FCC Test Report

Report No.:	RF160308C01
FCC ID:	S4A50-0100-QT-44
Test Model:	Kamai 651
Series Model:	Kamai 6XYzzzzzz (where “X” can be 0-9, “Y” can be 0-9; “zzzzzz” can be any combination of “0-9”, “a-z”, “-“, “/” or blank for marketing purpose)
Received Date:	Mar. 08, 2016
Test Date:	Mar. 19 ~ Apr. 11, 2016
Issued Date:	Apr. 19, 2016
Applicant:	Entone Technologies (HK) Limited
Address:	Level 28, Saxon Tower, 7 Cheung Shun Street, Lai Chi Kok, Hong Kong
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

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Release Control Record

Issue No.	Description	Date Issued
RF160308C01	Original release.	Apr. 19, 2016

1 Certificate of Conformity

Product:	High Definition IP TV receiver
Brand:	entone, amino
Test Model:	Kamai 651
Series Model:	Kamai 6XYzzzzzz (where “X” can be 0-9, “Y” can be 0-9; “zzzzzz” can be any combination of “0-9”, “a-z”, “-“, “/” or blank for marketing purpose)
Sample Status:	Engineering sample
Applicant:	Entone Technologies (HK) Limited
Test Date:	Mar. 19 ~ Apr. 11, 2016
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : _____ , **Date:** Apr. 19, 2016

Suntee Liu / Specialist

Approved by : _____ , **Date:** Apr. 19, 2016

Ken Liu / Senior Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (SECTION 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -10.14dB at 0.47813MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.0dB at 5725.00 & 5722.90 & 5150.00 & 5714.90MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is IPEX not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.63 dB
	200MHz ~1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	High Definition IP TV receiver
Brand	entone, amino
Test Model	Kamai 651
Series Model	Kamai 6XYzzzzzz (where “X” can be 0-9, “Y” can be 0-9; “zzzzzz” can be any combination of “0-9”, “a-z”, “-“, “/” or blank for marketing purpose)
Model Difference	Refer to Note for more details
Sample Status	Engineering sample
Power Supply Rating	12Vdc (adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.3Mbps
Operating Frequency	5180~5240MHz, 5260~5320MHz, 5500~5700MHz, 5745~5825MHz
Number of Channel	5180~5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260~5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500~5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 11 802.11n (HT40), 802.11ac (VHT40): 5 802.11ac (VHT80): 2 5745~5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	CDD Mode: 5180~5240MHz: 242.076mW 5260~5320MHz: 181.655mW 5500~5700MHz: 239.067mW 5745~5825MHz: 317.208mW Beamforming Mode: 5180~5240MHz: 86.305mW 5260~5320MHz: 84.255mW 5500~5700MHz: 90.622mW 5745~5825MHz: 317.208mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter, Remote controller
Data Cable Supplied	2m shielded HDMI cable without core 2m non-shielded RJ45 cable without core

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides provides 4 completed transmitters and 4 receivers.

Modulation Mode	Beamforming Mode	TX Function
802.11a	Not Support	4TX
802.11n (HT20)	Support	4TX
802.11n (HT40)	Support	4TX
802.11ac (VHT20)	Support	4TX
802.11ac (VHT40)	Support	4TX
802.11ac (VHT80)	Support	4TX

* 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)

* For 802.11n and 802.11ac, CDD mode is the worst case for final radiated emission and power line conducted emission tests after pretesting CDD mode and beamforming mode.

2. The EUT uses following antennas.

Antenna Type	PIFA	Antenna Connector	IPEX
Gain (dBi)	Frequency 5150~5850MHz		
Ant. 1	3.10		
Ant. 2	4.28		
Ant. 3	2.76		
Ant. 4	2.99		

3. All models are listed as below.

Brand	Model	Difference
entone, amino	Kamai 651 (Main test model)	Marketing purpose
	Kamai 6XYzzzzzz (where “X” can be 0-9, “Y” can be 0-9; “zzzzzz” can be any combination of “0-9”, “a-z”, “-“, “/” or blank for marketing purpose)	

4. The EUT uses following adapters.

Adapter 1	
Brand	Asian Power Devices Inc.
Model	WA-24Q12R
Input Power	100-240Vac, 50-60Hz, 0.7A Max
Output Power	12Vdc, 2A
Power Line	1.8m DC cable without core attached on adapter

Adapter 2	
Brand	Asian Power Devices Inc.
Model	WA-36A12R
Input Power	100-240Vac, 50-60Hz, 0.9A Max.
Output Power	12Vdc, 3A
Power Line	1.8m DC cable with 1 core attached on adapter

5. BT LE and 5GHz technology can transmit at same time.

6. Spurious emission of the simultaneous operation (BT LE and 5GHz) has been evaluated and no non-compliance was found.

3.2 Description of Test Modes

5180~5240MHz:

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

5260~5320MHz:

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

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

5500~5700MHz:

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

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

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

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz		

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530MHz	122	5610 MHz

5745~5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE≥1G	RE<1G	PLC	APCM	
A	-	√	√	-	Adapter 1
B	√	√	√	√	Adapter 2

Where RE≥1G: Radiated Emission above 1GHz & Bandedge Measurement RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission APCM: Antenna Port Conducted Measurement

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane**.
2. "-" means no effect.

Radiated Emission Test (Above 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
B	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	117
B	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	117
B	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6
	802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	6.5
	802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	13.5
	802.11ac (VHT80)		106	106	OFDM	117
B	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	117

Radiated Emission Test (Below 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B	802.11ac (VHT20)	5180-5240	36 to 48	165	OFDM	6
		5260-5320	52 to 64		OFDM	6.5
		5500-5700	100 to 140		OFDM	13.5
		5745-5825	149 to 165		OFDM	117

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B	802.11ac (VHT20)	5180-5240	36 to 48	165	OFDM	6
		5260-5320	52 to 64		OFDM	6.5
		5500-5700	100 to 140		OFDM	13.5
		5745-5825	149 to 165		OFDM	117

Antenna Port Conducted Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
B	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	117
B	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	117
B	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6
	802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	6.5
	802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	13.5
	802.11ac (VHT80)		106	106	OFDM	117
B	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	117

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	20 deg. C, 69% RH	120Vac, 60Hz	Bayu Lin Tank Wu
RE<1G	20 deg. C, 69% RH	120Vac, 60Hz	Bayu Lin
PLC	25 deg. C, 65% RH	120Vac, 60Hz	Chris Lin
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Frank Liu

3.3 Duty Cycle of Test Signal

CDD Mode

802.11ac (VHT20): Duty cycle of test signal is ≥ 98%, duty factor is not required.

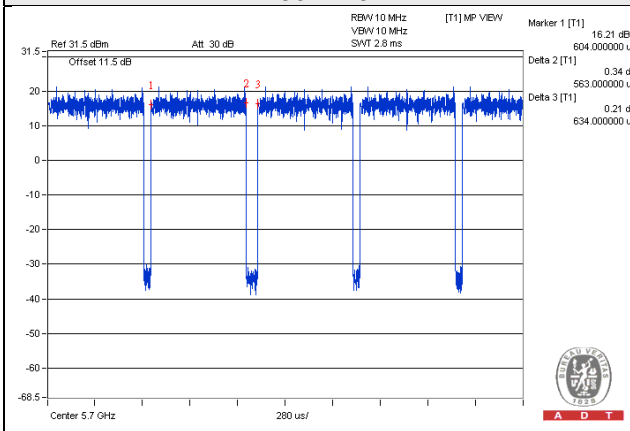
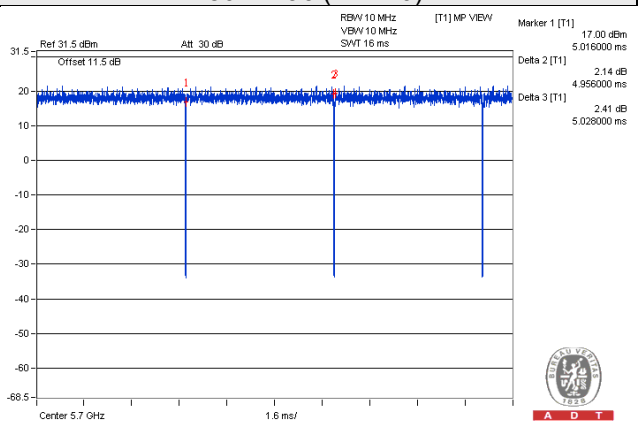
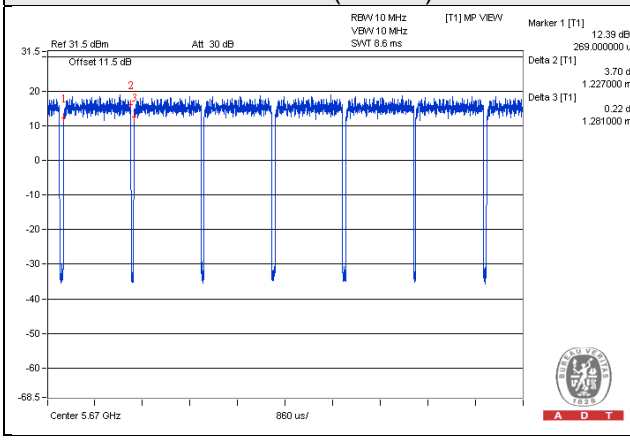
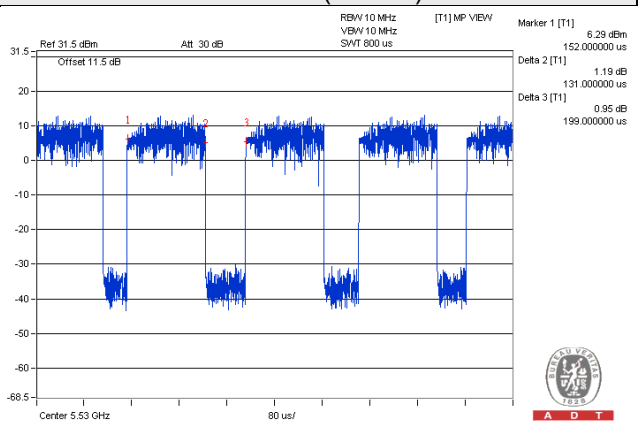
802.11a, 802.11ac (VHT40), 802.11ac (VHT80): Duty cycle of test signal is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 0.563/0.634 = 0.888, Duty factor = 10 * log(1/0.888) = 0.52

802.11ac (VHT20): Duty cycle = 4.956/5.028 = 0.986

802.11ac (VHT40): Duty cycle = 1.227/1.281 = 0.958, Duty factor = 10 * log(1/0.958) = 0.19

802.11ac (VHT80): Duty cycle = 0.131/0.199 = 0.658, Duty factor = 10 * log(1/0.658) = 1.82

802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

Beamforming Mode

802.11ac (VHT20): Duty cycle of test signal is ≥ 98%, duty factor is not required.

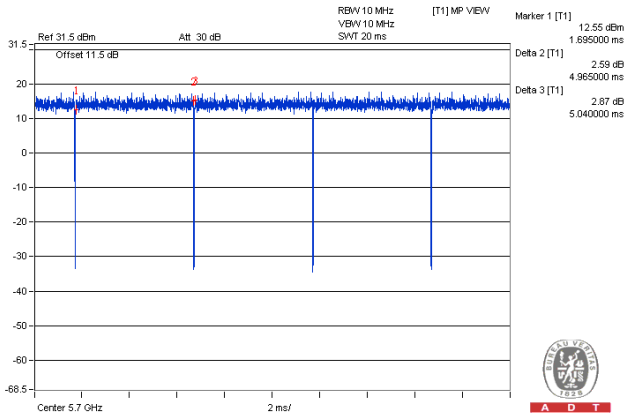
802.11ac (VHT40), 802.11ac (VHT80): Duty cycle of test signal is < 98%, duty factor shall be considered.

802.11ac (VHT20): Duty cycle = 4.965/5.04 = 0.985

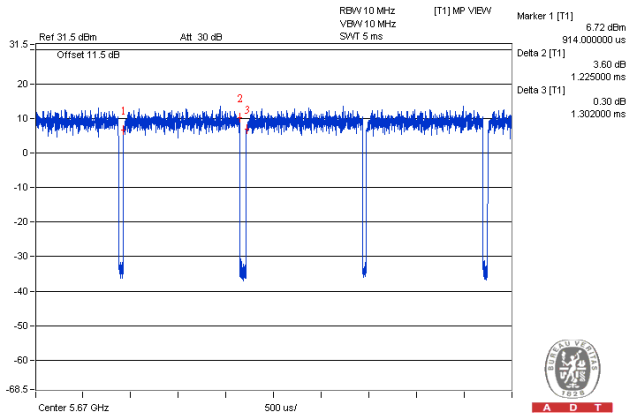
802.11ac (VHT40): Duty cycle = 1.225/1.302 = 0.941, Duty factor = 10 * log(1/0.941) = 0.26

802.11ac (VHT80): Duty cycle = 0.128/0.196 = 0.653, Duty factor = 10 * log(1/0.653) = 1.85

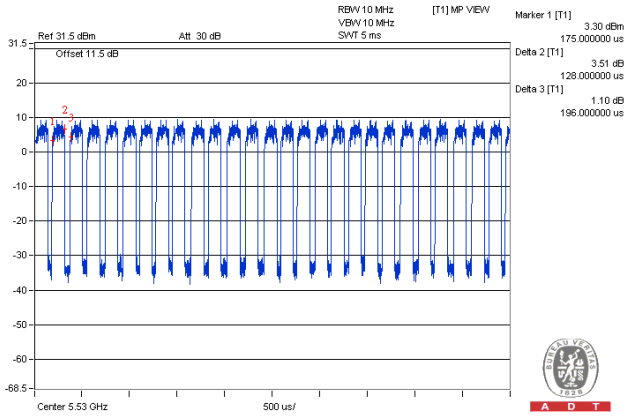
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



3.4 Description of Support Units

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

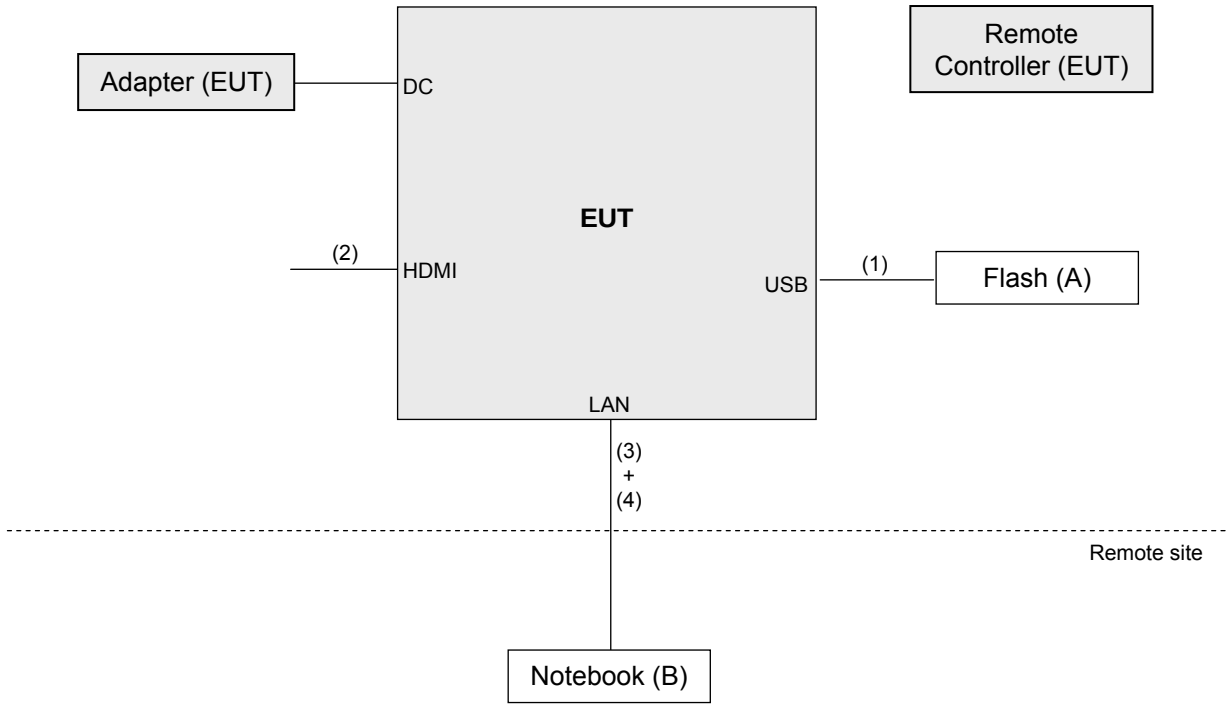
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	USB Flash Drive	Transcend	V85	569992-8209	NA	-
B.	NOTEBOOK	DELL	E5420	BPQ8MQ1	FCC DoC Approved	-

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Items B acted as communication partners to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB	1	1.8	Y	0	-
2.	HDMI	1	2	Y	0	Accessory of EUT
3.	RJ45, Cat5e	1	2	N	0	Accessory of EUT
4.	RJ45, Cat5e	1	3	N	0	-

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)
789033 D02 General UNII Test Procedures New Rules v01r02
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10:2013

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of Unwanted Emission Out of The Restricted Bands

Applicable To	Limit	
789033 D02 General UNII Test Procedures New Rules v01r02	Field Strength at 3m	
	PK:74 (dBμV/m)	AV:54 (dBμV/m)
Applicable To	EIRP Limit	Equivalent Field Strength at 3m
15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK: -27 (dBm/MHz) *1 PK: -17 (dBm/MHz) *2	PK: 68.2 (dBμV/m) *1 PK: 78.2 (dBμV/m) *2

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

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Dec. 23, 2015	Dec. 22, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Jul. 08, 2015	Jul. 07, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-148	Jan. 18, 2016	Jan. 17, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Jan. 08, 2016	Jan. 07, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Jan. 18, 2016	Jan. 17, 2017
Preamplifier Agilent	8449B	3008A01911	Aug. 09, 2015	Aug. 08, 2016
Preamplifier Agilent	8447D	2944A10638	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-02(309222 +248780)	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-03(274092)	Aug. 09, 2015	Aug. 08, 2016
RF signal cable Woken	8D-FB	Cable-CH9-01	Aug. 11, 2015	Aug. 10, 2016
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2015	Oct. 17, 2016
High Speed Peak Power Meter	ML2495A	0824011	Jul. 09, 2015	Jul. 08, 2016
Power Sensor	MA2411B	0738171	Jul. 09, 2015	Jul. 08, 2016

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 9.
3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 215374.
5. The IC Site Registration No. is IC 7450F-9.

4.1.3 Test Procedures

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

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

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

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

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

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

Note:

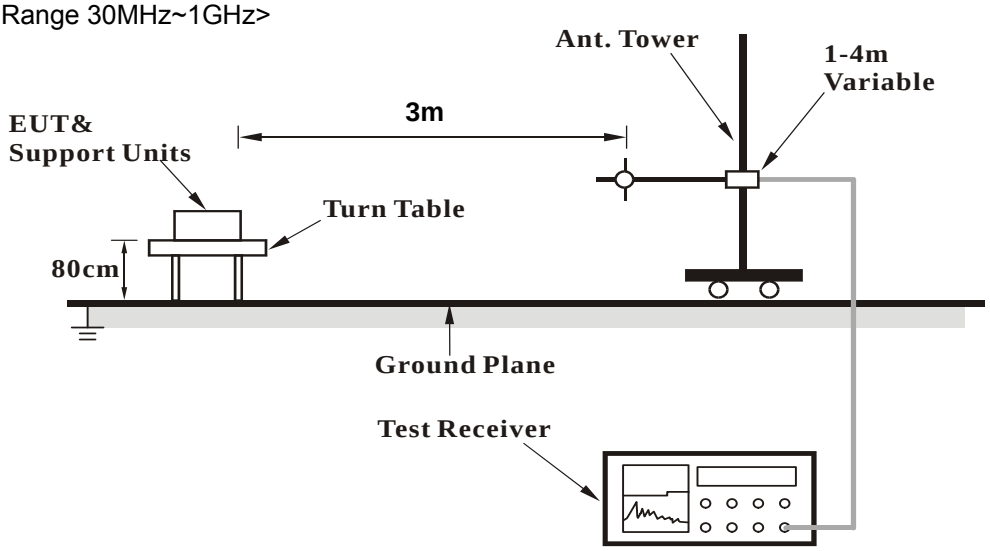
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

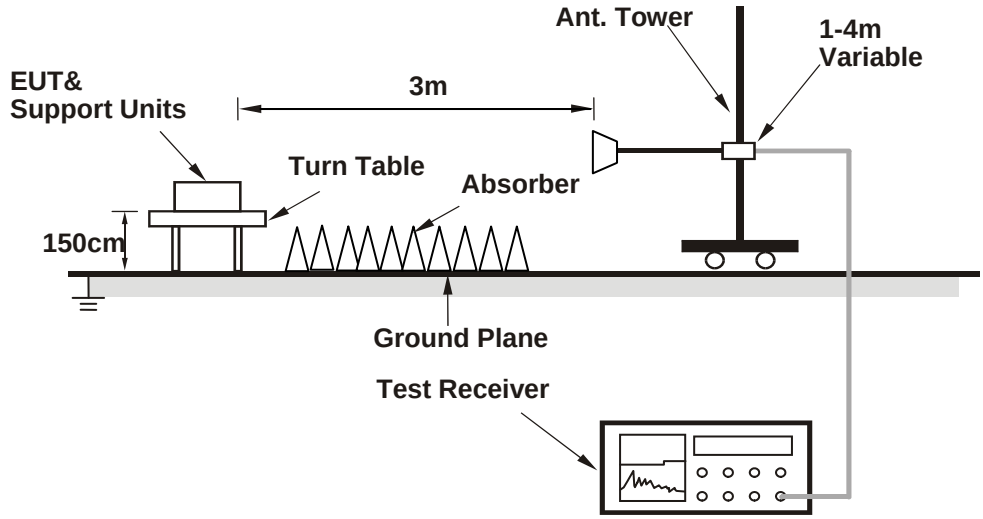
No deviation.

4.1.5 Test Set Up

<Frequency Range 30MHz~1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

a. Set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz data:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.7 PK	74.0	-9.3	1.89 H	25	60.10	4.60
2	5150.00	52.9 AV	54.0	-1.1	1.89 H	25	48.30	4.60
3	*5180.00	116.0 PK			2.33 H	8	73.80	42.20
4	*5180.00	106.1 AV			2.33 H	8	63.90	42.20
5	#10360.00	63.8 PK	74.0	-10.2	1.02 H	16	48.00	15.80
6	#10360.00	50.9 AV	54.0	-3.1	1.02 H	16	35.10	15.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.2 PK	74.0	-12.8	1.09 V	289	56.60	4.60
2	5150.00	49.6 AV	54.0	-4.4	1.09 V	289	45.00	4.60
3	*5180.00	112.7 PK			1.12 V	328	70.50	42.20
4	*5180.00	102.4 AV			1.12 V	328	60.20	42.20
5	#10360.00	62.9 PK	74.0	-11.1	2.79 V	301	47.10	15.80
6	#10360.00	50.1 AV	54.0	-3.9	2.79 V	301	34.30	15.80

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	114.3 PK			1.92 H	15	72.10	42.20
2	*5200.00	104.0 AV			1.92 H	15	61.80	42.20
3	#10400.00	62.1 PK	74.0	-11.9	2.39 H	3	46.20	15.90
4	#10400.00	49.4 AV	54.0	-4.6	2.39 H	3	33.50	15.90
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	*5200.00	110.2 PK			1.27 V	328	68.00	42.20
2	*5200.00	99.8 AV			1.27 V	328	57.60	42.20
3	#10400.00	61.2 PK	74.0	-12.8	2.89 V	297	45.30	15.90
4	#10400.00	48.7 AV	54.0	-5.3	2.89 V	297	32.80	15.90

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	116.5 PK			1.63 H	15	74.20	42.30
2	*5240.00	106.2 AV			1.63 H	15	63.90	42.30
3	5405.00	61.0 PK	74.0	-13.0	1.59 H	37	56.10	4.90
4	5405.00	48.0 AV	54.0	-6.0	1.59 H	37	43.10	4.90
5	#10480.00	63.3 PK	74.0	-10.7	2.50 H	73	47.10	16.20
6	#10480.00	50.5 AV	54.0	-3.5	2.50 H	73	34.30	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	112.4 PK			1.35 V	331	70.10	42.30
2	*5240.00	102.0 AV			1.35 V	331	59.70	42.30
3	5405.00	59.6 PK	74.0	-14.4	1.35 V	331	54.70	4.90
4	5405.00	47.2 AV	54.0	-6.8	1.35 V	331	42.30	4.90
5	#10480.00	63.8 PK	74.0	-10.2	3.28 V	348	47.60	16.20
6	#10480.00	50.1 AV	54.0	-3.9	3.28 V	348	33.90	16.20

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.7 PK	74.0	-13.3	1.31 H	59	56.10	4.60
2	5150.00	47.4 AV	54.0	-6.6	1.31 H	59	42.80	4.60
3	*5260.00	115.1 PK			1.72 H	16	72.80	42.30
4	*5260.00	104.9 AV			1.72 H	16	62.60	42.30
5	5350.00	60.5 PK	74.0	-13.5	1.81 H	11	55.70	4.80
6	5350.00	48.3 AV	54.0	-5.7	1.81 H	11	43.50	4.80
7	#10520.00	61.5 PK	74.0	-12.5	1.36 H	68	45.40	16.10
8	#10520.00	47.7 AV	54.0	-6.3	1.36 H	68	31.60	16.10
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	59.8 PK	74.0	-14.2	1.00 V	209	55.20	4.60
2	5150.00	46.9 AV	54.0	-7.1	1.00 V	209	42.30	4.60
3	*5260.00	112.2 PK			1.00 V	279	69.90	42.30
4	*5260.00	101.5 AV			1.00 V	279	59.20	42.30
5	5350.00	60.1 PK	74.0	-13.9	1.71 V	302	55.30	4.80
6	5350.00	47.4 AV	54.0	-6.6	1.71 V	302	42.60	4.80
7	#10520.00	61.3 PK	74.0	-12.7	1.99 V	243	45.10	16.20
8	#10520.00	47.5 AV	54.0	-6.5	1.99 V	243	31.30	16.20

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	114.9 PK			1.09 H	12	72.50	42.40
2	*5300.00	104.5 AV			1.09 H	12	62.10	42.40
3	10600.00	63.1 PK	74.0	-10.9	1.49 H	29	46.90	16.20
4	10600.00	49.8 AV	54.0	-4.2	1.49 H	29	33.60	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	111.3 PK			1.92 V	339	68.90	42.40
2	*5300.00	100.8 AV			1.92 V	339	58.40	42.40
3	10600.00	62.0 PK	74.0	-12.0	1.99 V	216	45.80	16.20
4	10600.00	48.5 AV	54.0	-5.5	1.99 V	216	32.30	16.20

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	115.8 PK			1.89 H	10	73.40	42.40
2	*5320.00	105.1 AV			1.89 H	10	62.70	42.40
3	5350.00	62.3 PK	74.0	-11.7	1.28 H	17	57.50	4.80
4	5350.00	50.9 AV	54.0	-3.1	1.28 H	17	46.10	4.80
5	10640.00	62.4 PK	74.0	-11.6	1.40 H	33	46.20	16.20
6	10640.00	49.8 AV	54.0	-4.2	1.40 H	33	33.60	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	106.6 PK			1.50 V	5	67.20	39.40
2	*5320.00	96.4 AV			1.50 V	5	57.00	39.40
3	5350.00	69.6 PK	74.0	-4.4	1.50 V	6	64.00	5.60
4	5350.00	52.3 AV	54.0	-1.7	1.50 V	6	46.70	5.60
5	10640.00	59.8 PK	74.0	-14.2	1.55 V	203	42.60	17.20
6	10640.00	47.3 AV	54.0	-6.7	1.55 V	203	30.10	17.20

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.5 PK	74.0	-11.5	1.24 H	3	57.70	4.80
2	5460.00	51.2 AV	54.0	-2.8	1.24 H	3	46.40	4.80
3	#5470.00	65.6 PK	74.0	-8.4	1.19 H	5	60.80	4.80
4	#5470.00	52.4 AV	54.0	-1.6	1.19 H	5	47.60	4.80
5	*5500.00	116.2 PK			1.82 H	13	73.70	42.50
6	*5500.00	106.1 AV			1.82 H	13	63.60	42.50
7	11000.00	63.5 PK	74.0	-10.5	1.41 H	65	45.90	17.60
8	11000.00	49.2 AV	54.0	-4.8	1.41 H	65	31.60	17.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.9 PK	74.0	-12.1	1.59 V	302	57.10	4.80
2	5460.00	50.1 AV	54.0	-3.9	1.59 V	302	45.30	4.80
3	#5470.00	64.2 PK	74.0	-9.8	1.62 V	298	59.40	4.80
4	#5470.00	51.0 AV	54.0	-3.0	1.62 V	298	46.20	4.80
5	*5500.00	112.4 PK			1.66 V	322	69.90	42.50
6	*5500.00	102.0 AV			1.66 V	322	59.50	42.50
7	11000.00	63.1 PK	74.0	-10.9	2.01 V	222	45.50	17.60
8	11000.00	48.7 AV	54.0	-5.3	2.01 V	222	31.10	17.60

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	115.7 PK			1.91 H	10	73.10	42.60
2	*5580.00	106.5 AV			1.91 H	10	63.90	42.60
3	11160.00	60.6 PK	74.0	-13.4	1.29 H	38	44.30	16.30
4	11160.00	48.3 AV	54.0	-5.7	1.29 H	38	32.00	16.30
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	*5580.00	112.4 PK			1.66 V	338	69.80	42.60
2	*5580.00	102.8 AV			1.66 V	338	60.20	42.60
3	11160.00	60.8 PK	74.0	-13.2	1.89 V	287	44.50	16.30
4	11160.00	48.1 AV	54.0	-5.9	1.89 V	287	31.80	16.30

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	113.1 PK			2.54 H	6	70.40	42.70
2	*5700.00	103.1 AV			2.54 H	6	60.40	42.70
3	#5725.00	67.8 PK	74.0	-6.2	1.96 H	14	62.80	5.00
4	**#5725.00**	**53.0 AV**	**54.0**	**-1.0**	**1.96 H**	**14**	**48.00**	**5.00**
5	11400.00	62.8 PK	74.0	-11.2	1.39 H	60	45.90	16.90
6	11400.00	48.9 AV	54.0	-5.1	1.39 H	60	32.00	16.90
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	*5700.00	109.9 PK			1.63 V	333	67.20	42.70
2	*5700.00	99.6 AV			1.63 V	333	56.90	42.70
3	#5725.00	65.1 PK	74.0	-8.9	1.62 V	289	60.10	5.00
4	#5725.00	50.9 AV	54.0	-3.1	1.62 V	289	45.90	5.00
5	11400.00	62.4 PK	74.0	-11.6	1.88 V	296	45.50	16.90
6	11400.00	48.5 AV	54.0	-5.5	1.88 V	296	31.60	16.90

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	65.9 PK	74.0	-8.1	1.10 H	6	60.90	5.00
2	#5714.90	50.4 AV	54.0	-3.6	1.10 H	6	45.40	5.00
3	#5722.90	73.2 PK	78.2	-5.0	2.63 H	351	68.20	5.00
4	#5725.00	60.6 PK	78.2	-17.6	1.21 H	1	55.60	5.00
5	*5745.00	115.0 PK			1.89 H	12	72.20	42.80
6	*5745.00	104.6 AV			1.89 H	12	61.80	42.80
7	11490.00	60.9 PK	74.0	-13.1	1.35 H	58	45.10	15.80
8	11490.00	48.1 AV	54.0	-5.9	1.35 H	58	32.30	15.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	60.9 PK	74.0	-13.1	2.40 V	278	55.90	5.00
2	#5714.90	48.5 AV	54.0	-5.5	2.40 V	278	43.50	5.00
3	#5722.90	71.0 PK	78.2	-7.2	1.00 V	268	66.00	5.00
4	#5725.00	58.7 PK	78.2	-19.5	1.30 V	268	53.70	5.00
5	*5745.00	110.4 PK			1.05 V	269	67.60	42.80
6	*5745.00	100.1 AV			1.05 V	269	57.30	42.80
7	11490.00	60.7 PK	74.0	-13.3	2.77 V	298	44.90	15.80
8	11490.00	47.0 AV	54.0	-7.0	2.77 V	298	31.20	15.80

Remarks:

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

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	115.3 PK			1.86 H	13	72.50	42.80
2	*5785.00	104.6 AV			1.86 H	13	61.80	42.80
3	11570.00	61.5 PK	74.0	-12.5	2.32 H	60	46.00	15.50
4	11570.00	47.2 AV	54.0	-6.8	2.32 H	60	31.70	15.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	111.0 PK			1.04 V	260	68.20	42.80
2	*5785.00	101.4 AV			1.04 V	260	58.60	42.80
3	11570.00	60.8 PK	74.0	-13.2	2.69 V	305	45.30	15.50
4	11570.00	46.9 AV	54.0	-7.1	2.69 V	305	31.40	15.50

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	114.3 PK			1.59 H	359	71.50	42.80
2	*5825.00	104.7 AV			1.59 H	359	61.90	42.80
3	#5850.00	53.0 PK	78.2	-25.2	1.01 H	2	47.90	5.10
4	#5852.10	65.7 PK	78.2	-12.5	1.08 H	14	60.60	5.10
5	#5860.10	64.8 PK	74.0	-9.2	1.05 H	349	59.70	5.10
6	#5860.10	51.2 AV	54.0	-2.8	1.05 H	349	46.10	5.10
7	11650.00	61.1 PK	74.0	-12.9	1.32 H	57	45.30	15.80
8	11650.00	48.6 AV	54.0	-5.4	1.32 H	57	32.80	15.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	109.6 PK			1.00 V	266	66.80	42.80
2	*5825.00	100.4 AV			1.00 V	266	57.60	42.80
3	#5850.00	53.2 PK	78.2	-25.0	1.13 V	337	48.10	5.10
4	#5852.10	61.7 PK	78.2	-16.5	1.29 V	336	56.60	5.10
5	#5860.10	61.8 PK	74.0	-12.2	1.14 V	249	56.70	5.10
6	#5860.10	48.1 AV	54.0	-5.9	1.14 V	249	43.00	5.10
7	11650.00	60.8 PK	74.0	-13.2	2.79 V	281	45.00	15.80
8	11650.00	47.7 AV	54.0	-6.3	2.79 V	281	31.90	15.80

Remarks:

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

802.11ac (VHT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.3 PK	74.0	-6.7	1.48 H	342	62.70	4.60
2	5150.00	52.3 AV	54.0	-1.7	1.48 H	342	47.70	4.60
3	*5180.00	115.8 PK			1.32 H	11	73.60	42.20
4	*5180.00	106.1 AV			1.32 H	11	63.90	42.20
5	#10360.00	63.4 PK	74.0	-10.6	1.54 H	101	47.60	15.80
6	#10360.00	50.4 AV	54.0	-3.6	1.54 H	101	34.60	15.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.4 PK	74.0	-8.6	1.69 V	315	60.80	4.60
2	5150.00	50.6 AV	54.0	-3.4	1.69 V	315	46.00	4.60
3	*5180.00	112.4 PK			1.81 V	346	70.20	42.20
4	*5180.00	103.3 AV			1.81 V	346	61.10	42.20
5	#10360.00	62.3 PK	74.0	-11.7	2.76 V	63	46.50	15.80
6	#10360.00	49.5 AV	54.0	-4.5	2.76 V	63	33.70	15.80

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	114.5 PK			1.95 H	14	72.30	42.20
2	*5200.00	104.4 AV			1.95 H	14	62.20	42.20
3	#10400.00	62.6 PK	74.0	-11.4	2.47 H	37	46.70	15.90
4	#10400.00	49.6 AV	54.0	-4.4	2.47 H	37	33.70	15.90
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	*5200.00	111.7 PK			1.76 V	351	69.50	42.20
2	*5200.00	100.9 AV			1.76 V	351	58.70	42.20
3	#10400.00	61.7 PK	74.0	-12.3	2.87 V	58	45.80	15.90
4	#10400.00	48.8 AV	54.0	-5.2	2.87 V	58	32.90	15.90

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4600.00	59.0 PK	74.0	-15.0	1.86 H	26	55.50	3.50
2	4600.00	47.7 AV	54.0	-6.3	1.86 H	26	44.20	3.50
3	*5240.00	115.2 PK			1.98 H	12	72.90	42.30
4	*5240.00	105.6 AV			1.98 H	12	63.30	42.30
5	#10480.00	62.0 PK	74.0	-12.0	2.60 H	40	45.80	16.20
6	#10480.00	49.5 AV	54.0	-4.5	2.60 H	40	33.30	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4600.00	58.9 PK	74.0	-15.1	1.82 V	348	55.40	3.50
2	4600.00	46.6 AV	54.0	-7.4	1.82 V	348	43.10	3.50
3	*5240.00	112.1 PK			1.77 V	333	69.80	42.30
4	*5240.00	102.1 AV			1.77 V	333	59.80	42.30
5	#10480.00	61.2 PK	74.0	-12.8	2.93 V	42	45.00	16.20
6	#10480.00	48.9 AV	54.0	-5.1	2.93 V	42	32.70	16.20

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.2 PK	74.0	-12.8	1.42 H	60	56.60	4.60
2	5150.00	47.5 AV	54.0	-6.5	1.42 H	60	42.90	4.60
3	*5260.00	116.0 PK			1.71 H	13	73.70	42.30
4	*5260.00	106.0 AV			1.71 H	13	63.70	42.30
5	5350.00	61.6 PK	74.0	-12.4	1.85 H	7	56.80	4.80
6	5350.00	47.9 AV	54.0	-6.1	1.85 H	7	43.10	4.80
7	#10520.00	62.0 PK	74.0	-12.0	1.28 H	16	45.90	16.10
8	#10520.00	48.0 AV	54.0	-6.0	1.28 H	16	31.90	16.10
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	60.2 PK	74.0	-13.8	1.21 V	221	55.60	4.60
2	5150.00	47.3 AV	54.0	-6.7	1.21 V	221	42.70	4.60
3	*5260.00	112.9 PK			1.21 V	282	70.60	42.30
4	*5260.00	102.4 AV			1.21 V	282	60.10	42.30
5	5350.00	60.4 PK	74.0	-13.6	1.55 V	299	55.60	4.80
6	5350.00	47.5 AV	54.0	-6.5	1.55 V	299	42.70	4.80
7	#10520.00	61.3 PK	74.0	-12.7	1.89 V	251	45.20	16.10
8	#10520.00	47.5 AV	54.0	-6.5	1.89 V	251	31.40	16.10

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	116.1 PK			1.89 H	11	73.70	42.40
2	*5300.00	106.1 AV			1.89 H	11	63.70	42.40
3	10600.00	64.0 PK	74.0	-10.0	1.51 H	33	47.80	16.20
4	10600.00	50.1 AV	54.0	-3.9	1.51 H	33	33.90	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	112.3 PK			1.68 V	323	69.90	42.40
2	*5300.00	102.2 AV			1.68 V	323	59.80	42.40
3	10600.00	62.1 PK	74.0	-11.9	1.89 V	222	45.90	16.20
4	10600.00	48.7 AV	54.0	-5.3	1.89 V	222	32.50	16.20

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	116.1 PK			1.90 H	12	73.70	42.40
2	*5320.00	105.8 AV			1.90 H	12	63.40	42.40
3	5350.00	62.6 PK	74.0	-11.4	2.00 H	8	57.80	4.80
4	5350.00	50.2 AV	54.0	-3.8	2.00 H	8	45.40	4.80
5	10640.00	62.7 PK	74.0	-11.3	1.44 H	40	46.50	16.20
6	10640.00	50.0 AV	54.0	-4.0	1.44 H	40	33.80	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	111.5 PK			1.88 V	331	69.10	42.40
2	*5320.00	101.3 AV			1.88 V	331	58.90	42.40
3	5350.00	61.6 PK	74.0	-12.4	1.30 V	311	56.80	4.80
4	5350.00	49.7 AV	54.0	-4.3	1.30 V	311	44.90	4.80
5	10640.00	61.3 PK	74.0	-12.7	2.11 V	298	45.10	16.20
6	10640.00	48.6 AV	54.0	-5.4	2.11 V	298	32.40	16.20

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.1 PK	74.0	-11.9	1.25 H	4	57.30	4.80
2	5460.00	49.9 AV	54.0	-4.1	1.25 H	4	45.10	4.80
3	#5470.00	67.4 PK	74.0	-6.6	1.06 H	4	62.60	4.80
4	#5470.00	51.4 AV	54.0	-2.6	1.06 H	4	46.60	4.80
5	*5500.00	116.2 PK			1.81 H	11	73.70	42.50
6	*5500.00	106.1 AV			1.81 H	11	63.60	42.50
7	11000.00	63.8 PK	74.0	-10.2	1.44 H	47	46.20	17.60
8	11000.00	51.1 AV	54.0	-2.9	1.44 H	47	33.50	17.60
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	62.1 PK	74.0	-11.9	1.60 V	299	57.30	4.80
2	5460.00	50.4 AV	54.0	-3.6	1.60 V	299	45.60	4.80
3	#5470.00	64.3 PK	74.0	-9.7	1.59 V	299	59.50	4.80
4	#5470.00	50.9 AV	54.0	-3.1	1.59 V	299	46.10	4.80
5	*5500.00	112.6 PK			1.23 V	307	70.10	42.50
6	*5500.00	102.2 AV			1.23 V	307	59.70	42.50
7	11000.00	63.2 PK	74.0	-10.8	2.12 V	256	45.60	17.60
8	11000.00	49.4 AV	54.0	-4.6	2.12 V	256	31.80	17.60

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	115.9 PK			1.95 H	13	73.30	42.60
2	*5580.00	106.2 AV			1.95 H	13	63.60	42.60
3	11160.00	61.4 PK	74.0	-12.6	1.47 H	63	45.10	16.30
4	11160.00	48.2 AV	54.0	-5.8	1.47 H	63	31.90	16.30
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	*5580.00	112.3 PK			1.67 V	339	69.70	42.60
2	*5580.00	102.5 AV			1.67 V	339	59.90	42.60
3	11160.00	61.2 PK	74.0	-12.8	1.99 V	298	44.90	16.30
4	11160.00	48.2 AV	54.0	-5.8	1.99 V	298	31.90	16.30

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	112.9 PK			2.12 H	6	70.20	42.70
2	*5700.00	102.9 AV			2.12 H	6	60.20	42.70
3	#5725.00	67.5 PK	74.0	-6.5	1.86 H	3	62.50	5.00
4	#5725.00	52.8 AV	54.0	-1.2	1.86 H	3	47.80	5.00
5	11400.00	63.0 PK	74.0	-11.0	1.40 H	66	46.10	16.90
6	11400.00	49.5 AV	54.0	-4.5	1.40 H	66	32.60	16.90
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	*5700.00	109.7 PK			1.59 V	321	67.00	42.70
2	*5700.00	99.3 AV			1.59 V	321	56.60	42.70
3	#5725.00	64.9 PK	74.0	-9.1	1.44 V	248	59.90	5.00
4	#5725.00	50.6 AV	54.0	-3.4	1.44 V	248	45.60	5.00
5	11400.00	62.5 PK	74.0	-11.5	1.91 V	268	45.60	16.90
6	11400.00	48.7 AV	54.0	-5.3	1.91 V	268	31.80	16.90

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	65.3 PK	74.0	-8.7	1.21 H	6	60.30	5.00
2	#5714.90	50.8 AV	54.0	-3.2	1.21 H	6	45.80	5.00
3	**#5722.90**	**77.2 PK**	**78.2**	**-1.0**	**1.02 H**	**346**	**72.20**	**5.00**
4	#5725.00	61.7 PK	78.2	-16.5	1.00 H	358	56.70	5.00
5	*5745.00	114.1 PK			1.88 H	8	71.30	42.80
6	*5745.00	103.9 AV			1.88 H	8	61.10	42.80
7	11490.00	61.6 PK	74.0	-12.4	2.17 H	50	45.80	15.80
8	11490.00	47.5 AV	54.0	-6.5	2.17 H	50	31.70	15.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	61.0 PK	74.0	-13.0	1.56 V	279	56.00	5.00
2	#5714.90	47.8 AV	54.0	-6.2	1.56 V	279	42.80	5.00
3	#5722.90	74.8 PK	78.2	-3.4	1.17 V	269	69.80	5.00
4	#5725.00	57.3 PK	78.2	-20.9	1.29 V	271	52.30	5.00
5	*5745.00	109.9 PK			1.01 V	267	67.10	42.80
6	*5745.00	100.4 AV			1.01 V	267	57.60	42.80
7	11490.00	61.0 PK	74.0	-13.0	2.76 V	281	45.20	15.80
8	11490.00	47.1 AV	54.0	-6.9	2.76 V	281	31.30	15.80

Remarks:

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

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	115.1 PK			1.86 H	10	72.30	42.80
2	*5785.00	105.7 AV			1.86 H	10	62.90	42.80
3	11570.00	61.8 PK	74.0	-12.2	2.11 H	77	46.30	15.50
4	11570.00	47.8 AV	54.0	-6.2	2.11 H	77	32.30	15.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	110.6 PK			1.03 V	266	67.80	42.80
2	*5785.00	100.4 AV			1.03 V	266	57.60	42.80
3	11570.00	60.8 PK	74.0	-13.2	2.78 V	298	45.30	15.50
4	11570.00	47.4 AV	54.0	-6.6	2.78 V	298	31.90	15.50

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	114.1 PK			1.59 H	14	71.30	42.80
2	*5825.00	104.7 AV			1.59 H	14	61.90	42.80
3	#5850.00	56.4 PK	78.2	-21.8	1.00 H	5	51.30	5.10
4	#5852.10	67.3 PK	78.2	-10.9	1.00 H	11	62.20	5.10
5	#5860.10	65.9 PK	74.0	-8.1	1.06 H	350	60.80	5.10
6	#5860.10	51.4 AV	54.0	-2.6	1.06 H	350	46.30	5.10
7	11650.00	62.1 PK	74.0	-11.9	1.22 H	67	46.30	15.80
8	11650.00	48.7 AV	54.0	-5.3	1.22 H	67	32.90	15.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	109.5 PK			1.00 V	257	66.70	42.80
2	*5825.00	100.1 AV			1.00 V	257	57.30	42.80
3	#5850.00	54.0 PK	78.2	-24.2	1.09 V	328	48.90	5.10
4	#5852.10	63.0 PK	78.2	-15.2	1.22 V	338	57.90	5.10
5	#5860.10	62.0 PK	74.0	-12.0	1.12 V	244	56.90	5.10
6	#5860.10	48.3 AV	54.0	-5.7	1.12 V	244	43.20	5.10
7	11650.00	61.0 PK	74.0	-13.0	2.81 V	299	45.20	15.80
8	11650.00	47.9 AV	54.0	-6.1	2.81 V	299	32.10	15.80

Remarks:

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

802.11ac (VHT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.7 PK	74.0	-6.3	1.04 H	6	63.10	4.60
2	5150.00	52.9 AV	54.0	-1.1	1.04 H	6	48.30	4.60
3	*5190.00	109.6 PK			2.04 H	20	67.40	42.20
4	*5190.00	99.0 AV			2.04 H	20	56.80	42.20
5	#10380.00	60.8 PK	74.0	-13.2	1.40 H	13	44.90	15.90
6	#10380.00	47.6 AV	54.0	-6.4	1.40 H	13	31.70	15.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.6 PK	74.0	-12.4	1.19 V	317	57.00	4.60
2	5150.00	49.1 AV	54.0	-4.9	1.19 V	317	44.50	4.60
3	*5190.00	106.3 PK			1.18 V	319	64.10	42.20
4	*5190.00	95.3 AV			1.18 V	319	53.10	42.20
5	#10380.00	60.7 PK	74.0	-13.3	2.69 V	241	44.80	15.90
6	#10380.00	47.6 AV	54.0	-6.4	2.69 V	241	31.70	15.90

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	112.8 PK			1.08 H	352	70.50	42.30
2	*5230.00	103.3 AV			1.08 H	352	61.00	42.30
3	5350.00	61.1 PK	74.0	-12.9	1.12 H	3	56.30	4.80
4	5350.00	48.1 AV	54.0	-5.9	1.12 H	3	43.30	4.80
5	#10460.00	61.9 PK	74.0	-12.1	1.27 H	2	46.00	15.90
6	#10460.00	49.7 AV	54.0	-4.3	1.27 H	2	33.80	15.90
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	*5230.00	110.3 PK			1.00 V	317	68.00	42.30
2	*5230.00	100.9 AV			1.00 V	317	58.60	42.30
3	5350.00	59.8 PK	74.0	-14.2	1.13 V	309	55.00	4.80
4	5350.00	46.8 AV	54.0	-7.2	1.13 V	309	42.00	4.80
5	#10460.00	61.0 PK	74.0	-13.0	3.16 V	329	45.10	15.90
6	#10460.00	48.8 AV	54.0	-5.2	3.16 V	329	32.90	15.90

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.6 PK	74.0	-14.4	1.51 H	50	55.00	4.60
2	5150.00	47.6 AV	54.0	-6.4	1.51 H	50	43.00	4.60
3	*5270.00	113.0 PK			1.68 H	2	70.60	42.40
4	*5270.00	103.2 AV			1.68 H	2	60.80	42.40
5	5350.00	60.8 PK	74.0	-13.2	1.29 H	3	56.00	4.80
6	5350.00	48.0 AV	54.0	-6.0	1.29 H	3	43.20	4.80
7	#10540.00	61.8 PK	74.0	-12.2	1.27 H	70	45.60	16.20
8	#10540.00	48.0 AV	54.0	-6.0	1.27 H	70	31.80	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.9 PK	74.0	-14.1	1.00 V	189	55.30	4.60
2	5150.00	47.0 AV	54.0	-7.0	1.00 V	189	42.40	4.60
3	*5270.00	108.8 PK			1.74 V	323	66.40	42.40
4	*5270.00	99.4 AV			1.74 V	323	57.00	42.40
5	5350.00	59.5 PK	74.0	-14.5	1.63 V	315	54.70	4.80
6	5350.00	46.7 AV	54.0	-7.3	1.63 V	315	41.90	4.80
7	#10540.00	61.4 PK	74.0	-12.6	1.98 V	216	45.20	16.20
8	#10540.00	47.8 AV	54.0	-6.2	1.98 V	216	31.60	16.20

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	111.5 PK			1.09 H	19	69.10	42.40
2	*5310.00	102.0 AV			1.09 H	19	59.60	42.40
3	5350.00	70.0 PK	74.0	-4.0	1.06 H	1	65.20	4.80
4	5350.00	52.7 AV	54.0	-1.3	1.06 H	1	47.90	4.80
5	10620.00	61.6 PK	74.0	-12.4	1.53 H	37	45.20	16.40
6	10620.00	48.0 AV	54.0	-6.0	1.53 H	37	31.60	16.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	108.3 PK			1.92 V	341	65.90	42.40
2	*5310.00	98.6 AV			1.92 V	341	56.20	42.40
3	5350.00	64.6 PK	74.0	-9.4	1.52 V	194	59.80	4.80
4	5350.00	48.6 AV	54.0	-5.4	1.52 V	194	43.80	4.80
5	10620.00	61.3 PK	74.0	-12.7	1.79 V	238	44.90	16.40
6	10620.00	47.6 AV	54.0	-6.4	1.79 V	238	31.20	16.40

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.8 PK	74.0	-11.2	1.95 H	13	58.00	4.80
2	5460.00	49.2 AV	54.0	-4.8	1.95 H	13	44.40	4.80
3	#5470.00	68.0 PK	74.0	-6.0	1.26 H	4	63.20	4.80
4	#5470.00	52.6 AV	54.0	-1.4	1.26 H	4	47.80	4.80
5	*5510.00	111.4 PK			1.93 H	11	68.90	42.50
6	*5510.00	102.1 AV			1.93 H	11	59.60	42.50
7	11020.00	62.4 PK	74.0	-11.6	1.32 H	53	45.00	17.40
8	11020.00	48.1 AV	54.0	-5.9	1.32 H	53	30.70	17.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.0 PK	74.0	-11.0	1.23 V	298	58.20	4.80
2	5460.00	48.7 AV	54.0	-5.3	1.23 V	298	43.90	4.80
3	#5470.00	66.9 PK	74.0	-7.1	1.66 V	309	62.10	4.80
4	#5470.00	51.1 AV	54.0	-2.9	1.66 V	309	46.30	4.80
5	*5510.00	107.2 PK			1.33 V	346	64.70	42.50
6	*5510.00	97.2 AV			1.33 V	346	54.70	42.50
7	11020.00	62.2 PK	74.0	-11.8	2.41 V	299	44.80	17.40
8	11020.00	47.8 AV	54.0	-6.2	2.41 V	299	30.40	17.40

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	113.2 PK			1.86 H	8	70.70	42.50
2	*5550.00	103.8 AV			1.86 H	8	61.30	42.50
3	11100.00	61.5 PK	74.0	-12.5	1.49 H	77	45.30	16.20
4	11100.00	48.2 AV	54.0	-5.8	1.49 H	77	32.00	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	110.0 PK			1.44 V	321	67.50	42.50
2	*5550.00	100.6 AV			1.44 V	321	58.10	42.50
3	11100.00	61.2 PK	74.0	-12.8	1.88 V	293	45.00	16.20
4	11100.00	48.0 AV	54.0	-6.0	1.88 V	293	31.80	16.20

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	111.4 PK			1.36 H	8	68.70	42.70
2	*5670.00	101.7 AV			1.36 H	8	59.00	42.70
3	#5725.00	62.0 PK	74.0	-12.0	1.25 H	7	57.00	5.00
4	#5725.00	49.5 AV	54.0	-4.5	1.25 H	7	44.50	5.00
5	11340.00	63.3 PK	74.0	-10.7	1.65 H	70	46.10	17.20
6	11340.00	50.1 AV	54.0	-3.9	1.65 H	70	32.90	17.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	108.9 PK			1.71 V	329	66.20	42.70
2	*5670.00	98.7 AV			1.71 V	329	56.00	42.70
3	#5725.00	60.9 PK	74.0	-13.1	1.32 V	246	55.90	5.00
4	#5725.00	48.0 AV	54.0	-6.0	1.32 V	246	43.00	5.00
5	11340.00	62.3 PK	74.0	-11.7	1.99 V	246	45.10	17.20
6	11340.00	49.5 AV	54.0	-4.5	1.99 V	246	32.30	17.20

Remarks:

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

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	67.7 PK	74.0	-6.3	1.02 H	353	62.70	5.00
2	#5714.90	52.9 AV	54.0	-1.1	1.02 H	353	47.90	5.00
3	#5722.90	74.2 PK	78.2	-4.0	1.02 H	3	69.20	5.00
4	#5725.00	57.7 PK	78.2	-20.5	1.34 H	8	52.70	5.00
5	*5755.00	108.5 PK			1.74 H	5	65.70	42.80
6	*5755.00	99.3 AV			1.74 H	5	56.50	42.80
7	11510.00	61.5 PK	74.0	-12.5	1.27 H	59	45.90	15.60
8	11510.00	48.2 AV	54.0	-5.8	1.27 H	59	32.60	15.60
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	#5714.90	65.1 PK	74.0	-8.9	1.00 V	268	60.10	5.00
2	#5714.90	50.7 AV	54.0	-3.3	1.00 V	268	45.70	5.00
3	#5722.90	65.6 PK	78.2	-12.6	1.22 V	269	60.60	5.00
4	#5725.00	50.9 PK	78.2	-27.3	1.25 V	212	45.90	5.00
5	*5755.00	105.4 PK			1.06 V	277	62.60	42.80
6	*5755.00	96.2 AV			1.06 V	277	53.40	42.80
7	11510.00	60.9 PK	74.0	-13.1	2.80 V	281	45.30	15.60
8	11510.00	47.8 AV	54.0	-6.2	2.80 V	281	32.20	15.60

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	112.3 PK			1.54 H	13	69.50	42.80
2	*5795.00	102.9 AV			1.54 H	13	60.10	42.80
3	#5850.00	52.2 PK	78.2	-26.0	2.37 H	348	47.10	5.10
4	#5852.10	62.3 PK	78.2	-15.9	1.03 H	45	57.20	5.10
5	#5860.10	62.1 PK	74.0	-11.9	1.09 H	296	57.00	5.10
6	#5860.10	49.9 AV	54.0	-4.1	1.09 H	296	44.80	5.10
7	11590.00	59.9 PK	74.0	-14.1	1.00 H	49	44.40	15.50
8	11590.00	46.5 AV	54.0	-7.5	1.00 H	49	31.00	15.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	107.5 PK			1.07 V	268	64.70	42.80
2	*5795.00	98.0 AV			1.07 V	268	55.20	42.80
3	#5850.00	51.0 PK	78.2	-27.2	1.13 V	299	45.90	5.10
4	#5852.10	60.9 PK	78.2	-17.3	1.17 V	272	55.80	5.10
5	#5860.10	60.6 PK	74.0	-13.4	1.17 V	273	55.50	5.10
6	#5860.10	48.0 AV	54.0	-6.0	1.17 V	273	42.90	5.10
7	11590.00	59.7 PK	74.0	-14.3	2.17 V	229	44.20	15.50
8	11590.00	46.3 AV	54.0	-7.7	2.17 V	229	30.80	15.50

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.0 PK	74.0	-7.0	1.50 H	12	62.40	4.60
2	**5150.00**	**53.0 AV**	**54.0**	**-1.0**	**1.50 H**	**12**	**48.40**	**4.60**
3	*5210.00	107.4 PK			1.58 H	13	65.10	42.30
4	*5210.00	97.5 AV			1.58 H	13	55.20	42.30
5	#10420.00	60.4 PK	74.0	-13.6	1.24 H	153	44.40	16.00
6	#10420.00	47.0 AV	54.0	-7.0	1.24 H	153	31.00	16.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.9 PK	74.0	-11.1	1.53 V	313	58.30	4.60
2	5150.00	48.6 AV	54.0	-5.4	1.53 V	313	44.00	4.60
3	*5210.00	102.0 PK			1.53 V	313	59.70	42.30
4	*5210.00	92.2 AV			1.53 V	313	49.90	42.30
5	#10420.00	60.2 PK	74.0	-13.8	1.25 V	43	44.20	16.00
6	#10420.00	46.8 AV	54.0	-7.2	1.25 V	43	30.80	16.00

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.9 PK	74.0	-14.1	1.00 H	10	55.30	4.60
2	5150.00	47.8 AV	54.0	-6.2	1.00 H	10	43.20	4.60
3	*5290.00	107.8 PK			2.04 H	340	65.40	42.40
4	*5290.00	97.9 AV			2.04 H	340	55.50	42.40
5	5350.00	71.0 PK	74.0	-3.0	1.03 H	352	66.20	4.80
6	5350.00	52.6 AV	54.0	-1.4	1.03 H	352	47.80	4.80
7	#10580.00	62.4 PK	74.0	-11.6	1.44 H	63	46.20	16.20
8	#10580.00	47.8 AV	54.0	-6.2	1.44 H	63	31.60	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.1 PK	74.0	-14.9	1.01 V	199	54.50	4.60
2	5150.00	47.0 AV	54.0	-7.0	1.01 V	199	42.40	4.60
3	*5290.00	105.6 PK			1.78 V	325	63.20	42.40
4	*5290.00	95.6 AV			1.78 V	325	53.20	42.40
5	5350.00	68.4 PK	74.0	-5.6	1.22 V	208	63.60	4.80
6	5350.00	48.5 AV	54.0	-5.5	1.22 V	208	43.70	4.80
7	#10580.00	61.4 PK	74.0	-12.6	2.19 V	236	45.20	16.20
8	#10580.00	47.4 AV	54.0	-6.6	2.19 V	236	31.20	16.20

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	66.0 PK	74.0	-8.0	1.77 H	353	61.20	4.80
2	5460.00	50.2 AV	54.0	-3.8	1.77 H	353	45.40	4.80
3	#5470.00	72.4 PK	74.0	-1.6	1.04 H	355	67.60	4.80
4	#5470.00	52.5 AV	54.0	-1.5	1.04 H	355	47.70	4.80
5	*5530.00	108.9 PK			2.74 H	10	66.40	42.50
6	*5530.00	98.7 AV			2.74 H	10	56.20	42.50
7	11060.00	61.8 PK	74.0	-12.2	1.60 H	89	45.10	16.70
8	11060.00	47.5 AV	54.0	-6.5	1.60 H	89	30.80	16.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.3 PK	74.0	-12.7	1.74 V	183	56.50	4.80
2	5460.00	48.2 AV	54.0	-5.8	1.74 V	183	43.40	4.80
3	#5470.00	66.2 PK	74.0	-7.8	1.39 V	272	61.40	4.80
4	#5470.00	49.5 AV	54.0	-4.5	1.39 V	272	44.70	4.80
5	*5530.00	103.9 PK			1.05 V	279	61.40	42.50
6	*5530.00	94.6 AV			1.05 V	279	52.10	42.50
7	11060.00	61.6 PK	74.0	-12.4	2.36 V	244	44.90	16.70
8	11060.00	47.2 AV	54.0	-6.8	2.36 V	244	30.50	16.70

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	67.8 PK	74.0	-6.2	1.08 H	286	62.80	5.00
2	**#5714.90**	**53.0 AV**	**54.0**	**-1.0**	**1.08 H**	**286**	**48.00**	**5.00**
3	#5722.90	71.6 PK	78.2	-6.6	1.19 H	9	66.60	5.00
4	#5725.00	53.9 PK	78.2	-24.3	1.16 H	48	48.90	5.00
5	*5775.00	106.4 PK			1.80 H	12	63.60	42.80
6	*5775.00	96.5 AV			1.80 H	12	53.70	42.80
7	#5850.00	51.8 PK	78.2	-26.4	1.30 H	2	46.70	5.10
8	#5852.10	66.0 PK	78.2	-12.2	1.57 H	66	60.90	5.10
9	#5860.10	66.8 PK	74.0	-7.2	1.11 H	350	61.70	5.10
10	#5860.10	49.5 AV	54.0	-4.5	1.11 H	350	44.40	5.10
11	11550.00	60.8 PK	74.0	-13.2	1.32 H	55	45.30	15.50
12	11550.00	47.5 AV	54.0	-6.5	1.32 H	55	32.00	15.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5714.90	65.3 PK	74.0	-8.7	1.00 V	256	60.30	5.00
2	#5714.90	50.9 AV	54.0	-3.1	1.00 V	256	45.90	5.00
3	#5722.90	66.2 PK	78.2	-12.0	1.06 V	268	61.20	5.00
4	#5725.00	50.6 PK	78.2	-27.6	1.21 V	233	45.60	5.00
5	*5775.00	101.5 PK			1.06 V	284	58.70	42.80
6	*5775.00	92.5 AV			1.06 V	284	49.70	42.80
7	#5850.00	50.1 PK	78.2	-28.1	1.13 V	270	45.00	5.10
8	#5852.10	60.2 PK	78.2	-18.0	1.03 V	269	55.10	5.10
9	#5860.10	61.4 PK	74.0	-12.6	1.14 V	266	56.30	5.10
10	#5860.10	48.1 AV	54.0	-5.9	1.14 V	266	43.00	5.10
11	11550.00	60.5 PK	74.0	-13.5	2.18 V	246	45.00	15.50
12	11550.00	47.3 AV	54.0	-6.7	2.18 V	246	31.80	15.50

Remarks:

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

Below 1GHz Worst-Case Data: 802.11ac (VHT20)

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		
TEST MODE	A		

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	80.44	27.3 QP	40.0	-12.7	1.99 H	281	45.60	-18.30
2	198.78	32.3 QP	43.5	-11.2	1.99 H	147	49.00	-16.70
3	375.32	35.1 QP	46.0	-10.9	1.00 H	165	45.80	-10.70
4	624.99	41.0 QP	46.0	-5.0	1.23 H	327	46.80	-5.80
5	751.68	38.5 QP	46.0	-7.5	1.00 H	19	42.00	-3.50
6	875.00	40.8 QP	46.0	-5.2	1.50 H	4	42.20	-1.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	44.89	31.0 QP	40.0	-9.0	1.23 V	15	45.30	-14.30
2	107.60	29.3 QP	43.5	-14.2	1.24 V	207	47.00	-17.70
3	198.78	34.6 QP	43.5	-8.9	1.00 V	64	51.30	-16.70
4	375.00	38.8 QP	46.0	-7.2	1.24 V	315	49.60	-10.80
5	624.99	39.0 QP	46.0	-7.0	1.98 V	10	44.80	-5.80
6	874.99	37.0 QP	46.0	-9.0	1.24 V	15	38.40	-1.40

Remarks:

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

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		
TEST MODE	B		

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	74.62	30.1 QP	40.0	-9.9	1.24 H	102	47.00	-16.90
2	90.14	32.0 QP	43.5	-11.5	1.99 H	127	51.70	-19.70
3	198.78	33.8 QP	43.5	-9.7	1.00 H	270	50.50	-16.70
4	625.58	40.3 QP	46.0	-5.7	1.24 H	320	46.10	-5.80
5	749.74	39.4 QP	46.0	-6.6	1.00 H	338	43.00	-3.60
6	875.84	40.8 QP	46.0	-5.2	1.49 H	358	42.20	-1.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	36.33	35.9 QP	40.0	-4.1	1.00 V	333	51.20	-15.30
2	90.14	36.9 QP	43.5	-6.6	1.00 V	282	56.60	-19.70
3	198.78	33.7 QP	43.5	-9.8	1.00 V	230	50.40	-16.70
4	624.98	39.3 QP	46.0	-6.7	1.50 V	348	45.10	-5.80
5	751.68	39.4 QP	46.0	-6.6	1.24 V	187	42.90	-3.50
6	875.84	39.1 QP	46.0	-6.9	1.00 V	9	40.50	-1.40

Remarks:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS 30	100288	Apr. 27, 2015	Apr. 26, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 11, 2016	Jan. 10, 2017
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 21, 2015	Jul. 20, 2016
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 HwaYa Shielded Room 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 Test Procedures

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

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

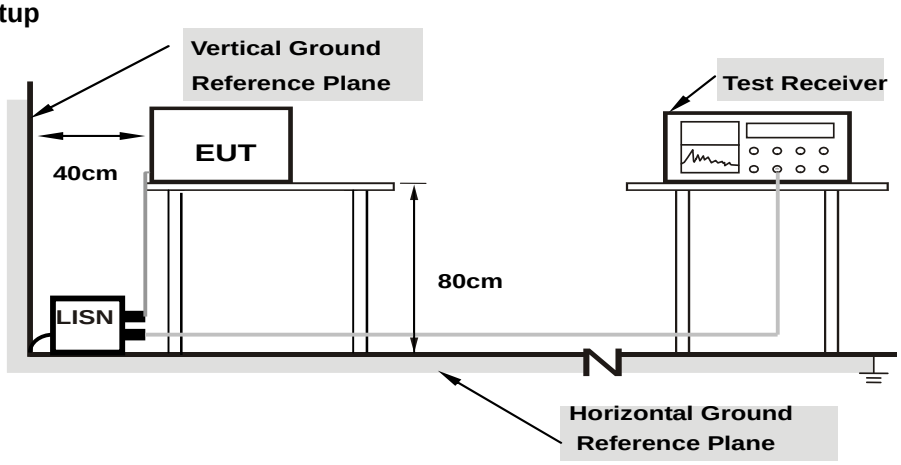
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

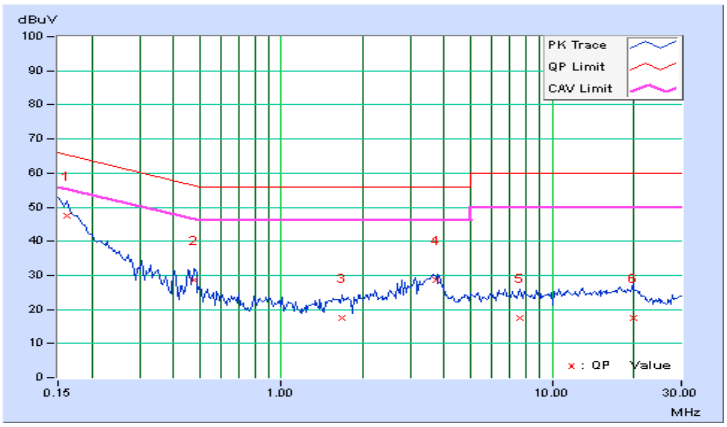
4.2.7 Test Results

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	10.19	37.28	24.39	47.47	34.58	65.38	55.38	-17.91	-20.80
2	0.47813	10.25	18.39	15.53	28.64	25.78	56.37	46.37	-27.73	-20.59
3	1.67969	10.36	7.11	2.67	17.47	13.03	56.00	46.00	-38.53	-32.97
4	3.71875	10.41	18.15	6.21	28.56	16.62	56.00	46.00	-27.44	-29.38
5	7.58594	10.48	7.01	2.18	17.49	12.66	60.00	50.00	-42.51	-37.34
6	19.87500	10.68	6.94	2.76	17.62	13.44	60.00	50.00	-42.38	-36.56

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.

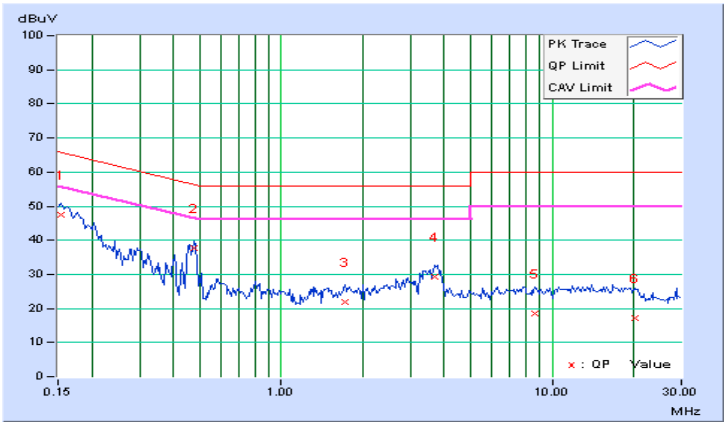


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.19	37.12	26.97	47.31	37.16	65.79	55.79	-18.48	-18.63
2	**0.47813**	**10.30**	**27.52**	**25.93**	**37.82**	**36.23**	**56.37**	**46.37**	**-18.55**	**-10.14**
3	1.71094	10.38	11.43	7.22	21.81	17.60	56.00	46.00	-34.19	-28.40
4	3.67578	10.53	18.92	8.37	29.45	18.90	56.00	46.00	-26.55	-27.10
5	8.68750	10.60	7.94	2.87	18.54	13.47	60.00	50.00	-41.46	-36.53
6	20.12891	10.89	6.38	1.69	17.27	12.58	60.00	50.00	-42.73	-37.42

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.

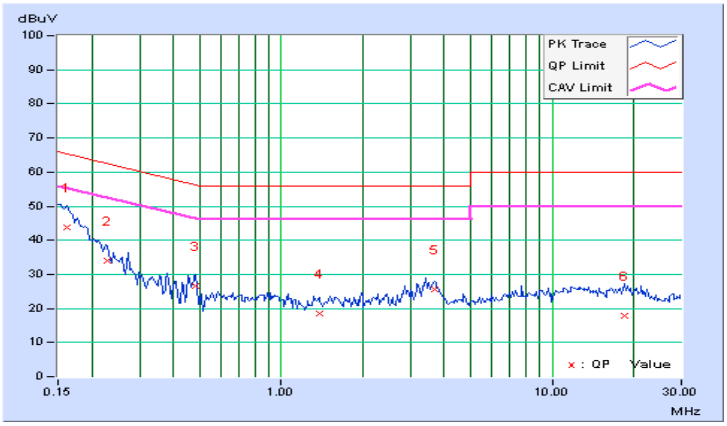


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	10.19	33.69	20.82	43.88	31.01	65.38	55.38	-21.50	-24.37
2	0.22812	10.21	23.90	9.75	34.11	19.96	62.52	52.52	-28.40	-32.55
3	0.48203	10.25	16.20	12.84	26.45	23.09	56.30	46.30	-29.85	-23.21
4	1.37891	10.34	8.03	0.06	18.37	10.40	56.00	46.00	-37.63	-35.60
5	3.67578	10.41	15.02	4.52	25.43	14.93	56.00	46.00	-30.57	-31.07
6	18.60156	10.65	7.03	2.75	17.68	13.40	60.00	50.00	-42.32	-36.60

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.

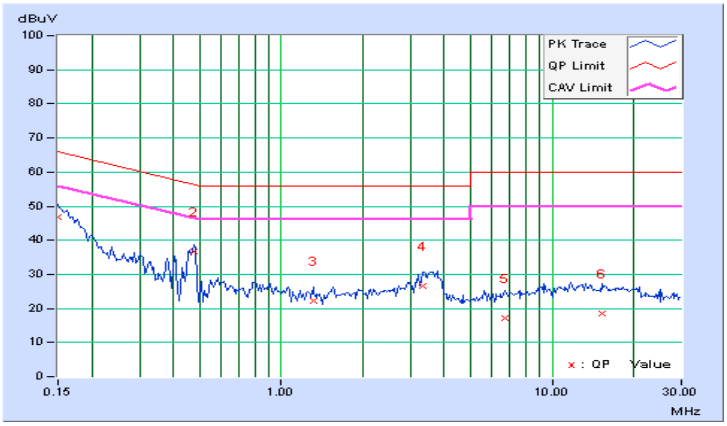


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.19	36.51	25.73	46.70	35.92	66.00	56.00	-19.30	-20.08
2	0.47422	10.30	26.39	21.03	36.69	31.33	56.44	46.44	-19.75	-15.11
3	1.31250	10.33	11.97	8.73	22.30	19.06	56.00	46.00	-33.70	-26.94
4	3.32031	10.50	16.02	6.18	26.52	16.68	56.00	46.00	-29.48	-29.32
5	6.66016	10.58	6.59	0.81	17.17	11.39	60.00	50.00	-42.83	-38.61
6	15.25000	10.73	7.63	2.83	18.36	13.56	60.00	50.00	-41.64	-36.44

REMARKS:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

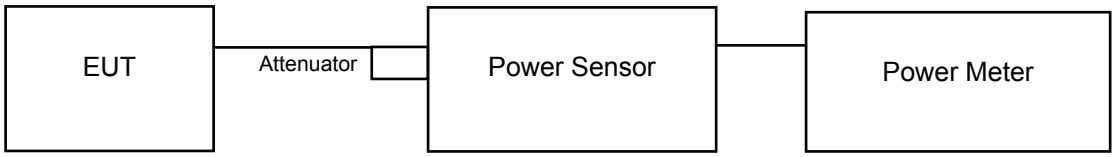
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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

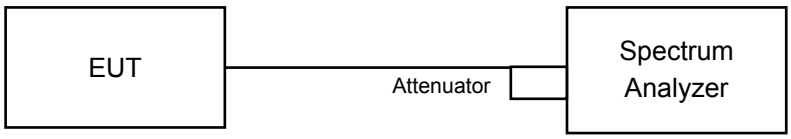
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

For Power Output



For 26dB and Occupied Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

For 802.11a, 802.11ac (VHT20), 802.11ac (VHT40)

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

For 802.11ac (VHT80)

a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
b. Set sweep trigger to “free run”.
c. Set RBW = 1 MHz
d. Set VBW ≥ 3 MHz
e. Number of points in sweep ≥ 2 Span / RBW
f. Sweep time ≤ (number of points in sweep) * T
g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
h. Detector = RMS
i. Trace mode = max hold
j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

For Occupied Bandwidth

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 300 kHz RBW and 1MHz VBW. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

4.3.5 Deviation fromTest Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

CDD Mode

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	15.30	15.40	15.10	15.20	134.030	21.27	24	Pass
40	5200	15.20	15.30	15.20	15.10	132.469	21.22	24	Pass
48	5240	15.30	15.50	15.30	15.30	137.133	21.37	24	Pass
52	5260	15.30	15.40	15.10	15.30	134.801	21.30	24	Pass
60	5300	15.70	15.40	15.00	15.30	137.335	21.38	24	Pass
64	5320	15.10	15.60	15.00	15.40	134.964	21.30	24	Pass
100	5500	14.90	15.00	14.60	15.00	122.989	20.90	24	Pass
116	5580	15.80	16.00	15.80	16.00	155.660	21.92	24	Pass
140	5700	14.80	15.60	15.00	15.00	129.754	21.13	24	Pass
149	5745	18.35	18.55	18.65	18.08	277.556	24.43	30	Pass
157	5785	18.45	18.58	18.31	18.45	279.843	24.47	30	Pass
165	5825	18.44	18.52	18.41	18.20	276.356	24.41	30	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (23.09) = 24.63 > 24dBm
2. 11dBm + 10log (23.08) = 24.63 > 24dBm
3. 11dBm + 10log (22.92) = 24.60 > 24dBm
4. 11dBm + 10log (23.25) = 24.66 > 24dBm
5. 11dBm + 10log (23.10) = 24.64 > 24dBm
6. 11dBm + 10log (23.49) = 24.71 > 24dBm

Chain 1
1. 11dBm + 10log (23.24) = 24.66 > 24dBm
2. 11dBm + 10log (23.57) = 24.72 > 24dBm
3. 11dBm + 10log (23.53) = 24.72 > 24dBm
4. 11dBm + 10log (23.57) = 24.72 > 24dBm
5. 11dBm + 10log (23.66) = 24.74 > 24dBm
6. 11dBm + 10log (23.45) = 24.70 > 24dBm

Chain 2
1. 11dBm + 10log (23.68) = 24.74 > 24dBm
2. 11dBm + 10log (23.68) = 24.74 > 24dBm
3. 11dBm + 10log (23.73) = 24.75 > 24dBm
4. 11dBm + 10log (23.57) = 24.72 > 24dBm
5. 11dBm + 10log (23.67) = 24.74 > 24dBm
6. 11dBm + 10log (23.82) = 24.77 > 24dBm

Chain 3
1. 11dBm + 10log (23.50) = 24.71 > 24dBm
2. 11dBm + 10log (23.69) = 24.75 > 24dBm
3. 11dBm + 10log (23.58) = 24.73 > 24dBm
4. 11dBm + 10log (23.62) = 24.73 > 24dBm
5. 11dBm + 10log (23.74) = 24.75 > 24dBm
6. 11dBm + 10log (23.67) = 24.74 > 24dBm

802.11ac (VHT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	15.20	15.40	15.30	15.40	136.345	21.35	24	Pass
40	5200	15.10	15.30	15.10	15.50	134.083	21.27	24	Pass
48	5240	15.30	15.20	15.20	15.10	132.469	21.22	24	Pass
52	5260	15.10	15.60	15.30	15.70	139.705	21.45	24	Pass
60	5300	15.20	15.40	15.30	15.40	136.345	21.35	24	Pass
64	5320	15.00	15.30	15.00	15.20	130.243	21.15	24	Pass
100	5500	15.80	16.00	15.90	16.10	157.473	21.97	24	Pass
116	5580	15.80	16.00	15.50	15.90	152.216	21.82	24	Pass
140	5700	14.90	15.50	15.00	15.30	131.891	21.20	24	Pass
149	5745	17.23	17.96	17.62	17.89	234.690	23.70	30	Pass
157	5785	18.20	18.47	18.54	18.55	279.440	24.46	30	Pass
165	5825	18.35	18.55	18.33	18.41	277.425	24.43	30	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (25.12) = 25.00 > 24dBm
2. 11dBm + 10log (25.17) = 25.01 > 24dBm
3. 11dBm + 10log (25.12) = 25.00 > 24dBm
4. 11dBm + 10log (25.02) = 24.98 > 24dBm
5. 11dBm + 10log (25.09) = 25.00 > 24dBm
6. 11dBm + 10log (25.03) = 24.98 > 24dBm
Chain 1
1. 11dBm + 10log (24.89) = 24.96 > 24dBm
2. 11dBm + 10log (24.97) = 24.97 > 24dBm
3. 11dBm + 10log (24.91) = 24.96 > 24dBm
4. 11dBm + 10log (24.91) = 24.96 > 24dBm
5. 11dBm + 10log (24.97) = 24.97 > 24dBm
6. 11dBm + 10log (25.03) = 24.98 > 24dBm
Chain 2
1. 11dBm + 10log (24.01) = 24.80 > 24dBm
2. 11dBm + 10log (24.26) = 24.85 > 24dBm
3. 11dBm + 10log (24.23) = 24.84 > 24dBm
4. 11dBm + 10log (24.11) = 24.82 > 24dBm
5. 11dBm + 10log (24.21) = 24.84 > 24dBm
6. 11dBm + 10log (24.32) = 24.86 > 24dBm
Chain 3
1. 11dBm + 10log (23.98) = 24.80 > 24dBm
2. 11dBm + 10log (23.85) = 24.77 > 24dBm
3. 11dBm + 10log (23.98) = 24.80 > 24dBm
4. 11dBm + 10log (23.61) = 24.73 > 24dBm
5. 11dBm + 10log (23.90) = 24.78 > 24dBm
6. 11dBm + 10log (23.67) = 24.74 > 24dBm

802.11ac (VHT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	16.71	16.27	16.36	16.61	178.310	22.51	24	Pass
46	5230	18.00	17.70	17.78	17.79	**242.076**	23.84	24	Pass
54	5270	16.83	16.77	16.42	16.24	**181.655**	22.59	24	Pass
62	5310	16.83	16.77	16.42	16.24	**181.655**	22.59	24	Pass
102	5510	17.98	17.92	17.34	17.79	**239.067**	23.79	24	Pass
110	5550	17.98	17.92	17.34	17.79	**239.067**	23.79	24	Pass
134	5670	18.15	17.62	17.18	17.36	229.813	23.61	24	Pass
151	5755	16.21	16.43	16.43	16.26	171.958	22.35	30	Pass
159	5795	18.74	19.11	18.97	19.14	**317.208**	25.01	30	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (44.25) = 27.46 > 24dBm
2. 11dBm + 10log (43.95) = 27.43 > 24dBm
3. 11dBm + 10log (44.12) = 27.45 > 24dBm
4. 11dBm + 10log (45.52) = 27.58 > 24dBm
5. 11dBm + 10log (45.60) = 27.59 > 24dBm
Chain 1
1. 11dBm + 10log (43.56) = 27.39 > 24dBm
2. 11dBm + 10log (43.58) = 27.39 > 24dBm
3. 11dBm + 10log (43.40) = 27.37 > 24dBm
4. 11dBm + 10log (43.60) = 27.39 > 24dBm
5. 11dBm + 10log (43.59) = 27.39 > 24dBm
Chain 2
1. 11dBm + 10log (44.11) = 27.45 > 24dBm
2. 11dBm + 10log (43.58) = 27.39 > 24dBm
3. 11dBm + 10log (44.20) = 27.45 > 24dBm
4. 11dBm + 10log (44.06) = 27.44 > 24dBm
5. 11dBm + 10log (44.09) = 27.44 > 24dBm
Chain 3
1. 11dBm + 10log (44.82) = 27.51 > 24dBm
2. 11dBm + 10log (43.95) = 27.43 > 24dBm
3. 11dBm + 10log (43.51) = 27.39 > 24dBm
4. 11dBm + 10log (44.21) = 27.46 > 24dBm
5. 11dBm + 10log (43.80) = 27.41 > 24dBm

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	15.54	15.00	15.11	15.10	132.226	21.21	24	Pass
58	5290	16.44	16.08	16.25	16.35	169.928	22.30	24	Pass
106	5530	15.79	15.50	15.59	16.12	150.562	21.78	24	Pass
155	5775	14.80	15.15	15.10	14.66	124.535	20.95	30	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (83.59) = 30.22 > 24dBm
2. 11dBm + 10log (82.70) = 30.18 > 24dBm
Chain 1
1. 11dBm + 10log (82.73) = 30.18 > 24dBm
2. 11dBm + 10log (82.53) = 30.17 > 24dBm
Chain 2
1. 11dBm + 10log (82.37) = 30.16 > 24dBm
2. 11dBm + 10log (82.62) = 30.17 > 24dBm
Chain 3
1. 11dBm + 10log (82.89) = 30.19 > 24dBm
2. 11dBm + 10log (83.02) = 30.19 > 24dBm

Beamforming Mode

802.11ac (VHT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	13.30	13.20	12.83	13.07	81.737	19.12	20.68	Pass
40	5200	13.34	13.20	12.61	12.95	80.433	19.05	20.68	Pass
48	5240	13.40	13.15	12.92	13.07	82.397	19.16	20.68	Pass
52	5260	13.26	13.14	12.82	13.26	82.117	19.14	20.68	Pass
60	5300	13.27	12.94	12.42	13.14	78.975	18.97	20.68	Pass
64	5320	13.10	13.19	12.73	13.27	81.244	19.10	20.68	Pass
100	5500	13.61	13.70	13.00	13.85	**90.622**	19.57	20.68	Pass
116	5580	13.57	13.66	12.80	13.83	89.188	19.50	20.68	Pass
140	5700	12.86	12.82	12.56	13.10	76.910	18.86	20.68	Pass
149	5745	15.14	15.16	15.26	15.39	133.637	21.26	26.68	Pass
157	5785	18.20	18.47	18.54	18.55	279.440	24.46	26.68	Pass
165	5825	17.79	17.97	17.58	18.16	245.522	23.90	26.68	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (24.77) = 24.94 > 20.68dBm
2. 11dBm + 10log (25.20) = 25.01 > 20.68dBm
3. 11dBm + 10log (24.94) = 24.97 > 20.68dBm
4. 11dBm + 10log (25.16) = 25.01 > 20.68dBm
5. 11dBm + 10log (25.08) = 24.99 > 20.68dBm
6. 11dBm + 10log (25.04) = 24.99 > 20.68dBm

Chain 1
1. 11dBm + 10log (24.94) = 24.97 > 20.68dBm
2. 11dBm + 10log (24.87) = 24.96 > 20.68dBm
3. 11dBm + 10log (25.20) = 25.01 > 20.68dBm
4. 11dBm + 10log (24.86) = 24.96 > 20.68dBm
5. 11dBm + 10log (24.80) = 24.94 > 20.68dBm
6. 11dBm + 10log (24.94) = 24.97 > 20.68dBm

Chain 2
1. 11dBm + 10log (24.32) = 24.86 > 20.68dBm
2. 11dBm + 10log (24.30) = 24.86 > 20.68dBm
3. 11dBm + 10log (24.45) = 24.88 > 20.68dBm
4. 11dBm + 10log (24.11) = 24.82 > 20.68dBm
5. 11dBm + 10log (24.13) = 24.83 > 20.68dBm
6. 11dBm + 10log (24.04) = 24.81 > 20.68dBm

Chain 3
1. 11dBm + 10log (23.67) = 24.74 > 20.68dBm
2. 11dBm + 10log (23.81) = 24.77 > 20.68dBm
3. 11dBm + 10log (23.70) = 24.75 > 20.68dBm
4. 11dBm + 10log (23.79) = 24.76 > 20.68dBm
5. 11dBm + 10log (23.87) = 24.78 > 20.68dBm
6. 11dBm + 10log (23.94) = 24.79 > 20.68dBm

* U-NII-1, U-NII-2A and U-NII-2C: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 24-(9.32-6) = 20.68dBm
* U-NII-3: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 30-(9.32-6) = 26.68dBm

802.11ac (VHT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	13.57	13.77	12.66	13.28	**86.305**	19.36	20.68	Pass
46	5230	13.50	13.68	12.90	13.08	85.544	19.32	20.68	Pass
54	5270	13.33	13.48	12.89	13.22	**84.255**	19.26	20.68	Pass
62	5310	13.46	13.17	12.79	13.21	82.883	19.18	20.68	Pass
102	5510	12.93	13.00	12.58	12.95	77.424	18.89	20.68	Pass
110	5550	13.00	12.97	12.56	12.80	76.853	18.86	20.68	Pass
134	5670	12.78	12.88	12.51	12.89	75.654	18.79	20.68	Pass
151	5755	13.10	12.74	12.90	12.91	78.251	18.93	26.68	Pass
159	5795	18.74	19.11	18.97	19.14	**317.208**	25.01	26.68	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (44.05) = 27.44 > 20.68dBm
2. 11dBm + 10log (44.30) = 27.46 > 20.68dBm
3. 11dBm + 10log (44.13) = 27.45 > 20.68dBm
4. 11dBm + 10log (44.19) = 27.45 > 20.68dBm
5. 11dBm + 10log (44.28) = 27.46 > 20.68dBm
Chain 1
1. 11dBm + 10log (43.30) = 27.36 > 20.68dBm
2. 11dBm + 10log (43.67) = 27.40 > 20.68dBm
3. 11dBm + 10log (43.63) = 27.40 > 20.68dBm
4. 11dBm + 10log (43.73) = 27.41 > 20.68dBm
5. 11dBm + 10log (43.44) = 27.38 > 20.68dBm
Chain 2
1. 11dBm + 10log (44.11) = 27.45 > 20.68dBm
2. 11dBm + 10log (44.05) = 27.44 > 20.68dBm
3. 11dBm + 10log (44.13) = 27.45 > 20.68dBm
4. 11dBm + 10log (44.15) = 27.45 > 20.68dBm
5. 11dBm + 10log (44.09) = 27.44 > 20.68dBm
Chain 3
1. 11dBm + 10log (43.26) = 27.36 > 20.68dBm
2. 11dBm + 10log (43.58) = 27.39 > 20.68dBm
3. 11dBm + 10log (43.52) = 27.39 > 20.68dBm
4. 11dBm + 10log (43.42) = 27.38 > 20.68dBm
5. 11dBm + 10log (43.36) = 27.37 > 20.68dBm

* U-NII-1, U-NII-2A and U-NII-2C: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 24-(9.32-6) = 20.68dBm
* U-NII-3: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 30-(9.32-6) = 26.68dBm

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	12.44	11.95	12.09	12.25	66.176	18.21	20.68	Pass
58	5290	13.15	13.27	13.09	13.03	82.347	19.16	20.68	Pass
106	5530	12.68	12.99	12.46	12.83	75.249	18.77	20.68	Pass
155	5775	13.08	12.70	12.52	12.66	75.260	18.77	26.68	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (82.87) = 30.18 > 20.68dBm
2. 11dBm + 10log (83.12) = 30.20 > 20.68dBm
Chain 1
1. 11dBm + 10log (82.89) = 30.19 > 20.68dBm
2. 11dBm + 10log (82.38) = 30.16 > 20.68dBm
Chain 2
1. 11dBm + 10log (82.29) = 30.15 > 20.68dBm
2. 11dBm + 10log (82.73) = 30.18 > 20.68dBm
Chain 3
1. 11dBm + 10log (82.94) = 30.19 > 20.68dBm
2. 11dBm + 10log (83.01) = 30.19 > 20.68dBm
* U-NII-1, U-NII-2A and U-NII-2C: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 24-(9.32-6) = 20.68dBm
* U-NII-3: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 30-(9.32-6) = 26.68dBm

26dB Bandwidth:

CDD Mode

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
36	5180	22.99	22.96	23.67	23.55	Pass
40	5200	23.09	23.21	23.60	23.53	Pass
48	5240	23.27	23.05	23.59	23.37	Pass
52	5260	23.09	23.24	23.68	23.50	Pass
60	5300	23.08	23.57	23.68	23.69	Pass
64	5320	22.92	23.53	23.73	23.58	Pass
100	5500	23.25	23.57	23.57	23.62	Pass
116	5580	23.10	23.66	23.67	23.74	Pass
140	5700	23.49	23.45	23.82	23.67	Pass

802.11ac (VHT20)

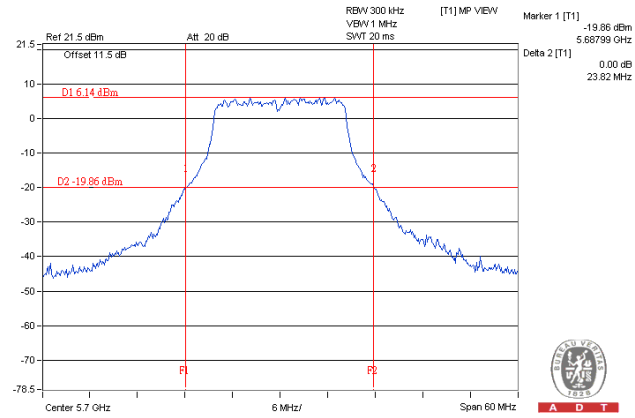
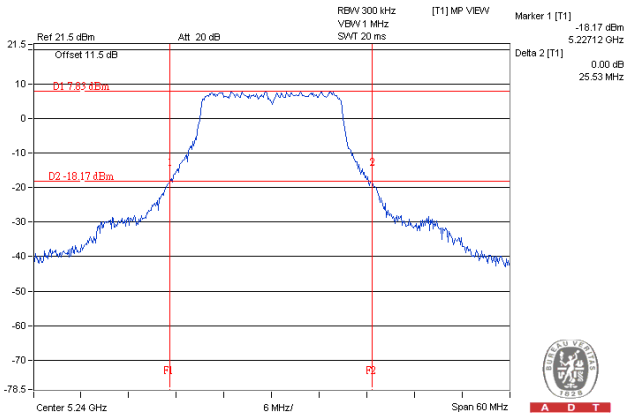
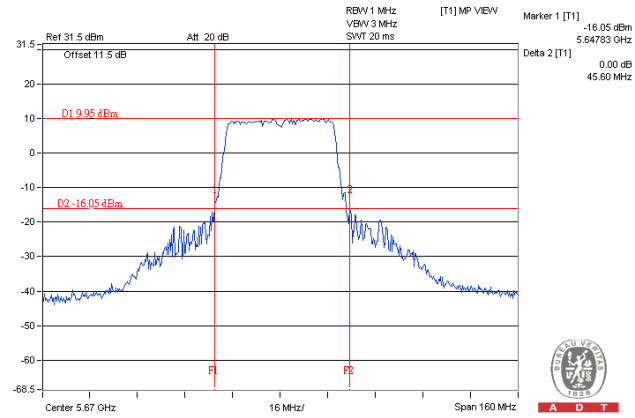
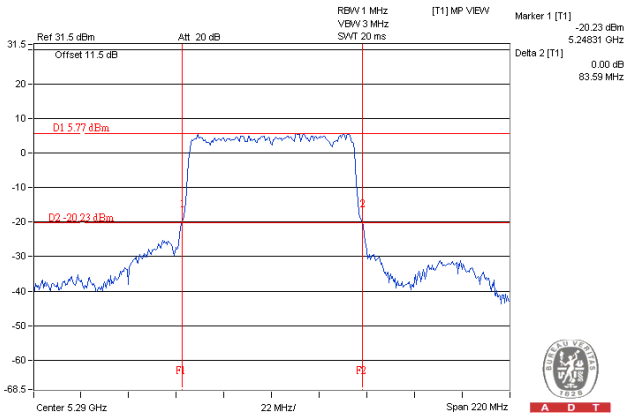
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
36	5180	25.33	25.34	24.07	24.18	Pass
40	5200	25.16	25.28	24.31	23.86	Pass
48	5240	25.20	25.53	24.28	24.10	Pass
52	5260	25.12	24.89	24.01	23.98	Pass
60	5300	25.17	24.97	24.26	23.85	Pass
64	5320	25.12	24.91	24.23	23.98	Pass
100	5500	25.02	24.91	24.11	23.61	Pass
116	5580	25.09	24.97	24.21	23.90	Pass
140	5700	25.03	25.03	24.32	23.67	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
38	5190	44.46	43.36	43.76	43.28	Pass
46	5230	44.24	43.43	44.07	44.23	Pass
54	5270	44.25	43.56	44.11	44.82	Pass
62	5310	43.95	43.58	43.58	43.95	Pass
102	5510	44.12	43.40	44.20	43.51	Pass
110	5550	45.52	43.60	44.06	44.21	Pass
134	5670	45.60	43.59	44.09	43.80	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
42	5210	83.28	82.49	81.57	82.87	Pass
58	5290	83.59	82.73	82.37	82.89	Pass
106	5530	82.70	82.53	82.62	83.02	Pass

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

Beamforming Mode

802.11ac (VHT20)

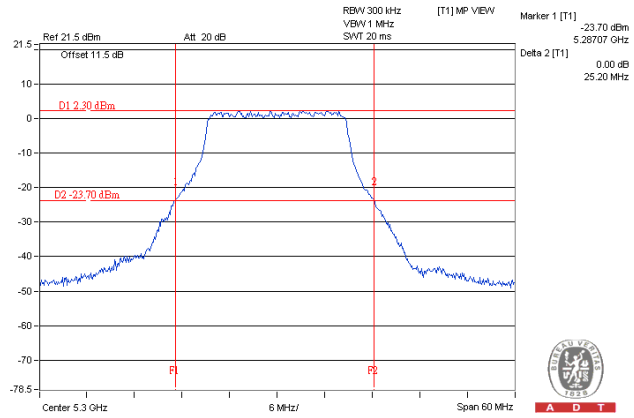
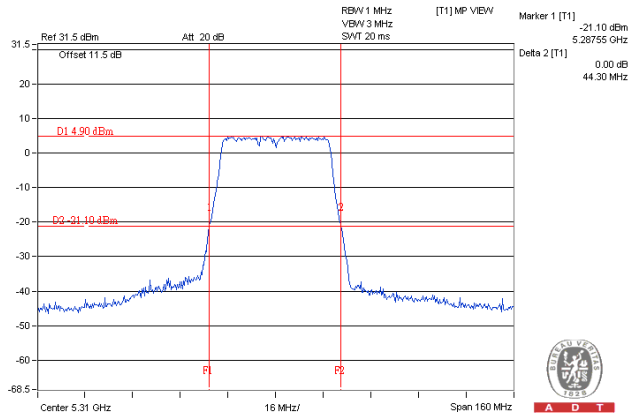
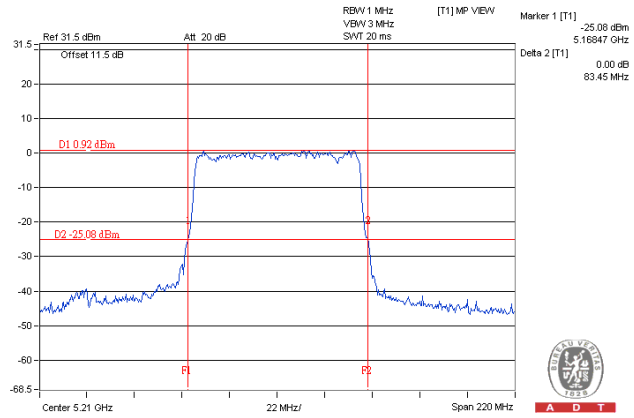
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
36	5180	24.93	25.13	24.35	24.38	Pass
40	5200	25.17	24.94	24.53	24.06	Pass
48	5240	24.85	24.99	24.22	23.85	Pass
52	5260	24.77	24.94	24.32	23.67	Pass
60	5300	25.20	24.87	24.30	23.81	Pass
64	5320	24.94	25.20	24.45	23.70	Pass
100	5500	25.16	24.86	24.11	23.79	Pass
116	5580	25.08	24.80	24.13	23.87	Pass
140	5700	25.04	24.94	24.04	23.94	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
38	5190	43.96	43.59	44.07	43.38	Pass
46	5230	43.95	43.80	44.23	43.32	Pass
54	5270	44.05	43.30	44.11	43.26	Pass
62	5310	44.30	43.67	44.05	43.58	Pass
102	5510	44.13	43.63	44.13	43.52	Pass
110	5550	44.19	43.73	44.15	43.42	Pass
134	5670	44.28	43.44	44.09	43.36	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
42	5210	83.45	82.38	82.18	82.81	Pass
58	5290	82.87	82.89	82.29	82.94	Pass
106	5530	83.12	82.38	82.73	83.01	Pass

Spectrum Plot of Worst Value	
802.11ac (VHT20)	802.11ac (VHT40)
	
802.11ac (VHT80)	
	

Occupied Bandwidth:

CDD Mode

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	16.92	16.92	16.92	17.04
40	5200	16.80	16.80	17.04	16.92
48	5240	16.92	16.92	16.92	16.92
52	5260	16.80	17.04	16.80	17.04
60	5300	16.92	17.04	16.80	16.92
64	5320	16.92	16.92	16.92	17.04
100	5500	16.92	17.04	16.92	16.80
116	5580	16.92	16.92	16.92	16.80
140	5700	16.92	16.92	16.92	16.92
149	5745	16.92	16.92	16.92	17.04
157	5785	16.92	17.04	16.92	16.92
165	5825	16.80	17.16	17.04	16.92

802.11ac (VHT20)

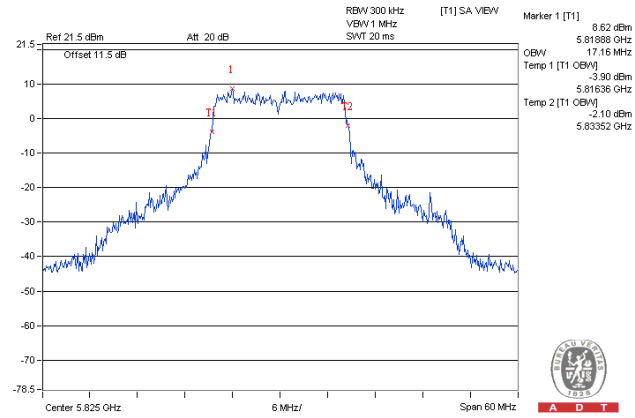
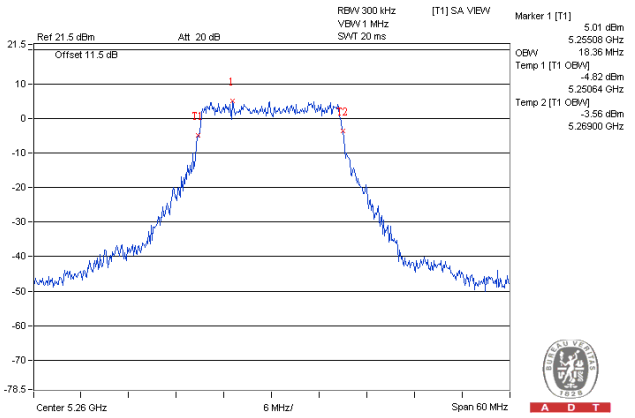
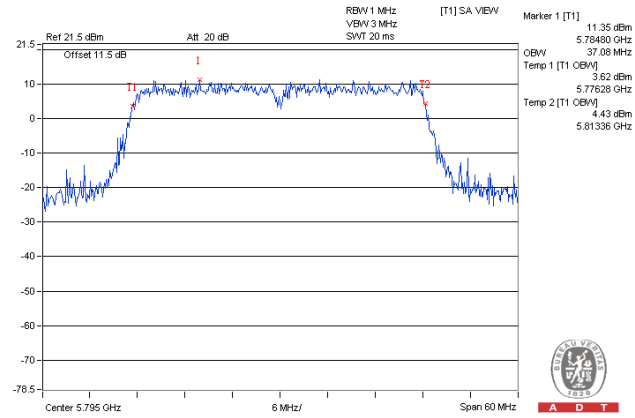
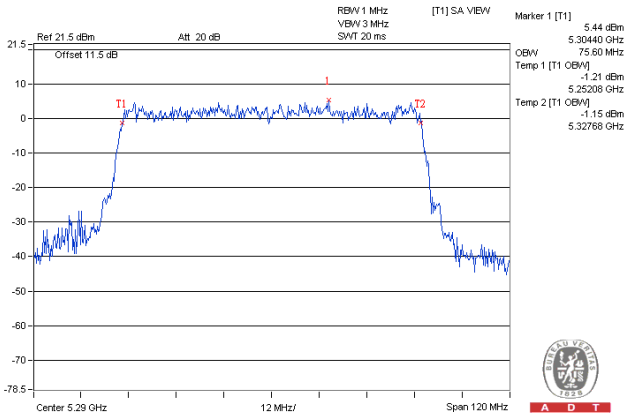
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	18.24	18.00	18.00	18.12
40	5200	18.12	18.12	18.00	18.12
48	5240	18.24	18.12	18.12	18.00
52	5260	18.36	18.12	18.12	18.00
60	5300	18.12	18.12	18.00	18.00
64	5320	18.12	18.12	18.12	18.00
100	5500	18.24	18.24	18.00	18.12
116	5580	18.12	18.24	18.12	18.12
140	5700	18.12	18.12	18.12	18.00
149	5745	18.12	18.12	18.12	18.00
157	5785	18.24	18.24	18.24	18.00
165	5825	18.24	18.24	18.24	18.24

802.11ac (VHT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	36.96	36.72	36.84	36.84
46	5230	36.84	36.72	36.84	36.84
54	5270	36.96	36.84	36.96	36.84
62	5310	36.96	36.72	36.96	36.96
102	5510	36.84	36.72	36.72	36.72
110	5550	36.84	36.72	36.72	36.72
134	5670	36.84	36.60	36.96	36.84
151	5755	36.84	36.72	36.84	36.72
159	5795	36.84	37.08	36.96	36.72

802.11ac (VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	75.36	75.36	75.60	75.36
58	5290	75.60	75.60	75.36	75.60
106	5530	75.60	75.36	75.60	75.60
155	5775	75.60	75.36	75.36	75.60

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

Beamforming Mode

802.11ac (VHT20)

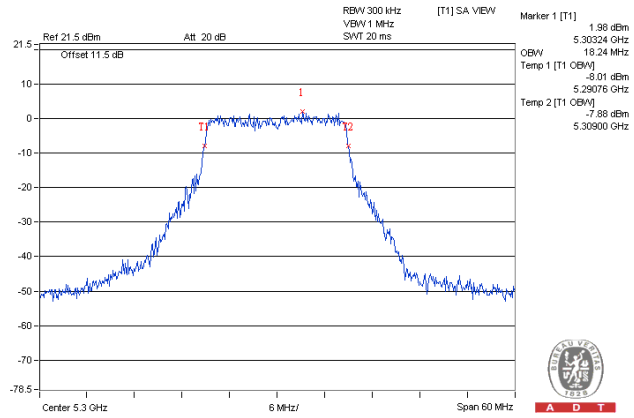
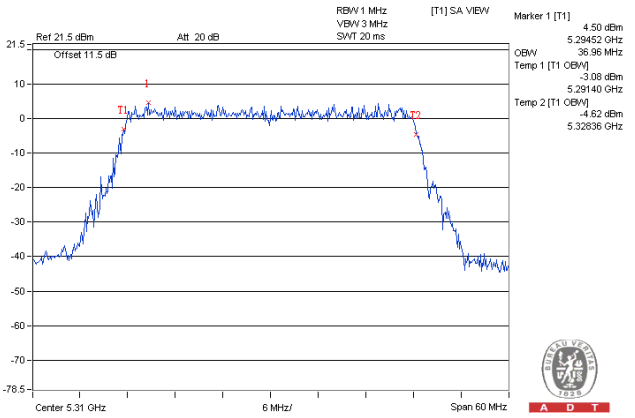
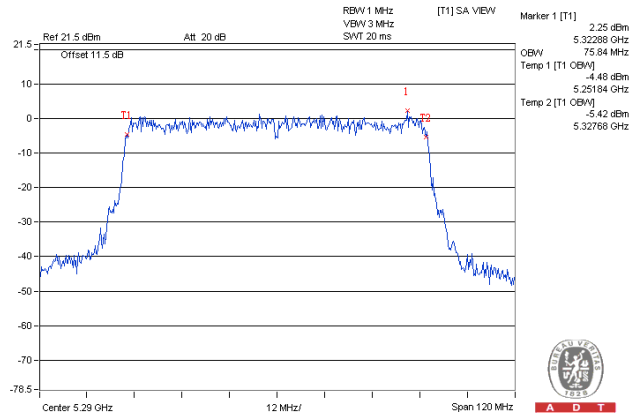
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	18.12	18.00	18.24	18.12
40	5200	18.12	18.24	18.00	18.12
48	5240	18.12	18.12	18.00	18.00
52	5260	18.00	18.24	18.00	18.00
60	5300	18.24	18.24	18.00	18.00
64	5320	18.12	18.12	18.24	18.00
100	5500	18.12	18.12	18.00	18.12
116	5580	18.12	18.00	18.12	18.00
140	5700	18.12	18.00	18.00	18.00
149	5745	18.24	18.00	18.12	18.00
157	5785	18.24	18.24	18.24	18.12
165	5825	18.24	18.24	18.24	18.12

802.11ac (VHT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	36.72	36.72	36.72	36.72
46	5230	36.72	36.72	36.96	36.84
54	5270	36.84	36.72	36.84	36.84
62	5310	36.96	36.72	36.72	36.72
102	5510	36.84	36.84	36.72	36.72
110	5550	36.84	36.84	36.84	36.72
134	5670	36.72	36.84	36.72	36.84
151	5755	36.84	36.72	36.84	36.72
159	5795	36.84	36.84	36.96	36.96

802.11ac (VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5190	75.60	75.60	75.36	75.60
58	5230	75.84	75.60	75.36	75.84
106	5270	75.60	75.60	75.60	75.60
155	5310	75.36	75.12	75.36	75.36

Spectrum Plot of Worst Value	
802.11ac (VHT20)	802.11ac (VHT40)
	
802.11ac (VHT80)	
	

EUT MAXIMUM CONDUCTED POWER

CDD Mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	137.335	21.38
5470~5725	155.660	21.92

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	139.705	21.45
5470~5725	157.473	21.97

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	181.655	22.59
5470~5725	239.067	23.79

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	169.928	22.30
5470~5725	150.562	21.78

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

Beamforming Mode

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	82.117	19.14
5470~5725	90.622	19.57

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	84.255	19.26
5470~5725	77.424	18.89

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	82.347	19.16
5470~5725	75.249	18.77

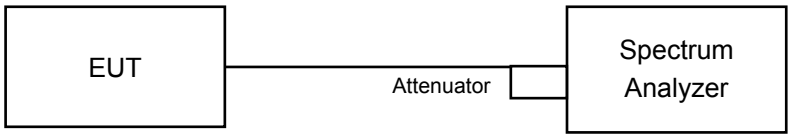
Note: Manufacturer provides Transmit Power Control description to meet this requirement.

4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

For U-NII-1, U-NII-2A, U-NII-2C band:
Using method SA-2
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
3) Set Channel power measure = 1MHz
4) Sweep time = auto, trigger set to “free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Record the max value and add 10 log (1/duty cycle)

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

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as 4.3.6.

4.4.7 Test Results

For U-NII-1, U-NII-2A, U-NII-2C Band:

CDD Mode

802.11a

Chan.	Freq. (MHz)	PSD (dBm)				Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
36	5180	1.56	0.86	0.47	0.59	6.91	0.52	7.43	7.68	Pass
40	5200	1.38	0.73	0.57	0.44	6.81	0.52	7.33	7.68	Pass
48	5240	1.26	0.75	0.57	0.53	6.80	0.52	7.32	7.68	Pass
52	5260	1.46	1.13	0.98	0.80	7.12	0.52	7.64	7.68	Pass
60	5300	1.34	1.01	0.45	0.71	6.91	0.52	7.43	7.68	Pass
64	5320	1.07	0.78	0.62	0.58	6.78	0.52	7.30	7.68	Pass
100	5500	1.18	0.84	0.51	0.54	6.79	0.52	7.31	7.68	Pass
116	5580	1.16	1.28	0.37	0.47	6.86	0.52	7.38	7.68	Pass
140	5700	0.94	0.60	0.53	0.94	6.77	0.52	7.29	7.68	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 11-(9.32-6) = 7.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD (dBm)				Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
36	5180	1.34	0.52	0.61	0.49	6.77	7.68	Pass
40	5200	1.34	0.43	0.64	0.63	6.79	7.68	Pass
48	5240	1.39	0.60	0.59	0.57	6.82	7.68	Pass
52	5260	1.06	1.10	1.54	0.97	7.19	7.68	Pass
60	5300	0.72	0.88	1.28	1.62	7.16	7.68	Pass
64	5320	0.65	0.90	0.57	0.61	6.70	7.68	Pass
100	5500	1.52	1.02	1.00	1.17	7.20	7.68	Pass
116	5580	1.06	1.22	0.75	1.46	7.15	7.68	Pass
140	5700	1.44	0.62	1.46	0.79	7.11	7.68	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 11-(9.32-6) = 7.68dBm.

802.11ac (VHT40)

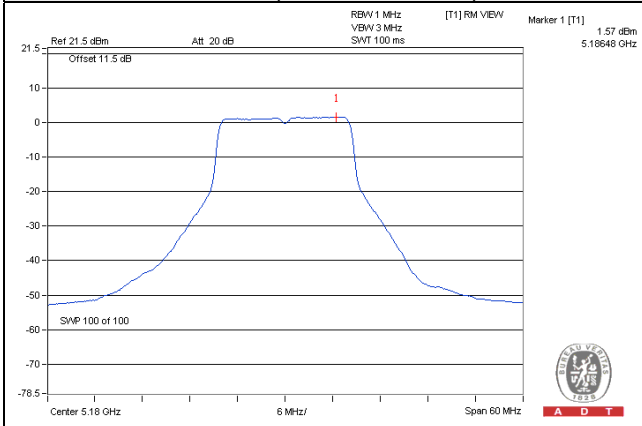
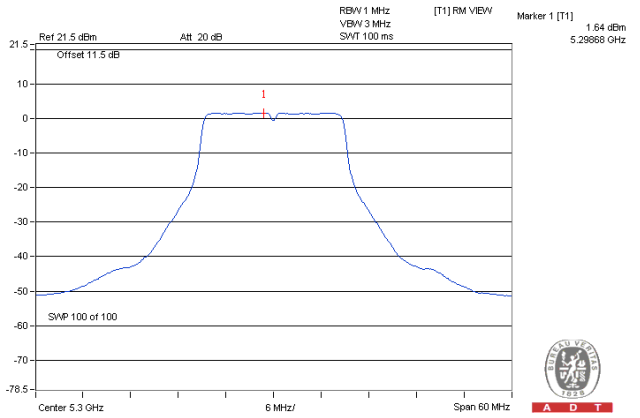
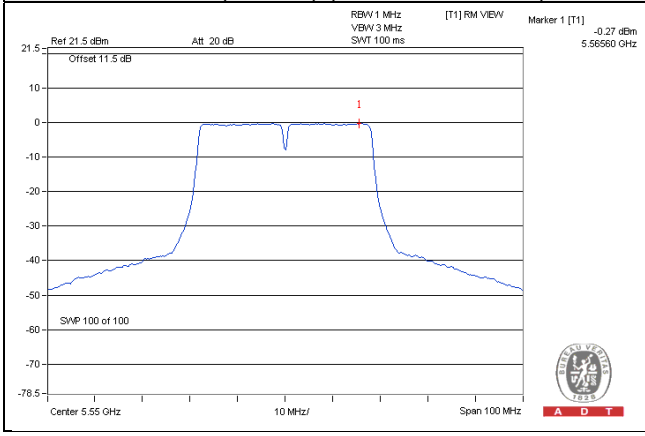
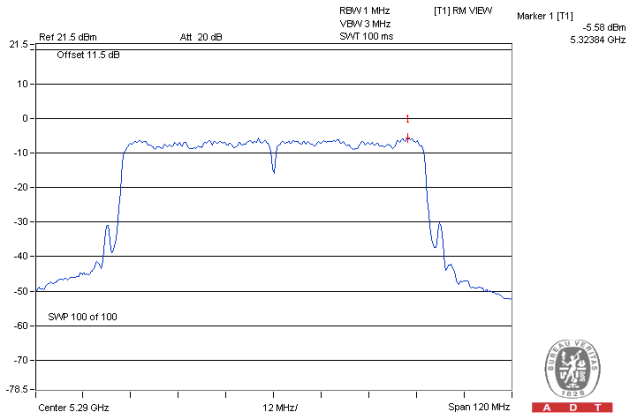
Chan.	Freq. (MHz)	PSD (dBm)				Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
38	5190	-2.10	-1.99	-1.74	-1.37	4.23	0.19	4.42	7.68	Pass
46	5230	-1.06	-1.09	-1.15	-0.33	5.12	0.19	5.31	7.68	Pass
54	5270	-1.29	-0.97	-1.18	-0.65	5.00	0.19	5.19	7.68	Pass
62	5310	-2.27	-2.20	-2.14	-2.22	3.81	0.19	4.00	7.68	Pass
102	5510	-2.66	-2.47	-2.84	-2.64	3.37	0.19	3.56	7.68	Pass
110	5550	-0.57	-0.37	-0.86	-0.28	5.50	0.19	5.69	7.68	Pass
134	5670	-0.68	-0.56	-1.26	-0.73	5.22	0.19	5.41	7.68	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 11-(9.32-6) = 7.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm)				Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
42	5210	-6.66	-6.80	-6.47	-6.28	-0.53	1.82	1.29	7.68	Pass
58	5290	-5.97	-5.75	-5.68	-5.58	0.28	1.82	2.10	7.68	Pass
106	5530	-5.99	-6.19	-6.91	-5.87	-0.20	1.82	1.62	7.68	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 11-(9.32-6) = 7.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a (Chain 0 / CH 36)	802.11ac (VHT20) (Chain 3 / CH 60)
	
802.11ac (VHT40) (Chain 3 / CH 110)	802.11ac (VHT80) (Chain 3 / CH 58)
	

Beamforming Mode

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD (dBm)				Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
36	5180	-2.67	-2.23	-2.65	-2.40	3.54	7.68	Pass
40	5200	-2.43	-2.33	-2.75	-2.46	3.53	7.68	Pass
48	5240	-2.27	-2.19	-2.69	-2.60	3.59	7.68	Pass
52	5260	-2.44	-2.44	-2.65	-2.59	3.49	7.68	Pass
60	5300	-2.56	-2.49	-2.93	-2.88	3.31	7.68	Pass
64	5320	-2.71	-2.66	-2.64	-2.83	3.31	7.68	Pass
100	5500	-2.17	-2.42	-2.31	-2.07	3.78	7.68	Pass
116	5580	-2.43	-2.15	-2.38	-2.34	3.70	7.68	Pass
140	5700	-2.76	-2.29	-2.95	-2.67	3.36	7.68	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 11-(9.32-6) = 7.68dBm.

802.11ac (VHT40)

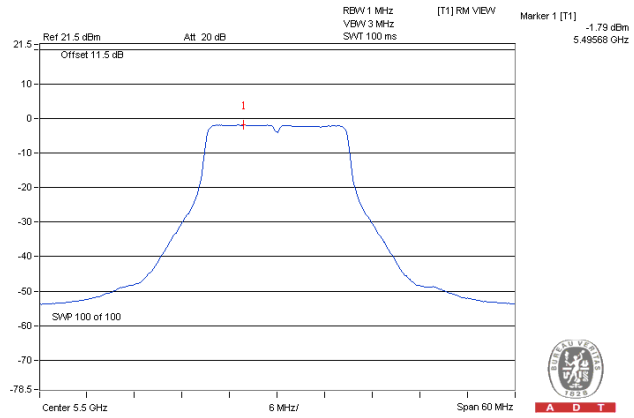
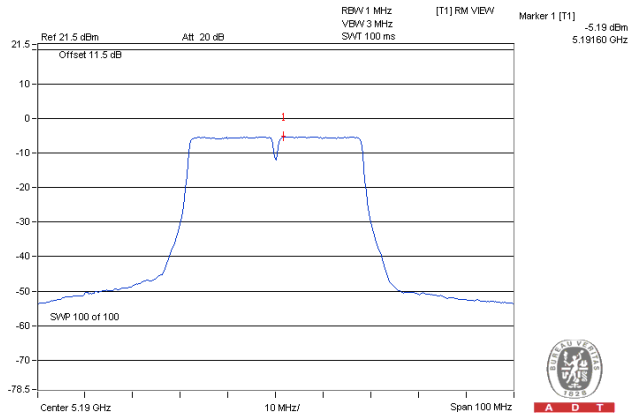
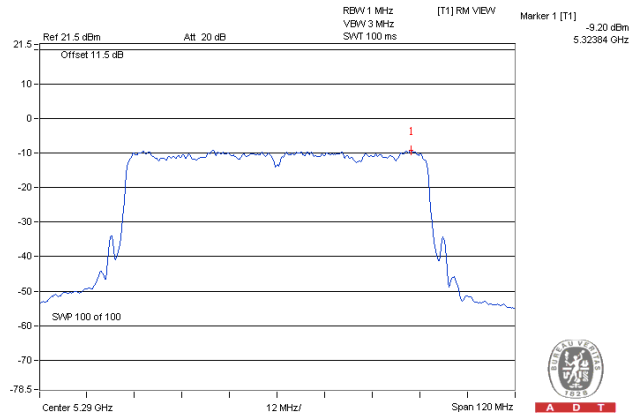
Chan.	Freq. (MHz)	PSD (dBm)				Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
38	5190	-5.52	-5.31	-5.60	-5.31	0.59	0.26	0.85	7.68	Pass
46	5230	-5.92	-5.35	-5.75	-5.93	0.29	0.26	0.55	7.68	Pass
54	5270	-6.01	-5.65	-5.42	-5.75	0.32	0.26	0.58	7.68	Pass
62	5310	-6.09	-5.67	-5.63	-5.90	0.21	0.26	0.47	7.68	Pass
102	5510	-6.71	-6.21	-6.44	-6.01	-0.31	0.26	-0.05	7.68	Pass
110	5550	-6.22	-6.13	-6.55	-6.31	-0.27	0.26	-0.01	7.68	Pass
134	5670	-6.36	-6.14	-6.61	-6.26	-0.31	0.26	-0.05	7.68	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 11-(9.32-6) = 7.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm)				Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
42	5210	-11.07	-10.42	-10.58	-10.32	-4.57	1.85	-2.72	7.68	Pass
58	5290	-9.20	-9.51	-9.55	-9.64	-3.45	1.85	-1.60	7.68	Pass
106	5530	-9.91	-9.66	-10.36	-9.60	-3.85	1.85	-2.00	7.68	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 11-(9.32-6) = 7.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11ac (VHT20) (Chain 3 / CH 100)	802.11ac (VHT40) (Chain 1 / CH 38)
	
802.11ac (VHT80) (Chain 0 / CH 58)	
	

For U-NII-3 Band:

CDD Mode

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	149	5745	-3.64	-1.42	6.02	0.52	5.12	26.68	Pass
	157	5785	-4.27	-2.05	6.02	0.52	4.49	26.68	Pass
	165	5825	-4.48	-2.26	6.02	0.52	4.28	26.68	Pass
1	149	5745	-3.11	-0.89	6.02	0.52	5.65	26.68	Pass
	157	5785	-3.21	-0.99	6.02	0.52	5.55	26.68	Pass
	165	5825	-3.09	-0.87	6.02	0.52	5.67	26.68	Pass
2	149	5745	-3.74	-1.52	6.02	0.52	5.02	26.68	Pass
	157	5785	-3.94	-1.72	6.02	0.52	4.82	26.68	Pass
	165	5825	-4.47	-2.25	6.02	0.52	4.29	26.68	Pass
3	149	5745	-3.73	-1.51	6.02	0.52	5.03	26.68	Pass
	157	5785	-3.96	-1.74	6.02	0.52	4.80	26.68	Pass
	165	5825	-3.85	-1.63	6.02	0.52	4.91	26.68	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 30-(9.32-6) = 26.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	149	5745	-4.58	-2.36	6.02	3.66	26.68	Pass
	157	5785	-4.24	-2.02	6.02	4.00	26.68	Pass
	165	5825	-4.44	-2.22	6.02	3.80	26.68	Pass
1	149	5745	-3.79	-1.57	6.02	4.45	26.68	Pass
	157	5785	-3.28	-1.06	6.02	4.96	26.68	Pass
	165	5825	-3.20	-0.98	6.02	5.04	26.68	Pass
2	149	5745	-4.47	-2.25	6.02	3.77	26.68	Pass
	157	5785	-3.91	-1.69	6.02	4.33	26.68	Pass
	165	5825	-4.07	-1.85	6.02	4.17	26.68	Pass
3	149	5745	-4.06	-1.84	6.02	4.18	26.68	Pass
	157	5785	-3.70	-1.48	6.02	4.54	26.68	Pass
	165	5825	-3.73	-1.51	6.02	4.51	26.68	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 30-(9.32-6) = 26.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	151	5755	-9.55	-7.33	6.02	0.19	-1.12	26.68	Pass
	159	5795	-7.14	-4.92	6.02	0.19	1.29	26.68	Pass
1	151	5755	-9.26	-7.04	6.02	0.19	-0.83	26.68	Pass
	159	5795	-6.49	-4.27	6.02	0.19	1.94	26.68	Pass
2	151	5755	-10.05	-7.83	6.02	0.19	-1.62	26.68	Pass
	159	5795	-7.61	-5.39	6.02	0.19	0.82	26.68	Pass
3	151	5755	-9.74	-7.52	6.02	0.19	-1.31	26.68	Pass
	159	5795	-7.13	-4.91	6.02	0.19	1.30	26.68	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 30-(9.32-6) = 26.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

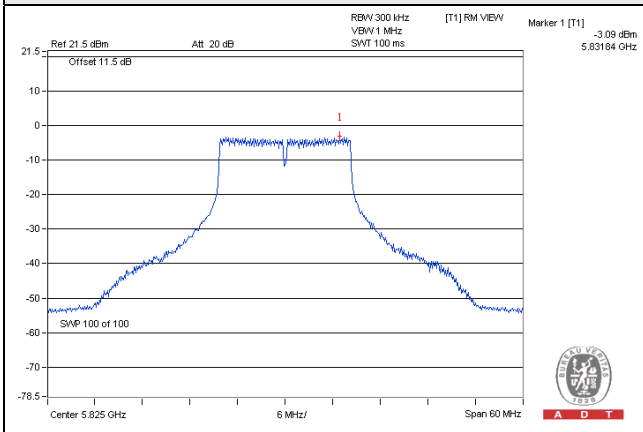
TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	155	5775	-13.45	-11.23	6.02	1.82	-3.39	26.68	Pass
1	155	5775	-13.53	-11.31	6.02	1.82	-3.47	26.68	Pass
2	155	5775	-14.32	-12.10	6.02	1.82	-4.26	26.68	Pass
3	155	5775	-13.81	-11.59	6.02	1.82	-3.75	26.68	Pass

Note:

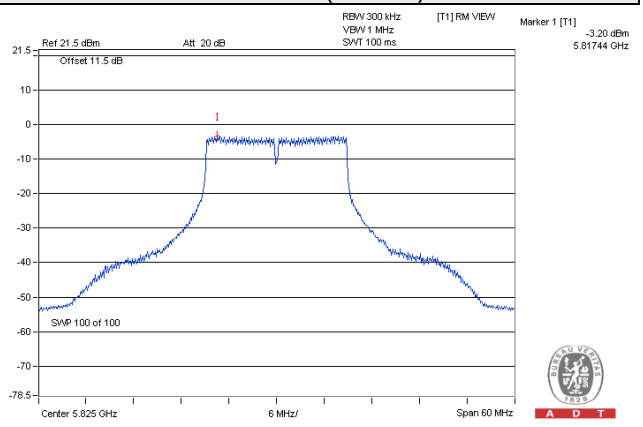
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2/N] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 30-(9.32-6) = 26.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

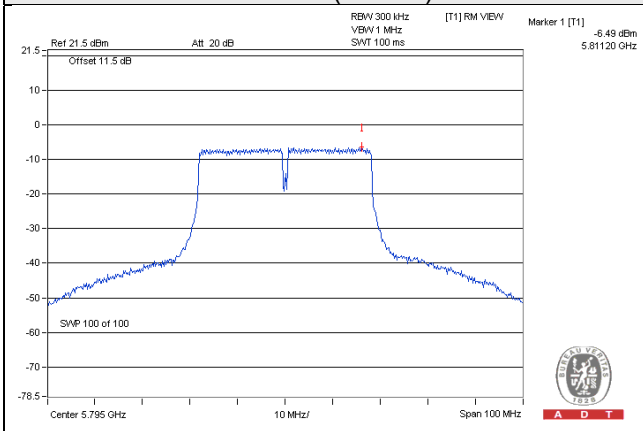
802.11a



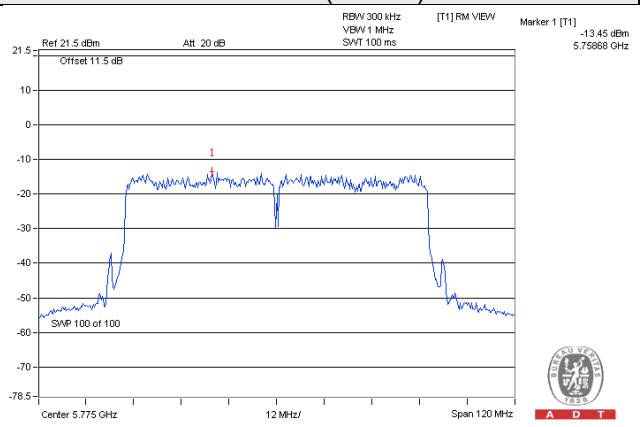
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



Beamforming Mode

802.11ac (VHT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	149	5745	-7.43	-5.21	6.02	0.81	26.68	Pass
	157	5785	-4.28	-2.06	6.02	3.96	26.68	Pass
	165	5825	-5.24	-3.02	6.02	3.00	26.68	Pass
1	149	5745	-7.26	-5.04	6.02	0.98	26.68	Pass
	157	5785	-3.54	-1.32	6.02	4.70	26.68	Pass
	165	5825	-4.29	-2.07	6.02	3.95	26.68	Pass
2	149	5745	-7.66	-5.44	6.02	0.58	26.68	Pass
	157	5785	-3.93	-1.71	6.02	4.31	26.68	Pass
	165	5825	-5.17	-2.95	6.02	3.07	26.68	Pass
3	149	5745	-7.36	-5.14	6.02	0.88	26.68	Pass
	157	5785	-3.67	-1.45	6.02	4.57	26.68	Pass
	165	5825	-4.51	-2.29	6.02	3.73	26.68	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 30-(9.32-6) = 26.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	151	5755	-12.90	-10.68	6.02	0.26	-4.40	26.68	Pass
	159	5795	-7.24	-5.02	6.02	0.26	1.26	26.68	Pass
1	151	5755	-12.08	-9.86	6.02	0.26	-3.58	26.68	Pass
	159	5795	-6.70	-4.48	6.02	0.26	1.80	26.68	Pass
2	151	5755	-13.14	-10.92	6.02	0.26	-4.64	26.68	Pass
	159	5795	-7.41	-5.19	6.02	0.26	1.09	26.68	Pass
3	151	5755	-12.80	-10.58	6.02	0.26	-4.30	26.68	Pass
	159	5795	-6.93	-4.71	6.02	0.26	1.57	26.68	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 30-(9.32-6) = 26.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

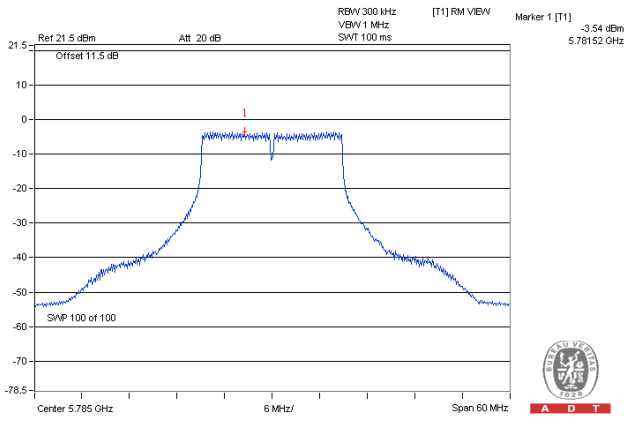
TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	155	5775	-15.71	-13.49	6.02	1.85	-5.62	26.68	Pass
1	155	5775	-15.78	-13.56	6.02	1.85	-5.69	26.68	Pass
2	155	5775	-15.97	-13.75	6.02	1.85	-5.88	26.68	Pass
3	155	5775	-16.39	-14.17	6.02	1.85	-6.30	26.68	Pass

Note:

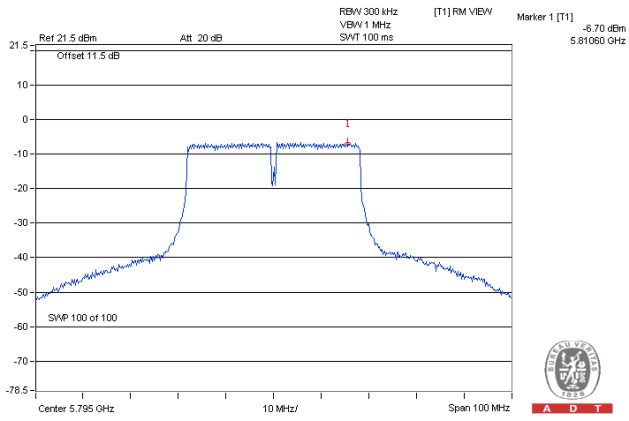
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2/N] = 9.32dBi > 6dBi, therefore the limit shall be reduced to 30-(9.32-6) = 26.68dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

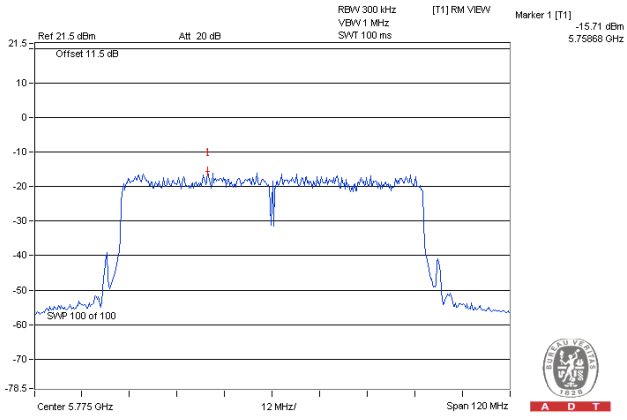
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80) (Chain 1 / CH 155)

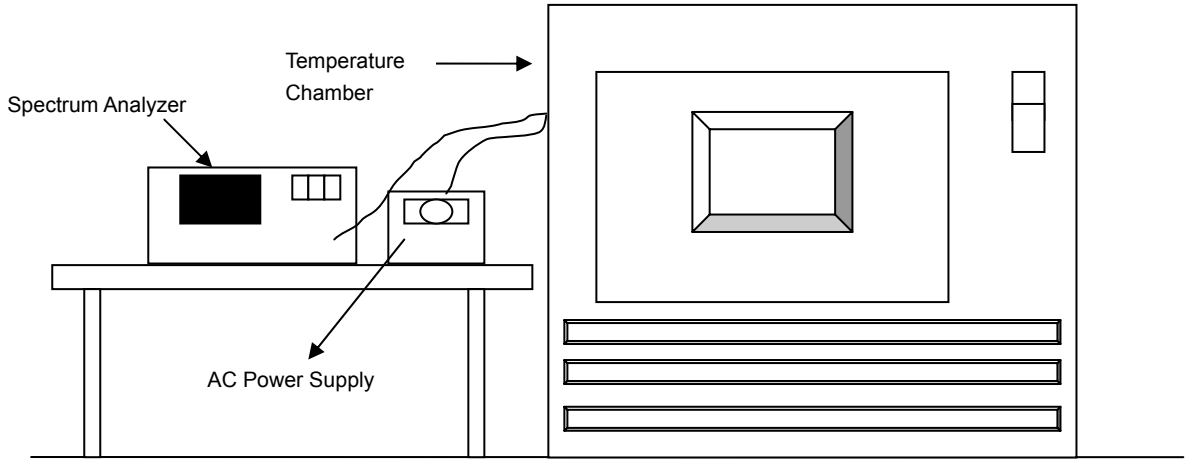


4.5 Frequency Stability

4.5.1 Limits of Frequency Stability Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
b. Turn the EUT on and couple its output to a spectrum analyzer.
c. Turn the EUT off and set the chamber to the highest temperature specified.
d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5180.0202	0.00039	5180.0187	0.00036	5180.0198	0.00038	5180.0196	0.00038
40	120	5180.0095	0.00018	5180.0093	0.00018	5180.009	0.00017	5180.0126	0.00024
30	120	5179.9917	-0.00016	5179.9926	-0.00014	5179.9938	-0.00012	5179.9948	-0.00010
20	120	5180.0184	0.00036	5180.0202	0.00039	5180.0197	0.00038	5180.0192	0.00037
10	120	5180.0027	0.00005	5180.0056	0.00011	5180.0015	0.00003	5180.0034	0.00007
0	120	5179.9881	-0.00023	5179.9843	-0.00030	5179.9866	-0.00026	5179.9867	-0.00026
-10	120	5180.012	0.00023	5180.011	0.00021	5180.0098	0.00019	5180.0112	0.00022
-20	120	5179.9966	-0.00007	5179.9987	-0.00003	5180.0007	0.00001	5179.9977	-0.00004
-30	120	5180.0213	0.00041	5180.0236	0.00046	5180.0212	0.00041	5180.0236	0.00046

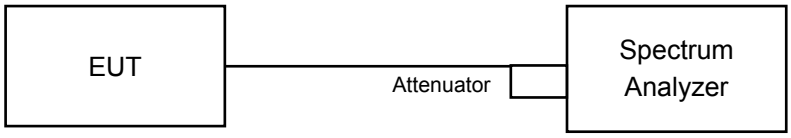
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5180.019	0.00037	5180.02	0.00039	5180.0205	0.00040	5180.0189	0.00036
	120	5180.0184	0.00036	5180.0202	0.00039	5180.0197	0.00038	5180.0192	0.00037
	102	5180.0176	0.00034	5180.0203	0.00039	5180.0204	0.00039	5180.0192	0.00037

4.6 6dB Bandwidth Measurement

4.6.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

Measurement Procedure REF

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	16.43	16.44	16.43	16.43	0.5	Pass
157	5785	16.44	16.45	16.44	16.45	0.5	Pass
165	5825	16.44	16.44	16.45	16.43	0.5	Pass

802.11ac (VHT20)

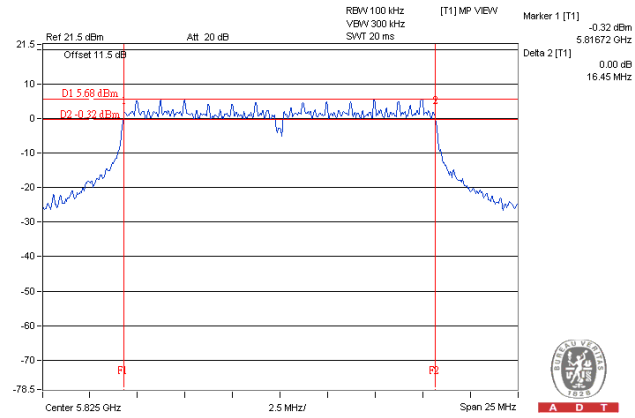
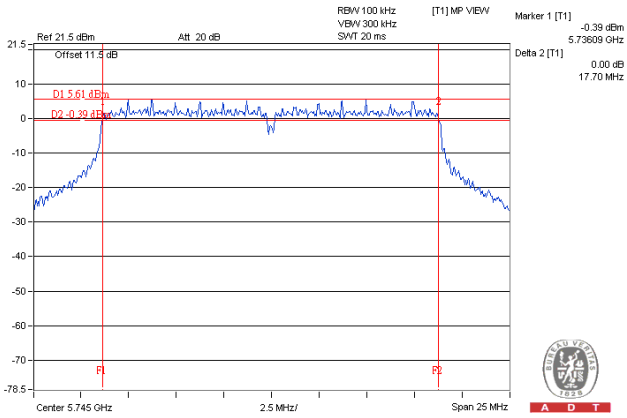
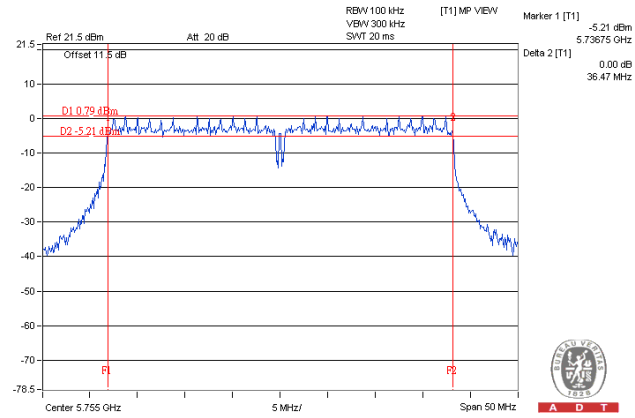
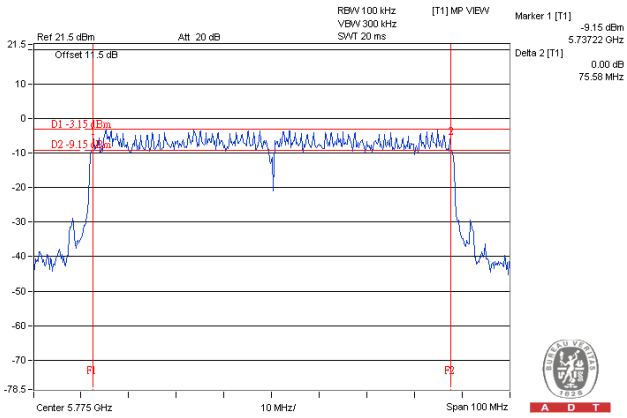
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	17.66	17.70	17.66	17.70	0.5	Pass
157	5785	17.65	17.67	17.66	17.66	0.5	Pass
165	5825	17.67	17.66	17.67	17.66	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	36.47	36.45	36.47	36.46	0.5	Pass
159	5795	36.41	36.42	36.42	36.45	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	75.58	75.50	75.53	75.49	0.5	Pass

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

Beamforming Mode

802.11ac (VHT20)

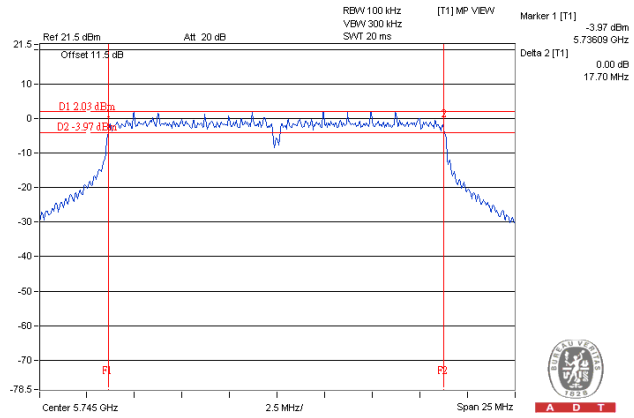
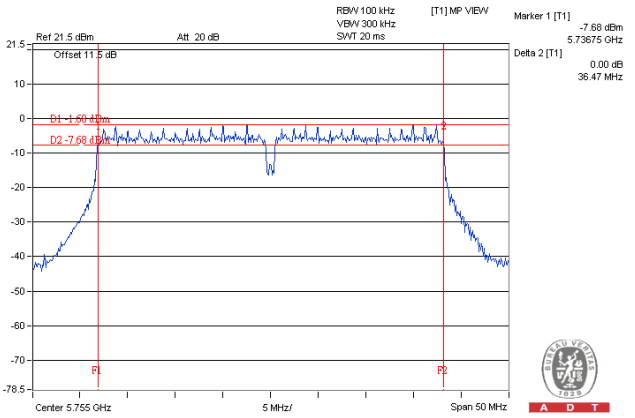
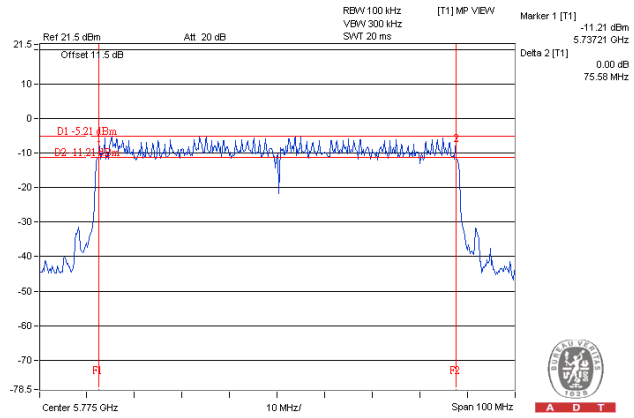
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	17.65	17.70	17.67	17.67	0.5	Pass
157	5785	17.65	17.67	17.66	17.68	0.5	Pass
165	5825	17.67	17.67	17.68	17.67	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	36.44	36.47	36.46	36.42	0.5	Pass
159	5795	36.43	36.42	36.42	36.47	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	75.58	75.49	75.54	75.51	0.5	Pass

Spectrum Plot of Worst Value	
802.11ac (VHT20)	802.11ac (VHT40)
	
802.11ac (VHT80)	
	

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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