

## FCC Test Report

**Report No.:** RFBCUG-WTW-P22010682-1

**FCC ID:** B32UX700

**Test Model:** UX700-WBU

**Received Date:** Jan. 20, 2022

**Test Date:** Feb. 25 ~ Mar. 15, 2022

**Issued Date:** Mar. 30, 2022

**Applicant:** Verifone, Inc.

**Address:** 1400 West Stanford Ranch Road Suite 150 Rocklin CA 95765 USA

**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

**Test Location (1):** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, TAIWAN

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

**Test Location (2):** No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

**FCC Registration /  
Designation Number:** 281270 / TW0032



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.

## Table of Contents

<b>Release Control Record</b> .....	<b>4</b>
<b>1 Certificate of Conformity</b> .....	<b>5</b>
<b>2 Summary of Test Results</b> .....	<b>6</b>
2.1 Measurement Uncertainty.....	6
2.2 Modification Record.....	6
<b>3 General Information</b> .....	<b>7</b>
3.1 General Description of EUT.....	7
3.2 Description of Test Modes.....	9
3.2.1 Test Mode Applicability and Tested Channel Detail.....	10
3.3 Duty Cycle of Test Signal.....	12
3.4 Description of Support Units.....	13
3.4.1 Configuration of System under Test.....	13
3.5 General Description of Applied Standards and References.....	13
<b>4 Test Types and Results</b> .....	<b>14</b>
4.1 Radiated Emission and Bandedge Measurement.....	14
4.1.1 Limits of Radiated Emission and Bandedge Measurement.....	14
4.1.2 Test Instruments.....	15
4.1.3 Test Procedures.....	16
4.1.4 Deviation from Test Standard.....	16
4.1.5 Test Setup.....	17
4.1.6 EUT Operating Conditions.....	18
4.1.7 Test Results.....	19
4.2 Conducted Emission Measurement.....	54
4.2.1 Limits of Conducted Emission Measurement.....	54
4.2.2 Test Instruments.....	54
4.2.3 Test Procedures.....	55
4.2.4 Deviation from Test Standard.....	55
4.2.5 Test Setup.....	55
4.2.6 EUT Operating Conditions.....	55
4.2.7 Test Results.....	56
4.3 Transmit Power Measurement.....	58
4.3.1 Limits of Transmit Power Measurement.....	58
4.3.2 Test Setup.....	58
4.3.3 Test Instruments.....	58
4.3.4 Test Procedure.....	59
4.3.5 Deviation from Test Standard.....	59
4.3.6 EUT Operating Conditions.....	59
4.3.7 Test Result.....	60
4.4 Occupied Bandwidth Measurement.....	66
4.4.1 Test Setup.....	66
4.4.2 Test Instruments.....	66
4.4.3 Test Procedure.....	66
4.4.4 Test Result.....	67
4.5 Peak Power Spectral Density Measurement.....	70
4.5.1 Limits of Peak Power Spectral Density Measurement.....	70
4.5.2 Test Setup.....	70
4.5.3 Test Instruments.....	70
4.5.4 Test Procedures.....	71
4.5.5 Deviation from Test Standard.....	71
4.5.6 EUT Operating Conditions.....	71
4.5.7 Test Results.....	72
4.6 Frequency Stability.....	76
4.6.1 Limits of Frequency Stability Measurement.....	76

4.6.2	Test Setup.....	76
4.6.3	Test Instruments .....	76
4.6.4	Test Procedure .....	76
4.6.5	Deviation from Test Standard .....	77
4.6.6	EUT Operating Condition .....	77
4.6.7	Test Results .....	77
4.7	6dB Bandwidth Measurement.....	78
4.7.1	Limits of 6dB Bandwidth Measurement.....	78
4.7.2	Test Setup.....	78
4.7.3	Test Instruments .....	78
4.7.4	Test Procedure .....	78
4.7.5	Deviation from Test Standard .....	78
4.7.6	EUT Operating Condition .....	78
4.7.7	Test Results .....	79
<b>5</b>	<b>Pictures of Test Arrangements.....</b>	<b>80</b>
	<b>Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band) .....</b>	<b>81</b>
	<b>Annex B - Band Edge Measurement.....</b>	<b>84</b>
	<b>Appendix – Information of the Testing Laboratories .....</b>	<b>93</b>

### Release Control Record

Issue No.	Description	Date Issued
RFBCUG-WTW-P22010682-1	Original release	Mar. 30, 2022

## 1 Certificate of Conformity

**Product:** Point of Sale Terminal  
**Brand:** Verifone  
**Test Model:** UX700-WBU  
**Sample Status:** Engineering sample  
**Applicant:** Verifone, Inc.  
**Test Date:** Feb. 25 ~ Mar. 15, 2022  
**Standards:** 47 CFR FCC Part 15, Subpart E (Section 15.407)  
ANSI C63.10:2013

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

**Prepared by :** Celine Chou , **Date:** Mar. 30, 2022  
Celine Chou / Senior Specialist

**Approved by :** Jeremy Lin , **Date:** Mar. 30, 2022  
Jeremy Lin / 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)(9)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -19.53dB at 0.15400MHz.
15.407(b)(1/2/3/4(i/ii)/9)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -3.07dB at 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

### Note:

1. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
2. For U-NII-1, U-NII-2A, U-NII-2C band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex B. Test Procedures refer to report 4.1.3.
3. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) ( $\pm$ )
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.00 dB
	30MHz ~ 200MHz	2.91 dB
	200MHz ~ 1000MHz	2.93 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	1.76 dB
	18GHz ~ 40GHz	1.77 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

Product	Point of Sale Terminal
Brand	Verifone
Test Model	UX700-WBU
Sample Status	Engineering sample
Power Supply Rating	9-43Vdc, 2.4A-0.5A
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 150Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 802.11a, 802.11n (HT20): 4 802.11n (HT40): 2 5260 ~ 5320MHz: 802.11a, 802.11n (HT20): 4 802.11n (HT40): 2 5500 ~ 5700MHz: 802.11a, 802.11n (HT20): 11 802.11n (HT40): 5 5745 ~ 5825MHz: 802.11a, 802.11n (HT20): 5 802.11n (HT40): 2
Output Power	5180 ~ 5240MHz: 38.107mW 5260 ~ 5320MHz: 39.537mW 5500 ~ 5720MHz: 38.107mW 5745 ~ 5825MHz: 37.844mW
Antenna Type	Dipole antenna with 3.60dBi gain
Antenna Connector	ipex(MHF)
Accessory Device	Adapter
Cable Supplied	NA

Note:

1. The EUT provides 1 completed transmitter and 1 receiver.

Modulation Mode	TX Function
802.11a	1TX
802.11n (HT20)	1TX
802.11n (HT40)	1TX

2. The EUT consumes power from the following adapters.

Adapter 1	
Brand	Verifone
Model	CAE040122
Input Power	100-240Vac, 50/60Hz, 1.7A
Output Power	12Vdc, 3.33A
Power Line	1.77m cable with one core attached on adapter

Adapter 2	
Brand	Verifone
Model	A140-5120330G
Input Power	100-240Vac, 50/60Hz, 2.0A
Output Power	12Vdc, 3.33A
Power Line	1.75m cable with one core attached on adapter

\* After pre-tested, adapter 1 was chosen for final test and presented in the test report.

3. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
4. 2.4GHz & BT or 5GHz & BT technology can transmit at same time.
5. Spurious emission of the simultaneous operation (2.4GHz & BT or 5GHz & BT) has been evaluated and no non-compliance was found.



### 3.2 Description of Test Modes

#### For 5180 ~ 5240MHz:

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

#### For 5260 ~ 5320MHz:

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

#### For 5500 ~ 5700MHz:

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

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):

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

#### For 5745 ~ 5825MHz:

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

### 3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

Note:

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

#### **Radiated Emission Test (Above 1GHz):**

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	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
-	802.11a	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
-	802.11a	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
-	802.11a	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

#### **Radiated Emission Test (Below 1GHz):**

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	60	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)
-	802.11a	5180-5240	36 to 48	60	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)
-	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
-	802.11a	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
-	802.11a	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
-	802.11a	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

**Test Condition:**

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	23 deg. C, 68% RH	120Vac, 60Hz	Adair Peng
RE<1G	23 deg. C, 70% RH	120Vac, 60Hz	Randy Wu
PLC	22 deg. C, 66% RH	120Vac, 60Hz	Adair Peng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Wayne Lin

### 3.3 Duty Cycle of Test Signal

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

802.11a: Duty cycle = 1.362/1.563 = 0.871, Duty factor =  $10 \cdot \log(1/0.871) = 0.60$

802.11n (HT20): Duty cycle = 1.274/1.476 = 0.863, Duty factor =  $10 \cdot \log(1/0.863) = 0.64$

802.11n (HT40): Duty cycle = 0.635/0.836 = 0.760, Duty factor =  $10 \cdot \log(1/0.760) = 1.19$



### 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.	USB Flash x 3	HP	v250W	01	NA	-
		SanDisk	SDDD3-032G	NA	NA	-
		SanDisk	SDDD3-032G	NA	NA	-
B.	Load	NA	NA	NA	NA	-
C.	Notebook	Lenovo	20J4 MD A003TW	PF-11H9AK	FCC DoC Approved	-

Note: All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN Cable	3	1.5	N	0	RJ45, Cat5e
2.	LAN Cable	1	1.5	N	0	RJ45, Cat5e
3.	USB Type B Cable	1	1.8	Y	0	-
4.	RS-232 Cable	1	0.2	N	0	Provided by manufacturer
5.	Micro USB Cable	1	1.8	Y	0	-
6.	RS-232 Cable	1	2.0	N	0	-

#### 3.4.1 Configuration of System under Test



### 3.5 General Description of Applied Standards and References

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

#### Test standard:

**FCC Part 15, Subpart E (15.407)**

ANSI C63.10:2013

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

#### References Test Guidance:

**KDB 789033 D02 General UNII Test Procedure New Rules v02r01**

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

## 4 Test Types and Results

### 4.1 Radiated Emission and Bandedge Measurement

#### 4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note:

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 (dBuV/m)	AV: 54 (dBuV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2(dBuV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK: -27 (dBm/MHz) <sup>*1</sup> PK: 10 (dBm/MHz) <sup>*2</sup> PK: 15.6 (dBm/MHz) <sup>*3</sup> PK: 27 (dBm/MHz) <sup>*4</sup>	PK: 68.2(dBuV/m) <sup>*1</sup> PK: 105.2 (dBuV/m) <sup>*2</sup> PK: 110.8(dBuV/m) <sup>*3</sup> PK: 122.2 (dBuV/m) <sup>*4</sup>
<sup>*1</sup> beyond 75 MHz or more above of the band edge.		<sup>*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
<sup>*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		<sup>*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

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

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

#### 4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102782	Dec. 10, 2021	Dec. 09, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSW43	101582	Apr. 01, 2021	Mar. 31, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-1213	Oct. 27, 2021	Oct. 26, 2022
HORN Antenna RF SPIN	DRH18-E	210103A18E	Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	9170-1048	Nov. 14, 2021	Nov. 13, 2022
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier EMCI (Below 1GHz)	EMC330N	980782	Jan. 17, 2022	Jan. 16, 2023
Preamplifier EMCI (Above 1GHz)	EMC118A45SE	980808	Dec. 30, 2021	Dec. 29, 2022
Preamplifier EMCI (18GHz~40GHz)	EMC184045SE	980788	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC104-SM-SM-(9000+2000+1000)	201243+ 201231+ 210102	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMCCFD400-NM-NM-(9000+300+500)	201236+ 201235+ 201233	Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC101G-KM-KM-(5000+3000+2000)	201260+201257+201254	Jan. 17, 2022	Jan. 16, 2023
Software BV ADT	ADT_Radiated_V7.6.15.9.5	NA	NA	NA
Antenna Tower & Turn Max-Full	MFT-151SS-0.5T	NA	NA	NA
Turn Table Max-Full	MF-7802BS	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208674	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208674	NA	NA
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	Jan. 18, 2022	Jan. 17, 2023
Wideband Power Sensor KEYSIGHT	N1923A	MY58020002	Jan. 17, 2022	Jan. 16, 2023

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 WM Chamber 8.

### 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)
4. All modes of operation were investigated and the worst-case emissions are reported.

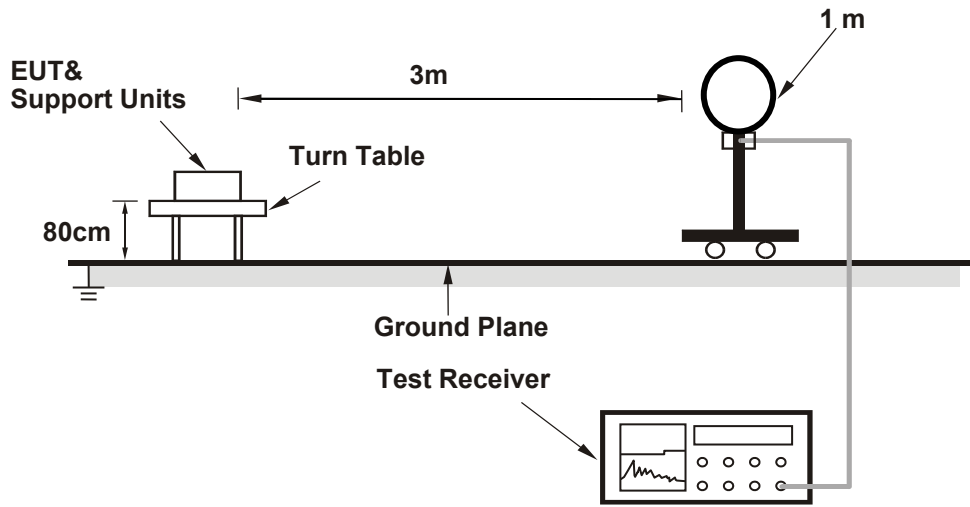
### 4.1.4 Deviation from Test Standard

No deviation.

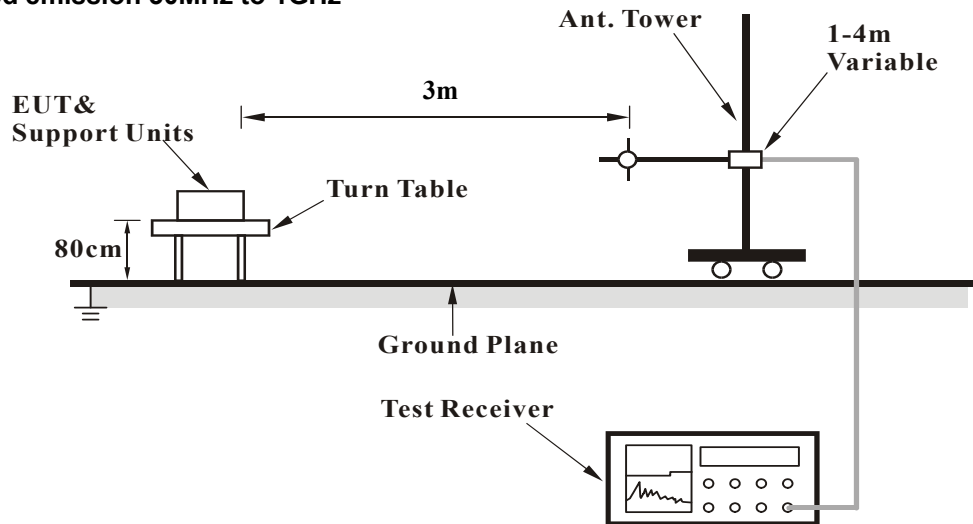


#### 4.1.5 Test Setup

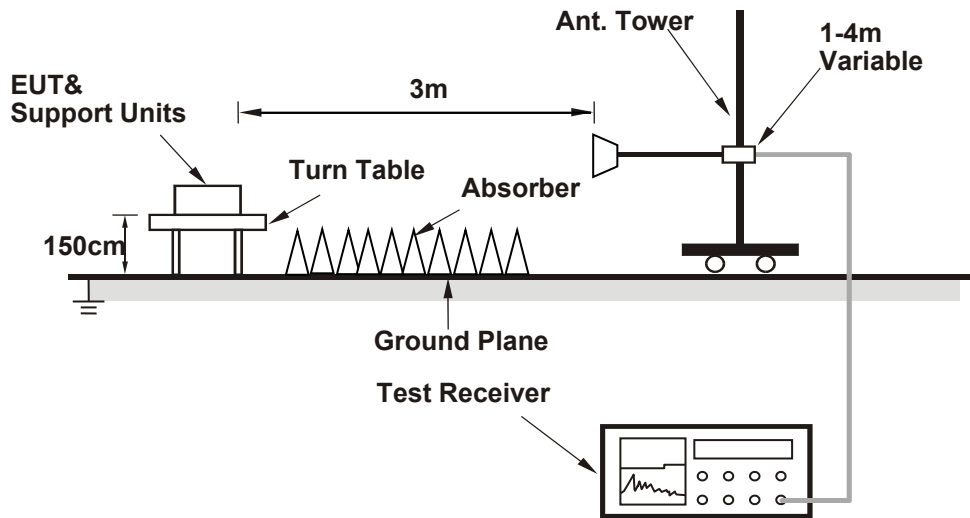
##### For Radiated emission below 30MHz



##### For Radiated emission 30MHz to 1GHz



**For Radiated emission above 1GHz**



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

**4.1.6 EUT Operating Conditions**

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

#### 4.1.7 Test Results

Above 1GHz data:

RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5127.80	61.29 PK	74.00	-12.71	2.16 H	233	58.90	2.39
2	5127.80	50.19 AV	54.00	-3.81	2.16 H	233	47.80	2.39
3	5150.00	68.20 PK	74.00	-5.80	1.00 H	233	65.80	2.40
4	5150.00	46.90 AV	54.00	-7.10	1.00 H	233	44.50	2.40
5	*5180.00	113.88 PK			2.16 H	233	73.60	40.28
6	*5180.00	102.38 AV			2.16 H	233	62.10	40.28
7	#10360.00	56.70 PK	68.20	-11.50	2.05 H	146	48.20	8.50
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5127.80	58.79 PK	74.00	-15.21	3.68 V	105	56.40	2.39
2	5127.80	46.99 AV	54.00	-7.01	3.68 V	105	44.60	2.39
3	5150.00	63.60 PK	74.00	-10.40	3.68 V	105	61.20	2.40
4	5150.00	45.50 AV	54.00	-8.50	3.68 V	105	43.10	2.40
5	*5180.00	106.98 PK			3.68 V	105	66.70	40.28
6	*5180.00	96.88 AV			3.68 V	105	56.60	40.28
7	#10360.00	56.00 PK	68.20	-12.20	3.68 V	78	47.50	8.50

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	114.11 PK			2.16 H	235	73.87	40.24
2	*5200.00	102.58 AV			2.16 H	235	62.34	40.24
3	#10400.00	56.85 PK	68.20	-11.35	2.12 H	145	48.40	8.45
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	107.24 PK			3.69 V	107	67.00	40.24
2	*5200.00	96.94 AV			3.69 V	107	56.70	40.24
3	#10400.00	56.05 PK	68.20	-12.15	3.66 V	80	47.60	8.45

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	113.11 PK			2.17 H	231	73.00	40.11
2	*5240.00	102.61 AV			2.17 H	231	62.50	40.11
3	5350.00	58.15 PK	74.00	-15.85	2.17 H	231	56.10	2.05
4	5350.00	44.65 AV	54.00	-9.35	2.17 H	231	42.60	2.05
5	#10480.00	56.49 PK	68.20	-11.71	2.09 H	142	48.00	8.49

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	107.21 PK			3.57 V	108	67.10	40.11
2	*5240.00	96.31 AV			3.57 V	108	56.20	40.11
3	5350.00	58.05 PK	74.00	-15.95	3.57 V	108	56.00	2.05
4	5350.00	44.60 AV	54.00	-9.40	3.57 V	108	42.55	2.05
5	#10480.00	55.89 PK	68.20	-12.31	3.70 V	77	47.40	8.49

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 52 : 5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	57.40 PK	74.00	-16.60	2.14 H	232	55.00	2.40
2	5150.00	44.80 AV	54.00	-9.20	2.14 H	232	42.40	2.40
3	*5260.00	113.56 PK			2.14 H	232	73.50	40.06
4	*5260.00	103.36 AV			2.14 H	232	63.30	40.06
5	#10520.00	57.65 PK	68.20	-10.55	2.08 H	145	49.10	8.55

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	57.30 PK	74.00	-16.70	3.78 V	83	54.90	2.40
2	5150.00	44.70 AV	54.00	-9.30	3.78 V	83	42.30	2.40
3	*5260.00	107.36 PK			3.78 V	83	67.30	40.06
4	*5260.00	96.86 AV			3.78 V	83	56.80	40.06
5	#10520.00	57.15 PK	68.20	-11.05	3.62 V	73	48.60	8.55

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	113.75 PK			2.15 H	231	73.75	40.00
2	*5300.00	103.57 AV			2.15 H	231	63.57	40.00
3	10600.00	57.88 PK	74.00	-16.12	2.12 H	141	49.10	8.78
4	10600.00	44.28 AV	54.00	-9.72	2.12 H	141	35.50	8.78
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	107.60 PK			3.69 V	89	67.60	40.00
2	*5300.00	97.10 AV			3.69 V	89	57.10	40.00
3	10600.00	57.38 PK	74.00	-16.62	3.64 V	75	48.60	8.78
4	10600.00	43.88 AV	54.00	-10.12	3.64 V	75	35.10	8.78

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 64 : 5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	113.06 PK			2.13 H	232	73.00	40.06
2	*5320.00	102.36 AV			2.13 H	232	62.30	40.06
3	5350.00	60.75 PK	74.00	-13.25	2.13 H	232	58.70	2.05
4	5350.00	47.85 AV	54.00	-6.15	2.13 H	232	45.80	2.05
5	5371.00	62.03 PK	74.00	-11.97	2.13 H	232	60.00	2.03
6	5371.00	50.53 AV	54.00	-3.47	2.13 H	232	48.50	2.03
7	10640.00	57.61 PK	74.00	-16.39	2.14 H	145	49.00	8.61
8	10640.00	44.01 AV	54.00	-9.99	2.14 H	145	35.40	8.61
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	105.76 PK			3.90 V	81	65.70	40.06
2	*5320.00	95.66 AV			3.90 V	81	55.60	40.06
3	5350.00	62.15 PK	74.00	-11.85	3.90 V	81	60.10	2.05
4	5350.00	45.05 AV	54.00	-8.95	3.90 V	81	43.00	2.05
5	5371.00	57.73 PK	74.00	-16.27	1.00 V	81	55.70	2.03
6	5371.00	45.83 AV	54.00	-8.17	1.00 V	81	43.80	2.03
7	10640.00	57.21 PK	74.00	-16.79	3.66 V	75	48.60	8.61
8	10640.00	43.71 AV	54.00	-10.29	3.66 V	75	35.10	8.61

Remarks:

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



RF Mode	TX 802.11a	Channel	CH 100 : 5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5447.00	60.76 PK	74.00	-13.24	2.14 H	231	58.70	2.06
2	5447.00	48.16 AV	54.00	-5.84	2.14 H	231	46.10	2.06
3	5460.00	59.10 PK	74.00	-14.90	2.14 H	231	57.00	2.10
4	5460.00	45.40 AV	54.00	-8.60	2.14 H	231	43.30	2.10
5	<b>#5470.00</b>	<b>65.13 PK</b>	<b>68.20</b>	<b>-3.07</b>	<b>2.14 H</b>	<b>231</b>	<b>63.00</b>	<b>2.13</b>
6	*5500.00	110.87 PK			2.14 H	231	70.70	40.17
7	*5500.00	99.97 AV			2.14 H	231	59.80	40.17
8	11000.00	57.82 PK	74.00	-16.18	2.13 H	147	49.10	8.72
9	11000.00	44.12 AV	54.00	-9.88	2.13 H	147	35.40	8.72
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5447.00	59.26 PK	74.00	-14.74	3.99 V	69	57.20	2.06
2	5447.00	44.96 AV	54.00	-9.04	3.99 V	69	42.90	2.06
3	5460.00	59.00 PK	74.00	-15.00	3.99 V	69	56.90	2.10
4	5460.00	44.70 AV	54.00	-9.30	3.99 V	69	42.60	2.10
5	<b>#5470.00</b>	<b>58.33 PK</b>	<b>68.20</b>	<b>-9.87</b>	<b>3.99 V</b>	<b>69</b>	<b>56.20</b>	<b>2.13</b>
6	*5500.00	104.37 PK			3.99 V	69	64.20	40.17
7	*5500.00	94.07 AV			3.99 V	69	53.90	40.17
8	11000.00	57.32 PK	74.00	-16.68	3.69 V	76	48.60	8.72
9	11000.00	43.52 AV	54.00	-10.48	3.69 V	76	34.80	8.72

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 116 : 5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	115.25 PK			2.10 H	231	74.40	40.85
2	*5580.00	104.55 AV			2.10 H	231	63.70	40.85
3	11160.00	58.13 PK	74.00	-15.87	2.18 H	146	49.30	8.83
4	11160.00	44.33 AV	54.00	-9.67	2.18 H	146	35.50	8.83
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	109.25 PK			3.89 V	82	68.40	40.85
2	*5580.00	98.45 AV			3.89 V	82	57.60	40.85
3	11160.00	57.63 PK	74.00	-16.37	3.68 V	77	48.80	8.83
4	11160.00	43.93 AV	54.00	-10.07	3.68 V	77	35.10	8.83

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 140 : 5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	112.01 PK			2.04 H	235	70.60	41.41
2	*5700.00	101.11 AV			2.04 H	235	59.70	41.41
3	#5725.00	65.12 PK	68.20	-3.08	2.04 H	235	61.50	3.62
4	11400.00	58.57 PK	74.00	-15.43	2.10 H	142	49.00	9.57
5	11400.00	44.77 AV	54.00	-9.23	2.10 H	142	35.20	9.57

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	105.71 PK			3.68 V	78	64.30	41.41
2	*5700.00	95.11 AV			3.68 V	78	53.70	41.41
3	#5725.00	61.82 PK	68.20	-6.38	3.68 V	78	58.20	3.62
4	11400.00	58.17 PK	74.00	-15.83	3.68 V	76	48.60	9.57
5	11400.00	44.27 AV	54.00	-9.73	3.68 V	76	34.70	9.57

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5600.00	58.69 PK	68.20	-9.51	2.11 H	236	55.57	3.12
2	*5745.00	115.17 PK			2.11 H	236	73.50	41.67
3	*5745.00	104.27 AV			2.11 H	236	62.60	41.67
4	#5976.00	59.43 PK	68.20	-8.77	2.11 H	236	55.45	3.98
5	11490.00	58.87 PK	74.00	-15.13	2.15 H	142	49.20	9.67
6	11490.00	45.47 AV	54.00	-8.53	2.15 H	142	35.80	9.67

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5613.60	58.20 PK	68.20	-10.00	3.99 V	87	55.00	3.20
2	*5745.00	109.27 PK			3.99 V	87	67.60	41.67
3	*5745.00	99.27 AV			3.99 V	87	57.60	41.67
4	#5994.00	58.29 PK	68.20	-9.91	3.99 V	87	54.20	4.09
5	11490.00	58.47 PK	74.00	-15.53	3.75 V	76	48.80	9.67
6	11490.00	45.17 AV	54.00	-8.83	3.75 V	76	35.50	9.67

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5610.80	58.01 PK	68.20	-10.19	2.05 H	234	54.82	3.19
2	*5785.00	114.50 PK			2.05 H	234	72.70	41.80
3	*5785.00	104.30 AV			2.05 H	234	62.50	41.80
4	#5996.00	59.09 PK	68.20	-9.11	2.05 H	234	54.98	4.11
5	11570.00	58.60 PK	74.00	-15.40	2.19 H	146	49.00	9.60
6	11570.00	45.30 AV	54.00	-8.70	2.19 H	146	35.70	9.60

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5614.00	58.30 PK	68.20	-9.90	3.74 V	79	55.10	3.20
2	*5785.00	109.40 PK			3.74 V	79	67.60	41.80
3	*5785.00	98.90 AV			3.74 V	79	57.10	41.80
4	#5975.20	59.57 PK	68.20	-8.63	3.74 V	79	55.59	3.98
5	11570.00	58.20 PK	74.00	-15.80	3.76 V	72	48.60	9.60
6	11570.00	44.80 AV	54.00	-9.20	3.76 V	72	35.20	9.60

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 165 : 5825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5636.80	58.35 PK	68.20	-9.85	2.05 H	235	55.03	3.32
2	*5825.00	115.38 PK			2.05 H	235	73.60	41.78
3	*5825.00	104.48 AV			2.05 H	235	62.70	41.78
4	#5978.00	58.89 PK	68.20	-9.31	2.05 H	235	54.90	3.99
5	11650.00	58.65 PK	74.00	-15.35	2.18 H	142	49.10	9.55
6	11650.00	45.25 AV	54.00	-8.75	2.18 H	142	35.70	9.55

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.00	58.61 PK	68.20	-9.59	3.86 V	78	55.22	3.39
2	*5825.00	108.58 PK			3.86 V	78	66.80	41.78
3	*5825.00	98.08 AV			3.86 V	78	56.30	41.78
4	#5959.20	58.63 PK	68.20	-9.57	3.86 V	78	54.76	3.87
5	11650.00	58.05 PK	74.00	-15.95	3.77 V	74	48.50	9.55
6	11650.00	44.75 AV	54.00	-9.25	3.77 V	74	35.20	9.55

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 36 : 5180 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5128.50	61.39 PK	74.00	-12.61	2.15 H	232	59.00	2.39
2	5128.50	50.39 AV	54.00	-3.61	2.15 H	232	48.00	2.39
3	5150.00	65.80 PK	74.00	-8.20	2.15 H	232	63.40	2.40
4	5150.00	47.00 AV	54.00	-7.00	2.15 H	232	44.60	2.40
5	*5180.00	112.28 PK			2.15 H	232	72.00	40.28
6	*5180.00	101.58 AV			2.15 H	232	61.30	40.28
7	#10360.00	56.10 PK	68.20	-12.10	2.12 H	145	47.60	8.50
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5128.50	58.99 PK	74.00	-15.01	3.71 V	106	56.60	2.39
2	5128.50	46.49 AV	54.00	-7.51	3.71 V	106	44.10	2.39
3	5150.00	62.60 PK	74.00	-11.40	3.71 V	106	60.20	2.40
4	5150.00	45.40 AV	54.00	-8.60	3.71 V	106	43.00	2.40
5	*5180.00	105.78 PK			3.71 V	106	65.50	40.28
6	*5180.00	95.68 AV			3.71 V	106	55.40	40.28
7	#10360.00	55.80 PK	68.20	-12.40	3.64 V	75	47.30	8.50

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 40 : 5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	112.54 PK			2.18 H	236	72.30	40.24
2	*5200.00	101.69 AV			2.18 H	236	61.45	40.24
3	#10400.00	56.35 PK	68.20	-11.85	2.05 H	140	47.90	8.45
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	106.14 PK			3.66 V	104	65.90	40.24
2	*5200.00	95.79 AV			3.66 V	104	55.55	40.24
3	#10400.00	55.95 PK	68.20	-12.25	3.72 V	79	47.50	8.45

Remarks:

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



RF Mode	TX 802.11n (HT20)	Channel	CH 48 : 5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	112.61 PK			1.99 H	233	72.50	40.11
2	*5240.00	101.71 AV			1.99 H	233	61.60	40.11
3	5350.00	57.95 PK	74.00	-16.05	1.99 H	233	55.90	2.05
4	5350.00	44.55 AV	54.00	-9.45	1.99 H	233	42.50	2.05
5	#10480.00	56.29 PK	68.20	-11.91	2.16 H	146	47.80	8.49

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	105.21 PK			3.66 V	109	65.10	40.11
2	*5240.00	94.81 AV			3.66 V	109	54.70	40.11
3	5350.00	57.75 PK	74.00	-16.25	3.66 V	109	55.70	2.05
4	5350.00	44.55 AV	54.00	-9.45	3.66 V	109	42.50	2.05
5	#10480.00	55.69 PK	68.20	-12.51	3.72 V	82	47.20	8.49

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 52 : 5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.30 PK	74.00	-15.70	2.12 H	232	55.90	2.40
2	5150.00	44.80 AV	54.00	-9.20	2.12 H	232	42.40	2.40
3	*5260.00	113.06 PK			2.12 H	232	73.00	40.06
4	*5260.00	102.76 AV			2.12 H	232	62.70	40.06
5	#10520.00	57.55 PK	68.20	-10.65	2.15 H	140	49.00	8.55

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.10 PK	74.00	-15.90	3.79 V	82	55.70	2.40
2	5150.00	44.70 AV	54.00	-9.30	3.79 V	82	42.30	2.40
3	*5260.00	106.26 PK			3.79 V	82	66.20	40.06
4	*5260.00	95.76 AV			3.79 V	82	55.70	40.06
5	#10520.00	57.05 PK	68.20	-11.15	3.59 V	72	48.50	8.55

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 60 : 5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	113.21 PK			2.14 H	233	73.21	40.00
2	*5300.00	102.97 AV			2.14 H	233	62.97	40.00
3	10600.00	58.08 PK	74.00	-15.92	2.15 H	145	49.30	8.78
4	10600.00	44.38 AV	54.00	-9.62	2.15 H	145	35.60	8.78
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	106.90 PK			3.86 V	85	66.90	40.00
2	*5300.00	96.30 AV			3.86 V	85	56.30	40.00
3	10600.00	57.38 PK	74.00	-16.62	3.70 V	71	48.60	8.78
4	10600.00	43.88 AV	54.00	-10.12	3.70 V	71	35.10	8.78

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 64 : 5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	113.16 PK			2.05 H	232	73.10	40.06
2	*5320.00	102.36 AV			2.05 H	232	62.30	40.06
3	5350.00	61.55 PK	74.00	-12.45	2.05 H	232	59.50	2.05
4	5350.00	48.25 AV	54.00	-5.75	2.05 H	232	46.20	2.05
5	5371.00	62.33 PK	74.00	-11.67	2.05 H	232	60.30	2.03
6	5371.00	50.73 AV	54.00	-3.27	2.05 H	232	48.70	2.03
7	10640.00	57.61 PK	74.00	-16.39	2.11 H	146	49.00	8.61
8	10640.00	44.11 AV	54.00	-9.89	2.11 H	146	35.50	8.61
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	106.86 PK			3.92 V	81	66.80	40.06
2	*5320.00	95.96 AV			3.92 V	81	55.90	40.06
3	5350.00	62.45 PK	74.00	-11.55	3.92 V	81	60.40	2.05
4	5350.00	45.05 AV	54.00	-8.95	3.92 V	81	43.00	2.05
5	5371.00	58.23 PK	74.00	-15.77	3.92 V	81	56.20	2.03
6	5371.00	45.33 AV	54.00	-8.67	3.92 V	81	43.30	2.03
7	10640.00	57.01 PK	74.00	-16.99	3.75 V	76	48.40	8.61
8	10640.00	43.61 AV	54.00	-10.39	3.75 V	76	35.00	8.61

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 100 : 5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5447.00	60.26 PK	74.00	-13.74	2.06 H	231	58.20	2.06
2	5447.00	48.76 AV	54.00	-5.24	2.06 H	231	46.70	2.06
3	5460.00	58.80 PK	74.00	-15.20	2.06 H	231	56.70	2.10
4	5460.00	45.40 AV	54.00	-8.60	2.06 H	231	43.30	2.10
5	#5470.00	65.03 PK	68.20	-3.17	2.06 H	231	62.90	2.13
6	*5500.00	110.47 PK			2.06 H	231	70.30	40.17
7	*5500.00	99.77 AV			2.06 H	231	59.60	40.17
8	11000.00	57.42 PK	74.00	-16.58	2.16 H	142	48.70	8.72
9	11000.00	44.12 AV	54.00	-9.88	2.16 H	142	35.40	8.72
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5447.00	58.36 PK	74.00	-15.64	3.96 V	83	56.30	2.06
2	5447.00	45.06 AV	54.00	-8.94	3.96 V	83	43.00	2.06
3	5460.00	58.10 PK	74.00	-15.90	3.96 V	83	56.00	2.10
4	5460.00	44.40 AV	54.00	-9.60	3.96 V	83	42.30	2.10
5	#5470.00	58.03 PK	68.20	-10.17	3.96 V	83	55.90	2.13
6	*5500.00	103.87 PK			3.96 V	83	63.70	40.17
7	*5500.00	93.87 AV			3.96 V	83	53.70	40.17
8	11000.00	57.02 PK	74.00	-16.98	3.63 V	75	48.30	8.72
9	11000.00	43.62 AV	54.00	-10.38	3.63 V	75	34.90	8.72

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 116 : 5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	114.15 PK			2.09 H	234	73.30	40.85
2	*5580.00	103.75 AV			2.09 H	234	62.90	40.85
3	11160.00	57.83 PK	74.00	-16.17	2.20 H	145	49.00	8.83
4	11160.00	44.23 AV	54.00	-9.77	2.20 H	145	35.40	8.83
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	107.75 PK			3.87 V	82	66.90	40.85
2	*5580.00	97.65 AV			3.87 V	82	56.80	40.85
3	11160.00	57.33 PK	74.00	-16.67	3.73 V	77	48.50	8.83
4	11160.00	43.83 AV	54.00	-10.17	3.73 V	77	35.00	8.83

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 140 : 5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	110.11 PK			2.02 H	232	68.70	41.41
2	*5700.00	99.61 AV			2.02 H	232	58.20	41.41
3	#5725.00	64.62 PK	68.20	-3.58	2.02 H	232	61.00	3.62
4	11400.00	58.37 PK	74.00	-15.63	2.15 H	140	48.80	9.57
5	11400.00	44.97 AV	54.00	-9.03	2.15 H	140	35.40	9.57

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	104.91 PK			3.88 V	84	63.50	41.41
2	*5700.00	94.51 AV			3.88 V	84	53.10	41.41
3	#5725.00	58.92 PK	68.20	-9.28	3.88 V	84	55.30	3.62
4	11400.00	58.07 PK	74.00	-15.93	3.68 V	75	48.50	9.57
5	11400.00	44.47 AV	54.00	-9.53	3.68 V	75	34.90	9.57

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 149 : 5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5624.40	59.22 PK	68.20	-8.98	2.06 H	237	55.97	3.25
2	*5745.00	114.37 PK			2.06 H	237	72.70	41.67
3	*5745.00	103.87 AV			2.06 H	237	62.20	41.67
4	#5999.20	59.49 PK	68.20	-8.71	2.06 H	237	55.35	4.14
5	11490.00	58.77 PK	74.00	-15.23	2.13 H	141	49.10	9.67
6	11490.00	45.37 AV	54.00	-8.63	2.13 H	141	35.70	9.67

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5639.60	58.33 PK	68.20	-9.87	3.62 V	78	54.99	3.34
2	*5745.00	108.47 PK			3.62 V	78	66.80	41.67
3	*5745.00	98.07 AV			3.62 V	78	56.40	41.67
4	#5982.00	58.90 PK	68.20	-9.30	3.62 V	78	54.88	4.02
5	11490.00	58.27 PK	74.00	-15.73	3.67 V	75	48.60	9.67
6	11490.00	44.87 AV	54.00	-9.13	3.67 V	75	35.20	9.67

Remarks:

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



RF Mode	TX 802.11n (HT20)	Channel	CH 157 : 5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5603.60	58.53 PK	68.20	-9.67	2.03 H	235	55.39	3.14
2	*5785.00	114.30 PK			2.03 H	235	72.50	41.80
3	*5785.00	104.00 AV			2.03 H	235	62.20	41.80
4	#5944.80	58.84 PK	68.20	-9.36	2.03 H	235	55.05	3.79
5	11570.00	58.60 PK	74.00	-15.40	2.16 H	147	49.00	9.60
6	11570.00	45.20 AV	54.00	-8.80	2.16 H	147	35.60	9.60

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5649.20	58.60 PK	68.20	-9.60	3.73 V	79	55.21	3.39
2	*5785.00	108.40 PK			3.73 V	79	66.60	41.80
3	*5785.00	98.20 AV			3.73 V	79	56.40	41.80
4	#5954.00	59.11 PK	68.20	-9.09	3.73 V	79	55.27	3.84
5	11570.00	58.00 PK	74.00	-16.00	3.75 V	75	48.40	9.60
6	11570.00	44.70 AV	54.00	-9.30	3.75 V	75	35.10	9.60

Remarks:

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

RF Mode	TX 802.11n (HT20)	Channel	CH 165 : 5825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.20	58.51 PK	68.20	-9.69	2.04 H	240	55.13	3.38
2	*5825.00	114.38 PK			2.04 H	240	72.60	41.78
3	*5825.00	103.98 AV			2.04 H	240	62.20	41.78
4	#5933.20	59.13 PK	68.20	-9.07	2.04 H	240	55.37	3.76
5	11650.00	58.45 PK	74.00	-15.55	2.14 H	144	48.90	9.55
6	11650.00	45.05 AV	54.00	-8.95	2.14 H	144	35.50	9.55

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5601.60	58.48 PK	68.20	-9.72	3.67 V	79	55.35	3.13
2	*5825.00	108.18 PK			3.67 V	79	66.40	41.78
3	*5825.00	97.78 AV			3.67 V	79	56.00	41.78
4	#5980.40	58.79 PK	68.20	-9.41	3.67 V	79	54.78	4.01
5	11650.00	57.95 PK	74.00	-16.05	3.70 V	78	48.40	9.55
6	11650.00	44.75 AV	54.00	-9.25	3.70 V	78	35.20	9.55

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 38 : 5190 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5086.00	59.32 PK	74.00	-14.68	2.09 H	232	57.00	2.32
2	5086.00	46.72 AV	54.00	-7.28	2.09 H	232	44.40	2.32
3	5150.00	63.20 PK	74.00	-10.80	2.09 H	232	60.80	2.40
4	5150.00	46.90 AV	54.00	-7.10	2.09 H	232	44.50	2.40
5	*5190.00	109.06 PK			2.09 H	232	68.80	40.26
6	*5190.00	98.76 AV			2.09 H	232	58.50	40.26
7	#10380.00	56.78 PK	68.20	-11.42	2.22 H	149	48.30	8.48
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5086.00	58.32 PK	74.00	-15.68	3.08 V	121	56.00	2.32
2	5086.00	44.82 AV	54.00	-9.18	3.08 V	121	42.50	2.32
3	5150.00	63.40 PK	74.00	-10.60	3.08 V	121	61.00	2.40
4	5150.00	46.20 AV	54.00	-7.80	3.08 V	121	43.80	2.40
5	*5190.00	102.26 PK			3.08 V	121	62.00	40.26
6	*5190.00	92.26 AV			3.08 V	121	52.00	40.26
7	#10380.00	56.48 PK	68.20	-11.72	3.77 V	72	48.00	8.48

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 46 : 5230 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5125.00	58.39 PK	74.00	-15.61	2.04 H	233	56.00	2.39
2	5125.00	46.99 AV	54.00	-7.01	2.04 H	233	44.60	2.39
3	5150.00	58.60 PK	74.00	-15.40	2.04 H	233	56.20	2.40
4	5150.00	45.20 AV	54.00	-8.80	2.04 H	233	42.80	2.40
5	*5230.00	109.75 PK			2.04 H	233	69.60	40.15
6	*5230.00	98.65 AV			2.04 H	233	58.50	40.15
7	5350.00	57.45 PK	74.00	-16.55	2.04 H	139	55.40	2.05
8	5350.00	44.55 AV	54.00	-9.45	2.04 H	139	42.50	2.05
9	#10460.00	56.58 PK	68.20	-11.62	2.09 H	142	48.10	8.48
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5125.00	57.89 PK	74.00	-16.11	3.23 V	118	55.50	2.39
2	5125.00	45.49 AV	54.00	-8.51	3.23 V	118	43.10	2.39
3	5150.00	57.90 PK	74.00	-16.10	3.23 V	118	55.50	2.40
4	5150.00	45.10 AV	54.00	-8.90	3.23 V	118	42.70	2.40
5	*5230.00	102.25 PK			3.23 V	118	62.10	40.15
6	*5230.00	91.85 AV			3.23 V	118	51.70	40.15
7	5350.00	57.15 PK	74.00	-16.85	3.23 V	118	55.10	2.05
8	5350.00	44.35 AV	54.00	-9.65	3.23 V	118	42.30	2.05
9	#10460.00	56.08 PK	68.20	-12.12	3.68 V	78	47.60	8.48

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 54 : 5270 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5270.00	109.44 PK			2.07 H	233	69.40	40.04
2	*5270.00	99.34 AV			2.07 H	233	59.30	40.04
3	5350.00	59.65 PK	74.00	-14.35	2.07 H	233	57.60	2.05
4	5350.00	45.45 AV	54.00	-8.55	2.07 H	233	43.40	2.05
5	5372.00	59.83 PK	74.00	-14.17	2.07 H	233	57.80	2.03
6	5372.00	47.23 AV	54.00	-6.77	2.07 H	233	45.20	2.03
7	#10540.00	57.81 PK	68.20	-10.39	2.16 H	150	49.20	8.61
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5270.00	102.94 PK			3.95 V	81	62.90	40.04
2	*5270.00	92.44 AV			3.95 V	81	52.40	40.04
3	5350.00	57.05 PK	74.00	-16.95	3.95 V	81	55.00	2.05
4	5350.00	45.25 AV	54.00	-8.75	3.95 V	81	43.20	2.05
5	5372.00	58.03 PK	74.00	-15.97	3.95 V	81	56.00	2.03
6	5372.00	45.33 AV	54.00	-8.67	3.95 V	81	43.30	2.03
7	#10540.00	57.31 PK	68.20	-10.89	3.77 V	76	48.70	8.61

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 62 : 5310 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	108.33 PK			2.10 H	233	68.30	40.03
2	*5310.00	97.93 AV			2.10 H	233	57.90	40.03
3	5350.00	70.85 PK	74.00	-3.15	2.10 H	233	68.80	2.05
4	5350.00	49.55 AV	54.00	-4.45	2.10 H	233	47.50	2.05
5	10620.00	57.70 PK	74.00	-16.30	2.22 H	142	49.00	8.70
6	10620.00	44.10 AV	54.00	-9.90	2.22 H	142	35.40	8.70

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	101.63 PK			3.88 V	81	61.60	40.03
2	*5310.00	91.43 AV			3.88 V	81	51.40	40.03
3	5350.00	62.65 PK	74.00	-11.35	3.88 V	81	60.60	2.05
4	5350.00	46.15 AV	54.00	-7.85	3.88 V	81	44.10	2.05
5	10620.00	57.30 PK	74.00	-16.70	3.71 V	77	48.60	8.70
6	10620.00	43.60 AV	54.00	-10.40	3.71 V	77	34.90	8.70

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 102 : 5510 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	57.70 PK	74.00	-16.30	2.11 H	232	55.60	2.10
2	5460.00	45.30 AV	54.00	-8.70	2.11 H	232	43.20	2.10
3	#5470.00	64.53 PK	68.20	-3.67	2.11 H	232	62.40	2.13
4	*5510.00	99.65 PK			2.11 H	232	59.40	40.25
5	*5510.00	88.95 AV			2.11 H	232	48.70	40.25
6	11020.00	57.67 PK	74.00	-16.33	2.11 H	142	48.90	8.77
7	11020.00	44.17 AV	54.00	-9.83	2.11 H	142	35.40	8.77
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	57.70 PK	74.00	-16.30	3.96 V	82	55.60	2.10
2	5460.00	45.00 AV	54.00	-9.00	3.96 V	82	42.90	2.10
3	#5470.00	58.83 PK	68.20	-9.37	3.96 V	82	56.70	2.13
4	*5510.00	93.55 PK			3.96 V	82	53.30	40.25
5	*5510.00	83.25 AV			3.96 V	82	43.00	40.25
6	11020.00	57.27 PK	74.00	-16.73	3.69 V	79	48.50	8.77
7	11020.00	43.67 AV	54.00	-10.33	3.69 V	79	34.90	8.77

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 110 : 5550 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	109.80 PK			2.08 H	232	69.20	40.60
2	*5550.00	99.50 AV			2.08 H	232	58.90	40.60
3	11100.00	58.09 PK	74.00	-15.91	2.13 H	145	49.10	8.99
4	11100.00	44.49 AV	54.00	-9.51	2.13 H	145	35.50	8.99
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	103.40 PK			3.92 V	83	62.80	40.60
2	*5550.00	93.10 AV			3.92 V	83	52.50	40.60
3	11100.00	57.59 PK	74.00	-16.41	3.81 V	76	48.60	8.99
4	11100.00	44.29 AV	54.00	-9.71	3.81 V	76	35.30	8.99

Remarks:

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



RF Mode	TX 802.11n (HT40)	Channel	CH 134 : 5670 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	109.95 PK			2.06 H	230	68.60	41.35
2	*5670.00	99.35 AV			2.06 H	230	58.00	41.35
3	#5725.00	62.72 PK	68.20	-5.48	2.06 H	230	59.10	3.62
4	11340.00	58.73 PK	74.00	-15.27	2.15 H	146	49.20	9.53
5	11340.00	45.13 AV	54.00	-8.87	2.15 H	146	35.60	9.53

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	103.55 PK			3.88 V	89	62.20	41.35
2	*5670.00	93.35 AV			3.88 V	89	52.00	41.35
3	#5725.00	59.32 PK	68.20	-8.88	3.88 V	89	55.70	3.62
4	11340.00	58.13 PK	74.00	-15.87	3.69 V	72	48.60	9.53
5	11340.00	44.53 AV	54.00	-9.47	3.69 V	72	35.00	9.53

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 151 : 5755 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5640.00	58.44 PK	68.20	-9.76	2.11 H	236	55.10	3.34
2	*5755.00	110.82 PK			2.11 H	236	69.10	41.72
3	*5755.00	99.72 AV			2.11 H	236	58.00	41.72
4	#5980.00	59.35 PK	68.20	-8.85	2.11 H	236	55.34	4.01
5	11510.00	58.77 PK	74.00	-15.23	2.16 H	144	49.10	9.67
6	11510.00	45.57 AV	54.00	-8.43	2.16 H	144	35.90	9.67

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5649.60	58.53 PK	68.20	-9.67	3.99 V	91	55.14	3.39
2	*5755.00	104.92 PK			3.99 V	91	63.20	41.72
3	*5755.00	94.42 AV			3.99 V	91	52.70	41.72
4	#5986.80	58.52 PK	68.20	-9.68	3.99 V	91	54.47	4.05
5	11510.00	58.27 PK	74.00	-15.73	3.82 V	79	48.60	9.67
6	11510.00	45.17 AV	54.00	-8.83	3.82 V	79	35.50	9.67

Remarks:

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

RF Mode	TX 802.11n (HT40)	Channel	CH 159 : 5795 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5612.00	58.87 PK	68.20	-9.33	2.11 H	239	55.68	3.19
2	*5795.00	110.92 PK			2.11 H	239	69.10	41.82
3	*5795.00	99.82 AV			2.11 H	239	58.00	41.82
4	#5966.00	59.55 PK	68.20	-8.65	2.11 H	239	55.63	3.92
5	11590.00	58.78 PK	74.00	-15.22	2.19 H	146	49.20	9.58
6	11590.00	45.58 AV	54.00	-8.42	2.19 H	146	36.00	9.58

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5604.40	59.20 PK	68.20	-9.00	3.72 V	80	56.06	3.14
2	*5795.00	104.22 PK			3.72 V	80	62.40	41.82
3	*5795.00	94.02 AV			3.72 V	80	52.20	41.82
4	#5975.20	58.71 PK	68.20	-9.49	3.72 V	80	54.73	3.98
5	11590.00	58.28 PK	74.00	-15.72	3.75 V	76	48.70	9.58
6	11590.00	45.08 AV	54.00	-8.92	3.75 V	76	35.50	9.58

Remarks:

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

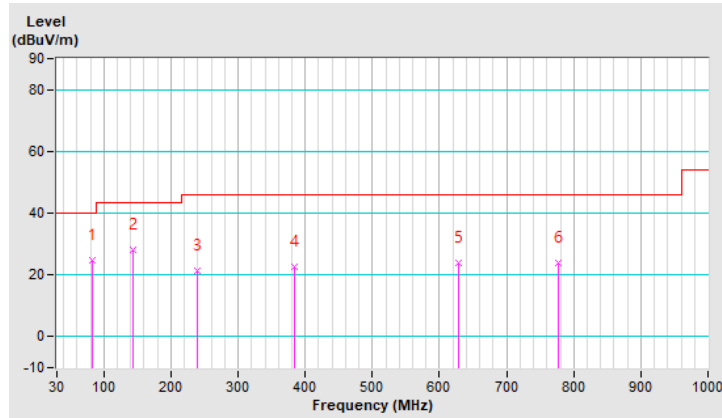
Below 1GHz Worst-Case Data:

RF Mode	TX 802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	83.42	24.82 QP	40.00	-15.18	1.99 H	253	48.53	-23.71
2	143.87	28.04 QP	43.50	-15.46	1.99 H	116	46.31	-18.27
3	239.46	21.21 QP	46.00	-24.79	1.00 H	225	40.98	-19.77
4	384.26	22.75 QP	46.00	-23.25	1.49 H	201	38.25	-15.50
5	628.87	24.05 QP	46.00	-21.95	1.49 H	356	33.97	-9.92
6	777.88	23.72 QP	46.00	-22.28	1.99 H	18	31.35	-7.63

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.

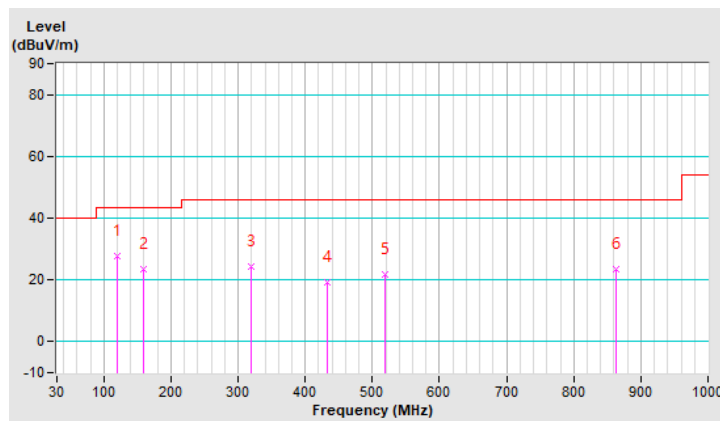


RF Mode	TX 802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	119.97	27.63 QP	43.50	-15.87	2.00 V	262	48.04	-20.41
2	159.33	23.43 QP	43.50	-20.07	1.01 V	63	41.44	-18.01
3	319.59	24.28 QP	46.00	-21.72	1.51 V	323	41.30	-17.02
4	432.06	19.24 QP	46.00	-26.76	2.00 V	133	33.45	-14.21
5	519.22	21.65 QP	46.00	-24.35	1.51 V	337	34.09	-12.44
6	863.64	23.45 QP	46.00	-22.55	1.51 V	66	30.08	-6.63

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. 03, 2021	Dec. 02, 2022
RF signal cable Woken	5D-FB	Cable-cond1-01	Jan. 15, 2022	Jan. 14, 2023
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Feb. 17, 2022	Feb. 16, 2023
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Sep. 07, 2021	Sep. 06, 2022
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 (Conduction 1).  
 3. The VCCI Site Registration No. is C-12040.

### 4.2.3 Test Procedures

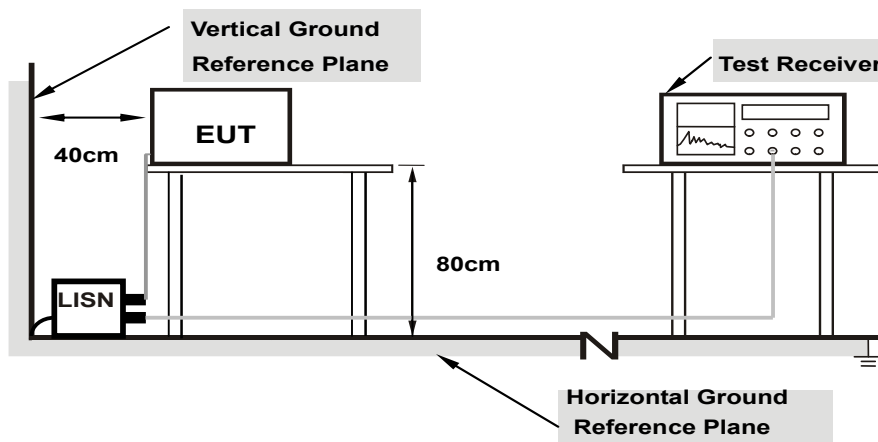
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

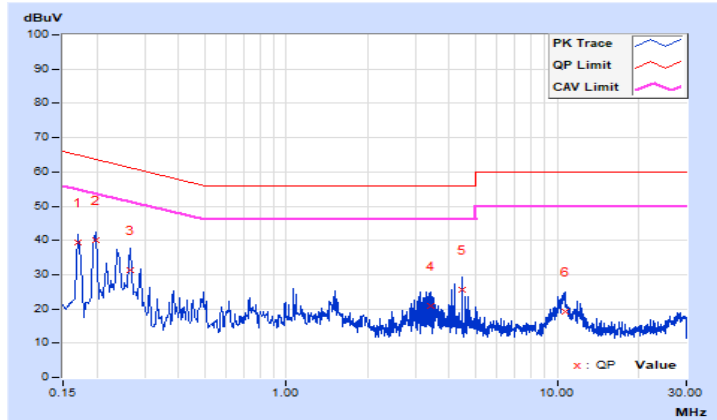
802.11a

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

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	0.17000	9.71	29.63	16.27	39.34	25.98	64.96
2	0.19780	9.72	30.38	13.33	40.10	23.05	63.70	53.70	-23.60	-30.65
3	0.26600	9.73	21.70	10.83	31.43	20.56	61.24	51.24	-29.81	-30.68
4	3.43000	9.80	11.14	2.50	20.94	12.30	56.00	46.00	-35.06	-33.70
5	4.46600	9.81	15.94	1.31	25.75	11.12	56.00	46.00	-30.25	-34.88
6	10.65400	9.87	9.35	3.63	19.22	13.50	60.00	50.00	-40.78	-36.50

Remarks:

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



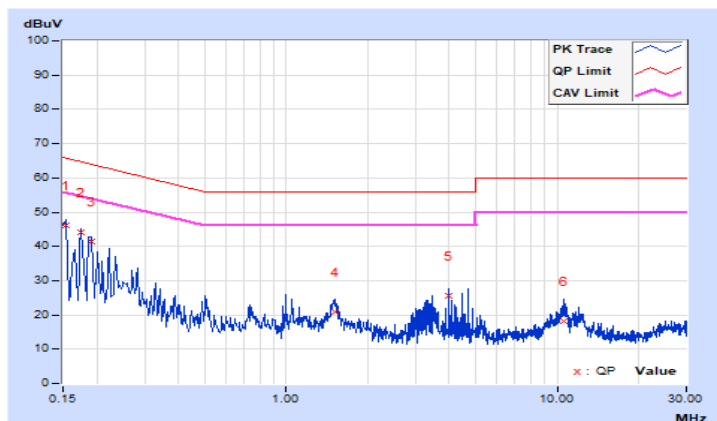


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
<b>1</b>	<b>0.15400</b>	<b>9.76</b>	<b>36.49</b>	<b>16.65</b>	<b>46.25</b>	<b>26.41</b>	<b>65.78</b>	<b>55.78</b>	<b>-19.53</b>	<b>-29.37</b>
2	0.17400	9.77	34.33	16.53	44.10	26.30	64.77	54.77	-20.67	-28.47
3	0.19000	9.78	31.50	14.07	41.28	23.85	64.04	54.04	-22.76	-30.19
4	1.50600	9.84	11.02	4.25	20.86	14.09	56.00	46.00	-35.14	-31.91
5	3.96200	9.87	15.85	3.25	25.72	13.12	56.00	46.00	-30.28	-32.88
6	10.59000	9.94	8.23	2.22	18.17	12.16	60.00	50.00	-41.83	-37.84

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

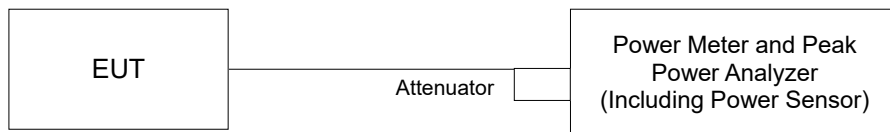
#### 4.3.1 Limits of Transmit Power Measurement

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)

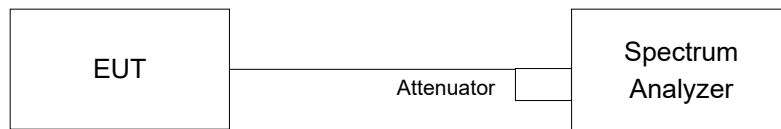
\*B is the 26 dB emission bandwidth in megahertz

#### 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  $\geq 3 \times$  RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

#### 4.3.5 Deviation from Test Standard

No deviation.

#### 4.3.6 EUT Operating Conditions

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

### 4.3.7 Test Result

#### Power Output:

#### 802.11a

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	37.670	15.76	24.00	Pass
40	5200	<b>38.107</b>	15.81	24.00	Pass
48	5240	37.844	15.78	24.00	Pass
52	5260	39.264	15.94	24.00	Pass
60	5300	<b>39.537</b>	15.97	24.00	Pass
64	5320	35.727	15.53	24.00	Pass
100	5500	17.824	12.51	24.00	Pass
116	5580	<b>38.107</b>	15.81	24.00	Pass
140	5700	19.679	12.94	24.00	Pass
149	5745	<b>37.844</b>	15.78	30.00	Pass
157	5785	36.475	15.62	30.00	Pass
165	5825	36.813	15.66	30.00	Pass

#### Note:

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

1.  $11\text{dBm} + 10\log(27.15) = 25.33 > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(27.65) = 25.41 > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(24.71) = 24.92 > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(22.67) = 24.55 > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(27.66) = 25.41 > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(22.63) = 24.54 > 24\text{dBm}$

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	33.884	15.30	24.00	Pass
40	5200	34.754	15.41	24.00	Pass
48	5240	34.277	15.35	24.00	Pass
52	5260	34.674	15.40	24.00	Pass
60	5300	35.156	15.46	24.00	Pass
64	5320	32.885	15.17	24.00	Pass
100	5500	19.187	12.83	24.00	Pass
116	5580	35.156	15.46	24.00	Pass
140	5700	19.143	12.82	24.00	Pass
149	5745	34.834	15.42	30.00	Pass
157	5785	34.198	15.34	30.00	Pass
165	5825	33.343	15.23	30.00	Pass

Note:

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

1.  $11\text{dBm} + 10\log(38.02) = 26.80 > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(29.04) = 25.62 > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(26.99) = 25.31 > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(22.93) = 24.60 > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(29.92) = 25.75 > 24\text{dBm}$
6.  $11\text{dBm} + 10\log(22.74) = 24.56 > 24\text{dBm}$

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	29.648	14.72	24.00	Pass
46	5230	28.445	14.54	24.00	Pass
54	5270	28.576	14.56	24.00	Pass
62	5310	19.099	12.81	24.00	Pass
102	5510	2.239	3.50	24.00	Pass
110	5550	28.576	14.56	24.00	Pass
134	5670	27.102	14.33	24.00	Pass
151	5755	26.062	14.16	30.00	Pass
159	5795	27.542	14.40	30.00	Pass

Note:

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

1.  $11\text{dBm} + 10\log(46.05) = 27.63 > 24\text{dBm}$
2.  $11\text{dBm} + 10\log(44.57) = 27.49 > 24\text{dBm}$
3.  $11\text{dBm} + 10\log(45.83) = 27.61 > 24\text{dBm}$
4.  $11\text{dBm} + 10\log(47.02) = 27.72 > 24\text{dBm}$
5.  $11\text{dBm} + 10\log(46.81) = 27.70 > 24\text{dBm}$

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
52	5260	27.15
60	5300	27.65
64	5320	24.71
100	5500	22.67
116	5580	27.66
140	5700	22.63

802.11n (HT20)

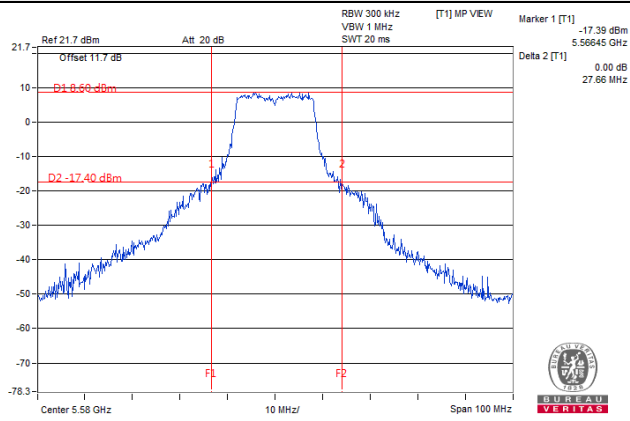
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
52	5260	38.02
60	5300	29.04
64	5320	26.99
100	5500	22.93
116	5580	29.92
140	5700	22.74

802.11n (HT40)

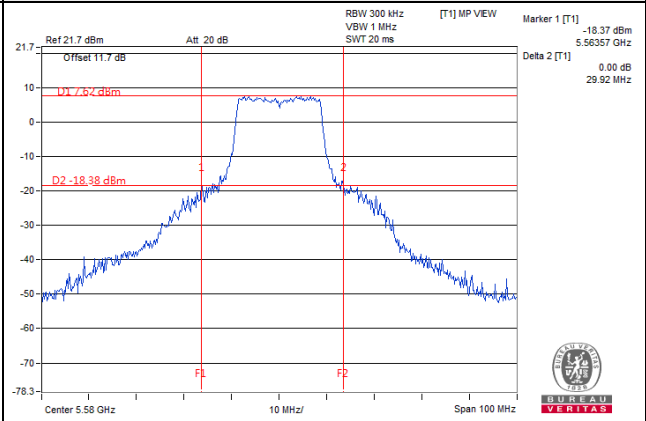
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
54	5270	46.05
62	5310	44.57
102	5510	45.83
110	5550	47.02
134	5670	46.81

### Spectrum Plot of Worst Value

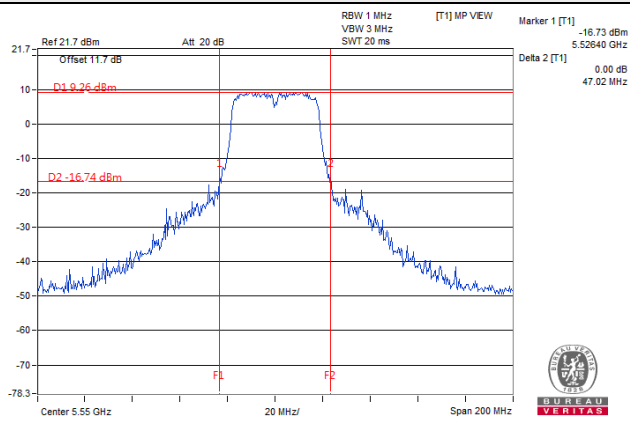
#### 802.11a



#### 802.11n (HT20)



#### 802.11n (HT40)





## EUT Average Power

### 802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	15.97	39.537
5470~5725	15.81	38.107

### 802.11n (HT20)

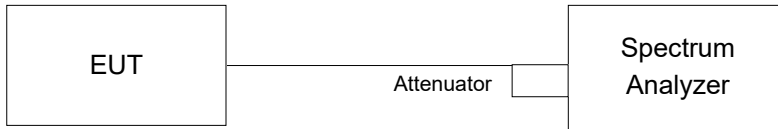
Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	15.46	35.156
5470~5725	15.46	35.156

### 802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	14.56	28.576
5470~5725	14.56	28.576

## 4.4 Occupied Bandwidth Measurement

### 4.4.1 Test Setup



### 4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.4.3 Test Procedure

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

#### 4.4.4 Test Result

##### 802.11a

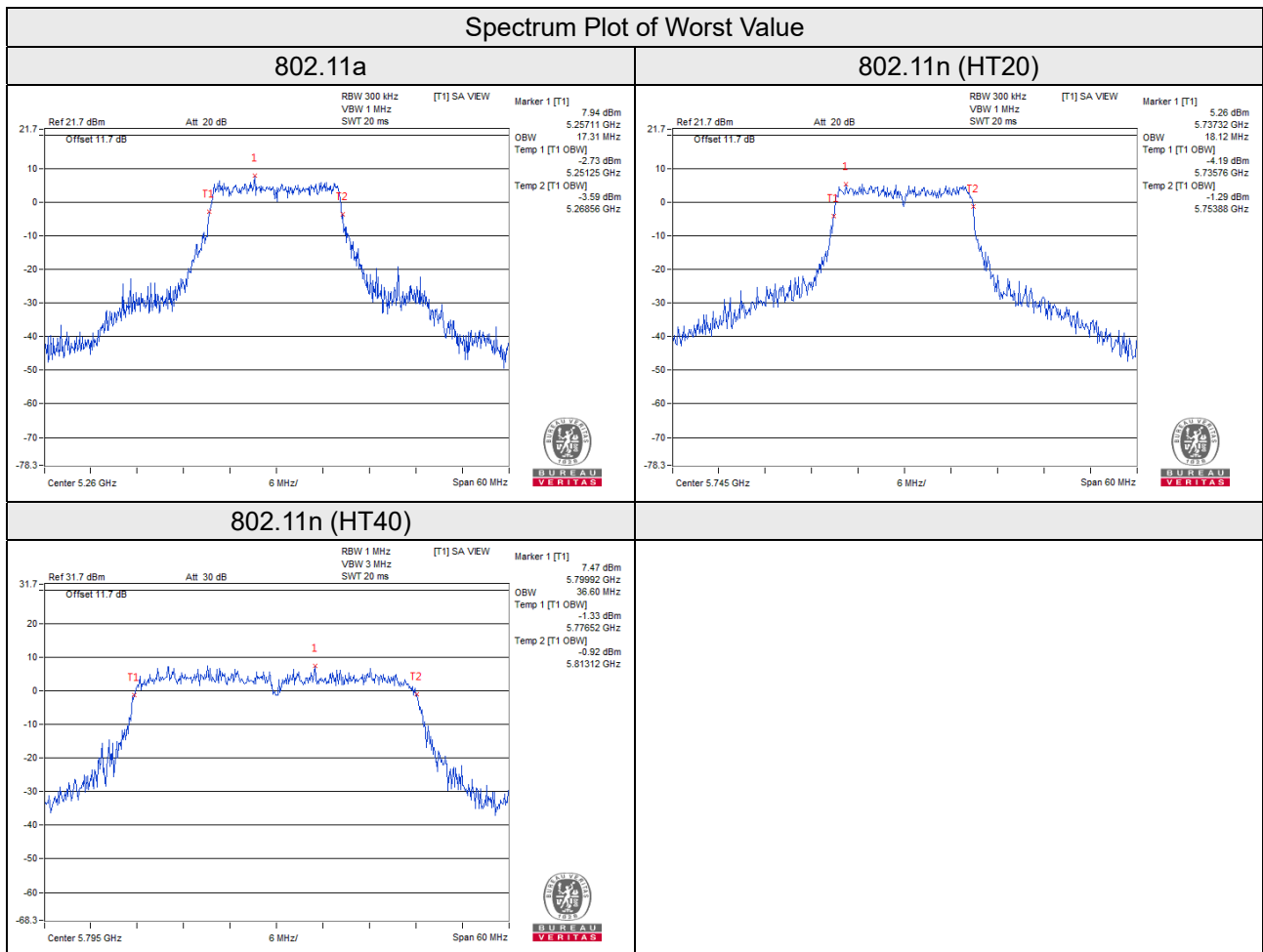
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	17.16
40	5200	16.92
48	5240	17.16
52	5260	17.31
60	5300	17.04
64	5320	17.02
100	5500	16.83
116	5580	17.21
140	5700	17.02
149	5745	17.02
157	5785	17.16
165	5825	17.16

##### 802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	18.00
40	5200	18.12
48	5240	18.00
52	5260	18.00
60	5300	18.00
64	5320	18.00
100	5500	18.00
116	5580	18.12
140	5700	18.00
149	5745	18.12
157	5785	18.12
165	5825	18.12

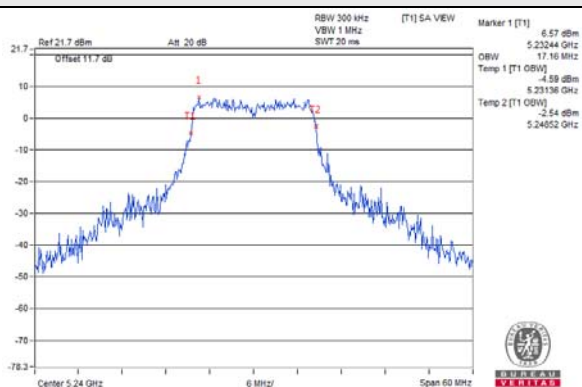
802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
38	5190	36.48
46	5230	36.60
54	5270	36.48
62	5310	36.36
102	5510	36.60
110	5550	36.60
134	5670	36.60
151	5755	36.48
159	5795	36.60

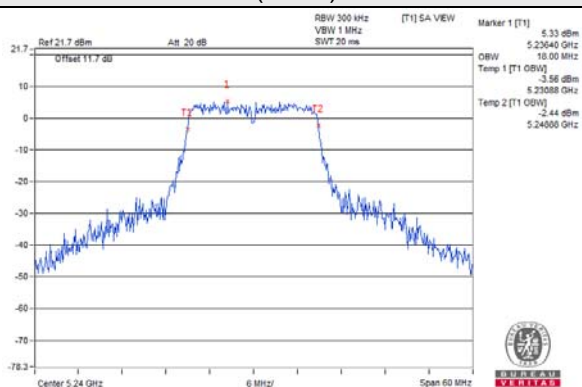


### Spectrum Plot for near By DFS Band

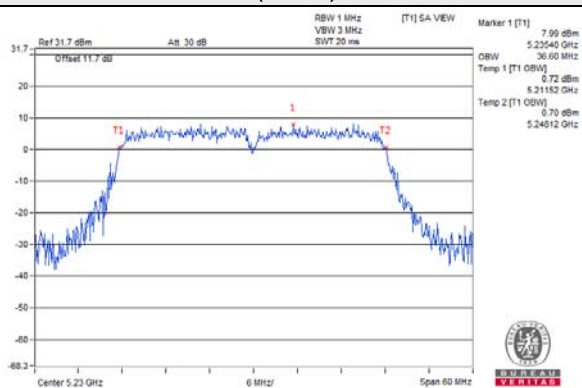
802.11a / CH 48



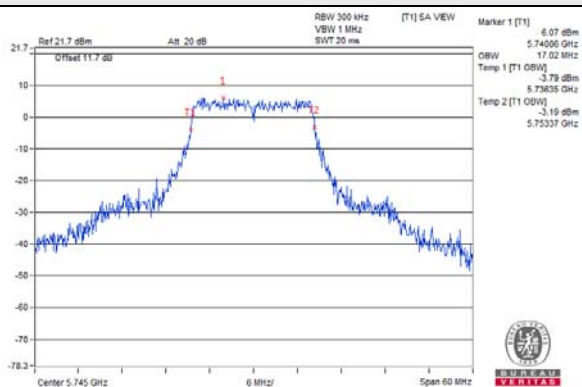
802.11n (HT20) / CH 48



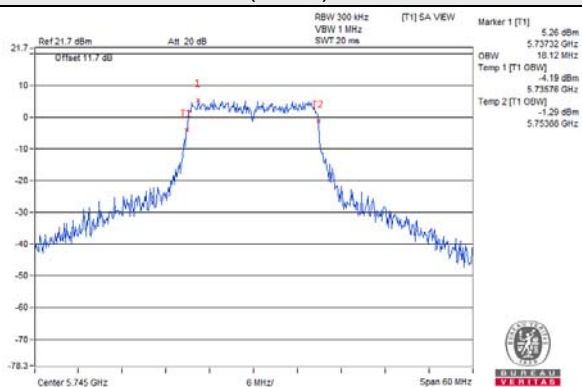
802.11n (HT40) / CH 46



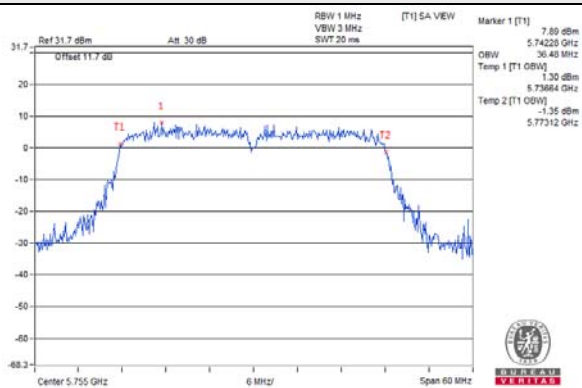
802.11a / CH 149



802.11n (HT20) / CH 149



802.11n (HT40) / CH 151

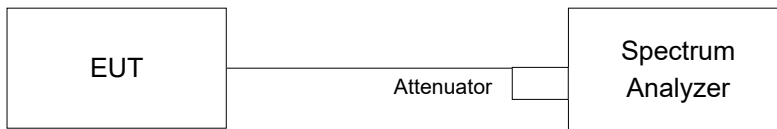


## 4.5 Peak Power Spectral Density Measurement

### 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-2

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

For U-NII-3 band:

Duty cycle of test signal is < 98%

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

#### 4.5.5 Deviation from Test Standard

No deviation.

#### 4.5.6 EUT Operating Conditions

Same as 4.3.6.

#### 4.5.7 Test Results

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

##### 802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
36	5180	2.13	0.60	2.73	11.00	Pass
40	5200	2.21	0.60	2.81	11.00	Pass
48	5240	2.19	0.60	2.79	11.00	Pass
52	5260	2.28	0.60	2.88	11.00	Pass
60	5300	2.36	0.60	2.96	11.00	Pass
64	5320	1.94	0.60	2.54	11.00	Pass
100	5500	-1.08	0.60	-0.48	11.00	Pass
116	5580	2.16	0.60	2.76	11.00	Pass
140	5700	-0.70	0.60	-0.10	11.00	Pass

Note: 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)	PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
36	5180	1.65	0.64	2.29	11.00	Pass
40	5200	1.76	0.64	2.40	11.00	Pass
48	5240	1.70	0.64	2.34	11.00	Pass
52	5260	1.74	0.64	2.38	11.00	Pass
60	5300	1.80	0.64	2.44	11.00	Pass
64	5320	1.51	0.64	2.15	11.00	Pass
100	5500	-0.82	0.64	-0.18	11.00	Pass
116	5580	1.82	0.64	2.46	11.00	Pass
140	5700	-0.88	0.64	-0.24	11.00	Pass

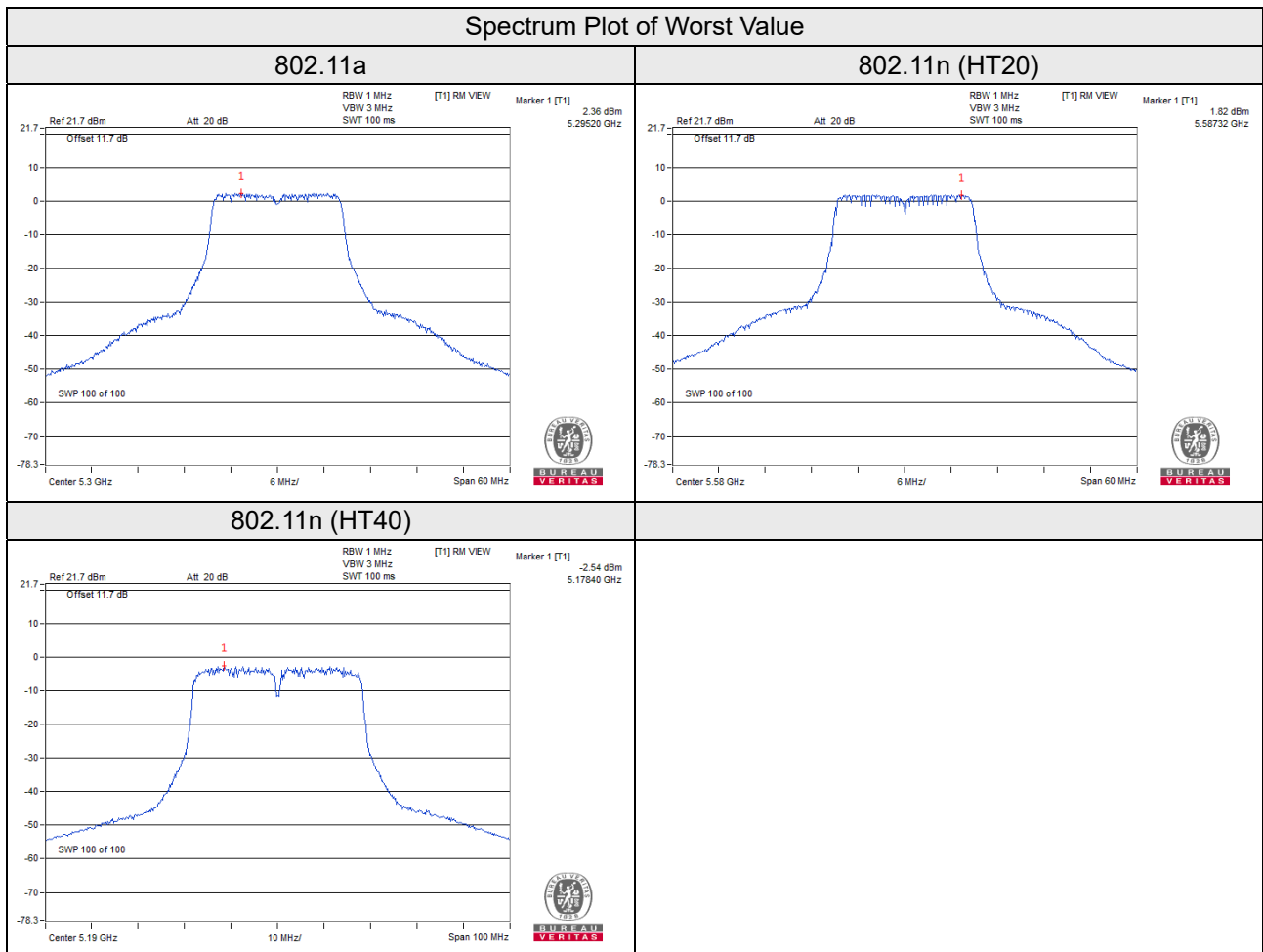
Note: Refer to section 3.3 for duty cycle spectrum plot.



802.11n (HT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
38	5190	-2.54	1.19	-1.35	11.00	Pass
46	5230	-2.73	1.19	-1.54	11.00	Pass
54	5270	-2.71	1.19	-1.52	11.00	Pass
62	5310	-4.46	1.19	-3.27	11.00	Pass
102	5510	-13.74	1.19	-12.55	11.00	Pass
110	5550	-2.65	1.19	-1.46	11.00	Pass
134	5670	-2.89	1.19	-1.70	11.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-3 band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
149	5745	-6.76	-4.54	0.60	-3.94	30.00	Pass
157	5785	-6.96	-4.74	0.60	-4.14	30.00	Pass
165	5825	-6.91	-4.69	0.60	-4.09	30.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
149	5745	-6.90	-4.68	0.64	-4.04	30.00	Pass
157	5785	-7.06	-4.84	0.64	-4.20	30.00	Pass
165	5825	-7.21	-4.99	0.64	-4.35	30.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

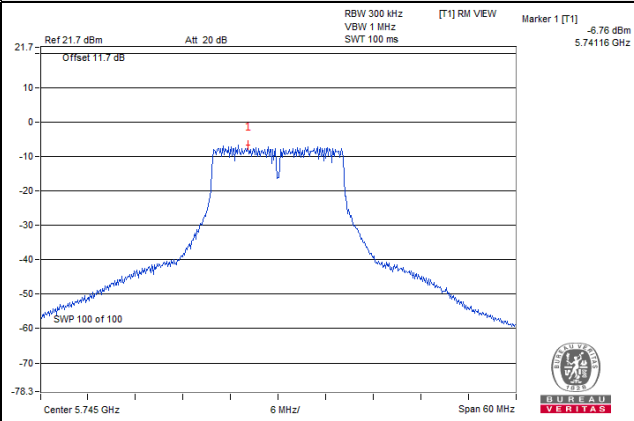
802.11n (HT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
151	5755	-12.68	-10.46	1.19	-9.27	30.00	Pass
159	5795	-12.50	-10.28	1.19	-9.09	30.00	Pass

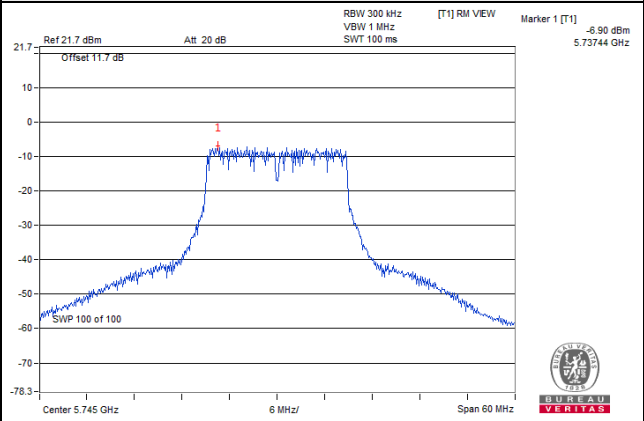
Note: Refer to section 3.3 for duty cycle spectrum plot.

### Spectrum Plot of Worst Value

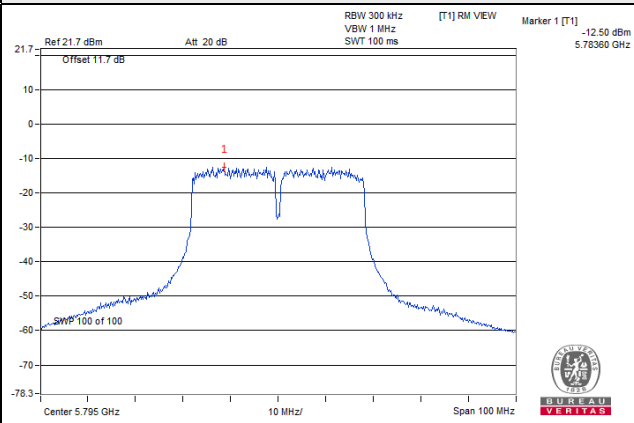
#### 802.11a



#### 802.11n (HT20)



#### 802.11n (HT40)

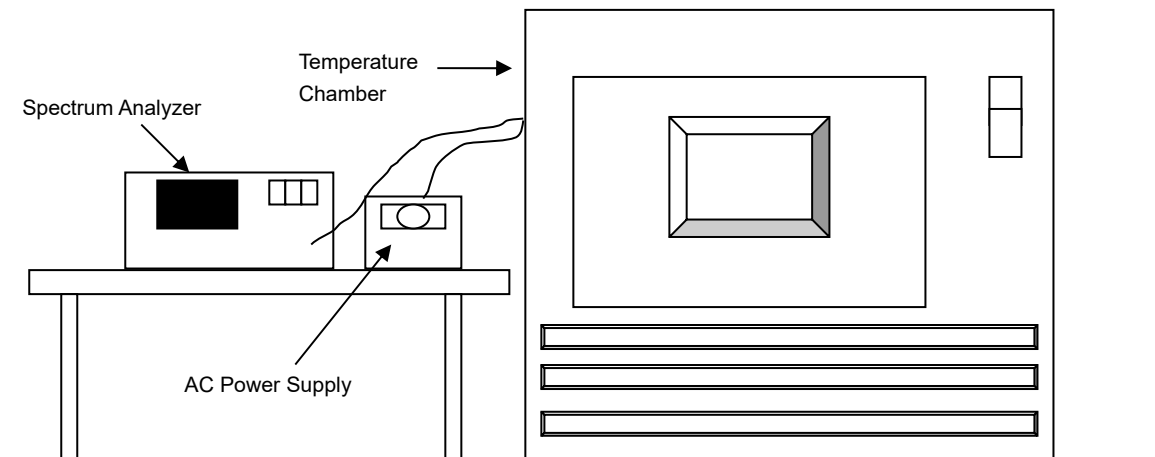


## 4.6 Frequency Stability

### 4.6.1 Limits of Frequency Stability Measurement

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

### 4.6.2 Test Setup



### 4.6.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 15, 2021	Sep. 14, 2022
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 01, 2021	May 31, 2022
Three-phase coupling / decoupling network TESEQ	CDN 3063	4006	Mar. 10, 2021	Mar. 09, 2022
			Mar. 08, 2022	Mar. 07, 2023
AC Power Supply Extech	CFW-105	E000603	NA	NA

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

### 4.6.4 Test Procedure

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

#### 4.6.5 Deviation from Test Standard

No deviation.

#### 4.6.6 EUT Operating Condition

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

#### 4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
70	120	5180.018	Pass	5180.0184	Pass	5180.0209	Pass	5180.0213	Pass
60	120	5180.0233	Pass	5180.0213	Pass	5180.0257	Pass	5180.0226	Pass
50	120	5180.0024	Pass	5180.0021	Pass	5180.0039	Pass	5180.0023	Pass
40	120	5179.9955	Pass	5179.991	Pass	5179.9933	Pass	5179.9913	Pass
30	120	5179.9786	Pass	5179.9787	Pass	5179.9746	Pass	5179.9759	Pass
20	120	5180.0198	Pass	5180.0224	Pass	5180.0202	Pass	5180.0205	Pass
10	120	5179.9878	Pass	5179.9865	Pass	5179.9882	Pass	5179.9908	Pass
0	120	5179.9981	Pass	5179.9939	Pass	5179.9986	Pass	5179.9947	Pass
-10	120	5179.989	Pass	5179.9868	Pass	5179.9894	Pass	5179.9866	Pass
-20	120	5180.0214	Pass	5180.0208	Pass	5180.0223	Pass	5180.0181	Pass

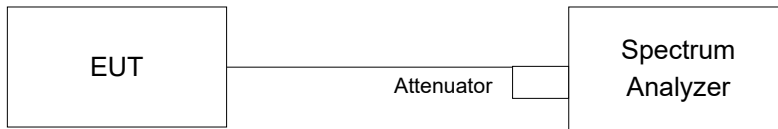
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0184	Pass	5180.0216	Pass	5180.0173	Pass	5180.0164	Pass
	26	5180.0198	Pass	5180.0224	Pass	5180.0202	Pass	5180.0205	Pass
	102	5180.0142	Pass	5180.0108	Pass	5180.0127	Pass	5180.0099	Pass

## 4.7 6dB Bandwidth Measurement

### 4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

### 4.7.2 Test Setup



### 4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.7.4 Test Procedure

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

### 4.7.5 Deviation from Test Standard

No deviation.

### 4.7.6 EUT Operating Condition

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

### 4.7.7 Test Results

#### 802.11a

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.41	0.50	Pass
157	5785	16.43	0.50	Pass
165	5825	16.42	0.50	Pass

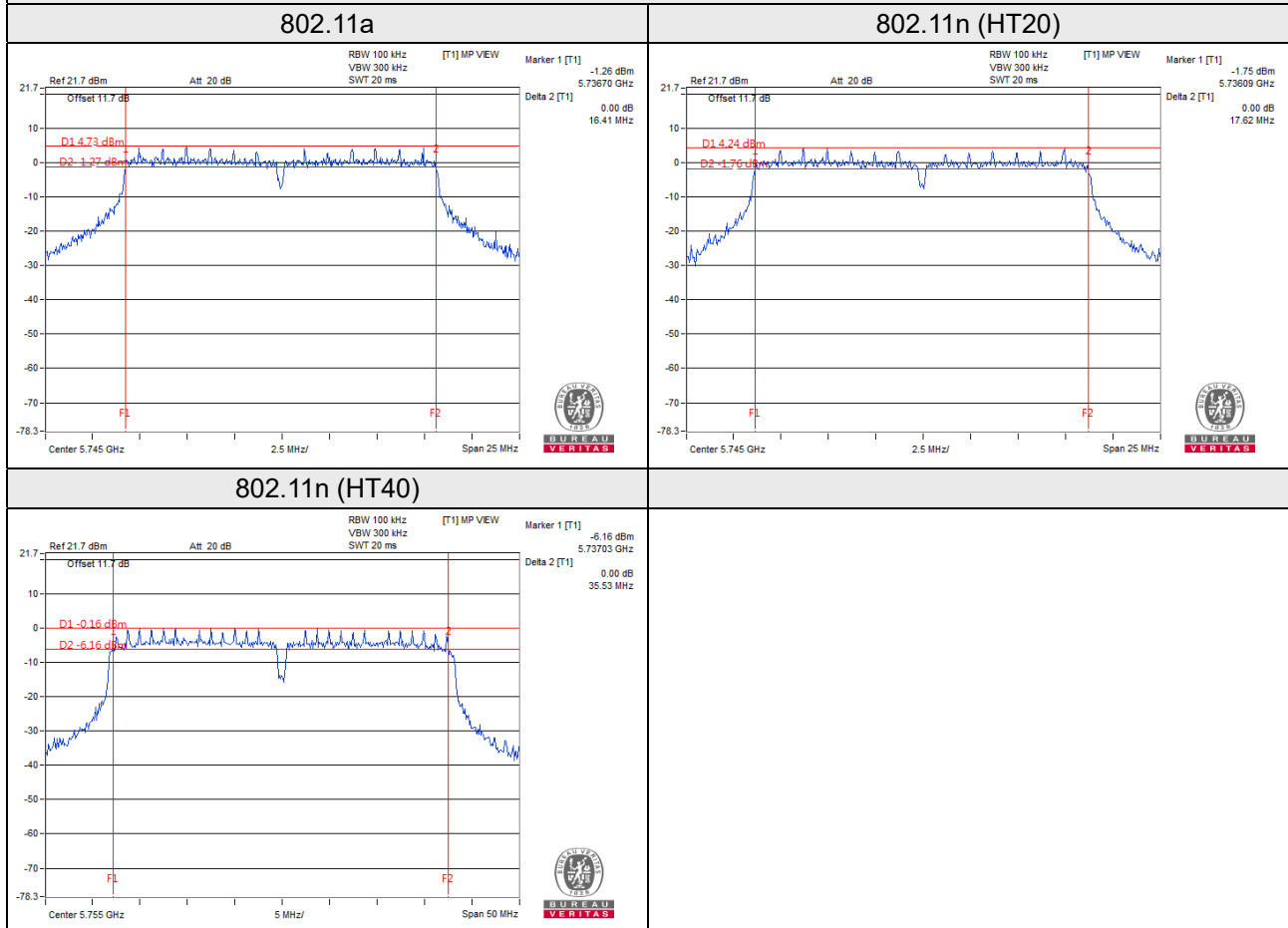
#### 802.11n (HT20)

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.62	0.50	Pass
157	5785	17.65	0.50	Pass
165	5825	17.63	0.50	Pass

#### 802.11n (HT40)

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.53	0.50	Pass
159	5795	35.54	0.50	Pass

### Spectrum Plot of Worst Value



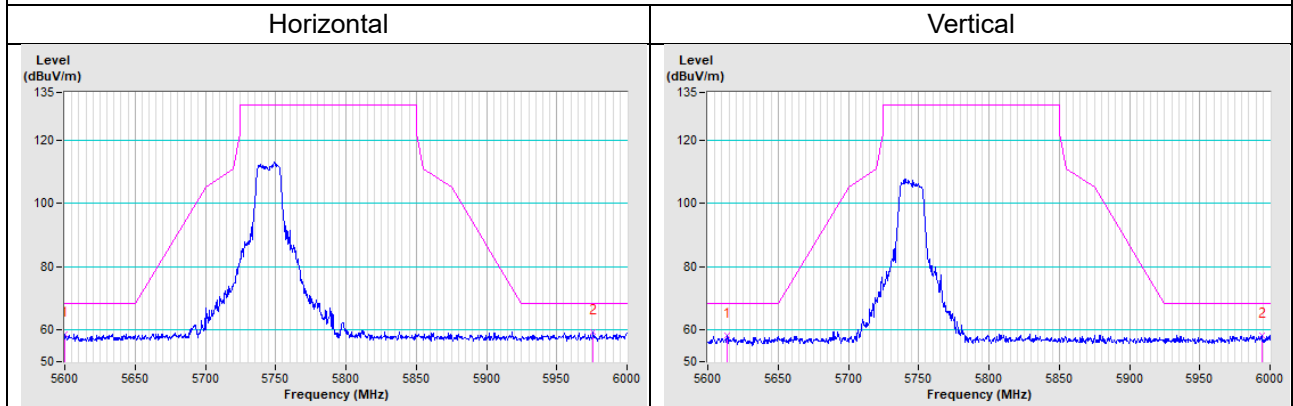
## 5 Pictures of Test Arrangements

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

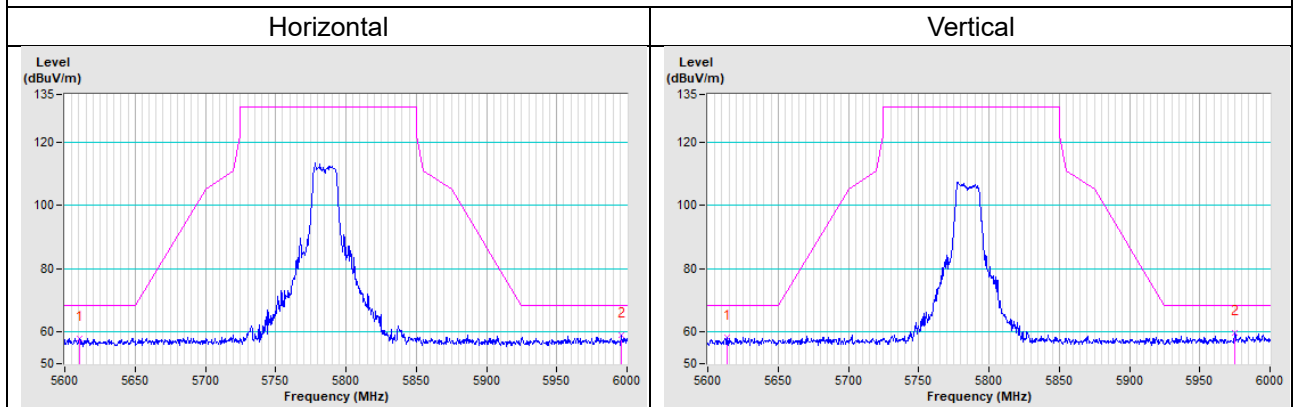


### Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

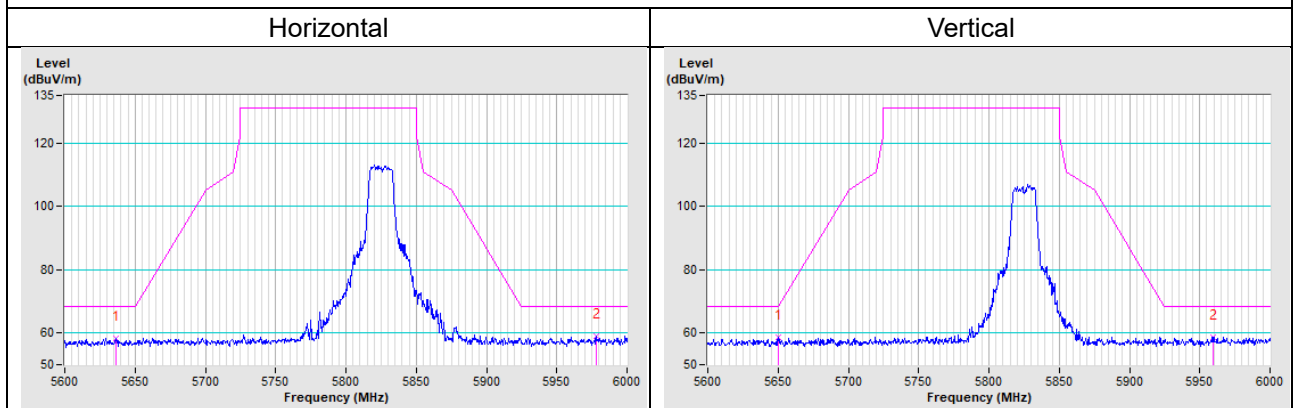
802.11a CH 149 : 5745 MHz



802.11a CH 157 : 5785 MHz

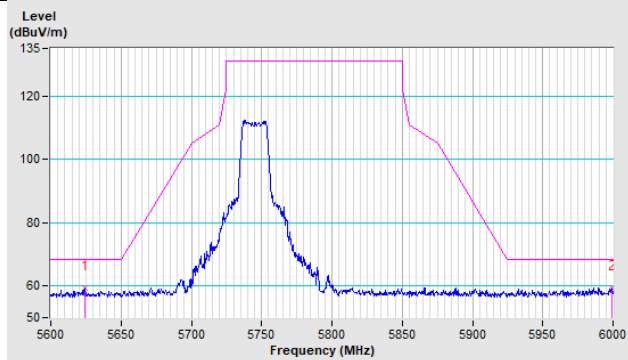


802.11a CH 165 : 5825 MHz

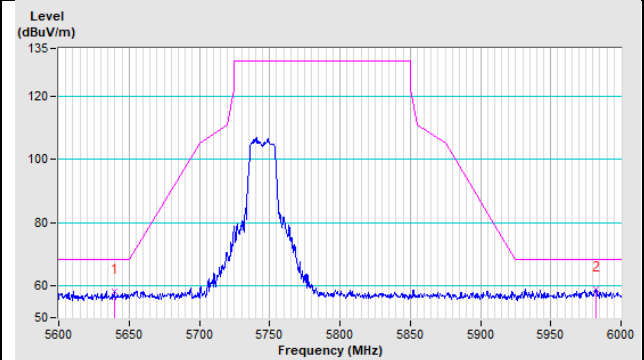


802.11n (HT20) CH 149 : 5745 MHz

Horizontal

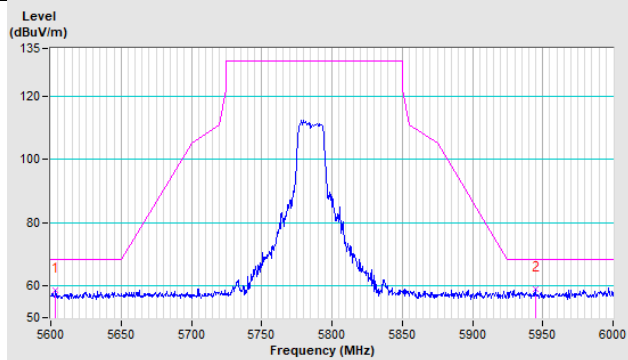


Vertical

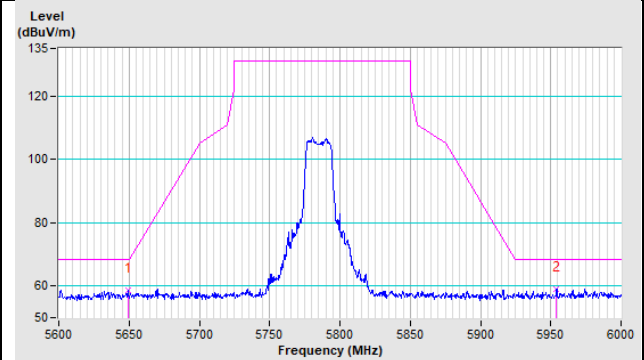


802.11n (HT20) CH 157 : 5785 MHz

Horizontal

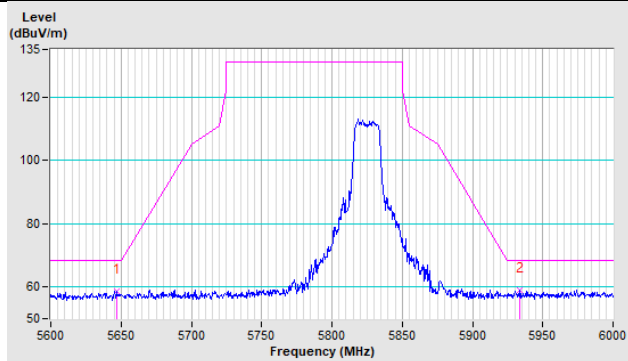


Vertical

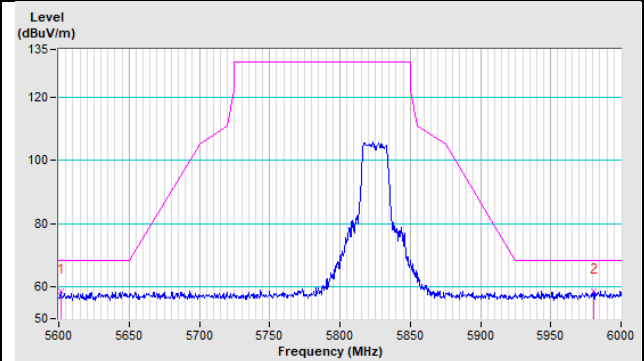


802.11n (HT20) CH 165 : 5825 MHz

Horizontal



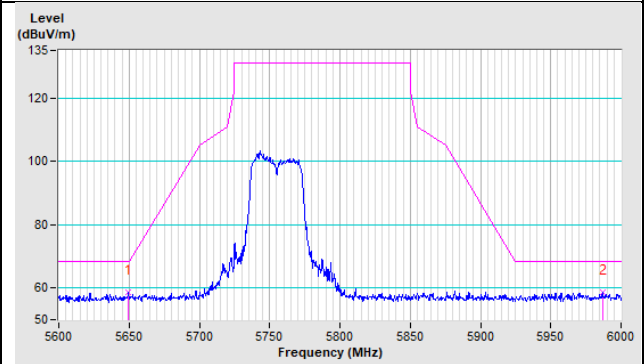
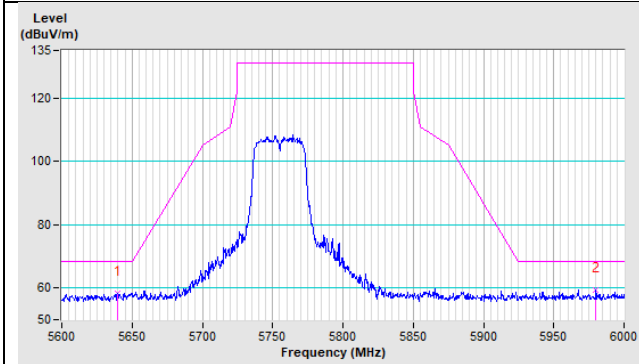
Vertical



802.11n (HT40) CH 151 : 5755 MHz

Horizontal

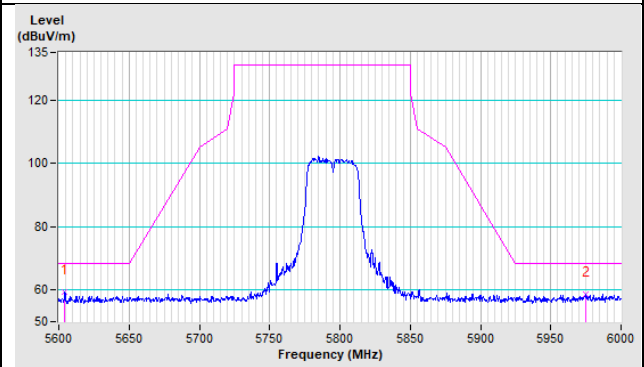
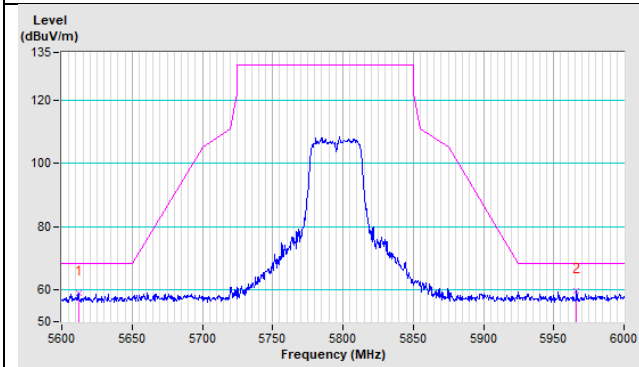
Vertical



802.11n (HT40) CH 159 : 5795 MHz

Horizontal

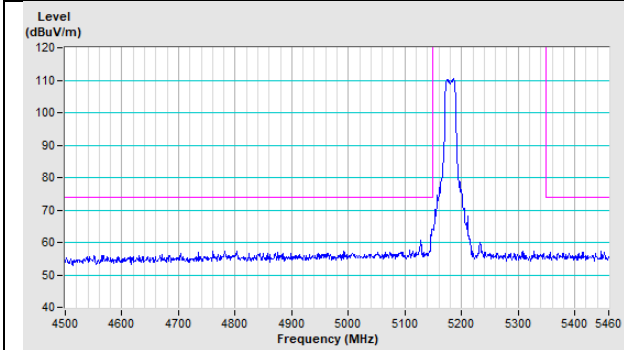
Vertical



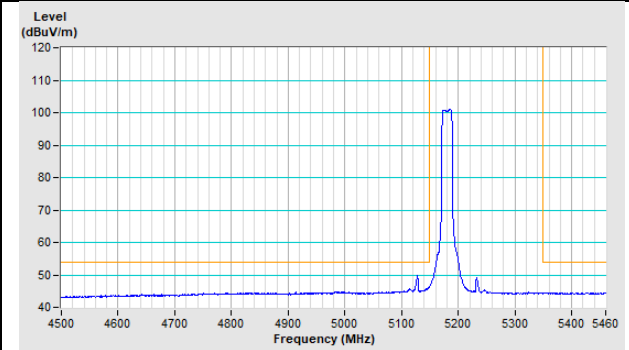
## Annex B - Band Edge Measurement

802.11a Channel 36

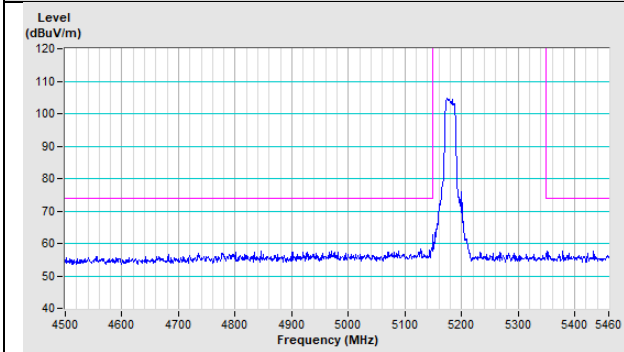
Horizontal (Peak)



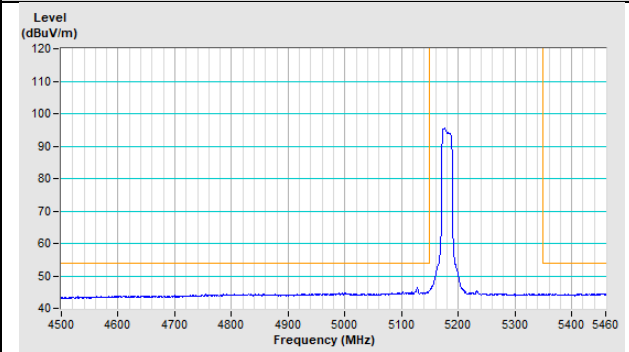
Horizontal (Average)



Vertical (Peak)

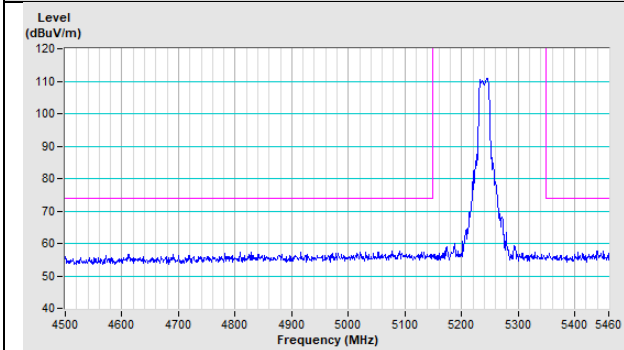


Vertical (Average)

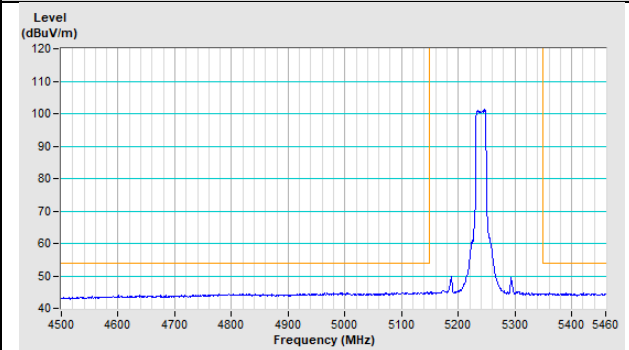


802.11a Channel 48

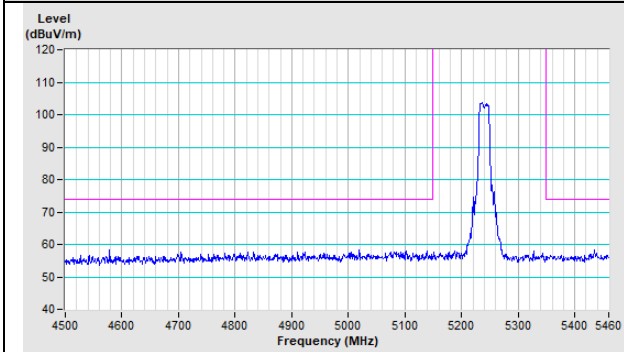
Horizontal (Peak)



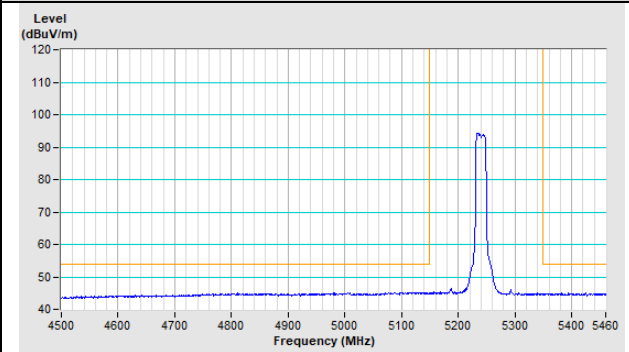
Horizontal (Average)



Vertical (Peak)

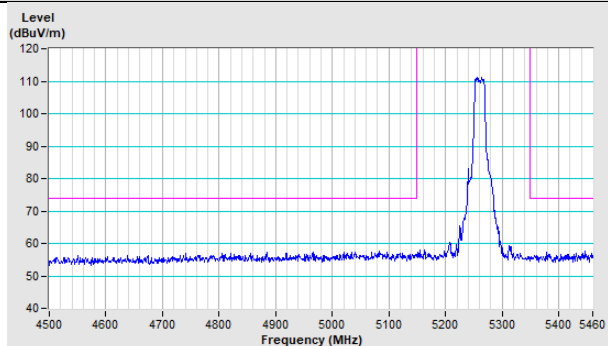


Vertical (Average)

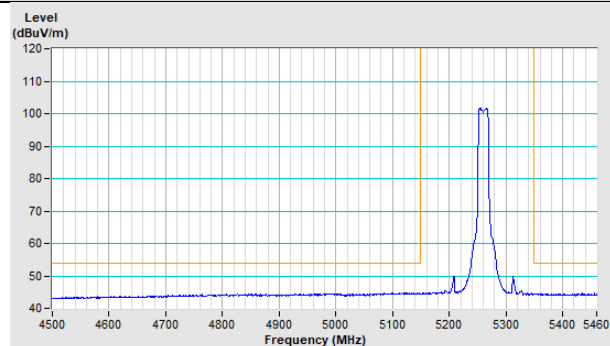


### 802.11a Channel 52

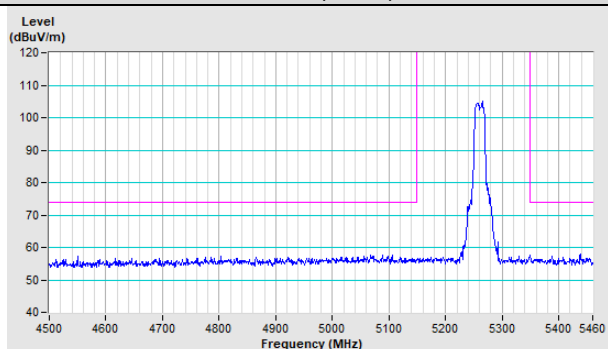
Horizontal (Peak)



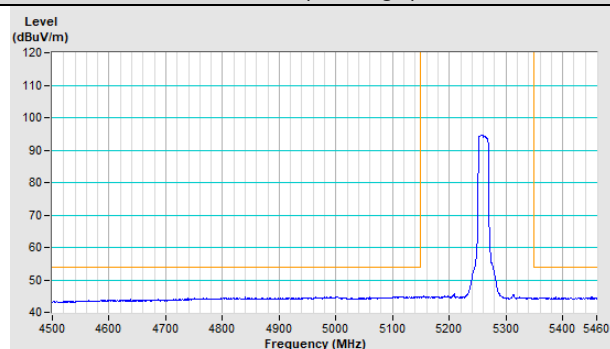
Horizontal (Average)



Vertical (Peak)

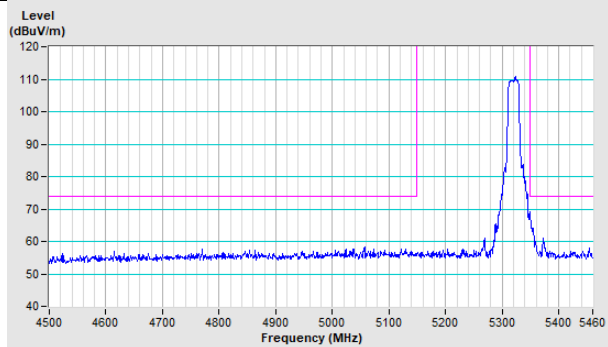


Vertical (Average)

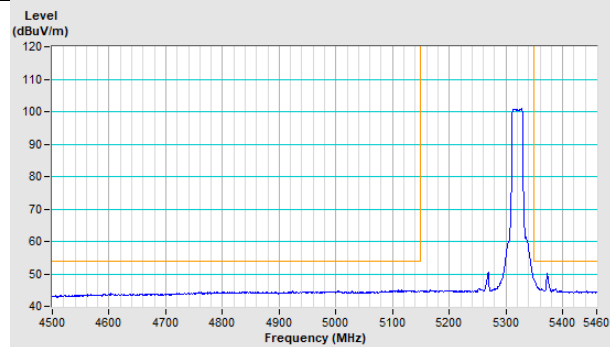


### 802.11a Channel 64

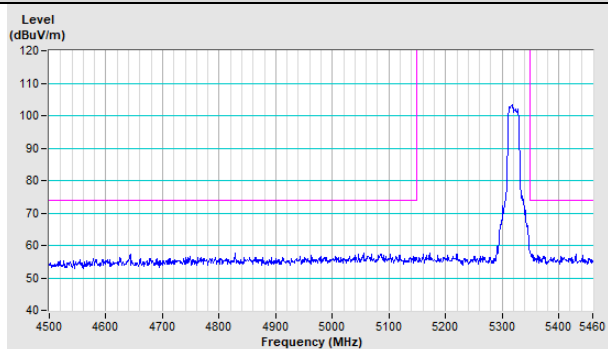
Horizontal (Peak)



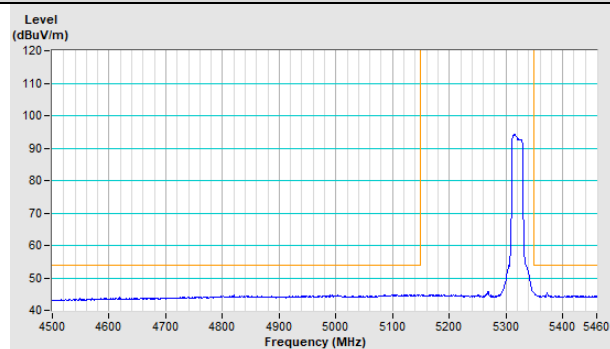
Horizontal (Average)



Vertical (Peak)

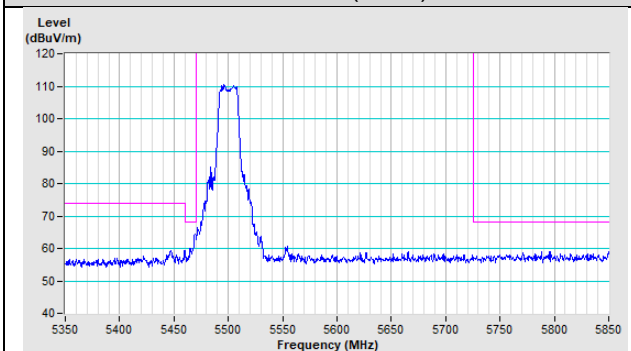


Vertical (Average)

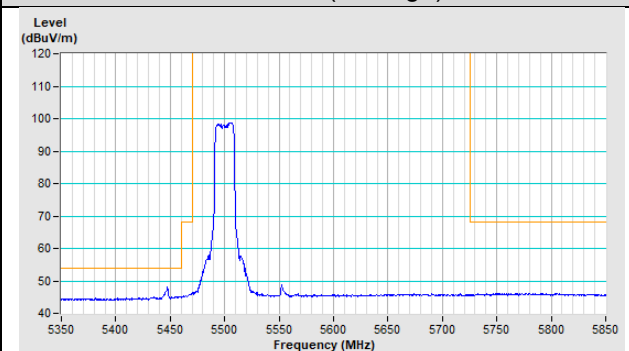


802.11a Channel 100

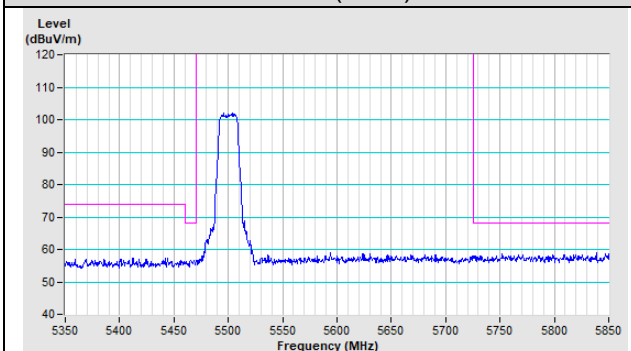
Horizontal (Peak)



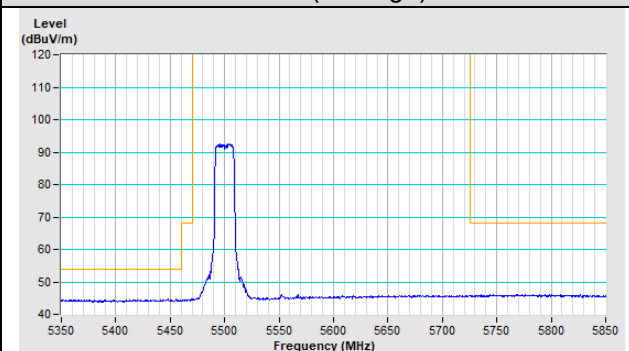
Horizontal (Average)



Vertical (Peak)

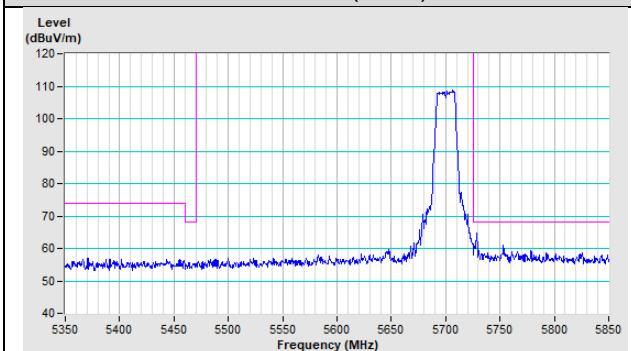


Vertical (Average)

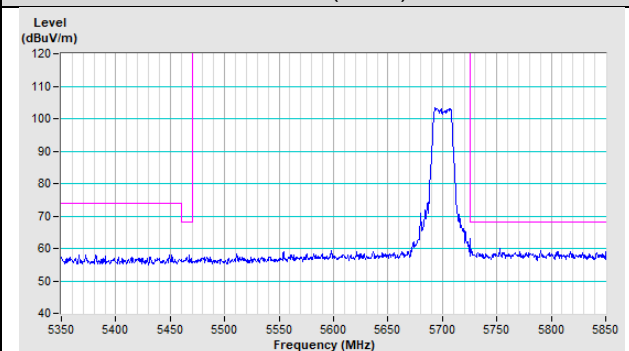


802.11a Channel 140

Horizontal (Peak)

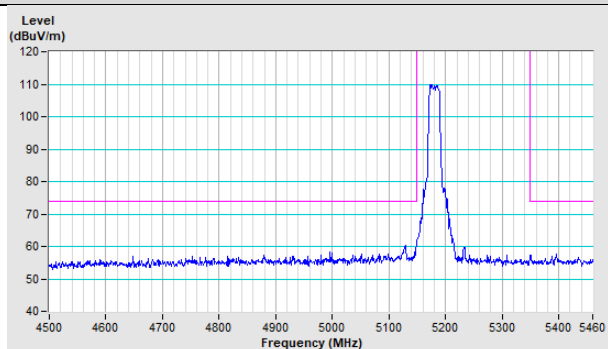


Vertical (Peak)

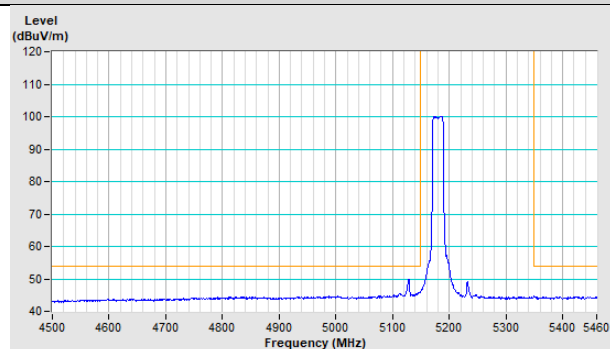


802.11n (HT20) Channel 36

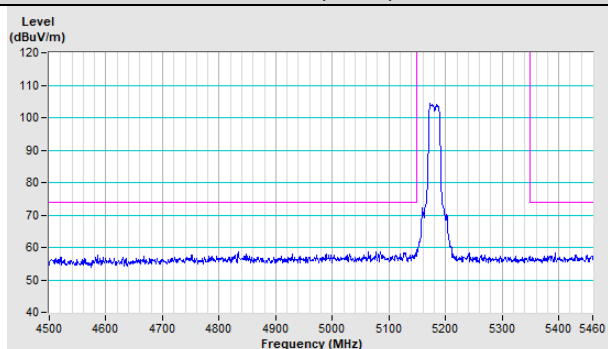
Horizontal (Peak)



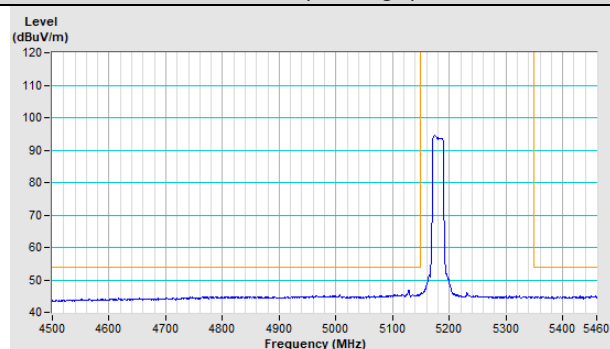
Horizontal (Average)



Vertical (Peak)

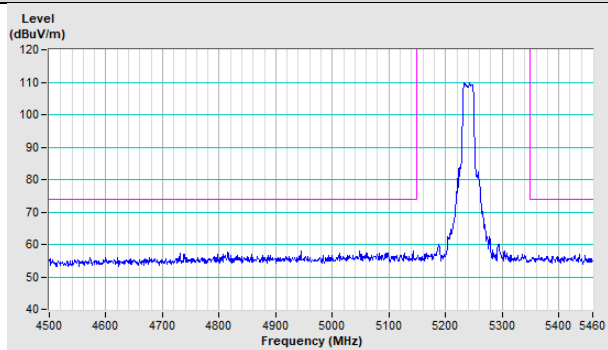


Vertical (Average)

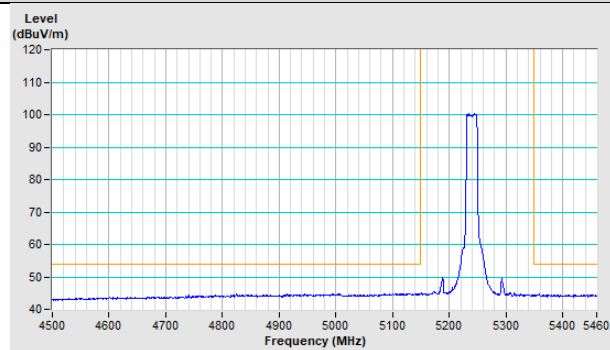


802.11n (HT20) Channel 48

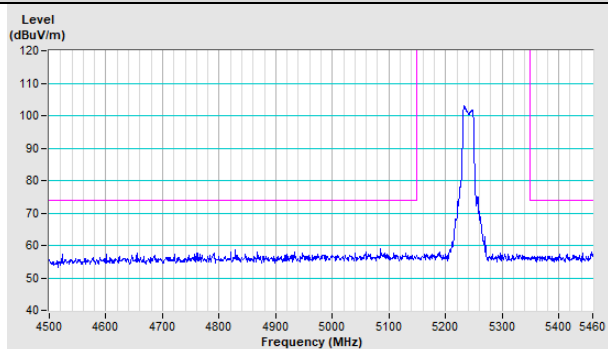
Horizontal (Peak)



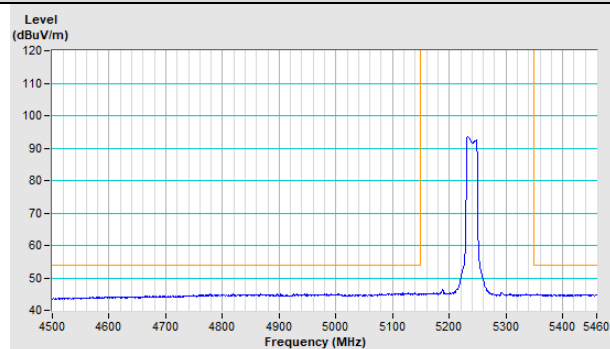
Horizontal (Average)



Vertical (Peak)

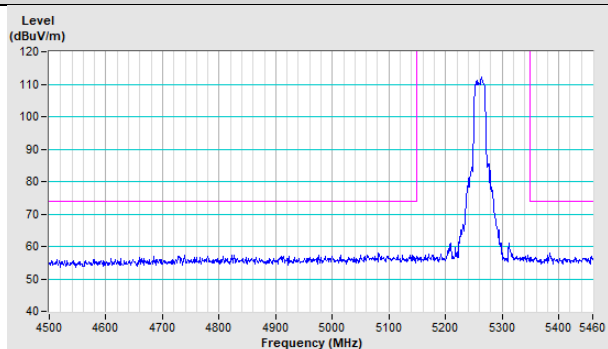


Vertical (Average)

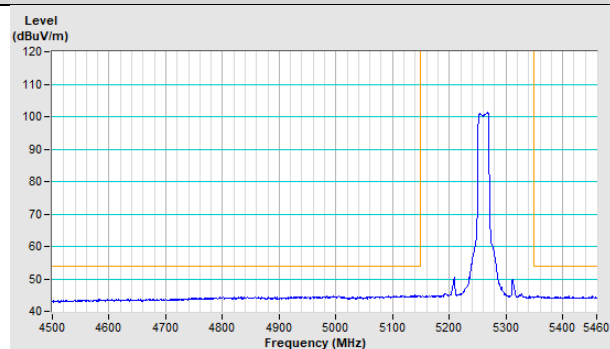


802.11n (HT20) Channel 52

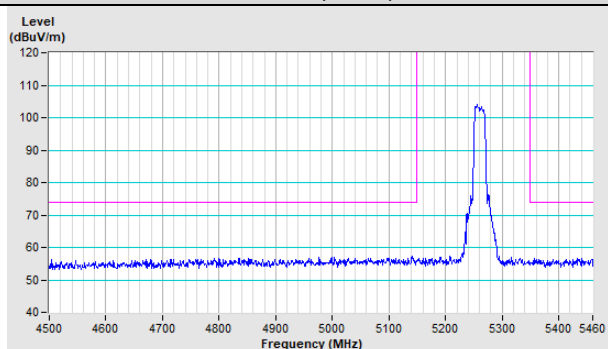
Horizontal (Peak)



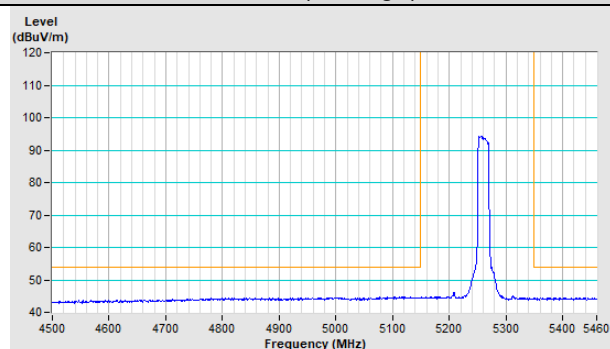
Horizontal (Average)



Vertical (Peak)

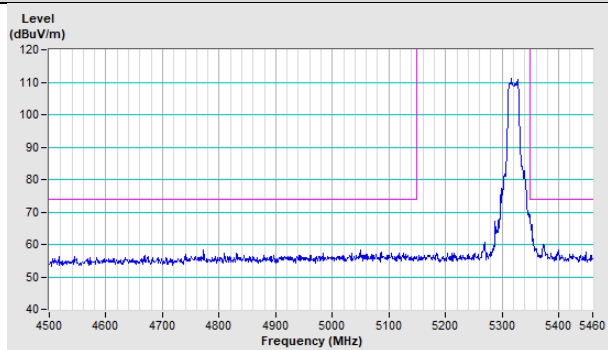


Vertical (Average)

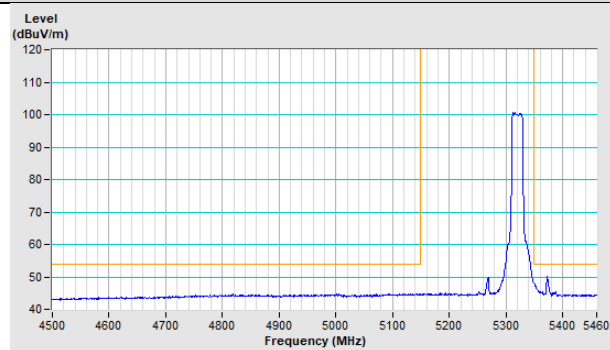


802.11n (HT20) Channel 64

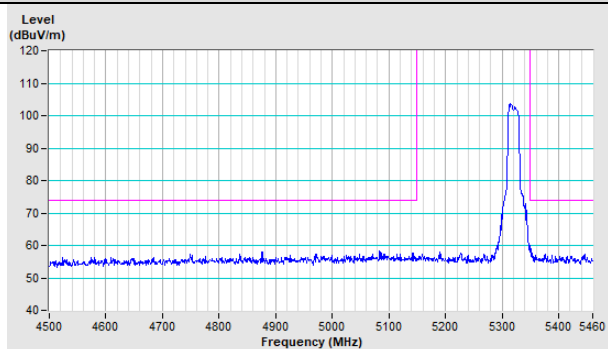
Horizontal (Peak)



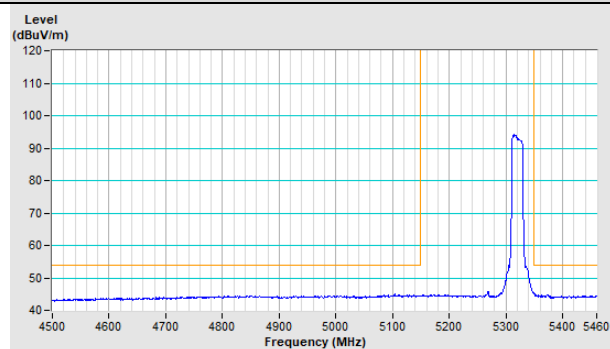
Horizontal (Average)



Vertical (Peak)



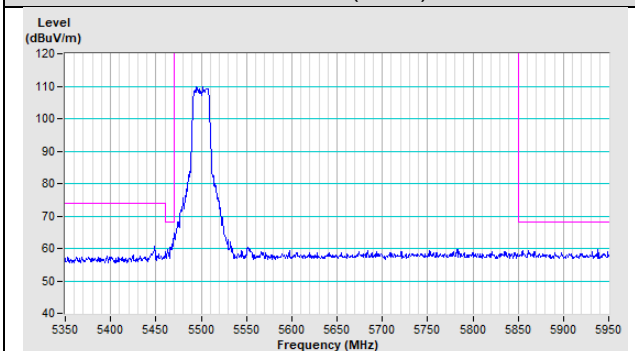
Vertical (Average)



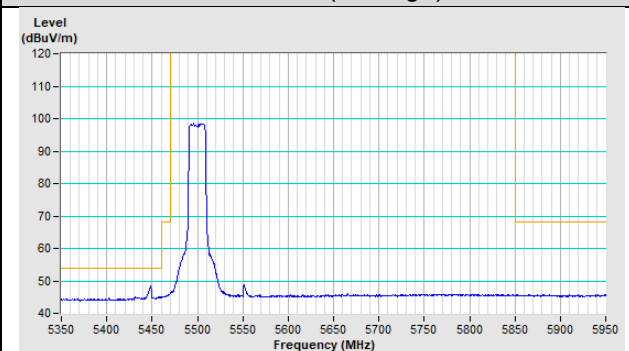


802.11n (HT20) Channel 100

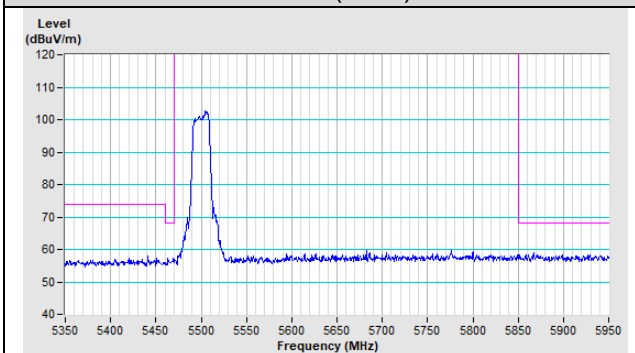
Horizontal (Peak)



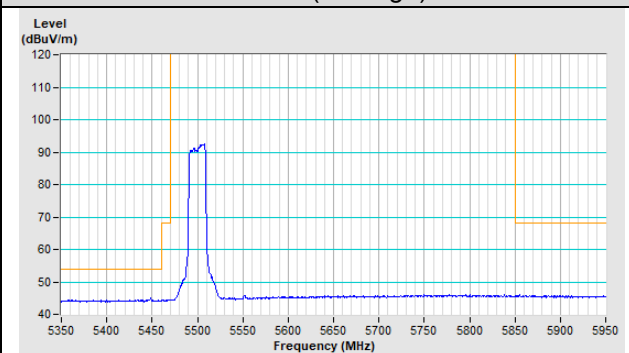
Horizontal (Average)



Vertical (Peak)

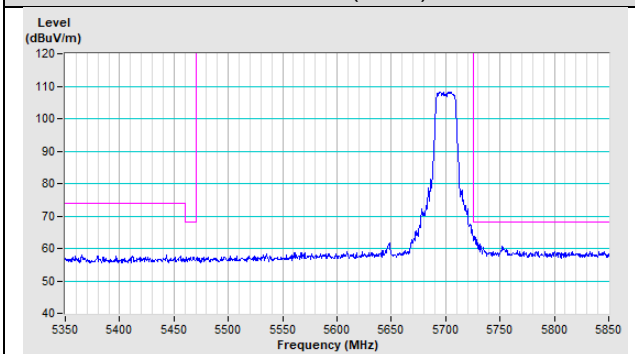


Vertical (Average)

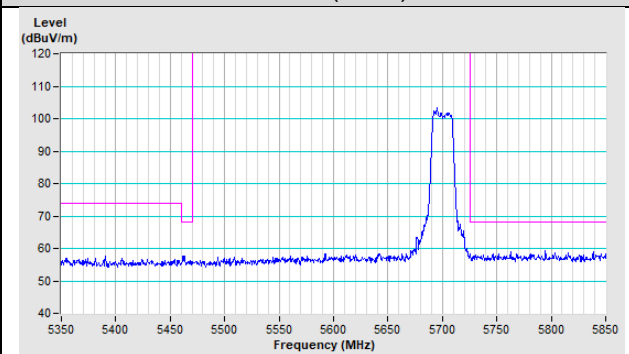


802.11n (HT20) Channel 140

Horizontal (Peak)

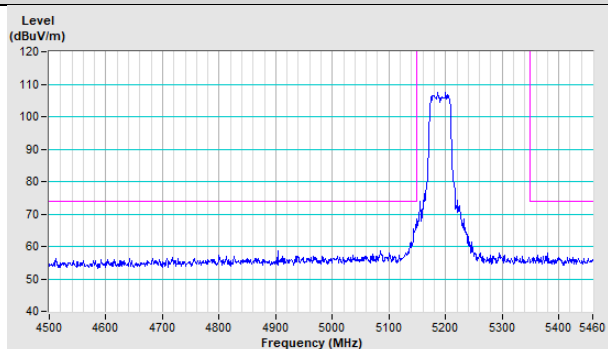


Vertical (Peak)

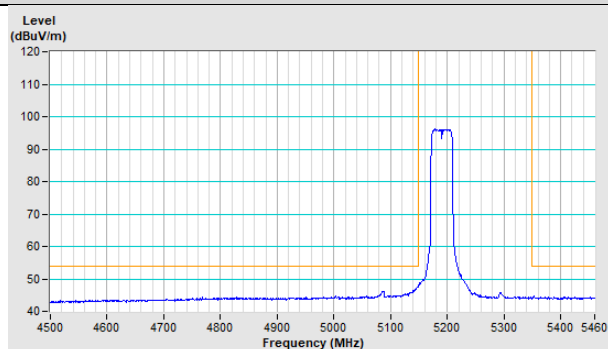


802.11n (HT40) Channel 38

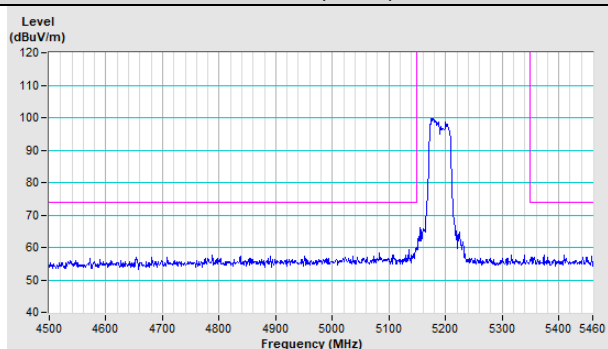
Horizontal (Peak)



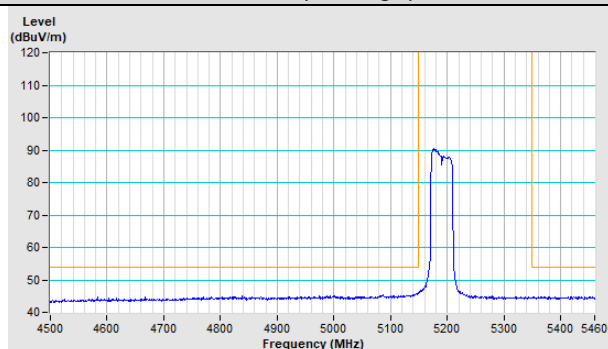
Horizontal (Average)



Vertical (Peak)

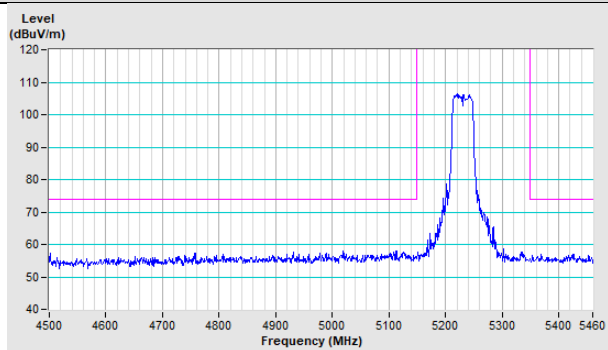


Vertical (Average)

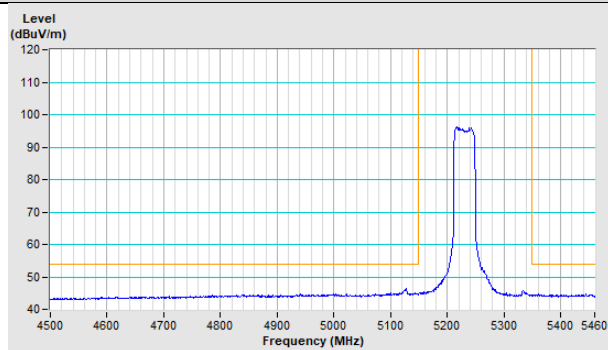


802.11n (HT40) Channel 46

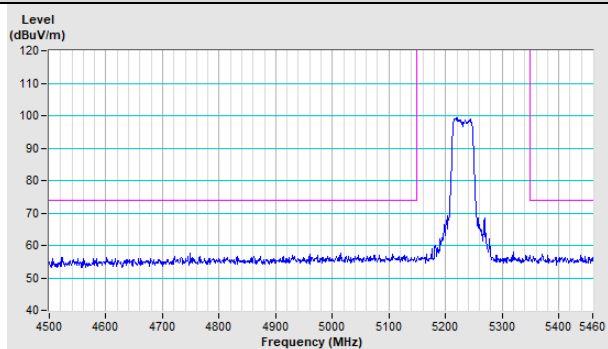
Horizontal (Peak)



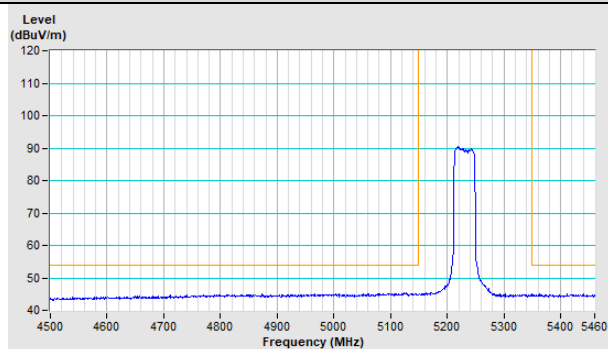
Horizontal (Average)



Vertical (Peak)

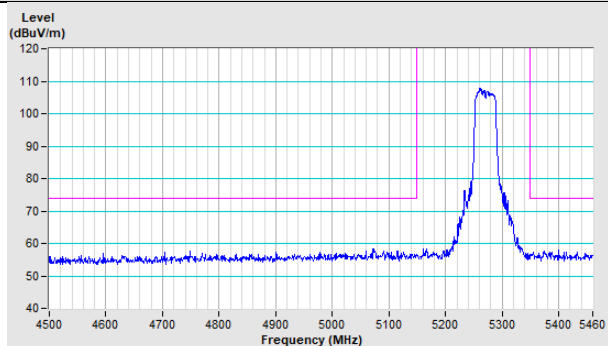


Vertical (Average)

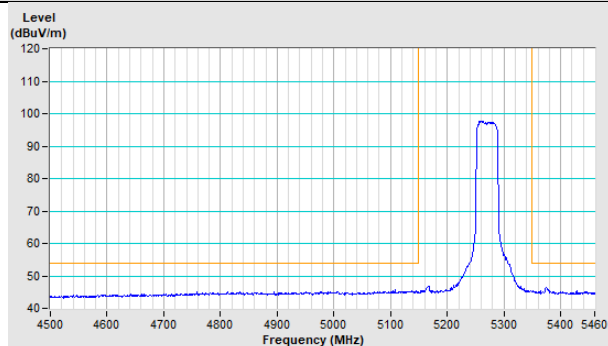


802.11n (HT40) Channel 54

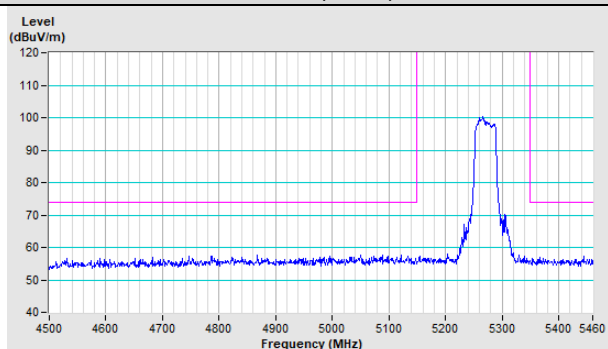
Horizontal (Peak)



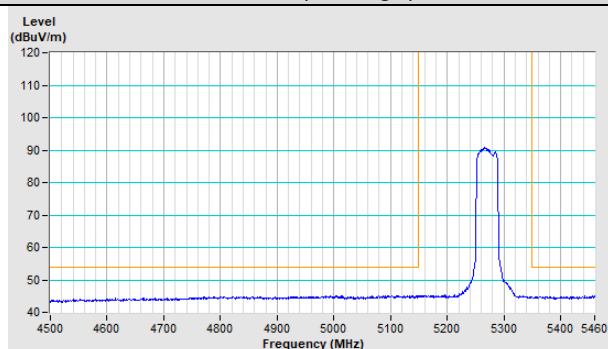
Horizontal (Average)



Vertical (Peak)

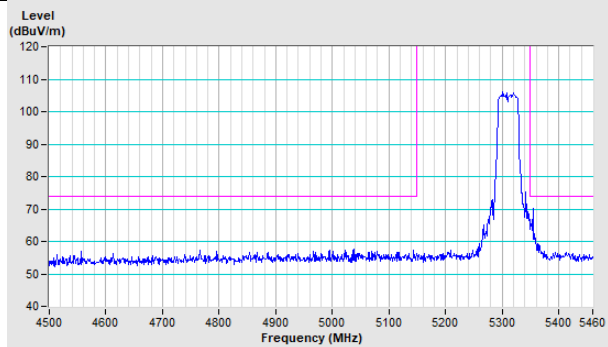


Vertical (Average)

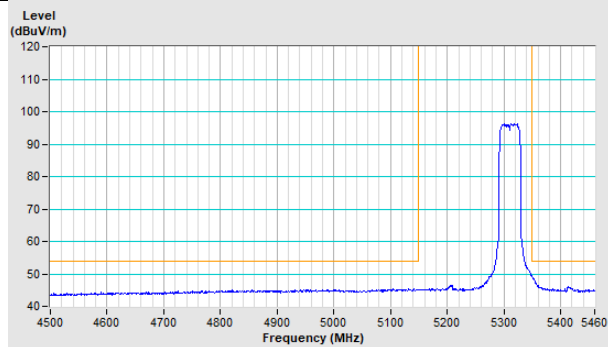


802.11n (HT40) Channel 62

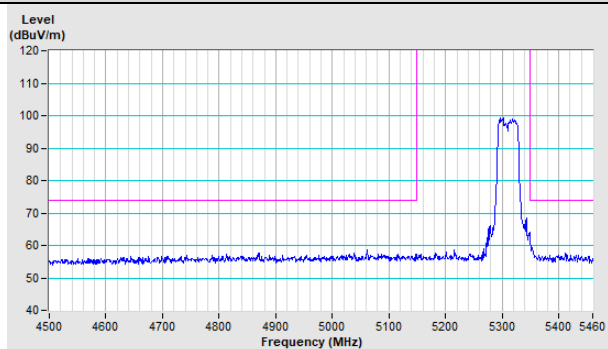
Horizontal (Peak)



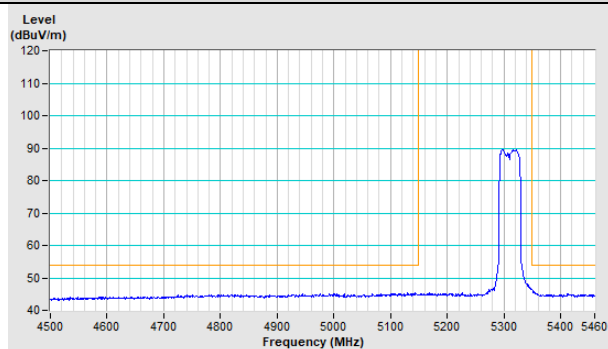
Horizontal (Average)



Vertical (Peak)

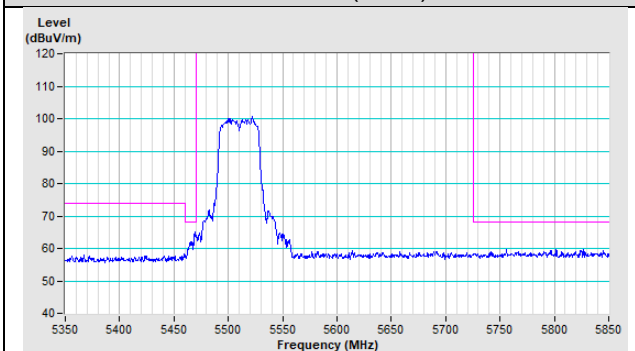


Vertical (Average)

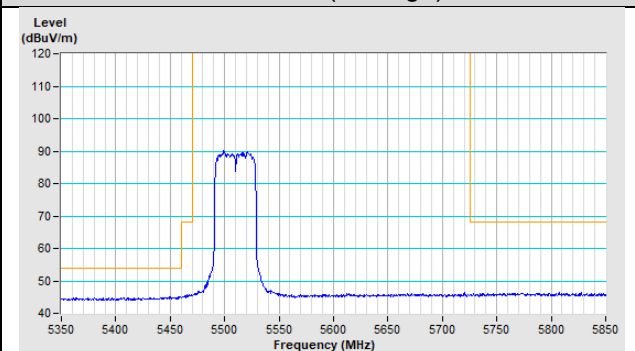


### 802.11n (HT40) Channel 102

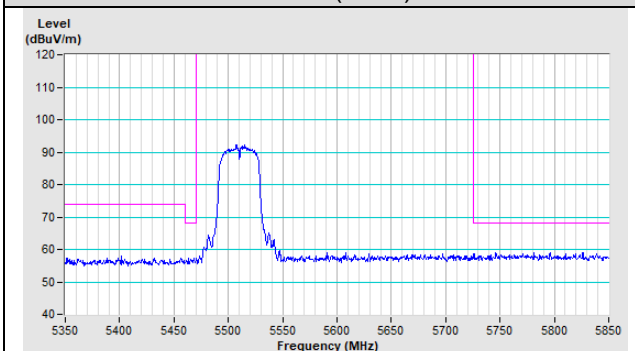
Horizontal (Peak)



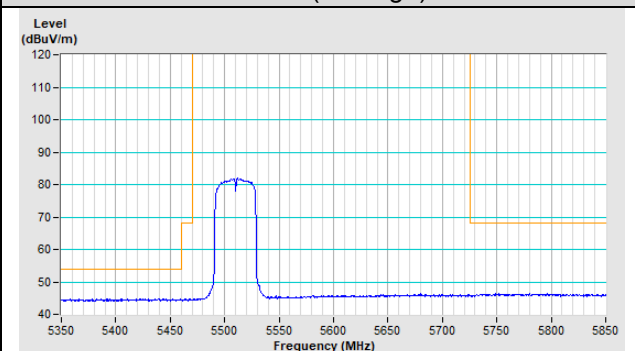
Horizontal (Average)



Vertical (Peak)

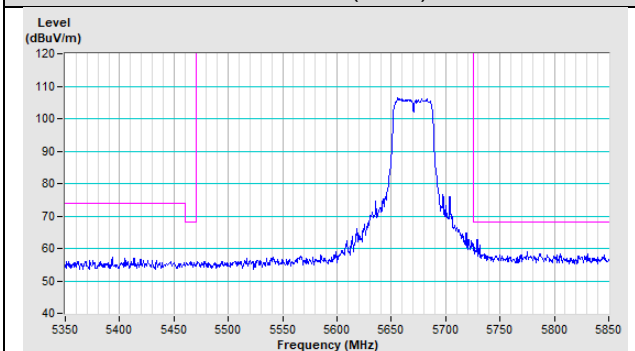


Vertical (Average)

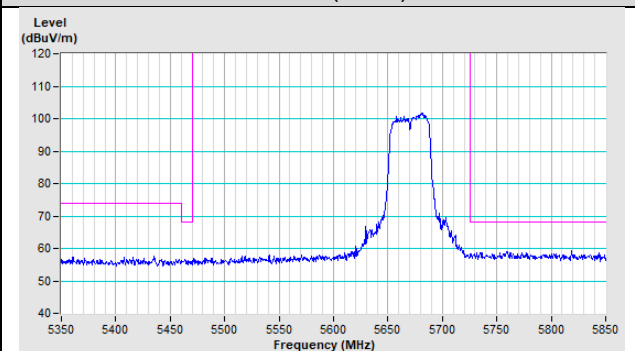


### 802.11n (HT40) Channel 134

Horizontal (Peak)



Vertical (Peak)



## 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](mailto:service.adt@tw.bureauveritas.com)

**Web Site:** [www.bureauveritas-adt.com](http://www.bureauveritas-adt.com)

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

--- END ---