

FCC Test Report (5GHz WLAN)

Report No.: RF190618D07B-1

FCC ID: TK4WLE900VX

Test Model: WLE900VX

Received Date: Nov. 15, 2019

Test Date: Nov. 21 to Dec. 4, 2019

Issued Date: Dec. 17, 2019

Applicant: Compex Systems Pte Ltd

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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**FCC Registration /
Designation Number:** 198487 / TW2021



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Release Control Record

Issue No.	Description	Date Issued
RF190618D07B-1	Original release.	Dec. 17, 2019

1 Certificate of Conformity

Product: 802.11ac Dual Band Module

Brand: COMPEX

Test Model: WLE900VX

Sample Status: Engineering sample

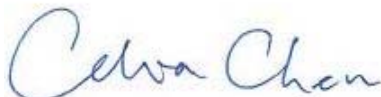
Applicant: Compex Systems Pte Ltd

Test Date: Nov. 21 to Dec. 4, 2019

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 RF characteristics under the conditions specified in this report.

Prepared by :



Date: Dec. 17, 2019

Celia Chen / Supervisor

Approved by :



Date: Dec. 17, 2019

Rex Lai / Associate Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	N/A	Refer to Note 2 below
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions above 1 GHz & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.03dB at 5350.00MHz.
	Radiated Emissions below 1GHz	N/A	Refer to Note 2 below
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	N/A	Refer to Note 2 below
15.407(a)(1/2/3)	Peak Power Spectral Density	N/A	Refer to Note 2 below
15.407(e)	6dB bandwidth	N/A	Refer to Note 2 below
15.407(g)	Frequency Stability	N/A	Refer to Note 2 below
15.203	Antenna Requirement	Pass	Antenna connector is Reverse SMA not a standard connector.

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. Test items: Radiated Emissions above 1GHz and Max Average Transmit Power were performed for this addendum. The others testing data refer to original test report.
3. N/A: Not Applicable

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 above 1 GHz	Above 1GHz	5.42 dB
Conducted Emissions	9kHz ~ 40GHz	2.63 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	802.11ac Dual Band Module
Brand	COMPEX
Test Model	WLE900VX
Status of EUT	Engineering sample
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only.
Modulation Technology	OFDM
Transfer Rate	802.11a: up to 54Mbps 802.11n: up to 450Mbps 802.11ac: up to 1299.9Mbps
Operating Frequency	5260~5320MHz, 5500~5700MHz: 802.11a, 802.11n (20MHz) / (40MHz) 5260~5320MHz, 5500~5720MHz: 802.11ac (20MHz) / (40MHz) / (80MHz)
Number of Channel	5260~5320MHz: 802.11a, 802.11n (20MHz), 802.11ac (20MHz): 4 802.11n (40MHz), 802.11ac (40MHz): 2 802.11ac (80MHz): 1 5500~5720MHz: 802.11a, 802.11n (20MHz): 11 802.11ac (20MHz): 12 802.11n (40MHz): 5 802.11ac (40MHz): 6 802.11ac (80MHz): 3
Output Power	5260~5320MHz: 185.828mW 5500~5720MHz: 183.277mW
Antenna Type	Refer to note as below
Antenna Connector	Reverse SMA
Accessory Device	N/A
Data Cable Supplied	N/A

Note:

1. The difference compared with original test report is adding frequency bands: 5260-5320MHz and 5500-5720MHz with antenna (Dipole antenna model: RFDPA171300SBLB801); therefore only Radiated Emissions above 1GHz and Max Average Transmit Power were performed for this addendum, and the others testing data refer to original test report.
2. This report is prepared for FCC class II permissive change.
3. The antenna information is listed as below:

Antenna Type	Dipole Antenna	Dipole Antenna
Model	RFDPA171300SBLB801	RFDPA171300SBLB801
Maximum Gain (dBi)	2412-2462MHz: 2.22 5180-5825MHz: 4.29	2412-2462MHz: 2.22 5180-5825MHz: 4.29
Remark	Original C2PC Approved	New C2PC
	Add new antenna and disabled DFS bands by software.	Enable DFS bands 2A and 2C

Remark: The device didn't support transmit beam-forming mode and Cyclic Delay Diversity (CDD) mode is uncorrected, so no add array gain to the band power and band PSD.

4. 2.4GHz and 5GHz modes cannot transmit simultaneously.

5. The EUT provides 3 completed transmitters and 3 receivers.

Modulation Mode	TX FUNCTION
802.11a	1TX
802.11n (20MHz)	3TX
802.11n (40MHz)	3TX
802.11ac (20MHz)	3TX
802.11ac (40MHz)	3TX
802.11ac (80MHz)	3TX

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

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

3.2 Description of Test Modes

5260~5320MHz:

4 channels are provided for 802.11a, 802.11n (20MHz), 802.11ac (20MHz):

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

2 channels are provided for 802.11n (40MHz), 802.11ac (40MHz):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (80MHz):

Channel	Frequency
58	5290MHz

5500~5720MHz:

11 channels are provided for 802.11a, 802.11n (20MHz):

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		

12 channels are provided for 802.11ac (20MHz):

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	144	5720 MHz

5 channels are provided for 802.11n (40MHz):

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

6 channels are provided for 802.11ac (40MHz):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels provided for 802.11ac (80MHz):

Channel	Frequency	Channel	Frequency
106	5530MHz	122	5610 MHz
138	5690 MHz		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	Note 2	Note 2	√	-

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

NOTE: 1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
2. Test items: Radiated Emissions above 1GHz and Max Average Transmit Power were performed for this addendum.
The others testing data refer to original test report.

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	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
-	802.11ac (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
-	802.11ac (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
-	802.11ac (80MHz)		58	58	OFDM	BPSK	29.3
-	802.11a	5500-5700	100 to 140	100, 120, 140	OFDM	BPSK	6
-	802.11ac (20MHz)	5500-5720	100 to 144	100, 120, 140, 144	OFDM	BPSK	6.5
-	802.11ac (40MHz)		102 to 142	102, 118, 134, 142	OFDM	BPSK	13.5
-	802.11ac (80MHz)		106 to 138	106, 122, 138	OFDM	BPSK	29.3

Antenna Port Conducted Measurement:

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

EUT Configure Mode	Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
-	802.11ac (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
-	802.11ac (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
-	802.11ac (80MHz)		58	58	OFDM	BPSK	29.3
-	802.11a	5500-5700	100 to 140	100, 120, 140	OFDM	BPSK	6
-	802.11ac (20MHz)	5500-5720	100 to 144	100, 120, 140, 144	OFDM	BPSK	6.5
-	802.11ac (40MHz)		102 to 142	102, 118, 134, 142	OFDM	BPSK	13.5
-	802.11ac (80MHz)		106 to 138	106, 122, 138	OFDM	BPSK	29.3

Test Condition:

Applicable To	Environmental Conditions	Input Power (System)	Tested By
RE≥1G	25deg. C, 76%RH	120Vac, 60Hz	Ian Chang
APCM	25deg. C, 76%RH	120Vac, 60Hz	Saxon Lee

3.3 Duty Cycle of Test Signal

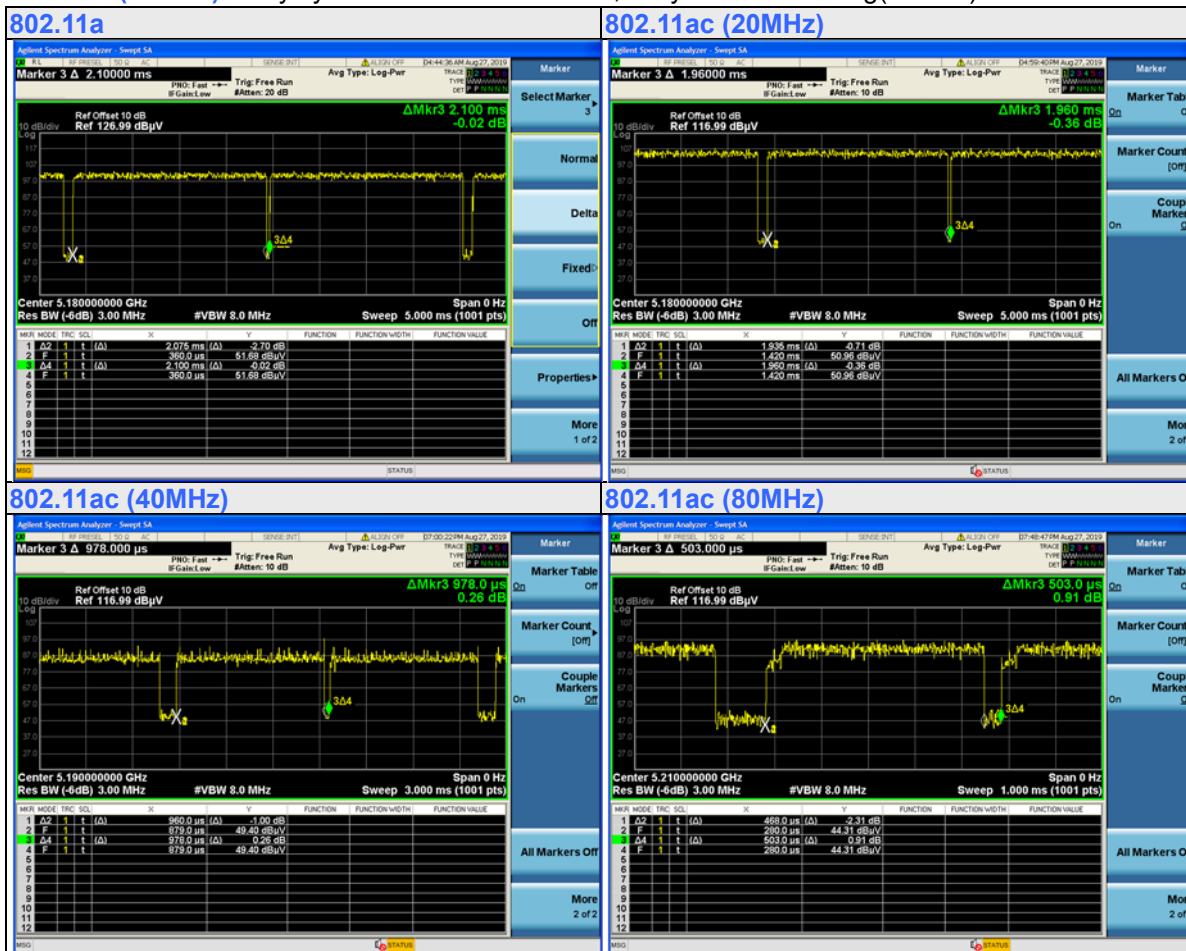
If duty cycle of test signal is $\geq 98\%$, duty factor is not required.
If duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11a: Duty cycle = $2.075/2.1 = 0.988$

802.11ac (20MHz): Duty cycle = $1.935/1.96 = 0.987$

802.11ac (40MHz): Duty cycle = $0.96/0.978 = 0.982$

802.11ac (80MHz): Duty cycle = $0.468/0.503 = 0.93$, Duty factor = $10 * \log(1/0.93) = 0.32$



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.	Mechanical tool	N/A	N/A	N/A	N/A	Supplied by client
B.	Adapter	FSP	FSP040-DHAN3	N/A	N/A	Supplied by client
C.	Notebook PC	SONY	SVS151A12P	275548477000760	N/A	Provided by Lab

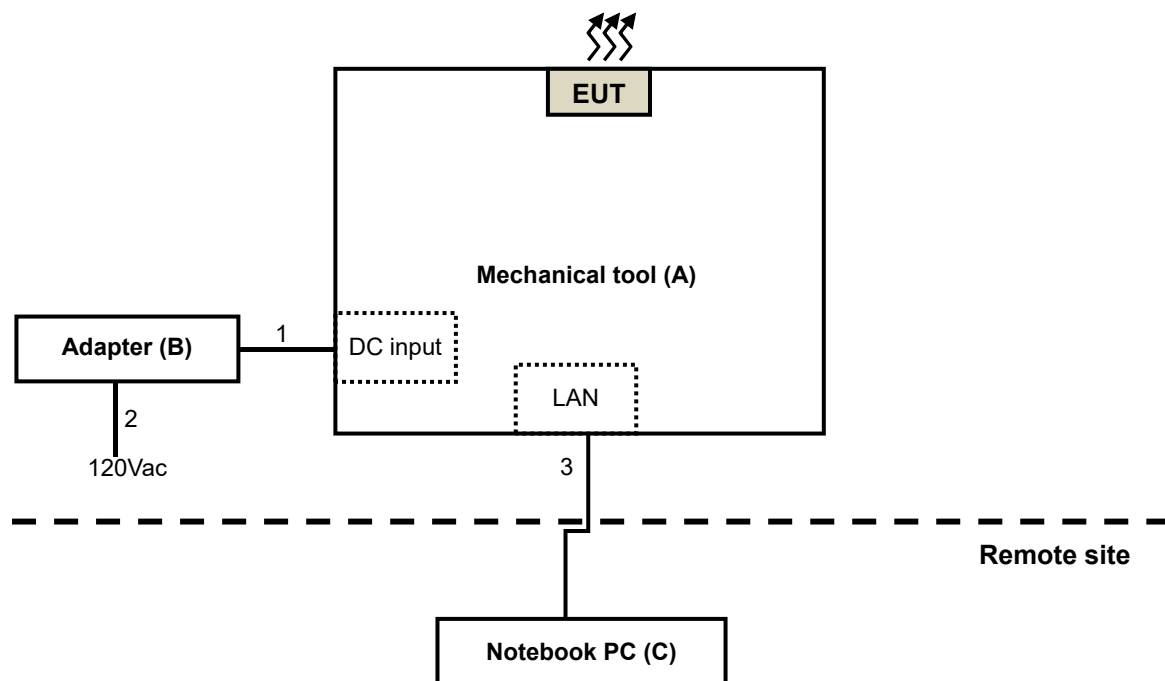
Note:

1. All power cords of the above support units are non-shielded (1.8 m).
2. Item C acted as communication partners to transfer data.
3. The rating of support unit B as follows.
AC I/P: 100-240V, 1.5A, 50-60Hz
DC O/P: 12.0V/ 3.33A (40W MAX)

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC cable	1	1.1	N	0	Supplied by client
2.	AC Power cord	1	1.2	N	0	Supplied by client
3.	LAN cable	1	10	N	0	Provided by Lab

Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard and References

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

Test standard:

FCC Part 15, Subpart E (15.407)
ANSI C63.10-2013

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

References Test Guidance :

KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

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 v02r01		Field Strength at 3m	
		PK:74 (dBuV/m)	AV:54 (dBuV/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(dBuV/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(dBuV/m) ^{*1} PK:105.2 (dBuV/m) ^{*2} PK: 110.8(dBuV/m) ^{*3} PK:122.2 (dBuV/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.	CALIBRATED DATE	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	Feb. 20, 2019	Feb. 19, 2020
HP Preamplifier	8449B	3008A01201	Feb. 21, 2019	Feb. 20, 2020
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Feb. 20, 2019	Feb. 19, 2020
Agilent TEST RECEIVER	N9038A	MY51210129	Mar. 05, 2019	Mar. 04, 2020
Schwarzbeck Antenna	VULB 9168	139	Nov. 7, 2019	Nov. 6, 2020
Schwarzbeck Antenna	VHBA 9123	480	Jun. 3, 2019	Jun. 2, 2021
Schwarzbeck Horn Antenna	BBHA-9170	212	Nov. 24, 2018	Nov. 23, 2019
			Nov. 24, 2019	Nov. 23, 2020
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	Nov. 24, 2018	Nov. 23, 2019
			Nov. 24, 2019	Nov. 23, 2020
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	Radiated_V7.6.15.9.5	NA	NA	NA
SUHNER RF cable With 4dB PAD	SF102	Cable-CH6-01	Jul. 10, 2019	Jul. 9, 2020
SUHNER RF cable With 3/4dB PAD	SF102	Cable-CH8-3.6m	Jul. 10, 2019	Jul. 9, 2020
KEYSIGHT MIMO Powermeasurement Test set	U2021XA	U2021XA-001	Jun. 11, 2019	Jun. 10, 2020
KEYSIGHT Spectrum Analyzer	N9030A	MY54490260	Jul. 30, 2019	Jul. 29, 2020
Loop Antenna EMCI	LPA600	270	Aug. 23, 2019	Aug. 22, 2021
EMCO Horn Antenna	3115	00028257	Nov. 24, 2018	Nov. 23, 2019
			Nov. 24, 2019	Nov. 23, 2020
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
ROHDE & SCHWARZ Spectrum Analyzer	FSV40	101042	Sep. 23, 2019	Sep. 22, 2020
Anritsu Power Sensor	MA2411B	0738404	Apr. 16, 2019	Apr. 15, 2020
Anritsu Power Meter	ML2495A	0842014	Apr. 16, 2019	Apr. 15, 2020

- NOTE:** 1. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in Chamber No. 6.

4.1.3 Test Procedure

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 detects 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:

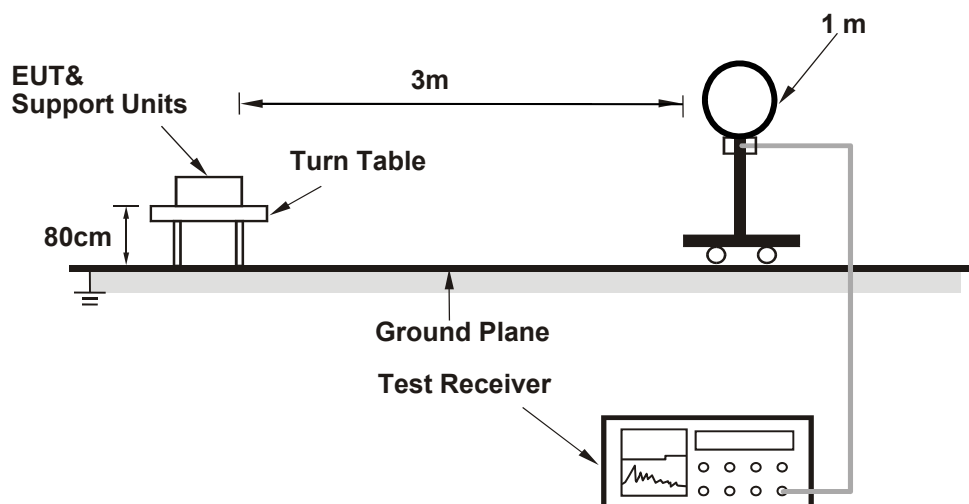
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

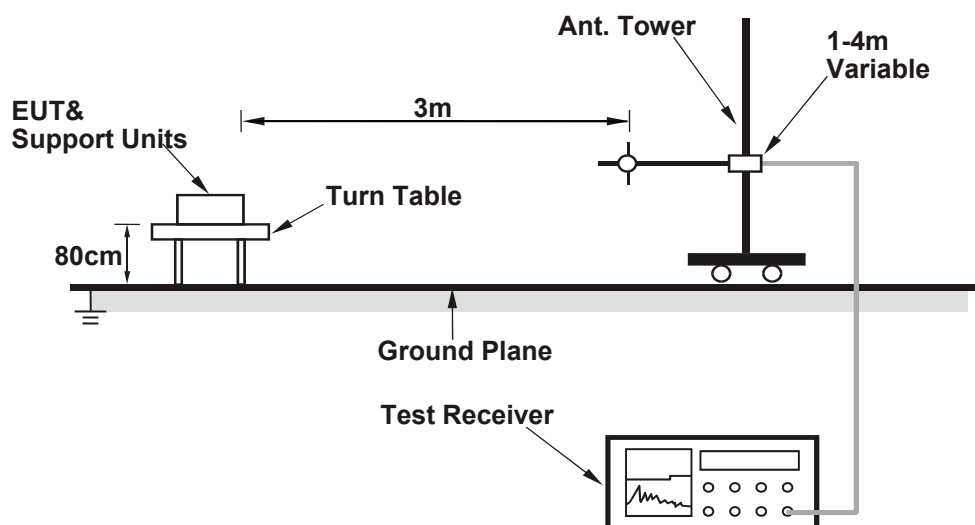
No deviation.

4.1.5 Test Setup

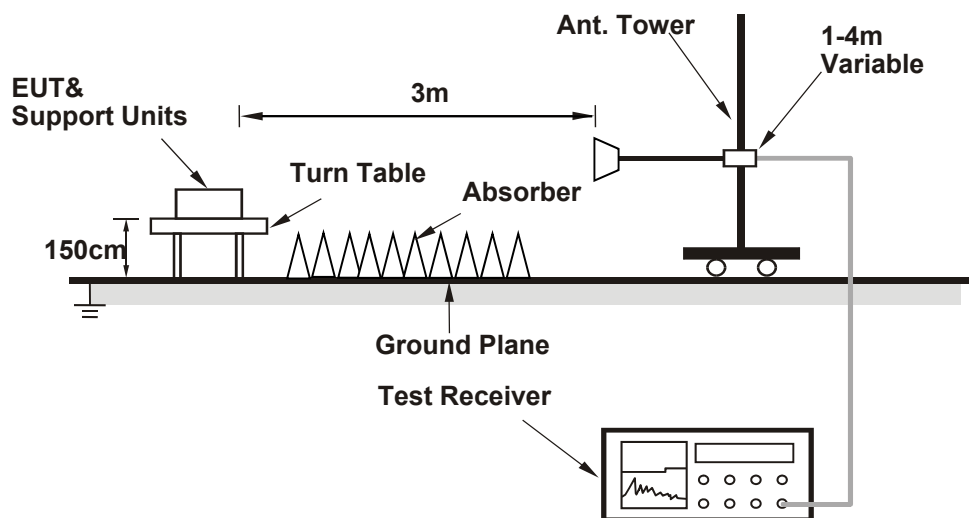
For Radiated emission below 30MHz



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 Condition

- Plugged the EUT into Mechanical tool and placed them on the testing table.
- The notebook connected with EUT via a LAN cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

ABOVE 1GHz DATA

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.08 PK	74.00	-12.92	3.93 H	253	51.99	9.09
2	5150.00	46.20 AV	54.00	-7.80	3.93 H	253	37.11	9.09
3	*5260.00	107.77 PK			3.93 H	253	98.01	9.76
4	*5260.00	95.51 AV			3.93 H	253	85.75	9.76
5	#10520.00	58.59 PK	68.20	-9.61	3.55 H	20	41.90	16.69
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.35 PK	74.00	-12.65	1.50 V	103	52.26	9.09
2	5150.00	47.14 AV	54.00	-6.86	1.50 V	103	38.05	9.09
3	*5260.00	112.22 PK			1.50 V	103	102.46	9.76
4	*5260.00	100.44 AV			1.50 V	103	90.68	9.76
5	#10520.00	62.08 PK	68.20	-6.12	1.56 V	72	45.39	16.69

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	108.08 PK			3.87 H	258	98.23	9.85
2	*5300.00	95.70 AV			3.87 H	258	85.85	9.85
3	10600.00	58.24 PK	74.00	-15.76	3.49 H	23	41.58	16.66
4	10600.00	45.33 AV	54.00	-8.67	3.49 H	23	28.67	16.66
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	112.60 PK			1.49 V	106	102.75	9.85
2	*5300.00	100.63 AV			1.49 V	106	90.78	9.85
3	10600.00	62.13 PK	74.00	-11.87	1.48 V	84	45.47	16.66
4	10600.00	46.92 AV	54.00	-7.08	1.48 V	84	30.26	16.66

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	106.46 PK			3.96 H	261	96.56	9.90
2	*5320.00	94.69 AV			3.96 H	261	84.79	9.90
3	5350.00	62.44 PK	74.00	-11.56	3.96 H	261	52.46	9.98
4	5350.00	48.97 AV	54.00	-5.03	3.96 H	261	38.99	9.98
5	10640.00	57.13 PK	74.00	-16.87	3.48 H	19	40.55	16.58
6	10640.00	44.27 AV	54.00	-9.73	3.48 H	19	27.69	16.58
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	110.18 PK			1.41 V	113	100.28	9.90
2	*5320.00	98.85 AV			1.41 V	113	88.95	9.90
3	5350.00	65.25 PK	74.00	-8.75	1.41 V	113	55.27	9.98
4	5350.00	52.97 AV	54.00	-1.03	1.41 V	113	42.99	9.98
5	10640.00	60.84 PK	74.00	-13.16	1.59 V	88	44.26	16.58
6	10640.00	46.48 AV	54.00	-7.52	1.59 V	88	29.90	16.58

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.32 PK	74.00	-11.68	3.42 H	269	51.74	10.58
2	5460.00	49.46 AV	54.00	-4.54	3.42 H	269	38.88	10.58
3	#5470.00	65.34 PK	68.20	-2.86	2.42 H	269	54.73	10.61
4	*5500.00	107.59 PK			3.42 H	269	96.87	10.72
5	*5500.00	95.51 AV			3.42 H	269	84.79	10.72
6	11000.00	58.25 PK	74.00	-15.75	1.87 H	49	40.47	17.78
7	11000.00	47.42 AV	54.00	-6.58	1.87 H	49	29.64	17.78
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.35 PK	74.00	-10.65	1.36 V	108	52.77	10.58
2	5460.00	50.01 AV	54.00	-3.99	1.36 V	108	39.43	10.58
3	#5470.00	67.09 PK	68.20	-1.11	1.36 V	108	56.48	10.61
4	*5500.00	110.80 PK			1.36 V	108	100.08	10.72
5	*5500.00	99.21 AV			1.36 V	108	88.49	10.72
6	11000.00	59.36 PK	74.00	-14.64	1.58 V	267	41.58	17.78
7	11000.00	48.24 AV	54.00	-5.76	1.58 V	267	30.46	17.78

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	106.71 PK			3.55 H	257	96.45	10.26
2	*5600.00	94.62 AV			3.55 H	257	84.36	10.26
3	11200.00	57.01 PK	74.00	-16.99	1.95 H	228	39.84	17.17
4	11200.00	44.36 AV	54.00	-9.64	1.95 H	228	27.19	17.17

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	111.07 PK			1.34 V	155	100.81	10.26
2	*5600.00	99.59 AV			1.34 V	155	89.33	10.26
3	11200.00	57.40 PK	74.00	-16.60	1.52 V	223	40.23	17.17
4	11200.00	45.81 AV	54.00	-8.19	1.52 V	223	28.64	17.17

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

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	107.67 PK			3.49 H	249	97.84	9.83
2	*5700.00	95.38 AV			3.49 H	249	85.55	9.83
3	#5725.00	63.95 PK	68.20	-4.25	3.49 H	249	54.19	9.76
4	11400.00	57.86 PK	74.00	-16.14	1.55 H	28	39.86	18.00
5	11400.00	45.63 AV	54.00	-8.37	1.55 H	28	27.63	18.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	111.48 PK			1.33 V	193	101.65	9.83
2	*5700.00	99.50 AV			1.33 V	193	89.67	9.83
3	#5725.00	66.81 PK	68.20	-1.39	1.33 V	193	57.05	9.76
4	11400.00	58.74 PK	74.00	-15.26	1.38 V	206	40.74	18.00
5	11400.00	46.73 AV	54.00	-7.27	1.38 V	206	28.73	18.00

REMARKS:

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

802.11ac (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.96 PK	74.00	-13.04	3.46 H	242	51.87	9.09
2	5150.00	46.38 AV	54.00	-7.62	3.46 H	242	37.29	9.09
3	*5260.00	109.62 PK			3.46 H	242	99.86	9.76
4	*5260.00	97.45 AV			3.46 H	242	87.69	9.76
5	#10520.00	56.33 PK	68.20	-11.87	1.84 H	254	39.64	16.69

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.13 PK	74.00	-12.87	1.42 V	197	52.04	9.09
2	5150.00	47.28 AV	54.00	-6.72	1.42 V	197	38.19	9.09
3	*5260.00	113.52 PK			1.42 V	197	103.76	9.76
4	*5260.00	100.94 AV			1.42 V	197	91.18	9.76
5	#10520.00	57.27 PK	68.20	-10.93	1.56 V	126	40.58	16.69

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	111.50 PK			3.56 H	266	101.65	9.85
2	*5300.00	99.49 AV			3.56 H	266	89.64	9.85
3	10600.00	56.29 PK	74.00	-17.71	1.69 H	239	39.63	16.66
4	10600.00	44.30 AV	54.00	-9.70	1.69 H	239	27.64	16.66
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	115.50 PK			1.41 V	217	105.65	9.85
2	*5300.00	102.95 AV			1.41 V	217	93.10	9.85
3	10600.00	57.17 PK	74.00	-16.83	1.45 V	254	40.51	16.66
4	10600.00	45.30 AV	54.00	-8.70	1.45 V	254	28.64	16.66

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	112.35 PK			3.48 H	252	102.45	9.90
2	*5320.00	100.80 AV			3.48 H	252	90.90	9.90
3	5350.00	64.54 PK	74.00	-9.46	3.48 H	252	54.56	9.98
4	5350.00	48.97 AV	54.00	-5.03	3.48 H	252	38.99	9.98
5	10640.00	56.30 PK	74.00	-17.70	1.96 H	218	39.72	16.58
6	10640.00	44.07 AV	54.00	-9.93	1.96 H	218	27.49	16.58
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	116.12 PK			1.49 V	181	106.22	9.90
2	*5320.00	104.11 AV			1.49 V	181	94.21	9.90
3	5350.00	66.70 PK	74.00	-7.30	1.49 V	181	56.72	9.98
4	5350.00	51.68 AV	54.00	-2.32	1.49 V	181	41.70	9.98
5	10640.00	57.12 PK	74.00	-16.88	1.66 V	230	40.54	16.58
6	10640.00	45.42 AV	54.00	-8.58	1.66 V	230	28.84	16.58

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.04 PK	74.00	-11.96	3.42 H	252	51.46	10.58
2	5460.00	48.54 AV	54.00	-5.46	3.42 H	252	37.96	10.58
3	#5470.00	62.18 PK	68.20	-6.02	3.42 H	252	51.57	10.61
4	*5500.00	112.04 PK			3.42 H	252	101.32	10.72
5	*5500.00	99.51 AV			3.42 H	252	88.79	10.72
6	11000.00	57.16 PK	74.00	-16.84	2.05 H	264	39.38	17.78
7	11000.00	45.21 AV	54.00	-8.79	2.05 H	264	27.43	17.78
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	64.16 PK	74.00	-9.84	1.52 V	193	53.58	10.58
2	5460.00	50.41 AV	54.00	-3.59	1.52 V	193	39.83	10.58
3	#5470.00	64.59 PK	68.20	-3.61	1.52 V	193	53.98	10.61
4	*5500.00	116.12 PK			1.52 V	193	105.40	10.72
5	*5500.00	103.65 AV			1.52 V	193	92.93	10.72
6	11000.00	58.43 PK	74.00	-15.57	1.69 V	221	40.65	17.78
7	11000.00	46.00 AV	54.00	-8.00	1.69 V	221	28.22	17.78

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	112.13 PK			3.48 H	245	101.87	10.26
2	*5600.00	100.02 AV			3.48 H	245	89.76	10.26
3	11200.00	56.55 PK	74.00	-17.45	1.23 H	341	39.38	17.17
4	11200.00	44.26 AV	54.00	-9.74	1.23 H	341	27.09	17.17

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5600.00	116.21 PK			1.35 V	194	105.95	10.26
2	*5600.00	103.43 AV			1.35 V	194	93.17	10.26
3	11200.00	57.35 PK	74.00	-16.65	1.55 V	220	40.18	17.17
4	11200.00	45.30 AV	54.00	-8.70	1.55 V	220	28.13	17.17

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

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	109.70 PK			3.50 H	258	99.87	9.83
2	*5700.00	97.46 AV			3.50 H	258	87.63	9.83
3	#5725.00	61.12 PK	68.20	-7.08	3.50 H	258	51.36	9.76
4	11400.00	57.42 PK	74.00	-16.58	1.57 H	51	39.42	18.00
5	11400.00	45.18 AV	54.00	-8.82	1.57 H	51	27.18	18.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	113.55 PK			1.54 V	194	103.72	9.83
2	*5700.00	100.99 AV			1.54 V	194	91.16	9.83
3	#5725.00	63.37 PK	68.20	-4.83	1.54 V	194	53.61	9.76
4	11400.00	58.33 PK	74.00	-15.67	1.08 V	229	40.33	18.00
5	11400.00	46.94 AV	54.00	-7.06	1.08 V	229	28.94	18.00

REMARKS:

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

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	61.84 PK	68.20	-6.36	3.55 H	269	51.23	10.61
2	*5720.00	108.44 PK			3.55 H	269	98.67	9.77
3	*5720.00	96.46 AV			3.55 H	269	86.69	9.77
4	11440.00	57.16 PK	74.00	-16.84	2.22 H	102	39.21	17.95
5	11440.00	44.97 AV	54.00	-9.03	2.22 H	102	27.02	17.95
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	64.85 PK	68.20	-3.35	1.32 V	193	54.24	10.61
2	*5720.00	112.35 PK			1.32 V	193	102.58	9.77
3	*5720.00	100.68 AV			1.32 V	193	90.91	9.77
4	11440.00	58.18 PK	74.00	-15.82	1.52 V	125	40.23	17.95
5	11440.00	46.29 AV	54.00	-7.71	1.52 V	125	28.34	17.95

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

802.11ac (40MHz)

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	61.11 PK	74.00	-12.89	3.58 H	267	52.02	9.09
2	5150.00	47.05 AV	54.00	-6.95	3.58 H	267	37.96	9.09
3	*5270.00	108.58 PK			3.58 H	267	98.79	9.79
4	*5270.00	94.55 AV			3.58 H	267	84.76	9.79
5	#10540.00	56.22 PK	68.20	-11.98	1.92 H	315	39.54	16.68

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.12 PK	74.00	-11.88	1.33 V	195	53.03	9.09
2	5150.00	47.99 AV	54.00	-6.01	1.33 V	195	38.90	9.09
3	*5270.00	112.78 PK			1.33 V	195	102.99	9.79
4	*5270.00	98.43 AV			1.33 V	195	88.64	9.79
5	#10540.00	57.20 PK	68.20	-11.00	1.85 V	129	40.52	16.68

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	104.65 PK			3.47 H	258	94.78	9.87
2	*5310.00	88.75 AV			3.47 H	258	78.88	9.87
3	5350.00	61.40 PK	74.00	-12.60	3.47 H	258	51.42	9.98
4	5350.00	48.94 AV	54.00	-5.06	3.47 H	258	38.96	9.98
5	10620.00	56.36 PK	74.00	-17.64	2.34 H	229	39.74	16.62
6	10620.00	44.43 AV	54.00	-9.57	2.34 H	229	27.81	16.62
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	108.23 PK			1.91 V	183	98.36	9.87
2	*5310.00	91.94 AV			1.91 V	183	82.07	9.87
3	5350.00	63.97 PK	74.00	-10.03	1.91 V	183	53.99	9.98
4	5350.00	50.99 AV	54.00	-3.01	1.91 V	183	41.01	9.98
5	10620.00	57.16 PK	74.00	-16.84	1.47 V	128	40.54	16.62
6	10620.00	45.35 AV	54.00	-8.65	1.47 V	128	28.73	16.62

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.81 PK	74.00	-12.19	3.52 H	247	51.23	10.58
2	5460.00	48.54 AV	54.00	-5.46	3.52 H	247	37.96	10.58
3	#5470.00	63.97 PK	68.20	-4.23	3.52 H	274	53.36	10.61
4	*5510.00	105.22 PK			3.52 H	247	94.55	10.67
5	*5510.00	92.03 AV			3.52 H	247	81.36	10.67
6	11020.00	57.28 PK	74.00	-16.72	1.77 H	48	39.62	17.66
7	11020.00	45.00 AV	54.00	-9.00	1.77 H	48	27.34	17.66

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.80 PK	74.00	-10.20	1.37 V	188	53.22	10.58
2	5460.00	49.84 AV	54.00	-4.16	1.37 V	188	39.26	10.58
3	#5470.00	66.75 PK	68.20	-1.45	1.37 V	188	56.14	10.61
4	*5510.00	109.30 PK			1.37 V	188	98.63	10.67
5	*5510.00	96.34 AV			1.37 V	188	85.67	10.67
6	11020.00	57.88 PK	74.00	-16.12	1.63 V	295	40.22	17.66
7	11020.00	45.89 AV	54.00	-8.11	1.63 V	295	28.23	17.66

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5590.00	109.07 PK			3.43 H	276	98.76	10.31
2	*5590.00	94.56 AV			3.43 H	276	84.25	10.31
3	11180.00	56.58 PK	74.00	-17.42	2.03 H	231	39.40	17.18
4	11180.00	45.00 AV	54.00	-9.00	2.03 H	231	27.82	17.18

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5590.00	112.54 PK			1.57 V	190	102.23	10.31
2	*5590.00	98.75 AV			1.57 V	190	88.44	10.31
3	11180.00	57.77 PK	74.00	-16.23	1.34 V	261	40.59	17.18
4	11180.00	45.27 AV	54.00	-8.73	1.34 V	261	28.09	17.18

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	108.68 PK			3.43 H	250	98.72	9.96
2	*5670.00	94.55 AV			3.43 H	250	84.59	9.96
3	#5725.00	59.79 PK	68.20	-8.41	3.43 H	250	50.03	9.76
4	11340.00	56.89 PK	74.00	-17.11	1.15 H	289	39.30	17.59
5	11340.00	44.92 AV	54.00	-9.08	1.15 H	289	27.33	17.59
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	111.97 PK			1.33 V	191	102.01	9.96
2	*5670.00	98.03 AV			1.33 V	191	88.07	9.96
3	#5725.00	61.87 PK	68.20	-6.33	1.33 V	191	52.11	9.76
4	11340.00	57.69 PK	74.00	-16.31	1.29 V	216	40.10	17.59
5	11340.00	46.29 AV	54.00	-7.71	1.29 V	216	28.70	17.59

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

CHANNEL	TX Channel 142	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	*5710.00	108.27 PK			3.43 H	241	98.46	9.81
2	*5710.00	94.14 AV			3.43 H	241	84.33	9.81
3	#5850.00	60.99 PK	68.20	-7.21	3.43 H	241	51.16	9.83
4	11420.00	57.11 PK	74.00	-16.89	1.58 H	220	39.13	17.98
5	11420.00	45.62 AV	54.00	-8.38	1.58 H	220	27.64	17.98
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	*5710.00	112.59 PK			1.32 V	193	102.78	9.81
2	*5710.00	98.41 AV			1.32 V	193	88.60	9.81
3	#5850.00	62.25 PK	68.20	-5.95	1.32 V	193	52.42	9.83
4	11420.00	58.29 PK	74.00	-15.71	1.62 V	201	40.31	17.98
5	11420.00	46.24 AV	54.00	-7.76	1.62 V	201	28.26	17.98

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

802.11ac (80MHz)

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	60.93 PK	74.00	-13.07	3.46 H	271	51.84	9.09
2	5150.00	47.05 AV	54.00	-6.95	3.46 H	271	37.96	9.09
3	*5290.00	101.30 PK			3.46 H	271	91.46	9.84
4	*5290.00	82.39 AV			3.46 H	271	72.55	9.84
5	5350.00	62.48 PK	74.00	-11.52	3.46 H	271	52.50	9.98
6	5350.00	49.61 AV	54.00	-4.39	3.46 H	271	39.63	9.98
7	#10580.00	56.03 PK	68.20	-12.17	2.41 H	195	39.37	16.66
8	#10580.00	44.47 AV	54.00	-9.53	2.41 H	195	27.81	16.66
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.22 PK	74.00	-12.78	1.66 V	185	52.13	9.09
2	5150.00	47.58 AV	54.00	-6.42	1.66 V	185	38.49	9.09
3	*5290.00	104.87 PK			1.66 V	185	95.03	9.84
4	*5290.00	86.74 AV			1.66 V	185	76.90	9.84
5	5350.00	65.23 PK	74.00	-8.77	1.66 V	185	55.25	9.98
6	5350.00	52.07 AV	54.00	-1.93	1.66 V	185	42.09	9.98
7	#10580.00	57.03 PK	68.20	-11.17	1.70 V	206	40.37	16.66
8	#10580.00	44.85 AV	54.00	-9.15	1.70 V	206	28.19	16.66

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)
- Margin value = Emission Level – Limit value
- The other emission levels were very low against the limit.
- " * ": Fundamental frequency.
- " # ": 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	62.00 PK	74.00	-12.00	3.52 H	260	51.42	10.58
2	5460.00	49.24 AV	54.00	-4.76	3.52 H	260	38.66	10.58
3	#5470.00	63.97 PK	68.20	-4.23	3.52 H	260	53.36	10.61
4	*5530.00	98.10 PK			3.52 H	260	87.52	10.58
5	*5530.00	86.21 AV			3.52 H	260	75.63	10.58
6	11060.00	56.84 PK	74.00	-17.16	1.82 H	284	39.41	17.43
7	11060.00	44.87 AV	54.00	-9.13	1.82 H	284	27.44	17.43
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	5460.00	64.47 PK	74.00	-9.53	1.32 V	188	53.89	10.58
2	5460.00	52.44 AV	54.00	-1.56	1.32 V	188	41.86	10.58
3	#5470.00	67.16 PK	68.20	-1.04	1.32 V	188	56.55	10.61
4	*5530.00	102.33 PK			1.32 V	188	91.75	10.58
5	*5530.00	89.94 AV			1.32 V	188	79.36	10.58
6	11060.00	57.86 PK	74.00	-16.14	1.36 V	239	40.43	17.43
7	11060.00	45.63 AV	54.00	-8.37	1.36 V	239	28.20	17.43

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5610.00	106.85 PK			3.47 H	258	96.63	10.22
2	*5610.00	96.65 AV			3.47 H	258	86.43	10.22
3	#5725.00	60.02 PK	68.20	-8.18	3.47 H	258	50.26	9.76
4	11220.00	56.68 PK	74.00	-17.32	1.82 H	294	39.48	17.20
5	11220.00	44.86 AV	54.00	-9.14	1.82 H	294	27.66	17.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5610.00	110.72 PK			1.41 V	196	100.50	10.22
2	*5610.00	100.76 AV			1.41 V	196	90.54	10.22
3	#5725.00	62.32 PK	68.20	-5.88	1.41 V	196	52.56	9.76
4	11220.00	57.30 PK	74.00	-16.70	1.25 V	123	40.10	17.20
5	11220.00	45.43 AV	54.00	-8.57	1.25 V	123	28.23	17.20

REMARKS:

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

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	62.03 PK	68.20	-6.17	3.55 H	255	51.42	10.61
2	*5690.00	106.61 PK			3.55 H	255	96.74	9.87
3	*5690.00	96.50 AV			3.55 H	255	86.63	9.87
4	#5850.00	60.09 PK	68.20	-8.11	3.55 H	255	50.26	9.83
5	11380.00	57.53 PK	74.00	-16.47	1.52 H	222	39.66	17.87
6	11380.00	45.30 AV	54.00	-8.70	1.52 H	222	27.43	17.87
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	63.77 PK	68.20	-4.43	1.40 V	190	53.16	10.61
2	*5690.00	110.57 PK			1.40 V	190	100.70	9.87
3	*5690.00	100.62 AV			1.40 V	190	90.75	9.87
4	#5850.00	62.67 PK	68.20	-5.53	1.40 V	190	52.84	9.83
5	11380.00	58.51 PK	74.00	-15.49	1.89 V	59	40.64	17.87
6	11380.00	46.49 AV	54.00	-7.51	1.89 V	59	28.62	17.87

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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)
		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,

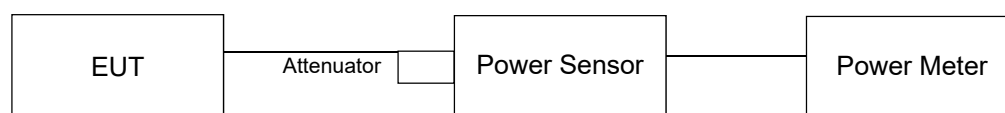
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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

For Average Power Measurement

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to AVERAGE. 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

Power Output: 802.11a

CHAN.	FREQ. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
52	5260	143.88	21.58	24	Pass
60	5300	142.561	21.54	24	Pass
64	5320	92.47	19.66	24	Pass
100	5500	96.605	19.85	24	Pass
120	5600	95.06	19.78	24	Pass
140	5700	82.414	19.16	24	Pass

Note: Method (ii) of Directional Gain Calculations for In-Band Measurements of KDB 662911.

The device all transmit signals are completely uncorrelated with each other, Directional gain = G_{ANT}

802.11ac (20MHz)

CHAN.	FREQ. (MHz)	Maximum Conducted Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2				
52	5260	15.71	15.39	15.86	110.381	20.43	24	Pass
60	5300	17.29	17.43	18.86	185.828	22.69	24	Pass
64	5320	17.42	17.25	17.63	166.239	22.21	24	Pass
100	5500	18.12	16.97	18.23	181.164	22.58	24	Pass
120	5600	18.14	17.02	18.31	183.277	22.63	24	Pass
140	5700	15.53	15.62	15.89	111.017	20.45	24	Pass
144	5720 For U-NII-2C	12.28	12.12	12.46	50.817	17.06	24	Pass
144	5720 For U-NII-3	7.14	7.12	6.95	15.283	11.84	30	Pass

Note: Method (ii) of Directional Gain Calculations for In-Band Measurements of KDB 662911.

The device all transmit signals are completely uncorrelated with each other, Directional gain = G_{ANT}

802.11ac (40MHz)

CHAN.	FREQ. (MHz)	Maximum Conducted Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2				
54	5270	17.49	17.62	18.53	185.2	22.68	24	Pass
62	5310	13.39	12.76	13.64	63.828	18.05	24	Pass
102	5510	18.12	16.97	18.23	181.164	22.58	24	Pass
118	5590	18.14	17.02	18.31	183.277	22.63	24	Pass
134	5670	15.53	15.62	15.89	111.017	20.45	24	Pass
142	5710 For U-NII-2C	13.36	13.08	13.98	67.004	18.26	24	Pass
142	5710 For U-NII-3	3.14	3.33	3.52	6.463	8.10	30	Pass

Note: Method (ii) of Directional Gain Calculations for In-Band Measurements of KDB 662911.

The device all transmit signals are completely uncorrelated with each other, Directional gain = G_{ANT}

802.11ac (80MHz)

CHAN.	FREQ. (MHz)	Maximum Conducted Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2				
58	5290	11.82	11.76	12.53	48.108	16.82	24	Pass
106	5530	11.45	11.28	11.63	41.947	16.23	24	Pass
122	5610	17.50	17.43	17.79	171.686	22.35	24	Pass
138	5690 For U-NII-2C	10.22	10.38	10.22	31.954	15.05	24	Pass
138	5690 For U-NII-3	-3.56	-3.44	-3.85	1.3056	1.16	30	Pass

Note: Method (ii) of Directional Gain Calculations for In-Band Measurements of KDB 662911.

The device all transmit signals are completely uncorrelated with each other, Directional gain = G_{ANT}

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 according to ISO/IEC 17025.

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Web Site: www.bureauveritas-adt.com

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

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