

FCC Test Report

Report No.: RF190114C07-1

FCC ID: MSQI01WD

Test Model: ASUS_I01WD

Received Date: Jan. 14, 2019

Test Date: Jan. 23 ~ Feb. 01, 2019

Issued Date: Feb. 15, 2019

Applicant: ASUSTek COMPUTER INC.

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

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

FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
RF190114C07-1	Original release	Feb. 15, 2019

1 Certificate of Conformity

Product: ASUS Phone

Brand: ASUS

Test Model: ASUS_I01WD

Sample Status: Identical Prototype

Applicant: ASUSTek COMPUTER INC.

Test Date: Jan. 23 ~ Feb. 01, 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 : Celine Chou , **Date:** Feb. 15, 2019
Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Feb. 15, 2019
Bruce Chen / 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 -15.22dB at 0.37656MHz.
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 -1.6dB at 5725.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note:

- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	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	ASUS Phone
Brand	ASUS
Test Model	ASUS_I01WD
Sample Status	Identical Prototype
Power Supply Rating	3.85 Vdc (Battery) 5 or 9 Vdc (Adapter) 5 Vdc (Host equipment)
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 300Mbps 802.11ac: up to 867Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5720MHz, 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 ~ 5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 12 802.11n (HT40), 802.11ac (VHT40): 6 802.11ac (VHT80): 3 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	5180 ~ 5240MHz: 65.540mW 5260 ~ 5320MHz: 68.676mW 5500 ~ 5720MHz: 56.106mW 5745 ~ 5825MHz: 68.254mW
Antenna Type	Refer to Note as below
Antenna Connector	Refer to Note as below
Accessory Device	Refer to Note as below
Cable Supplied	Refer to Note as below

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

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

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

2. The EUT accessories list refers to EUT Photo.pdf.

3. The following antennas were provided to the EUT.

Ant. No.	Type	Connector	Gain (dBi)				
			2.4G	5.15-5.25 GHz	5.25-5.35 GHz	5.47-5.725 GHz	5.725-5.85 GHz
GPSL1/BT/WLAN Antenna-0	PIFA	NA	-3.5	-3.7	-4.7	-1.4	-2.5
GPSL5/WLAN Antenna-1	PIFA	NA	-2.3	-2.2	-1.1	-0.7	-0.4

3.2 Description of Test Modes

For 5180 ~ 5240MHz:

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

For 5260 ~ 5320MHz:

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

For 5500 ~ 5720MHz:

12 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	144	5720 MHz

6 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	142	5710 MHz

3 channels are provided for 802.11ac (VHT80):

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

For 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.

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)
-	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	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5
	802.11ac (VHT80)		106 to 138	106, 122, 138	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

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)
-	802.11n (HT40)	5180-5240	38 to 46	134	OFDM	6.0
-	802.11n (HT40)	5260-5320	54 to 62		OFDM	6.0
-	802.11n (HT40)	5500-5720	102 to 142		OFDM	6.0
-	802.11n (HT40)	5745-5825	151 to 159		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)
-	802.11n (HT40)	5180-5240	38 to 46	134	OFDM	6.0
-	802.11n (HT40)	5260-5320	54 to 62		OFDM	6.0
-	802.11n (HT40)	5500-5720	102 to 142		OFDM	6.0
-	802.11n (HT40)	5745-5825	151 to 159		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)
-	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	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5
	802.11ac (VHT80)		106 to 138	106, 122, 138	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

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	22 deg. C, 66% RH 21 deg. C, 69% RH	120Vac, 60Hz	Adair Peng Willy Cheng
RE<1G	22 deg. C, 66% RH	120Vac, 60Hz	Willy Cheng
PLC	24 deg. C, 65% RH	120Vac, 60Hz	Willy Cheng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Chris Lin

3.3 Duty Cycle of Test Signal

802.11a: Duty cycle of test signal is $\geq 98\%$, duty factor is not required.

802.11n (HT20), 802.11n (HT40), 802.11ac (VHT80): Duty cycle of test signal is $< 98\%$, duty factor is required.

802.11a: Duty cycle = $2.059/2.102 = 0.980$

802.11n (HT20): Duty cycle = $1.913/1.957 = 0.978$, Duty factor = $10 * \log (1/0.978) = 0.10$

802.11n (HT40): Duty cycle = $0.942/0.985 = 0.956$, Duty factor = $10 * \log (1/0.956) = 0.20$

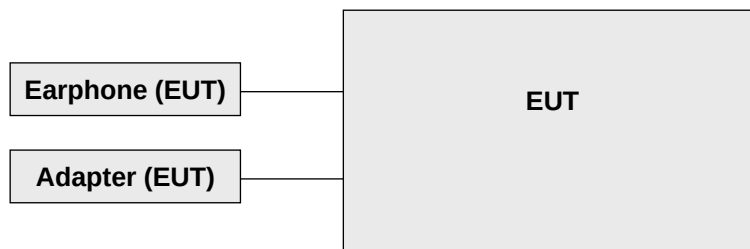
802.11ac (VHT80): Duty cycle = $0.459/0.500 = 0.918$, Duty factor = $10 * \log (1/0.918) = 0.37$



3.4 Description of Support Units

The EUT has been tested as an independent unit.

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:

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

Limits of unwanted emission out of the restricted bands

Applicable To			Limit	
789033 D02 General UNII Test Procedure New Rules v02r01			Field Strength at 3m	
			PK: 74 (dBµV/m)	AV: 54 (dBµV/m)
Frequency Band	Applicable To		EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)		PK: -27 (dBm/MHz)	PK: 68.2(dBµV/m)
5250~5350 MHz	15.407(b)(2)			
5470~5725 MHz	15.407(b)(3)			
5725~5850 MHz	☒	15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4}	PK: 68.2(dBµV/m) ^{*1} PK: 105.2 (dBµV/m) ^{*2} PK: 110.8(dBµV/m) ^{*3} PK: 122.2 (dBµV/m) ^{*4}
	☐	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.			^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.			^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 29, 2018	May 28, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	100115	Jan. 21, 2019	Jan. 20, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSV40	10980	Apr. 17, 2018	Apr. 16, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 22, 2018	Nov. 21, 2019
HORN Antenna SCHWARZBECK	9120D	209	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna TESEQ	HLA 6121	45745	Jun. 14, 2018	Jun. 13, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 21, 2018	Aug. 20, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Apr. 03, 2018	Apr. 02, 2019
RF signal cable WOKEN	8D-FB	Cable-CH3-01	Aug. 21, 2018	Aug. 20, 2019
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-S M-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
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Nov. 14, 2018	Nov. 13, 2019
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519000 4/MY55190007/MY55210 005	Jul. 17, 2018	Jul. 16, 2019

- 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.
3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
5. The IC Site Registration No. is 7450F-3.

4.1.3 Test Procedures

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

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

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

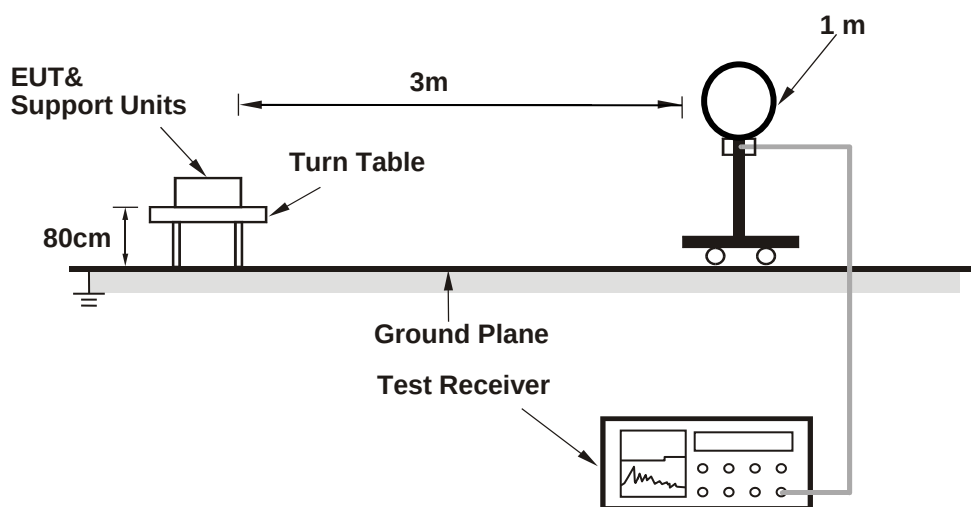
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

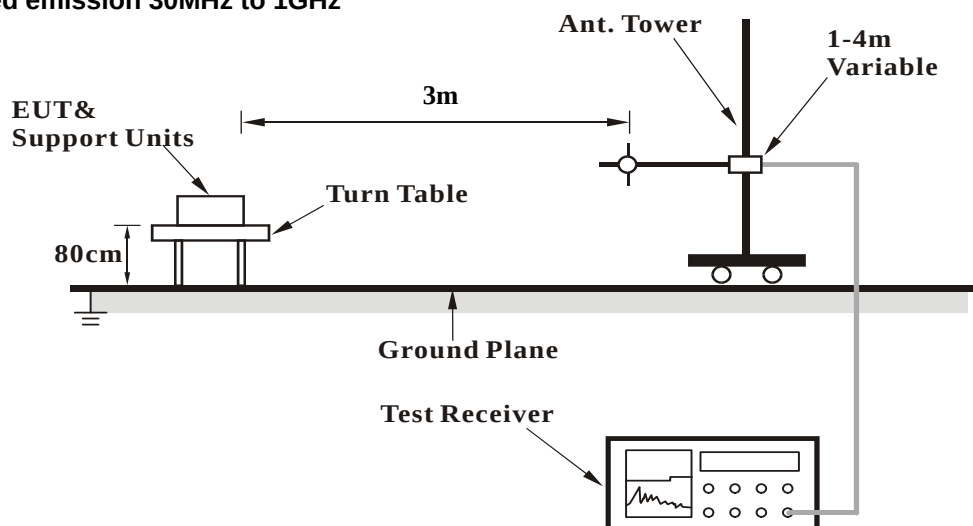
No deviation.

4.1.5 Test Setup

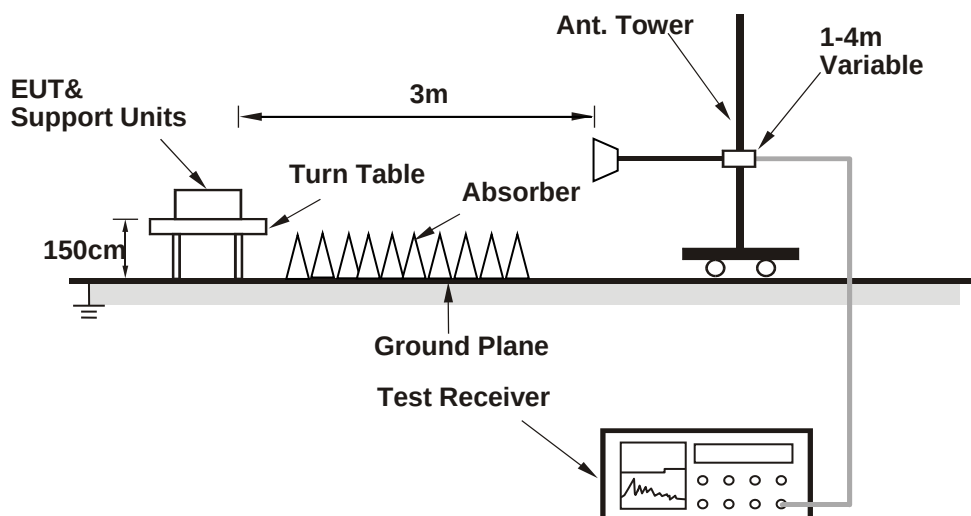
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

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

4.1.7 Test Results

Above 1GHz data:

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
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	54.9 PK	74.0	-19.1	1.21 H	197	51.0	3.9
2	5150.00	41.8 AV	54.0	-12.2	1.21 H	197	37.9	3.9
3	*5180.00	103.2 PK			1.04 H	201	63.7	39.5
4	*5180.00	93.2 AV			1.04 H	201	53.7	39.5
5	#10360.00	57.8 PK	68.2	-10.4	1.86 H	111	42.0	15.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.5 PK	74.0	-19.5	3.39 V	103	50.6	3.9
2	5150.00	41.6 AV	54.0	-12.4	3.39 V	103	37.7	3.9
3	*5180.00	101.8 PK			3.49 V	88	62.3	39.5
4	*5180.00	91.7 AV			3.49 V	88	52.2	39.5
5	#10360.00	57.5 PK	68.2	-10.7	1.61 V	250	41.7	15.8

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 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	103.9 PK			1.14 H	194	64.4	39.5
2	*5200.00	93.8 AV			1.14 H	194	54.3	39.5
3	#10400.00	57.8 PK	68.2	-10.4	1.69 H	123	41.9	15.9
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	*5200.00	102.3 PK			3.48 V	87	62.8	39.5
2	*5200.00	92.0 AV			3.48 V	87	52.5	39.5
3	#10400.00	58.0 PK	68.2	-10.2	1.59 V	263	42.1	15.9

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	103.3 PK			1.19 H	196	64.0	39.3
2	*5240.00	93.0 AV			1.19 H	196	53.7	39.3
3	5350.00	56.0 PK	74.0	-18.0	1.27 H	207	52.1	3.9
4	5350.00	43.0 AV	54.0	-11.0	1.27 H	207	39.1	3.9
5	#10480.00	58.5 PK	68.2	-9.7	1.78 H	119	41.7	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	*5240.00	100.3 PK			3.31 V	149	61.0	39.3
2	*5240.00	90.5 AV			3.31 V	149	51.2	39.3
3	5350.00	56.6 PK	74.0	-17.4	3.57 V	129	52.7	3.9
4	5350.00	43.4 AV	54.0	-10.6	3.57 V	129	39.5	3.9
5	#10480.00	58.6 PK	68.2	-9.6	1.74 V	249	41.8	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 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	54.6 PK	74.0	-19.4	1.31 H	209	50.7	3.9
2	5150.00	41.6 AV	54.0	-12.4	1.31 H	209	37.7	3.9
3	*5260.00	103.9 PK			1.39 H	197	64.6	39.3
4	*5260.00	93.8 AV			1.39 H	197	54.5	39.3
5	#10520.00	59.2 PK	68.2	-9.0	1.69 H	131	42.3	16.9
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	54.9 PK	74.0	-19.1	3.57 V	103	51.0	3.9
2	5150.00	41.5 AV	54.0	-12.5	3.57 V	103	37.6	3.9
3	*5260.00	102.0 PK			3.43 V	91	62.7	39.3
4	*5260.00	91.7 AV			3.43 V	91	52.4	39.3
5	#10520.00	59.3 PK	68.2	-8.9	1.85 V	259	42.4	16.9

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 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	104.3 PK			1.23 H	200	65.0	39.3
2	*5300.00	94.2 AV			1.23 H	200	54.9	39.3
3	10600.00	59.7 PK	74.0	-14.3	1.73 H	120	42.7	17.0
4	10600.00	46.2 AV	54.0	-7.8	1.73 H	120	29.2	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	*5300.00	102.5 PK			3.59 V	89	63.2	39.3
2	*5300.00	92.2 AV			3.59 V	89	52.9	39.3
3	10600.00	59.7 PK	74.0	-14.3	1.91 V	269	42.7	17.0
4	10600.00	45.9 AV	54.0	-8.1	1.91 V	269	28.9	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 64	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	104.3 PK			1.04 H	198	65.0	39.3
2	*5320.00	94.3 AV			1.04 H	198	55.0	39.3
3	5350.00	56.4 PK	74.0	-17.6	1.22 H	207	52.5	3.9
4	5350.00	43.3 AV	54.0	-10.7	1.22 H	207	39.4	3.9
5	10640.00	59.3 PK	74.0	-14.7	1.79 H	139	42.3	17.0
6	10640.00	46.3 AV	54.0	-7.7	1.79 H	139	29.3	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	*5320.00	102.5 PK			3.56 V	88	63.2	39.3
2	*5320.00	91.6 AV			3.56 V	88	52.3	39.3
3	5350.00	56.6 PK	74.0	-17.4	3.69 V	99	52.7	3.9
4	5350.00	42.9 AV	54.0	-11.1	3.69 V	99	39.0	3.9
5	10640.00	59.4 PK	74.0	-14.6	1.89 V	253	42.4	17.0
6	10640.00	46.2 AV	54.0	-7.8	1.89 V	253	29.2	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 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	1.39 H	189	52.7	4.1
2	5460.00	43.3 AV	54.0	-10.7	1.39 H	189	39.2	4.1
3	#5470.00	56.6 PK	68.2	-11.6	1.47 H	205	52.5	4.1
4	*5500.00	105.8 PK			1.34 H	199	66.0	39.8
5	*5500.00	95.2 AV			1.34 H	199	55.4	39.8
6	11000.00	60.5 PK	74.0	-13.5	1.75 H	153	42.1	18.4
7	11000.00	47.2 AV	54.0	-6.8	1.75 H	153	28.8	18.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.1 PK	74.0	-15.9	3.80 V	78	54.0	4.1
2	5460.00	43.3 AV	54.0	-10.7	3.80 V	78	39.2	4.1
3	#5470.00	57.1 PK	68.2	-11.1	3.77 V	79	53.0	4.1
4	*5500.00	103.1 PK			3.86 V	70	63.3	39.8
5	*5500.00	92.7 AV			3.86 V	70	52.9	39.8
6	11000.00	60.4 PK	74.0	-13.6	1.93 V	169	42.0	18.4
7	11000.00	47.0 AV	54.0	-7.0	1.93 V	169	28.6	18.4

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	104.5 PK			1.34 H	194	64.7	39.8
2	*5580.00	95.0 AV			1.34 H	194	55.2	39.8
3	11160.00	60.6 PK	74.0	-13.4	1.75 H	143	43.1	17.5
4	11160.00	47.0 AV	54.0	-7.0	1.75 H	143	29.5	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	*5580.00	100.9 PK			3.89 V	102	61.1	39.8
2	*5580.00	90.8 AV			3.89 V	102	51.0	39.8
3	11160.00	60.3 PK	74.0	-13.7	1.79 V	159	42.8	17.5
4	11160.00	46.6 AV	54.0	-7.4	1.79 V	159	29.1	17.5

Remarks:

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

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	102.8 PK			1.20 H	198	63.0	39.8
2	*5700.00	92.5 AV			1.20 H	198	52.7	39.8
3	#5725.00	56.0 PK	68.2	-12.2	1.31 H	203	51.6	4.4
4	11400.00	58.8 PK	74.0	-15.2	1.63 H	135	41.5	17.3
5	11400.00	45.1 AV	54.0	-8.9	1.63 H	135	27.8	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	*5700.00	102.3 PK			3.55 V	80	62.5	39.8
2	*5700.00	91.5 AV			3.55 V	80	51.7	39.8
3	#5725.00	57.2 PK	68.2	-11.0	3.75 V	83	52.8	4.4
4	11400.00	58.6 PK	74.0	-15.4	1.75 V	163	41.3	17.3
5	11400.00	45.3 AV	54.0	-8.7	1.75 V	163	28.0	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 144	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5720.00	102.3 PK			1.35 H	198	62.3	40.0
2	*5720.00	92.2 AV			1.35 H	198	52.2	40.0
3	#5825.00	57.0 PK	68.2	-11.2	1.47 H	190	52.3	4.7
4	11440.00	59.0 PK	74.0	-15.0	1.75 H	246	41.6	17.4
5	11440.00	45.4 AV	54.0	-8.6	1.75 H	246	28.0	17.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5720.00	101.6 PK			3.73 V	88	61.6	40.0
2	*5720.00	91.0 AV			3.73 V	88	51.0	40.0
3	#5825.00	57.0 PK	68.2	-11.2	3.65 V	87	52.3	4.7
4	11440.00	59.4 PK	74.0	-14.6	1.91 V	263	42.0	17.4
5	11440.00	45.2 AV	54.0	-8.8	1.91 V	263	27.8	17.4

Remarks:

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

CHANNEL	TX Channel 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	#5611.54	53.5 PK	68.2	-14.7	1.88 H	195	49.2	4.3
2	*5745.00	100.3 PK			1.88 H	195	60.2	40.1
3	*5745.00	89.7 AV			1.88 H	195	49.6	40.1
4	#5955.13	57.2 PK	68.2	-11.0	1.88 H	195	52.3	4.9
5	11490.00	58.4 PK	74.0	-15.6	2.83 H	255	40.8	17.6
6	11490.00	45.0 AV	54.0	-9.0	2.83 H	255	27.4	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	#5605.77	55.0 PK	68.2	-13.2	3.66 V	70	50.7	4.3
2	*5745.00	100.9 PK			3.66 V	70	60.8	40.1
3	*5745.00	90.3 AV			3.66 V	70	50.2	40.1
4	#5979.49	57.5 PK	68.2	-10.7	3.66 V	70	52.4	5.1
5	11490.00	59.2 PK	74.0	-14.8	2.67 V	149	41.6	17.6
6	11490.00	45.3 AV	54.0	-8.7	2.67 V	149	27.7	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 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	#5625.00	54.7 PK	68.2	-13.5	1.53 H	202	50.5	4.2
2	*5785.00	100.5 PK			1.53 H	202	60.2	40.3
3	*5785.00	90.3 AV			1.53 H	202	50.0	40.3
4	#5985.90	57.3 PK	68.2	-10.9	1.53 H	202	52.2	5.1
5	11570.00	60.2 PK	74.0	-13.8	2.89 H	331	42.7	17.5
6	11570.00	45.9 AV	54.0	-8.1	2.89 H	331	28.4	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	#5606.41	54.1 PK	68.2	-14.1	3.82 V	71	49.8	4.3
2	*5785.00	101.6 PK			3.82 V	71	61.3	40.3
3	*5785.00	90.9 AV			3.82 V	71	50.6	40.3
4	#5969.23	57.5 PK	68.2	-10.7	3.82 V	71	52.5	5.0
5	11570.00	59.6 PK	74.0	-14.4	2.62 V	158	42.1	17.5
6	11570.00	46.0 AV	54.0	-8.0	2.62 V	158	28.5	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 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	#5612.18	54.1 PK	68.2	-14.1	1.48 H	197	49.8	4.3
2	*5825.00	101.0 PK			1.48 H	197	60.6	40.4
3	*5825.00	90.6 AV			1.48 H	197	50.2	40.4
4	#5973.08	57.4 PK	68.2	-10.8	1.48 H	197	52.3	5.1
5	11650.00	59.0 PK	74.0	-15.0	2.31 H	189	41.9	17.1
6	11650.00	45.7 AV	54.0	-8.3	2.31 H	189	28.6	17.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5620.51	53.8 PK	68.2	-14.4	3.40 V	71	49.5	4.3
2	*5825.00	101.2 PK			3.40 V	71	60.8	40.4
3	*5825.00	90.6 AV			3.40 V	71	50.2	40.4
4	#5967.31	56.9 PK	68.2	-11.3	3.40 V	71	51.9	5.0
5	11650.00	59.6 PK	74.0	-14.4	2.31 V	189	42.5	17.1
6	11650.00	46.4 AV	54.0	-7.6	2.31 V	189	29.3	17.1

Remarks:

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

802.11n (HT20)

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	54.6 PK	74.0	-19.4	1.23 H	203	50.7	3.9
2	5150.00	41.6 AV	54.0	-12.4	1.23 H	203	37.7	3.9
3	*5180.00	101.6 PK			1.40 H	193	62.1	39.5
4	*5180.00	91.5 AV			1.40 H	193	52.0	39.5
5	#10360.00	57.2 PK	68.2	-11.0	1.93 H	117	41.4	15.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.2 PK	74.0	-19.8	3.46 V	83	50.3	3.9
2	5150.00	41.9 AV	54.0	-12.1	3.46 V	83	38.0	3.9
3	*5180.00	100.3 PK			3.30 V	70	60.8	39.5
4	*5180.00	89.9 AV			3.30 V	70	50.4	39.5
5	#10360.00	57.2 PK	68.2	-11.0	1.57 V	258	41.4	15.8

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 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	102.5 PK			1.14 H	193	63.0	39.5
2	*5200.00	92.3 AV			1.14 H	193	52.8	39.5
3	#10400.00	57.6 PK	68.2	-10.6	1.63 H	117	41.7	15.9
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	*5200.00	99.8 PK			3.64 V	90	60.3	39.5
2	*5200.00	89.6 AV			3.64 V	90	50.1	39.5
3	#10400.00	57.3 PK	68.2	-10.9	1.58 V	253	41.4	15.9

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 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	102.2 PK			1.30 H	193	62.9	39.3
2	*5240.00	91.8 AV			1.30 H	193	52.5	39.3
3	5350.00	55.8 PK	74.0	-18.2	1.21 H	199	51.9	3.9
4	5350.00	42.7 AV	54.0	-11.3	1.21 H	199	38.8	3.9
5	#10480.00	58.8 PK	68.2	-9.4	1.71 H	122	42.0	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	*5240.00	99.4 PK			3.96 V	95	60.1	39.3
2	*5240.00	89.0 AV			3.96 V	95	49.7	39.3
3	5350.00	56.3 PK	74.0	-17.7	3.74 V	79	52.4	3.9
4	5350.00	43.1 AV	54.0	-10.9	3.74 V	79	39.2	3.9
5	#10480.00	58.2 PK	68.2	-10.0	1.63 V	263	41.4	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 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	55.5 PK	74.0	-18.5	1.17 H	197	51.6	3.9
2	5150.00	41.6 AV	54.0	-12.4	1.17 H	197	37.7	3.9
3	*5260.00	102.5 PK			1.25 H	200	63.2	39.3
4	*5260.00	91.9 AV			1.25 H	200	52.6	39.3
5	#10520.00	58.8 PK	68.2	-9.4	1.73 H	127	41.9	16.9
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	55.4 PK	74.0	-18.6	3.57 V	99	51.5	3.9
2	5150.00	41.7 AV	54.0	-12.3	3.57 V	99	37.8	3.9
3	*5260.00	100.4 PK			3.42 V	88	61.1	39.3
4	*5260.00	89.7 AV			3.42 V	88	50.4	39.3
5	#10520.00	59.0 PK	68.2	-9.2	1.91 V	263	42.1	16.9

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	103.7 PK			1.21 H	199	64.4	39.3
2	*5300.00	92.8 AV			1.21 H	199	53.5	39.3
3	10600.00	59.4 PK	74.0	-14.6	1.69 H	128	42.4	17.0
4	10600.00	46.0 AV	54.0	-8.0	1.69 H	128	29.0	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	*5300.00	100.9 PK			3.59 V	88	61.6	39.3
2	*5300.00	90.2 AV			3.59 V	88	50.9	39.3
3	10600.00	59.2 PK	74.0	-14.8	1.77 V	251	42.2	17.0
4	10600.00	45.7 AV	54.0	-8.3	1.77 V	251	28.7	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 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	103.5 PK			1.05 H	199	64.2	39.3
2	*5320.00	92.8 AV			1.05 H	199	53.5	39.3
3	5350.00	56.7 PK	74.0	-17.3	1.17 H	201	52.8	3.9
4	5350.00	43.4 AV	54.0	-10.6	1.17 H	201	39.5	3.9
5	10640.00	59.0 PK	74.0	-15.0	1.71 H	130	42.0	17.0
6	10640.00	45.9 AV	54.0	-8.1	1.71 H	130	28.9	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	*5320.00	102.0 PK			3.51 V	87	62.7	39.3
2	*5320.00	91.1 AV			3.51 V	87	51.8	39.3
3	5350.00	55.9 PK	74.0	-18.1	3.61 V	90	52.0	3.9
4	5350.00	43.2 AV	54.0	-10.8	3.61 V	90	39.3	3.9
5	10640.00	59.1 PK	74.0	-14.9	1.82 V	263	42.1	17.0
6	10640.00	46.0 AV	54.0	-8.0	1.82 V	263	29.0	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 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	56.7 PK	74.0	-17.3	1.39 H	199	52.6	4.1
2	5460.00	43.2 AV	54.0	-10.8	1.39 H	199	39.1	4.1
3	#5470.00	56.5 PK	68.2	-11.7	1.43 H	203	52.4	4.1
4	*5500.00	104.0 PK			1.35 H	198	64.2	39.8
5	*5500.00	93.4 AV			1.35 H	198	53.6	39.8
6	11000.00	60.4 PK	74.0	-13.6	1.80 H	169	42.0	18.4
7	11000.00	46.9 AV	54.0	-7.1	1.80 H	169	28.5	18.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.1 PK	74.0	-16.9	3.55 V	103	53.0	4.1
2	5460.00	43.3 AV	54.0	-10.7	3.55 V	103	39.2	4.1
3	#5470.00	57.1 PK	68.2	-11.1	3.61 V	90	53.0	4.1
4	*5500.00	103.1 PK			3.49 V	88	63.3	39.8
5	*5500.00	92.3 AV			3.49 V	88	52.5	39.8
6	11000.00	60.6 PK	74.0	-13.4	1.91 V	287	42.2	18.4
7	11000.00	46.7 AV	54.0	-7.3	1.91 V	287	28.3	18.4

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR 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	103.8 PK			1.39 H	195	64.0	39.8
2	*5580.00	93.1 AV			1.39 H	195	53.3	39.8
3	11160.00	60.2 PK	74.0	-13.8	1.79 H	163	42.7	17.5
4	11160.00	46.7 AV	54.0	-7.3	1.79 H	163	29.2	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	*5580.00	102.1 PK			3.77 V	88	62.3	39.8
2	*5580.00	91.9 AV			3.77 V	88	52.1	39.8
3	11160.00	60.0 PK	74.0	-14.0	1.85 V	259	42.5	17.5
4	11160.00	46.3 AV	54.0	-7.7	1.85 V	259	28.8	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 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	100.5 PK			1.10 H	199	60.7	39.8
2	*5700.00	90.3 AV			1.10 H	199	50.5	39.8
3	#5725.00	56.6 PK	68.2	-11.6	1.20 H	203	52.2	4.4
4	11400.00	58.6 PK	74.0	-15.4	1.71 H	153	41.3	17.3
5	11400.00	45.3 AV	54.0	-8.7	1.71 H	153	28.0	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	*5700.00	101.0 PK			3.56 V	88	61.2	39.8
2	*5700.00	89.8 AV			3.56 V	88	50.0	39.8
3	#5725.00	56.4 PK	68.2	-11.8	3.36 V	91	52.0	4.4
4	11400.00	59.0 PK	74.0	-15.0	1.93 V	263	41.7	17.3
5	11400.00	45.5 AV	54.0	-8.5	1.93 V	263	28.2	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 144	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5720.00	100.3 PK			1.36 H	198	60.3	40.0
2	*5720.00	90.0 AV			1.36 H	198	50.0	40.0
3	#5825.00	57.5 PK	68.2	-10.7	1.41 H	199	52.8	4.7
4	11440.00	58.7 PK	74.0	-15.3	1.83 H	187	41.3	17.4
5	11440.00	45.3 AV	54.0	-8.7	1.83 H	187	27.9	17.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5720.00	100.1 PK			3.71 V	90	60.1	40.0
2	*5720.00	89.4 AV			3.71 V	90	49.4	40.0
3	#5825.00	57.4 PK	68.2	-10.8	3.83 V	87	52.7	4.7
4	11440.00	58.6 PK	74.0	-15.4	1.76 V	229	41.2	17.4
5	11440.00	45.4 AV	54.0	-8.6	1.76 V	229	28.0	17.4

Remarks:

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

CHANNEL	TX Channel 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	#5614.10	54.5 PK	68.2	-13.7	1.10 H	201	50.2	4.3
2	*5745.00	98.9 PK			1.10 H	201	58.8	40.1
3	*5745.00	88.5 AV			1.10 H	201	48.4	40.1
4	#5969.23	57.3 PK	68.2	-10.9	1.10 H	201	52.3	5.0
5	11490.00	58.4 PK	74.0	-15.6	2.55 H	189	40.8	17.6
6	11490.00	45.1 AV	54.0	-8.9	2.55 H	189	27.5	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	#5604.49	54.7 PK	68.2	-13.5	3.52 V	87	50.4	4.3
2	*5745.00	98.7 PK			3.52 V	87	58.6	40.1
3	*5745.00	87.5 AV			3.52 V	87	47.4	40.1
4	#5979.49	57.1 PK	68.2	-11.1	3.52 V	87	52.0	5.1
5	11490.00	59.4 PK	74.0	-14.6	2.56 V	183	41.8	17.6
6	11490.00	45.2 AV	54.0	-8.8	2.56 V	183	27.6	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 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	#5610.26	53.6 PK	68.2	-14.6	1.50 H	200	49.3	4.3
2	*5785.00	98.7 PK			1.50 H	200	58.4	40.3
3	*5785.00	88.5 AV			1.50 H	200	48.2	40.3
4	#5925.00	56.4 PK	68.2	-11.8	1.50 H	200	51.5	4.9
5	11570.00	59.7 PK	74.0	-14.3	2.36 H	183	42.2	17.5
6	11570.00	46.0 AV	54.0	-8.0	2.36 H	183	28.5	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	#5621.79	53.7 PK	68.2	-14.5	3.39 V	148	49.5	4.2
2	*5785.00	99.4 PK			3.39 V	148	59.1	40.3
3	*5785.00	88.8 AV			3.39 V	148	48.5	40.3
4	#5958.33	58.2 PK	68.2	-10.0	3.39 V	148	53.3	4.9
5	11570.00	59.8 PK	74.0	-14.2	2.38 V	115	42.3	17.5
6	11570.00	45.9 AV	54.0	-8.1	2.38 V	115	28.4	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 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	#5637.82	54.1 PK	68.2	-14.1	1.32 H	195	49.9	4.2
2	*5825.00	100.2 PK			1.32 H	195	59.8	40.4
3	*5825.00	89.8 AV			1.32 H	195	49.4	40.4
4	#5963.46	56.6 PK	68.2	-11.6	1.32 H	195	51.7	4.9
5	11650.00	59.3 PK	74.0	-14.7	1.89 H	203	42.2	17.1
6	11650.00	45.7 AV	54.0	-8.3	1.89 H	203	28.6	17.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5614.74	53.9 PK	68.2	-14.3	3.24 V	169	49.6	4.3
2	*5825.00	97.9 PK			3.24 V	169	57.5	40.4
3	*5825.00	87.2 AV			3.24 V	169	46.8	40.4
4	#5975.00	57.6 PK	68.2	-10.6	3.24 V	169	52.5	5.1
5	11650.00	60.6 PK	74.0	-13.4	2.63 V	194	43.5	17.1
6	11650.00	46.5 AV	54.0	-7.5	2.63 V	194	29.4	17.1

Remarks:

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

802.11n (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	54.8 PK	74.0	-19.2	1.47 H	195	50.9	3.9
2	5150.00	42.0 AV	54.0	-12.0	1.47 H	195	38.1	3.9
3	*5190.00	98.6 PK			1.51 H	200	59.1	39.5
4	*5190.00	89.0 AV			1.51 H	200	49.5	39.5
5	#10380.00	57.8 PK	68.2	-10.4	1.77 H	129	41.9	15.9
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	54.8 PK	74.0	-19.2	3.63 V	101	50.9	3.9
2	5150.00	41.9 AV	54.0	-12.1	3.63 V	101	38.0	3.9
3	*5190.00	98.5 PK			3.47 V	90	59.0	39.5
4	*5190.00	88.7 AV			3.47 V	90	49.2	39.5
5	#10380.00	57.9 PK	68.2	-10.3	1.59 V	249	42.0	15.9

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 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	99.3 PK			1.29 H	194	60.0	39.3
2	*5230.00	89.2 AV			1.29 H	194	49.9	39.3
3	5350.00	56.8 PK	74.0	-17.2	1.39 H	209	52.9	3.9
4	5350.00	43.6 AV	54.0	-10.4	1.39 H	209	39.7	3.9
5	#10460.00	59.3 PK	68.2	-8.9	1.93 H	132	42.7	16.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	98.0 PK			3.57 V	92	58.7	39.3
2	*5230.00	87.5 AV			3.57 V	92	48.2	39.3
3	5350.00	56.9 PK	74.0	-17.1	3.39 V	103	53.0	3.9
4	5350.00	43.4 AV	54.0	-10.6	3.39 V	103	39.5	3.9
5	#10460.00	58.9 PK	68.2	-9.3	1.73 V	263	42.3	16.6

Remarks:

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

CHANNEL	TX Channel 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	54.9 PK	74.0	-19.1	1.30 H	202	51.0	3.9
2	5150.00	41.4 AV	54.0	-12.6	1.30 H	202	37.5	3.9
3	*5270.00	100.3 PK			1.36 H	199	61.0	39.3
4	*5270.00	90.1 AV			1.36 H	199	50.8	39.3
5	#10540.00	59.5 PK	68.2	-8.7	1.77 H	153	42.5	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	5150.00	55.0 PK	74.0	-19.0	3.54 V	88	51.1	3.9
2	5150.00	41.5 AV	54.0	-12.5	3.54 V	88	37.6	3.9
3	*5270.00	97.5 PK			3.61 V	86	58.2	39.3
4	*5270.00	87.5 AV			3.61 V	86	48.2	39.3
5	#10540.00	59.3 PK	68.2	-8.9	2.01 V	259	42.3	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 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	100.9 PK			1.18 H	197	61.6	39.3
2	*5310.00	90.7 AV			1.18 H	197	51.4	39.3
3	5350.00	59.5 PK	74.0	-14.5	1.37 H	198	55.6	3.9
4	5350.00	46.7 AV	54.0	-7.3	1.37 H	198	42.8	3.9
5	10620.00	59.7 PK	74.0	-14.3	1.59 H	129	42.7	17.0
6	10620.00	45.9 AV	54.0	-8.1	1.59 H	129	28.9	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	*5310.00	98.6 PK			3.56 V	88	59.3	39.3
2	*5310.00	88.5 AV			3.56 V	88	49.2	39.3
3	5350.00	57.8 PK	74.0	-16.2	3.64 V	80	53.9	3.9
4	5350.00	45.1 AV	54.0	-8.9	3.64 V	80	41.2	3.9
5	10620.00	59.5 PK	74.0	-14.5	1.93 V	263	42.5	17.0
6	10620.00	45.7 AV	54.0	-8.3	1.93 V	263	28.7	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 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	56.5 PK	74.0	-17.5	1.31 H	205	52.4	4.1
2	5460.00	44.0 AV	54.0	-10.0	1.31 H	205	39.9	4.1
3	#5470.00	57.8 PK	68.2	-10.4	1.13 H	168	53.7	4.1
4	*5510.00	100.4 PK			1.23 H	199	60.5	39.9
5	*5510.00	90.5 AV			1.23 H	199	50.6	39.9
6	11020.00	60.3 PK	74.0	-13.7	2.48 H	263	42.2	18.1
7	11020.00	47.0 AV	54.0	-7.0	2.48 H	263	28.9	18.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	56.8 PK	74.0	-17.2	3.26 V	79	52.7	4.1
2	5460.00	43.9 AV	54.0	-10.1	3.26 V	79	39.8	4.1
3	#5470.00	59.0 PK	68.2	-9.2	3.52 V	71	54.9	4.1
4	*5510.00	98.7 PK			3.68 V	89	58.8	39.9
5	*5510.00	88.5 AV			3.68 V	89	48.6	39.9
6	11020.00	60.1 PK	74.0	-13.9	2.56 V	188	42.0	18.1
7	11020.00	47.3 AV	54.0	-6.7	2.56 V	188	29.2	18.1

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	99.4 PK			1.00 H	276	59.6	39.8
2	*5550.00	89.6 AV			1.00 H	276	49.8	39.8
3	11100.00	59.7 PK	74.0	-14.3	2.66 H	173	42.1	17.6
4	11100.00	46.2 AV	54.0	-7.8	2.66 H	173	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	*5550.00	98.6 PK			3.63 V	89	58.8	39.8
2	*5550.00	88.7 AV			3.63 V	89	48.9	39.8
3	11100.00	59.2 PK	74.0	-14.8	2.84 V	203	41.6	17.6
4	11100.00	46.3 AV	54.0	-7.7	2.84 V	203	28.7	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 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	101.9 PK			1.20 H	198	62.1	39.8
2	*5670.00	91.1 AV			1.20 H	198	51.3	39.8
3	#5725.00	65.6 PK	68.2	-2.6	1.48 H	196	61.2	4.4
4	11340.00	59.0 PK	74.0	-15.0	1.96 H	284	41.6	17.4
5	11340.00	45.7 AV	54.0	-8.3	1.96 H	284	28.3	17.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	102.5 PK			3.63 V	87	62.7	39.8
2	*5670.00	91.6 AV			3.63 V	87	51.8	39.8
3	#5725.00	66.6 PK	68.2	-1.6	3.70 V	72	62.2	4.4
4	11340.00	59.2 PK	74.0	-14.8	1.86 V	234	41.8	17.4
5	11340.00	45.9 AV	54.0	-8.1	1.86 V	234	28.5	17.4

Remarks:

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

CHANNEL	TX Channel 142	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.5 PK	74.0	-19.5	1.38 H	223	50.4	4.1
2	5460.00	43.1 AV	54.0	-10.9	1.38 H	223	39.0	4.1
3	#5470.00	57.2 PK	68.2	-11.0	1.32 H	211	53.1	4.1
4	*5710.00	97.6 PK			1.16 H	197	57.7	39.9
5	*5710.00	87.8 AV			1.16 H	197	47.9	39.9
6	#5825.00	58.3 PK	68.2	-9.9	1.38 H	214	53.6	4.7
7	11420.00	59.0 PK	74.0	-15.0	2.32 H	184	41.7	17.3
8	11420.00	45.2 AV	54.0	-8.8	2.32 H	184	27.9	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	5460.00	55.8 PK	74.0	-18.2	3.12 V	86	51.7	4.1
2	5460.00	43.3 AV	54.0	-10.7	3.12 V	86	39.2	4.1
3	#5470.00	57.9 PK	68.2	-10.3	3.25 V	83	53.8	4.1
4	*5710.00	95.5 PK			3.36 V	73	55.6	39.9
5	*5710.00	85.5 AV			3.36 V	73	45.6	39.9
6	#5825.00	58.8 PK	68.2	-9.4	3.08 V	113	54.1	4.7
7	11420.00	58.5 PK	74.0	-15.5	1.99 V	267	41.2	17.3
8	11420.00	45.3 AV	54.0	-8.7	1.99 V	267	28.0	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 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	#5606.41	54.0 PK	68.2	-14.2	1.51 H	200	49.7	4.3
2	*5755.00	96.0 PK			1.51 H	200	55.9	40.1
3	*5755.00	85.8 AV			1.51 H	200	45.7	40.1
4	#5978.21	57.4 PK	68.2	-10.8	1.51 H	200	52.3	5.1
5	11510.00	59.2 PK	74.0	-14.8	1.64 H	231	41.5	17.7
6	11510.00	46.0 AV	54.0	-8.0	1.64 H	231	28.3	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	#5641.03	53.7 PK	68.2	-14.5	3.54 V	95	49.5	4.2
2	*5755.00	95.8 PK			3.54 V	95	55.7	40.1
3	*5755.00	85.6 AV			3.54 V	95	45.5	40.1
4	#5978.21	56.9 PK	68.2	-11.3	3.54 V	95	51.8	5.1
5	11510.00	59.3 PK	74.0	-14.7	2.38 V	196	41.6	17.7
6	11510.00	45.9 AV	54.0	-8.1	2.38 V	196	28.2	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 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	#5624.36	54.0 PK	68.2	-14.2	1.50 H	201	49.8	4.2
2	*5795.00	96.7 PK			1.50 H	201	56.3	40.4
3	*5795.00	86.6 AV			1.50 H	201	46.2	40.4
4	#5956.41	56.7 PK	68.2	-11.5	1.50 H	201	51.8	4.9
5	11590.00	59.6 PK	74.0	-14.4	2.18 H	306	42.1	17.5
6	11590.00	46.2 AV	54.0	-7.8	2.18 H	306	28.7	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	#5614.10	54.5 PK	68.2	-13.7	3.89 V	161	50.2	4.3
2	*5795.00	94.4 PK			3.89 V	161	54.0	40.4
3	*5795.00	84.3 AV			3.89 V	161	43.9	40.4
4	#5971.15	56.8 PK	68.2	-11.4	3.89 V	161	51.8	5.0
5	11590.00	59.2 PK	74.0	-14.8	2.33 V	189	41.7	17.5
6	11590.00	46.4 AV	54.0	-7.6	2.33 V	189	28.9	17.5

Remarks:

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

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.2 PK	74.0	-17.8	1.34 H	199	52.3	3.9
2	5150.00	42.8 AV	54.0	-11.2	1.34 H	199	38.9	3.9
3	*5210.00	95.5 PK			1.22 H	192	56.1	39.4
4	*5210.00	86.4 AV			1.22 H	192	47.0	39.4
5	5350.00	57.0 PK	74.0	-17.0	1.31 H	201	53.1	3.9
6	5350.00	44.3 AV	54.0	-9.7	1.31 H	201	40.4	3.9
7	#10420.00	58.1 PK	68.2	-10.1	1.79 H	153	41.9	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	54.6 PK	74.0	-19.4	3.21 V	163	50.7	3.9
2	5150.00	42.4 AV	54.0	-11.6	3.21 V	163	38.5	3.9
3	*5210.00	92.7 PK			3.53 V	151	53.3	39.4
4	*5210.00	83.1 AV			3.53 V	151	43.7	39.4
5	5350.00	56.6 PK	74.0	-17.4	3.39 V	159	52.7	3.9
6	5350.00	43.9 AV	54.0	-10.1	3.39 V	159	40.0	3.9
7	#10420.00	58.0 PK	68.2	-10.2	1.51 V	244	41.8	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 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	54.8 PK	74.0	-19.2	1.44 H	203	50.9	3.9
2	5150.00	42.8 AV	54.0	-11.2	1.44 H	203	38.9	3.9
3	*5290.00	95.9 PK			1.58 H	198	56.6	39.3
4	*5290.00	86.3 AV			1.58 H	198	47.0	39.3
5	5350.00	62.0 PK	74.0	-12.0	1.35 H	198	58.1	3.9
6	5350.00	50.2 AV	54.0	-3.8	1.35 H	198	46.3	3.9
7	#10580.00	59.5 PK	68.2	-8.7	1.75 H	135	42.4	17.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.9 PK	74.0	-19.1	3.69 V	261	51.0	3.9
2	5150.00	42.6 AV	54.0	-11.4	3.69 V	261	38.7	3.9
3	*5290.00	92.8 PK			3.99 V	268	53.5	39.3
4	*5290.00	83.4 AV			3.99 V	268	44.1	39.3
5	5350.00	56.6 PK	74.0	-17.4	3.76 V	273	52.7	3.9
6	5350.00	44.4 AV	54.0	-9.6	3.76 V	273	40.5	3.9
7	#10580.00	59.3 PK	68.2	-8.9	1.93 V	269	42.2	17.1

Remarks:

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

CHANNEL	TX Channel 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	58.9 PK	74.0	-15.1	1.38 H	269	54.8	4.1
2	5460.00	46.3 AV	54.0	-7.7	1.38 H	269	42.2	4.1
3	#5470.00	59.1 PK	68.2	-9.1	1.38 H	296	55.0	4.1
4	*5530.00	95.1 PK			1.16 H	254	55.2	39.9
5	*5530.00	85.8 AV			1.16 H	254	45.9	39.9
6	#5725.00	55.9 PK	68.2	-12.3	1.36 H	243	51.5	4.4
7	11060.00	60.3 PK	74.0	-13.7	2.03 H	197	42.5	17.8
8	11060.00	47.5 AV	54.0	-6.5	2.03 H	197	29.7	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	5460.00	56.8 PK	74.0	-17.2	3.02 V	131	52.7	4.1
2	5460.00	43.6 AV	54.0	-10.4	3.02 V	131	39.5	4.1
3	#5470.00	57.6 PK	68.2	-10.6	3.51 V	56	53.5	4.1
4	*5530.00	94.2 PK			3.46 V	90	54.3	39.9
5	*5530.00	84.4 AV			3.46 V	90	44.5	39.9
6	#5725.00	55.1 PK	68.2	-13.1	3.12 V	93	50.7	4.4
7	11060.00	59.8 PK	74.0	-14.2	1.93 V	166	42.0	17.8
8	11060.00	47.4 AV	54.0	-6.6	1.93 V	166	29.6	17.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.7 PK	74.0	-18.3	1.48 H	235	51.6	4.1
2	5460.00	44.5 AV	54.0	-9.5	1.48 H	235	40.4	4.1
3	#5470.00	57.0 PK	68.2	-11.2	1.39 H	281	52.9	4.1
4	*5610.00	94.2 PK			1.33 H	257	54.3	39.9
5	*5610.00	84.8 AV			1.33 H	257	44.9	39.9
6	#5725.00	55.6 PK	68.2	-12.6	1.09 H	256	51.2	4.4
7	11220.00	59.9 PK	74.0	-14.1	1.96 H	231	42.3	17.6
8	11220.00	48.2 AV	54.0	-5.8	1.96 H	231	30.6	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	5460.00	55.7 PK	74.0	-18.3	3.22 V	56	51.6	4.1
2	5460.00	43.9 AV	54.0	-10.1	3.22 V	56	39.8	4.1
3	#5470.00	56.9 PK	68.2	-11.3	3.32 V	57	52.8	4.1
4	*5610.00	93.5 PK			3.56 V	88	53.6	39.9
5	*5610.00	84.2 AV			3.56 V	88	44.3	39.9
6	#5725.00	55.7 PK	68.2	-12.5	3.05 V	111	51.3	4.4
7	11220.00	60.7 PK	74.0	-13.3	2.93 V	184	43.1	17.6
8	11220.00	47.5 AV	54.0	-6.5	2.93 V	184	29.9	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 138	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.1 PK	74.0	-19.9	1.32 H	215	50.0	4.1
2	5460.00	44.3 AV	54.0	-9.7	1.32 H	215	40.2	4.1
3	#5470.00	57.2 PK	68.2	-11.0	1.43 H	182	53.1	4.1
4	*5690.00	93.2 PK			1.52 H	194	53.3	39.9
5	*5690.00	83.5 AV			1.52 H	194	43.6	39.9
6	#5825.00	57.2 PK	68.2	-11.0	1.64 H	233	52.5	4.7
7	11380.00	59.5 PK	74.0	-14.5	2.56 H	143	42.2	17.3
8	11380.00	46.2 AV	54.0	-7.8	2.56 H	143	28.9	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	5460.00	55.2 PK	74.0	-18.8	2.84 V	151	51.1	4.1
2	5460.00	43.5 AV	54.0	-10.5	2.84 V	151	39.4	4.1
3	#5470.00	57.7 PK	68.2	-10.5	3.16 V	199	53.6	4.1
4	*5690.00	91.3 PK			3.28 V	182	51.4	39.9
5	*5690.00	81.6 AV			3.28 V	182	41.7	39.9
6	#5825.00	57.5 PK	68.2	-10.7	3.42 V	173	52.8	4.7
7	11380.00	58.8 PK	74.0	-15.2	2.09 V	188	41.5	17.3
8	11380.00	46.2 AV	54.0	-7.8	2.09 V	188	28.9	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 155	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5618.59	53.7 PK	68.2	-14.5	1.46 H	195	49.4	4.3
2	#5650.00	56.0 PK	68.2	-12.2	1.52 H	214	51.8	4.2
3	*5775.00	92.6 PK			1.46 H	195	52.3	40.3
4	*5775.00	83.3 AV			1.46 H	195	43.0	40.3
5	#5925.00	58.6 PK	68.2	-9.6	1.32 H	188	53.7	4.9
6	#5941.03	56.9 PK	68.2	-11.3	1.46 H	195	52.0	4.9
7	11550.00	59.3 PK	74.0	-14.7	2.89 H	314	41.7	17.6
8	11550.00	47.2 AV	54.0	-6.8	2.89 H	314	29.6	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	#5603.85	54.1 PK	68.2	-14.1	3.22 V	162	49.8	4.3
2	#5650.00	55.9 PK	68.2	-12.3	2.99 V	153	51.7	4.2
3	*5775.00	91.1 PK			3.22 V	162	50.8	40.3
4	*5775.00	81.7 AV			3.22 V	162	41.4	40.3
5	#5925.00	58.6 PK	68.2	-9.6	3.13 V	182	53.7	4.9
6	#5972.44	57.2 PK	68.2	-11.0	3.22 V	162	52.1	5.1
7	11550.00	60.3 PK	74.0	-13.7	2.69 V	236	42.7	17.6
8	11550.00	47.1 AV	54.0	-6.9	2.69 V	236	29.5	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

Below 1GHz Worst-Case Data:

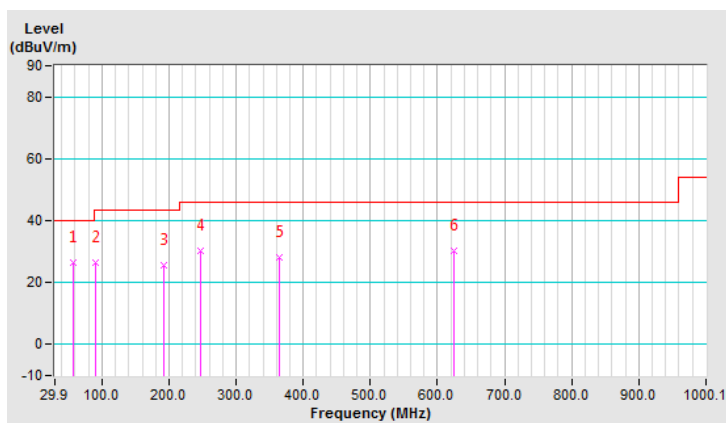
802.11n (HT40)

CHANNEL	TX Channel 134	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	57.12	26.5 QP	40.0	-13.5	2.00 H	295	36.6	-10.1
2	90.17	26.3 QP	43.5	-17.2	2.00 H	209	40.9	-14.6
3	193.22	25.7 QP	43.5	-17.8	2.00 H	267	36.9	-11.2
4	247.66	30.3 QP	46.0	-15.7	1.00 H	96	39.5	-9.2
5	364.32	28.3 QP	46.0	-17.7	1.49 H	91	34.6	-6.3
6	624.85	30.3 QP	46.0	-15.7	1.00 H	175	31.0	-0.7

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 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 20 dB below the permissible value to be report

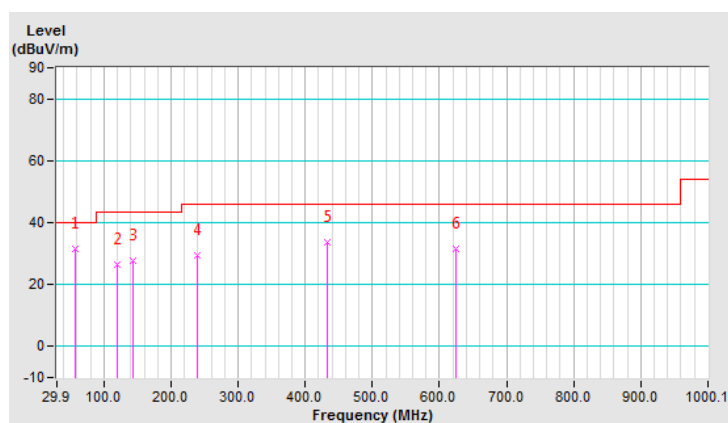


CHANNEL	TX Channel 134	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	57.12	31.6 QP	40.0	-8.4	1.01 V	345	41.7	-10.1
2	119.34	26.3 QP	43.5	-17.2	1.01 V	100	37.9	-11.6
3	142.67	27.9 QP	43.5	-15.6	1.01 V	357	37.3	-9.4
4	239.88	29.4 QP	46.0	-16.6	1.01 V	306	39.0	-9.6
5	432.37	33.6 QP	46.0	-12.4	1.01 V	211	38.1	-4.5
6	624.85	31.5 QP	46.0	-14.5	1.51 V	189	32.2	-0.7

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 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 20 dB 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. 26, 2018	Feb. 25, 2019
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Conc_ 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-2040.

4.2.3 Test Procedures

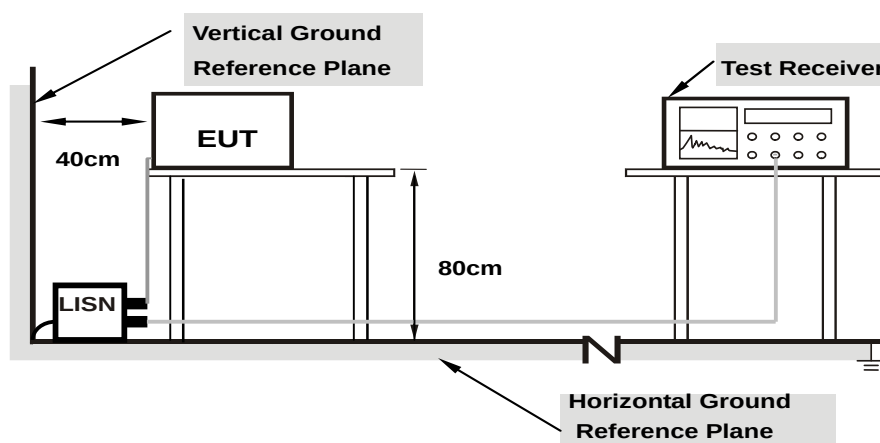
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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 4.1.6.

4.2.7 Test Results

Worst-case data:

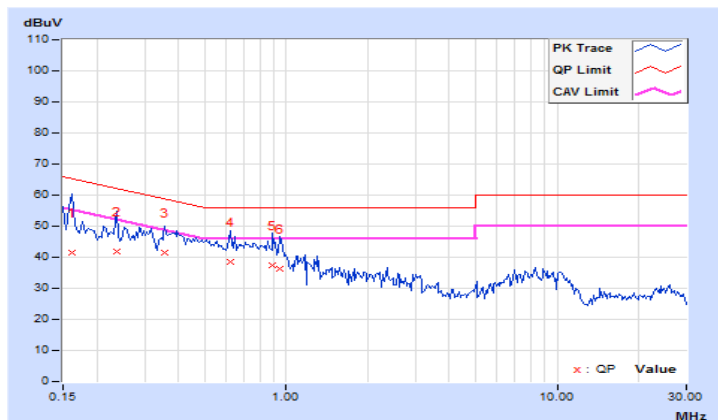
802.11n (HT40)

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

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	0.16172	9.73	31.92	20.27	41.65	30.00	65.38	55.38	-23.73	-25.38
2	0.23594	9.73	32.21	18.94	41.94	28.67	62.24	52.24	-20.30	-23.57
3	0.35703	9.74	31.71	18.23	41.45	27.97	58.80	48.80	-17.35	-20.83
4	0.61875	9.72	28.78	17.40	38.50	27.12	56.00	46.00	-17.50	-18.88
5	0.88828	9.69	27.57	16.17	37.26	25.86	56.00	46.00	-18.74	-20.14
6	0.94688	9.69	26.49	15.81	36.18	25.50	56.00	46.00	-19.82	-20.50

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.

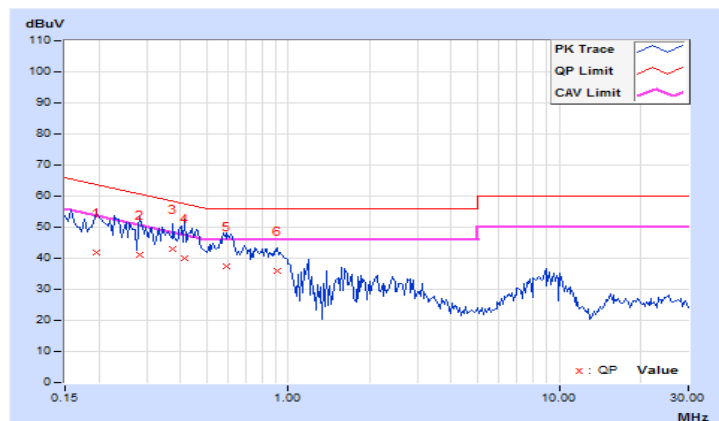


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

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	0.19687	9.73	31.96	20.16	41.69	29.89	63.74	53.74	-22.05	-23.85
2	0.28281	9.74	31.20	15.21	40.94	24.95	60.73	50.73	-19.79	-25.78
3	0.37656	9.75	33.38	21.40	43.13	31.15	58.35	48.35	-15.22	-17.20
4	0.41563	9.75	30.39	12.87	40.14	22.62	57.54	47.54	-17.40	-24.92
5	0.59531	9.74	27.57	16.80	37.31	26.54	56.00	46.00	-18.69	-19.46
6	0.91172	9.72	26.23	15.50	35.95	25.22	56.00	46.00	-20.05	-20.78

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 $N_{ANT} \leq 4$;

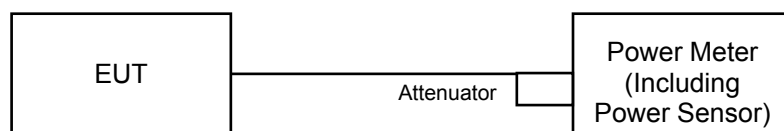
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

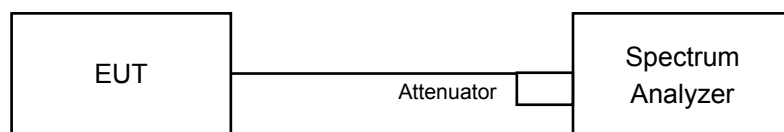
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

For Power Output



For 26dB 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

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

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				
36	5180	14.24	15.91	65.540	18.17	24.00	Pass
40	5200	14.23	15.81	64.592	18.10	24.00	Pass
48	5240	14.32	15.79	64.971	18.13	24.00	Pass
52	5260	14.39	15.82	65.673	18.17	24.00	Pass
60	5300	14.89	15.78	68.676	18.37	24.00	Pass
64	5320	14.78	15.72	67.386	18.29	24.00	Pass
100	5500	14.50	14.22	54.608	17.37	24.00	Pass
116	5580	14.38	14.25	54.023	17.33	24.00	Pass
140	5700	14.68	14.27	56.106	17.49	24.00	Pass
144	5720 (For U-NII-2C)	12.76	10.06	29.019	14.63	23.06	Pass
144	5720 (For U-NII-3)	6.01	3.75	6.361	8.04	30.00	Pass
149	5745	15.33	15.02	65.888	18.19	30.00	Pass
157	5785	15.42	15.24	68.254	18.34	30.00	Pass
165	5825	15.26	15.21	66.763	18.25	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(23.17) = 24.64 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(23.03) = 24.62 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.20) = 24.46 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(22.51) = 24.52 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(23.56) = 24.72 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(23.17) = 24.64 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5708.74) = 23.11 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(22.82) = 24.58 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.85) = 24.58 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.65) = 24.55 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(22.44) = 24.51 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(22.00) = 24.42 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(22.39) = 24.50 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5708.93) = 23.06 < 24\text{dBm}$

For Reference only-Power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5720	35.38	15.49

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				
36	5180	13.17	14.86	51.369	17.11	24.00	Pass
40	5200	13.29	14.73	51.047	17.08	24.00	Pass
48	5240	13.38	14.84	52.256	17.18	24.00	Pass
52	5260	13.29	14.97	52.735	17.22	24.00	Pass
60	5300	13.79	14.77	53.925	17.32	24.00	Pass
64	5320	13.69	14.72	53.036	17.25	24.00	Pass
100	5500	13.58	13.34	44.380	16.47	24.00	Pass
116	5580	13.49	13.42	44.315	16.47	24.00	Pass
140	5700	13.48	13.35	43.911	16.43	24.00	Pass
144	5720 (For U-NII-2C)	11.13	9.60	22.600	13.54	23.20	Pass
144	5720 (For U-NII-3)	5.43	2.81	5.525	7.42	30.00	Pass
149	5745	14.39	14.21	53.842	17.31	30.00	Pass
157	5785	14.47	14.12	53.813	17.31	30.00	Pass
165	5825	14.29	14.14	52.795	17.23	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(25.26) = 25.02 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(23.18) = 24.65 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(24.90) = 24.96 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(24.00) = 24.80 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(23.93) = 24.78 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(23.69) = 24.74 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5708.37) = 23.20 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(23.42) = 24.69 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(23.66) = 24.74 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(23.79) = 24.76 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(23.35) = 24.68 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(24.78) = 24.94 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(23.31) = 24.67 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5708.33) = 23.21 < 24\text{dBm}$

For Reference only-Power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5720	28.125	14.49

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				
38	5190	13.27	14.96	52.565	17.21	24.00	Pass
46	5230	13.47	14.94	53.422	17.28	24.00	Pass
54	5270	13.46	14.81	52.451	17.20	24.00	Pass
62	5310	14.14	14.57	54.584	17.37	24.00	Pass
102	5510	13.24	13.16	41.787	16.21	24.00	Pass
110	5550	13.26	13.24	42.27	16.26	24.00	Pass
134	5670	13.43	13.23	43.067	16.34	24.00	Pass
142	5710 (For U-NII-2C)	10.65	8.63	19.772	12.96	24.00	Pass
142	5710 (For U-NII-3)	-1.07	-1.47	1.563	1.94	30.00	Pass
151	5755	14.29	14.11	52.616	17.21	30.00	Pass
159	5795	14.15	14.12	51.825	17.15	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(41.96) = 27.22 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(42.14) = 27.24 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(42.14) = 27.24 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(42.04) = 27.23 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(42.22) = 27.25 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(5725.00 - 5689.11) = 26.54 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(42.02) = 27.23 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(41.97) = 27.22 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(42.49) = 27.28 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(42.67) = 27.30 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(42.24) = 27.25 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(5725.00 - 5688.89) = 26.57 > 24\text{dBm}$

For Reference only-Power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
142	5710	21.3347	13.29

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				
42	5210	12.26	13.94	41.601	16.19	24.00	Pass
58	5290	12.49	13.64	40.863	16.11	24.00	Pass
106	5530	12.43	12.23	34.209	15.34	24.00	Pass
122	5610	12.38	12.47	34.958	15.44	24.00	Pass
138	5690 (For U-NII-2C)	8.73	6.98	13.565	11.32	24.00	Pass
138	5690 (For U-NII-3)	-4.25	-7.72	0.594	-2.27	30.00	Pass
155	5775	13.39	13.09	42.197	16.25	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(83.39) = 30.21 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(84.41) = 30.26 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(84.64) = 30.27 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5647.94) = 29.87 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(83.82) = 30.23 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(83.57) = 30.22 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(84.14) = 30.25 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5648.75) = 29.82 > 24\text{dBm}$

For Reference only-Power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
138	5690	14.1585	11.51

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	23.17	22.82
60	5300	23.03	22.85
64	5320	22.20	22.65
100	5500	22.51	22.44
116	5580	23.56	22.00
140	5700	23.17	22.39
144	5720 (For U-NII-2C)	16.26	16.07
144	5720 (For U-NII-3)	6.92	6.01

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	25.26	23.42
60	5300	23.18	23.66
64	5320	24.90	23.79
100	5500	24.00	23.35
116	5580	23.93	24.78
140	5700	23.69	23.31
144	5720 (For U-NII-2C)	16.63	16.67
144	5720 (For U-NII-3)	7.38	6.99

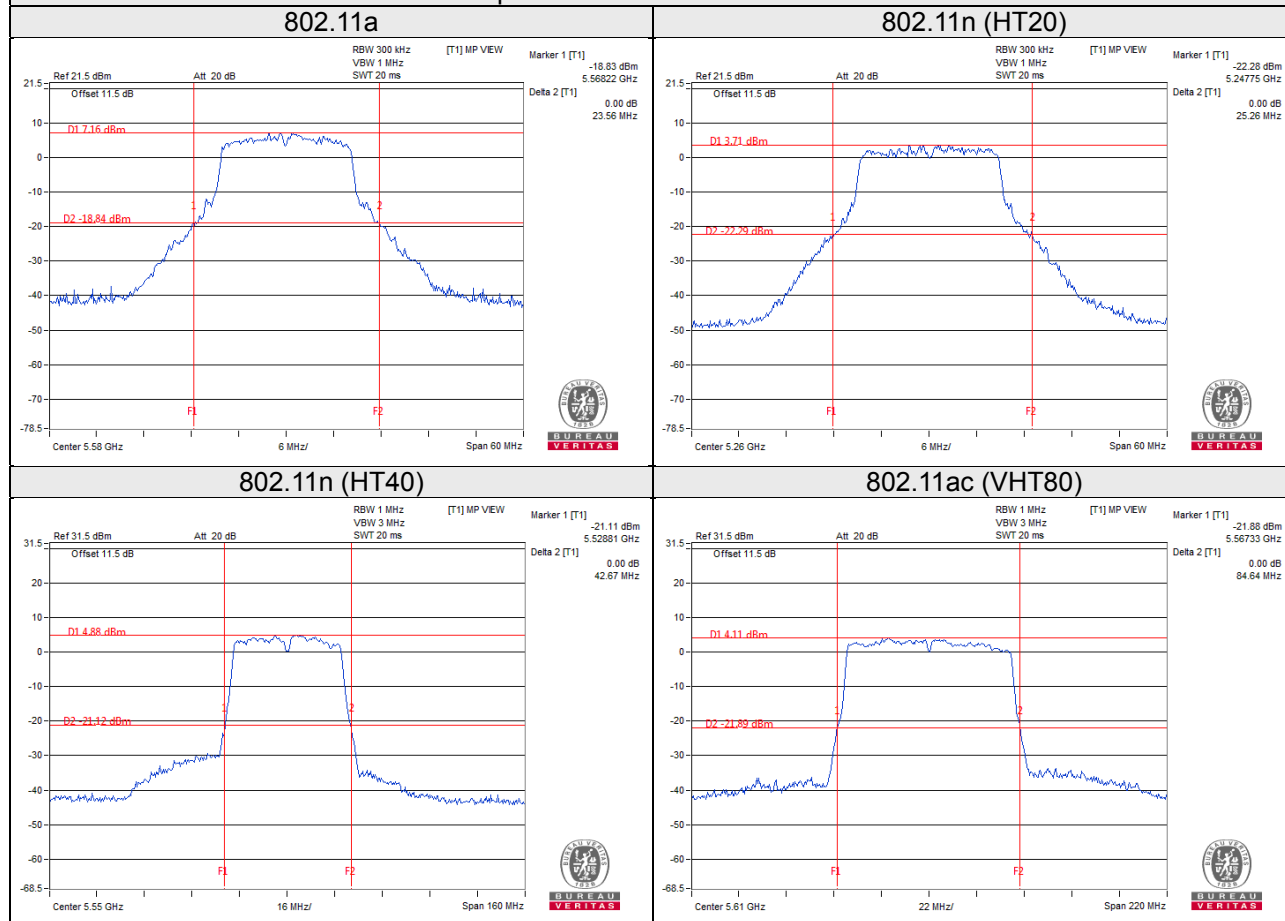
802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	41.96	42.02
62	5310	42.14	41.97
102	5510	42.14	42.49
110	5550	42.04	42.67
134	5670	42.22	42.24
142	5710 (For U-NII-2C)	35.89	36.11
142	5710 (For U-NII-3)	5.90	6.12

802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	83.39	83.82
106	5530	84.41	83.57
122	5610	84.64	84.14
138	5690 (For U-NII-2C)	77.06	76.25
138	5690 (For U-NII-3)	7.22	7.16

Spectrum Plot of Worst Value



EUT Maximum Conducted Power

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	68.676	18.37
5470~5725	56.106	17.49

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	53.925	17.32
5470~5725	44.380	16.47

802.11n (HT40)

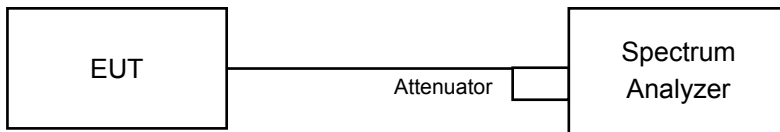
Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	54.584	17.37
5470~5725	43.067	16.34

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	40.863	16.11
5470~5725	34.958	15.44

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

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.80	16.56
40	5200	16.80	16.56
48	5240	16.80	16.80
52	5260	16.80	16.56
60	5300	16.80	16.56
64	5320	16.80	16.68
100	5500	16.68	16.68
116	5580	16.68	16.68
140	5700	16.68	16.56
144	5720 (For U-NII-2C)	13.28	13.28
144	5720 (For U-NII-3)	3.16	3.16
149	5745	16.68	16.56
157	5785	16.80	16.68
165	5825	16.56	16.56

802.11n (HT20)

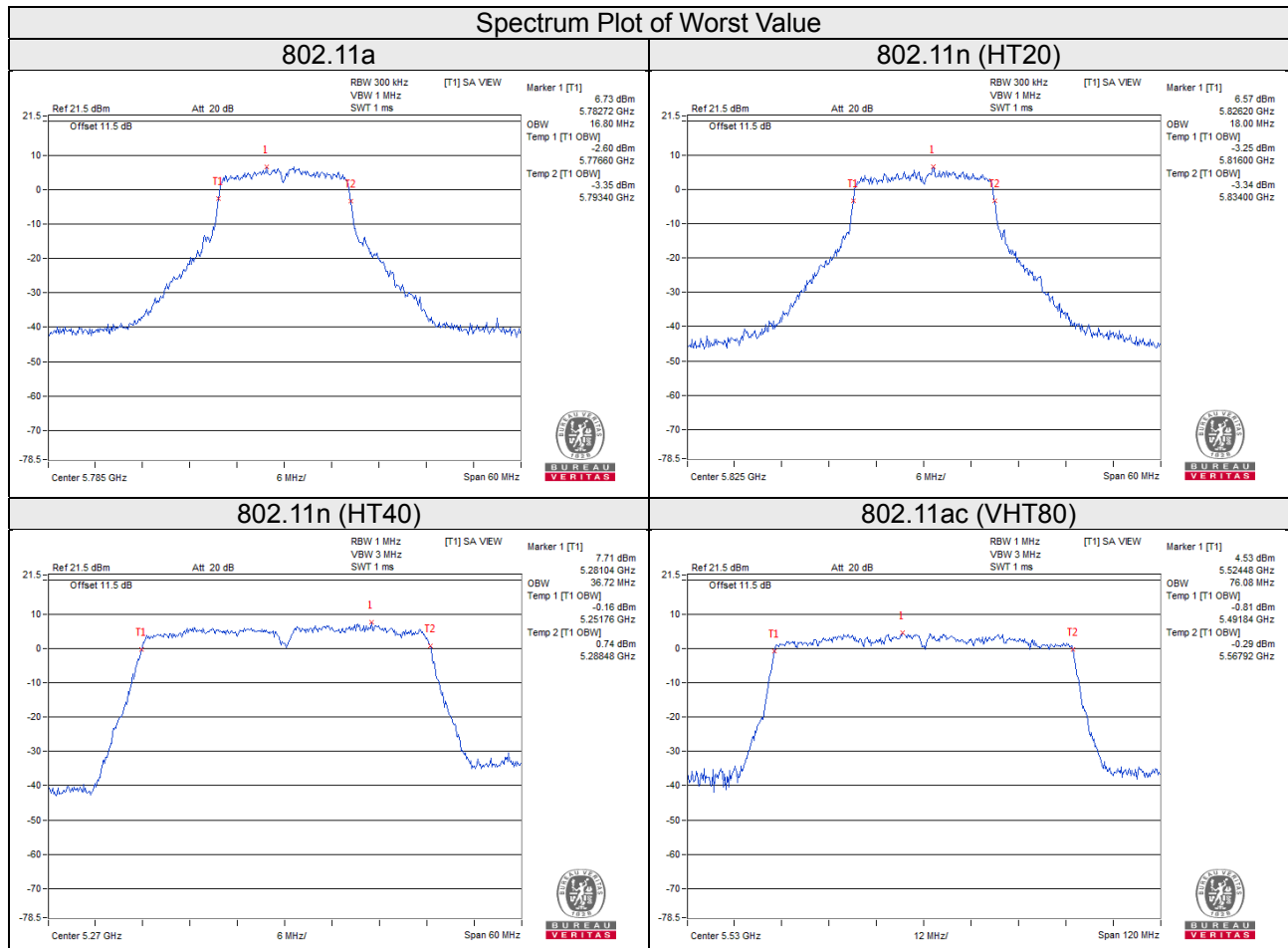
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	18.00
40	5200	17.88	17.76
48	5240	18.00	18.00
52	5260	18.00	17.76
60	5300	17.76	17.76
64	5320	18.00	17.76
100	5500	18.00	18.00
116	5580	18.00	17.88
140	5700	17.88	17.76
144	5720 (For U-NII-2C)	13.88	13.88
144	5720 (For U-NII-3)	3.76	3.76
149	5745	17.76	17.76
157	5785	18.00	17.76
165	5825	18.00	17.88

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.48	36.48
46	5230	36.48	36.60
54	5270	36.72	36.48
62	5310	36.48	36.60
102	5510	36.60	36.72
110	5550	36.72	36.48
134	5670	36.60	36.60
142	5710 (For U-NII-2C)	33.36	33.24
142	5710 (For U-NII-3)	3.36	3.36
151	5755	36.48	36.48
159	5795	36.48	36.48

802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.84	75.84
58	5290	75.60	75.84
106	5530	76.08	76.08
122	5610	75.84	75.84
138	5690 (For U-NII-2C)	72.92	72.92
138	5690 (For U-NII-3)	2.92	2.92
155	5775	75.84	75.84

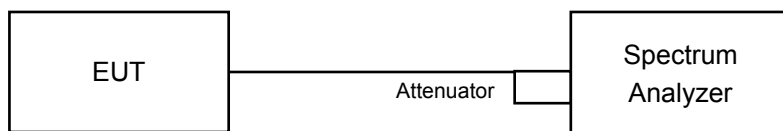


4.5 Peak Power Spectral Density Measurement

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 device	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 and U-NII-2C band:

Duty cycle of test signal is > 98%

Using method SA-1

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

Duty cycle of test signal is < 98%

Using method SA-2

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

For U-NII-3 band:

Duty cycle of test signal is > 98%

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
- c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- d. 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 $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$
- e. Sweep time = auto, trigger set to "free run".
- f. Trace average at least 100 traces in power averaging mode.
- g. Record the max value

Duty cycle of test signal is < 98%

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
- c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- d. 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 $BWCF = 10\log(500 \text{ kHz} / 300 \text{ kHz})$
- e. Sweep time = auto, trigger set to "free run".
- f. Trace average at least 100 traces in power averaging mode.
- g. 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 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 (dBm/MHz)		Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	2.10	0.36	4.33	11.00	Pass
40	5200	1.47	-0.39	3.65	11.00	Pass
48	5240	1.64	-1.16	3.47	11.00	Pass
52	5260	2.08	-1.18	3.76	11.00	Pass
60	5300	2.13	-1.49	3.70	11.00	Pass
64	5320	2.38	-1.21	3.96	11.00	Pass
100	5500	3.36	-0.85	4.76	11.00	Pass
116	5580	3.11	-1.55	4.39	11.00	Pass
140	5700	2.43	-0.38	4.26	11.00	Pass
144	5720	2.60	0.18	4.57	11.00	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = $-2.2\text{dBi} + 10\log(2) = 0.81\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
 U-NII-2A Band: Directional gain = $-1.1\text{dBi} + 10\log(2) = 1.91\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
 U-NII-2C Band: Directional gain = $-0.7\text{dBi} + 10\log(2) = 2.31\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.

802.11n (HT20)

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				
36	5180	-0.26	-0.87	0.10	2.56	11.00	Pass
40	5200	0.16	-1.37	0.10	2.57	11.00	Pass
48	5240	-0.84	-3.14	0.10	1.27	11.00	Pass
52	5260	-1.20	-2.85	0.10	1.16	11.00	Pass
60	5300	1.24	-2.99	0.10	2.73	11.00	Pass
64	5320	-0.14	-3.04	0.10	1.76	11.00	Pass
100	5500	1.25	-2.51	0.10	2.87	11.00	Pass
116	5580	0.65	-3.11	0.10	2.28	11.00	Pass
140	5700	0.69	-1.23	0.10	2.95	11.00	Pass
144	5720	0.87	-0.81	0.10	3.22	11.00	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = $-2.2\text{dBi} + 10\log(2) = 0.81\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
 U-NII-2A Band: Directional gain = $-1.1\text{dBi} + 10\log(2) = 1.91\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
 U-NII-2C Band: Directional gain = $-0.7\text{dBi} + 10\log(2) = 2.31\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
- Refer to section 3.3 for duty cycle spectrum plot.

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				
38	5190	-2.97	-4.52	0.20	-0.47	11.00	Pass
46	5230	-3.35	-5.14	0.20	-0.94	11.00	Pass
54	5270	-3.47	-6.13	0.20	-1.39	11.00	Pass
62	5310	-2.86	-5.43	0.20	-0.75	11.00	Pass
102	5510	-2.04	-5.29	0.20	-0.16	11.00	Pass
110	5550	-1.07	-6.14	0.20	0.31	11.00	Pass
134	5670	-2.70	-5.12	0.20	-0.53	11.00	Pass
142	5710	-2.11	-4.27	0.20	0.15	11.00	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = $-2.2\text{dBi} + 10\log(2) = 0.81\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
U-NII-2A Band: Directional gain = $-1.1\text{dBi} + 10\log(2) = 1.91\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
U-NII-2C Band: Directional gain = $-0.7\text{dBi} + 10\log(2) = 2.31\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

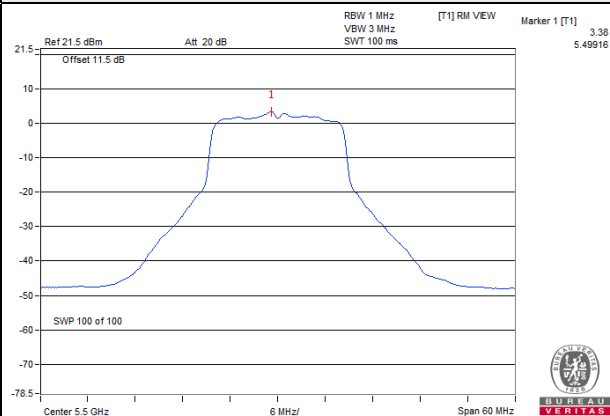
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-7.04	-9.35	0.37	-4.66	11.00	Pass
58	5290	-7.54	-10.41	0.37	-5.36	11.00	Pass
106	5530	-5.85	-9.36	0.37	-3.88	11.00	Pass
122	5610	-6.52	-10.13	0.37	-4.58	11.00	Pass
138	5690	-6.46	-9.21	0.37	-4.24	11.00	Pass

Note:

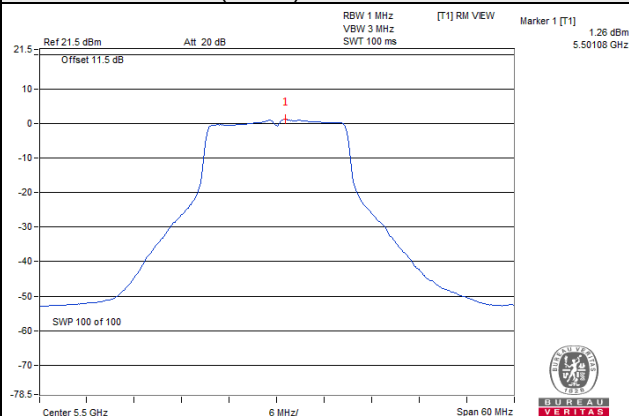
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = $-2.2\text{dBi} + 10\log(2) = 0.81\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
U-NII-2A Band: Directional gain = $-1.1\text{dBi} + 10\log(2) = 1.91\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
U-NII-2C Band: Directional gain = $-0.7\text{dBi} + 10\log(2) = 2.31\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

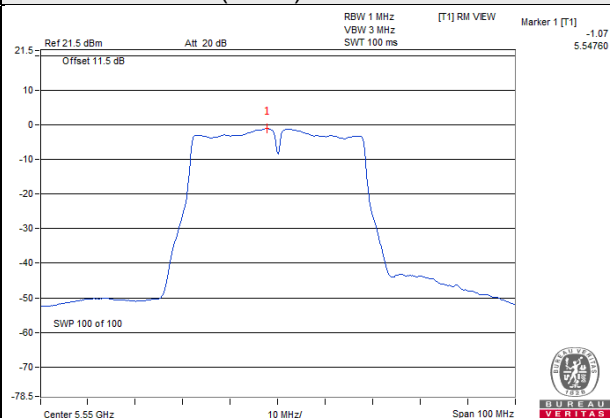
802.11a / Chain 0 / CH 100



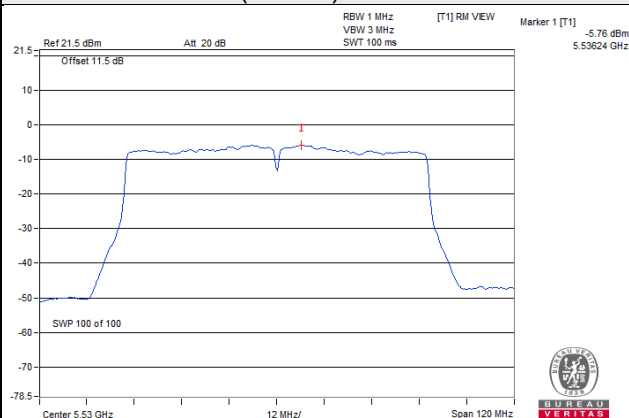
802.11n (HT20) / Chain 0 / CH 100



802.11n (HT40) / Chain 0 / CH 110



802.11ac (VHT80) / Chain 0 / 106



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	144	5720	-7.51	-5.29	3.01	-2.28	30.00	Pass
	149	5745	-5.88	-3.66	3.01	-0.65	30.00	Pass
	157	5785	-5.62	-3.40	3.01	-0.39	30.00	Pass
	165	5825	-5.60	-3.38	3.01	-0.37	30.00	Pass
1	144	5720	-9.74	-7.52	3.01	-4.51	30.00	Pass
	149	5745	-7.77	-5.55	3.01	-2.54	30.00	Pass
	157	5785	-6.72	-4.50	3.01	-1.49	30.00	Pass
	165	5825	-7.27	-5.05	3.01	-2.04	30.00	Pass

Note:

1. Directional gain = $-0.4\text{dBi} + 10\log(2) = 2.61\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
2. Method 3 of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{\text{ANT}})$ dB.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720	-8.73	-6.51	3.01	0.10	-3.40	30.00	Pass
	149	5745	-6.74	-4.52	3.01	0.10	-1.41	30.00	Pass
	157	5785	-6.33	-4.11	3.01	0.10	-1.00	30.00	Pass
	165	5825	-6.56	-4.34	3.01	0.10	-1.23	30.00	Pass
1	144	5720	-10.87	-8.65	3.01	0.10	-5.54	30.00	Pass
	149	5745	-8.23	-6.01	3.01	0.10	-2.90	30.00	Pass
	157	5785	-7.83	-5.61	3.01	0.10	-2.50	30.00	Pass
	165	5825	-8.26	-6.04	3.01	0.10	-2.93	30.00	Pass

Note:

1. Directional gain = $-0.4\text{dBi} + 10\log(2) = 2.61\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
2. Method 3 of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{\text{ANT}})$ dB.
3. 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=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142	5710	-12.78	-10.56	3.01	0.20	-7.35	30.00	Pass
	151	5755	-10.56	-8.34	3.01	0.20	-5.13	30.00	Pass
	159	5795	-10.33	-8.11	3.01	0.20	-4.90	30.00	Pass
1	142	5710	-14.17	-11.95	3.01	0.20	-8.74	30.00	Pass
	151	5755	-12.04	-9.82	3.01	0.20	-6.61	30.00	Pass
	159	5795	-12.13	-9.91	3.01	0.20	-6.70	30.00	Pass

Note:

1. Directional gain = $-0.4\text{dBi} + 10\log(2) = 2.61\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
2. Method 3 of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{\text{ANT}})$ dB.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

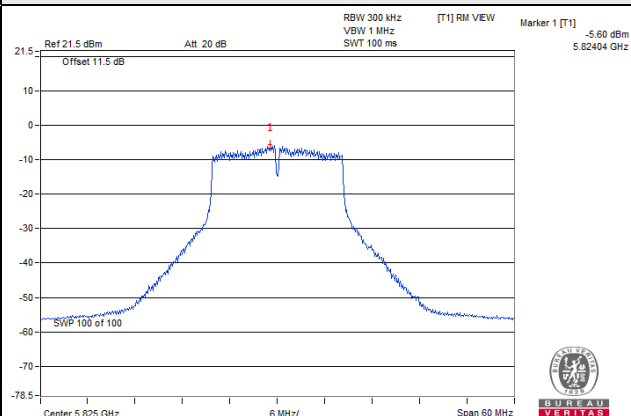
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138	5690	-16.88	-14.66	3.01	0.37	-11.28	30.00	Pass
	155	5775	-14.04	-11.82	3.01	0.37	-8.44	30.00	Pass
1	138	5690	-18.40	-16.18	3.01	0.37	-12.80	30.00	Pass
	155	5775	-15.71	-13.49	3.01	0.37	-10.11	30.00	Pass

Note:

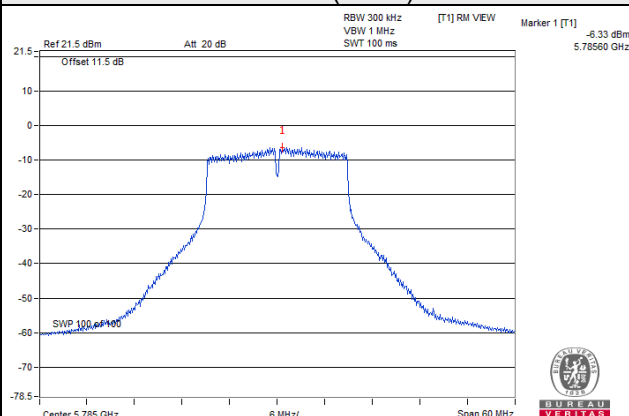
1. Directional gain = $-0.4\text{dBi} + 10\log(2) = 2.61\text{dBi} < 6\text{dBi}$, so the power density limit no need to reduce.
2. Method 3 of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{\text{ANT}})$ dB.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

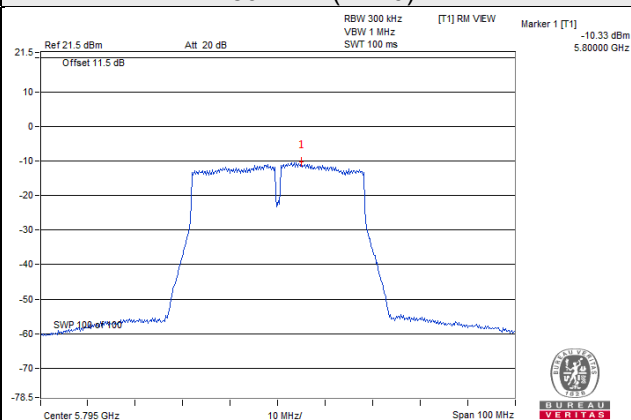
802.11a



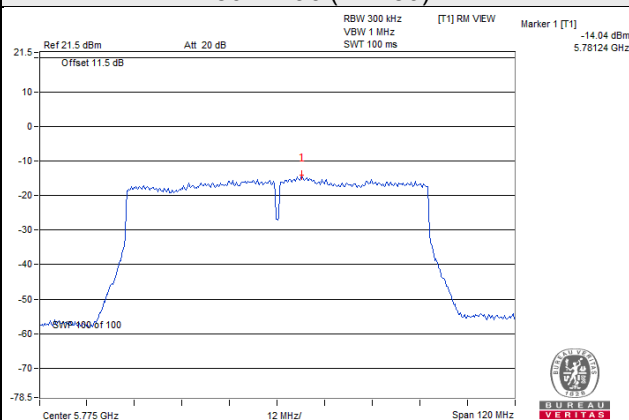
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

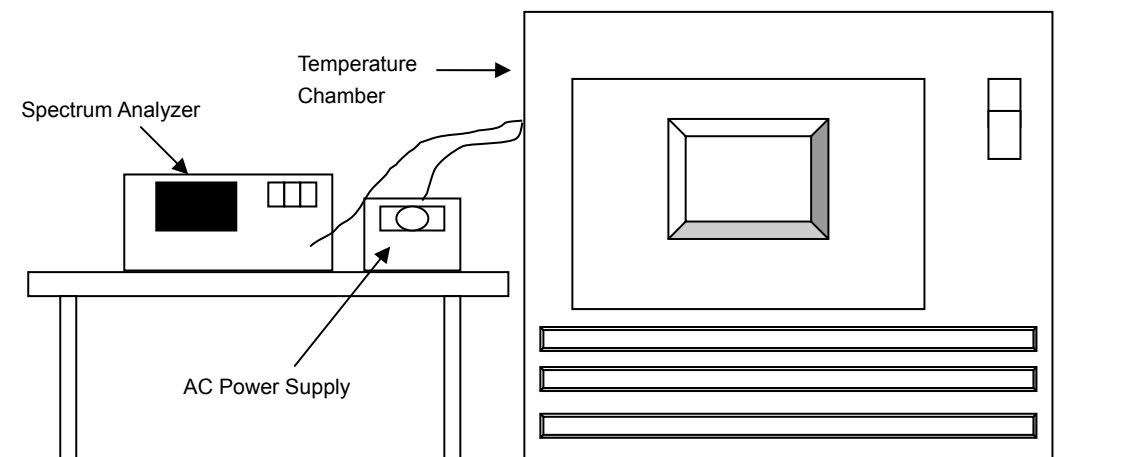


4.6 Frequency Stability

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. 11, 2018	Jun. 10, 2019
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 04, 2018	Jun. 03, 2019
Digital Multimeter Fluke	87-III	70360742	Jun. 29, 2018	Jun. 28, 2019
DC Power Supply Topward	6603D	700637	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.

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC 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 2 and 3 with the temperature chamber set to the lowest temperature.
- 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
55	3.85	5179.9898	Pass	5179.9941	Pass	5179.9911	Pass	5179.9949	Pass
50	3.85	5180.0171	Pass	5180.0186	Pass	5180.0197	Pass	5180.0198	Pass
40	3.85	5179.978	Pass	5179.9755	Pass	5179.9768	Pass	5179.9765	Pass
30	3.85	5180.0258	Pass	5180.0227	Pass	5180.0255	Pass	5180.023	Pass
20	3.85	5180.0135	Pass	5180.0155	Pass	5180.0171	Pass	5180.0138	Pass
10	3.85	5179.98	Pass	5179.9815	Pass	5179.9794	Pass	5179.9828	Pass
0	3.85	5180.0207	Pass	5180.0207	Pass	5180.022	Pass	5180.0204	Pass
-10	3.85	5180.0142	Pass	5180.0106	Pass	5180.0134	Pass	5180.011	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	4.4275	5180.0251	Pass	5180.0228	Pass	5180.0254	Pass	5180.0232	Pass
	3.85	5180.0258	Pass	5180.0227	Pass	5180.0255	Pass	5180.023	Pass
	3.2725	5180.0266	Pass	5180.0236	Pass	5180.0262	Pass	5180.0226	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

- 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		
144	5720 (For U-NII-3)	2.58	2.59	0.5	Pass
149	5745	15.39	15.21	0.5	Pass
157	5785	15.39	15.22	0.5	Pass
165	5825	15.38	15.39	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 (For U-NII-3)	3.38	2.58	0.5	Pass
149	5745	15.21	15.77	0.5	Pass
157	5785	16.00	16.01	0.5	Pass
165	5825	15.22	16.55	0.5	Pass

802.11n (HT40)

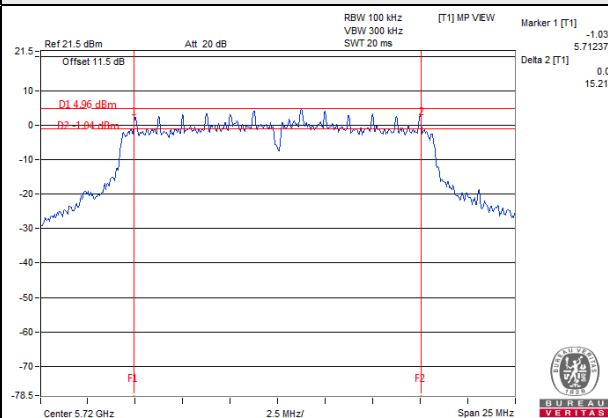
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142	5710 (For U-NII-3)	3.10	2.66	0.5	Pass
151	5755	35.76	35.34	0.5	Pass
159	5795	35.34	35.32	0.5	Pass

802.11ac (VHT80)

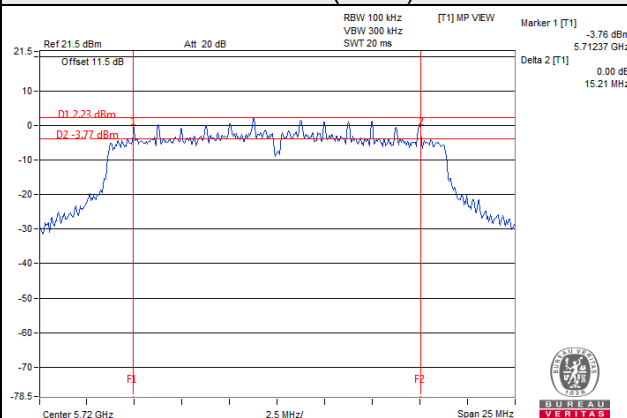
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138	5690 (For U-NII-3)	2.80	2.74	0.5	Pass
155	5775	75.50	75.41	0.5	Pass

Spectrum Plot of Worst Value

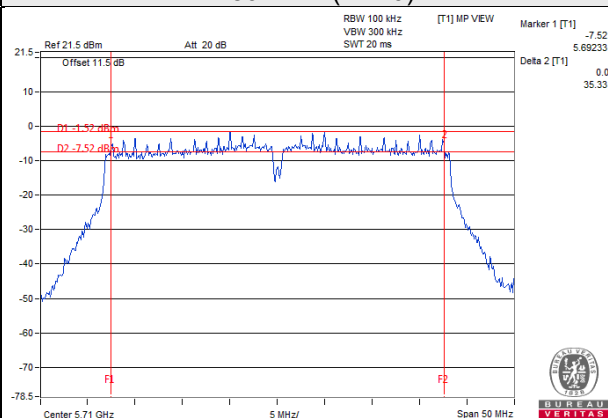
802.11a



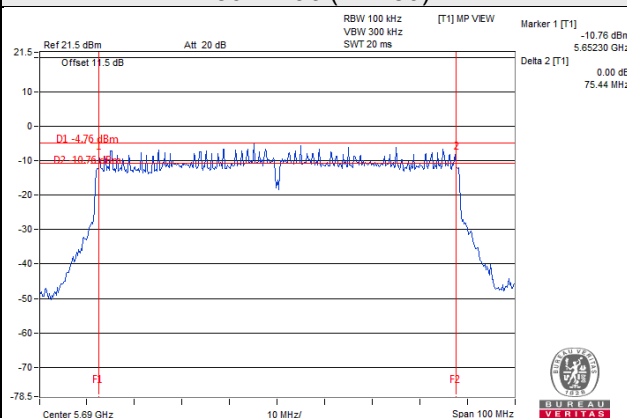
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Note:

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

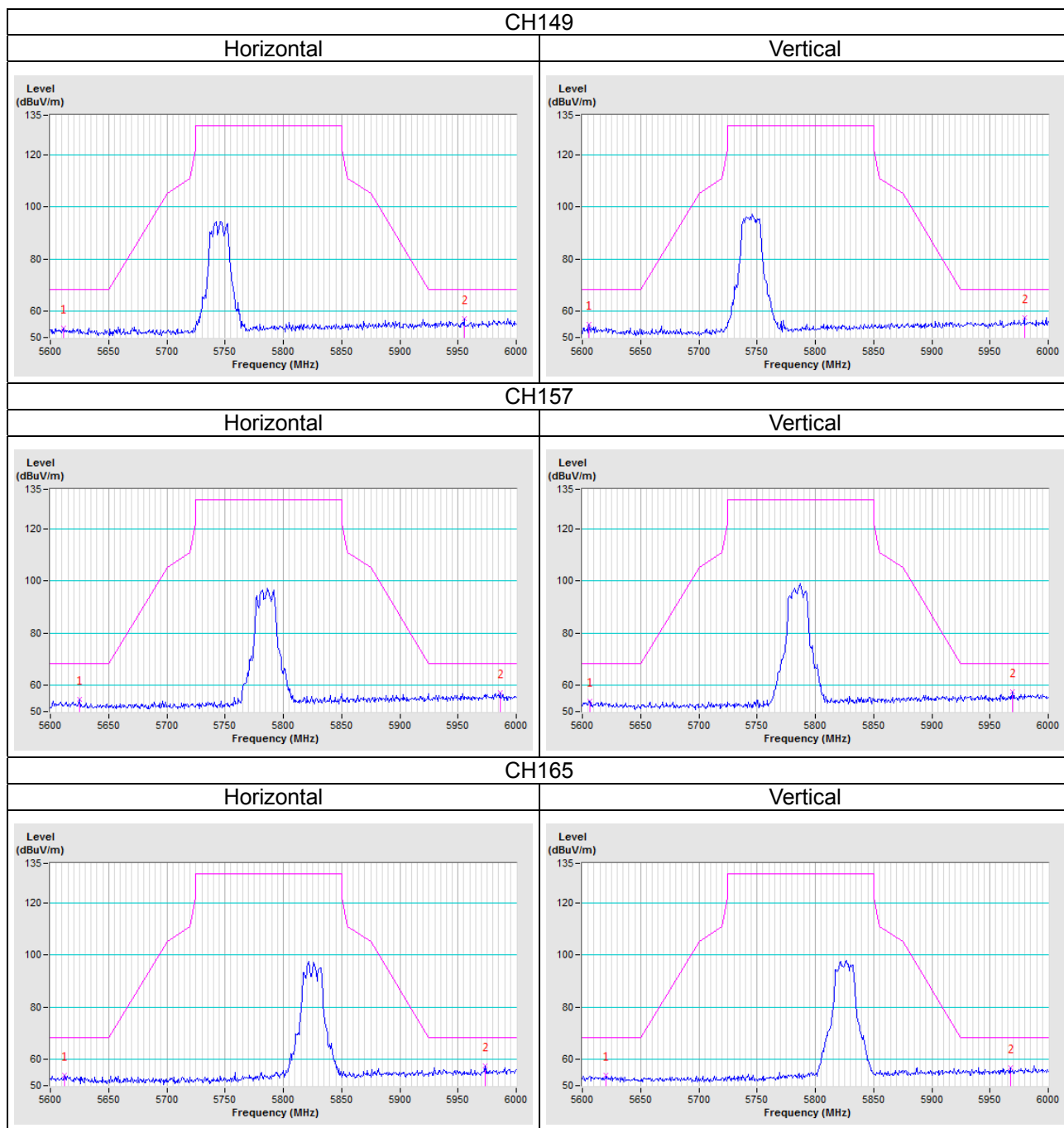
For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

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)

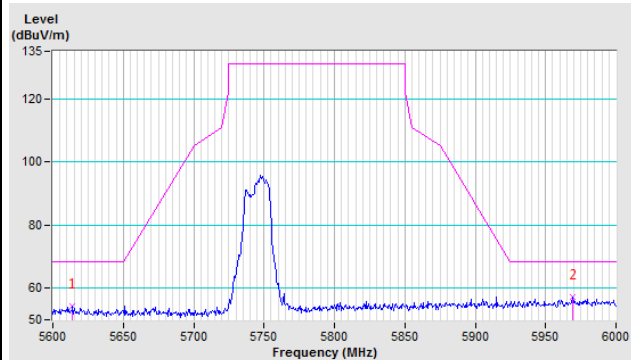
802.11a



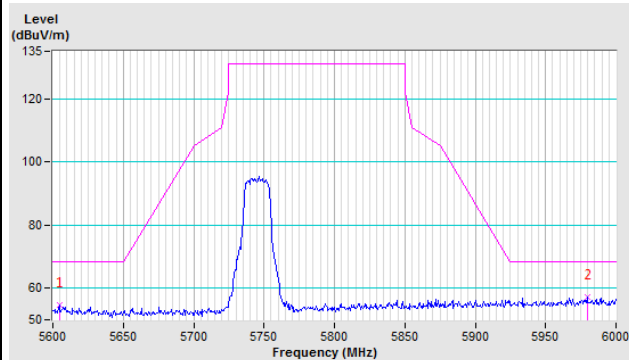
802.11n (HT20)

CH149

Horizontal

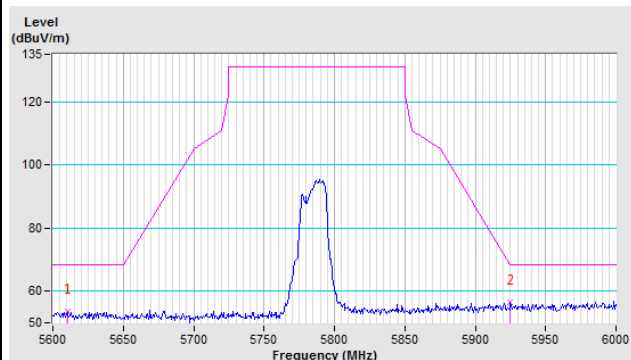


Vertical

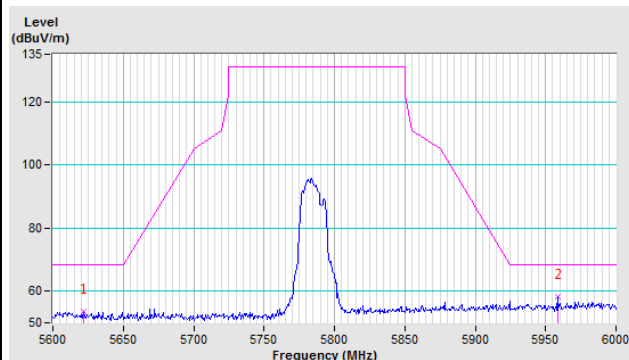


CH157

Horizontal

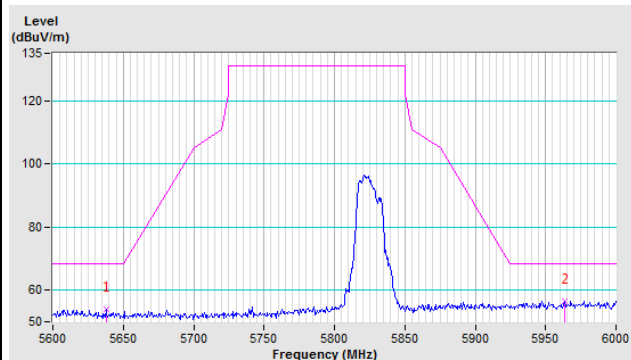


Vertical

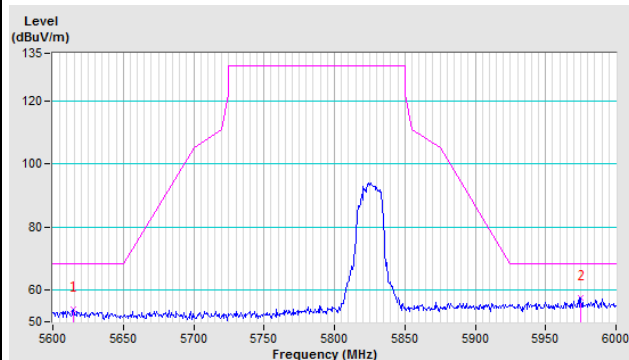


CH165

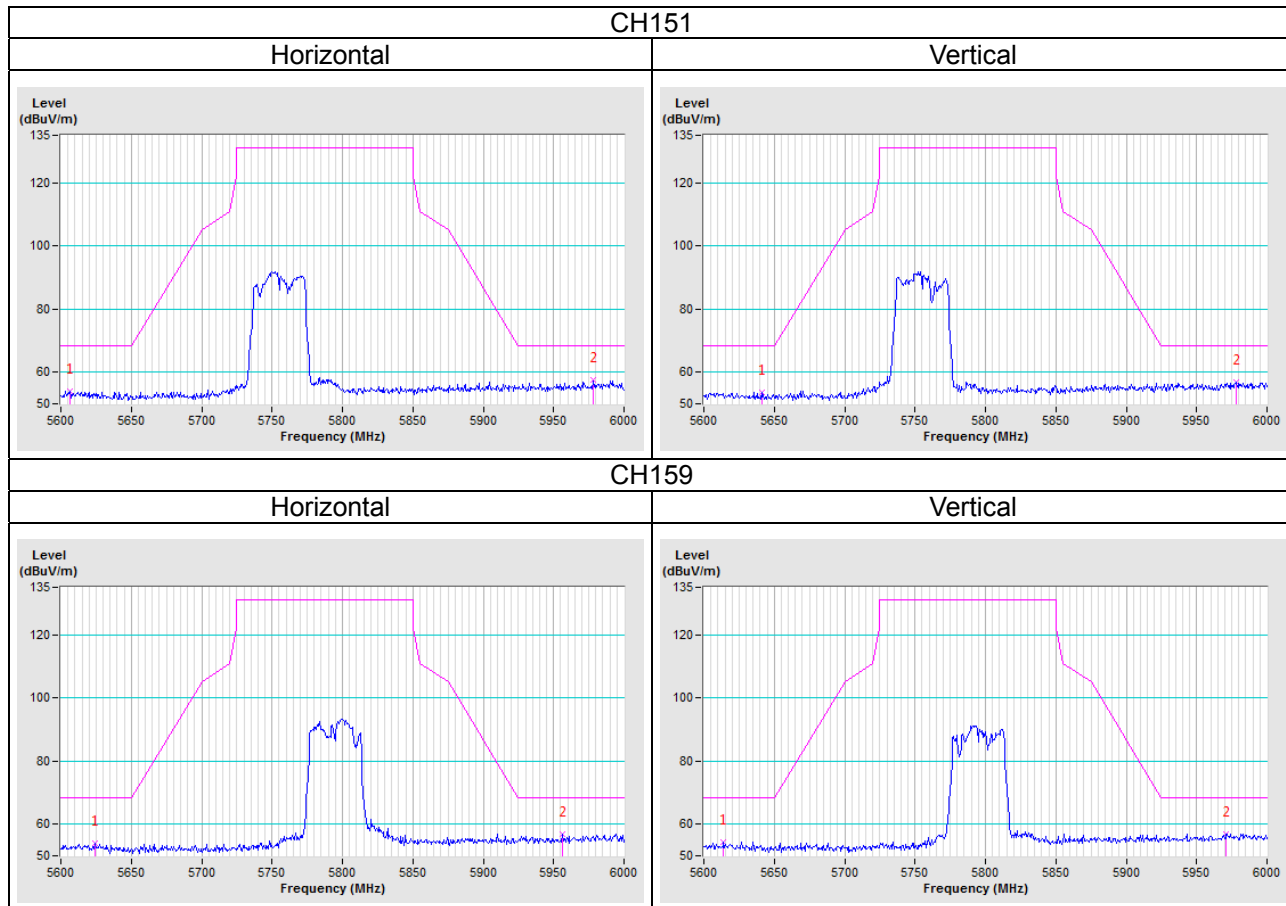
Horizontal



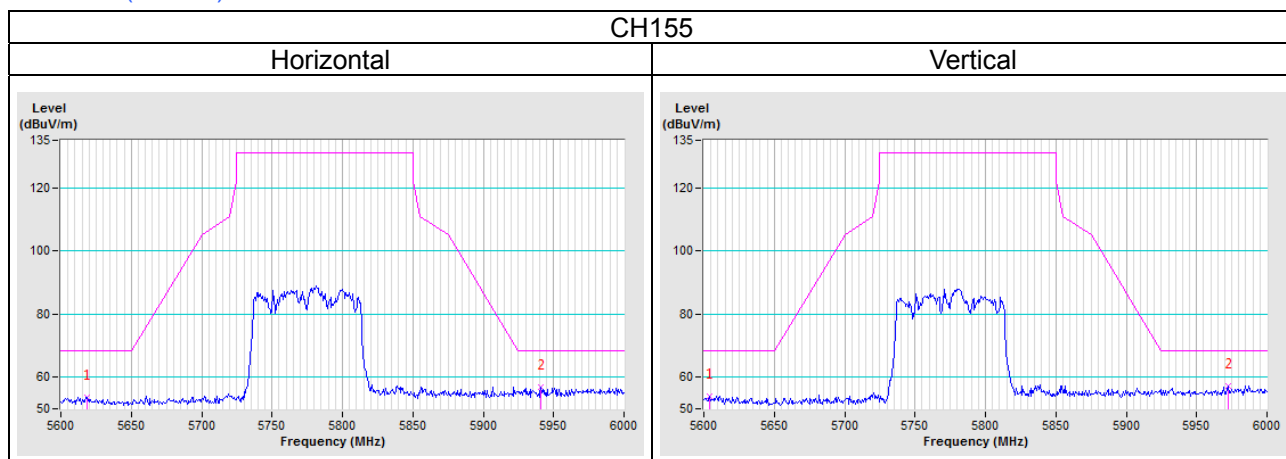
Vertical



802.11n (HT40)



802.11ac (VHT80)



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.

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

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