

FCC Test Report

Report No.: RF150624E06H-1

FCC ID: PY315300320

Test Model: WAC720

Received Date: Apr. 13, 2016

Test Date: May 11 to 14, 2016

Issued Date: May 27, 2016

Applicant: NETGEAR, Inc.

Address: 350 East Plumeria Drive San Jose, CA 95134

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

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan R.O.C.

Test Location (1): E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan R.O.C.

Test Location (2): No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin
Chu Hsien 307, Taiwan R.O.C.



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty.....	6
2.2 Modification Record.....	6
3 General Information	7
3.1 General Description of EUT.....	7
3.2 Description of Test Modes.....	10
3.2.1 Test Mode Applicability and Tested Channel Detail.....	11
3.3 Duty Cycle of Test Signal.....	13
3.4 Description of Support Units.....	14
3.4.1 Configuration of System under Test.....	15
3.5 General Description of Applied Standard.....	16
4 Test Types and Results	17
4.1 Radiated Emission and Bandedge Measurement.....	17
4.1.1 Limits of Radiated Emission and Bandedge Measurement.....	17
4.1.2 Test Instruments.....	19
4.1.3 Test Procedure.....	20
4.1.4 Deviation from Test Standard.....	20
4.1.5 Test Setup.....	21
4.1.6 EUT Operating Condition.....	21
4.1.7 Test Results (Mode 1).....	22
4.1.8 Test Results (Mode 2).....	32
4.2 Transmit Power Measurement.....	41
4.2.1 Limits of Transmit Power Measurement.....	41
4.2.2 Test Setup.....	41
4.2.3 Test Instruments.....	41
4.2.4 Test Procedure.....	41
4.2.5 Deviation from Test Standard.....	41
4.2.6 EUT Operating Condition.....	42
4.2.7 Test Result.....	42
4.3 Peak Power Spectral Density Measurement.....	44
4.3.1 Limits of Peak Power Spectral Density Measurement.....	44
4.3.2 Test Setup.....	44
4.3.3 Test Instruments.....	44
4.3.4 Test Procedure.....	44
4.3.5 Deviation from Test Standard.....	44
4.3.6 EUT Operating Condition.....	44
4.3.7 Test Results.....	45
4.4 Frequency Stability Measurement.....	48
4.4.1 Limits of Frequency Stability Measurement.....	48
4.4.2 Test Setup.....	48
4.4.3 Test Instruments.....	48
4.4.4 Test Procedure.....	48
4.4.5 Deviation from Test Standard.....	48
4.4.6 EUT Operating Condition.....	48
4.4.7 Test Results.....	49
4.5 6dB Bandwidth Measurement.....	50
4.5.1 Limits of 6dB Bandwidth Measurement.....	50
4.5.2 Test Setup.....	50
4.5.3 Test Instruments.....	50
4.5.4 Test Procedure.....	50



4.5.5 Deviation from Test Standard	50
4.5.6 EUT Operating Condition	50
4.5.7 Test Results	51
5 Pictures of Test Arrangements	53
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)	54
Appendix – Information on the Testing Laboratories	60



Release Control Record

Issue No.	Description	Date Issued
RF150624E06H-1	Original release.	May 27, 2016



1 Certificate of Conformity

Product: ProSAFE Dual Band Wireless AC Access Point
Brand: NETGEAR
Test Model: WAC720
Sample Status: MASS-PRODUCTION
Applicant: NETGEAR, Inc.
Test Date: May 11 to 14, 2016
Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10: 2013

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

Prepared by : Wendy Wu. , **Date:** May 27, 2016
Wendy Wu / Specialist

Approved by : May Chen , **Date:** May 27, 2016
May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (SECTION 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -0.10dB at 5990.00MHz, 5585.50MHz, 5985.80MHz and 5600.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is R-SMA and i-pex(MHF) not a standard connector.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.

NOTE: 1. This report is prepared for FCC Class II change. (Upgrade the standard to section 15.407 under new rule (16-24) for U-NII-3 band)

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.19 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.40 dB
	6GHz ~ 18GHz	3.49 dB
	18GHz ~ 40GHz	4.11 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	ProSAFE Dual Band Wireless AC Access Point
Brand	NETGEAR
Test Model	WAC720
Status of EUT	MASS-PRODUCTION
Power Supply Rating	12Vdc from power adapter or 55Vdc from POE
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11g/a: up to 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	For 15.407 5.18 ~ 5.24GHz, 5.745 ~ 5.825GHz For 15.247 2.412 ~ 2.462GHz
Number of Channel	For 15.407 9 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 4 for 802.11n (HT40), 802.11ac (VHT40) 2 for 802.11ac (VHT80) For 15.247 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	For 15.407 5.18 ~ 5.24GHz: CDD Mode: 70.602mW Beamforming Mode: 41.183mW 5.745 ~ 5.825GHz: CDD Mode: 308.36mW Beamforming Mode: 308.695mW For 15.247 CDD Mode: 354.601mW Beamforming Mode: 355.643mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	NA

Note:

1. This report is prepared for FCC Class II change. The difference compared with the Report No.: RF150624E06-1 is as the following:
 - ◆ Upgrade the standard to section 15.407 under new rule (16-24) for U-NII-3 band.
2. According to above conditions, all test items need to be performed, except for AC power conducted emission test item. And all data was verified to meet the requirements.
3. 2.4GHz and 5GHz technology can transmit at same time.
4. The antennas provided to the EUT, please refer to the following table:

External Antenna									
PCB Chain No.	Brand	Model	Antenna Gain (dBi) (Excelude cable loss)	Cable Loss (dB)	Net Gain (dBi)	Cable Length (mm)	Frequency range (GHz to GHz)	Antenna Type	Connector Type
Chain (0) (Left)	Master Wave Tech.	98364PRSX004	0.8	0.8	0	180	2.4~2.4835	Dipole	R-SMA
			1.5	1.5	0		5.15~5.25		
			1.6	1.5	0.1		5.25~5.35		
			0.7	1.5	-0.8		5.47~5.725		
			0.5	1.5	-1		5.725~5.85		
Chain (1) (Right)	Master Wave Tech.	98364PRSX004	0.8	0.9	-0.1	190	2.4~2.4835	Dipole	R-SMA
			1.5	1.7	-0.2		5.15~5.25		
			1.6	1.7	-0.1		5.25~5.35		
			0.7	1.7	-1		5.47~5.725		
			0.5	1.7	-1.2		5.725~5.85		
Internal Antenna									
PCB Chain No.	Brand	Model	Antenna Gain (dBi)		Frequency range (GHz to GHz)		Antenna Type	Connector Type	
Chain (0)	NA	NA	5		2.4~2.4835		PIFA	i-pex(MHF)	
			6		5.15~5.25				
			6		5.25~5.35				
			6		5.47~5.725				
			6		5.725~5.85				
Chain (2)	NA	NA	5		2.4~2.4835		PIFA	i-pex(MHF)	
			6		5.15~5.25				
			6		5.25~5.35				
			6		5.47~5.725				
			6		5.725~5.85				

5. The EUT need to be supplied from a POE or a power adapter and following two different models could be chosen as following table:

Adapter				
No	Brand Name	Model No.	P/N	Spec.
1	NETGEAR	2ABL030F 1	332-10758-01	Input: 100-120V, 1.0A, 50/60Hz Output: 12V, 2.5A DC output cable: 1.8m, unshielded
2	NETGEAR	ADS-40FPA-12	332-10759-01	Input: 100-120V, 1.0A, 60Hz Output: 12V, 2.5A DC output cable: 1.8m, unshielded
POE (test only, not for sale)				
No	Brand Name	Model No.	Spec.	
1	Microsemi Corp.	PD-9001GR/AC	Input: 100-240V, 0.8A, 50/60Hz Output: 55V, 0.6A	

Note: From the above adapters & POE, the radiated emission worse case was found in adapter 2. Therefore only the test data of the mode was recorded in this report.

6. The EUT incorporates a MIMO function with beamforming. (Except for 802.11a/b/g).

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

Note: The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

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

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

3.2 Description of Test Modes

FOR 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To			Description
	RE \geq 1G	RE<1G	APCM	
1	√	√	√	With adapter 2 + Internal antenna
2	√	-	-	With adapter 2 + External antenna

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

NOTE:

1. In original report, the EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on **X-plane (below 1GHz) & Y-plane (above 1GHz)**.
2. "-" means no effect.

Radiated Emission Test (Above 1GHz):

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

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

Radiated Emission Test (Below 1GHz):

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

CDD MODE						
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11ac (VHT20)	5745-5825	149 to 165	157	OFDM	BPSK	6.5

Antenna Port Conducted Measurement:

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

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

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE\geq1G	29deg. C, 76%RH	120Vac, 60Hz	Gary Cheng
RE$<$1G	23deg. C, 67%RH	120Vac, 60Hz	Andy Ho
APCM	23deg. C, 66%RH	120Vac, 60Hz	Anderson Chen

3.3 Duty Cycle of Test Signal

If duty cycle of test signal is $\geq 98\%$, duty factor is not required.

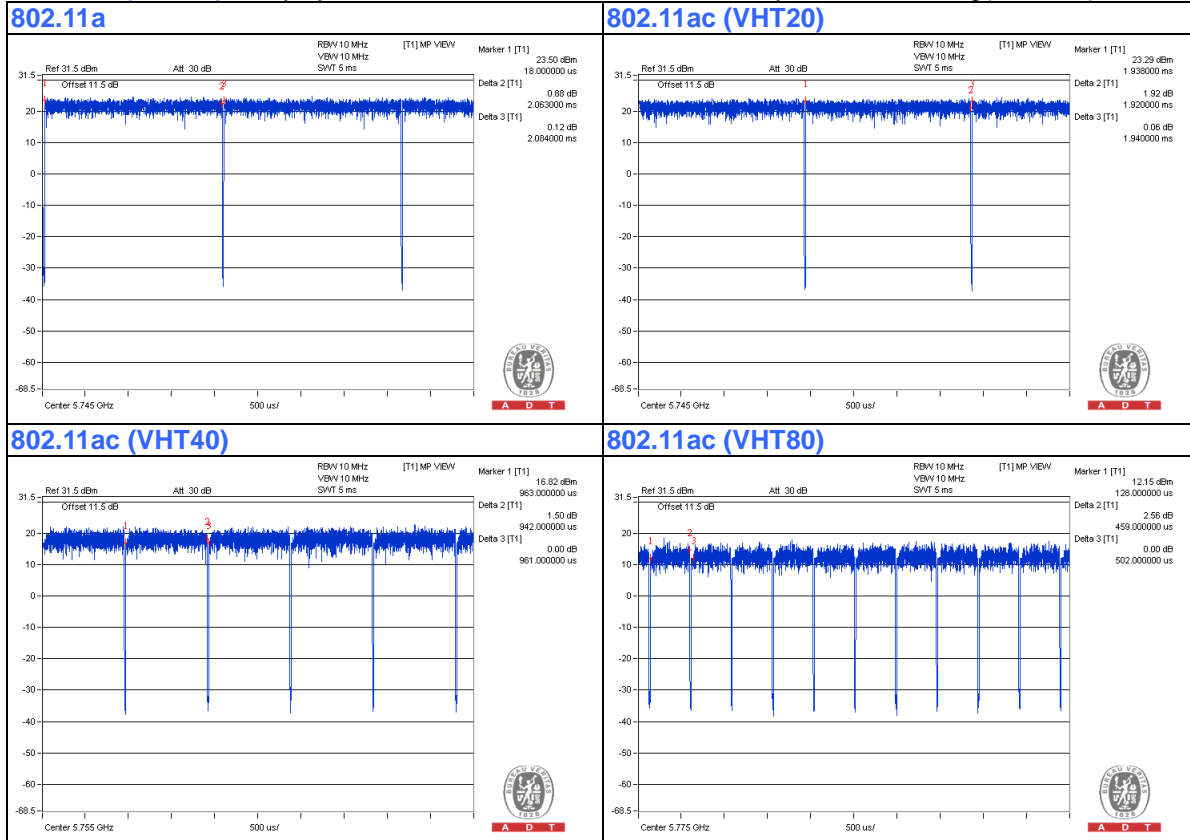
If duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11a: Duty cycle = $2.063 \text{ ms} / 2.084 \text{ ms} = 0.99$

802.11ac (VHT20): Duty cycle = $1.92 \text{ ms} / 1.94 \text{ ms} = 0.99$

802.11ac (VHT40): Duty cycle = $0.942 \text{ ms} / 0.961 \text{ ms} = 0.98$

802.11ac (VHT80): Duty cycle = $0.459 \text{ ms} / 0.502 \text{ ms} = 0.914$, Duty factor = $10 * \log(1/0.914) = 0.39$



3.4 Description of Support Units

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

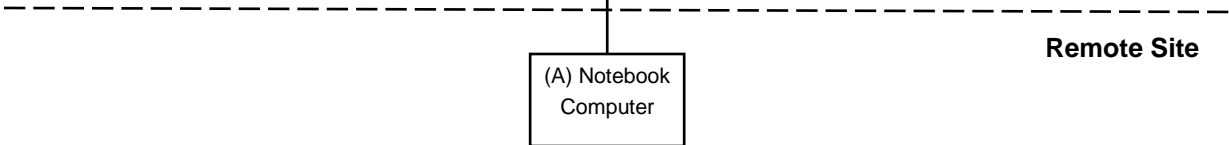
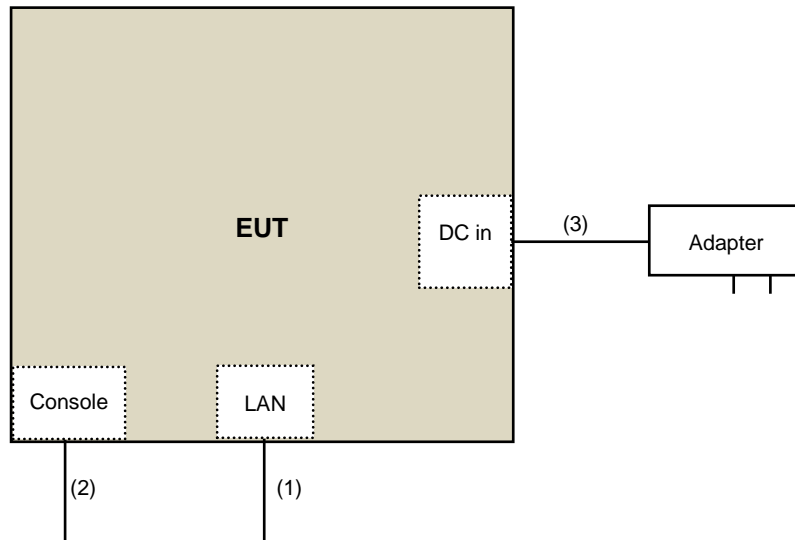
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook Computer	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 cable	1	10	No	0	Provided by Lab
2.	Console cable	1	1.6	No	0	Provided by Lab
3.	DC cable	1	1.8	No	0	Supplied by Client

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard

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

FCC Part 15, Subpart E (15.407)

KDB 789033 D02 General UNII Test Procedure New Rules v01r02

KDB 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:

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

Limits OF UNWANTED EMISSION OUT OF THE RESTRICTED Bands

Applicable To	Limit	
789033 D02 General UNII Test Procedure New Rules 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)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2(dBµV/m) ^{*1} PK:105.2 (dBµV/m) ^{*2} PK: 110.8(dBµV/m) ^{*3} PK:122.2 (dBµV/m) ^{*4}
15.407(b)(4)(ii)	FIELD STRENGTH at 3m / § 15.247(d),	
	PK:74 (dBµV/m)	AV:54 (dBµV/m)
^{*1} beyond 75 MHz or more above of the band edge.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

NOTE:

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

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



4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY54450088	July 24, 2015	July 23, 2016
Pre-Amplifier ^(*) EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna ^(*) Electro-Metrics	EM-6879	264	Dec. 16, 2014	Dec. 15, 2016
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 18, 2016	Jan. 17, 2017
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Nov. 11, 2015	Nov. 10, 2016
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Jan. 04, 2016	Jan. 03, 2017
RF Cable	8D	966-4-1 966-4-2 966-4-3	Apr. 02, 2016	Apr. 01, 2017
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Jan. 19, 2016	Jan. 18, 2017
Pre-Amplifier Agilent	8449B	3008A01922	Sep. 19, 2015	Sep. 18, 2016
RF Cable	EMC104-SM-SM-2000 EMC104-SM-SM-5000 EMC104-SM-SM-5000	150318 150323 150324	Mar. 30, 2016	Mar. 29, 2017
Pre-Amplifier EMCI	EMC184045	980143	Jan. 15, 2016	Jan. 14, 2017
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Jan. 08, 2016	Jan. 07, 2017
RF Cable	SUCOFLEX 102	36432/2 36441/2	Jan. 16, 2016	Jan. 15, 2017
Software	ADT_Radiated_V8.7.07	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208410	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP02	NA	NA
Spectrum Analyzer R&S	FSP40	100036	Jan. 27, 2016	Jan. 26, 2017
Power meter Anritsu	ML2495A	0824006	May 25, 2015	May 24, 2016
Power sensor Anritsu	MA2411B	0738172	May 25, 2015	May 24, 2016
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40-SP-AR	MAA0812-008	Jan. 15, 2016	Jan. 14, 2017

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. 4.
4. The FCC Site Registration No. is 292998
5. The CANADA Site Registration No. is 20331-2
6. Tested Date: May 11 to 14, 2016

4.1.3 Test Procedure

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

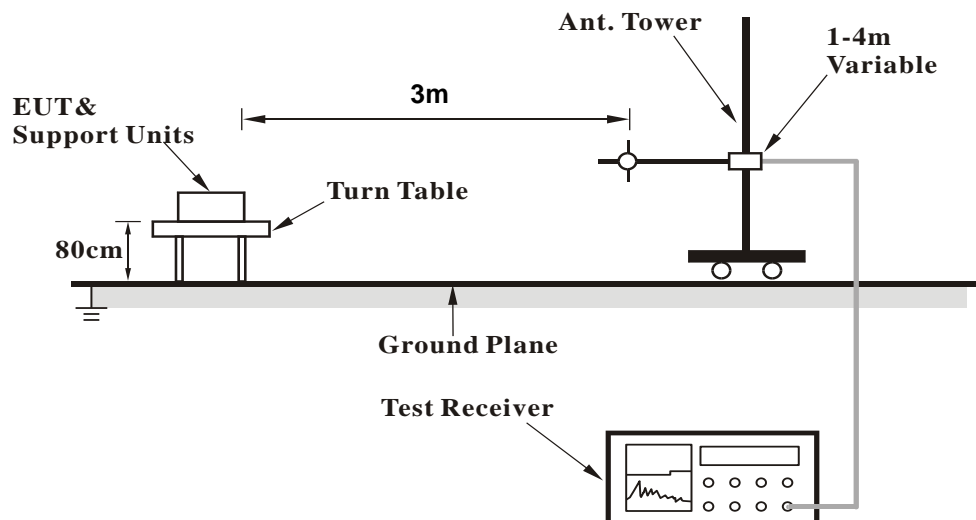
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

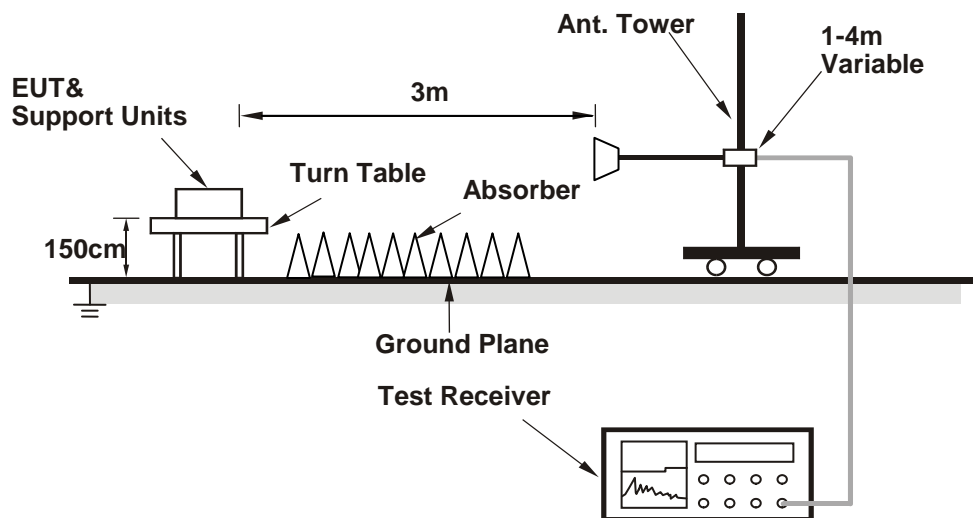
No deviation.

4.1.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Condition

1. Connect the EUT with the support unit A (Notebook Computer) which is placed on remote site.
2. Controlling software (Mtool.exe V1.0.0.10) has been activated to set the EUT on specific status.

4.1.7 Test Results (Mode 1)
Above 1GHz Data:
802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5586.10	66.12 PK	68.20	-2.08	2.42 H	14	63.60	2.52
2	*5745.00	115.80 PK			2.42 H	14	112.98	2.82
3	*5745.00	105.30 AV			2.42 H	14	102.48	2.82
4	#5986.52	61.33 PK	68.20	-6.87	2.42 H	14	58.03	3.30
5	11490.00	55.80 PK	74.00	-18.20	1.48 H	345	42.34	13.46
6	11490.00	40.70 AV	54.00	-13.30	1.48 H	345	27.24	13.46
7	#17235.00	55.10 PK	74.00	-18.90	1.34 H	259	36.65	18.45
8	#17235.00	39.50 AV	54.00	-14.50	1.34 H	259	21.05	18.45

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5586.50	66.40 PK	68.20	-1.80	1.50 V	360	63.88	2.52
2	#5659.73	66.98 PK	75.43	-8.45	1.50 V	360	64.33	2.65
3	*5745.00	119.10 PK			1.50 V	4	116.28	2.82
4	*5745.00	108.50 AV			1.50 V	4	105.68	2.82
5	#5910.52	64.18 PK	78.88	-14.70	1.50 V	360	61.18	3.00
6	11490.00	58.10 PK	74.00	-15.90	1.53 V	70	44.64	13.46
7	11490.00	42.40 AV	54.00	-11.60	1.53 V	70	28.94	13.46
8	#17235.00	54.70 PK	74.00	-19.30	1.39 V	181	36.25	18.45
9	#17235.00	40.30 AV	54.00	-13.70	1.39 V	181	21.85	18.45

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5626.00	64.45 PK	68.20	-3.75	2.38 H	14	61.86	2.59
2	*5785.00	115.20 PK			2.38 H	14	112.31	2.89
3	*5785.00	104.70 AV			2.38 H	14	101.81	2.89
4	#5945.68	63.63 PK	68.20	-4.57	2.38 H	14	60.50	3.13
5	11570.00	55.20 PK	74.00	-18.80	1.51 H	337	41.96	13.24
6	11570.00	40.20 AV	54.00	-13.80	1.51 H	337	26.96	13.24
7	#17355.00	55.30 PK	74.00	-18.70	1.35 H	247	36.20	19.10
8	#17355.00	39.50 AV	54.00	-14.50	1.35 H	247	20.40	19.10

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	#5626.20	66.50 PK	68.20	-1.70	1.86 V	360	63.91	2.59
2	#5661.15	62.43 PK	76.48	-14.05	1.50 V	360	59.77	2.66
3	*5785.00	118.40 PK			1.50 V	360	115.51	2.89
4	*5785.00	108.40 AV			1.50 V	360	105.51	2.89
5	#5909.57	62.07 PK	79.58	-17.51	1.50 V	360	59.08	2.99
6	#5946.50	68.10 PK	68.20	-0.10	1.70 V	9	64.96	3.14
7	11570.00	57.80 PK	74.00	-16.20	1.50 V	59	44.56	13.24
8	11570.00	42.30 AV	54.00	-11.70	1.50 V	59	29.06	13.24
9	#17355.00	55.10 PK	74.00	-18.90	1.39 V	184	36.00	19.10
10	#17355.00	40.50 AV	54.00	-13.50	1.39 V	184	21.40	19.10

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5591.80	61.30 PK	68.20	-6.90	2.37 H	27	58.78	2.52
2	*5825.00	115.50 PK			2.37 H	27	112.56	2.94
3	*5825.00	104.90 AV			2.37 H	27	101.96	2.94
4	#5986.52	63.73 PK	68.20	-4.47	2.37 H	27	60.43	3.30
5	11650.00	55.50 PK	74.00	-18.50	1.43 H	349	42.29	13.21
6	11650.00	40.30 AV	54.00	-13.70	1.43 H	349	27.09	13.21
7	#17475.00	55.10 PK	74.00	-18.90	1.40 H	255	35.67	19.43
8	#17475.00	39.70 AV	54.00	-14.30	1.40 H	255	20.27	19.43

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	#5660.20	66.00 PK	75.77	-9.77	1.50 V	360	63.35	2.65
2	*5825.00	118.10 PK			1.50 V	360	115.16	2.94
3	*5825.00	108.00 AV			1.50 V	360	105.06	2.94
4	#5910.52	67.90 PK	78.88	-10.98	1.50 V	360	64.90	3.00
5	#5987.10	68.00 PK	68.20	-0.20	1.50 V	5	64.70	3.30
6	11650.00	57.90 PK	74.00	-16.10	1.56 V	75	44.69	13.21
7	11650.00	42.20 AV	54.00	-11.80	1.56 V	75	28.99	13.21
8	#17475.00	55.30 PK	74.00	-18.70	1.40 V	181	35.87	19.43
9	#17475.00	40.60 AV	54.00	-13.40	1.40 V	181	21.17	19.43

REMARKS:

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

802.11ac (VHT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5593.23	63.99 PK	68.20	-4.21	2.37 H	7	61.47	2.52
2	*5745.00	116.40 PK			2.37 H	7	113.58	2.82
3	*5745.00	105.70 AV			2.37 H	7	102.88	2.82
4	#5977.98	60.42 PK	68.20	-7.78	2.37 H	7	57.16	3.26
5	11490.00	56.20 PK	74.00	-17.80	1.46 H	330	42.74	13.46
6	11490.00	41.10 AV	54.00	-12.90	1.46 H	330	27.64	13.46
7	#17235.00	55.50 PK	74.00	-18.50	1.36 H	256	37.05	18.45
8	#17235.00	40.00 AV	54.00	-14.00	1.36 H	256	21.55	18.45

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5583.20	66.40 PK	68.20	-1.80	1.50 V	360	63.90	2.50
2	#5663.52	68.76 PK	78.24	-9.48	1.50 V	360	66.09	2.67
3	*5745.00	117.50 PK			1.50 V	360	114.68	2.82
4	*5745.00	107.40 AV			1.50 V	360	104.58	2.82
5	#5912.43	65.22 PK	77.47	-12.25	1.50 V	360	62.22	3.00
6	#5983.40	64.20 PK	68.20	-4.00	1.50 V	5	60.91	3.29
7	11490.00	57.50 PK	74.00	-16.50	1.52 V	70	44.04	13.46
8	11490.00	42.10 AV	54.00	-11.90	1.52 V	70	28.64	13.46
9	#17235.00	54.40 PK	74.00	-19.60	1.42 V	179	35.95	18.45
10	#17235.00	40.00 AV	54.00	-14.00	1.42 V	179	21.55	18.45

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5633.60	63.63 PK	68.20	-4.57	2.46 H	5	61.02	2.61
2	*5785.00	116.00 PK			2.46 H	5	113.11	2.89
3	*5785.00	105.60 AV			2.46 H	5	102.71	2.89
4	#5938.07	63.44 PK	68.20	-4.76	2.46 H	5	60.33	3.11
5	11570.00	55.40 PK	74.00	-18.60	1.42 H	347	42.16	13.24
6	11570.00	40.30 AV	54.00	-13.70	1.42 H	347	27.06	13.24
7	#17355.00	55.10 PK	74.00	-18.90	1.39 H	263	36.00	19.10
8	#17355.00	39.30 AV	54.00	-14.70	1.39 H	263	20.20	19.10

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	#5625.70	65.50 PK	68.20	-2.70	1.50 V	360	62.91	2.59
2	#5657.35	62.42 PK	73.66	-11.24	1.50 V	360	59.76	2.66
3	*5785.00	118.00 PK			1.50 V	360	115.11	2.89
4	*5785.00	107.50 AV			1.50 V	360	104.61	2.89
5	#5908.15	62.71 PK	80.63	-17.92	1.50 V	360	59.72	2.99
6	#5946.60	67.40 PK	68.20	-0.80	1.50 V	360	64.26	3.14
7	11570.00	58.20 PK	74.00	-15.80	1.51 V	68	44.96	13.24
8	11570.00	42.60 AV	54.00	-11.40	1.51 V	68	29.36	13.24
9	#17355.00	55.00 PK	74.00	-19.00	1.35 V	166	35.90	19.10
10	#17355.00	40.70 AV	54.00	-13.30	1.35 V	166	21.60	19.10

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5583.25	61.15 PK	68.20	-7.05	2.39 H	28	58.65	2.50
2	*5825.00	115.80 PK			2.39 H	28	112.86	2.94
3	*5825.00	105.40 AV			2.39 H	28	102.46	2.94
4	#5985.10	63.18 PK	68.20	-5.02	2.39 H	28	59.89	3.29
5	11650.00	55.90 PK	74.00	-18.10	1.43 H	336	42.69	13.21
6	11650.00	40.80 AV	54.00	-13.20	1.43 H	336	27.59	13.21
7	#17475.00	55.90 PK	74.00	-18.10	1.39 H	258	36.47	19.43
8	#17475.00	40.00 AV	54.00	-14.00	1.39 H	258	20.57	19.43

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	#5661.62	66.56 PK	76.83	-10.27	1.50 V	360	63.90	2.66
2	*5825.00	117.70 PK			1.50 V	360	114.76	2.94
3	*5825.00	107.10 AV			1.50 V	360	104.16	2.94
4	#5986.00	68.10 PK	68.20	-0.10	1.50 V	12	64.81	3.29
5	11650.00	58.20 PK	74.00	-15.80	1.47 V	84	44.99	13.21
6	11650.00	42.30 AV	54.00	-11.70	1.47 V	84	29.09	13.21
7	#17475.00	54.70 PK	74.00	-19.30	1.39 V	167	35.27	19.43
8	#17475.00	40.40 AV	54.00	-13.60	1.39 V	167	20.97	19.43

REMARKS:

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

802.11ac (VHT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5621.25	61.59 PK	68.20	-6.61	2.42 H	13	59.00	2.59
2	*5755.00	110.80 PK			2.42 H	13	107.96	2.84
3	*5755.00	100.60 AV			2.42 H	13	97.76	2.84
4	#5928.10	60.82 PK	68.20	-7.38	2.42 H	13	57.76	3.06
5	11510.00	55.70 PK	74.00	-18.30	1.43 H	354	42.27	13.43
6	11510.00	40.80 AV	54.00	-13.20	1.43 H	354	27.37	13.43
7	#17265.00	54.50 PK	74.00	-19.50	1.31 H	254	35.94	18.56
8	#17265.00	39.00 AV	54.00	-15.00	1.31 H	254	20.44	18.56

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	67.00 PK	68.20	-1.20	1.50 V	360	64.36	2.64
2	#5655.45	67.33 PK	72.25	-4.92	1.50 V	360	64.67	2.66
3	*5755.00	114.10 PK			1.50 V	360	111.26	2.84
4	*5755.00	103.50 AV			1.50 V	360	100.66	2.84
5	#5920.50	63.99 PK	71.52	-7.53	1.50 V	360	60.96	3.03
6	#5925.00	64.50 PK	68.20	-3.70	1.50 V	360	61.45	3.05
7	11510.00	58.60 PK	74.00	-15.40	1.53 V	57	45.17	13.43
8	11510.00	42.80 AV	54.00	-11.20	1.53 V	57	29.37	13.43
9	#17265.00	55.00 PK	74.00	-19.00	1.42 V	172	36.44	18.56
10	#17265.00	40.40 AV	54.00	-13.60	1.42 V	172	21.84	18.56

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5630.27	62.10 PK	68.20	-6.10	2.47 H	13	59.50	2.60
2	*5795.00	111.30 PK			2.47 H	13	108.38	2.92
3	*5795.00	101.00 AV			2.47 H	13	98.08	2.92
4	#5937.60	61.28 PK	68.20	-6.92	2.47 H	13	58.18	3.10
5	11590.00	56.10 PK	74.00	-17.90	1.53 H	333	42.92	13.18
6	11590.00	41.00 AV	54.00	-13.00	1.53 H	333	27.82	13.18
7	#17385.00	55.60 PK	74.00	-18.40	1.37 H	265	36.28	19.32
8	#17385.00	39.80 AV	54.00	-14.20	1.37 H	265	20.48	19.32

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	#5653.07	62.91 PK	70.48	-7.57	1.50 V	360	60.26	2.65
2	*5795.00	114.40 PK			1.50 V	360	111.48	2.92
3	*5795.00	103.60 AV			1.50 V	360	100.68	2.92
4	#5923.82	62.29 PK	69.07	-6.78	1.50 V	360	59.24	3.05
5	#5950.90	65.90 PK	68.20	-2.30	1.50 V	10	62.74	3.16
6	11590.00	58.00 PK	74.00	-16.00	1.49 V	79	44.82	13.18
7	11590.00	42.60 AV	54.00	-11.40	1.49 V	79	29.42	13.18
8	#17385.00	54.70 PK	74.00	-19.30	1.42 V	170	35.38	19.32
9	#17385.00	40.50 AV	54.00	-13.50	1.42 V	170	21.18	19.32

REMARKS:

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

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.23	66.30 PK	68.37	-2.07	2.39 H	14	63.66	2.64
2	*5775.00	105.10 PK			2.39 H	14	102.22	2.88
3	*5775.00	93.80 AV			2.39 H	14	90.92	2.88
4	#5927.15	61.04 PK	68.20	-7.16	2.39 H	14	57.98	3.06
5	11550.00	55.10 PK	74.00	-18.90	1.42 H	330	41.80	13.30
6	11550.00	40.20 AV	54.00	-13.80	1.42 H	330	26.90	13.30
7	#17325.00	55.20 PK	74.00	-18.80	1.31 H	247	36.32	18.88
8	#17325.00	39.40 AV	54.00	-14.60	1.31 H	247	20.52	18.88

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	#5650.00	68.10 PK	68.20	-0.10	1.50 V	360	65.46	2.64
2	#5677.77	80.76 PK	88.79	-8.03	1.50 V	360	78.07	2.69
3	*5775.00	109.30 PK			1.50 V	360	106.42	2.88
4	*5775.00	97.80 AV			1.50 V	360	94.92	2.88
5	#5924.30	63.15 PK	68.72	-5.57	1.50 V	360	60.10	3.05
6	11550.00	58.20 PK	74.00	-15.80	1.53 V	77	44.90	13.30
7	11550.00	42.60 AV	54.00	-11.40	1.53 V	77	29.30	13.30
8	#17325.00	54.50 PK	74.00	-19.50	1.40 V	186	35.62	18.88
9	#17325.00	40.40 AV	54.00	-13.60	1.40 V	186	21.52	18.88

REMARKS:

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

Below 1GHz Data:
802.11ac (VHT20)

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	below 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	86.26	27.10 QP	40.00	-12.90	2.00 H	315	41.53	-14.43
2	210.78	35.21 QP	43.50	-8.29	1.50 H	271	47.12	-11.91
3	305.31	36.78 QP	46.00	-9.22	1.50 H	344	44.59	-7.81
4	364.63	39.08 QP	46.00	-6.92	1.00 H	243	45.44	-6.36
5	500.01	35.54 QP	46.00	-10.46	1.50 H	60	38.38	-2.84
6	576.79	34.41 QP	46.00	-11.59	1.50 H	318	35.73	-1.32

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	37.96	31.40 QP	40.00	-8.60	1.39 V	0	40.62	-9.22
2	93.05	33.90 QP	43.50	-9.60	1.00 V	6	48.05	-14.15
3	307.37	34.16 QP	46.00	-11.84	1.50 V	0	41.88	-7.72
4	500.01	31.59 QP	46.00	-14.41	1.00 V	70	34.43	-2.84
5	571.38	32.04 QP	46.00	-13.96	2.00 V	205	33.60	-1.56
6	938.65	30.18 QP	46.00	-15.82	1.50 V	22	25.72	4.46

REMARKS:

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

4.1.8 Test Results (Mode 2)

Above 1GHz Data:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5591.32	59.94 PK	68.20	-8.26	1.97 H	360	57.42	2.52
2	*5745.00	110.10 PK			1.97 H	360	107.28	2.82
3	*5745.00	99.80 AV			1.97 H	360	96.98	2.82
4	#5946.15	58.14 PK	68.20	-10.06	1.97 H	360	55.00	3.14
5	11490.00	53.70 PK	74.00	-20.30	1.60 H	294	40.24	13.46
6	11490.00	41.60 AV	54.00	-12.40	1.60 H	294	28.14	13.46
7	#17235.00	61.10 PK	74.00	-12.90	1.72 H	50	42.65	18.45
8	#17235.00	49.00 AV	54.00	-5.00	1.72 H	50	30.55	18.45

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5582.77	65.67 PK	68.20	-2.53	2.47 V	358	63.17	2.50
2	*5745.00	119.00 PK			2.47 V	358	116.18	2.82
3	*5745.00	108.50 AV			2.47 V	358	105.68	2.82
4	#5982.25	64.60 PK	68.20	-3.60	2.47 V	358	61.31	3.29
5	11490.00	53.00 PK	74.00	-21.00	1.74 V	21	39.54	13.46
6	11490.00	41.40 AV	54.00	-12.60	1.74 V	21	27.94	13.46
7	#17235.00	57.40 PK	74.00	-16.60	1.37 V	177	38.95	18.45
8	#17235.00	45.40 AV	54.00	-8.60	1.37 V	177	26.95	18.45

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5630.75	59.64 PK	68.20	-8.56	1.93 H	360	57.03	2.61
2	*5785.00	110.60 PK			1.93 H	360	107.71	2.89
3	*5785.00	100.20 AV			1.93 H	360	97.31	2.89
4	#5948.52	59.28 PK	68.20	-8.92	1.93 H	360	56.14	3.14
5	11570.00	53.20 PK	74.00	-20.80	1.60 H	301	39.96	13.24
6	11570.00	41.30 AV	54.00	-12.70	1.60 H	301	28.06	13.24
7	#17355.00	61.10 PK	74.00	-12.90	1.68 H	40	42.00	19.10
8	#17355.00	49.20 AV	54.00	-4.80	1.68 H	40	30.10	19.10

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	#5627.43	66.14 PK	68.20	-2.06	2.45 V	358	63.55	2.59
2	*5785.00	119.00 PK			2.45 V	358	116.11	2.89
3	*5785.00	108.90 AV			2.45 V	358	106.01	2.89
4	#5947.10	67.86 PK	68.20	-0.34	2.45 V	358	64.72	3.14
5	11570.00	53.20 PK	74.00	-20.80	1.78 V	15	39.96	13.24
6	11570.00	41.50 AV	54.00	-12.50	1.78 V	15	28.26	13.24
7	#17355.00	57.00 PK	74.00	-17.00	1.39 V	169	37.90	19.10
8	#17355.00	44.90 AV	54.00	-9.10	1.39 V	169	25.80	19.10

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5601.77	56.10 PK	68.20	-12.10	1.93 H	360	53.55	2.55
2	*5825.00	110.10 PK			1.93 H	360	107.16	2.94
3	*5825.00	99.70 AV			1.93 H	360	96.76	2.94
4	#5990.32	59.61 PK	68.20	-8.59	1.93 H	360	56.29	3.32
5	11650.00	53.30 PK	74.00	-20.70	1.63 H	299	40.09	13.21
6	11650.00	41.40 AV	54.00	-12.60	1.63 H	299	28.19	13.21
7	#17475.00	61.00 PK	74.00	-13.00	1.68 H	35	41.57	19.43
8	#17475.00	49.10 AV	54.00	-4.90	1.68 H	35	29.67	19.43

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	#5588.00	62.52 PK	68.20	-5.68	2.45 V	357	60.00	2.52
2	*5825.00	119.20 PK			2.45 V	357	116.26	2.94
3	*5825.00	108.70 AV			2.45 V	357	105.76	2.94
4	#5987.00	67.99 PK	68.20	-0.21	2.45 V	357	64.69	3.30
5	11650.00	52.90 PK	74.00	-21.10	1.80 V	8	39.69	13.21
6	11650.00	41.10 AV	54.00	-12.90	1.80 V	8	27.89	13.21
7	#17475.00	57.00 PK	74.00	-17.00	1.40 V	159	37.57	19.43
8	#17475.00	44.90 AV	54.00	-9.10	1.40 V	159	25.47	19.43

REMARKS:

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

802.11ac (VHT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5584.68	57.60 PK	68.20	-10.60	1.10 H	358	55.10	2.50
2	*5745.00	107.30 PK			1.10 H	358	104.48	2.82
3	*5745.00	96.60 AV			1.10 H	358	93.78	2.82
4	#5981.77	56.70 PK	68.20	-11.50	1.10 H	358	53.40	3.30
5	11490.00	52.80 PK	74.00	-21.20	1.59 H	296	39.34	13.46
6	11490.00	41.00 AV	54.00	-13.00	1.59 H	296	27.54	13.46
7	#17235.00	61.30 PK	74.00	-12.70	1.67 H	39	42.85	18.45
8	#17235.00	49.10 AV	54.00	-4.90	1.67 H	39	30.65	18.45

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5582.30	63.40 PK	68.20	-4.80	1.76 V	181	60.90	2.50
2	#5658.77	66.80 PK	74.70	-7.90	1.76 V	181	64.20	2.60
3	*5745.00	116.40 PK			1.76 V	181	113.58	2.82
4	*5745.00	105.60 AV			1.76 V	181	102.78	2.82
5	#5981.77	61.90 PK	68.20	-6.30	1.76 V	181	58.60	3.30
6	11490.00	52.90 PK	74.00	-21.10	1.73 V	31	39.44	13.46
7	11490.00	41.20 AV	54.00	-12.80	1.73 V	31	27.74	13.46
8	#17235.00	56.90 PK	74.00	-17.10	1.35 V	171	38.45	18.45
9	#17235.00	44.90 AV	54.00	-9.10	1.35 V	171	26.45	18.45

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5618.87	59.60 PK	68.20	-8.60	1.13 H	360	57.00	2.60
2	*5785.00	106.60 PK			1.13 H	360	103.71	2.89
3	*5785.00	96.30 AV			1.13 H	360	93.41	2.89
4	#5944.73	58.40 PK	68.20	-9.80	1.13 H	360	55.30	3.10
5	11570.00	52.50 PK	74.00	-21.50	1.66 H	309	39.26	13.24
6	11570.00	40.80 AV	54.00	-13.20	1.66 H	309	27.56	13.24
7	#17355.00	60.80 PK	74.00	-13.20	1.63 H	51	41.70	19.10
8	#17355.00	48.80 AV	54.00	-5.20	1.63 H	51	29.70	19.10

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	#5628.85	63.10 PK	68.20	-5.10	2.08 V	179	60.50	2.60
2	*5785.00	115.70 PK			2.08 V	179	112.81	2.89
3	*5785.00	105.30 AV			2.08 V	179	102.41	2.89
4	#5937.12	65.40 PK	68.20	-2.80	2.08 V	179	62.30	3.10
5	11570.00	52.80 PK	74.00	-21.20	1.80 V	8	39.56	13.24
6	11570.00	41.30 AV	54.00	-12.70	1.80 V	8	28.06	13.24
7	#17355.00	57.70 PK	74.00	-16.30	1.33 V	173	38.60	19.10
8	#17355.00	45.40 AV	54.00	-8.60	1.33 V	173	26.30	19.10

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5662.57	59.80 PK	77.50	-17.70	1.11 H	360	57.20	2.60
2	*5825.00	107.50 PK			1.11 H	360	104.56	2.94
3	*5825.00	96.80 AV			1.11 H	360	93.86	2.94
4	#5982.25	58.40 PK	68.20	-9.80	1.11 H	360	55.10	3.30
5	11650.00	52.70 PK	74.00	-21.30	1.65 H	305	39.49	13.21
6	11650.00	40.80 AV	54.00	-13.20	1.65 H	305	27.59	13.21
7	#17475.00	61.40 PK	74.00	-12.60	1.65 H	55	41.97	19.43
8	#17475.00	49.40 AV	54.00	-4.60	1.65 H	55	29.97	19.43

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	#5667.80	63.80 PK	81.40	-17.60	2.44 V	351	61.20	2.60
2	*5825.00	116.60 PK			2.44 V	351	113.66	2.94
3	*5825.00	105.80 AV			2.44 V	351	102.86	2.94
4	#5986.05	65.80 PK	68.20	-2.40	2.44 V	351	62.50	3.30
5	11650.00	53.00 PK	74.00	-21.00	1.81 V	20	39.79	13.21
6	11650.00	41.20 AV	54.00	-12.80	1.81 V	20	27.99	13.21
7	#17475.00	56.80 PK	74.00	-17.20	1.34 V	182	37.37	19.43
8	#17475.00	44.60 AV	54.00	-9.40	1.34 V	182	25.17	19.43

REMARKS:

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

802.11ac (VHT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5662.57	62.60 PK	77.50	-14.90	1.06 H	360	60.00	2.60
2	*5755.00	103.10 PK			1.06 H	360	100.26	2.84
3	*5755.00	92.70 AV			1.06 H	360	89.86	2.84
4	#5926.68	57.80 PK	68.20	-10.40	1.06 H	360	54.70	3.10
5	11510.00	53.00 PK	74.00	-21.00	1.56 H	289	39.57	13.43
6	11510.00	41.30 AV	54.00	-12.70	1.56 H	289	27.87	13.43
7	#17265.00	60.70 PK	74.00	-13.30	1.68 H	50	42.14	18.56
8	#17265.00	49.00 AV	54.00	-5.00	1.68 H	50	30.44	18.56

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5657.82	65.20 PK	74.00	-8.80	2.51 V	326	62.60	2.60
2	*5755.00	112.20 PK			2.51 V	326	109.36	2.84
3	*5755.00	101.70 AV			2.51 V	326	98.86	2.84
4	#5924.30	61.80 PK	68.70	-6.90	2.51 V	326	58.70	3.10
5	11510.00	53.50 PK	74.00	-20.50	1.77 V	23	40.07	13.43
6	11510.00	41.70 AV	54.00	-12.30	1.77 V	23	28.27	13.43
7	#17265.00	57.40 PK	74.00	-16.60	1.34 V	177	38.84	18.56
8	#17265.00	45.30 AV	54.00	-8.70	1.34 V	177	26.74	18.56

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5606.05	57.20 PK	68.20	-11.00	1.07 H	360	54.60	2.60
2	*5795.00	104.00 PK			1.07 H	360	101.08	2.92
3	*5795.00	95.20 AV			1.07 H	360	92.28	2.92
4	#5956.60	57.30 PK	68.20	-10.90	1.07 H	360	54.10	3.20
5	11590.00	53.40 PK	74.00	-20.60	1.56 H	285	40.22	13.18
6	11590.00	41.50 AV	54.00	-12.50	1.56 H	285	28.32	13.18
7	#17385.00	61.30 PK	74.00	-12.70	1.63 H	51	41.98	19.32
8	#17385.00	49.30 AV	54.00	-4.70	1.63 H	51	29.98	19.32

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	#5631.70	61.40 PK	68.20	-6.80	2.27 V	178	58.80	2.60
2	*5795.00	113.10 PK			2.27 V	178	110.18	2.92
3	*5795.00	104.20 AV			2.27 V	178	101.28	2.92
4	#5958.50	62.60 PK	68.20	-5.60	2.27 V	178	59.40	3.20
5	11590.00	53.10 PK	74.00	-20.90	1.84 V	17	39.92	13.18
6	11590.00	41.20 AV	54.00	-12.80	1.84 V	17	28.02	13.18
7	#17385.00	57.40 PK	74.00	-16.60	1.40 V	176	38.08	19.32
8	#17385.00	45.20 AV	54.00	-8.80	1.40 V	176	25.88	19.32

REMARKS:

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

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5637.40	60.70 PK	68.20	-7.50	1.09 H	360	58.10	2.60
2	#5677.30	73.40 PK	88.40	-15.00	1.09 H	360	70.80	2.60
3	*5775.00	98.80 PK			1.09 H	360	95.92	2.88
4	*5775.00	87.20 AV			1.09 H	360	84.32	2.88
5	#5964.68	58.10 PK	68.20	-10.10	1.09 H	360	54.90	3.20
6	11550.00	53.50 PK	74.00	-20.50	1.65 H	304	40.20	13.30
7	11550.00	41.80 AV	54.00	-12.20	1.65 H	304	28.50	13.30
8	#17325.00	61.00 PK	74.00	-13.00	1.67 H	42	42.12	18.88
9	#17325.00	49.30 AV	54.00	-4.70	1.67 H	42	30.42	18.88

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	#5616.98	64.30 PK	68.20	-3.90	2.35 V	177	61.70	2.60
2	#5677.77	79.30 PK	88.80	-9.50	2.35 V	177	76.70	2.60
3	*5775.00	107.90 PK			2.35 V	177	105.02	2.88
4	*5775.00	96.20 AV			2.35 V	177	93.32	2.88
5	#5917.18	65.70 PK	74.00	-8.30	2.35 V	177	62.60	3.10
6	#5963.25	61.10 PK	68.20	-7.10	2.35 V	177	57.90	3.20
7	11550.00	53.10 PK	74.00	-20.90	1.77 V	22	39.80	13.30
8	11550.00	41.30 AV	54.00	-12.70	1.77 V	22	28.00	13.30
9	#17325.00	57.50 PK	74.00	-16.50	1.38 V	180	38.62	18.88
10	#17325.00	45.30 AV	54.00	-8.70	1.38 V	180	26.42	18.88

REMARKS:

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

4.2 Transmit Power Measurement

4.2.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

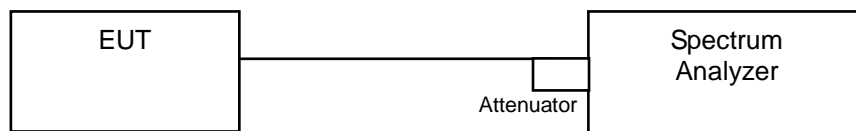
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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.

4.2.2 Test Setup



4.2.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.2.4 Test Procedure

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

4.2.5 Deviation from Test Standard

No deviation.

4.2.6 EUT Operating Condition

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

4.2.7 Test Result

802.11a

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	21.83	21.93	308.36	24.89	30	Pass
157	5785	21.80	21.90	306.238	24.86	30	Pass
165	5825	21.82	21.77	302.369	24.81	30	Pass

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	21.85	21.90	307.991	24.89	26.99	Pass
157	5785	21.88	21.89	308.695	24.90	26.99	Pass
165	5825	21.81	21.80	303.061	24.82	26.99	Pass

Note: 1. Directional gain = $6\text{dBi} + 10\log(2) = 9.01\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (9.01 - 6) = 26.99\text{dBm}$.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
151	5755	21.22	21.51	274.013	24.38	26.99	Pass
159	5795	21.30	21.37	271.984	24.35	26.99	Pass

Note: 1. Directional gain = $6\text{dBi} + 10\log(2) = 9.01\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (9.01 - 6) = 26.99\text{dBm}$.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
155	5775	18.88	19.13	159.114	22.02	26.99	Pass

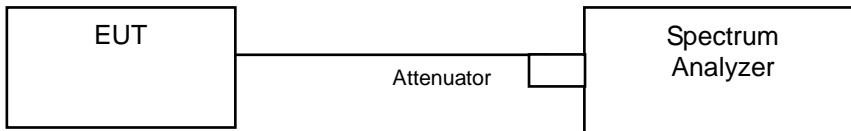
Note: 1. Directional gain = $6\text{dBi} + 10\log(2) = 9.01\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (9.01 - 6) = 26.99\text{dBm}$.

4.3 Peak Power Spectral Density Measurement

4.3.1 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

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

Same as Item 4.2.6

4.3.7 Test Results

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=3) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	0.20	2.42	3.01	5.43	26.99	Pass
	157	5785	-0.22	2.00	3.01	5.01	26.99	Pass
	165	5825	-0.31	1.91	3.01	4.92	26.99	Pass
1	149	5745	0.25	2.47	3.01	5.48	26.99	Pass
	157	5785	0.06	2.28	3.01	5.29	26.99	Pass
	165	5825	-0.08	2.14	3.01	5.15	26.99	Pass

Note: 1. Directional gain = 6dBi + 10log(2) = 9.01dBi > 6dBi , so the power density limit shall be reduced to 30-(9.01-6) = 26.99dBm.

802.11ac (VHT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=3) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	-0.39	1.83	3.01	4.84	26.99	Pass
	157	5785	-0.59	1.63	3.01	4.64	26.99	Pass
	165	5825	-0.46	1.76	3.01	4.77	26.99	Pass
1	149	5745	-0.16	2.06	3.01	5.07	26.99	Pass
	157	5785	-0.35	1.87	3.01	4.88	26.99	Pass
	165	5825	-0.37	1.85	3.01	4.86	26.99	Pass

Note: 1. Directional gain = 6dBi + 10log(2) = 9.01dBi > 6dBi , so the power density limit shall be reduced to 30-(9.01-6) = 26.99dBm.

802.11ac (VHT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=3) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	151	5755	-4.33	-2.11	3.01	0.90	26.99	Pass
	159	5795	-4.18	-1.96	3.01	1.05	26.99	Pass
1	151	5755	-4.15	-1.93	3.01	1.08	26.99	Pass
	159	5795	-4.25	-2.03	3.01	0.98	26.99	Pass

Note: 1. Directional gain = 6dBi + 10log(2) = 9.01dBi > 6dBi , so the power density limit shall be reduced to 30-(9.01-6) = 26.99dBm.

802.11ac (VHT80)

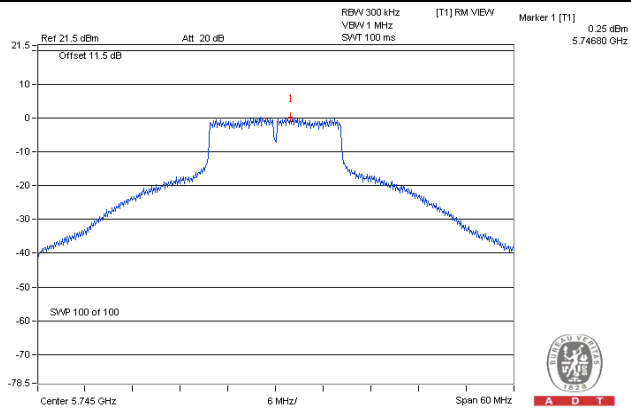
TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-9.49	-7.27	3.01	0.39	-3.87	26.99	Pass
1	155	5775	-9.50	-7.28	3.01	0.39	-3.88	26.99	Pass

Note: 1. Directional gain = 6dBi + 10log(2) = 9.01dBi > 6dBi , so the power density limit shall be reduced to 30-(9.01-6) = 26.99dBm.

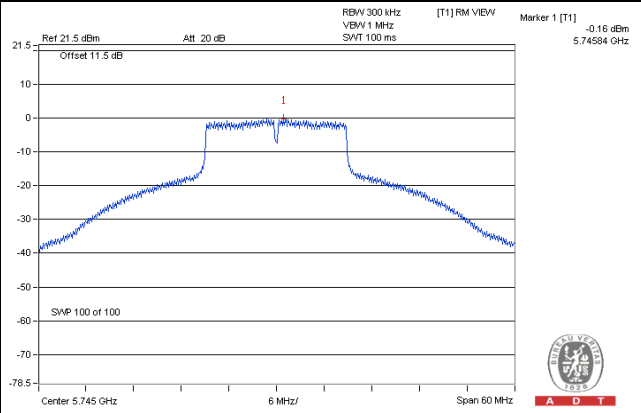
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

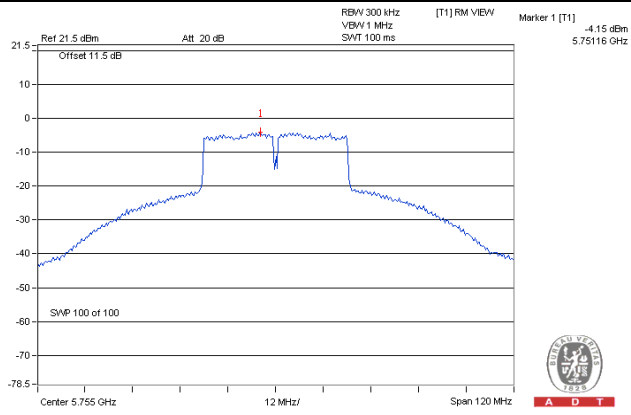
802.11a_Chain 1 / CH149



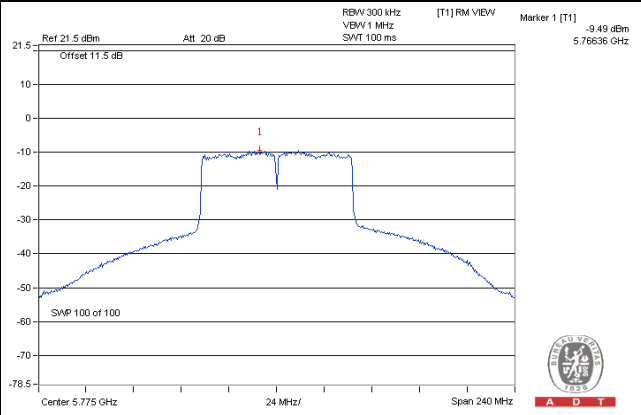
802.11ac (VHT20)_Chain 1 / CH149



802.11ac (VHT40)_Chain 1 / CH151



802.11ac (VHT80)_Chain 0 / CH155

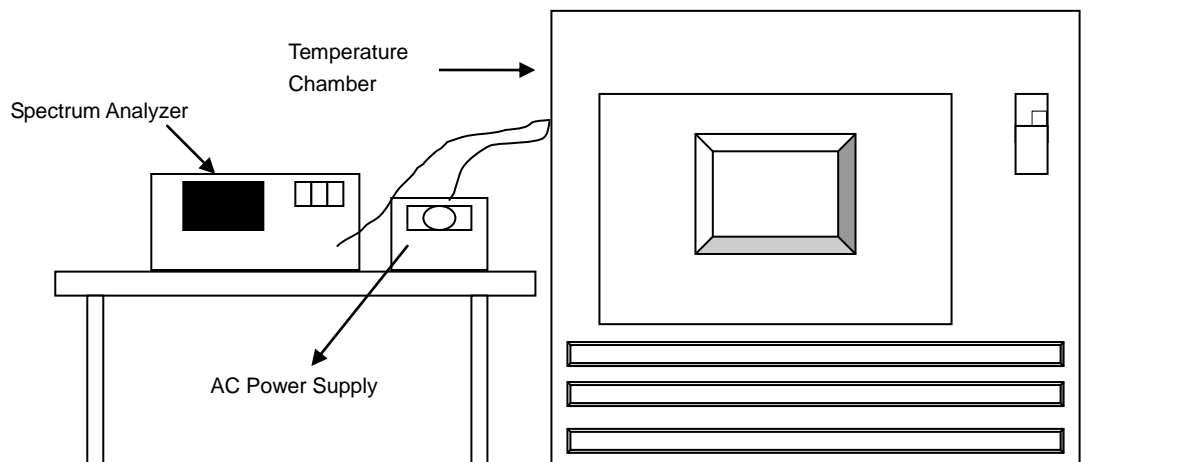


4.4 Frequency Stability Measurement

4.4.1 Limits of Frequency Stability Measurement

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedure

- 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.

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Condition

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

4.4.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5745 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
50	120	5745.0044	Pass	5745.0062	Pass	5745.0058	Pass	5745.0077	Pass
40	120	5744.9773	Pass	5744.9792	Pass	5744.9808	Pass	5744.982	Pass
30	120	5744.9962	Pass	5744.9982	Pass	5744.9937	Pass	5744.9979	Pass
20	120	5745.0236	Pass	5745.0247	Pass	5745.0238	Pass	5745.0271	Pass
10	120	5744.9961	Pass	5745.0006	Pass	5744.9952	Pass	5744.9969	Pass
0	120	5745.0211	Pass	5745.0249	Pass	5745.0232	Pass	5745.0217	Pass
-10	120	5744.9983	Pass	5744.9999	Pass	5744.999	Pass	5745.0022	Pass
-20	120	5744.9767	Pass	5744.978	Pass	5744.9805	Pass	5744.9791	Pass
-30	120	5745.0241	Pass	5745.0193	Pass	5745.0188	Pass	5745.0236	Pass

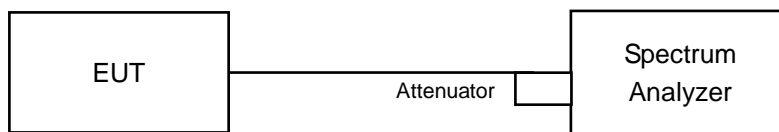
Frequency Stability Versus Voltage									
Operating Frequency: 5745 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5745.0237	Pass	5745.024	Pass	5745.0227	Pass	5745.0276	Pass
	120	5745.0236	Pass	5745.0247	Pass	5745.0238	Pass	5745.0271	Pass
	102	5745.0226	Pass	5745.0244	Pass	5745.024	Pass	5745.0271	Pass

4.5 6dB Bandwidth Measurement

4.5.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

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

MEASUREMENT PROCEDURE REF

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.39	16.42	0.5	Pass
157	5785	16.40	16.40	0.5	Pass
165	5825	16.40	16.42	0.5	Pass

802.11n (HT20)

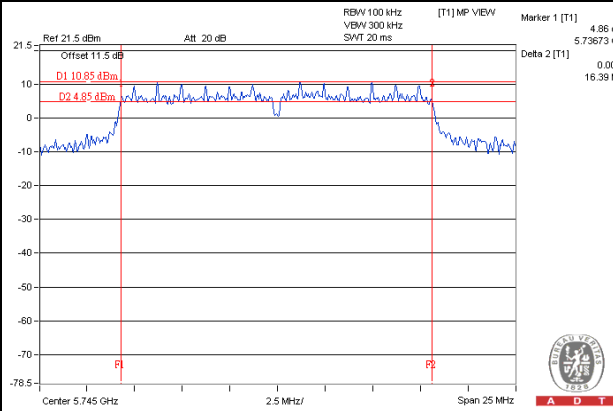
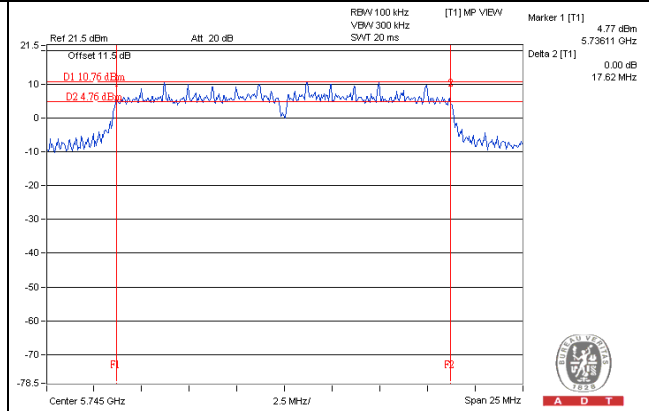
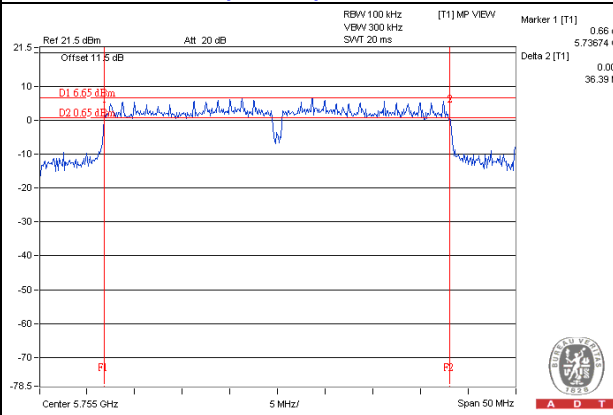
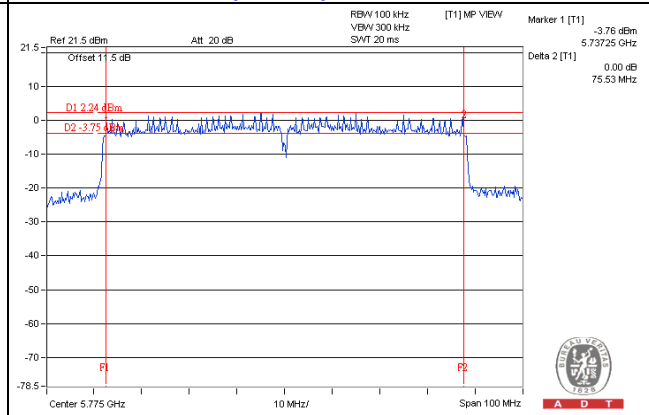
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.62	17.66	0.5	Pass
157	5785	17.64	17.66	0.5	Pass
165	5825	17.66	17.64	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.39	36.45	0.5	Pass
159	5795	36.43	36.44	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.72	75.53	0.5	Pass

Spectrum Plot of Worst Value**802.11a_Chain 0 / CH149****802.11ac (VHT20)_Chain 0 / CH149****802.11ac (VHT40)_Chain 0 / CH151****802.11ac (VHT80)_Chain 1 / CH155**

5 Pictures of Test Arrangements

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

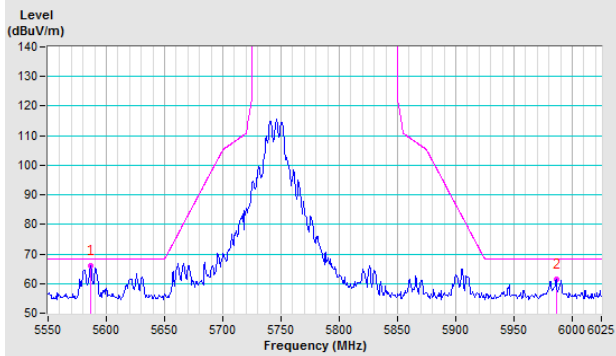
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

Mode 1

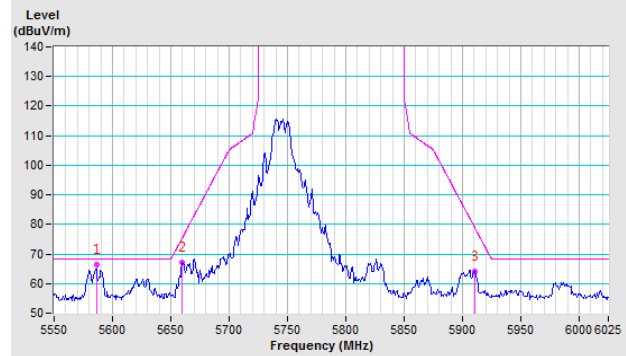
802.11a

CH 149 5745 MHz

Horizontal

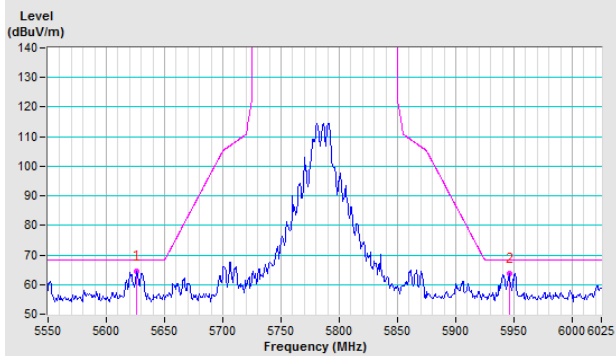


Vertical

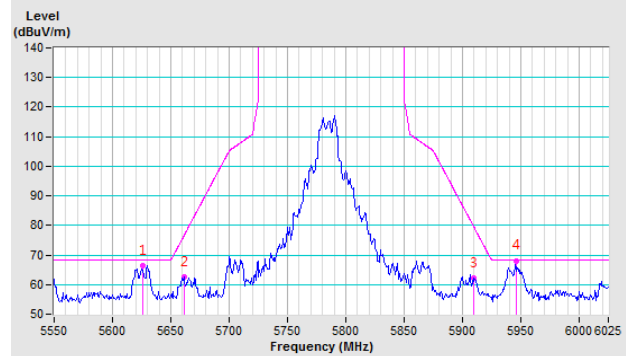


CH 157 5785 MHz

Horizontal

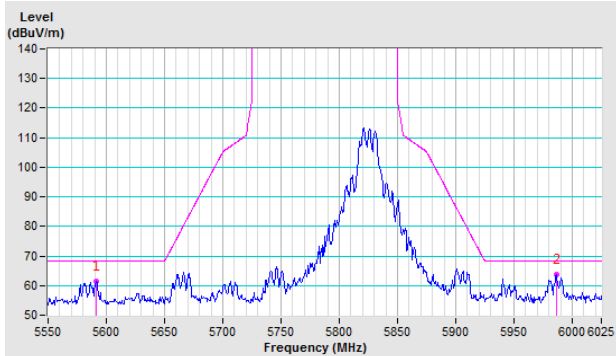


Vertical

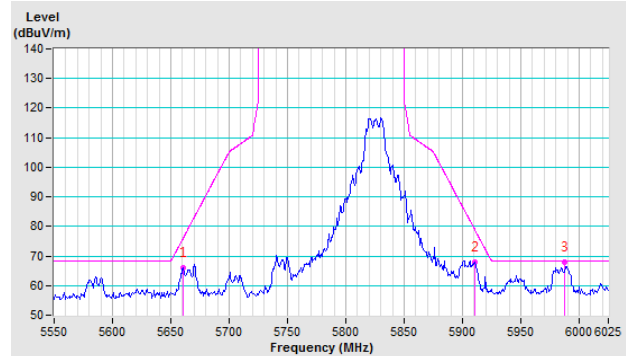


CH 165 5825 MHz

Horizontal



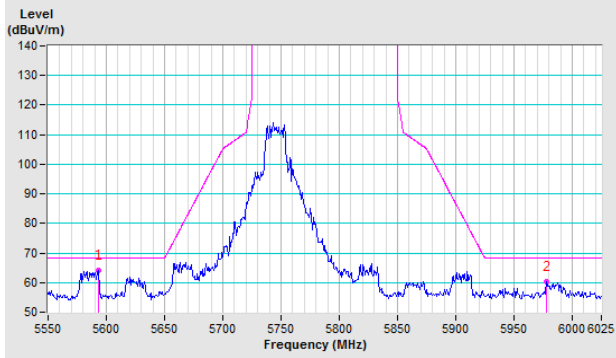
Vertical



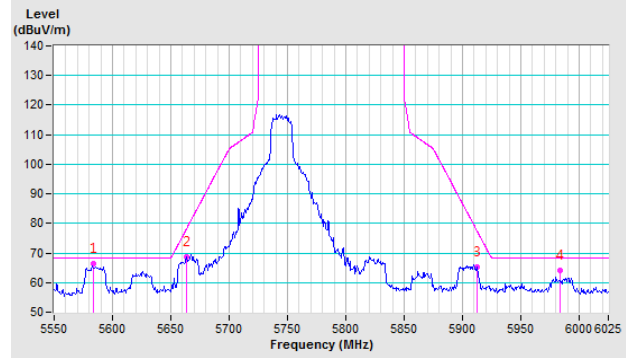
802.11ac (VHT20)

CH 149 5745 MHz

Horizontal

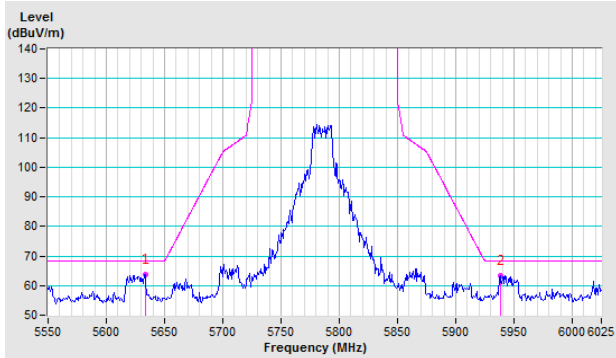


Vertical

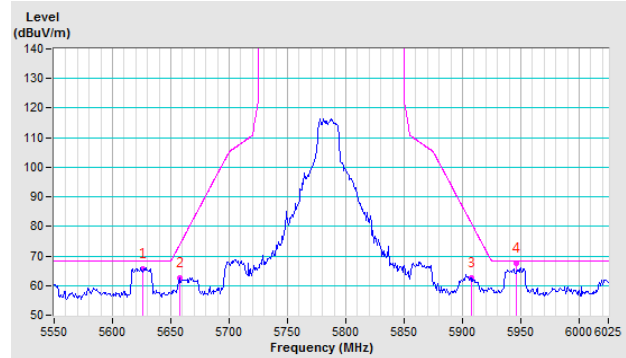


CH 157 5785 MHz

Horizontal

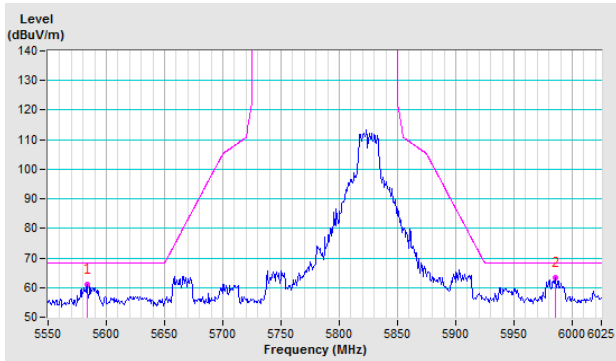


Vertical

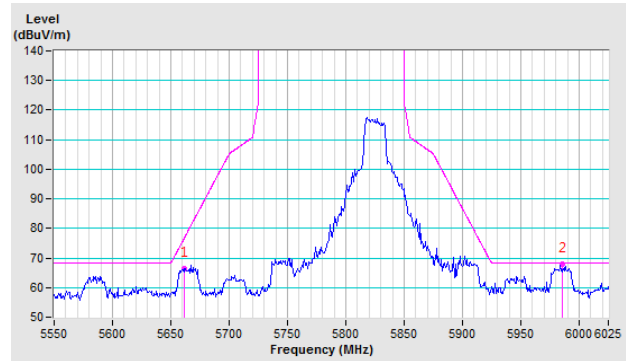


CH 165 5825 MHz

Horizontal



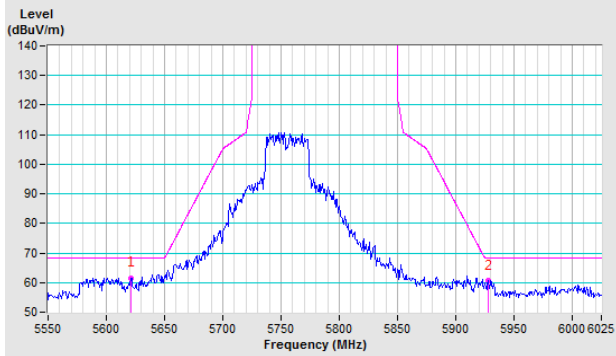
Vertical



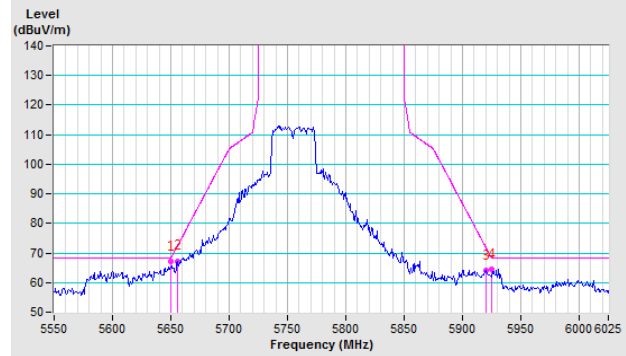
802.11ac (VHT40)

CH 151 5755 MHz

Horizontal

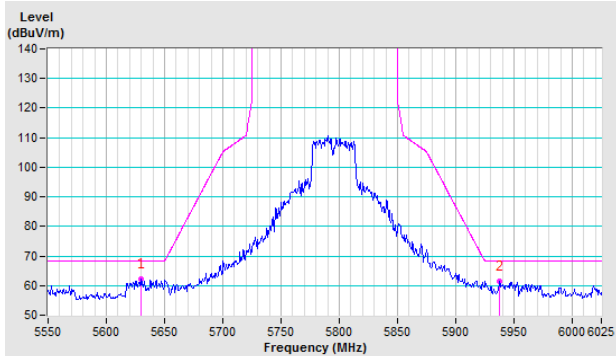


Vertical

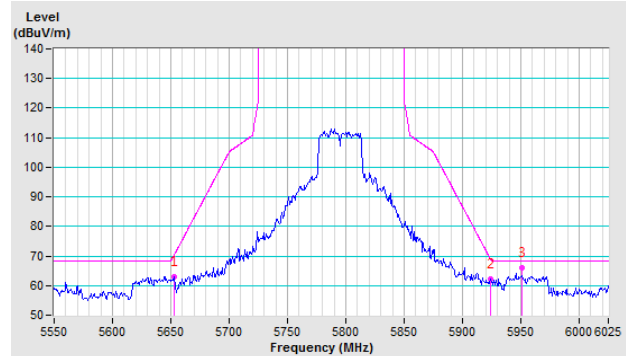


CH 159 5795 MHz

Horizontal



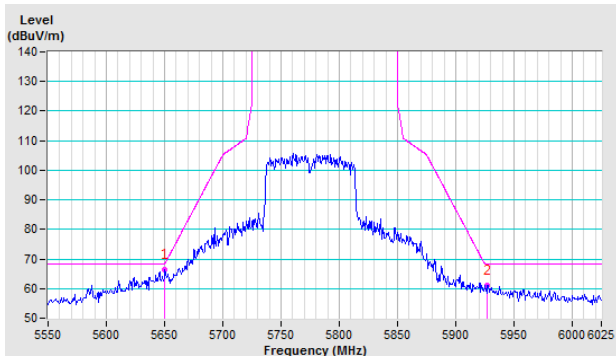
Vertical



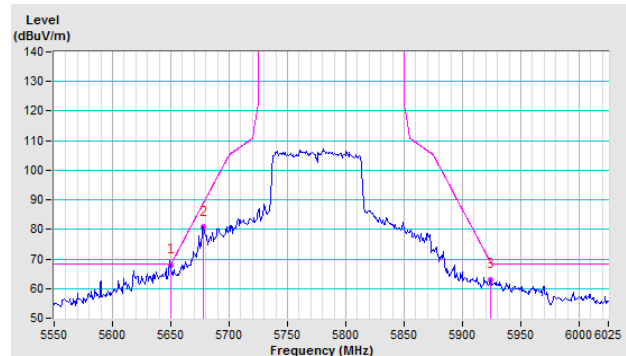
802.11ac (VHT80)

CH 155 5775 MHz

Horizontal



Vertical

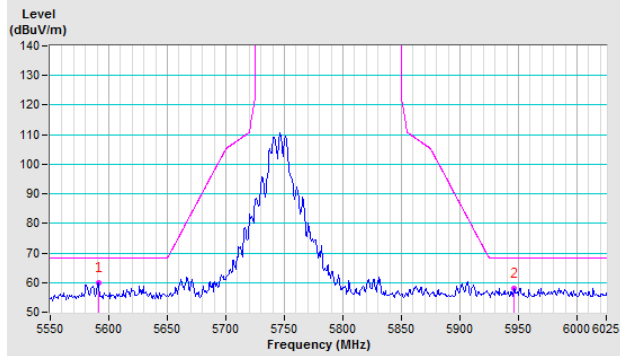


Mode 2

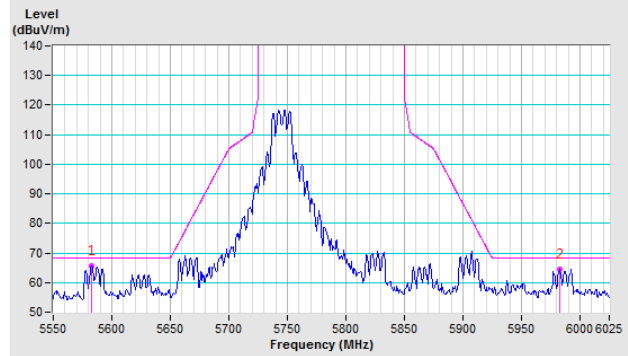
802.11a

CH 149 5745 MHz

Horizontal

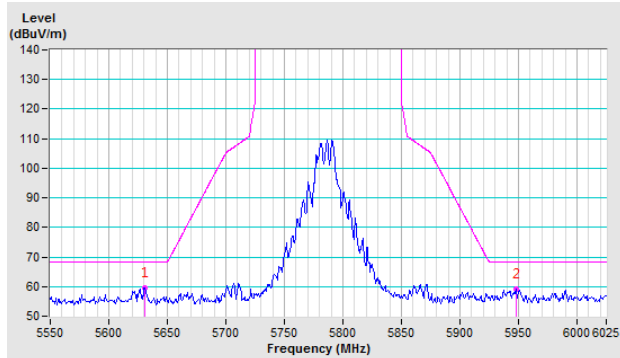


Vertical

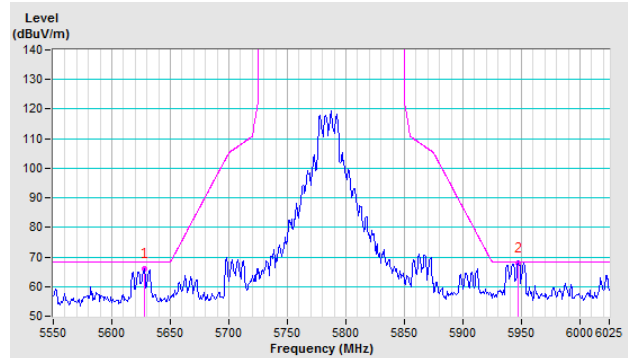


CH 157 5785 MHz

Horizontal

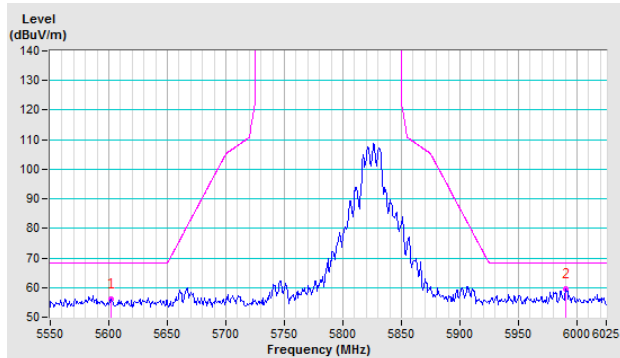


Vertical

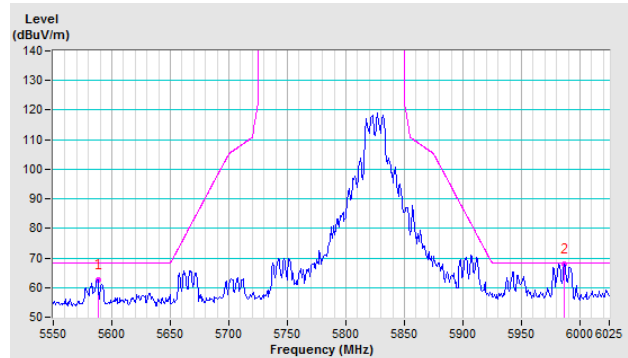


CH 165 5825 MHz

Horizontal



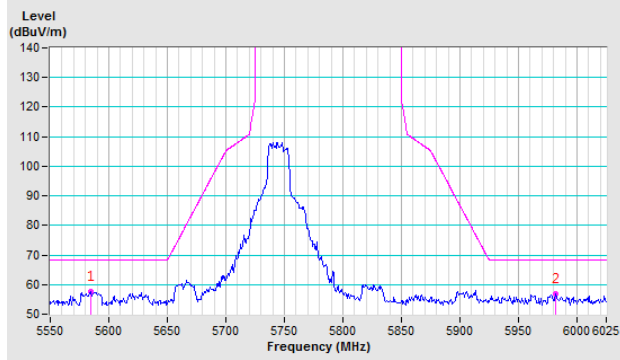
Vertical



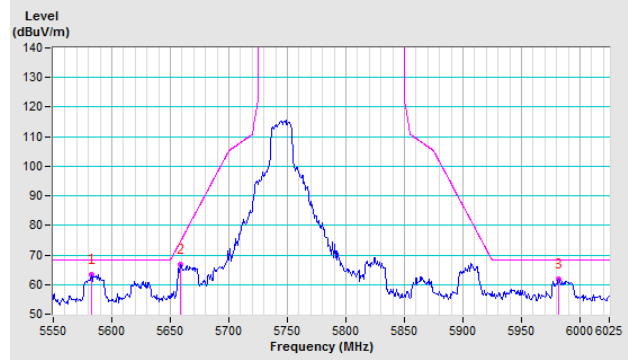
802.11ac (VHT20)

CH 149 5745 MHz

Horizontal

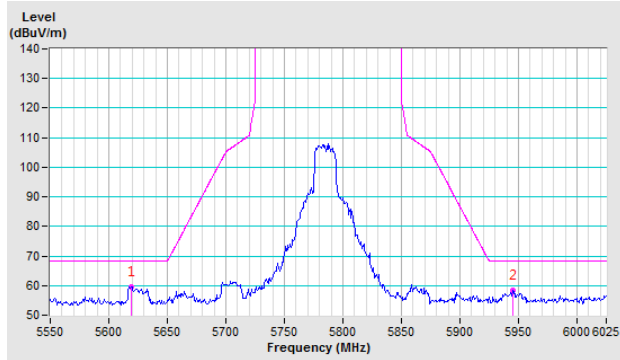


Vertical

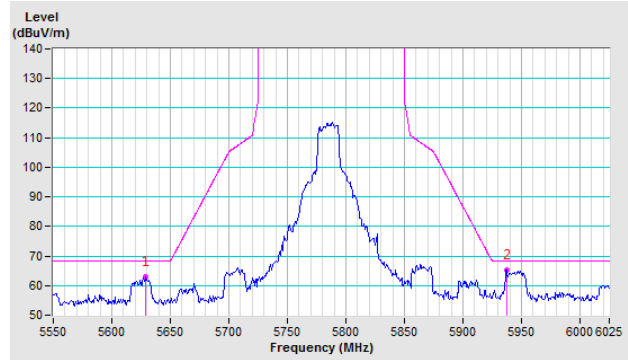


CH 157 5785 MHz

Horizontal

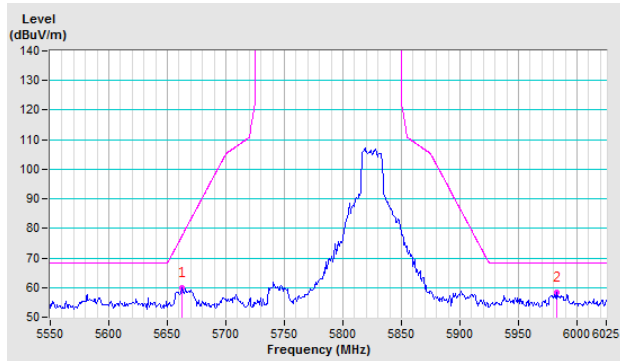


Vertical

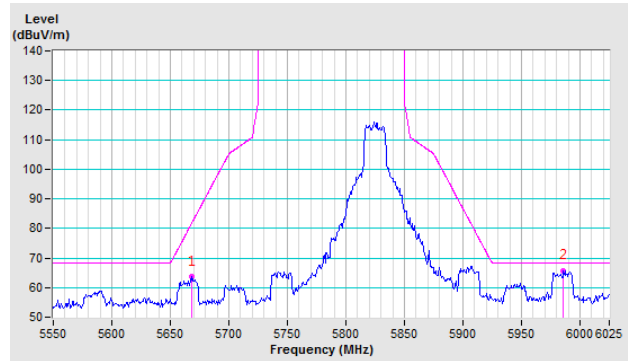


CH 165 5825 MHz

Horizontal



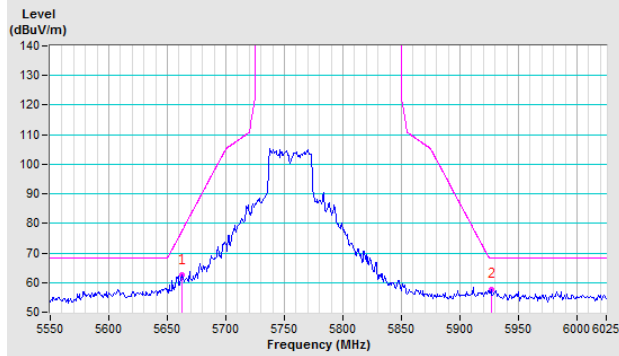
Vertical



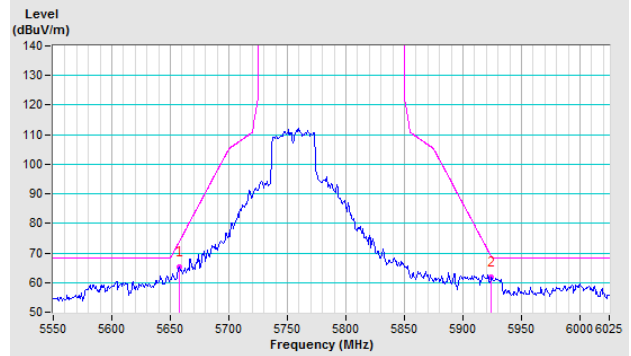
802.11ac (VHT40)

CH 151 5755 MHz

Horizontal

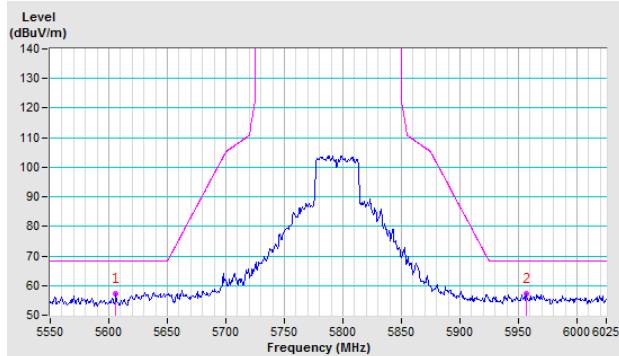


Vertical

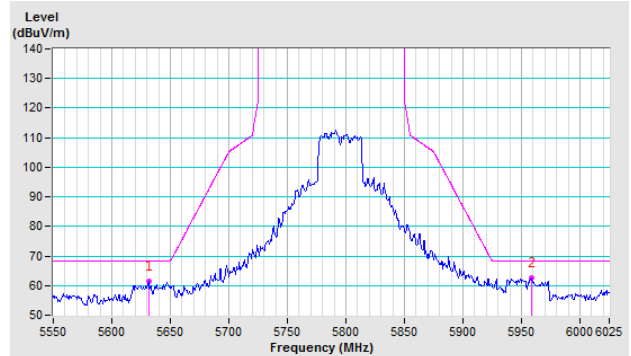


CH 159 5795 MHz

Horizontal



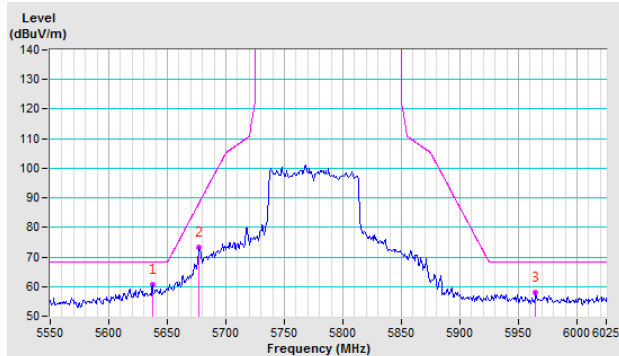
Vertical



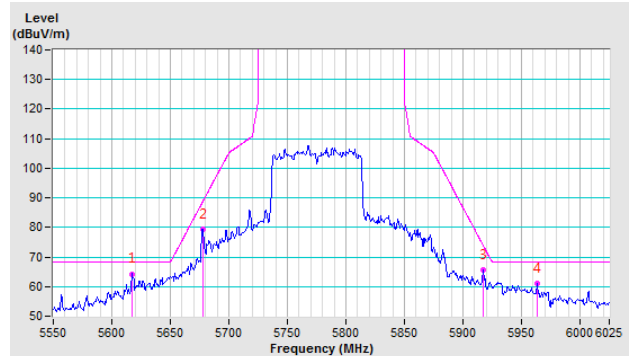
802.11ac (VHT80)

CH 155 5775 MHz

Horizontal



Vertical



Appendix – Information on the Testing Laboratories

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

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

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

--- END ---