FCC Test Report

Report No.:	RF181219C02C-1
FCC ID:	Q5A-SMAC3
Regulatory Model:	SMAC3
Marketing Model:	API-18-5G-AC2x2-W2, APX-EX-5G-AC2x2-W2, SUI-23-5G-AC2x2-W2, SUI-18-5G-AC2x2-W2 (refer to item 3.1 for more details)
Received Date:	Jun. 12, 2019
Test Date:	Jun. 22 ~ Jun. 28, 2019
Issued Date:	Jul. 10, 2019
Applicant:	Sify Technologies Limited
Address:	II floor, TIDEL Park, 4, Rajiv Gandhi Salai, Tharamani
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record **4**

1 Certificate of Conformity **5**

2 Summary of Test Results **6**

2.1 Measurement Uncertainty 6
2.2 Modification Record 6

3 General Information **7**

3.1 General Description of EUT 7
3.2 Description of Test Modes 10
3.2.1 Test Mode Applicability and Tested Channel Detail 11
3.3 Duty Cycle of Test Signal 13
3.4 Description of Support Units 14
3.4.1 Configuration of System under Test 14
3.5 General Description of Applied Standards 15

4 Test Types and Results **16**

4.1 Radiated Emission and Bandedge Measurement 16
4.1.1 Limits of Radiated Emission and Bandedge Measurement 16
4.1.2 Test Instruments 17
4.1.3 Test Procedures 18
4.1.4 Deviation from Test Standard 18
4.1.5 Test Setup 19
4.1.6 EUT Operating Conditions 20
4.1.7 Test Results 21
4.2 Conducted Emission Measurement 81
4.2.1 Limits of Conducted Emission Measurement 81
4.2.2 Test Instruments 81
4.2.3 Test Procedures 82
4.2.4 Deviation from Test Standard 82
4.2.5 Test Setup 82
4.2.6 EUT Operating Conditions 82
4.2.7 Test Results 83
4.3 Transmit Power Measurement 89
4.3.1 Limits of Transmit Power Measurement 89
4.3.2 Test Setup 89
4.3.3 Test Instruments 89
4.3.4 Test Procedure 90
4.3.5 Deviation from Test Standard 90
4.3.6 EUT Operating Conditions 90
4.3.7 Test Result 91
4.4 Occupied Bandwidth Measurement 97
4.4.1 Test Setup 97
4.4.2 Test Instruments 97
4.4.3 Test Procedure 97
4.4.4 Test Result 98
4.5 Peak Power Spectral Density Measurement 104
4.5.1 Limits of Peak Power Spectral Density Measurement 104
4.5.2 Test Setup 104
4.5.3 Test Instruments 104
4.5.4 Test Procedures 104
4.5.5 Deviation from Test Standard 105
4.5.6 EUT Operating Conditions 105
4.5.7 Test Results 106
4.6 Frequency Stability 120
4.6.1 Limits of Frequency Stability Measurement 120

4.6.2 Test Setup 120
4.6.3 Test Instruments 120
4.6.4 Test Procedure 120
4.6.5 Deviation from Test Standard 120
4.6.6 EUT Operating Condition 120
4.6.7 Test Results 121
4.7 6dB Bandwidth Measurement 122
4.7.1 Limits of 6dB Bandwidth Measurement 122
4.7.2 Test Setup 122
4.7.3 Test Instruments 122
4.7.4 Test Procedure 122
4.7.5 Deviation from Test Standard 122
4.7.6 EUT Operating Condition 122
4.7.7 Test Results 123

5 Pictures of Test Arrangements 129

Annex A- Radiated out of Band Emission (OOBE) Measurement (For U-NII-3 band) 130

Appendix – Information of the Testing Laboratories 139

Release Control Record

Issue No.	Description	Date Issued
RF181219C02C-1	Original release.	Jul. 10, 2019

1 Certificate of Conformity

Product: Outdoor Wireless Radios

Brand: Sify

Regulatory Model: SMAC3

Marketing Model: API-18-5G-AC2x2-W2, APX-EX-5G-AC2x2-W2, SUI-23-5G-AC2x2-W2, SUI-18-5G-AC2x2-W2 (refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant: Sify Technologies Limited

Test Date: Jun. 22 ~ Jun. 28, 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 : Pettie Chen , **Date:** Jul. 10, 2019
Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Jul. 10, 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 -6.06dB at 2.43344MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.1dB at 5650.00MHz.
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	Antenna connector is IPEX not standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.60 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	Outdoor Wireless Radios
Brand	Sify
Regulatory Model	SMAC3
Marketing Model	API-18-5G-AC2x2-W2, APX-EX-5G-AC2x2-W2, SUI-23-5G-AC2x2-W2, SUI-18-5G-AC2x2-W2
Model Difference	Refer to note for more details
Sample Status	Engineering sample
Power Supply Rating	48Vdc (PoE)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 867Mbps
Operating Frequency	5180 ~ 5240MHz, 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 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	Test Mode A 5180 ~ 5240MHz: 55.416mW 5745 ~ 5825MHz: 59.161mW Test Mode B 5180 ~ 5240MHz: 289.776mW 5745 ~ 5825MHz: 374.579mW Test Mode C 5180 ~ 5240MHz: 32.080mW 5745 ~ 5825MHz: 760.580mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	PoE
Cable Supplied	NA

Note:

1. All models are listed as below.

Brand	Regulatory model	Marketing Model	Remark (For 5GHz Band only)
Sify	SMAC3	API-18-5G-AC2x2-W2	18dBi 2x2 V&H Polarized Sector antenna
		APX-EX-5G-AC2x2-W2	10dBi 2x2 V&H Polarized Omni antenna
		SUI-23-5G-AC2x2-W2	23dBi 2x2 V&H Polarized panel antenna
		SUI-18-5G-AC2x2-W2	18dBi 2x2 V&H Polarized panel antenna

*Marketing Model: SUI-23-5G-AC2x2-W2 is chosen for the final tests.

2. 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)

3. The EUT is powered by the following PoE.

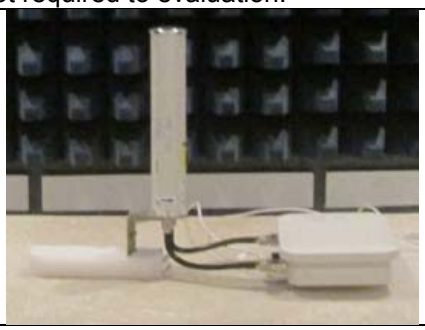
Brand	Powertron Electronics Corp.
Model	POE1024-480T1A050
Input Power	100-240Vac~50-60Hz 1.0A
Output Power	+48Vdc / 0.50A

4. The following antennas were provided to the EUT.

Ant. No.	Marketing Model	Antenna Type	Antenna vender	Antenna PN	Antenna Gain	Connector
1	API-18-5G-AC2x2-W2	Sector antenna	MARS	MA-WC56-DP17	18dBi	i-pex(MHF)
2	APX-EX-5G-AC2x2-W2	Omni antenna	MARS	MA-WO56-DP10	10dBi	i-pex(MHF)
3	SUI-23-5G-AC2x2-W2	Panel antenna	MARS	MA-WA56-DP23	23dBi	i-pex(MHF)
4	SUI-18-5G-AC2x2-W2	Panel antenna	MTI	MT-485053-CVH-B_ICD_KW	18dBi	i-pex(MHF)

*For Ant. 3 and Ant. 4: Ant. 3 was the worst for the final tests.

5. The EUT will install at outdoor area, the highest antenna gain from the horizon above 30 degrees as below, for more detail information please refer to antenna specification and user manual

Antenna No.	Antenna gain	Antenna install degree
1	0.77dBi	
Due to device will restricted installation position as above photo, thus consider to above 30 degrees highest antenna gain are chosen from E-Plane antenna specification of 30-150° degrees, for H-Plane antenna gain it will not effect to above 30 degrees from the horizon, therefore not required to evaluation.		
2	-4.88dBi	
Due to device will restricted installation position as above photo, thus consider to above 30 degrees highest antenna gain are chosen from E-Plane antenna specification of -60-60° degrees, for H-Plane antenna gain it will not effect to above 30 degrees from the horizon, therefore not required to evaluation.		

3.2 Description of Test Modes

For 5180 ~ 5240MHz:

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

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	
A	√	√	√	√	Marketing Model: API-18-5G-AC2x2-W2
B	√	√	√	√	Marketing Model: APX-EX-5G-AC2x2-W2
C	√	√	√	√	Marketing Model: SUI-23-5G-AC2x2-W2

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:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-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)
A, B, C	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
A, B, C	802.11a	5745-5845	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)
A, B, C	802.11a	5180-5240	36 to 48	36	OFDM	6.0
	802.11a	5745-5825	149 to 165		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)
A, B, C	802.11a	5180-5240	36 to 48	36	OFDM	6.0
	802.11a	5745-5825	149 to 165		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)
A, B, C	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
A, B, C	802.11a	5745-5845	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:

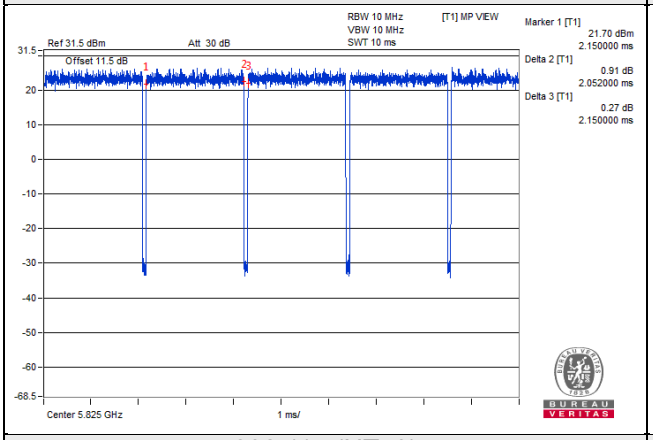
Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	25deg. C, 66%RH	48Vdc	Han Wu
RE<1G	25deg. C, 66%RH 25deg. C, 69%RH	48Vdc	Greg Lin Willy Cheng
PLC	27deg. C, 69%RH	48Vdc	Willy Cheng
APCM	25deg. C, 60%RH	48Vdc	Ted Chang

3.3 Duty Cycle of Test Signal

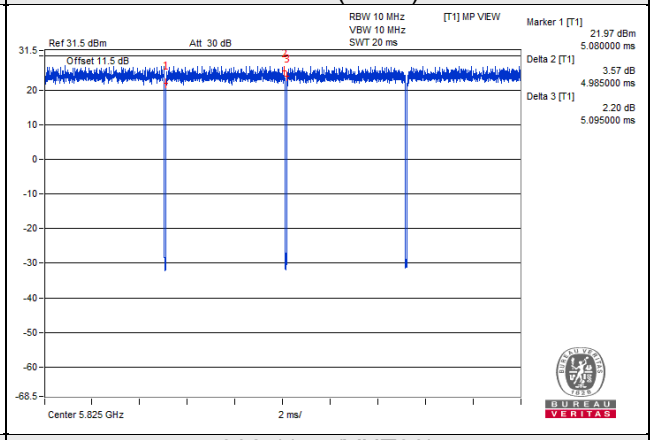
Duty cycle of test signal is < 98%, duty factor is required.
Duty cycle of test signal is ≥ 98%, duty factor is not required.

802.11a: Duty cycle = 2.052/2.150 = 0.954, Duty factor = 10 * log (1/0.954) = 0.20
802.11n (HT20): Duty cycle = 4.985/5.095 = 0.978, Duty factor = 10 * log (1/0.978) = 0.09
802.11n (HT40): Duty cycle = 2.42/2.507 = 0.965, Duty factor = 10 * log (1/0.965) = 0.15
802.11ac (VHT80): Duty cycle = 1.139/1.237 = 0.921, Duty factor = 10 * log (1/0.921) = 0.36

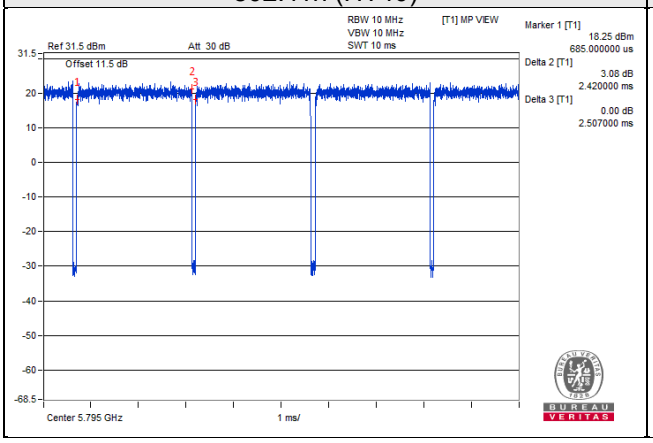
802.11a



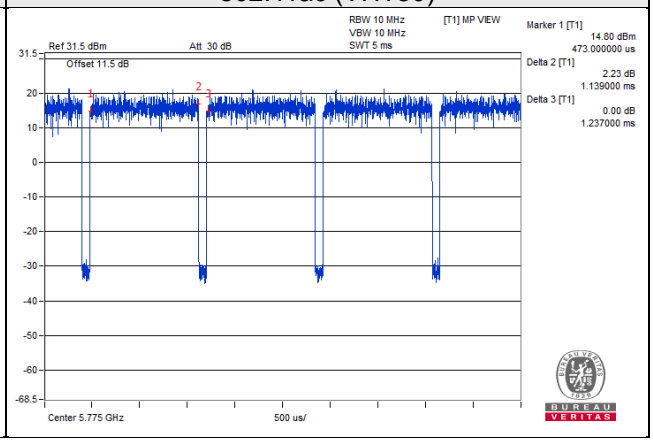
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	Lenovo	80Q7	PF0KUGU6	FCC DoC Approved	-

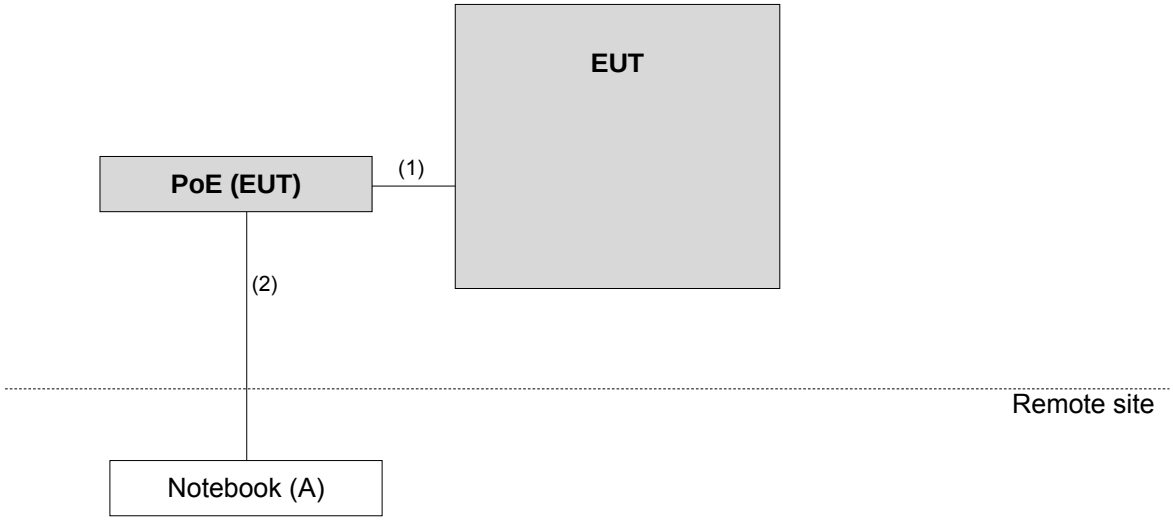
Note:

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

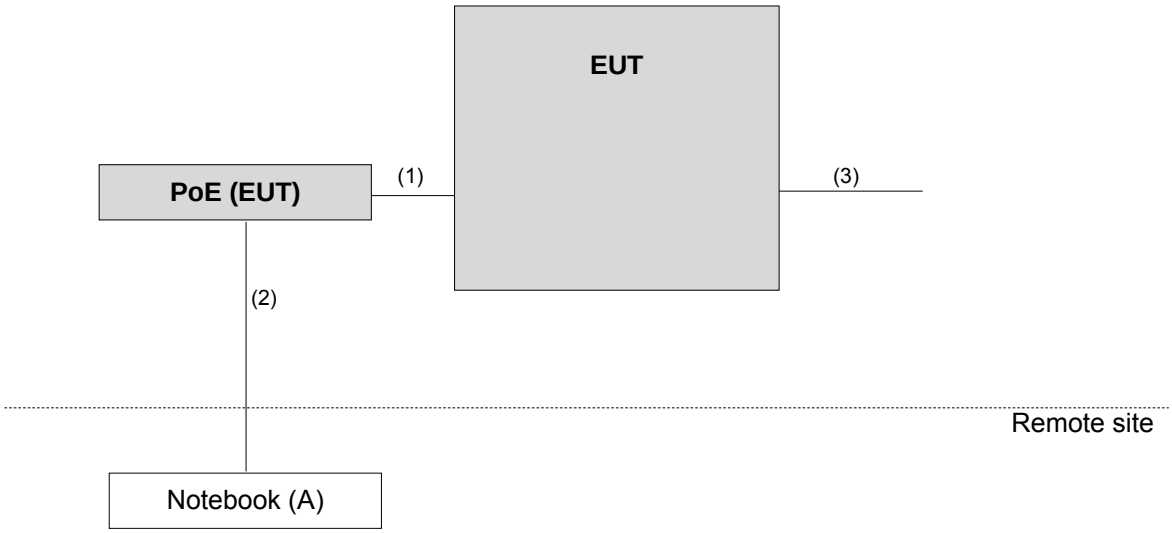
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 Cable	1	1	N	0	-
2.	RJ45 Cable	1	10	N	0	-
3.	Ground Cable	1	1.81	N	0	Provided by client

3.4.1 Configuration of System under Test

For all tests except AC Power Conducted Emission and Radiated Emissions (Frequency range below 1GHz) test of Test Mode A



For AC Power Conducted Emission and Radiated Emissions (Frequency range below 1GHz) test of Test Mode A



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:

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 15, 2019	Apr. 14, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jun. 04, 2019	Jun. 03, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 21, 2018	Nov. 20, 2019
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Aug. 08, 2018	Aug. 07, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 19, 2019	Feb. 18, 2020
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 19, 2019	Jan. 18, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Aug. 08, 2018	Aug. 07, 2019
RF signal cable Woken	8D-FB	Cable-CH9-01	Jul. 31, 2018	Jul. 30, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/MY55190007/MY55210005	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 9.

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:

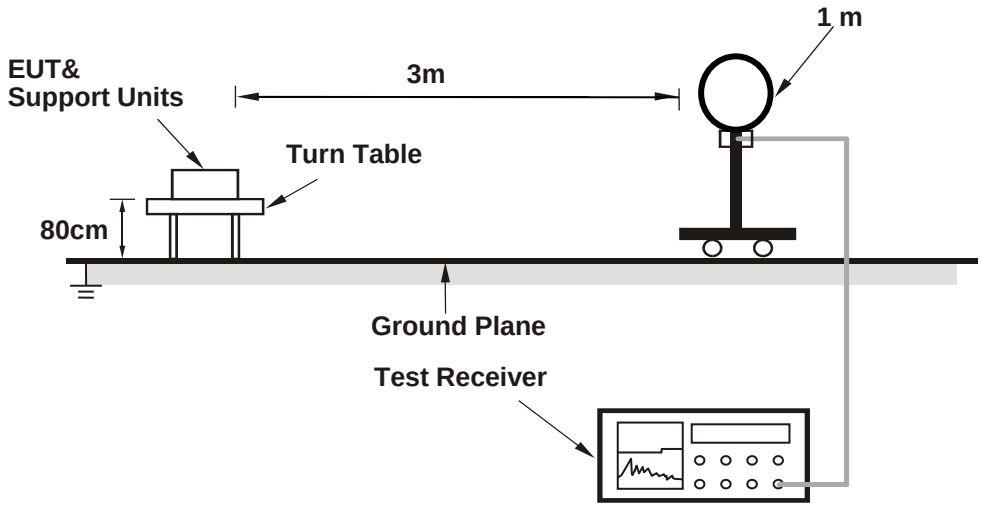
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 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

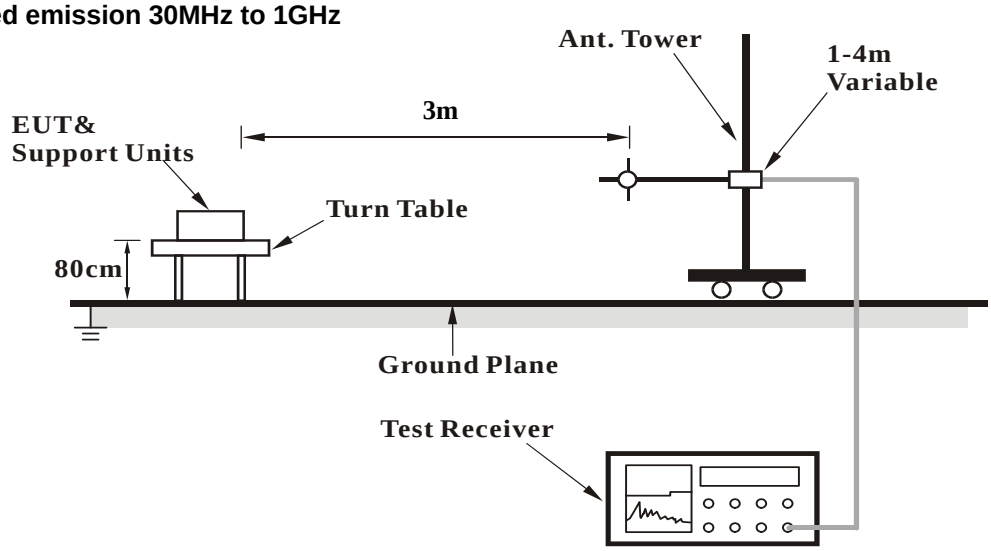
No deviation.

4.1.5 Test Setup

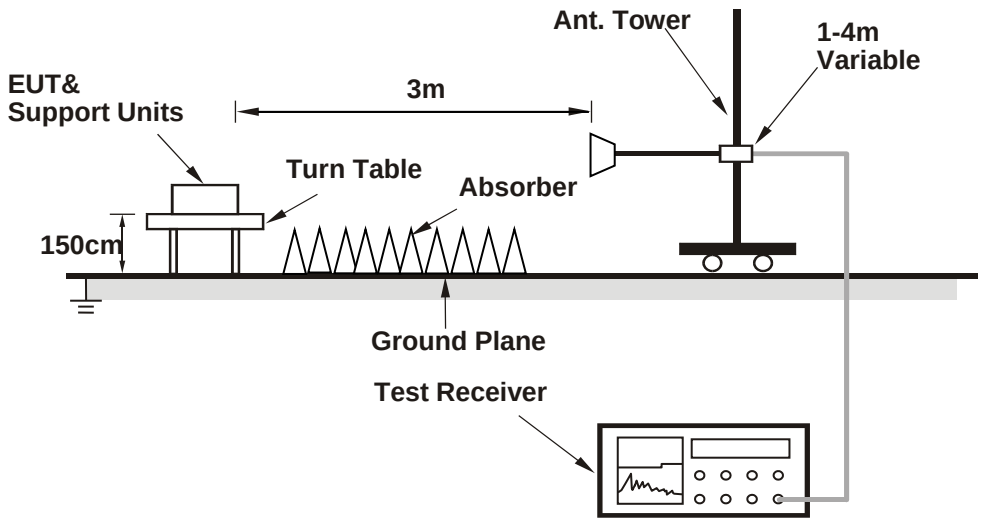
For Radiated emission below 30MHz



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. Placed the EUT on the testing table.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".

4.1.7 Test Results

Above 1GHz data:

Test Mode A

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.0 PK	74.0	-16.0	1.68 H	355	56.1	1.9
2	5150.00	46.3 AV	54.0	-7.7	1.68 H	355	44.4	1.9
3	*5180.00	119.2 PK			1.59 H	352	80.5	38.7
4	*5180.00	108.0 AV			1.59 H	352	69.3	38.7
5	#10360.00	55.2 PK	68.2	-13.0	1.77 H	255	40.8	14.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.6 PK	74.0	-15.4	1.66 V	350	56.7	1.9
2	5150.00	46.9 AV	54.0	-7.1	1.66 V	350	45.0	1.9
3	*5180.00	119.7 PK			1.66 V	12	81.0	38.7
4	*5180.00	109.2 AV			1.66 V	12	70.5	38.7
5	#10360.00	55.7 PK	68.2	-12.5	1.56 V	244	41.3	14.4

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	119.6 PK			1.62 H	351	81.0	38.6
2	*5200.00	108.9 AV			1.62 H	351	70.3	38.6
3	#10400.00	55.5 PK	68.2	-12.7	1.60 H	230	40.8	14.7
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	*5200.00	120.3 PK			1.60 V	10	81.7	38.6
2	*5200.00	108.9 AV			1.60 V	10	70.3	38.6
3	#10400.00	56.0 PK	68.2	-12.2	1.50 V	221	41.3	14.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	119.0 PK			1.52 H	247	80.5	38.5
2	*5240.00	107.8 AV			1.52 H	347	69.3	38.5
3	5350.00	57.5 PK	74.0	-16.5	1.56 H	0	55.9	1.6
4	5350.00	45.2 AV	54.0	-8.8	1.56 H	0	43.6	1.6
5	#10480.00	55.5 PK	68.2	-12.7	1.70 H	240	40.9	14.6
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	*5240.00	119.5 PK			1.59 V	18	81.0	38.5
2	*5240.00	109.2 AV			1.59 V	18	70.7	38.5
3	5350.00	57.8 PK	74.0	-16.2	1.55 V	355	56.2	1.6
4	5350.00	46.6 AV	54.0	-7.4	1.55 V	355	45.0	1.6
5	#10480.00	56.2 PK	68.2	-12.0	1.44 V	208	41.6	14.6

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5644.00	56.2 PK	68.2	-12.0	1.63 H	344	53.9	2.3
2	*5745.00	119.7 PK			1.63 H	344	80.4	39.3
3	*5745.00	109.3 AV			1.63 H	344	70.0	39.3
4	#5928.10	57.0 PK	68.2	-11.2	1.63 H	344	53.8	3.2
5	11490.00	55.5 PK	74.0	-18.5	1.88 H	228	40.5	15.0
6	11490.00	42.1 AV	54.0	-11.9	1.88 H	228	27.1	15.0
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	#5624.80	58.4 PK	68.2	-9.8	1.54 V	0	56.2	2.2
2	*5745.00	120.4 PK			1.54 V	0	81.1	39.3
3	*5745.00	110.3 AV			1.54 V	0	71.0	39.3
4	#5944.80	59.1 PK	68.2	-9.1	1.54 V	0	55.9	3.2
5	11490.00	56.4 PK	74.0	-17.6	1.77 V	256	41.4	15.0
6	11490.00	43.8 AV	54.0	-10.2	1.77 V	256	28.8	15.0

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5634.40	56.1 PK	68.2	-12.1	1.80 H	359	53.8	2.3
2	*5785.00	120.5 PK			1.80 H	359	81.0	39.5
3	*5785.00	109.4 AV			1.80 H	359	69.9	39.5
4	#5932.00	57.0 PK	68.2	-11.2	1.80 H	359	53.8	3.2
5	11570.00	55.3 PK	74.0	-18.7	2.01 H	248	40.5	14.8
6	11570.00	41.9 AV	54.0	-12.1	2.01 H	248	27.1	14.8
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	#5624.80	57.3 PK	68.2	-10.9	1.49 V	12	55.1	2.2
2	*5785.00	120.6 PK			1.49 V	12	81.1	39.5
3	*5785.00	110.5 AV			1.49 V	12	71.0	39.5
4	#5935.20	58.6 PK	68.2	-9.6	1.49 V	12	55.4	3.2
5	11570.00	55.0 PK	74.0	-19.0	1.34 V	255	40.2	14.8
6	11570.00	42.1 AV	54.0	-11.9	1.34 V	255	27.3	14.8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5614.40	55.4 PK	68.2	-12.8	1.60 H	353	53.2	2.2
2	*5825.00	119.8 PK			1.60 H	353	80.1	39.7
3	*5825.00	108.8 AV			1.60 H	353	69.1	39.7
4	#5951.20	56.7 PK	68.2	-11.5	1.60 H	353	53.5	3.2
5	11650.00	55.5 PK	74.0	-18.5	1.76 H	211	40.7	14.8
6	11650.00	40.8 AV	54.0	-13.2	1.76 H	211	26.0	14.8
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	#5637.60	56.2 PK	68.2	-12.0	1.31 V	0	53.9	2.3
2	*5825.00	121.3 PK			1.31 V	0	81.6	39.7
3	*5825.00	111.3 AV			1.31 V	0	71.6	39.7
4	#5927.20	59.5 PK	68.2	-8.7	1.31 V	0	56.3	3.2
5	11650.00	56.0 PK	74.0	-18.0	1.66 V	266	41.2	14.8
6	11650.00	42.5 AV	54.0	-11.5	1.66 V	266	27.7	14.8

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

802.11n (HT20)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.6 PK	74.0	-16.4	1.56 H	300	55.7	1.9
2	5150.00	46.0 AV	54.0	-8.0	1.56 H	300	44.1	1.9
3	*5180.00	119.8 PK			1.59 H	310	81.1	38.7
4	*5180.00	109.0 AV			1.59 H	310	70.3	38.7
5	#10360.00	55.0 PK	68.2	-13.2	1.66 H	240	40.6	14.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.1 PK	74.0	-14.9	1.44 V	310	57.2	1.9
2	5150.00	47.3 AV	54.0	-6.7	1.44 V	310	45.4	1.9
3	*5180.00	121.6 PK			1.54 V	310	82.9	38.7
4	*5180.00	109.6 AV			1.54 V	310	70.9	38.7
5	#10360.00	54.9 PK	68.2	-13.3	1.56 V	240	40.5	14.4

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	120.3 PK			1.61 H	16	81.7	38.6
2	*5200.00	108.5 AV			1.61 H	16	69.9	38.6
3	#10400.00	55.1 PK	68.2	-13.1	1.69 H	238	40.4	14.7
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	*5200.00	121.5 PK			1.54 V	320	82.9	38.6
2	*5200.00	110.0 AV			1.54 V	320	71.4	38.6
3	#10400.00	55.9 PK	68.2	-12.3	1.99 V	195	41.2	14.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	119.9 PK			1.54 H	305	81.4	38.5
2	*5240.00	108.1 AV			1.54 H	305	69.6	38.5
3	5350.00	57.3 PK	74.0	-16.7	1.50 H	311	55.7	1.6
4	5350.00	45.5 AV	54.0	-8.5	1.50 H	311	43.9	1.6
5	#10480.00	55.0 PK	68.2	-13.2	1.56 H	357	40.4	14.6
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	*5240.00	121.6 PK			1.54 V	330	83.1	38.5
2	*5240.00	110.0 AV			1.54 V	330	71.5	38.5
3	5350.00	58.6 PK	74.0	-15.4	1.46 V	300	57.0	1.6
4	5350.00	46.9 AV	54.0	-7.1	1.46 V	300	45.3	1.6
5	#10480.00	55.7 PK	68.2	-12.5	1.68 V	247	41.1	14.6

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.80	55.7 PK	68.2	-12.5	1.65 H	358	53.4	2.3
2	*5745.00	120.9 PK			1.65 H	358	81.6	39.3
3	*5745.00	108.9 AV			1.65 H	358	69.6	39.3
4	#5936.80	55.7 PK	68.2	-12.5	1.65 H	358	52.5	3.2
5	11490.00	56.2 PK	74.0	-17.8	1.87 H	209	41.2	15.0
6	11490.00	43.2 AV	54.0	-10.8	1.87 H	209	28.2	15.0
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	#5647.20	59.1 PK	68.2	-9.1	1.60 V	18	56.8	2.3
2	*5745.00	122.3 PK			1.60 V	18	83.0	39.3
3	*5745.00	110.6 AV			1.60 V	18	71.3	39.3
4	#5934.40	57.5 PK	68.2	-10.7	1.60 V	18	54.3	3.2
5	11490.00	56.8 PK	74.0	-17.2	1.22 V	264	41.8	15.0
6	11490.00	43.8 AV	54.0	-10.2	1.22 V	264	28.8	15.0

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5620.00	55.2 PK	68.2	-13.0	1.61 H	354	53.0	2.2
2	*5785.00	120.7 PK			1.61 H	354	81.2	39.5
3	*5785.00	108.9 AV			1.61 H	354	69.4	39.5
4	#5940.00	58.3 PK	68.2	-9.9	1.61 H	354	55.1	3.2
5	11570.00	55.4 PK	74.0	-18.6	1.99 H	218	40.6	14.8
6	11570.00	42.1 AV	54.0	-11.9	1.99 H	218	27.3	14.8
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	#5649.60	57.5 PK	68.2	-10.7	1.55 V	17	55.2	2.3
2	*5785.00	121.5 PK			1.55 V	17	82.0	39.5
3	*5785.00	110.7 AV			1.55 V	17	71.2	39.5
4	#5928.00	58.1 PK	68.2	-10.1	1.55 V	17	54.9	3.2
5	11570.00	56.1 PK	74.0	-17.9	1.23 V	269	41.3	14.8
6	11570.00	43.5 AV	54.0	-10.5	1.23 V	269	28.7	14.8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5628.80	55.6 PK	68.2	-12.6	1.59 H	355	53.4	2.2
2	*5825.00	121.1 PK			1.59 H	355	81.4	39.7
3	*5825.00	109.7 AV			1.59 H	355	70.0	39.7
4	#5932.80	56.8 PK	68.2	-11.4	1.59 H	355	53.6	3.2
5	11650.00	55.4 PK	74.0	-18.6	1.79 H	215	40.6	14.8
6	11650.00	41.9 AV	54.0	-12.1	1.79 H	215	27.1	14.8
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	#5649.60	56.1 PK	68.2	-12.1	1.50 V	358	53.8	2.3
2	*5825.00	121.8 PK			1.50 V	358	82.1	39.7
3	*5825.00	111.0 AV			1.50 V	358	71.3	39.7
4	#5924.80	58.7 PK	68.3	-9.6	1.50 V	358	55.5	3.2
5	11650.00	56.0 PK	74.0	-18.0	1.44 V	274	41.2	14.8
6	11650.00	43.0 AV	54.0	-11.0	1.44 V	274	28.2	14.8

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

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.9 PK	74.0	-9.1	1.49 H	305	63.0	1.9
2	5150.00	49.9 AV	54.0	-4.1	1.49 H	305	48.0	1.9
3	*5190.00	116.5 PK			1.56 H	304	77.9	38.6
4	*5190.00	105.9 AV			1.56 H	304	67.3	38.6
5	#10380.00	55.1 PK	68.2	-13.1	1.63 H	288	40.5	14.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.0 PK	74.0	-11.0	1.63 V	311	61.1	1.9
2	5150.00	51.1 AV	54.0	-2.9	1.63 V	311	49.2	1.9
3	*5190.00	118.5 PK			1.62 V	310	79.9	38.6
4	*5190.00	107.5 AV			1.62 V	310	68.9	38.6
5	#10380.00	55.9 PK	68.2	-12.3	1.49 V	248	41.3	14.6

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	116.6 PK			1.55 H	350	78.1	38.5
2	*5230.00	106.0 AV			1.55 H	350	67.5	38.5
3	5350.00	54.2 PK	74.0	-19.8	1.59 H	356	52.6	1.6
4	5350.00	44.1 AV	54.0	-9.9	1.59 H	356	42.5	1.6
5	#10460.00	55.0 PK	68.2	-13.2	1.49 H	247	40.4	14.6
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	118.6 PK			1.55 V	356	80.1	38.5
2	*5230.00	107.6 AV			1.55 V	356	69.1	38.5
3	5350.00	57.0 PK	74.0	-17.0	1.55 V	357	55.4	1.6
4	5350.00	45.3 AV	54.0	-8.7	1.55 V	357	43.7	1.6
5	#10460.00	54.9 PK	68.2	-13.3	1.46 V	332	40.3	14.6

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5644.00	55.1 PK	68.2	-13.1	1.59 H	0	52.8	2.3
2	*5755.00	117.4 PK			1.59 H	0	78.0	39.4
3	*5755.00	106.8 AV			1.59 H	0	67.4	39.4
4	#5925.60	57.4 PK	68.2	-10.8	1.59 H	0	54.2	3.2
5	11510.00	55.5 PK	74.0	-18.5	1.81 H	206	40.6	14.9
6	11510.00	42.1 AV	54.0	-11.9	1.81 H	206	27.2	14.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.00	59.1 PK	68.2	-9.1	1.41 V	21	56.8	2.3
2	*5755.00	118.4 PK			1.41 V	21	79.0	39.4
3	*5755.00	108.1 AV			1.41 V	21	68.7	39.4
4	#5924.80	58.3 PK	68.3	-10.0	1.41 V	21	55.1	3.2
5	11510.00	56.3 PK	74.0	-17.7	1.63 V	285	41.4	14.9
6	11510.00	43.3 AV	54.0	-10.7	1.63 V	285	28.4	14.9

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5615.20	55.6 PK	68.2	-12.6	1.55 H	359	53.4	2.2
2	*5795.00	117.7 PK			1.55 H	359	78.2	39.5
3	*5795.00	106.9 AV			1.55 H	359	67.4	39.5
4	#5930.40	58.1 PK	68.2	-10.1	1.55 H	359	54.9	3.2
5	11590.00	55.5 PK	74.0	-18.5	1.98 H	213	40.7	14.8
6	11590.00	42.2 AV	54.0	-11.8	1.98 H	213	27.4	14.8
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	#5640.80	56.4 PK	68.2	-11.8	1.52 V	22	54.1	2.3
2	*5795.00	118.7 PK			1.50 V	22	79.2	39.5
3	*5795.00	107.8 AV			1.50 V	22	68.3	39.5
4	#5930.40	58.3 PK	68.2	-9.9	1.52 V	22	55.1	3.2
5	11590.00	55.1 PK	74.0	-18.9	1.52 V	260	40.3	14.8
6	11590.00	42.3 AV	54.0	-11.7	1.52 V	260	27.5	14.8

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

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.1 PK	74.0	-9.9	1.56 H	15	62.2	1.9
2	5150.00	51.0 AV	54.0	-3.0	1.56 H	15	49.1	1.9
3	*5210.00	113.2 PK			1.59 H	15	74.7	38.5
4	*5210.00	102.1 AV			1.59 H	15	63.6	38.5
5	5350.00	58.8 PK	74.0	-15.2	1.49 H	330	57.2	1.6
6	5350.00	46.6 AV	54.0	-7.4	1.49 H	330	45.0	1.6
7	#10420.00	55.2 PK	68.2	-13.0	1.65 H	360	40.5	14.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.0 PK	74.0	-9.0	1.69 V	5	63.1	1.9
2	5150.00	52.1 AV	54.0	-1.9	1.69 V	5	50.2	1.9
3	*5210.00	113.8 PK			1.60 V	10	75.3	38.5
4	*5210.00	102.8 AV			1.60 V	10	64.3	38.5
5	5350.00	58.1 PK	74.0	-15.9	1.66 V	360	56.5	1.6
6	5350.00	46.4 AV	54.0	-7.6	1.66 V	360	44.8	1.6
7	#10420.00	55.6 PK	68.2	-12.6	1.47 V	154	40.9	14.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5649.60	57.2 PK	68.2	-11.0	1.60 H	5	54.9	2.3
2	*5775.00	114.6 PK			1.60 H	5	75.2	39.4
3	*5775.00	103.5 AV			1.60 H	5	64.1	39.4
4	#5936.80	58.3 PK	68.2	-9.9	1.60 H	5	55.1	3.2
5	11550.00	55.0 PK	74.0	-19.0	1.79 H	220	40.1	14.9
6	11550.00	42.0 AV	54.0	-12.0	1.79 H	220	27.1	14.9
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	#5652.00	59.8 PK	69.7	-9.9	1.38 V	353	57.6	2.2
2	*5775.00	115.4 PK			1.38 V	353	76.0	39.4
3	*5775.00	104.4 AV			1.38 V	353	65.0	39.4
4	#5926.40	61.7 PK	68.2	-6.5	1.38 V	353	58.5	3.2
5	11550.00	55.4 PK	74.0	-18.6	1.66 V	256	40.5	14.9
6	11550.00	42.5 AV	54.0	-11.5	1.66 V	256	27.6	14.9

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

Test Mode B

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.7 PK	74.0	-6.3	1.84 H	111	65.8	1.9
2	5150.00	53.6 AV	54.0	-0.4	1.84 H	111	51.7	1.9
3	*5180.00	119.1 PK			1.89 H	116	80.4	38.7
4	*5180.00	107.7 AV			1.89 H	116	69.0	38.7
5	#10360.00	55.4 PK	68.2	-12.8	2.00 H	239	41.0	14.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.5 PK	74.0	-9.5	1.70 V	55	62.6	1.9
2	5150.00	49.4 AV	54.0	-4.6	1.70 V	55	47.5	1.9
3	*5180.00	116.0 PK			1.99 V	60	77.3	38.7
4	*5180.00	106.5 AV			1.99 V	60	67.8	38.7
5	#10360.00	55.2 PK	68.2	-13.0	1.45 V	269	40.8	14.4

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	119.9 PK			2.09 H	109	81.3	38.6
2	*5200.00	108.8 AV			2.09 H	109	70.2	38.6
3	#10400.00	55.8 PK	68.2	-12.4	1.55 H	248	41.1	14.7
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	*5200.00	118.6 PK			2.01 V	43	80.0	38.6
2	*5200.00	107.9 AV			2.01 V	43	69.3	38.6
3	#10400.00	54.7 PK	68.2	-13.5	1.40 V	250	40.0	14.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	120.6 PK			1.92 H	100	82.1	38.5
2	*5240.00	110.5 AV			1.92 H	100	72.0	38.5
3	5350.00	55.7 PK	74.0	-18.3	2.09 H	129	54.1	1.6
4	5350.00	43.5 AV	54.0	-10.5	2.09 H	129	41.9	1.6
5	#10480.00	56.4 PK	68.2	-11.8	1.69 H	255	41.8	14.6
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	*5240.00	119.5 PK			1.90 V	66	81.0	38.5
2	*5240.00	108.6 AV			1.90 V	66	70.1	38.5
3	5350.00	54.6 PK	74.0	-19.4	2.12 V	39	53.0	1.6
4	5350.00	43.5 AV	54.0	-10.5	2.12 V	39	41.9	1.6
5	#10480.00	55.9 PK	68.2	-12.3	1.59 V	244	41.3	14.6

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5646.40	54.1 PK	68.2	-14.1	2.01 H	106	51.8	2.3
2	*5745.00	119.3 PK			2.01 H	106	80.0	39.3
3	*5745.00	108.4 AV			2.01 H	106	69.1	39.3
4	#5938.40	54.6 PK	68.2	-13.6	2.01 H	106	51.4	3.2
5	11490.00	57.6 PK	74.0	-16.4	1.86 H	250	42.6	15.0
6	11490.00	44.4 AV	54.0	-9.6	1.86 H	250	29.4	15.0
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	#5603.20	54.8 PK	68.2	-13.4	1.90 V	27	52.6	2.2
2	*5745.00	119.3 PK			1.90 V	27	80.0	39.3
3	*5745.00	108.5 AV			1.90 V	27	69.2	39.3
4	#5948.00	54.8 PK	68.2	-13.4	1.90 V	27	51.6	3.2
5	11490.00	56.6 PK	74.0	-17.4	1.59 V	251	41.6	15.0
6	11490.00	43.1 AV	54.0	-10.9	1.59 V	251	28.1	15.0

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5641.60	54.3 PK	68.2	-13.9	2.12 H	206	52.0	2.3
2	*5785.00	120.6 PK			2.12 H	206	81.1	39.5
3	*5785.00	109.6 AV			2.12 H	206	70.1	39.5
4	#5970.40	55.7 PK	68.2	-12.5	2.12 H	206	52.4	3.3
5	11570.00	57.0 PK	74.0	-17.0	1.84 H	257	42.2	14.8
6	11570.00	43.5 AV	54.0	-10.5	1.84 H	257	28.7	14.8
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	#5643.20	54.4 PK	68.2	-13.8	2.22 V	65	52.1	2.3
2	*5785.00	120.0 PK			2.22 V	65	80.5	39.5
3	*5785.00	108.6 AV			2.22 V	65	69.1	39.5
4	#5930.40	54.7 PK	68.2	-13.5	2.22 V	65	51.5	3.2
5	11570.00	55.6 PK	74.0	-18.4	1.77 V	244	40.8	14.8
6	11570.00	42.5 AV	54.0	-11.5	1.77 V	244	27.7	14.8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5645.60	53.8 PK	68.2	-14.4	1.98 H	166	51.5	2.3
2	*5825.00	119.0 PK			1.98 H	166	79.3	39.7
3	*5825.00	108.3 AV			1.98 H	166	68.6	39.7
4	#5943.20	54.7 PK	68.2	-13.5	1.98 H	166	51.5	3.2
5	11650.00	56.3 PK	74.0	-17.7	1.99 H	270	41.5	14.8
6	11650.00	43.6 AV	54.0	-10.4	1.99 H	270	28.8	14.8
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	#5645.60	54.1 PK	68.2	-14.1	1.66 V	19	51.8	2.3
2	*5825.00	119.9 PK			1.66 V	19	80.2	39.7
3	*5825.00	109.3 AV			1.66 V	19	69.6	39.7
4	#5934.40	54.9 PK	68.2	-13.3	1.66 V	19	51.7	3.2
5	11650.00	56.0 PK	74.0	-18.0	2.11 V	255	41.2	14.8
6	11650.00	42.8 AV	54.0	-11.2	2.11 V	255	28.0	14.8

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

802.11n (HT20)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.4 PK	74.0	-4.6	1.80 H	149	67.5	1.9
2	5150.00	53.0 AV	54.0	-1.0	1.80 H	149	51.1	1.9
3	*5180.00	117.9 PK			1.77 H	110	79.2	38.7
4	*5180.00	106.7 AV			1.77 H	110	68.0	38.7
5	#10360.00	57.7 PK	68.2	-10.5	1.77 H	250	43.3	14.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.0 PK	74.0	-11.0	2.19 V	52	61.1	1.9
2	5150.00	48.4 AV	54.0	-5.6	2.19 V	52	46.5	1.9
3	*5180.00	116.2 PK			1.88 V	44	77.5	38.7
4	*5180.00	105.9 AV			1.88 V	44	67.2	38.7
5	#10360.00	55.5 PK	68.2	-12.7	1.39 V	215	41.1	14.4

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	119.4 PK			2.04 H	133	80.8	38.6
2	*5200.00	108.9 AV			2.04 H	133	70.3	38.6
3	#10400.00	56.0 PK	68.2	-12.2	1.65 H	244	41.3	14.7
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	*5200.00	118.6 PK			1.94 V	44	80.0	38.6
2	*5200.00	108.2 AV			1.94 V	44	69.6	38.6
3	#10400.00	55.7 PK	68.2	-12.5	1.50 V	230	41.0	14.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	120.5 PK			1.91 H	115	82.0	38.5
2	*5240.00	109.8 AV			1.91 H	115	71.3	38.5
3	5350.00	56.6 PK	74.0	-17.4	2.06 H	129	55.0	1.6
4	5350.00	43.6 AV	54.0	-10.4	2.06 H	129	42.0	1.6
5	#10480.00	57.0 PK	68.2	-11.2	1.70 H	240	42.4	14.6
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	*5240.00	118.6 PK			1.92 V	42	80.1	38.5
2	*5240.00	108.7 AV			1.92 V	42	70.2	38.5
3	5350.00	55.8 PK	74.0	-18.2	2.00 V	60	54.2	1.6
4	5350.00	43.9 AV	54.0	-10.1	2.00 V	60	42.3	1.6
5	#10480.00	56.2 PK	68.2	-12.0	1.67 V	233	41.6	14.6

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5636.00	54.4 PK	68.2	-13.8	1.77 H	101	52.1	2.3
2	*5745.00	118.7 PK			1.77 H	101	79.4	39.3
3	*5745.00	109.0 AV			1.77 H	101	69.7	39.3
4	#5939.20	54.2 PK	68.2	-14.0	1.77 H	101	51.0	3.2
5	11490.00	57.1 PK	74.0	-16.9	1.62 H	222	42.1	15.0
6	11490.00	43.3 AV	54.0	-10.7	1.62 H	222	28.3	15.0
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	#5647.20	54.0 PK	68.2	-14.2	1.88 V	35	51.7	2.3
2	*5745.00	120.7 PK			1.88 V	35	81.4	39.3
3	*5745.00	109.5 AV			1.88 V	35	70.2	39.3
4	#5963.20	54.4 PK	68.2	-13.8	1.88 V	35	51.1	3.3
5	11490.00	57.0 PK	74.0	-17.0	1.50 V	241	42.0	15.0
6	11490.00	44.0 AV	54.0	-10.0	1.50 V	241	29.0	15.0

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5632.00	53.6 PK	68.2	-14.6	1.74 H	130	51.4	2.2
2	*5785.00	118.8 PK			1.74 H	130	79.3	39.5
3	*5785.00	107.5 AV			1.74 H	130	68.0	39.5
4	#5938.40	54.8 PK	68.2	-13.4	1.74 H	130	51.6	3.2
5	11570.00	55.2 PK	74.0	-18.8	1.83 H	210	40.4	14.8
6	11570.00	41.9 AV	54.0	-12.1	1.83 H	210	27.1	14.8
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	#5647.20	54.4 PK	68.2	-13.8	2.20 V	59	52.1	2.3
2	*5785.00	118.6 PK			2.20 V	58	79.1	39.5
3	*5785.00	108.1 AV			2.20 V	58	68.6	39.5
4	#5966.40	55.1 PK	68.2	-13.1	2.20 V	59	51.8	3.3
5	11570.00	56.0 PK	74.0	-18.0	1.56 V	239	41.2	14.8
6	11570.00	43.0 AV	54.0	-11.0	1.56 V	239	28.2	14.8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5644.00	53.1 PK	68.2	-15.1	1.97 H	159	50.8	2.3
2	*5825.00	119.0 PK			1.97 H	159	79.3	39.7
3	*5825.00	107.9 AV			1.97 H	159	68.2	39.7
4	#5938.40	54.2 PK	68.2	-14.0	1.97 H	159	51.0	3.2
5	11650.00	55.9 PK	74.0	-18.1	1.78 H	213	41.1	14.8
6	11650.00	42.9 AV	54.0	-11.1	1.78 H	213	28.1	14.8
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	#5648.80	54.3 PK	68.2	-13.9	2.01 V	22	52.0	2.3
2	*5825.00	120.6 PK			2.01 V	22	80.9	39.7
3	*5825.00	109.5 AV			2.01 V	22	69.8	39.7
4	#5936.80	55.9 PK	68.2	-12.3	2.01 V	22	52.7	3.2
5	11650.00	56.0 PK	74.0	-18.0	1.75 V	222	41.2	14.8
6	11650.00	42.7 AV	54.0	-11.3	1.75 V	222	27.9	14.8

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

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.4 PK	74.0	-4.6	1.75 H	137	67.5	1.9
2	5150.00	53.0 AV	54.0	-1.0	1.75 H	137	51.1	1.9
3	*5190.00	114.2 PK			1.89 H	149	75.6	38.6
4	*5190.00	104.5 AV			1.89 H	149	65.9	38.6
5	#10380.00	56.7 PK	68.2	-11.5	1.59 H	230	42.1	14.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.9 PK	74.0	-8.1	2.04 V	23	64.0	1.9
2	5150.00	49.5 AV	54.0	-4.5	2.04 V	23	47.6	1.9
3	*5190.00	112.9 PK			1.81 V	59	74.3	38.6
4	*5190.00	102.9 AV			1.81 V	59	64.3	38.6
5	#10380.00	56.1 PK	68.2	-12.1	1.40 V	220	41.5	14.6

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	117.6 PK			2.18 H	114	79.1	38.5
2	*5230.00	107.5 AV			2.18 H	114	69.0	38.5
3	5350.00	57.8 PK	74.0	-16.2	1.99 H	120	56.2	1.6
4	5350.00	45.2 AV	54.0	-8.8	1.99 H	120	43.6	1.6
5	#10460.00	57.2 PK	68.2	-11.0	1.50 H	220	42.6	14.6
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	116.5 PK			1.89 V	63	78.0	38.5
2	*5230.00	107.3 AV			1.89 V	63	68.8	38.5
3	5350.00	55.5 PK	74.0	-18.5	1.89 V	49	53.9	1.6
4	5350.00	43.5 AV	54.0	-10.5	1.89 V	49	41.9	1.6
5	#10460.00	57.1 PK	68.2	-11.1	1.59 V	244	42.5	14.6

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5640.00	53.9 PK	68.2	-14.3	2.32 H	106	51.6	2.3
2	*5755.00	117.1 PK			2.32 H	106	77.7	39.4
3	*5755.00	107.0 AV			2.32 H	106	67.6	39.4
4	#5937.60	54.1 PK	68.2	-14.1	2.32 H	106	50.9	3.2
5	11510.00	55.7 PK	74.0	-18.3	2.24 H	232	40.8	14.9
6	11510.00	42.4 AV	54.0	-11.6	2.24 H	232	27.5	14.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.00	57.3 PK	68.2	-10.9	1.91 V	50	55.0	2.3
2	*5755.00	116.4 PK			1.91 V	50	77.0	39.4
3	*5755.00	105.5 AV			1.91 V	50	66.1	39.4
4	#5942.40	55.1 PK	68.2	-13.1	1.91 V	50	51.9	3.2
5	11510.00	57.3 PK	74.0	-16.7	1.69 V	230	42.4	14.9
6	11510.00	44.4 AV	54.0	-9.6	1.69 V	230	29.5	14.9

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5641.60	53.5 PK	68.2	-14.7	1.67 H	144	51.2	2.3
2	*5795.00	116.2 PK			1.67 H	144	76.7	39.5
3	*5795.00	106.1 AV			1.67 H	144	66.6	39.5
4	#5939.20	56.2 PK	68.2	-12.0	1.67 H	144	53.0	3.2
5	11590.00	55.3 PK	74.0	-18.7	1.80 H	210	40.5	14.8
6	11590.00	42.3 AV	54.0	-11.7	1.80 H	210	27.5	14.8
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	#5648.00	54.7 PK	68.2	-13.5	1.89 V	42	52.4	2.3
2	*5795.00	116.2 PK			1.89 V	42	76.7	39.5
3	*5795.00	106.0 AV			1.89 V	42	66.5	39.5
4	#5931.20	55.9 PK	68.2	-12.3	1.89 V	42	52.7	3.2
5	11590.00	56.0 PK	74.0	-18.0	1.54 V	254	41.2	14.8
6	11590.00	43.2 AV	54.0	-10.8	1.54 V	254	28.4	14.8

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

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	67.0 PK	74.0	-7.0	1.76 H	131	65.1	1.9
2	5150.00	53.0 AV	54.0	-1.0	1.76 H	131	51.1	1.9
3	*5210.00	111.4 PK			1.99 H	140	72.9	38.5
4	*5210.00	101.4 AV			1.99 H	140	62.9	38.5
5	5350.00	59.6 PK	74.0	-14.4	1.94 H	110	58.0	1.6
6	5350.00	45.7 AV	54.0	-8.3	1.94 H	110	44.1	1.6
7	#10420.00	57.7 PK	68.2	-10.5	1.79 H	260	43.0	14.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.9 PK	74.0	-9.1	2.00 V	66	63.0	1.9
2	5150.00	49.2 AV	54.0	-4.8	2.00 V	66	47.3	1.9
3	*5210.00	108.7 PK			1.92 V	49	70.2	38.5
4	*5210.00	98.7 AV			1.92 V	49	60.2	38.5
5	5350.00	55.6 PK	74.0	-18.4	1.89 V	39	54.0	1.6
6	5350.00	42.9 AV	54.0	-11.1	1.89 V	39	41.3	1.6
7	#10420.00	57.2 PK	68.2	-11.0	1.40 V	220	42.5	14.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5643.00	63.6 PK	68.2	-4.6	1.90 H	109	61.3	2.3
2	#5650.00	67.0 PK	68.2	-1.2	1.89 H	99	64.8	2.2
3	*5775.00	111.9 PK			1.90 H	109	72.5	39.4
4	*5775.00	101.4 AV			1.90 H	109	62.0	39.4
5	#5925.00	65.7 PK	68.2	-2.5	1.80 H	110	62.5	3.2
6	#5925.00	63.6 PK	68.2	-4.6	1.90 H	109	60.4	3.2
7	11550.00	55.5 PK	74.0	-18.5	1.72 H	212	40.6	14.9
8	11550.00	42.1 AV	54.0	-11.9	1.72 H	212	27.2	14.9
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	#5645.90	67.2 PK	68.2	-1.0	1.92 V	42	64.9	2.3
2	**#5650.00**	**68.1 PK**	**68.2**	**-0.1**	**1.94 V**	**36**	**65.9**	**2.2**
3	*5775.00	112.4 PK			1.92 V	42	73.0	39.4
4	*5775.00	101.4 AV			1.92 V	42	62.0	39.4
5	#5925.00	67.2 PK	68.2	-1.0	2.00 V	51	64.0	3.2
6	#5926.40	64.4 PK	68.2	-3.8	1.92 V	42	61.2	3.2
7	11550.00	56.3 PK	74.0	-17.7	1.66 V	246	41.4	14.9
8	11550.00	41.9 AV	54.0	-12.1	1.66 V	246	27.0	14.9

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

Test Mode C

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.0 PK	74.0	-12.0	1.66 H	354	60.9	1.1
2	5150.00	52.7 AV	54.0	-1.3	1.66 H	354	51.6	1.1
3	*5180.00	119.7 PK			1.66 H	12	81.7	38.0
4	*5180.00	108.7 AV			1.66 H	12	70.7	38.0
5	#10360.00	53.0 PK	68.2	-15.2	1.54 H	224	39.4	13.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.3 PK	74.0	-11.7	1.37 V	355	61.2	1.1
2	5150.00	53.0 AV	54.0	-1.0	1.37 V	355	51.9	1.1
3	*5180.00	120.2 PK			1.40 V	350	82.2	38.0
4	*5180.00	109.2 AV			1.40 V	350	71.2	38.0
5	#10360.00	53.4 PK	68.2	-14.8	1.68 V	201	39.8	13.6

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.0 PK	74.0	-11.0	1.75 H	353	61.9	1.1
2	5150.00	52.0 AV	54.0	-2.0	1.75 H	353	50.9	1.1
3	*5200.00	120.0 PK			1.69 H	350	82.1	37.9
4	*5200.00	110.0 AV			1.69 H	350	72.1	37.9
5	#10400.00	53.3 PK	68.2	-14.9	1.60 H	243	39.5	13.8
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	63.6 PK	74.0	-10.4	1.50 V	24	62.5	1.1
2	5150.00	52.8 AV	54.0	-1.2	1.50 V	24	51.7	1.1
3	*5200.00	121.1 PK			1.46 V	26	83.2	37.9
4	*5200.00	110.3 AV			1.46 V	26	72.4	37.9
5	#10400.00	54.0 PK	68.2	-14.2	1.28 V	261	40.2	13.8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.1 PK	74.0	-11.9	1.59 H	11	61.0	1.1
2	5150.00	51.9 AV	54.0	-2.1	1.59 H	11	50.8	1.1
3	*5240.00	121.1 PK			1.50 H	0	83.4	37.7
4	*5240.00	110.2 AV			1.50 H	0	72.5	37.7
5	5350.00	57.4 PK	74.0	-16.6	1.55 H	0	56.5	0.9
6	5350.00	48.4 AV	54.0	-5.6	1.55 H	0	47.5	0.9
7	#10480.00	53.3 PK	68.2	-14.9	1.63 H	210	39.6	13.7
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	5136.20	63.0 PK	74.0	-11.0	1.59 V	14	61.9	1.1
2	5136.20	53.0 AV	54.0	-1.0	1.59 V	14	51.9	1.1
3	*5240.00	121.3 PK			1.49 V	25	83.6	37.7
4	*5240.00	110.1 AV			1.49 V	25	72.4	37.7
5	5424.10	58.6 PK	74.0	-15.4	1.50 V	5	57.4	1.2
6	5424.10	49.0 AV	54.0	-5.0	1.50 V	5	47.8	1.2
7	#10480.00	53.5 PK	68.2	-14.7	1.77 V	266	39.8	13.7

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.90	65.4 PK	68.2	-2.8	1.80 H	17	63.8	1.6
2	*5745.00	135.5 PK			1.80 H	17	97.0	38.5
3	*5745.00	125.0 AV			1.80 H	17	86.5	38.5
4	#5943.20	63.3 PK	68.2	-4.9	1.80 H	17	60.9	2.4
5	11490.00	54.5 PK	74.0	-19.5	2.02 H	116	40.6	13.9
6	11490.00	40.6 AV	54.0	-13.4	2.02 H	116	26.7	13.9
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	#5649.00	65.5 PK	68.2	-2.7	1.77 V	353	63.9	1.6
2	*5745.00	134.9 PK			1.77 V	353	96.4	38.5
3	*5745.00	124.9 AV			1.77 V	353	86.4	38.5
4	#5936.80	62.8 PK	68.2	-5.4	1.77 V	353	60.4	2.4
5	11490.00	55.3 PK	74.0	-18.7	1.85 V	290	41.4	13.9
6	11490.00	41.0 AV	54.0	-13.0	1.85 V	290	27.1	13.9

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	63.2 PK	68.2	-5.0	1.63 H	19	61.7	1.5
2	*5785.00	134.9 PK			1.63 H	19	96.2	38.7
3	*5785.00	124.8 AV			1.63 H	19	86.1	38.7
4	#5932.00	63.9 PK	68.2	-4.3	1.63 H	19	61.5	2.4
5	11570.00	55.0 PK	74.0	-19.0	1.95 H	115	41.2	13.8
6	11570.00	41.8 AV	54.0	-12.2	1.95 H	115	28.0	13.8
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	#5650.00	63.2 PK	68.2	-5.0	1.67 V	353	61.7	1.5
2	*5785.00	135.2 PK			1.69 V	353	96.5	38.7
3	*5785.00	125.1 AV			1.69 V	353	86.4	38.7
4	#5931.20	62.4 PK	68.2	-5.8	1.67 V	353	60.0	2.4
5	11570.00	54.8 PK	74.0	-19.2	1.51 V	289	41.0	13.8
6	11570.00	41.9 AV	54.0	-12.1	1.51 V	289	28.1	13.8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.00	61.6 PK	68.2	-6.6	1.81 H	18	60.0	1.6
2	*5825.00	135.4 PK			1.81 H	18	96.6	38.8
3	*5825.00	124.9 AV			1.81 H	18	86.1	38.8
4	#5925.00	63.7 PK	68.2	-4.5	1.81 H	18	61.3	2.4
5	11650.00	55.6 PK	74.0	-18.4	2.35 H	111	41.8	13.8
6	11650.00	42.1 AV	54.0	-11.9	2.35 H	111	28.3	13.8
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	#5646.40	62.1 PK	68.2	-6.1	1.52 V	352	60.5	1.6
2	*5825.00	135.8 PK			1.52 V	352	97.0	38.8
3	*5825.00	125.2 AV			1.52 V	352	86.4	38.8
4	#5927.20	66.5 PK	68.2	-1.7	1.52 V	352	64.1	2.4
5	11650.00	53.9 PK	74.0	-20.1	1.50 V	280	40.1	13.8
6	11650.00	41.3 AV	54.0	-12.7	1.50 V	280	27.5	13.8

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

802.11n (HT20)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.1 PK	74.0	-11.9	1.53 H	9	61.0	1.1
2	5150.00	51.8 AV	54.0	-2.2	1.53 H	9	50.7	1.1
3	*5180.00	119.1 PK			1.58 H	11	81.1	38.0
4	*5180.00	108.1 AV			1.58 H	11	70.1	38.0
5	#10360.00	53.0 PK	68.2	-15.2	1.69 H	249	39.4	13.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.7 PK	74.0	-11.3	1.47 V	357	61.6	1.1
2	5150.00	52.9 AV	54.0	-1.1	1.47 V	357	51.8	1.1
3	*5180.00	120.0 PK			1.58 V	353	82.0	38.0
4	*5180.00	108.4 AV			1.58 V	353	70.4	38.0
5	#10360.00	53.2 PK	68.2	-15.0	1.86 V	288	39.6	13.6

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.6 PK	74.0	-13.4	1.51 H	16	59.5	1.1
2	5150.00	51.7 AV	54.0	-2.3	1.51 H	16	50.6	1.1
3	*5200.00	120.0 PK			1.49 H	17	82.1	37.9
4	*5200.00	109.4 AV			1.49 H	17	71.5	37.9
5	#10400.00	53.0 PK	68.2	-15.2	1.58 H	205	39.2	13.8
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	61.5 PK	74.0	-12.5	1.40 V	358	60.4	1.1
2	5150.00	52.8 AV	54.0	-1.2	1.40 V	358	51.7	1.1
3	*5200.00	120.6 PK			1.52 V	356	82.7	37.9
4	*5200.00	110.0 AV			1.52 V	356	72.1	37.9
5	#10400.00	54.1 PK	68.2	-14.1	1.70 V	240	40.3	13.8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.0 PK	74.0	-13.0	1.61 H	11	59.9	1.1
2	5150.00	51.4 AV	54.0	-2.6	1.61 H	11	50.3	1.1
3	*5240.00	121.5 PK			1.54 H	7	83.8	37.7
4	*5240.00	110.3 AV			1.54 H	7	72.6	37.7
5	5350.00	58.4 PK	74.0	-15.6	1.59 H	1	57.5	0.9
6	5350.00	48.3 AV	54.0	-5.7	1.59 H	1	47.4	0.9
7	#10480.00	53.6 PK	68.2	-14.6	2.07 H	218	39.9	13.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.1 PK	74.0	-10.9	1.55 V	2	62.0	1.1
2	5150.00	52.5 AV	54.0	-1.5	1.52 V	2	51.4	1.1
3	*5240.00	122.0 PK			1.55 V	7	84.3	37.7
4	*5240.00	111.0 AV			1.55 V	7	73.3	37.7
5	5350.00	59.3 PK	74.0	-14.7	1.60 V	9	58.4	0.9
6	5350.00	49.0 AV	54.0	-5.0	1.60 V	9	48.1	0.9
7	#10480.00	54.0 PK	68.2	-14.2	1.77 V	255	40.3	13.7

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5640.80	64.3 PK	68.2	-3.9	1.66 H	28	62.7	1.6
2	*5745.00	135.4 PK			1.66 H	28	96.9	38.5
3	*5745.00	124.5 AV			1.66 H	28	86.0	38.5
4	#5926.40	62.6 PK	68.2	-5.6	1.66 H	28	60.2	2.4
5	11490.00	55.4 PK	74.0	-18.6	2.06 H	103	41.5	13.9
6	11490.00	42.4 AV	54.0	-11.6	2.06 H	103	28.5	13.9
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	#5650.00	65.3 PK	68.2	-2.9	1.76 V	18	63.8	1.5
2	*5745.00	135.7 PK			1.76 V	18	97.2	38.5
3	*5745.00	124.8 AV			1.76 V	18	86.3	38.5
4	#5955.30	62.9 PK	68.2	-5.3	1.76 V	18	60.5	2.4
5	11490.00	54.4 PK	74.0	-19.6	1.40 V	199	40.5	13.9
6	11490.00	41.5 AV	54.0	-12.5	1.40 V	199	27.6	13.9

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5605.60	62.7 PK	68.2	-5.5	1.70 H	354	61.3	1.4
2	*5785.00	135.2 PK			1.70 H	354	96.5	38.7
3	*5785.00	124.3 AV			1.70 H	354	85.6	38.7
4	#5936.80	63.8 PK	68.2	-4.4	1.70 H	354	61.4	2.4
5	11570.00	54.2 PK	74.0	-19.8	1.93 H	104	40.4	13.8
6	11570.00	41.7 AV	54.0	-12.3	1.93 H	104	27.9	13.8
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	#5650.00	63.4 PK	68.2	-4.8	1.55 V	5	61.9	1.5
2	*5785.00	135.5 PK			1.55 V	5	96.8	38.7
3	*5785.00	124.8 AV			1.55 V	5	86.1	38.7
4	#5925.00	62.6 PK	68.2	-5.6	1.55 V	5	60.2	2.4
5	11570.00	54.8 PK	74.0	-19.2	1.72 V	295	41.0	13.8
6	11570.00	41.7 AV	54.0	-12.3	1.72 V	295	27.9	13.8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5646.40	62.2 PK	68.2	-6.0	1.64 H	6	60.6	1.6
2	*5825.00	135.4 PK			1.64 H	6	96.6	38.8
3	*5825.00	124.4 AV			1.64 H	6	85.6	38.8
4	#5925.00	63.9 PK	68.2	-4.3	1.64 H	6	61.5	2.4
5	11650.00	54.3 PK	74.0	-19.7	1.90 H	94	40.5	13.8
6	11650.00	41.5 AV	54.0	-12.5	1.90 H	94	27.7	13.8
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	#5650.00	62.0 PK	68.2	-6.2	1.60 V	352	60.5	1.5
2	*5825.00	135.6 PK			1.60 V	352	96.8	38.8
3	*5825.00	124.7 AV			1.60 V	352	85.9	38.8
4	#5925.00	66.2 PK	68.2	-2.0	1.60 V	352	63.8	2.4
5	11650.00	54.2 PK	74.0	-19.8	1.67 V	295	40.4	13.8
6	11650.00	41.6 AV	54.0	-12.4	1.67 V	295	27.8	13.8

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

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.4 PK	74.0	-12.6	1.56 H	0	60.3	1.1
2	5150.00	52.0 AV	54.0	-2.0	1.54 H	0	50.9	1.1
3	*5190.00	115.6 PK			1.50 H	13	77.7	37.9
4	*5190.00	106.4 AV			1.50 H	13	68.5	37.9
5	#10380.00	53.4 PK	68.2	-14.8	1.78 H	249	39.6	13.8
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	63.0 PK	74.0	-11.0	1.47 V	356	61.9	1.1
2	5150.00	52.5 AV	54.0	-1.5	1.47 V	356	51.4	1.1
3	*5190.00	116.2 PK			1.56 V	355	78.3	37.9
4	*5190.00	107.1 AV			1.56 V	355	69.2	37.9
5	#10380.00	55.0 PK	68.2	-13.2	1.24 V	240	41.2	13.8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.0 PK	74.0	-14.0	1.48 H	3	58.9	1.1
2	5150.00	51.9 AV	54.0	-2.1	1.48 H	3	50.8	1.1
3	*5230.00	117.0 PK			1.48 H	1	79.3	37.7
4	*5230.00	107.7 AV			1.48 H	1	70.0	37.7
5	5350.00	58.0 PK	74.0	-16.0	1.49 H	0	57.1	0.9
6	5350.00	48.9 AV	54.0	-5.1	1.49 H	0	48.0	0.9
7	#10460.00	53.5 PK	68.2	-14.7	1.92 H	219	39.8	13.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.4 PK	74.0	-12.6	1.58 V	355	60.3	1.1
2	5150.00	53.0 AV	54.0	-1.0	1.58 V	355	51.9	1.1
3	*5230.00	117.6 PK			1.61 V	356	79.9	37.7
4	*5230.00	108.4 AV			1.61 V	356	70.7	37.7
5	5350.00	59.0 PK	74.0	-15.0	1.49 V	354	58.1	0.9
6	5350.00	49.1 AV	54.0	-4.9	1.49 V	354	48.2	0.9
7	#10460.00	54.2 PK	68.2	-14.0	1.33 V	294	40.5	13.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	65.0 PK	68.2	-3.2	1.55 H	19	63.5	1.5
2	*5755.00	129.5 PK			1.55 H	19	90.9	38.6
3	*5755.00	119.9 AV			1.55 H	19	81.3	38.6
4	#5929.60	63.2 PK	68.2	-5.0	1.55 H	19	60.8	2.4
5	11510.00	54.2 PK	74.0	-19.8	1.92 H	108	40.3	13.9
6	11510.00	41.6 AV	54.0	-12.4	1.92 H	108	27.7	13.9
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	#5650.00	67.1 PK	68.2	-1.1	1.59 V	351	65.6	1.5
2	*5755.00	129.4 PK			1.59 V	351	90.8	38.6
3	*5755.00	120.1 AV			1.59 V	351	81.5	38.6
4	#5925.60	62.8 PK	68.2	-5.4	1.59 V	351	60.4	2.4
5	11510.00	54.4 PK	74.0	-19.6	1.48 V	289	40.5	13.9
6	11510.00	41.4 AV	54.0	-12.6	1.48 V	289	27.5	13.9

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5649.80	63.9 PK	68.2	-4.3	1.69 H	3	62.3	1.6
2	*5795.00	130.6 PK			1.69 H	3	91.9	38.7
3	*5795.00	121.0 AV			1.69 H	3	82.3	38.7
4	#5932.10	67.2 PK	68.2	-1.0	1.69 H	3	64.8	2.4
5	11590.00	54.0 PK	74.0	-20.0	1.90 H	0	40.2	13.8
6	11590.00	41.3 AV	54.0	-12.7	1.90 H	0	27.5	13.8
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	#5649.00	65.1 PK	68.2	-3.1	1.61 V	352	63.5	1.6
2	*5795.00	130.6 PK			1.66 V	1	91.9	38.7
3	*5795.00	120.9 AV			1.66 V	1	82.2	38.7
4	#5927.00	67.2 PK	68.2	-1.0	1.61 V	352	64.8	2.4
5	11510.00	54.0 PK	74.0	-20.0	1.50 V	189	40.1	13.9
6	11510.00	41.6 AV	54.0	-12.4	1.50 V	189	27.7	13.9

Remarks:

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

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.5 PK	74.0	-9.5	1.46 H	3	63.4	1.1
2	5150.00	52.5 AV	54.0	-1.5	1.46 H	3	51.4	1.1
3	*5210.00	112.3 PK			1.60 H	17	74.5	37.8
4	*5210.00	103.0 AV			1.60 H	17	65.2	37.8
5	5350.00	59.0 PK	74.0	-15.0	1.59 H	6	58.1	0.9
6	5350.00	48.5 AV	54.0	-5.5	1.59 H	6	47.6	0.9
7	#10420.00	53.6 PK	68.2	-14.6	1.86 H	208	39.8	13.8
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	65.0 PK	74.0	-9.0	1.55 V	355	63.9	1.1
2	5150.00	52.9 AV	54.0	-1.1	1.55 V	355	51.8	1.1
3	*5210.00	114.0 PK			1.53 V	357	76.2	37.8
4	*5210.00	104.0 AV			1.53 V	357	66.2	37.8
5	5350.00	59.6 PK	74.0	-14.4	1.54 V	355	58.7	0.9
6	5350.00	49.2 AV	54.0	-4.8	1.54 V	355	48.3	0.9
7	#10420.00	54.3 PK	68.2	-13.9	1.59 V	242	40.5	13.8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	66.9 PK	68.2	-1.3	1.56 H	11	65.4	1.5
2	*5775.00	122.0 PK			1.56 H	11	83.4	38.6
3	*5775.00	111.8 AV			1.56 H	11	73.2	38.6
4	#5925.00	67.2 PK	68.2	-1.0	1.56 H	11	64.8	2.4
5	11550.00	53.8 PK	74.0	-20.2	1.99 H	99	40.0	13.8
6	11550.00	40.8 AV	54.0	-13.2	1.99 H	99	27.0	13.8
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	#5650.00	67.1 PK	68.2	-1.1	1.70 V	351	65.6	1.5
2	*5775.00	121.9 PK			1.70 V	351	83.3	38.6
3	*5775.00	112.1 AV			1.70 V	351	73.5	38.6
4	#5925.00	65.8 PK	68.2	-2.4	1.70 V	351	63.4	2.4
5	11550.00	54.5 PK	74.0	-19.5	1.50 V	190	40.7	13.8
6	11550.00	40.8 AV	54.0	-13.2	1.50 V	190	27.0	13.8

Remarks:

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

Below 1GHz Worst-Case Data:

Test Mode A

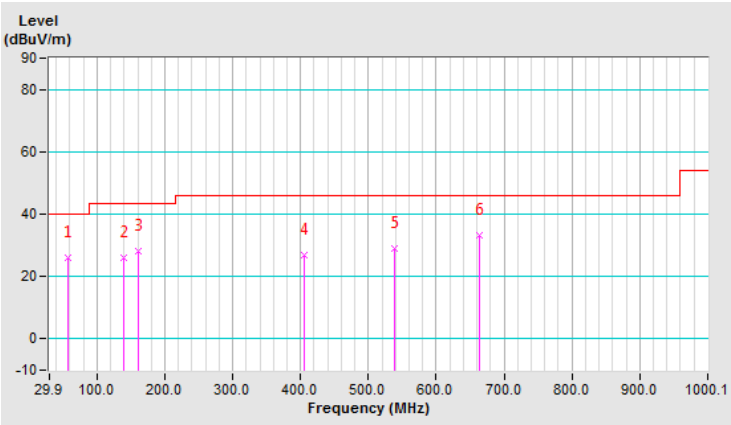
802.11a

CHANNEL	TX Channel 36	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	26.1 QP	40.0	-13.9	1.00 H	218	36.2	-10.1
2	138.78	26.1 QP	43.5	-17.4	1.50 H	132	35.9	-9.8
3	160.17	28.1 QP	43.5	-15.4	2.00 H	132	37.1	-9.0
4	405.15	27.0 QP	46.0	-19.0	1.50 H	75	32.6	-5.6
5	539.30	29.0 QP	46.0	-17.0	1.00 H	92	32.0	-3.0
6	663.74	33.3 QP	46.0	-12.7	1.50 H	343	33.7	-0.4

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 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

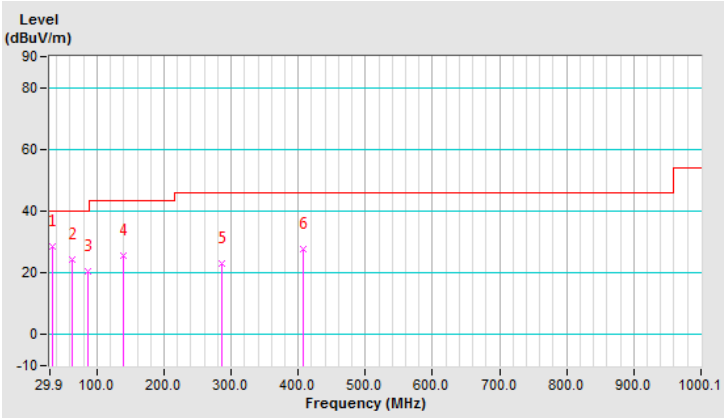


CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	33.79	28.4 QP	40.0	-11.6	1.50 V	284	39.6	-11.2
2	62.95	24.3 QP	40.0	-15.7	2.00 V	221	34.6	-10.3
3	86.28	20.5 QP	40.0	-19.5	2.00 V	154	35.1	-14.6
4	138.78	25.8 QP	43.5	-17.7	1.50 V	83	35.6	-9.8
5	286.55	23.0 QP	46.0	-23.0	2.00 V	36	30.6	-7.6
6	407.09	27.7 QP	46.0	-18.3	1.00 V	163	33.2	-5.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report



Test Mode B

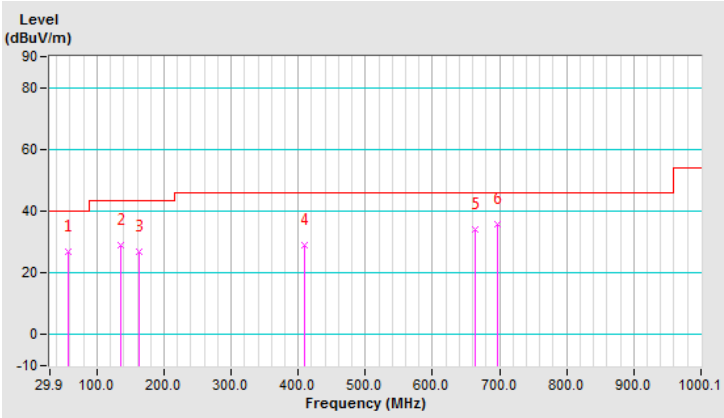
802.11a

CHANNEL	TX Channel 36	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	27.0 QP	40.0	-13.0	2.00 H	333	37.1	-10.1
2	134.89	28.9 QP	43.5	-14.6	1.00 H	340	39.0	-10.1
3	162.11	26.7 QP	43.5	-16.8	2.00 H	133	35.7	-9.0
4	409.04	28.8 QP	46.0	-17.2	1.00 H	78	34.2	-5.4
5	663.74	34.2 QP	46.0	-11.8	2.00 H	42	34.6	-0.4
6	696.79	35.7 QP	46.0	-10.3	1.50 H	141	35.5	0.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report

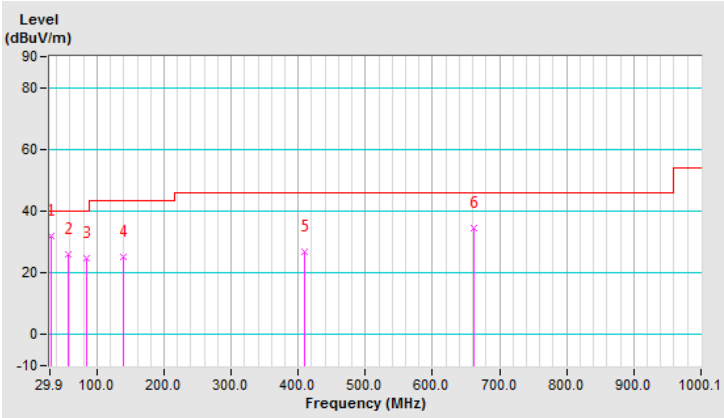


CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	31.84	32.0 QP	40.0	-8.0	1.50 V	130	43.5	-11.5
2	57.12	26.2 QP	40.0	-13.8	1.00 V	6	36.3	-10.1
3	84.34	24.7 QP	40.0	-15.3	1.50 V	161	39.1	-14.4
4	138.78	25.2 QP	43.5	-18.3	1.00 V	66	35.0	-9.8
5	409.04	26.7 QP	46.0	-19.3	1.50 V	9	32.1	-5.4
6	661.79	34.3 QP	46.0	-11.7	2.00 V	280	34.7	-0.4

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 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



Test Mode C

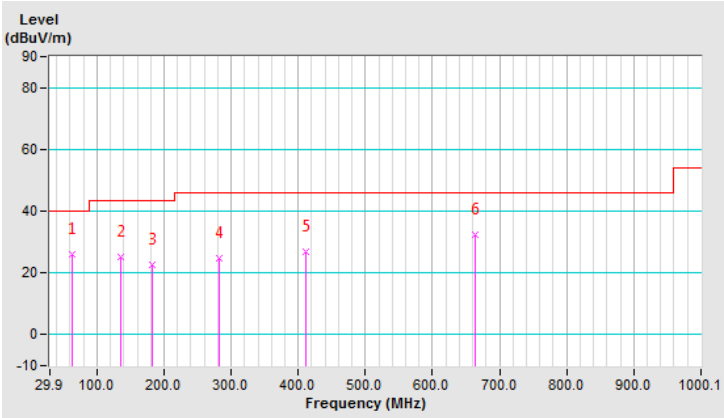
802.11a

CHANNEL	TX Channel 36	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	62.95	25.9 QP	40.0	-14.1	1.00 H	10	36.2	-10.3
2	134.89	25.1 QP	43.5	-18.4	1.50 H	102	35.2	-10.1
3	181.55	22.5 QP	43.5	-21.0	2.00 H	109	32.9	-10.4
4	282.66	24.7 QP	46.0	-21.3	1.50 H	142	32.5	-7.8
5	410.98	26.9 QP	46.0	-19.1	2.00 H	33	32.3	-5.4
6	663.74	32.5 QP	46.0	-13.5	1.50 H	325	32.9	-0.4

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 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

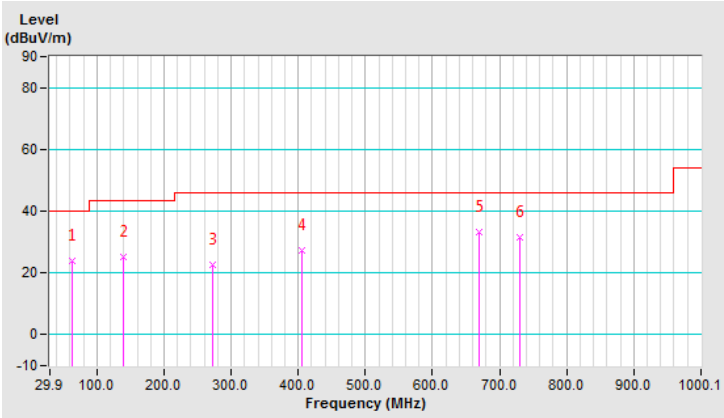


CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	62.95	23.8 QP	40.0	-16.2	1.50 V	277	34.1	-10.3
2	138.78	25.1 QP	43.5	-18.4	2.00 V	97	34.9	-9.8
3	272.94	22.5 QP	46.0	-23.5	1.50 V	323	30.7	-8.2
4	405.15	27.5 QP	46.0	-18.5	2.00 V	180	33.1	-5.6
5	669.57	33.1 QP	46.0	-12.9	2.00 V	284	33.4	-0.3
6	729.84	31.5 QP	46.0	-14.5	1.00 V	48	30.3	1.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 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	ESCS 30	100288	Jan. 03, 2019	Jan. 02, 2020
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-12040.

4.2.3 Test Procedures

a. 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.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

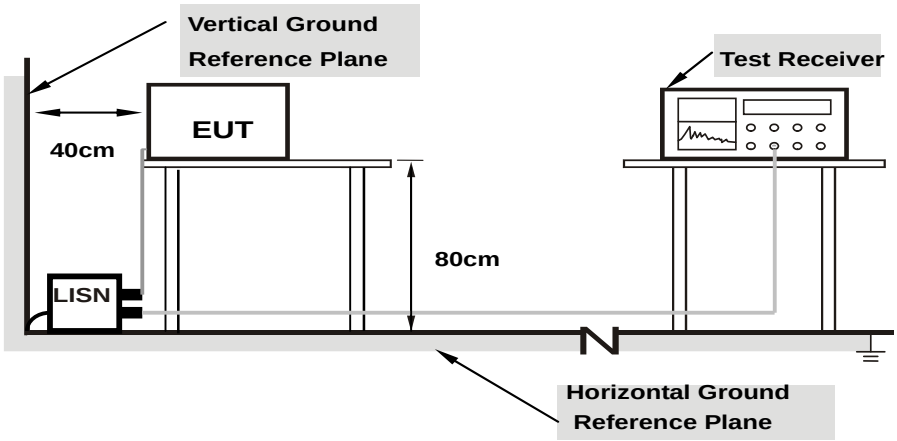
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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:

Test Mode A

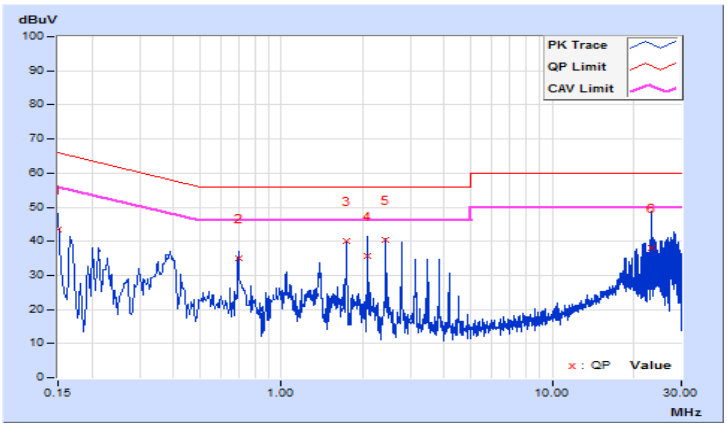
802.11a

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

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.69	33.74	7.39	43.43	17.08	66.00	56.00	-22.57	-38.92
2	0.69740	9.68	25.38	23.68	35.06	33.36	56.00	46.00	-20.94	-12.64
3	1.73746	9.69	30.37	29.87	40.06	39.56	56.00	46.00	-15.94	-6.44
4	2.08154	9.70	26.03	20.63	35.73	30.33	56.00	46.00	-20.27	-15.67
5	2.43344	9.71	30.76	30.10	40.47	39.81	56.00	46.00	-15.53	-6.19
6	23.30502	9.94	27.99	5.76	37.93	15.70	60.00	50.00	-22.07	-34.30

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.

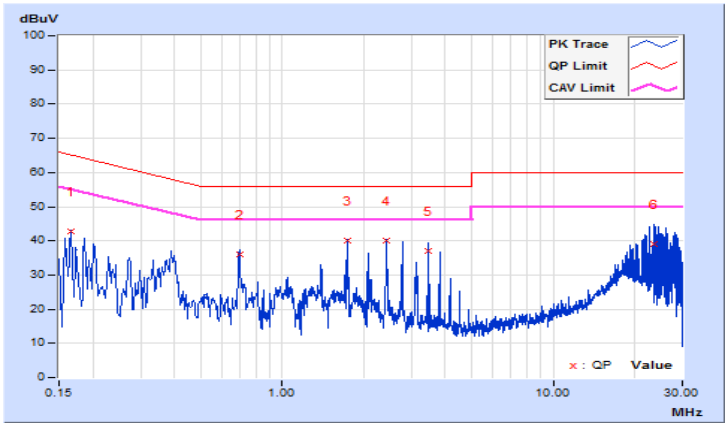


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16564	9.66	32.95	19.37	42.61	29.03	65.18	55.18	-22.57	-26.15
2	0.69349	9.65	26.43	24.89	36.08	34.54	56.00	46.00	-19.92	-11.46
3	1.73746	9.66	30.33	29.85	39.99	39.51	56.00	46.00	-16.01	-6.49
4	2.43344	9.68	30.40	29.82	40.08	39.50	56.00	46.00	-15.92	-6.50
5	3.47741	9.71	27.45	21.39	37.16	31.10	56.00	46.00	-18.84	-14.90
6	23.65692	10.01	29.21	6.37	39.22	16.38	60.00	50.00	-20.78	-33.62

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.



Test Mode B

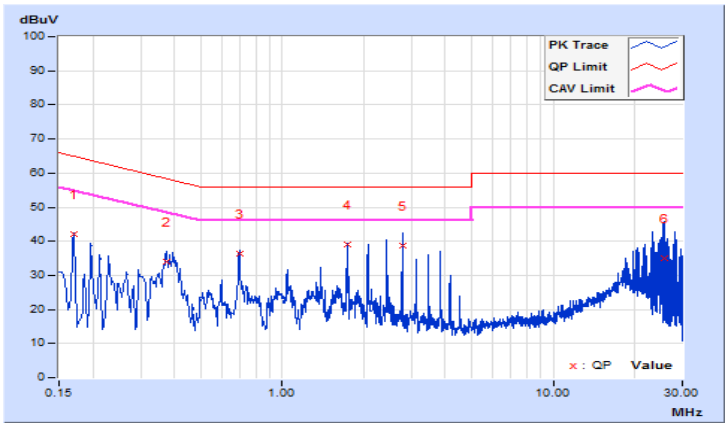
802.11a

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16955	9.69	32.47	17.70	42.16	27.39	64.98	54.98	-22.82	-27.59
2	0.37287	9.68	24.19	14.67	33.87	24.35	58.44	48.44	-24.57	-24.09
3	0.69349	9.68	26.62	25.16	36.30	34.84	56.00	46.00	-19.70	-11.16
4	1.73796	9.69	29.45	29.33	39.14	39.02	56.00	46.00	-16.86	-6.98
5	2.77752	9.72	28.90	27.46	38.62	37.18	56.00	46.00	-17.38	-8.82
6	25.71358	9.94	25.16	6.10	35.10	16.04	60.00	50.00	-24.90	-33.96

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.

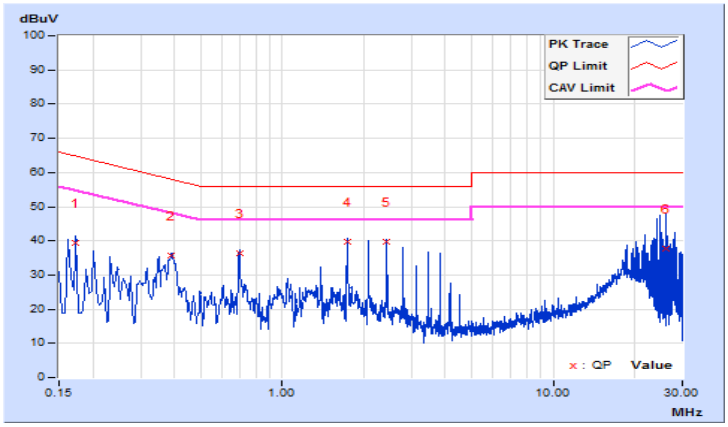


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17346	9.66	29.73	10.37	39.39	20.03	64.79	54.79	-25.40	-34.76
2	0.39116	9.65	26.12	18.51	35.77	28.16	58.04	48.04	-22.27	-19.88
3	0.69349	9.65	26.61	25.15	36.26	34.80	56.00	46.00	-19.74	-11.20
4	1.73746	9.66	30.07	29.92	39.73	39.58	56.00	46.00	-16.27	-6.42
5	2.42953	9.68	30.09	29.72	39.77	39.40	56.00	46.00	-16.23	-6.60
6	26.06939	10.02	27.68	4.33	37.70	14.35	60.00	50.00	-22.30	-35.65

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.



Test Mode C

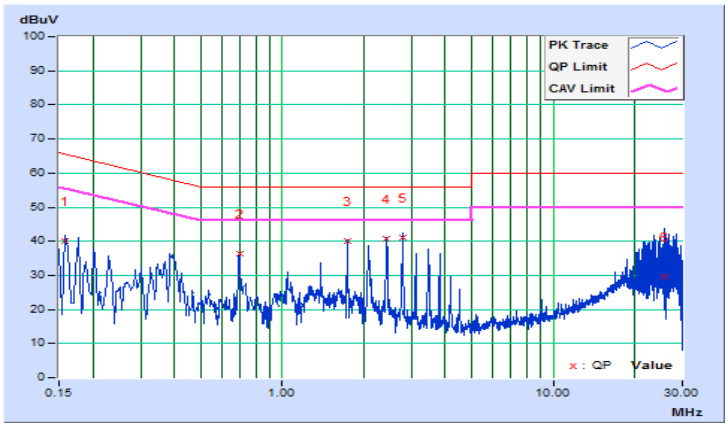
802.11a

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

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15782	9.69	30.39	11.63	40.08	21.32	65.58	55.58	-25.50	-34.26
2	0.69473	9.68	26.79	25.35	36.47	35.03	56.00	46.00	-19.53	-10.97
3	1.73746	9.69	30.31	29.72	40.00	39.41	56.00	46.00	-16.00	-6.59
4	**2.43344**	**9.71**	**30.96**	**30.23**	**40.67**	**39.94**	**56.00**	**46.00**	**-15.33**	**-6.06**
5	2.78143	9.72	31.22	28.78	40.94	38.50	56.00	46.00	-15.06	-7.50
6	25.78005	9.94	19.68	5.01	29.62	14.95	60.00	50.00	-30.38	-35.05

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.

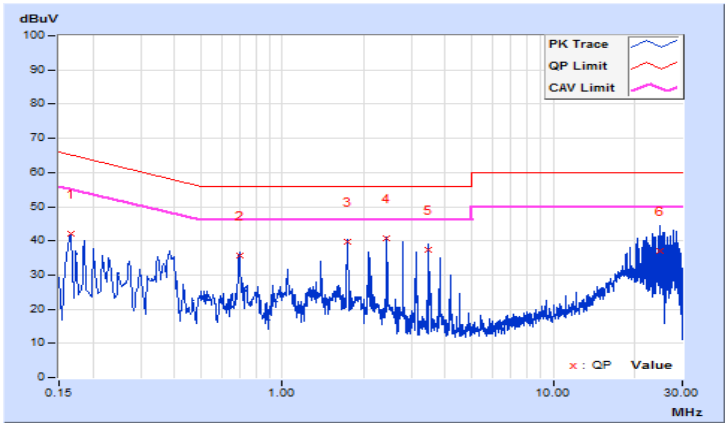


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16564	9.66	32.27	18.39	41.93	28.05	65.18	55.18	-23.25	-27.13
2	0.69349	9.65	26.02	24.43	35.67	34.08	56.00	46.00	-20.33	-11.92
3	1.73746	9.66	30.15	29.57	39.81	39.23	56.00	46.00	-16.19	-6.77
4	2.43344	9.68	30.90	30.10	40.58	39.78	56.00	46.00	-15.42	-6.22
5	3.48132	9.71	27.59	18.22	37.30	27.93	56.00	46.00	-18.70	-18.07
6	24.69307	10.02	27.16	17.96	37.18	27.98	60.00	50.00	-22.82	-22.02

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

*B is the 26 dB emission bandwidth in megahertz

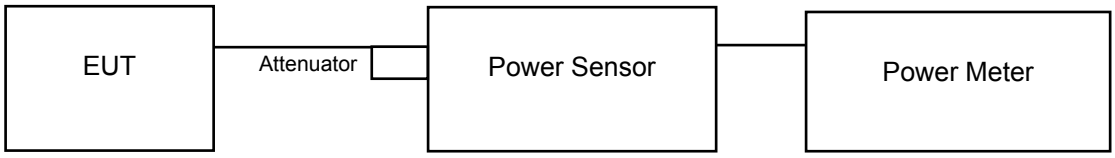
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

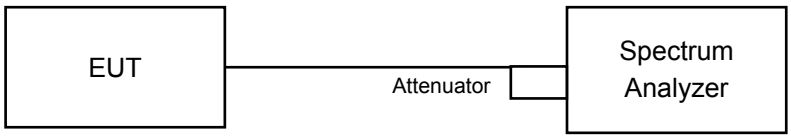
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

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



802.11ac (VHT80)



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

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

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

For 802.11ac (VHT80)

a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.

b. Set sweep trigger to “free run”.

c. Set RBW = 1 MHz.

d. Set VBW ≥ 3 MHz.

e. Number of points in sweep ≥ 2 Span / RBW.

f. Sweep time ≤ (number of points in sweep) * T

g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.

h. Detector = RMS.

i. Trace mode = max hold.

j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

k. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

4.3.5 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

For U-NII-1 Band (Outdoor Access Point)

Test Mode A

802.11a

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	10.73	11.11	24.742	13.93	18.00	0.77	14.70	21.00	Pass
40	5200	10.87	11.29	25.677	14.10	18.00	0.77	14.87	21.00	Pass
48	5240	10.71	11.34	25.390	14.05	18.00	0.77	14.82	21.00	Pass

Note:
1. Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.
2. Gain = 0.77dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (0.77dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11n (HT20)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	11.01	11.09	25.471	14.06	18.00	0.77	14.83	21.00	Pass
40	5200	11.10	11.32	26.434	14.22	18.00	0.77	14.99	21.00	Pass
48	5240	10.72	11.14	24.805	13.95	18.00	0.77	14.72	21.00	Pass

Note:
1. Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.
2. Gain = 0.77dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (0.77dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11n (HT40)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
38	5190	13.21	13.69	44.329	16.47	18.00	0.77	17.24	21.00	Pass
46	5230	13.76	14.21	50.131	17.00	18.00	0.77	17.77	21.00	Pass

Note:
1. Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.
2. Gain = 0.77dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (0.77dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
42	5210	14.19	14.65	**55.416**	17.44	18.00	0.77	18.21	21.00	Pass

Note:
1. Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.
2. Gain = 0.77dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (0.77dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

For U-NII-1 Band (Outdoor Access Point)

Test Mode B

802.11a

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	19.25	19.69	177.251	22.49	26.00	-4.88	17.61	21.00	Pass
40	5200	18.96	19.38	165.401	22.19	26.00	-4.88	17.31	21.00	Pass
48	5240	18.84	19.24	160.506	22.05	26.00	-4.88	17.17	21.00	Pass

Note:
1. Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.
2. Gain = -4.88dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (-4.88dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11n (HT20)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	19.23	19.35	169.852	22.30	26.00	-4.88	17.42	21.00	Pass
40	5200	19.04	19.06	160.706	22.06	26.00	-4.88	17.18	21.00	Pass
48	5240	19.92	19.30	183.289	22.63	26.00	-4.88	17.75	21.00	Pass

Note:
1. Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.
2. Gain = -4.88dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (-4.88dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11n (HT40)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
38	5190	19.26	19.70	177.658	22.50	26.00	-4.88	17.62	21.00	Pass
46	5230	21.39	21.82	**289.776**	24.62	26.00	-4.88	19.74	21.00	Pass

Note:
1. Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.
2. Gain = -4.88dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (-4.88dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
42	5210	19.07	19.36	167.022	22.23	26.00	-4.88	17.35	21.00	Pass

Note:
1. Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.
2. Gain = -4.88dBi (above 30 degrees from the horizon).
3. EIRP = conducted power + (-4.88dBi) + array gain (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

For U-NII-1 Band (Fixed point-to-point Access Point)

Test Mode C

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	10.23	10.64	22.132	13.45	30.00	Pass
40	5200	10.95	11.21	25.658	14.09	30.00	Pass
48	5240	11.72	12.29	31.802	15.02	30.00	Pass

Note: 1. Gain = 23dBi = 23dBi, so the power limit no need to reduced.

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	10.48	10.45	22.261	13.48	30.00	Pass
40	5200	11.52	11.54	28.447	14.54	30.00	Pass
48	5240	11.92	12.18	**32.080**	15.06	30.00	Pass

Note: 1. Gain = 23dBi = 23dBi, so the power limit no need to reduced.

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	9.97	10.15	20.282	13.07	30.00	Pass
46	5230	11.21	11.65	27.835	14.45	30.00	Pass

Note: 1. Gain = 23dBi = 23dBi, so the power limit no need to reduced.

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	10.03	10.33	20.858	13.19	30.00	Pass

Note: 1. Gain = 23dBi = 23dBi, so the power limit no need to reduced.

For U-NII-3 Band

Test Mode A

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	14.03	14.71	54.873	17.39	18.00	Pass
157	5785	14.48	14.73	57.771	17.62	18.00	Pass
165	5825	14.97	14.37	58.758	17.69	18.00	Pass

Note: Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.

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				
149	5745	13.84	14.57	52.852	17.23	18.00	Pass
157	5785	14.30	14.42	54.584	17.37	18.00	Pass
165	5825	14.81	14.25	56.876	17.55	18.00	Pass

Note: Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.

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				
151	5755	14.47	14.75	57.844	17.62	18.00	Pass
159	5795	14.73	14.69	**59.161**	17.72	18.00	Pass

Note: Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.

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				
155	5775	14.42	14.63	56.709	17.54	18.00	Pass

Note: Gain = 18dBi > 6dBi, so the power limit shall be reduced to 30-(18-6) = 18dBm.

Test Mode B

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	22.44	22.54	354.861	25.50	26.00	Pass
157	5785	22.59	22.49	358.971	25.55	26.00	Pass
165	5825	22.60	21.99	340.095	25.32	26.00	Pass

Note: Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.

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				
149	5745	22.22	22.46	342.923	25.35	26.00	Pass
157	5785	22.57	22.53	359.778	25.56	26.00	Pass
165	5825	22.61	21.87	336.205	25.27	26.00	Pass

Note: Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.

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				
151	5755	22.24	22.36	339.681	25.31	26.00	Pass
159	5795	22.76	22.69	**374.579**	25.74	26.00	Pass

Note: Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.

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				
155	5775	22.60	22.42	356.552	25.52	26.00	Pass

Note: Gain = 10dBi > 6dBi, so the power limit shall be reduced to 30-(10-6) = 26.00dBm.

Test Mode C

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	25.70	25.90	**760.580**	28.81	30.00	Pass
157	5785	25.63	25.50	720.408	28.58	30.00	Pass
165	5825	25.48	25.21	685.077	28.36	30.00	Pass

Note: The EUT is a point-to-point device, so the power limit no need to reduce.

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				
149	5745	25.64	25.90	755.483	28.78	30.00	Pass
157	5785	25.64	25.61	730.353	28.64	30.00	Pass
165	5825	25.07	25.53	678.639	28.32	30.00	Pass

Note: The EUT is a point-to-point device, so the power limit no need to reduce.

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				
151	5755	23.54	23.71	460.907	26.64	30.00	Pass
159	5795	24.72	24.54	580.929	27.64	30.00	Pass

Note: The EUT is a point-to-point device, so the power limit no need to reduce.

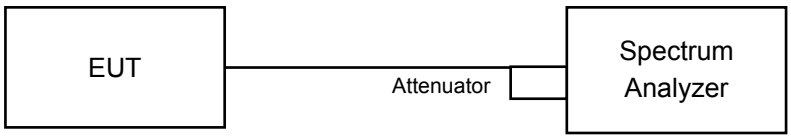
802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
155	5775	19.10	19.18	164.077	22.15	30.00	Pass

Note: The EUT is a point-to-point device, so the power limit no need to reduce.

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

Test Mode A

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.44	16.44
40	5200	16.44	16.44
48	5240	16.44	16.56
149	5745	16.56	16.44
157	5785	16.56	16.56
165	5825	16.44	16.56

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.64	17.64
40	5200	17.64	17.76
48	5240	17.52	17.64
149	5745	17.76	17.64
157	5785	17.76	17.76
165	5825	17.64	17.64

802.11n (HT40)

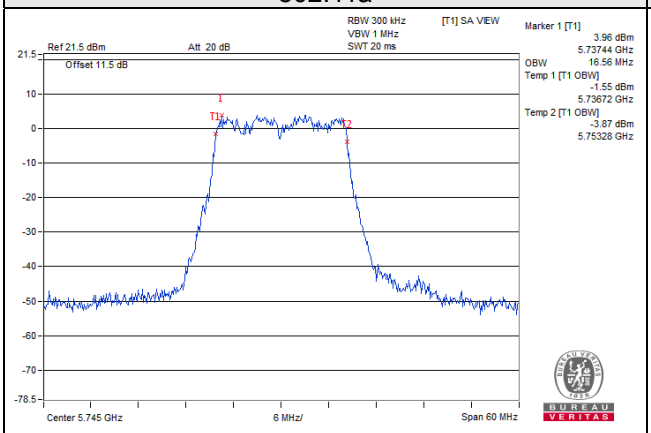
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.36	36.24
46	5230	36.36	36.24
151	5755	36.12	36.24
159	5795	36.24	36.24

802.11ac (VHT80)

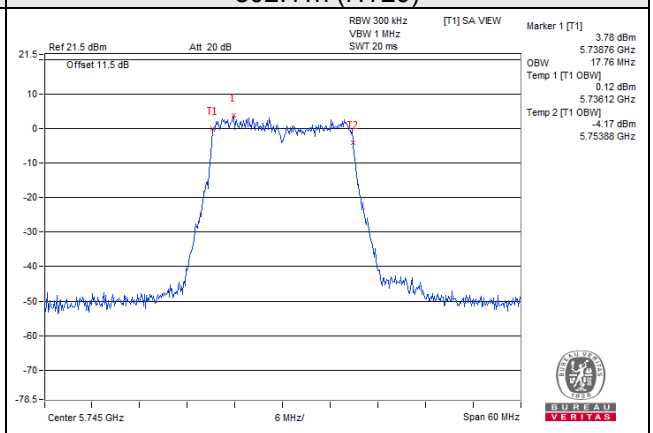
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.08	75.84
155	5775	75.84	75.84

Spectrum Plot of Worst Value

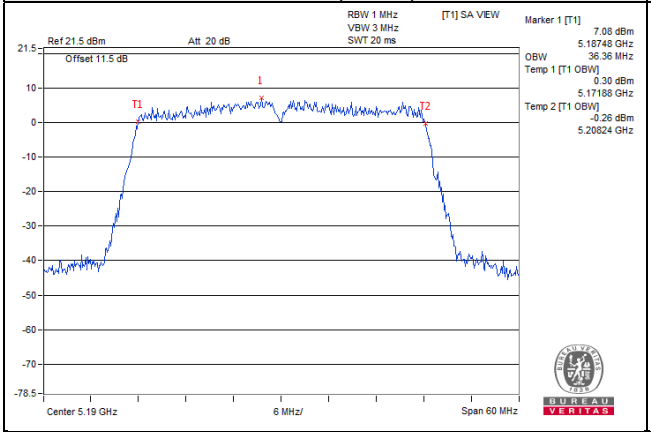
802.11a



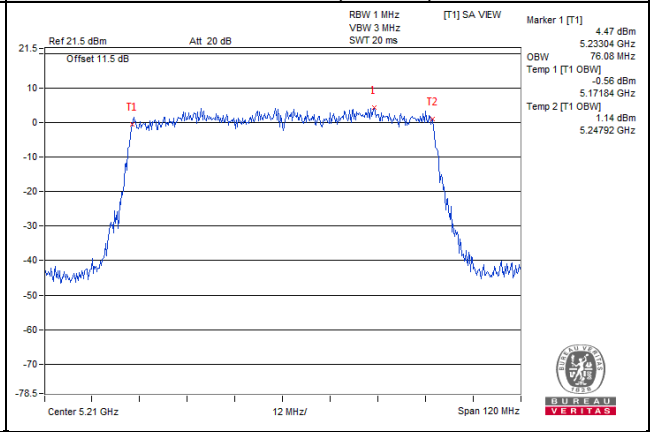
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode B

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.44	16.44
40	5200	16.44	16.56
48	5240	16.44	16.44
149	5745	16.56	16.44
157	5785	16.56	16.44
165	5825	16.44	16.56

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.64	17.64
40	5200	17.64	17.64
48	5240	17.52	17.64
149	5745	17.88	17.64
157	5785	17.64	17.76
165	5825	17.64	17.64

802.11n (HT40)

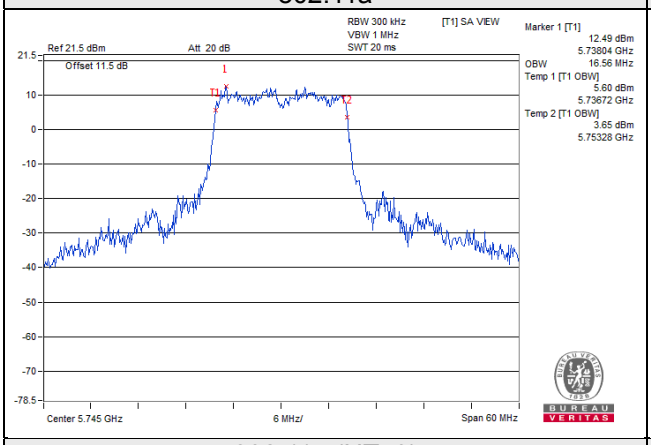
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.36	36.24
46	5230	36.48	36.36
151	5755	36.12	36.12
159	5795	36.24	36.12

802.11ac (VHT80)

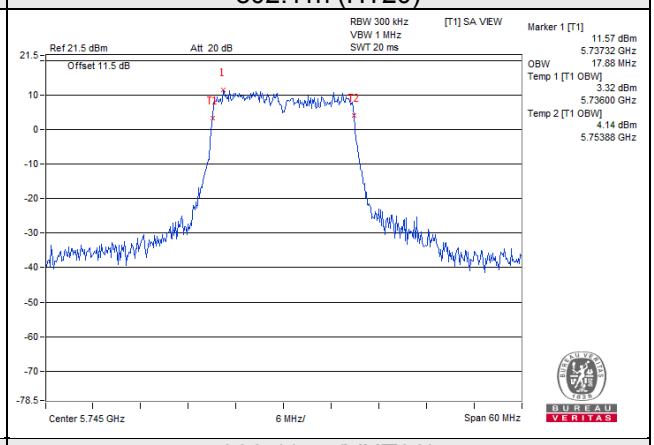
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.08	75.84
155	5775	75.84	75.84

Spectrum Plot of Worst Value

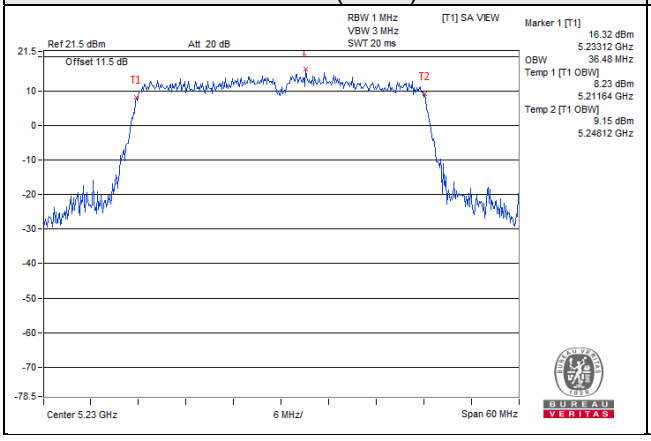
802.11a



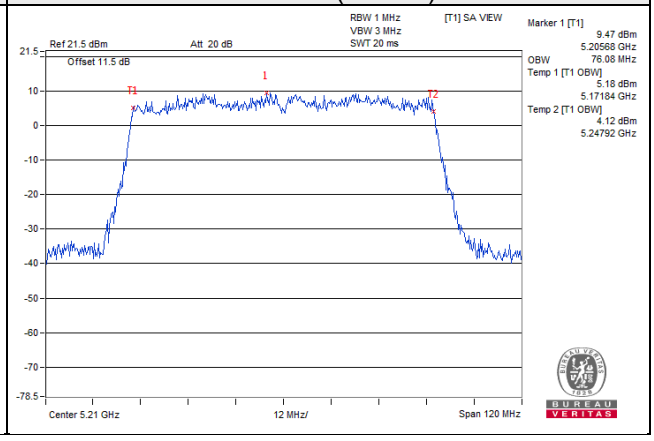
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode C

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.44	16.56
40	5200	16.44	16.56
48	5240	16.44	16.56
149	5745	18.48	22.44
157	5785	17.76	19.56
165	5825	17.76	17.16

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.64	17.64
40	5200	17.64	17.64
48	5240	17.64	17.64
149	5745	19.20	22.92
157	5785	18.72	19.56
165	5825	18.12	18.60

802.11n (HT40)

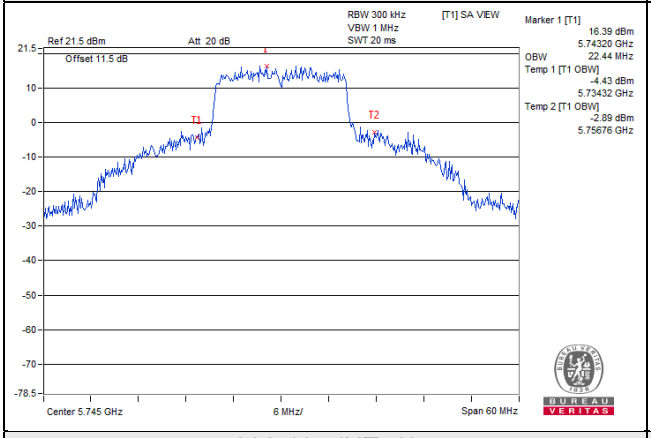
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.24	36.24
46	5230	36.36	36.12
151	5755	36.12	36.36
159	5795	36.48	36.48

802.11ac (VHT80)

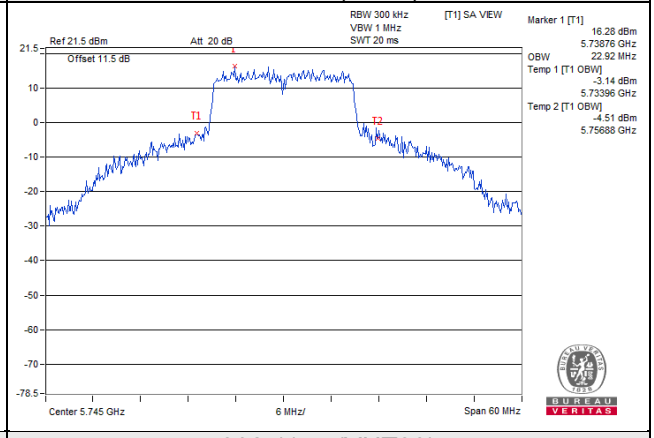
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.84	75.84
155	5775	76.08	75.84

Spectrum Plot of Worst Value

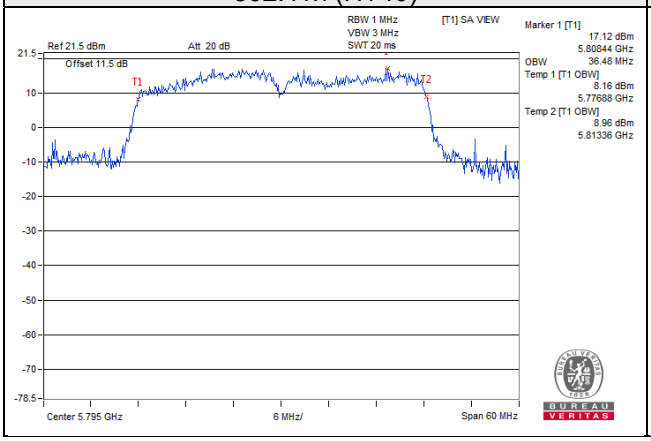
802.11a



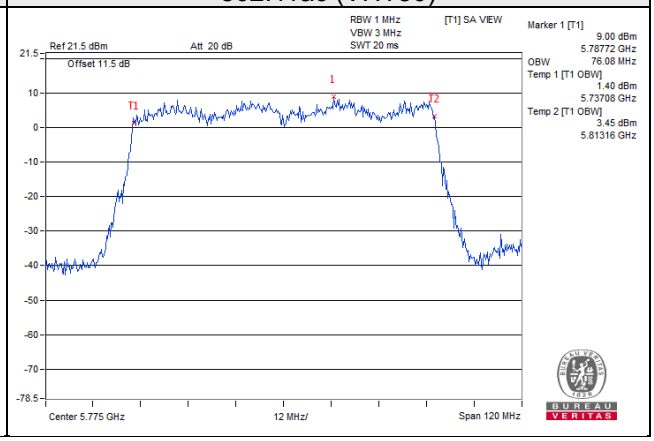
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

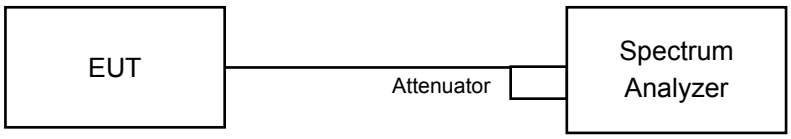


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		Limit
U-NII-1	√ (For Test Mode A, B)	Outdoor Access Point	17dBm/ MHz
	√ (For Test Mode C)	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 band:

Duty cycle of test signal is ≥ 98%

Using method SA-1

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS

c. Sweep time = auto, trigger set to “free run”.

d. Trace average at least 100 traces in power averaging mode.

e. Record the max value

Duty cycle of test signal is < 98%

Using method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS

c. Set Channel power measure = 1MHz

d. Sweep time = auto, trigger set to “free run”.

e. Trace average at least 100 traces in power averaging mode.

f. Record the max value and add 10 log (1/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 ≥ 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 = 10log(500 kHz/300kHz)

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 ≥ 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 = 10log(500 kHz / 300 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/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 Band (Outdoor Access Point)

Test Mode A

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-2.69	-3.38	0.20	0.19	1.99	Pass
40	5200	-2.43	-3.05	0.20	0.48	1.99	Pass
48	5240	-2.05	-2.76	0.20	0.82	1.99	Pass

Note:
1. 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.
2. Directional gain = 18dBi + 10log(2) = 21.01dBi > 6dBi, so the power density limit shall be reduced to 17-(21.01-6) = 1.99dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

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	-2.78	-3.36	0.09	0.04	1.99	Pass
40	5200	-2.33	-3.20	0.09	0.36	1.99	Pass
48	5240	-1.89	-2.64	0.09	0.85	1.99	Pass

Note:
1. 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.
2. Directional gain = 18dBi + 10log(2) = 21.01dBi > 6dBi, so the power density limit shall be reduced to 17-(21.01-6) = 1.99dBm.
3. 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	-2.74	-3.89	0.15	-0.12	1.99	Pass
46	5230	-2.04	-2.71	0.15	0.80	1.99	Pass

Note:
1. 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.
2. Directional gain = 18dBi + 10log(2) = 21.01dBi > 6dBi, so the power density limit shall be reduced to 17-(21.01-6) = 1.99dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

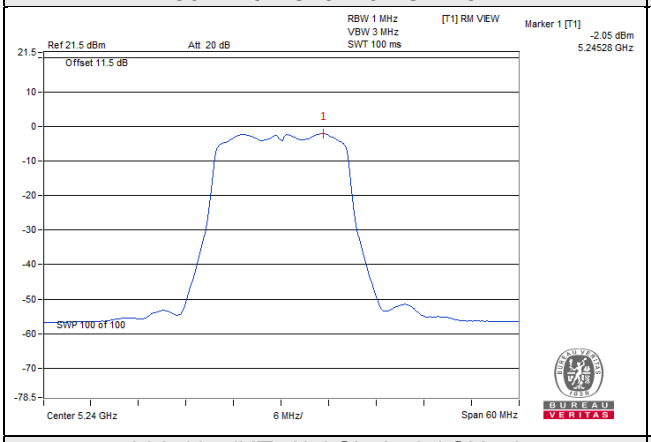
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-5.64	-6.43	0.36	-2.65	1.99	Pass

Note:

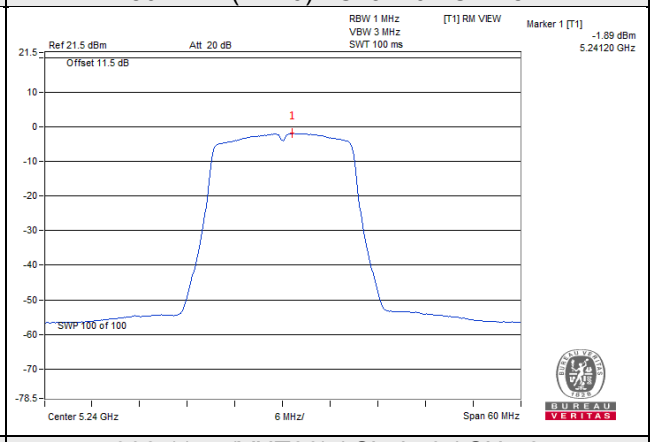
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 18dBi + 10log(2) = 21.01dBi > 6dBi, so the power density limit shall be reduced to 17-(21.01-6) = 1.99dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

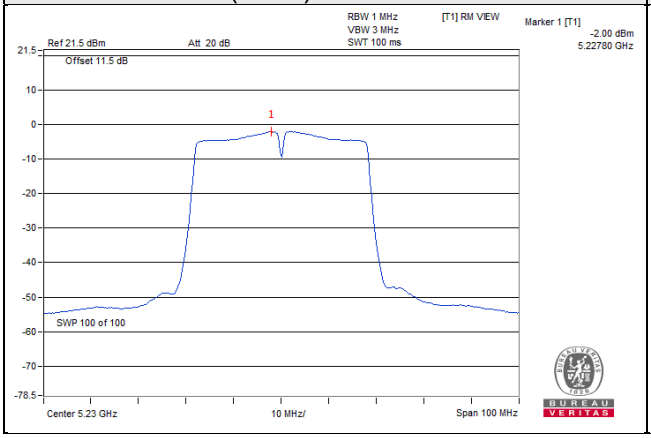
802.11a / Chain 0 / CH 48



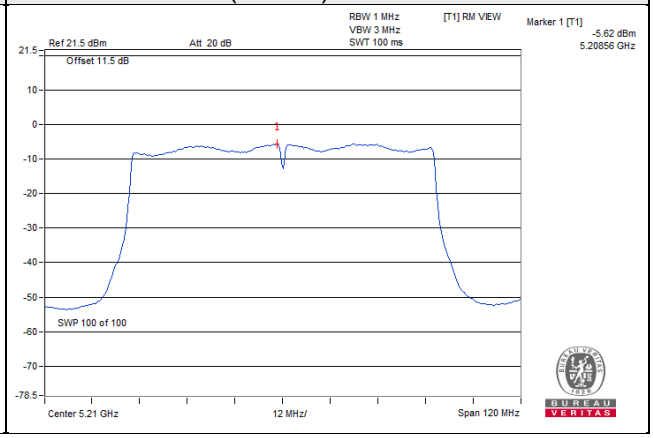
802.11n (HT20) / Chain 0 / CH 48



802.11n (HT40) / Chain 0 / CH 46



802.11ac (VHT80) / Chain 0 / CH 42



For U-NII-1 Band (Outdoor Access Point)

Test Mode B

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	5.90	5.17	0.20	8.76	9.99	Pass
40	5200	5.57	5.03	0.20	8.52	9.99	Pass
48	5240	5.77	5.46	0.20	8.83	9.99	Pass

Note:
1. 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.
2. Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi, so the power density limit shall be reduced to 17-(13.01-6) = 9.99dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

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	5.44	4.74	0.09	8.20	9.99	Pass
40	5200	5.73	5.10	0.09	8.53	9.99	Pass
48	5240	6.01	5.47	0.09	8.85	9.99	Pass

Note:
1. 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.
2. Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi, so the power density limit shall be reduced to 17-(13.01-6) = 9.99dBm.
3. 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	3.29	2.43	0.15	6.04	9.99	Pass
46	5230	5.57	5.05	0.15	8.48	9.99	Pass

Note:
1. 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.
2. Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi, so the power density limit shall be reduced to 17-(13.01-6) = 9.99dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

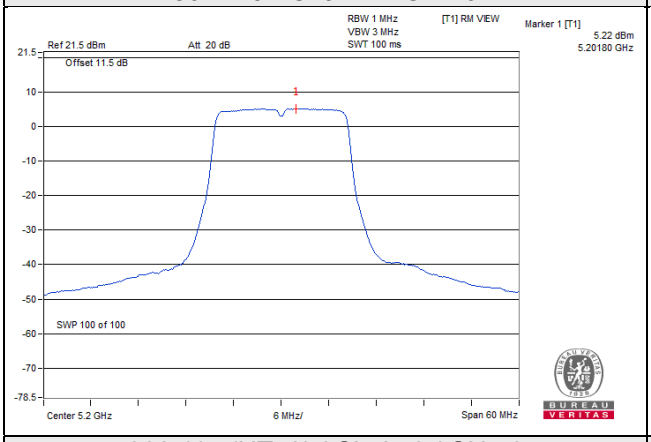
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-0.75	-1.04	0.36	2.48	9.99	Pass

Note:

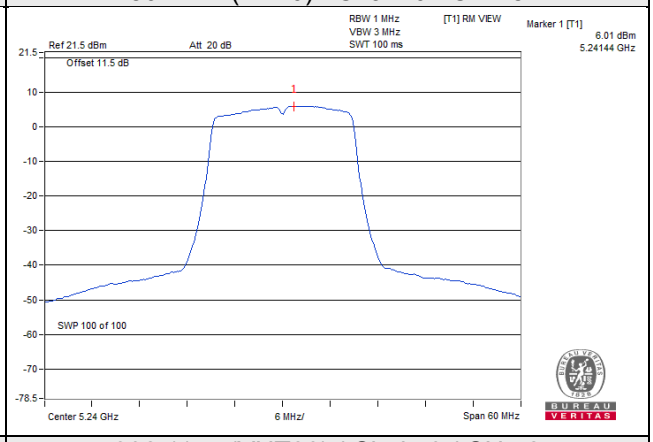
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi, so the power density limit shall be reduced to 17-(13.01-6) = 9.99dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

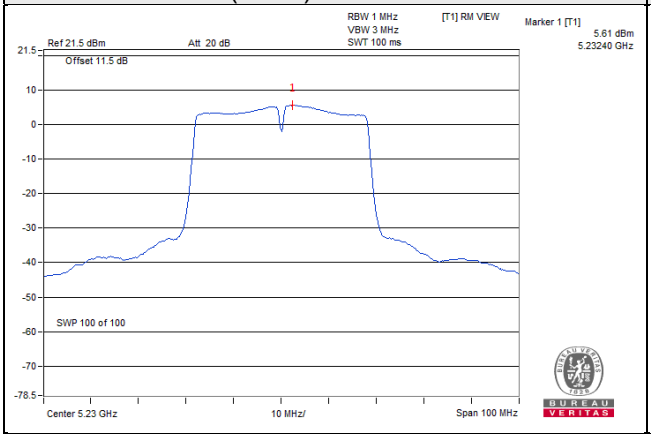
802.11a / Chain 1 / CH 40



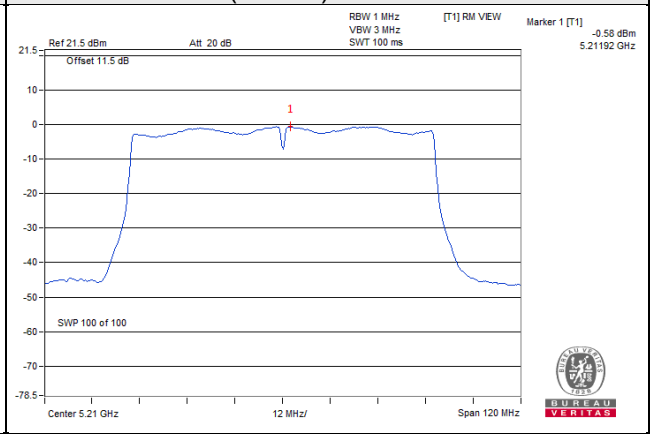
802.11n (HT20) / Chain 0 / CH 48



802.11n (HT40) / Chain 0 / CH 46



802.11ac (VHT80) / Chain 0 / CH 42



For U-NII-1 Band (Fixed point-to-point Access Point)

Test Mode C

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-3.11	-3.78	0.20	-0.22	13.99	Pass
40	5200	-2.34	-2.97	0.20	0.57	13.99	Pass
48	5240	-1.05	-1.55	0.20	1.92	13.99	Pass

Note:
1. 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.
2. Directional gain = 23.0dBi + 10log(2) = 26.01dBi > 23dBi, so the power density limit shall be reduced to 17-(26.01-23) = 13.99dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

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	-3.18	-3.90	0.09	-0.42	13.99	Pass
40	5200	-1.88	-2.53	0.09	0.91	13.99	Pass
48	5240	-0.92	-1.55	0.09	1.88	13.99	Pass

Note:
1. 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.
2. Directional gain = 23.0dBi + 10log(2) = 26.01dBi > 23dBi, so the power density limit shall be reduced to 17-(26.01-23) = 13.99dBm.
3. 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	-6.09	-7.28	0.15	-3.48	13.99	Pass
46	5230	-4.43	-5.09	0.15	-1.59	13.99	Pass

Note:
1. 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.
2. Directional gain = 23.0dBi + 10log(2) = 26.01dBi > 23dBi, so the power density limit shall be reduced to 17-(26.01-23) = 13.99dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

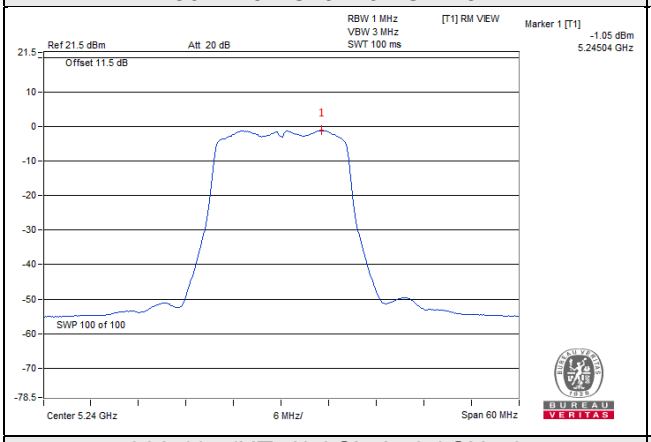
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-9.45	-10.15	0.36	-6.42	13.99	Pass

Note:

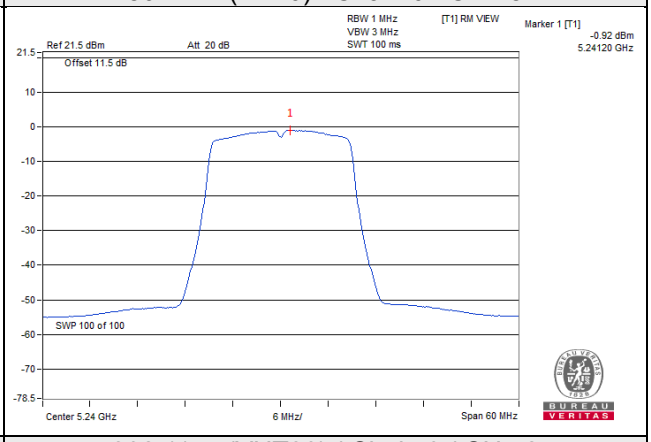
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 23.0dBi + 10log(2) = 26.01dBi > 23dBi, so the power density limit shall be reduced to 17-(26.01-23) = 13.99dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

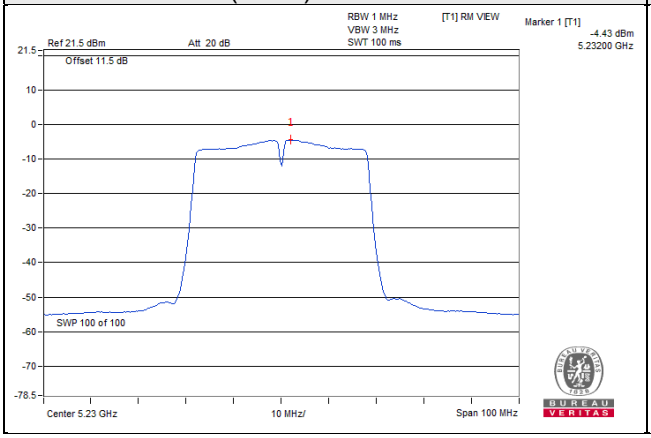
802.11a / Chain 0 / CH 48



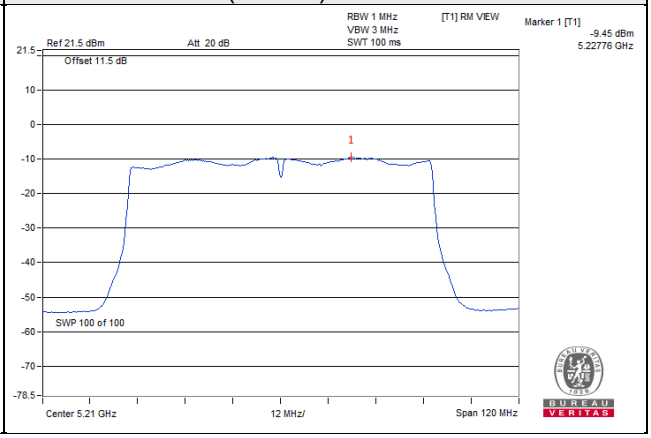
802.11n (HT20) / Chain 0 / CH 48



802.11n (HT40) / Chain 0 / CH 46



802.11ac (VHT80) / Chain 0 / CH 42



For U-NII-3 band (Outdoor Access Point)

Test Mode A

802.11a

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	149	5745	-7.53	-5.31	3.01	0.20	-2.10	14.99	Pass
	157	5785	-7.55	-5.33	3.01	0.20	-2.12	14.99	Pass
	165	5825	-7.37	-5.15	3.01	0.20	-1.94	14.99	Pass
1	149	5745	-7.53	-5.31	3.01	0.20	-2.10	14.99	Pass
	157	5785	-7.65	-5.43	3.01	0.20	-2.22	14.99	Pass
	165	5825	-7.83	-5.61	3.01	0.20	-2.40	14.99	Pass

Note:
1. Directional gain = 18dBi + 10log(2) = 21.01dBi > 6dBi, so the power density limit shall be reduced to 30-(21.01-6) = 14.99dBm.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	-8.34	-6.12	3.01	0.09	-3.02	14.99	Pass
	157	5785	-7.83	-5.61	3.01	0.09	-2.51	14.99	Pass
	165	5825	-7.61	-5.39	3.01	0.09	-2.29	14.99	Pass
1	149	5745	-7.80	-5.58	3.01	0.09	-2.48	14.99	Pass
	157	5785	-8.00	-5.78	3.01	0.09	-2.68	14.99	Pass
	165	5825	-8.15	-5.93	3.01	0.09	-2.83	14.99	Pass

Note:
1. Directional gain = 18dBi + 10log(2) = 21.01dBi > 6dBi, so the power density limit shall be reduced to 30-(21.01-6) = 14.99dBm.
2. 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	151	5755	-11.07	-8.85	3.01	0.15	-5.69	14.99	Pass
	159	5795	-10.79	-8.57	3.01	0.15	-5.41	14.99	Pass
1	151	5755	-10.91	-8.69	3.01	0.15	-5.53	14.99	Pass
	159	5795	-11.00	-8.78	3.01	0.15	-5.62	14.99	Pass

Note:
1. Directional gain = 18dBi + 10log(2) = 21.01dBi > 6dBi, so the power density limit shall be reduced to 30-(21.01-6) = 14.99dBm.
2. Refer to section 3.3 for duty cycle spectrum plot.

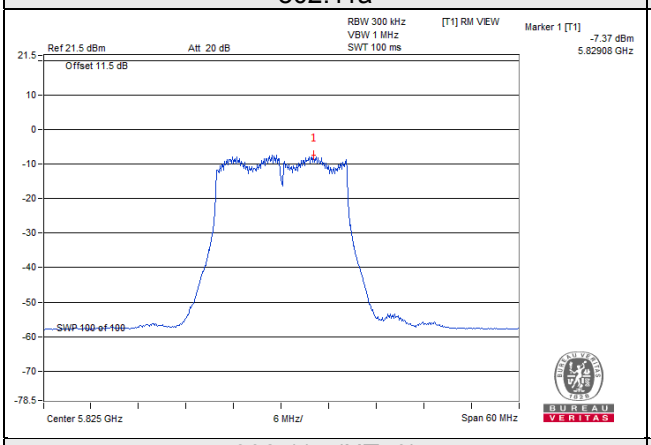
802.11ac (VHT80)

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	155	5775	-14.56	-12.34	3.01	0.36	-8.97	14.99	Pass
1	155	5775	-14.40	-12.18	3.01	0.36	-8.81	14.99	Pass

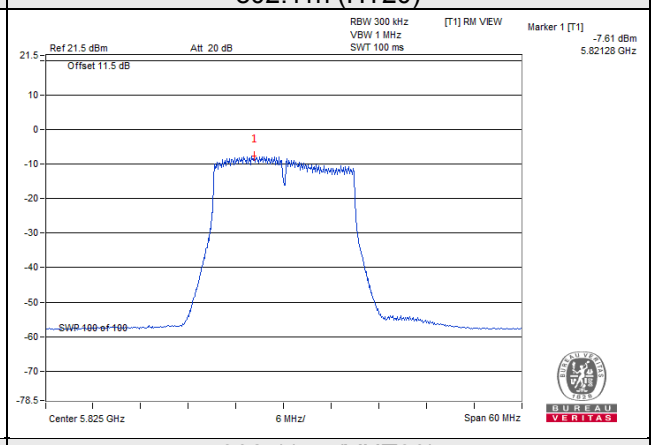
Note:
1. Directional gain = 18dBi + 10log(2) = 21.01dBi > 6dBi, so the power density limit shall be reduced to 30-(21.01-6) = 14.99dBm.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

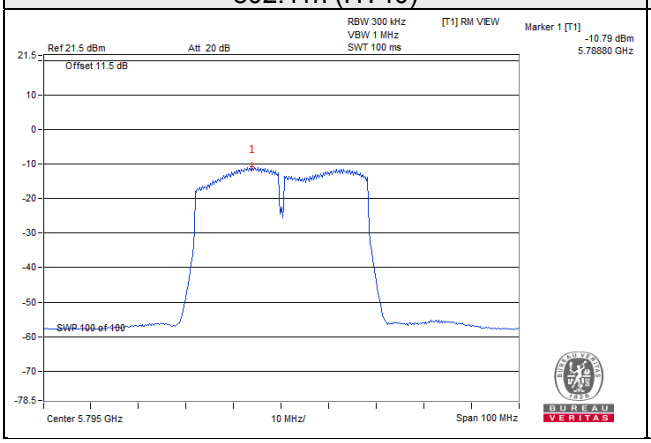
802.11a



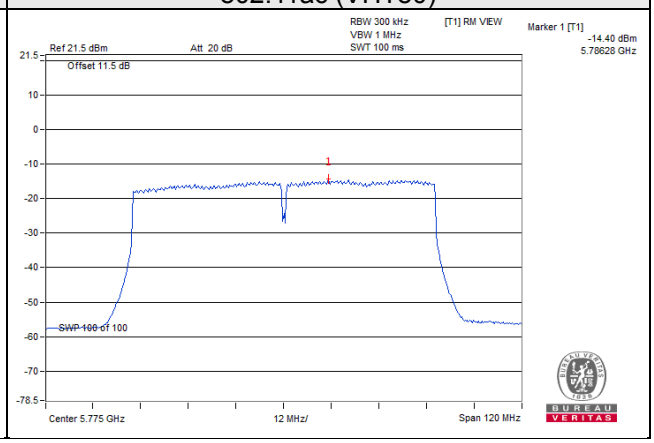
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



For U-NII-3 band (Outdoor Access Point)

Test Mode B

802.11a

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	149	5745	0.07	2.29	3.01	0.20	5.50	22.99	Pass
	157	5785	0.28	2.50	3.01	0.20	5.71	22.99	Pass
	165	5825	0.25	2.47	3.01	0.20	5.68	22.99	Pass
1	149	5745	0.63	2.85	3.01	0.20	6.06	22.99	Pass
	157	5785	0.46	2.68	3.01	0.20	5.89	22.99	Pass
	165	5825	-0.30	1.92	3.01	0.20	5.13	22.99	Pass

Note:
1. Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi, so the power density limit shall be reduced to 30-(13.01-6) = 22.99dBm.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	-0.29	1.93	3.01	0.09	5.03	22.99	Pass
	157	5785	0.24	2.46	3.01	0.09	5.56	22.99	Pass
	165	5825	-0.04	2.18	3.01	0.09	5.28	22.99	Pass
1	149	5745	0.18	2.40	3.01	0.09	5.50	22.99	Pass
	157	5785	0.23	2.45	3.01	0.09	5.55	22.99	Pass
	165	5825	-0.47	1.75	3.01	0.09	4.85	22.99	Pass

Note:
1. Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi, so the power density limit shall be reduced to 30-(13.01-6) = 22.99dBm.
2. 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	151	5755	-3.03	-0.81	3.01	0.15	2.35	22.99	Pass
	159	5795	-2.79	-0.57	3.01	0.15	2.59	22.99	Pass
1	151	5755	-2.89	-0.67	3.01	0.15	2.49	22.99	Pass
	159	5795	-2.88	-0.66	3.01	0.15	2.50	22.99	Pass

Note:
1. Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi, so the power density limit shall be reduced to 30-(13.01-6) = 22.99dBm.
2. Refer to section 3.3 for duty cycle spectrum plot.

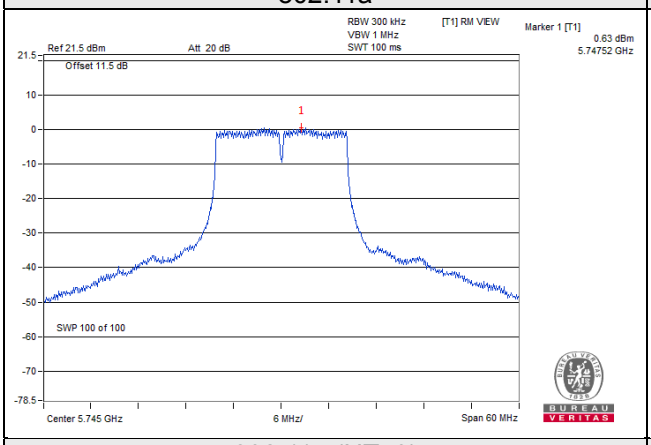
802.11ac (VHT80)

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	155	5775	-6.61	-4.39	3.01	0.36	-1.02	22.99	Pass
1	155	5775	-6.52	-4.30	3.01	0.36	-0.93	22.99	Pass

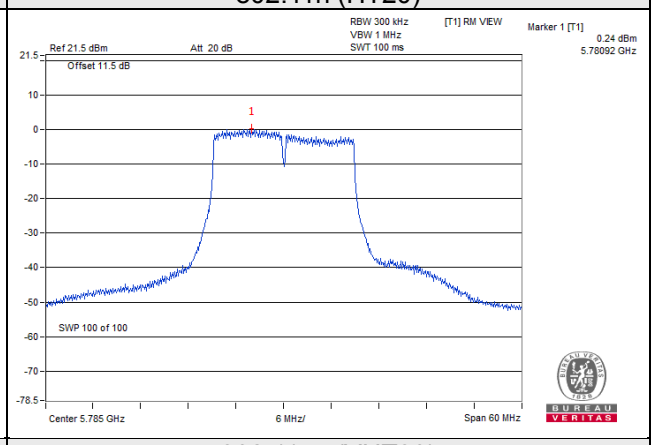
Note:
1. Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi, so the power density limit shall be reduced to 30-(13.01-6) = 22.99dBm.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

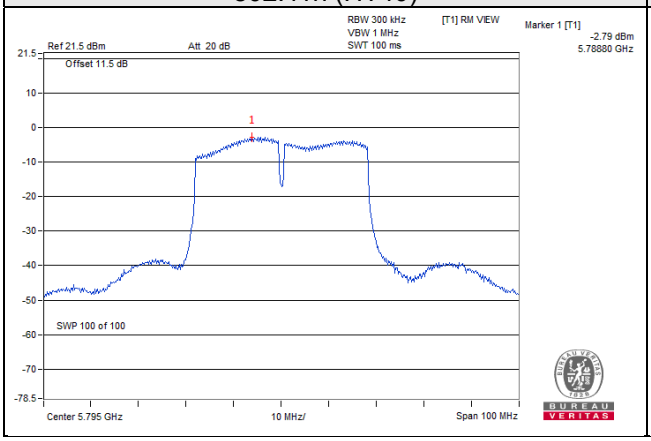
802.11a



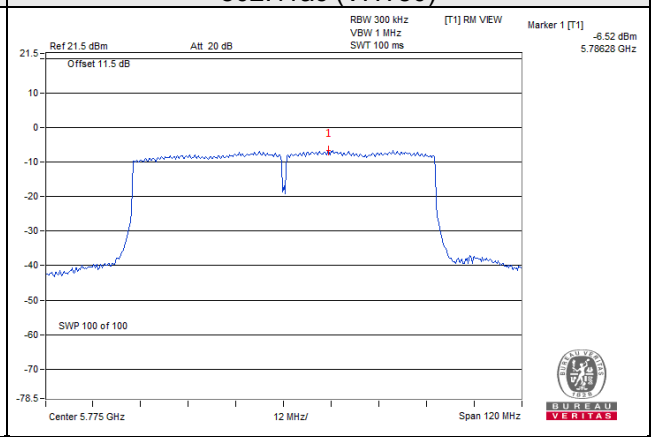
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



For U-NII-3 band (Fixed point-to-point Access Point)

Test Mode C

802.11a

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	149	5745	3.76	5.98	3.01	0.20	9.19	30.00	Pass
	157	5785	3.25	5.47	3.01	0.20	8.68	30.00	Pass
	165	5825	3.17	5.39	3.01	0.20	8.60	30.00	Pass
1	149	5745	3.74	5.96	3.01	0.20	9.17	30.00	Pass
	157	5785	3.29	5.51	3.01	0.20	8.72	30.00	Pass
	165	5825	2.82	5.04	3.01	0.20	8.25	30.00	Pass

Note:
1. The EUT is a point-to-point device, so the power density limit no need to reduce.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	3.06	5.28	3.01	0.09	8.38	30.00	Pass
	157	5785	3.05	5.27	3.01	0.09	8.37	30.00	Pass
	165	5825	2.90	5.12	3.01	0.09	8.22	30.00	Pass
1	149	5745	3.31	5.53	3.01	0.09	8.63	30.00	Pass
	157	5785	2.94	5.16	3.01	0.09	8.26	30.00	Pass
	165	5825	2.46	4.68	3.01	0.09	7.78	30.00	Pass

Note:
1. The EUT is a point-to-point device, so the power density limit no need to reduce.
2. 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	151	5755	-2.02	0.20	3.01	0.15	3.36	30.00	Pass
	159	5795	-0.70	1.52	3.01	0.15	4.68	30.00	Pass
1	151	5755	-2.06	0.16	3.01	0.15	3.32	30.00	Pass
	159	5795	-1.03	1.19	3.01	0.15	4.35	30.00	Pass

Note:
1. The EUT is a point-to-point device, so the power density limit no need to reduce.
2. Refer to section 3.3 for duty cycle spectrum plot.

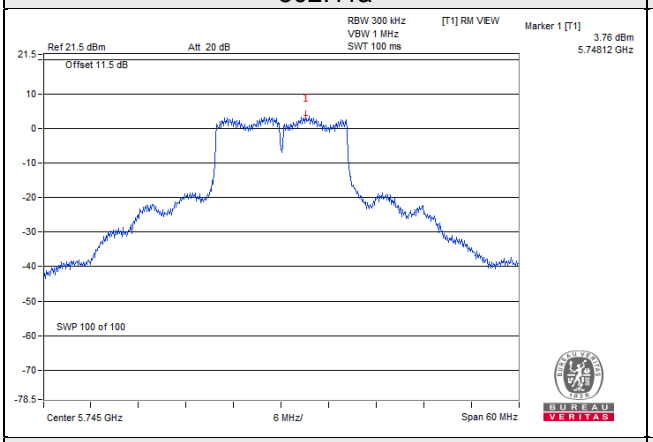
802.11ac (VHT80)

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	155	5775	-10.06	-7.84	3.01	0.36	-4.47	30.00	Pass
1	155	5775	-9.77	-7.55	3.01	0.36	-4.18	30.00	Pass

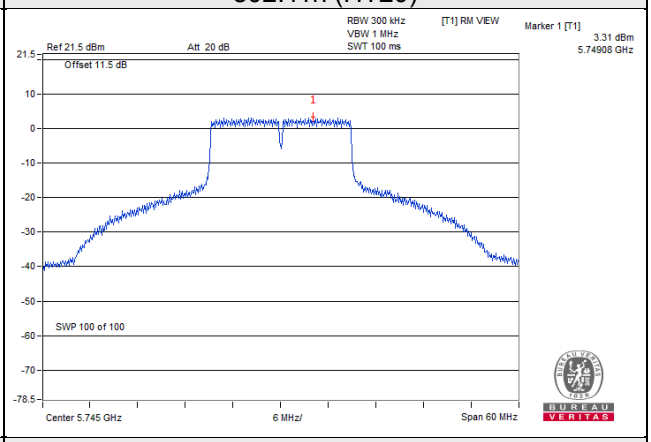
Note:
1. The EUT is a point-to-point device, so the power density limit no need to reduce.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

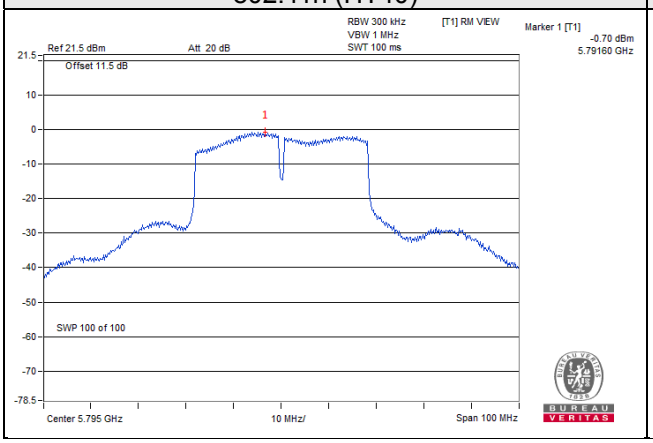
802.11a



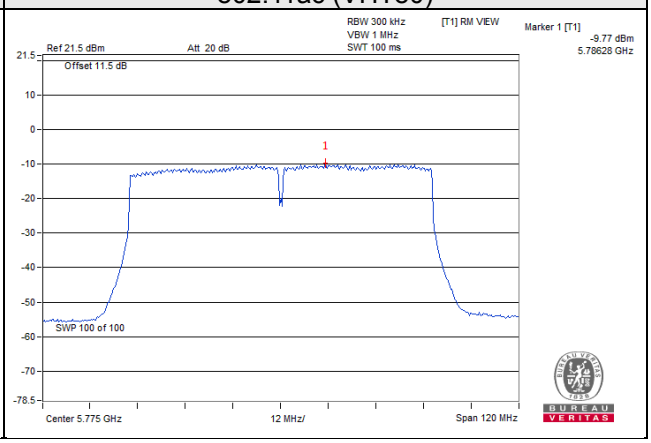
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

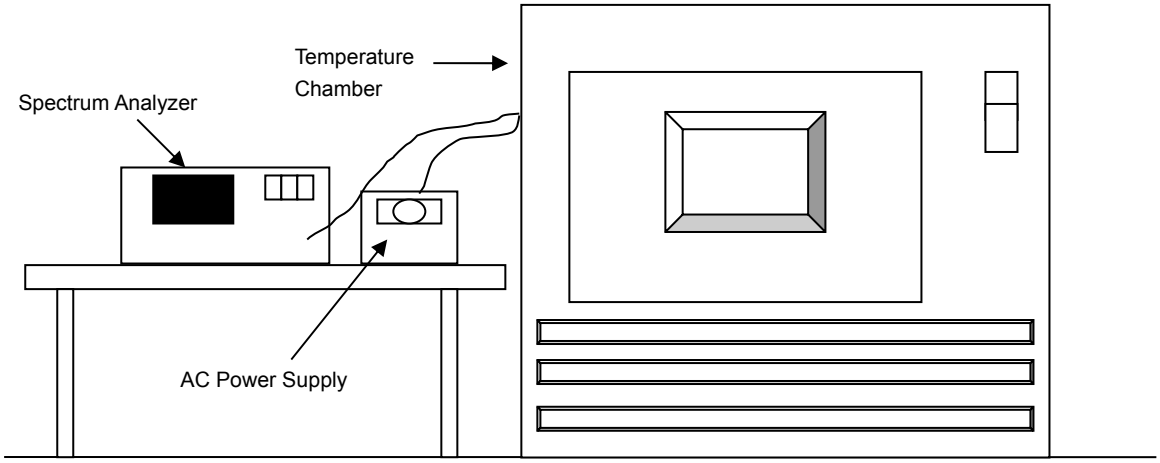


4.6 Frequency Stability

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

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.

b. Turn the EUT on and couple its output to a spectrum analyzer.

c. Turn the EUT off and set the chamber to the highest temperature specified.

d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.

e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.

f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 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

Test Mode B

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
50	120	5180.0189	PASS	5180.0219	PASS	5180.0188	PASS	5180.0189	PASS
40	120	5180.0054	PASS	5180.0082	PASS	5180.007	PASS	5180.0100	PASS
30	120	5180.0170	PASS	5180.0128	PASS	5180.0155	PASS	5180.0123	PASS
20	120	5180.0019	PASS	5180.0016	PASS	5180.0026	PASS	5180.0017	PASS
10	120	5180.0093	PASS	5180.0121	PASS	5180.0076	PASS	5180.0085	PASS
0	120	5180.0205	PASS	5180.0239	PASS	5180.0227	PASS	5180.0246	PASS
-10	120	5180.0272	PASS	5180.0238	PASS	5180.0263	PASS	5180.0275	PASS
-20	120	5180.0069	PASS	5180.0049	PASS	5180.004	PASS	5180.0036	PASS
-30	120	5180.0237	PASS	5180.0247	PASS	5180.0252	PASS	5180.0271	PASS

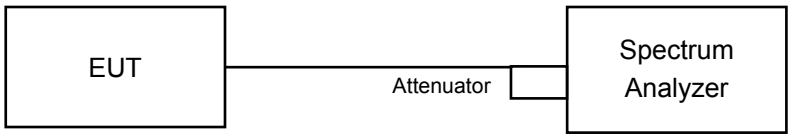
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0025	PASS	5180.0025	PASS	5180.0034	PASS	5180.0016	PASS
	120	5180.0019	PASS	5180.0016	PASS	5180.0026	PASS	5180.0017	PASS
	102	5180.0013	PASS	5180.0015	PASS	5180.003	PASS	5180.0016	PASS

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

Measurement Procedure REF

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. 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

Test Mode A

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.43	16.43	0.5	Pass
157	5785	16.41	16.44	0.5	Pass
165	5825	16.13	16.43	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.68	17.67	0.5	Pass
157	5785	17.64	17.67	0.5	Pass
165	5825	17.25	17.65	0.5	Pass

802.11n (HT40)

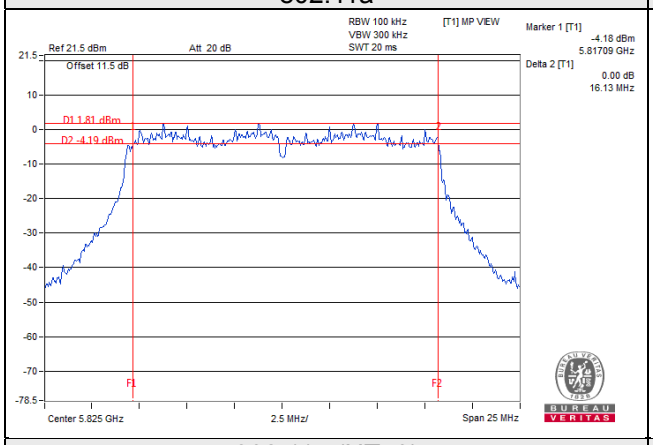
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.17	35.26	0.5	Pass
159	5795	35.16	35.33	0.5	Pass

802.11ac (VHT80)

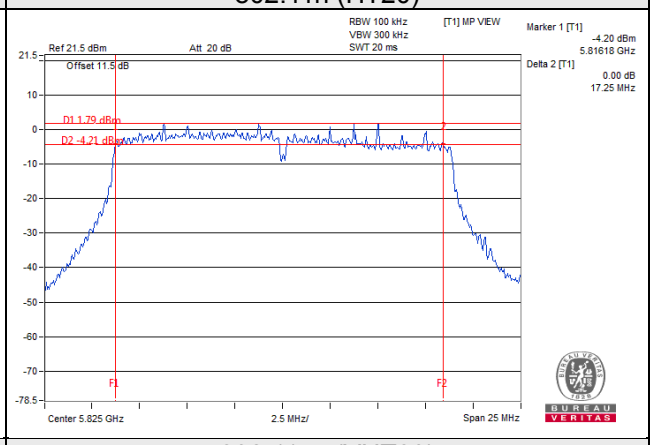
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.78	76.10	0.5	Pass

Spectrum Plot of Worst Value

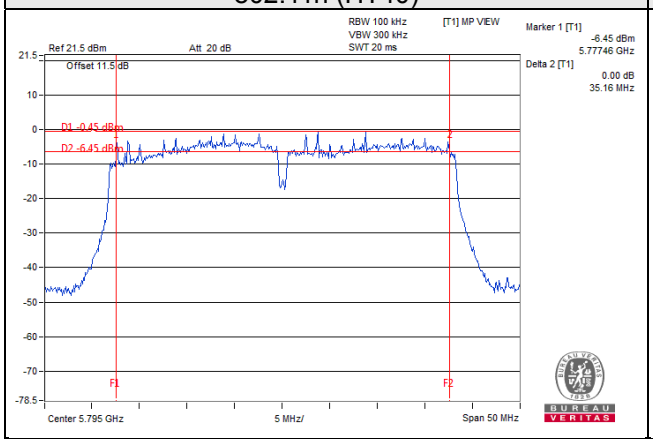
802.11a



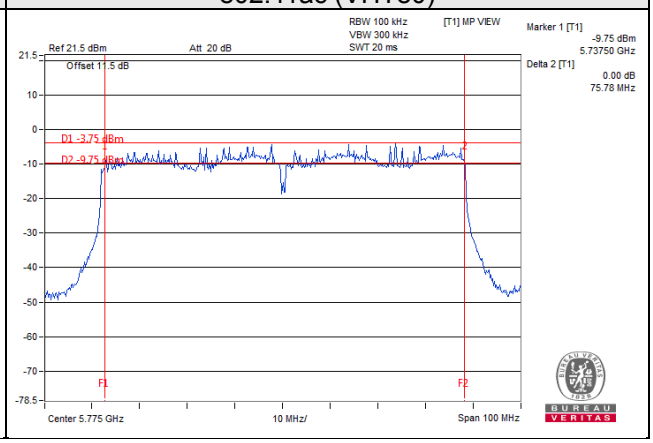
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode B

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.39	16.43	0.5	Pass
157	5785	16.13	16.43	0.5	Pass
165	5825	16.02	16.42	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.64	17.66	0.5	Pass
157	5785	17.28	17.67	0.5	Pass
165	5825	17.21	17.65	0.5	Pass

802.11n (HT40)

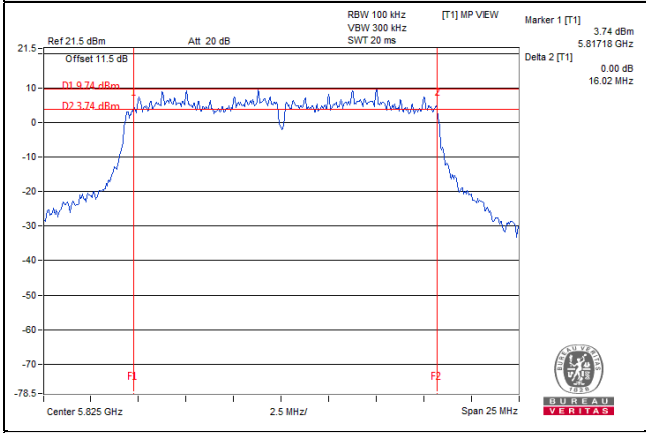
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.19	35.25	0.5	Pass
159	5795	33.98	35.21	0.5	Pass

802.11ac (VHT80)

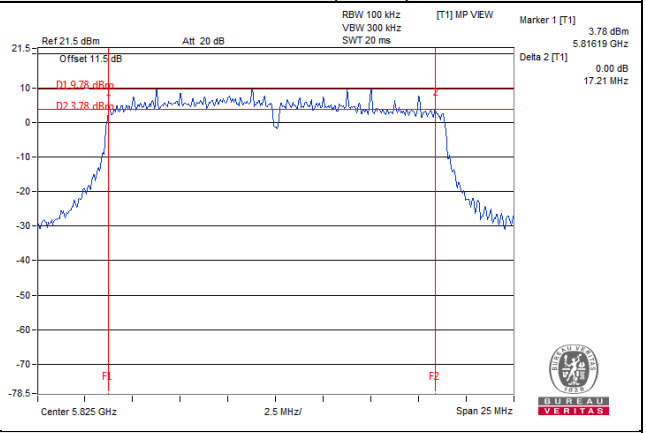
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.93	75.97	0.5	Pass

Spectrum Plot of Worst Value

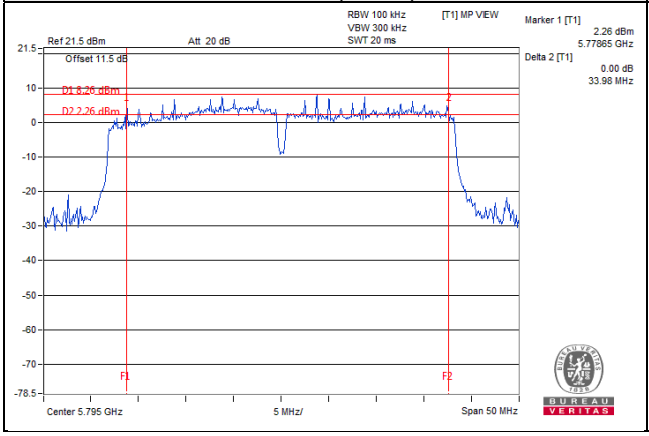
802.11a



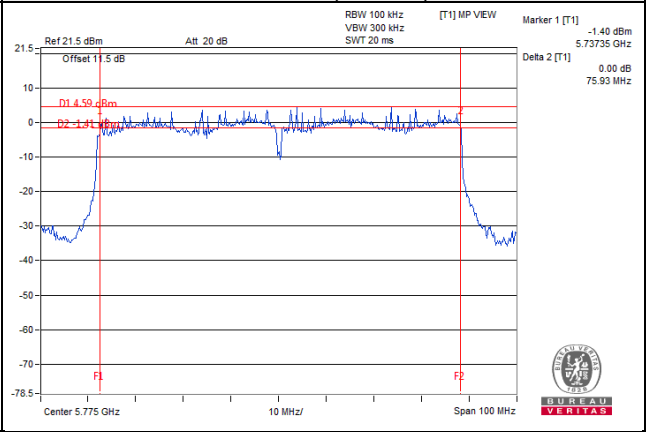
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Test Mode C

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.38	16.39	0.5	Pass
157	5785	15.96	16.38	0.5	Pass
165	5825	15.78	16.38	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.62	17.64	0.5	Pass
157	5785	16.98	17.64	0.5	Pass
165	5825	15.98	17.62	0.5	Pass

802.11n (HT40)

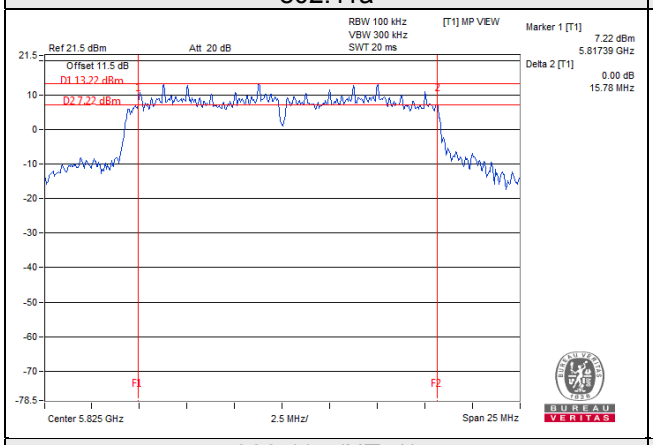
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.23	35.20	0.5	Pass
159	5795	35.17	35.32	0.5	Pass

802.11ac (VHT80)

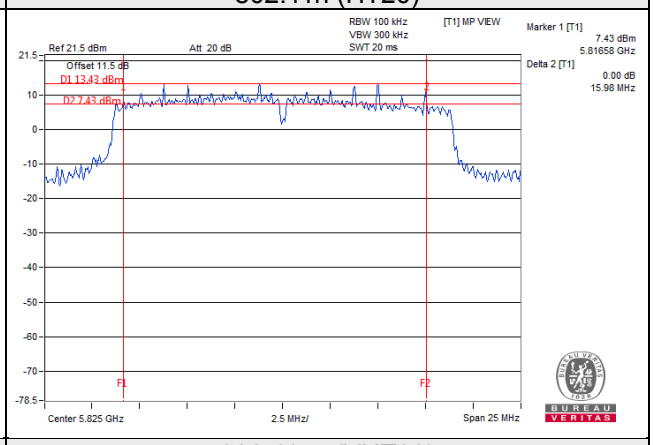
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.03	75.94	0.5	Pass

Spectrum Plot of Worst Value

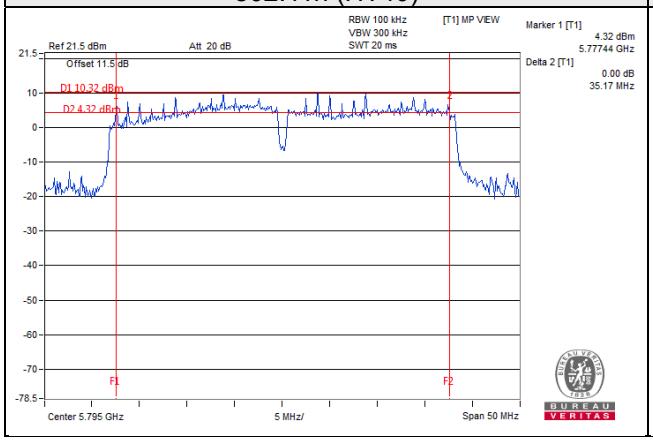
802.11a



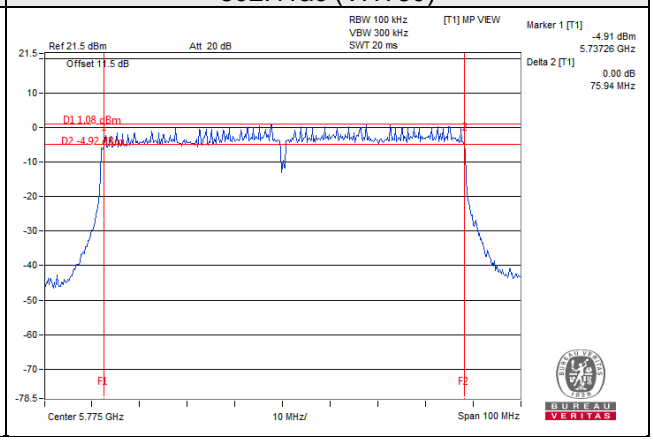
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



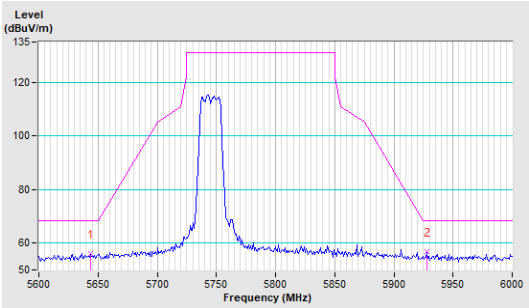
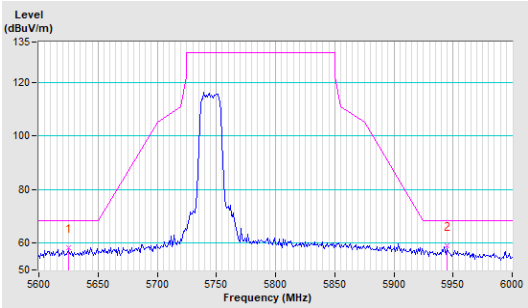
5 Pictures of Test Arrangements

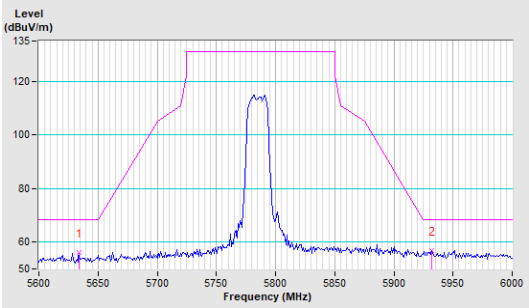
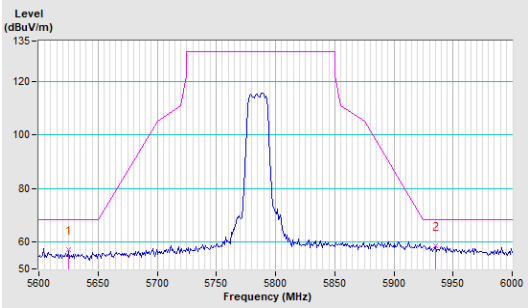
Please refer to the attached file (Test Setup Photo).

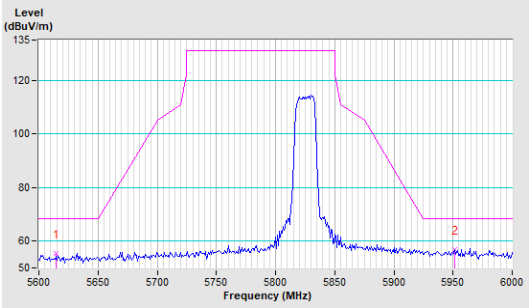
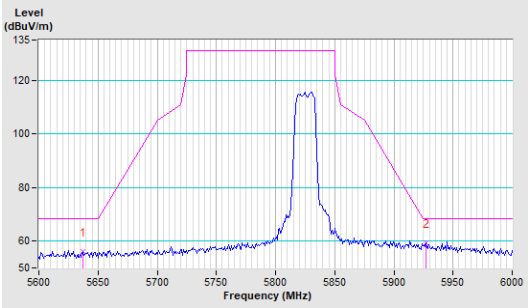
Annex A- Radiated out of Band Emission (OOBE) Measurement (For U-NII-3 band)

Test Mode A

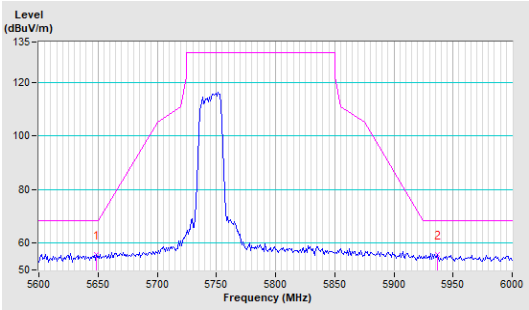
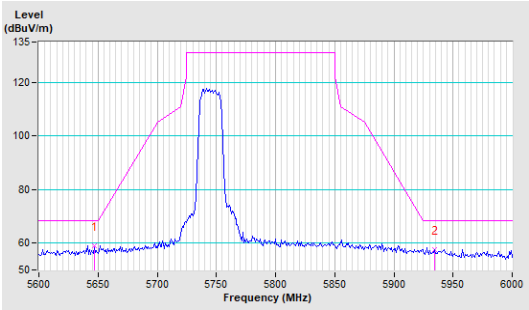
802.11a

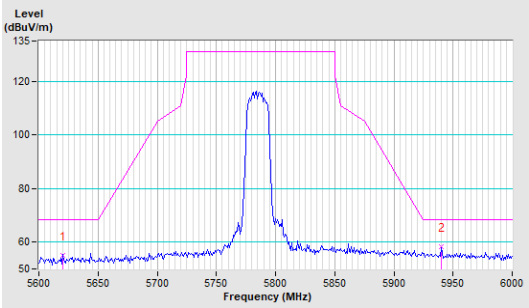
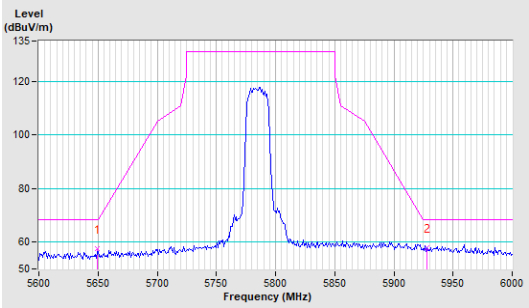
CH149	
Horizontal	Vertical
	

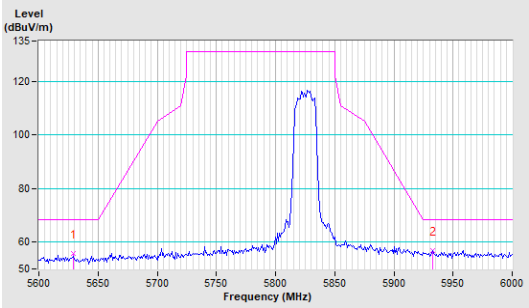
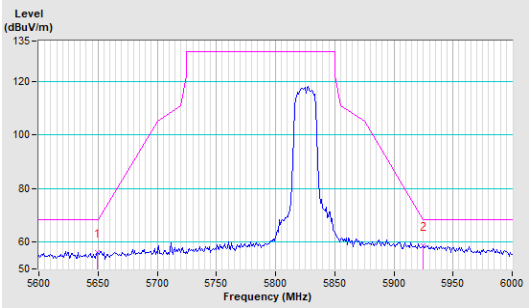
CH157	
Horizontal	Vertical
	

CH165	
Horizontal	Vertical
	

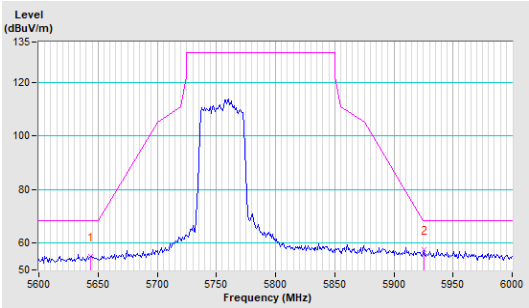
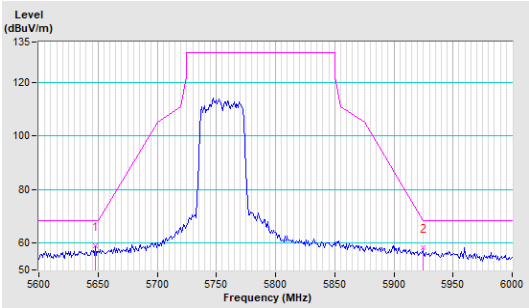
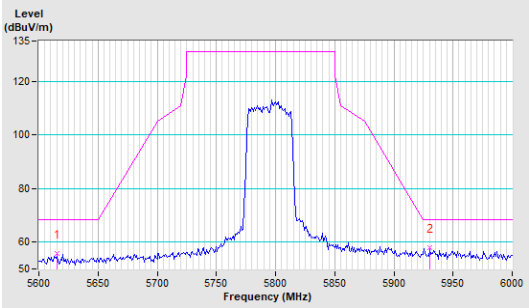
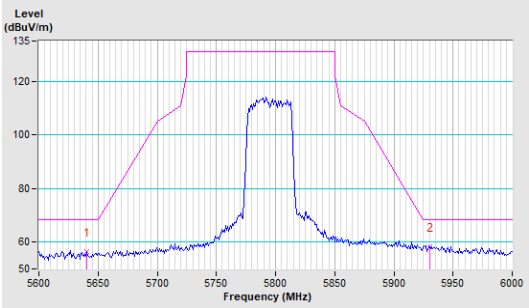
802.11n (HT20)

CH149	
Horizontal	Vertical
	

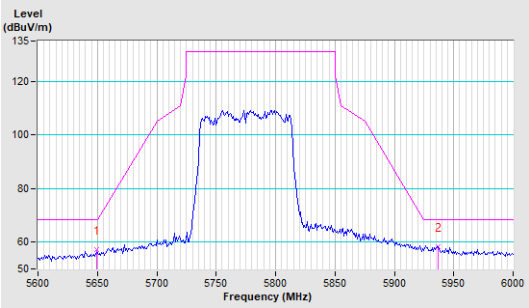
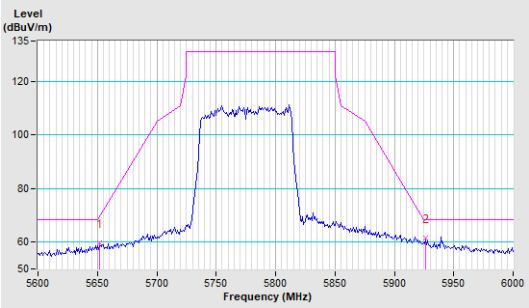
CH157	
Horizontal	Vertical
	

CH165	
Horizontal	Vertical
	

802.11n (HT40)

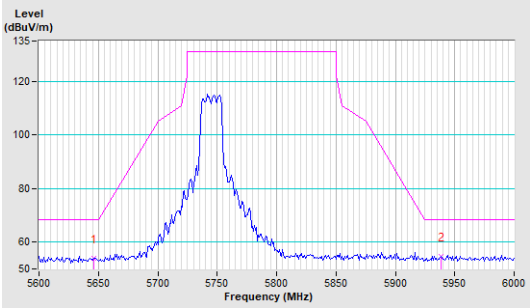
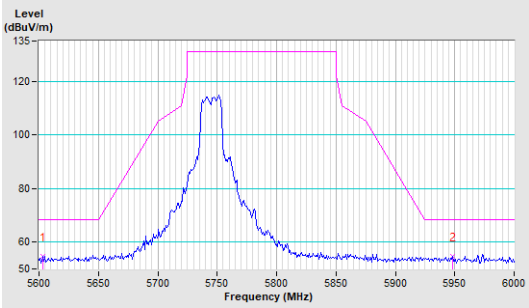
CH151	
Horizontal	Vertical
	
CH159	
Horizontal	Vertical
	

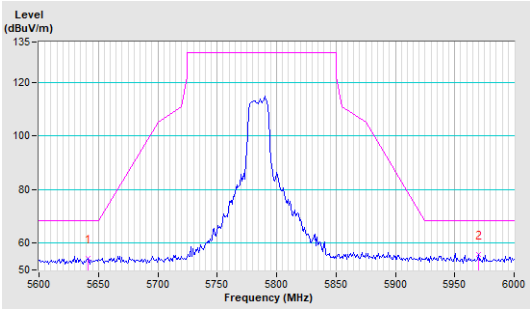
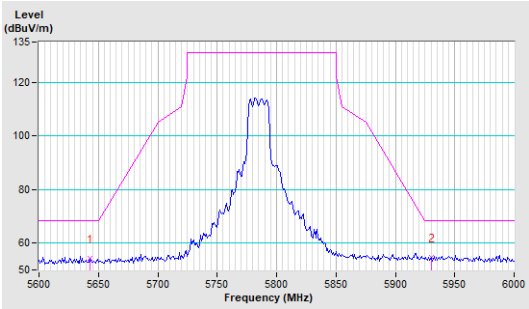
802.11ac (VHT80)

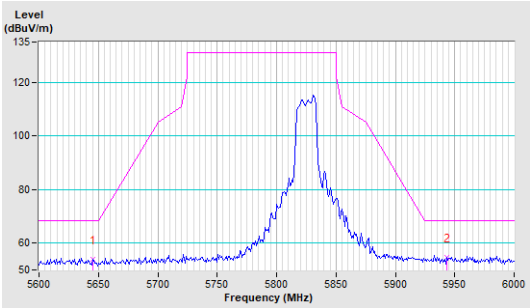
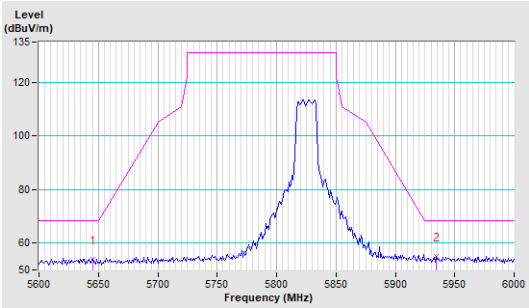
CH155	
Horizontal	Vertical
	

Test Mode B

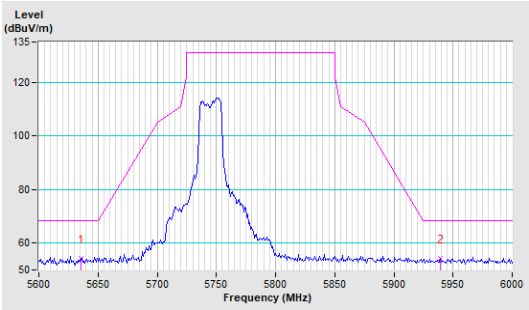
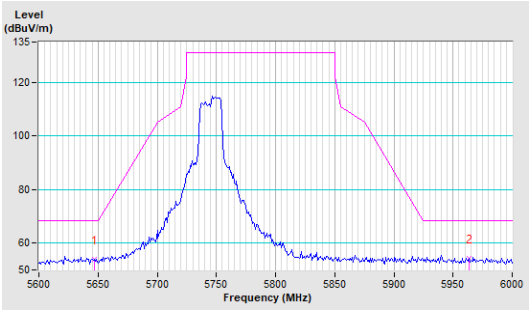
802.11a

CH149	
Horizontal	Vertical
	

CH157	
Horizontal	Vertical
	

CH165	
Horizontal	Vertical
	

802.11n (HT20)

CH149	
Horizontal	Vertical
	

CH157	
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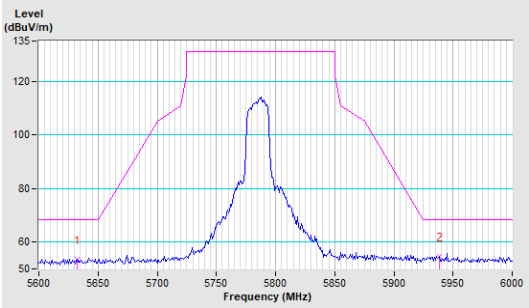
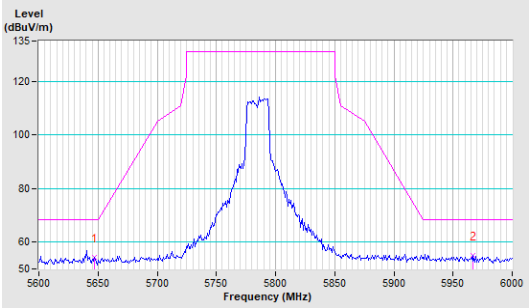
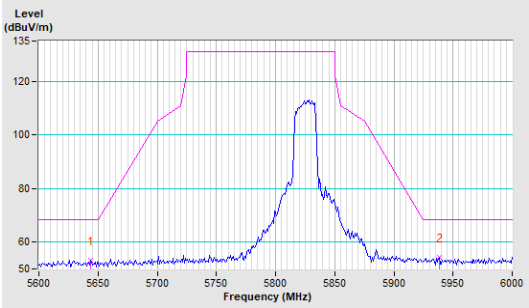
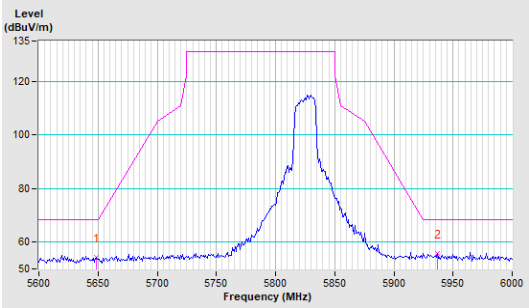
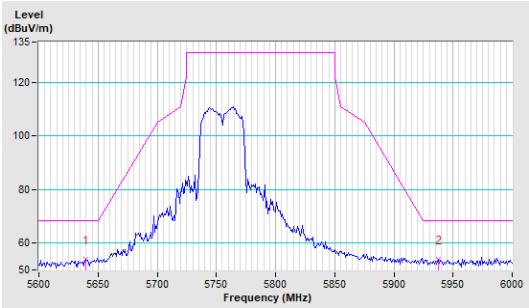
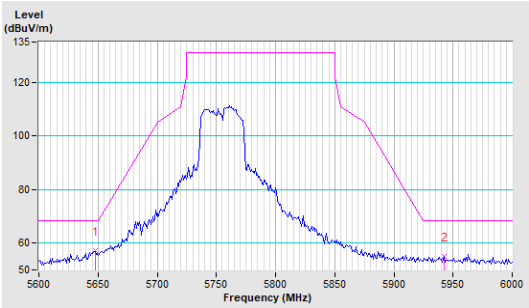
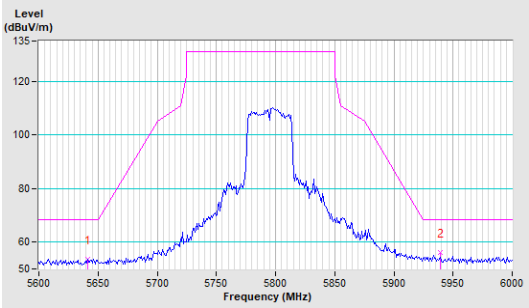
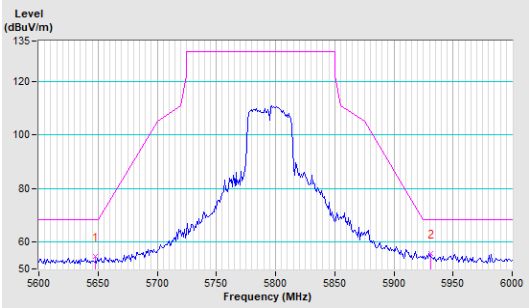
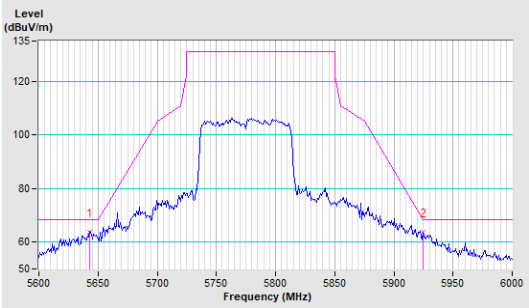
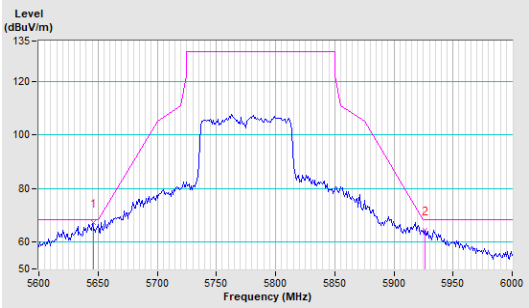
	

CH165	
Horizontal	Vertical
	

802.11n (HT40)

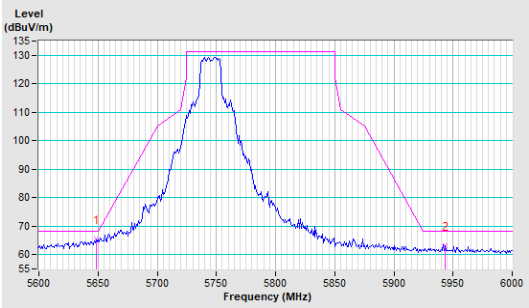
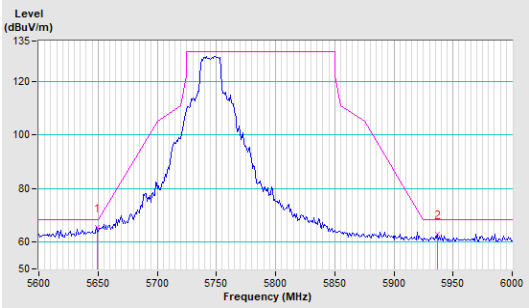
CH151	
Horizontal	Vertical
	
CH159	
Horizontal	Vertical
	

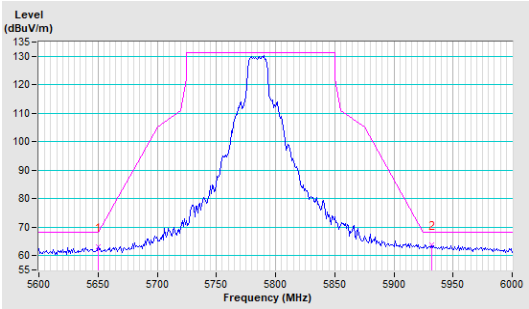
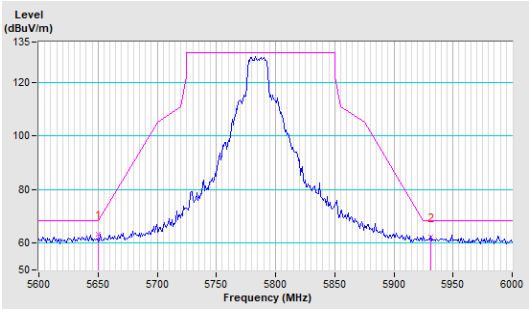
802.11ac (VHT80)

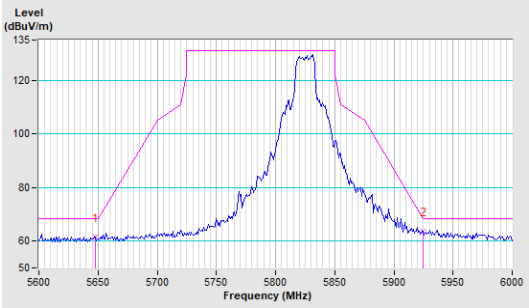
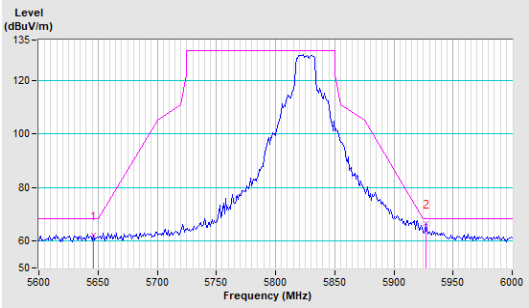
CH155	
Horizontal	Vertical
	

Test Mode C

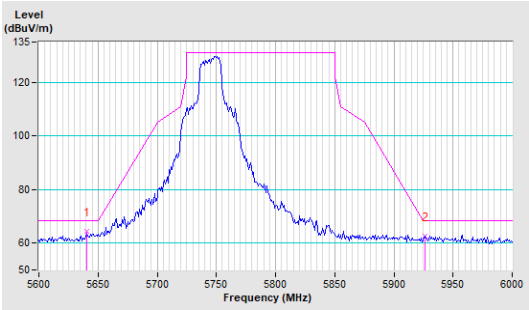
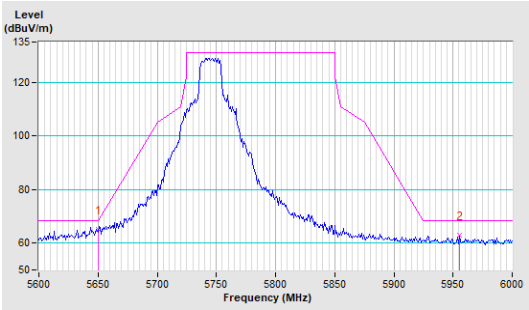
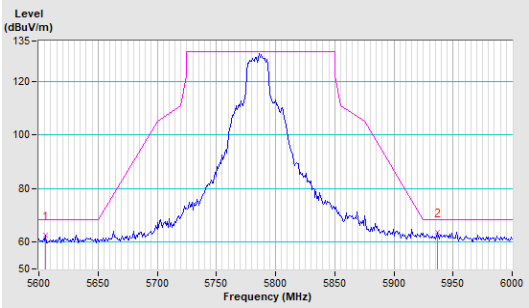
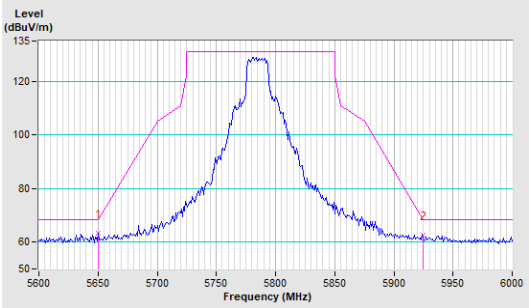
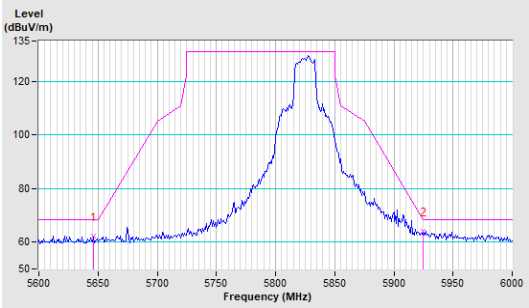
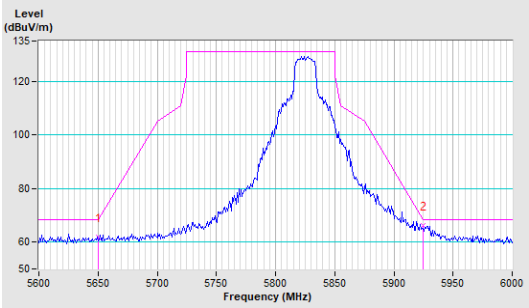
802.11a

CH149	
Horizontal	Vertical
	

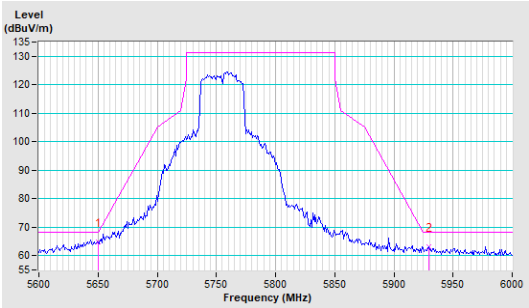
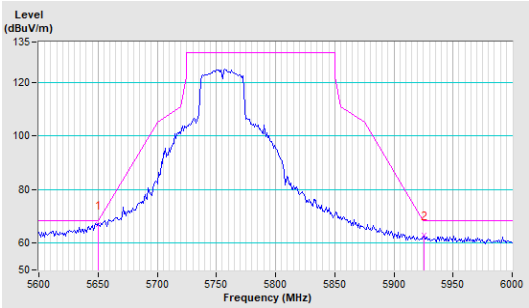
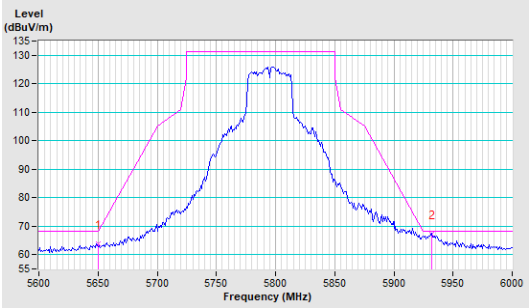
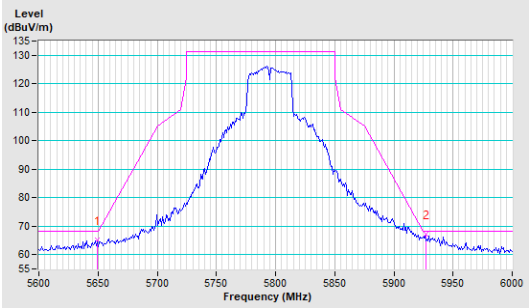
CH157	
Horizontal	Vertical
	

CH165	
Horizontal	Vertical
	

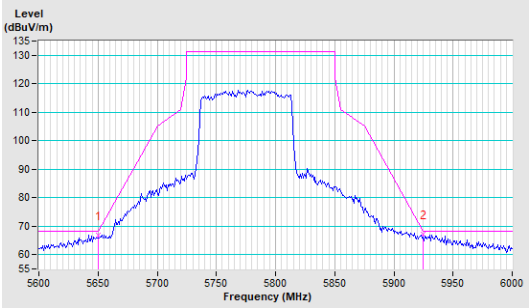
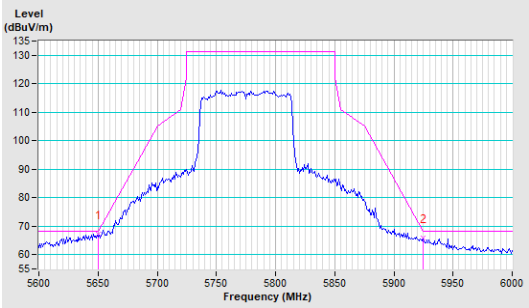
802.11n (HT20)

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

802.11n (HT40)

CH151	
Horizontal	Vertical
	
CH159	
Horizontal	Vertical
	

802.11ac (VHT80)

CH155	
Horizontal	Vertical
	

Appendix – Information of the Testing Laboratories

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

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Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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