SUPPLEMENTARY FCC TEST REPORT (WLAN 15.407)

REPORT NO.:	RF140702E01C-1 R1
MODEL NO.:	AP-7502
FCC ID:	UZ7AP7502
RECEIVED:	Sep. 16, 2014
TESTED:	Sep. 19 to Nov. 06, 2014
ISSUED:	June 05, 2015
APPLICANT:	Zebra Technologies Corporation
ADDRESS:	1 Zebra Plaza, Holtsville, NY 11742
MANUFACTURER:	Accton Technology Corporation
ADDRESS:	1, Creation 3rd Rd., Science-based Industrial Park, Hsinchu 300, Taiwan, R.O.C.
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.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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REPORT ISSUE HISTORY RECORD OF EUT (AP-7502)

ATTACHMENT NO.	ISSUE DATE	DESCRIPTION
140702E01-1	Aug. 12, 2014	Original release
140702E01C-1 R1	June 04, 2015	Add DFS band <5250~5350MHz & 5470~5725MHz>

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF140702E01C-1	Original release	June 04, 2015
RF140702E01C-1 R1	Modified the information of applicant & address	June 05, 2015

1. CERTIFICATION

PRODUCT:	Dual Radio Wallplate AP
BRAND NAME:	Motorola
MODEL NO.:	AP-7502
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Zebra Technologies Corporation
TESTED:	Sep. 19 to Nov. 06, 2014
STANDARDS:	**FCC Part 15, Subpart E (Section 15.407)**
	ANSI C63.10-2009

The above equipment (Model: AP-7502) 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:** June 05, 2015
(Midoli Peng, Specialist)

Approved by : _____ , **Date:** June 05, 2015
(May Chen, Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -8.88dB at 0.35703MHz
15.407 (b)(1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -1.1dB at 5470.00MHz
15.407(a/1/2/3)	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(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is I-Pex not a standard connector.

NOTE: 1. This report is prepared for FCC Class II change. (Add DFS band: 5250~5350MHz & 5470~5725MHz).

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

2.1 MEASUREMENT UNCERTAINTY

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

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

Measurement	Value
Conducted emissions	2.86 dB
Radiated emissions (30MHz-1GHz)	5.37 dB
Radiated emissions (1GHz -6GHz)	3.65 dB
Radiated emissions (6GHz -18GHz)	3.88 dB
Radiated emissions (18GHz - 40GHz)	4.11 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT (WLAN)

PRODUCT	Dual Radio Wallplate AP
MODEL NO.	AP-7502
POWER SUPPLY	DC 12V from Adapter or DC 48V from PoE
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only
MODULATION TECHNOLOGY	DSSS,OFDM
TRANSFER RATE	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n : up to 300Mbps 802.11ac: up to 866.7Mbps
OPERATING FREQUENCY	**For 15.407** 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.70GHz, 5.745 ~ 5.825GHz
	For 15.247 2.412 ~ 2.462GHz
NUMBER OF CHANNEL	**For 15.407** 24 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 11 for 802.11n (HT40), 802.11ac (VHT40) 5 for 802.11ac (VHT80)
	For 15.247 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
MAXIMUM OUTPUT POWER	802.11a: 61.255mW 802.11n (HT20): 61.751mW 802.11n (HT40): 52.758mW 802.11ac (VHT20): 63.532mW 802.11ac (VHT40): 53.782mW 802.11ac (VHT80): 41.169mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	NA

Note:

1. This report is prepared for FCC Class II. The difference compared with the Report No.: RF140702E01-1 design is as the following:

   - Add DFS band <5250~5350MHz & 5470~5725MHz>
   - Remove 1TX configurations

2. There are Bluetooth 4.0(LE) and WLAN technology used for the EUT.
3. For WLAN, 2.4GHz and 5GHz technology can transmit at same time.
4. WLAN and Bluetooth technology can transmit at same time.
5. Radiated emissions of the simultaneous operation (WLAN & Bluetooth) has been evaluated and no non-compliance was found.
6. The Version of EUT information are as below:

FW HW Version :	DVT
SW Version :	runtime FW 5.5.3.0-038R

7. The EUT could be supplied with an adapter or a PoE as the following table:

Adapter (only for test)		
Brand	Model No.	Spec.
FAIRWAY	WRG10F-120A	AC Input: 100-240V, 0.5A, 47-63Hz DC Output:12V, 0.83A
PoE (only for test)		
Brand	Model No.	Spec.
Motorola	AP-PSBIAS-2P2-AFR	AC Input: 100-240V, 0.5A, 50/60Hz DC Output: 48V, 0.35A
For radiated test, the EUT was pre-tested with adapter and PoE, the worse case was found in adapter . Therefore only the test data of the adapter was recorded in this report.		

8. There are four antennas provided to this EUT, please refer to the following table:

WLAN (2.4GHz)					
Transmitter Circuit	PCB Chain NO.	Antenna Type	Antenna Gain(dBi) Including cable loss	Connector type	Frequency range (GHz to GHz)
Chain (0)	ALA140-051025	PCB-Dipole	5.81	I-Pex	2400~2483.5
Chain (1)	ALA140-051024	PCB-Dipole	4.52	I-Pex	2400~2483.5
WLAN (5GHz)					
Transmitter Circuit	PCB Chain NO.	Antenna Type	Antenna Gain(dBi) Including cable loss	Connector type	Frequency range (GHz to GHz)
Chain (0)	ALA140-091020	PCB-Dipole	7.22	I-Pex	5150~5850
Chain (1)	ALA140-091020	PCB-Dipole	7.3	I-Pex	5150~5850
BT					
Transmitter Circuit	PCB Chain NO.	Antenna Type	Antenna Gain(dBi) Including cable loss	Connector type	Frequency range (GHz to GHz)
Chain (0)	ALC140-051020	PCB-Dipole	4.74	I-Pex	2400~2483.5

9. The EUT incorporates a MIMO function without beamforming.

MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11a	6 ~ 54Mbps	2TX (CDD)	2RX
802.11b	1 ~ 11Mbps	2TX (CDD)	2RX
802.11g	6 ~ 54Mbps	2TX (CDD)	2RX
802.11n (HT20)	MCS 0~7	2TX (CDD)	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX (CDD)	2RX
	MCS 8~15	2TX	2RX
802.11ac (VHT20) (5GHz)	MCS0~8 (256QAM) Nss= 1	2TX (CDD)	2RX
	MCS0~8 (256QAM) Nss= 2	2TX	2RX
802.11ac (VHT40) (5GHz)	MCS0~9 (256QAM) Nss= 1	2TX (CDD)	2RX
	MCS0~9 (256QAM) Nss= 2	2TX	2RX
802.11ac (VHT80) (5GHz)	MCS0~9 (256QAM) Nss= 1	2TX (CDD)	2RX
	MCS0~9 (256QAM) Nss= 2	2TX	2RX

Note: 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)

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

3.2 DESCRIPTION OF TEST MODES

Operated in 5250 ~ 5350MHz band:

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

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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
58	5290 MHz

Operated in 5470MHz ~ 5725MHz bands:

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

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

5 channels are provided for 802.11n (HT40):

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

2 channels are provided for 802.11ac (HT80):

CHANNEL	FREQUENCY
106	5530 MHz
122	5610 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	APCM	
1	√	√	√	√	With Adapter
2	√	-	-	-	With PoE

Where **PLC:** Power Line Conducted Emission **RE < 1G:** Radiated Emission below 1GHz

RE ≥ 1G: Radiated Emission above 1GHz **APCM:** Antenna Port Conducted Measurement

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

POWER LINE CONDUCTED EMISSION TEST:

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

☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (MBPS)
802.11a	52 to 140	100	OFDM	BPSK	6

RADIATED EMISSION TEST (BELOW 1 GHz):

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

☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (MBPS)
802.11a	52 to 140	52, 60, 64, 100, 120, 140	OFDM	BPSK	6
802.11ac (VHT20)	52 to 140	52, 60, 64, 100, 120, 140	OFDM	BPSK	6.5
802.11ac (VHT40)	54 to 134	54, 62, 102, 118, 134	OFDM	BPSK	13.5
802.11ac (VHT80)	58 to 122	58, 106, 122	OFDM	BPSK	29.3

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	52 to 140	52, 60, 64, 100, 120, 140	OFDM	BPSK	6
802.11ac (VHT20)	52 to 140	52, 60, 64, 100, 120, 140	OFDM	BPSK	6.5
802.11ac (VHT40)	54 to 134	54, 62, 102, 118, 134	OFDM	BPSK	13.5
802.11ac (VHT80)	58 to 122	58, 106, 122	OFDM	BPSK	29.3

ANTENNA PORT CONDUCTED MEASUREMENT:

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

☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	52 to 140	52, 60, 64, 100, 120, 140	OFDM	BPSK	6
802.11ac (VHT20)	52 to 140	52, 60, 64, 100, 120, 140	OFDM	BPSK	6.5
802.11ac (VHT40)	54 to 134	54, 62, 102, 118, 134	OFDM	BPSK	13.5
802.11ac (VHT80)	58 to 122	58, 106, 122	OFDM	BPSK	29.3

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
PLC	30deg. C, 70%RH	120Vac, 60Hz	Mike Hsieh
RE<1G	23deg. C, 69%RH	120Vac, 60Hz	Gary Cheng
RE≥1G	23deg. C, 68%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (15.407)

789033 D02 General UNII Test Procedures New Rules v01

662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2009

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

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.

3.4 DUTY CYCLE OF TEST SIGNAL

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

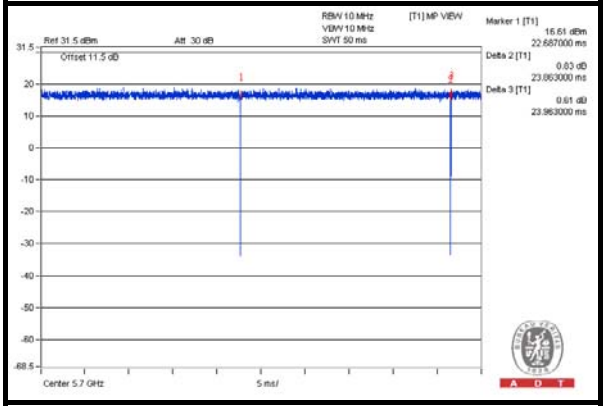
802.11a: Duty cycle = 23.863 ms/23.963 ms = 0.996

802.11ac (VHT20): Duty cycle = 23.849 ms/23.987 ms = 0.994

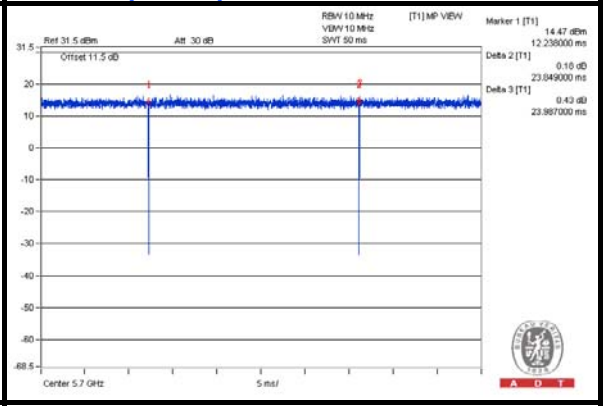
802.11ac (VHT40): Duty cycle = 23.887 ms/23.962 ms = 0.997

802.11ac (VHT80): Duty cycle = 23.895 ms/23.997 ms = 0.996

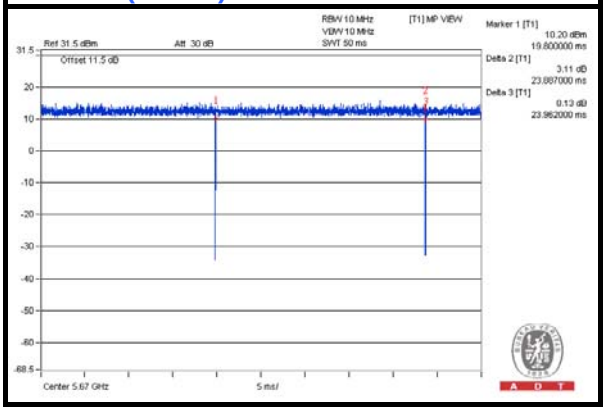
802.11a



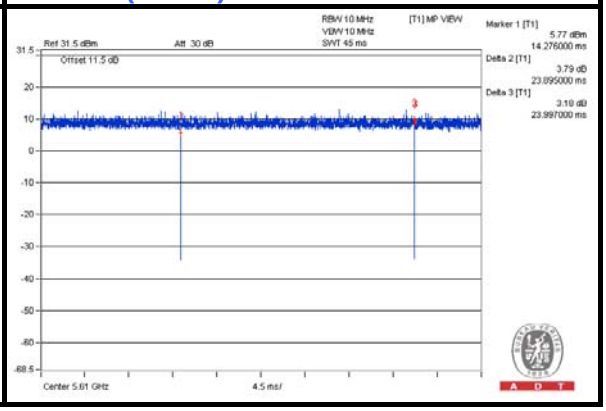
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



3.5 DESCRIPTION OF SUPPORT UNITS

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

No.	Product	Brand	Model No.	Serial No.	FCC ID	Remark
A	NOTEBOOK COMPUTER	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
B	NOTEBOOK COMPUTER	DELL	PP27L	7YLB32S	FCC DoC	Provided by Lab
C	Switch	ZyXEL	ES-116P	S060H02000215	FCC DoC	Provided by Lab
D	Adapter	Fairway	WRG10F-120A	NA	FCC DoC	Supplied by client
E	PoE	Motorola	AP-PSBIAS-2P 2-AFR	NA	FCC DoC	Supplied by client

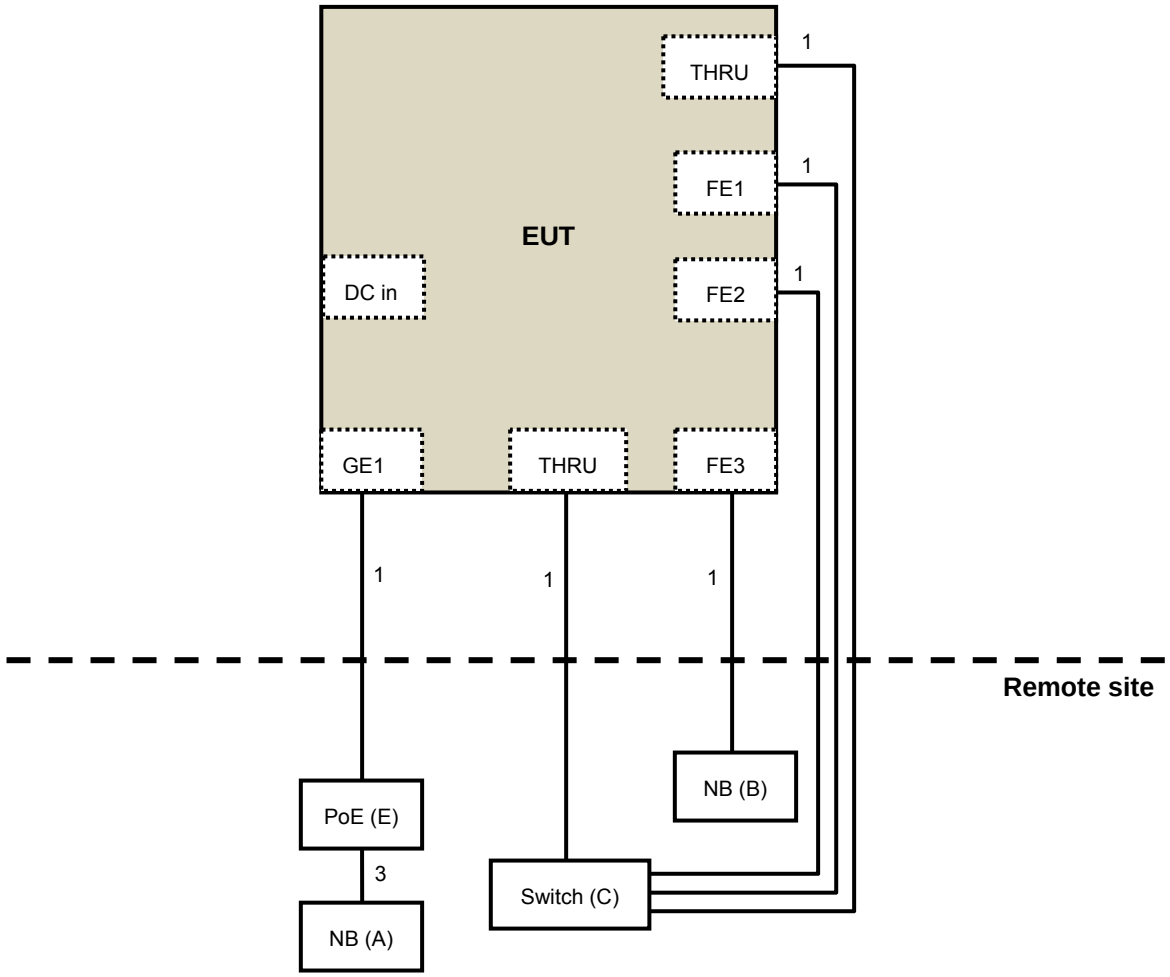
NOTE:

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

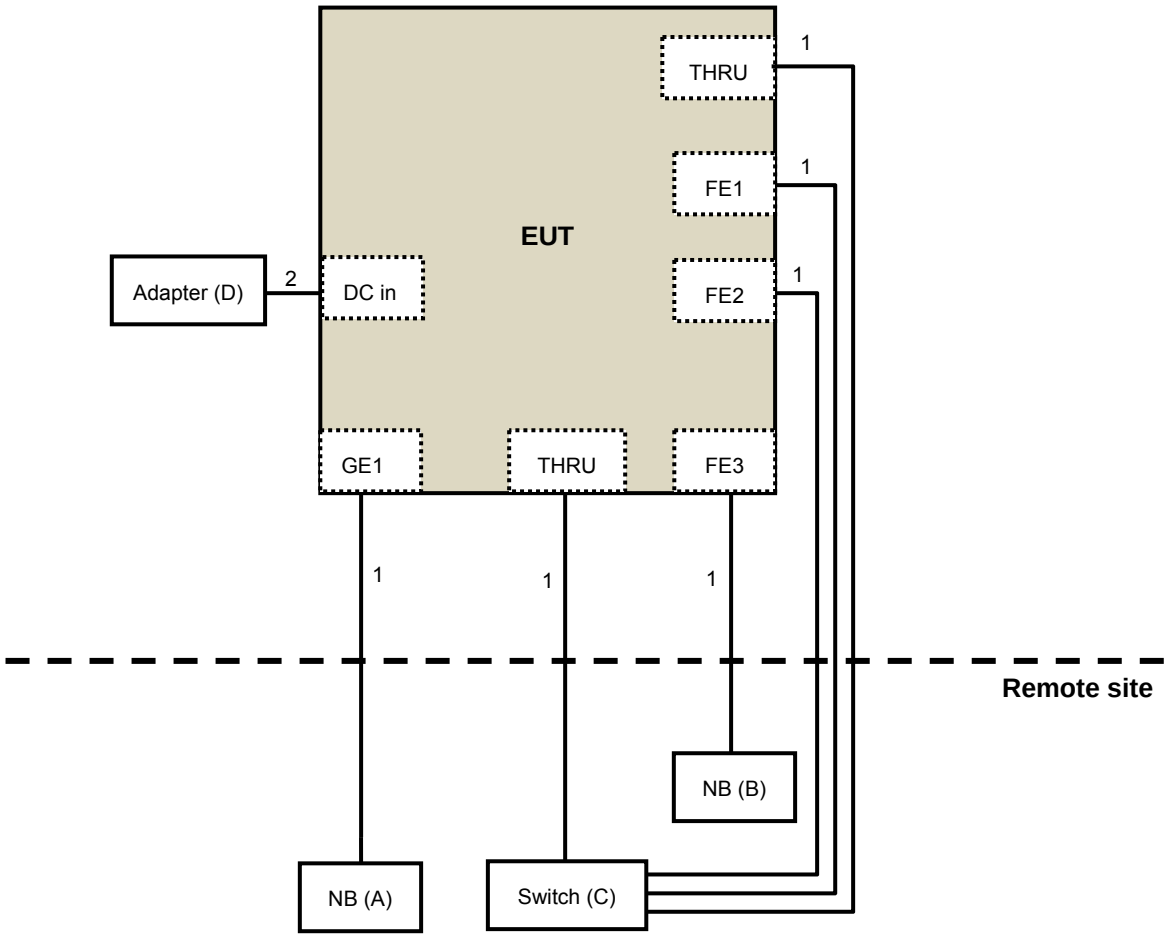
No.	Cable	Qty.	Length (m)	Shielded (Yes/ No)	Cores (Number)	Remark
1.	RJ-45	1	10	No	0	Provided by Lab
2.	DC	1	1.8	No	0	Supplied by client
3.	RJ-45	1	3	No	0	Provided by Lab

3.6 CONFIGURATION OF SYSTEM UNDER TEST

For PoE Mode



For Adapter Mode



4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5 0.5-5 5-30	66 to 56 56 60	56 to 46 46 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 0.50 MHz.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS 30	100375	Apr. 29, 2014	Apr. 28, 2015
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-523	Oct. 02, 2013	Oct. 01, 2014
Line-Impedance Stabilization Network (for Peripheral) ROHDE & SCHWARZ	ENV216	100071	Nov. 13, 2013	Nov. 12, 2014
RF Cable (JYEBAO)	5DFB	COCCAB-001	Mar. 10 , 2014	Mar. 09, 2015
50 ohms Terminator	N/A	EMC-03	Sep. 24, 2013	Sep. 23, 2014
50 ohms Terminator	N/A	EMC-02	Oct. 01, 2013	Sep. 30, 2014
Software ADT	BV ADT_Cond_V7.3.7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3 The VCCI Con C Registration No. is C-3611.
4 Tested Date: Sep. 19, 2014

4.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN.

b. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

c. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

d. The frequency range from 150kHz to 30MHz was searched. Emission level under (Limit – 20dB) was not recorded.

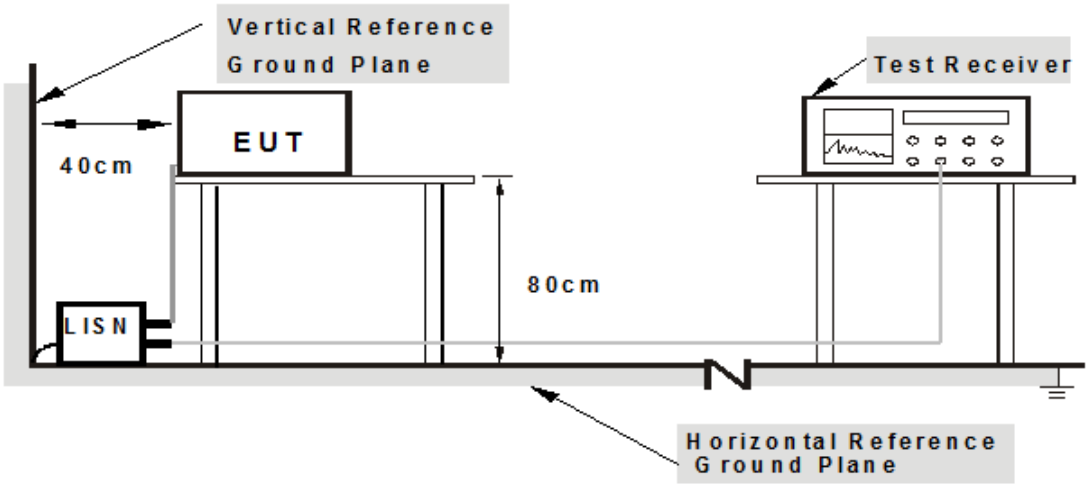
NOTE:

1. The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

1. Placed the EUT on testing table.
2. Prepared computer system (support unit A~B) to act as communication partner.
3. The communication partner ran test program “WiFi CART[Ver.4.9] paste Cart command.txt]” to enable EUT under transmission/receiving condition continuously.

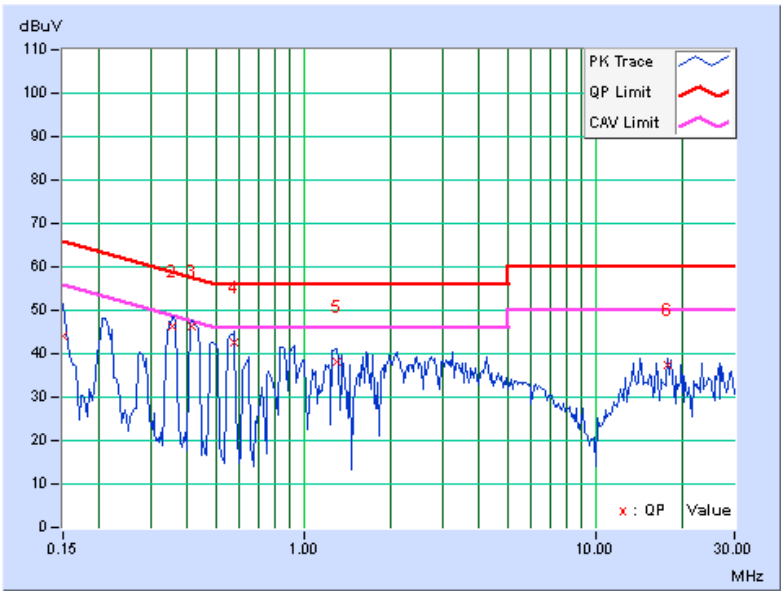
4.1.7 TEST RESULTS (MODE 1)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.07	44.03	28.87	44.10	28.94	66.00	56.00	-21.90	-27.06
2	**0.35703**	**0.09**	**46.25**	**39.83**	**46.34**	**39.92**	**58.80**	**48.80**	**-12.46**	**-8.88**
3	0.41172	0.09	46.21	36.14	46.30	36.23	57.61	47.61	-11.31	-11.38
4	0.57969	0.10	42.67	29.32	42.77	29.42	56.00	46.00	-13.23	-16.58
5	1.29688	0.14	38.11	25.01	38.25	25.15	56.00	46.00	-17.75	-20.85
6	17.69531	0.65	36.74	35.13	37.39	35.78	60.00	50.00	-22.61	-14.22

REMARKS:

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

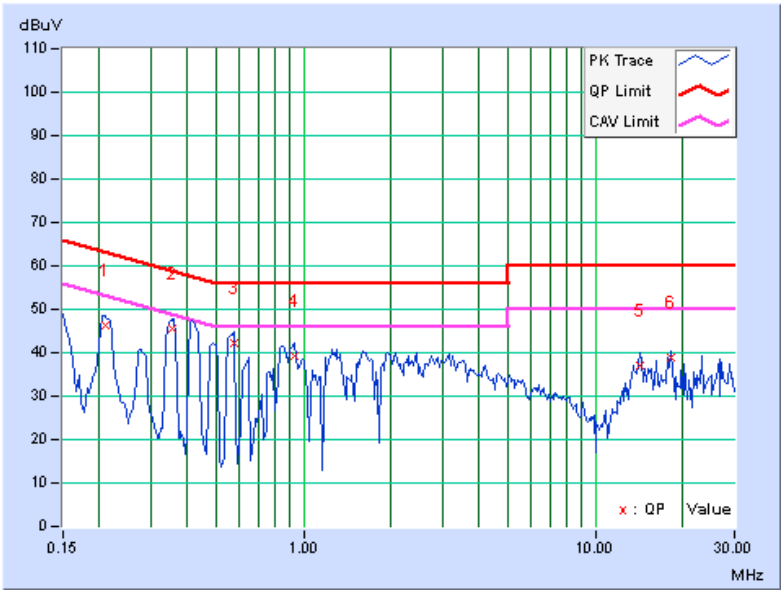


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20859	0.07	46.37	38.17	46.44	38.24	63.26	53.26	-16.82	-15.02
2	0.35703	0.09	45.43	38.57	45.52	38.66	58.80	48.80	-13.28	-10.14
3	0.57578	0.10	42.29	31.34	42.39	31.44	56.00	46.00	-13.61	-14.56
4	0.93125	0.13	39.31	26.74	39.44	26.87	56.00	46.00	-16.56	-19.13
5	14.21484	0.56	36.48	33.65	37.04	34.21	60.00	50.00	-22.96	-15.79
6	18.24219	0.66	38.27	36.93	38.93	37.59	60.00	50.00	-21.07	-12.41

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



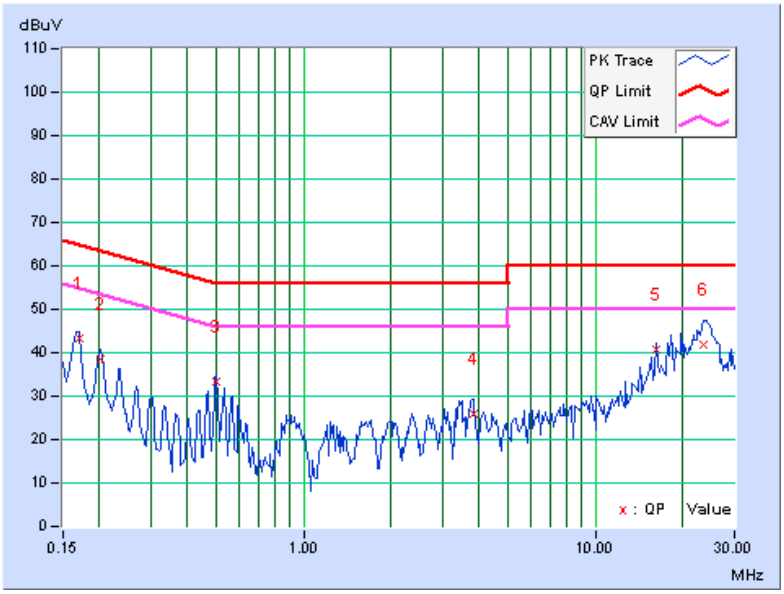
4.1.8 TEST RESULTS (MODE 2)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	0.07	43.24	34.96	43.31	35.03	64.98	54.98	-21.68	-19.96
2	0.20078	0.07	38.62	30.61	38.69	30.68	63.58	53.58	-24.89	-22.90
3	0.50156	0.10	33.09	32.97	33.19	33.07	56.00	46.00	-22.81	-12.93
4	3.83984	0.25	25.80	18.51	26.05	18.76	56.00	46.00	-29.95	-27.24
5	16.23047	0.62	40.00	38.96	40.62	39.58	60.00	50.00	-19.38	-10.42
6	23.61328	0.81	41.00	34.53	41.81	35.34	60.00	50.00	-18.19	-14.66

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

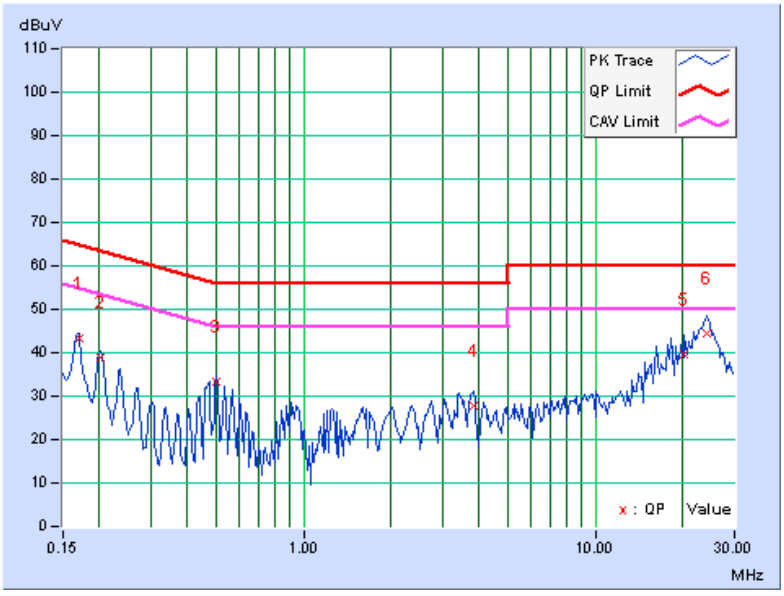


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	0.07	43.08	35.70	43.15	35.77	64.98	54.98	-21.83	-19.21
2	0.20078	0.07	38.77	31.62	38.84	31.69	63.58	53.58	-24.74	-21.89
3	0.50547	0.10	33.19	32.91	33.29	33.01	56.00	46.00	-22.71	-12.99
4	3.81641	0.25	27.56	20.68	27.81	20.93	56.00	46.00	-28.19	-25.07
5	20.25391	0.71	38.85	35.82	39.56	36.53	60.00	50.00	-20.44	-13.47
6	24.04297	0.81	43.53	37.44	44.34	38.25	60.00	50.00	-15.66	-11.75

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 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

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

NOTE:

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

4.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

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

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

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

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

4.2.3 TEST INSTRUMENTS

Below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	July 21,2014	July 20,2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 26, 2014	Feb. 25, 2015
RF Cable	NA	CHGCAB_001	Oct. 04, 2014	Oct. 03, 2015
Horn_Antenna AISI	AIH.8018	0000320091110	Aug. 27, 2014	Aug. 26, 2015
Pre-Amplifier Agilent	8449B	3008A02578	June 24, 2014	June 23, 2015
RF Cable	NA	131205 131214 SNMY23684/4	Jan. 17, 2014	Jan. 16, 2015
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Aug. 26, 2014	Aug. 25, 2015
RF Cable	NA	RF104-121 RF104-204	Dec. 12, 2013	Dec. 11, 2014
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5 The VCCI Site Registration No. is G-137.
6 The CANADA Site Registration No. is IC 7450H-2.
7 Tested Date: Nov. 06, 2014

Above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	July 21, 2014	July 20, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 26, 2014	Feb. 25, 2015
RF Cable	NA	CHGCAB_001	Oct. 05, 2013	Oct. 04, 2014
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 18, 2013	Nov. 17, 2014
Pre-Amplifier Agilent	8449B	3008A02578	June 24, 2014	June 23, 2015
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 12, 2013	Dec. 11, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3 The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5 The VCCI Site Registration No. is G-137.
6 The CANADA Site Registration No. is IC 7450H-2.
7 Tested Date: Sep. 22, 2014

4.2.4 TEST PROCEDURES

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

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

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

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

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

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

Note:

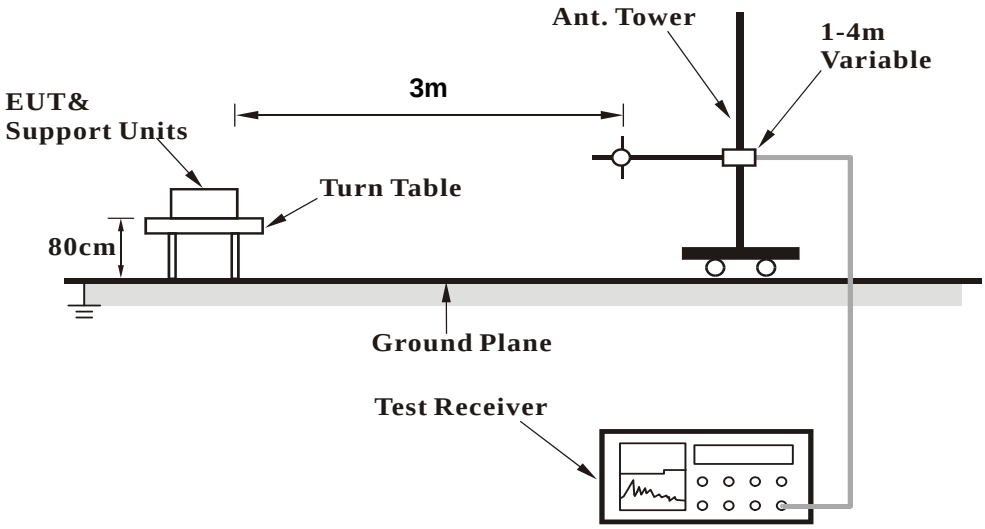
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.2.5 DEVIATION FROM TEST STANDARD

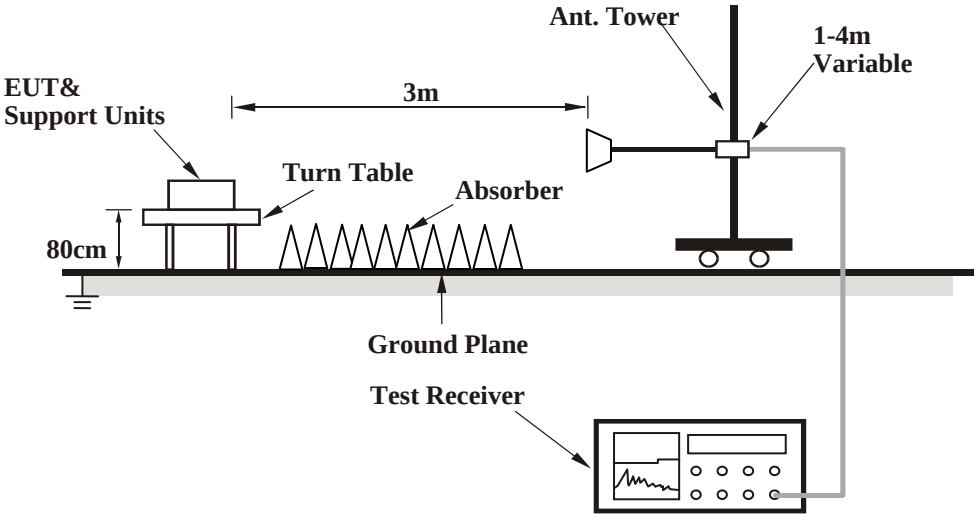
No deviation

4.2.6 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6

4.2.8 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

802.11a

CHANNEL	TX Channel 52	**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	77.20	33.5 QP	40.0	-6.5	2.00 H	238	52.11	-18.59
2	110.74	36.2 QP	43.5	-7.3	1.50 H	75	53.68	-17.48
3	152.60	36.7 QP	43.5	-6.8	2.00 H	88	51.26	-14.55
4	374.76	36.8 QP	46.0	-9.2	1.00 H	47	49.45	-12.65
5	502.35	38.0 QP	46.0	-8.0	1.50 H	89	48.19	-10.19
6	1000.00	46.0 QP	54.0	-8.0	1.00 H	68	46.71	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	51.54	32.3 QP	40.0	-7.7	1.00 V	224	46.80	-14.48
2	76.48	34.4 QP	40.0	-5.6	1.00 V	359	52.66	-18.26
3	117.73	35.7 QP	43.5	-7.8	1.50 V	201	52.33	-16.63
4	152.96	34.9 QP	43.5	-8.6	1.00 V	313	49.45	-14.53
5	426.69	37.8 QP	46.0	-8.2	1.50 V	360	49.20	-11.39
6	1000.00	41.8 QP	54.0	-12.2	1.00 V	45	42.50	-0.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	77.00	33.8 QP	40.0	-6.3	2.00 H	246	52.25	-18.50
2	110.56	36.3 QP	43.5	-7.2	1.50 H	65	53.78	-17.50
3	152.86	35.9 QP	43.5	-7.6	2.00 H	89	50.44	-14.54
4	374.41	36.8 QP	46.0	-9.2	1.00 H	45	49.48	-12.66
5	502.84	38.2 QP	46.0	-7.8	1.50 H	91	48.39	-10.19
6	1000.00	45.9 QP	54.0	-8.1	1.00 H	70	46.64	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.81	33.0 QP	40.0	-7.0	1.00 V	221	47.49	-14.49
2	76.50	34.3 QP	40.0	-5.7	1.00 V	360	52.57	-18.28
3	117.68	36.1 QP	43.5	-7.5	1.50 V	196	52.69	-16.64
4	152.91	35.5 QP	43.5	-8.0	1.00 V	322	50.01	-14.53
5	426.61	38.5 QP	46.0	-7.5	1.50 V	359	49.88	-11.39
6	1000.00	41.5 QP	54.0	-12.5	1.00 V	56	42.20	-0.70

REMARKS:

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

CHANNEL	TX Channel 64	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	76.96	33.4 QP	40.0	-6.6	2.00 H	237	51.88	-18.48
2	110.53	36.2 QP	43.5	-7.3	1.50 H	78	53.70	-17.51
3	152.93	36.6 QP	43.5	-6.9	2.00 H	86	51.12	-14.53
4	374.38	37.8 QP	46.0	-8.2	1.00 H	40	50.45	-12.66
5	502.75	37.8 QP	46.0	-8.2	1.50 H	90	48.03	-10.19
6	1000.00	46.1 QP	54.0	-7.9	1.00 H	56	46.83	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.57	32.8 QP	40.0	-7.2	1.00 V	219	47.31	-14.48
2	76.56	34.5 QP	40.0	-5.5	1.00 V	359	52.76	-18.30
3	117.96	35.8 QP	43.5	-7.7	1.50 V	204	52.36	-16.59
4	152.56	34.7 QP	43.5	-8.8	1.00 V	314	49.28	-14.55
5	426.71	37.7 QP	46.0	-8.3	1.50 V	360	49.11	-11.39
6	1000.00	41.4 QP	54.0	-12.6	1.00 V	46	42.09	-0.70

REMARKS:

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

CHANNEL	TX Channel 100	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	76.72	33.4 QP	40.0	-6.6	2.00 H	241	51.75	-18.38
2	110.77	36.6 QP	43.5	-6.9	1.50 H	79	54.06	-17.48
3	152.94	36.2 QP	43.5	-7.3	2.00 H	78	50.77	-14.53
4	374.14	37.3 QP	46.0	-8.7	1.00 H	45	49.98	-12.67
5	502.64	38.2 QP	46.0	-7.8	1.50 H	84	48.40	-10.19
6	1000.00	46.2 QP	54.0	-7.8	1.00 H	61	46.90	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.36	32.9 QP	40.0	-7.1	1.00 V	221	47.41	-14.48
2	76.55	34.3 QP	40.0	-5.7	1.00 V	353	52.57	-18.30
3	118.01	36.0 QP	43.5	-7.5	1.50 V	203	52.58	-16.58
4	152.53	34.6 QP	43.5	-8.9	1.00 V	308	49.13	-14.55
5	426.72	37.6 QP	46.0	-8.5	1.50 V	360	48.94	-11.39
6	1000.00	41.8 QP	54.0	-12.2	1.00 V	53	42.46	-0.70

REMARKS:

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

CHANNEL	TX Channel 120	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	76.31	33.1 QP	40.0	-6.9	2.00 H	246	51.32	-18.19
2	110.95	37.1 QP	43.5	-6.4	1.50 H	74	54.55	-17.45
3	152.85	36.0 QP	43.5	-7.5	2.00 H	89	50.54	-14.54
4	374.37	37.6 QP	46.0	-8.4	1.00 H	49	50.26	-12.66
5	502.63	38.5 QP	46.0	-7.5	1.50 H	95	48.73	-10.19
6	1000.00	45.5 QP	54.0	-8.5	1.00 H	65	46.24	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.50	33.1 QP	40.0	-6.9	1.00 V	218	47.56	-14.48
2	76.43	34.1 QP	40.0	-5.9	1.00 V	360	52.39	-18.25
3	118.14	36.0 QP	43.5	-7.5	1.50 V	210	52.56	-16.58
4	152.65	34.1 QP	43.5	-9.5	1.00 V	305	48.60	-14.55
5	426.65	38.2 QP	46.0	-7.8	1.50 V	350	49.59	-11.39
6	1000.00	42.3 QP	54.0	-11.7	1.00 V	51	43.03	-0.70

REMARKS:

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

CHANNEL	TX Channel 140	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	76.06	33.7 QP	40.0	-6.3	2.00 H	236	51.74	-18.08
2	110.66	36.9 QP	43.5	-6.6	1.50 H	82	54.37	-17.49
3	152.67	36.8 QP	43.5	-6.7	2.00 H	97	51.33	-14.55
4	374.23	37.9 QP	46.0	-8.1	1.00 H	42	50.60	-12.67
5	502.65	38.4 QP	46.0	-7.6	1.50 H	96	48.61	-10.19
6	1000.00	46.3 QP	54.0	-7.7	1.00 H	59	47.01	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.50	33.7 QP	40.0	-6.3	1.00 V	210	48.17	-14.48
2	76.56	34.2 QP	40.0	-5.8	1.00 V	360	52.46	-18.30
3	117.84	36.0 QP	43.5	-7.5	1.50 V	209	52.63	-16.61
4	152.68	34.1 QP	43.5	-9.4	1.00 V	303	48.66	-14.55
5	426.41	37.4 QP	46.0	-8.6	1.50 V	360	48.83	-11.40
6	1000.00	42.8 QP	54.0	-11.2	1.00 V	44	43.48	-0.70

REMARKS:

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

802.11ac (VHT20)

CHANNEL	TX Channel 52	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	77.00	33.3 QP	40.0	-6.7	2.00 H	240	51.79	-18.50
2	110.57	35.7 QP	43.5	-7.8	1.50 H	69	53.23	-17.50
3	152.95	36.2 QP	43.5	-7.3	2.00 H	83	50.73	-14.53
4	374.57	37.4 QP	46.0	-8.6	1.00 H	34	50.03	-12.66
5	502.97	37.7 QP	46.0	-8.3	1.50 H	83	47.88	-10.19
6	1000.00	46.5 QP	54.0	-7.5	1.00 H	54	47.18	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.48	32.4 QP	40.0	-7.6	1.00 V	211	46.88	-14.48
2	76.33	34.4 QP	40.0	-5.6	1.00 V	355	52.58	-18.20
3	118.12	35.6 QP	43.5	-7.9	1.50 V	209	52.14	-16.58
4	152.79	34.8 QP	43.5	-8.8	1.00 V	310	49.29	-14.54
5	426.87	37.9 QP	46.0	-8.1	1.50 V	360	49.26	-11.38
6	1000.00	41.9 QP	54.0	-12.1	1.00 V	50	42.56	-0.70

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	76.96	33.2 QP	40.0	-6.8	2.00 H	225	51.71	-18.48
2	110.82	36.1 QP	43.5	-7.4	1.50 H	55	53.55	-17.47
3	152.75	36.8 QP	43.5	-6.7	2.00 H	88	51.31	-14.54
4	374.61	37.6 QP	46.0	-8.4	1.00 H	28	50.22	-12.66
5	503.19	37.9 QP	46.0	-8.1	1.50 H	80	48.11	-10.18
6	1000.00	46.2 QP	54.0	-7.8	1.00 H	50	46.86	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.41	32.1 QP	40.0	-7.9	1.00 V	212	46.62	-14.48
2	76.35	34.5 QP	40.0	-5.5	1.00 V	351	52.75	-18.21
3	118.06	35.8 QP	43.5	-7.7	1.50 V	198	52.39	-16.58
4	152.71	34.8 QP	43.5	-8.8	1.00 V	298	49.29	-14.54
5	426.66	38.2 QP	46.0	-7.8	1.50 V	360	49.59	-11.39
6	1000.00	41.4 QP	54.0	-12.6	1.00 V	55	42.08	-0.70

REMARKS:

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

CHANNEL	TX Channel 64	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	77.02	33.6 QP	40.0	-6.4	2.00 H	229	52.07	-18.51
2	110.63	36.1 QP	43.5	-7.4	1.50 H	64	53.61	-17.49
3	152.70	37.0 QP	43.5	-6.5	2.00 H	95	51.58	-14.55
4	374.43	37.4 QP	46.0	-8.6	1.00 H	35	50.09	-12.66
5	503.06	37.6 QP	46.0	-8.4	1.50 H	84	47.74	-10.18
6	1000.00	46.6 QP	54.0	-7.5	1.00 H	54	47.25	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.36	32.1 QP	40.0	-7.9	1.00 V	204	46.62	-14.48
2	76.58	34.3 QP	40.0	-5.7	1.00 V	352	52.59	-18.31
3	117.89	36.2 QP	43.5	-7.3	1.50 V	200	52.80	-16.60
4	152.81	35.0 QP	43.5	-8.5	1.00 V	299	49.50	-14.54
5	426.77	37.8 QP	46.0	-8.2	1.50 V	360	49.20	-11.39
6	1000.00	41.7 QP	54.0	-12.4	1.00 V	61	42.35	-0.70

REMARKS:

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

CHANNEL	TX Channel 100	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	76.85	33.6 QP	40.0	-6.4	2.00 H	219	52.04	-18.43
2	110.76	36.0 QP	43.5	-7.5	1.50 H	57	53.50	-17.48
3	152.82	36.9 QP	43.5	-6.7	2.00 H	103	51.39	-14.54
4	374.64	37.9 QP	46.0	-8.1	1.00 H	29	50.52	-12.66
5	502.95	37.7 QP	46.0	-8.3	1.50 H	79	47.89	-10.19
6	1000.00	47.0 QP	54.0	-7.0	1.00 H	53	47.68	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.42	32.1 QP	40.0	-8.0	1.00 V	200	46.53	-14.48
2	76.69	34.3 QP	40.0	-5.7	1.00 V	350	52.66	-18.36
3	117.81	36.6 QP	43.5	-6.9	1.50 V	192	53.24	-16.61
4	152.94	34.5 QP	43.5	-9.0	1.00 V	301	49.05	-14.53
5	426.87	37.4 QP	46.0	-8.6	1.50 V	360	48.78	-11.38
6	1000.00	41.7 QP	54.0	-12.3	1.00 V	61	42.37	-0.70

REMARKS:

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

CHANNEL	TX Channel 120	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	76.84	34.1 QP	40.0	-6.0	2.00 H	226	52.48	-18.43
2	110.47	36.9 QP	43.5	-6.7	1.50 H	72	54.37	-17.52
3	152.52	36.3 QP	43.5	-7.2	2.00 H	108	50.81	-14.55
4	374.62	38.3 QP	46.0	-7.7	1.00 H	35	50.92	-12.66
5	503.02	36.9 QP	46.0	-9.1	1.50 H	87	47.04	-10.18
6	1000.00	46.8 QP	54.0	-7.2	1.00 H	50	47.52	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.45	32.7 QP	40.0	-7.4	1.00 V	214	47.13	-14.48
2	76.60	33.8 QP	40.0	-6.2	1.00 V	342	52.08	-18.32
3	117.87	37.4 QP	43.5	-6.1	1.50 V	206	54.04	-16.60
4	152.92	34.8 QP	43.5	-8.7	1.00 V	306	49.36	-14.53
5	426.79	37.6 QP	46.0	-8.4	1.50 V	360	49.01	-11.39
6	1000.00	42.0 QP	54.0	-12.1	1.00 V	62	42.65	-0.70

REMARKS:

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

CHANNEL	TX Channel 140	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	76.73	33.4 QP	40.0	-6.6	2.00 H	211	51.76	-18.38
2	110.65	36.9 QP	43.5	-6.7	1.50 H	82	54.34	-17.49
3	152.27	36.9 QP	43.5	-6.6	2.00 H	105	51.51	-14.57
4	374.67	37.7 QP	46.0	-8.3	1.00 H	42	50.32	-12.66
5	502.57	36.4 QP	46.0	-9.6	1.50 H	92	46.62	-10.19
6	1000.00	46.9 QP	54.0	-7.1	1.00 H	64	47.63	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.46	33.1 QP	40.0	-6.9	1.00 V	217	47.57	-14.48
2	76.53	33.4 QP	40.0	-6.6	1.00 V	331	51.67	-18.29
3	118.17	37.6 QP	43.5	-5.9	1.50 V	192	54.14	-16.57
4	153.02	34.8 QP	43.5	-8.7	1.00 V	304	49.29	-14.53
5	427.11	37.6 QP	46.0	-8.5	1.50 V	360	48.93	-11.38
6	1000.00	41.8 QP	54.0	-12.2	1.00 V	66	42.52	-0.70

REMARKS:

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

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CHANNEL	TX Channel 54	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	77.58	33.8 QP	40.0	-6.2	2.00 H	241	52.53	-18.76
2	110.83	35.6 QP	43.5	-7.9	1.50 H	70	53.11	-17.47
3	152.94	36.5 QP	43.5	-7.0	2.00 H	93	51.02	-14.53
4	375.01	35.5 QP	46.0	-10.5	1.00 H	29	48.16	-12.65
5	502.86	38.7 QP	46.0	-7.3	1.50 H	111	48.86	-10.19
6	1000.00	45.5 QP	54.0	-8.5	1.00 H	82	46.23	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.22	31.8 QP	40.0	-8.2	1.00 V	216	46.26	-14.48
2	76.59	34.3 QP	40.0	-5.7	1.00 V	357	52.59	-18.31
3	118.26	35.6 QP	43.5	-7.9	1.50 V	197	52.21	-16.57
4	152.81	35.2 QP	43.5	-8.3	1.00 V	292	49.73	-14.54
5	426.65	37.7 QP	46.0	-8.3	1.50 V	360	49.12	-11.39
6	1000.00	41.5 QP	54.0	-12.5	1.00 V	63	42.18	-0.70

REMARKS:

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

CHANNEL	TX Channel 62	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	76.59	33.7 QP	40.0	-6.3	2.00 H	238	51.98	-18.31
2	110.87	36.6 QP	43.5	-6.9	1.50 H	52	54.02	-17.46
3	152.84	37.4 QP	43.5	-6.1	2.00 H	78	51.93	-14.54
4	374.58	37.7 QP	46.0	-8.3	1.00 H	32	50.40	-12.66
5	503.20	37.9 QP	46.0	-8.1	1.50 H	62	48.08	-10.18
6	1000.00	46.1 QP	54.0	-7.9	1.00 H	53	46.84	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.42	32.0 QP	40.0	-8.0	1.00 V	217	46.51	-14.48
2	76.55	34.7 QP	40.0	-5.3	1.00 V	347	52.96	-18.30
3	118.17	35.2 QP	43.5	-8.3	1.50 V	194	51.77	-16.58
4	152.68	35.5 QP	43.5	-8.0	1.00 V	295	50.03	-14.55
5	426.52	37.4 QP	46.0	-8.6	1.50 V	360	48.81	-11.39
6	1000.00	41.5 QP	54.0	-12.5	1.00 V	65	42.23	-0.70

REMARKS:

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

CHANNEL	TX Channel 102	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	76.74	34.1 QP	40.0	-5.9	2.00 H	244	52.51	-18.38
2	110.77	37.0 QP	43.5	-6.5	1.50 H	44	54.46	-17.48
3	152.72	36.9 QP	43.5	-6.6	2.00 H	75	51.47	-14.54
4	374.45	37.8 QP	46.0	-8.2	1.00 H	31	50.43	-12.66
5	503.41	38.3 QP	46.0	-7.7	1.50 H	67	48.44	-10.18
6	1000.00	46.6 QP	54.0	-7.4	1.00 H	51	47.29	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.20	31.7 QP	40.0	-8.3	1.00 V	212	46.17	-14.48
2	76.70	34.6 QP	40.0	-5.4	1.00 V	354	52.93	-18.37
3	118.01	35.0 QP	43.5	-8.5	1.50 V	203	51.60	-16.58
4	152.84	35.2 QP	43.5	-8.3	1.00 V	295	49.70	-14.54
5	426.59	36.9 QP	46.0	-9.1	1.50 V	356	48.33	-11.39
6	1000.00	41.8 QP	54.0	-12.2	1.00 V	60	42.53	-0.70

REMARKS:

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

CHANNEL	TX Channel 118	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	76.64	33.8 QP	40.0	-6.2	2.00 H	250	52.11	-18.34
2	110.85	37.7 QP	43.5	-5.8	1.50 H	44	55.13	-17.47
3	152.66	37.1 QP	43.5	-6.5	2.00 H	90	51.60	-14.55
4	374.25	38.0 QP	46.0	-8.0	1.00 H	36	50.71	-12.67
5	503.63	38.1 QP	46.0	-7.9	1.50 H	65	48.31	-10.18
6	1000.00	46.7 QP	54.0	-7.3	1.00 H	54	47.41	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.24	31.6 QP	40.0	-8.4	1.00 V	209	46.04	-14.48
2	76.70	34.9 QP	40.0	-5.1	1.00 V	353	53.28	-18.36
3	118.01	35.2 QP	43.5	-8.3	1.50 V	193	51.82	-16.58
4	153.18	35.0 QP	43.5	-8.5	1.00 V	294	49.49	-14.52
5	426.65	37.3 QP	46.0	-8.7	1.50 V	360	48.70	-11.39
6	1000.00	41.2 QP	54.0	-12.8	1.00 V	56	41.91	-0.70

REMARKS:

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

CHANNEL	TX Channel 134	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	76.61	33.6 QP	40.0	-6.4	2.00 H	256	51.94	-18.32
2	111.00	37.2 QP	43.5	-6.3	1.50 H	35	54.66	-17.45
3	152.55	36.6 QP	43.5	-7.0	2.00 H	89	51.10	-14.55
4	374.13	37.8 QP	46.0	-8.2	1.00 H	37	50.44	-12.67
5	503.75	38.3 QP	46.0	-7.7	1.50 H	60	48.46	-10.18
6	1000.00	46.7 QP	54.0	-7.3	1.00 H	53	47.39	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.38	32.0 QP	40.0	-8.1	1.00 V	207	46.43	-14.48
2	76.47	34.8 QP	40.0	-5.2	1.00 V	357	53.07	-18.26
3	117.94	35.0 QP	43.5	-8.5	1.50 V	190	51.57	-16.59
4	153.05	34.8 QP	43.5	-8.7	1.00 V	292	49.29	-14.53
5	426.73	37.5 QP	46.0	-8.5	1.50 V	360	48.90	-11.39
6	1000.00	41.7 QP	54.0	-12.3	1.00 V	51	42.38	-0.70

REMARKS:

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

802.11ac (VHT80)

CHANNEL	TX Channel 58	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	76.49	33.8 QP	40.0	-6.2	2.00 H	234	52.03	-18.27
2	111.10	36.7 QP	43.5	-6.8	1.50 H	55	54.12	-17.43
3	152.80	37.2 QP	43.5	-6.3	2.00 H	76	51.76	-14.54
4	374.50	38.2 QP	46.0	-7.8	1.00 H	29	50.82	-12.66
5	503.38	37.9 QP	46.0	-8.1	1.50 H	54	48.10	-10.18
6	1000.00	46.5 QP	54.0	-7.5	1.00 H	56	47.19	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.23	31.6 QP	40.0	-8.4	1.00 V	227	46.11	-14.48
2	76.70	34.5 QP	40.0	-5.5	1.00 V	339	52.90	-18.37
3	118.27	35.5 QP	43.5	-8.0	1.50 V	189	52.09	-16.57
4	152.58	35.1 QP	43.5	-8.4	1.00 V	288	49.61	-14.55
5	426.48	37.8 QP	46.0	-8.2	1.50 V	360	49.20	-11.40
6	1000.00	41.5 QP	54.0	-12.5	1.00 V	67	42.18	-0.70

REMARKS:

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

CHANNEL	TX Channel 106	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	76.59	34.1 QP	40.0	-5.9	2.00 H	229	52.37	-18.31
2	111.19	37.1 QP	43.5	-6.4	1.50 H	64	54.53	-17.42
3	152.59	36.7 QP	43.5	-6.8	2.00 H	77	51.28	-14.55
4	374.55	38.2 QP	46.0	-7.8	1.00 H	20	50.84	-12.66
5	503.53	37.7 QP	46.0	-8.3	1.50 H	56	47.85	-10.18
6	1000.00	47.0 QP	54.0	-7.1	1.00 H	65	47.65	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.01	31.5 QP	40.0	-8.5	1.00 V	225	45.97	-14.48
2	76.56	34.1 QP	40.0	-5.9	1.00 V	334	52.44	-18.30
3	118.20	35.8 QP	43.5	-7.7	1.50 V	184	52.39	-16.57
4	152.72	34.6 QP	43.5	-8.9	1.00 V	285	49.16	-14.54
5	426.68	38.1 QP	46.0	-7.9	1.50 V	350	49.52	-11.39
6	1000.00	41.8 QP	54.0	-12.2	1.00 V	62	42.46	-0.70

REMARKS:

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

CHANNEL	TX Channel 122	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	76.35	34.5 QP	40.0	-5.5	2.00 H	223	52.69	-18.21
2	111.15	37.1 QP	43.5	-6.4	1.50 H	73	54.54	-17.43
3	152.70	37.0 QP	43.5	-6.6	2.00 H	78	51.50	-14.55
4	374.37	37.7 QP	46.0	-8.3	1.00 H	29	50.35	-12.66
5	503.35	38.1 QP	46.0	-7.9	1.50 H	49	48.27	-10.18
6	1000.00	47.4 QP	54.0	-6.6	1.00 H	57	48.08	-0.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	50.94	31.2 QP	40.0	-8.8	1.00 V	226	45.64	-14.47
2	76.72	33.7 QP	40.0	-6.3	1.00 V	339	52.10	-18.37
3	118.41	36.2 QP	43.5	-7.3	1.50 V	185	52.81	-16.57
4	152.69	34.4 QP	43.5	-9.1	1.00 V	294	48.92	-14.55
5	426.74	37.9 QP	46.0	-8.1	1.50 V	359	49.31	-11.39
6	1000.00	41.7 QP	54.0	-12.3	1.00 V	71	42.42	-0.70

REMARKS:

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

ABOVE 1GHz WORST-CASE DATA

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	5150.00	51.5 PK	74.0	-22.5	1.32 H	158	44.70	6.80
2	5150.00	38.5 AV	54.0	-15.5	1.32 H	158	31.70	6.80
3	*5260.00	104.8 PK			1.32 H	158	97.62	7.18
4	*5260.00	95.0 AV			1.32 H	158	87.82	7.18
5	5350.00	51.5 PK	74.0	-22.5	1.32 H	158	44.01	7.49
6	5350.00	39.2 AV	54.0	-14.8	1.32 H	158	31.71	7.49
7	#7013.00	54.0 PK	74.0	-20.0	1.04 H	275	41.01	12.99
8	#7013.00	44.8 AV	54.0	-9.2	1.04 H	275	31.81	12.99
9	#10520.00	53.7 PK	74.0	-20.3	1.30 H	303	40.48	13.22
10	#10520.00	41.9 AV	54.0	-12.1	1.30 H	303	28.68	13.22
11	15780.00	61.8 PK	74.0	-12.2	1.06 H	250	43.29	18.51
12	15780.00	47.9 AV	54.0	-6.1	1.06 H	250	29.39	18.51
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	5150.00	51.6 PK	74.0	-22.4	1.01 V	171	44.80	6.80
2	5150.00	41.3 AV	54.0	-12.7	1.01 V	171	34.50	6.80
3	*5260.00	118.0 PK			1.01 V	171	110.82	7.18
4	*5260.00	109.2 AV			1.01 V	171	102.02	7.18
5	5350.00	56.2 PK	74.0	-17.8	1.01 V	171	48.71	7.49
6	5350.00	43.6 AV	54.0	-10.4	1.01 V	171	36.11	7.49
7	#7013.00	54.9 PK	74.0	-19.1	1.00 V	202	41.91	12.99
8	#7013.00	48.8 AV	54.0	-5.2	1.00 V	202	35.81	12.99
9	#10520.00	53.6 PK	74.0	-20.4	1.03 V	208	40.38	13.22
10	#10520.00	40.8 AV	54.0	-13.2	1.03 V	208	27.58	13.22
11	15780.00	59.7 PK	74.0	-14.3	1.00 V	152	41.19	18.51
12	15780.00	47.5 AV	54.0	-6.5	1.00 V	152	28.99	18.51

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	105.3 PK			1.31 H	156	98.01	7.29
2	*5300.00	95.3 AV			1.31 H	156	88.01	7.29
3	10600.00	53.6 PK	74.0	-20.4	1.24 H	316	40.07	13.53
4	10600.00	41.6 AV	54.0	-12.4	1.24 H	316	28.07	13.53
5	15900.00	61.3 PK	74.0	-12.7	1.05 H	264	42.65	18.65
6	15900.00	47.5 AV	54.0	-6.5	1.05 H	264	28.85	18.65
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	118.9 PK			1.00 V	167	111.61	7.29
2	*5300.00	109.3 AV			1.00 V	167	102.01	7.29
3	10600.00	53.4 PK	74.0	-20.6	1.03 V	197	39.87	13.53
4	10600.00	40.4 AV	54.0	-13.6	1.03 V	197	26.87	13.53
5	15900.00	59.9 PK	74.0	-14.1	1.04 V	143	41.25	18.65
6	15900.00	47.5 AV	54.0	-6.5	1.04 V	143	28.85	18.65

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	104.3 PK			1.26 H	160	96.92	7.38
2	*5320.00	94.2 AV			1.26 H	160	86.82	7.38
3	5350.00	64.5 PK	74.0	-9.5	1.24 H	157	57.01	7.49
4	5350.00	49.2 AV	54.0	-4.8	1.24 H	157	41.71	7.49
5	10640.00	53.8 PK	74.0	-20.2	1.29 H	329	40.17	13.63
6	10640.00	41.9 AV	54.0	-12.1	1.29 H	329	28.27	13.63
7	15960.00	61.3 PK	74.0	-12.7	1.10 H	258	42.69	18.61
8	15960.00	47.6 AV	54.0	-6.4	1.10 H	258	28.99	18.61
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	118.0 PK			1.01 V	172	110.62	7.38
2	*5320.00	108.3 AV			1.01 V	172	100.92	7.38
3	5350.00	64.7 PK	74.0	-9.3	1.01 V	172	57.21	7.49
4	5350.00	52.5 AV	54.0	-1.5	1.01 V	172	45.01	7.49
5	10640.00	53.7 PK	74.0	-20.3	1.04 V	182	40.07	13.63
6	10640.00	40.6 AV	54.0	-13.4	1.04 V	182	26.97	13.63
7	15960.00	60.0 PK	74.0	-14.0	1.01 V	131	41.39	18.61
8	15960.00	47.3 AV	54.0	-6.7	1.01 V	131	28.69	18.61

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	64.5 PK	74.0	-9.5	1.26 H	164	56.57	7.93
2	#5470.00	49.1 AV	54.0	-4.9	1.26 H	164	41.17	7.93
3	*5500.00	105.1 PK			1.26 H	164	97.08	8.02
4	*5500.00	95.2 AV			1.26 H	164	87.18	8.02
5	11000.00	53.9 PK	74.0	-20.1	1.35 H	319	39.48	14.42
6	11000.00	42.1 AV	54.0	-11.9	1.35 H	319	27.68	14.42
7	#16500.00	61.7 PK	74.0	-12.3	1.35 H	314	40.76	20.94
8	#16500.00	47.2 AV	54.0	-6.8	1.35 H	314	26.26	20.94
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	68.5 PK	74.0	-5.5	1.06 V	170	60.57	7.93
2	**#5470.00**	**52.9 AV**	**54.0**	**-1.1**	**1.06 V**	**170**	**44.97**	**7.93**
3	*5500.00	117.8 PK			1.06 V	170	109.78	8.02
4	*5500.00	107.6 AV			1.06 V	170	99.58	8.02
5	11000.00	53.7 PK	74.0	-20.3	1.08 V	208	39.28	14.42
6	11000.00	40.6 AV	54.0	-13.4	1.08 V	208	26.18	14.42
7	#16500.00	59.1 PK	74.0	-14.9	1.01 V	138	38.16	20.94
8	#16500.00	46.8 AV	54.0	-7.2	1.01 V	138	25.86	20.94

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	104.2 PK			1.30 H	163	95.99	8.21
2	*5600.00	95.1 AV			1.30 H	163	86.89	8.21
3	11200.00	54.3 PK	74.0	-19.7	1.23 H	340	40.04	14.26
4	11200.00	42.2 AV	54.0	-11.8	1.23 H	340	27.94	14.26
5	#16800.00	61.6 PK	74.0	-12.4	1.04 H	272	40.30	21.30
6	#16800.00	47.6 AV	54.0	-6.4	1.04 H	272	26.30	21.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	117.1 PK			1.05 V	180	108.89	8.21
2	*5600.00	107.9 AV			1.05 V	180	99.69	8.21
3	11200.00	53.9 PK	74.0	-20.1	1.13 V	205	39.64	14.26
4	11200.00	40.9 AV	54.0	-13.1	1.13 V	205	26.64	14.26
5	#16800.00	59.5 PK	74.0	-14.5	1.00 V	143	38.20	21.30
6	#16800.00	47.2 AV	54.0	-6.8	1.00 V	143	25.90	21.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5383.10	63.3 PK	74.0	-10.7	1.27 H	167	55.67	7.63
2	5383.10	47.6 AV	54.0	-6.4	1.27 H	167	39.97	7.63
3	*5700.00	103.7 PK			1.27 H	167	95.35	8.35
4	*5700.00	94.8 AV			1.27 H	167	86.45	8.35
5	#5725.00	64.1 PK	74.0	-9.9	1.27 H	167	55.71	8.39
6	#5725.00	48.9 AV	54.0	-5.1	1.27 H	167	40.51	8.39
7	11400.00	54.5 PK	74.0	-19.5	1.18 H	345	40.08	14.42
8	11400.00	42.3 AV	54.0	-11.7	1.18 H	345	27.88	14.42
9	#17100.00	62.1 PK	74.0	-11.9	1.37 H	314	40.33	21.77
10	#17100.00	47.8 AV	54.0	-6.2	1.37 H	314	26.03	21.77
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5383.10	62.2 PK	74.0	-11.8	1.01 V	180	54.57	7.63
2	5383.10	51.3 AV	54.0	-2.7	1.01 V	180	43.67	7.63
3	*5700.00	118.0 PK			1.14 V	187	109.65	8.35
4	*5700.00	107.5 AV			1.14 V	187	99.15	8.35
5	#5725.00	67.8 PK	74.0	-6.2	1.14 V	187	59.41	8.39
6	#5725.00	52.6 AV	54.0	-1.4	1.14 V	187	44.21	8.39
7	11400.00	53.8 PK	74.0	-20.2	1.09 V	210	39.38	14.42
8	11400.00	40.9 AV	54.0	-13.1	1.09 V	210	26.48	14.42
9	#17100.00	59.4 PK	74.0	-14.6	1.00 V	148	37.63	21.77
10	#17100.00	46.6 AV	54.0	-7.4	1.00 V	148	24.83	21.77

REMARKS:

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

802.11ac (VHT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	5150.00	51.1 PK	74.0	-22.9	1.30 H	154	44.30	6.80
2	5150.00	38.2 AV	54.0	-15.8	1.30 H	154	31.40	6.80
3	*5260.00	104.4 PK			1.30 H	154	97.22	7.18
4	*5260.00	94.6 AV			1.30 H	154	87.42	7.18
5	5350.00	51.6 PK	74.0	-22.4	1.30 H	154	44.11	7.49
6	5350.00	39.4 AV	54.0	-14.6	1.30 H	154	31.91	7.49
7	#10520.00	53.0 PK	74.0	-21.0	1.33 H	302	39.78	13.22
8	#10520.00	41.5 AV	54.0	-12.5	1.33 H	302	28.28	13.22
9	15780.00	61.3 PK	74.0	-12.7	1.12 H	264	42.79	18.51
10	15780.00	47.4 AV	54.0	-6.6	1.12 H	264	28.89	18.51
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	5150.00	51.2 PK	74.0	-22.8	1.01 V	170	44.40	6.80
2	5150.00	40.6 AV	54.0	-13.4	1.01 V	170	33.80	6.80
3	*5260.00	118.7 PK			1.01 V	170	111.52	7.18
4	*5260.00	109.1 AV			1.01 V	170	101.92	7.18
5	5350.00	55.3 PK	74.0	-18.7	1.01 V	170	47.81	7.49
6	5350.00	43.3 AV	54.0	-10.7	1.01 V	170	35.81	7.49
7	#10520.00	53.5 PK	74.0	-20.5	1.09 V	223	40.28	13.22
8	#10520.00	40.7 AV	54.0	-13.3	1.09 V	223	27.48	13.22
9	15780.00	59.1 PK	74.0	-14.9	1.02 V	161	40.59	18.51
10	15780.00	46.4 AV	54.0	-7.6	1.02 V	161	27.89	18.51

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	104.3 PK			1.32 H	159	97.01	7.29
2	*5300.00	94.7 AV			1.32 H	159	87.41	7.29
3	5350.00	55.4 PK	74.0	-18.6	1.32 H	154	47.91	7.49
4	5350.00	41.3 AV	54.0	-12.7	1.32 H	154	33.81	7.49
5	10600.00	53.1 PK	74.0	-20.9	1.35 H	312	39.57	13.53
6	10600.00	41.5 AV	54.0	-12.5	1.35 H	312	27.97	13.53
7	15900.00	61.1 PK	74.0	-12.9	1.07 H	254	42.45	18.65
8	15900.00	47.1 AV	54.0	-6.9	1.07 H	254	28.45	18.65
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	119.0 PK			1.00 V	171	111.71	7.29
2	*5300.00	109.1 AV			1.00 V	171	101.81	7.29
3	5350.00	57.9 PK	74.0	-16.1	1.00 V	171	50.41	7.49
4	5350.00	45.7 AV	54.0	-8.3	1.00 V	171	38.21	7.49
5	10600.00	53.6 PK	74.0	-20.4	1.04 V	239	40.07	13.53
6	10600.00	40.9 AV	54.0	-13.1	1.04 V	239	27.37	13.53
7	15900.00	58.7 PK	74.0	-15.3	1.07 V	160	40.05	18.65
8	15900.00	46.2 AV	54.0	-7.8	1.07 V	160	27.55	18.65

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	105.0 PK			1.34 H	154	97.62	7.38
2	*5320.00	95.0 AV			1.34 H	154	87.62	7.38
3	5350.00	63.2 PK	74.0	-10.8	1.34 H	154	55.71	7.49
4	5350.00	49.3 AV	54.0	-4.7	1.34 H	154	41.81	7.49
5	10640.00	53.1 PK	74.0	-20.9	1.27 H	304	39.47	13.63
6	10640.00	41.4 AV	54.0	-12.6	1.27 H	304	27.77	13.63
7	15960.00	61.5 PK	74.0	-12.5	1.17 H	264	42.89	18.61
8	15960.00	47.5 AV	54.0	-6.5	1.17 H	264	28.89	18.61
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	117.4 PK			1.01 V	168	110.02	7.38
2	*5320.00	108.3 AV			1.01 V	168	100.92	7.38
3	5350.00	66.3 PK	74.0	-7.7	1.01 V	168	58.81	7.49
4	5350.00	52.6 AV	54.0	-1.4	1.01 V	168	45.11	7.49
5	10640.00	53.6 PK	74.0	-20.4	1.13 V	207	39.97	13.63
6	10640.00	40.1 AV	54.0	-13.9	1.13 V	207	26.47	13.63
7	15960.00	58.9 PK	74.0	-15.1	1.00 V	160	40.29	18.61
8	15960.00	46.3 AV	54.0	-7.7	1.00 V	160	27.69	18.61

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	63.4 PK	74.0	-10.6	1.36 H	142	55.47	7.93
2	#5470.00	49.4 AV	54.0	-4.6	1.36 H	142	41.47	7.93
3	*5500.00	105.0 PK			1.36 H	142	96.98	8.02
4	*5500.00	94.8 AV			1.36 H	142	86.78	8.02
5	11000.00	52.7 PK	74.0	-21.3	1.22 H	313	38.28	14.42
6	11000.00	41.1 AV	54.0	-12.9	1.22 H	313	26.68	14.42
7	#16500.00	61.7 PK	74.0	-12.3	1.16 H	274	40.76	20.94
8	#16500.00	47.6 AV	54.0	-6.4	1.16 H	274	26.66	20.94
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	67.4 PK	74.0	-6.6	1.19 V	221	59.47	7.93
2	#5470.00	52.6 AV	54.0	-1.4	1.19 V	221	44.67	7.93
3	*5500.00	115.9 PK			1.19 V	221	107.88	8.02
4	*5500.00	107.6 AV			1.19 V	221	99.58	8.02
5	11000.00	53.3 PK	74.0	-20.7	1.16 V	217	38.88	14.42
6	11000.00	39.9 AV	54.0	-14.1	1.16 V	217	25.48	14.42
7	#16500.00	59.0 PK	74.0	-15.0	1.00 V	170	38.06	20.94
8	#16500.00	46.2 AV	54.0	-7.8	1.00 V	170	25.26	20.94

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	101.5 PK			1.10 H	280	93.29	8.21
2	*5600.00	91.6 AV			1.10 H	280	83.39	8.21
3	11200.00	53.9 PK	74.0	-20.1	1.18 H	332	39.64	14.26
4	11200.00	42.3 AV	54.0	-11.7	1.18 H	332	28.04	14.26
5	#16800.00	61.4 PK	74.0	-12.6	1.06 H	267	40.10	21.30
6	#16800.00	47.6 AV	54.0	-6.4	1.06 H	267	26.30	21.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	117.8 PK			1.16 V	220	109.59	8.21
2	*5600.00	107.9 AV			1.16 V	220	99.69	8.21
3	11200.00	53.5 PK	74.0	-20.5	1.02 V	233	39.24	14.26
4	11200.00	40.7 AV	54.0	-13.3	1.02 V	233	26.44	14.26
5	#16800.00	58.2 PK	74.0	-15.8	1.09 V	150	36.90	21.30
6	#16800.00	45.8 AV	54.0	-8.2	1.09 V	150	24.50	21.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	97.3 PK			1.05 H	270	88.95	8.35
2	*5700.00	87.5 AV			1.05 H	270	79.15	8.35
3	#5725.00	60.3 PK	74.0	-13.7	1.05 H	270	51.91	8.39
4	#5725.00	49.0 AV	54.0	-5.0	1.05 H	270	40.61	8.39
5	11400.00	54.2 PK	74.0	-19.8	1.19 H	325	39.78	14.42
6	11400.00	41.3 AV	54.0	-12.7	1.19 H	325	26.88	14.42
7	#17100.00	62.6 PK	74.0	-11.4	1.10 H	253	40.83	21.77
8	#17100.00	48.4 AV	54.0	-5.6	1.10 H	253	26.63	21.77
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	113.3 PK			1.14 V	227	104.95	8.35
2	*5700.00	104.0 AV			1.14 V	227	95.65	8.35
3	#5725.00	68.4 PK	74.0	-5.6	1.14 V	227	60.01	8.39
4	#5725.00	52.1 AV	54.0	-1.9	1.14 V	227	43.71	8.39
5	11400.00	51.6 PK	74.0	-22.4	1.04 V	219	37.18	14.42
6	11400.00	40.1 AV	54.0	-13.9	1.04 V	219	25.68	14.42
7	#17100.00	56.9 PK	74.0	-17.1	1.11 V	150	35.13	21.77
8	#17100.00	44.8 AV	54.0	-9.2	1.11 V	150	23.03	21.77

REMARKS:

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

802.11ac (VHT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	98.8 PK			1.05 H	264	91.58	7.22
2	*5270.00	89.1 AV			1.05 H	264	81.88	7.22
3	5350.00	55.4 PK	74.0	-18.6	1.05 H	264	47.91	7.49
4	5350.00	43.2 AV	54.0	-10.8	1.05 H	264	35.71	7.49
5	#10540.00	53.9 PK	74.0	-20.1	1.20 H	333	40.61	13.29
6	#10540.00	42.4 AV	54.0	-11.6	1.20 H	333	29.11	13.29
7	15810.00	62.4 PK	74.0	-11.6	1.05 H	280	43.83	18.57
8	15810.00	48.1 AV	54.0	-5.9	1.05 H	280	29.53	18.57
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	*5270.00	115.1 PK			1.14 V	226	107.88	7.22
2	*5270.00	105.7 AV			1.14 V	226	98.48	7.22
3	5350.00	58.0 PK	74.0	-16.0	1.14 V	226	50.51	7.49
4	5350.00	46.2 AV	54.0	-7.8	1.14 V	226	38.71	7.49
5	#10540.00	52.4 PK	74.0	-21.6	1.04 V	206	39.11	13.29
6	#10540.00	41.3 AV	54.0	-12.7	1.04 V	206	28.01	13.29
7	15810.00	56.4 PK	74.0	-17.6	1.10 V	152	37.83	18.57
8	15810.00	43.2 AV	54.0	-10.8	1.10 V	152	24.63	18.57

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	93.2 PK			1.04 H	260	85.87	7.33
2	*5310.00	83.6 AV			1.04 H	260	76.27	7.33
3	5350.00	63.4 PK	74.0	-10.6	1.04 H	260	55.91	7.49
4	5350.00	49.3 AV	54.0	-4.7	1.04 H	260	41.81	7.49
5	10620.00	51.6 PK	74.0	-22.4	1.20 H	333	38.01	13.59
6	10620.00	40.6 AV	54.0	-13.4	1.20 H	333	27.01	13.59
7	15930.00	60.2 PK	74.0	-13.8	1.05 H	280	41.56	18.64
8	15930.00	46.3 AV	54.0	-7.7	1.05 H	280	27.66	18.64
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	109.4 PK			1.14 V	223	102.07	7.33
2	*5310.00	100.2 AV			1.14 V	223	92.87	7.33
3	5350.00	65.7 PK	74.0	-8.3	1.14 V	223	58.21	7.49
4	5350.00	52.6 AV	54.0	-1.4	1.14 V	223	45.11	7.49
5	10620.00	50.3 PK	74.0	-23.7	1.09 V	199	36.71	13.59
6	10620.00	39.4 AV	54.0	-14.6	1.09 V	199	25.81	13.59
7	15930.00	54.4 PK	74.0	-19.6	1.05 V	162	35.76	18.64
8	15930.00	41.3 AV	54.0	-12.7	1.05 V	162	22.66	18.64

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	63.6 PK	74.0	-10.4	1.04 H	262	55.67	7.93
2	#5470.00	49.7 AV	54.0	-4.3	1.04 H	262	41.77	7.93
3	*5510.00	92.2 PK			1.04 H	262	84.16	8.04
4	*5510.00	81.2 AV			1.04 H	262	73.16	8.04
5	11020.00	51.2 PK	74.0	-22.8	1.20 H	333	36.83	14.37
6	11020.00	40.1 AV	54.0	-13.9	1.20 H	333	25.73	14.37
7	#16530.00	61.2 PK	74.0	-12.8	1.05 H	280	40.28	20.92
8	#16530.00	47.2 AV	54.0	-6.8	1.05 H	280	26.28	20.92
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	#5470.00	67.7 PK	74.0	-6.3	1.14 V	179	59.77	7.93
2	#5470.00	52.7 AV	54.0	-1.3	1.14 V	179	44.77	7.93
3	*5510.00	108.2 PK			1.14 V	179	100.16	8.04
4	*5510.00	97.6 AV			1.14 V	179	89.56	8.04
5	11020.00	50.0 PK	74.0	-24.0	1.02 V	220	35.63	14.37
6	11020.00	39.0 AV	54.0	-15.0	1.02 V	220	24.63	14.37
7	#16530.00	53.9 PK	74.0	-20.1	1.16 V	156	32.98	20.92
8	#16530.00	40.6 AV	54.0	-13.4	1.16 V	156	19.68	20.92

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5590.00	96.0 PK			1.00 H	251	87.81	8.19
2	*5590.00	86.7 AV			1.00 H	251	78.51	8.19
3	11180.00	53.9 PK	74.0	-20.1	1.20 H	333	39.65	14.25
4	11180.00	42.4 AV	54.0	-11.6	1.20 H	333	28.15	14.25
5	#16770.00	62.4 PK	74.0	-11.6	1.05 H	280	41.19	21.21
6	#16770.00	48.1 AV	54.0	-5.9	1.05 H	280	26.89	21.21
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	*5590.00	113.2 PK			1.11 V	186	105.01	8.19
2	*5590.00	104.0 AV			1.11 V	186	95.81	8.19
3	11180.00	52.7 PK	74.0	-21.3	1.06 V	202	38.45	14.25
4	11180.00	41.8 AV	54.0	-12.2	1.06 V	202	27.55	14.25
5	#16770.00	56.6 PK	74.0	-17.4	1.05 V	160	35.39	21.21
6	#16770.00	43.3 AV	54.0	-10.7	1.05 V	160	22.09	21.21

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	96.2 PK			1.06 H	249	87.89	8.31
2	*5670.00	86.6 AV			1.06 H	249	78.29	8.31
3	#5725.00	54.8 PK	74.0	-19.2	1.06 H	249	46.41	8.39
4	#5725.00	42.9 AV	54.0	-11.1	1.06 H	249	34.51	8.39
5	11340.00	54.3 PK	74.0	-19.7	1.16 H	334	39.98	14.32
6	11340.00	42.9 AV	54.0	-11.1	1.16 H	334	28.58	14.32
7	#17010.00	62.8 PK	74.0	-11.2	1.03 H	274	41.27	21.53
8	#17010.00	48.5 AV	54.0	-5.5	1.03 H	274	26.97	21.53
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	96.2 PK			1.06 V	249	87.89	8.31
2	*5670.00	86.6 AV			1.06 V	249	78.29	8.31
3	#5725.00	54.8 PK	74.0	-19.2	1.06 V	249	46.41	8.39
4	#5725.00	42.9 AV	54.0	-11.1	1.06 V	249	34.51	8.39
5	11340.00	54.3 PK	74.0	-19.7	1.16 V	334	39.98	14.32
6	11340.00	42.9 AV	54.0	-11.1	1.16 V	334	28.58	14.32
7	#17010.00	62.8 PK	74.0	-11.2	1.03 V	274	41.27	21.53
8	#17010.00	48.5 AV	54.0	-5.5	1.03 V	274	26.97	21.53

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	87.6 PK			1.06 H	250	80.32	7.28
2	*5290.00	78.3 AV			1.06 H	250	71.02	7.28
3	5351.00	65.3 PK	74.0	-8.7	1.06 H	250	57.79	7.51
4	5351.00	49.2 AV	54.0	-4.8	1.06 H	250	41.69	7.51
5	#10580.00	51.2 PK	74.0	-22.8	1.17 H	326	37.75	13.45
6	#10580.00	40.1 AV	54.0	-13.9	1.17 H	326	26.65	13.45
7	15870.00	61.4 PK	74.0	-12.6	1.10 H	289	42.78	18.62
8	15870.00	47.3 AV	54.0	-6.7	1.10 H	289	28.68	18.62
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	104.0 PK			1.02 V	188	96.72	7.28
2	*5290.00	94.5 AV			1.02 V	188	87.22	7.28
3	5351.00	68.9 PK	74.0	-5.1	1.02 V	188	61.39	7.51
4	5351.00	52.6 AV	54.0	-1.4	1.02 V	188	45.09	7.51
5	#10580.00	50.5 PK	74.0	-23.5	1.02 V	233	37.05	13.45
6	#10580.00	39.3 AV	54.0	-14.7	1.02 V	233	25.85	13.45
7	15870.00	54.0 PK	74.0	-20.0	1.15 V	150	35.38	18.62
8	15870.00	40.8 AV	54.0	-13.2	1.15 V	150	22.18	18.62

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.4 PK	74.0	-12.6	1.07 H	251	53.50	7.90
2	5460.00	48.6 AV	54.0	-5.4	1.07 H	251	40.70	7.90
3	#5470.00	64.3 PK	74.0	-9.7	1.07 H	251	56.37	7.93
4	#5470.00	49.6 AV	54.0	-4.4	1.07 H	251	41.67	7.93
5	*5530.00	85.7 PK			1.07 H	251	77.62	8.08
6	*5530.00	76.4 AV			1.07 H	251	68.32	8.08
7	11060.00	51.1 PK	74.0	-22.9	1.18 H	347	36.80	14.30
8	11060.00	40.0 AV	54.0	-14.0	1.18 H	347	25.70	14.30
9	#16590.00	61.6 PK	74.0	-12.4	1.04 H	264	40.70	20.90
10	#16590.00	47.7 AV	54.0	-6.3	1.04 H	264	26.80	20.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.6 PK	74.0	-10.4	1.08 V	186	55.70	7.90
2	5460.00	50.0 AV	54.0	-4.0	1.08 V	186	42.10	7.90
3	#5470.00	67.0 PK	74.0	-7.0	1.08 V	186	59.07	7.93
4	**#5470.00**	**52.9 AV**	**54.0**	**-1.1**	**1.08 V**	**186**	**44.97**	**7.93**
5	*5530.00	102.3 PK			1.08 V	186	94.22	8.08
6	*5530.00	92.8 AV			1.08 V	186	84.72	8.08
7	11060.00	50.0 PK	74.0	-24.0	1.05 V	224	35.70	14.30
8	11060.00	38.9 AV	54.0	-15.1	1.05 V	224	24.60	14.30
9	#16590.00	53.8 PK	74.0	-20.2	1.13 V	156	32.90	20.90
10	#16590.00	40.8 AV	54.0	-13.2	1.13 V	156	19.90	20.90

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5610.00	93.4 PK			1.06 H	244	85.17	8.23
2	*5610.00	83.6 AV			1.06 H	244	75.37	8.23
3	#5725.00	53.6 PK	74.0	-20.4	1.06 H	244	45.21	8.39
4	#5725.00	40.3 AV	54.0	-13.7	1.06 H	244	31.91	8.39
5	11220.00	51.0 PK	74.0	-23.0	1.23 H	346	36.74	14.26
6	11220.00	40.0 AV	54.0	-14.0	1.23 H	346	25.74	14.26
7	#16830.00	61.8 PK	74.0	-12.2	1.02 H	272	40.45	21.35
8	#16830.00	47.5 AV	54.0	-6.5	1.02 H	272	26.15	21.35
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5610.00	109.6 PK			1.07 V	192	101.37	8.23
2	*5610.00	100.2 AV			1.07 V	192	91.97	8.23
3	#5725.00	55.8 PK	74.0	-18.2	1.07 V	192	47.41	8.39
4	#5725.00	42.7 AV	54.0	-11.3	1.07 V	192	34.31	8.39
5	11220.00	52.4 PK	74.0	-21.6	1.07 V	189	38.14	14.26
6	11220.00	41.2 AV	54.0	-12.8	1.07 V	189	26.94	14.26
7	#16830.00	57.1 PK	74.0	-16.9	1.08 V	149	35.75	21.35
8	#16830.00	43.8 AV	54.0	-10.2	1.08 V	149	22.45	21.35

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.

4.3 TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 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)

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

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;

Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

4.3.2 TEST INSTRUMENTS

FOR POWER OUTPUT MEASUREMENT

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

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Oct. 31, 2014

FOR 26dB OCCUPIED BANDWIDTH

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 05, 2014	July 04, 2015

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Oct. 31, 2014

4.3.3 TEST PROCEDURE

FOR POWER OUTPUT MEASUREMENT

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

FOR 26dB OCCUPIED BANDWIDTH

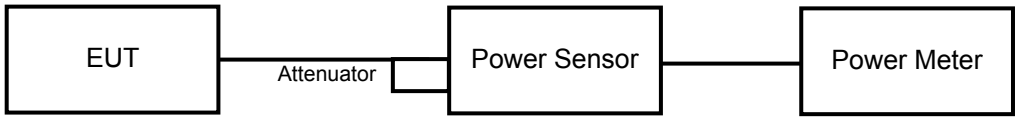
1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement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

4.3.4 DEVIATION FROM TEST STANDARD

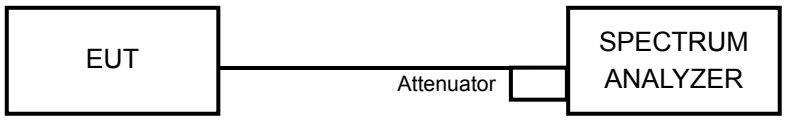
No deviation

4.3.5 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.3.7 TEST RESULTS

802.11a

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
52	5260	15.16	15.24	66.23	18.21	22.70	PASS
60	5300	14.54	15.16	61.255	17.87	22.70	PASS
64	5320	14.25	14.32	53.647	17.30	22.70	PASS
100	5500	15.03	15.21	65.031	18.13	22.70	PASS
120	5600	14.82	14.61	59.246	17.73	22.70	PASS
140	5700	14.75	15.10	62.213	17.94	22.70	PASS

Note: The directional gain is 7.3dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(7.3-6)”.

26dB OCCUPIED BANDWIDTH:

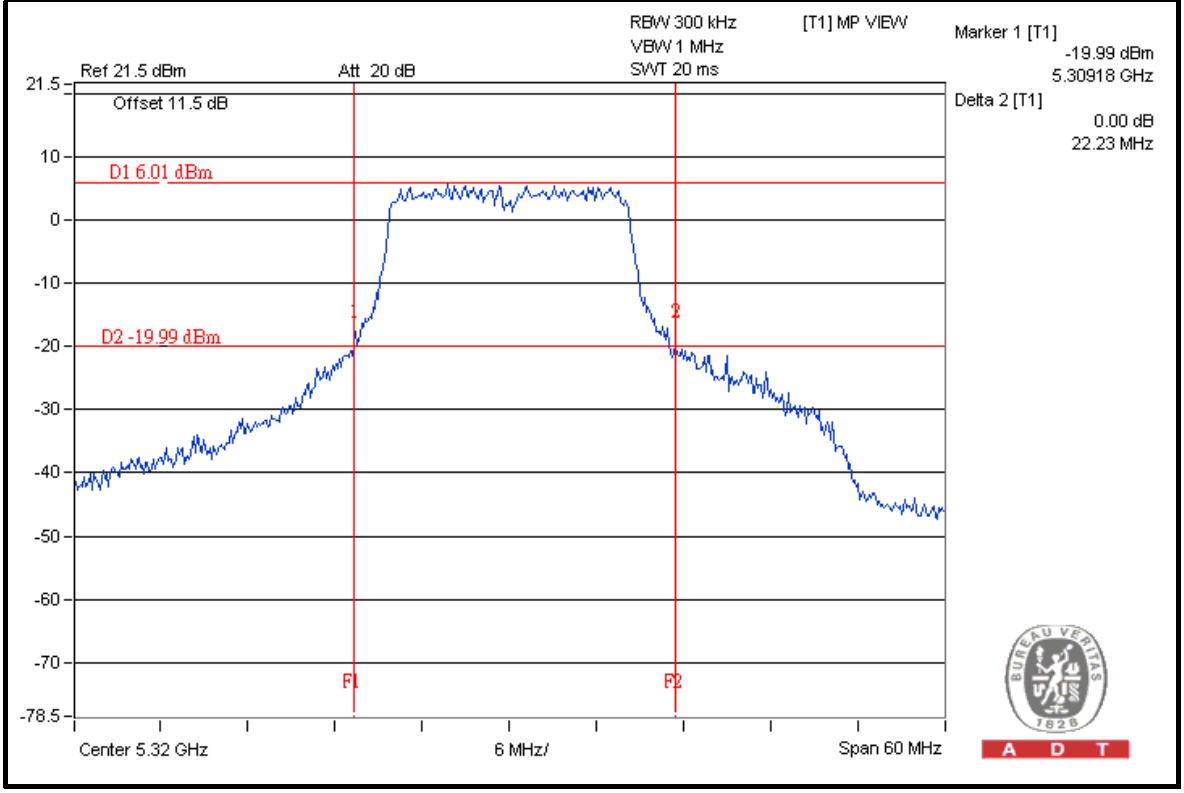
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
52	5260	23.86	23.97
60	5300	23.77	26.49
64	5320	22.79	22.23
100	5500	24.81	31.34
120	5600	25.17	26.45
140	5700	24.86	24.93

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	23.86	24.77 > 24
60	5300	23.77	24.76 > 24
64	5320	22.23	24.46 > 24
100	5500	24.81	24.94 > 24
120	5600	25.17	25 > 24
140	5700	24.86	24.95 > 24

SPECTRUM PLOT OF WORST VALUE

802.11a / Chain(1) : CH64



802.11n(HT20)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
52	5260	14.69	15.04	61.359	17.88	22.70	PASS
60	5300	14.66	15.12	61.751	17.91	22.70	PASS
64	5320	14.31	14.35	54.204	17.34	22.70	PASS
100	5500	13.86	14.01	49.499	16.95	22.70	PASS
120	5600	14.67	14.46	57.234	17.58	22.70	PASS
140	5700	12.05	11.67	30.721	14.87	22.70	PASS

Note: The directional gain is 7.3dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(7.3-6)”.

26dB OCCUPIED BANDWIDTH:

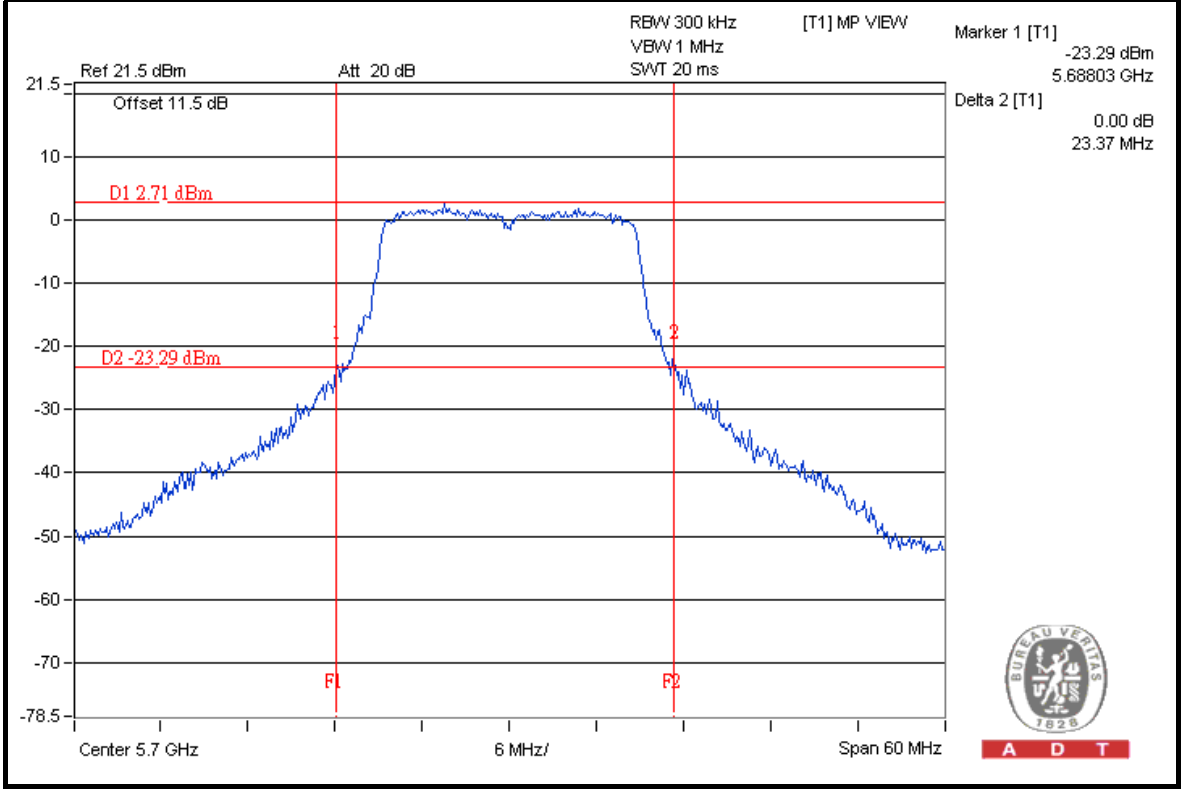
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
52	5260	23.98	26.12
60	5300	24.82	26.01
64	5320	23.77	24.63
100	5500	23.78	25.23
120	5600	26.68	26.42
140	5700	23.37	23.71

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	23.98	24.79 > 24
60	5300	24.82	24.94 > 24
64	5320	23.77	24.76 > 24
100	5500	23.78	24.76 > 24
120	5600	26.42	25.21 > 24
140	5700	23.37	24.68 > 24

SPECTRUM PLOT OF WORST VALUE

802.11n(HT20) / Chain(0) : CH140



802.11n(HT40)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
54	5270	14.10	13.99	50.765	17.06	22.70	PASS
62	5310	9.18	9.20	16.597	12.20	22.70	PASS
102	5510	7.86	8.10	12.566	10.99	22.70	PASS
118	5590	14.36	14.06	52.758	17.22	22.70	PASS
134	5670	13.89	13.83	48.646	16.87	22.70	PASS

Note: The directional gain is 7.3dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(7.3-6)”.

26dB OCCUPIED BANDWIDTH:

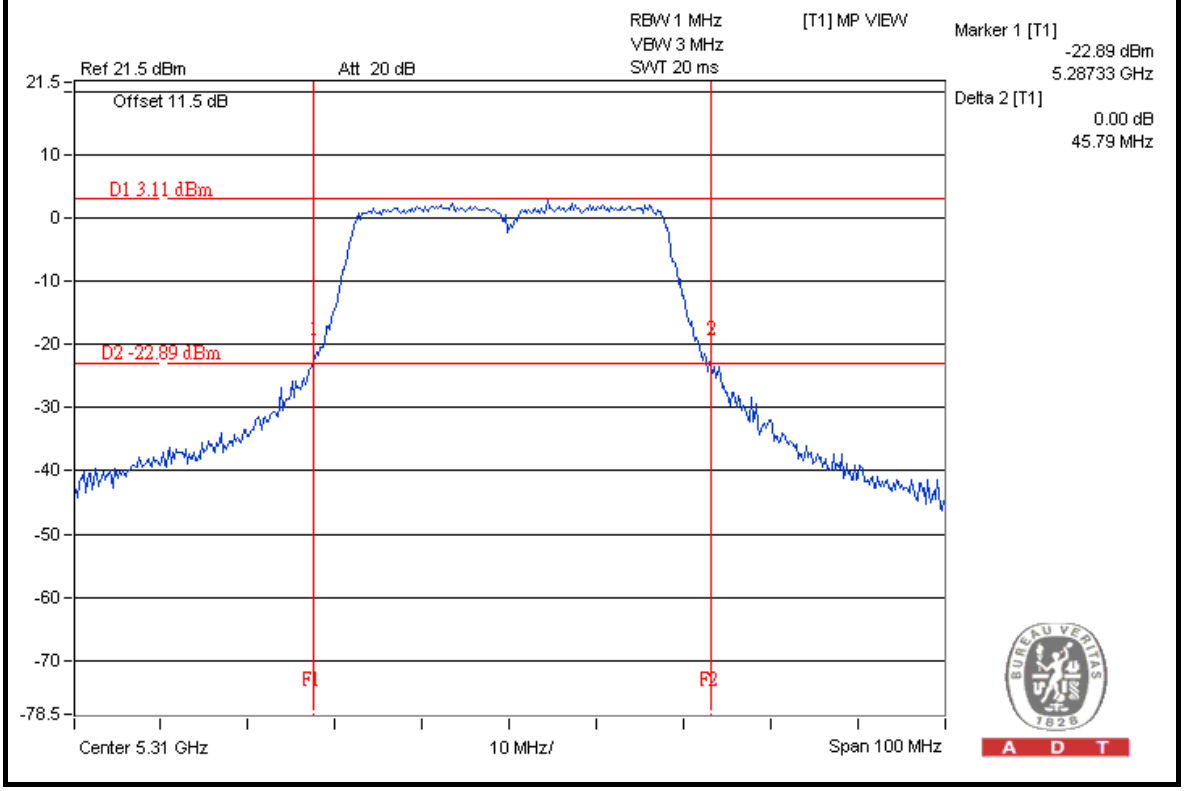
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
54	5270	45.90	46.88
62	5310	48.18	45.79
102	5510	46.52	47.08
118	5590	51.24	54.45
134	5670	49.94	55.10

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	45.90	27.61 > 24
62	5310	45.79	27.6 > 24
102	5510	46.52	27.67 > 24
118	5590	51.24	28.09 > 24
134	5670	49.94	27.98 > 24

SPECTRUM PLOT OF WORST VALUE

802.11n(HT40) / Chain(1) : CH62



802.11ac(VHT20)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
52	5260	14.85	15.07	62.686	17.97	22.70	PASS
60	5300	14.72	15.30	63.532	18.03	22.70	PASS
64	5320	14.35	14.46	55.152	17.42	22.70	PASS
100	5500	14.03	14.15	51.295	17.10	22.70	PASS
120	5600	14.70	14.49	57.631	17.61	22.70	PASS
140	5700	12.06	11.81	31.24	14.95	22.70	PASS

Note: The directional gain is 7.3dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(7.3-6)”.

26dB OCCUPIED BANDWIDTH:

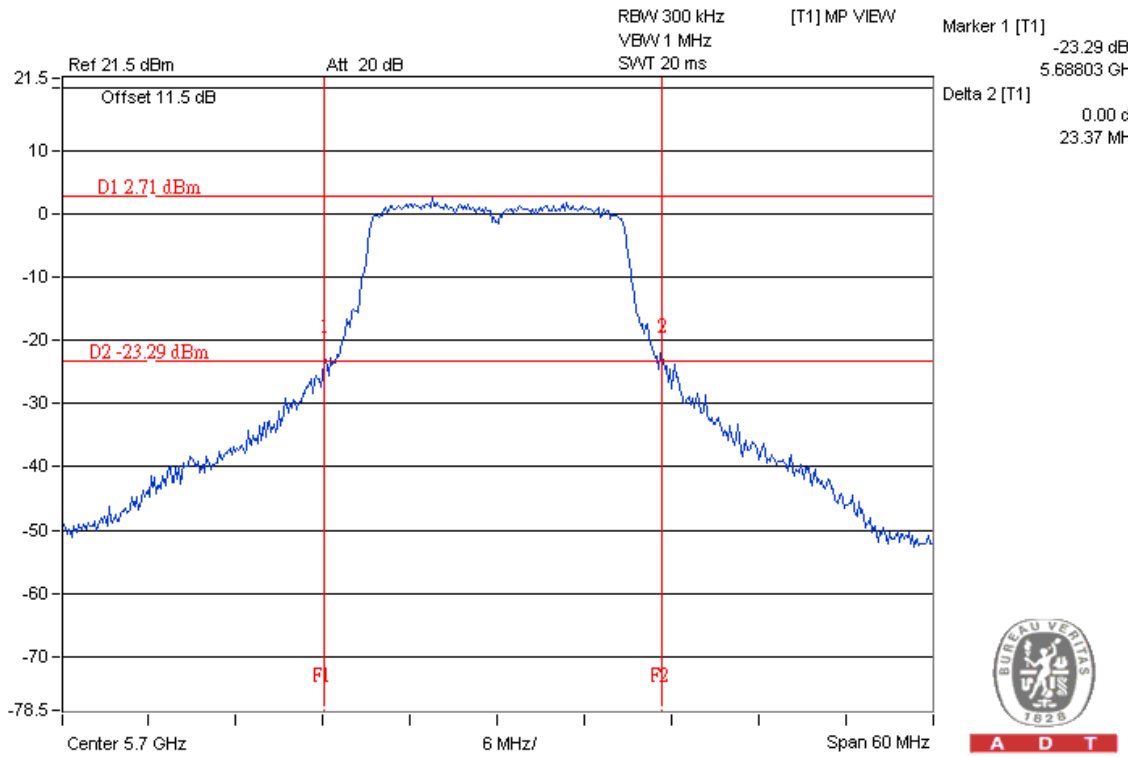
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
52	5260	23.98	26.12
60	5300	24.82	26.01
64	5320	23.77	24.63
100	5500	23.78	25.23
120	5600	26.68	26.42
140	5700	23.37	23.71

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	23.98	24.79 > 24
60	5300	24.82	24.94 > 24
64	5320	23.77	24.76 > 24
100	5500	23.78	24.76 > 24
120	5600	26.42	25.21 > 24
140	5700	23.37	24.68 > 24

SPECTRUM PLOT OF WORST VALUE

802.11n(HT20) / Chain(0) : CH140



802.11ac(VHT40)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
54	5270	14.17	14.06	51.59	17.13	22.70	PASS
62	5310	9.22	9.24	16.751	12.24	22.70	PASS
102	5510	7.94	8.16	12.769	11.06	22.70	PASS
118	5590	14.39	14.20	53.782	17.31	22.70	PASS
134	5670	14.00	13.86	49.441	16.94	22.70	PASS

Note: The directional gain is 7.3dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(7.3-6)”.

26dB OCCUPIED BANDWIDTH:

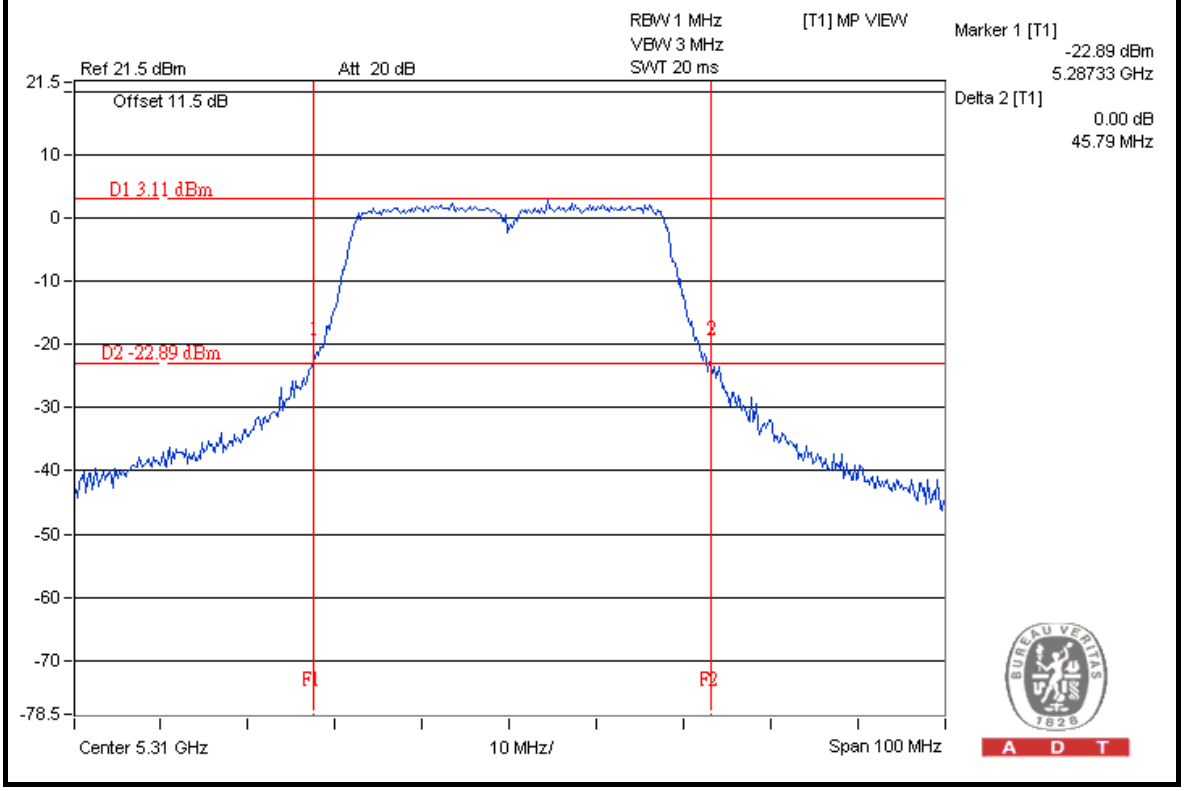
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
54	5270	45.90	46.88
62	5310	48.18	45.79
102	5510	46.52	47.08
118	5590	51.24	54.45
134	5670	49.94	55.10

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	45.90	27.61 > 24
62	5310	45.79	27.6 > 24
102	5510	46.52	27.67 > 24
118	5590	51.24	28.09 > 24
134	5670	49.94	27.98 > 24

SPECTRUM PLOT OF WORST VALUE

802.11n(HT40) / Chain(1) : CH62



802.11ac(VHT80)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
58	5290	6.63	6.49	9.06	9.57	22.70	PASS
106	5530	5.65	5.88	7.546	8.78	22.70	PASS
122	5610	13.19	13.08	41.169	16.15	22.70	PASS

Note: The directional gain is 7.3dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to “Determined Conducted Limit-(7.3-6)”.

26dB OCCUPIED BANDWIDTH:

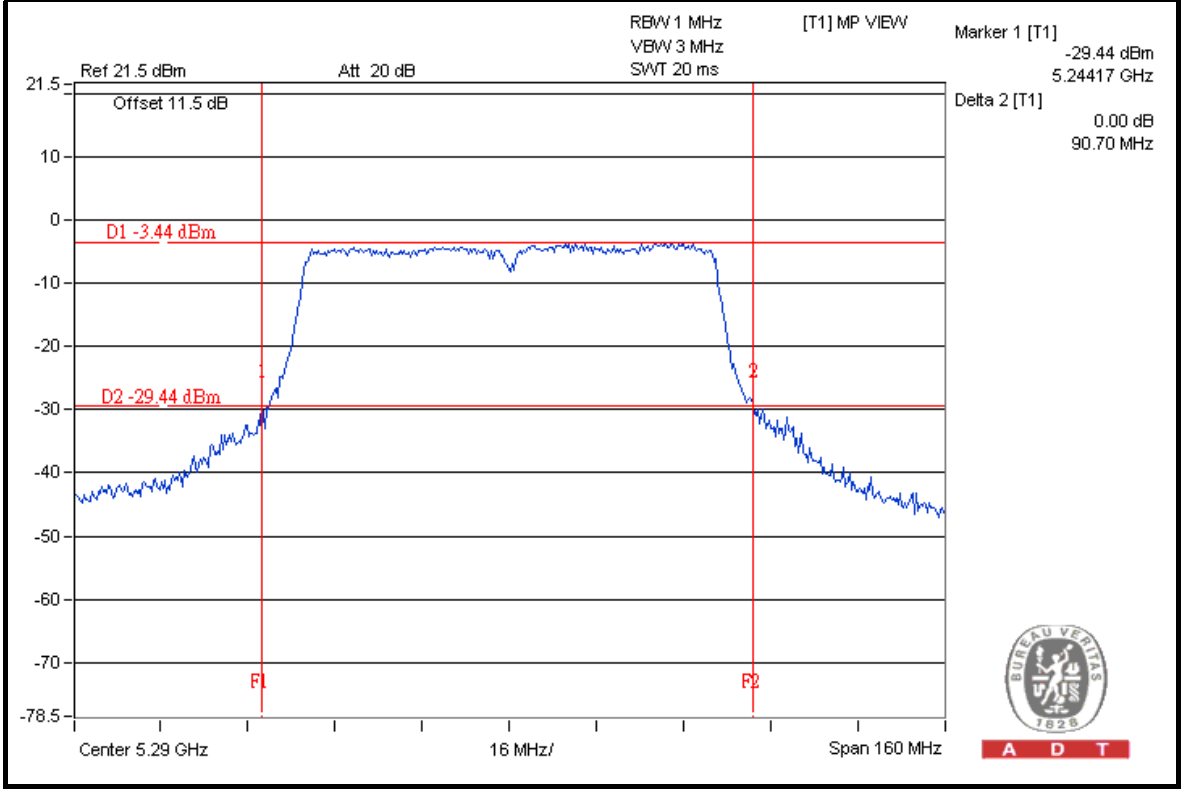
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		CHAIN 0	CHAIN 1
58	5290	90.70	94.82
106	5530	91.99	91.38
122	5610	94.72	114.66

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	90.70	30.57 > 24
106	5530	91.38	30.6 > 24
122	5610	94.72	30.76 > 24

SPECTRUM PLOT OF WORST VALUE

802.11ac(VHT80) / Chain(0) : CH58



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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 05, 2014	July 04, 2015

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Oct. 31, 2014

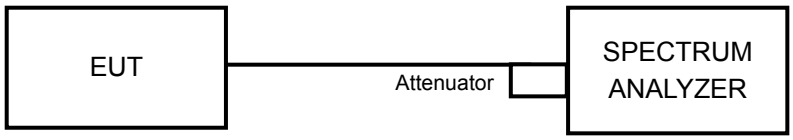
4.4.3 TEST PROCEDURES

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and for duty cycle of test signal is < 98% add 10 log (1/duty cycle)

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6

4.4.7 TEST RESULTS

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1			
52	5260	0.65	0.30	3.49	6.73	PASS
60	5300	1.05	0.60	3.84	6.73	PASS
64	5320	-0.10	-0.15	2.89	6.73	PASS
100	5500	0.52	0.63	3.59	6.73	PASS
120	5600	0.22	-0.01	3.12	6.73	PASS
140	5700	0.07	0.23	3.16	6.73	PASS

NOTE: 1. Method a) 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 = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 10.27dBi > 6dBi , so the power density limit shall be reduced to 11-(10.27-6) = 6.73dBm.

802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1			
52	5260	0.32	0.00	3.17	6.73	PASS
60	5300	0.47	0.36	3.43	6.73	PASS
64	5320	-0.61	-0.46	2.48	6.73	PASS
100	5500	-0.46	-0.48	2.54	6.73	PASS
120	5600	-0.48	-0.36	2.59	6.73	PASS
140	5700	-3.05	-3.21	-0.12	6.73	PASS

NOTE: 1. Method a) 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 = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 10.27dBi > 6dBi , so the power density limit shall be reduced to 11-(10.27-6) = 6.73dBm.

802.11ac (VHT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1			
54	5270	-3.84	-4.26	-1.03	6.73	PASS
62	5310	-8.72	-9.00	-5.85	6.73	PASS
102	5510	-9.70	-9.31	-6.49	6.73	PASS
118	5590	-3.52	-3.71	-0.60	6.73	PASS
134	5670	-4.18	-4.48	-1.32	6.73	PASS

NOTE: 1. Method a) 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.

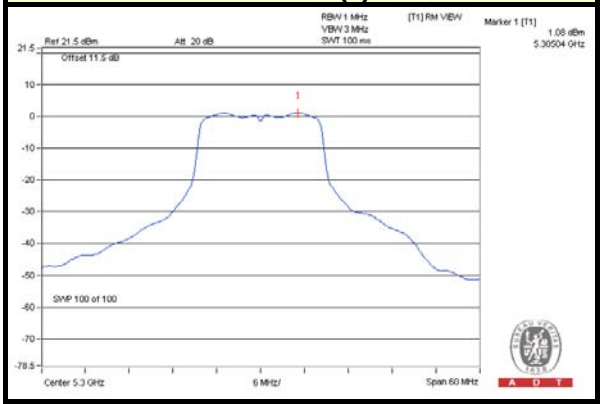
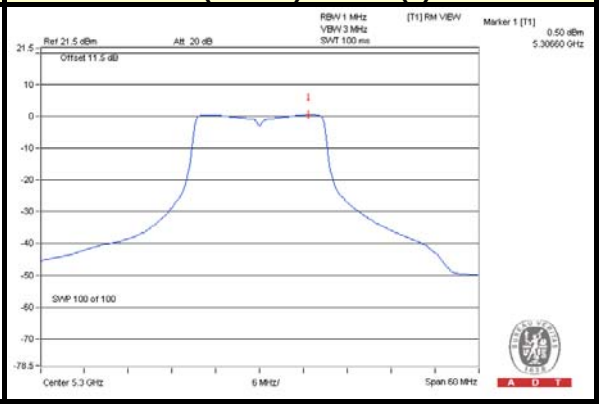
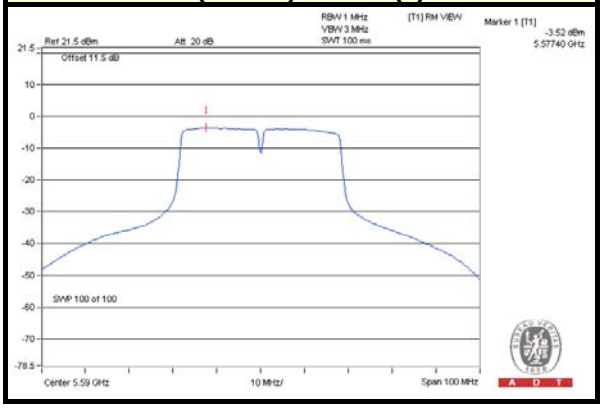
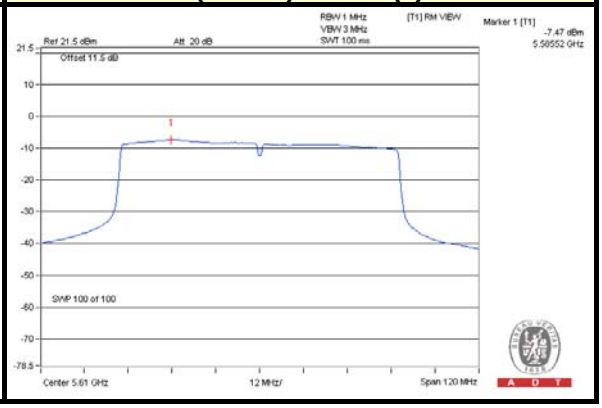
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 10.27dBi > 6dBi , so the power density limit shall be reduced to 11-(10.27-6) = 6.73dBm.

802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1			
58	5290	-14.22	-14.86	-11.52	6.73	PASS
106	5530	-14.98	-14.75	-11.85	6.73	PASS
122	5610	-7.49	-7.69	-4.58	6.73	PASS

NOTE: 1. Method a) 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 = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 10.27dBi > 6dBi , so the power density limit shall be reduced to 11-(10.27-6) = 6.73dBm.

SPECTRUM PLOT OF WORST VALUE	
802.11a / Chain(0): CH60	**802.11ac (VHT20) / Chain(0): CH60**
	
802.11ac (VHT40) / Chain(0): CH118	**802.11ac (VHT80) / Chain(0): CH122**
	

4.5 FREQUENCY STABILITY

4.5.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER R&S	FSV 40	100964	July 05, 2014	July 04, 2015
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40-SP-AR	MAA0812-008	Jan. 13, 2014	Jan. 12, 2015

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Oct. 31, 2014

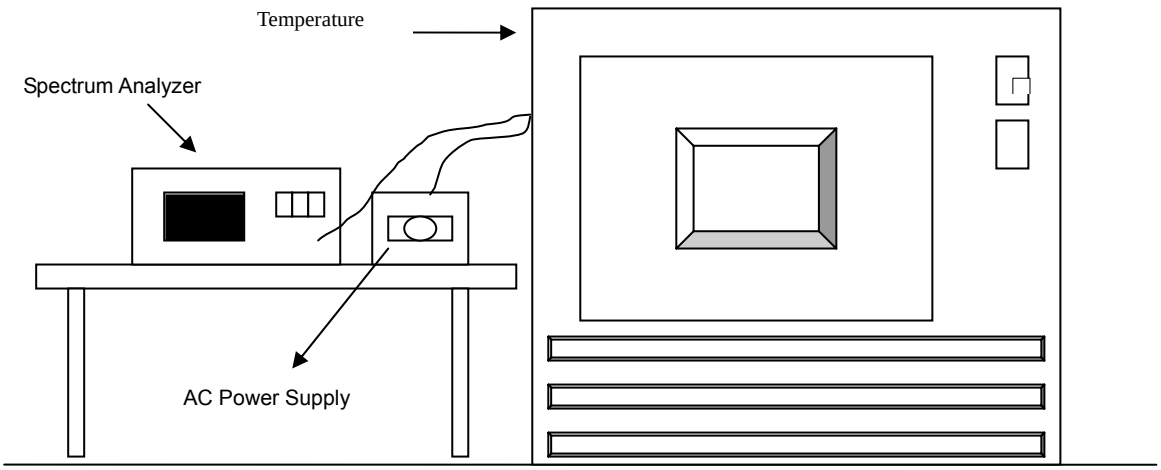
4.5.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. 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.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. 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.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

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

4.5.7 TEST RESULTS

FREQUEMCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (℃)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
50	120	5319.9998	0.00000	5320.0007	0.00001	5319.9995	-0.00001	5319.9968	-0.00006
40	120	5319.9742	-0.00048	5319.9792	-0.00039	5319.9749	-0.00047	5319.9771	-0.00043
30	120	5320.0022	0.00004	5320.0041	0.00008	5319.9997	-0.00001	5319.9999	0.00000
20	120	5320.0093	0.00017	5320.0123	0.00023	5320.0119	0.00022	5320.0105	0.00020
10	120	5319.9867	-0.00025	5319.9888	-0.00021	5319.9869	-0.00025	5319.9881	-0.00022
0	120	5319.9882	-0.00022	5319.9841	-0.00030	5319.9876	-0.00023	5319.9868	-0.00025
-10	120	5320.0227	0.00043	5320.0246	0.00046	5320.0222	0.00042	5320.0256	0.00048
-20	120	5319.9999	0.00000	5319.9996	-0.00001	5319.9968	-0.00006	5319.9973	-0.00005
-30	120	5319.975	-0.00047	5319.9783	-0.00041	5319.9779	-0.00042	5319.9752	-0.00047

FREQUEMCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (℃)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
20	120	5320.0099	0.00019	5320.0125	0.00023	5320.0128	0.00024	5320.0104	0.00020
	120	5320.0093	0.00017	5320.0123	0.00023	5320.0119	0.00022	5320.0105	0.00020
	120	5320.0092	0.00017	5320.0122	0.00023	5320.0115	0.00022	5320.0113	0.00021

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. INFORMATION ON THE TESTING LABORATORIES

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

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

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26052943

Hsin Chu EMC/RF/Telecom Lab:
Tel: 886-3-5935343
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Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

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