21.56
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5060.00	58.8 PK	74.0	-15.2	1.58 V	175	49.03	9.77
2	5060.00	48.5 AV	54.0	-5.5	1.58 V	175	38.73	9.77
3	5150.00	71.3 PK	74.0	-2.7	1.56 V	177	61.17	10.13
4	5150.00	51.3 AV	54.0	-2.7	1.56 V	177	41.17	10.13
5	*5180.00	117.2 PK			1.85 V	176	106.90	10.30
6	*5180.00	106.7 AV			1.85 V	176	96.40	10.30
7	#10360.00	55.7 PK	74.0	-18.3	1.00 V	232	39.00	16.70
8	#10360.00	43.5 AV	54.0	-10.5	1.00 V	232	26.80	16.70
9	15540.00	61.4 PK	74.0	-12.6	1.55 V	264	39.84	21.56
10	15540.00	47.9 AV	54.0	-6.1	1.55 V	264	26.34	21.56

REMARKS:

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

CHANNEL	TX Channel 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	*5200.00	106.9 PK			1.70 H	79	96.50	10.40
2	*5200.00	97.3 AV			1.70 H	79	86.90	10.40
3	#10400.00	56.8 PK	74.0	-17.2	1.00 H	302	39.89	16.91
4	#10400.00	45.3 AV	54.0	-8.7	1.00 H	302	28.39	16.91
5	15600.00	64.9 PK	74.0	-9.1	1.51 H	321	43.16	21.74
6	15600.00	50.3 AV	54.0	-3.7	1.51 H	321	28.56	21.74
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	*5200.00	115.6 PK			1.70 V	174	105.20	10.40
2	*5200.00	105.5 AV			1.70 V	174	95.10	10.40
3	#10400.00	55.7 PK	74.0	-18.3	1.00 V	217	38.79	16.91
4	#10400.00	43.5 AV	54.0	-10.5	1.00 V	217	26.59	16.91
5	15600.00	61.3 PK	74.0	-12.7	1.52 V	281	39.56	21.74
6	15600.00	47.5 AV	54.0	-6.5	1.52 V	281	25.76	21.74

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	106.6 PK			1.69 H	91	96.11	10.49
2	*5240.00	97.0 AV			1.69 H	91	86.51	10.49
3	5350.00	56.1 PK	74.0	-17.9	1.69 H	91	45.33	10.77
4	5350.00	44.3 AV	54.0	-9.7	1.69 H	91	33.53	10.77
5	#10480.00	57.3 PK	74.0	-16.7	1.06 H	275	40.81	16.49
6	#10480.00	45.1 AV	54.0	-8.9	1.06 H	275	28.61	16.49
7	15720.00	65.5 PK	74.0	-8.5	1.56 H	322	43.34	22.16
8	15720.00	50.9 AV	54.0	-3.1	1.56 H	322	28.74	22.16
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	*5240.00	115.7 PK			1.60 V	174	105.21	10.49
2	*5240.00	105.5 AV			1.60 V	174	95.01	10.49
3	5350.00	56.9 PK	74.0	-17.1	1.60 V	177	46.13	10.77
4	5350.00	44.9 AV	54.0	-9.1	1.60 V	177	34.13	10.77
5	#10480.00	56.3 PK	74.0	-17.7	1.00 V	210	39.81	16.49
6	#10480.00	43.9 AV	54.0	-10.1	1.00 V	210	27.41	16.49
7	15720.00	61.5 PK	74.0	-12.5	1.51 V	270	39.34	22.16
8	15720.00	47.6 AV	54.0	-6.4	1.51 V	270	25.44	22.16

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 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	60.7 PK	74.0	-13.3	1.69 H	93	49.24	11.46
2	#5715.00	45.1 AV	54.0	-8.9	1.69 H	93	33.64	11.46
3	#5725.00	73.1 PK	78.2	-5.1	1.69 H	93	61.61	11.49
4	*5745.00	104.4 PK			1.69 H	93	92.85	11.55
5	*5745.00	94.2 AV			1.69 H	93	82.65	11.55
6	11490.00	56.9 PK	74.0	-17.1	1.70 H	228	39.66	17.24
7	11490.00	45.0 AV	54.0	-9.0	1.70 H	228	27.76	17.24
8	#17235.00	60.4 PK	74.0	-13.6	1.64 H	5	33.85	26.55
9	#17235.00	48.9 AV	54.0	-5.1	1.64 H	5	22.35	26.55
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	#5715.00	70.5 PK	74.0	-3.5	1.57 V	332	59.04	11.46
2	#5715.00	50.5 AV	54.0	-3.5	1.57 V	332	39.04	11.46
3	**#5725.00**	**77.2 PK**	**78.2**	**-1.0**	**1.72 V**	**334**	**65.71**	**11.49**
4	*5745.00	113.0 PK			1.79 V	48	101.45	11.55
5	*5745.00	102.8 AV			1.79 V	48	91.25	11.55
6	11490.00	56.8 PK	74.0	-17.2	1.81 V	81	39.56	17.24
7	11490.00	44.0 AV	54.0	-10.0	1.81 V	81	26.76	17.24
8	#17235.00	60.0 PK	74.0	-14.0	1.54 V	301	33.45	26.55
9	#17235.00	48.3 AV	54.0	-5.7	1.54 V	301	21.75	26.55

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 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	*5785.00	107.4 PK			1.72 H	81	95.72	11.68
2	*5785.00	97.5 AV			1.72 H	81	85.82	11.68
3	11570.00	56.7 PK	74.0	-17.3	1.76 H	236	39.03	17.67
4	11570.00	44.8 AV	54.0	-9.2	1.76 H	236	27.13	17.67
5	#17355.00	62.1 PK	74.0	-11.9	1.47 H	67	35.37	26.73
6	#17355.00	50.2 AV	54.0	-3.8	1.47 H	67	23.47	26.73
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	59.3 PK	74.0	-14.7	1.83 V	49	47.84	11.46
2	#5715.00	49.7 AV	54.0	-4.3	1.83 V	49	38.24	11.46
3	#5725.00	64.2 PK	78.2	-14.0	1.83 V	49	52.71	11.49
4	*5785.00	117.8 PK			1.80 V	27	106.12	11.68
5	*5785.00	106.7 AV			1.80 V	27	95.02	11.68
6	#5850.00	60.3 PK	78.2	-17.9	1.87 V	47	48.57	11.73
7	#5860.00	60.8 PK	74.0	-13.2	1.91 V	51	49.07	11.73
8	#5860.00	48.1 AV	54.0	-5.9	1.91 V	51	36.37	11.73
9	11570.00	56.3 PK	74.0	-17.7	1.82 V	88	38.63	17.67
10	11570.00	43.7 AV	54.0	-10.3	1.82 V	88	26.03	17.67
11	#17355.00	60.2 PK	74.0	-13.8	1.59 V	306	33.47	26.73
12	#17355.00	48.4 AV	54.0	-5.6	1.59 V	306	21.67	26.73

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	106.5 PK			1.67 H	85	94.76	11.74
2	*5825.00	96.8 AV			1.67 H	85	85.06	11.74
3	#5850.00	70.3 PK	78.2	-7.9	1.67 H	85	58.57	11.73
4	#5860.00	60.1 PK	74.0	-13.9	1.67 H	85	48.37	11.73
5	#5860.00	45.2 AV	54.0	-8.8	1.67 H	85	33.47	11.73
6	11650.00	56.9 PK	74.0	-17.1	1.73 H	251	39.06	17.84
7	11650.00	45.2 AV	54.0	-8.8	1.73 H	251	27.36	17.84
8	#17475.00	61.4 PK	74.0	-12.6	1.47 H	67	34.09	27.31
9	#17475.00	50.1 AV	54.0	-3.9	1.47 H	67	22.79	27.31
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	112.9 PK			1.72 V	48	101.16	11.74
2	*5825.00	105.2 AV			1.72 V	48	93.46	11.74
3	#5850.00	74.9 PK	78.2	-3.3	1.72 V	48	63.17	11.73
4	#5860.00	65.4 PK	74.0	-8.6	1.87 V	51	53.67	11.73
5	#5860.00	50.6 AV	54.0	-3.4	1.87 V	51	38.87	11.73
6	11650.00	57.5 PK	74.0	-16.5	1.85 V	103	39.66	17.84
7	11650.00	44.6 AV	54.0	-9.4	1.85 V	103	26.76	17.84
8	#17475.00	60.5 PK	74.0	-13.5	1.62 V	306	33.19	27.31
9	#17475.00	48.5 AV	54.0	-5.5	1.62 V	306	21.19	27.31

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	61.5 PK	74.0	-12.5	1.75 H	69	51.37	10.13
2	5150.00	47.4 AV	54.0	-6.6	1.75 H	69	37.27	10.13
3	*5190.00	98.4 PK			1.75 H	69	88.05	10.35
4	*5190.00	90.1 AV			1.75 H	69	79.75	10.35
5	#10380.00	56.9 PK	74.0	-17.1	1.00 H	283	40.09	16.81
6	#10380.00	45.5 AV	54.0	-8.5	1.00 H	283	28.69	16.81
7	15570.00	59.8 PK	74.0	-14.2	1.69 H	8	38.15	21.65
8	15570.00	48.6 AV	54.0	-5.4	1.69 H	8	26.95	21.65
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	5150.00	66.8 PK	74.0	-7.2	1.80 V	32	56.67	10.13
2	5150.00	52.2 AV	54.0	-1.8	1.80 V	32	42.07	10.13
3	*5190.00	105.6 PK			1.43 V	30	95.25	10.35
4	*5190.00	97.5 AV			1.43 V	30	87.15	10.35
5	#10380.00	54.8 PK	74.0	-19.2	1.00 V	214	37.99	16.81
6	#10380.00	42.3 AV	54.0	-11.7	1.00 V	214	25.49	16.81
7	15570.00	61.1 PK	74.0	-12.9	1.57 V	285	39.45	21.65
8	15570.00	47.5 AV	54.0	-6.5	1.57 V	285	25.85	21.65

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.
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	*5230.00	103.6 PK			1.65 H	105	93.13	10.47
2	*5230.00	95.7 AV			1.65 H	105	85.23	10.47
3	#10460.00	56.9 PK	74.0	-17.1	1.00 H	300	40.30	16.60
4	#10460.00	44.9 AV	54.0	-9.1	1.00 H	300	28.30	16.60
5	15690.00	62.1 PK	74.0	-11.9	1.49 H	356	40.04	22.06
6	**15690.00**	**51.0 AV**	**54.0**	**-3.0**	**1.49 H**	**356**	**28.94**	**22.06**
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	5150.00	68.2 PK	74.0	-5.8	1.43 V	176	58.07	10.13
2	5150.00	50.1 AV	54.0	-3.9	1.43 V	176	39.97	10.13
3	*5230.00	111.5 PK			1.33 V	27	101.03	10.47
4	*5230.00	103.0 AV			1.33 V	27	92.53	10.47
5	5350.00	54.3 PK	74.0	-19.7	1.31 V	29	43.53	10.77
6	5350.00	43.0 AV	54.0	-11.0	1.31 V	29	32.23	10.77
7	#10460.00	56.5 PK	74.0	-17.5	1.00 V	223	39.90	16.60
8	#10460.00	43.9 AV	54.0	-10.1	1.00 V	223	27.30	16.60
9	15690.00	60.5 PK	74.0	-13.5	1.65 V	264	38.44	22.06
10	15690.00	47.0 AV	54.0	-7.0	1.65 V	264	24.94	22.06

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 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	58.6 PK	74.0	-15.4	1.76 H	86	47.14	11.46
2	#5715.00	46.7 AV	54.0	-7.3	1.76 H	86	35.24	11.46
3	#5725.00	63.4 PK	78.2	-14.8	1.76 H	86	51.91	11.49
4	*5755.00	95.6 PK			1.76 H	86	84.01	11.59
5	*5755.00	86.4 AV			1.76 H	86	74.81	11.59
6	11510.00	56.3 PK	74.0	-17.7	1.77 H	227	39.05	17.25
7	11510.00	44.4 AV	54.0	-9.6	1.77 H	227	27.15	17.25
8	#17265.00	60.9 PK	74.0	-13.1	1.66 H	0	34.42	26.48
9	#17265.00	49.4 AV	54.0	-4.6	1.66 H	0	22.92	26.48
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	62.8 PK	74.0	-11.2	1.62 V	179	51.34	11.46
2	#5715.00	52.1 AV	54.0	-1.9	1.62 V	179	40.64	11.46
3	#5725.00	69.1 PK	78.2	-9.1	1.48 V	180	57.61	11.49
4	*5755.00	102.2 PK			1.59 V	180	90.61	11.59
5	*5755.00	94.6 AV			1.59 V	180	83.01	11.59
6	11510.00	56.4 PK	74.0	-17.6	1.79 V	93	39.15	17.25
7	11510.00	43.7 AV	54.0	-10.3	1.79 V	93	26.45	17.25
8	#17265.00	59.6 PK	74.0	-14.4	1.56 V	327	33.12	26.48
9	#17265.00	48.0 AV	54.0	-6.0	1.56 V	327	21.52	26.48

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	101.2 PK			1.70 H	70	89.48	11.72
2	*5795.00	94.2 AV			1.70 H	70	82.48	11.72
3	#5850.00	63.5 PK	78.2	-14.7	1.70 H	70	51.77	11.73
4	#5860.00	58.9 PK	74.0	-15.1	1.70 H	70	47.17	11.73
5	#5860.00	47.8 AV	54.0	-6.2	1.70 H	70	36.07	11.73
6	11590.00	56.4 PK	74.0	-17.6	1.79 H	231	38.60	17.80
7	11590.00	44.4 AV	54.0	-9.6	1.79 H	231	26.60	17.80
8	#17385.00	61.2 PK	74.0	-12.8	1.44 H	360	34.28	26.92
9	#17385.00	49.7 AV	54.0	-4.3	1.44 H	360	22.78	26.92
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	109.8 PK			1.77 V	49	98.08	11.72
2	*5795.00	102.0 AV			1.77 V	49	90.28	11.72
3	#5850.00	69.8 PK	78.2	-8.4	1.77 V	49	58.07	11.73
4	#5860.00	63.4 PK	74.0	-10.6	1.77 V	48	51.67	11.73
5	#5860.00	52.5 AV	54.0	-1.5	1.77 V	48	40.77	11.73
6	11590.00	56.9 PK	74.0	-17.1	1.76 V	107	39.10	17.80
7	11590.00	44.0 AV	54.0	-10.0	1.76 V	107	26.20	17.80
8	#17385.00	59.6 PK	74.0	-14.4	1.59 V	311	32.68	26.92
9	#17385.00	47.9 AV	54.0	-6.1	1.59 V	311	20.98	26.92

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	60.8 PK	74.0	-13.2	1.68 H	92	50.67	10.13
2	5150.00	47.0 AV	54.0	-7.0	1.68 H	92	36.87	10.13
3	*5210.00	94.7 PK			1.68 H	92	84.28	10.42
4	*5210.00	85.6 AV			1.68 H	92	75.18	10.42
5	5350.00	53.2 PK	74.0	-20.8	1.68 H	92	42.43	10.77
6	5350.00	43.2 AV	54.0	-10.8	1.68 H	92	32.43	10.77
7	#10420.00	56.8 PK	74.0	-17.2	1.02 H	282	39.99	16.81
8	#10420.00	45.1 AV	54.0	-8.9	1.02 H	282	28.29	16.81
9	15630.00	60.3 PK	74.0	-13.7	1.70 H	0	38.45	21.85
10	15630.00	48.5 AV	54.0	-5.5	1.70 H	0	26.65	21.85
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.2 PK	74.0	-8.8	1.29 V	38	55.07	10.13
2	5150.00	52.1 AV	54.0	-1.9	1.29 V	38	41.97	10.13
3	*5210.00	102.6 PK			1.27 V	30	92.18	10.42
4	*5210.00	93.8 AV			1.27 V	30	83.38	10.42
5	5350.00	53.6 PK	74.0	-20.4	1.29 V	38	42.83	10.77
6	5350.00	43.3 AV	54.0	-10.7	1.29 V	38	32.53	10.77
7	#10420.00	55.9 PK	74.0	-18.1	1.00 V	235	39.09	16.81
8	#10420.00	43.9 AV	54.0	-10.1	1.00 V	235	27.09	16.81
9	15630.00	60.6 PK	74.0	-13.4	1.59 V	267	38.75	21.85
10	15630.00	46.9 AV	54.0	-7.1	1.59 V	267	25.05	21.85

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	60.6 PK	74.0	-13.4	1.70 H	85	49.14	11.46
2	#5715.00	47.5 AV	54.0	-6.5	1.70 H	85	36.04	11.46
3	#5725.00	63.6 PK	78.2	-14.6	1.70 H	85	52.11	11.49
4	*5775.00	92.6 PK			1.70 H	85	80.94	11.66
5	*5775.00	83.8 AV			1.70 H	85	72.14	11.66
6	#5850.00	59.1 PK	78.2	-19.1	1.70 H	85	47.37	11.73
7	#5860.00	56.5 PK	74.0	-17.5	1.70 H	85	44.77	11.73
8	#5860.00	44.7 AV	54.0	-9.3	1.70 H	85	32.97	11.73
9	11550.00	55.8 PK	74.0	-18.2	1.80 H	246	38.27	17.53
10	11550.00	43.7 AV	54.0	-10.3	1.80 H	246	26.17	17.53
11	#17325.00	59.9 PK	74.0	-14.1	1.61 H	13	33.36	26.54
12	#17325.00	48.4 AV	54.0	-5.6	1.61 H	13	21.86	26.54
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	65.7 PK	74.0	-8.3	1.47 V	25	54.24	11.46
2	#5715.00	52.7 AV	54.0	-1.3	1.47 V	25	41.24	11.46
3	#5725.00	67.7 PK	78.2	-10.5	1.47 V	25	56.21	11.49
4	*5775.00	100.1 PK			1.47 V	25	88.44	11.66
5	*5775.00	91.4 AV			1.47 V	25	79.74	11.66
6	#5850.00	62.3 PK	78.2	-15.9	1.47 V	25	50.57	11.73
7	#5860.00	59.4 PK	74.0	-14.6	1.47 V	25	47.67	11.73
8	#5860.00	45.9 AV	54.0	-8.1	1.47 V	25	34.17	11.73
9	11550.00	55.4 PK	74.0	-18.6	1.90 V	92	37.87	17.53
10	11550.00	43.1 AV	54.0	-10.9	1.90 V	92	25.57	17.53
11	#17325.00	60.2 PK	74.0	-13.8	1.56 V	325	33.66	26.54
12	#17325.00	48.2 AV	54.0	-5.8	1.56 V	325	21.66	26.54

REMARKS:

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

Below 1GHz Data

802.11a

CHANNEL	TX Channel 157	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	134.71	25.2 QP	43.5	-18.3	1.25 H	74	38.83	-13.64
2	347.77	33.3 QP	46.0	-12.7	1.00 H	191	44.14	-10.84
3	500.01	32.6 QP	46.0	-13.4	1.25 H	360	39.40	-6.83
4	749.98	32.6 QP	46.0	-13.4	1.00 H	335	33.85	-1.21
5	874.97	37.7 QP	46.0	-8.3	1.00 H	23	37.42	0.25
6	1000.00	45.5 QP	54.0	-8.5	1.25 H	3	43.42	2.05
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	88.10	27.0 QP	43.5	-16.5	1.25 V	257	45.79	-18.77
2	338.32	31.0 QP	46.0	-15.0	1.00 V	100	42.00	-11.03
3	499.97	31.6 QP	46.0	-14.4	1.00 V	67	38.41	-6.83
4	875.02	35.3 QP	46.0	-10.7	1.25 V	295	35.10	0.24
5	918.42	34.3 QP	46.0	-11.7	1.00 V	219	33.03	1.27
6	1000.00	39.7 QP	54.0	-14.4	1.00 V	79	37.60	2.05

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

4.1.8 Test Results (Mode 3)

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	5150.00	60.6 PK	74.0	-13.4	1.67 H	102	50.47	10.13
2	5150.00	45.1 AV	54.0	-8.9	1.67 H	102	34.97	10.13
3	*5180.00	106.9 PK			1.67 H	102	96.60	10.30
4	*5180.00	96.7 AV			1.67 H	102	86.40	10.30
5	#10360.00	57.0 PK	74.0	-17.0	1.05 H	302	40.30	16.70
6	#10360.00	45.2 AV	54.0	-8.8	1.05 H	302	28.50	16.70
7	15540.00	63.3 PK	74.0	-10.7	1.51 H	318	41.74	21.56
8	15540.00	50.9 AV	54.0	-3.1	1.51 H	318	29.34	21.56
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	68.4 PK	74.0	-5.6	1.70 V	179	58.27	10.13
2	5150.00	50.8 AV	54.0	-3.2	1.70 V	179	40.67	10.13
3	*5180.00	115.0 PK			1.70 V	179	104.70	10.30
4	*5180.00	105.2 AV			1.70 V	179	94.90	10.30
5	#10360.00	55.2 PK	74.0	-18.8	1.00 V	209	38.50	16.70
6	#10360.00	43.2 AV	54.0	-10.8	1.00 V	209	26.50	16.70
7	15540.00	61.3 PK	74.0	-12.7	1.67 V	243	39.74	21.56
8	15540.00	47.6 AV	54.0	-6.4	1.67 V	243	26.04	21.56

REMARKS:

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

CHANNEL	TX Channel 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	*5200.00	107.4 PK			1.74 H	72	97.00	10.40
2	*5200.00	97.3 AV			1.74 H	72	86.90	10.40
3	#10400.00	55.8 PK	74.0	-18.2	1.00 H	285	38.89	16.91
4	#10400.00	44.2 AV	54.0	-9.8	1.00 H	285	27.29	16.91
5	15600.00	62.8 PK	74.0	-11.2	1.58 H	304	41.06	21.74
6	15600.00	49.9 AV	54.0	-4.1	1.58 H	304	28.16	21.74
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	*5200.00	114.6 PK			1.66 V	177	104.20	10.40
2	*5200.00	104.9 AV			1.66 V	177	94.50	10.40
3	#10400.00	55.5 PK	74.0	-18.5	1.03 V	260	38.59	16.91
4	#10400.00	43.1 AV	54.0	-10.9	1.03 V	260	26.19	16.91
5	15600.00	60.9 PK	74.0	-13.1	1.56 V	275	39.16	21.74
6	15600.00	47.4 AV	54.0	-6.6	1.56 V	275	25.66	21.74

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	106.8 PK			1.70 H	88	96.31	10.49
2	*5240.00	96.9 AV			1.70 H	88	86.41	10.49
3	5350.00	56.4 PK	74.0	-17.6	1.70 H	88	45.63	10.77
4	5350.00	43.6 AV	54.0	-10.4	1.70 H	88	32.83	10.77
5	#10480.00	57.5 PK	74.0	-16.5	1.00 H	280	41.01	16.49
6	#10480.00	45.6 AV	54.0	-8.4	1.00 H	280	29.11	16.49
7	15720.00	63.6 PK	74.0	-10.4	1.60 H	78	41.44	22.16
8	15720.00	50.0 AV	54.0	-4.0	1.60 H	78	27.84	22.16
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	*5240.00	114.5 PK			1.68 V	182	104.01	10.49
2	*5240.00	104.1 AV			1.68 V	182	93.61	10.49
3	5350.00	57.3 PK	74.0	-16.7	1.68 V	182	46.53	10.77
4	5350.00	45.0 AV	54.0	-9.0	1.68 V	182	34.23	10.77
5	#10480.00	55.7 PK	74.0	-18.3	1.00 V	225	39.21	16.49
6	#10480.00	43.6 AV	54.0	-10.4	1.00 V	225	27.11	16.49
7	15720.00	61.3 PK	74.0	-12.7	1.63 V	277	39.14	22.16
8	15720.00	47.5 AV	54.0	-6.5	1.63 V	277	25.34	22.16

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 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	59.9 PK	74.0	-14.1	1.67 H	74	48.44	11.46
2	#5715.00	45.1 AV	54.0	-8.9	1.67 H	74	33.64	11.46
3	#5725.00	73.1 PK	78.2	-5.1	1.67 H	74	61.61	11.49
4	*5745.00	104.8 PK			1.67 H	74	93.25	11.55
5	*5745.00	95.4 AV			1.67 H	74	83.85	11.55
6	11490.00	55.1 PK	74.0	-18.9	1.73 H	239	37.86	17.24
7	11490.00	43.4 AV	54.0	-10.6	1.73 H	239	26.16	17.24
8	#17235.00	61.3 PK	74.0	-12.7	1.59 H	6	34.75	26.55
9	#17235.00	49.5 AV	54.0	-4.5	1.59 H	6	22.95	26.55
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	#5715.00	63.1 PK	74.0	-10.9	1.88 V	34	51.64	11.46
2	#5715.00	49.0 AV	54.0	-5.0	1.88 V	34	37.54	11.46
3	#5725.00	76.7 PK	78.2	-1.5	1.88 V	34	65.21	11.49
4	*5745.00	113.0 PK			1.88 V	34	101.45	11.55
5	*5745.00	103.0 AV			1.88 V	34	91.45	11.55
6	11490.00	56.8 PK	74.0	-17.2	1.83 V	109	39.56	17.24
7	11490.00	44.1 AV	54.0	-9.9	1.83 V	109	26.86	17.24
8	#17235.00	60.8 PK	74.0	-13.2	1.55 V	321	34.25	26.55
9	#17235.00	48.4 AV	54.0	-5.6	1.55 V	321	21.85	26.55

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 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	*5785.00	106.0 PK			1.67 H	62	94.32	11.68
2	*5785.00	96.4 AV			1.67 H	62	84.72	11.68
3	11570.00	56.8 PK	74.0	-17.2	1.74 H	233	39.13	17.67
4	11570.00	44.6 AV	54.0	-9.4	1.74 H	233	26.93	17.67
5	#17355.00	64.1 PK	74.0	-9.9	1.74 H	5	37.37	26.73
6	#17355.00	50.8 AV	54.0	-3.2	1.74 H	5	24.07	26.73
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	58.6 PK	74.0	-15.4	1.44 V	42	47.14	11.46
2	#5715.00	49.2 AV	54.0	-4.8	1.44 V	42	37.74	11.46
3	#5725.00	55.2 PK	78.2	-23.0	1.44 V	42	43.71	11.49
4	*5785.00	116.4 PK			1.44 V	42	104.72	11.68
5	*5785.00	105.9 AV			1.44 V	42	94.22	11.68
6	#5850.00	61.8 PK	78.2	-16.4	1.44 V	42	50.07	11.73
7	#5860.00	58.3 PK	74.0	-15.7	1.44 V	42	46.57	11.73
8	#5860.00	47.2 AV	54.0	-6.8	1.44 V	42	35.47	11.73
9	11570.00	56.8 PK	74.0	-17.2	1.87 V	92	39.13	17.67
10	11570.00	44.2 AV	54.0	-9.8	1.87 V	92	26.53	17.67
11	#17355.00	60.6 PK	74.0	-13.4	1.56 V	307	33.87	26.73
12	#17355.00	48.9 AV	54.0	-5.1	1.56 V	307	22.17	26.73

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	106.4 PK			1.61 H	104	94.66	11.74
2	*5825.00	96.8 AV			1.61 H	104	85.06	11.74
3	#5850.00	72.4 PK	78.2	-5.8	1.61 H	104	60.67	11.73
4	#5860.00	62.2 PK	74.0	-11.8	1.61 H	104	50.47	11.73
5	#5860.00	46.5 AV	54.0	-7.5	1.61 H	104	34.77	11.73
6	11650.00	56.5 PK	74.0	-17.5	1.70 H	247	38.66	17.84
7	11650.00	44.2 AV	54.0	-9.8	1.70 H	247	26.36	17.84
8	#17475.00	63.9 PK	74.0	-10.1	1.78 H	10	36.59	27.31
9	#17475.00	50.6 AV	54.0	-3.4	1.78 H	10	23.29	27.31
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	115.5 PK			1.84 V	40	103.76	11.74
2	*5825.00	105.6 AV			1.84 V	40	93.86	11.74
3	#5850.00	76.6 PK	78.2	-1.6	1.84 V	40	64.87	11.73
4	#5860.00	66.0 PK	74.0	-8.0	1.84 V	40	54.27	11.73
5	#5860.00	50.3 AV	54.0	-3.7	1.84 V	40	38.57	11.73
6	11650.00	56.2 PK	74.0	-17.8	1.83 V	76	38.36	17.84
7	11650.00	43.8 AV	54.0	-10.2	1.83 V	76	25.96	17.84
8	#17475.00	59.9 PK	74.0	-14.1	1.61 V	335	32.59	27.31
9	#17475.00	47.8 AV	54.0	-6.2	1.61 V	335	20.49	27.31

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	61.9 PK	74.0	-12.1	1.61 H	74	51.77	10.13
2	5150.00	46.2 AV	54.0	-7.8	1.61 H	74	36.07	10.13
3	*5180.00	107.6 PK			1.61 H	74	97.30	10.30
4	*5180.00	97.7 AV			1.61 H	74	87.40	10.30
5	#10360.00	57.6 PK	74.0	-16.4	1.00 H	279	40.90	16.70
6	#10360.00	46.1 AV	54.0	-7.9	1.00 H	279	29.40	16.70
7	15540.00	64.6 PK	74.0	-9.4	1.52 H	318	43.04	21.56
8	15540.00	49.8 AV	54.0	-4.2	1.52 H	318	28.24	21.56
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	70.9 PK	74.0	-3.1	1.80 V	174	60.77	10.13
2	5150.00	50.9 AV	54.0	-3.1	1.80 V	174	40.77	10.13
3	*5180.00	116.9 PK			1.80 V	174	106.60	10.30
4	*5180.00	106.3 AV			1.80 V	174	96.00	10.30
5	#10360.00	56.1 PK	74.0	-17.9	1.00 V	243	39.40	16.70
6	#10360.00	43.7 AV	54.0	-10.3	1.00 V	243	27.00	16.70
7	15540.00	61.9 PK	74.0	-12.1	1.57 V	260	40.34	21.56
8	15540.00	48.2 AV	54.0	-5.8	1.57 V	260	26.64	21.56

REMARKS:

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

CHANNEL	TX Channel 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	*5200.00	107.3 PK			1.71 H	63	96.90	10.40
2	*5200.00	97.8 AV			1.71 H	63	87.40	10.40
3	#10400.00	57.6 PK	74.0	-16.4	1.04 H	310	40.69	16.91
4	#10400.00	45.8 AV	54.0	-8.2	1.04 H	310	28.89	16.91
5	15600.00	64.9 PK	74.0	-9.1	1.56 H	308	43.16	21.74
6	15600.00	50.4 AV	54.0	-3.6	1.56 H	308	28.66	21.74
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	*5200.00	114.8 PK			1.69 V	163	104.40	10.40
2	*5200.00	105.0 AV			1.69 V	163	94.60	10.40
3	#10400.00	55.7 PK	74.0	-18.3	1.00 V	221	38.79	16.91
4	#10400.00	43.5 AV	54.0	-10.5	1.00 V	221	26.59	16.91
5	15600.00	61.7 PK	74.0	-12.3	1.51 V	266	39.96	21.74
6	15600.00	47.9 AV	54.0	-6.1	1.51 V	266	26.16	21.74

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	106.2 PK			1.71 H	97	95.71	10.49
2	*5240.00	96.7 AV			1.71 H	97	86.21	10.49
3	5350.00	56.9 PK	74.0	-17.1	1.71 H	97	46.13	10.77
4	5350.00	44.8 AV	54.0	-9.2	1.71 H	97	34.03	10.77
5	#10480.00	57.4 PK	74.0	-16.6	1.02 H	289	40.91	16.49
6	#10480.00	45.3 AV	54.0	-8.7	1.02 H	289	28.81	16.49
7	15720.00	65.2 PK	74.0	-8.8	1.62 H	310	43.04	22.16
8	15720.00	50.5 AV	54.0	-3.5	1.62 H	310	28.34	22.16
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	*5240.00	116.1 PK			1.65 V	159	105.61	10.49
2	*5240.00	105.8 AV			1.65 V	159	95.31	10.49
3	5350.00	57.0 PK	74.0	-17.0	1.65 V	159	46.23	10.77
4	5350.00	45.3 AV	54.0	-8.7	1.65 V	159	34.53	10.77
5	#10480.00	56.3 PK	74.0	-17.7	1.00 V	198	39.81	16.49
6	#10480.00	43.9 AV	54.0	-10.1	1.00 V	198	27.41	16.49
7	15720.00	61.5 PK	74.0	-12.5	1.46 V	283	39.34	22.16
8	15720.00	47.9 AV	54.0	-6.1	1.46 V	283	25.74	22.16

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 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	60.5 PK	74.0	-13.5	1.68 H	109	49.04	11.46
2	#5715.00	44.8 AV	54.0	-9.2	1.68 H	109	33.34	11.46
3	#5725.00	73.6 PK	78.2	-4.6	1.65 H	103	62.11	11.49
4	*5745.00	105.0 PK			1.65 H	103	93.45	11.55
5	*5745.00	94.7 AV			1.65 H	103	83.15	11.55
6	11490.00	56.6 PK	74.0	-17.4	1.75 H	219	39.36	17.24
7	11490.00	44.6 AV	54.0	-9.4	1.75 H	219	27.36	17.24
8	#17235.00	60.3 PK	74.0	-13.7	1.67 H	13	33.75	26.55
9	#17235.00	48.9 AV	54.0	-5.1	1.67 H	13	22.35	26.55
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	#5715.00	70.3 PK	74.0	-3.7	1.59 V	326	58.84	11.46
2	#5715.00	50.2 AV	54.0	-3.8	1.59 V	326	38.74	11.46
3	#5725.00	77.1 PK	78.2	-1.1	1.82 V	55	65.61	11.49
4	*5745.00	113.3 PK			1.82 V	55	101.75	11.55
5	*5745.00	103.2 AV			1.82 V	55	91.65	11.55
6	11490.00	56.6 PK	74.0	-17.4	1.81 V	72	39.36	17.24
7	11490.00	44.0 AV	54.0	-10.0	1.81 V	72	26.76	17.24
8	#17235.00	60.0 PK	74.0	-14.0	1.55 V	308	33.45	26.55
9	#17235.00	48.4 AV	54.0	-5.6	1.55 V	308	21.85	26.55

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 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	*5785.00	106.9 PK			1.67 H	86	95.22	11.68
2	*5785.00	97.1 AV			1.67 H	86	85.42	11.68
3	11570.00	56.5 PK	74.0	-17.5	1.79 H	248	38.83	17.67
4	11570.00	44.6 AV	54.0	-9.4	1.79 H	248	26.93	17.67
5	#17355.00	61.7 PK	74.0	-12.3	1.49 H	66	34.97	26.73
6	#17355.00	49.7 AV	54.0	-4.3	1.49 H	66	22.97	26.73
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	59.1 PK	74.0	-14.9	1.83 V	17	47.64	11.46
2	#5715.00	49.5 AV	54.0	-4.5	1.83 V	17	38.04	11.46
3	#5725.00	64.6 PK	78.2	-13.6	1.83 V	17	53.11	11.49
4	*5785.00	117.5 PK			1.83 V	17	105.82	11.68
5	*5785.00	106.5 AV			1.83 V	17	94.82	11.68
6	#5850.00	60.6 PK	78.2	-17.6	1.83 V	17	48.87	11.73
7	#5860.00	60.2 PK	74.0	-13.8	1.83 V	17	48.47	11.73
8	#5860.00	47.6 AV	54.0	-6.4	1.83 V	17	35.87	11.73
9	11570.00	56.9 PK	74.0	-17.1	1.78 V	95	39.23	17.67
10	11570.00	44.0 AV	54.0	-10.0	1.78 V	95	26.33	17.67
11	#17355.00	60.6 PK	74.0	-13.4	1.61 V	302	33.87	26.73
12	#17355.00	48.8 AV	54.0	-5.2	1.61 V	302	22.07	26.73

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	107.3 PK			1.71 H	94	95.56	11.74
2	*5825.00	97.3 AV			1.71 H	94	85.56	11.74
3	#5850.00	70.6 PK	78.2	-7.6	1.71 H	94	58.87	11.73
4	#5860.00	60.4 PK	74.0	-13.6	1.71 H	94	48.67	11.73
5	#5860.00	45.4 AV	54.0	-8.6	1.71 H	94	33.67	11.73
6	11650.00	57.0 PK	74.0	-17.0	1.79 H	236	39.16	17.84
7	11650.00	45.3 AV	54.0	-8.7	1.79 H	236	27.46	17.84
8	#17475.00	61.0 PK	74.0	-13.0	1.46 H	54	33.69	27.31
9	#17475.00	49.6 AV	54.0	-4.4	1.46 H	54	22.29	27.31
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	112.7 PK			1.75 V	34	100.96	11.74
2	*5825.00	104.8 AV			1.75 V	34	93.06	11.74
3	#5850.00	74.5 PK	78.2	-3.7	1.75 V	34	62.77	11.73
4	#5860.00	66.1 PK	74.0	-7.9	1.75 V	34	54.37	11.73
5	#5860.00	51.1 AV	54.0	-2.9	1.75 V	34	39.37	11.73
6	11650.00	57.4 PK	74.0	-16.6	1.82 V	101	39.56	17.84
7	11650.00	44.6 AV	54.0	-9.4	1.82 V	101	26.76	17.84
8	#17475.00	60.6 PK	74.0	-13.4	1.63 V	302	33.29	27.31
9	#17475.00	48.6 AV	54.0	-5.4	1.63 V	302	21.29	27.31

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	61.7 PK	74.0	-12.3	1.70 H	59	51.57	10.13
2	5150.00	47.6 AV	54.0	-6.4	1.70 H	59	37.47	10.13
3	*5190.00	98.9 PK			1.70 H	59	88.55	10.35
4	*5190.00	90.4 AV			1.70 H	59	80.05	10.35
5	#10380.00	56.8 PK	74.0	-17.2	1.00 H	281	39.99	16.81
6	#10380.00	45.3 AV	54.0	-8.7	1.00 H	281	28.49	16.81
7	15570.00	59.3 PK	74.0	-14.7	1.66 H	4	37.65	21.65
8	15570.00	48.3 AV	54.0	-5.7	1.66 H	4	26.65	21.65
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	5150.00	66.6 PK	74.0	-7.4	1.41 V	36	56.47	10.13
2	5150.00	52.1 AV	54.0	-1.9	1.41 V	36	41.97	10.13
3	*5190.00	105.3 PK			1.41 V	36	94.95	10.35
4	*5190.00	97.3 AV			1.41 V	36	86.95	10.35
5	#10380.00	54.3 PK	74.0	-19.7	1.04 V	210	37.49	16.81
6	#10380.00	42.0 AV	54.0	-12.0	1.04 V	210	25.19	16.81
7	15570.00	60.9 PK	74.0	-13.1	1.59 V	270	39.25	21.65
8	15570.00	47.0 AV	54.0	-7.0	1.59 V	270	25.35	21.65

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.
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	*5230.00	103.6 PK			1.62 H	104	93.13	10.47
2	*5230.00	95.7 AV			1.62 H	104	85.23	10.47
3	#10460.00	56.9 PK	74.0	-17.1	1.02 H	298	40.30	16.60
4	#10460.00	44.8 AV	54.0	-9.2	1.02 H	298	28.20	16.60
5	15690.00	61.9 PK	74.0	-12.1	1.48 H	360	39.84	22.06
6	**15690.00**	**51.0 AV**	**54.0**	**-3.0**	**1.48 H**	**360**	**28.94**	**22.06**
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	5150.00	69.0 PK	74.0	-5.0	1.37 V	22	58.87	10.13
2	5150.00	50.6 AV	54.0	-3.4	1.37 V	22	40.47	10.13
3	*5230.00	111.1 PK			1.37 V	22	100.63	10.47
4	*5230.00	102.9 AV			1.37 V	22	92.43	10.47
5	5350.00	54.0 PK	74.0	-20.0	1.37 V	22	43.23	10.77
6	5350.00	42.7 AV	54.0	-11.3	1.37 V	22	31.93	10.77
7	#10460.00	56.4 PK	74.0	-17.6	1.00 V	207	39.80	16.60
8	#10460.00	44.0 AV	54.0	-10.0	1.00 V	207	27.40	16.60
9	15690.00	60.5 PK	74.0	-13.5	1.69 V	254	38.44	22.06
10	15690.00	46.7 AV	54.0	-7.3	1.69 V	254	24.64	22.06

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 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	58.2 PK	74.0	-15.8	1.72 H	73	46.74	11.46
2	#5715.00	46.4 AV	54.0	-7.6	1.72 H	73	34.94	11.46
3	#5725.00	63.3 PK	78.2	-14.9	1.72 H	73	51.81	11.49
4	*5755.00	95.7 PK			1.72 H	73	84.11	11.59
5	*5755.00	86.6 AV			1.72 H	73	75.01	11.59
6	11510.00	56.3 PK	74.0	-17.7	1.83 H	235	39.05	17.25
7	11510.00	44.4 AV	54.0	-9.6	1.83 H	235	27.15	17.25
8	#17265.00	61.3 PK	74.0	-12.7	1.69 H	0	34.82	26.48
9	#17265.00	49.7 AV	54.0	-4.3	1.69 H	0	23.22	26.48
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	62.7 PK	74.0	-11.3	1.59 V	173	51.24	11.46
2	#5715.00	52.2 AV	54.0	-1.8	1.59 V	173	40.74	11.46
3	#5725.00	68.9 PK	78.2	-9.3	1.59 V	173	57.41	11.49
4	*5755.00	101.5 PK			1.59 V	173	89.91	11.59
5	*5755.00	94.2 AV			1.59 V	173	82.61	11.59
6	11510.00	56.1 PK	74.0	-17.9	1.80 V	86	38.85	17.25
7	11510.00	43.3 AV	54.0	-10.7	1.80 V	86	26.05	17.25
8	#17265.00	59.1 PK	74.0	-14.9	1.59 V	315	32.62	26.48
9	#17265.00	47.5 AV	54.0	-6.5	1.59 V	315	21.02	26.48

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	100.9 PK			1.67 H	85	89.18	11.72
2	*5795.00	93.9 AV			1.67 H	85	82.18	11.72
3	#5850.00	62.9 PK	78.2	-15.3	1.67 H	85	51.17	11.73
4	#5860.00	58.5 PK	74.0	-15.5	1.67 H	85	46.77	11.73
5	#5860.00	47.7 AV	54.0	-6.3	1.67 H	85	35.97	11.73
6	11590.00	56.6 PK	74.0	-17.4	1.78 H	215	38.80	17.80
7	11590.00	44.8 AV	54.0	-9.2	1.78 H	215	27.00	17.80
8	#17385.00	60.9 PK	74.0	-13.1	1.43 H	360	33.98	26.92
9	#17385.00	49.7 AV	54.0	-4.3	1.43 H	360	22.78	26.92
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	109.7 PK			1.73 V	42	97.98	11.72
2	*5795.00	101.6 AV			1.73 V	42	89.88	11.72
3	#5850.00	69.7 PK	78.2	-8.5	1.73 V	42	57.97	11.73
4	#5860.00	63.3 PK	74.0	-10.7	1.73 V	42	51.57	11.73
5	#5860.00	52.3 AV	54.0	-1.7	1.73 V	42	40.57	11.73
6	11590.00	57.2 PK	74.0	-16.8	1.74 V	103	39.40	17.80
7	11590.00	44.3 AV	54.0	-9.7	1.74 V	103	26.50	17.80
8	#17385.00	59.5 PK	74.0	-14.5	1.61 V	318	32.58	26.92
9	#17385.00	47.7 AV	54.0	-6.3	1.61 V	318	20.78	26.92

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	61.1 PK	74.0	-12.9	1.71 H	79	50.97	10.13
2	5150.00	47.3 AV	54.0	-6.7	1.71 H	79	37.17	10.13
3	*5210.00	94.4 PK			1.71 H	79	83.98	10.42
4	*5210.00	85.2 AV			1.71 H	79	74.78	10.42
5	5350.00	53.4 PK	74.0	-20.6	1.71 H	79	42.63	10.77
6	5350.00	43.1 AV	54.0	-10.9	1.71 H	79	32.33	10.77
7	#10420.00	57.1 PK	74.0	-16.9	1.07 H	291	40.29	16.81
8	#10420.00	45.2 AV	54.0	-8.8	1.07 H	291	28.39	16.81
9	15630.00	60.0 PK	74.0	-14.0	1.73 H	1	38.15	21.85
10	15630.00	48.0 AV	54.0	-6.0	1.73 H	1	26.15	21.85
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.7 PK	74.0	-9.3	1.25 V	34	54.57	10.13
2	5150.00	51.7 AV	54.0	-2.3	1.25 V	34	41.57	10.13
3	*5210.00	102.5 PK			1.28 V	20	92.08	10.42
4	*5210.00	93.6 AV			1.28 V	20	83.18	10.42
5	5350.00	53.0 PK	74.0	-21.0	1.28 V	20	42.23	10.77
6	5350.00	42.9 AV	54.0	-11.1	1.28 V	20	32.13	10.77
7	#10420.00	55.5 PK	74.0	-18.5	1.02 V	225	38.69	16.81
8	#10420.00	43.4 AV	54.0	-10.6	1.02 V	225	26.59	16.81
9	15630.00	60.9 PK	74.0	-13.1	1.55 V	260	39.05	21.85
10	15630.00	47.3 AV	54.0	-6.7	1.55 V	260	25.45	21.85

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	61.1 PK	74.0	-12.9	1.74 H	91	49.64	11.46
2	#5715.00	47.8 AV	54.0	-6.2	1.74 H	91	36.34	11.46
3	#5725.00	63.5 PK	78.2	-14.7	1.74 H	91	52.01	11.49
4	*5775.00	92.3 PK			1.74 H	91	80.64	11.66
5	*5775.00	83.3 AV			1.74 H	91	71.64	11.66
6	#5850.00	59.5 PK	78.2	-18.7	1.74 H	91	47.77	11.73
7	#5860.00	56.6 PK	74.0	-17.4	1.74 H	91	44.87	11.73
8	#5860.00	44.7 AV	54.0	-9.3	1.74 H	91	32.97	11.73
9	11550.00	55.7 PK	74.0	-18.3	1.83 H	237	38.17	17.53
10	11550.00	43.7 AV	54.0	-10.3	1.83 H	237	26.17	17.53
11	#17325.00	60.1 PK	74.0	-13.9	1.65 H	2	33.56	26.54
12	#17325.00	48.4 AV	54.0	-5.6	1.65 H	2	21.86	26.54
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	65.8 PK	74.0	-8.2	1.46 V	27	54.34	11.46
2	**#5715.00**	**53.0 AV**	**54.0**	**-1.0**	**1.46 V**	**27**	**41.54**	**11.46**
3	#5725.00	67.2 PK	78.2	-11.0	1.46 V	27	55.71	11.49
4	*5775.00	100.3 PK			1.46 V	27	88.64	11.66
5	*5775.00	91.7 AV			1.46 V	27	80.04	11.66
6	#5850.00	62.4 PK	78.2	-15.8	1.46 V	27	50.67	11.73
7	#5860.00	60.0 PK	74.0	-14.0	1.46 V	27	48.27	11.73
8	#5860.00	46.4 AV	54.0	-7.6	1.46 V	27	34.67	11.73
9	11550.00	54.9 PK	74.0	-19.1	1.93 V	83	37.37	17.53
10	11550.00	42.8 AV	54.0	-11.2	1.93 V	83	25.27	17.53
11	#17325.00	60.6 PK	74.0	-13.4	1.61 V	339	34.06	26.54
12	#17325.00	48.6 AV	54.0	-5.4	1.61 V	339	22.06	26.54

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.

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	100287	Apr. 17, 2015	Apr. 16, 2016
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-523	Sep. 29, 2014	Sep. 28, 2015
RF Cable	5D-FB	COACAB-001	May 25, 2015	May 24, 2016
50 ohms Terminator	50	3	Oct. 17, 2014	Oct. 16, 2015
50 ohms Terminator	N/A	EMC-04	Oct. 21, 2014	Oct. 20, 2015
Software BVADT	BVADT_Cond_ V7.3.7.3	NA	NA	NA
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100071	Nov. 10, 2014	Nov. 09, 2015

Note:
1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. A.
3 The VCCI Con A Registration No. is C-817.
4. Tested Date: July 31 to Aug. 07, 2015

4.2.3 Test Procedure

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.

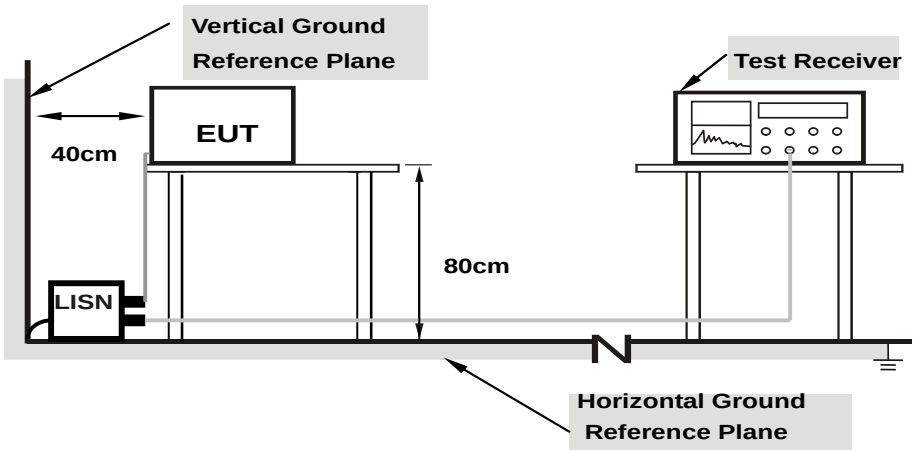
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

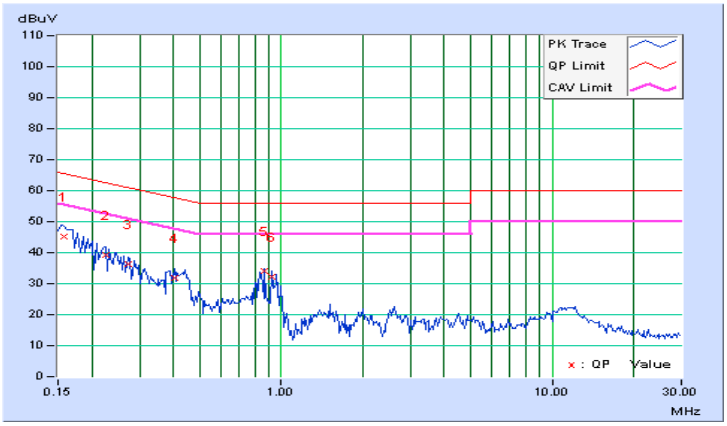
4.2.7 Test Results (Mode 1)

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

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.10	45.18	28.04	45.28	28.14	65.58	55.58	-20.30	-27.44
2	0.22422	0.11	39.28	24.48	39.39	24.59	62.66	52.66	-23.27	-28.07
3	0.27109	0.12	36.08	22.58	36.20	22.70	61.08	51.08	-24.88	-28.38
4	0.40391	0.16	31.62	23.68	31.78	23.84	57.77	47.77	-25.99	-23.93
5	0.86875	0.21	33.74	32.80	33.95	33.01	56.00	46.00	-22.05	-12.99
6	0.92734	0.22	32.18	31.02	32.40	31.24	56.00	46.00	-23.60	-14.76

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

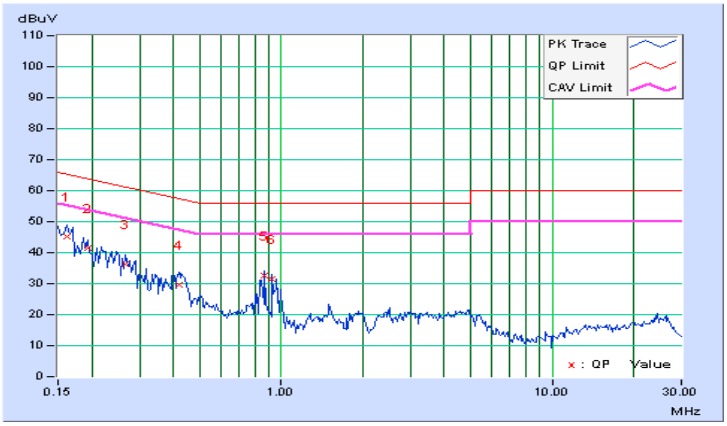


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	0.09	45.10	26.10	45.19	26.19	65.38	55.38	-20.19	-29.19
2	0.19297	0.10	41.40	22.98	41.50	23.08	63.91	53.91	-22.41	-30.83
3	0.26719	0.12	36.32	24.36	36.44	24.48	61.20	51.20	-24.77	-26.73
4	0.41953	0.15	29.60	22.20	29.75	22.35	57.46	47.46	-27.71	-25.11
5	0.86875	0.20	32.46	32.10	32.66	32.30	56.00	46.00	-23.34	-13.70
6	0.92734	0.20	31.38	30.78	31.58	30.98	56.00	46.00	-24.42	-15.02

Remarks:

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



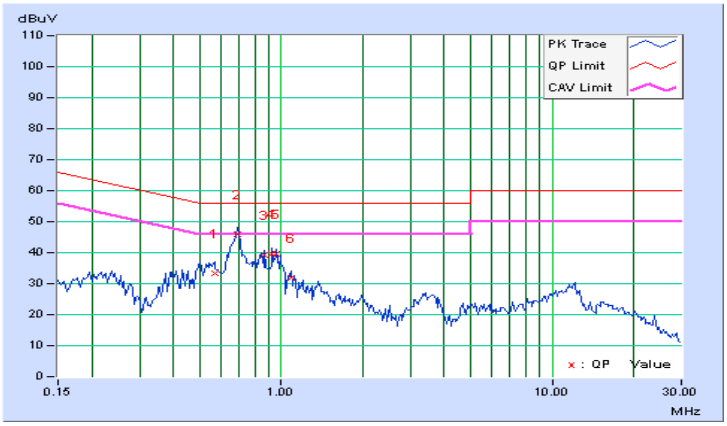
4.2.8 Test Results (Mode 2)

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

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.56797	0.18	33.02	24.66	33.20	24.84	56.00	46.00	-22.80	-21.16
2	**0.68906**	**0.19**	**45.76**	**37.60**	**45.95**	**37.79**	**56.00**	**46.00**	**-10.05**	**-8.21**
3	0.86875	0.21	39.06	37.44	39.27	37.65	56.00	46.00	-16.73	-8.35
4	0.92734	0.22	39.46	37.52	39.68	37.74	56.00	46.00	-16.32	-8.26
5	0.95859	0.23	39.36	36.86	39.59	37.09	56.00	46.00	-16.41	-8.91
6	1.09375	0.23	31.74	24.10	31.97	24.33	56.00	46.00	-24.03	-21.67

Remarks:

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

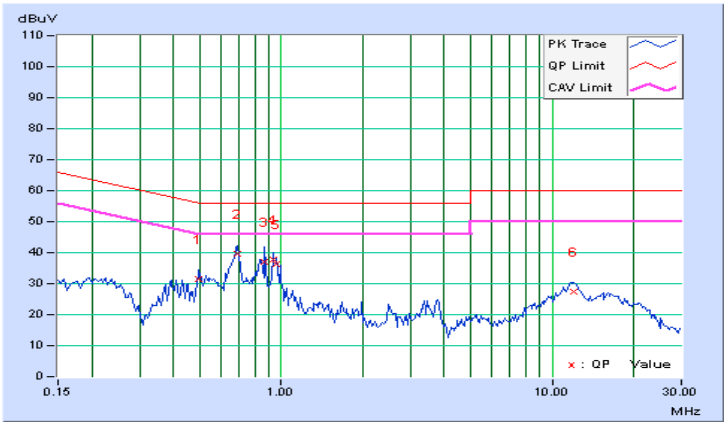


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.49766	0.16	31.22	20.92	31.38	21.08	56.04	46.04	-24.66	-24.96
2	0.68906	0.18	39.62	29.26	39.80	29.44	56.00	46.00	-16.20	-16.56
3	0.86875	0.20	36.90	36.24	37.10	36.44	56.00	46.00	-18.90	-9.56
4	0.93125	0.20	37.40	36.74	37.60	36.94	56.00	46.00	-18.40	-9.06
5	0.96200	0.21	36.24	35.32	36.45	35.53	56.00	46.00	-19.55	-10.47
6	12.07813	0.56	26.80	21.90	27.36	22.46	60.00	50.00	-32.64	-27.54

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)

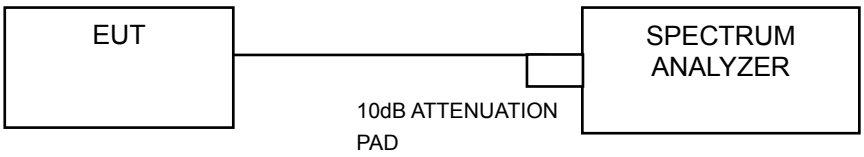
*B is the 26 dB emission bandwidth in megahertz

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



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Result

POWER OUTPUT

CDD Mode

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		CHAIN 0	CHAIN 1				
36	5180	17.77	17.11	111.245	20.46	30	Pass
40	5200	16.71	16.23	88.857	19.49	30	Pass
48	5240	17.21	17.39	107.43	20.31	30	Pass
149	5745	13.74	14.84	54.138	17.34	30	Pass
157	5785	20.05	20.75	220.008	23.42	30	Pass
165	5825	17.49	18.53	127.39	21.05	30	Pass

Beamforming Mode

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		CHAIN 0	CHAIN 1				
36	5180	17.72	17.85	120.11	20.80	27.02	Pass
40	5200	17.55	17.89	118.403	20.73	27.02	Pass
48	5240	17.09	17.34	105.368	20.23	27.02	Pass
149	5745	12.25	13.18	37.585	15.75	27.02	Pass
157	5785	19.70	19.90	191.049	22.81	27.02	Pass
165	5825	19.53	19.88	187.018	22.72	27.02	Pass

Note: Directional gain = 5.97dBi + 10log(2) = 8.98dBi > 6dBi , so the power limit shall be reduced to 30-(8.98-6) = 27.02dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		CHAIN 0	CHAIN 1				
38	5190	14.02	14.22	51.659	17.13	27.02	Pass
46	5230	19.82	19.61	187.351	22.73	27.02	Pass
151	5755	10.23	11.53	24.767	13.94	27.02	Pass
159	5795	16.69	17.61	104.343	20.18	27.02	Pass

Note: Directional gain = 5.97dBi + 10log(2) = 8.98dBi > 6dBi , so the power limit shall be reduced to 30-(8.98-6) = 27.02dBm.

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		CHAIN 0	CHAIN 1				
42	5210	11.48	12.23	30.771	14.88	27.02	Pass
155	5775	9.33	10.23	19.114	12.81	27.02	Pass

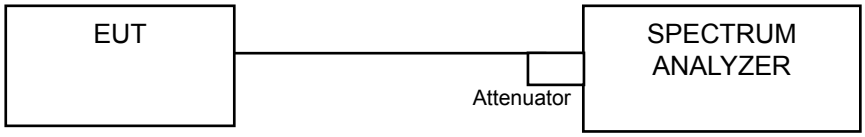
Note: Directional gain = 5.97dBi + 10log(2) = 8.98dBi > 6dBi , so the power limit shall be reduced to 30-(8.98-6) = 27.02dBm.

4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
	√	Indoor Access Point	
		Mobile and Portable client device	11dBm/ MHz
U-NII-2A	---		11dBm/ MHz
U-NII-2C	---		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedure

802.11a, 802.11ac (VH20) & 802.11ac (VHT40)

For U-NII-1 band:

Using method SA-1

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

For U-NII-3 band:

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

& 802.11ac (VHT80)

For U-NII-1 band:

Using method SA-2

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 add 10 log (1/duty cycle)

For U-NII-3 band:

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 add 10 log (1/duty cycle)

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Condition

Same as Item 4.3.6.

4.4.7 Test Results

For U-NII-1 Band
CDD Mode
802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm)		Total Power Density (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	4.10	4.19	7.16	14.02	Pass
40	5200	3.20	3.22	6.22	14.02	Pass
48	5240	4.04	4.11	7.09	14.02	Pass

Note: 1. 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.
2. Directional gain = 5.97dBi + 10log(2) = 8.98dBi > 6dBi , so the power density limit shall be reduced to 17-(8.98-6) = 14.02dBm.

Beamforming Mode
802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm)		Total Power Density (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	3.77	3.72	6.76	14.02	Pass
40	5200	3.68	4.23	6.97	14.02	Pass
48	5240	3.75	3.84	6.81	14.02	Pass

Note: 1. 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.
2. Directional gain = 5.97dBi + 10log(2) = 8.98dBi > 6dBi , so the power density limit shall be reduced to 17-(8.98-6) = 14.02dBm.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm)		Total Power Density (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
38	5190	-3.38	-3.18	-0.27	14.02	Pass
46	5230	2.97	3.10	6.05	14.02	Pass

Note: 1. 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.

2. Directional gain = 5.97dBi + 10log(2) = 8.98dBi > 6dBi , so the power density limit shall be reduced to 17-(8.98-6) = 14.02dBm.

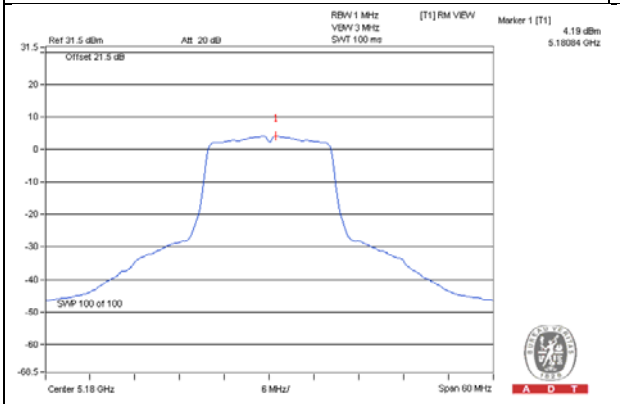
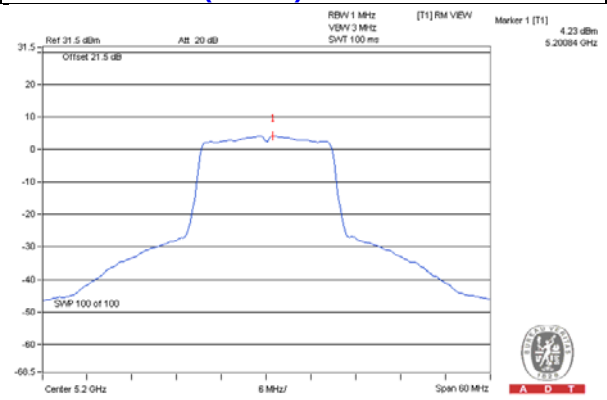
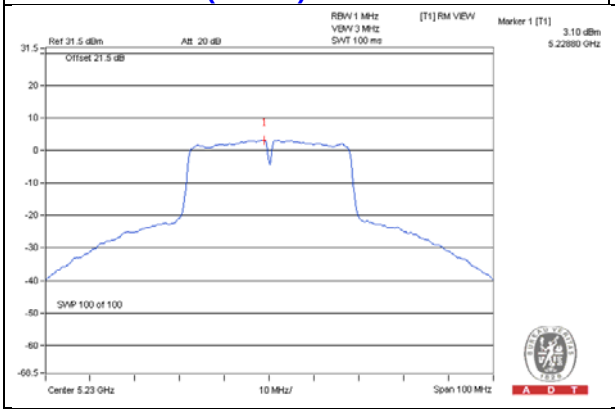
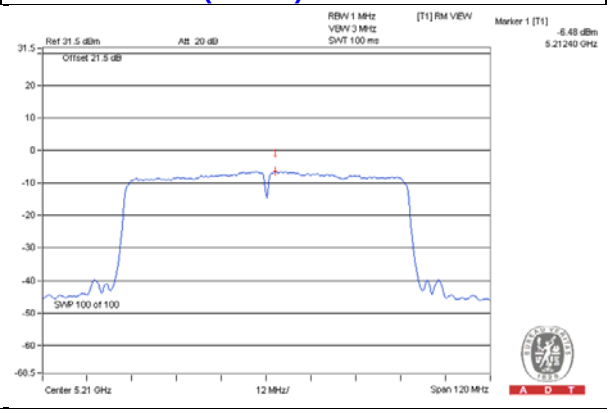
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor(dBm)		Duty Factor	Total PSD With Duty Factor (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-6.48	-6.50	0.11	-3.36	14.02	Pass

Note: 1. 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.

2. Directional gain = 5.97dBi + 10log(2) = 8.98dBi > 6dBi , so the power density limit shall be reduced to 17-(8.98-6) = 14.02dBm.

3. Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE	
802.11a – Chain 1: CH 36	802.11ac (VHT20) – Chain 1: CH 40
	
802.11ac (VHT40) – Chain 1: CH 46	802.11ac (VHT80) – Chain 0: CH 42
	

For U-NII-3 Band

CDD Mode

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	-4.36	-2.14	3.01	0.87	27.02	Pass
	157	5785	-0.47	1.75	3.01	4.76	27.02	Pass
	165	5825	-0.28	1.94	3.01	4.95	27.02	Pass
1	149	5745	-4.08	-1.86	3.01	1.15	27.02	Pass
	157	5785	-0.37	1.85	3.01	4.86	27.02	Pass
	165	5825	-0.08	2.14	3.01	5.15	27.02	Pass

Note: 1. Directional gain = 5.97dBi + 10log(2) = 8.98dBi > 6dBi , so the power density limit shall be reduced to 30-(8.98-6) = 27.02dBm.

Beamforming Mode

802.11ac (VHT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	-6.45	-4.23	3.01	-1.22	27.02	Pass
	157	5785	-0.56	1.66	3.01	4.67	27.02	Pass
	165	5825	-0.66	1.56	3.01	4.57	27.02	Pass
1	149	5745	-4.43	-2.21	3.01	0.80	27.02	Pass
	157	5785	-0.80	1.42	3.01	4.43	27.02	Pass
	165	5825	-0.73	1.49	3.01	4.50	27.02	Pass

Note: 1. Directional gain = 5.97dBi + 10log(2) = 8.98dBi > 6dBi , so the power density limit shall be reduced to 30-(8.98-6) = 27.02dBm.

802.11ac (VHT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	151	5755	-11.90	-9.68	3.01	-6.67	27.02	Pass
	159	5795	-10.11	-7.89	3.01	-4.88	27.02	Pass
1	151	5755	-12.18	-9.96	3.01	-6.95	27.02	Pass
	159	5795	-10.18	-7.96	3.01	-4.95	27.02	Pass

Note: 1. Directional gain = 5.97dBi + 10log(2) = 8.98dBi > 6dBi , so the power density limit shall be reduced to 30-(8.98-6) = 27.02dBm.

802.11ac (VHT80)

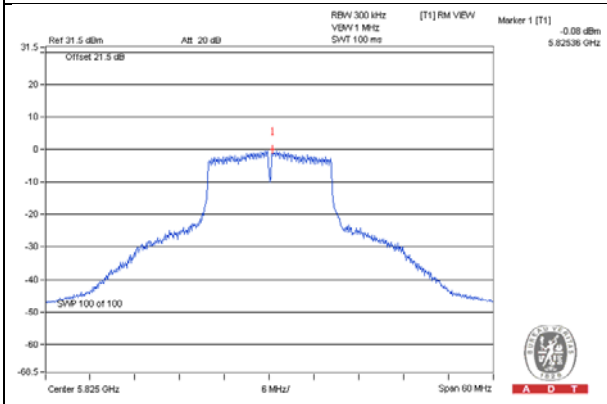
TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-16.25	-14.03	3.01	0.11	-10.91	27.02	Pass
1	155	5775	-15.64	-13.42	3.01	0.11	-10.30	27.02	Pass

Note: 1. Directional gain = 5.97dBi + 10log(2) = 8.98dBi > 6dBi , so the power density limit shall be reduced to 30-(8.98-6) = 27.02dBm.

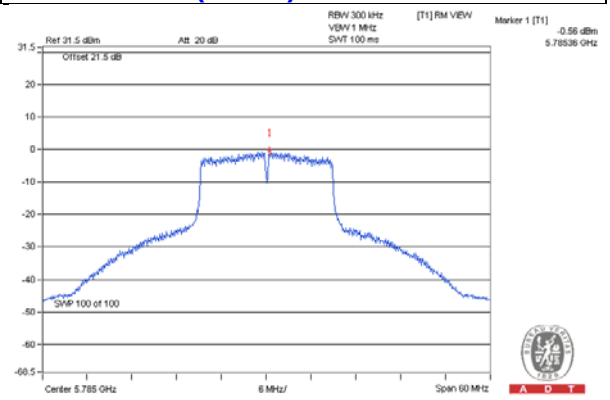
2. Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE

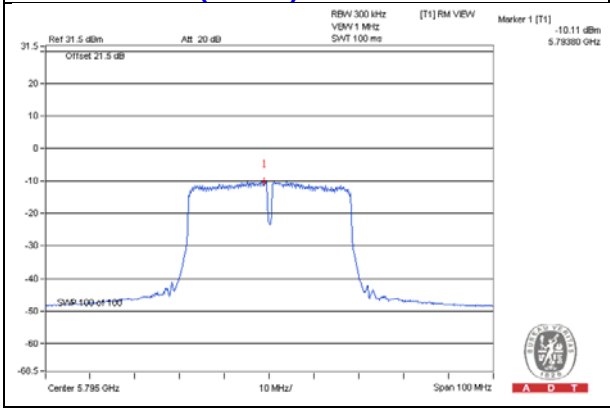
802.11a – Chain 1: CH 165



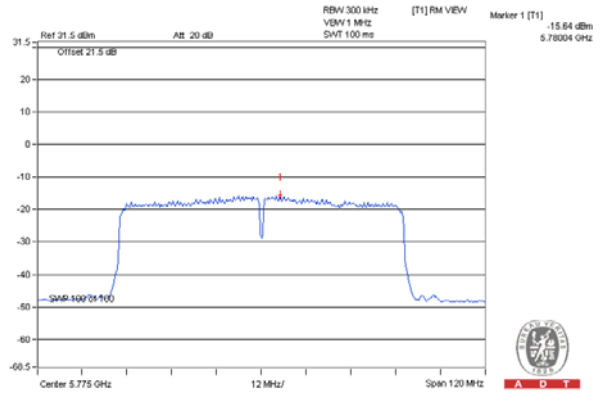
802.11ac (VHT20) – Chain 0: CH 157



802.11ac (VHT40) – Chain 0: CH 159



802.11ac (VHT80) – Chain 1: CH 155

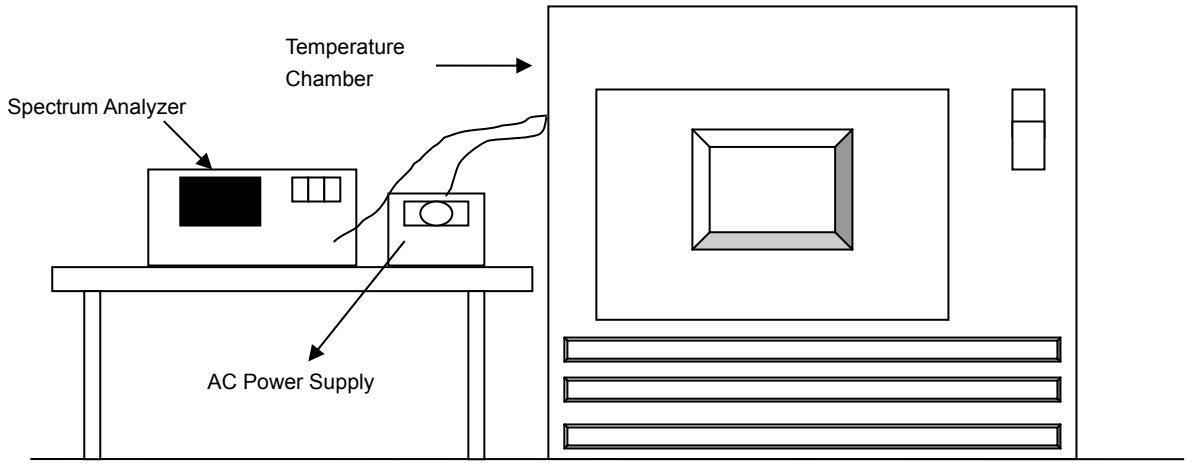


4.5 Frequency Stability Measurement

4.5.1 Limits of Frequency Stability Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

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: 5180MHz									
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	5179.9911	-0.00017	5179.9894	-0.00020	5179.9872	-0.00025	5179.9881	-0.00023
40	120	5180.0232	0.00045	5180.0258	0.00050	5180.0235	0.00045	5180.0242	0.00047
30	120	5180.0164	0.00032	5180.0137	0.00026	5180.0167	0.00032	5180.0135	0.00026
20	120	5179.9808	-0.00037	5179.9791	-0.00040	5179.9798	-0.00039	5179.977	-0.00044
10	120	5180.0197	0.00038	5180.0178	0.00034	5180.0189	0.00036	5180.0169	0.00033
0	120	5180.0093	0.00018	5180.0107	0.00021	5180.0088	0.00017	5180.0124	0.00024
-10	120	5179.9772	-0.00044	5179.9733	-0.00052	5179.9769	-0.00045	5179.9757	-0.00047
-20	120	5179.9758	-0.00047	5179.9739	-0.00050	5179.9738	-0.00051	5179.9732	-0.00052
-30	120	5180.008	0.00015	5180.0078	0.00015	5180.0091	0.00018	5180.0068	0.00013

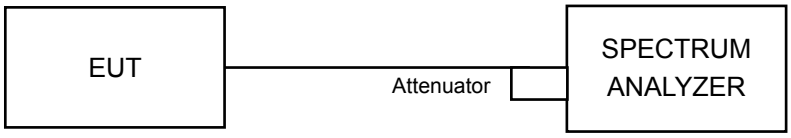
FREQUEMCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5180MHz									
TEMP. (℃)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5179.9806	-0.00037	5179.9798	-0.00039	5179.9796	-0.00039	5179.9771	-0.00044
	120	5179.9808	-0.00037	5179.9791	-0.00040	5179.9798	-0.00039	5179.977	-0.00044
	102	5179.9817	-0.00035	5179.9792	-0.00040	5179.979	-0.00041	5179.9762	-0.00046

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

Refer to section 4.1.2 to get information of above instrument.

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

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.30	16.36	0.5	Pass
157	5785	16.31	15.55	0.5	Pass
165	5825	16.07	16.06	0.5	Pass

Beamforming Mode

802.11ac (VHT20)

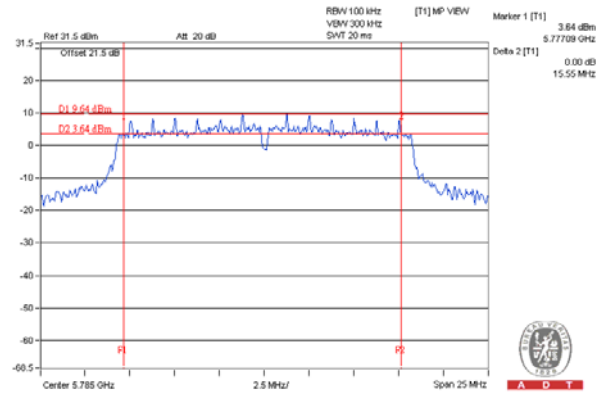
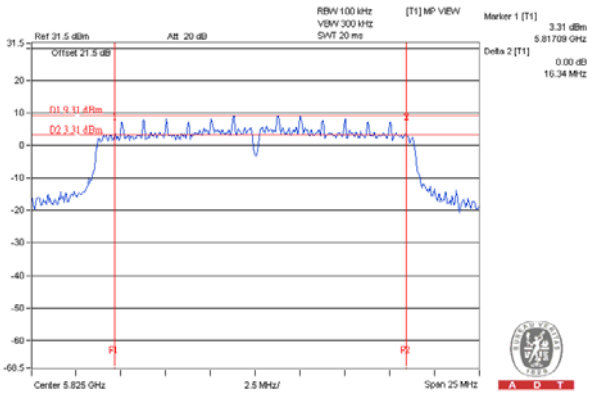
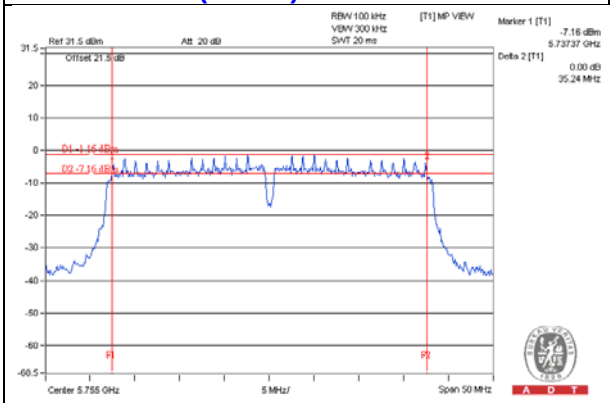
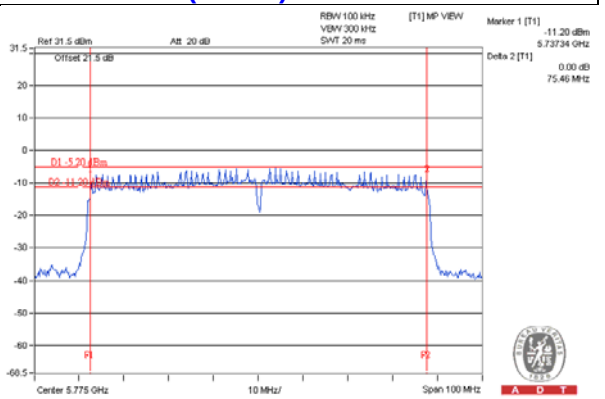
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.06	16.83	0.5	Pass
157	5785	16.57	16.60	0.5	Pass
165	5825	16.34	16.38	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.24	35.31	0.5	Pass
159	5795	35.33	35.29	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.46	75.47	0.5	Pass

SPECTRUM PLOT OF WORST VALUE	
802.11a – Chain 1: CH 157	802.11ac (VHT20) – Chain 0: CH 165
	
802.11ac (VHT40) – Chain 0: CH 151	802.11ac (VHT80) – Chain 0: CH 155
	

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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

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

Hwa Ya EMC/RF/Safety
Tel: 886-3-3183232
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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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