

Partial FCC Test Report (Spot Check)

Report No.: RF190220C23B

FCC ID: KA2BA2820PA1

Original FCC ID: KA2WL8620APA1

Test Model: DBA-2820P

Received Date: Jul. 24, 2019

Test Date: Aug. 08 ~ Sep. 06, 2019

Issued Date: Sep. 24, 2019

Applicant: D-Link Corporation

Address: 17595 Mt. Herrmann, Fountain Valley, California, United States, 92708

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City
33383, TAIWAN

**FCC Registration /
Designation Number:** 788550 / TW0003



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	3
1 Certificate of Conformity	4
2 Summary of Test Results	5
2.1 Measurement Uncertainty	5
2.2 Modification Record	5
3 General Information	6
3.1 General Description of EUT	6
3.2 Description of Test Modes	8
3.2.1 Test Mode Applicability and Tested Channel Detail	9
3.3 Description of Support Units	11
3.3.1 Configuration of System under Test	11
3.4 General Description of Applied Standards	12
4 Test Types and Results	13
4.1 Radiated Emission and Bandedge Measurement	13
4.1.1 Limits of Radiated Emission and Bandedge Measurement	13
4.1.2 Test Instruments	14
4.1.3 Test Procedures	15
4.1.4 Deviation from Test Standard	15
4.1.5 Test Setup	16
4.1.6 EUT Operating Conditions	17
4.1.7 Test Results	18
4.2 Transmit Power Measurement	47
4.2.1 Limits of Transmit Power Measurement	47
4.2.2 Test Setup	47
4.2.3 Test Instruments	48
4.2.4 Test Procedure	48
4.2.5 Deviation from Test Standard	48
4.2.6 EUT Operating Conditions	48
4.2.7 Test Result	49
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 Band)	52
5 Pictures of Test Arrangements	53
Appendix – Information of the Testing Laboratories	54

Release Control Record

Issue No.	Description	Date Issued
RF190220C23B	Original release.	Sep. 24, 2019

1 Certificate of Conformity

Product: Nuclias Cloud-Managed AC2600 Wave 2 Access Point

Brand: D-Link

Test Model: DBA-2820P

Sample Status: Engineering sample

Applicant: D-Link Corporation

Test Date: Aug. 08 ~ Sep. 06, 2019

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 RF characteristics under the conditions specified in this report.

Prepared by : , **Date:** Sep. 24, 2019
Polly Chien / Specialist

Approved by : , **Date:** Sep. 24, 2019
Bruce Chen / Senior Project Engineer

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 -0.3dB at 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.

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

Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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) ($\pm$)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.86 dB
	200MHz ~ 1000MHz	3.87 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	Nuclias Cloud-Managed AC2600 Wave 2 Access Point
Brand	D-Link
Test Model	DBA-2820P
Sample Status	Engineering sample
Power Supply Rating	12Vdc (From adapter) 54Vdc (From PoE)
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	5260 ~ 5320MHz, 5500 ~ 5700MHz
Number of Channel	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 For 802.11ac (VHT80+VHT80): 5180~5240MHz & 5260~5320MHz & 5500~5700MHz & 5745~5825MHz: 802.11ac (VHT80+VHT80): 3
Output Power	CDD Mode: 5260 ~ 5320MHz: 163.390mW 5500 ~ 5700MHz: 182.136mW Beamforming Mode: 5260 ~ 5320MHz: 125.448mW 5500 ~ 5700MHz: 156.311mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Antenna
Cable Supplied	NA

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the original report (BV CPS report no.: RF190220C23-2) is adding 5.26GHz to 5.32GHz and 5.50GHz to 5.70GHz by software.
2. The differences compared to the original BV CPS report no. RF180424C01C are changing the outer casing, model, product name and updating FW. The exhibit prepared for FCC Spot Check Verification report, the format, test items and amount of spot-check test data are decided by applicant's engineering judgment, for more details please refer to the declaration letter exhibited. Radiated emission had been re-tested and transmit power had been re-checked. For other testing data, please refer to the original report.

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

Modulation Mode	Beamforming Mode	TX Function	Available Channel
802.11a	Not Support	4TX	52 ~ 64, 100 ~ 140
802.11n (HT20)	Support	4TX	52 ~ 64, 100 ~ 140
802.11n (HT40)	Support	4TX	54 ~ 62, 110 ~ 134
802.11ac (VHT20)	Support	4TX	52 ~ 64, 100 ~ 140
802.11ac (VHT40)	Support	4TX	54 ~ 62, 110 ~ 134
802.11ac (VHT80)	Support	4TX	42, 106, 122
802.11ac (VHT80+ VHT80)	Not Support	2TX+2TX	42 + 106 58 + 106 58 + 155

* 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 and Beamforming mode are presented in power output test item. For other test items, CDD mode is the worst case for final tests after pretesting.

4. The EUT uses following antennas.

Ant. No.	Type	Connector	Gain (dBi)
			5GHz
0, 1, 2, 3	PIFA	I-PEX	4

*The antenna is cross-polarized antenna.

5. The EUT consumes power from the following Adapters and PoE.

Adapter 1	
Brand	Channel Well Technology
Model	2ABL030F NJ
Input Power	100-240Vac~, 50/60Hz 1.0A
Output Power	12.0Vdc / 2.5A
Power Cord	1.2m non-shielded power cord without core

Adapter 2	
Brand	Asian Power Devices Inc.
Model	WA-30J12R
Input Power	100-240Vac~, 50-60Hz, 0.9A Max
Output Power	12Vdc / 2.5A
Power Cord	1.2m non-shielded power cord without core

PoE (Support unit)	
Brand	LEADER ELECTRONICS INC.
Model	NU90-J540167-I1
Input Power	100-240Vac~, 50-60Hz, 1.2A
Output Power	54Vdc / 1.67A

3.2 Description of Test Modes

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	5530 MHz	122	5610 MHz

For 802.11ac (VHT80+VHT80):

5180~5240MHz & 5260~5320MHz & 5500~5700MHz & 5745~5825MHz:

3 channels are provided for 802.11ac (VHT80+VHT80):

Channel	Frequency	Channel	Frequency
42 + 106	5210MHz + 5530MHz	58 + 106	5290 MHz + 5530MHz
58 + 155	5290 MHz + 5775MHz		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to			Description
	RE $\geq$ 1G	RE<1G	APCM	
A	√	√	√	Power from adapter 1
B	-	√	-	Power from adapter 2
C	-	√	-	Power from POE

Where RE $\geq$ 1G: Radiated Emission above 1GHz & Bandedge Measurement
 RE<1G: Radiated Emission below 1GHz
 APCM: Antenna Port Conducted Measurement

Note:

- The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.
- "-" 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)
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	58.5
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0
	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	6.5
	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	13.5
	802.11ac (VHT80)		106 to 122	106, 122	OFDM	58.5
A	802.11ac (VHT80+VHT80)	5180-5240 5260-5320 5500-5700 5745-5825	42	42+106	OFDM	130.0
			106		OFDM	130.0
			58	58+106	OFDM	130.0
			106		OFDM	130.0
			58	58+155	OFDM	130.0
			155		OFDM	130.0

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, C	802.11a	5260-5320	52 to 64	52	OFDM	6.0
	802.11a	5500-5700	100 to 144		OFDM	6.0

Transmit Power 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)
CDD Mode						
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	58.5
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0
	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	6.5
	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	13.5
	802.11ac (VHT80)		106 to 122	106, 122	OFDM	58.5
A	802.11ac (VHT80+VHT80)	5180-5240 5260-5320 5500-5700 5745-5825	42	42+106	OFDM	130.0
			106		OFDM	130.0
			58	58+106	OFDM	130.0
			106		OFDM	130.0
			58	58+155	OFDM	130.0
			155		OFDM	130.0
Beamforming Mode						
A	802.11n (HT20)	5260-5320	52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	58.5
A	802.11n (HT20)	5500-5700	100 to 140	100, 116, 140	OFDM	6.5
	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	13.5
	802.11ac (VHT80)		106 to 122	106, 122	OFDM	58.5

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	24 deg. C, 66% RH	120Vac, 60Hz	Greg Lin
RE<1G	25 deg. C, 67% RH	120Vac, 60Hz 54Vdc	Greg Lin
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Chris Lin

3.3 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	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	Load	NA	NA	NA	NA	-
C.	PoE	LEADER ELECTRONICS INC.	NU90-J540167-I1	NA	NA	Provided by client

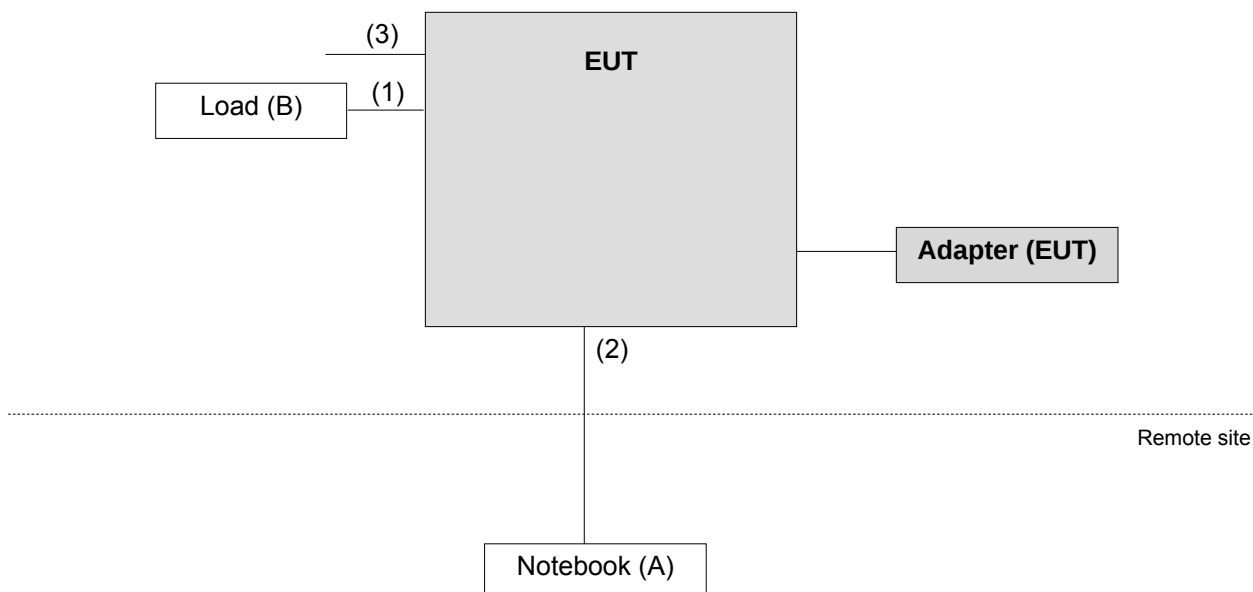
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

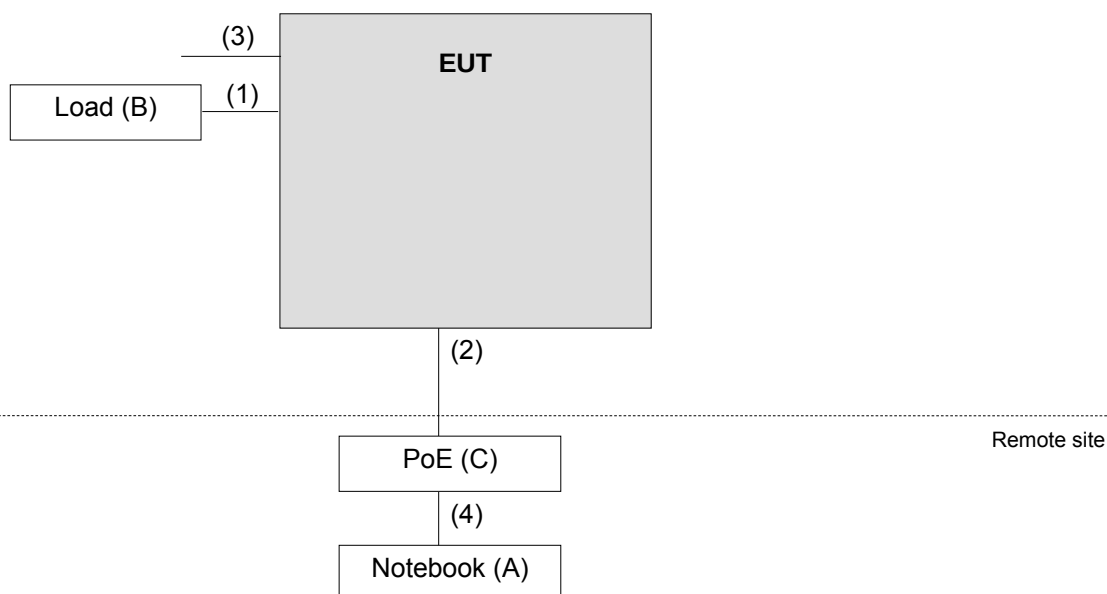
ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	1.5	N	0	RJ45, Cat5e
2.	LAN cable	1	5	N	0	RJ45, Cat5e
3.	LAN to console cable	1	1.2	N	0	RJ45, Cat5e
4.	RJ45, Cat5e	1	1.8	N	0	-

3.3.1 Configuration of System under Test

Mode A, B



Mode C



3.4 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)

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10:2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

Limits of unwanted emission out of the restricted bands

Applicable To			Limit	
789033 D02 General UNII Test Procedure New Rules v02r01			Field Strength at 3m	
			PK: 74 (dBµV/m)	AV: 54 (dBµV/m)
Frequency Band	Applicable To		EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)		PK: -27 (dBm/MHz)	PK: 68.2(dBµV/m)
5250~5350 MHz	15.407(b)(2)			
5470~5725 MHz	15.407(b)(3)			
5725~5850 MHz	☒	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)	Emission limits in section 15.247(d)	
^{*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.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 30, 2019	May 29, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 22, 2018	Nov. 21, 2019
HORN Antenna SCHWARZBECK	9120D	209	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna TESEQ	HLA 6121	45745	Jul. 01, 2019	Jun. 30, 2020
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 21, 2018	Aug. 20, 2019
			Aug. 20, 2019	Aug. 19, 2020
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 27, 2019	Mar. 26, 2020
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH3-01	Aug. 21, 2018	Aug. 20, 2019
			Aug. 20, 2019	Aug. 19, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 21, 2018	Aug. 20, 2019
			Aug. 20, 2019	Aug. 19, 2020
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM- SM-8000	Cable-CH3-03 (309224+170907)	Aug. 21, 2018	Aug. 20, 2019
			Aug. 20, 2019	Aug. 19, 2020
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Nov. 14, 2018	Nov. 13, 2019
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5 5190004/MY55190 007/MY55210005	Jul. 15, 2019	Jul. 14, 2020

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 3.

4.1.3 Test Procedures

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case 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.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 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:

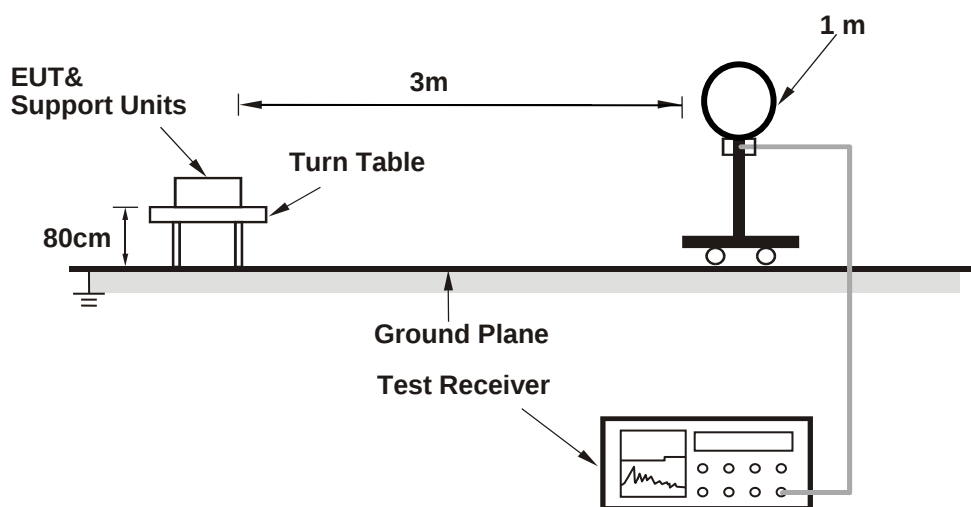
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

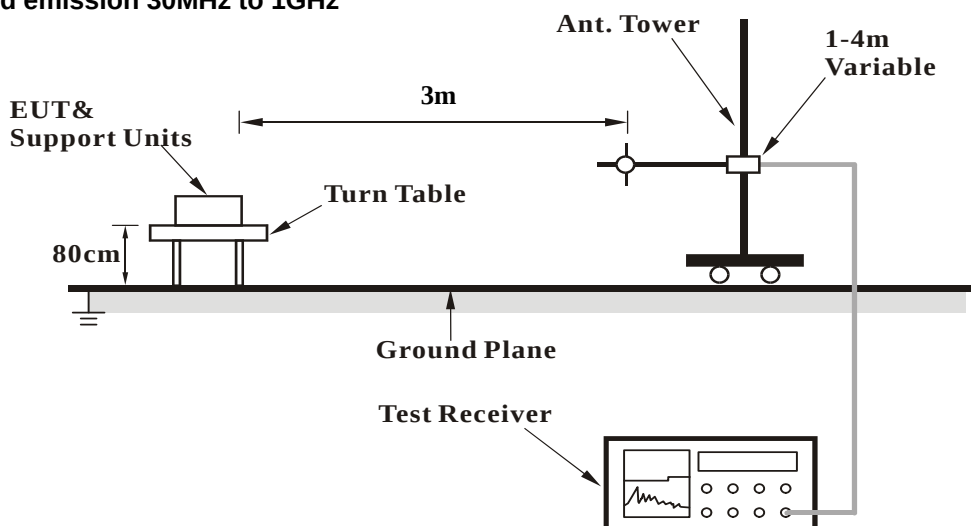
No deviation.

4.1.5 Test Setup

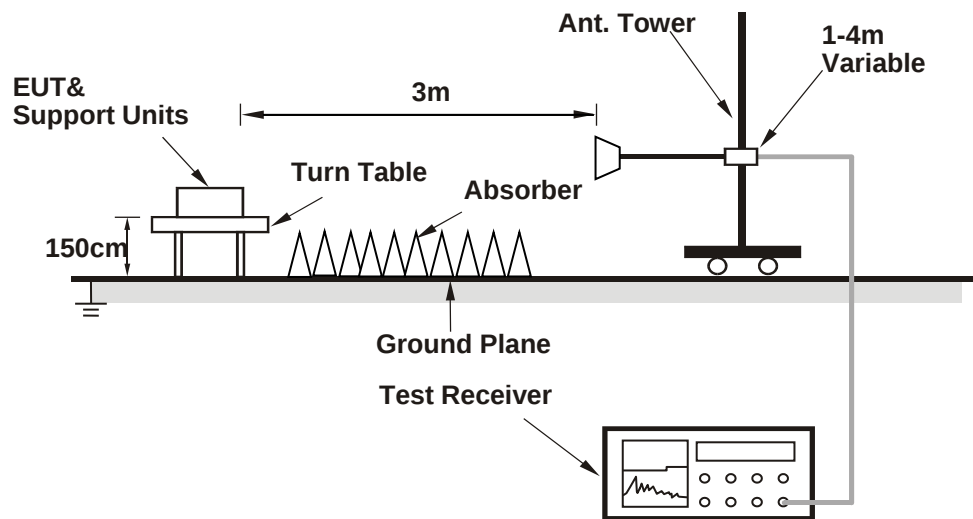
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Prepared a notebook to act as a communication partner and placed it outside of testing area.
- The communication partner connected with EUT via a RJ45 cable and ran a test program (QRCT 3.0.239.0) to enable EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz data:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	47.4 PK	74.0	-26.6	3.48 H	61	43.3	4.1
2	5150.00	43.8 AV	54.0	-10.2	3.48 H	61	39.7	4.1
3	*5260.00	120.3 PK			3.81 H	52	82.1	38.2
4	*5260.00	109.2 AV			3.81 H	52	71.0	38.2
5	#10520.00	59.5 PK	68.2	-8.7	1.83 H	261	43.2	16.3
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	57.4 PK	74.0	-16.6	3.69 V	352	53.3	4.1
2	5150.00	43.8 AV	54.0	-10.2	3.69 V	352	39.7	4.1
3	*5260.00	118.6 PK			3.55 V	338	80.4	38.2
4	*5260.00	107.1 AV			3.55 V	338	68.9	38.2
5	#10520.00	59.6 PK	68.2	-8.6	2.86 V	172	43.3	16.3

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	119.4 PK			3.72 H	55	81.3	38.1
2	*5300.00	108.0 AV			3.72 H	55	69.9	38.1
3	10600.00	60.0 PK	74.0	-14.0	2.84 H	162	43.5	16.5
4	10600.00	46.5 AV	54.0	-7.5	2.84 H	162	30.0	16.5
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	116.9 PK			3.86 V	342	78.8	38.1
2	*5300.00	105.7 AV			3.86 V	342	67.6	38.1
3	10600.00	59.6 PK	74.0	-14.4	3.16 V	233	43.1	16.5
4	10600.00	46.0 AV	54.0	-8.0	3.16 V	233	29.5	16.5

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	119.4 PK			1.82 H	62	81.2	38.2
2	*5320.00	108.3 AV			1.82 H	62	70.1	38.2
3	5350.00	67.1 PK	74.0	-6.9	1.52 H	302	63.2	3.9
4	5350.00	51.6 AV	54.0	-2.4	1.52 H	302	47.7	3.9
5	10640.00	60.3 PK	74.0	-13.7	2.20 H	194	43.6	16.7
6	10640.00	46.2 AV	54.0	-7.8	2.20 H	194	29.5	16.7
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	116.0 PK			3.87 V	11	77.8	38.2
2	*5320.00	105.0 AV			3.87 V	11	66.8	38.2
3	5350.00	61.4 PK	74.0	-12.6	2.11 V	70	57.5	3.9
4	5350.00	47.5 AV	54.0	-6.5	2.11 V	70	43.6	3.9
5	10640.00	59.7 PK	74.0	-14.3	1.75 V	259	43.0	16.7
6	10640.00	46.0 AV	54.0	-8.0	1.75 V	259	29.3	16.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.2 PK	74.0	-16.8	1.52 H	289	52.8	4.4
2	5460.00	45.0 AV	54.0	-9.0	1.52 H	289	40.6	4.4
3	#5470.00	62.3 PK	68.2	-5.9	1.32 H	301	57.8	4.5
4	*5500.00	117.9 PK			1.64 H	302	79.1	38.8
5	*5500.00	107.2 AV			1.64 H	302	68.4	38.8
6	11000.00	60.6 PK	74.0	-13.4	1.83 H	259	42.2	18.4
7	11000.00	47.0 AV	54.0	-7.0	1.83 H	259	28.6	18.4
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	57.1 PK	74.0	-16.9	2.83 V	354	52.7	4.4
2	5460.00	44.7 AV	54.0	-9.3	2.83 V	354	40.3	4.4
3	#5470.00	60.4 PK	68.2	-7.8	3.11 V	323	55.9	4.5
4	*5500.00	114.0 PK			3.47 V	278	75.2	38.8
5	*5500.00	103.3 AV			3.47 V	278	64.5	38.8
6	11000.00	60.3 PK	74.0	-13.7	2.67 V	198	41.9	18.4
7	11000.00	46.7 AV	54.0	-7.3	2.67 V	198	28.3	18.4

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 116	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	*5580.00	118.2 PK			1.83 H	302	79.5	38.7
2	*5580.00	106.9 AV			1.83 H	302	68.2	38.7
3	11160.00	60.4 PK	74.0	-13.6	2.13 H	178	43.3	17.1
4	11160.00	46.8 AV	54.0	-7.2	2.13 H	178	29.7	17.1
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	114.5 PK			3.52 V	303	75.8	38.7
2	*5580.00	103.6 AV			3.52 V	303	64.9	38.7
3	11160.00	59.4 PK	74.0	-14.6	1.83 V	268	42.3	17.1
4	11160.00	46.0 AV	54.0	-8.0	1.83 V	268	28.9	17.1

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	116.4 PK			1.83 H	311	77.5	38.9
2	*5700.00	105.5 AV			1.83 H	311	66.6	38.9
3	#5725.00	64.2 PK	68.2	-4.0	1.81 H	63	59.6	4.6
4	11400.00	60.7 PK	74.0	-13.3	1.79 H	229	43.2	17.5
5	11400.00	47.3 AV	54.0	-6.7	1.79 H	229	29.8	17.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	113.8 PK			1.73 V	76	74.9	38.9
2	*5700.00	102.7 AV			1.73 V	76	63.8	38.9
3	#5725.00	62.8 PK	68.2	-5.4	2.03 V	115	58.2	4.6
4	11400.00	59.9 PK	74.0	-14.1	2.24 V	213	42.4	17.5
5	11400.00	46.6 AV	54.0	-7.4	2.24 V	213	29.1	17.5

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.

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.0 PK	74.0	-16.0	1.66 H	287	53.9	4.1
2	5150.00	44.2 AV	54.0	-9.8	1.66 H	287	40.1	4.1
3	*5260.00	118.9 PK			3.69 H	62	80.7	38.2
4	*5260.00	107.4 AV			3.69 H	62	69.2	38.2
5	#10520.00	59.2 PK	68.2	-9.0	1.93 H	244	42.9	16.3
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	57.5 PK	74.0	-16.5	1.79 V	131	53.4	4.1
2	5150.00	44.0 AV	54.0	-10.0	1.79 V	131	39.9	4.1
3	*5260.00	114.4 PK			1.41 V	55	76.2	38.2
4	*5260.00	103.1 AV			1.41 V	55	64.9	38.2
5	#10520.00	58.8 PK	68.2	-9.4	2.39 V	177	42.5	16.3

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	118.6 PK			3.62 H	63	80.5	38.1
2	*5300.00	107.0 AV			3.62 H	63	68.9	38.1
3	10600.00	60.4 PK	74.0	-13.6	2.53 H	187	43.9	16.5
4	10600.00	46.5 AV	54.0	-7.5	2.53 H	187	30.0	16.5
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	114.9 PK			2.52 V	13	76.8	38.1
2	*5300.00	103.5 AV			2.52 V	13	65.4	38.1
3	10600.00	59.6 PK	74.0	-14.4	2.15 V	238	43.1	16.5
4	10600.00	45.8 AV	54.0	-8.2	2.15 V	238	29.3	16.5

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	119.0 PK			2.03 H	69	80.8	38.2
2	*5320.00	107.9 AV			2.03 H	69	69.7	38.2
3	5350.00	65.2 PK	74.0	-8.8	1.53 H	308	61.3	3.9
4	5350.00	50.8 AV	54.0	-3.2	1.53 H	308	46.9	3.9
5	10640.00	61.1 PK	74.0	-12.9	2.69 H	196	44.4	16.7
6	10640.00	46.1 AV	54.0	-7.9	2.69 H	196	29.4	16.7
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	116.8 PK			3.69 V	348	78.6	38.2
2	*5320.00	105.4 AV			3.69 V	348	67.2	38.2
3	5350.00	62.3 PK	74.0	-11.7	2.47 V	86	58.4	3.9
4	5350.00	46.8 AV	54.0	-7.2	2.47 V	86	42.9	3.9
5	10640.00	60.8 PK	74.0	-13.2	3.02 V	242	44.1	16.7
6	10640.00	45.6 AV	54.0	-8.4	3.02 V	242	28.9	16.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.5 PK	74.0	-15.5	1.87 H	97	54.1	4.4
2	5460.00	46.8 AV	54.0	-7.2	1.87 H	97	42.4	4.4
3	#5470.00	62.8 PK	68.2	-5.4	1.82 H	72	58.3	4.5
4	*5500.00	117.7 PK			1.93 H	294	78.9	38.8
5	*5500.00	106.4 AV			1.93 H	294	67.6	38.8
6	11000.00	60.0 PK	74.0	-14.0	1.94 H	243	41.6	18.4
7	11000.00	47.2 AV	54.0	-6.8	1.94 H	243	28.8	18.4
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	56.4 PK	74.0	-17.6	3.04 V	258	52.0	4.4
2	5460.00	45.3 AV	54.0	-8.7	3.04 V	258	40.9	4.4
3	#5470.00	60.6 PK	68.2	-7.6	3.42 V	271	56.1	4.5
4	*5500.00	115.6 PK			3.74 V	302	76.8	38.8
5	*5500.00	104.3 AV			3.74 V	302	65.5	38.8
6	11000.00	59.5 PK	74.0	-14.5	2.26 V	272	41.1	18.4
7	11000.00	46.6 AV	54.0	-7.4	2.26 V	272	28.2	18.4

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 116	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	*5580.00	117.5 PK			1.59 H	301	78.8	38.7
2	*5580.00	106.4 AV			1.59 H	301	67.7	38.7
3	11160.00	59.7 PK	74.0	-14.3	2.71 H	154	42.6	17.1
4	11160.00	46.3 AV	54.0	-7.7	2.71 H	154	29.2	17.1
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	115.6 PK			3.64 V	332	76.9	38.7
2	*5580.00	104.0 AV			3.64 V	332	65.3	38.7
3	11160.00	59.0 PK	74.0	-15.0	2.64 V	221	41.9	17.1
4	11160.00	45.6 AV	54.0	-8.4	2.64 V	221	28.5	17.1

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	117.1 PK			1.85 H	302	78.2	38.9
2	*5700.00	105.6 AV			1.85 H	302	66.7	38.9
3	#5725.00	65.5 PK	68.2	-2.7	1.83 H	67	60.9	4.6
4	11400.00	60.2 PK	74.0	-13.8	2.34 H	172	42.7	17.5
5	11400.00	47.1 AV	54.0	-6.9	2.34 H	172	29.6	17.5
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	116.3 PK			3.68 V	335	77.4	38.9
2	*5700.00	104.8 AV			3.68 V	335	65.9	38.9
3	#5725.00	63.3 PK	68.2	-4.9	3.21 V	79	58.7	4.6
4	11400.00	58.8 PK	74.0	-15.2	1.69 V	254	41.3	17.5
5	11400.00	46.4 AV	54.0	-7.6	1.69 V	254	28.9	17.5

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.

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.8 PK	74.0	-17.2	1.55 H	360	52.7	4.1
2	5150.00	43.9 AV	54.0	-10.1	1.55 H	360	39.8	4.1
3	*5270.00	115.5 PK			3.68 H	62	77.3	38.2
4	*5270.00	104.9 AV			3.68 H	62	66.7	38.2
5	#10540.00	59.7 PK	68.2	-8.5	2.86 H	173	43.3	16.4
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	56.2 PK	74.0	-17.8	2.23 V	152	52.1	4.1
2	5150.00	43.7 AV	54.0	-10.3	2.23 V	152	39.6	4.1
3	*5270.00	111.4 PK			1.53 V	54	73.2	38.2
4	*5270.00	100.1 AV			1.53 V	54	61.9	38.2
5	#10540.00	58.8 PK	68.2	-9.4	2.19 V	197	42.4	16.4

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	115.1 PK			1.96 H	67	76.9	38.2
2	*5310.00	103.9 AV			1.96 H	67	65.7	38.2
3	5350.00	65.2 PK	74.0	-8.8	2.03 H	274	61.3	3.9
4	5350.00	52.5 AV	54.0	-1.5	2.03 H	274	48.6	3.9
5	10620.00	59.6 PK	74.0	-14.4	2.28 H	175	42.9	16.7
6	10620.00	46.5 AV	54.0	-7.5	2.28 H	175	29.8	16.7
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	110.6 PK			1.73 V	58	72.4	38.2
2	*5310.00	100.1 AV			1.73 V	58	61.9	38.2
3	5350.00	62.7 PK	74.0	-11.3	2.53 V	358	58.8	3.9
4	5350.00	48.1 AV	54.0	-5.9	2.53 V	358	44.2	3.9
5	10620.00	59.1 PK	74.0	-14.9	3.03 V	281	42.4	16.7
6	10620.00	46.0 AV	54.0	-8.0	3.03 V	281	29.3	16.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.0 PK	74.0	-11.0	1.63 H	84	58.6	4.4
2	5460.00	51.2 AV	54.0	-2.8	1.63 H	84	46.8	4.4
3	#5470.00	66.2 PK	68.2	-2.0	1.93 H	67	61.7	4.5
4	*5510.00	114.0 PK			1.76 H	314	75.2	38.8
5	*5510.00	103.6 AV			1.76 H	314	64.8	38.8
6	11020.00	60.3 PK	74.0	-13.7	2.45 H	162	42.2	18.1
7	11020.00	47.4 AV	54.0	-6.6	2.45 H	162	29.3	18.1
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	57.3 PK	74.0	-16.7	3.76 V	336	52.9	4.4
2	5460.00	45.4 AV	54.0	-8.6	3.76 V	336	41.0	4.4
3	#5470.00	63.2 PK	68.2	-5.0	3.24 V	302	58.7	4.5
4	*5510.00	111.7 PK			3.69 V	312	72.9	38.8
5	*5510.00	101.1 AV			3.69 V	312	62.3	38.8
6	11020.00	59.2 PK	74.0	-14.8	2.66 V	254	41.1	18.1
7	11020.00	46.9 AV	54.0	-7.1	2.66 V	254	28.8	18.1

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 110	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	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	*5550.00	114.5 PK			1.59 H	301	75.8	38.7
2	*5550.00	104.0 AV			1.59 H	301	65.3	38.7
3	11100.00	60.0 PK	74.0	-14.0	2.46 H	167	42.8	17.2
4	11100.00	46.6 AV	54.0	-7.4	2.46 H	167	29.4	17.2
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	113.3 PK			3.04 V	339	74.6	38.7
2	*5550.00	102.4 AV			3.04 V	339	63.7	38.7
3	11100.00	58.7 PK	74.0	-15.3	2.71 V	305	41.5	17.2
4	11100.00	46.1 AV	54.0	-7.9	2.71 V	305	28.9	17.2

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	113.8 PK			3.28 H	301	74.8	39.0
2	*5670.00	103.3 AV			3.28 H	301	64.3	39.0
3	#5725.00	61.1 PK	68.2	-7.1	1.73 H	307	56.5	4.6
4	11340.00	60.3 PK	74.0	-13.7	2.91 H	163	42.6	17.7
5	11340.00	46.9 AV	54.0	-7.1	2.91 H	163	29.2	17.7
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	113.3 PK			3.72 V	334	74.3	39.0
2	*5670.00	102.3 AV			3.72 V	334	63.3	39.0
3	#5725.00	58.0 PK	68.2	-10.2	2.83 V	82	53.4	4.6
4	11340.00	59.1 PK	74.0	-14.9	1.63 V	242	41.4	17.7
5	11340.00	46.2 AV	54.0	-7.8	1.63 V	242	28.5	17.7

Remarks:

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

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.3 PK	74.0	-16.7	1.58 H	306	53.2	4.1
2	5150.00	44.7 AV	54.0	-9.3	1.58 H	306	40.6	4.1
3	*5290.00	110.2 PK			3.64 H	63	72.1	38.1
4	*5290.00	99.4 AV			3.64 H	63	61.3	38.1
5	5350.00	67.2 PK	74.0	-6.8	1.52 H	302	63.3	3.9
6	5350.00	52.8 AV	54.0	-1.2	1.52 H	302	48.9	3.9
7	#10580.00	60.8 PK	68.2	-7.4	2.42 H	238	44.2	16.6
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	56.8 PK	74.0	-17.2	2.43 V	287	52.7	4.1
2	5150.00	44.0 AV	54.0	-10.0	2.43 V	287	39.9	4.1
3	*5290.00	105.0 PK			1.74 V	65	66.9	38.1
4	*5290.00	94.7 AV			1.74 V	65	56.6	38.1
5	5350.00	64.3 PK	74.0	-9.7	1.92 V	93	60.4	3.9
6	5350.00	48.6 AV	54.0	-5.4	1.92 V	93	44.7	3.9
7	#10580.00	59.0 PK	68.2	-9.2	2.83 V	203	42.4	16.6

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	66.6 PK	74.0	-7.4	3.46 H	71	62.2	4.4
2	5460.00	50.9 AV	54.0	-3.1	3.46 H	71	46.5	4.4
3	#5470.00	67.9 PK	68.2	-0.3	3.71 H	59	63.4	4.5
4	*5530.00	111.1 PK			3.62 H	294	72.4	38.7
5	*5530.00	100.6 AV			3.62 H	294	61.9	38.7
6	#5725.00	58.4 PK	68.2	-9.8	2.74 H	281	53.8	4.6
7	11060.00	60.3 PK	74.0	-13.7	2.82 H	193	42.5	17.8
8	11060.00	47.2 AV	54.0	-6.8	2.82 H	193	29.4	17.8
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	64.0 PK	74.0	-10.0	2.85 V	343	59.6	4.4
2	5460.00	46.1 AV	54.0	-7.9	2.85 V	343	41.7	4.4
3	#5470.00	64.6 PK	68.2	-3.6	3.24 V	283	60.1	4.5
4	*5530.00	109.4 PK			3.74 V	336	70.7	38.7
5	*5530.00	98.8 AV			3.74 V	336	60.1	38.7
6	#5725.00	57.4 PK	68.2	-10.8	3.53 V	327	52.8	4.6
7	11060.00	59.1 PK	74.0	-14.9	2.25 V	274	41.3	17.8
8	11060.00	46.6 AV	54.0	-7.4	2.25 V	274	28.8	17.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	66.9 PK	74.0	-7.1	3.25 H	69	62.5	4.4
2	5460.00	51.9 AV	54.0	-2.1	3.25 H	69	47.5	4.4
3	#5470.00	67.7 PK	68.2	-0.5	3.61 H	61	63.2	4.5
4	*5610.00	112.1 PK			3.55 H	299	73.2	38.9
5	*5610.00	101.5 AV			3.55 H	299	62.6	38.9
6	#5725.00	58.9 PK	68.2	-9.3	2.78 H	279	54.3	4.6
7	11220.00	61.3 PK	74.0	-12.7	2.80 H	190	44.2	17.1
8	11220.00	47.5 AV	54.0	-6.5	2.80 H	190	30.4	17.1
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	65.0 PK	74.0	-9.0	2.78 V	340	60.6	4.4
2	5460.00	47.1 AV	54.0	-6.9	2.78 V	340	42.7	4.4
3	#5470.00	65.5 PK	68.2	-2.7	3.20 V	288	61.0	4.5
4	*5610.00	110.4 PK			3.60 V	339	71.5	38.9
5	*5610.00	99.6 AV			3.60 V	339	60.7	38.9
6	#5725.00	57.8 PK	68.2	-10.4	3.49 V	320	53.2	4.6
7	11220.00	60.1 PK	74.0	-13.9	2.20 V	279	43.0	17.1
8	11220.00	47.6 AV	54.0	-6.4	2.20 V	279	30.5	17.1

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+VHT 80)

CHANNEL	TX Channel 42+106	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.2 PK	74.0	-10.8	1.27 H	124	59.3	3.9
2	5150.00	49.5 AV	54.0	-4.5	1.27 H	124	45.6	3.9
3	*5210.00	109.0 PK			2.43 H	125	69.5	39.5
4	*5210.00	98.5 AV			2.43 H	125	59.0	39.5
5	5350.00	55.8 PK	74.0	-18.2	2.67 H	142	51.8	4.0
6	5350.00	43.9 AV	54.0	-10.1	2.67 H	142	39.9	4.0
7	5460.00	63.7 PK	74.0	-10.3	1.26 H	227	59.3	4.4
8	5460.00	50.2 AV	54.0	-3.8	1.26 H	227	45.8	4.4
9	#5470.00	65.7 PK	68.2	-2.5	2.49 H	225	61.3	4.4
10	*5530.00	110.1 PK			2.42 H	224	70.0	40.1
11	*5530.00	99.0 AV			2.42 H	224	58.9	40.1
12	#5725.00	55.6 PK	68.2	-12.6	2.09 H	138	51.2	4.4
13	#10420.00	57.0 PK	68.2	-11.2	2.84 H	196	41.0	16.0
14	11060.00	59.4 PK	74.0	-14.6	2.09 H	188	41.5	17.9
15	11060.00	46.7 AV	54.0	-7.3	2.09 H	188	28.8	17.9
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	46.4 PK	74.0	-27.6	2.76 V	254	42.5	3.9
2	5150.00	43.8 AV	54.0	-10.2	2.76 V	254	39.9	3.9
3	*5210.00	106.2 PK			3.25 V	91	66.7	39.5
4	*5210.00	95.5 AV			3.25 V	91	56.0	39.5
5	5350.00	57.2 PK	74.0	-16.8	3.49 V	111	53.2	4.0
6	5350.00	42.7 AV	54.0	-11.3	3.49 V	111	38.7	4.0
7	5460.00	57.3 PK	74.0	-16.7	3.23 V	297	52.9	4.4
8	5460.00	45.2 AV	54.0	-8.8	3.23 V	297	40.8	4.4
9	#5470.00	60.6 PK	68.2	-7.6	2.89 V	255	56.2	4.4
10	*5530.00	103.8 PK			2.95 V	224	63.7	40.1
11	*5530.00	92.9 AV			2.95 V	224	52.8	40.1
12	#5725.00	56.2 PK	68.2	-12.0	3.42 V	188	51.8	4.4
13	#10420.00	57.2 PK	68.2	-11.0	2.96 V	252	41.2	16.0
14	11060.00	59.3 PK	74.0	-14.7	1.59 V	253	41.4	17.9
15	11060.00	45.6 AV	54.0	-8.4	1.59 V	253	27.7	17.9

Remarks:

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

CHANNEL	TX Channel 58+106	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.2 PK	74.0	-16.8	2.01 H	239	53.3	3.9
2	5150.00	44.3 AV	54.0	-9.7	2.01 H	239	40.4	3.9
3	*5290.00	109.4 PK			2.45 H	132	70.0	39.4
4	*5290.00	99.2 AV			2.45 H	132	59.8	39.4
5	5350.00	66.3 PK	74.0	-7.7	2.53 H	132	62.3	4.0
6	5350.00	52.0 AV	54.0	-2.0	2.53 H	132	48.0	4.0
7	5460.00	63.0 PK	74.0	-11.0	1.46 H	227	58.6	4.4
8	5460.00	48.9 AV	54.0	-5.1	1.46 H	227	44.5	4.4
9	#5470.00	64.2 PK	68.2	-4.0	2.35 H	223	59.8	4.4
10	*5530.00	110.5 PK			2.44 H	234	70.4	40.1
11	*5530.00	99.5 AV			2.44 H	234	59.4	40.1
12	#5725.00	56.7 PK	68.2	-11.5	2.11 H	142	52.3	4.4
13	#10580.00	59.0 PK	68.2	-9.2	2.29 H	177	41.9	17.1
14	11060.00	59.5 PK	74.0	-14.5	2.18 H	193	41.6	17.9
15	11060.00	46.5 AV	54.0	-7.5	2.18 H	193	28.6	17.9

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	46.7 PK	74.0	-27.3	2.98 V	231	42.8	3.9
2	5150.00	43.5 AV	54.0	-10.5	2.98 V	231	39.6	3.9
3	*5290.00	98.8 PK			3.86 V	256	59.4	39.4
4	*5290.00	88.2 AV			3.86 V	256	48.8	39.4
5	5350.00	57.2 PK	74.0	-16.8	3.57 V	289	53.2	4.0
6	5350.00	44.0 AV	54.0	-10.0	3.57 V	289	40.0	4.0
7	5460.00	57.6 PK	74.0	-16.4	3.11 V	286	53.2	4.4
8	5460.00	44.9 AV	54.0	-9.1	3.11 V	286	40.5	4.4
9	#5470.00	60.4 PK	68.2	-7.8	2.87 V	269	56.0	4.4
10	*5530.00	104.3 PK			2.97 V	226	64.2	40.1
11	*5530.00	93.5 AV			2.97 V	226	53.4	40.1
12	#5725.00	56.3 PK	68.2	-11.9	3.55 V	186	51.9	4.4
13	#10580.00	58.9 PK	68.2	-9.3	2.93 V	207	41.8	17.1
14	11060.00	59.7 PK	74.0	-14.3	1.53 V	234	41.8	17.9
15	11060.00	46.2 AV	54.0	-7.8	1.53 V	234	28.3	17.9

Remarks:

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

CHANNEL	TX Channel 58+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	5150.00	57.6 PK	74.0	-16.4	2.41 H	131	53.7	3.9
2	5150.00	44.5 AV	54.0	-9.5	2.41 H	131	40.6	3.9
3	*5290.00	109.9 PK			2.43 H	132	70.5	39.4
4	*5290.00	99.9 AV			2.43 H	132	60.5	39.4
5	5350.00	67.5 PK	74.0	-6.5	2.45 H	131	63.5	4.0
6	5350.00	52.4 AV	54.0	-1.6	2.45 H	131	48.4	4.0
7	#5646.15	57.4 PK	68.2	-10.8	1.71 H	331	52.8	4.6
8	#5650.00	58.9 PK	68.2	-9.3	2.28 H	218	54.3	4.6
9	*5775.00	107.7 PK			1.71 H	331	67.5	40.2
10	*5775.00	97.2 AV			1.71 H	331	57.0	40.2
11	#5925.00	58.8 PK	68.2	-9.4	1.96 H	203	53.6	5.2
12	#5969.87	58.0 PK	68.2	-10.2	1.71 H	331	52.7	5.3
13	#10580.00	59.5 PK	68.2	-8.7	1.96 H	273	42.4	17.1
14	11550.00	58.5 PK	74.0	-15.5	2.46 H	283	40.7	17.8
15	11550.00	45.4 AV	54.0	-8.6	2.46 H	283	27.6	17.8

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	46.7 PK	74.0	-27.3	2.98 V	231	42.8	3.9
2	5150.00	43.5 AV	54.0	-10.5	2.98 V	231	39.6	3.9
3	*5290.00	99.5 PK			3.86 V	256	60.1	39.4
4	*5290.00	88.9 AV			3.86 V	256	49.5	39.4
5	5350.00	57.2 PK	74.0	-16.8	3.57 V	289	53.2	4.0
6	5350.00	44.0 AV	54.0	-10.0	3.57 V	289	40.0	4.0
7	#5646.15	56.5 PK	68.2	-11.7	3.96 V	267	51.9	4.6
8	#5650.00	57.5 PK	68.2	-10.7	3.51 V	274	52.9	4.6
9	*5775.00	102.9 PK			3.96 V	267	62.7	40.2
10	*5775.00	92.8 AV			3.96 V	267	52.6	40.2
11	#5925.00	58.1 PK	68.2	-10.1	3.55 V	274	52.9	5.2
12	#5976.28	57.5 PK	68.2	-10.7	3.96 V	267	52.2	5.3
13	#10580.00	58.9 PK	68.2	-9.3	2.93 V	207	41.8	17.1
14	11550.00	57.9 PK	74.0	-16.1	3.01 V	167	40.1	17.8
15	11550.00	44.8 AV	54.0	-9.2	3.01 V	167	27.0	17.8

Remarks:

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

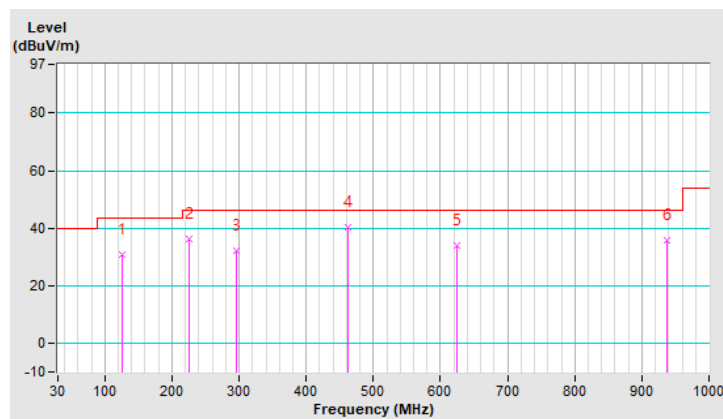
Below 1GHz Worst-Case Data: 802.11a

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	125.17	30.6 QP	43.5	-12.9	1.50 H	95	41.7	-11.1
2	226.27	36.2 QP	46.0	-9.8	1.25 H	259	47.4	-11.2
3	296.27	32.2 QP	46.0	-13.8	1.00 H	338	40.3	-8.1
4	461.53	40.4 QP	46.0	-5.6	2.00 H	5	44.8	-4.4
5	624.85	33.8 QP	46.0	-12.2	1.00 H	152	35.4	-1.6
6	937.88	36.0 QP	46.0	-10.0	1.25 H	93	32.1	3.9

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 of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

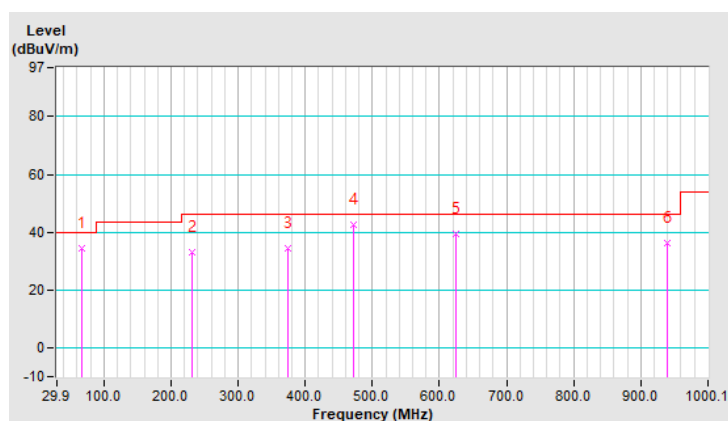


CHANNEL	TX Channel 52	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A		

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	66.84	34.3 QP	40.0	-5.7	1.00 V	16	45.4	-11.1
2	232.11	32.9 QP	46.0	-13.1	1.00 V	79	43.7	-10.8
3	374.04	34.4 QP	46.0	-11.6	1.50 V	2	40.7	-6.3
4	471.25	42.7 QP	46.0	-3.3	1.00 V	9	47.0	-4.3
5	624.85	39.3 QP	46.0	-6.7	1.50 V	147	40.9	-1.6
6	939.83	36.3 QP	46.0	-9.7	2.00 V	121	32.3	4.0

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 of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

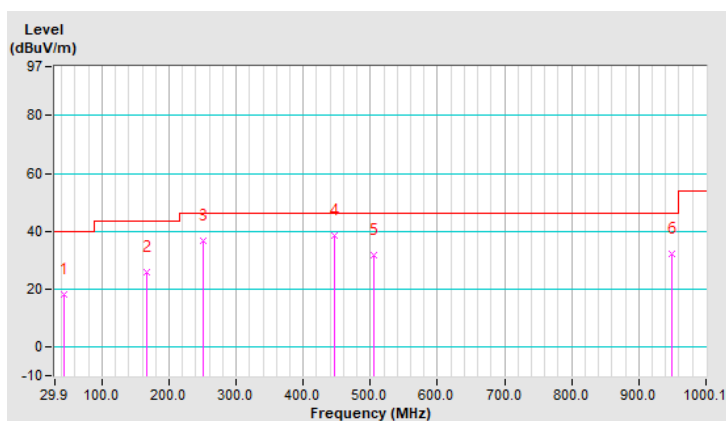


CHANNEL	TX Channel 52	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B		

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	43.51	18.0 QP	40.0	-22.0	1.99 H	108	28.2	-10.2
2	166.00	25.6 QP	43.5	-17.9	1.49 H	252	34.7	-9.1
3	251.55	36.5 QP	46.0	-9.5	1.00 H	313	46.3	-9.8
4	445.98	38.6 QP	46.0	-7.4	1.99 H	14	43.2	-4.6
5	504.31	31.8 QP	46.0	-14.2	1.49 H	56	35.5	-3.7
6	949.55	32.1 QP	46.0	-13.9	1.49 H	124	27.9	4.2

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 of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

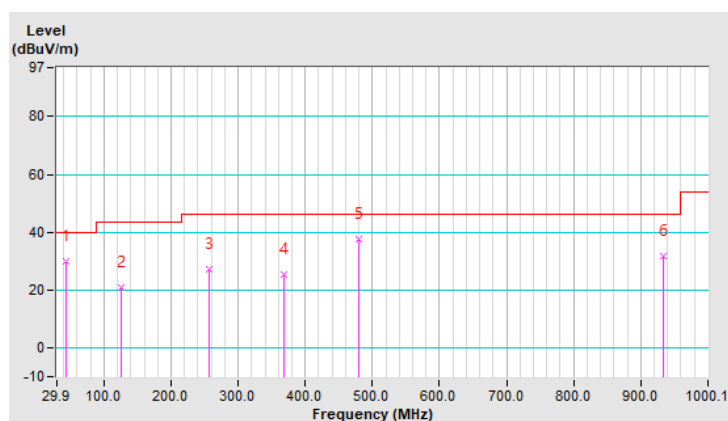


CHANNEL	TX Channel 52	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B		

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	43.51	29.9 QP	40.0	-10.1	1.25 V	60	40.1	-10.2
2	125.17	21.0 QP	43.5	-22.5	1.00 V	357	32.1	-11.1
3	257.38	27.1 QP	46.0	-18.9	2.00 V	281	36.7	-9.6
4	368.21	25.4 QP	46.0	-20.6	1.00 V	198	32.0	-6.6
5	479.03	37.8 QP	46.0	-8.2	1.00 V	49	42.1	-4.3
6	933.99	31.5 QP	46.0	-14.5	1.50 V	340	27.7	3.8

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 of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

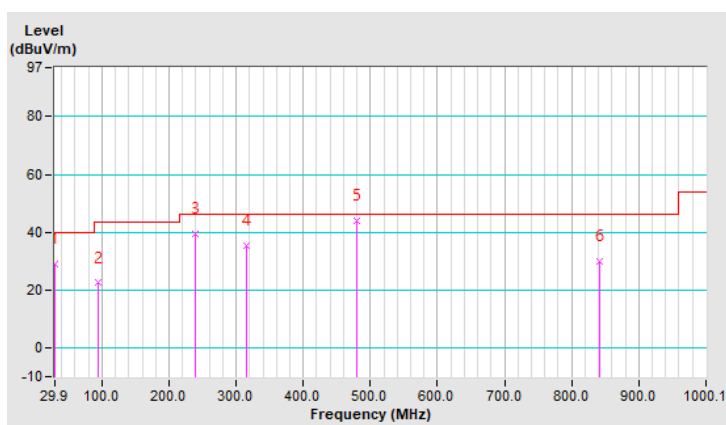


CHANNEL	TX Channel 52	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C		

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	30.00	28.9 QP	40.0	-11.1	1.99 H	81	40.3	-11.4
2	94.06	22.4 QP	43.5	-21.1	1.99 H	261	36.8	-14.4
3	239.88	39.5 QP	46.0	-6.5	1.00 H	322	49.6	-10.1
4	315.71	35.5 QP	46.0	-10.5	1.00 H	306	43.2	-7.7
5	479.03	44.1 QP	46.0	-1.9	1.49 H	278	48.4	-4.3
6	842.61	29.7 QP	46.0	-16.3	1.49 H	213	27.7	2.0

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 of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.

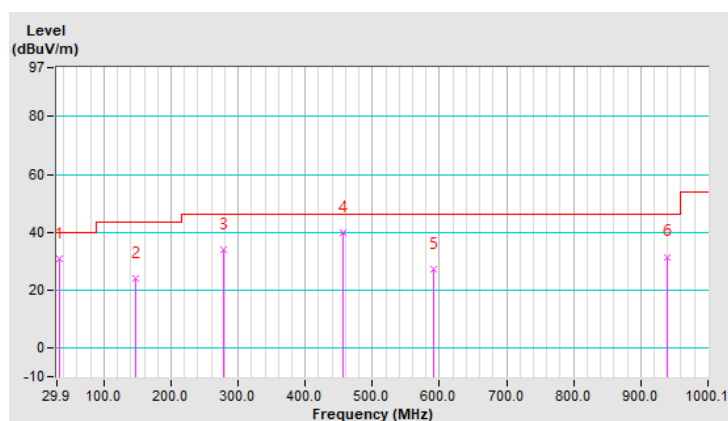


CHANNEL	TX Channel 52	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C		

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	33.79	30.6 QP	40.0	-9.4	1.50 V	263	41.5	-10.9
2	146.56	24.0 QP	43.5	-19.5	1.01 V	7	33.5	-9.5
3	278.77	34.1 QP	46.0	-11.9	2.00 V	301	42.6	-8.5
4	455.70	39.7 QP	46.0	-6.3	1.01 V	201	44.2	-4.5
5	591.80	27.0 QP	46.0	-19.0	1.01 V	16	29.2	-2.2
6	939.83	31.5 QP	46.0	-14.5	1.01 V	340	27.5	4.0

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 of frequency range 30MHz~1000MHz.
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB below the permissible value to be report.



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} ;

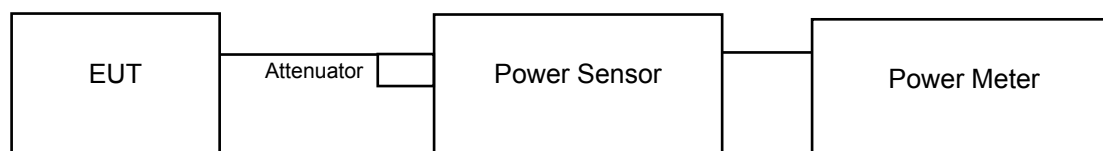
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

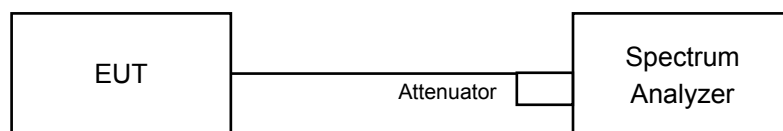
4.2.2 Test Setup

For Power Output

802.11a, 802.11n (HT20), 802.11n (HT40)



802.11ac (VHT80), 802.11ac (VHT80+VHT80)



4.2.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.2.4 Test Procedure

For Average Power Measurement

For 802.11a, 802.11n (HT20), 802.11n (HT40)

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.

802.11ac (VHT80), 802.11ac (VHT80+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 $\geq$ 3 MHz
- e. Number of points in sweep $\geq$ 2 Span / RBW
- f. Sweep time $\leq$ (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.
- k. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

4.2.5 Deviation from Test Standard

No deviation.

4.2.6 EUT Operating Conditions

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

4.2.7 Test Result

Power Output:

CDD Mode

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	13.34	13.41	12.90	13.11	83.467	19.22	24.00	Pass
60	5300	13.30	12.98	12.61	12.83	78.667	18.96	24.00	Pass
64	5320	13.07	12.61	12.53	12.97	76.237	18.82	24.00	Pass
100	5500	13.35	12.62	12.80	13.26	80.147	19.04	24.00	Pass
116	5580	13.02	12.30	12.43	12.76	73.405	18.66	24.00	Pass
140	5700	12.91	12.33	12.80	12.42	73.156	18.64	24.00	Pass

Note: 5260~5320MHz, 5500~5700MHz Gain = 4dBi < 6dBi, so the limit no need to be reduced.

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	13.90	13.82	13.57	13.72	94.947	19.77	24.00	Pass
60	5300	13.41	13.33	12.92	12.84	82.275	19.15	24.00	Pass
64	5320	13.50	13.03	13.11	12.71	81.606	19.12	24.00	Pass
100	5500	14.01	13.60	13.71	13.80	95.570	19.80	24.00	Pass
116	5580	13.02	12.60	12.55	12.80	75.286	18.77	24.00	Pass
140	5700	13.08	12.31	12.64	12.50	73.494	18.66	24.00	Pass

Note: 5260~5320MHz, 5500~5700MHz Gain = 4dBi < 6dBi, so the limit no need to be reduced.

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	16.34	16.40	15.71	15.96	163.390	22.13	24.00	Pass
62	5310	16.01	15.59	15.44	15.81	149.228	21.74	24.00	Pass
102	5510	16.90	16.41	16.33	16.67	182.136	22.60	24.00	Pass
110	5550	16.32	15.77	16.03	16.40	164.351	22.16	24.00	Pass
134	5670	15.90	15.34	15.77	15.43	145.774	21.64	24.00	Pass

Note: 5260~5320MHz, 5500~5700MHz Gain = 4dBi < 6dBi, so the limit no need to be reduced.

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	14.88	14.41	14.70	14.56	116.455	20.66	24.00	Pass
106	5530	17.41	16.66	17.00	17.01	201.779	23.05	24.00	Pass
122	5610	17.02	16.60	16.55	16.77	188.779	22.76	24.00	Pass

Note: 5260~5320MHz, 5500~5700MHz Gain = 4dBi < 6dBi, so the limit no need to be reduced.

802.11ac (VHT80+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+106	5210	16.21	16.28	-	-	84.245	19.26	24.00	Pass
	5530	-	-	16.71	16.79	94.634	19.76	24.00	Pass
58+106	5290	15.30	15.68	-	-	70.867	18.50	24.00	Pass
	5530	-	-	16.02	15.70	77.148	18.87	24.00	Pass
58+155	5290	15.31	15.72	-	-	71.288	18.53	24.00	Pass
	5775	-	-	15.18	15.52	68.606	18.36	30.00	Pass

Note: 5260~5320MHz, 5500~5700MHz Gain = 4dBi < 6dBi, so the limit no need to be reduced.

Beamforming Mode

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	12.89	12.66	12.34	12.57	73.116	18.64	24.00	Pass
60	5300	12.33	12.12	11.80	11.71	63.354	18.02	24.00	Pass
64	5320	12.21	11.76	11.95	11.60	61.753	17.91	24.00	Pass
100	5500	12.79	12.50	12.40	11.73	69.066	18.39	24.00	Pass
116	5580	12.01	11.26	11.33	11.37	56.543	17.52	24.00	Pass
140	5700	12.09	11.12	12.51	11.22	60.190	17.80	24.00	Pass

Note: 5260~5320MHz, 5500~5700MHz: Directional Gain = 5.38dBi < 6dBi, so the limit no need to be reduced.

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	15.15	15.28	14.56	14.83	125.448	20.98	24.00	Pass
62	5310	14.77	14.60	14.11	14.38	112.011	20.49	24.00	Pass
102	5510	15.84	15.05	15.05	15.60	138.657	21.42	24.00	Pass
110	5550	15.36	14.67	14.72	14.82	123.652	20.92	24.00	Pass
134	5670	14.77	14.01	14.39	14.35	109.875	20.41	24.00	Pass

Note: 5260~5320MHz, 5500~5700MHz: Directional Gain = 5.38dBi < 6dBi, so the limit no need to be reduced.

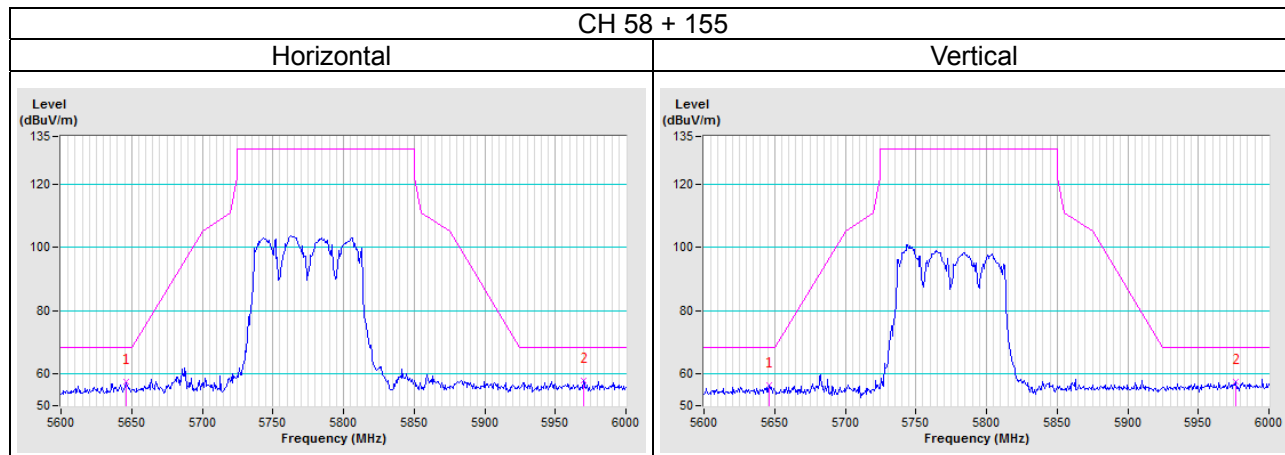
802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	13.75	13.33	13.26	13.40	88.304	19.46	24.00	Pass
106	5530	16.40	15.67	15.59	15.97	156.311	21.94	24.00	Pass
122	5610	15.88	15.44	15.39	15.60	144.623	21.60	24.00	Pass

Note: 5260~5320MHz, 5500~5700MHz: Directional Gain = 5.38dBi < 6dBi, so the limit no need to be reduced.

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

802.11ac (VHT80+ VHT 80)



5 Pictures of Test Arrangements

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

Appendix – Information of 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 FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

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

Lin Kou 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

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 ---