

FCC Test Report

Report No.: RF190625C25

FCC ID: RYK-WPEQ450AC

Test Model: WPEQ-450AC

Series Model: WPEQ-450ACI (refer to item 3.1 for more details)

Received Date: Jun. 25, 2019

Test Date: Jul. 09 ~ Aug. 05, 2019

Issued Date: Aug. 20, 2019

Applicant: SparkLAN Communications, Inc.

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



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Release Control Record

Issue No.	Description	Date Issued
RF190625C25	Original release.	Aug. 20, 2019

1 Certificate of Conformity

Product: 802.11ac/a/n Mini PCIe Module(4T4R)

Brand: SparkLAN

Test Model: WPEQ-450AC

Series Model: WPEQ-450ACI (refer to item 3.1 for more details)

Sample Status: R&D sample

Applicant: SparkLAN Communications, Inc.

Test Date: Jul. 09 ~ Aug. 05, 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:** Aug. 20, 2019
Polly Chien / Specialist

Approved by :  , **Date:** Aug. 20, 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)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -9.69dB at 0.18075MHz.
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 -1.1dB at 5740.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is RP-SMA at antenna side not standard connector.

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

Note:

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) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
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	802.11ac/a/n Mini PCIe Module(4T4R)
Brand	SparkLAN
Test Model	WPEQ-450AC
Series Model	WPEQ-450ACI
Model Difference	Marketing purposes only
Sample Status	R&D sample
Power Supply Rating	3.3Vdc (host)
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 1730Mbps
Operating Frequency	5180~5240MHz, 5260~5320MHz, 5500~5700MHz, 5745~5825MHz
Number of Channel	5180~5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260~5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500~5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 11 802.11n (HT40), 802.11ac (VHT40): 5 802.11ac (VHT80): 2 5745~5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 For simultaneous transmission: 802.11ac (VHT80+80): 10
Output Power	5180~5240MHz: 246.778mW 5260~5320MHz: 158.537mW 5500~5700MHz: 157.619mW 5745~5825MHz: 297.443mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Antenna
Cable Supplied	NA

Note:

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

Modulation Mode	TX Function
802.11a	4TX
802.11n (HT20)	4TX
802.11n (HT40)	4TX
802.11ac (VHT20)	4TX
802.11ac (VHT40)	4TX
802.11ac (VHT80)	4TX
802.11ac (VHT80+80)	2TX+2TX

* The modulation and bandwidth are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40 on 802.11ac mode, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT uses following antenna.

No.	Transmitter Circuit	Brand	Model	Antenna Type	5G gain with cable loss (dBi)	Connector Type
1	Chain(0) Chain(1) Chain(2) Chain(3)	Sparklan	AD-300N	Dipole	5	RP-SMA
2	Chain(0) Chain(1) Chain(2) Chain(3)	Sparklan	AD-103AG	Dipole	2.03	RP-SMA
3	Chain(0) Chain(1) Chain(2) Chain(3)	Sparklan	AD-302N	Dipole	2	RP-SMA
4	Chain(0) Chain(1) Chain(2) Chain(3)	Sparklan	AD-303N	Dipole	3	RP-SMA

* The antenna 1 is the max. gain and chosen for final tests.

3.2 Description of Test Modes

5180~5240MHz:

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210 MHz

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	5290 MHz

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

5745~5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775 MHz

For simultaneous transmission:

10 sets are provided for 802.11ac (VHT80+80):

Channel	Frequency	Channel	Frequency
42 +58	5210 MHz + 5290 MHz	58+122	5290 MHz + 5610 MHz
42+106	5210 MHz + 5530 MHz	58+155	5290 MHz + 5775 MHz
42+122	5210 MHz + 5610 MHz	106+122	5530 MHz + 5610 MHz
42+155	5210 MHz + 5775 MHz	106+155	5530 MHz + 5775 MHz
58+106	5290 MHz + 5530 MHz	122+155	5610 MHz + 5775 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE \geq 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Z-plane.
2. Radiated emission (below 1GHz) and power line conducted emission test items chosen the worst maximum power.

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)	Remark
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	-
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5	-
-	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5	-
-	802.11ac (VHT80)		42	42	OFDM	29.3	-
-	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	29.3	-
-	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	29.3	-
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	-
-	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5	-
-	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5	-
-	802.11ac (VHT80)		155	155	OFDM	29.3	-
-	802.11ac (VHT80+80)	5180-5240 5260-5320 5500-5700 5745-5825	42+58	42+58	OFDM	29.3	-
			42+106	42+106	OFDM	29.3	-
			42+122	42+122	OFDM	29.3	-
			42+155	42+155	OFDM	29.3	-
			58+106	58+106	OFDM	29.3	-
			58+122	58+122	OFDM	29.3	-
			58+155	58+155	OFDM	29.3	-
			106+122	106+122	OFDM	29.3	-
			106+155	106+155	OFDM	29.3	-
	122+155	122+155	OFDM	29.3	-		

Radiated Emission Test (Below 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
-	802.11a	5745-5825	149 to 165	149	OFDM	6.0	-

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
-	802.11a	5745-5825	149 to 165	149	OFDM	6.0	-

Antenna Port Conducted Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	-
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5	-
-	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5	-
-	802.11ac (VHT80)		42	42	OFDM	29.3	-
-	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	29.3	-
-	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	29.3	-
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	-
-	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5	-
-	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5	-
-	802.11ac (VHT80)		155	155	OFDM	29.3	-

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
-	802.11ac (VHT80+80)	5180-5240 5260-5320 5500-5700 5745-5825	42+58	42+58	OFDM	29.3	-
			42+106	42+106	OFDM	29.3	-
			42+122	42+122	OFDM	29.3	-
			42+155	42+155	OFDM	29.3	-
			58+106	58+106	OFDM	29.3	-
			58+122	58+122	OFDM	29.3	-
			58+155	58+155	OFDM	29.3	-
			106+122	106+122	OFDM	29.3	-
			106+155	106+155	OFDM	29.3	-
			122+155	122+155	OFDM	29.3	-

Test Condition:

Applicable to	Environmental Conditions	Input Power (System)	Tested by
RE \geq 1G	23 deg. C, 66% RH 25 deg. C, 68% RH	120Vac, 60Hz	Adair Peng, Willy Chang
RE<1G	24 deg. C, 67% RH	120Vac, 60Hz	Willy Chang
PLC	25 deg. C, 68% RH	120Vac, 60Hz	Willy Chang
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Chris Lin

3.3 Duty Cycle of Test Signal

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

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

802.11a: Duty cycle = $2.052/2.124 = 0.966$, Duty factor = $10 * \log(1/0.966) = 0.15$

802.11n (HT20): Duty cycle = $4.981/5.069 = 0.983$

802.11n (HT40): Duty cycle = $2.423/2.499 = 0.970$, Duty factor = $10 * \log(1/0.970) = 0.13$

802.11ac (VHT80): Duty cycle = $1.134/1.218 = 0.931$, Duty factor = $10 * \log(1/0.931) = 0.31$

802.11ac (VHT80+80): Duty cycle = $1.134/1.218 = 0.931$, Duty factor = $10 * \log(1/0.931) = 0.31$



3.4 Description of Support Units

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

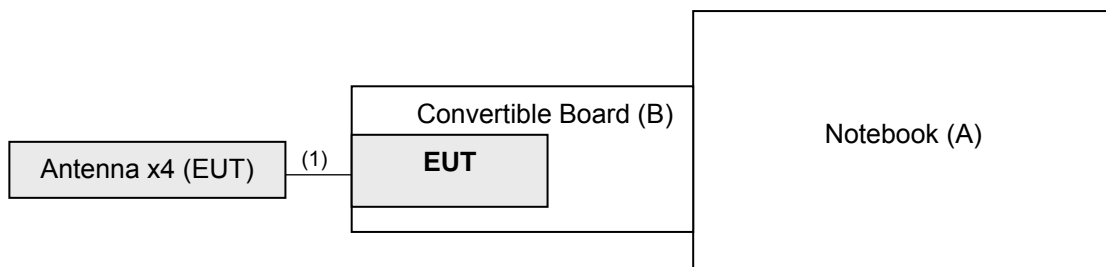
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5420	BPQ7MQ1	FCC DoC Approved	-
B.	Convertible Board	NA	NA	NA	NA	Provided by manufacturer

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.	Antenna cable	4	0.14	Y	0	Provided by manufacturer

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

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:

- 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 (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	<input checked="" type="checkbox"/> 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}
	<input type="checkbox"/> 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:

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

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
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
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 27, 2019	Mar. 26, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 21, 2018	Aug. 20, 2019
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM- SM-8000	Cable-CH3-03 (309224+170907)	Aug. 21, 2018	Aug. 20, 2019
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
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	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	Jul. 17, 2018	Jul. 16, 2019
		007/MY55210005	Jul. 18, 2019	Jul. 17, 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:

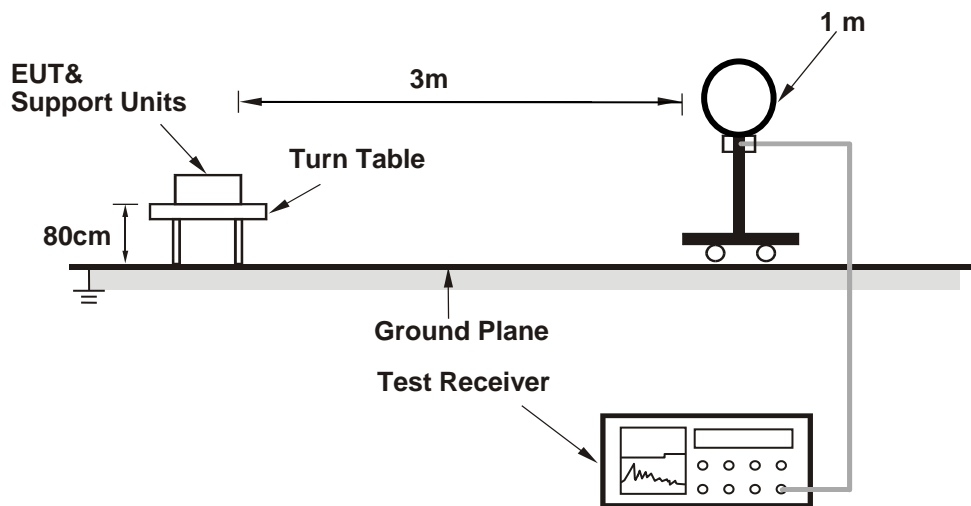
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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. (11a: RBW = 1 MHz, VBW = 1 kHz ; 11n (HT20): RBW = 1 MHz, VBW = 300 Hz ; 11n (HT40): RBW = 1 MHz, VBW = 1 kHz ; 11ac (VHT80): RBW = 1 MHz, VBW = 1 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

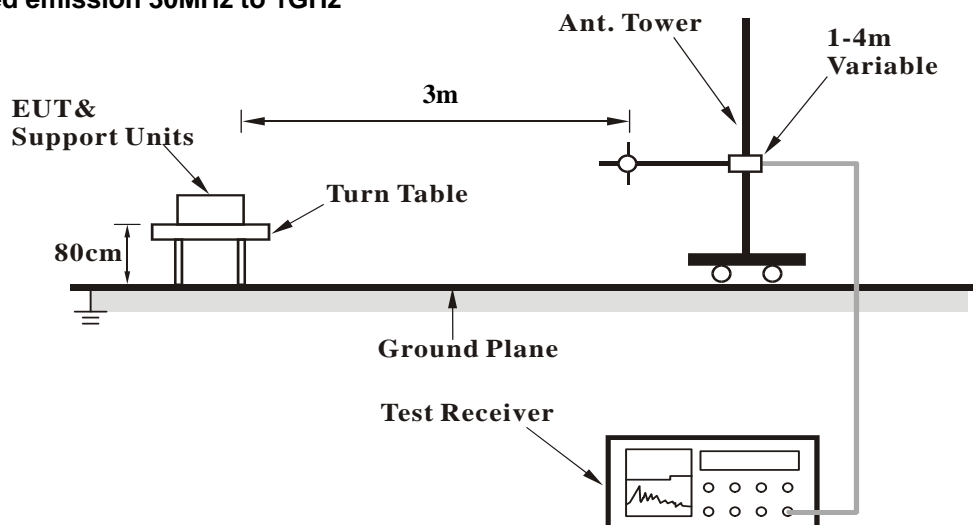
No deviation.

4.1.5 Test Setup

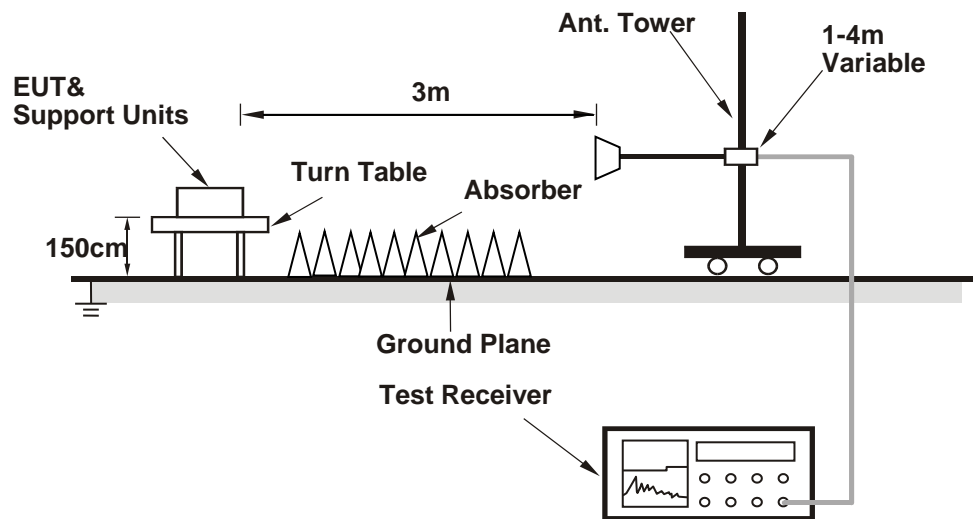
For Radiated emission below 30MHz



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

- a. Placed the EUT connected with notebook on the testing table.
- b. Set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz data:

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
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	55.5 PK	74.0	-18.5	2.45 H	337	51.1	4.4
2	5150.00	42.3 AV	54.0	-11.7	2.45 H	337	37.9	4.4
3	*5180.00	107.1 PK			2.38 H	353	67.6	39.5
4	*5180.00	96.3 AV			2.38 H	353	56.8	39.5
5	#10360.00	56.5 PK	68.2	-11.7	2.23 H	250	40.5	16.0

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	63.8 PK	74.0	-10.2	1.38 V	291	59.4	4.4
2	5150.00	49.9 AV	54.0	-4.1	1.38 V	291	45.5	4.4
3	*5180.00	119.7 PK			1.72 V	306	80.2	39.5
4	*5180.00	108.7 AV			1.72 V	306	69.2	39.5
5	#10360.00	59.0 PK	68.2	-9.2	1.15 V	343	43.0	16.0

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.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
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	*5200.00	108.5 PK			1.38 H	38	69.0	39.5
2	*5200.00	97.7 AV			1.38 H	38	58.2	39.5
3	#10400.00	59.0 PK	68.2	-9.2	2.38 H	164	42.8	16.2

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	*5200.00	118.9 PK			1.63 V	306	79.4	39.5
2	*5200.00	108.5 AV			1.63 V	306	69.0	39.5
3	#10400.00	58.4 PK	68.2	-9.8	1.64 V	304	42.2	16.2

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 48	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	*5240.00	106.4 PK			1.72 H	38	67.1	39.3
2	*5240.00	95.8 AV			1.72 H	38	56.5	39.3
3	5350.00	57.1 PK	74.0	-16.9	1.93 H	92	52.8	4.3
4	5350.00	43.9 AV	54.0	-10.1	1.93 H	92	39.6	4.3
5	#10480.00	59.6 PK	68.2	-8.6	2.16 H	213	42.6	17.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	119.0 PK			1.73 V	308	79.7	39.3
2	*5240.00	108.6 AV			1.73 V	308	69.3	39.3
3	5350.00	57.0 PK	74.0	-17.0	1.51 V	319	52.7	4.3
4	5350.00	44.0 AV	54.0	-10.0	1.51 V	319	39.7	4.3
5	#10480.00	60.7 PK	68.2	-7.5	1.74 V	304	43.7	17.0

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.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
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	56.2 PK	74.0	-17.8	2.71 H	143	51.8	4.4
2	5150.00	44.0 AV	54.0	-10.0	2.71 H	143	39.6	4.4
3	*5260.00	109.8 PK			2.55 H	116	70.5	39.3
4	*5260.00	98.4 AV			2.55 H	116	59.1	39.3
5	#10520.00	60.1 PK	68.2	-8.1	1.46 H	255	42.8	17.3

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	56.9 PK	74.0	-17.1	2.03 V	42	52.5	4.4
2	5150.00	44.7 AV	54.0	-9.3	2.03 V	42	40.3	4.4
3	*5260.00	119.1 PK			2.06 V	24	79.8	39.3
4	*5260.00	108.0 AV			2.06 V	24	68.7	39.3
5	#10520.00	62.0 PK	68.2	-6.2	2.26 V	12	44.7	17.3

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 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	110.8 PK			1.47 H	229	71.5	39.3
2	*5300.00	99.6 AV			1.47 H	229	60.3	39.3
3	10600.00	62.5 PK	74.0	-11.5	2.25 H	179	44.7	17.8
4	10600.00	47.8 AV	54.0	-6.2	2.25 H	179	30.0	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	*5300.00	118.8 PK			1.68 V	7	79.5	39.3
2	*5300.00	108.2 AV			1.68 V	7	68.9	39.3
3	10600.00	63.7 PK	74.0	-10.3	1.79 V	17	45.9	17.8
4	10600.00	49.5 AV	54.0	-4.5	1.79 V	17	31.7	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 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	112.3 PK			2.63 H	246	73.0	39.3
2	*5320.00	100.5 AV			2.63 H	246	61.2	39.3
3	5350.00	57.1 PK	74.0	-16.9	2.16 H	182	52.8	4.3
4	5350.00	44.9 AV	54.0	-9.1	2.16 H	182	40.6	4.3
5	10640.00	60.8 PK	74.0	-13.2	2.18 H	181	43.2	17.6
6	10640.00	47.1 AV	54.0	-6.9	2.18 H	181	29.5	17.6

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	*5320.00	118.1 PK			2.22 V	24	78.8	39.3
2	*5320.00	107.5 AV			2.22 V	24	68.2	39.3
3	5350.00	59.6 PK	74.0	-14.4	1.87 V	2	55.3	4.3
4	5350.00	47.1 AV	54.0	-6.9	1.87 V	2	42.8	4.3
5	10640.00	63.3 PK	74.0	-10.7	2.18 V	21	45.7	17.6
6	10640.00	49.3 AV	54.0	-4.7	2.18 V	21	31.7	17.6

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 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	58.2 PK	74.0	-15.8	1.47 H	256	53.6	4.6
2	5460.00	44.7 AV	54.0	-9.3	1.47 H	256	40.1	4.6
3	#5470.00	61.9 PK	68.2	-6.3	1.26 H	242	57.3	4.6
4	*5500.00	112.9 PK			1.24 H	238	73.1	39.8
5	*5500.00	101.9 AV			1.24 H	238	62.1	39.8
6	11000.00	61.2 PK	74.0	-12.8	1.95 H	171	42.5	18.7
7	11000.00	47.3 AV	54.0	-6.7	1.95 H	171	28.6	18.7

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	5460.00	60.7 PK	74.0	-13.3	2.02 V	2	56.1	4.6
2	5460.00	48.3 AV	54.0	-5.7	2.02 V	2	43.7	4.6
3	#5470.00	67.1 PK	68.2	-1.1	2.05 V	42	62.5	4.6
4	*5500.00	120.6 PK			1.84 V	22	80.8	39.8
5	*5500.00	110.2 AV			1.84 V	22	70.4	39.8
6	11000.00	61.5 PK	74.0	-12.5	2.18 V	30	42.8	18.7
7	11000.00	49.1 AV	54.0	-4.9	2.18 V	30	30.4	18.7

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 116	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	*5580.00	114.4 PK			2.37 H	244	74.6	39.8
2	*5580.00	103.2 AV			2.37 H	244	63.4	39.8
3	11160.00	62.9 PK	74.0	-11.1	2.52 H	260	45.1	17.8
4	11160.00	49.3 AV	54.0	-4.7	2.52 H	260	31.5	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	*5580.00	120.7 PK			1.87 V	27	80.9	39.8
2	*5580.00	110.3 AV			1.87 V	27	70.5	39.8
3	11160.00	63.3 PK	74.0	-10.7	1.28 V	242	45.5	17.8
4	11160.00	49.8 AV	54.0	-4.2	1.28 V	242	32.0	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.

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	112.3 PK			3.22 H	245	72.5	39.8
2	*5700.00	101.0 AV			3.22 H	245	61.2	39.8
3	#5725.00	60.0 PK	68.2	-8.2	2.85 H	211	55.3	4.7
4	11400.00	60.4 PK	74.0	-13.6	2.72 H	112	42.7	17.7
5	11400.00	47.3 AV	54.0	-6.7	2.72 H	112	29.6	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	*5700.00	118.3 PK			2.11 V	313	78.5	39.8
2	*5700.00	107.4 AV			2.11 V	313	67.6	39.8
3	#5725.00	63.5 PK	68.2	-4.7	2.02 V	237	58.8	4.7
4	11400.00	60.8 PK	74.0	-13.2	2.04 V	271	43.1	17.7
5	11400.00	47.1 AV	54.0	-6.9	2.04 V	271	29.4	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5600.80	56.8 PK	68.2	-11.4	3.35 H	245	52.2	4.6
2	*5745.00	113.4 PK			3.35 H	245	73.3	40.1
3	*5745.00	102.3 AV			3.35 H	245	62.2	40.1
4	#5966.40	57.4 PK	68.2	-10.8	3.35 H	245	52.1	5.3
5	11490.00	61.8 PK	74.0	-12.2	2.56 H	224	43.8	18.0
6	11490.00	47.2 AV	54.0	-6.8	2.56 H	224	29.2	18.0

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	#5607.69	55.8 PK	68.2	-12.4	1.87 V	207	51.2	4.6
2	*5745.00	119.5 PK			1.87 V	207	79.4	40.1
3	*5745.00	109.2 AV			1.87 V	207	69.1	40.1
4	#5974.36	58.4 PK	68.2	-9.8	1.87 V	207	53.0	5.4
5	11490.00	59.1 PK	74.0	-14.9	1.75 V	182	41.1	18.0
6	11490.00	45.7 AV	54.0	-8.3	1.75 V	182	27.7	18.0

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.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5607.20	56.3 PK	68.2	-11.9	2.07 H	285	51.7	4.6
2	*5785.00	106.6 PK			2.07 H	285	66.3	40.3
3	*5785.00	95.8 AV			2.07 H	285	55.5	40.3
4	#5945.60	56.6 PK	68.2	-11.6	2.07 H	285	51.3	5.3
5	11570.00	59.8 PK	74.0	-14.2	1.96 H	215	42.1	17.7
6	11570.00	47.2 AV	54.0	-6.8	1.96 H	215	29.5	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	#5621.15	57.3 PK	68.2	-10.9	1.99 V	208	52.7	4.6
2	*5785.00	119.6 PK			1.99 V	208	79.3	40.3
3	*5785.00	109.4 AV			1.99 V	208	69.1	40.3
4	#5951.92	58.2 PK	68.2	-10.0	1.99 V	208	52.9	5.3
5	11570.00	58.9 PK	74.0	-15.1	1.82 V	192	41.2	17.7
6	11570.00	46.2 AV	54.0	-7.8	1.82 V	192	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5618.40	56.7 PK	68.2	-11.5	2.21 H	5	52.1	4.6
2	*5825.00	107.4 PK			2.21 H	5	67.0	40.4
3	*5825.00	96.4 AV			2.21 H	5	56.0	40.4
4	#5964.80	57.8 PK	68.2	-10.4	2.21 H	5	52.5	5.3
5	11650.00	60.0 PK	74.0	-14.0	2.53 H	156	42.5	17.5
6	11650.00	47.1 AV	54.0	-6.9	2.53 H	156	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	#5601.28	57.0 PK	68.2	-11.2	1.94 V	210	52.4	4.6
2	*5825.00	120.0 PK			1.94 V	210	79.6	40.4
3	*5825.00	109.4 AV			1.94 V	210	69.0	40.4
4	#5978.85	59.3 PK	68.2	-8.9	1.94 V	210	53.9	5.4
5	11650.00	58.8 PK	74.0	-15.2	1.82 V	202	41.3	17.5
6	11650.00	45.6 AV	54.0	-8.4	1.82 V	202	28.1	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 36	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.6 PK	74.0	-17.4	1.48 H	55	52.2	4.4
2	5150.00	43.6 AV	54.0	-10.4	1.48 H	55	39.2	4.4
3	*5180.00	106.2 PK			1.27 H	39	66.7	39.5
4	*5180.00	95.7 AV			1.27 H	39	56.2	39.5
5	#10360.00	59.0 PK	68.2	-9.2	2.48 H	216	43.0	16.0

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	61.9 PK	74.0	-12.1	1.40 V	289	57.5	4.4
2	5150.00	47.9 AV	54.0	-6.1	1.40 V	289	43.5	4.4
3	*5180.00	118.7 PK			1.69 V	304	79.2	39.5
4	*5180.00	107.8 AV			1.69 V	304	68.3	39.5
5	#10360.00	58.7 PK	68.2	-9.5	1.83 V	305	42.7	16.0

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.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
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	*5200.00	106.3 PK			1.37 H	38	66.8	39.5
2	*5200.00	96.2 AV			1.37 H	38	56.7	39.5
3	#10400.00	59.5 PK	68.2	-8.7	2.36 H	182	43.3	16.2

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	*5200.00	118.5 PK			1.69 V	307	79.0	39.5
2	*5200.00	107.5 AV			1.69 V	307	68.0	39.5
3	#10400.00	59.7 PK	68.2	-8.5	1.95 V	308	43.5	16.2

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 48	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	*5240.00	107.2 PK			2.69 H	112	67.9	39.3
2	*5240.00	96.8 AV			2.69 H	112	57.5	39.3
3	5350.00	57.4 PK	74.0	-16.6	2.34 H	151	53.1	4.3
4	5350.00	43.9 AV	54.0	-10.1	2.34 H	151	39.6	4.3
5	#10480.00	60.2 PK	68.2	-8.0	2.36 H	193	43.2	17.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	118.8 PK			1.56 V	304	79.5	39.3
2	*5240.00	107.9 AV			1.56 V	304	68.6	39.3
3	5350.00	57.2 PK	74.0	-16.8	1.75 V	291	52.9	4.3
4	5350.00	44.1 AV	54.0	-9.9	1.75 V	291	39.8	4.3
5	#10480.00	59.7 PK	68.2	-8.5	1.61 V	310	42.7	17.0

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.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
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	56.6 PK	74.0	-17.4	1.96 H	228	52.2	4.4
2	5150.00	43.9 AV	54.0	-10.1	1.96 H	228	39.5	4.4
3	*5260.00	112.0 PK			2.39 H	244	72.7	39.3
4	*5260.00	100.7 AV			2.39 H	244	61.4	39.3
5	#10520.00	60.1 PK	68.2	-8.1	2.66 H	144	42.8	17.3

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	56.4 PK	74.0	-17.6	2.10 V	12	52.0	4.4
2	5150.00	44.1 AV	54.0	-9.9	2.10 V	12	39.7	4.4
3	*5260.00	117.5 PK			1.69 V	42	78.2	39.3
4	*5260.00	106.7 AV			1.69 V	42	67.4	39.3
5	#10520.00	60.0 PK	68.2	-8.2	1.86 V	35	42.7	17.3

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 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	110.2 PK			1.49 H	229	70.9	39.3
2	*5300.00	99.1 AV			1.49 H	229	59.8	39.3
3	10600.00	62.1 PK	74.0	-11.9	2.43 H	188	44.3	17.8
4	10600.00	48.1 AV	54.0	-5.9	2.43 H	188	30.3	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	*5300.00	118.9 PK			1.70 V	12	79.6	39.3
2	*5300.00	108.2 AV			1.70 V	12	68.9	39.3
3	10600.00	62.5 PK	74.0	-11.5	1.54 V	15	44.7	17.8
4	10600.00	48.5 AV	54.0	-5.5	1.54 V	15	30.7	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 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	111.6 PK			2.48 H	244	72.3	39.3
2	*5320.00	100.2 AV			2.48 H	244	60.9	39.3
3	5350.00	56.4 PK	74.0	-17.6	2.06 H	214	52.1	4.3
4	5350.00	43.8 AV	54.0	-10.2	2.06 H	214	39.5	4.3
5	10640.00	61.0 PK	74.0	-13.0	2.58 H	174	43.4	17.6
6	10640.00	47.5 AV	54.0	-6.5	2.58 H	174	29.9	17.6

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	*5320.00	118.5 PK			1.81 V	1	79.2	39.3
2	*5320.00	107.9 AV			1.81 V	1	68.6	39.3
3	5350.00	59.3 PK	74.0	-14.7	1.83 V	8	55.0	4.3
4	5350.00	47.3 AV	54.0	-6.7	1.83 V	8	43.0	4.3
5	10640.00	62.3 PK	74.0	-11.7	1.79 V	16	44.7	17.6
6	10640.00	47.8 AV	54.0	-6.2	1.79 V	16	30.2	17.6

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 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	56.8 PK	74.0	-17.2	1.46 H	256	52.2	4.6
2	5460.00	45.2 AV	54.0	-8.8	1.46 H	256	40.6	4.6
3	#5470.00	62.0 PK	68.2	-6.2	1.45 H	200	57.4	4.6
4	*5500.00	112.7 PK			1.39 H	239	72.9	39.8
5	*5500.00	101.2 AV			1.39 H	239	61.4	39.8
6	11000.00	60.5 PK	74.0	-13.5	1.56 H	258	41.8	18.7
7	11000.00	47.7 AV	54.0	-6.3	1.56 H	258	29.0	18.7

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	5460.00	53.6 PK	74.0	-20.4	1.97 V	3	49.0	4.6
2	5460.00	49.2 AV	54.0	-4.8	1.97 V	3	44.6	4.6
3	#5470.00	66.6 PK	68.2	-1.6	2.13 V	42	62.0	4.6
4	*5500.00	120.7 PK			1.97 V	24	80.9	39.8
5	*5500.00	109.9 AV			1.97 V	24	70.1	39.8
6	11000.00	62.6 PK	74.0	-11.4	2.03 V	23	43.9	18.7
7	11000.00	49.2 AV	54.0	-4.8	2.03 V	23	30.5	18.7

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 116	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	*5580.00	114.7 PK			2.37 H	243	74.9	39.8
2	*5580.00	102.7 AV			2.37 H	243	62.9	39.8
3	11160.00	62.6 PK	74.0	-11.4	2.32 H	223	44.8	17.8
4	11160.00	48.5 AV	54.0	-5.5	2.32 H	223	30.7	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	*5580.00	120.6 PK			1.86 V	351	80.8	39.8
2	*5580.00	110.0 AV			1.86 V	351	70.2	39.8
3	11160.00	64.7 PK	74.0	-9.3	1.76 V	199	46.9	17.8
4	11160.00	51.2 AV	54.0	-2.8	1.76 V	199	33.4	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 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	112.7 PK			3.39 H	246	72.9	39.8
2	*5700.00	100.7 AV			3.39 H	246	60.9	39.8
3	#5725.00	58.9 PK	68.2	-9.3	3.19 H	224	54.2	4.7
4	11400.00	60.2 PK	74.0	-13.8	2.76 H	166	42.5	17.7
5	11400.00	47.1 AV	54.0	-6.9	2.76 H	166	29.4	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	*5700.00	118.1 PK			1.91 V	208	78.3	39.8
2	*5700.00	107.0 AV			1.91 V	208	67.2	39.8
3	#5725.00	64.4 PK	68.2	-3.8	1.76 V	170	59.7	4.7
4	11400.00	58.6 PK	74.0	-15.4	1.72 V	220	40.9	17.7
5	11400.00	45.7 AV	54.0	-8.3	1.72 V	220	28.0	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5607.20	56.6 PK	68.2	-11.6	1.94 H	40	52.0	4.6
2	*5745.00	105.7 PK			1.94 H	40	65.6	40.1
3	*5745.00	94.4 AV			1.94 H	40	54.3	40.1
4	#5942.40	57.7 PK	68.2	-10.5	1.94 H	40	52.4	5.3
5	11490.00	60.3 PK	74.0	-13.7	1.53 H	96	42.3	18.0
6	11490.00	46.9 AV	54.0	-7.1	1.53 H	96	28.9	18.0

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	#5642.95	56.3 PK	68.2	-11.9	1.84 V	211	51.8	4.5
2	*5745.00	119.6 PK			1.84 V	211	79.5	40.1
3	*5745.00	108.2 AV			1.84 V	211	68.1	40.1
4	#5983.33	58.5 PK	68.2	-9.7	1.84 V	211	53.1	5.4
5	11490.00	59.0 PK	74.0	-15.0	1.92 V	205	41.0	18.0
6	11490.00	45.2 AV	54.0	-8.8	1.92 V	205	27.2	18.0

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.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5625.60	56.6 PK	68.2	-11.6	2.23 H	5	52.1	4.5
2	*5785.00	106.1 PK			2.23 H	5	65.8	40.3
3	*5785.00	95.0 AV			2.23 H	5	54.7	40.3
4	#5981.60	57.6 PK	68.2	-10.6	2.23 H	5	52.2	5.4
5	11570.00	59.8 PK	74.0	-14.2	2.53 H	261	42.1	17.7
6	11570.00	46.7 AV	54.0	-7.3	2.53 H	261	29.0	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	#5610.90	57.0 PK	68.2	-11.2	1.97 V	212	52.4	4.6
2	*5785.00	119.2 PK			1.97 V	212	78.9	40.3
3	*5785.00	107.9 AV			1.97 V	212	67.6	40.3
4	#5982.05	58.6 PK	68.2	-9.6	1.97 V	212	53.2	5.4
5	11570.00	59.0 PK	74.0	-15.0	1.95 V	210	41.3	17.7
6	11570.00	45.8 AV	54.0	-8.2	1.95 V	210	28.1	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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5647.20	56.8 PK	68.2	-11.4	2.22 H	6	52.3	4.5
2	*5825.00	106.6 PK			2.22 H	6	66.2	40.4
3	*5825.00	95.3 AV			2.22 H	6	54.9	40.4
4	#5968.00	56.9 PK	68.2	-11.3	2.22 H	6	51.6	5.3
5	11650.00	60.0 PK	74.0	-14.0	1.52 H	118	42.5	17.5
6	11650.00	47.7 AV	54.0	-6.3	1.52 H	118	30.2	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	#5628.85	55.6 PK	68.2	-12.6	2.02 V	209	51.1	4.5
2	*5825.00	119.6 PK			2.02 V	209	79.2	40.4
3	*5825.00	109.0 AV			2.02 V	209	68.6	40.4
4	#5983.33	57.9 PK	68.2	-10.3	2.02 V	209	52.5	5.4
5	11650.00	60.3 PK	74.0	-13.7	1.99 V	212	42.8	17.5
6	11650.00	46.8 AV	54.0	-7.2	1.99 V	212	29.3	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 38	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	56.4 PK	74.0	-17.6	1.11 H	50	52.0	4.4
2	5150.00	43.5 AV	54.0	-10.5	1.11 H	50	39.1	4.4
3	*5190.00	104.5 PK			1.04 H	45	65.0	39.5
4	*5190.00	93.9 AV			1.04 H	45	54.4	39.5
5	#10380.00	58.4 PK	68.2	-9.8	2.24 H	136	42.2	16.2

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	5150.00	69.5 PK	74.0	-4.5	1.87 V	22	65.1	4.4
2	5150.00	52.2 AV	54.0	-1.8	1.87 V	22	47.8	4.4
3	*5190.00	115.2 PK			1.88 V	310	75.7	39.5
4	*5190.00	105.2 AV			1.88 V	310	65.7	39.5
5	#10380.00	58.5 PK	68.2	-9.7	1.63 V	301	42.3	16.2

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 46	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	*5230.00	104.5 PK			2.71 H	111	65.2	39.3
2	*5230.00	93.6 AV			2.71 H	111	54.3	39.3
3	5350.00	57.1 PK	74.0	-16.9	1.00 H	153	52.8	4.3
4	5350.00	43.9 AV	54.0	-10.1	1.00 H	153	39.6	4.3
5	#10460.00	60.1 PK	68.2	-8.1	2.38 H	136	43.3	16.8

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	*5230.00	114.0 PK			1.83 V	309	74.7	39.3
2	*5230.00	104.3 AV			1.83 V	309	65.0	39.3
3	5350.00	57.4 PK	74.0	-16.6	1.67 V	322	53.1	4.3
4	5350.00	44.0 AV	54.0	-10.0	1.67 V	322	39.7	4.3
5	#10460.00	59.7 PK	68.2	-8.5	1.70 V	297	42.9	16.8

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 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	56.7 PK	74.0	-17.3	2.19 H	225	52.3	4.4
2	5150.00	43.6 AV	54.0	-10.4	2.19 H	225	39.2	4.4
3	*5270.00	108.5 PK			2.35 H	231	69.2	39.3
4	*5270.00	98.1 AV			2.35 H	231	58.8	39.3
5	#10540.00	61.0 PK	68.2	-7.2	1.82 H	126	43.5	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	5150.00	56.4 PK	74.0	-17.6	1.75 V	21	52.0	4.4
2	5150.00	44.5 AV	54.0	-9.5	1.75 V	21	40.1	4.4
3	*5270.00	115.5 PK			1.66 V	3	76.2	39.3
4	*5270.00	105.7 AV			1.66 V	3	66.4	39.3
5	#10540.00	60.4 PK	68.2	-7.8	2.49 V	13	42.9	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.

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	109.0 PK			2.49 H	245	69.7	39.3
2	*5310.00	97.8 AV			2.49 H	245	58.5	39.3
3	5350.00	58.6 PK	74.0	-15.4	2.19 H	256	54.3	4.3
4	5350.00	45.8 AV	54.0	-8.2	2.19 H	256	41.5	4.3
5	10620.00	61.5 PK	74.0	-12.5	2.85 H	166	43.8	17.7
6	10620.00	47.9 AV	54.0	-6.1	2.85 H	166	30.2	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	*5310.00	115.3 PK			1.71 V	22	76.0	39.3
2	*5310.00	105.1 AV			1.71 V	22	65.8	39.3
3	5350.00	65.9 PK	74.0	-8.1	2.17 V	26	61.6	4.3
4	5350.00	50.5 AV	54.0	-3.5	2.17 V	26	46.2	4.3
5	10620.00	59.0 PK	74.0	-15.0	2.06 V	36	41.3	17.7
6	10620.00	47.3 AV	54.0	-6.7	2.06 V	36	29.6	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.

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	61.5 PK	74.0	-12.5	2.12 H	269	56.9	4.6
2	5460.00	45.5 AV	54.0	-8.5	2.12 H	269	40.9	4.6
3	#5470.00	62.5 PK	68.2	-5.7	2.48 H	261	57.9	4.6
4	*5510.00	109.4 PK			2.45 H	245	69.5	39.9
5	*5510.00	98.7 AV			2.45 H	245	58.8	39.9
6	11020.00	59.9 PK	74.0	-14.1	1.65 H	183	41.4	18.5
7	11020.00	47.0 AV	54.0	-7.0	1.65 H	183	28.5	18.5

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	5460.00	66.7 PK	74.0	-7.3	1.02 V	236	62.1	4.6
2	5460.00	50.0 AV	54.0	-4.0	1.02 V	236	45.4	4.6
3	#5470.00	66.7 PK	68.2	-1.5	1.05 V	240	62.1	4.6
4	*5510.00	116.3 PK			1.87 V	202	76.4	39.9
5	*5510.00	106.6 AV			1.87 V	202	66.7	39.9
6	11020.00	61.0 PK	74.0	-13.0	2.06 V	316	42.5	18.5
7	11020.00	48.7 AV	54.0	-5.3	2.06 V	316	30.2	18.5

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 110	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	*5550.00	110.4 PK			1.26 H	237	70.6	39.8
2	*5550.00	99.9 AV			1.26 H	237	60.1	39.8
3	11100.00	60.2 PK	74.0	-13.8	1.68 H	173	42.2	18.0
4	11100.00	48.0 AV	54.0	-6.0	1.68 H	173	30.0	18.0

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	117.9 PK			2.17 V	23	78.1	39.8
2	*5550.00	108.0 AV			2.17 V	23	68.2	39.8
3	11100.00	61.9 PK	74.0	-12.1	2.11 V	19	43.9	18.0
4	11100.00	48.8 AV	54.0	-5.2	2.11 V	19	30.8	18.0

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.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	108.9 PK			3.42 H	247	69.1	39.8
2	*5670.00	98.1 AV			3.42 H	247	58.3	39.8
3	#5725.00	62.3 PK	68.2	-5.9	3.15 H	255	57.6	4.7
4	11340.00	60.8 PK	74.0	-13.2	2.52 H	138	43.0	17.8
5	11340.00	47.6 AV	54.0	-6.4	2.52 H	138	29.8	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	*5670.00	115.3 PK			2.01 V	356	75.5	39.8
2	*5670.00	105.2 AV			2.01 V	356	65.4	39.8
3	#5725.00	66.6 PK	68.2	-1.6	2.06 V	1	61.9	4.7
4	11340.00	58.0 PK	74.0	-16.0	1.85 V	325	40.2	17.8
5	11340.00	45.6 AV	54.0	-8.4	1.85 V	325	27.8	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 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5609.60	56.5 PK	68.2	-11.7	2.15 H	41	51.9	4.6
2	*5755.00	103.5 PK			2.15 H	41	63.4	40.1
3	*5755.00	93.0 AV			2.15 H	41	52.9	40.1
4	#5976.00	58.1 PK	68.2	-10.1	2.15 H	41	52.7	5.4
5	11510.00	60.0 PK	74.0	-14.0	2.35 H	156	41.9	18.1
6	11510.00	46.6 AV	54.0	-7.4	2.35 H	156	28.5	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	#5646.79	61.0 PK	68.2	-7.2	1.92 V	210	56.5	4.5
2	*5755.00	115.3 PK			1.92 V	210	75.2	40.1
3	*5755.00	105.6 AV			1.92 V	210	65.5	40.1
4	#5926.28	59.2 PK	68.2	-9.0	1.92 V	210	53.9	5.3
5	11510.00	59.1 PK	74.0	-14.9	1.90 V	210	41.0	18.1
6	11510.00	45.4 AV	54.0	-8.6	1.90 V	210	27.3	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 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5605.60	56.9 PK	68.2	-11.3	2.32 H	44	52.3	4.6
2	*5795.00	102.4 PK			2.32 H	44	62.0	40.4
3	*5795.00	92.3 AV			2.32 H	44	51.9	40.4
4	#5948.00	57.0 PK	68.2	-11.2	2.32 H	44	51.7	5.3
5	11590.00	59.7 PK	74.0	-14.3	2.69 H	228	42.1	17.6
6	11590.00	46.2 AV	54.0	-7.8	2.69 H	228	28.6	17.6

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	#5608.97	56.9 PK	68.2	-11.3	1.97 V	211	52.3	4.6
2	*5795.00	115.7 PK			1.97 V	211	75.3	40.4
3	*5795.00	106.3 AV			1.97 V	211	65.9	40.4
4	#5975.64	58.4 PK	68.2	-9.8	1.97 V	211	53.0	5.4
5	11590.00	58.9 PK	74.0	-15.1	2.01 V	213	41.3	17.6
6	11590.00	45.6 AV	54.0	-8.4	2.01 V	213	28.0	17.6

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.

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.9 PK	74.0	-12.1	2.50 H	106	57.5	4.4
2	5150.00	46.0 AV	54.0	-8.0	2.50 H	106	41.6	4.4
3	*5210.00	100.5 PK			2.58 H	116	61.1	39.4
4	*5210.00	90.6 AV			2.58 H	116	51.2	39.4
5	5350.00	57.8 PK	74.0	-16.2	2.18 H	133	53.5	4.3
6	5350.00	44.3 AV	54.0	-9.7	2.18 H	133	40.0	4.3
7	#10420.00	60.1 PK	68.2	-8.1	2.36 H	179	43.6	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	5150.00	68.4 PK	74.0	-5.6	1.67 V	32	64.0	4.4
2	5150.00	52.3 AV	54.0	-1.7	1.67 V	32	47.9	4.4
3	*5210.00	111.6 PK			1.72 V	309	72.2	39.4
4	*5210.00	101.5 AV			1.72 V	309	62.1	39.4
5	5350.00	64.8 PK	74.0	-9.2	1.80 V	29	60.5	4.3
6	5350.00	48.8 AV	54.0	-5.2	1.80 V	29	44.5	4.3
7	#10420.00	58.8 PK	68.2	-9.4	1.63 V	289	42.3	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 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	57.0 PK	74.0	-17.0	1.89 H	248	52.6	4.4
2	5150.00	44.0 AV	54.0	-10.0	1.89 H	248	39.6	4.4
3	*5290.00	103.7 PK			2.23 H	231	64.4	39.3
4	*5290.00	93.2 AV			2.23 H	231	53.9	39.3
5	5350.00	61.5 PK	74.0	-12.5	2.21 H	239	57.2	4.3
6	5350.00	46.7 AV	54.0	-7.3	2.21 H	239	42.4	4.3
7	#10580.00	61.3 PK	68.2	-6.9	1.65 H	159	43.6	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	5150.00	62.0 PK	74.0	-12.0	1.60 V	2	57.6	4.4
2	5150.00	46.8 AV	54.0	-7.2	1.60 V	2	42.4	4.4
3	*5290.00	110.9 PK			1.68 V	24	71.6	39.3
4	*5290.00	100.3 AV			1.68 V	24	61.0	39.3
5	5350.00	64.5 PK	74.0	-9.5	1.73 V	33	60.2	4.3
6	5350.00	52.5 AV	54.0	-1.5	1.73 V	33	48.2	4.3
7	#10580.00	59.0 PK	68.2	-9.2	1.82 V	35	41.3	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.

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	60.6 PK	74.0	-13.4	2.51 H	265	56.0	4.6
2	5460.00	45.8 AV	54.0	-8.2	2.51 H	265	41.2	4.6
3	#5470.00	60.3 PK	68.2	-7.9	2.35 H	216	55.7	4.6
4	*5530.00	105.4 PK			2.41 H	243	65.5	39.9
5	*5530.00	94.2 AV			2.41 H	243	54.3	39.9
6	#5725.00	58.1 PK	68.2	-10.1	1.96 H	263	53.4	4.7
7	11060.00	59.7 PK	74.0	-14.3	2.46 H	177	41.5	18.2
8	11060.00	46.7 AV	54.0	-7.3	2.46 H	177	28.5	18.2

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	5460.00	62.8 PK	74.0	-11.2	1.98 V	346	58.2	4.6
2	5460.00	48.3 AV	54.0	-5.7	1.98 V	346	43.7	4.6
3	#5470.00	66.6 PK	68.2	-1.6	1.85 V	342	62.0	4.6
4	*5530.00	110.8 PK			1.71 V	204	70.9	39.9
5	*5530.00	101.3 AV			1.71 V	204	61.4	39.9
6	#5725.00	56.0 PK	68.2	-12.2	1.86 V	220	51.3	4.7
7	11060.00	59.2 PK	74.0	-14.8	1.82 V	325	41.0	18.2
8	11060.00	46.9 AV	54.0	-7.1	1.82 V	325	28.7	18.2

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 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	57.6 PK	74.0	-16.4	2.13 H	200	53.0	4.6
2	5460.00	44.4 AV	54.0	-9.6	2.13 H	200	39.8	4.6
3	#5470.00	58.5 PK	68.2	-9.7	2.26 H	258	53.9	4.6
4	*5610.00	105.2 PK			2.63 H	243	65.3	39.9
5	*5610.00	94.1 AV			2.63 H	243	54.2	39.9
6	#5725.00	58.8 PK	68.2	-9.4	2.81 H	264	54.1	4.7
7	11220.00	60.1 PK	74.0	-13.9	2.42 H	199	42.2	17.9
8	11220.00	47.0 AV	54.0	-7.0	2.42 H	199	29.1	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	5460.00	60.3 PK	74.0	-13.7	1.92 V	335	55.7	4.6
2	5460.00	46.1 AV	54.0	-7.9	1.92 V	335	41.5	4.6
3	#5470.00	61.4 PK	68.2	-6.8	2.03 V	347	56.8	4.6
4	*5610.00	110.2 PK			1.87 V	356	70.3	39.9
5	*5610.00	100.7 AV			1.87 V	356	60.8	39.9
6	#5725.00	66.5 PK	68.2	-1.7	2.04 V	282	61.8	4.7
7	11220.00	59.4 PK	74.0	-14.6	1.75 V	330	41.5	17.9
8	11220.00	46.4 AV	54.0	-7.6	1.75 V	330	28.5	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 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	#5608.00	56.5 PK	68.2	-11.7	2.38 H	42	51.9	4.6
2	#5650.00	58.1 PK	68.2	-10.1	2.53 H	13	53.6	4.5
3	*5775.00	96.4 PK			2.38 H	42	56.1	40.3
4	*5775.00	86.5 AV			2.38 H	42	46.2	40.3
5	#5925.00	57.8 PK	68.2	-10.4	2.48 H	53	52.5	5.3
6	#5973.60	57.3 PK	68.2	-10.9	2.38 H	42	51.9	5.4
7	11550.00	60.2 PK	74.0	-13.8	2.52 H	156	42.3	17.9
8	11550.00	46.4 AV	54.0	-7.6	2.52 H	156	28.5	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	#5648.72	60.7 PK	68.2	-7.5	2.08 V	355	56.2	4.5
2	#5650.00	63.2 PK	68.2	-5.0	2.14 V	355	58.7	4.5
3	*5775.00	110.2 PK			2.08 V	355	69.9	40.3
4	*5775.00	100.3 AV			2.08 V	355	60.0	40.3
5	#5925.00	66.5 PK	68.2	-1.7	2.13 V	280	61.2	5.3
6	#5935.26	60.5 PK	68.2	-7.7	2.08 V	355	55.2	5.3
7	11550.00	59.3 PK	74.0	-14.7	1.99 V	213	41.4	17.9
8	11550.00	46.1 AV	54.0	-7.9	1.99 V	213	28.2	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.

802.11ac (VHT80+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	55.9 PK	74.0	-18.1	2.10 H	103	51.5	4.4
2	5150.00	43.6 AV	54.0	-10.4	2.10 H	103	39.2	4.4
3	*5210.00	94.9 PK			2.24 H	88	55.5	39.4
4	*5210.00	84.7 AV			2.24 H	88	45.3	39.4
5	5350.00	56.5 PK	74.0	-17.5	1.89 H	103	52.2	4.3
6	5350.00	43.8 AV	54.0	-10.2	1.89 H	103	39.5	4.3
7	5460.00	56.8 PK	74.0	-17.2	2.18 H	139	52.2	4.6
8	5460.00	45.2 AV	54.0	-8.8	2.18 H	139	40.6	4.6
9	#5470.00	56.8 PK	68.2	-11.4	2.23 H	157	52.2	4.6
10	*5530.00	98.3 PK			2.58 H	108	58.4	39.9
11	*5530.00	87.6 AV			2.58 H	108	47.7	39.9
12	#5725.00	56.4 PK	68.2	-11.8	2.36 H	221	51.7	4.7
13	#10420.00	59.1 PK	68.2	-9.1	2.89 H	164	42.6	16.5
14	11060.00	60.7 PK	74.0	-13.3	2.49 H	182	42.5	18.2
15	11060.00	47.5 AV	54.0	-6.5	2.49 H	182	29.3	18.2

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	5150.00	56.2 PK	74.0	-17.8	1.58 V	196	51.8	4.4
2	5150.00	43.4 AV	54.0	-10.6	1.58 V	196	39.0	4.4
3	*5210.00	104.4 PK			1.68 V	174	65.0	39.4
4	*5210.00	94.4 AV			1.68 V	174	55.0	39.4
5	5350.00	59.3 PK	74.0	-14.7	2.21 V	238	55.0	4.3
6	5350.00	45.6 AV	54.0	-8.4	2.21 V	238	41.3	4.3
7	5460.00	56.9 PK	74.0	-17.1	1.95 V	313	52.3	4.6
8	5460.00	46.8 AV	54.0	-7.2	1.95 V	313	42.2	4.6
9	#5470.00	62.7 PK	68.2	-5.5	1.77 V	343	58.1	4.6
10	*5530.00	107.7 PK			1.75 V	342	67.8	39.9
11	*5530.00	97.1 AV			1.75 V	342	57.2	39.9
12	#5725.00	56.0 PK	68.2	-12.2	2.31 V	318	51.3	4.7
13	#10420.00	57.8 PK	68.2	-10.4	2.36 V	228	41.3	16.5
14	11060.00	59.9 PK	74.0	-14.1	2.18 V	264	41.7	18.2
15	11060.00	46.8 AV	54.0	-7.2	2.18 V	264	28.6	18.2

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 42+ 122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.1 PK	74.0	-17.9	2.23 H	154	51.7	4.4
2	5150.00	43.8 AV	54.0	-10.2	2.23 H	154	39.4	4.4
3	*5210.00	95.5 PK			2.18 H	92	56.1	39.4
4	*5210.00	85.3 AV			2.18 H	92	45.9	39.4
5	5350.00	56.7 PK	74.0	-17.3	1.96 H	132	52.4	4.3
6	5350.00	43.5 AV	54.0	-10.5	1.96 H	132	39.2	4.3
7	5460.00	56.9 PK	74.0	-17.1	1.82 H	69	52.3	4.6
8	5460.00	44.0 AV	54.0	-10.0	1.82 H	69	39.4	4.6
9	#5470.00	56.8 PK	68.2	-11.4	1.85 H	26	52.2	4.6
10	*5610.00	95.3 PK			1.79 H	35	55.4	39.9
11	*5610.00	85.1 AV			1.79 H	35	45.2	39.9
12	#5725.00	56.6 PK	68.2	-11.6	1.89 H	71	51.9	4.7
13	#10420.00	60.0 PK	68.2	-8.2	1.96 H	183	43.5	16.5
14	11220.00	60.4 PK	74.0	-13.6	2.19 H	178	42.5	17.9
15	11220.00	47.6 AV	54.0	-6.4	2.19 H	178	29.7	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	57.6 PK	74.0	-16.4	1.69 V	321	53.2	4.4
2	5150.00	44.3 AV	54.0	-9.7	1.69 V	321	39.9	4.4
3	*5210.00	105.5 PK			1.64 V	213	66.1	39.4
4	*5210.00	95.2 AV			1.64 V	213	55.8	39.4
5	5350.00	57.7 PK	74.0	-16.3	1.86 V	287	53.4	4.3
6	5350.00	44.3 AV	54.0	-9.7	1.86 V	287	40.0	4.3
7	5460.00	57.9 PK	74.0	-16.1	1.96 V	310	53.3	4.6
8	5460.00	44.8 AV	54.0	-9.2	1.96 V	310	40.2	4.6
9	#5470.00	58.2 PK	68.2	-10.0	1.92 V	305	53.6	4.6
10	*5610.00	106.5 PK			1.67 V	340	66.6	39.9
11	*5610.00	96.3 AV			1.67 V	340	56.4	39.9
12	#5725.00	60.0 PK	68.2	-8.2	1.75 V	296	55.3	4.7
13	#10420.00	57.8 PK	68.2	-10.4	1.83 V	288	41.3	16.5
14	11220.00	59.5 PK	74.0	-14.5	2.84 V	266	41.6	17.9
15	11220.00	46.2 AV	54.0	-7.8	2.84 V	266	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 42+ 155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.5 PK	74.0	-17.5	2.08 H	162	52.1	4.4
2	5150.00	44.2 AV	54.0	-9.8	2.08 H	162	39.8	4.4
3	*5210.00	96.1 PK			2.24 H	108	56.7	39.4
4	*5210.00	85.9 AV			2.24 H	108	46.5	39.4
5	5350.00	57.3 PK	74.0	-16.7	1.99 H	143	53.0	4.3
6	5350.00	44.2 AV	54.0	-9.8	1.99 H	143	39.9	4.3
7	#5624.00	57.4 PK	68.2	-10.8	1.99 H	26	52.9	4.5
8	#5650.00	55.7 PK	68.2	-12.5	1.85 H	37	51.2	4.5
9	*5775.00	93.4 PK			1.99 H	26	53.1	40.3
10	*5775.00	83.2 AV			1.99 H	26	42.9	40.3
11	#5925.00	57.0 PK	68.2	-11.2	2.13 H	46	51.7	5.3
12	#5982.40	58.2 PK	68.2	-10.0	1.99 H	26	52.8	5.4
13	#10420.00	60.4 PK	68.2	-7.8	1.99 H	158	43.9	16.5
14	11550.00	60.5 PK	74.0	-13.5	2.79 H	132	42.6	17.9
15	11550.00	47.6 AV	54.0	-6.4	2.79 H	132	29.7	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	57.9 PK	74.0	-16.1	1.74 V	306	53.5	4.4
2	5150.00	45.2 AV	54.0	-8.8	1.74 V	306	40.8	4.4
3	*5210.00	106.2 PK			1.69 V	221	66.8	39.4
4	*5210.00	95.8 AV			1.69 V	221	56.4	39.4
5	5350.00	58.2 PK	74.0	-15.8	1.99 V	256	53.9	4.3
6	5350.00	45.3 AV	54.0	-8.7	1.99 V	256	41.0	4.3
7	#5612.82	55.2 PK	68.2	-13.0	1.83 V	340	50.6	4.6
8	#5650.00	56.0 PK	68.2	-12.2	1.99 V	342	51.5	4.5
9	*5775.00	105.4 PK			1.83 V	340	65.1	40.3
10	*5775.00	94.9 AV			1.83 V	340	54.6	40.3
11	#5925.00	58.6 PK	68.2	-9.6	1.69 V	315	53.3	5.3
12	#5962.82	56.6 PK	68.2	-11.6	1.83 V	340	51.3	5.3
13	#10420.00	58.0 PK	68.2	-10.2	2.69 V	218	41.5	16.5
14	11550.00	59.4 PK	74.0	-14.6	2.24 V	189	41.5	17.9
15	11550.00	46.5 AV	54.0	-7.5	2.24 V	189	28.6	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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.3 PK	74.0	-17.7	1.58 H	162	51.9	4.4
2	5150.00	43.6 AV	54.0	-10.4	1.58 H	162	39.2	4.4
3	*5290.00	91.9 PK			1.49 H	150	52.6	39.3
4	*5290.00	81.8 AV			1.49 H	150	42.5	39.3
5	5350.00	56.4 PK	74.0	-17.6	1.52 H	131	52.1	4.3
6	5350.00	44.0 AV	54.0	-10.0	1.52 H	131	39.7	4.3
7	5460.00	56.2 PK	74.0	-17.8	2.26 H	143	51.6	4.6
8	5460.00	44.0 AV	54.0	-10.0	2.26 H	143	39.4	4.6
9	#5470.00	56.2 PK	68.2	-12.0	2.09 H	143	51.6	4.6
10	*5530.00	98.5 PK			2.52 H	116	58.6	39.9
11	*5530.00	87.9 AV			2.52 H	116	48.0	39.9
12	#5725.00	56.2 PK	68.2	-12.0	2.18 H	199	51.5	4.7
13	#10580.00	60.3 PK	68.2	-7.9	2.69 H	217	42.6	17.7
14	11060.00	61.2 PK	74.0	-12.8	1.93 H	262	43.0	18.2
15	11060.00	47.7 AV	54.0	-6.3	1.93 H	262	29.5	18.2

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	5150.00	57.7 PK	74.0	-16.3	1.73 V	338	53.3	4.4
2	5150.00	44.0 AV	54.0	-10.0	1.73 V	338	39.6	4.4
3	*5290.00	105.3 PK			1.62 V	213	66.0	39.3
4	*5290.00	95.1 AV			1.62 V	213	55.8	39.3
5	5350.00	58.5 PK	74.0	-15.5	1.66 V	298	54.2	4.3
6	5350.00	45.3 AV	54.0	-8.7	1.66 V	298	41.0	4.3
7	5460.00	58.9 PK	74.0	-15.1	1.69 V	332	54.3	4.6
8	5460.00	46.5 AV	54.0	-7.5	1.69 V	332	41.9	4.6
9	#5470.00	60.8 PK	68.2	-7.4	1.62 V	343	56.2	4.6
10	*5530.00	107.4 PK			1.74 V	342	67.5	39.9
11	*5530.00	97.2 AV			1.74 V	342	57.3	39.9
12	#5725.00	55.7 PK	68.2	-12.5	1.64 V	331	51.0	4.7
13	#10580.00	59.5 PK	68.2	-8.7	2.26 V	217	41.8	17.7
14	11060.00	59.5 PK	74.0	-14.5	2.21 V	185	41.3	18.2
15	11060.00	46.1 AV	54.0	-7.9	2.21 V	185	27.9	18.2

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 58+ 122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.6 PK	74.0	-17.4	1.42 H	148	52.2	4.4
2	5150.00	44.0 AV	54.0	-10.0	1.42 H	148	39.6	4.4
3	*5290.00	92.6 PK			1.55 H	160	53.3	39.3
4	*5290.00	82.4 AV			1.55 H	160	43.1	39.3
5	5350.00	56.7 PK	74.0	-17.3	1.68 H	145	52.4	4.3
6	5350.00	44.2 AV	54.0	-9.8	1.68 H	145	39.9	4.3
7	5460.00	57.1 PK	74.0	-16.9	1.92 H	77	52.5	4.6
8	5460.00	44.1 AV	54.0	-9.9	1.92 H	77	39.5	4.6
9	#5470.00	57.0 PK	68.2	-11.2	1.92 H	33	52.4	4.6
10	*5610.00	95.5 PK			1.85 H	47	55.6	39.9
11	*5610.00	85.2 AV			1.85 H	47	45.3	39.9
12	#5725.00	56.3 PK	68.2	-11.9	1.83 H	65	51.6	4.7
13	#10580.00	60.5 PK	68.2	-7.7	2.53 H	208	42.8	17.7
14	11220.00	60.2 PK	74.0	-13.8	2.08 H	196	42.3	17.9
15	11220.00	47.7 AV	54.0	-6.3	2.08 H	196	29.8	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	58.1 PK	74.0	-15.9	1.96 V	289	53.7	4.4
2	5150.00	44.6 AV	54.0	-9.4	1.96 V	289	40.2	4.4
3	*5290.00	106.1 PK			1.73 V	205	66.8	39.3
4	*5290.00	95.8 AV			1.73 V	205	56.5	39.3
5	5350.00	58.9 PK	74.0	-15.1	1.82 V	311	54.6	4.3
6	5350.00	45.6 AV	54.0	-8.4	1.82 V	311	41.3	4.3
7	5460.00	58.2 PK	74.0	-15.8	1.85 V	332	53.6	4.6
8	5460.00	45.0 AV	54.0	-9.0	1.85 V	332	40.4	4.6
9	#5470.00	58.1 PK	68.2	-10.1	1.86 V	291	53.5	4.6
10	*5610.00	106.7 PK			1.62 V	337	66.8	39.9
11	*5610.00	96.6 AV			1.62 V	337	56.7	39.9
12	#5725.00	56.3 PK	68.2	-11.9	1.79 V	340	51.6	4.7
13	#10580.00	59.3 PK	68.2	-8.9	2.15 V	236	41.6	17.7
14	11220.00	59.8 PK	74.0	-14.2	2.91 V	253	41.9	17.9
15	11220.00	46.5 AV	54.0	-7.5	2.91 V	253	28.6	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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.8 PK	74.0	-17.2	1.39 H	151	52.4	4.4
2	5150.00	44.3 AV	54.0	-9.7	1.39 H	151	39.9	4.4
3	*5290.00	93.2 PK			1.58 H	165	53.9	39.3
4	*5290.00	82.8 AV			1.58 H	165	43.5	39.3
5	5350.00	57.0 PK	74.0	-17.0	1.62 H	151	52.7	4.3
6	5350.00	44.4 AV	54.0	-9.6	1.62 H	151	40.1	4.3
7	#5604.80	56.7 PK	68.2	-11.5	2.05 H	5	52.1	4.6
8	#5650.00	56.9 PK	68.2	-11.3	1.89 H	23	52.4	4.5
9	*5775.00	92.0 PK			2.05 H	5	51.7	40.3
10	*5775.00	81.7 AV			2.05 H	5	41.4	40.3
11	#5925.00	59.2 PK	68.2	-9.0	1.89 H	21	53.9	5.3
12	#5948.00	56.8 PK	68.2	-11.4	2.05 H	5	51.5	5.3
13	#10580.00	60.6 PK	68.2	-7.6	2.36 H	215	42.9	17.7
14	11550.00	60.7 PK	74.0	-13.3	2.75 H	192	42.8	17.9
15	11550.00	47.5 AV	54.0	-6.5	2.75 H	192	29.6	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	56.6 PK	74.0	-17.4	1.62 V	173	52.2	4.4
2	5150.00	44.0 AV	54.0	-10.0	1.62 V	173	39.6	4.4
3	*5290.00	105.8 PK			1.80 V	215	66.5	39.3
4	*5290.00	95.8 AV			1.80 V	215	56.5	39.3
5	5350.00	59.9 PK	74.0	-14.1	1.73 V	285	55.6	4.3
6	5350.00	47.0 AV	54.0	-7.0	1.73 V	285	42.7	4.3
7	#5613.46	55.3 PK	68.2	-12.9	1.80 V	341	50.7	4.6
8	#5650.00	56.4 PK	68.2	-11.8	1.88 V	346	51.9	4.5
9	*5775.00	105.5 PK			1.80 V	341	65.2	40.3
10	*5775.00	95.5 AV			1.80 V	341	55.2	40.3
11	#5925.00	58.9 PK	68.2	-9.3	1.93 V	354	53.6	5.3
12	#5966.03	56.5 PK	68.2	-11.7	1.80 V	341	51.2	5.3
13	#10580.00	59.3 PK	68.2	-8.9	2.29 V	218	41.6	17.7
14	11550.00	59.5 PK	74.0	-14.5	2.69 V	284	41.6	17.9
15	11550.00	46.7 AV	54.0	-7.3	2.69 V	284	28.8	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 106+ 155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.8 PK	74.0	-18.2	2.05 H	86	51.2	4.6
2	5460.00	44.1 AV	54.0	-9.9	2.05 H	86	39.5	4.6
3	#5470.00	56.7 PK	68.2	-11.5	1.99 H	87	52.1	4.6
4	*5530.00	98.0 PK			2.16 H	79	58.1	39.9
5	*5530.00	87.6 AV			2.16 H	79	47.7	39.9
6	#5622.40	57.1 PK	68.2	-11.1	2.41 H	107	52.6	4.5
7	#5650.00	57.3 PK	68.2	-10.9	2.32 H	114	52.8	4.5
8	#5725.00	56.8 PK	68.2	-11.4	1.98 H	85	52.1	4.7
9	*5775.00	94.3 PK			2.41 H	107	54.0	40.3
10	*5775.00	83.5 AV			2.41 H	107	43.2	40.3
11	#5925.00	57.6 PK	68.2	-10.6	2.19 H	131	52.3	5.3
12	#5951.20	57.1 PK	68.2	-11.1	2.41 H	107	51.8	5.3
13	11060.00	60.8 PK	74.0	-13.2	2.62 H	193	42.6	18.2
14	11060.00	46.7 AV	54.0	-7.3	2.62 H	193	28.5	18.2
15	11550.00	60.2 PK	74.0	-13.8	1.83 H	179	42.3	17.9
16	11550.00	46.3 AV	54.0	-7.7	1.83 H	179	28.4	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	5460.00	56.2 PK	74.0	-17.8	1.96 V	253	51.6	4.6
2	5460.00	44.8 AV	54.0	-9.2	1.96 V	253	40.2	4.6
3	#5470.00	62.5 PK	68.2	-5.7	1.88 V	213	57.9	4.6
4	*5530.00	107.3 PK			1.82 V	223	67.4	39.9
5	*5530.00	97.5 AV			1.82 V	223	57.6	39.9
6	#5601.28	57.2 PK	68.2	-11.0	1.99 V	336	52.6	4.6
7	#5650.00	57.5 PK	68.2	-10.7	1.82 V	341	53.0	4.5
8	#5725.00	58.3 PK	68.2	-9.9	1.65 V	269	53.6	4.7
9	*5775.00	104.2 PK			1.99 V	336	63.9	40.3
10	*5775.00	94.5 AV			1.99 V	336	54.2	40.3
11	#5925.00	60.1 PK	68.2	-8.1	2.85 V	349	54.8	5.3
12	#5978.85	57.3 PK	68.2	-10.9	1.99 V	336	51.9	5.4
13	11060.00	59.9 PK	74.0	-14.1	2.18 V	264	41.7	18.2
14	11060.00	46.4 AV	54.0	-7.6	2.18 V	264	28.2	18.2
15	11550.00	59.3 PK	74.0	-14.7	2.64 V	223	41.4	17.9
16	11550.00	45.8 AV	54.0	-8.2	2.64 V	223	27.9	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 122+ 155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.8 PK	74.0	-18.2	2.16 H	99	51.2	4.6
2	5460.00	44.2 AV	54.0	-9.8	2.16 H	99	39.6	4.6
3	#5470.00	56.8 PK	68.2	-11.4	2.03 H	114	52.2	4.6
4	*5610.00	96.1 PK			2.53 H	87	56.2	39.9
5	*5610.00	86.3 AV			2.53 H	87	46.4	39.9
6	#5725.00	56.8 PK	68.2	-11.4	2.23 H	92	52.1	4.7
7	*5775.00	94.3 PK			2.45 H	110	54.0	40.3
8	*5775.00	83.7 AV			2.45 H	110	43.4	40.3
9	#5925.00	57.4 PK	68.2	-10.8	2.13 H	98	52.1	5.3
10	11220.00	60.8 PK	74.0	-13.2	1.77 H	216	42.9	17.9
11	11220.00	48.4 AV	54.0	-5.6	1.77 H	216	30.5	17.9
12	11550.00	60.4 PK	74.0	-13.6	1.54 H	198	42.5	17.9
13	11550.00	47.6 AV	54.0	-6.4	1.54 H	198	29.7	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	5460.00	56.1 PK	74.0	-17.9	1.92 V	264	51.5	4.6
2	5460.00	44.9 AV	54.0	-9.1	1.92 V	264	40.3	4.6
3	#5470.00	58.2 PK	68.2	-10.0	2.03 V	278	53.6	4.6
4	*5610.00	106.7 PK			2.14 V	220	66.8	39.9
5	*5610.00	96.7 AV			2.14 V	220	56.8	39.9
6	#5725.00	59.0 PK	68.2	-9.2	1.82 V	163	54.3	4.7
7	*5775.00	105.4 PK			1.84 V	341	65.1	40.3
8	*5775.00	95.3 AV			1.84 V	341	55.0	40.3
9	#5925.00	60.2 PK	68.2	-8.0	1.96 V	323	54.9	5.3
10	11220.00	60.0 PK	74.0	-14.0	2.81 V	199	42.1	17.9
11	11220.00	47.5 AV	54.0	-6.5	2.81 V	199	29.6	17.9
12	11550.00	59.5 PK	74.0	-14.5	1.83 V	264	41.6	17.9
13	11550.00	46.3 AV	54.0	-7.7	1.83 V	264	28.4	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.

802.11ac (VHT80+80)

CHANNEL	TX Channel 50 (TX Channel 42+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	56.6 PK	74.0	-17.4	1.95 H	78	52.2	4.4
2	5150.00	43.9 AV	54.0	-10.1	1.95 H	78	39.5	4.4
3	*5250.00	95.0 PK			2.24 H	103	55.7	39.3
4	*5250.00	84.9 AV			2.24 H	103	45.6	39.3
5	5350.00	57.9 PK	74.0	-16.1	2.42 H	135	53.6	4.3
6	5350.00	45.5 AV	54.0	-8.5	2.42 H	135	41.2	4.3
7	#10500.00	59.4 PK	68.2	-8.8	1.32 H	166	42.1	17.3

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	60.7 PK	74.0	-13.3	1.65 V	165	56.3	4.4
2	5150.00	48.1 AV	54.0	-5.9	1.65 V	165	43.7	4.4
3	*5250.00	106.3 PK			1.67 V	207	67.0	39.3
4	*5250.00	96.8 AV			1.67 V	207	57.5	39.3
5	5350.00	65.5 PK	74.0	-8.5	1.79 V	353	61.2	4.3
6	5350.00	52.5 AV	54.0	-1.5	1.79 V	353	48.2	4.3
7	#10500.00	58.9 PK	68.2	-9.3	2.25 V	177	41.6	17.3

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 114 (TX Channel 106+122)	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	56.9 PK	74.0	-17.1	2.51 H	113	52.3	4.6
2	5460.00	44.6 AV	54.0	-9.4	2.51 H	113	40.0	4.6
3	#5470.00	58.5 PK	68.2	-9.7	2.42 H	93	53.9	4.6
4	*5570.00	97.8 PK			2.36 H	89	58.0	39.8
5	*5570.00	87.8 AV			2.36 H	89	48.0	39.8
6	#5725.00	57.3 PK	68.2	-10.9	2.18 H	105	52.6	4.7
7	11140.00	60.6 PK	74.0	-13.4	2.69 H	284	42.8	17.8
8	11140.00	47.3 AV	54.0	-6.7	2.69 H	284	29.5	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	64.4 PK	74.0	-9.6	2.19 V	256	59.8	4.6
2	5460.00	50.1 AV	54.0	-3.9	2.19 V	256	45.5	4.6
3	#5470.00	67.1 PK	68.2	-1.1	2.02 V	219	62.5	4.6
4	*5570.00	110.1 PK			2.00 V	219	70.3	39.8
5	*5570.00	99.7 AV			2.00 V	219	59.9	39.8
6	#5725.00	61.0 PK	68.2	-7.2	2.03 V	297	56.3	4.7
7	11140.00	58.9 PK	74.0	-15.1	1.69 V	217	41.1	17.8
8	11140.00	46.2 AV	54.0	-7.8	1.69 V	217	28.4	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

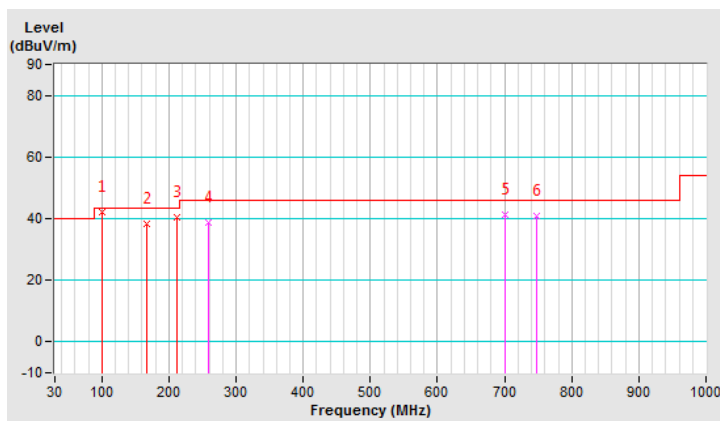
CHANNEL	TX Channel 149	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	99.94	42.1 QP	43.5	-1.4	1.98 H	246	55.7	-13.6
2	166.59	38.4 QP	43.5	-5.1	1.68 H	201	47.6	-9.2
3	211.70	40.3 QP	43.5	-3.2	1.01 H	210	51.3	-11.0
4	259.38	38.9 QP	46.0	-7.1	1.01 H	109	47.8	-8.9
5	700.64	41.2 QP	46.0	-4.8	1.01 H	192	41.0	0.2
6	747.29	40.8 QP	46.0	-5.2	1.01 H	4	39.0	1.8

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.

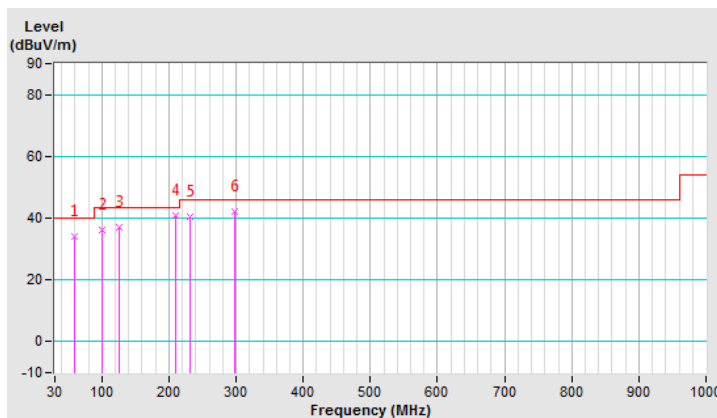


CHANNEL	TX Channel 149	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	59.16	34.1 QP	40.0	-5.9	1.00 V	312	44.2	-10.1
2	99.98	36.0 QP	43.5	-7.5	1.99 V	144	49.6	-13.6
3	125.25	37.1 QP	43.5	-6.4	1.00 V	158	48.1	-11.0
4	210.78	40.9 QP	43.5	-2.6	1.00 V	6	51.9	-11.0
5	232.16	40.5 QP	46.0	-5.5	1.49 V	97	50.7	-10.2
6	298.26	42.0 QP	46.0	-4.0	1.00 V	131	49.5	-7.5

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 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 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 1.

3. The VCCI Site Registration No. is C-12040.

4.2.3 Test Procedures

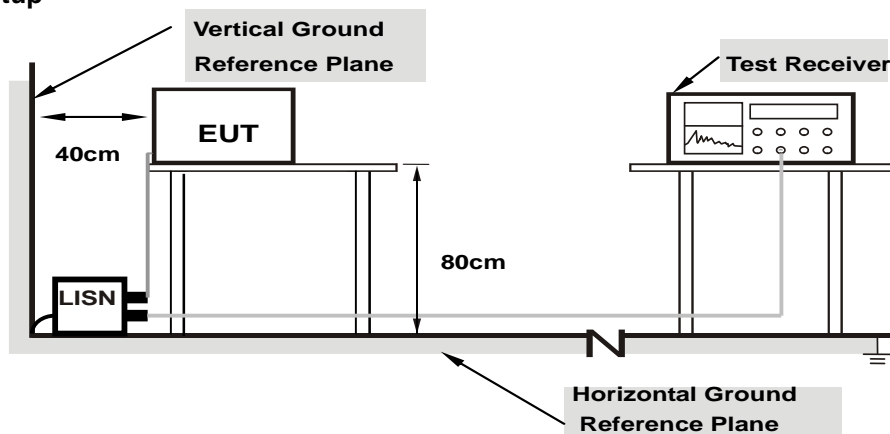
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as item 4.1.6.

4.2.7 Test Results

Worst-case data:

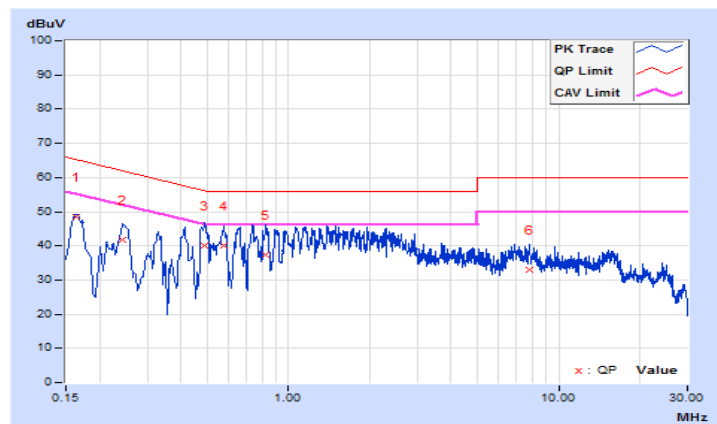
802.11a

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.16309	9.69	38.77	35.30	48.46	44.99	65.31
2	0.24407	9.68	31.94	23.88	41.62	33.56	61.96	51.96	-20.34	-18.40
3	0.49017	9.68	30.29	19.91	39.97	29.59	56.16	46.16	-16.19	-16.57
4	0.57620	9.68	30.46	19.97	40.14	29.65	56.00	46.00	-15.86	-16.35
5	0.82643	9.67	27.76	17.24	37.43	26.91	56.00	46.00	-18.57	-19.09
6	7.78232	9.83	23.26	17.60	33.09	27.43	60.00	50.00	-26.91	-22.57

REMARKS:

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

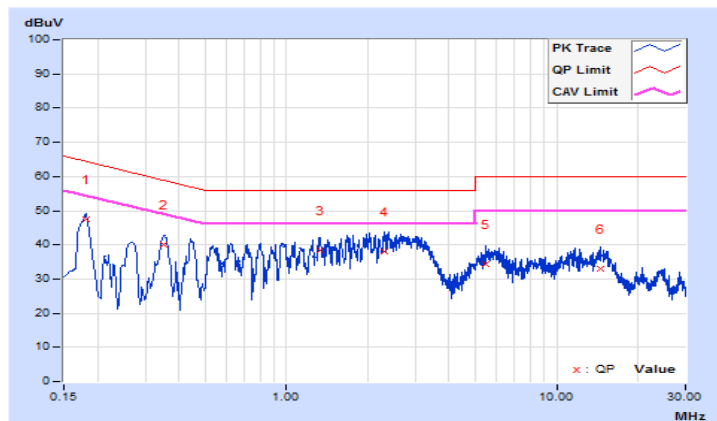


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.18075	9.66	37.94	35.10	47.60	44.76	64.45
2	0.35018	9.65	30.57	23.42	40.22	33.07	58.96	48.96	-18.74	-15.89
3	1.32691	9.65	28.60	20.97	38.25	30.62	56.00	46.00	-17.75	-15.38
4	2.29659	9.68	28.36	22.35	38.04	32.03	56.00	46.00	-17.96	-13.97
5	5.49106	9.75	24.56	19.23	34.31	28.98	60.00	50.00	-25.69	-21.02
6	14.46451	9.92	22.97	15.45	32.89	25.37	60.00	50.00	-27.11	-24.63

REMARKS:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

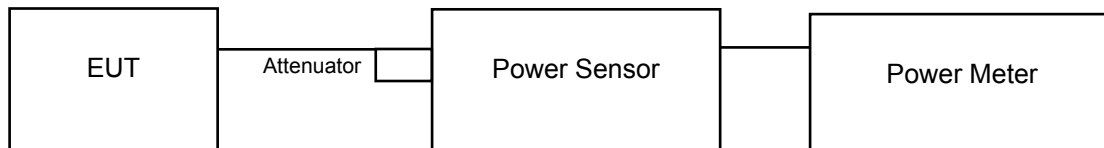
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

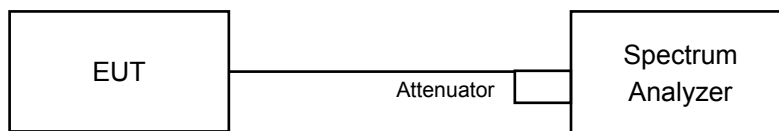
4.3.2 Test Setup

For Power Output

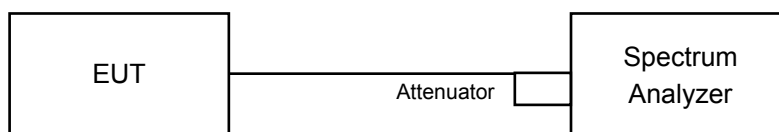
802.11a, 802.11n (HT20), 802.11n (HT40)



802.11ac (VHT80), 802.11ac (VHT80+80)



For Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

For 802.11a, 802.11n (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.

For 802.11ac (VHT80), 802.11ac (VHT80+80)

- 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.

For 26dB Bandwidth

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

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				
36	5180	13.26	13.13	14.28	13.63	91.602	19.62	24.00	Pass
40	5200	13.35	13.12	14.23	13.77	92.447	19.66	24.00	Pass
48	5240	12.91	12.72	13.57	13.66	84.228	19.25	24.00	Pass
52	5260	12.65	12.69	13.52	13.70	82.919	19.19	23.99	Pass
60	5300	12.76	12.71	13.69	13.51	83.371	19.21	24.00	Pass
64	5320	12.85	12.71	13.68	13.41	83.202	19.20	23.96	Pass
100	5500	13.27	13.71	13.64	14.87	98.539	19.94	23.89	Pass
116	5580	13.30	13.28	13.75	13.52	88.866	19.49	23.91	Pass
140	5700	12.66	12.62	13.75	13.31	81.874	19.13	23.89	Pass
149	5745	18.41	18.22	18.67	19.45	297.443	24.73	30.00	Pass
157	5785	18.15	17.85	18.67	19.35	285.987	24.56	30.00	Pass
165	5825	18.61	17.51	18.59	19.31	286.562	24.57	30.00	Pass

Note:

5180~5240MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5260~5320MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5500~5700MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5745~5825MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5700MHz

Chain 0

1. $11\text{dBm} + 10\log(20.05) = 24.02 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.04) = 24.01 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.03) = 24.01 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(19.84) = 23.97 < 24\text{dBm}$
5. $11\text{dBm} + 10\log(20.01) = 24.01 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(20.05) = 24.02 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(20.08) = 24.02 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.00) = 24.01 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(19.80) = 23.96 < 24\text{dBm}$
4. $11\text{dBm} + 10\log(19.98) = 24.00 < 24\text{dBm}$
5. $11\text{dBm} + 10\log(19.79) = 23.96 < 24\text{dBm}$
6. $11\text{dBm} + 10\log(19.97) = 24.00 < 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(19.94) = 23.99 < 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.01) = 24.01 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(19.87) = 23.98 < 24\text{dBm}$
4. $11\text{dBm} + 10\log(19.49) = 23.89 < 24\text{dBm}$
5. $11\text{dBm} + 10\log(19.56) = 23.91 < 24\text{dBm}$
6. $11\text{dBm} + 10\log(19.46) = 23.89 < 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(20.19) = 24.05 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.18) = 24.04 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.12) = 24.03 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(20.16) = 24.04 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(20.28) = 24.07 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(19.75) = 23.95 < 24\text{dBm}$

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				
36	5180	13.11	12.90	13.96	13.47	87.084	19.40	24.00	Pass
40	5200	12.84	12.69	13.94	13.36	84.260	19.26	24.00	Pass
48	5240	12.47	12.36	13.53	13.59	80.277	19.05	24.00	Pass
52	5260	12.42	12.35	13.26	13.49	78.157	18.93	24.00	Pass
60	5300	12.45	12.57	13.54	13.18	79.042	18.98	24.00	Pass
64	5320	12.68	12.42	13.52	13.37	80.211	19.04	24.00	Pass
100	5500	13.10	13.36	13.66	14.57	93.963	19.73	24.00	Pass
116	5580	13.05	12.99	13.40	13.49	84.305	19.26	24.00	Pass
140	5700	12.51	12.56	13.62	13.23	79.906	19.03	24.00	Pass
149	5745	18.21	18.05	18.65	19.42	290.828	24.64	30.00	Pass
157	5785	18.03	17.45	18.33	19.15	269.424	24.30	30.00	Pass
165	5825	18.33	17.25	18.35	19.17	272.160	24.35	30.00	Pass

Note:

5180~5240MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5260~5320MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5500~5700MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5745~5825MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5700MHz

Chain 0

1. $11\text{dBm} + 10\log(20.64) = 24.14 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.67) = 24.15 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.60) = 24.13 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(20.76) = 24.17 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(20.68) = 24.15 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(20.74) = 24.16 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(20.62) = 24.14 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.70) = 24.15 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.60) = 24.13 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(20.60) = 24.13 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(20.66) = 24.15 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(20.60) = 24.13 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(20.82) = 24.18 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.71) = 24.16 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.64) = 24.14 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(20.65) = 24.14 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(20.68) = 24.15 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(20.85) = 24.19 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(20.71) = 24.16 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.64) = 24.14 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.56) = 24.13 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(20.57) = 24.13 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(20.54) = 24.12 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(20.61) = 24.14 > 24\text{dBm}$

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				
38	5190	15.05	15.10	16.29	16.16	148.213	21.71	24.00	Pass
46	5230	14.81	14.82	16.00	16.35	143.571	21.57	24.00	Pass
54	5270	14.45	14.62	15.71	16.15	135.283	21.31	24.00	Pass
62	5310	14.63	14.86	15.80	15.97	137.216	21.37	24.00	Pass
102	5510	15.29	15.85	16.05	16.54	157.619	21.98	24.00	Pass
110	5550	15.32	15.33	15.97	16.45	151.854	21.81	24.00	Pass
134	5670	15.19	15.10	15.75	15.43	137.894	21.40	24.00	Pass
151	5755	18.14	18.24	18.44	19.43	289.367	24.61	30.00	Pass
159	5795	18.06	18.01	18.05	19.09	272.136	24.35	30.00	Pass

Note:

5180~5240MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5260~5320MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5500~5700MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5745~5825MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5700MHz

Chain 0

1. $11\text{dBm} + 10\log(40.70) = 27.09 > 24\text{dBm}$

2. $11\text{dBm} + 10\log(40.69) = 27.09 > 24\text{dBm}$

3. $11\text{dBm} + 10\log(40.75) = 27.10 > 24\text{dBm}$

4. $11\text{dBm} + 10\log(40.87) = 27.11 > 24\text{dBm}$

5. $11\text{dBm} + 10\log(40.72) = 27.09 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(40.99) = 27.12 > 24\text{dBm}$

2. $11\text{dBm} + 10\log(40.87) = 27.11 > 24\text{dBm}$

3. $11\text{dBm} + 10\log(40.98) = 27.12 > 24\text{dBm}$

4. $11\text{dBm} + 10\log(41.03) = 27.13 > 24\text{dBm}$

5. $11\text{dBm} + 10\log(40.91) = 27.11 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(40.57) = 27.08 > 24\text{dBm}$

2. $11\text{dBm} + 10\log(40.39) = 27.06 > 24\text{dBm}$

3. $11\text{dBm} + 10\log(40.67) = 27.09 > 24\text{dBm}$

4. $11\text{dBm} + 10\log(40.72) = 27.09 > 24\text{dBm}$

5. $11\text{dBm} + 10\log(40.79) = 27.10 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(40.46) = 27.07 > 24\text{dBm}$

2. $11\text{dBm} + 10\log(40.73) = 27.09 > 24\text{dBm}$

3. $11\text{dBm} + 10\log(40.70) = 27.09 > 24\text{dBm}$

4. $11\text{dBm} + 10\log(40.72) = 27.09 > 24\text{dBm}$

5. $11\text{dBm} + 10\log(40.69) = 27.09 > 24\text{dBm}$

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				
42	5210	17.55	17.66	18.11	18.25	246.778	23.92	24.00	Pass
58	5290	15.02	15.05	16.63	16.88	158.537	22.00	24.00	Pass
106	5530	13.84	13.85	14.29	14.60	104.169	20.18	24.00	Pass
122	5610	15.23	14.79	15.74	14.81	131.239	21.18	24.00	Pass
155	5775	13.77	13.87	14.50	15.61	112.777	20.52	30.00	Pass

Note:

5180~5240MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5260~5320MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5500~5700MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5745~5825MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5700MHz

Chain 0

1. $11\text{dBm} + 10\log(83.97) = 30.24 > 24\text{dBm}$

2. $11\text{dBm} + 10\log(84.24) = 30.25 > 24\text{dBm}$

3. $11\text{dBm} + 10\log(83.91) = 30.23 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(84.00) = 30.24 > 24\text{dBm}$

2. $11\text{dBm} + 10\log(84.00) = 30.24 > 24\text{dBm}$

3. $11\text{dBm} + 10\log(84.08) = 30.24 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(85.14) = 30.30 > 24\text{dBm}$

2. $11\text{dBm} + 10\log(85.18) = 30.30 > 24\text{dBm}$

3. $11\text{dBm} + 10\log(84.97) = 30.29 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(83.95) = 30.24 > 24\text{dBm}$

2. $11\text{dBm} + 10\log(84.81) = 30.28 > 24\text{dBm}$

3. $11\text{dBm} + 10\log(84.89) = 30.28 > 24\text{dBm}$

802.11ac (VHT80+ 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				
42+58	5210	14.50	14.43	-	-	55.917	17.48	24.00	Pass
	5290	-	-	15.11	15.21	65.623	18.17	24.00	Pass
42+106	5210	14.09	13.84	-	-	49.855	16.98	24.00	Pass
	5530	-	-	14.16	14.86	56.682	17.53	24.00	Pass
42+122	5210	14.52	14.37	-	-	55.667	17.46	24.00	Pass
	5610	-	-	14.87	14.34	57.854	17.62	24.00	Pass
42+155	5210	14.89	14.85	-	-	14.890	14.85	24.00	Pass
	5775	-	-	14.92	15.77	68.803	18.38	30.00	Pass
58+106	5290	13.73	13.55	-	-	46.251	16.65	24.00	Pass
	5530	-	-	13.92	14.82	54.999	17.40	24.00	Pass
58+122	5290	14.12	14.04	-	-	51.174	17.09	24.00	Pass
	5610	-	-	15.11	15.21	65.623	18.17	24.00	Pass
58+155	5290	14.78	14.63	-	-	59.101	17.72	24.00	Pass
	5775	-	-	14.98	15.79	69.408	18.41	30.00	Pass
106+122	5530	15.82	15.83	-	-	76.476	18.84	24.00	Pass
	5610	-	-	15.82	15.83	82.266	19.15	24.00	Pass
106+155	5530	13.94	13.86	-	-	49.096	16.91	24.00	Pass
	5775	-	-	13.92	14.73	54.377	17.35	30.00	Pass
122+155	5610	14.68	13.99	-	-	54.437	17.36	24.00	Pass
	5775	-	-	14.46	15.16	60.735	17.83	30.00	Pass

Note:

5180~5240MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5260~5320MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5500~5700MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

5745~5825MHz Directional Gain = 5dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5700MHz

Chain 0

1. $11\text{dBm} + 10\log(84.07) = 30.24 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(84.02) = 30.24 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(83.98) = 30.24 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(83.89) = 30.23 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(83.67) = 30.22 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(83.66) = 30.22 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(84.38) = 30.26 > 24\text{dBm}$
8. $11\text{dBm} + 10\log(83.67) = 30.22 > 24\text{dBm}$
9. $11\text{dBm} + 10\log(84.35) = 30.26 > 24\text{dBm}$
10. $11\text{dBm} + 10\log(83.84) = 30.23 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(86.56) = 30.37 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(84.41) = 30.26 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(84.48) = 30.26 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(84.60) = 30.27 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(84.65) = 30.27 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(84.79) = 30.28 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(84.22) = 30.25 > 24\text{dBm}$
8. $11\text{dBm} + 10\log(85.04) = 30.29 > 24\text{dBm}$
9. $11\text{dBm} + 10\log(84.66) = 30.27 > 24\text{dBm}$
10. $11\text{dBm} + 10\log(86.57) = 30.37 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(83.95) = 30.24 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(85.61) = 30.32 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(84.34) = 30.26 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(83.42) = 30.21 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(85.67) = 30.32 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(84.07) = 30.24 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(83.32) = 30.20 > 24\text{dBm}$
8. $11\text{dBm} + 10\log(83.67) = 30.22 > 24\text{dBm}$
9. $11\text{dBm} + 10\log(85.03) = 30.29 > 24\text{dBm}$
10. $11\text{dBm} + 10\log(85.38) = 30.31 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(84.32) = 30.25 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(84.74) = 30.28 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(84.78) = 30.28 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(85.15) = 30.30 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(84.53) = 30.27 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(84.73) = 30.28 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(85.18) = 30.30 > 24\text{dBm}$
8. $11\text{dBm} + 10\log(85.04) = 30.29 > 24\text{dBm}$
9. $11\text{dBm} + 10\log(84.58) = 30.27 > 24\text{dBm}$
10. $11\text{dBm} + 10\log(83.65) = 30.22 > 24\text{dBm}$

26dB Bandwidth:
802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	20.05	20.08	19.94	20.19
60	5300	20.04	20.00	20.01	20.18
64	5320	20.03	19.80	19.87	20.12
100	5500	19.84	19.98	19.49	20.16
116	5580	20.01	19.79	19.56	20.28
140	5700	20.05	19.97	19.46	19.75

802.11n (HT20)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	20.64	20.62	20.82	20.71
60	5300	20.67	20.70	20.71	20.64
64	5320	20.60	20.60	20.64	20.56
100	5500	20.76	20.60	20.65	20.57
116	5580	20.68	20.66	20.68	20.54
140	5700	20.74	20.60	20.85	20.61

802.11n (HT40)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	40.70	40.99	40.57	40.46
62	5310	40.69	40.87	40.39	40.73
102	5510	40.75	40.98	40.67	40.70
110	5550	40.87	41.03	40.72	40.72
134	5670	40.72	40.91	40.79	40.69

802.11ac (VHT80)

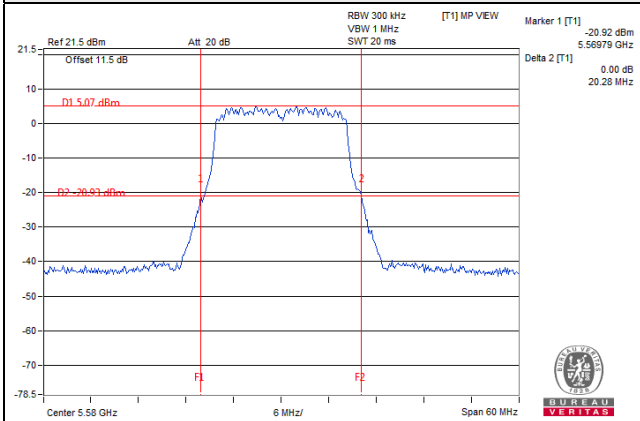
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	83.97	84.00	85.14	83.95
106	5530	84.24	84.00	85.18	84.81
122	5610	83.91	84.08	84.97	84.89

802.11ac (VHT80+80)

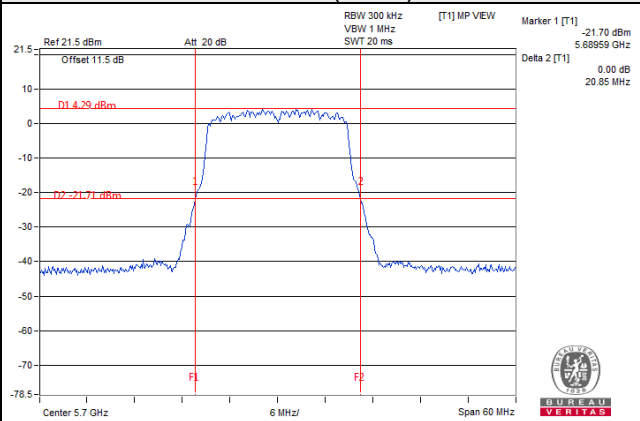
Chan.	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42 +58	5210	84.07	86.56	-	-
	5290	-	-	83.95	84.32
42+106	5210	84.02	84.41	-	-
	5530	-	-	85.61	84.74
42+122	5210	83.98	84.48	-	-
	5610	-	-	84.34	84.78
42+155	5210	83.89	84.60	-	-
	5575	-	-	83.42	85.15
58+106	5290	83.67	84.65	-	-
	5530	-	-	85.67	84.53
58+122	5290	83.66	84.79	-	-
	5610	-	-	84.07	84.73
58+155	5290	84.38	84.22	-	-
	5575	-	-	83.32	85.18
106+122	5530	83.67	85.04	-	-
	5610	-	-	83.67	85.04
106+122	5530	84.35	84.66	-	-
	5610	-	-	85.03	84.58
122+155	5610	83.84	86.57	-	-
	5775	-	-	85.38	83.65

Spectrum Plot of Worst Value

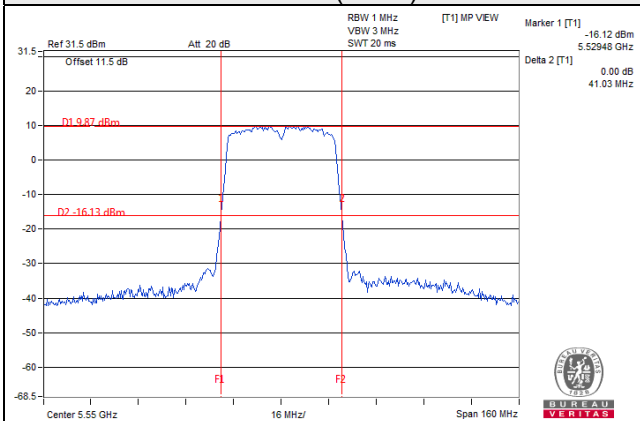
802.11a



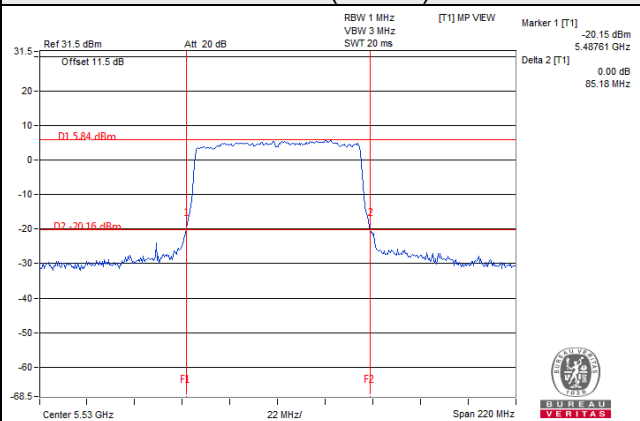
802.11n (HT20)



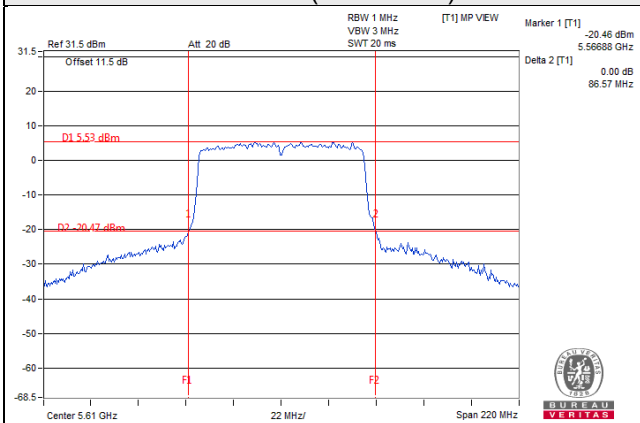
802.11n (HT40)



802.11ac (VHT80)



802.11ac (VHT80+80)



EUT Maximum Conducted Power

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	83.371	19.21
5470~5725	98.539	19.94

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

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	80.211	19.04
5470~5725	93.963	19.73

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

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	137.216	21.37
5470~5725	157.619	21.98

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

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	158.537	22.00
5470~5725	131.239	21.18

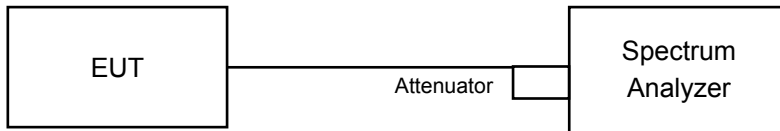
Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11ac (VHT80+80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	65.623	18.17
5470~5725	82.266	19.15

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.4.4 Test Result

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	16.44	16.44	16.56	16.44
40	5200	16.44	16.44	16.44	16.44
48	5240	16.44	16.44	16.44	16.44
52	5260	16.44	16.44	16.44	16.44
60	5300	16.44	16.44	16.44	16.44
64	5320	16.44	16.44	16.44	16.44
100	5500	16.44	16.44	16.44	16.44
116	5580	16.44	16.44	16.44	16.44
140	5700	16.44	16.44	16.44	16.44
149	5745	16.44	16.44	16.56	16.44
157	5785	16.44	16.44	16.56	16.44
165	5825	16.44	16.44	16.56	16.61

802.11n (HT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	17.64	17.64	17.64	17.64
40	5200	17.64	17.64	17.64	17.64
48	5240	17.64	17.64	17.64	17.64
52	5260	17.64	17.64	17.64	17.64
60	5300	17.64	17.64	17.64	17.64
64	5320	17.64	17.64	17.64	17.64
100	5500	17.64	17.64	17.64	17.64
116	5580	17.64	17.64	17.64	17.64
140	5700	17.64	17.64	17.64	17.64
149	5745	17.64	17.64	17.64	17.64
157	5785	17.64	17.64	17.76	17.64
165	5825	17.64	17.64	17.76	17.64

802.11n (HT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	36.00	36.12	36.00	36.00
46	5230	36.00	36.12	36.00	36.00
54	5270	36.00	36.12	36.00	36.00
62	5310	36.12	36.12	36.00	36.00
102	5510	36.12	36.12	36.12	36.12
110	5550	36.00	36.12	36.12	36.00
134	5670	36.00	36.12	36.24	36.12
151	5755	36.00	36.12	36.24	36.12
159	5795	36.00	36.12	36.24	36.12

802.11ac (VHT80)

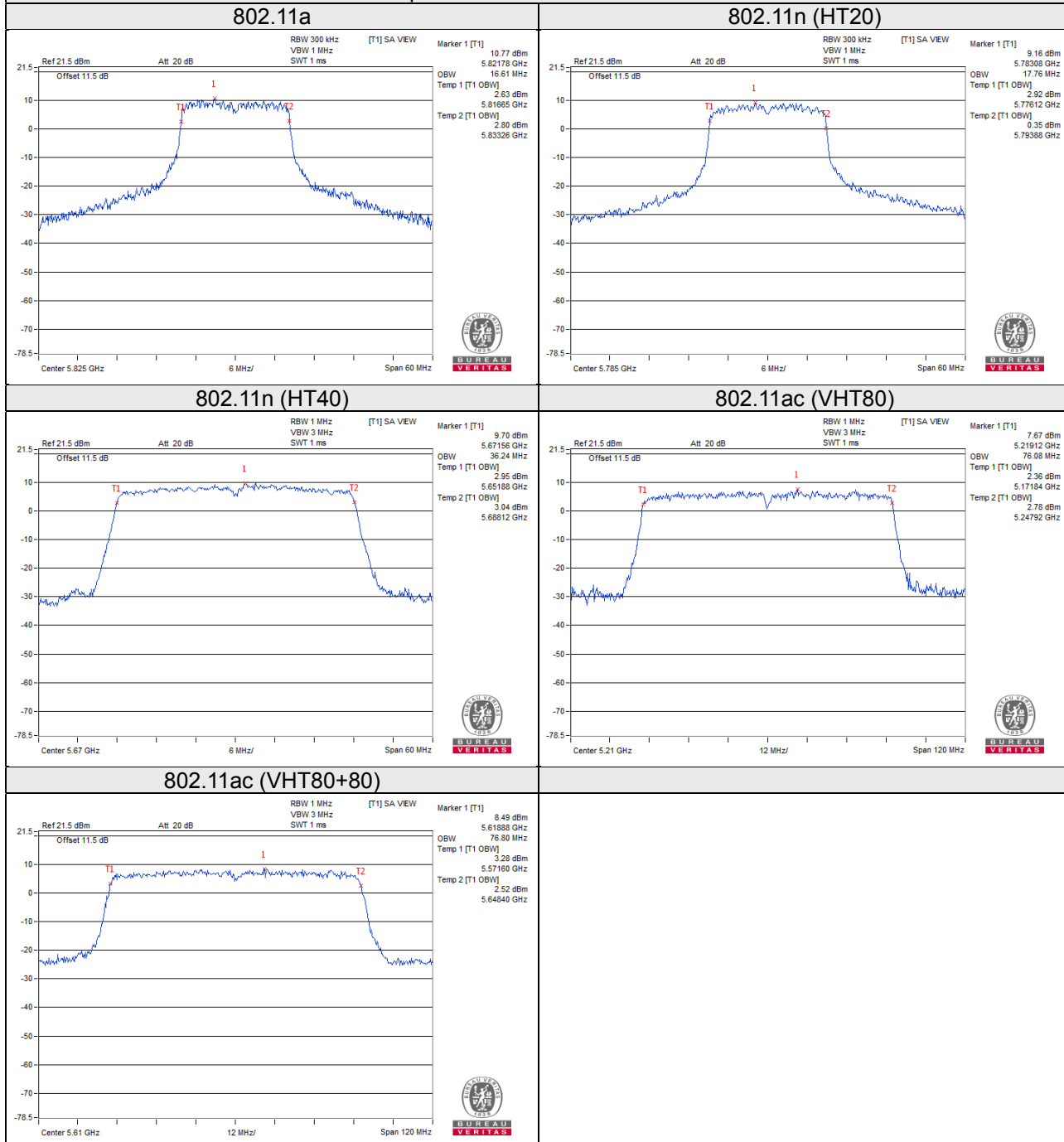
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	75.84	75.84	75.84	76.08
58	5290	75.84	76.08	76.32	75.84
106	5530	75.84	75.84	76.08	75.84
122	5610	75.84	76.08	76.08	76.08
155	5775	75.84	75.84	75.84	75.84

802.11ac (VHT80+80)

Chan.	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42+58	5210	76.08	76.08	-	-
	5290	-	-	75.84	76.08
42+106	5210	76.32	76.56	-	-
	5530	-	-	76.08	76.08
42+122	5210	76.32	76.32	-	-
	5610	-	-	76.32	76.56
42+155	5210	76.08	76.56	-	-
	5575	-	-	75.83	76.00
58+106	5290	76.56	76.56	-	-
	5530	-	-	76.08	76.08
58+122	5290	76.56	76.56	-	-
	5610	-	-	76.56	76.56
58+155	5290	76.32	76.56	-	-
	5575	-	-	75.83	76.17

Chan.	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
106+122	5530	76.08	76.32	-	-
	5610	-	-	76.08	75.84
106+155	5530	76.08	76.32	-	-
	5775	-	-	75.82	76.00
122+155	5610	76.32	76.80	-	-
	5775	-	-	76.00	75.82

Spectrum Plot of Worst Value

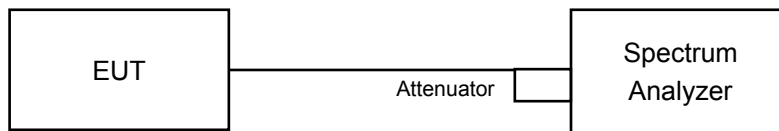


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1, U-NII-2A, U-NII-2C band

Duty cycle of test signal is $\geq 98\%$

Using method SA-1

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS.
- 3) Set Channel power measure = 1MHz.
- 4) Sweep time = auto, trigger set to "free run".
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Record the max value.

Duty cycle of test signal is $< 98\%$

Using method SA-2

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS.
- 3) Set Channel power measure = 1MHz.
- 4) Sweep time = auto, trigger set to "free run".
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Record the max value and add $10 \log (1/\text{duty cycle})$.

For U-NII-3 band

Duty cycle $\geq 98\%$

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

Duty cycle $< 98\%$

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as item 4.3.6.

4.5.7 Test Results

For U-NII-1, U-NII-2A and U-NII-2C band:
802.11a

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	-0.27	-0.15	-0.02	-1.22	0.15	5.78	5.98	Pass
40	5200	-0.17	-0.17	0.00	-1.03	0.15	5.85	5.98	Pass
48	5240	-0.35	-0.33	-0.64	-0.70	0.15	5.67	5.98	Pass
52	5260	-0.33	-0.40	-0.71	-0.68	0.15	5.64	5.98	Pass
60	5300	-0.39	-0.14	-0.16	-0.54	0.15	5.87	5.98	Pass
64	5320	-0.46	-0.86	-0.27	-0.74	0.15	5.59	5.98	Pass
100	5500	0.01	-0.14	-0.37	-0.51	0.15	5.92	5.98	Pass
116	5580	-0.38	-0.34	-0.04	-0.18	0.15	5.94	5.98	Pass
140	5700	-0.43	-0.67	-0.11	-0.94	0.15	5.64	5.98	Pass

Note:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- 5180-5240MHz: Directional gain = 5dBi + 10log(4) = 11.02dBi > 6dBi, so the power density limit shall be reduced to 11 - (11.02 - 6) = 5.98dBi.
5260-5320MHz: Directional gain = 5dBi + 10log(4) = 11.02dBi > 6dBi, so the power density limit shall be reduced to 11 - (11.02 - 6) = 5.98dBi.
5500-5700MHz: Directional gain = 5dBi + 10log(4) = 11.02dBi > 6dBi, so the power density limit shall be reduced to 11 - (11.02 - 6) = 5.98dBi.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
36	5180	-0.96	-0.73	0.04	-0.48	5.50	5.98	Pass
40	5200	-1.04	-0.74	-0.05	-0.57	5.44	5.98	Pass
48	5240	-0.66	-0.45	-0.62	-0.19	5.54	5.98	Pass
52	5260	-0.53	-0.39	-0.78	-0.56	5.46	5.98	Pass
60	5300	-0.61	-0.30	-0.45	-0.53	5.55	5.98	Pass
64	5320	-0.61	-0.52	-0.68	-0.17	5.53	5.98	Pass
100	5500	-0.11	-0.63	-0.25	-0.38	5.68	5.98	Pass
116	5580	-0.52	-0.90	-0.42	-0.07	5.55	5.98	Pass
140	5700	-0.48	-0.67	-0.60	-0.31	5.51	5.98	Pass

Note:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- 5180-5240MHz: Directional gain = 5dBi + 10log(4) = 11.02dBi > 6dBi, so the power density limit shall be reduced to 11 - (11.02 - 6) = 5.98dBi.
5260-5320MHz: Directional gain = 5dBi + 10log(4) = 11.02dBi > 6dBi, so the power density limit shall be reduced to 11 - (11.02 - 6) = 5.98dBi.
5500-5700MHz: Directional gain = 5dBi + 10log(4) = 11.02dBi > 6dBi, so the power density limit shall be reduced to 11 - (11.02 - 6) = 5.98dBi.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	-0.08	0.00	0.03	-1.15	0.13	5.88	5.98	Pass
46	5230	-0.94	-0.68	-0.28	-0.83	0.13	5.48	5.98	Pass
54	5270	-0.20	-0.46	-0.34	-0.80	0.13	5.71	5.98	Pass
62	5310	-0.11	-0.64	-0.49	-0.99	0.13	5.60	5.98	Pass
102	5510	-0.78	-0.34	-0.36	-0.07	0.13	5.77	5.98	Pass
110	5550	-0.12	-0.81	-0.65	-0.63	0.13	5.61	5.98	Pass
134	5670	-0.44	-0.42	-0.93	-1.26	0.13	5.40	5.98	Pass

Note:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- 5180-5240MHz: Directional gain = 5dBi + 10log(4) = 11.02dBi > 6dBi, so the power density limit shall be reduced to 11 - (11.02 - 6) = 5.98dBi.
5260-5320MHz: Directional gain = 5dBi + 10log(4) = 11.02dBi > 6dBi, so the power density limit shall be reduced to 11 - (11.02 - 6) = 5.98dBi.
5500-5700MHz: Directional gain = 5dBi + 10log(4) = 11.02dBi > 6dBi, so the power density limit shall be reduced to 11 - (11.02 - 6) = 5.98dBi.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-3.91	-3.75	-2.55	-3.36	0.31	2.97	5.98	Pass
58	5290	-4.81	-4.52	-3.43	-3.64	0.31	2.27	5.98	Pass
106	5530	-5.87	-5.75	-4.62	-4.70	0.31	1.13	5.98	Pass
122	5610	-5.33	-6.08	-4.61	-4.70	0.31	1.19	5.98	Pass

Note:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- 5180-5240MHz: Directional gain = $5\text{dBi} + 10\log(4) = 11.02\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (11.02 - 6) = 5.98\text{dBi}$.
 5260-5320MHz: Directional gain = $5\text{dBi} + 10\log(4) = 11.02\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (11.02 - 6) = 5.98\text{dBi}$.
 5500-5700MHz: Directional gain = $5\text{dBi} + 10\log(4) = 11.02\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (11.02 - 6) = 5.98\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80+80)

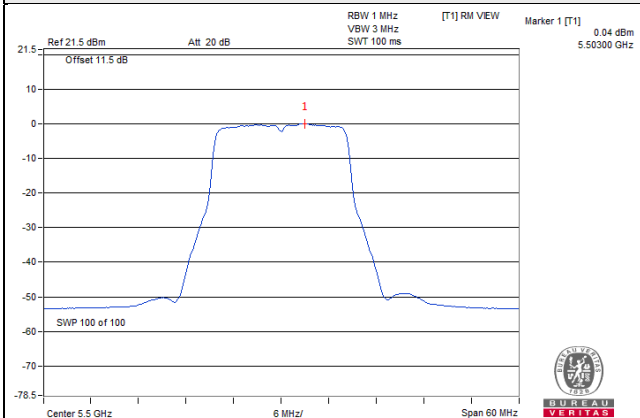
Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58	5210	-3.94	-3.70	-	-	0.31	-0.50	8.99	Pass
	5290	-	-	-2.72	-2.57	0.31	0.68	8.99	Pass
42+106	5210	-5.99	-5.54	-	-	0.31	-2.44	8.99	Pass
	5530	-	-	-4.58	-3.52	0.31	-0.70	8.99	Pass
42+122	5210	-5.37	-5.02	-	-	0.31	-1.87	8.99	Pass
	5610	-	-	-4.24	-4.17	0.31	-0.88	8.99	Pass
42+155	5210	-5.13	-4.56	-	-	0.31	-1.52	8.99	Pass
58+106	5290	-6.21	-5.75	-	-	0.31	-2.65	8.99	Pass
	5530	-	-	-4.67	-3.49	0.31	-0.72	8.99	Pass
58+122	5290	-5.74	-5.13	-	-	0.31	-2.10	8.99	Pass
	5610	-	-	-4.41	-4.22	0.31	-0.99	8.99	Pass
58+155	5290	-5.24	-4.75	-	-	0.31	-1.67	8.99	Pass
106+122	5530	-2.49	-1.71	-	-	0.31	1.24	8.99	Pass
	5610	-	-	-1.86	-1.65	0.31	1.57	8.99	Pass
106+155	5530	-5.43	-4.97	-	-	0.31	-1.87	8.99	Pass
122+155	5610	-5.17	-5.47	-	-	0.31	-2.00	8.99	Pass

Note:

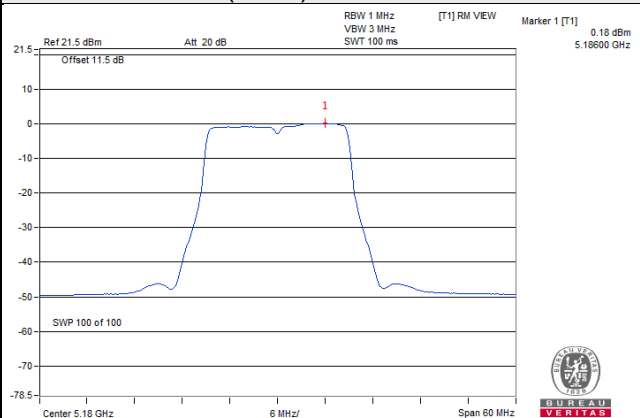
- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- 5180-5240MHz: Directional gain = 5dBi + 10log(4/2) = 8.01dBi > 6dBi, so the power density limit shall be reduced to 11 - (8.01 - 6) = 8.99dBi.
5260-5320MHz: Directional gain = 5dBi + 10log(4/2) = 8.01dBi > 6dBi, so the power density limit shall be reduced to 11 - (8.01 - 6) = 8.99dBi..
5500-5700MHz: Directional gain = 5dBi + 10log(4/2) = 8.01dBi > 6dBi, so the power density limit shall be reduced to 11 - (8.01 - 6) = 8.99dBi.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

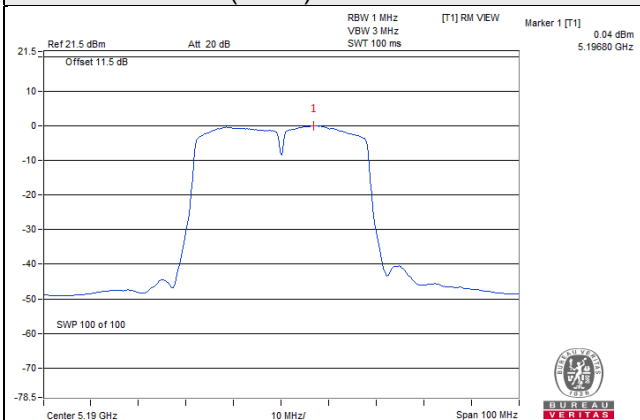
802.11a / Chain 0 / CH 100



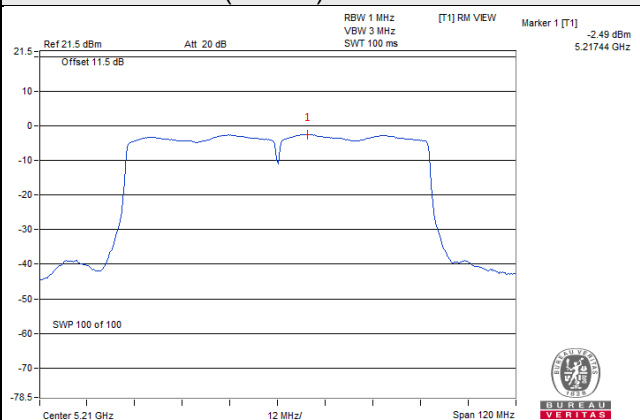
802.11n (HT20) / Chain 2 / CH 36



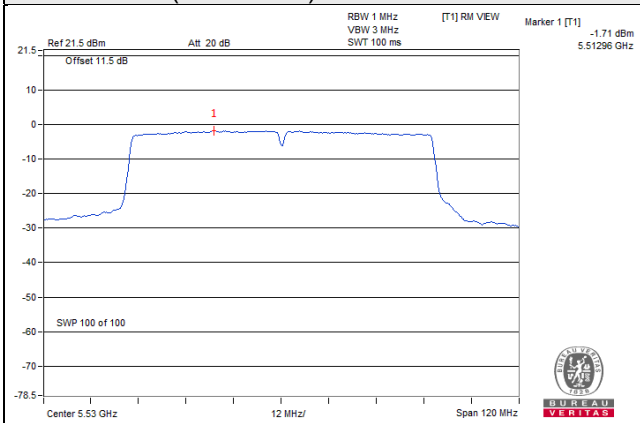
802.11n (HT40) / Chain 2 / CH 38



802.11ac (VHT80) / Chain 2 / CH 42



802.11ac (VHT80+80) / Chain 1 / CH106+122



For U-NII-3 band
 802.11a

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	-3.87	-1.65	6.02	0.15	4.52	24.98	Pass
	157	5785	-3.93	-1.71	6.02	0.15	4.46	24.98	Pass
	165	5825	-3.47	-1.25	6.02	0.15	4.92	24.98	Pass
1	149	5745	-3.59	-1.37	6.02	0.15	4.80	24.98	Pass
	157	5785	-3.79	-1.57	6.02	0.15	4.60	24.98	Pass
	165	5825	-3.85	-1.63	6.02	0.15	4.54	24.98	Pass
2	149	5745	-3.20	-0.98	6.02	0.15	5.19	24.98	Pass
	157	5785	-3.29	-1.07	6.02	0.15	5.10	24.98	Pass
	165	5825	-3.32	-1.10	6.02	0.15	5.07	24.98	Pass
3	149	5745	-2.37	-0.15	6.02	0.15	6.02	24.98	Pass
	157	5785	-2.46	-0.24	6.02	0.15	5.93	24.98	Pass
	165	5825	-2.42	-0.20	6.02	0.15	5.97	24.98	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log(N_{ANT})$ dB.
- Directional gain = $5\text{dBi} + 10\log(4) = 11.02\text{dBi} > 6\text{dBi}$ so the power density limit shall be reduced to $30 - (11.02 - 6) = 24.98\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	149	5745	-4.57	-2.35	6.02	3.67	24.98	Pass
	157	5785	-4.57	-2.35	6.02	3.67	24.98	Pass
	165	5825	-4.41	-2.19	6.02	3.83	24.98	Pass
1	149	5745	-4.09	-1.87	6.02	4.15	24.98	Pass
	157	5785	-4.47	-2.25	6.02	3.77	24.98	Pass
	165	5825	-4.61	-2.39	6.02	3.63	24.98	Pass
2	149	5745	-3.41	-1.19	6.02	4.83	24.98	Pass
	157	5785	-3.57	-1.35	6.02	4.67	24.98	Pass
	165	5825	-3.56	-1.34	6.02	4.68	24.98	Pass
3	149	5745	-2.56	-0.34	6.02	5.68	24.98	Pass
	157	5785	-2.79	-0.57	6.02	5.45	24.98	Pass
	165	5825	-2.80	-0.58	6.02	5.44	24.98	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
- Directional gain = $5\text{dBi} + 10\log(4) = 11.02\text{dBi} > 6\text{dBi}$ so the power density limit shall be reduced to $30 - (11.02 - 6) = 24.98\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	151	5755	-7.48	-5.26	6.02	0.13	0.89	24.98	Pass
	159	5795	-7.37	-5.15	6.02	0.13	1.00	24.98	Pass
1	151	5755	-7.19	-4.97	6.02	0.13	1.18	24.98	Pass
	159	5795	-7.14	-4.92	6.02	0.13	1.23	24.98	Pass
2	151	5755	-6.91	-4.69	6.02	0.13	1.46	24.98	Pass
	159	5795	-7.33	-5.11	6.02	0.13	1.04	24.98	Pass
3	151	5755	-5.95	-3.73	6.02	0.13	2.42	24.98	Pass
	159	5795	-6.32	-4.10	6.02	0.13	2.05	24.98	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
- Directional gain = $5\text{dBi} + 10\log(4) = 11.02\text{dBi} > 6\text{dBi}$ so the power density limit shall be reduced to $30 - (11.02 - 6) = 24.98\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-13.87	-11.65	6.02	0.31	-5.32	24.98	Pass
1	155	5775	-13.98	-11.76	6.02	0.31	-5.43	24.98	Pass
2	155	5775	-13.67	-11.45	6.02	0.31	-5.12	24.98	Pass
3	155	5775	-12.50	-10.28	6.02	0.31	-3.95	24.98	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
- Directional gain = $5\text{dBi} + 10\log(4) = 11.02\text{dBi} > 6\text{dBi}$ so the power density limit shall be reduced to $30 - (11.02 - 6) = 24.98\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80+80)

CH 42+155

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4/2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
2	155	5775	-13.02	-10.80	3.01	0.31	-7.48	27.99	Pass
3	155	5775	-12.14	-9.92	3.01	0.31	-6.60	27.99	Pass

CH 58+155

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4/2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
2	155	5775	-13.10	-10.88	3.01	0.31	-7.56	27.99	Pass
3	155	5775	-12.22	-10.00	3.01	0.31	-6.68	27.99	Pass

CH 106+155

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4/2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
2	155	5775	-14.45	-12.23	3.01	0.31	-8.91	27.99	Pass
3	155	5775	-13.20	-10.98	3.01	0.31	-7.66	27.99	Pass

CH 122+155

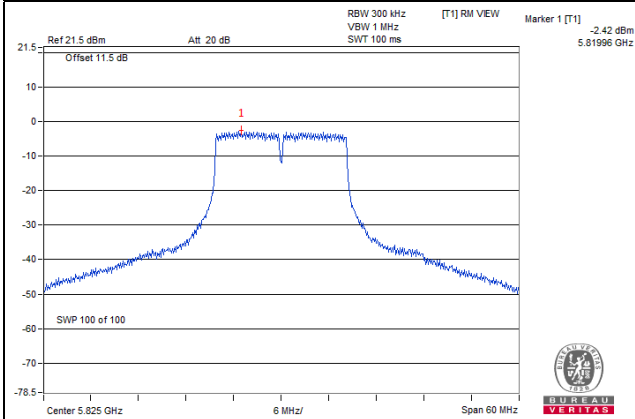
TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4/2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
2	155	5775	-13.92	-11.70	3.01	0.31	-8.38	27.99	Pass
3	155	5775	-13.91	-11.69	3.01	0.31	-8.37	27.99	Pass

Note:

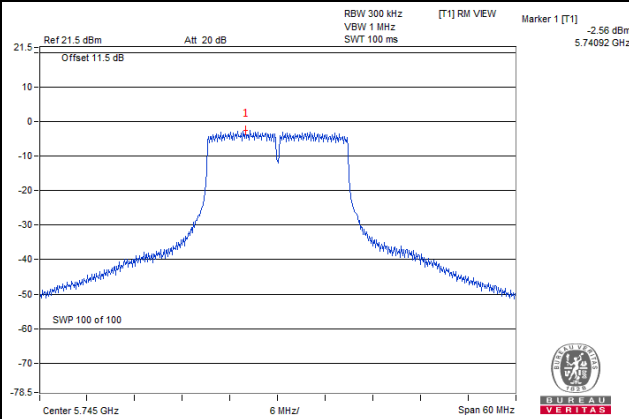
- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
- Directional gain = $5\text{dBi} + 10\log(4/2) = 8.01\text{dBi} > 6\text{dBi}$ so the power density limit shall be reduced to $30 - (8.01 - 6) = 27.99\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

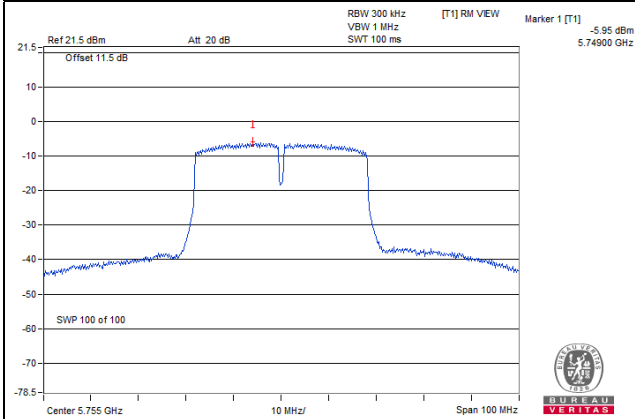
802.11a



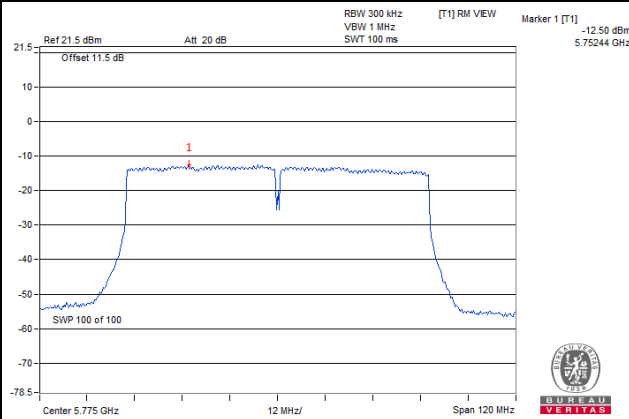
802.11n (HT20)



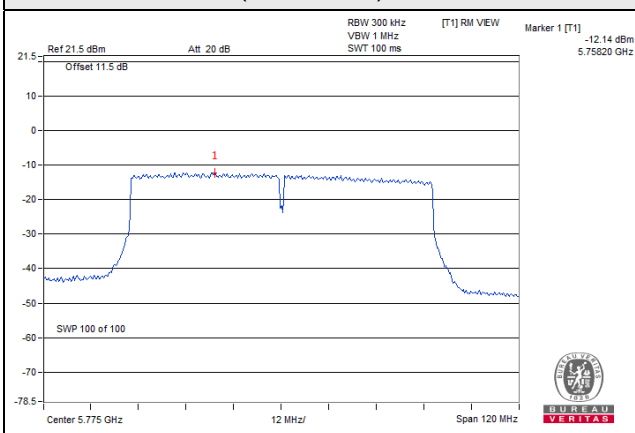
802.11n (HT40)



802.11ac (VHT80)



802.11ac (VHT80+80) CH 42+155

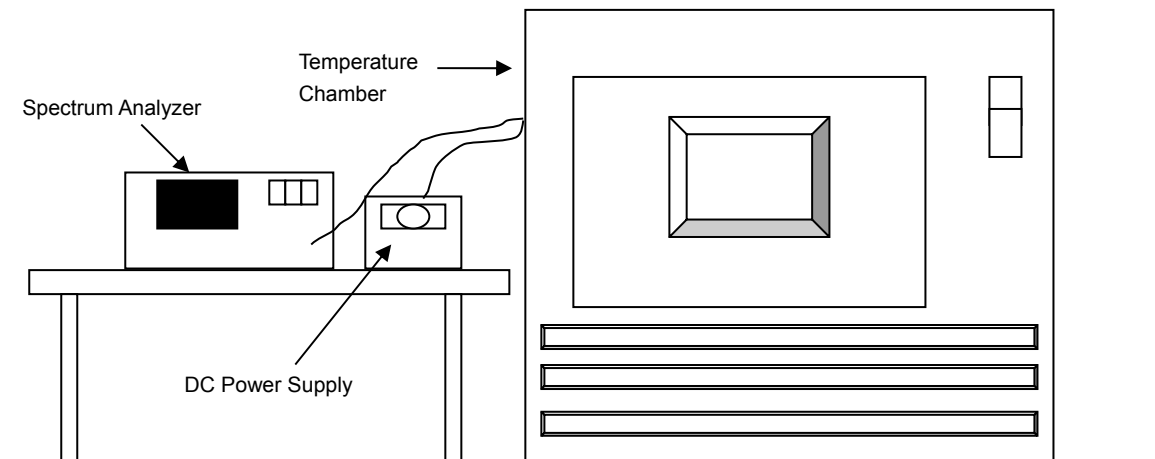


4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 12, 2019	Jun. 11, 2020
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 03, 2019	Jun. 02, 2020
Digital Multimeter Fluke	87-III	70360742	Jun. 27, 2019	Jun. 26, 2020
DC Power Supply Topward	6603D	700637	NA	NA

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
85	3.3	5180.0122	PASS	5180.0171	PASS	5180.0153	PASS	5180.017	PASS
80	3.3	5179.9776	PASS	5179.9769	PASS	5179.9758	PASS	5179.9775	PASS
70	3.3	5180.005	PASS	5180.0063	PASS	5180.0071	PASS	5180.0071	PASS
60	3.3	5179.9985	PASS	5179.9973	PASS	5179.9988	PASS	5179.9979	PASS
50	3.3	5179.992	PASS	5179.9899	PASS	5179.9913	PASS	5179.9903	PASS
40	3.3	5180.0201	PASS	5180.0193	PASS	5180.0205	PASS	5180.0195	PASS
30	3.3	5179.9736	PASS	5179.9748	PASS	5179.9729	PASS	5179.9746	PASS
20	3.3	5179.9814	PASS	5179.9815	PASS	5179.9825	PASS	5179.9832	PASS
10	3.3	5179.9804	PASS	5179.9779	PASS	5179.98	PASS	5179.9774	PASS
0	3.3	5179.9993	PASS	5180.0006	PASS	5180.0001	PASS	5180.0009	PASS
-10	3.3	5180.011	PASS	5180.0081	PASS	5180.0116	PASS	5180.0121	PASS
-20	3.3	5180.011	PASS	5180.0112	PASS	5180.0092	PASS	5180.0107	PASS
-30	3.3	5180.0181	PASS	5180.02	PASS	5180.0202	PASS	5180.021	PASS
-40	3.3	5179.9959	PASS	5179.9971	PASS	5179.9976	PASS	5179.9986	PASS

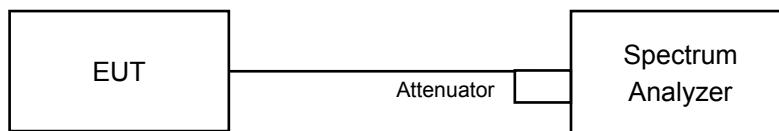
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	3.795	5179.9804	PASS	5179.9824	PASS	5179.9823	PASS	5179.9839	PASS
	3.3	5179.9814	PASS	5179.9815	PASS	5179.9825	PASS	5179.9832	PASS
	2.805	5179.9822	PASS	5179.9818	PASS	5179.9816	PASS	5179.9826	PASS

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

Measurement Procedure REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	16.33	16.37	15.98	16.34	0.5	Pass
157	5785	16.33	16.38	15.99	16.34	0.5	Pass
165	5825	16.35	16.37	16.00	16.34	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	16.98	16.82	16.12	16.57	0.5	Pass
157	5785	16.89	17.35	17.21	16.97	0.5	Pass
165	5825	16.96	17.17	16.58	16.61	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	35.31	35.20	35.24	35.22	0.5	Pass
159	5795	35.21	35.19	35.21	35.21	0.5	Pass

802.11ac (VHT80)

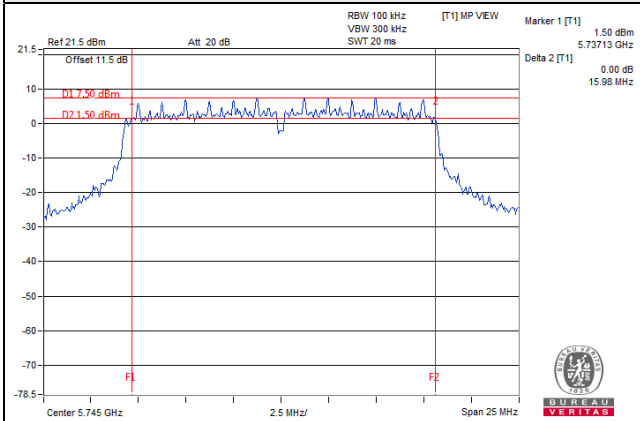
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	76.08	76.06	76.08	75.99	0.5	Pass

802.11ac (VHT80+80)

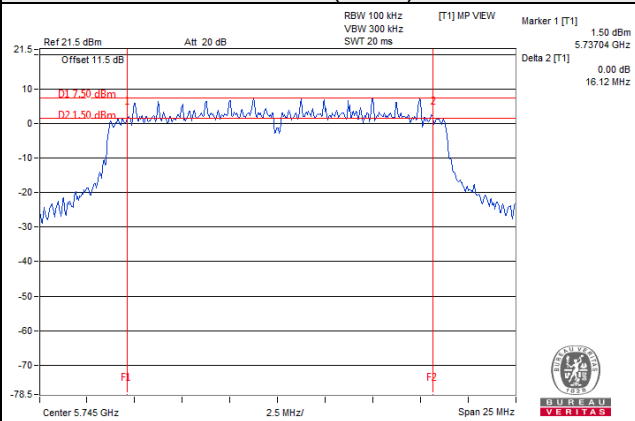
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
42+155	5775	-	-	75.71	75.88	0.5	Pass
58+155	5775	-	-	75.91	75.90	0.5	Pass
106+155	5775	-	-	75.50	75.90	0.5	Pass
122+155	5775	-	-	75.93	75.74	0.5	Pass

Spectrum Plot of Worst Value

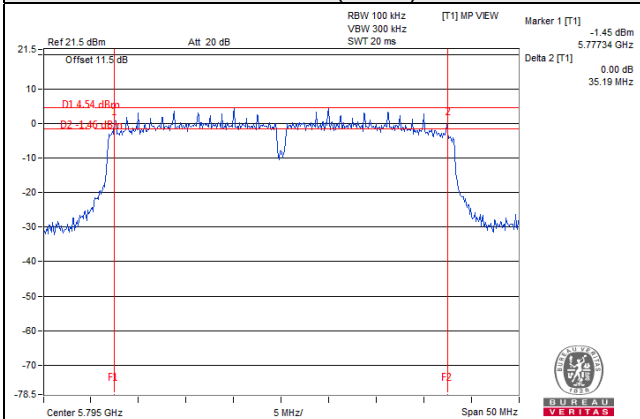
802.11a



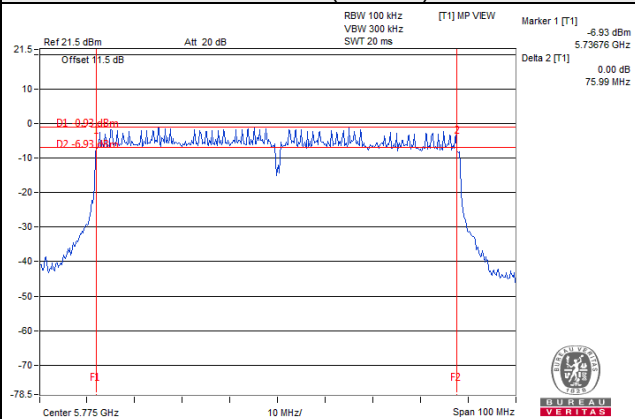
802.11n (HT20)



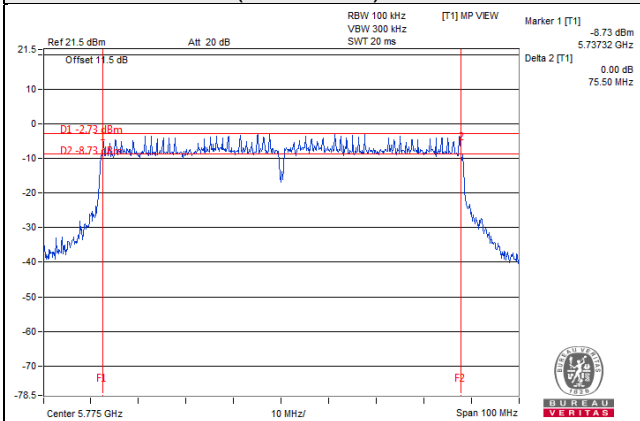
802.11n (HT40)



802.11ac (VHT80)



802.11ac (VHT80+80) CH106+155

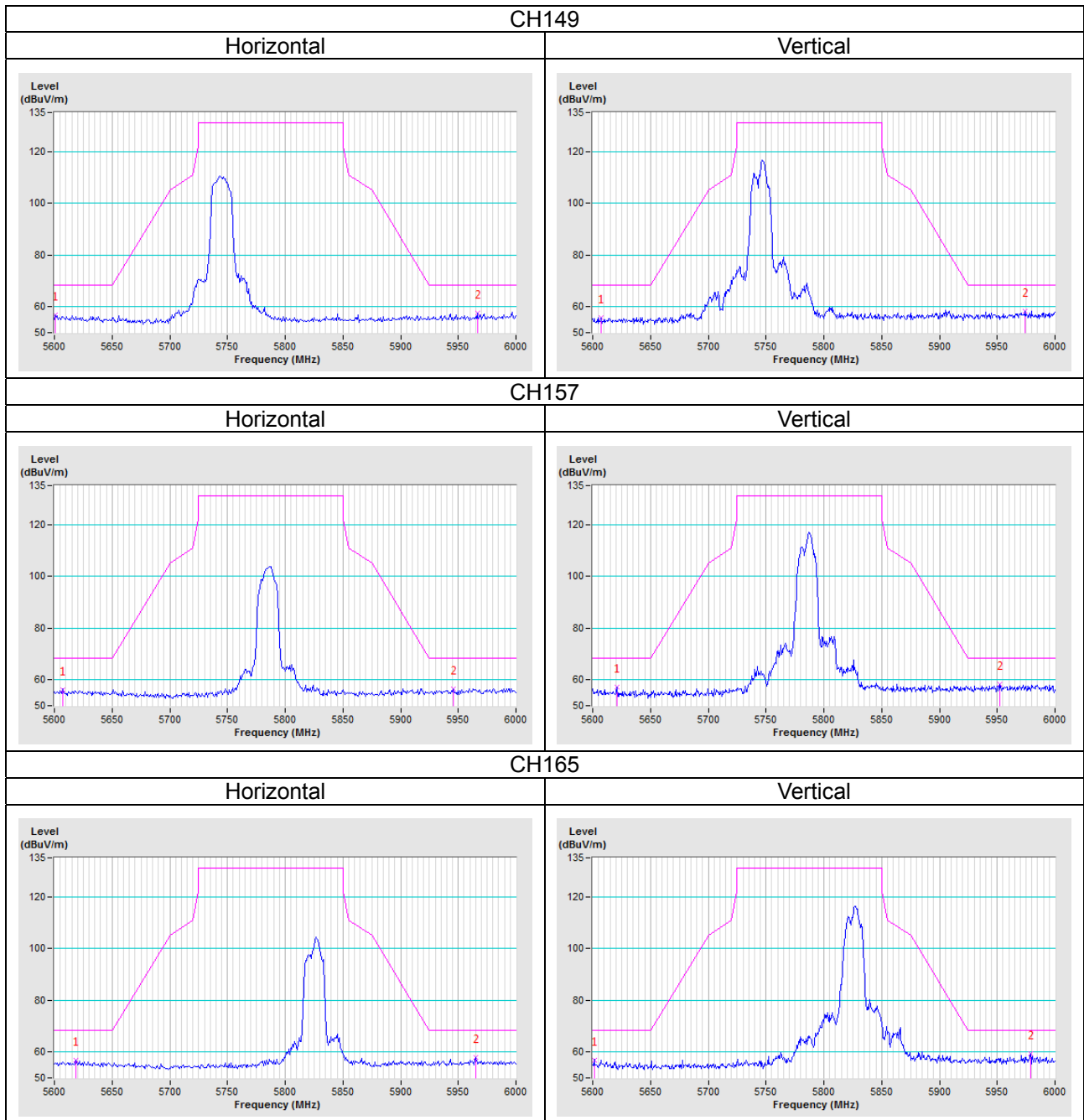


5 Pictures of Test Arrangements

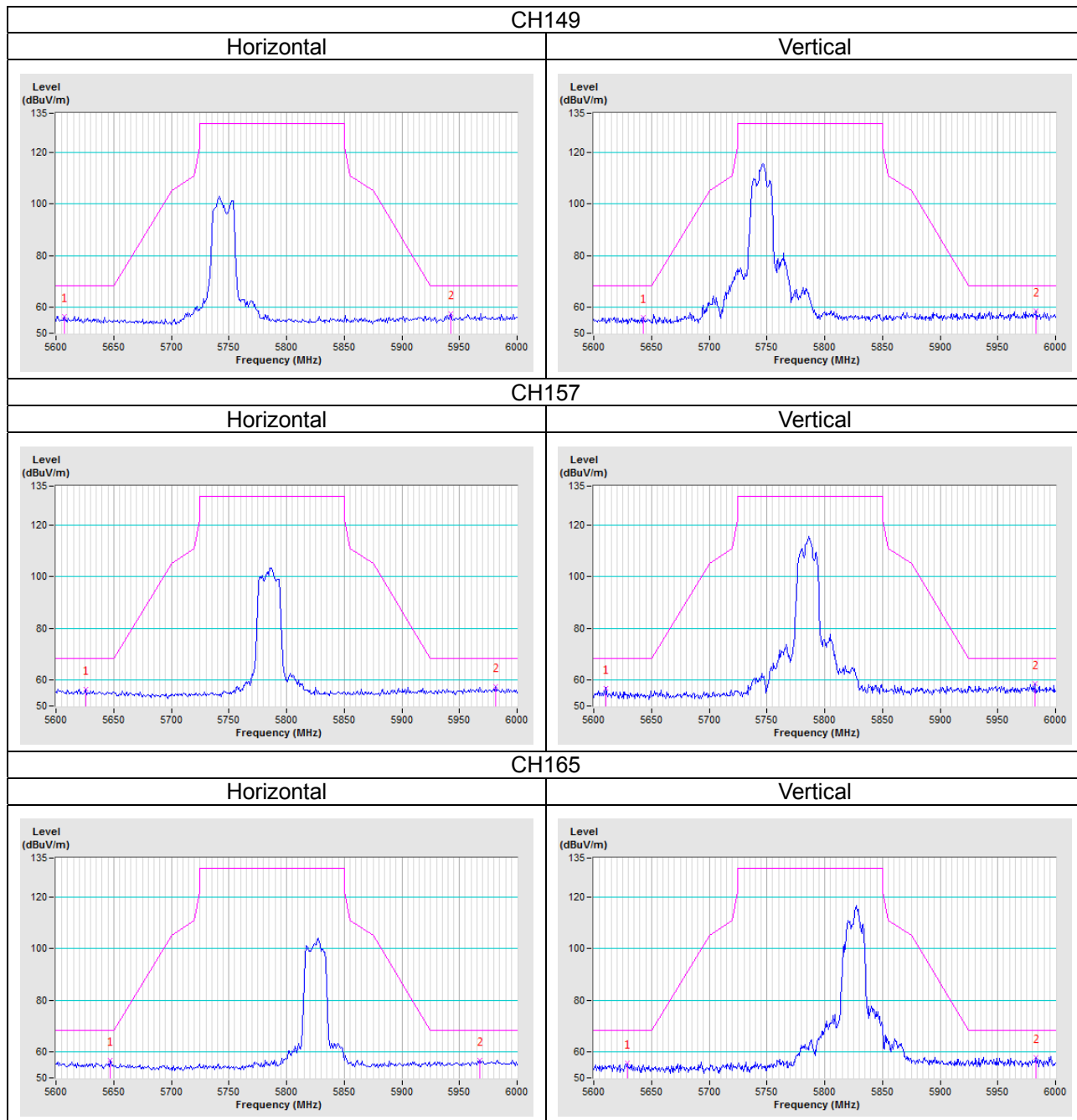
Please refer to the attached file (Test Setup Photo).

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

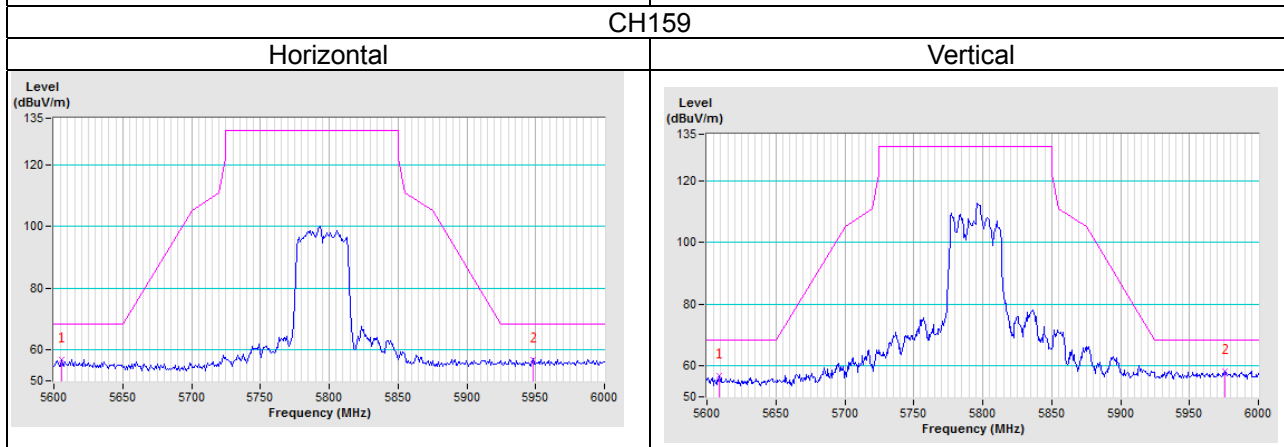
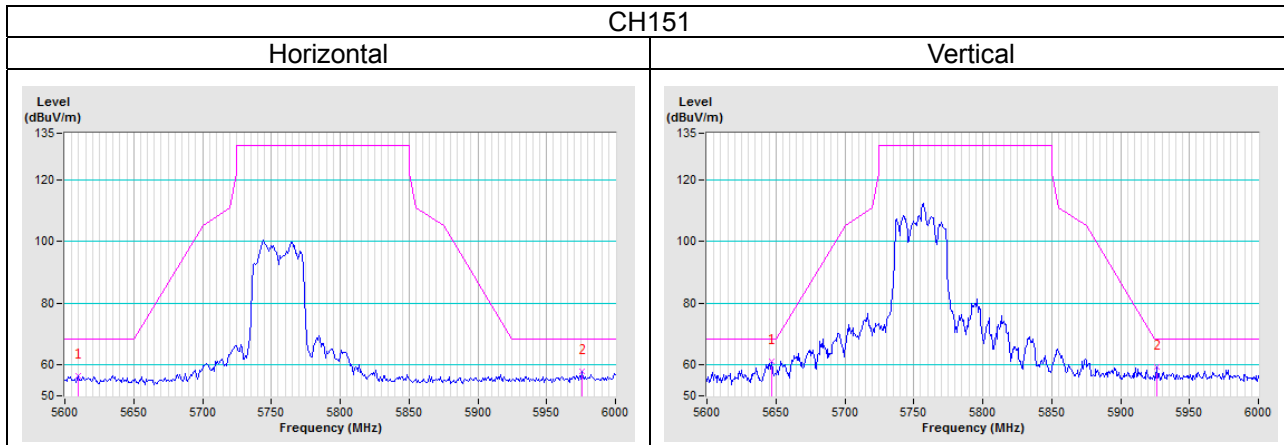
802.11a



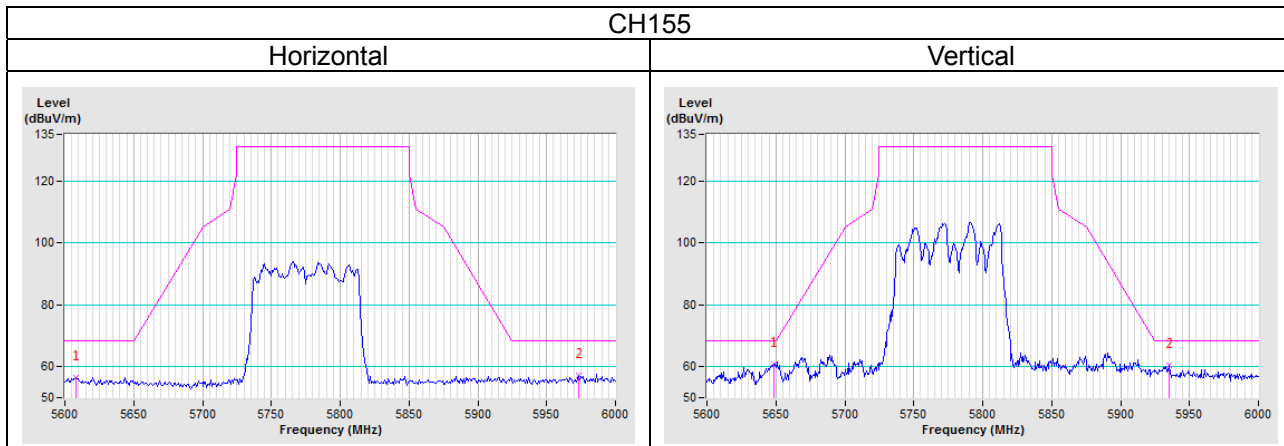
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

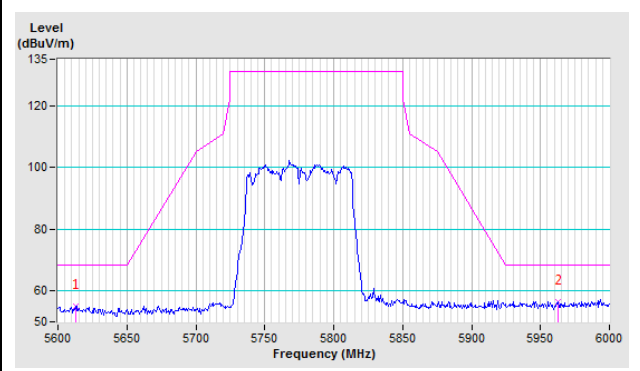
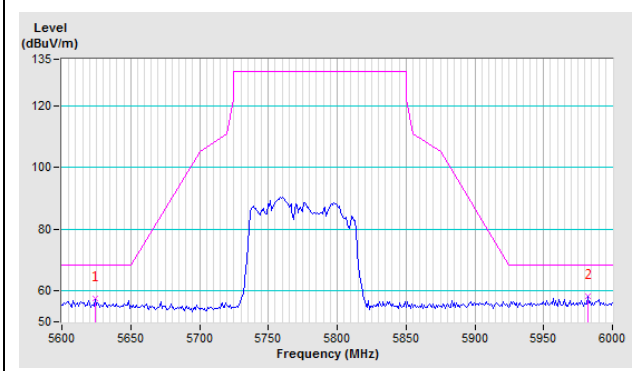


802.11ac (VHT80+80)

CH42+155

Horizontal

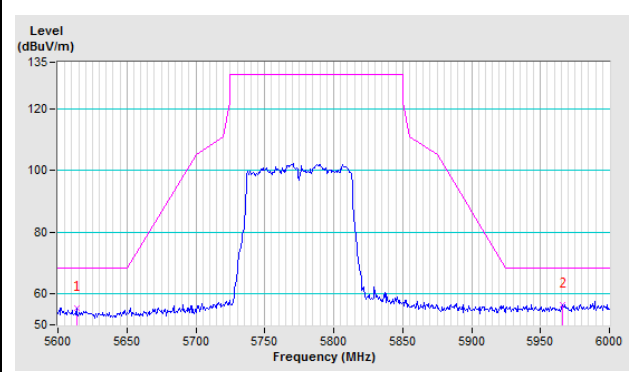
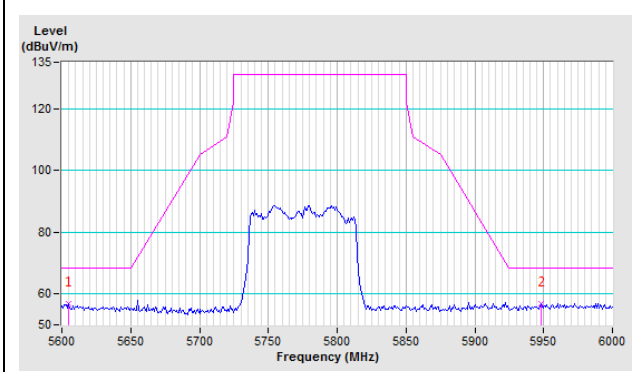
Vertical



CH58+155

Horizontal

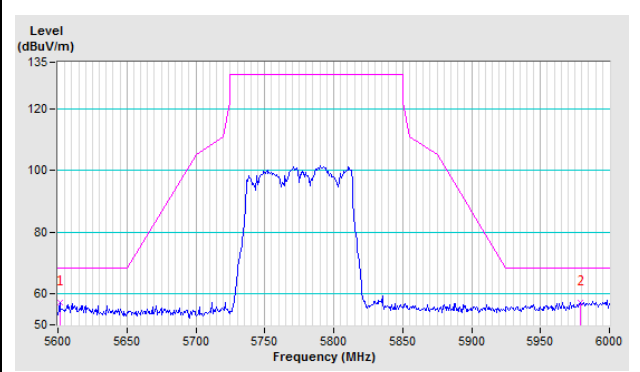
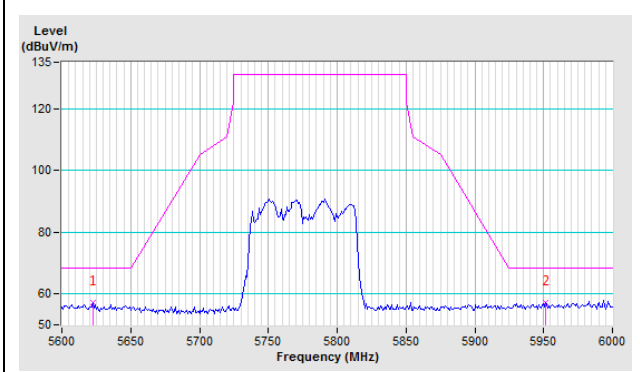
Vertical



CH106+155

Horizontal

Vertical



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:

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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.

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