

Partial FCC Test Report

Report No.: RF151230E03O-1

FCC ID: 2AHBN-AP41

Test Model: AP41

Series Model: AP41E

Received Date: Jun. 26, 2019

Test Date: Jul. 02 ~ Aug. 05, 2019

Issued Date: Aug. 13, 2019

Applicant: Mist Systems, Inc.

Address: 1601 South De Anza Blvd. Suite 248 Cupertino California United States
95014

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

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



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record	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.....	12
3.3 Duty Cycle of Test Signal.....	14
3.4 Description of Support Units.....	15
3.4.1 Configuration of System under Test.....	15
3.5 General Description of Applied Standards.....	16
4 Test Types and Results	17
4.1 Radiated Emission and Bandedge Measurement.....	17
4.1.1 Limits of Radiated Emission and Bandedge Measurement.....	17
4.1.2 Test Instruments.....	18
4.1.3 Test Procedures.....	19
4.1.4 Deviation from Test Standard.....	19
4.1.5 Test Setup.....	20
4.1.6 EUT Operating Conditions.....	21
4.1.7 Test Results.....	22
4.2 Conducted Emission Measurement.....	63
4.2.1 Limits of Conducted Emission Measurement.....	63
4.2.2 Test Instruments.....	63
4.2.3 Test Procedures.....	64
4.2.4 Deviation from Test Standard.....	64
4.2.5 Test Setup.....	64
4.2.6 EUT Operating Conditions.....	64
4.2.7 Test Results.....	65
4.3 Transmit Power Measurement.....	69
4.3.1 Limits of Transmit Power Measurement.....	69
4.3.2 Test Setup.....	69
4.3.3 Test Instruments.....	69
4.3.4 Test Procedure.....	70
4.3.5 Deviation from Test Standard.....	70
4.3.6 EUT Operating Conditions.....	70
4.3.7 Test Result.....	71
4.4 Occupied Bandwidth Measurement.....	110
4.4.1 Test Setup.....	110
4.4.2 Test Instruments.....	110
4.4.3 Test Procedure.....	110
4.4.4 Test Result.....	111
4.5 Peak Power Spectral Density Measurement.....	123
4.5.1 Limits of Peak Power Spectral Density Measurement.....	123
4.5.2 Test Setup.....	123
4.5.3 Test Instruments.....	123
4.5.4 Test Procedures.....	123
4.5.5 Deviation from Test Standard.....	124
4.5.6 EUT Operating Conditions.....	124
4.5.7 Test Results.....	125
5 Pictures of Test Arrangements	148

Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band).....	149
Appendix – Information of the Testing Laboratories	152

Release Control Record

Issue No.	Description	Date Issued
RF151230E03O-1	Original release	Aug. 13, 2019

1 Certificate of Conformity

Product: Premium Wi-Fi & BLE Array AP
Brand: Mist
Test Model: AP41
Series Model: AP41E
Sample Status: Engineering sample
Applicant: Mist Systems, Inc.
Test Date: Jul. 02 ~ Aug. 05, 2019
Standards: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen , **Date:** Aug. 13, 2019
Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Aug. 13, 2019
Bruce Chen / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -11.70dB at 0.15000MHz.
15.407(b)(1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.0dB at 5925.00MHz.
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.
15.203	Antenna Requirement	Pass	For internal antenna: Antenna connector is IPEX not a standard connector. For external antenna: Antenna connector is Reverse SMA Male not a standard connector.

Note:

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.86 dB
	200MHz ~ 1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Premium Wi-Fi & BLE Array AP
Brand	Mist
Test Model	AP41
Series Model	AP41E
Model Difference	AP41 for internal antenna AP41E for external antenna
Sample Status	Engineering sample
Power Supply Rating	12Vdc from adapter 55Vdc from PoE
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 600.0Mbps 802.11ac: up to 1733.3Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500 ~ 5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 11 802.11n (HT40), 802.11ac (VHT40): 5 802.11ac (VHT80): 2 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	Refer to Note
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	N/A
Cable Supplied	N/A

Note:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report of the original report no.: RF151230E03G. The differences compared with original report are adding a new antenna for the EUT with external antenna and changing software but not impact DFS parameter. AC Power Conducted Emission, Radiated Emissions, Conducted power and Power Spectral Density tests for the external antenna are performed for the addendum.

2. There are three radios for the EUT.

Radio	Brand	Model	Function
Radio 1	Broadcom	BCM43465	WLAN 2.4G & 5G
Radio 2	Broadcom	BCM43465	WLAN 2.4G & 5G
Radio 3	Broadcom	BCM20704	BT EDR & BT LE

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

Modulation Mode	Function	Beamforming
Radio 1		
802.11a	1TX/2TX/3TX/4TX	Not Support
802.11n (HT20)	1TX/2TX/3TX/4TX	Support
802.11n (HT40)	1TX/2TX/3TX/4TX	Support
802.11ac (VHT20)	1TX/2TX/3TX/4TX	Support
802.11ac (VHT40)	1TX/2TX/3TX/4TX	Support
802.11ac (VHT80)	1TX/2TX/3TX/4TX	Support
Radio 2		
802.11a	RX only	Not Support
802.11n (HT20)	RX only	Not Support
802.11n (HT40)	RX only	Not Support
802.11ac (VHT20)	RX only	Not Support
802.11ac (VHT40)	RX only	Not Support
802.11ac (VHT80)	RX only	Not Support

*The worst case of Radio 1 is beamforming on mode for the final tests.

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

*The worst configuration is as below.

Mode	Chain
Radio 1 / 1TX	Chain 0
Radio 1 / 2TX	Chain 0 + 1
Radio 1 / 3TX	Chain 0 + 1 + 2
Radio 1 / 4TX	Chain 0 + 1 + 2 + 3

*After estimating, 4TX is the worst case for the final tests.

4. The EUT uses following adapter & PoE. (Support unit only)

Adapter	
Brand	Channel Well Technology
Model	2ABN036F US
Input Power	100-240Vac~50/60Hz 1.0A
Output Power	12.0Vdc / 3.0A
Power Line	1.45m DC cable without core attached on adapter

PoE	
Brand	Microsemi
Model	PD-9001GR/AT/AC
Input Power	100-240Vac~50/60Hz 0.67A
Output Power	55Vdc / 0.6A

5. The following antennas were provided to the EUT. (Antenna 3 was the new antenna)

Antenna 1					
Antenna Type	PIFA				
Antenna Connector	IPEX				
Gain (dBi)	Frequency				
	2.4~2.4835GHz	5.15~5.25GHz	5.25~5.35GHz	5.47~5.725GHz	5.725~5.85GHz
Int. WIFI Ant. 1	3.06	3.85	3.97	4.21	4.18
Int. WIFI Ant. 2	3.64	4.49	4.21	3.27	3.99
Int. WIFI Ant. 3	3.37	3.50	4.04	4.14	4.34
Int. WIFI Ant. 4	3.54	3.87	3.77	4.02	4.17
Scanning Radio Ant.	3.61	3.59	4.21	4.43	4.29

Antenna 2					
Antenna Type	Patch				
Antenna Connector	RPSMA				
Gain (dBi)	Frequency				
	2.4~2.4835GHz	5.15~5.25GHz	5.25~5.35GHz	5.47~5.725GHz	5.725~5.85GHz
Ext. WIFI Ant.	4	6	6	6	6

*Int. WIFI Ant. 1~4, Ext. WIFI Ant. were for Radio 1.

*Scanning Radio Ant. was for Radio 2

*For Radio 1: The EUT with Patch antenna was chosen for Antenna Port Conducted Measurement test.

Antenna 3 (New)		
Antenna Type	Patch	
Antenna Connector	Reverse SMA Male	
Gain (dBi)	Frequency	
	2400~2500MHz	5150~5900MHz
Ext. WIFI Ant.	8	8

*The Ext. WIFI Ant. were for Radio 1.

6. The output power were as below.

Output Power (mW)				
CDD Mode				
	1TX	2TX	3TX	4TX
5180 ~ 5240MHz	50.582	111.536	181.843	235.918
5260 ~ 5320MHz	12.246	27.420	43.033	56.065
5500 ~ 5700MHz	13.964	29.740	46.146	59.148
5745 ~ 5825MHz	145.211	280.730	462.031	602.960
Beamforming Mode				
	2TX	3TX	4TX	
5180 ~ 5240MHz	71.147	115.101	149.615	
5260 ~ 5320MHz	19.400	30.261	39.508	
5500 ~ 5700MHz	19.396	29.843	38.533	
5745 ~ 5825MHz	74.846	119.199	153.465	

3.2 Description of Test Modes

For 5180 ~ 5240MHz:

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210 MHz

For 5260 ~ 5320MHz:

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290 MHz

For 5500 ~ 5700MHz:

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

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz		

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

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

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	122	5610 MHz

For 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE \geq 1G	RE<1G	PLC	APCM	
A	-	√	√	√	Radio 1 (Power from adapter)
B	√	√	√	-	Radio 1 (Power from PoE)

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

Note: The antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Y-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)	TX Function
B	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	-
B	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	-
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5	-
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5	-
	802.11ac (VHT80)		58	58	OFDM	29.3	-
B	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0	-
	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	6.5	-
	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	13.5	-
	802.11ac (VHT80)		106, 122	106	OFDM	29.3	-
B	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	-
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5	-
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5	-
	802.11ac (VHT80)		155	155	OFDM	29.3	-

Radiated Emission Test (Below 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
A, B	802.11a	5180-5240	36 to 48	157	OFDM	6.0	-
	802.11a	5260-5320	52 to 64		OFDM	6.0	
	802.11a	5500-5700	100 to 140		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)	TX Function
A, B	802.11a	5180-5240	36 to 48	157	OFDM	6.0	-
	802.11a	5260-5320	52 to 64		OFDM	6.0	
	802.11a	5500-5700	100 to 140		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)	TX Function
A	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	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	-
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5	-
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5	-
	802.11ac (VHT80)		58	58	OFDM	29.3	-
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0	-
	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	6.5	-
	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	13.5	-
	802.11ac (VHT80)		106, 122	106	OFDM	29.3	-
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	-
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5	-
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5	-
	802.11ac (VHT80)		155	155	OFDM	29.3	-

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE \geq 1G	25 deg. C, 68% RH	120Vac, 60Hz	Titan Hsu
RE<1G	23 deg. C, 67% RH	120Vac, 60Hz	Adair Peng
PLC	24 deg. C, 66% RH	120Vac, 60Hz	Willy Cheng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Leo Tsai

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = 2.060/2.17 = 0.949, Duty factor = $10 * \log(1/0.949) = 0.23$

802.11n (HT20): Duty cycle = 1.915/2.01 = 0.953, Duty factor = $10 * \log(1/0.953) = 0.21$

802.11n (HT40): Duty cycle = 0.937/1.052 = 0.891, Duty factor = $10 * \log(1/0.891) = 0.50$

802.11ac (VHT80): Duty cycle = 0.456/0.496 = 0.919, Duty factor = $10 * \log(1/0.919) = 0.37$



3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	USB 3.0 Flash Drive	HP	v250W	01	FCC DoC Approved	-
C.	Adapter	Channel Well Technology	2ABN036F US	N/A	N/A	Provided by client
D.	Load	N/A	N/A	N/A	N/A	-
E.	PoE	Microsemi	PD-9001GR/AT/AC	N/A	N/A	Provided by client

Note:

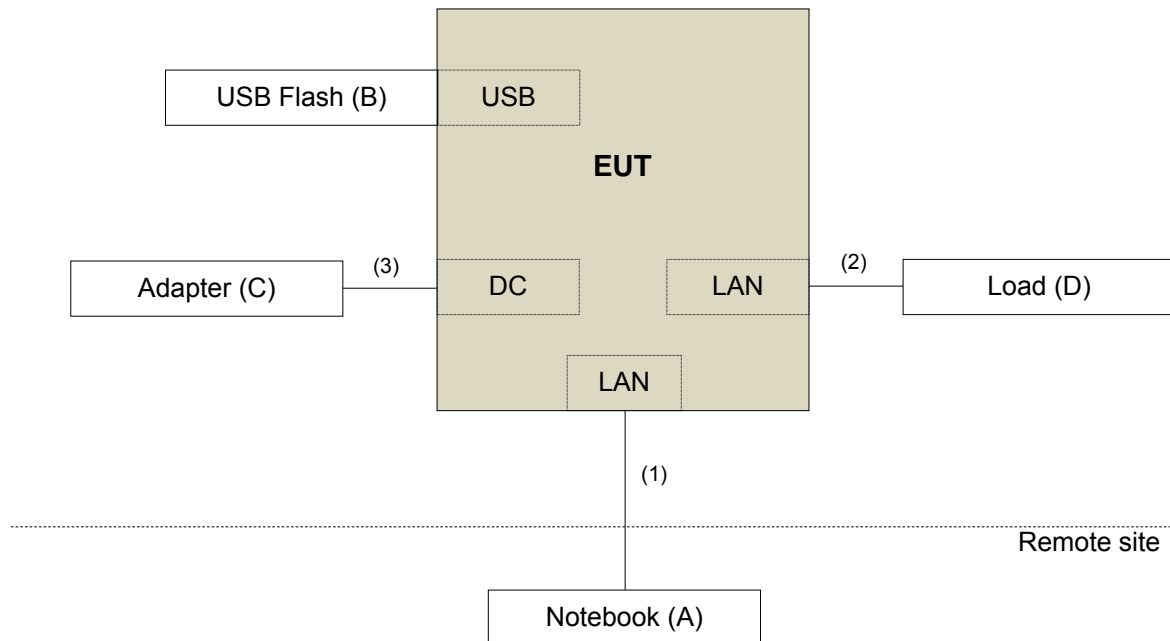
1. All power cords of the above support units are non-shielded (1.8m).
2. Items A acted as communication partners to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 cable	1	6.0	N	0	-
2.	RJ45 cable	2	1.5	N	0	-
3.	DC cable	1	1.45	-	0	attached on adapter
4.	RJ45 cable	1	3	N	0	-

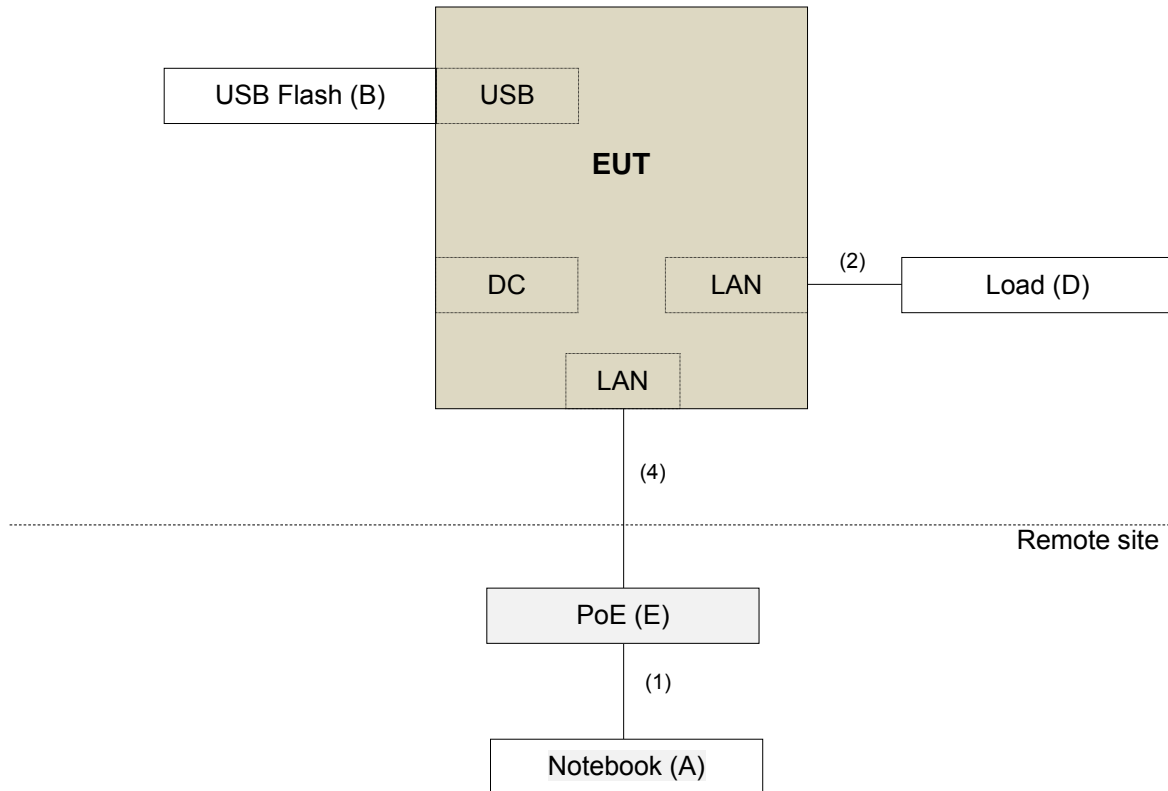
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

Test Mode A



Test Mode B



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	<input checked="" type="checkbox"/> 15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4}	PK: 68.2(dBµV/m) ^{*1} PK: 105.2 (dBµV/m) ^{*2} PK: 110.8(dBµV/m) ^{*3} PK: 122.2 (dBµV/m) ^{*4}
	<input type="checkbox"/> 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 30, 2019	May 29, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 22, 2018	Nov. 21, 2019
Spectrum Analyzer SCHWARZBECK	FSP40	100269	Jun. 10, 2019	Jun. 09, 2020
HORN Antenna SCHWARZBECK	9120D	209	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 21, 2018	Aug. 20, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 27, 2019	Mar. 26, 2020
Preamplifier EMC	EMC184045B	980175	Nov. 14, 2018	Nov. 13, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 21, 2018	Aug. 20, 2019
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM-SM- 8000	Cable-CH3-03 (309224+170907)	Aug. 21, 2018	Aug. 20, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
RF signal cable WOKEN	8D-FB	Cable-CH3-01	Aug. 21, 2018	Aug. 20, 2019
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Peak Power Analyzer KEYSIGHT (For 8TX support 160M bandwidth)	8990B	MY51000485	Jan. 14, 2019	Jan. 13, 2020
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY551 90004/MY55190007/ MY55210005	Jul. 17, 2018	Jul. 16, 2019
			Jul. 18, 2019	Jul. 17, 2020

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 3.

4.1.3 Test Procedures

For Radiated emission below 30MHz

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

Note:

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

For Radiated emission above 30MHz

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

Note:

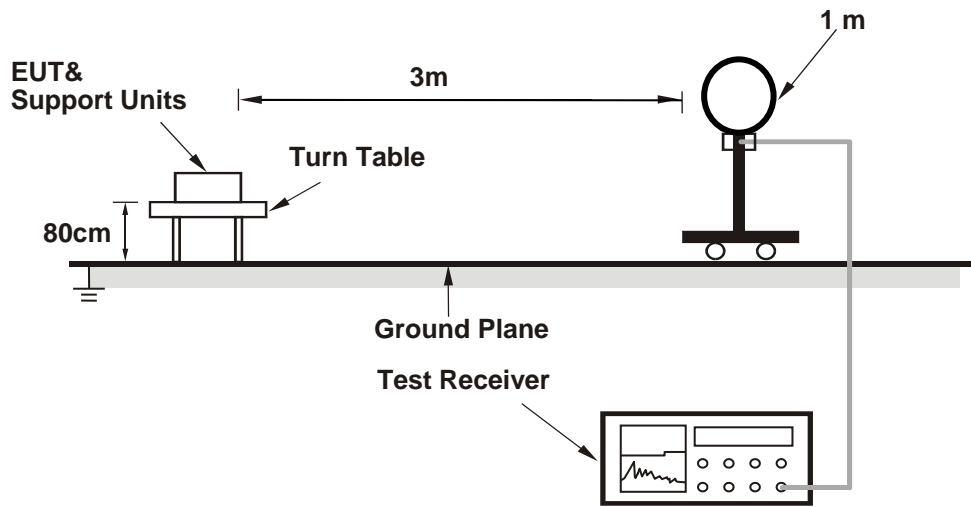
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz. (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11n (HT20): RBW = 1MHz, VBW = 1kHz; 802.11n (HT40): RBW = 1MHz, VBW = 3kHz; 802.11ac (VHT80): RBW = 1MHz, VBW = 3kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

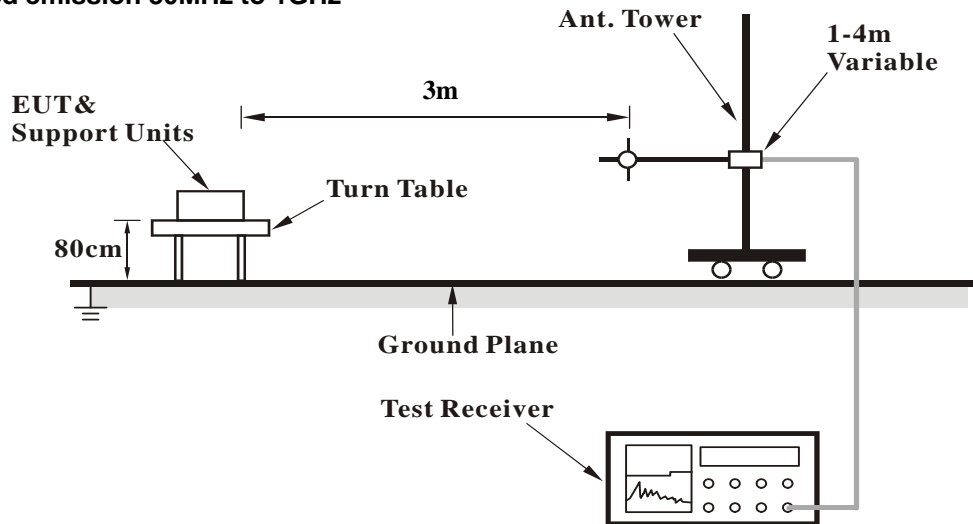
No deviation.

4.1.5 Test Setup

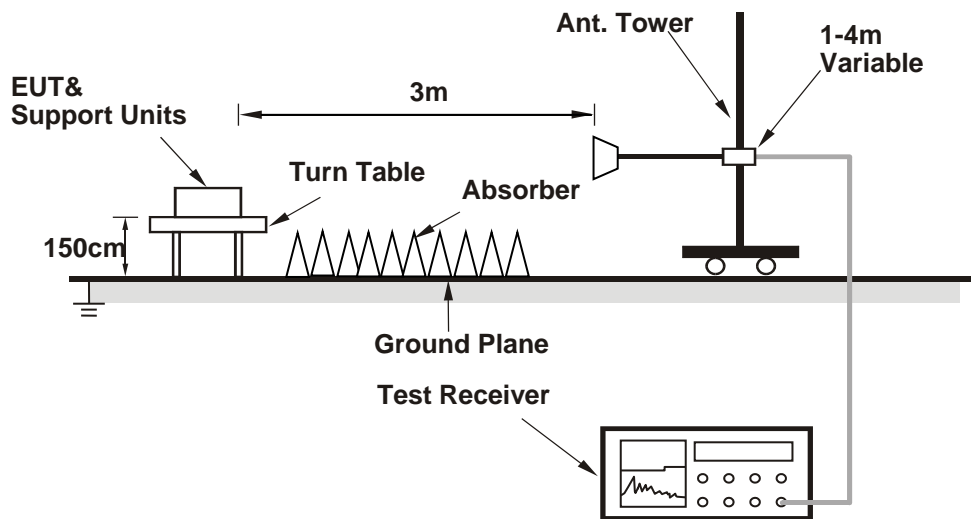
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Prepared notebook to act as communication partner and placed it outside of testing area.
- 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.
- The communication partner sent data to EUT by command "PING".
- The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz data:

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	63.5 PK	74.0	-10.5	1.57 H	33	59.1	4.4
2	5150.00	45.7 AV	54.0	-8.3	1.57 H	33	41.3	4.4
3	*5180.00	115.5 PK			1.60 H	29	76.0	39.5
4	*5180.00	105.3 AV			1.60 H	29	65.8	39.5
5	#10360.00	57.1 PK	68.2	-11.1	1.29 H	159	41.1	16.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	72.6 PK	74.0	-1.4	1.56 V	348	68.2	4.4
2	5150.00	52.8 AV	54.0	-1.2	1.56 V	348	48.4	4.4
3	*5180.00	118.7 PK			1.65 V	349	79.2	39.5
4	*5180.00	108.8 AV			1.65 V	349	69.3	39.5
5	#10360.00	57.5 PK	68.2	-10.7	1.51 V	222	41.5	16.0

Remarks:

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

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK) 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	116.8 PK			1.61 H	23	77.3	39.5
2	*5200.00	107.0 AV			1.61 H	23	67.5	39.5
3	#10400.00	57.4 PK	68.2	-10.8	1.31 H	169	41.2	16.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	120.4 PK			1.85 V	349	80.9	39.5
2	*5200.00	110.6 AV			1.85 V	349	71.1	39.5
3	#10400.00	57.8 PK	68.2	-10.4	1.49 V	193	41.6	16.2

Remarks:

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

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK) 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	116.5 PK			1.55 H	29	77.2	39.3
2	*5240.00	106.4 AV			1.55 H	29	67.1	39.3
3	5350.00	57.4 PK	74.0	-16.6	1.61 H	20	53.1	4.3
4	5350.00	45.4 AV	54.0	-8.6	1.61 H	20	41.1	4.3
5	#10480.00	58.5 PK	68.2	-9.7	1.35 H	179	41.5	17.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	119.8 PK			1.33 V	344	80.5	39.3
2	*5240.00	109.8 AV			1.33 V	344	70.5	39.3
3	5350.00	60.0 PK	74.0	-14.0	1.43 V	339	55.7	4.3
4	5350.00	47.0 AV	54.0	-7.0	1.43 V	339	42.7	4.3
5	#10480.00	58.9 PK	68.2	-9.3	1.55 V	189	41.9	17.0

Remarks:

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

CHANNEL	TX Channel 52	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	55.9 PK	74.0	-18.1	1.68 H	13	51.5	4.4
2	5150.00	44.5 AV	54.0	-9.5	1.68 H	13	40.1	4.4
3	*5260.00	107.9 PK			1.31 H	27	68.6	39.3
4	*5260.00	97.0 AV			1.31 H	27	57.7	39.3
5	#10520.00	58.7 PK	68.2	-9.5	1.52 H	182	41.4	17.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.2 PK	74.0	-17.8	1.80 V	21	51.8	4.4
2	5150.00	42.4 AV	54.0	-11.6	1.80 V	21	38.0	4.4
3	*5260.00	112.3 PK			1.97 V	16	73.0	39.3
4	*5260.00	101.6 AV			1.97 V	16	62.3	39.3
5	#10520.00	58.9 PK	68.2	-9.3	1.60 V	190	41.6	17.3

Remarks:

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

CHANNEL	TX Channel 60	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	*5300.00	108.0 PK			1.50 H	25	68.7	39.3
2	*5300.00	97.6 AV			1.50 H	25	58.3	39.3
3	10600.00	59.3 PK	74.0	-14.7	1.52 H	189	41.5	17.8
4	10600.00	46.4 AV	54.0	-7.6	1.52 H	189	28.6	17.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	112.9 PK			1.89 V	17	73.6	39.3
2	*5300.00	101.8 AV			1.89 V	17	62.5	39.3
3	10600.00	59.4 PK	74.0	-14.6	1.60 V	201	41.6	17.8
4	10600.00	46.3 AV	54.0	-7.7	1.60 V	201	28.5	17.8

Remarks:

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

CHANNEL	TX Channel 64	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	*5320.00	107.6 PK			1.37 H	334	68.3	39.3
2	*5320.00	97.5 AV			1.37 H	334	58.2	39.3
3	5350.00	56.3 PK	74.0	-17.7	1.55 H	12	52.0	4.3
4	5350.00	44.0 AV	54.0	-10.0	1.55 H	12	39.7	4.3
5	10640.00	58.9 PK	74.0	-15.1	1.55 H	187	41.3	17.6
6	10640.00	47.7 AV	54.0	-6.3	1.55 H	187	30.1	17.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	113.6 PK			1.52 V	16	74.3	39.3
2	*5320.00	102.5 AV			1.52 V	16	63.2	39.3
3	5350.00	59.1 PK	74.0	-14.9	1.60 V	20	54.8	4.3
4	5350.00	46.4 AV	54.0	-7.6	1.60 V	20	42.1	4.3
5	10640.00	58.5 PK	74.0	-15.5	1.64 V	195	40.9	17.6
6	10640.00	45.4 AV	54.0	-8.6	1.64 V	195	27.8	17.6

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.8 PK	74.0	-16.2	1.77 H	13	53.2	4.6
2	5460.00	44.5 AV	54.0	-9.5	1.77 H	13	39.9	4.6
3	#5470.00	57.9 PK	68.2	-10.3	1.59 H	27	53.3	4.6
4	*5500.00	109.1 PK			1.45 H	335	69.3	39.8
5	*5500.00	99.4 AV			1.45 H	335	59.6	39.8
6	11000.00	60.1 PK	74.0	-13.9	1.65 H	202	41.4	18.7
7	11000.00	46.8 AV	54.0	-7.2	1.65 H	202	28.1	18.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.4 PK	74.0	-14.6	1.49 V	19	54.8	4.6
2	5460.00	46.5 AV	54.0	-7.5	1.49 V	19	41.9	4.6
3	#5470.00	59.3 PK	68.2	-8.9	1.53 V	13	54.7	4.6
4	*5500.00	113.7 PK			1.39 V	16	73.9	39.8
5	*5500.00	102.9 AV			1.39 V	16	63.1	39.8
6	11000.00	60.7 PK	74.0	-13.3	1.73 V	211	42.0	18.7
7	11000.00	46.7 AV	54.0	-7.3	1.73 V	211	28.0	18.7

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) 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	*5580.00	108.9 PK			1.67 H	18	69.1	39.8
2	*5580.00	99.9 AV			1.67 H	18	60.1	39.8
3	11160.00	60.1 PK	74.0	-13.9	1.64 H	205	42.3	17.8
4	11160.00	46.4 AV	54.0	-7.6	1.64 H	205	28.6	17.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	113.6 PK			1.52 V	14	73.8	39.8
2	*5580.00	102.8 AV			1.52 V	14	63.0	39.8
3	11160.00	59.3 PK	74.0	-14.7	1.75 V	213	41.5	17.8
4	11160.00	46.3 AV	54.0	-7.7	1.75 V	213	28.5	17.8

Remarks:

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

CHANNEL	TX Channel 140	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	*5700.00	108.3 PK			1.60 H	321	68.5	39.8
2	*5700.00	97.9 AV			1.60 H	321	58.1	39.8
3	#5725.00	57.3 PK	68.2	-10.9	1.60 H	17	52.6	4.7
4	11400.00	57.5 PK	74.0	-16.5	1.68 H	202	39.8	17.7
5	11400.00	44.4 AV	54.0	-9.6	1.68 H	202	26.7	17.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	112.6 PK			1.63 V	337	72.8	39.8
2	*5700.00	101.9 AV			1.63 V	337	62.1	39.8
3	#5725.00	60.2 PK	68.2	-8.0	1.63 V	4	55.5	4.7
4	11400.00	57.9 PK	74.0	-16.1	1.63 V	193	40.2	17.7
5	11400.00	44.6 AV	54.0	-9.4	1.63 V	193	26.9	17.7

Remarks:

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

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) 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	#5627.56	58.6 PK	68.2	-9.6	1.59 H	319	54.1	4.5
2	*5745.00	119.8 PK			1.59 H	319	79.7	40.1
3	*5745.00	110.3 AV			1.59 H	319	70.2	40.1
4	#5977.56	60.0 PK	68.2	-8.2	1.59 H	319	54.6	5.4
5	11490.00	61.8 PK	74.0	-12.2	1.10 H	135	43.8	18.0
6	11490.00	47.6 AV	54.0	-6.4	1.10 H	135	29.6	18.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5644.87	61.6 PK	68.2	-6.6	1.48 V	6	57.1	4.5
2	*5745.00	122.6 PK			1.48 V	6	82.5	40.1
3	*5745.00	112.7 AV			1.48 V	6	72.6	40.1
4	#5991.67	65.8 PK	68.2	-2.4	1.48 V	6	60.4	5.4
5	11490.00	61.5 PK	74.0	-12.5	1.35 V	159	43.5	18.0
6	11490.00	47.8 AV	54.0	-6.2	1.35 V	159	29.8	18.0

Remarks:

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

CHANNEL	TX Channel 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	#5622.44	59.6 PK	68.2	-8.6	1.54 H	320	55.1	4.5
2	*5785.00	120.7 PK			1.54 H	320	80.4	40.3
3	*5785.00	110.6 AV			1.54 H	320	70.3	40.3
4	#5925.00	63.7 PK	68.2	-4.5	1.60 H	313	58.4	5.3
5	#5944.23	59.6 PK	68.2	-8.6	1.54 H	320	54.3	5.3
6	11570.00	60.9 PK	74.0	-13.1	1.17 H	140	43.2	17.7
7	11570.00	47.0 AV	54.0	-7.0	1.17 H	140	29.3	17.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5632.05	62.4 PK	68.2	-5.8	1.46 V	4	57.9	4.5
2	*5785.00	124.7 PK			1.46 V	4	84.4	40.3
3	*5785.00	114.0 AV			1.46 V	4	73.7	40.3
4	#5925.00	67.2 PK	68.2	-1.0	1.30 V	349	61.9	5.3
5	#5950.00	64.7 PK	68.2	-3.5	1.46 V	4	59.4	5.3
6	11570.00	60.7 PK	74.0	-13.3	1.41 V	159	43.0	17.7
7	11570.00	47.1 AV	54.0	-6.9	1.41 V	159	29.4	17.7

Remarks:

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

CHANNEL	TX Channel 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	#5605.77	56.6 PK	68.2	-11.6	1.60 H	319	52.0	4.6
2	*5825.00	121.1 PK			1.60 H	319	80.7	40.4
3	*5825.00	111.3 AV			1.60 H	319	70.9	40.4
4	#5930.77	60.4 PK	68.2	-7.8	1.60 H	319	55.1	5.3
5	11650.00	66.5 PK	74.0	-7.5	1.23 H	133	49.0	17.5
6	11650.00	52.6 AV	54.0	-1.4	1.23 H	133	35.1	17.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5625.00	57.8 PK	68.2	-10.4	1.41 V	359	53.3	4.5
2	*5825.00	124.7 PK			1.41 V	359	84.3	40.4
3	*5825.00	113.8 AV			1.41 V	359	73.4	40.4
4	#5939.10	60.5 PK	68.2	-7.7	1.41 V	359	55.2	5.3
5	11650.00	66.6 PK	74.0	-7.4	1.01 V	175	49.1	17.5
6	11650.00	52.8 AV	54.0	-1.2	1.01 V	175	35.3	17.5

Remarks:

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

802.11n (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	63.1 PK	74.0	-10.9	1.67 H	39	58.7	4.4
2	5150.00	45.5 AV	54.0	-8.5	1.67 H	39	41.1	4.4
3	*5180.00	116.8 PK			1.59 H	24	77.3	39.5
4	*5180.00	105.2 AV			1.59 H	24	65.7	39.5
5	#10360.00	57.3 PK	68.2	-10.9	1.26 H	163	41.3	16.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	71.9 PK	74.0	-2.1	1.95 V	20	67.5	4.4
2	5150.00	52.6 AV	54.0	-1.4	1.95 V	20	48.2	4.4
3	*5180.00	120.3 PK			1.83 V	347	80.8	39.5
4	*5180.00	108.8 AV			1.83 V	347	69.3	39.5
5	#10360.00	57.7 PK	68.2	-10.5	1.57 V	188	41.7	16.0

Remarks:

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

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK) 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	116.5 PK			1.67 H	23	77.0	39.5
2	*5200.00	104.8 AV			1.67 H	23	65.3	39.5
3	#10400.00	57.6 PK	68.2	-10.6	1.30 H	153	41.4	16.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	120.1 PK			1.66 V	348	80.6	39.5
2	*5200.00	108.5 AV			1.66 V	348	69.0	39.5
3	#10400.00	58.0 PK	68.2	-10.2	1.61 V	201	41.8	16.2

Remarks:

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

CHANNEL	TX Channel 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	116.1 PK			1.64 H	28	76.8	39.3
2	*5240.00	105.0 AV			1.64 H	28	65.7	39.3
3	5350.00	57.4 PK	74.0	-16.6	1.55 H	30	53.1	4.3
4	5350.00	45.2 AV	54.0	-8.8	1.55 H	30	40.9	4.3
5	#10480.00	58.3 PK	68.2	-9.9	1.30 H	169	41.3	17.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	119.8 PK			1.80 V	19	80.5	39.3
2	*5240.00	108.6 AV			1.80 V	19	69.3	39.3
3	5350.00	59.3 PK	74.0	-14.7	1.56 V	16	55.0	4.3
4	5350.00	46.1 AV	54.0	-7.9	1.56 V	16	41.8	4.3
5	#10480.00	58.8 PK	68.2	-9.4	1.49 V	183	41.8	17.0

Remarks:

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

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) 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	55.8 PK	74.0	-18.2	1.52 H	19	51.4	4.4
2	5150.00	45.4 AV	54.0	-8.6	1.52 H	19	41.0	4.4
3	*5260.00	107.3 PK			1.61 H	310	68.0	39.3
4	*5260.00	96.2 AV			1.61 H	310	56.9	39.3
5	#10520.00	58.5 PK	68.2	-9.7	1.53 H	186	41.2	17.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.8 PK	74.0	-17.2	1.70 V	11	52.4	4.4
2	5150.00	45.9 AV	54.0	-8.1	1.70 V	11	41.5	4.4
3	*5260.00	113.9 PK			1.70 V	315	74.6	39.3
4	*5260.00	101.3 AV			1.70 V	315	62.0	39.3
5	#10520.00	59.5 PK	68.2	-8.7	1.66 V	191	42.2	17.3

Remarks:

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

CHANNEL	TX Channel 60	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	*5300.00	107.8 PK			1.60 H	334	68.5	39.3
2	*5300.00	92.7 AV			1.60 H	334	53.4	39.3
3	10600.00	59.5 PK	74.0	-14.5	1.52 H	192	41.7	17.8
4	10600.00	46.1 AV	54.0	-7.9	1.52 H	192	28.3	17.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	113.7 PK			1.82 V	15	74.4	39.3
2	*5300.00	100.9 AV			1.82 V	15	61.6	39.3
3	10600.00	59.7 PK	74.0	-14.3	1.59 V	203	41.9	17.8
4	10600.00	46.3 AV	54.0	-7.7	1.59 V	203	28.5	17.8

Remarks:

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

CHANNEL	TX Channel 64	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	*5320.00	108.3 PK			1.48 H	22	69.0	39.3
2	*5320.00	96.0 AV			1.48 H	22	56.7	39.3
3	5350.00	56.8 PK	74.0	-17.2	1.62 H	6	52.5	4.3
4	5350.00	43.5 AV	54.0	-10.5	1.62 H	6	39.2	4.3
5	10640.00	58.6 PK	74.0	-15.4	1.58 H	195	41.0	17.6
6	10640.00	46.6 AV	54.0	-7.4	1.58 H	195	29.0	17.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	114.3 PK			1.75 V	17	75.0	39.3
2	*5320.00	101.1 AV			1.75 V	17	61.8	39.3
3	5350.00	61.9 PK	74.0	-12.1	1.74 V	15	57.6	4.3
4	5350.00	46.2 AV	54.0	-7.8	1.74 V	15	41.9	4.3
5	10640.00	59.3 PK	74.0	-14.7	1.67 V	209	41.7	17.6
6	10640.00	45.6 AV	54.0	-8.4	1.67 V	209	28.0	17.6

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.1 PK	74.0	-16.9	1.62 H	8	52.5	4.6
2	5460.00	44.2 AV	54.0	-9.8	1.62 H	8	39.6	4.6
3	#5470.00	57.3 PK	68.2	-10.9	1.68 H	16	52.7	4.6
4	*5500.00	108.0 PK			1.54 H	360	68.2	39.8
5	*5500.00	97.7 AV			1.54 H	360	57.9	39.8
6	11000.00	59.9 PK	74.0	-14.1	1.78 H	182	41.2	18.7
7	11000.00	46.6 AV	54.0	-7.4	1.78 H	182	27.9	18.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.3 PK	74.0	-13.7	1.61 V	19	55.7	4.6
2	5460.00	45.7 AV	54.0	-8.3	1.61 V	19	41.1	4.6
3	#5470.00	58.6 PK	68.2	-9.6	1.65 V	16	54.0	4.6
4	*5500.00	113.5 PK			1.57 V	15	73.7	39.8
5	*5500.00	102.0 AV			1.57 V	15	62.2	39.8
6	11000.00	59.9 PK	74.0	-14.1	1.73 V	190	41.2	18.7
7	11000.00	46.2 AV	54.0	-7.8	1.73 V	190	27.5	18.7

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) 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	*5580.00	107.5 PK			1.73 H	3	67.7	39.8
2	*5580.00	97.7 AV			1.73 H	3	57.9	39.8
3	11160.00	59.2 PK	74.0	-14.8	1.52 H	189	41.4	17.8
4	11160.00	46.3 AV	54.0	-7.7	1.52 H	189	28.5	17.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	113.6 PK			1.76 V	16	73.8	39.8
2	*5580.00	101.6 AV			1.76 V	16	61.8	39.8
3	11160.00	60.3 PK	74.0	-13.7	1.57 V	199	42.5	17.8
4	11160.00	46.3 AV	54.0	-7.7	1.57 V	199	28.5	17.8

Remarks:

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

CHANNEL	TX Channel 140	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	*5700.00	106.5 PK			1.70 H	332	66.7	39.8
2	*5700.00	96.1 AV			1.70 H	332	56.3	39.8
3	#5725.00	57.6 PK	68.2	-10.6	2.79 H	335	52.9	4.7
4	11400.00	57.8 PK	74.0	-16.2	1.53 H	207	40.1	17.7
5	11400.00	44.8 AV	54.0	-9.2	1.53 H	207	27.1	17.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	113.0 PK			1.61 V	2	73.2	39.8
2	*5700.00	101.0 AV			1.61 V	2	61.2	39.8
3	#5725.00	62.9 PK	68.2	-5.3	1.74 V	10	58.2	4.7
4	11400.00	58.6 PK	74.0	-15.4	1.57 V	213	40.9	17.7
5	11400.00	44.9 AV	54.0	-9.1	1.57 V	213	27.2	17.7

Remarks:

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

CHANNEL	TX Channel 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	#5608.33	57.8 PK	68.2	-10.4	1.58 H	6	53.2	4.6
2	*5745.00	116.5 PK			1.58 H	6	76.4	40.1
3	*5745.00	105.1 AV			1.58 H	6	65.0	40.1
4	#5976.28	59.8 PK	68.2	-8.4	1.58 H	6	54.4	5.4
5	11490.00	59.5 PK	74.0	-14.5	1.34 H	143	41.5	18.0
6	11490.00	46.0 AV	54.0	-8.0	1.34 H	143	28.0	18.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5647.44	59.3 PK	68.2	-8.9	1.36 V	0	54.8	4.5
2	*5745.00	118.2 PK			1.36 V	0	78.1	40.1
3	*5745.00	108.1 AV			1.36 V	0	68.0	40.1
4	#5992.95	59.6 PK	68.2	-8.6	1.36 V	0	54.2	5.4
5	11490.00	59.7 PK	74.0	-14.3	1.34 V	159	41.7	18.0
6	11490.00	46.1 AV	54.0	-7.9	1.34 V	159	28.1	18.0

Remarks:

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

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK) 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	#5619.87	57.8 PK	68.2	-10.4	1.42 H	322	53.2	4.6
2	*5785.00	116.2 PK			1.42 H	322	75.9	40.3
3	*5785.00	104.8 AV			1.42 H	322	64.5	40.3
4	#5997.44	58.2 PK	68.2	-10.0	1.42 H	322	52.8	5.4
5	11570.00	62.5 PK	74.0	-11.5	1.27 H	133	44.8	17.7
6	11570.00	48.5 AV	54.0	-5.5	1.27 H	133	30.8	17.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5627.56	59.1 PK	68.2	-9.1	1.54 V	1	54.6	4.5
2	*5785.00	118.6 PK			1.54 V	1	78.3	40.3
3	*5785.00	108.7 AV			1.54 V	1	68.4	40.3
4	#5942.95	59.7 PK	68.2	-8.5	1.54 V	1	54.4	5.3
5	11570.00	62.7 PK	74.0	-11.3	1.41 V	175	45.0	17.7
6	11570.00	48.8 AV	54.0	-5.2	1.41 V	175	31.1	17.7

Remarks:

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

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK) 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	#5626.92	56.0 PK	68.2	-12.2	1.66 H	7	51.5	4.5
2	*5825.00	118.0 PK			1.66 H	7	77.6	40.4
3	*5825.00	106.6 AV			1.66 H	7	66.2	40.4
4	#5957.69	59.3 PK	68.2	-8.9	1.66 H	7	54.0	5.3
5	11650.00	64.2 PK	74.0	-9.8	1.18 H	130	46.7	17.5
6	11650.00	50.3 AV	54.0	-3.7	1.18 H	130	32.8	17.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5606.41	57.4 PK	68.2	-10.8	1.47 V	3	52.8	4.6
2	*5825.00	119.4 PK			1.47 V	3	79.0	40.4
3	*5825.00	109.7 AV			1.47 V	3	69.3	40.4
4	#5957.69	59.0 PK	68.2	-9.2	1.47 V	3	53.7	5.3
5	11650.00	64.5 PK	74.0	-9.5	1.52 V	159	47.0	17.5
6	11650.00	50.5 AV	54.0	-3.5	1.52 V	159	33.0	17.5

Remarks:

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

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK) 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	63.7 PK	74.0	-10.3	1.49 H	20	59.3	4.4
2	5150.00	45.4 AV	54.0	-8.6	1.49 H	20	41.0	4.4
3	*5190.00	109.5 PK			1.61 H	29	70.0	39.5
4	*5190.00	98.1 AV			1.61 H	29	58.6	39.5
5	#10380.00	57.3 PK	68.2	-10.9	1.28 H	150	41.1	16.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	72.4 PK	74.0	-1.6	1.89 V	19	68.0	4.4
2	5150.00	50.4 AV	54.0	-3.6	1.89 V	19	46.0	4.4
3	*5190.00	113.1 PK			1.72 V	17	73.6	39.5
4	*5190.00	101.8 AV			1.72 V	17	62.3	39.5
5	#10380.00	57.7 PK	68.2	-10.5	1.60 V	199	41.5	16.2

Remarks:

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

CHANNEL	TX Channel 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	112.4 PK			1.57 H	27	73.1	39.3
2	*5230.00	101.3 AV			1.57 H	27	62.0	39.3
3	5350.00	57.2 PK	74.0	-16.8	1.66 H	39	52.9	4.3
4	5350.00	45.6 AV	54.0	-8.4	1.66 H	39	41.3	4.3
5	#10460.00	57.8 PK	68.2	-10.4	1.23 H	164	41.0	16.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	115.9 PK			1.73 V	16	76.6	39.3
2	*5230.00	105.0 AV			1.73 V	16	65.7	39.3
3	5350.00	60.9 PK	74.0	-13.1	1.81 V	18	56.6	4.3
4	5350.00	48.3 AV	54.0	-5.7	1.81 V	18	44.0	4.3
5	#10460.00	58.2 PK	68.2	-10.0	1.57 V	189	41.4	16.8

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.3 PK	74.0	-17.7	1.54 H	15	51.9	4.4
2	5150.00	43.4 AV	54.0	-10.6	1.54 H	15	39.0	4.4
3	*5270.00	105.3 PK			1.73 H	324	66.0	39.3
4	*5270.00	93.7 AV			1.73 H	324	54.4	39.3
5	#10540.00	59.6 PK	68.2	-8.6	1.65 H	182	42.1	17.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.1 PK	74.0	-16.9	1.69 V	20	52.7	4.4
2	5150.00	45.4 AV	54.0	-8.6	1.69 V	20	41.0	4.4
3	*5270.00	109.4 PK			1.63 V	17	70.1	39.3
4	*5270.00	98.6 AV			1.63 V	17	59.3	39.3
5	#10540.00	59.1 PK	68.2	-9.1	1.71 V	193	41.6	17.5

Remarks:

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

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK) 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	*5310.00	103.5 PK			1.56 H	309	64.2	39.3
2	*5310.00	93.0 AV			1.56 H	309	53.7	39.3
3	5350.00	57.7 PK	74.0	-16.3	1.60 H	14	53.4	4.3
4	5350.00	46.4 AV	54.0	-7.6	1.60 H	14	42.1	4.3
5	10620.00	58.9 PK	74.0	-15.1	1.58 H	185	41.2	17.7
6	10620.00	46.1 AV	54.0	-7.9	1.58 H	185	28.4	17.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	109.8 PK			1.67 V	15	70.5	39.3
2	*5310.00	98.4 AV			1.67 V	15	59.1	39.3
3	5350.00	68.8 PK	74.0	-5.2	1.72 V	15	64.5	4.3
4	5350.00	49.3 AV	54.0	-4.7	1.72 V	15	45.0	4.3
5	10620.00	59.4 PK	74.0	-14.6	1.66 V	193	41.7	17.7
6	10620.00	46.0 AV	54.0	-8.0	1.66 V	193	28.3	17.7

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.5 PK	74.0	-16.5	1.98 H	33	52.9	4.6
2	5460.00	45.0 AV	54.0	-9.0	1.98 H	33	40.4	4.6
3	#5470.00	59.5 PK	68.2	-8.7	1.88 H	25	54.9	4.6
4	*5510.00	105.8 PK			1.68 H	2	65.9	39.9
5	*5510.00	95.5 AV			1.68 H	2	55.6	39.9
6	11020.00	59.7 PK	74.0	-14.3	1.58 H	211	41.2	18.5
7	11020.00	46.3 AV	54.0	-7.7	1.58 H	211	27.8	18.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.3 PK	74.0	-13.7	1.70 V	16	55.7	4.6
2	5460.00	46.4 AV	54.0	-7.6	1.70 V	16	41.8	4.6
3	#5470.00	65.4 PK	68.2	-2.8	1.66 V	20	60.8	4.6
4	*5510.00	110.9 PK			1.78 V	318	71.0	39.9
5	*5510.00	99.4 AV			1.78 V	318	59.5	39.9
6	11020.00	59.4 PK	74.0	-14.6	1.66 V	221	40.9	18.5
7	11020.00	46.4 AV	54.0	-7.6	1.66 V	221	27.9	18.5

Remarks:

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

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK) 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	*5550.00	106.4 PK			1.64 H	19	66.6	39.8
2	*5550.00	96.0 AV			1.64 H	19	56.2	39.8
3	11100.00	59.1 PK	74.0	-14.9	1.58 H	195	41.1	18.0
4	11100.00	46.0 AV	54.0	-8.0	1.58 H	195	28.0	18.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	110.7 PK			1.59 V	13	70.9	39.8
2	*5550.00	99.4 AV			1.59 V	13	59.6	39.8
3	11100.00	58.6 PK	74.0	-15.4	1.63 V	193	40.6	18.0
4	11100.00	45.8 AV	54.0	-8.2	1.63 V	193	27.8	18.0

Remarks:

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

CHANNEL	TX Channel 134	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	*5670.00	104.8 PK			1.76 H	17	65.0	39.8
2	*5670.00	94.9 AV			1.76 H	17	55.1	39.8
3	#5725.00	56.6 PK	68.2	-11.6	1.82 H	306	51.9	4.7
4	11340.00	58.4 PK	74.0	-15.6	1.65 H	208	40.6	17.8
5	11340.00	45.5 AV	54.0	-8.5	1.65 H	208	27.7	17.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	109.9 PK			1.51 V	336	70.1	39.8
2	*5670.00	98.5 AV			1.51 V	336	58.7	39.8
3	#5725.00	59.9 PK	68.2	-8.3	1.58 V	1	55.2	4.7
4	11340.00	58.8 PK	74.0	-15.2	1.63 V	203	41.0	17.8
5	11340.00	45.1 AV	54.0	-8.9	1.63 V	203	27.3	17.8

Remarks:

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

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK) 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	#5612.18	59.2 PK	68.2	-9.0	1.58 H	6	54.6	4.6
2	*5755.00	113.0 PK			1.58 H	6	72.9	40.1
3	*5755.00	101.9 AV			1.58 H	6	61.8	40.1
4	#5928.21	58.9 PK	68.2	-9.3	1.58 H	6	53.6	5.3
5	11510.00	58.9 PK	74.0	-15.1	1.11 H	129	40.8	18.1
6	11510.00	45.7 AV	54.0	-8.3	1.11 H	129	27.6	18.1

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5601.28	60.0 PK	68.2	-8.2	1.34 V	1	55.4	4.6
2	*5755.00	115.3 PK			1.34 V	1	75.2	40.1
3	*5755.00	105.2 AV			1.34 V	1	65.1	40.1
4	#5927.56	60.2 PK	68.2	-8.0	1.34 V	1	54.9	5.3
5	11510.00	59.1 PK	74.0	-14.9	1.13 V	158	41.0	18.1
6	11510.00	45.6 AV	54.0	-8.4	1.13 V	158	27.5	18.1

Remarks:

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

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK) 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	#5636.54	59.1 PK	68.2	-9.1	1.60 H	16	54.6	4.5
2	*5795.00	114.2 PK			1.60 H	16	73.8	40.4
3	*5795.00	102.5 AV			1.60 H	16	62.1	40.4
4	#5973.08	58.6 PK	68.2	-9.6	1.60 H	16	53.2	5.4
5	11590.00	61.3 PK	74.0	-12.7	1.30 H	144	43.7	17.6
6	11590.00	47.9 AV	54.0	-6.1	1.30 H	144	30.3	17.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5622.44	59.3 PK	68.2	-8.9	1.42 V	3	54.8	4.5
2	*5795.00	116.0 PK			1.42 V	3	75.6	40.4
3	*5795.00	106.1 AV			1.42 V	3	65.7	40.4
4	#5953.21	61.3 PK	68.2	-6.9	1.42 V	3	56.0	5.3
5	11590.00	61.1 PK	74.0	-12.9	1.24 V	176	43.5	17.6
6	11590.00	48.1 AV	54.0	-5.9	1.24 V	176	30.5	17.6

Remarks:

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

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	64.0 PK	74.0	-10.0	1.60 H	30	59.6	4.4
2	5150.00	45.6 AV	54.0	-8.4	1.60 H	30	41.2	4.4
3	*5210.00	106.1 PK			1.53 H	27	66.7	39.4
4	*5210.00	95.3 AV			1.53 H	27	55.9	39.4
5	5350.00	57.8 PK	74.0	-16.2	1.51 H	21	53.5	4.3
6	5350.00	35.0 AV	54.0	-19.0	1.51 H	21	30.7	4.3
7	#10420.00	57.8 PK	68.2	-10.4	1.22 H	160	41.3	16.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	72.3 PK	74.0	-1.7	1.77 V	15	67.9	4.4
2	5150.00	50.7 AV	54.0	-3.3	1.77 V	15	46.3	4.4
3	*5210.00	109.6 PK			1.74 V	18	70.2	39.4
4	*5210.00	98.9 AV			1.74 V	18	59.5	39.4
5	5350.00	59.8 PK	74.0	-14.2	1.63 V	21	55.5	4.3
6	5350.00	46.8 AV	54.0	-7.2	1.63 V	21	42.5	4.3
7	#10420.00	58.1 PK	68.2	-10.1	1.63 V	203	41.6	16.5

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.5 PK	74.0	-17.5	1.35 H	16	52.1	4.4
2	5150.00	44.2 AV	54.0	-9.8	1.35 H	16	39.8	4.4
3	*5290.00	100.9 PK			1.79 H	322	61.6	39.3
4	*5290.00	90.3 AV			1.79 H	322	51.0	39.3
5	5350.00	59.9 PK	74.0	-14.1	1.36 H	18	55.6	4.3
6	5350.00	47.1 AV	54.0	-6.9	1.36 H	18	42.8	4.3
7	#10580.00	59.4 PK	68.2	-8.8	1.65 H	186	41.7	17.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.5 PK	74.0	-17.5	1.88 V	20	52.1	4.4
2	5150.00	45.9 AV	54.0	-8.1	1.88 V	20	41.5	4.4
3	*5290.00	107.0 PK			1.91 V	16	67.7	39.3
4	*5290.00	95.7 AV			1.91 V	16	56.4	39.3
5	5350.00	66.3 PK	74.0	-7.7	1.83 V	19	62.0	4.3
6	5350.00	52.6 AV	54.0	-1.4	1.83 V	19	48.3	4.3
7	#10580.00	58.9 PK	68.2	-9.3	1.70 V	200	41.2	17.7

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.0 PK	74.0	-15.0	1.59 H	336	54.4	4.6
2	5460.00	46.7 AV	54.0	-7.3	1.59 H	336	42.1	4.6
3	#5470.00	59.5 PK	68.2	-8.7	1.55 H	328	54.9	4.6
4	*5530.00	102.9 PK			1.51 H	19	63.0	39.9
5	*5530.00	93.6 AV			1.51 H	19	53.7	39.9
6	#5725.00	56.0 PK	68.2	-12.2	1.63 H	340	51.3	4.7
7	11060.00	59.3 PK	74.0	-14.7	1.65 H	188	41.1	18.2
8	11060.00	46.7 AV	54.0	-7.3	1.65 H	188	28.5	18.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.9 PK	74.0	-10.1	1.60 V	345	59.3	4.6
2	5460.00	49.9 AV	54.0	-4.1	1.60 V	345	45.3	4.6
3	#5470.00	65.1 PK	68.2	-3.1	1.57 V	339	60.5	4.6
4	*5530.00	106.9 PK			1.37 V	14	67.0	39.9
5	*5530.00	96.3 AV			1.37 V	14	56.4	39.9
6	#5725.00	55.7 PK	68.2	-12.5	1.66 V	350	51.0	4.7
7	11060.00	59.3 PK	74.0	-14.7	1.63 V	209	41.1	18.2
8	11060.00	46.2 AV	54.0	-7.8	1.63 V	209	28.0	18.2

Remarks:

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

CHANNEL	TX Channel 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	#5630.77	60.8 PK	68.2	-7.4	1.71 H	13	56.3	4.5
2	#5650.00	64.6 PK	68.2	-3.6	1.60 H	5	60.1	4.5
3	*5775.00	110.3 PK			1.71 H	13	70.0	40.3
4	*5775.00	98.8 AV			1.71 H	13	58.5	40.3
5	#5925.00	65.6 PK	68.2	-2.6	1.65 H	11	60.3	5.3
6	#5931.41	59.8 PK	68.2	-8.4	1.71 H	13	54.5	5.3
7	11550.00	59.8 PK	74.0	-14.2	1.31 H	133	41.9	17.9
8	11550.00	46.2 AV	54.0	-7.8	1.31 H	133	28.3	17.9

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.72	63.4 PK	68.2	-4.8	1.42 V	1	58.9	4.5
2	#5650.00	66.4 PK	68.2	-1.8	1.42 V	341	61.9	4.5
3	*5775.00	112.1 PK			1.42 V	1	71.8	40.3
4	*5775.00	102.2 AV			1.42 V	1	61.9	40.3
5	#5925.00	67.0 PK	68.2	-1.2	1.48 V	3	61.7	5.3
6	#5927.56	63.0 PK	68.2	-5.2	1.42 V	1	57.7	5.3
7	11550.00	59.9 PK	74.0	-14.1	1.13 V	177	42.0	17.9
8	11550.00	46.4 AV	54.0	-7.6	1.13 V	177	28.5	17.9

Remarks:

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

Below 1GHz Worst-Case Data:

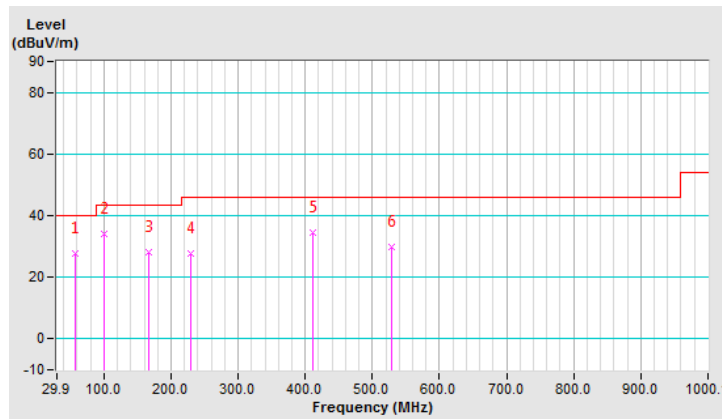
802.11a

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	57.12	27.6 QP	40.0	-12.4	2.00 H	249	37.7	-10.1
2	99.89	34.2 QP	43.5	-9.3	2.00 H	40	47.8	-13.6
3	166.00	28.0 QP	43.5	-15.5	1.50 H	352	37.1	-9.1
4	230.16	27.6 QP	46.0	-18.4	1.01 H	103	38.0	-10.4
5	410.98	34.6 QP	46.0	-11.4	2.00 H	108	40.0	-5.4
6	529.58	29.9 QP	46.0	-16.1	2.00 H	220	33.1	-3.2

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

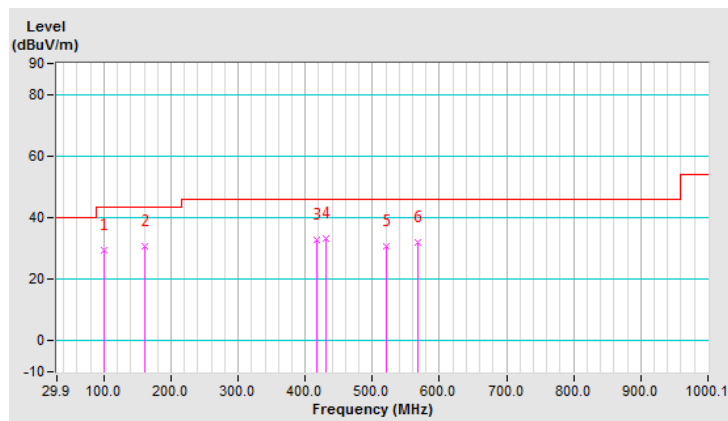


CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	99.89	29.4 QP	43.5	-14.1	1.99 V	89	43.0	-13.6
2	160.17	30.6 QP	43.5	-12.9	1.00 V	110	39.6	-9.0
3	416.81	32.9 QP	46.0	-13.1	1.49 V	243	38.1	-5.2
4	430.42	33.3 QP	46.0	-12.7	1.49 V	250	37.9	-4.6
5	521.81	30.8 QP	46.0	-15.2	1.00 V	142	34.1	-3.3
6	568.47	32.1 QP	46.0	-13.9	1.00 V	299	34.3	-2.2

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

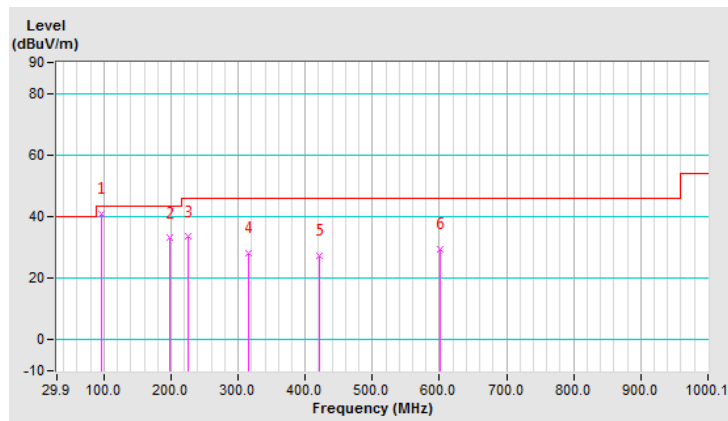


CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	96.01	41.0 QP	43.5	-2.5	2.00 H	61	55.0	-14.0
2	199.05	33.0 QP	43.5	-10.5	1.00 H	97	44.2	-11.2
3	226.27	33.4 QP	46.0	-12.6	1.50 H	47	43.9	-10.5
4	315.71	28.1 QP	46.0	-17.9	1.00 H	250	35.1	-7.0
5	420.70	27.4 QP	46.0	-18.6	1.50 H	125	32.3	-4.9
6	601.52	29.3 QP	46.0	-16.7	2.00 H	123	30.5	-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

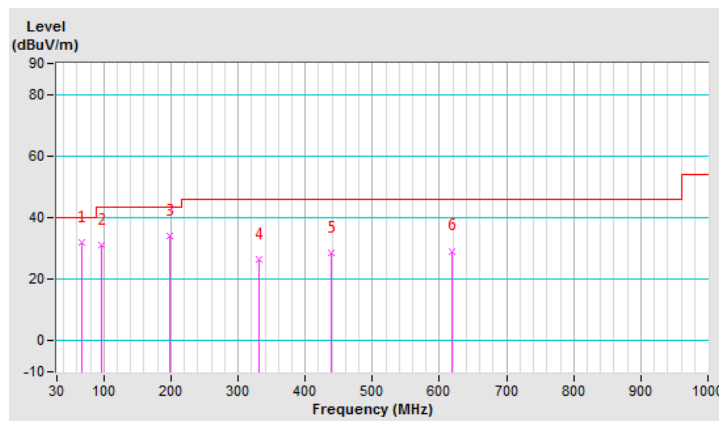


CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	66.84	31.9 QP	40.0	-8.1	1.00 V	286	43.0	-11.1
2	96.01	31.0 QP	43.5	-12.5	2.00 V	69	45.0	-14.0
3	199.05	34.1 QP	43.5	-9.4	1.00 V	163	45.3	-11.2
4	331.26	26.3 QP	46.0	-19.7	1.49 V	16	33.0	-6.7
5	438.20	28.5 QP	46.0	-17.5	1.00 V	164	33.0	-4.5
6	619.02	29.2 QP	46.0	-16.8	2.00 V	20	30.0	-0.8

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

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

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

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

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

4.2.3 Test Procedures

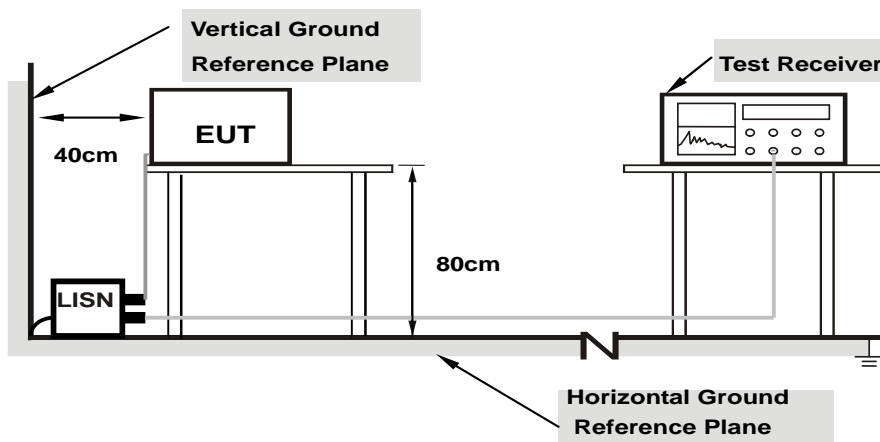
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

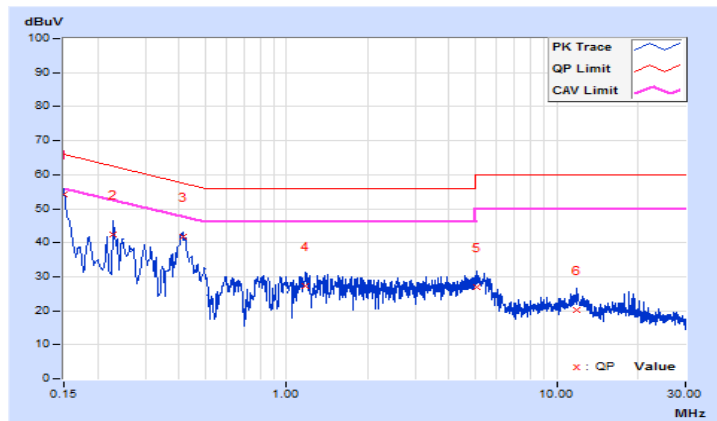
802.11a

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

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15000	9.84	44.46	32.30	54.30	42.14	66.00
2	0.22820	9.85	32.64	20.87	42.49	30.72	62.51	52.51	-20.02	-21.79
3	0.41197	9.88	31.94	25.36	41.82	35.24	57.61	47.61	-15.79	-12.37
4	1.18224	9.93	17.18	10.88	27.11	20.81	56.00	46.00	-28.89	-25.19
5	5.08051	10.05	16.78	9.88	26.83	19.93	60.00	50.00	-33.17	-30.07
6	11.79398	10.18	9.86	4.29	20.04	14.47	60.00	50.00	-39.96	-35.53

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.

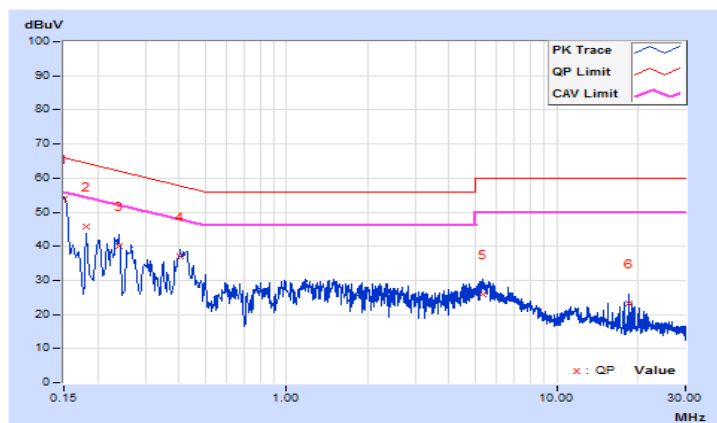


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15000	9.82	43.90	32.23	53.72	42.05	66.00
2	0.18128	9.83	36.11	24.14	45.94	33.97	64.43	54.43	-18.49	-20.46
3	0.23993	9.85	30.36	22.22	40.21	32.07	62.10	52.10	-21.89	-20.03
4	0.40415	9.87	27.00	16.43	36.87	26.30	57.77	47.77	-20.90	-21.47
5	5.31902	10.04	15.94	8.36	25.98	18.40	60.00	50.00	-34.02	-31.60
6	18.55437	10.29	13.01	11.65	23.30	21.94	60.00	50.00	-36.70	-28.06

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.

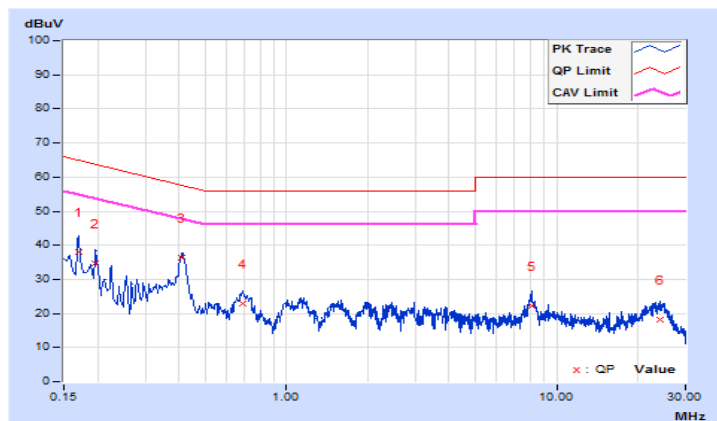


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.16967	9.69	28.41	14.72	38.10	24.41	64.98
2	0.19692	9.68	25.06	12.68	34.74	22.36	63.74	53.74	-29.00	-31.38
3	0.41016	9.68	26.64	18.13	36.32	27.81	57.65	47.65	-21.33	-19.84
4	0.68958	9.68	13.29	5.77	22.97	15.45	56.00	46.00	-33.03	-30.55
5	8.06384	9.83	12.50	3.35	22.33	13.18	60.00	50.00	-37.67	-36.82
6	24.29034	9.94	8.40	0.13	18.34	10.07	60.00	50.00	-41.66	-39.93

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.

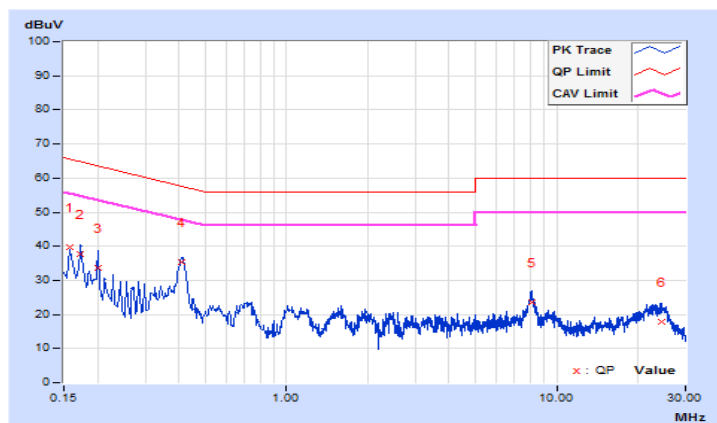


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15782	9.66	30.13	14.99	39.79	24.65	65.58
2	0.17346	9.66	28.08	14.35	37.74	24.01	64.79	54.79	-27.05	-30.78
3	0.20084	9.66	23.91	10.08	33.57	19.74	63.58	53.58	-30.01	-33.84
4	0.40800	9.65	25.54	16.81	35.19	26.46	57.69	47.69	-22.50	-21.23
5	8.07166	9.81	13.69	4.54	23.50	14.35	60.00	50.00	-36.50	-35.65
6	24.33335	10.02	7.72	0.35	17.74	10.37	60.00	50.00	-42.26	-39.63

Remarks:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

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

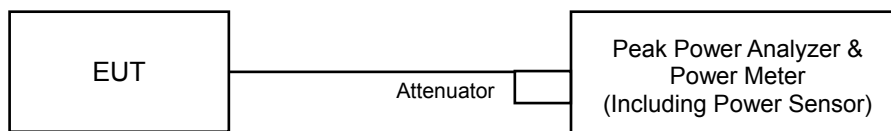
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

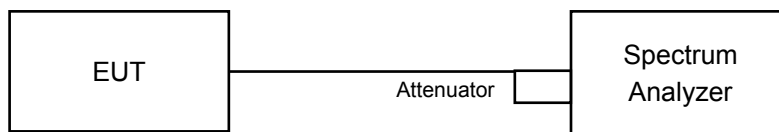
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

For Power Output



For 26dB Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

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

For 26dB Bandwidth

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

CDD Mode

1TX

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	24.099	13.82	28.00	Pass
40	5200	25.942	14.14	28.00	Pass
48	5240	25.763	14.11	28.00	Pass
52	5260	8.511	9.30	22.00	Pass
60	5300	7.586	8.80	22.00	Pass
64	5320	8.128	9.10	22.00	Pass
100	5500	7.413	8.70	22.00	Pass
116	5580	6.457	8.10	22.00	Pass
140	5700	6.761	8.30	22.00	Pass
149	5745	142.233	21.53	28.00	Pass
157	5785	140.929	21.49	28.00	Pass
165	5825	145.211	21.62	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

1. 11dBm + 10log (40.84) = 27.11 > 24dBm
2. 11dBm + 10log (39.96) = 27.02 > 24dBm
3. 11dBm + 10log (27.18) = 25.34 > 24dBm
4. 11dBm + 10log (34.57) = 26.39 > 24dBm
5. 11dBm + 10log (42.86) = 27.32 > 24dBm
6. 11dBm + 10log (33.42) = 26.24 > 24dBm

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	23.933	13.79	28.00	Pass
40	5200	25.704	14.10	28.00	Pass
48	5240	25.293	14.03	28.00	Pass
52	5260	8.356	9.22	22.00	Pass
60	5300	7.516	8.76	22.00	Pass
64	5320	7.980	9.02	22.00	Pass
100	5500	7.161	8.55	22.00	Pass
116	5580	6.339	8.02	22.00	Pass
140	5700	6.471	8.11	22.00	Pass
149	5745	54.075	17.33	28.00	Pass
157	5785	52.723	17.22	28.00	Pass
165	5825	53.827	17.31	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

1. 11dBm + 10log (46.46) = 27.67 > 24dBm
2. 11dBm + 10log (45.82) = 27.61 > 24dBm
3. 11dBm + 10log (22.21) = 24.47 > 24dBm
4. 11dBm + 10log (42.13) = 27.25 > 24dBm
5. 11dBm + 10log (46.93) = 27.71 > 24dBm
6. 11dBm + 10log (25.87) = 25.13 > 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	22.131	13.45	28.00	Pass
46	5230	50.582	17.04	28.00	Pass
54	5270	12.246	10.88	22.00	Pass
62	5310	11.535	10.62	22.00	Pass
102	5510	12.972	11.13	22.00	Pass
110	5550	12.246	10.88	22.00	Pass
134	5670	12.912	11.11	22.00	Pass
151	5755	53.827	17.31	28.00	Pass
159	5795	54.325	17.35	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

1. 11dBm + 10log (97.33) = 30.88 > 24dBm
2. 11dBm + 10log (41.52) = 27.18 > 24dBm
3. 11dBm + 10log (41.59) = 27.19 > 24dBm
4. 11dBm + 10log (102.31) = 31.10 > 24dBm
5. 11dBm + 10log (97.18) = 30.88 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	19.275	12.85	28.00	Pass
58	5290	11.722	10.69	22.00	Pass
106	5530	13.964	11.45	22.00	Pass
155	5775	44.463	16.48	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

1. 11dBm + 10log (122.36) = 31.88 > 24dBm
2. 11dBm + 10log (142.78) = 32.55 > 24dBm

2TX

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	13.82	14.96	55.432	17.44	28.00	Pass
40	5200	14.14	14.92	56.988	17.56	28.00	Pass
48	5240	14.11	15.02	57.532	17.60	28.00	Pass
52	5260	9.30	10.20	18.982	12.78	22.00	Pass
60	5300	8.80	9.30	16.097	12.07	22.00	Pass
64	5320	9.10	9.80	17.678	12.47	22.00	Pass
100	5500	8.70	9.50	16.326	12.13	22.00	Pass
116	5580	8.10	9.80	16.007	12.04	22.00	Pass
140	5700	8.30	10.30	17.476	12.42	22.00	Pass
149	5745	21.53	21.34	278.377	24.45	28.00	Pass
157	5785	21.49	21.41	279.286	24.46	28.00	Pass
165	5825	21.62	21.32	280.730	24.48	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (22.01) = 24.43 > 24dBm
2. 11dBm + 10log (21.94) = 24.41 > 24dBm
3. 11dBm + 10log (21.88) = 24.40 > 24dBm
4. 11dBm + 10log (21.89) = 24.40 > 24dBm
5. 11dBm + 10log (21.81) = 24.39 > 24dBm
6. 11dBm + 10log (21.99) = 24.42 > 24dBm

Chain 1

1. 11dBm + 10log (21.76) = 24.38 > 24dBm
2. 11dBm + 10log (21.74) = 24.37 > 24dBm
3. 11dBm + 10log (21.73) = 24.37 > 24dBm
4. 11dBm + 10log (21.71) = 24.37 > 24dBm
5. 11dBm + 10log (21.93) = 24.41 > 24dBm
6. 11dBm + 10log (22.05) = 24.43 > 24dBm

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	13.79	14.89	54.765	17.39	28.00	Pass
40	5200	14.10	14.99	57.254	17.58	28.00	Pass
48	5240	14.03	15.13	57.877	17.63	28.00	Pass
52	5260	9.22	10.16	18.731	12.73	22.00	Pass
60	5300	8.76	9.27	15.969	12.03	22.00	Pass
64	5320	9.02	9.65	17.206	12.36	22.00	Pass
100	5500	8.55	9.54	16.156	12.08	22.00	Pass
116	5580	8.02	9.58	15.417	11.88	22.00	Pass
140	5700	8.11	10.02	16.517	12.18	22.00	Pass
149	5745	17.33	17.55	110.960	20.45	28.00	Pass
157	5785	17.22	17.43	108.058	20.34	28.00	Pass
165	5825	17.31	17.53	110.451	20.43	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (22.09) = 24.44 > 24dBm
2. 11dBm + 10log (22.14) = 24.45 > 24dBm
3. 11dBm + 10log (22.07) = 24.44 > 24dBm
4. 11dBm + 10log (22.00) = 24.42 > 24dBm
5. 11dBm + 10log (22.21) = 24.47 > 24dBm
6. 11dBm + 10log (22.30) = 24.48 > 24dBm

Chain 1

1. 11dBm + 10log (21.94) = 24.41 > 24dBm
2. 11dBm + 10log (21.81) = 24.39 > 24dBm
3. 11dBm + 10log (21.91) = 24.41 > 24dBm
4. 11dBm + 10log (21.80) = 24.38 > 24dBm
5. 11dBm + 10log (22.00) = 24.42 > 24dBm
6. 11dBm + 10log (21.92) = 24.41 > 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	13.45	14.62	51.104	17.08	28.00	Pass
46	5230	17.04	17.85	111.536	20.47	28.00	Pass
54	5270	10.88	11.45	26.210	14.18	22.00	Pass
62	5310	10.62	12.01	27.420	14.38	22.00	Pass
102	5510	11.13	11.98	28.748	14.59	22.00	Pass
110	5550	10.88	12.03	28.205	14.50	22.00	Pass
134	5670	11.11	11.68	27.635	14.41	22.00	Pass
151	5755	17.31	17.45	109.417	20.39	28.00	Pass
159	5795	17.35	17.55	111.210	20.46	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (41.61) = 27.19 > 24dBm
2. 11dBm + 10log (41.37) = 27.17 > 24dBm
3. 11dBm + 10log (41.68) = 27.20 > 24dBm
4. 11dBm + 10log (41.60) = 27.19 > 24dBm
5. 11dBm + 10log (41.80) = 27.21 > 24dBm

Chain 1

1. 11dBm + 10log (41.19) = 27.15 > 24dBm
2. 11dBm + 10log (41.31) = 27.16 > 24dBm
3. 11dBm + 10log (41.18) = 27.15 > 24dBm
4. 11dBm + 10log (41.30) = 27.16 > 24dBm
5. 11dBm + 10log (41.28) = 27.16 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	12.85	13.45	41.406	16.17	28.00	Pass
58	5290	10.69	11.70	26.513	14.23	22.00	Pass
106	5530	11.45	11.98	29.740	14.73	22.00	Pass
155	5775	16.48	17.51	100.827	20.04	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (122.93) = 31.90 > 24dBm

2. 11dBm + 10log (97.13) = 30.87 > 24dBm

Chain 1

1. 11dBm + 10log (123.53) = 31.92 > 24dBm

2. 11dBm + 10log (110.19) = 31.42 > 24dBm

3TX

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	13.82	14.96	16.16	96.737	19.86	28.00	Pass
40	5200	14.14	14.92	16.13	98.008	19.91	28.00	Pass
48	5240	14.11	15.02	16.26	99.799	19.99	28.00	Pass
52	5260	9.30	10.20	9.50	27.895	14.46	22.00	Pass
60	5300	8.80	9.30	9.70	25.430	14.05	22.00	Pass
64	5320	9.10	9.80	10.20	28.149	14.49	22.00	Pass
100	5500	8.70	9.50	9.90	26.098	14.17	22.00	Pass
116	5580	8.10	9.80	9.80	25.557	14.08	22.00	Pass
140	5700	8.30	10.30	10.10	27.709	14.43	22.00	Pass
149	5745	21.53	21.34	22.64	462.031	26.65	28.00	Pass
157	5785	21.49	21.41	22.56	459.588	26.62	28.00	Pass
165	5825	21.62	21.32	22.21	447.071	26.50	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (21.85) = 24.39 > 24dBm
2. 11dBm + 10log (21.81) = 24.39 > 24dBm
3. 11dBm + 10log (21.84) = 24.39 > 24dBm
4. 11dBm + 10log (21.76) = 24.38 > 24dBm
5. 11dBm + 10log (21.76) = 24.38 > 24dBm
6. 11dBm + 10log (21.73) = 24.37 > 24dBm

Chain 1

1. 11dBm + 10log (21.58) = 24.34 > 24dBm
2. 11dBm + 10log (21.86) = 24.40 > 24dBm
3. 11dBm + 10log (21.80) = 24.38 > 24dBm
4. 11dBm + 10log (21.65) = 24.35 > 24dBm
5. 11dBm + 10log (21.59) = 24.34 > 24dBm
6. 11dBm + 10log (21.60) = 24.34 > 24dBm

Chain 2

1. 11dBm + 10log (21.74) = 24.37 > 24dBm
2. 11dBm + 10log (21.80) = 24.38 > 24dBm
3. 11dBm + 10log (21.74) = 24.37 > 24dBm
4. 11dBm + 10log (21.71) = 24.37 > 24dBm
5. 11dBm + 10log (21.68) = 24.36 > 24dBm
6. 11dBm + 10log (21.64) = 24.35 > 24dBm

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	13.79	14.89	16.02	94.759	19.77	28.00	Pass
40	5200	14.10	14.99	16.22	99.133	19.96	28.00	Pass
48	5240	14.03	15.13	16.37	101.228	20.05	28.00	Pass
52	5260	9.22	10.16	9.59	27.830	14.45	22.00	Pass
60	5300	8.76	9.27	9.64	25.173	14.01	22.00	Pass
64	5320	9.02	9.65	10.03	27.275	14.36	22.00	Pass
100	5500	8.55	9.54	9.82	25.750	14.11	22.00	Pass
116	5580	8.02	9.58	9.67	24.685	13.92	22.00	Pass
140	5700	8.11	10.02	9.99	26.494	14.23	22.00	Pass
149	5745	17.33	17.55	18.15	176.273	22.46	28.00	Pass
157	5785	17.22	17.43	18.36	176.607	22.47	28.00	Pass
165	5825	17.31	17.53	18.14	175.614	22.45	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (22.19) = 24.46 > 24dBm
2. 11dBm + 10log (22.12) = 24.45 > 24dBm
3. 11dBm + 10log (22.11) = 24.45 > 24dBm
4. 11dBm + 10log (22.11) = 24.45 > 24dBm
5. 11dBm + 10log (22.21) = 24.47 > 24dBm
6. 11dBm + 10log (22.17) = 24.46 > 24dBm

Chain 1

1. 11dBm + 10log (21.78) = 24.38 > 24dBm
2. 11dBm + 10log (21.83) = 24.39 > 24dBm
3. 11dBm + 10log (21.87) = 24.40 > 24dBm
4. 11dBm + 10log (21.78) = 24.38 > 24dBm
5. 11dBm + 10log (21.81) = 24.39 > 24dBm
6. 11dBm + 10log (22.05) = 24.43 > 24dBm

Chain 2

1. 11dBm + 10log (21.86) = 24.40 > 24dBm
2. 11dBm + 10log (21.91) = 24.41 > 24dBm
3. 11dBm + 10log (21.90) = 24.40 > 24dBm
4. 11dBm + 10log (21.85) = 24.39 > 24dBm
5. 11dBm + 10log (21.78) = 24.38 > 24dBm
6. 11dBm + 10log (21.84) = 24.39 > 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
38	5190	13.45	14.62	15.05	83.093	19.20	28.00	Pass
46	5230	17.04	17.85	18.47	181.843	22.60	28.00	Pass
54	5270	10.88	11.45	12.18	42.730	16.31	22.00	Pass
62	5310	10.62	12.01	11.82	42.625	16.30	22.00	Pass
102	5510	11.13	11.98	11.91	44.272	16.46	22.00	Pass
110	5550	10.88	12.03	12.01	44.090	16.44	22.00	Pass
134	5670	11.11	11.68	12.15	44.041	16.44	22.00	Pass
151	5755	17.31	17.45	18.23	175.944	22.45	28.00	Pass
159	5795	17.35	17.55	18.18	176.976	22.48	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (41.81) = 27.21 > 24dBm
2. 11dBm + 10log (41.42) = 27.17 > 24dBm
3. 11dBm + 10log (41.63) = 27.19 > 24dBm
4. 11dBm + 10log (41.54) = 27.18 > 24dBm
5. 11dBm + 10log (41.59) = 27.19 > 24dBm

Chain 1

1. 11dBm + 10log (41.27) = 27.16 > 24dBm
2. 11dBm + 10log (41.22) = 27.15 > 24dBm
3. 11dBm + 10log (41.06) = 27.13 > 24dBm
4. 11dBm + 10log (41.24) = 27.15 > 24dBm
5. 11dBm + 10log (41.42) = 27.17 > 24dBm

Chain 2

1. 11dBm + 10log (41.03) = 27.13 > 24dBm
2. 11dBm + 10log (41.05) = 27.13 > 24dBm
3. 11dBm + 10log (41.03) = 27.13 > 24dBm
4. 11dBm + 10log (41.02) = 27.13 > 24dBm
5. 11dBm + 10log (41.11) = 27.14 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
42	5210	12.85	13.45	13.75	65.120	18.14	28.00	Pass
58	5290	10.69	11.70	12.18	43.033	16.34	22.00	Pass
106	5530	11.45	11.98	12.15	46.146	16.64	22.00	Pass
155	5775	16.48	17.51	18.15	166.140	22.20	28.00	Pass

* For U-NII-1, For U-NII-3: Gain: 8dBi > 6dBi, so the limit shall be reduced to 30-(8-6) = 28dBm.

* For U-NII-2A, For U-NII-2C: Gain: 8dBi > 6dBi, so the limit shall be reduced to 24-(8-6) = 22dBm.

* Determined Limit means compare the minimum value after 22dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. $11\text{dBm} + 10\log (123.01) = 31.90 > 24\text{dBm}$

2. $11\text{dBm} + 10\log (94.84) = 30.77 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log (121.03) = 31.83 > 24\text{dBm}$

2. $11\text{dBm} + 10\log (102.77) = 31.12 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log (125.97) = 32.00 > 24\text{dBm}$

2. $11\text{dBm} + 10\log (94.45) = 30.75 > 24\text{dBm}$

4TX

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	13.82	14.96	16.16	14.81	127.006	21.04	28.00	Pass
40	5200	14.14	14.92	16.13	14.44	125.805	21.00	28.00	Pass
48	5240	14.11	15.02	16.26	14.35	127.026	21.04	28.00	Pass
52	5260	9.30	10.20	9.50	8.50	34.974	15.44	22.00	Pass
60	5300	8.80	9.30	9.70	8.60	32.674	15.14	22.00	Pass
64	5320	9.10	9.80	10.20	8.50	35.228	15.47	22.00	Pass
100	5500	8.70	9.50	9.90	8.40	33.016	15.19	22.00	Pass
116	5580	8.10	9.80	9.80	8.10	32.014	15.05	22.00	Pass
140	5700	8.30	10.30	10.10	9.10	35.837	15.54	22.00	Pass
149	5745	21.53	21.34	22.64	21.49	602.960	27.80	28.00	Pass
157	5785	21.49	21.41	22.56	21.52	601.494	27.79	28.00	Pass
165	5825	21.62	21.32	22.21	21.51	588.650	27.70	28.00	Pass

* U-NII-1 & U-NII-3 Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to 30-(8-6) = 28dBm.
 U-NII-2A, U-NII-2C Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to 24-(8-6) = 22dBm.

Note:

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

Chain 0

1. 11dBm + 10log (21.85) = 24.39 > 22dBm
2. 11dBm + 10log (21.85) = 24.39 > 22dBm
3. 11dBm + 10log (21.85) = 24.39 > 22dBm
4. 11dBm + 10log (21.82) = 24.39 > 22dBm
5. 11dBm + 10log (21.73) = 24.37 > 22dBm
6. 11dBm + 10log (21.77) = 24.38 > 22dBm

Chain 1

1. 11dBm + 10log (21.79) = 24.38 > 22dBm
2. 11dBm + 10log (21.82) = 24.39 > 22dBm
3. 11dBm + 10log (21.90) = 24.40 > 22dBm
4. 11dBm + 10log (21.83) = 24.39 > 22dBm
5. 11dBm + 10log (21.91) = 24.41 > 22dBm
6. 11dBm + 10log (21.77) = 24.38 > 22dBm

Chain 2

1. 11dBm + 10log (21.71) = 24.37 > 22dBm
2. 11dBm + 10log (21.71) = 24.37 > 22dBm
3. 11dBm + 10log (21.70) = 24.36 > 22dBm
4. 11dBm + 10log (21.66) = 24.36 > 22dBm
5. 11dBm + 10log (21.66) = 24.36 > 22dBm
6. 11dBm + 10log (21.68) = 24.36 > 22dBm

Chain 3

1. 11dBm + 10log (21.65) = 24.35 > 22dBm
2. 11dBm + 10log (21.66) = 24.36 > 22dBm
3. 11dBm + 10log (21.63) = 24.35 > 22dBm

4. $11\text{dBm} + 10\log (21.57) = 24.34 > 22\text{dBm}$
5. $11\text{dBm} + 10\log (21.61) = 24.35 > 22\text{dBm}$
6. $11\text{dBm} + 10\log (21.60) = 24.34 > 22\text{dBm}$

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	13.79	14.89	16.02	14.79	124.889	20.97	28.00	Pass
40	5200	14.10	14.99	16.22	14.34	126.297	21.01	28.00	Pass
48	5240	14.03	15.13	16.37	14.27	127.958	21.07	28.00	Pass
52	5260	9.22	10.16	9.59	8.46	34.845	15.42	22.00	Pass
60	5300	8.76	9.27	9.64	8.44	32.155	15.07	22.00	Pass
64	5320	9.02	9.65	10.03	8.53	34.404	15.37	22.00	Pass
100	5500	8.55	9.54	9.82	8.29	32.495	15.12	22.00	Pass
116	5580	8.02	9.58	9.67	8.17	31.246	14.95	22.00	Pass
140	5700	8.11	10.02	9.99	9.06	34.548	15.38	22.00	Pass
149	5745	17.33	17.55	18.15	17.09	227.441	23.57	28.00	Pass
157	5785	17.22	17.43	18.36	17.06	227.423	23.57	28.00	Pass
165	5825	17.31	17.53	18.14	17.19	227.974	23.58	28.00	Pass

* U-NII-1 & U-NII-3 Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to $30-(8-6) = 28\text{dBm}$.
 U-NII-2A, U-NII-2C Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to $24-(8-6) = 22\text{dBm}$.

Note:

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

Chain 0

1. $11\text{dBm} + 10\log (22.13) = 24.45 > 17.98\text{dBm}$
2. $11\text{dBm} + 10\log (22.12) = 24.45 > 17.98\text{dBm}$
3. $11\text{dBm} + 10\log (22.09) = 24.44 > 17.98\text{dBm}$
4. $11\text{dBm} + 10\log (22.17) = 24.46 > 17.98\text{dBm}$
5. $11\text{dBm} + 10\log (22.16) = 24.46 > 17.98\text{dBm}$
6. $11\text{dBm} + 10\log (21.98) = 24.42 > 17.98\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log (21.86) = 24.40 > 17.98\text{dBm}$
2. $11\text{dBm} + 10\log (21.79) = 24.38 > 17.98\text{dBm}$
3. $11\text{dBm} + 10\log (21.74) = 24.37 > 17.98\text{dBm}$
4. $11\text{dBm} + 10\log (21.90) = 24.40 > 17.98\text{dBm}$
5. $11\text{dBm} + 10\log (21.94) = 24.41 > 17.98\text{dBm}$
6. $11\text{dBm} + 10\log (21.75) = 24.37 > 17.98\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log (21.95) = 24.41 > 17.98\text{dBm}$
2. $11\text{dBm} + 10\log (21.89) = 24.40 > 17.98\text{dBm}$
3. $11\text{dBm} + 10\log (22.02) = 24.43 > 17.98\text{dBm}$
4. $11\text{dBm} + 10\log (21.81) = 24.39 > 17.98\text{dBm}$
5. $11\text{dBm} + 10\log (21.81) = 24.39 > 17.98\text{dBm}$
6. $11\text{dBm} + 10\log (21.82) = 24.39 > 17.98\text{dBm}$

Chain 3

1. 11dBm + 10log (21.91) = 24.41 > 17.98dBm
2. 11dBm + 10log (22.13) = 24.45 > 17.98dBm
3. 11dBm + 10log (21.85) = 24.39 > 17.98dBm
4. 11dBm + 10log (21.81) = 24.39 > 17.98dBm
5. 11dBm + 10log (21.92) = 24.41 > 17.98dBm
6. 11dBm + 10log (21.98) = 24.42 > 17.98dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	13.45	14.62	15.05	14.35	110.320	20.43	28.00	Pass
46	5230	17.04	17.85	18.47	17.33	235.918	23.73	28.00	Pass
54	5270	10.88	11.45	12.18	11.12	55.672	17.46	22.00	Pass
62	5310	10.62	12.01	11.82	11.03	55.302	17.43	22.00	Pass
102	5510	11.13	11.98	11.91	11.12	57.214	17.58	22.00	Pass
110	5550	10.88	12.03	12.01	10.88	56.336	17.51	22.00	Pass
134	5670	11.11	11.68	12.15	11.18	57.163	17.57	22.00	Pass
151	5755	17.31	17.45	18.23	17.07	226.877	23.56	28.00	Pass
159	5795	17.35	17.55	18.18	17.11	228.380	23.59	28.00	Pass

* U-NII-1 & U-NII-3 Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to 30-(8-6) = 28dBm.

U-NII-2A, U-NII-2C Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to 24-(8-6) = 22dBm.

Note:

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

Chain 0

1. 11dBm + 10log (41.53) = 27.18 > 17.98dBm
2. 11dBm + 10log (41.54) = 27.18 > 17.98dBm
3. 11dBm + 10log (41.35) = 27.16 > 17.98dBm
4. 11dBm + 10log (41.64) = 27.20 > 17.98dBm
5. 11dBm + 10log (41.36) = 27.17 > 17.98dBm

Chain 1

1. 11dBm + 10log (41.04) = 27.13 > 17.98dBm
2. 11dBm + 10log (41.37) = 27.17 > 17.98dBm
3. 11dBm + 10log (41.11) = 27.14 > 17.98dBm
4. 11dBm + 10log (41.10) = 27.14 > 17.98dBm
5. 11dBm + 10log (41.09) = 27.14 > 17.98dBm

Chain 2

1. 11dBm + 10log (41.01) = 27.13 > 17.98dBm
2. 11dBm + 10log (40.95) = 27.12 > 17.98dBm
3. 11dBm + 10log (41.17) = 27.15 > 17.98dBm
4. 11dBm + 10log (40.99) = 27.13 > 17.98dBm
5. 11dBm + 10log (41.04) = 27.13 > 17.98dBm

Chain 3

1. 11dBm + 10log (40.93) = 27.12 > 17.98dBm
2. 11dBm + 10log (40.99) = 27.13 > 17.98dBm
3. 11dBm + 10log (41.04) = 27.13 > 17.98dBm
4. 11dBm + 10log (41.05) = 27.13 > 17.98dBm
5. 11dBm + 10log (41.07) = 27.14 > 17.98dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	12.85	13.45	13.75	12.81	84.219	19.25	28.00	Pass
58	5290	10.69	11.70	12.18	11.15	56.065	17.49	22.00	Pass
106	5530	11.45	11.98	12.15	11.14	59.148	17.72	22.00	Pass
155	5775	16.48	17.51	18.15	17.23	218.985	23.40	28.00	Pass

* U-NII-1 & U-NII-3 Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to 30-(8-6) = 28dBm.

U-NII-2A, U-NII-2C Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to 24-(8-6) = 22dBm.

Note:

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

Chain 0

1. $11\text{dBm} + 10\log (121.51) = 31.85 > 17.98\text{dBm}$

2. $11\text{dBm} + 10\log (94.53) = 30.76 > 17.98\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log (95.01) = 30.78 > 17.98\text{dBm}$

2. $11\text{dBm} + 10\log (91.67) = 30.62 > 17.98\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log (124.69) = 31.96 > 17.98\text{dBm}$

2. $11\text{dBm} + 10\log (92.13) = 30.64 > 17.98\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log (103.60) = 31.15 > 17.98\text{dBm}$

2. $11\text{dBm} + 10\log (95.74) = 30.81 > 17.98\text{dBm}$

Beamforming Mode

2TX

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	13.79	14.89	54.765	17.39	24.99	Pass
40	5200	14.10	14.99	57.254	17.58	24.99	Pass
48	5240	14.03	15.13	57.877	17.63	24.99	Pass
52	5260	9.22	10.16	18.731	12.73	18.99	Pass
60	5300	8.76	9.27	15.969	12.03	18.99	Pass
64	5320	9.02	9.65	17.206	12.36	18.99	Pass
100	5500	8.55	9.54	16.156	12.08	18.99	Pass
116	5580	8.02	9.58	15.417	11.88	18.99	Pass
140	5700	8.11	10.02	16.517	12.18	18.99	Pass
149	5745	15.62	15.84	74.846	18.74	24.99	Pass
157	5785	15.45	15.72	72.400	18.60	24.99	Pass
165	5825	15.54	15.83	74.092	18.70	24.99	Pass

- * For U-NII-1, For U-NII-3: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the power limit shall be reduced to 30-(11.01-6) = 24.99dBm.
- * For U-NII-2A, For U-NII-2C: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the power limit shall be reduced to 24-(11.01-6) = 18.99dBm.
- * Determined Limit means compare the minimum value after 18.99dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (22.09) = 24.44 > 24dBm
2. 11dBm + 10log (22.14) = 24.45 > 24dBm
3. 11dBm + 10log (22.07) = 24.44 > 24dBm
4. 11dBm + 10log (22.00) = 24.42 > 24dBm
5. 11dBm + 10log (22.21) = 24.47 > 24dBm
6. 11dBm + 10log (22.30) = 24.48 > 24dBm

Chain 1

1. 11dBm + 10log (21.94) = 24.41 > 24dBm
2. 11dBm + 10log (21.81) = 24.39 > 24dBm
3. 11dBm + 10log (21.91) = 24.41 > 24dBm
4. 11dBm + 10log (21.80) = 24.38 > 24dBm
5. 11dBm + 10log (22.00) = 24.42 > 24dBm
6. 11dBm + 10log (21.92) = 24.41 > 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	13.45	14.62	51.104	17.08	24.99	Pass
46	5230	15.06	15.92	71.147	18.52	24.99	Pass
54	5270	9.37	10.01	18.673	12.71	18.99	Pass
62	5310	9.10	10.52	19.400	12.88	18.99	Pass
102	5510	9.41	10.28	19.396	12.88	18.99	Pass
110	5550	9.16	10.24	18.809	12.74	18.99	Pass
134	5670	9.38	9.98	18.624	12.70	18.99	Pass
151	5755	15.59	15.72	73.549	18.67	24.99	Pass
159	5795	15.64	15.82	74.838	18.74	24.99	Pass

* For U-NII-1, For U-NII-3: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the power limit shall be reduced to 30-(11.01-6) = 24.99dBm.

* For U-NII-2A, For U-NII-2C: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the power limit shall be reduced to 24-(11.01-6) = 18.99dBm.

* Determined Limit means compare the minimum value after 18.99dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (41.61) = 27.19 > 24dBm
2. 11dBm + 10log (41.37) = 27.17 > 24dBm
3. 11dBm + 10log (41.68) = 27.20 > 24dBm
4. 11dBm + 10log (41.60) = 27.19 > 24dBm
5. 11dBm + 10log (41.80) = 27.21 > 24dBm

Chain 1

1. 11dBm + 10log (41.19) = 27.15 > 24dBm
2. 11dBm + 10log (41.31) = 27.16 > 24dBm
3. 11dBm + 10log (41.18) = 27.15 > 24dBm
4. 11dBm + 10log (41.30) = 27.16 > 24dBm
5. 11dBm + 10log (41.28) = 27.16 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	12.85	13.45	41.406	16.17	24.99	Pass
58	5290	9.01	10.02	18.008	12.55	18.99	Pass
106	5530	9.46	9.97	18.762	12.73	18.99	Pass
155	5775	15.01	16.03	71.783	18.56	24.99	Pass

* For U-NII-1, For U-NII-3: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the power limit shall be reduced to 30-(11.01-6) = 24.99dBm.

* For U-NII-2A, For U-NII-2C: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the power limit shall be reduced to 24-(11.01-6) = 18.99dBm.

* Determined Limit means compare the minimum value after 18.99dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (122.93) = 31.90 > 24dBm
2. 11dBm + 10log (97.13) = 30.87 > 24dBm

Chain 1

1. 11dBm + 10log (123.53) = 31.92 > 24dBm
2. 11dBm + 10log (110.19) = 31.42 > 24dBm

3TX

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	13.79	14.89	16.02	94.759	19.77	23.23	Pass
40	5200	14.10	14.99	16.22	99.133	19.96	23.23	Pass
48	5240	14.03	15.13	16.37	101.228	20.05	23.23	Pass
52	5260	9.22	10.16	9.59	27.830	14.45	17.23	Pass
60	5300	8.76	9.27	9.64	25.173	14.01	17.23	Pass
64	5320	9.02	9.65	10.03	27.275	14.36	17.23	Pass
100	5500	8.55	9.54	9.82	25.750	14.11	17.23	Pass
116	5580	8.02	9.58	9.67	24.685	13.92	17.23	Pass
140	5700	8.11	10.02	9.99	26.494	14.23	17.23	Pass
149	5745	15.62	15.84	16.41	118.598	20.74	23.23	Pass
157	5785	15.45	15.72	16.63	118.426	20.73	23.23	Pass
165	5825	15.54	15.83	16.44	118.147	20.72	23.23	Pass

* For U-NII-1, For U-NII-3: Directional gain = 8 dBi + 10 log(3) = 12.77dBi > 6dBi, so the power limit shall be reduced to 30-(12.77-6) = 23.23dBm.

* For U-NII-2A, For U-NII-2C: Directional gain = 8 dBi + 10 log(2) = 12.77dBi > 6dBi, so the power limit shall be reduced to 24-(12.77-6) = 17.23dBm.

* Determined Limit means compare the minimum value after 17.23dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (22.19) = 24.46 > 24dBm
2. 11dBm + 10log (22.12) = 24.45 > 24dBm
3. 11dBm + 10log (22.11) = 24.45 > 24dBm
4. 11dBm + 10log (22.11) = 24.45 > 24dBm
5. 11dBm + 10log (22.21) = 24.47 > 24dBm
6. 11dBm + 10log (22.17) = 24.46 > 24dBm

Chain 1

1. 11dBm + 10log (21.78) = 24.38 > 24dBm
2. 11dBm + 10log (21.83) = 24.39 > 24dBm
3. 11dBm + 10log (21.87) = 24.40 > 24dBm
4. 11dBm + 10log (21.78) = 24.38 > 24dBm
5. 11dBm + 10log (21.81) = 24.39 > 24dBm
6. 11dBm + 10log (22.05) = 24.43 > 24dBm

Chain 2

1. 11dBm + 10log (21.86) = 24.40 > 24dBm
2. 11dBm + 10log (21.91) = 24.41 > 24dBm
3. 11dBm + 10log (21.90) = 24.40 > 24dBm
4. 11dBm + 10log (21.85) = 24.39 > 24dBm
5. 11dBm + 10log (21.78) = 24.38 > 24dBm
6. 11dBm + 10log (21.84) = 24.39 > 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
38	5190	13.45	14.62	15.05	83.093	19.20	23.23	Pass
46	5230	15.06	15.92	16.43	115.101	20.61	23.23	Pass
54	5270	9.37	10.01	10.64	30.261	14.81	17.23	Pass
62	5310	9.10	10.52	10.34	30.214	14.80	17.23	Pass
102	5510	9.41	10.28	10.19	29.843	14.75	17.23	Pass
110	5550	9.16	10.24	10.26	29.426	14.69	17.23	Pass
134	5670	9.38	9.98	10.41	29.614	14.71	17.23	Pass
151	5755	15.59	15.72	16.45	117.706	20.71	23.23	Pass
159	5795	15.64	15.82	16.47	119.199	20.76	23.23	Pass

* For U-NII-1, For U-NII-3: Directional gain = 8 dBi + 10 log(3) = 12.77dBi > 6dBi, so the power limit shall be reduced to 30-(12.77-6) = 23.23dBm.

* For U-NII-2A, For U-NII-2C: Directional gain = 8 dBi + 10 log(2) = 12.77dBi > 6dBi, so the power limit shall be reduced to 24-(12.77-6) = 17.23dBm.

* Determined Limit means compare the minimum value after 17.23dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (41.81) = 27.21 > 24dBm
2. 11dBm + 10log (41.42) = 27.17 > 24dBm
3. 11dBm + 10log (41.63) = 27.19 > 24dBm
4. 11dBm + 10log (41.54) = 27.18 > 24dBm
5. 11dBm + 10log (41.59) = 27.19 > 24dBm

Chain 1

1. 11dBm + 10log (41.27) = 27.16 > 24dBm
2. 11dBm + 10log (41.22) = 27.15 > 24dBm
3. 11dBm + 10log (41.06) = 27.13 > 24dBm
4. 11dBm + 10log (41.24) = 27.15 > 24dBm
5. 11dBm + 10log (41.42) = 27.17 > 24dBm

Chain 2

1. 11dBm + 10log (41.03) = 27.13 > 24dBm
2. 11dBm + 10log (41.05) = 27.13 > 24dBm
3. 11dBm + 10log (41.03) = 27.13 > 24dBm
4. 11dBm + 10log (41.02) = 27.13 > 24dBm
5. 11dBm + 10log (41.11) = 27.14 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
42	5210	12.85	13.45	13.75	65.120	18.14	23.23	Pass
58	5290	9.01	10.02	10.48	29.177	14.65	17.23	Pass
106	5530	9.46	9.97	10.18	29.185	14.65	17.23	Pass
155	5775	15.01	16.03	16.64	117.915	20.72	23.23	Pass

* For U-NII-1, For U-NII-3: Directional gain = 8 dBi + 10 log(3) = 12.77dBi > 6dBi, so the power limit shall be reduced to 30-(12.77-6) = 23.23dBm.

* For U-NII-2A, For U-NII-2C: Directional gain = 8 dBi + 10 log(2) = 12.77dBi > 6dBi, so the power limit shall be reduced to 24-(12.77-6) = 17.23dBm.

* Determined Limit means compare the minimum value after 17.23dBm and 11dBm+10log(26dB bandwidth)

Note:

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

Chain 0

1. 11dBm + 10log (123.01) = 31.90 > 24dBm
2. 11dBm + 10log (94.84) = 30.77 > 24dBm

Chain 1

1. 11dBm + 10log (121.03) = 31.83 > 24dBm
2. 11dBm + 10log (102.77) = 31.12 > 24dBm

Chain 2

1. 11dBm + 10log (125.97) = 32.00 > 24dBm
2. 11dBm + 10log (94.45) = 30.75 > 24dBm

4TX

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	13.79	14.89	16.02	14.79	124.889	20.97	21.98	Pass
40	5200	14.10	14.99	16.22	14.34	126.297	21.01	21.98	Pass
48	5240	14.03	15.13	16.37	14.27	127.958	21.07	21.98	Pass
52	5260	9.22	10.16	9.59	8.46	34.845	15.42	15.98	Pass
60	5300	8.76	9.27	9.64	8.44	32.155	15.07	15.98	Pass
64	5320	9.02	9.65	10.03	8.53	34.404	15.37	15.98	Pass
100	5500	8.55	9.54	9.82	8.29	32.495	15.12	15.98	Pass
116	5580	8.02	9.58	9.67	8.17	31.246	14.95	15.98	Pass
140	5700	8.11	10.02	9.99	9.06	34.548	15.38	15.98	Pass
149	5745	15.62	15.84	16.41	15.31	152.561	21.83	21.98	Pass
157	5785	15.45	15.72	16.63	15.28	152.155	21.82	21.98	Pass
165	5825	15.54	15.83	16.44	15.48	153.465	21.86	21.98	Pass

* U-NII-1 & U-NII-3 Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the power limit shall be reduced to 30-(14.02-6) = 21.98dBm.

U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the power limit shall be reduced to 24-(14.02-6) = 15.98dBm.

Note:

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

Chain 0

1. 11dBm + 10log (22.13) = 24.45 > 15.98dBm
2. 11dBm + 10log (22.12) = 24.45 > 15.98dBm
3. 11dBm + 10log (22.09) = 24.44 > 15.98dBm
4. 11dBm + 10log (22.17) = 24.46 > 15.98dBm
5. 11dBm + 10log (22.16) = 24.46 > 15.98dBm
6. 11dBm + 10log (21.98) = 24.42 > 15.98dBm

Chain 1

1. 11dBm + 10log (21.86) = 24.40 > 15.98dBm
2. 11dBm + 10log (21.79) = 24.38 > 15.98dBm
3. 11dBm + 10log (21.74) = 24.37 > 15.98dBm
4. 11dBm + 10log (21.90) = 24.40 > 15.98dBm
5. 11dBm + 10log (21.94) = 24.41 > 15.98dBm
6. 11dBm + 10log (21.75) = 24.37 > 15.98dBm

Chain 2

1. 11dBm + 10log (21.95) = 24.41 > 15.98dBm
2. 11dBm + 10log (21.89) = 24.40 > 15.98dBm
3. 11dBm + 10log (22.02) = 24.43 > 15.98dBm
4. 11dBm + 10log (21.81) = 24.39 > 15.98dBm
5. 11dBm + 10log (21.81) = 24.39 > 15.98dBm
6. 11dBm + 10log (21.82) = 24.39 > 15.98dBm

Chain 3

1. 11dBm + 10log (21.91) = 24.41 > 15.98dBm
2. 11dBm + 10log (22.13) = 24.45 > 15.98dBm
3. 11dBm + 10log (21.85) = 24.39 > 15.98dBm
4. 11dBm + 10log (21.81) = 24.39 > 15.98dBm
5. 11dBm + 10log (21.92) = 24.41 > 15.98dBm
6. 11dBm + 10log (21.98) = 24.42 > 15.98dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	13.45	14.62	15.05	14.35	110.320	20.43	21.98	Pass
46	5230	15.06	15.92	16.43	15.38	149.615	21.75	21.98	Pass
54	5270	9.37	10.01	10.64	9.66	39.508	15.97	15.98	Pass
62	5310	9.10	10.52	10.34	9.54	39.209	15.93	15.98	Pass
102	5510	9.41	10.28	10.19	9.39	38.533	15.86	15.98	Pass
110	5550	9.16	10.24	10.26	9.14	37.630	15.76	15.98	Pass
134	5670	9.38	9.98	10.41	9.46	38.445	15.85	15.98	Pass
151	5755	15.59	15.72	16.45	15.38	152.220	21.82	21.98	Pass
159	5795	15.64	15.82	16.47	15.31	153.162	21.85	21.98	Pass

* U-NII-1 & U-NII-3 Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the power limit shall be reduced to 30-(14.02-6) = 21.98dBm.

U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the power limit shall be reduced to 24-(14.02-6) = 15.98dBm.

Note:

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

Chain 0

1. 11dBm + 10log (41.53) = 27.18 > 15.98dBm
2. 11dBm + 10log (41.54) = 27.18 > 15.98dBm
3. 11dBm + 10log (41.35) = 27.16 > 15.98dBm
4. 11dBm + 10log (41.64) = 27.20 > 15.98dBm
5. 11dBm + 10log (41.36) = 27.17 > 15.98dBm

Chain 1

1. 11dBm + 10log (41.04) = 27.13 > 15.98dBm
2. 11dBm + 10log (41.37) = 27.17 > 15.98dBm
3. 11dBm + 10log (41.11) = 27.14 > 15.98dBm
4. 11dBm + 10log (41.10) = 27.14 > 15.98dBm
5. 11dBm + 10log (41.09) = 27.14 > 15.98dBm

Chain 2

1. 11dBm + 10log (41.01) = 27.13 > 15.98dBm
2. 11dBm + 10log (40.95) = 27.12 > 15.98dBm
3. 11dBm + 10log (41.17) = 27.15 > 15.98dBm
4. 11dBm + 10log (40.99) = 27.13 > 15.98dBm
5. 11dBm + 10log (41.04) = 27.13 > 15.98dBm

Chain 3

1. 11dBm + 10log (40.93) = 27.12 > 15.98dBm
2. 11dBm + 10log (40.99) = 27.13 > 15.98dBm
3. 11dBm + 10log (41.04) = 27.13 > 15.98dBm
4. 11dBm + 10log (41.05) = 27.13 > 15.98dBm
5. 11dBm + 10log (41.07) = 27.14 > 15.98dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	12.85	13.45	13.75	12.81	84.219	19.25	21.98	Pass
58	5290	9.01	10.02	10.48	9.43	37.947	15.79	15.98	Pass
106	5530	9.46	9.97	10.18	9.16	37.426	15.73	15.98	Pass
155	5775	9.26	9.74	10.51	9.21	37.435	15.73	21.98	Pass

* U-NII-1 & U-NII-3 Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the power limit shall be reduced to 30-(14.02-6) = 21.98dBm.

U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the power limit shall be reduced to 24-(14.02-6) = 15.98dBm.

Note:

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

Chain 0

1. 11dBm + 10log (121.51) = 31.85 > 15.98dBm

2. 11dBm + 10log (94.53) = 30.76 > 15.98dBm

Chain 1

1. 11dBm + 10log (95.01) = 30.78 > 15.98dBm

2. 11dBm + 10log (91.67) = 30.62 > 15.98dBm

Chain 2

1. 11dBm + 10log (124.69) = 31.96 > 15.98dBm

2. 11dBm + 10log (92.13) = 30.64 > 15.98dBm

Chain 3

1. 11dBm + 10log (103.60) = 31.15 > 15.98dBm

2. 11dBm + 10log (95.74) = 30.81 > 15.98dBm

26dB Bandwidth:

1TX

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
52	5260	40.84
60	5300	39.95
64	5320	27.17
100	5500	34.56
116	5580	42.85
140	5700	33.41

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
52	5260	46.45
60	5300	45.81
64	5320	22.21
100	5500	42.12
116	5580	46.93
140	5700	25.86

802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
54	5270	97.33
62	5310	41.52
102	5510	41.59
110	5550	102.31
134	5670	97.18

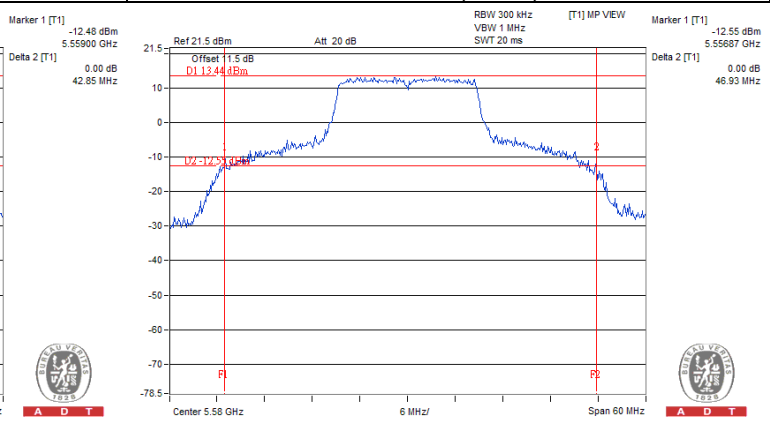
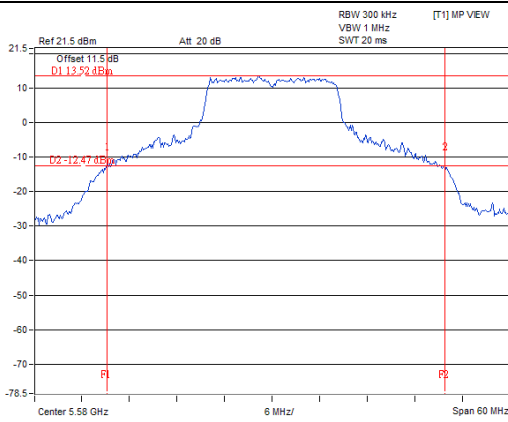
802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
58	5290	122.35
106	5530	142.78

Spectrum Plot of Worst Value

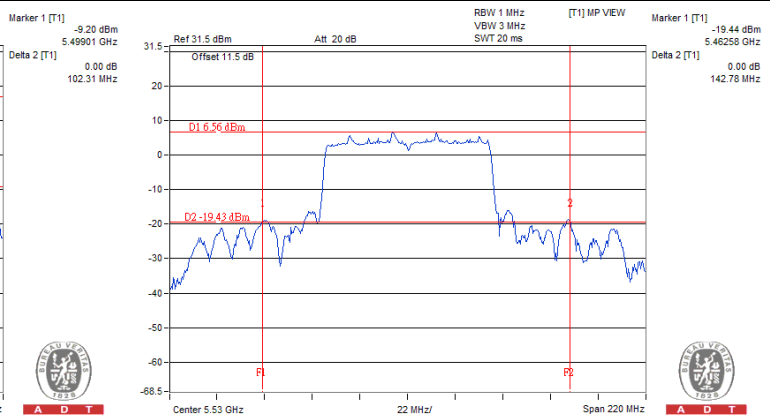
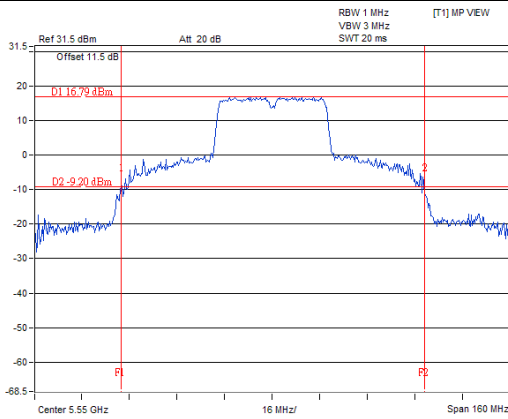
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



2TX

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	22.01	21.76
60	5300	21.94	21.74
64	5320	21.88	21.73
100	5500	21.88	21.71
116	5580	21.81	21.93
140	5700	21.99	22.05

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	22.09	21.94
60	5300	22.14	21.81
64	5320	22.07	21.91
100	5500	22.00	21.80
116	5580	22.21	22.00
140	5700	22.30	21.92

802.11n (HT40)

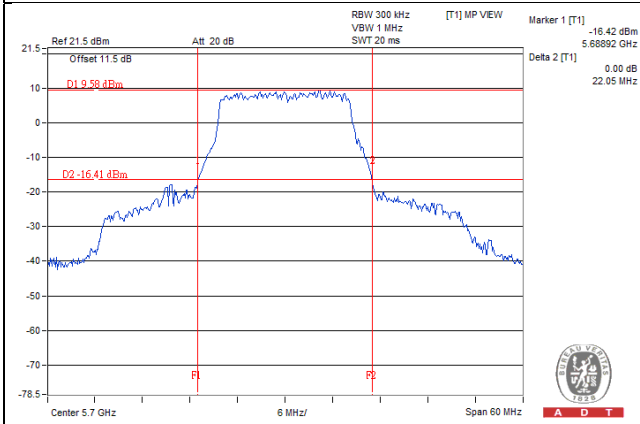
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	41.61	41.19
62	5310	41.37	41.31
102	5510	41.68	41.18
110	5550	41.60	41.30
134	5670	41.80	41.28

802.11ac (VHT80)

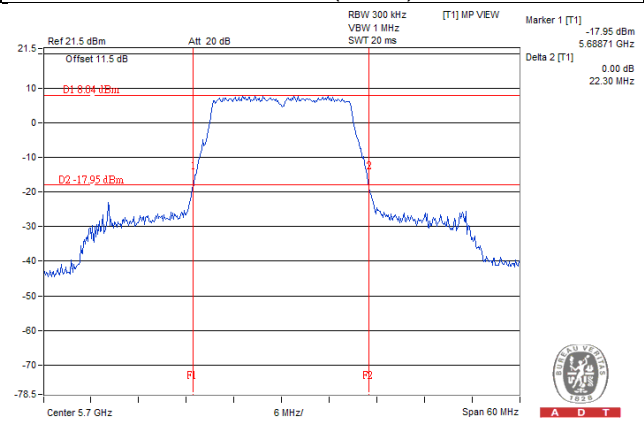
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	122.93	123.53
106	5530	97.13	110.19

Spectrum Plot of Worst Value

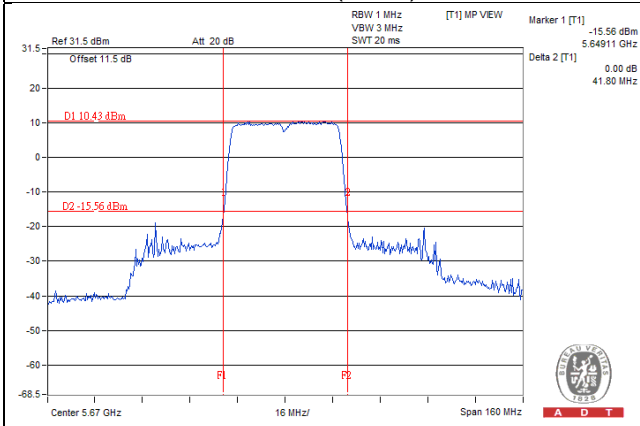
802.11a



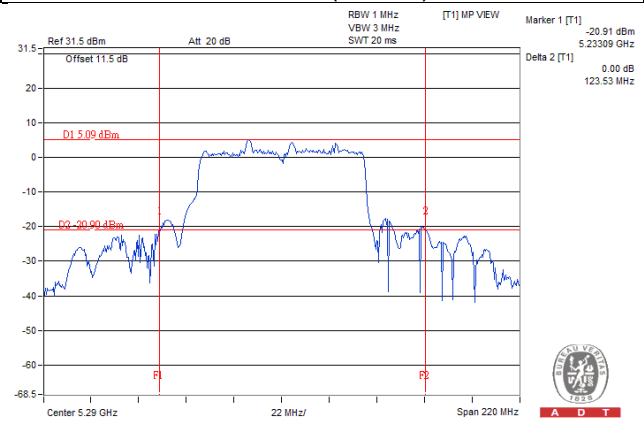
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



3TX

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	21.85	21.58	21.74
60	5300	21.81	21.86	21.80
64	5320	21.84	21.80	21.74
100	5500	21.76	21.65	21.71
116	5580	21.76	21.59	21.68
140	5700	21.73	21.60	21.64

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	22.19	21.78	21.86
60	5300	22.12	21.83	21.91
64	5320	22.11	21.87	21.90
100	5500	22.11	21.78	21.85
116	5580	22.21	21.81	21.78
140	5700	22.17	22.05	21.84

802.11n (HT40)

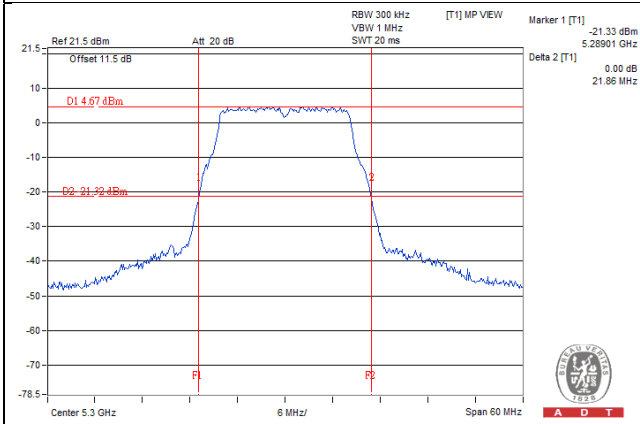
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
54	5270	41.81	41.27	41.03
62	5310	41.42	41.22	41.05
102	5510	41.63	41.06	41.03
110	5550	41.54	41.24	41.02
134	5670	41.59	41.42	41.11

802.11ac (VHT80)

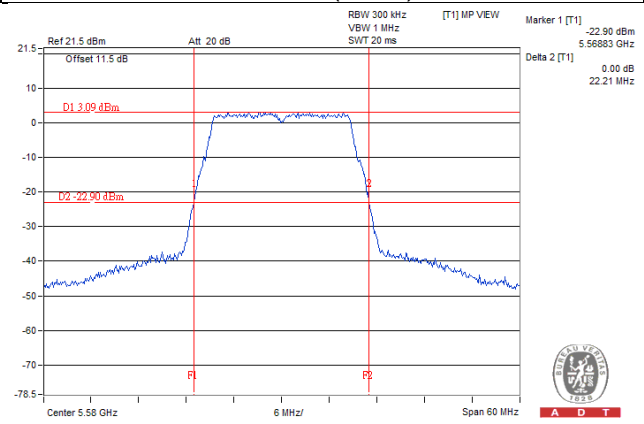
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
58	5290	123.01	121.03	125.97
106	5530	94.84	102.77	94.45

Spectrum Plot of Worst Value

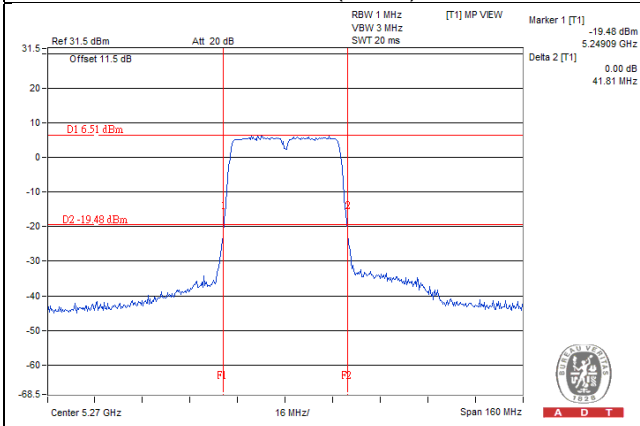
802.11a



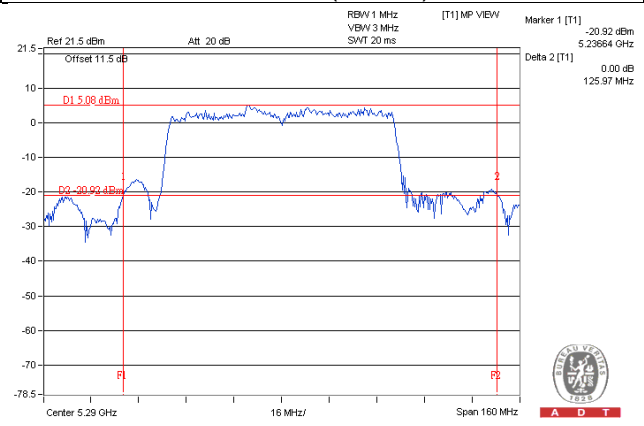
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



4TX

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	21.85	21.79	21.71	21.65
60	5300	21.85	21.82	21.71	21.66
64	5320	21.85	21.90	21.70	21.63
100	5500	21.82	21.83	21.66	21.57
116	5580	21.73	21.91	21.66	21.61
140	5700	21.77	21.77	21.68	21.60

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	22.13	21.86	21.95	21.91
60	5300	22.12	21.79	21.89	22.13
64	5320	22.09	21.74	22.02	21.85
100	5500	22.17	21.90	21.81	21.81
116	5580	22.16	21.94	21.81	21.92
140	5700	21.98	21.75	21.82	21.98

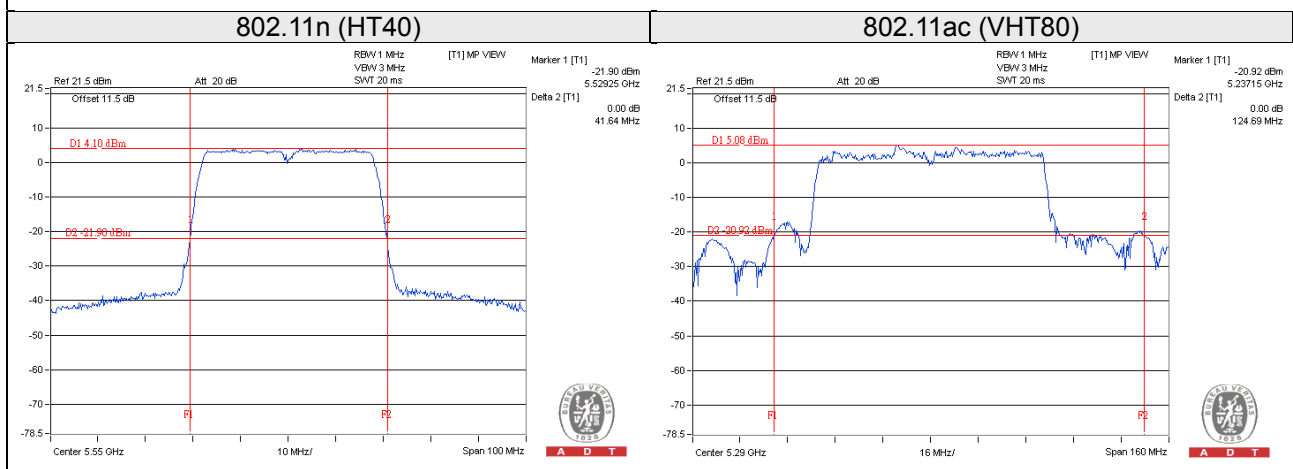
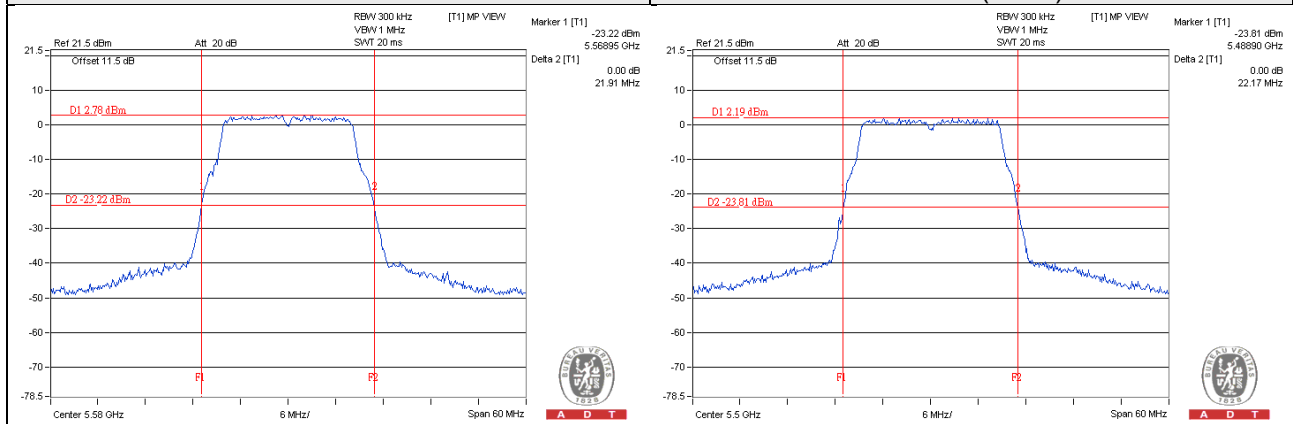
802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	41.53	41.04	41.01	40.93
62	5310	41.54	41.37	40.95	40.99
102	5510	41.35	41.11	41.17	41.04
110	5550	41.64	41.10	40.99	41.05
134	5670	41.36	41.09	41.04	41.07

802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	121.51	95.01	124.69	103.60
106	5530	94.53	91.67	92.13	95.74

Spectrum Plot of Worst Value



EUT Maximum Conducted Power

CDD Mode

1TX

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	8.511	9.30
5470~5725	7.413	8.70

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	8.356	9.22
5470~5725	7.161	8.55

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	12.246	10.88
5470~5725	12.972	11.13

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	11.722	10.69
5470~5725	13.964	11.45

2TX

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	18.982	12.78
5470~5725	17.476	12.42

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	18.731	12.73
5470~5725	16.517	12.18

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	27.420	14.38
5470~5725	28.748	14.59

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	26.513	14.23
5470~5725	29.740	14.73

3TX

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	28.149	14.49
5470~5725	27.709	14.43

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	27.830	14.45
5470~5725	26.494	14.23

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	42.730	16.31
5470~5725	44.272	16.46

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	43.033	16.34
5470~5725	46.146	16.64

4TX

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	35.228	15.47
5470~5725	35.837	15.54

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	34.845	15.42
5470~5725	34.548	15.38

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	55.672	17.46
5470~5725	57.214	17.58

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	56.065	17.49
5470~5725	59.148	17.72

Beamforming Mode

2TX

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	18.731	12.73
5470~5725	16.517	12.18

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	19.400	12.88
5470~5725	19.396	12.88

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	18.008	12.55
5470~5725	18.762	12.73

3TX

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	27.830	14.45
5470~5725	26.494	14.23

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	30.261	14.81
5470~5725	29.843	14.75

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	29.177	14.65
5470~5725	29.185	14.65

4TX

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	34.845	15.42
5470~5725	34.548	15.38

802.11n (HT40)

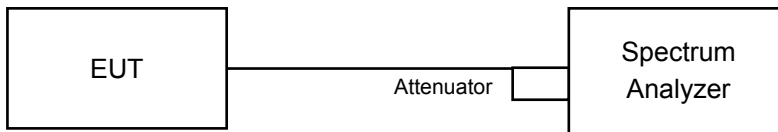
Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	39.508	15.97
5470~5725	38.533	15.86

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	37.947	15.79
5470~5725	37.426	15.73

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

1TX

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	17.64
40	5200	31.80
48	5240	17.88
52	5260	20.40
60	5300	20.04
64	5320	17.52
100	5500	18.60
116	5580	24.96
140	5700	18.12
149	5745	17.22
157	5785	38.28
165	5825	24.00

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	18.48
40	5200	31.80
48	5240	18.72
52	5260	20.76
60	5300	20.52
64	5320	18.36
100	5500	18.60
116	5580	25.44
140	5700	18.48
149	5745	18.24
157	5785	44.16
165	5825	19.08

802.11n (HT40)

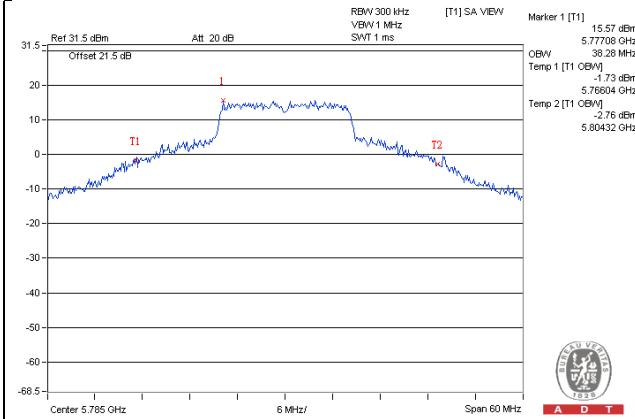
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
38	5190	36.96
46	5230	38.04
54	5270	37.56
62	5310	36.84
102	5510	36.84
110	5550	40.32
134	5670	37.20
151	5755	36.96
159	5795	37.68

802.11ac (VHT80)

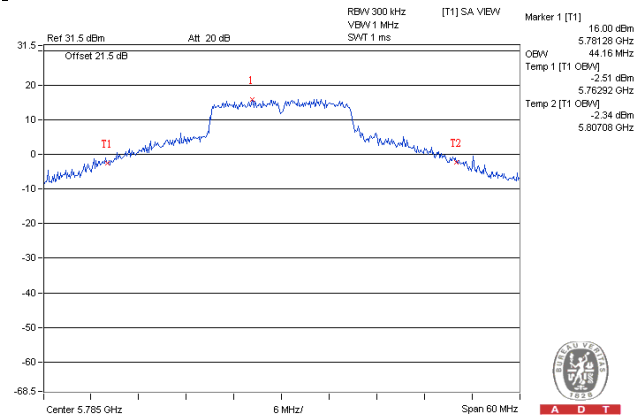
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
42	5210	76.44
58	5290	76.32
106	5530	76.32
155	5775	76.16

Spectrum Plot of Worst Value

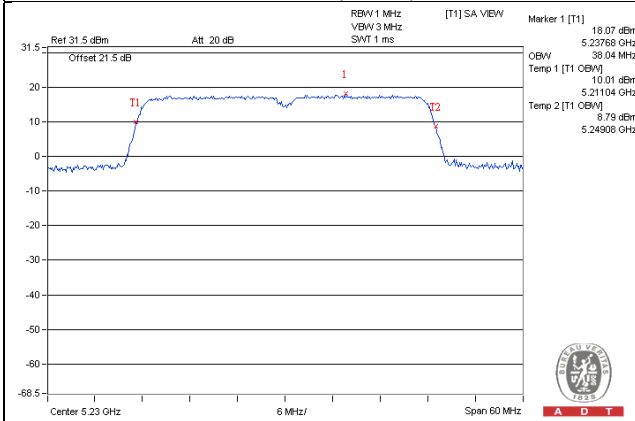
802.11a



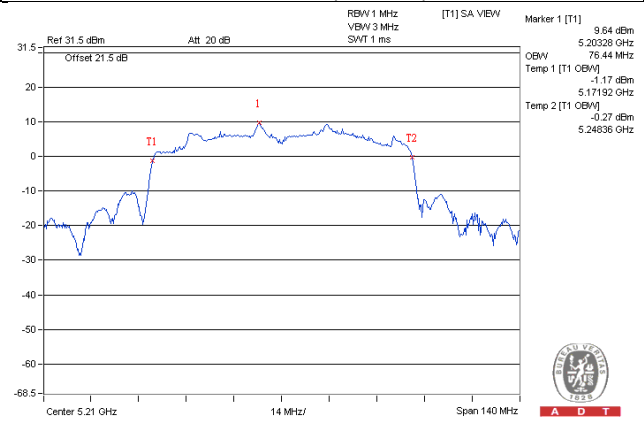
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



2TX

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.16	17.16
40	5200	28.68	27.72
48	5240	17.64	17.64
52	5260	17.16	17.04
60	5300	17.16	17.04
64	5320	17.16	17.16
100	5500	17.16	17.04
116	5580	17.16	17.04
140	5700	17.28	17.04
149	5745	16.92	17.04
157	5785	39.00	32.52
165	5825	18.24	22.32

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.12	18.12
40	5200	29.88	30.36
48	5240	18.72	18.60
52	5260	18.36	18.00
60	5300	18.24	18.12
64	5320	18.12	18.12
100	5500	18.12	17.88
116	5580	18.12	18.12
140	5700	18.36	18.00
149	5745	18.12	18.00
157	5785	40.92	34.92
165	5825	18.72	22.68

802.11n (HT40)

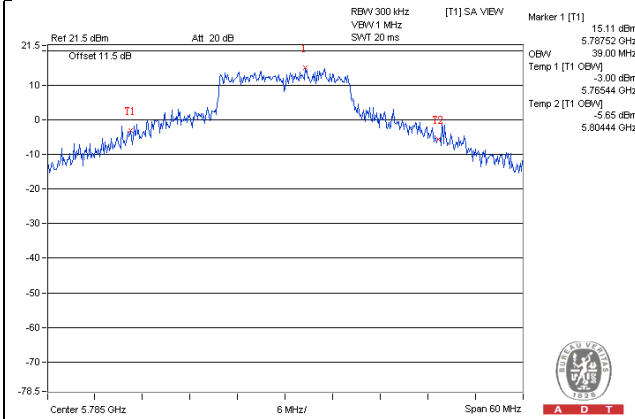
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.84	36.72
46	5230	37.80	37.20
54	5270	36.84	36.72
62	5310	36.84	36.72
102	5510	36.84	36.72
110	5550	36.84	36.84
134	5670	36.96	36.72
151	5755	36.72	36.84
159	5795	37.08	37.20

802.11ac (VHT80)

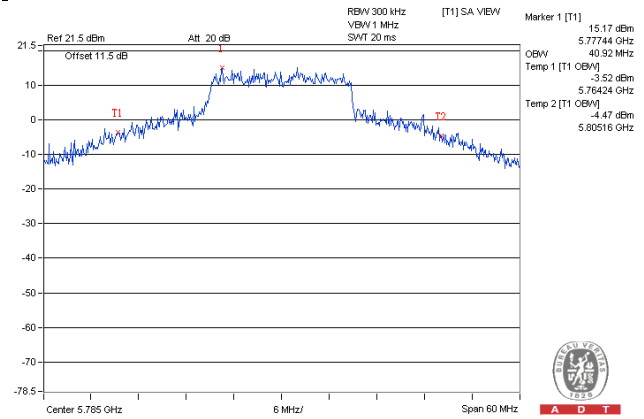
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.32	75.04
58	5290	76.56	76.08
106	5530	76.32	76.32
155	5775	75.88	75.88

Spectrum Plot of Worst Value

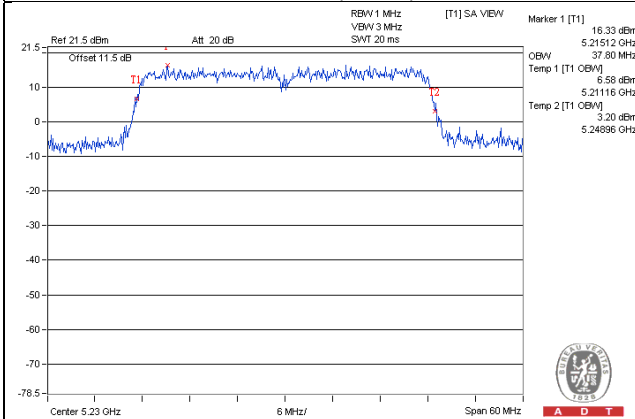
802.11a



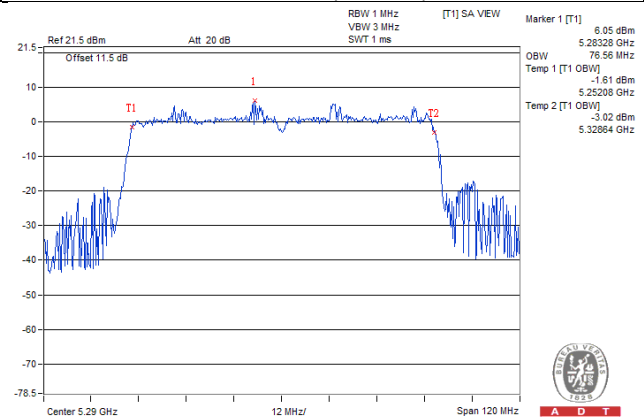
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



3TX

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
36	5180	17.16	17.04	17.28
40	5200	17.28	17.52	18.24
48	5240	17.28	17.76	18.12
52	5260	17.16	16.92	16.92
60	5300	17.16	17.16	17.04
64	5320	17.16	17.28	17.04
100	5500	17.16	17.04	17.04
116	5580	17.16	16.92	17.04
140	5700	17.04	16.92	16.92
149	5745	16.92	16.92	17.04
157	5785	38.28	27.48	32.52
165	5825	17.64	17.28	21.24

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
36	5180	18.12	18.24	18.60
40	5200	18.12	18.24	18.48
48	5240	18.36	18.24	18.60
52	5260	18.36	18.00	18.12
60	5300	18.24	18.12	18.12
64	5320	18.24	18.12	18.12
100	5500	18.12	18.12	18.00
116	5580	18.24	18.00	18.12
140	5700	18.24	18.00	18.00
149	5745	18.12	18.12	18.00
157	5785	27.48	22.32	30.12
165	5825	18.60	18.60	21.48

802.11n (HT40)

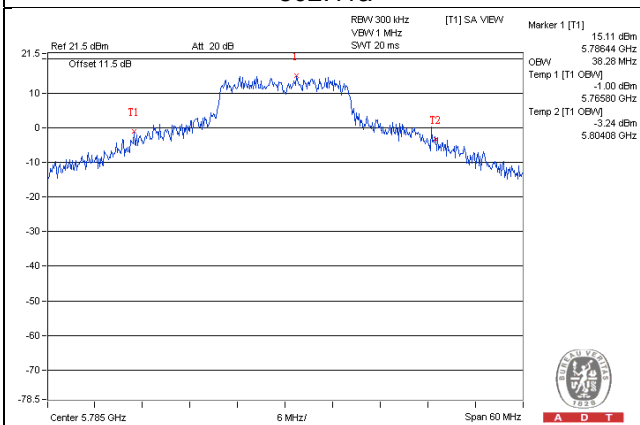
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
38	5190	36.72	36.72	36.72
46	5230	37.20	36.72	37.20
54	5270	36.84	36.72	36.84
62	5310	36.96	36.84	36.72
102	5510	36.84	36.72	36.84
110	5550	36.84	36.84	36.84
134	5670	36.84	36.72	36.72
151	5755	36.96	36.60	36.72
159	5795	37.08	36.84	37.56

802.11ac (VHT80)

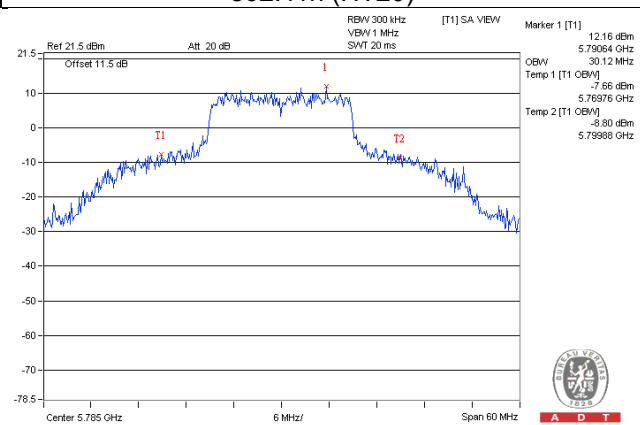
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
42	5210	75.32	75.32	75.60
58	5290	76.32	76.08	76.16
106	5530	76.32	76.32	76.16
155	5775	76.16	75.88	75.88

Spectrum Plot of Worst Value

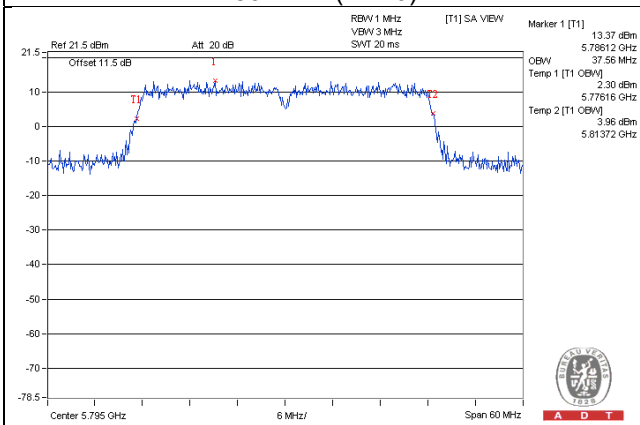
802.11a



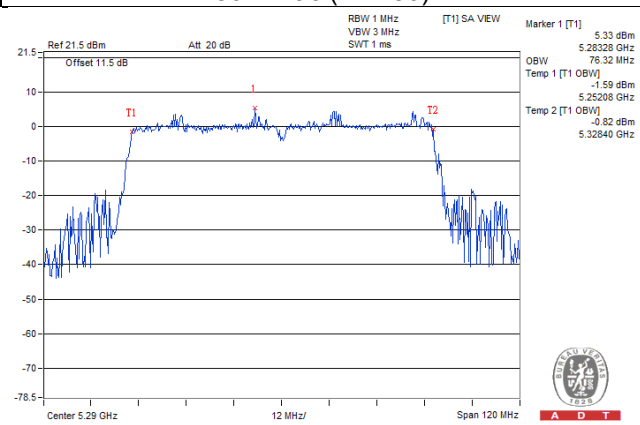
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



4TX

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	17.04	17.04	17.04	17.04
40	5200	16.92	16.80	17.16	17.16
48	5240	16.92	17.04	17.04	16.92
52	5260	17.16	17.16	16.92	16.92
60	5300	17.16	17.16	16.92	16.92
64	5320	17.16	17.16	17.04	17.04
100	5500	17.16	17.16	17.04	16.92
116	5580	17.04	17.16	17.04	16.92
140	5700	17.16	17.04	17.04	16.92
149	5745	32.34	33.65	31.30	32.30
157	5785	44.88	44.64	44.76	45.24
165	5825	32.64	34.08	32.40	44.28

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	18.00	18.24	18.24	18.36
40	5200	18.24	18.00	18.12	18.24
48	5240	18.12	18.12	18.24	18.12
52	5260	18.24	17.88	18.12	18.12
60	5300	18.36	18.12	18.12	18.12
64	5320	18.12	18.12	18.12	18.12
100	5500	18.24	18.12	18.12	18.00
116	5580	18.12	18.12	18.12	18.12
140	5700	18.12	18.12	18.12	18.12
149	5745	33.96	35.40	32.16	35.40
157	5785	41.76	43.20	41.88	46.56
165	5825	33.84	35.88	33.72	41.88

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	36.72	36.84	36.84	36.72
46	5230	36.84	36.84	36.72	36.72
54	5270	36.84	36.72	36.72	36.84
62	5310	36.84	36.84	36.84	36.84
102	5510	37.08	36.84	36.84	36.84
110	5550	36.84	36.84	36.84	36.96
134	5670	36.72	36.84	36.96	36.84
151	5755	40.08	39.96	37.80	46.20
159	5795	39.96	42.12	38.04	46.92

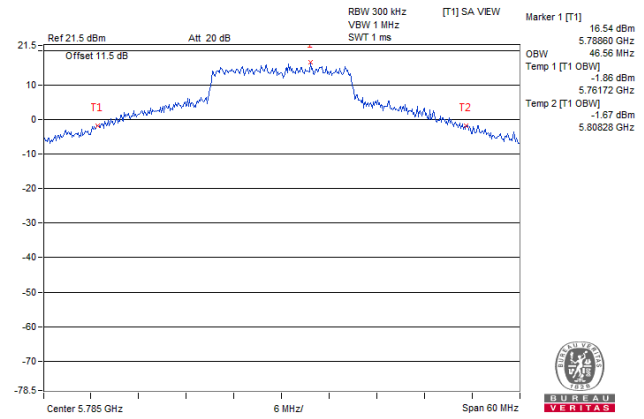
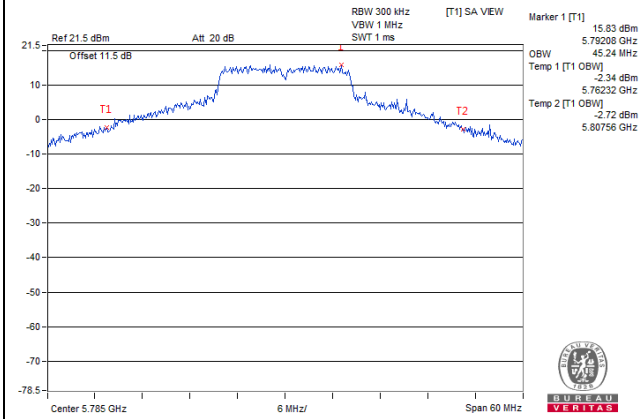
802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	75.04	75.04	75.04	75.32
58	5290	76.72	76.44	76.16	76.16
106	5530	76.16	76.16	76.16	76.16
155	5775	76.08	76.08	76.08	76.32

Spectrum Plot of Worst Value

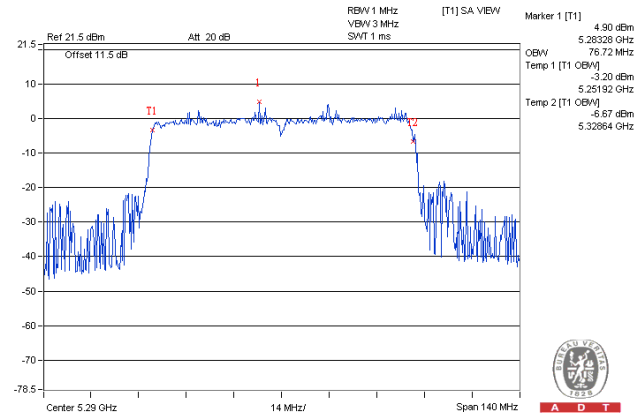
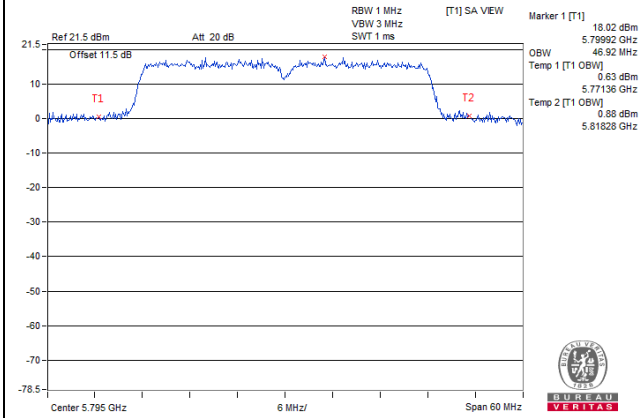
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)

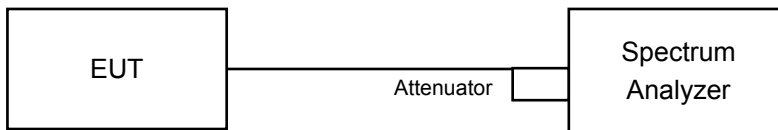


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

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

Duty cycle of test signal is > 98%

Using method SA-1

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

Duty cycle of test signal is < 98%

Using method SA-2

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

For U-NII-3 band:

Duty cycle of test signal is > 98%

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

Duty cycle of test signal is < 98%

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

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

1TX

802.11a

Chan.	Freq. (MHz)	PSD w/o duty factor (dBm/MHz)	Duty factor	PSD with duty factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
36	5180	2.44	0.23	2.67	15.00	Pass
40	5200	2.36	0.23	2.59	15.00	Pass
48	5240	2.07	0.23	2.30	15.00	Pass
52	5260	-4.16	0.23	-3.93	9.00	Pass
60	5300	-3.81	0.23	-3.58	9.00	Pass
64	5320	-3.90	0.23	-3.67	9.00	Pass
100	5500	-3.59	0.23	-3.36	9.00	Pass
116	5580	-4.19	0.23	-3.96	9.00	Pass
140	5700	-3.46	0.23	-3.23	9.00	Pass

Note:

U-NII-1 Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to $17-(8-6) = 15.00$ dBm.

U-NII-2A, U-NII-2C Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to $11-(8-6) = 9.00$ dBm.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD w/o duty factor (dBm/MHz)	Duty factor	PSD with duty factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
36	5180	2.43	0.21	2.64	15.00	Pass
40	5200	2.32	0.21	2.53	15.00	Pass
48	5240	2.06	0.21	2.27	15.00	Pass
52	5260	-3.73	0.21	-3.52	9.00	Pass
60	5300	-3.63	0.21	-3.42	9.00	Pass
64	5320	-3.62	0.21	-3.41	9.00	Pass
100	5500	-3.87	0.21	-3.66	9.00	Pass
116	5580	-4.25	0.21	-4.04	9.00	Pass
140	5700	-3.60	0.21	-3.39	9.00	Pass

Note:

U-NII-1 Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to $17-(8-6) = 15.00$ dBm.

U-NII-2A, U-NII-2C Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to $11-(8-6) = 9.00$ dBm.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD w/o duty factor (dBm/MHz)	Duty factor	PSD with duty factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
38	5190	-2.69	0.50	-2.19	15.00	Pass
46	5230	0.71	0.50	1.21	15.00	Pass
54	5270	-5.64	0.50	-5.14	9.00	Pass
62	5310	-5.49	0.50	-4.99	9.00	Pass
102	5510	-5.96	0.50	-5.46	9.00	Pass
110	5550	-6.17	0.50	-5.67	9.00	Pass
134	5670	-5.61	0.50	-5.11	9.00	Pass

Note:

U-NII-1 Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to $17-(8-6) = 15.00$ dBm.

U-NII-2A, U-NII-2C Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to $11-(8-6) = 9.00$ dBm.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o duty factor (dBm/MHz)	Duty factor	PSD with duty factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
42	5210	-6.22	0.37	-5.85	15.00	Pass
58	5290	-8.34	0.37	-7.97	9.00	Pass
106	5530	-8.85	0.37	-8.48	9.00	Pass

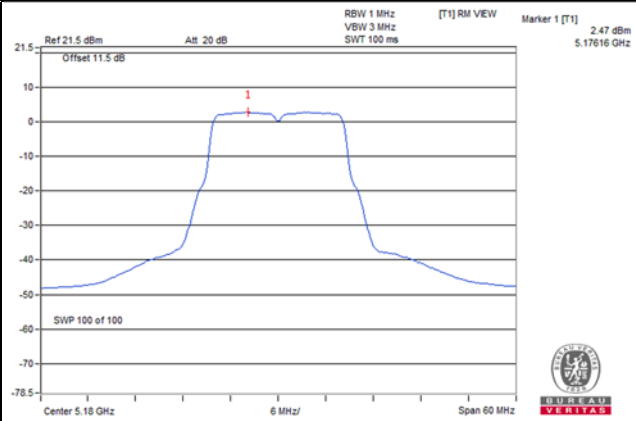
Note:

U-NII-1 Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to $17-(8-6) = 15.00$ dBm.

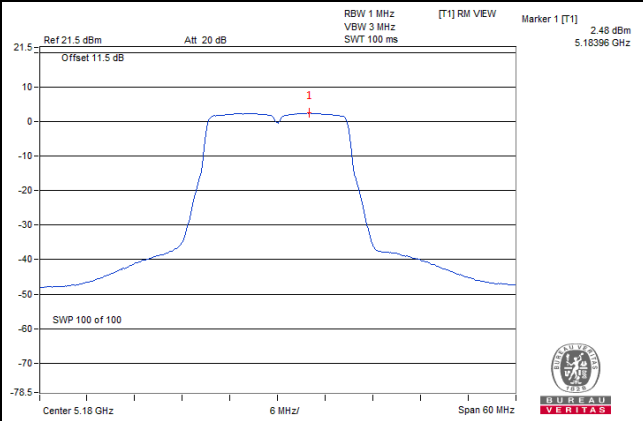
U-NII-2A, U-NII-2C Band: Gain = 8dBi > 6dBi, so the power limit shall be reduced to $11-(8-6) = 9.00$ dBm.

Spectrum Plot of Worst Value

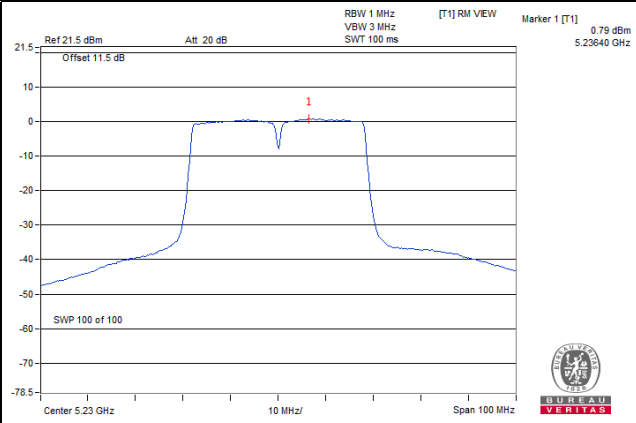
802.11a / CH 36



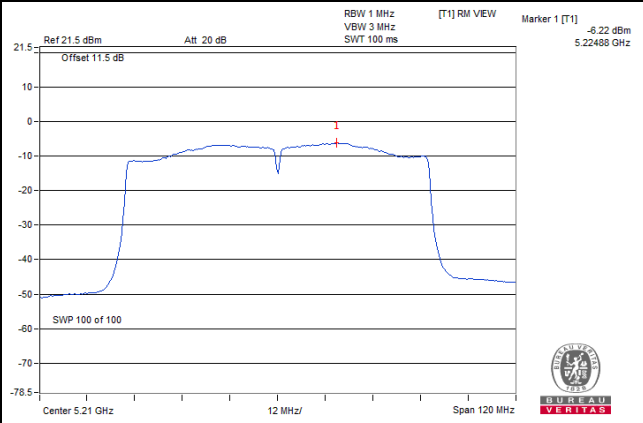
802.11n (HT20) / CH 36



802.11n (HT40) / CH 46



802.11ac (VHT80) / CH 42



2TX

802.11a

Chan.	Freq. (MHz)	PSD w/o duty factor (dBm/MHz)		Duty factor	Total PSD with duty factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	2.44	3.28	0.23	6.12	11.99	Pass
40	5200	2.36	3.40	0.23	6.15	11.99	Pass
48	5240	2.07	3.42	0.23	6.04	11.99	Pass
52	5260	-4.16	-2.77	0.23	-0.17	5.99	Pass
60	5300	-3.81	-2.87	0.23	-0.07	5.99	Pass
64	5320	-3.90	-2.85	0.23	-0.10	5.99	Pass
100	5500	-3.59	-3.02	0.23	-0.06	5.99	Pass
116	5580	-4.19	-2.89	0.23	-0.25	5.99	Pass
140	5700	-3.46	-3.18	0.23	-0.08	5.99	Pass

Note:

- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the limit shall be reduced to 17-(11.01-6) = 11.99dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the limit shall be reduced to 11-(11.01-6) = 5.99dBm.
- 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	Total PSD with duty factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	2.43	3.37	0.21	6.15	11.99	Pass
40	5200	2.32	3.45	0.21	6.14	11.99	Pass
48	5240	2.06	3.55	0.21	6.09	11.99	Pass
52	5260	-3.73	-2.89	0.21	-0.07	5.99	Pass
60	5300	-3.63	-2.87	0.21	-0.01	5.99	Pass
64	5320	-3.62	-2.87	0.21	-0.01	5.99	Pass
100	5500	-3.87	-3.19	0.21	-0.30	5.99	Pass
116	5580	-4.25	-3.25	0.21	-0.50	5.99	Pass
140	5700	-3.60	-3.28	0.21	-0.22	5.99	Pass

Note:

- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the limit shall be reduced to 17-(11.01-6) = 11.99dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the limit shall be reduced to 11-(11.01-6) = 5.99dBm.
- 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	Total PSD with duty factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-2.69	-2.31	0.50	1.01	11.99	Pass
46	5230	0.71	1.08	0.50	4.41	11.99	Pass
54	5270	-5.64	-5.08	0.50	-1.84	5.99	Pass
62	5310	-5.49	-5.50	0.50	-1.98	5.99	Pass
102	5510	-5.96	-5.62	0.50	-2.28	5.99	Pass
110	5550	-6.17	-5.54	0.50	-2.33	5.99	Pass
134	5670	-5.61	-5.87	0.50	-2.23	5.99	Pass

Note:

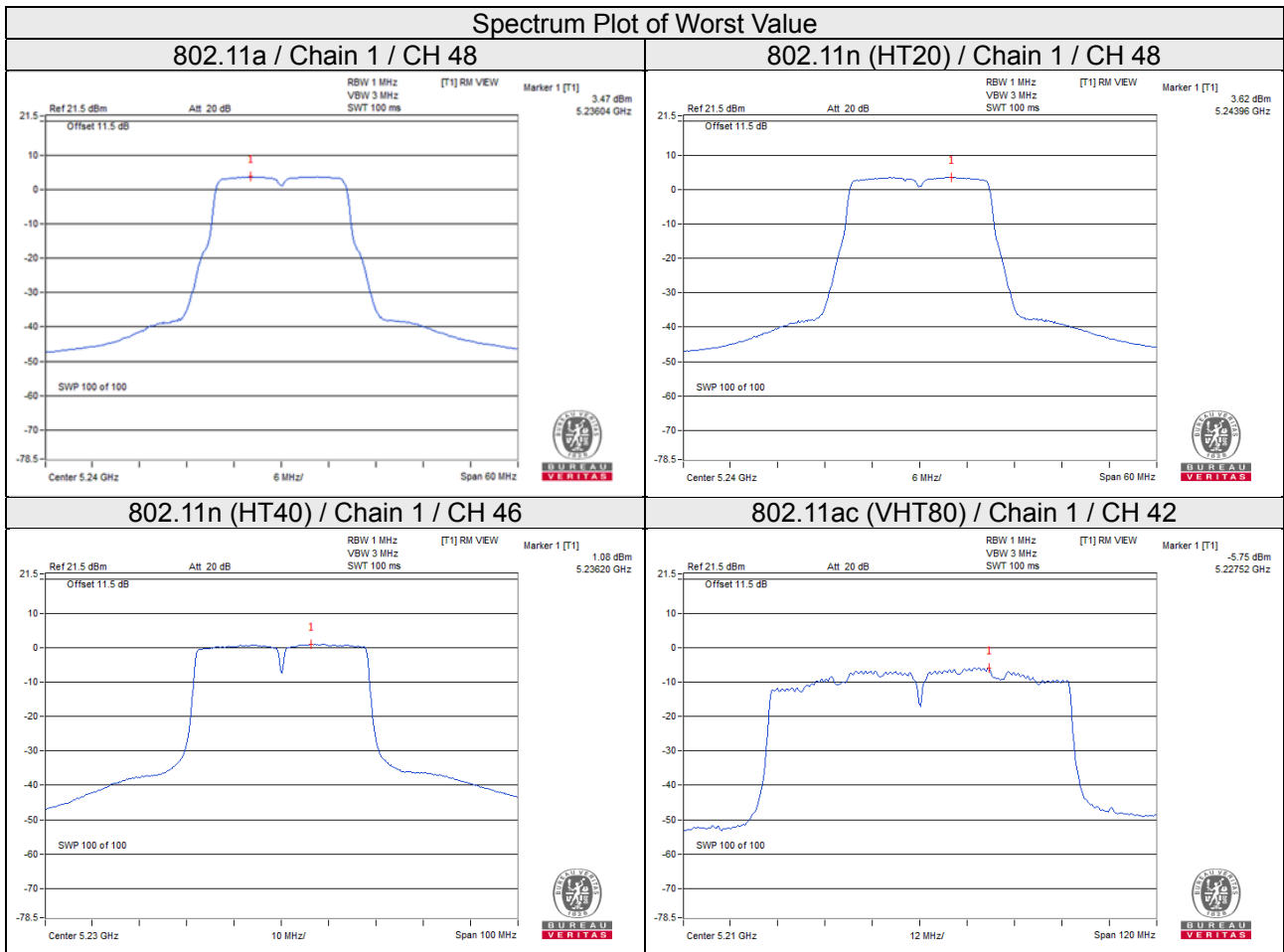
- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the limit shall be reduced to 17-(11.01-6) = 11.99dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the limit shall be reduced to 11-(11.01-6) = 5.99dBm.
- 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	Total PSD with duty factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-6.22	-5.76	0.37	-2.60	11.99	Pass
58	5290	-8.34	-8.69	0.37	-5.13	5.99	Pass
106	5530	-8.85	-9.55	0.37	-5.81	5.99	Pass

Note:

- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the limit shall be reduced to 17-(11.01-6) = 11.99dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the limit shall be reduced to 11-(11.01-6) = 5.99dBm.
- Refer to section 3.3 for duty cycle spectrum plot.



3TX

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)			Duty factor	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	2.44	3.28	2.47	0.23	7.75	10.23	Pass
40	5200	2.36	3.40	2.31	0.23	7.72	10.23	Pass
48	5240	2.07	3.42	2.35	0.23	7.65	10.23	Pass
52	5260	-4.16	-2.77	-3.22	0.23	1.66	4.23	Pass
60	5300	-3.81	-2.87	-3.05	0.23	1.78	4.23	Pass
64	5320	-3.90	-2.85	-3.16	0.23	1.72	4.23	Pass
100	5500	-3.59	-3.02	-4.10	0.23	1.45	4.23	Pass
116	5580	-4.19	-2.89	-3.47	0.23	1.52	4.23	Pass
140	5700	-3.46	-3.18	-3.68	0.23	1.57	4.23	Pass

Note:

- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(3) = 12.77dBi > 6dBi, so the limit shall be reduced to 17-(12.77-6) = 10.23dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(3) = 12.77dBi > 6dBi, so the limit shall be reduced to 11-(12.77-6) = 4.23dBm.
- 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	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	2.43	3.37	2.59	0.21	7.80	10.23	Pass
40	5200	2.32	3.45	2.38	0.21	7.73	10.23	Pass
48	5240	2.06	3.55	2.41	0.21	7.70	10.23	Pass
52	5260	-3.73	-2.89	-3.21	0.21	1.72	4.23	Pass
60	5300	-3.63	-2.87	-3.13	0.21	1.78	4.23	Pass
64	5320	-3.62	-2.87	-3.14	0.21	1.78	4.23	Pass
100	5500	-3.87	-3.19	-4.09	0.21	1.28	4.23	Pass
116	5580	-4.25	-3.25	-3.35	0.21	1.39	4.23	Pass
140	5700	-3.60	-3.28	-4.18	0.21	1.31	4.23	Pass

Note:

- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(3) = 12.77dBi > 6dBi, so the limit shall be reduced to 17-(12.77-6) = 10.23dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(3) = 12.77dBi > 6dBi, so the limit shall be reduced to 11-(12.77-6) = 4.23dBm.
- 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	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
38	5190	-2.69	-2.31	-3.10	0.50	2.58	10.23	Pass
46	5230	0.71	1.08	0.28	0.50	5.97	10.23	Pass
54	5270	-5.64	-5.08	-5.78	0.50	-0.22	4.23	Pass
62	5310	-5.49	-5.50	-5.58	0.50	-0.25	4.23	Pass
102	5510	-5.96	-5.62	-6.59	0.50	-0.77	4.23	Pass
110	5550	-6.17	-5.54	-6.52	0.50	-0.79	4.23	Pass
134	5670	-5.61	-5.87	-5.38	0.50	-0.34	4.23	Pass

Note:

- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(3) = 12.77dBi > 6dBi, so the limit shall be reduced to 17-(12.77-6) = 10.23dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(3) = 12.77dBi > 6dBi, so the limit shall be reduced to 11-(12.77-6) = 4.23dBm.
- Refer to section 3.3 for duty cycle spectrum plot.

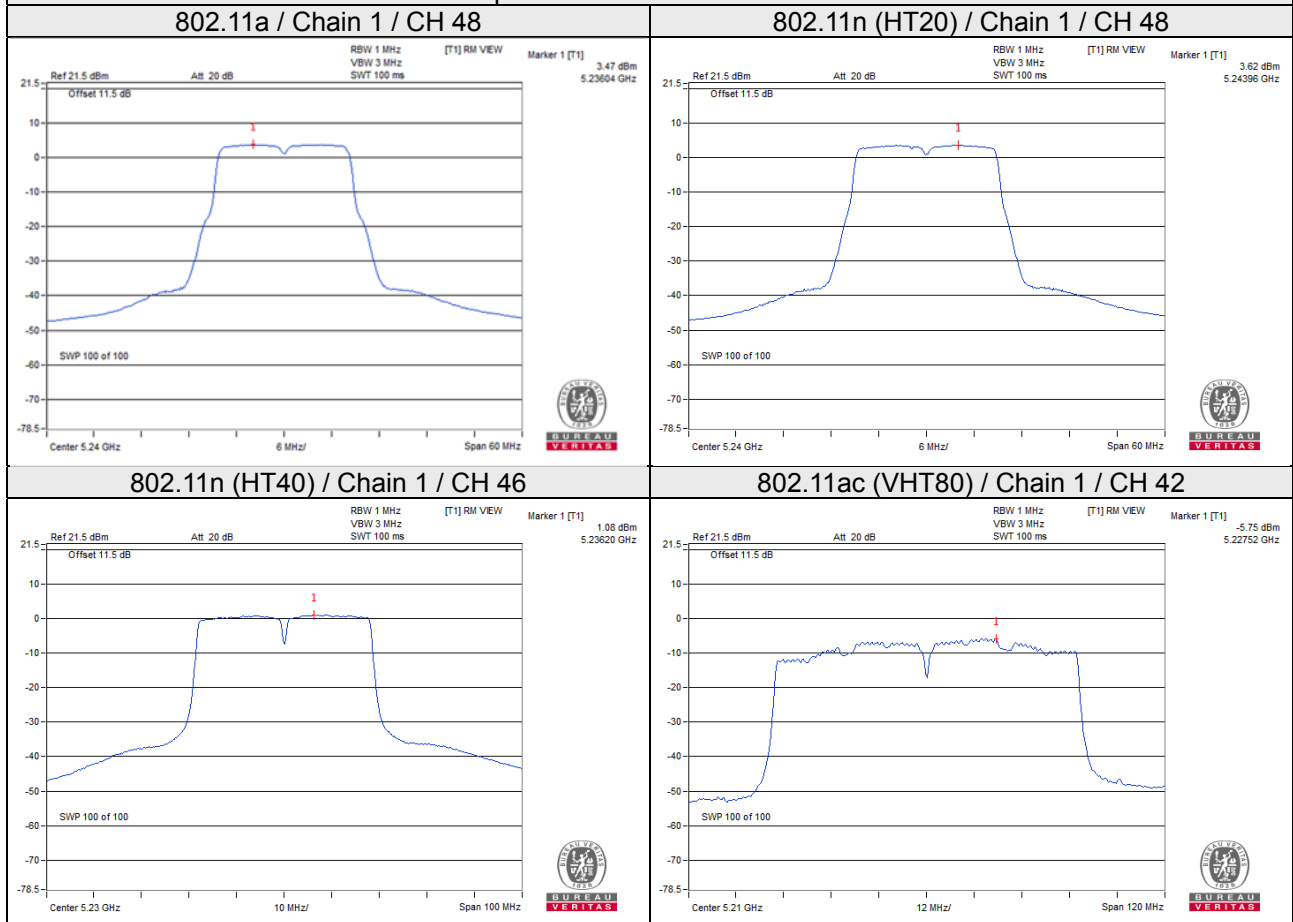
802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)			Duty factor	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
42	5210	-6.22	-5.76	-6.23	0.37	-0.92	10.23	Pass
58	5290	-8.34	-8.69	-9.01	0.37	-3.53	4.23	Pass
106	5530	-8.85	-9.55	-8.43	0.37	-3.78	4.23	Pass

Note:

- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(3) = 12.77dBi > 6dBi, so the limit shall be reduced to 17-(12.77-6) = 10.23dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(3) = 12.77dBi > 6dBi, so the limit shall be reduced to 11-(12.77-6) = 4.23dBm.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value



4TX

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	2.44	3.28	2.47	1.50	0.23	8.72	8.98	Pass
40	5200	2.36	3.40	2.31	1.76	0.23	8.75	8.98	Pass
48	5240	2.07	3.42	2.35	1.83	0.23	8.71	8.98	Pass
52	5260	-4.16	-2.77	-3.22	-4.07	0.23	2.73	2.98	Pass
60	5300	-3.81	-2.87	-3.05	-4.09	0.23	2.83	2.98	Pass
64	5320	-3.90	-2.85	-3.16	-4.10	0.23	2.78	2.98	Pass
100	5500	-3.59	-3.02	-4.10	-3.55	0.23	2.70	2.98	Pass
116	5580	-4.19	-2.89	-3.47	-3.84	0.23	2.68	2.98	Pass
140	5700	-3.46	-3.18	-3.68	-3.66	0.23	2.76	2.98	Pass

Note:

- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the limit shall be reduced to 17-(14.02-6) = 8.98dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the limit shall be reduced to 11-(14.02-6) = 2.98dBm.
- 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	Chain 2	Chain 3				
36	5180	2.43	3.37	2.59	1.46	0.21	8.75	8.98	Pass
40	5200	2.32	3.45	2.38	1.53	0.21	8.70	8.98	Pass
48	5240	2.06	3.55	2.41	1.61	0.21	8.70	8.98	Pass
52	5260	-3.73	-2.89	-3.21	-4.21	0.21	2.75	2.98	Pass
60	5300	-3.63	-2.87	-3.13	-4.09	0.21	2.83	2.98	Pass
64	5320	-3.62	-2.87	-3.14	-4.14	0.21	2.81	2.98	Pass
100	5500	-3.87	-3.19	-4.09	-3.68	0.21	2.54	2.98	Pass
116	5580	-4.25	-3.25	-3.35	-4.27	0.21	2.48	2.98	Pass
140	5700	-3.60	-3.28	-4.18	-3.81	0.21	2.53	2.98	Pass

Note:

- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the limit shall be reduced to 17-(14.02-6) = 8.98dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the limit shall be reduced to 11-(14.02-6) = 2.98dBm.
- 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	Chain 2	Chain 3				
38	5190	-2.69	-2.31	-3.10	-4.11	0.50	3.52	8.98	Pass
46	5230	0.71	1.08	0.28	-0.60	0.50	6.93	8.98	Pass
54	5270	-5.64	-5.08	-5.78	-6.05	0.50	0.90	2.98	Pass
62	5310	-5.49	-5.50	-5.58	-6.46	0.50	0.78	2.98	Pass
102	5510	-5.96	-5.62	-6.59	-6.28	0.50	0.42	2.98	Pass
110	5550	-6.17	-5.54	-6.52	-6.22	0.50	0.42	2.98	Pass
134	5670	-5.61	-5.87	-5.38	-6.67	0.50	0.66	2.98	Pass

Note:

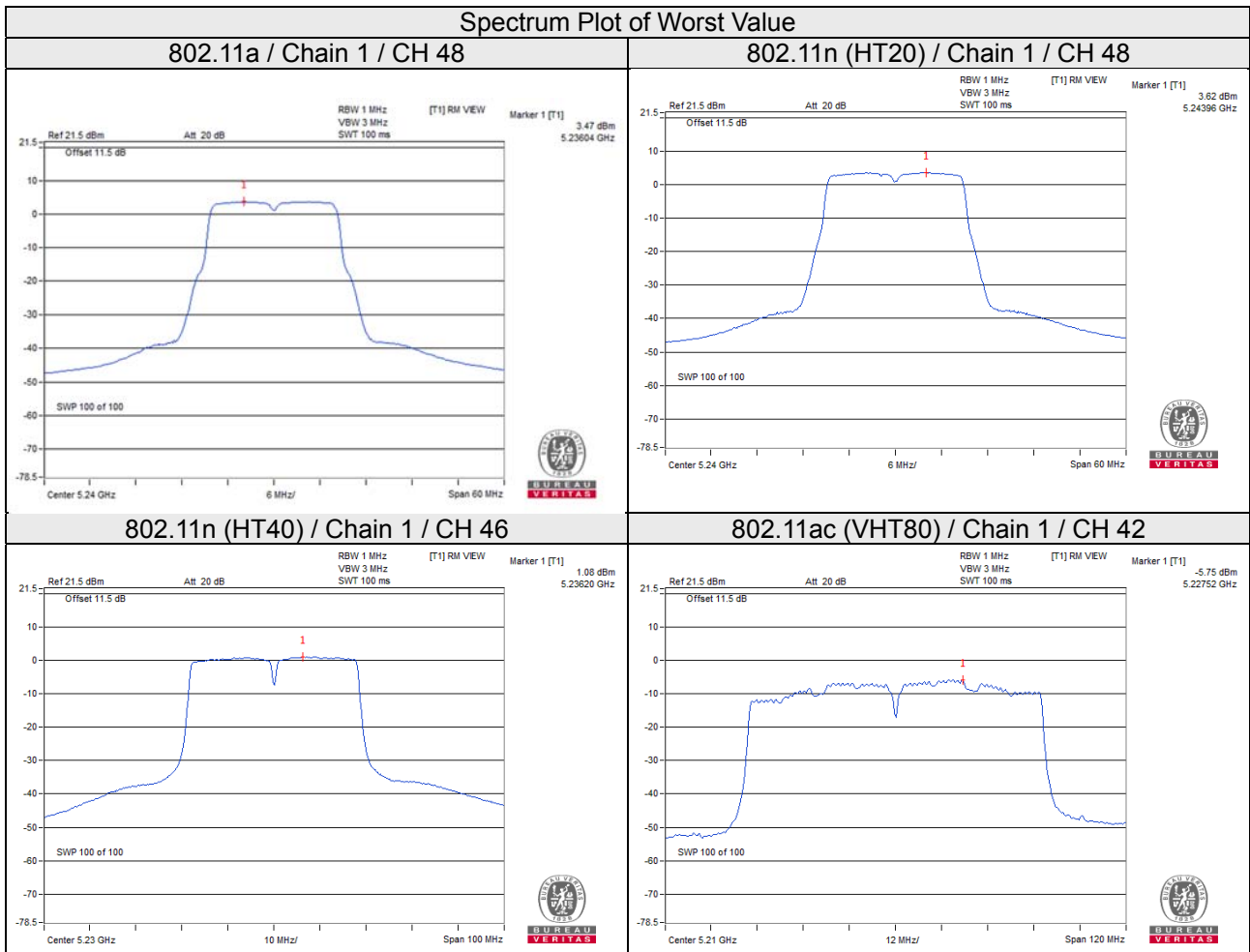
- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the limit shall be reduced to 17-(14.02-6) = 8.98dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the limit shall be reduced to 11-(14.02-6) = 2.98dBm.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-6.22	-5.76	-6.23	-6.82	0.37	0.15	8.98	Pass
58	5290	-8.34	-8.69	-9.01	-9.25	0.37	-2.42	2.98	Pass
106	5530	-8.85	-9.55	-8.43	-9.08	0.37	-2.57	2.98	Pass

Note:

- Method E)2)a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- U-NII-1 Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the limit shall be reduced to 17-(14.02-6) = 8.98dBm.
U-NII-2A, U-NII-2C Band: Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the limit shall be reduced to 11-(14.02-6) = 2.98dBm.
- Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-3 band:

1TX

802.11a

Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
149	5745	0.11	2.33	0.23	2.56	28.00	Pass
157	5785	0.11	2.33	0.23	2.56	28.00	Pass
165	5825	0.36	2.58	0.23	2.81	28.00	Pass

Note: Gain = 8dBi > 6dBi, so the power density limit shall be reduced to $30-(8-6) = 28.00\text{dBm}$.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
149	5745	-4.45	-2.23	0.21	-2.02	28.00	Pass
157	5785	-4.40	-2.18	0.21	-1.97	28.00	Pass
165	5825	-4.15	-1.93	0.21	-1.72	28.00	Pass

Note: Gain = 8dBi > 6dBi, so the power density limit shall be reduced to $30-(8-6) = 28.00\text{dBm}$.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
151	5755	-7.59	-5.37	0.50	-4.87	28.00	Pass
159	5795	-7.62	-5.40	0.50	-4.90	28.00	Pass

Note: Gain = 8dBi > 6dBi, so the power density limit shall be reduced to $30-(8-6) = 28.00\text{dBm}$.

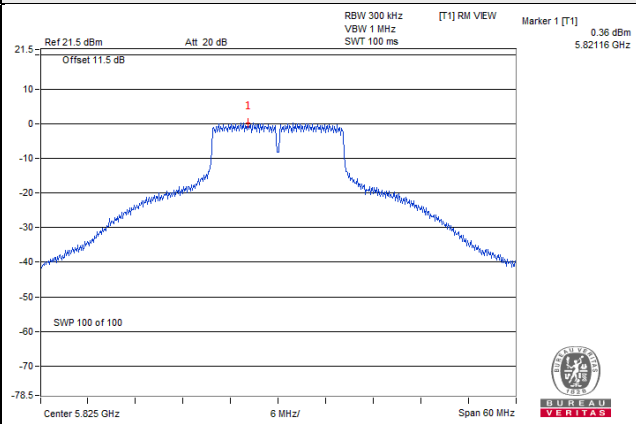
802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
155	5775	-10.99	-8.77	0.37	-8.40	28.00	Pass

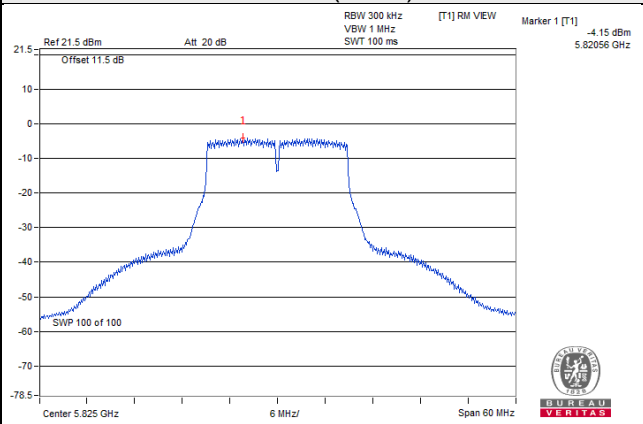
Note: Gain = 8dBi > 6dBi, so the power density limit shall be reduced to $30-(8-6) = 28.00\text{dBm}$.

Spectrum Plot of Worst Value

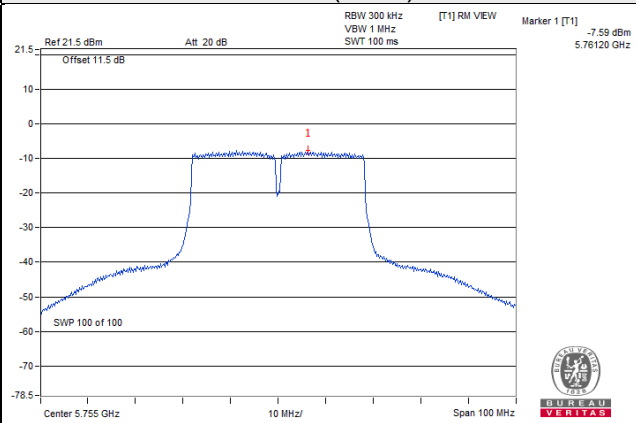
802.11a



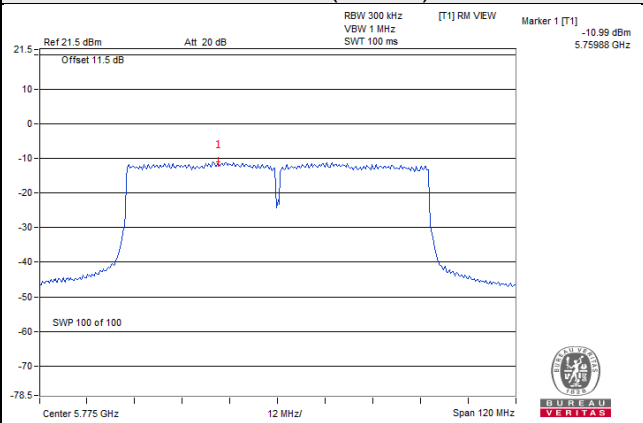
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



2TX

802.11a

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	0.11	2.33	3.01	0.23	5.57	24.99	Pass
	157	5785	0.11	2.33	3.01	0.23	5.57	24.99	Pass
	165	5825	0.36	2.58	3.01	0.23	5.82	24.99	Pass
1	149	5745	0.60	2.82	3.01	0.23	6.06	24.99	Pass
	157	5785	0.52	2.74	3.01	0.23	5.98	24.99	Pass
	165	5825	0.45	2.67	3.01	0.23	5.91	24.99	Pass

Note:

1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
2. Directional gain = $8 \text{ dBi} + 10 \log(2) = 11.01 \text{ dBi} > 6 \text{ dBi}$, so the limit shall be reduced to $30 - (11.01 - 6) = 24.99 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-4.45	-2.23	3.01	0.21	0.99	24.99	Pass
	157	5785	-4.40	-2.18	3.01	0.21	1.04	24.99	Pass
	165	5825	-4.15	-1.93	3.01	0.21	1.29	24.99	Pass
1	149	5745	-3.92	-1.70	3.01	0.21	1.52	24.99	Pass
	157	5785	-3.94	-1.72	3.01	0.21	1.50	24.99	Pass
	165	5825	-3.83	-1.61	3.01	0.21	1.61	24.99	Pass

Note:

1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
2. Directional gain = $8 \text{ dBi} + 10 \log(2) = 11.01 \text{ dBi} > 6 \text{ dBi}$, so the limit shall be reduced to $30 - (11.01 - 6) = 24.99 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-7.59	-5.37	3.01	0.50	-1.86	24.99	Pass
	159	5795	-7.62	-5.40	3.01	0.50	-1.89	24.99	Pass
1	151	5755	-7.28	-5.06	3.01	0.50	-1.55	24.99	Pass
	159	5795	-7.30	-5.08	3.01	0.50	-1.57	24.99	Pass

Note:

1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the limit shall be reduced to 30-(11.01-6) = 24.99dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

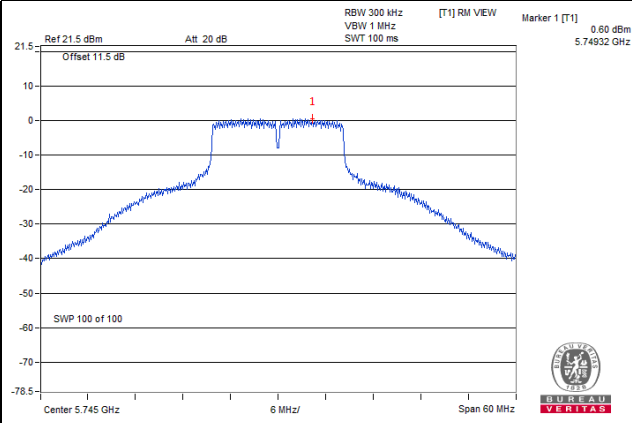
TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-10.99	-8.77	3.01	0.37	-5.39	24.99	Pass
1	155	5775	-10.64	-8.42	3.01	0.37	-5.04	24.99	Pass

Note:

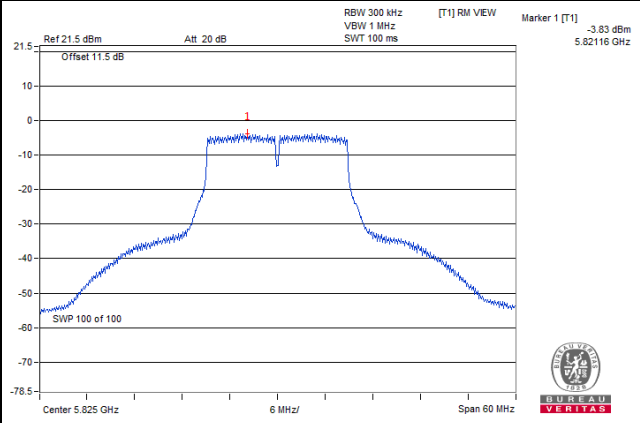
1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 8 dBi + 10 log(2) = 11.01dBi > 6dBi, so the limit shall be reduced to 30-(11.01-6) = 24.99dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

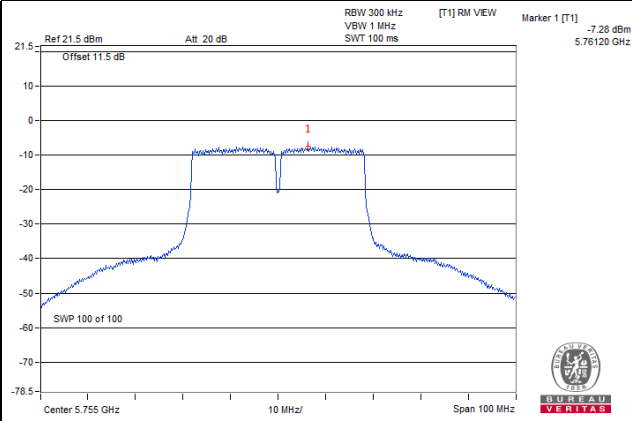
802.11a



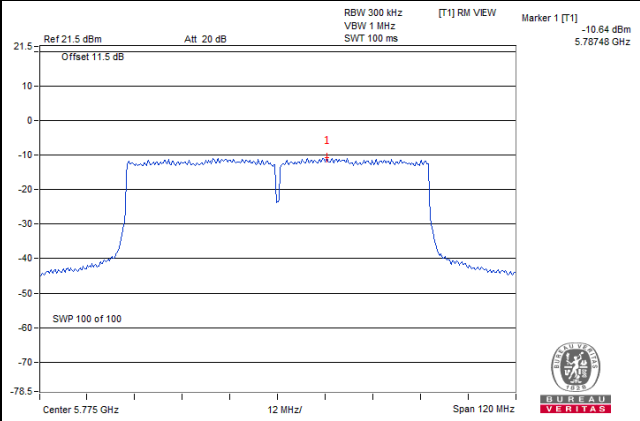
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



3TX

802.11a

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=3) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	0.11	2.33	4.77	0.23	7.33	23.23	Pass
	157	5785	0.11	2.33	4.77	0.23	7.33	23.23	Pass
	165	5825	0.36	2.58	4.77	0.23	7.58	23.23	Pass
1	149	5745	0.60	2.82	4.77	0.23	7.82	23.23	Pass
	157	5785	0.52	2.74	4.77	0.23	7.74	23.23	Pass
	165	5825	0.45	2.67	4.77	0.23	7.67	23.23	Pass
2	149	5745	0.02	2.24	4.77	0.23	7.24	23.23	Pass
	157	5785	-0.17	2.05	4.77	0.23	7.05	23.23	Pass
	165	5825	-0.22	2.00	4.77	0.23	7.00	23.23	Pass

Note:

1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log(N_{ANT})$ dB.
2. Directional gain = $8 \text{ dBi} + 10 \log(3) = 12.77 \text{ dBi} > 6 \text{ dBi}$, so the limit shall be reduced to $30 - (12.77 - 6) = 23.23 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=3) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-4.45	-2.23	4.77	0.21	2.75	23.23	Pass
	157	5785	-4.40	-2.18	4.77	0.21	2.80	23.23	Pass
	165	5825	-4.15	-1.93	4.77	0.21	3.05	23.23	Pass
1	149	5745	-3.92	-1.70	4.77	0.21	3.28	23.23	Pass
	157	5785	-3.94	-1.72	4.77	0.21	3.26	23.23	Pass
	165	5825	-3.83	-1.61	4.77	0.21	3.37	23.23	Pass
2	149	5745	-3.88	-1.66	4.77	0.21	3.32	23.23	Pass
	157	5785	-3.99	-1.77	4.77	0.21	3.21	23.23	Pass
	165	5825	-3.85	-1.63	4.77	0.21	3.35	23.23	Pass

Note:

1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log(N_{ANT})$ dB.
2. Directional gain = $8 \text{ dBi} + 10 \log(3) = 12.77 \text{ dBi} > 6 \text{ dBi}$, so the limit shall be reduced to $30 - (12.77 - 6) = 23.23 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=3) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-7.59	-5.37	4.77	0.50	-0.10	23.23	Pass
	159	5795	-7.62	-5.40	4.77	0.50	-0.13	23.23	Pass
1	151	5755	-7.28	-5.06	4.77	0.50	0.21	23.23	Pass
	159	5795	-7.30	-5.08	4.77	0.50	0.19	23.23	Pass
2	151	5755	-7.61	-5.39	4.77	0.50	-0.12	23.23	Pass
	159	5795	-7.62	-5.40	4.77	0.50	-0.13	23.23	Pass

Note:

1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
2. Directional gain = $8 \text{ dBi} + 10 \log(3) = 12.77 \text{ dBi} > 6 \text{ dBi}$, so the limit shall be reduced to $30 - (12.77 - 6) = 23.23 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

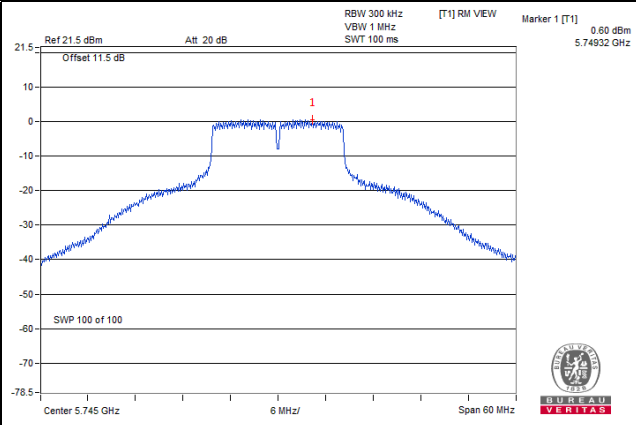
TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-10.99	-8.77	4.77	0.37	-3.63	23.23	Pass
1	155	5775	-10.64	-8.42	4.77	0.37	-3.28	23.23	Pass
2	155	5775	-11.12	-8.90	4.77	0.37	-3.76	23.23	Pass

Note:

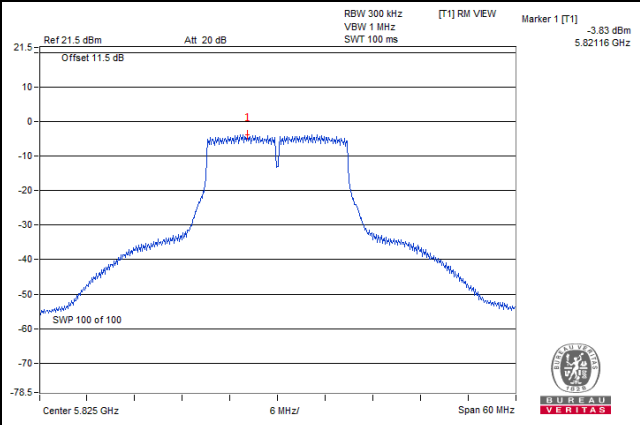
1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
2. Directional gain = $8 \text{ dBi} + 10 \log(3) = 12.77 \text{ dBi} > 6 \text{ dBi}$, so the limit shall be reduced to $30 - (12.77 - 6) = 23.23 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

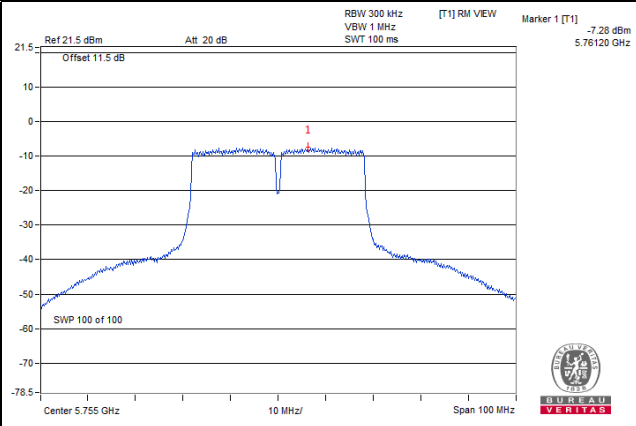
802.11a



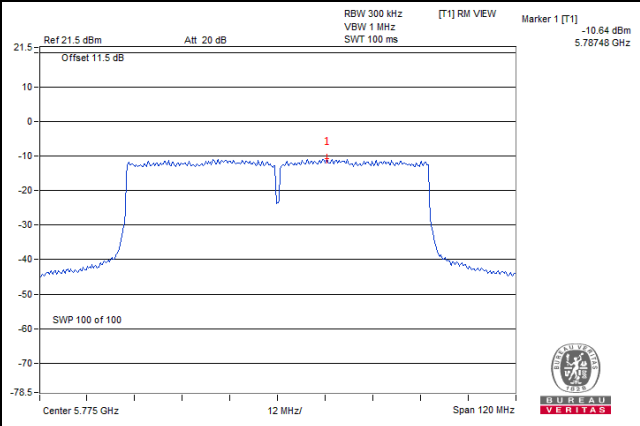
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



4TX

802.11a

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	0.11	2.33	6.02	0.23	8.58	21.98	Pass
	157	5785	0.11	2.33	6.02	0.23	8.58	21.98	Pass
	165	5825	0.36	2.58	6.02	0.23	8.83	21.98	Pass
1	149	5745	0.60	2.82	6.02	0.23	9.07	21.98	Pass
	157	5785	0.52	2.74	6.02	0.23	8.99	21.98	Pass
	165	5825	0.45	2.67	6.02	0.23	8.92	21.98	Pass
2	149	5745	0.02	2.24	6.02	0.23	8.49	21.98	Pass
	157	5785	-0.17	2.05	6.02	0.23	8.30	21.98	Pass
	165	5825	-0.22	2.00	6.02	0.23	8.25	21.98	Pass
3	149	5745	-0.91	1.31	6.02	0.23	7.56	21.98	Pass
	157	5785	-0.95	1.27	6.02	0.23	7.52	21.98	Pass
	165	5825	-0.95	1.27	6.02	0.23	7.52	21.98	Pass

Note:

1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
2. Directional gain = $8 \text{ dBi} + 10 \log(4) = 14.02\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $30 - (14.02 - 6) = 21.98\text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	-4.45	-2.23	6.02	0.21	4.00	21.98	Pass
	157	5785	-4.40	-2.18	6.02	0.21	4.05	21.98	Pass
	165	5825	-4.15	-1.93	6.02	0.21	4.30	21.98	Pass
1	149	5745	-3.92	-1.70	6.02	0.21	4.53	21.98	Pass
	157	5785	-3.94	-1.72	6.02	0.21	4.51	21.98	Pass
	165	5825	-3.83	-1.61	6.02	0.21	4.62	21.98	Pass
2	149	5745	-3.88	-1.66	6.02	0.21	4.57	21.98	Pass
	157	5785	-3.99	-1.77	6.02	0.21	4.46	21.98	Pass
	165	5825	-3.85	-1.63	6.02	0.21	4.60	21.98	Pass
3	149	5745	-5.40	-3.18	6.02	0.21	3.05	21.98	Pass
	157	5785	-5.36	-3.14	6.02	0.21	3.09	21.98	Pass
	165	5825	-5.27	-3.05	6.02	0.21	3.18	21.98	Pass

Note:

1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
2. Directional gain = 8 dBi + $10 \log(4) = 14.02\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $30-(14.02-6) = 21.98\text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	151	5755	-7.59	-5.37	6.02	0.50	1.15	21.98	Pass
	159	5795	-7.62	-5.40	6.02	0.50	1.12	21.98	Pass
1	151	5755	-7.28	-5.06	6.02	0.50	1.46	21.98	Pass
	159	5795	-7.30	-5.08	6.02	0.50	1.44	21.98	Pass
2	151	5755	-7.61	-5.39	6.02	0.50	1.13	21.98	Pass
	159	5795	-7.62	-5.40	6.02	0.50	1.12	21.98	Pass
3	151	5755	-8.72	-6.50	6.02	0.50	0.02	21.98	Pass
	159	5795	-8.69	-6.47	6.02	0.50	0.05	21.98	Pass

Note:

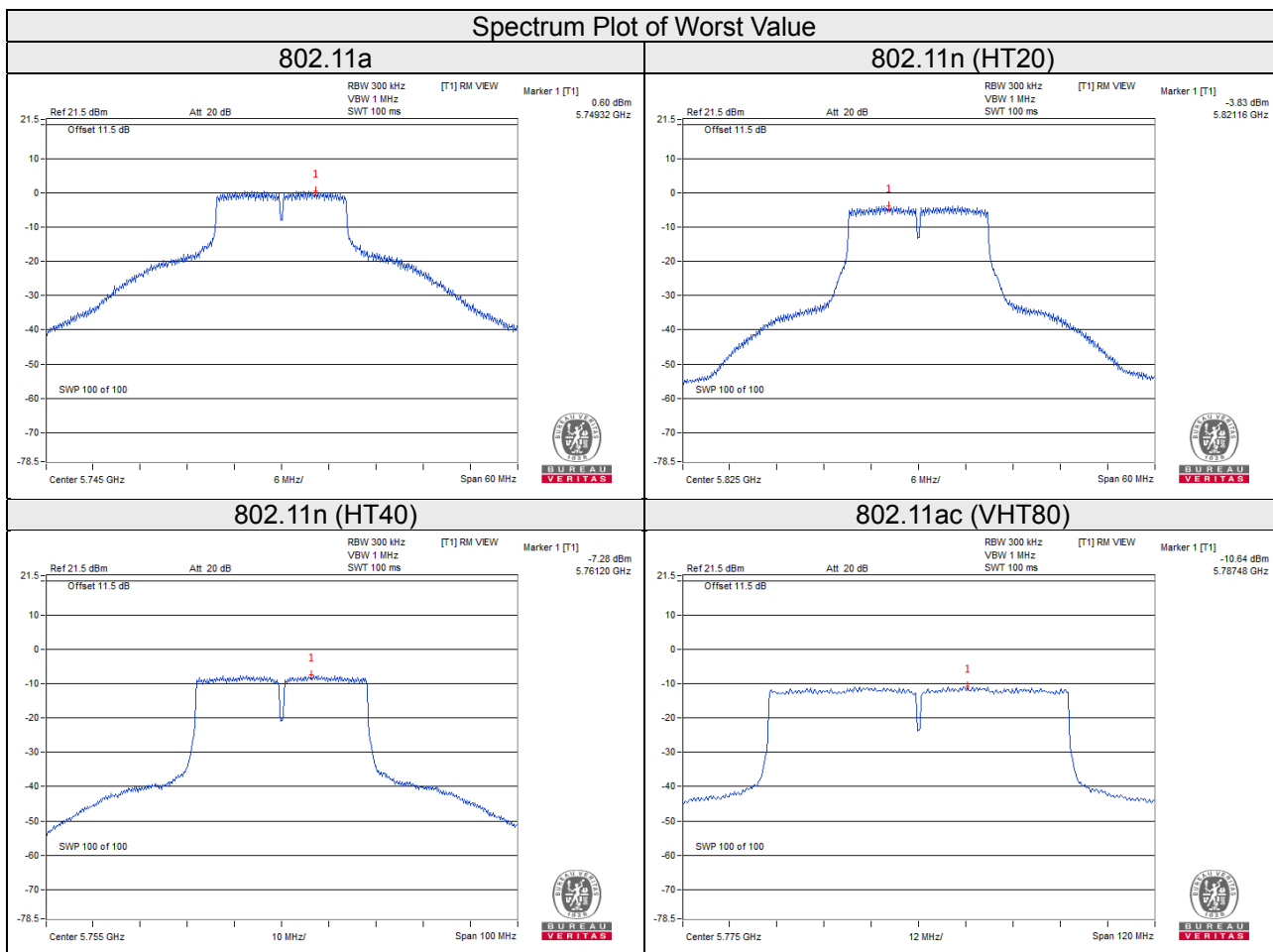
1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add $10 \log (N_{ANT})$ dB.
2. Directional gain = 8 dBi + $10 \log(4) = 14.02\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $30-(14.02-6) = 21.98\text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-10.99	-8.77	6.02	0.37	-2.38	21.98	Pass
1	155	5775	-10.64	-8.42	6.02	0.37	-2.03	21.98	Pass
2	155	5775	-11.12	-8.90	6.02	0.37	-2.51	21.98	Pass
3	155	5775	-11.97	-9.75	6.02	0.37	-3.36	21.98	Pass

Note:

- Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
- Directional gain = 8 dBi + 10 log(4) = 14.02dBi > 6dBi, so the limit shall be reduced to 30-(14.02-6) = 21.98dBm.
- Refer to section 3.3 for duty cycle spectrum plot.

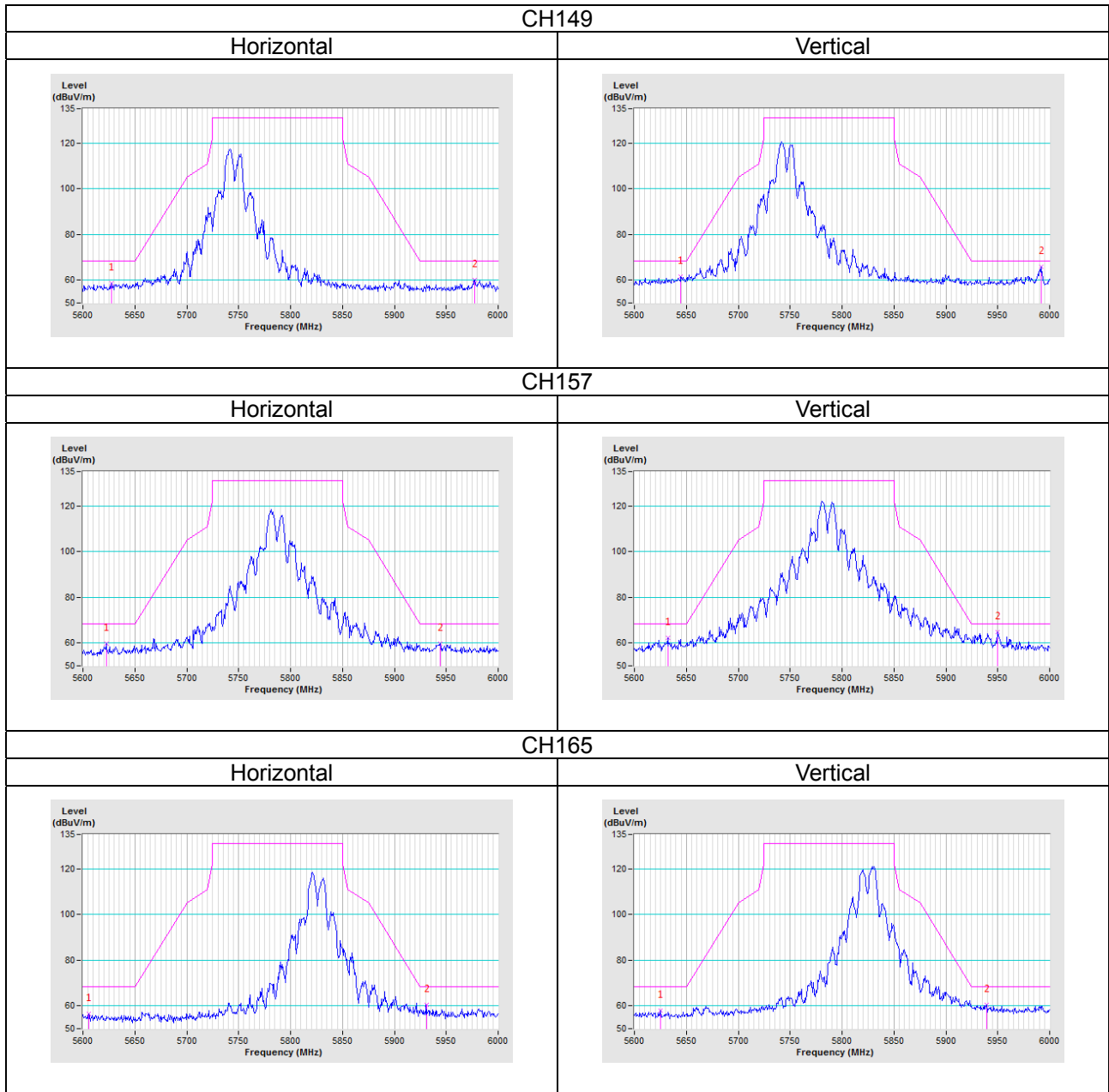


5 Pictures of Test Arrangements

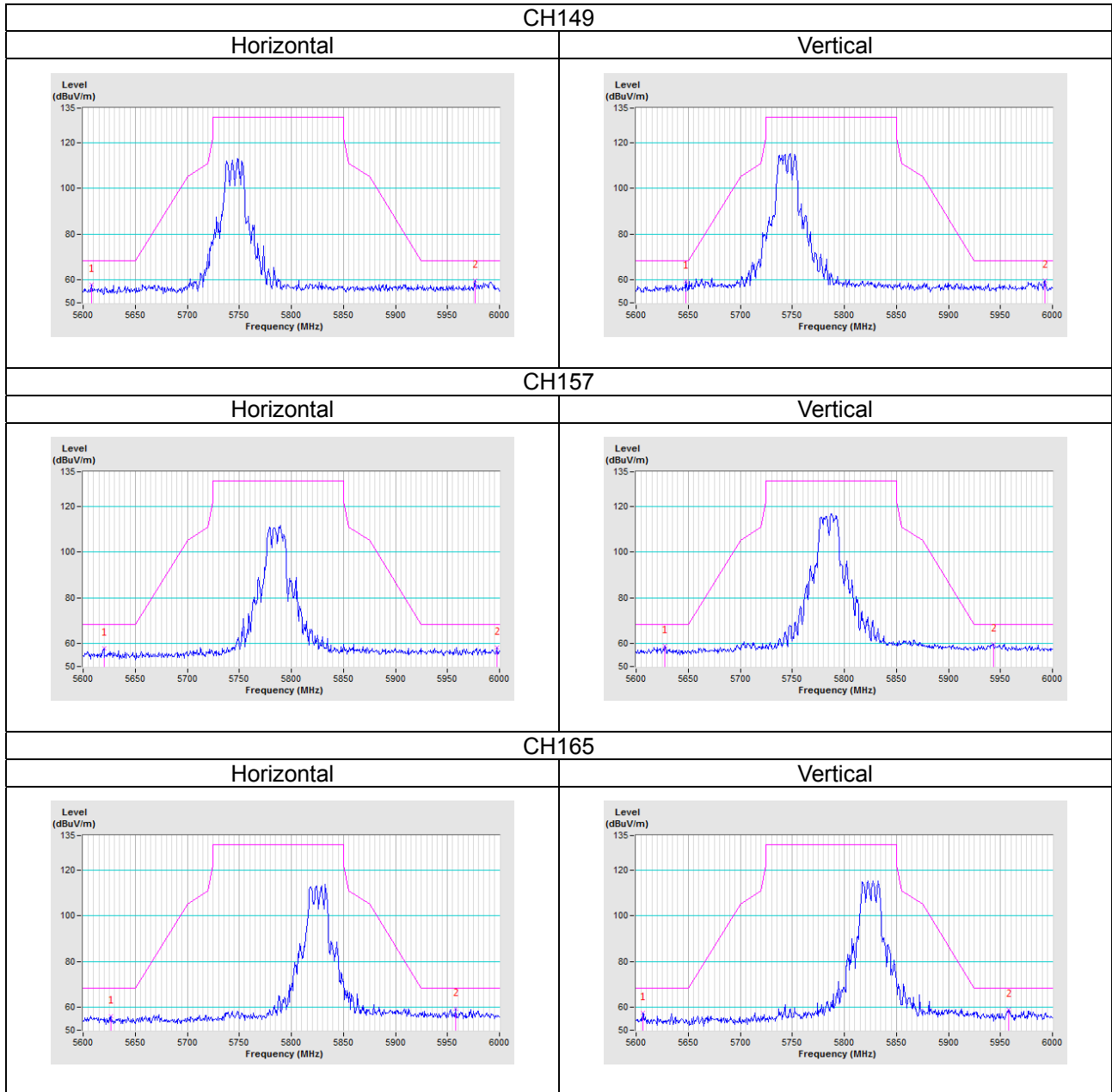
Please refer to the attached file (Test Setup Photo).

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

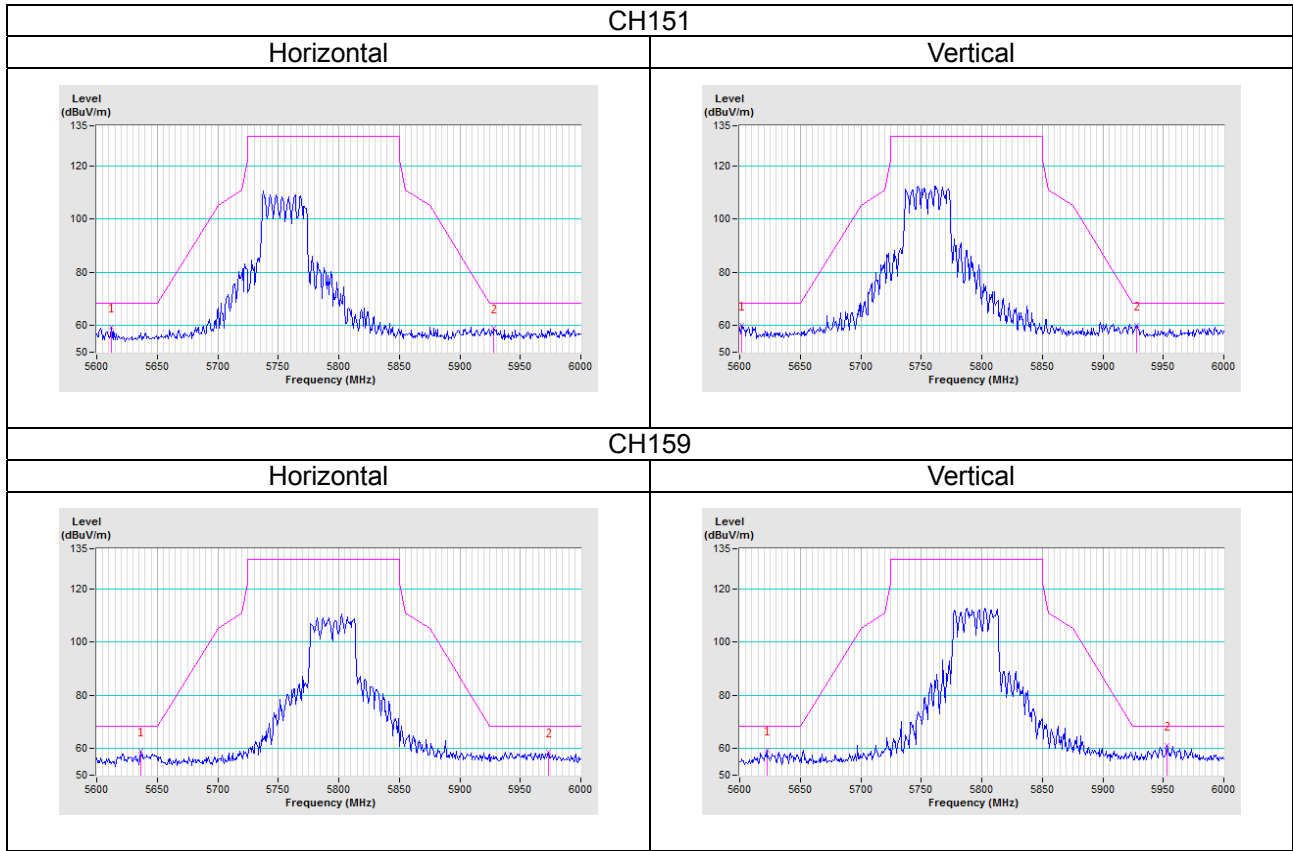
802.11a



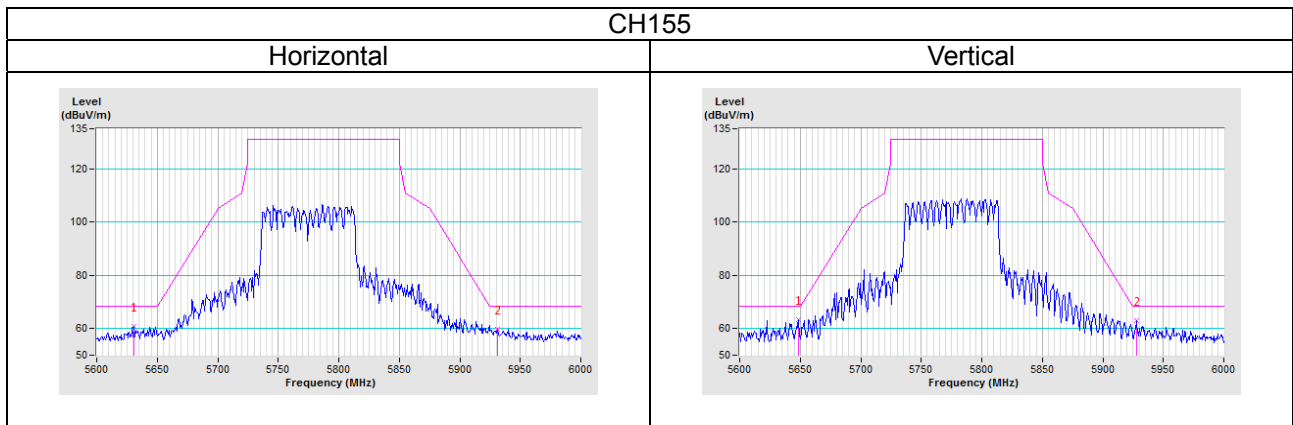
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Appendix – Information of the Testing Laboratories

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

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

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

--- END ---