

# FCC UNII REPORT

## Certification

<b>Applicant Name:</b> SAMSUNG Electronics Co., Ltd.	<b>Date of Issue:</b> August 27, 2020
<b>Address:</b> 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea	<b>Test Site/Location:</b> 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA
	<b>Report No.:</b> HCT-RF-2008-FC064

<b>FCC ID:</b>	<b>A3LSMG781U</b>
<b>APPLICANT:</b>	<b>SAMSUNG Electronics Co., Ltd.</b>
<b>According to the Evaluation report, all of the data contained herein is reused from the reference FCC ID : A3LSMG781V report.</b>	

<b>Model:</b>	SM-G781U
<b>Additional Model</b>	SM-G781U1/DS, SM-G781W
<b>EUT Type:</b>	Mobile Phone
<b>Modulation type</b>	OFDMA
<b>FCC Classification:</b>	Unlicensed National Information Infrastructure(NII)
<b>FCC Rule Part(s):</b>	Part 15.407

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

Report No.: HCT-RF-2008-FC064

---

REVIEWED BY



---

Report prepared by : Jung Ki Lim  
Engineer of Telecommunication Testing Center

---

Report approved by : Jong Seok Lee  
Manager of Telecommunication Testing Center

This test results were applied only to the test methods required by the standard.

This laboratory is not accredited for the test results marked \*.

The above Test Report is the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA. (HCT Accreditation No.: KT197)

\* The report shall not be reproduced except in full(only partly) without approval of the laboratory.

## Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2008-FC064	August 27, 2020	- First Approval Report

# Table of Contents

REVIEWED BY.....	2
1. GENERAL INFORMATION.....	6
EUT DESCRIPTION.....	6
ANTENNA CONFIGURATIONS.....	7
2. MAXIMUM OUTPUT POWER.....	9
3. TEST METHODOLOGY.....	10
EUT CONFIGURATION.....	10
EUT EXERCISE.....	10
GENERAL TEST PROCEDURES.....	10
DESCRIPTION OF TEST MODES.....	10
4. INSTRUMENT CALIBRATION.....	11
5. FACILITIES AND ACCREDITATIONS.....	11
5.1 FACILITIES.....	11
5.2 EQUIPMENT.....	11
6. ANTENNA REQUIREMENTS.....	11
7. MEASUREMENT UNCERTAINTY.....	12
8. DESCRIPTION OF TESTS.....	13
9. SUMMARY OF TEST RESULTS.....	31
10. TEST RESULT.....	32
10.1 DUTY CYCLE.....	32
10.2 26dB BANDWIDTH.....	40
10.2.1 Ant1.....	40
10.2.2 Ant2.....	44
10.3 6dB BANDWIDTH.....	48
10.3.1 Ant1.....	48
10.3.2 Ant2.....	49
10.4 OUTPUT POWER MEASUREMENT.....	50
Power Level Setting.....	50
10.4.1 Ant1.....	52
10.4.2 Ant2.....	56
10.4.3 Ant1+Ant2.....	60
10.5 POWER SPECTRAL DENSITY.....	64
10.5.1 Ant1.....	64
10.5.2 Ant2.....	68
10.5.3 Ant1+Ant2.....	72
10.6 STRADDLE CHANNEL.....	76
10.6.1 26dB Bandwidth.....	76
10.6.1.1 Ant1.....	76
10.6.1.2 Ant2.....	79
10.6.2 6dB Bandwidth.....	82
10.6.2.1 Ant1.....	82
10.6.2.2 Ant2.....	85
10.6.3 Output Power.....	88
10.6.3.1 Ant1.....	88
10.6.3.2 Ant2.....	91
10.6.4 Power Spectral Density.....	94
10.6.4.1 Ant1.....	94
10.6.4.2 Ant2.....	97
10.7 RADIATED SPURIOUS EMISSIONS (9 kHz – 1GHz).....	100
10.8 RADIATED SPURIOUS EMISSIONS (Above 1 GHz).....	101
10.8.1 802.11ax(HE20).....	101
10.9 RADIATED RESTRICTED BAND EDGE.....	114
10.9.1 802.11ax(HE20).....	114
10.9.2 802.11ax(HE40).....	118
10.9.3 802.11ax(HE80).....	122
11. LIST OF TEST EQUIPMENT.....	132

---

**12. ANNEX A\_ TEST SETUP PHOTO..... 1 3 4**

## 1. GENERAL INFORMATION

### EUT DESCRIPTION

<b>Model</b>	SM-G781U	
<b>Additional Model</b>	SM-G781U1/DS, SM-G781W	
<b>EUT Type</b>	Mobile Phone	
<b>Power Supply</b>	DC 3.85 V	
<b>Battery Information</b>	Model: EB-BG781ABY Type: Li-ion Battery	
<b>Travel Adapter Information (15W)</b>	Model : EP-TA200 Manufacture: DONGYANG E&P	
<b>Travel Adapter Information (25W)</b>	Model : EP-TA800 Manufacture: DONGYANG E&P	
<b>Data Cable Information (15W)</b>	Model : EP-DG780BWE Manufacture: KSD	
<b>Data Cable Information (25W)</b>	Model : EP-DG980BBE Manufacture: KSD	
<b>Ear-jack Information</b>	Model : GH59-15252A Manufacture: CRESYN	
<b>Modulation Type</b>	OFDMA	
<b>Frequency Range (MHz)</b>	U-NII-1	20MHz BW : 5180 - 5240 40MHz BW : 5190 - 5230 80MHz BW : 5210
	U-NII-2A	20MHz BW : 5260 - 5320 40MHz BW : 5270 - 5310 80MHz BW : 5290
	U-NII-2C	20MHz BW : 5500 - 5720 40MHz BW : 5510 - 5710 80MHz BW : 5530 – 5690
	U-NII-3	20MHz BW : 5745 - 5825 40MHz BW : 5755 - 5795 80MHz BW : 5775
<b>Antenna Specification</b>	Antenna type: LDS+ metal Peak Gain : Ant.1: UNII 1: -2.95 dBi / UNII 2A, UNII 2C: -3.84 dBi / UNII 3: -5.66 dBi Ant.2: UNII 1: -0.15 dBi / UNII 2A, UNII 2C: 0.28 dBi / UNII 3: -2.19 dBi	
<b>Straddle channel</b>	Supported	
<b>TDWR Band</b>	Supported	
<b>Dynamic Frequency Selection</b>	Slave without radar detection	
<b>Date(s) of Tests</b>	July 08, 2020 ~ August 13, 2020	

**ANTENNA CONFIGURATIONS**

1. The device employs MIMO technology. Below are the possible configurations

Configurations	SISO		SDM	CDD
	Ant1	Ant2	Ant1 + Ant2	Ant1 + Ant2
802.11ax	O	O	O	O

**Note:**

- (1) O = Support, X = Not Support
- (2) SISO = Single Input Single Output
- (3) SDM = Spatial Diversity Multiplexing
- (4) CDD = Cyclic Delay Diversity

2.This device supports simultaneous transmission operation, which allows for two channels to operate independent of one another in the 2.4GHz and 5GHz bands simultaneously on each antenna.

RSDB Scenario	2.4 GHz WiFi Ant.1	2.4 GHz WiFi Ant.2	5GHz WiFi Ant.1	5GHz WiFi Ant.2	Bluetooth Ant.1	Bluetooth Ant.2
2.4 GHz WiFi MIMO + 5GHz WiFi	On	On	On			
2.4 GHz WiFi MIMO + 5GHz WiFi MIMO	On	On	On	On		
2.4 GHz WiFi + 5GHz WiFi + Bluetooth		On	On		On	
2.4 GHz WiFi + 5GHz WiFi MIMO + Bluetooth		On	On	On	On	

Non-DBS	2.4 GHz WiFi Ant.1	2.4 GHz WiFi Ant.2	5GHz WiFi Ant.1	5GHz WiFi Ant.2	Bluetooth Ant.1	Bluetooth Ant.2
2.4 GHz WiFi MIMO + 5GHz WiFi			On	On	On	
MIMO + Bluetooth			On	On		On

**3. Directional Gain Calculation**

According to KDB 662911 D01 Multiple Transmitter Output v02r01 F) 2) f) (ii)

Directional gain =

$$DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

Band	Ant Gain (dBi)		N <sub>ANT</sub> / N <sub>SS</sub>	Directional Gain (dBi)
	ANT.1	ANT.2		
UNII 1	ANT.1	-2.95	2 / 2	1.57
	ANT.2	-0.15		
UNII 2A, UNII 2C	ANT.1	-3.84	2 / 2	1.47
	ANT.2	0.28		
UNII 3	ANT.1	-5.66	2 / 2	-0.74
	ANT.2	-2.19		



## 2. MAXIMUM OUTPUT POWER

The transmitter has a maximum total conducted average output power as follows:

Band	Mode	SISO				MIMO	
		(Ant1) Power		(Ant2) Power		(Ant 1 + Ant 2) Power	
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)
UNII1	802.11ax (HE20)	14.52	0.028	14.49	0.028	17.52	0.056
	802.11ax (HE40)	13.94	0.025	14.16	0.026	17.06	0.051
	802.11ax (HE80)	13.09	0.020	13.39	0.022	16.25	0.042
UNII2A	802.11ax (HE20)	14.94	0.031	14.59	0.029	17.78	0.060
	802.11ax (HE40)	14.62	0.029	14.52	0.028	17.58	0.057
	802.11ax (HE80)	13.93	0.025	13.66	0.023	16.81	0.048
UNII2C	802.11ax (HE20)	14.57	0.029	14.25	0.027	17.42	0.055
	802.11ax (HE40)	14.28	0.027	13.80	0.024	17.06	0.051
	802.11ax (HE80)	13.05	0.020	13.03	0.020	16.05	0.040
UNII3	802.11ax (HE20)	15.79	0.038	14.46	0.028	18.19	0.066
	802.11ax (HE40)	14.63	0.029	12.61	0.018	16.75	0.047
	802.11ax (HE80)	13.47	0.022	11.58	0.014	15.64	0.037

### **3. TEST METHODOLOGY**

The measurement procedure described in FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 dated December 14, 2017 entitled "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part15, Subpart E" and ANSI C63.10(Version : 2013) 'the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices' were used in the measurement.

#### **EUT CONFIGURATION**

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

#### **EUT EXERCISE**

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.407 under the FCC Rules Part 15 Subpart E.

#### **GENERAL TEST PROCEDURES**

##### **Conducted Emissions**

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10. (Version :2013) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

##### **Radiated Emissions**

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1GHz. Above 1GHz with 1.5m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 6.6.5 of ANSI C63.10. (Version: 2013)

#### **DESCRIPTION OF TEST MODES**

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

#### 4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment's, which is traceable to recognized national standards.

Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

#### 5. FACILITIES AND ACCREDITATIONS

##### 5.1 FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2014) and CISPR Publication 22.

Detailed description of test facility was submitted to the Commission and accepted dated April 02, 2018 (Registration Number: KR0032).

##### 5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

#### 6. ANTENNA REQUIREMENTS

##### According to FCC 47 CFR §15.203, §15.407:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

- (1) The antennas of this E.U.T are permanently attached.
- (2) The E.U.T Complies with the requirement of §15.203, §15.407

## 7. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95 % level of confidence.

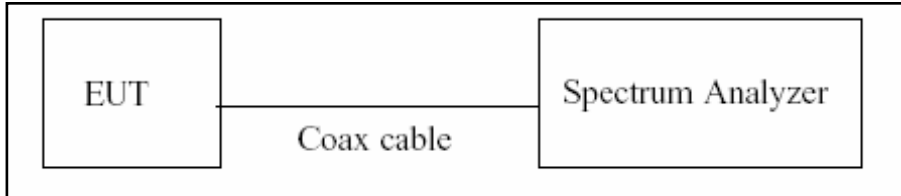
The measurement data shown herein meets or exceeds the  $U_{\text{CISPR}}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty ( $\pm$ dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80
Radiated Disturbance (1 GHz ~ 18 GHz)	5.70
Radiated Disturbance (18 GHz ~ 40 GHz)	5.05

## 8. DESCRIPTION OF TESTS

### 8.1. Duty Cycle

#### Test Configuration



#### Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

We tested according to Procedure B.2 in KDB 789033 D02 v02r01.

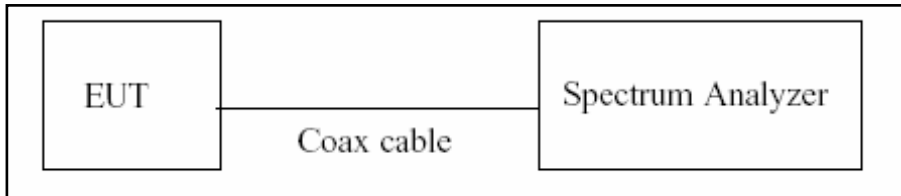
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz ( $\geq$  RBW)
3. SPAN = 0 Hz
4. Detector = Peak
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure  $T_{total}$  and  $T_{on}$
8. Calculate Duty Cycle =  $T_{on} / T_{total}$  and Duty Cycle Factor =  $10\log(1/\text{Duty Cycle})$

## 8.2. 6dB Bandwidth & 26dB Bandwidth

### Limit

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

### Test Configuration



### Test Procedure(26dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

We tested according to Procedure C.1 in KDB 789033 D02 v02r01.

1. RBW = approximately 1 % of the emission bandwidth
2. VBW > RBW
3. Detector = Peak
4. Trace mode = max hold
5. Measure the maximum width of the emission that is 26 dB down from the maximum 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 %.

### Test Procedure (6dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

We tested according to Procedure C.2 in KDB 789033 D02 v02r01.

1. RBW = 100 kHz
2. VBW  $\geq 3 \times$  RBW
3. Detector = Peak
4. Trace mode = max hold
5. Allow the trace to stabilize
6. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points(upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

### Note:

1. We tested X dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer.
2. DFS test channels should be defined. So, We performed the OBW test to prove that no part of the fundamental emissions of any channels belong to UNII1 and UNII3 band for DFS.
3. The 26 dB bandwidth is used to determine the conducted power limits.

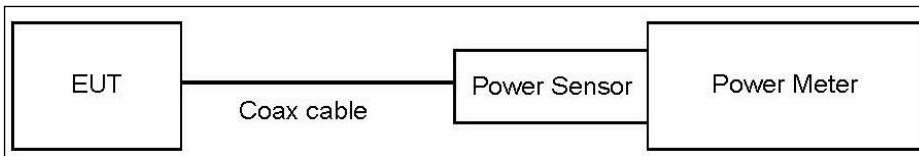
**8.3. Output Power Measurement**

**Limit**

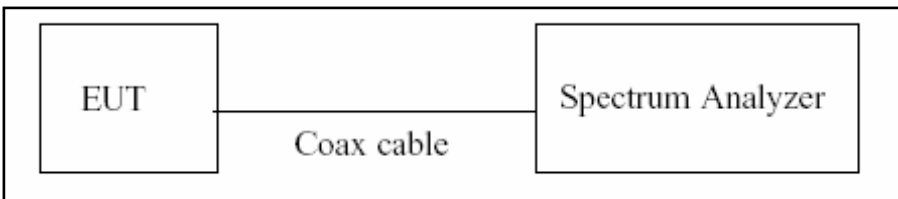
Band	Limit
UNII 1	- Master : Not exceed 1 W(=30dBm) - Slave : Not exceed 250 mW(=23.98 dBm)
UNII 2A, 2C	Not exceed the lesser of 250 mW or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)
UNII 3	Not exceed 1 W(=30dBm)

**Test Configuration**

Power Meter



Spectrum Analyzer(Only Straddle Channel)



**Test Procedure(Power Meter)**

We tested according to Procedure E.3.a in KDB 789033 D02 v02r01.

1. Measure the duty cycle.
2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
3. Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

**Test Procedure(Spectrum Analyzer)**

The transmitter output is connected to the Spectrum Analyzer.

We use the spectrum analyzer's integrated band power measurement function.

We tested according to Procedure E.2.d) in KDB 789033 D02 v02r01.

1. Measure the duty cycle.
2. Set span to encompass the 26 dB EBW of the signal.
3. RBW = 1 MHz.
4. VBW  $\geq$  3 MHz.
5. Number of points in sweep  $\geq$  2 x span/RBW.
6. Sweep time = auto.
7. Detector = RMS.
8. Do not use sweep triggering. Allow the sweep to "free run".
9. Trace average at least 100 traces in power averaging(RMS) mode
10. Integrated bandwidth = OBW
11. Add  $10\log(1/x)$ , where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

### **Sample Calculation**

Total Power(dBm) = Reading Value(dBm) + ATT loss(dB) + Cable loss(dB) + Duty Cycle Factor(dB)

### **Note**

1. Spectrum reading values are not plot data.

The power results in plot is already including the actual values of loss for the attenuator and cable combination.

2. Spectrum offset = Attenuator loss(20 dB) + Cable loss

3. Actual value of loss for the attenuator and cable combination is below table.

<b>Band</b>	<b>Loss(dB)</b>
UNII 1	20.80
UNII 2A	20.80
UNII 2C	20.80
UNII 3	20.80

(Actual value of loss for the attenuator and cable combination)

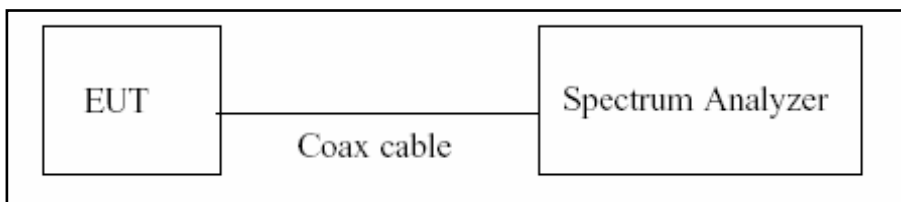


**8.4. Power Spectral Density**

**Limit**

Band	Limit
UNII 1	11 dBm/MHz
UNII 2A, 2C	11 dBm/MHz
UNII 3	30 dBm/500 kHz

**Test Configuration**



**Test Procedure**

We tested according to Procedure F in KDB 789033 D02 v02r01.

1. Set span to encompass the entire emission bandwidth(EBW) of the signal.
2. RBW = 1 MHz(510 kHz for UNII 3)
3. VBW ≥ 3 MHz
4. Number of points in sweep ≥ 2 x span/RBW.
5. Sweep time = auto.
6. Detector = RMS(i.e., power averaging), if available. Otherwise, use sample detector mode.
7. Do not use sweep triggering. Allow the sweep to “free run”.
8. Trace average at least 100 traces in power averaging(RMS) mode
9. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
10. If Method SA-2 was used, add 10 log(1/x), where x is the duty cycle, to the peak of the spectrum.

**Sample Calculation**

Total PSD(dBm) = Reading Value(dBm) + ATT loss(dB) + Cable loss(dB) + Duty Cycle Factor(dB)

**Note**

1. Spectrum reading values are not plot data.

The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.

2. Spectrum offset = Attenuator loss(20 dB) + Cable loss

3. Actual value of loss for the attenuator and cable combination is below table.

<b>Band</b>	<b>Loss(dB)</b>
UNII 1	20.80
UNII 2A	20.80
UNII 2C	20.80
UNII 3	20.80

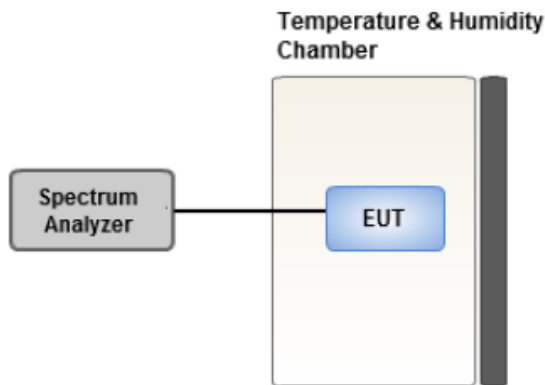
(Actual value of loss for the attenuator and cable combination)

## 8.5. Frequency Stability

### Limit

Maintained within the band

### Test Configuration



### Test Procedure

1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -30 °C and 50 °C.
2. The temperature was incremented by 10 °C intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.
3. The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.
4. While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

**8.6. AC Power line Conducted Emissions**

**Limit**

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56 <sup>(a)</sup>	56 to 46 <sup>(a)</sup>
0.50 to 5	56	46
5 to 30	60	50

<sup>(a)</sup>Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

**Test Configuration**

See test photographs attached in Annex A for the actual connections between EUT and support equipment.

**Test Procedure**

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors : Quasi Peak and Average Detector.

**Sample Calculation**

Quasi-peak(Final Result) = Reading Value + Correction Factor

**8.7. Radiated Test**

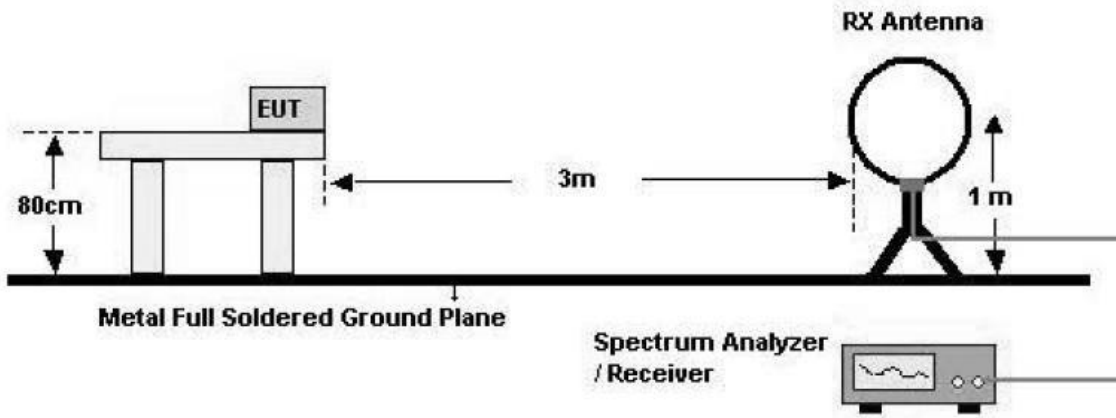
**Limit**

1. UNII 1: All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.
2. UNII 2A, 2C: All emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.
3. UNII 3: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
4. All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Section 15.209.

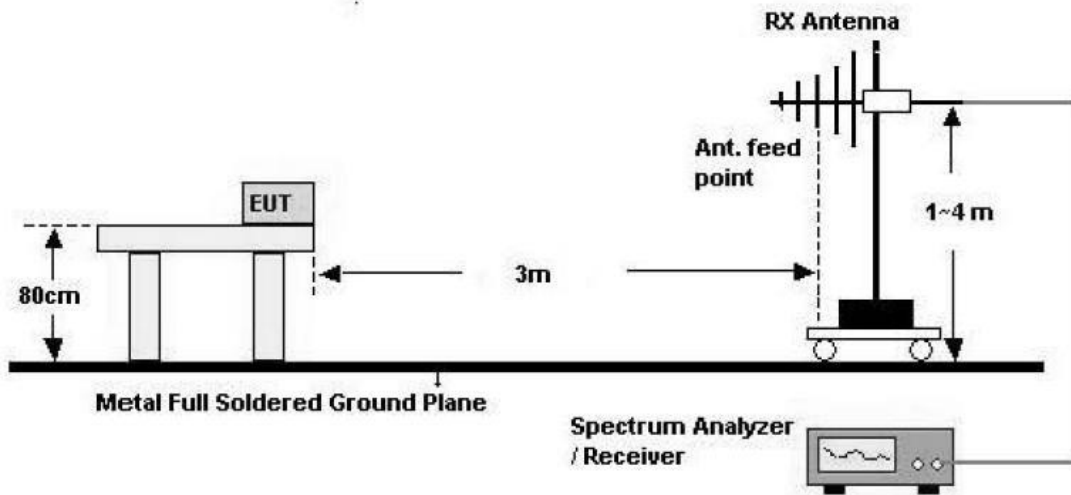
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

**Test Configuration**

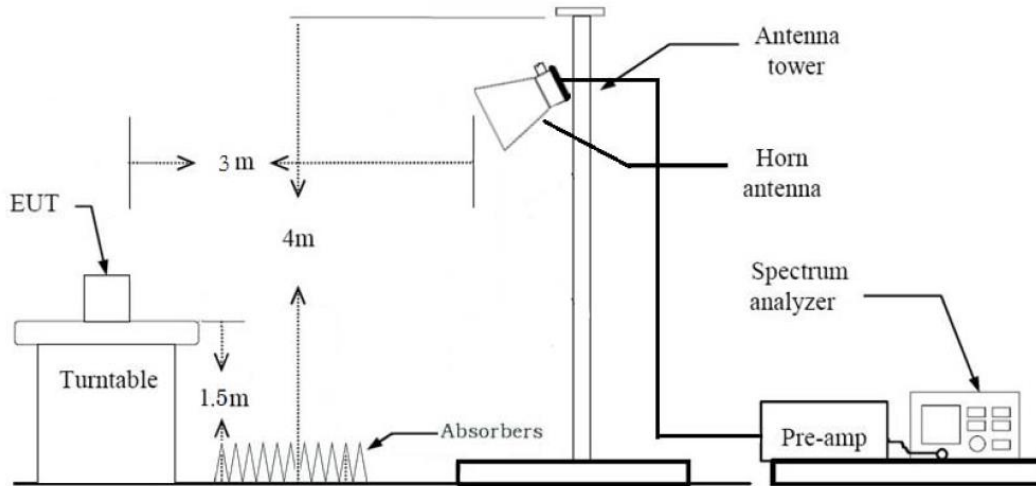
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



### Test Procedure of Radiated spurious emissions(Below 30 MHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3m from the EUT
3. The EUT is placed on a turntable, which is 0.8m above ground plane.
4. .We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor(0.009 MHz – 0.490 MHz) =  $40\log(3\text{ m}/300\text{ m}) = - 80\text{ dB}$   
Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) =  $40\log(3\text{ m}/30\text{ m}) = - 40\text{ dB}$   
Measurement Distance : 3 m
8. Spectrum Setting
  - Frequency Range = 9 kHz ~ 30 MHz
  - Detector = Peak
  - Trace = Maxhold
  - RBW = 9 kHz
  - VBW  $\geq 3 \times$  RBW
9. Total = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)
10. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

**KDB 414788 OFS and Chamber Correlation Justification**

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

**Test Procedure of Radiated spurious emissions(Below 1GHz)**

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The EUT is placed on a turntable, which is 0.8m above ground plane.
3. The Hybrid antenna was placed at a location 3m from the EUT, which is varied from 1m to 4m to find out the highest emissions.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Spectrum Setting
  - (1) Measurement Type(Peak):
    - Measured Frequency Range : 30 MHz – 1 GHz
    - Detector = Peak
    - Trace = Maxhold
    - RBW = 100 kHz
    - VBW  $\geq$  3 x RBW
  - (2) Measurement Type(Quasi-peak):
    - Measured Frequency Range : 30 MHz – 1 GHz
    - Detector = Quasi-Peak
    - RBW = 120 kHz
- ※ In general, (1) is used mainly
7. Total = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L)
8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.



**Test Procedure of Radiated spurious emissions (Above 1 GHz)**

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting

## (1) Measurement Type (Peak, G.5 in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW  $\geq$  3 MHz
- Detector = Peak
- Sweep Time = auto
- Trace mode = max hold
- Allow sweeps to continue until the trace stabilizes.

Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately  $1/x$ , where  $x$  is the duty cycle.

## (2) Measurement Type (Average, G.6.d in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW(Duty cycle  $\geq$  98 percent) = VBW  $\leq$  RBW/100(i.e., 10 kHz) but not less than 10 Hz.
- VBW(Duty cycle is < 98 percent) = VBW  $\geq$   $1/T$ , where T is the minimum transmission duration.
- The analyzer is set to linear detector mode.
- Detector = Peak.
- Sweep time = auto.
- Trace mode = max hold.
- Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of  $1/x$ , where  $x$  is the duty cycle.

9. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor
10. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency
11. Distance extrapolation factor =  $20\log(\text{test distance} / \text{specific distance})$  (dB)
12. Total = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(G) + Distance Factor(D.F)

**Test Procedure of Radiated Restricted Band Edge**

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting
  - (1) Measurement Type(Peak, G.5 in KDB 789033 v02r01):
    - RBW = 1 MHz
    - VBW  $\geq$  3 MHz
    - Detector = Peak
    - Sweep Time = auto
    - Trace mode = max hold
    - Allow sweeps to continue until the trace stabilizes.Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle.
  - (2) Measurement Type(Average, G.6.d in KDB 789033 v02r01):
    - RBW = 1 MHz
    - VBW(Duty cycle  $\geq$  98 percent) =  $\text{VBW} \leq \text{RBW}/100$ (i.e., 10 kHz) but not less than 10 Hz.
    - VBW(Duty cycle is < 98 percent) =  $\text{VBW} \geq 1/T$ , where T is the minimum transmission duration.
    - The analyzer is set to linear detector mode.
    - Detector = Peak.
    - Sweep time = auto.
    - Trace mode = max hold.
    - Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle.

9. Measured Frequency Range :

- 4 500 MHz ~ 5 150 MHz
- 5 350 MHz ~ 5 460 MHz
- 5 460 MHz ~ 5 470 MHz
- (75 MHz or more below the 5 725 MHz) ~ 5 725 MHz
- 5 850 MHz ~ (75 MHz or more above the 5 850 MHz)

10. Distance extrapolation factor =  $20\log(\text{test distance} / \text{specific distance})$  (dB)

11. Total = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(G) + Attenuator + Distance Factor(D.F)

**The actual setting value of VBW**

Mode	Tone	Worst Data rate (Mbps)	Duty Cycle	Duty Cycle Factor (dB)	VBW (1/T) (kHz)	The actual setting value of VBW (Hz)
802.11ax (HE20)	26	MCS 0	0.996	0.02	0.197	1000
	52	MCS 0	0.996	0.02	0.197	1000
	106	MCS 0	0.996	0.02	0.210	1000
	242	MCS 0	0.996	0.02	0.214	1000
	SU	MCS 0	0.997	0.02	0.184	1000
802.11ax (HE40)	26	MCS 0	0.996	0.02	0.197	1000
	52	MCS 0	0.996	0.02	0.197	1000
	106	MCS 0	0.997	0.01	0.210	1000
	242	MCS 0	0.997	0.01	0.214	1000
	484	MCS 0	0.997	0.01	0.214	1000
	SU	MCS 0	0.997	0.01	0.184	1000
802.11ax (HE80)	26	MCS 0	0.996	0.02	0.197	1000
	52	MCS 0	0.997	0.01	0.197	1000
	106	MCS 0	0.997	0.01	0.210	1000
	242	MCS 0	0.997	0.01	0.214	1000
	484	MCS 0	0.997	0.01	0.214	1000
	996	MCS 0	0.997	0.01	0.211	1000
	SU	MCS 0	0.997	0.01	0.184	1000

**8.8. Test RU offset for Tones**

BW (MHz)	Tones (T)	RU offset	Test RU offset		
			Low	Mid	High
20	26	0~8	0	4	8
	52	37~40	37	38	40
	106	53~54	53	-	54
	242	61	-	61	-
40	26	0~17	0	9	17
	52	37~44	37	41	44
	106	53~56	53	54	56
	242	61~62	61	-	62
	484	65	-	65	-
80	26	0~36	0	18	36
	52	37~52	37	45	52
	106	53~60	53	57	60
	242	61~64	61	62	64
	484	65~66	65	-	66
	996	67	-	67	-

**8.8. Worst case configuration and mode**

**Conducted test**

1. All data rate of operation were investigated and the worst case results are reported.
  - HE20, HE40, HE80: MCS7 (All Tone)
2. SM-G781W, SM-G781U, SM-G781U1/DS were tested and the worst case results are reported.  
(Worst case : SM-G781U)

**Radiated test**

1. Full RU(Resource Unit) mode and SU(Single Unit) mode have no difference in physical waveform.  
This Report has been described only SU(Single Unit) mode with worst output power
2. All modes of operation were investigated and the worst case configuration results are reported.
  - Mode : Stand alone, Stand alone + External accessories(Earphone, etc)
  - Worstcase : Stand alone
3. EUT Axis
  - Radiated Spurious Emissions : Y
  - Radiated Restricted Band Edge : X,Z
4. All data rate of operation were investigated and the worst case results are reported.  
(Worst case : MCS0)
5. All Antenna of operation were investigated and the worst case results are reported
  - Mode : Ant1(SISO), Ant2(SISO), Ant1+Ant2(SDM), Ant1+Ant2(CDD)
  - Worstcase : Ant1+Ant2(CDD)
6. All position of loop antenna were investigated and the test result is a no critical peak found at all positions.
  - Position : Horizontal, Vertical, Parallel to the ground plane
7. All mode(Tone, RU Offset) of operation were investigated and the worst case configuration results are reported

Test	Tone	RU Offset
RSE	[HE 20] Worst case(Highest Power) : SU	-
	[HE 20] Additional Tone: 26T	[HE 20] 4 (Mid)
Bandedge (UNII1,2A,2C)	[HE 20] Worst case(Highest Power) : SU [HE 40] Worst case(Highest Power) : SU [HE 80] Worst case(Highest Power) : SU	-

	[HE 20] Additional Tone: 26T  [HE 40] Additional Tone: 26T  [HE 80] Additional Tone: 26T	[HE20] Low Edge: 0 High Edge: 8 [HE40] Low Edge: 0 High Edge: 17 [HE80] Low Edge: 0 High Edge: 36
Bandedge (Straddle, UNII3)	[HE 20] Worst case(Highest Power) : SU [HE 40] Worst case(Highest Power) : SU [HE 80] Worst case(Highest Power) : SU	-

8. SM-G781W, SM-G781U, SM-G781U1/DS were tested and the worst case results are reported.  
 (Worst case : SM-G781U)

**Radiated test(DBS)**

1. Please refer to the SM-G781U [UNII] Test Report.
2. SM-G781W, SM-G781U, SM-G781U1/DS were tested and the worst case results are reported.  
 (Worst case : SM-G781U)

**AC Power line Conducted Emissions**

1. Please refer to the SM-G781U [UNII] Test Report.
2. SM-G781W, SM-G781U, SM-G781U1/DS were tested and the worst case results are reported.  
 (Worst case : SM-G781U)

**9. SUMMARY OF TEST RESULTS**

Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
26dB Bandwidth	§15.407 (for Power Measurement)	N/A	Conducted	PASS
6 dB Bandwidth	§15.407(e)	>500 kHz (5725-5850 MHz)		PASS
Maximum Conducted Output Power	§15.407(a)(1)	< 250 mW (5150-5250 MHz) < 250 mW or 11+10log <sub>10</sub> (BW) dBm (5250-5350 MHz) < 250 mW or 11+10log <sub>10</sub> (BW) dBm (5470-5725 MHz) <1 W (5725-5850 MHz)		PASS
Peak Power Spectral Density	§15.407(a)(1),(5)	<11 dBm/ MHz (5150-5250 MHz) <11 dBm/ MHz (5250-5350 MHz) <11 dBm/ MHz (5470-5725 MHz) <30 dBm/500 kHz (5725-5850 MHz)		PASS
Frequency Stability	§15.407(g) §2.1055	Maintained within the band		PASS (Note1)
AC Conducted Emissions 150 kHz-30 MHz	15.207	<FCC 15.207 limits		PASS (Note1)
Undesirable Emissions	§15.407(b)	<-27 dBm/MHz EIRP (UNII1, 2A, 2C) cf. Section 8.7 (UNII 3)		PASS
General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	15.205, 15.407(b)(5), (6)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	Radiated	PASS

**Note:**

1. Please refer to the SM-G781U [UNII] Test Report.

### 10. TEST RESULT

#### 10.1 DUTY CYCLE

##### 802.11ax(HE20)

Mode	Tone (T)	Data Rate	On Time (ms)	Total Time (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11ax (HE20)	26	MCS0	5.085	5.106	0.996	0.02
		MCS1	5.073	5.092	0.996	0.02
		MCS2	5.060	5.078	0.996	0.02
		MCS3	5.206	5.225	0.996	0.02
		MCS4	5.158	5.173	0.997	0.01
		MCS5	5.126	5.145	0.996	0.02
		MCS6	5.115	5.137	0.996	0.02
		MCS7	5.112	5.130	0.997	0.02
		MCS8	5.153	5.172	0.996	0.02
		MCS9	5.107	5.126	0.996	0.02
	52	MCS0	5.075	5.094	0.996	0.02
		MCS1	5.058	5.077	0.996	0.02
		MCS2	5.054	5.072	0.996	0.02
		MCS3	5.207	5.226	0.996	0.02
		MCS4	5.153	5.172	0.996	0.02
		MCS5	5.127	5.143	0.997	0.01
		MCS6	5.115	5.134	0.996	0.02
		MCS7	5.107	5.126	0.996	0.02
		MCS8	5.155	5.170	0.997	0.01
		MCS9	5.107	5.126	0.996	0.02
	106	MCS0	4.760	4.778	0.996	0.02
		MCS1	4.760	4.778	0.996	0.02
		MCS2	4.758	4.773	0.997	0.01
		MCS3	4.904	4.922	0.996	0.02
		MCS4	4.849	4.868	0.996	0.02
		MCS5	4.830	4.849	0.996	0.02
		MCS6	4.818	4.837	0.996	0.02
		MCS7	4.812	4.830	0.996	0.02
		MCS8	4.849	4.868	0.996	0.02
		MCS9	4.803	4.822	0.996	0.02
	242	MCS0	4.664	4.682	0.996	0.02
		MCS1	4.664	4.682	0.996	0.02



Mode	Tone (T)	Data Rate	On Time (ms)	Total Time (ms)	Duty Cycle	Duty Cycle Factor (dB)
		MCS2	4.658	4.677	0.996	0.02
		MCS3	4.802	4.821	0.996	0.02
		MCS4	4.746	4.765	0.996	0.02
		MCS5	4.720	4.735	0.997	0.01
		MCS6	4.713	4.732	0.996	0.02
		MCS7	4.704	4.723	0.996	0.02
		MCS8	4.741	4.759	0.996	0.02
		MCS9	4.693	4.712	0.996	0.02
		MCS10	4.720	4.738	0.996	0.02
		MCS11	4.701	4.720	0.996	0.02

**802.11ax(HE40)**

Mode	Tone (T)	Data Rate	On Time (ms)	Total Time (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11ax(HE40)	26	MCS0	5.088	5.107	0.996	0.02
		MCS1	5.077	5.092	0.997	0.01
		MCS2	5.058	5.077	0.996	0.02
		MCS3	5.204	5.226	0.996	0.02
		MCS4	5.152	5.173	0.996	0.02
		MCS5	5.127	5.146	0.996	0.02
		MCS6	5.119	5.138	0.996	0.02
		MCS7	5.112	5.131	0.996	0.02
		MCS8	5.149	5.170	0.996	0.02
		MCS9	5.107	5.126	0.996	0.02
	52	MCS0	5.073	5.092	0.996	0.02
		MCS1	5.058	5.077	0.996	0.02
		MCS2	5.058	5.073	0.997	0.01
		MCS3	5.206	5.225	0.996	0.02
		MCS4	5.153	5.168	0.997	0.01
		MCS5	5.122	5.141	0.996	0.02
		MCS6	5.112	5.133	0.996	0.02
		MCS7	5.107	5.126	0.996	0.02
		MCS8	5.153	5.172	0.996	0.02
		MCS9	5.107	5.126	0.996	0.02
	106	MCS0	4.769	4.784	0.997	0.01
		MCS1	4.758	4.777	0.996	0.02
		MCS2	4.758	4.773	0.997	0.01
		MCS3	4.904	4.919	0.997	0.01
		MCS4	4.851	4.867	0.997	0.01
		MCS5	4.826	4.845	0.996	0.02
		MCS6	4.821	4.839	0.996	0.02
		MCS7	4.812	4.830	0.996	0.02
		MCS8	4.853	4.872	0.996	0.02
		MCS9	4.805	4.821	0.997	0.01
	242	MCS0	4.666	4.682	0.997	0.01
		MCS1	4.663	4.682	0.996	0.02
		MCS2	4.663	4.678	0.997	0.01
		MCS3	4.803	4.822	0.996	0.02

Mode	Tone (T)	Data Rate	On Time (ms)	Total Time (ms)	Duty Cycle	Duty Cycle Factor (dB)
		MCS4	4.750	4.765	0.997	0.01
		MCS5	4.720	4.735	0.997	0.01
		MCS6	4.712	4.727	0.997	0.01
		MCS7	4.704	4.722	0.996	0.02
		MCS8	4.742	4.758	0.997	0.01
		MCS9	4.693	4.712	0.996	0.02
		MCS10	4.720	4.735	0.997	0.01
		MCS11	4.701	4.717	0.997	0.01
	484	MCS0	4.663	4.678	0.997	0.01
		MCS1	4.807	4.822	0.997	0.01
		MCS2	4.750	4.765	0.997	0.01
		MCS3	4.720	4.735	0.997	0.01
		MCS4	4.742	4.758	0.997	0.01
		MCS5	4.713	4.729	0.997	0.01
		MCS6	4.708	4.727	0.996	0.02
		MCS7	4.727	4.745	0.996	0.02
		MCS8	4.710	4.729	0.996	0.02
		MCS9	4.717	4.735	0.996	0.02
		MCS10	4.717	4.732	0.997	0.01
		MCS11	4.716	4.731	0.997	0.01

**802.11ax(HE80)**

Mode	Tone (T)	Data Rate	On Time (ms)	Total Time (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11ax (HE80)	26	MCS0	5.088	5.107	0.996	0.02
		MCS1	5.073	5.092	0.996	0.02
		MCS2	5.058	5.077	0.996	0.02
		MCS3	5.206	5.225	0.996	0.02
		MCS4	5.158	5.173	0.997	0.01
		MCS5	5.130	5.145	0.997	0.01
		MCS6	5.119	5.138	0.996	0.02
		MCS7	5.115	5.130	0.997	0.01
		MCS8	5.153	5.168	0.997	0.01
		MCS9	5.107	5.126	0.996	0.02
	52	MCS0	5.077	5.092	0.997	0.01
		MCS1	5.060	5.078	0.996	0.02
		MCS2	5.058	5.073	0.997	0.01
		MCS3	5.207	5.226	0.996	0.02
		MCS4	5.149	5.168	0.996	0.02
		MCS5	5.122	5.141	0.996	0.02
		MCS6	5.115	5.134	0.996	0.02
		MCS7	5.107	5.122	0.997	0.01
		MCS8	5.153	5.168	0.997	0.01
		MCS9	5.107	5.122	0.997	0.01
	106	MCS0	4.769	4.784	0.997	0.01
		MCS1	4.761	4.777	0.997	0.01
		MCS2	4.754	4.773	0.996	0.02
		MCS3	4.902	4.921	0.996	0.02
		MCS4	4.849	4.868	0.996	0.02
		MCS5	4.826	4.845	0.996	0.02
		MCS6	4.821	4.836	0.997	0.01
		MCS7	4.812	4.827	0.997	0.01
		MCS8	4.853	4.868	0.997	0.01
		MCS9	4.803	4.822	0.996	0.02
	242	MCS0	4.670	4.685	0.997	0.01
		MCS1	4.666	4.682	0.997	0.01
		MCS2	4.659	4.674	0.997	0.01

Mode	Tone (T)	Data Rate	On Time (ms)	Total Time (ms)	Duty Cycle	Duty Cycle Factor (dB)	
		MCS3	4.807	4.822	0.997	0.01	
		MCS4	4.746	4.765	0.996	0.02	
		MCS5	4.720	4.738	0.996	0.02	
		MCS6	4.712	4.727	0.997	0.01	
		MCS7	4.704	4.720	0.997	0.01	
		MCS8	4.740	4.755	0.997	0.01	
		MCS9	4.697	4.712	0.997	0.01	
		MCS10	4.720	4.735	0.997	0.01	
		MCS11	4.699	4.717	0.996	0.02	
		484	MCS0	4.664	4.680	0.997	0.01
			MCS1	4.802	4.818	0.997	0.01
	MCS2		4.747	4.766	0.996	0.02	
	MCS3		4.720	4.735	0.997	0.01	
	MCS4		4.741	4.756	0.997	0.01	
	MCS5		4.712	4.727	0.997	0.01	
	MCS6		4.707	4.725	0.996	0.02	
	MCS7		4.727	4.746	0.996	0.02	
	MCS8		4.712	4.731	0.996	0.02	
	MCS9		4.717	4.732	0.997	0.01	
	MCS10		4.716	4.731	0.997	0.01	
	MCS11	4.716	4.731	0.997	0.01		
	996	MCS0	4.732	4.747	0.997	0.01	
		MCS1	4.720	4.735	0.997	0.01	
		MCS2	4.716	4.731	0.997	0.01	
		MCS3	4.712	4.727	0.997	0.01	
		MCS4	4.707	4.726	0.996	0.02	
		MCS5	4.707	4.725	0.996	0.02	
		MCS6	4.704	4.720	0.997	0.01	
		MCS7	4.704	4.720	0.997	0.01	
		MCS8	4.704	4.720	0.997	0.01	
		MCS9	4.704	4.720	0.997	0.01	
		MCS10	4.704	4.720	0.997	0.01	
	MCS11	4.704	4.720	0.997	0.01		

Mode	BW	Data Rate	On Time (ms)	Total Time (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11ax (SU)	BW 20	MCS0	5.442	5.461	0.997	0.02
		MCS1	5.447	5.462	0.997	0.01
		MCS2	5.447	5.462	0.997	0.01
		MCS3	5.447	5.462	0.997	0.01
		MCS4	5.447	5.462	0.997	0.01
		MCS5	5.445	5.461	0.997	0.01
		MCS6	5.445	5.464	0.997	0.02
		MCS7	5.442	5.461	0.997	0.02
		MCS8	5.442	5.461	0.997	0.02
		MCS9	5.442	5.461	0.997	0.02
		MCS10	5.445	5.464	0.997	0.02
	MCS11	5.447	5.462	0.997	0.01	
	BW 40	MCS0	5.443	5.462	0.997	0.01
		MCS1	5.445	5.464	0.997	0.02
		MCS2	5.445	5.461	0.997	0.01
		MCS3	5.442	5.462	0.996	0.02
		MCS4	5.445	5.461	0.997	0.01
		MCS5	5.445	5.461	0.997	0.01
		MCS6	5.442	5.462	0.996	0.02
		MCS7	5.442	5.461	0.997	0.02
		MCS8	5.442	5.461	0.997	0.02
		MCS9	5.443	5.462	0.997	0.01
		MCS10	5.445	5.461	0.997	0.01
	MCS11	5.445	5.464	0.997	0.02	
	BW 80	MCS0	5.445	5.461	0.997	0.01
		MCS1	5.445	5.461	0.997	0.01
		MCS2	5.442	5.461	0.997	0.02
		MCS3	5.445	5.461	0.997	0.01
		MCS4	5.442	5.461	0.997	0.02
		MCS5	5.443	5.459	0.997	0.01
		MCS6	5.447	5.462	0.997	0.01
		MCS7	5.445	5.461	0.997	0.01
		MCS8	5.442	5.461	0.997	0.02
MCS9		5.442	5.461	0.997	0.02	

Mode	BW	Data Rate	On Time (ms)	Total Time (ms)	Duty Cycle	Duty Cycle Factor (dB)
		MCS10	5.445	5.461	0.997	0.01
		MCS11	5.445	5.461	0.997	0.01

## 10.2 26dB BANDWIDTH

### 10.2.1 Ant1

Straddle channel data in the table below are for reporting purposes only.

Straddle channel data were added in section 10.6.1.

#### 802.11ax(HE20)

HE20	Frequency [MHz]	Channel No.	RU Index	26dB BW (MHz)				
				26 T	52 T	106 T	242 T	SU
UNII 1	5180	36	Low	20.01	20.01	20.30	-	-
			Mid	18.54	18.97	-	21.70	22.42
			High	19.68	19.93	20.33	-	-
	5200	40	Low	20.09	20.30	20.67	-	-
			Mid	18.63	18.96	-	22.12	22.43
			High	19.79	19.96	20.67	-	-
	5240	48	Low	20.08	19.83	20.64	-	-
			Mid	18.23	18.82	-	22.17	22.77
			High	20.06	19.72	20.32	-	-
UNII 2A	5260	52	Low	20.00	20.08	20.66	-	-
			Mid	18.45	19.04	-	22.07	22.19
			High	19.93	20.04	20.50	-	-
	5280	56	Low	19.95	20.29	20.57	-	-
			Mid	18.23	18.90	-	21.64	22.10
			High	19.96	19.65	20.38	-	-
	5320	64	Low	20.06	20.31	20.39	-	-
			Mid	18.57	19.13	-	21.75	23.05
			High	20.08	19.89	20.20	-	-
UNII 2C	5500	100	Low	20.03	20.10	20.65	-	-
			Mid	18.50	18.96	-	21.65	22.08
			High	19.88	19.98	20.49	-	-
	5600	120	Low	19.79	20.23	20.60	-	-
			Mid	18.57	18.99	-	22.04	22.00
			High	20.03	20.02	20.37	-	-
	5720	144	Low	19.68	19.97	20.62	-	-
			Mid	18.41	19.06	-	21.97	21.88
			High	19.66	19.94	20.43	-	-
UNII 3	5745	149	Low	20.09	20.32	20.54	-	-



HE20	Frequency [MHz]	Channel No.	RU Index	26dB BW (MHz)				
				26 T	52 T	106 T	242 T	SU
			Mid	18.30	18.95	-	22.06	22.94
			High	18.99	19.80	20.32	-	-
	5785	157	Low	19.83	20.14	20.58	-	-
			Mid	18.65	18.60	-	21.74	23.01
			High	20.03	19.95	20.42	-	-
	5825	165	Low	20.09	20.47	20.74	-	-
			Mid	18.56	19.32	-	21.68	22.92
			High	19.67	19.93	20.37	-	-

**802.11ax(HE40)**

HE40	Frequency [MHz]	Channel No.	RU Index	26dB BW(MHz)					
				26 T	52 T	106 T	242 T	484 T	SU
UNII 1	5190	38	Low	39.78	40.15	40.07	41.54	-	-
			Mid	38.16	38.19	38.74	-	43.69	43.42
			High	40.08	39.85	40.49	41.40	-	-
	5230	46	Low	39.96	40.07	40.07	41.35	-	-
			Mid	37.94	38.15	38.54	-	43.62	43.71
			High	39.90	39.85	40.17	41.33	-	-
UNII 2A	5270	54	Low	39.85	40.04	40.12	41.41	-	-
			Mid	37.97	38.27	38.51	-	44.00	43.52
			High	39.77	39.85	40.10	41.41	-	-
	5310	62	Low	40.13	39.94	39.99	41.20	-	-
			Mid	38.01	38.18	38.51	-	43.59	43.70
			High	39.82	39.97	40.23	41.27	-	-
UNII 2C	5510	102	Low	39.94	39.76	40.02	40.93	-	-
			Mid	38.10	38.13	38.67	-	43.68	43.55
			High	39.99	40.43	40.25	41.13	-	-
	5590	118	Low	40.06	40.14	39.85	40.86	-	-
			Mid	37.99	38.20	38.36	-	43.46	43.49
			High	39.89	40.00	40.24	40.95	-	-
	5710	142	Low	39.79	40.00	39.98	41.10	-	-
			Mid	37.96	38.25	38.57	-	43.70	43.87
			High	39.81	39.85	40.41	40.94	-	-
UNII 3	5755	151	Low	40.31	39.94	40.06	41.40	-	-
			Mid	38.02	38.17	38.78	-	44.56	43.55
			High	39.93	39.88	40.26	41.00	-	-
	5795	159	Low	40.04	39.99	40.17	41.03	-	-
			Mid	37.97	38.12	38.60	-	43.93	43.56
			High	39.70	39.82	40.41	40.81	-	-

**802.11ax(HE80)**

HE80	Freq. [MHz]	Channel No.	RU Index	26dB BW (MHz)						
				26 T	52 T	106 T	242 T	484 T	996 T	SU
UNII 1	5210	42	Low	81.59	82.12	82.91	83.90	83.78	-	-
			Mid	78.28	78.40	79.60	80.59	-	86.61	85.55
			High	81.50	82.52	83.40	82.85	83.45	-	-
UNII 2A	5290	58	Low	81.13	82.59	83.37	82.86	83.17	-	-
			Mid	78.93	77.84	79.37	80.08	-	85.39	85.58
			High	80.78	81.90	82.83	82.82	83.29	-	-
UNII 2C	5530	106	Low	80.94	82.81	83.58	81.69	83.00	-	-
			Mid	78.34	78.93	79.69	80.47	-	85.92	85.65
			High	82.20	82.18	82.86	83.90	85.01	-	-
	5610	122	Low	81.50	82.52	83.42	82.22	83.05	-	-
			Mid	78.25	78.43	79.50	80.75	-	86.01	84.90
			High	80.96	82.07	83.52	83.11	82.46	-	-
	5690	138	Low	80.83	82.13	83.41	82.56	83.47	-	-
			Mid	75.64	78.78	79.30	80.36	-	85.75	85.78
			High	81.70	82.58	82.81	82.76	84.53	-	-
UNII 3	5775	155	Low	81.66	82.25	82.70	83.16	83.11	-	-
			Mid	78.36	78.76	79.31	80.88	-	85.36	85.02
			High	80.65	82.93	83.30	83.53	84.36	-	-

**10.2.2 Ant2**

Straddle channel data in the table below are for reporting purposes only.

Straddle channel data were added in section 10.6.1.

**802.11ax(HE20)**

HE20	Frequency [MHz]	Channel No.	RU Index	26dB BW (MHz)				
				26 T	52 T	106 T	242 T	SU
UNII 1	5180	36	Low	19.80	20.36	20.46	-	-
			Mid	18.51	19.05	-	21.94	21.69
			High	19.93	19.78	20.36	-	-
	5200	40	Low	20.05	20.29	20.66	-	-
			Mid	18.41	18.70	-	21.88	21.73
			High	19.96	19.88	20.66	-	-
	5240	48	Low	19.96	20.31	20.48	-	-
			Mid	18.60	18.94	-	21.93	22.40
			High	20.07	19.88	20.42	-	-
UNII 2a	5260	52	Low	20.04	19.96	20.43	-	-
			Mid	18.48	18.97	-	21.81	22.40
			High	20.14	19.97	20.34	-	-
	5280	56	Low	20.13	20.02	20.47	-	-
			Mid	18.58	18.62	-	21.78	21.67
			High	20.03	19.78	20.29	-	-
	5320	64	Low	20.12	20.22	20.67	-	-
			Mid	18.59	18.87	-	21.55	22.04
			High	20.11	19.99	20.36	-	-
UNII 2c	5500	100	Low	19.53	20.36	20.64	-	-
			Mid	18.43	19.08	-	21.83	21.82
			High	19.81	19.72	20.41	-	-
	5600	120	Low	19.87	20.47	20.58	-	-
			Mid	18.44	17.96	-	22.07	21.88
			High	19.97	20.02	20.41	-	-
	5720	144	Low	20.00	20.14	20.61	-	-
			Mid	18.57	18.64	-	21.80	21.86
			High	20.11	19.63	20.29	-	-
UNII 3	5745	149	Low	19.91	20.26	20.57	-	-
			Mid	18.35	19.05	-	21.96	21.61

HE20	Frequency [MHz]	Channel No.	RU Index	26dB BW (MHz)				
				26 T	52 T	106 T	242 T	SU
	5785	157	High	20.08	20.00	20.39	-	-
			Low	19.78	20.20	20.50	-	-
			Mid	18.51	18.77	-	21.58	21.94
	5825	165	High	19.89	19.99	20.46	-	-
			Low	19.80	20.13	20.64	-	-
			Mid	18.68	18.70	-	21.69	22.18
			High	19.69	20.07	20.41	-	-

**802.11ax(HE40)**

HE40	Frequency [MHz]	Channel No.	RU Index	26dB BW(MHz)					
				26 T	52 T	106 T	242 T	484 T	SU
UNII 1	5190	38	Low	39.91	40.14	40.53	40.75	-	-
			Mid	37.97	38.19	38.76	-	43.87	43.28
			High	40.03	40.11	40.11	41.03	-	-
	5230	46	Low	40.01	40.05	39.98	41.19	-	-
			Mid	37.71	38.16	38.56	-	43.61	43.51
			High	39.94	39.87	40.38	41.07	-	-
UNII 2a	5270	54	Low	39.97	40.02	40.03	41.20	-	-
			Mid	37.98	38.19	38.40	-	43.76	43.46
			High	39.86	40.01	40.46	41.01	-	-
	5310	62	Low	40.12	40.12	40.07	41.38	-	-
			Mid	37.83	38.18	38.57	-	43.85	43.52
			High	39.91	39.95	39.97	41.12	-	-
UNII 2c	5510	102	Low	40.32	39.81	40.00	41.12	-	-
			Mid	38.13	38.10	38.57	-	43.57	43.36
			High	39.85	40.40	40.49	40.99	-	-
	5590	118	Low	39.99	39.96	39.96	41.10	-	-
			Mid	38.00	38.23	38.44	-	43.03	43.54
			High	40.04	39.83	40.38	40.76	-	-
	5710	142	Low	40.02	40.07	40.06	40.79	-	-
			Mid	38.05	38.17	38.74	-	43.39	42.96
			High	39.99	39.94	40.38	40.74	-	-
UNII 3	5755	151	Low	40.20	39.97	39.85	41.48	-	-
			Mid	37.95	38.18	38.69	-	43.48	43.19
			High	39.94	39.98	40.48	40.89	-	-
	5795	159	Low	39.96	39.85	40.38	41.20	-	-
			Mid	38.06	38.26	38.66	-	43.04	43.74
			High	39.87	39.82	40.40	40.96	-	-

**802.11ax(HE80)**

HE80	Freq. [MHz]	Channel No.	RU Index	26dB BW (MHz)						
				26 T	52 T	106 T	242 T	484 T	996 T	SU
UNII 1	5210	42	Low	81.37	82.05	83.67	82.16	83.80	-	-
			Mid	78.16	78.40	79.24	80.46	-	85.77	86.01
			High	81.32	82.49	82.80	83.17	84.84	-	-
UNII 2a	5290	58	Low	81.60	82.52	82.96	83.24	83.47	-	-
			Mid	77.99	78.35	79.47	80.16	-	85.13	86.16
			High	80.94	81.51	82.49	81.97	84.65	-	-
UNII 2c	5530	106	Low	81.22	82.58	83.26	82.57	83.84	-	-
			Mid	78.12	78.46	79.36	80.01	-	85.71	85.41
			High	82.36	82.47	83.04	83.30	84.65	-	-
	5610	122	Low	81.79	81.94	82.73	82.37	82.60	-	-
			Mid	78.59	78.42	79.90	80.56	-	84.68	85.62
			High	81.60	82.28	82.19	82.49	83.97	-	-
	5690	138	Low	81.10	82.78	82.87	82.55	83.15	-	-
			Mid	78.44	78.39	79.34	79.62	-	85.11	85.39
			High	80.87	82.30	82.59	82.59	84.97	-	-
UNII 3	5775	155	Low	81.64	81.66	82.76	83.36	83.40	-	-
			Mid	78.37	78.24	79.64	79.46	-	85.68	84.96
			High	81.31	82.55	82.67	83.30	85.02	-	-

### 10.3 6dB BANDWIDTH

#### 10.3.1 Ant1

##### 802.11ax(HE20)

HE20	Frequency [MHz]	Channel No.	RU Index	6dB BW (MHz)				
				26 T	52 T	106 T	242 T	SU
UNII 3	5745	149	Low	2.143	17.10	17.14	-	-
			Mid	2.691	15.08	-	19.06	19.09
			High	2.101	17.08	17.16	-	-
	5785	157	Low	2.139	17.08	17.16	-	-
			Mid	2.685	15.10	-	19.09	19.07
			High	2.106	17.08	17.17	-	-
	5825	165	Low	2.103	17.05	18.10	-	-
			Mid	2.660	13.88	-	19.10	19.08
			High	2.080	15.81	17.10	-	-

# Limit : > 0.5 MHz

##### 802.11ax(HE40)

HE40	Frequency [MHz]	Channel No.	RU Index	6dB BW(MHz)					
				26 T	52 T	106 T	242 T	484 T	SU
UNII 3	5755	151	Low	2.133	4.184	36.61	36.75	-	-
			Mid	2.171	4.146	35.10	-	38.17	38.18
			High	2.173	4.174	36.57	36.65	-	-
	5795	159	Low	2.135	4.250	36.60	36.72	-	-
			Mid	2.142	4.171	35.08	-	38.20	38.16
			High	2.130	4.119	36.58	36.70	-	-

# Limit : > 0.5 MHz

##### 802.11ax(HE80)

HE80	Frequency [MHz]	Channel No.	RU Index	6dB BW (MHz)						
				26 T	52 T	106 T	242 T	484 T	996 T	SU
UNII 3	5775	155	Low	2.254	4.259	8.453	74.21	76.73	-	-
			Mid	2.809	4.299	8.429	70.10	-	78.19	78.22
			High	2.288	4.293	8.426	76.80	76.85	-	-

# Limit : > 0.5 MHz



**10.3.2 Ant2**

**802.11ax(HE20)**

HE20	Frequency [MHz]	Channel No.	RU Index	6dB BW (MHz)				
				26 T	52 T	106 T	242 T	SU
UNII 3	5745	149	Low	2.140	17.09	17.17	-	-
			Mid	2.664	15.10	-	19.04	19.10
			High	2.103	17.05	17.09	-	-
	5785	157	Low	2.137	17.03	17.17	-	-
			Mid	2.655	15.09	-	19.08	19.09
			High	2.159	17.07	17.14	-	-
	5825	165	Low	2.133	17.08	18.12	-	-
			Mid	2.683	15.11	-	19.09	19.10
			High	2.134	16.98	17.17	-	-

# Limit : > 0.5 MHz

**802.11ax(HE40)**

HE40	Frequency [MHz]	Channel No.	RU Index	6dB BW(MHz)					
				26 T	52 T	106 T	242 T	484 T	SU
UNII 3	5755	151	Low	2.136	4.211	36.61	36.74	-	-
			Mid	2.149	4.159	33.78	-	38.11	38.21
			High	2.187	4.209	36.55	36.72	-	-
	5795	159	Low	2.141	4.216	36.61	36.70	-	-
			Mid	2.172	4.139	30.11	-	38.27	38.15
			High	2.174	4.204	36.60	36.72	-	-

# Limit : > 0.5 MHz

**802.11ax(HE80)**

HE80	Frequency [MHz]	Channel No.	RU Index	6dB BW (MHz)						
				26 T	52 T	106 T	242 T	484 T	996 T	SU
UNII 3	5775	155	Low	2.266	4.324	8.442	76.62	76.89	-	-
			Mid	2.809	4.301	8.423	75.06	-	78.16	78.24
			High	2.302	4.319	8.450	76.56	76.86	-	-

# Limit : > 0.5 MHz

### 10.4 OUTPUT POWER MEASUREMENT

#### Power Level Setting

802.11ax(HE20)		Frequency [MHz]	Channel No.	26 T	52T	106T	242 T	SU
UNII 1	Low	5180	36	8	9	11	13	15
	Mid	5200	40					
	High	5240	48					
UNII 2A	Low	5260	52					
	Mid	5300	60					
	High	5320	64					
UNII 2C	Low	5500	100					
	Mid	5600	120					
	High	5720	144					
UNII 3	Low	5745	149					16
	Mid	5785	157					
	High	5825	165					

802.11ax(HE40)		Frequency [MHz]	Channel No.	26 T	52T	106T	242 T	484T	SU
UNII 1	Low	5190	38	8	9	11	13	13.5	14
	High	5230	46						
UNII 2A	Low	5270	54						
	High	5310	62						
UNII 2C	Low	5510	102						
	Mid	5590	118						
	High	5710	142						
UNII 3	Low	5755	151						
	High	5795	159						

802.11ax(HE80)		Frequency [MHz]	Channel No.	26 T	52T	106T	242 T	484T	996T	SU
UNII 1	Mid	5210	42	8	9	10	11	11.5	12	13
UNII 2A	Mid	5290	58							
UNII 2C	Low	5530	106							
	Mid	5610	122							
	High	5690	138							
UNII 3	Mid	5775	155							

**10.4.1 Ant1**

Straddle channel data in the table below are for reporting purposes only.

Straddle channel data were added in section 10.6.3.

**802.11ax(HE20)**

HE20	Frequency [MHz]	Channel No.	RU Index	Total Power (dBm)				
				26 T	52 T	106 T	242 T	SU
UNII 1	5180	36	Low	7.76	8.97	11.05	-	-
			Mid	7.89	9.08	-	13.24	14.45
			High	7.71	8.88	11.00	-	-
	5200	40	Low	7.39	8.57	10.73	-	-
			Mid	7.54	8.73	-	12.90	14.12
			High	7.42	8.66	10.72	-	-
	5240	48	Low	7.79	9.13	11.20	-	-
			Mid	7.94	9.28	-	13.32	14.52
			High	7.83	9.15	11.19	-	-
UNII 2A	5260	52	Low	7.91	9.26	11.29	-	-
			Mid	8.06	9.39	-	13.51	14.61
			High	7.88	9.21	11.27	-	-
	5280	56	Low	7.98	9.27	11.29	-	-
			Mid	8.10	9.37	-	13.85	14.60
			High	7.90	9.22	11.25	-	-
	5320	64	Low	8.26	9.57	11.50	-	-
			Mid	8.38	9.69	-	13.86	14.94
			High	8.19	9.55	11.48	-	-
UNII 2C	5500	100	Low	7.57	8.90	10.83	-	-
			Mid	7.62	9.01	-	12.92	14.07
			High	7.42	8.59	10.74	-	-
	5600	120	Low	7.65	8.90	11.03	-	-
			Mid	7.82	9.00	-	13.17	14.29
			High	7.61	8.76	10.98	-	-
	5720	144	Low	8.09	9.21	11.28	-	-
			Mid	8.24	9.26	-	13.52	14.57
			High	7.99	9.04	11.22	-	-
UNII 3	5745	149	Low	8.35	9.62	11.63	-	-
			Mid	8.42	9.80	-	13.84	15.79

HE20	Frequency [MHz]	Channel No.	RU Index	Total Power (dBm)				
				26 T	52 T	106 T	242 T	SU
	5785	157	High	8.16	9.49	11.52	-	-
			Low	8.03	9.22	11.17	-	-
			Mid	8.04	9.28	-	13.38	15.29
	5825	165	High	7.78	8.98	11.03	-	-
			Low	7.09	8.23	10.26	-	-
			Mid	7.11	8.41	-	12.50	14.37
			High	6.85	8.11	10.10	-	-

# Limit

(UNII 1) : 23.98 dBm

(UNII 2A, 2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)

(UNII 3) : 30.00 dBm

**802.11ax(HE40)**

HE40	Frequency [MHz]	Channel No.	RU Index	Total Power(dBm)					
				26 T	52 T	106 T	242 T	484 T	SU
UNII 1	5190	38	Low	7.33	8.77	10.98	13.03	-	-
			Mid	7.91	9.12	11.23	-	13.66	13.69
			High	7.45	8.73	10.95	12.98	-	-
	5230	46	Low	7.53	8.87	11.16	13.33	-	-
			Mid	8.12	9.35	11.50	-	13.93	13.94
			High	7.61	8.94	11.22	13.32	-	-
UNII 2a	5270	54	Low	8.03	9.28	11.57	13.62	-	-
			Mid	8.49	9.64	11.79	-	14.23	14.26
			High	0.00	9.15	11.42	13.54	-	-
	5310	62	Low	8.57	9.75	11.90	13.90	-	-
			Mid	8.96	9.96	11.96	-	14.45	14.62
			High	8.45	9.65	11.77	13.83	-	-
UNII 2c	5510	102	Low	7.80	8.98	11.20	13.23	-	-
			Mid	8.14	9.24	11.39	-	13.83	13.86
			High	7.57	8.78	11.02	13.12	-	-
	5590	118	Low	7.85	9.12	11.34	13.35	-	-
			Mid	8.30	9.46	11.59	-	13.93	13.94
			High	7.71	8.94	11.18	13.24	-	-
	5710	142	Low	8.24	9.46	11.55	13.69	-	-
			Mid	8.67	9.82	11.77	-	14.27	14.28
			High	8.03	9.23	11.34	13.62	-	-
UNII 3	5755	151	Low	8.90	9.92	11.92	13.98	-	-
			Mid	8.94	9.97	11.99	-	14.43	14.63
			High	8.49	9.73	11.83	13.74	-	-
	5795	159	Low	7.93	9.25	11.25	13.44	-	-
			Mid	8.13	9.39	11.36	-	13.66	13.67
			High	7.36	8.74	10.80	13.03	-	-

# Limit

(UNII 1) : 23.98 dBm

(UNII 2A, 2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)

(UNII 3) : 30.00 dBm

**802.11ax(HE80)**

HE80	Frequency [MHz]	Channel No.	RU Index	Total Power (dBm)						
				26 T	52 T	106 T	242 T	484 T	996 T	SU
UNII 1	5210	42	Low	7.47	8.74	9.76	10.96	11.79	-	-
			Mid	7.80	9.13	10.06	11.12	-	12.00	13.09
			High	7.50	8.80	9.87	11.05	11.78	-	-
UNII 2a	5290	58	Low	8.66	9.81	10.91	11.96	12.43	-	-
			Mid	8.90	9.95	10.92	11.97	-	12.95	13.93
			High	8.42	9.57	10.61	11.70	12.37	-	-
UNII 2c	5530	106	Low	7.77	8.82	9.79	11.06	11.72	-	-
			Mid	7.90	9.00	9.86	11.12	-	11.81	12.78
			High	7.38	8.48	9.42	10.79	11.59	-	-
	5610	122	Low	7.71	8.86	9.84	11.04	11.68	-	-
			Mid	7.85	9.02	9.94	11.12	-	11.87	12.90
			High	7.26	8.51	9.53	10.78	11.55	-	-
	5690	138	Low	7.80	9.04	10.08	11.26	11.91	-	-
			Mid	8.04	9.21	10.16	11.41	-	12.08	13.05
			High	7.39	8.65	9.70	11.00	11.85	-	-
UNII 3	5775	155	Low	8.71	9.86	10.84	11.96	12.41	-	-
			Mid	8.72	9.88	10.85	11.99	-	12.69	13.47
			High	7.63	8.91	9.85	11.19	12.08	-	-

# Limit

(UNII 1) : 23.98 dBm

(UNII 2A, 2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)

(UNII 3) : 30.00 dBm

**10.4.2 Ant2**

Straddle channel data in the table below are for reporting purposes only.

Straddle channel data were added in section 10.6.3.

**802.11ax(HE20)**

HE20	Frequency [MHz]	Channel No.	RU Index	Total Power (dBm)				
				26 T	52 T	106 T	242 T	SU
UNII 1	5180	36	Low	6.37	7.55	9.60	-	-
			Mid	6.54	7.78	-	11.74	13.33
			High	6.37	7.59	9.59	-	-
	5200	40	Low	7.11	8.38	10.44	-	-
			Mid	7.31	8.54	-	12.56	13.94
			High	7.23	8.46	10.42	-	-
	5240	48	Low	7.70	8.86	10.87	-	-
			Mid	7.80	9.01	-	13.18	14.49
			High	7.63	8.85	10.86	-	-
UNII 2A	5260	52	Low	7.62	8.83	10.91	-	-
			Mid	7.77	8.96	-	13.03	14.48
			High	7.55	8.77	10.90	-	-
	5280	56	Low	7.52	8.74	10.83	-	-
			Mid	7.65	8.93	-	12.90	14.39
			High	7.47	8.71	10.78	-	-
	5320	64	Low	7.69	8.96	10.94	-	-
			Mid	7.80	8.99	-	13.09	14.59
			High	7.57	8.86	10.86	-	-
UNII 2C	5500	100	Low	6.71	8.04	10.03	-	-
			Mid	6.88	8.16	-	12.01	13.85
			High	6.72	8.02	10.02	-	-
	5600	120	Low	7.24	8.39	10.49	-	-
			Mid	7.33	8.54	-	12.52	13.97
			High	7.12	8.30	10.44	-	-
	5720	144	Low	7.55	8.83	10.86	-	-
			Mid	7.57	8.89	-	12.83	14.25
			High	7.29	8.58	10.68	-	-
UNII 3	5745	149	Low	6.95	8.20	10.02	-	-
			Mid	6.93	8.29	-	11.98	14.46



HE20	Frequency [MHz]	Channel No.	RU Index	Total Power (dBm)				
				26 T	52 T	106 T	242 T	SU
	5785	157	High	6.65	7.98	9.78	-	-
			Low	6.12	7.34	9.18	-	-
			Mid	6.10	7.41	-	11.28	13.61
	5825	165	High	5.78	7.09	8.96	-	-
			Low	5.97	7.36	9.32	-	-
			Mid	6.07	7.40	-	11.48	13.69
			High	5.74	7.11	9.20	-	-

# Limit

(UNII 1) : 23.98 dBm

(UNII 2A, 2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)

(UNII 3) : 30.00 dBm

**802.11ax(HE40)**

HE40	Frequency [MHz]	Channel No.	RU Index	Total Power(dBm)					
				26 T	52 T	106 T	242 T	484 T	SU
UNII 1	5190	38	Low	6.84	8.05	10.20	12.29	-	-
			Mid	7.30	8.50	10.47	-	13.07	13.10
			High	6.82	8.14	10.22	12.28	-	-
	5230	46	Low	7.79	9.03	11.22	13.35	-	-
			Mid	8.43	9.52	11.54	-	14.01	14.16
			High	7.86	9.06	11.26	13.34	-	-
UNII 2A	5270	54	Low	7.77	8.93	11.19	13.23	-	-
			Mid	8.26	9.31	11.43	-	14.00	14.08
			High	0.00	8.76	11.06	13.14	-	-
	5310	62	Low	8.18	9.52	11.65	13.78	-	-
			Mid	8.62	9.87	11.92	-	14.46	14.52
			High	7.95	9.31	11.44	13.66	-	-
UNII 2C	5510	102	Low	6.61	7.79	9.76	11.82	-	-
			Mid	6.83	7.94	10.04	-	12.51	12.80
			High	6.69	7.82	9.81	11.81	-	-
	5590	118	Low	7.12	8.32	10.52	12.64	-	-
			Mid	7.58	8.71	10.80	-	13.22	13.42
			High	6.96	8.18	10.37	12.49	-	-
	5710	142	Low	7.96	9.08	11.24	13.21	-	-
			Mid	8.17	9.29	11.38	-	13.75	13.80
			High	7.34	8.57	10.79	13.00	-	-
UNII 3	5755	151	Low	6.83	8.06	10.08	12.21	-	-
			Mid	7.02	8.21	10.23	-	12.60	12.61
			High	6.17	7.42	9.54	11.90	-	-
	5795	159	Low	6.14	7.33	9.32	11.35	-	-
			Mid	6.34	7.42	9.41	-	11.82	11.83
			High	5.55	6.74	8.80	11.07	-	-

# Limit

(UNII 1) : 23.98 dBm

(UNII 2A, 2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)

(UNII 3) : 30.00 dBm

**802.11ax(HE80)**

HE80	Frequency [MHz]	Channel No.	RU Index	Total Power (dBm)						
				26 T	52 T	106 T	242 T	484 T	996 T	SU
UNII 1	5210	42	Low	7.82	8.91	9.99	11.03	11.88	-	-
			Mid	8.24	9.36	10.38	11.24	-	12.10	13.39
			High	7.92	9.06	10.14	11.17	11.87	-	-
UNII 2A	5290	58	Low	8.29	9.45	10.47	11.51	12.16	-	-
			Mid	8.46	9.62	10.55	11.59	-	12.42	13.66
			High	7.81	9.01	10.08	11.15	11.91	-	-
UNII 2C	5530	106	Low	6.65	7.73	8.62	9.86	10.54	-	-
			Mid	6.92	8.02	9.01	9.94	-	10.94	11.93
			High	6.55	7.77	8.74	9.87	10.50	-	-
	5610	122	Low	7.31	8.60	9.62	10.80	11.44	-	-
			Mid	7.49	8.74	9.65	10.87	-	11.53	12.70
			High	6.70	7.96	9.03	10.31	11.10	-	-
	5690	138	Low	8.13	9.34	10.23	11.32	11.96	-	-
			Mid	8.15	9.35	10.24	11.33	-	11.96	13.03
			High	7.00	8.23	9.20	10.45	11.32	-	-
UNII 3	5775	155	Low	6.84	8.04	8.96	10.00	10.48	-	-
			Mid	6.89	8.05	8.97	10.03	-	10.54	11.58
			High	5.63	6.71	7.74	8.88	9.75	-	-

# Limit

(UNII 1) : 23.98 dBm

(UNII 2A, 2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)

(UNII 3) : 30.00 dBm

**10.4.3 Ant1+Ant2**

**802.11ax(HE20)**

HE20	Frequency [MHz]	Channel No.	RU Index	Total Power (dBm)				
				26 T	52 T	106 T	242 T	SU
UNII 1	5180	36	Low	10.13	11.33	13.39	-	-
			Mid	10.28	11.49	-	15.56	16.94
			High	10.11	11.29	13.36	-	-
	5200	40	Low	10.26	11.49	13.60	-	-
			Mid	10.44	11.65	-	15.74	17.04
			High	10.34	11.57	13.58	-	-
	5240	48	Low	10.75	12.01	14.05	-	-
			Mid	10.88	12.16	-	16.26	17.52
			High	10.75	12.01	14.04	-	-
UNII 2A	5260	52	Low	10.78	12.06	14.11	-	-
			Mid	10.93	12.19	-	16.29	17.55
			High	10.73	12.00	14.10	-	-
	5280	56	Low	10.77	12.02	14.08	-	-
			Mid	10.89	12.17	-	16.41	17.51
			High	10.70	11.98	14.03	-	-
	5320	64	Low	10.99	12.29	14.24	-	-
			Mid	11.11	12.37	-	16.51	17.78
			High	10.90	12.23	14.19	-	-
UNII 2C	5500	100	Low	10.17	11.50	13.46	-	-
			Mid	10.28	11.62	-	15.50	16.97
			High	10.10	11.32	13.40	-	-
	5600	120	Low	10.46	11.67	13.78	-	-
			Mid	10.59	11.78	-	15.87	17.14
			High	10.38	11.55	13.73	-	-
	5720	144	Low	10.84	12.04	14.09	-	-
			Mid	10.93	12.09	-	16.20	17.42
			High	10.66	11.82	13.97	-	-
UNII 3	5745	149	Low	10.71	11.98	13.91	-	-
			Mid	10.75	12.12	-	16.02	18.19
			High	10.48	11.81	13.75	-	-
	5785	157	Low	10.19	11.39	13.30	-	-
			Mid	10.19	11.46	-	15.47	17.54

HE20	Frequency [MHz]	Channel No.	RU Index	Total Power (dBm)				
				26 T	52 T	106 T	242 T	SU
			High	9.90	11.15	13.13	-	-
	5825	165	Low	9.58	10.83	12.82	-	-
			Mid	9.63	10.95	-	15.03	17.05
			High	9.34	10.65	12.69	-	-

# Limit

(UNII 1) : 23.98 dBm

(UNII 2A, 2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)

(UNII 3) : 30.00 dBm

**802.11ax(HE40)**

HE40	Frequency [MHz]	Channel No.	RU Index	Total Power(dBm)					
				26 T	52 T	106 T	242 T	484 T	SU
UNII 1	5190	38	Low	10.10	11.44	13.62	15.69	-	-
			Mid	10.62	11.83	13.88	-	16.39	16.41
			High	10.16	11.46	13.61	15.65	-	-
	5230	46	Low	10.67	11.96	14.20	16.35	-	-
			Mid	11.29	12.45	14.53	-	16.98	17.06
			High	10.75	12.01	14.25	16.34	-	-
UNII 2A	5270	54	Low	10.91	12.12	14.39	16.44	-	-
			Mid	11.38	12.49	14.62	-	17.13	17.18
			High	3.01	11.97	14.25	16.35	-	-
	5310	62	Low	11.39	12.65	14.79	16.85	-	-
			Mid	11.80	12.93	14.95	-	17.46	17.58
			High	11.22	12.49	14.62	16.75	-	-
UNII 2C	5510	102	Low	10.26	11.44	13.55	15.60	-	-
			Mid	10.54	11.65	13.78	-	16.23	16.37
			High	10.16	11.34	13.47	15.53	-	-
	5590	118	Low	10.51	11.75	13.96	16.02	-	-
			Mid	10.96	12.11	14.22	-	16.60	16.70
			High	10.36	11.58	13.80	15.89	-	-
	5710	142	Low	11.11	12.29	14.40	16.47	-	-
			Mid	11.44	12.58	14.59	-	17.03	17.06
			High	10.70	11.92	14.08	16.33	-	-
UNII 3	5755	151	Low	11.00	12.10	14.11	16.19	-	-
			Mid	11.09	12.19	14.21	-	16.62	16.75
			High	10.50	11.74	13.84	15.93	-	-
	5795	159	Low	10.13	11.41	13.40	15.53	-	-
			Mid	10.33	11.53	13.50	-	15.85	15.86
			High	9.56	10.86	12.92	15.17	-	-

# Limit

(UNII 1) : 23.98 dBm

(UNII 2A, 2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)

(UNII 3) : 30.00 dBm

**802.11ax(HE80)**

HE80	Frequency [MHz]	Channel No.	RU Index	Total Power (dBm)						
				26 T	52 T	106 T	242 T	484 T	996 T	SU
UNII 1	5210	42	Low	10.66	11.83	12.89	14.01	14.85	-	-
			Mid	11.04	12.25	13.24	14.19	-	15.06	16.25
			High	10.73	11.94	13.01	14.12	14.84	-	-
UNII 2A	5290	58	Low	11.49	12.64	13.71	14.75	15.31	-	-
			Mid	11.70	12.80	13.75	14.79	-	15.70	16.81
			High	11.14	12.31	13.36	14.44	15.16	-	-
UNII 2C	5530	106	Low	10.26	11.32	12.25	13.51	14.18	-	-
			Mid	10.45	11.55	12.46	13.58	-	14.40	15.38
			High	9.99	11.15	12.10	13.36	14.09	-	-
	5610	122	Low	10.52	11.74	12.74	13.93	14.58	-	-
			Mid	10.69	11.90	12.81	14.01	-	14.71	15.81
			High	10.00	11.25	12.30	13.56	14.34	-	-
	5690	138	Low	10.98	12.21	13.17	14.30	14.95	-	-
			Mid	11.11	12.29	13.21	14.38	-	15.03	16.05
			High	10.21	11.46	12.47	13.75	14.61	-	-
UNII 3	5775	155	Low	10.88	12.05	13.01	14.10	14.56	-	-
			Mid	10.91	12.07	13.02	14.13	-	14.76	15.64
			High	9.75	10.96	11.93	13.20	14.08	-	-

# Limit

(UNII 1) : 23.98 dBm

(UNII 2A, 2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)

(UNII 3) : 30.00 dBm

### 10.5 POWER SPECTRAL DENSITY

#### 10.5.1 Ant1

#### 802.11ax(HE20)

HE20	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)				
				26 T	52 T	106 T	242 T	SU
UNII 1	5180	36	Low	5.674	3.811	3.015	-	-
			Mid	4.711	3.974	-	1.581	2.753
			High	5.610	3.989	3.057	-	-
	5200	40	Low	5.157	3.674	2.871	-	-
			Mid	4.484	3.786	-	1.419	2.496
			High	5.205	3.789	2.796	-	-
	5240	48	Low	5.829	4.222	3.420	-	-
			Mid	4.821	4.281	-	1.924	3.156
			High	5.851	4.550	3.258	-	-
UNII 2A	5260	52	Low	5.726	4.552	3.428	-	-
			Mid	4.988	4.757	-	2.224	3.164
			High	5.849	4.447	3.556	-	-
	5280	56	Low	5.871	4.571	3.802	-	-
			Mid	5.369	4.735	-	2.131	3.258
			High	6.072	4.615	3.523	-	-
	5320	64	Low	6.328	5.196	3.864	-	-
			Mid	5.584	5.036	-	2.745	3.640
			High	6.201	4.888	3.806	-	-
UNII 2C	5500	100	Low	5.225	3.743	2.672	-	-
			Mid	4.187	4.170	-	1.310	2.317
			High	5.195	3.494	2.486	-	-
	5600	120	Low	5.302	3.793	3.047	-	-
			Mid	4.632	4.060	-	1.293	2.525
			High	5.317	3.843	2.946	-	-
	5720	144	Low	5.913	4.502	3.316	-	-
			Mid	5.059	4.397	-	2.041	2.937
			High	5.857	4.345	3.252	-	-
UNII 3	5745	149	Low	3.321	2.005	0.742	-	-
			Mid	3.241	1.895	-	-0.506	1.535
			High	3.385	1.859	0.657	-	-
	5785	157	Low	3.210	1.694	0.744	-	-



HE20	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)				
				26 T	52 T	106 T	242 T	SU
			Mid	3.191	1.902	-	-0.717	1.155
			High	3.281	1.421	0.460	-	-
	5825	165	Low	2.444	0.902	-0.304	-	-
			Mid	2.233	0.914	-	-1.477	0.288
			High	2.311	1.003	-0.318	-	-

# Limit(UNII 1, 2A, 2C) : 11.0 dBm/MHz

Limit(UNII 3) : 30.0 dBm/500kHz

**802.11ax(HE40)**

HE40	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)					
				26 T	52 T	106 T	242 T	484 T	SU
UNII 1	5190	38	Low	5.022	3.514	2.902	1.613	-	-
			Mid	5.622	4.224	3.018	-	-0.920	-1.067
			High	4.943	3.942	2.904	1.601	-	-
	5230	46	Low	5.287	4.081	3.355	1.819	-	-
			Mid	5.885	4.519	3.372	-	-0.471	-0.842
			High	5.449	4.227	3.226	1.823	-	-
UNII 2A	5270	54	Low	5.810	4.664	3.872	2.308	-	-
			Mid	6.260	4.939	4.136	-	-0.017	-0.260
			High	5.956	4.565	3.780	2.266	-	-
	5310	62	Low	6.632	5.065	4.314	2.866	-	-
			Mid	7.057	5.405	4.413	-	0.508	0.092
			High	6.423	4.897	4.277	2.806	-	-
UNII 2C	5510	102	Low	5.127	3.873	3.030	1.731	-	-
			Mid	5.503	4.383	3.358	-	-0.759	-1.024
			High	5.048	3.871	2.959	1.436	-	-
	5590	118	Low	5.426	3.981	3.255	1.701	-	-
			Mid	5.889	4.321	3.290	-	-0.661	-0.963
			High	5.425	3.822	3.107	1.579	-	-
	5710	142	Low	5.972	4.497	3.534	2.123	-	-
			Mid	6.403	4.909	3.783	-	-0.119	-0.713
			High	5.773	4.388	3.446	2.217	-	-
UNII 3	5755	151	Low	4.001	2.545	1.772	-0.172	-	-
			Mid	4.241	2.568	1.516	-	-2.390	-2.926
			High	3.643	2.198	1.287	-0.216	-	-
	5795	159	Low	2.880	1.452	0.722	-0.880	-	-
			Mid	3.407	1.764	0.762	-	-3.057	-3.589
			High	2.802	1.232	0.271	-0.918	-	-

# Limit(UNII 1, 2A, 2C) : 11.0 dBm/MHz

Limit(UNII 3) : 30.0 dBm/500kHz

**802.11ax(HE80)**

HE80	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)						
				26 T	52 T	106 T	242 T	484 T	996 T	SU
UNII 1	5210	42	Low	5.260	3.740	1.779	-0.472	-2.725	-	-
			Mid	4.349	4.209	2.164	-0.300	-	-5.528	-4.277
			High	5.226	4.098	2.006	-0.352	-2.564	-	-
UNII 2A	5290	58	Low	6.759	5.050	3.147	0.758	-1.682	-	-
			Mid	5.889	5.214	3.319	0.683	-	-4.318	-3.186
			High	6.345	4.832	2.727	0.351	-1.767	-	-
UNII 2C	5530	106	Low	5.383	3.765	1.929	-0.668	-2.977	-	-
			Mid	4.401	3.816	1.784	-0.547	-	-5.781	-4.670
			High	5.064	3.342	1.319	-0.715	-3.025	-	-
	5610	122	Low	5.379	3.843	1.609	-0.510	-2.899	-	-
			Mid	4.556	4.054	1.821	-0.431	-	-5.626	-4.625
			High	5.122	3.599	1.649	-0.757	-3.026	-	-
	5690	138	Low	5.721	4.137	2.097	0.025	-2.499	-	-
			Mid	4.811	4.340	2.222	-0.084	-	-5.407	-4.326
			High	5.046	3.645	1.970	-0.260	-2.640	-	-
UNII 3	5775	155	Low	3.563	2.385	0.114	-2.502	-4.595	-	-
			Mid	3.248	2.005	-0.036	-2.418	-	-7.396	-6.669
			High	2.655	1.169	-1.176	-3.199	-5.256	-	-

# Limit(UNII 1, 2A, 2C) : 11.0 dBm/MHz

Limit(UNII 3) : 30.0 dBm/500kHz

10.5.2 Ant2

802.11ax(HE20)

HE20	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)				
				26 T	52 T	106 T	242 T	SU
UNII 1	5180	36	Low	4.164	2.560	1.524	-	-
			Mid	3.561	2.626	-	0.128	1.636
			High	4.233	2.892	1.829	-	-
	5200	40	Low	4.966	3.572	2.737	-	-
			Mid	4.334	3.749	-	1.202	2.471
			High	5.404	3.632	2.581	-	-
	5240	48	Low	5.545	4.264	3.301	-	-
			Mid	4.696	4.101	-	2.056	3.123
			High	5.865	4.378	3.036	-	-
UNII 2A	5260	52	Low	5.922	4.090	3.155	-	-
			Mid	4.708	4.346	-	1.774	3.215
			High	5.599	4.109	3.386	-	-
	5280	56	Low	5.849	4.017	3.183	-	-
			Mid	4.771	4.343	-	1.908	3.214
			High	5.483	4.274	3.232	-	-
	5320	64	Low	5.726	4.474	3.262	-	-
			Mid	4.901	4.294	-	2.267	3.403
			High	5.846	4.251	3.325	-	-
UNII 2C	5500	100	Low	4.542	2.905	2.026	-	-
			Mid	3.386	3.282	-	0.541	2.001
			High	4.450	3.105	2.038	-	-
	5600	120	Low	4.924	3.256	2.421	-	-
			Mid	3.973	3.538	-	0.829	2.242
			High	4.700	3.377	2.368	-	-
	5720	144	Low	5.347	3.838	2.766	-	-
			Mid	4.281	3.928	-	1.433	2.639
			High	5.044	3.577	2.817	-	-
UNII 3	5745	149	Low	2.062	0.544	-0.733	-	-
			Mid	2.152	0.377	-	-2.389	0.014
			High	1.587	0.172	-1.077	-	-
	5785	157	Low	1.356	-0.195	-1.449	-	-
			Mid	1.137	-0.305	-	-2.732	-0.606

HE20	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)				
				26 T	52 T	106 T	242 T	SU
			High	1.090	-0.226	-1.657	-	-
			Low	1.372	-0.039	-1.126	-	-
	5825	165	Mid	1.236	0.065	-	-2.618	-0.264
			High	1.387	-0.094	-1.160	-	-

# Limit(UNII 1, 2A, 2C) : 11.0 dBm/MHz

Limit(UNII 3) : 30.0 dBm/500kHz

**802.11ax(HE40)**

HE40	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)					
				26 T	52 T	106 T	242 T	484 T	SU
UNII 1	5190	38	Low	4.431	3.053	2.383	0.795	-	-
			Mid	5.329	3.743	2.429	-	-1.421	-1.565
			High	4.693	3.124	2.416	0.912	-	-
	5230	46	Low	5.740	4.068	3.399	1.989	-	-
			Mid	6.251	4.905	3.859	-	-0.219	-0.415
			High	5.794	4.179	3.559	2.101	-	-
UNII 2A	5270	54	Low	5.649	4.292	3.610	2.030	-	-
			Mid	6.266	4.619	3.738	-	-0.339	-0.432
			High	5.794	4.229	3.507	1.889	-	-
	5310	62	Low	6.182	4.896	3.936	2.613	-	-
			Mid	6.656	5.267	4.089	-	0.229	0.105
			High	6.111	4.574	3.659	2.459	-	-
UNII 2C	5510	102	Low	3.906	2.406	1.733	0.248	-	-
			Mid	4.332	2.879	2.026	-	-2.097	-2.187
			High	4.062	2.622	1.860	0.130	-	-
	5590	118	Low	4.795	3.349	2.423	0.878	-	-
			Mid	5.261	3.705	2.874	-	-1.364	-1.569
			High	4.643	3.073	2.231	0.930	-	-
	5710	142	Low	5.837	4.290	3.259	1.556	-	-
			Mid	5.912	4.131	3.307	-	-0.813	-0.968
			High	5.188	3.483	2.797	1.531	-	-
UNII 3	5755	151	Low	2.243	0.373	-0.761	-2.406	-	-
			Mid	1.937	0.624	-0.681	-	-4.627	-4.959
			High	1.233	-0.038	-0.971	-2.492	-	-
	5795	159	Low	1.311	-0.126	-1.095	-3.027	-	-
			Mid	1.257	0.007	-1.287	-	-5.258	-5.518
			High	0.996	-0.765	-1.730	-3.089	-	-

# Limit(UNII 1, 2A, 2C) : 11.0 dBm/MHz

Limit(UNII 3) : 30.0 dBm/500kHz

**802.11ax(HE80)**

HE80	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)						
				26 T	52 T	106 T	242 T	484 T	996 T	SU
UNII 1	5210	42	Low	5.544	4.098	2.130	-0.253	-2.466	-	-
			Mid	5.113	4.649	2.704	0.048	-	-5.354	-4.027
			High	5.958	4.210	2.434	-0.102	-2.448	-	-
UNII 2A	5290	58	Low	<b>6.498</b>	4.661	2.718	0.334	-2.198	-	-
			Mid	5.355	4.814	2.822	0.217	-	-4.796	-3.739
			High	5.705	4.283	2.445	-0.261	-2.197	-	-
UNII 2C	5530	106	Low	4.292	2.442	0.592	-1.931	-4.232	-	-
			Mid	3.130	2.932	0.850	-1.605	-	-6.788	-5.939
			High	4.036	2.469	0.443	-1.815	-4.165	-	-
	5610	122	Low	5.188	3.455	1.547	-0.878	-3.172	-	-
			Mid	4.218	3.788	1.652	-0.739	-	-6.107	-4.779
			High	4.583	2.946	1.095	-0.987	-3.411	-	-
	5690	138	Low	5.839	4.246	2.347	-0.149	-2.641	-	-
			Mid	4.819	4.530	2.022	-0.207	-	-5.417	-4.431
			High	4.499	3.430	1.154	-1.163	-3.022	-	-
UNII 3	5775	155	Low	<b>1.908</b>	0.194	-1.783	-4.432	-6.821	-	-
			Mid	1.205	-0.174	-2.401	-4.434	-	-9.596	-8.647
			High	0.175	-1.356	-3.065	-5.309	-7.365	-	-

# Limit(UNII 1, 2A, 2C) : 11.0 dBm/MHz

Limit(UNII 3) : 30.0 dBm/500kHz

**10.5.3 Ant1+Ant2**

**802.11ax(HE20)**

HE20	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)				
				26 T	52 T	106 T	242 T	SU
UNII 1	5180	36	Low	7.995	6.241	5.343	-	-
			Mid	7.184	6.363	-	3.925	5.241
			High	7.986	6.485	5.496	-	-
	5200	40	Low	8.073	6.634	5.814	-	-
			Mid	7.420	6.778	-	4.322	5.494
			High	8.316	6.722	5.700	-	-
	5240	48	Low	8.700	7.253	6.371	-	-
			Mid	7.769	7.202	-	5.000	6.150
			High	8.868	7.475	6.158	-	-
UNII 2a	5260	52	Low	8.835	7.338	6.304	-	-
			Mid	7.861	7.567	-	5.015	6.200
			High	8.736	7.292	6.482	-	-
	5280	56	Low	8.870	7.313	6.513	-	-
			Mid	8.091	7.554	-	5.031	6.246
			High	8.798	7.458	6.390	-	-
	5320	64	Low	9.048	7.860	6.583	-	-
			Mid	8.266	7.691	-	5.522	6.534
			High	9.037	7.592	6.582	-	-
UNII 2c	5500	100	Low	7.907	6.355	5.371	-	-
			Mid	6.815	6.759	-	3.952	5.172
			High	7.849	6.314	5.278	-	-
	5600	120	Low	8.127	6.543	5.755	-	-
			Mid	7.325	6.817	-	4.077	5.396
			High	8.030	6.627	5.676	-	-
	5720	144	Low	8.650	7.193	6.060	-	-
			Mid	7.698	7.179	-	4.757	5.801
			High	8.480	6.988	6.050	-	-
UNII 3	5745	149	Low	5.747	4.346	3.077	-	-
			Mid	5.741	4.212	-	1.664	3.851
			High	5.589	4.107	2.886	-	-
	5785	157	Low	5.392	3.862	2.794	-	-
			Mid	5.295	3.948	-	1.401	3.374



HE20	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)				
				26 T	52 T	106 T	242 T	SU
			High	5.333	3.686	2.539	-	-
			Low	4.951	3.467	2.314	-	-
	5825	165	Mid	4.773	3.521	-	1.000	3.031
			High	4.884	3.499	2.291	-	-

# Limit(UNII 1, 2A, 2C) : 11.0 dBm/MHz

Limit(UNII 3) : 30.0 dBm/500kHz

**802.11ax(HE40)**

HE40	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)					
				26 T	52 T	106 T	242 T	484 T	SU
UNII 1	5190	38	Low	7.746	6.300	5.660	4.234	-	-
			Mid	8.488	7.001	5.743	-	1.847	1.702
			High	7.830	6.563	5.677	4.281	-	-
	5230	46	Low	8.529	7.085	6.387	4.915	-	-
			Mid	9.082	7.727	6.632	-	2.667	2.387
			High	8.635	7.213	6.406	4.975	-	-
UNII 2a	5270	54	Low	8.740	7.492	6.753	5.182	-	-
			Mid	9.273	7.792	6.951	-	2.836	2.665
			High	8.886	7.411	6.656	5.092	-	-
	5310	62	Low	9.423	7.992	7.139	5.752	-	-
			Mid	9.871	8.347	7.264	-	3.381	3.109
			High	9.280	7.749	6.989	5.647	-	-
UNII 2c	5510	102	Low	7.569	6.212	5.440	4.063	-	-
			Mid	7.967	6.706	5.753	-	1.634	1.444
			High	7.593	6.302	5.454	3.843	-	-
	5590	118	Low	8.132	6.687	5.869	4.320	-	-
			Mid	8.596	7.034	6.097	-	2.012	1.755
			High	8.061	6.474	5.701	4.277	-	-
	5710	142	Low	8.915	7.405	6.409	4.859	-	-
			Mid	9.174	7.548	6.561	-	2.558	2.172
			High	8.500	6.969	6.143	4.898	-	-
UNII 3	5755	151	Low	6.220	4.604	3.697	1.864	-	-
			Mid	6.250	4.714	3.565	-	-0.355	-0.814
			High	5.613	4.233	3.313	1.804	-	-
	5795	159	Low	5.176	3.745	2.918	1.188	-	-
			Mid	5.474	3.984	2.867	-	-1.009	-1.437
			High	5.002	3.358	2.395	1.141	-	-

# Limit(UNII 1, 2A, 2C) : 11.0 dBm/MHz

Limit(UNII 3) : 30.0 dBm/500kHz

**802.11ax(HE80)**

HE80	Frequency [MHz]	Channel No.	RU Index	Total PSD (dBm)						
				26 T	52 T	106 T	242 T	484 T	996 T	SU
UNII 1	5210	42	Low	8.415	6.933	4.968	2.649	0.417	-	-
			Mid	7.758	7.445	5.453	2.888	-	-2.430	-1.140
			High	8.618	7.165	5.235	2.785	0.505	-	-
UNII 2a	5290	58	Low	9.641	7.870	5.948	3.561	1.078	-	-
			Mid	8.640	8.029	6.088	3.467	-	-1.540	-0.443
			High	9.047	7.576	5.598	3.066	1.034	-	-
UNII 2c	5530	106	Low	7.882	6.164	4.322	1.757	-0.549	-	-
			Mid	6.822	6.407	4.352	1.966	-	-3.245	-2.248
			High	7.591	5.938	3.913	1.780	-0.547	-	-
	5610	122	Low	8.295	6.664	4.588	2.320	-0.023	-	-
			Mid	7.400	6.933	4.747	2.428	-	-2.850	-1.691
			High	7.871	6.295	4.391	2.140	-0.204	-	-
	5690	138	Low	8.791	7.202	5.234	2.949	0.441	-	-
			Mid	7.825	7.446	5.133	2.865	-	-2.402	-1.368
			High	7.791	6.549	4.591	2.322	0.184	-	-
UNII 3	5775	155	Low	5.824	4.436	2.278	-0.350	-2.556	-	-
			Mid	5.356	4.061	1.951	-0.300	-	-5.348	-4.536
			High	4.600	3.098	0.992	-1.117	-3.173	-	-

# Limit(UNII 1, 2A, 2C) : 11.0 dBm/MHz

Limit(UNII 3) : 30.0 dBm/500kHz

## 10.6 STRADDLE CHANNEL

### 10.6.1 26dB Bandwidth

**Test Note:**

1. [UNII 2C] 26dB Bandwidth = 5725MHz - Measured Frequency[MHz]
2. [UNII 3] 26dB Bandwidth = Measured Frequency[MHz] -5725MHz
3. # : 26dB bandwidth is only located in UNII 2C. Therefore 26dB bandwidth do not overlap.

#### 10.6.1.1 Ant1

#### 802.11ax(HE20)

BW	Frequency [MHz]	Channel No.	Tone	RU Index	26dB BW (MHz)	
					UNII 2C	UNII 3
HE20	5720	144	26 T	0	15.60	4.24
				4	14.24	4.32
				7	14.16	4.24
				8	14.24	5.52
			52 T	37	15.56	4.36
				38	14.40	4.48
				39	14.40	4.44
				40	14.36	5.56
			106 T	53	15.56	4.88
				54	14.56	5.60
			242 T	61	15.80	5.64
			SU	-	15.96	5.96

**802.11ax(HE40)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	26dB BW (MHz)	
					UNII 2C	UNII 3
HE40	5710	142	26 T	# 0	-	-
				9	34.12	3.96
				16	34.28	4.04
				17	34.20	5.96
			52 T	# 37	-	-
				41	34.28	4.12
				43	34.20	4.12
				44	34.12	5.88
			106 T	# 53	-	-
				# 54	-	-
				55	34.28	4.20
				56	34.36	6.04
			242 T	# 61	-	-
				62	34.44	6.04
			484 T	65	36.60	6.12
			SU	-	36.68	7.32

**802.11ax(HE80)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	26dB BW (MHz)	
					UNII 2C	UNII 3
HE80	5690	138	26 T	# 0	-	-
				# 18	-	-
				35	74.20	6.44
				36	74.20	8.04
			52 T	# 37	-	-
				# 45	-	-
				51	74.84	4.68
				52	75.00	7.56
			106 T	# 53	-	-
				# 57	-	-
				59	75.00	4.68
				60	74.84	7.72
			242 T	# 61	-	-
				# 62	-	-
				63	75.96	5.96
				64	75.32	7.40
			484 T	# 65	-	-
				66	76.12	8.04
			996 T	67	78.04	7.56
			SU	-	78.04	8.04

**10.6.1.2 Ant2**

**802.11ax(HE20)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	26dB BW (MHz)	
					UNII 2C	UNII 3
HE20	5720	144	26 T	0	15.60	4.28
				4	14.24	4.20
				7	14.24	4.12
				8	14.20	5.60
			52 T	37	15.44	4.36
				38	14.40	4.52
				39	14.40	4.40
				40	14.32	5.60
			106 T	53	15.60	4.64
				54	14.72	5.60
			242 T	61	15.88	5.48
			SU	-	15.92	5.56

**802.11ax(HE40)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	26dB BW (MHz)	
					UNII 2C	UNII 3
HE40	5710	142	26 T	# 0	-	-
				9	34.28	4.04
				16	34.20	4.12
				17	34.12	6.04
			52 T	# 37	-	-
				41	34.44	4.12
				43	34.44	4.04
				44	34.36	5.88
			106 T	# 53	-	-
				# 54	-	-
				55	34.36	4.20
				56	34.28	5.88
			242 T	# 61	-	-
				62	34.52	5.96
			484 T	65	36.68	6.04
			SU	-	36.60	5.80



**802.11ax(HE80)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	26dB BW (MHz)	
					UNII 2C	UNII 3
HE80	5690	138	26 T	# 0	-	-
				# 18	-	-
				35	74.52	6.44
				36	74.20	7.88
			52 T	# 37	-	-
				# 45	-	-
				51	74.52	4.20
				52	74.84	7.88
			106 T	# 53	-	-
				# 57	-	-
				59	75.16	4.36
				60	75.32	7.40
			242 T	# 61	-	-
				# 62	-	-
				63	75.64	5.96
				64	76.12	7.40
			484 T	# 65	-	-
				66	76.92	7.08
			996 T	67	78.52	7.40
			SU	-	78.04	7.24

### 10.6.2 6dB Bandwidth

**Test Note:**

1. 6dB Bandwidth = Measured Frequency[MHz] – 5725MHz
2. # : 6dB bandwidth is only located in UNII 2C. Therefore 6dB bandwidth do not overlap.
3. Limit : > 0.5 MHz

#### 10.6.2.1 Ant1

**802.11ax(HE20)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	6dB BW (MHz)
					UNII 3
HE20	5720	144	26 T	# 0	-
				# 4	-
				7	2.52
				8	4.52
			52 T	# 37	-
				# 38	-
				39	2.52
				40	4.48
			106 T	# 53	-
				54	4.60
			242 T	61	4.56
			SU	-	4.56

**802.11ax(HE40)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	6dB BW (MHz)
					UNII 3
HE40	5710	142	26 T	# 0	-
				# 9	-
				16	2.04
				17	4.12
			52 T	# 37	-
				# 41	-
				# 43	-
				44	4.12
			106 T	# 53	-
				# 54	-
				# 55	-
				56	4.12
			242 T	# 61	-
				62	4.12
			484 T	65	4.12
			SU	-	4.12

**802.11ax(HE80)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	6dB BW (MHz)
					UNII 3
HE80	5690	138	26 T	# 0	-
				# 18	-
				35	2.12
				36	4.20
			52 T	# 37	-
				# 45	-
				# 51	-
				52	4.20
			106 T	# 53	-
				# 57	-
				# 59	-
				60	4.20
			242 T	# 61	-
				# 62	-
				# 63	-
				64	4.20
			484 T	# 65	-
66	4.20				
996 T	67	4.20			
SU	-	4.20			

**10.6.2.2 Ant2**

**802.11ax(HE20)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	6dB BW (MHz)
					UNII 3
HE20	5720	144	26 T	# 0	-
				# 4	-
				7	2.52
				8	4.48
			52 T	# 37	-
				# 38	-
				39	2.52
				40	4.48
			106 T	# 53	-
				54	4.60
			242 T	61	4.56
			SU	-	4.56

**802.11ax(HE40)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	6dB BW (MHz)
					UNII 3
HE40	5710	142	26 T	# 0	-
				# 9	-
				16	2.04
				17	4.12
			52 T	# 37	-
				# 41	-
				# 43	-
				44	4.12
			106 T	# 53	-
				# 54	-
				# 55	-
				56	4.04
			242 T	# 61	-
				62	4.12
			484 T	65	4.12
			SU	-	4.12

**802.11ax(HE80)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	6dB BW (MHz)
					UNII 3
HE80	5690	138	26 T	# 0	-
				# 18	-
				35	2.12
				36	4.20
			52 T	# 37	-
				# 45	-
				# 51	-
				52	4.20
			106 T	# 53	-
				# 57	-
				# 59	-
				60	4.20
			242 T	# 61	-
				# 62	-
				# 63	-
				64	4.20
			484 T	# 65	-
66	4.20				
996 T	67	4.20			
SU	-	4.20			

**10.6.3 Output Power**

**Test Note:**

1. # : 26dB bandwidth is only located in UNII 2C. Therefore 26dB bandwidth do not overlap.
2. Limit(2C) : 23.98 dBm or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)
3. Limit(UNII 3) : 30.00 dBm

**10.6.3.1 Ant1**

**802.11ax(HE20)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	Total Power (dBm)	
					UNII 2C	UNII 3
HE20	5720	144	26 T	0	8.56	-18.21
				4	8.60	-17.99
				7	-7.20	8.45
				8	-11.44	8.33
			52 T	37	9.78	-17.51
				38	9.86	-17.71
				39	9.36	-0.33
				40	-7.39	9.56
			106 T	53	11.62	-15.84
				54	8.17	8.80
			242 T	61	12.63	7.44
			SU	-	13.97	8.81



**802.11ax(HE40)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	Total Power (dBm)	
					UNII 2C	UNII 3
HE40	5710	142	26 T	# 0	-	-
				9	9.00	-21.76
				16	-1.04	8.07
				17	-12.37	8.30
			52 T	# 37	-	-
				41	10.34	-21.25
				43	10.02	-6.69
				44	-2.29	9.34
			106 T	# 53	-	-
				# 54	-	-
				55	12.13	-19.34
				56	9.04	8.28
			242 T	# 61	-	-
				62	12.99	6.76
			484 T	65	14.17	4.37
			SU	-	13.99	4.24

**802.11ax(HE80)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	Total Power (dBm)	
					UNII 2C	UNII 3
HE80	5690	138	26 T	# 0	-	-
				# 18	-	-
				35	-1.30	7.37
				36	-12.33	7.67
			52 T	# 37	-	-
				# 45	-	-
				51	9.31	-7.51
				52	-2.80	8.75
			106 T	# 53	-	-
				# 57	-	-
				59	10.60	-24.07
				60	7.53	6.76
			242 T	# 61	-	-
				# 62	-	-
				63	11.77	-23.43
				64	10.48	4.23
			484 T	# 65	-	-
66	11.80	1.88				
996 T	67	12.36	-1.00			
SU	-	13.53	0.15			

**10.6.3.2 Ant2**

**802.11ax(HE20)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	Total Power (dBm)	
					UNII 2C	UNII 3
HE20	5720	144	26 T	0	7.86	-19.87
				4	7.87	-18.31
				7	-7.78	7.70
				8	-12.10	7.58
			52 T	37	9.12	-19.81
				38	9.24	-18.98
				39	8.61	-1.08
				40	-8.23	8.86
			106 T	53	11.16	-16.00
				54	7.67	8.29
			242 T	61	11.99	6.71
			SU	-	13.38	8.12

**802.11ax(HE40)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	Total Power (dBm)	
					UNII 2C	UNII 3
HE40	5710	142	26 T	# 0	-	-
				9	8.57	-22.97
				16	-1.67	7.47
				17	-12.53	7.68
			52 T	# 37	-	-
				41	9.67	-22.01
				43	9.30	-7.41
				44	-3.22	8.64
			106 T	# 53	-	-
				# 54	-	-
				55	11.60	-20.03
				56	8.50	7.73
			242 T	# 61	-	-
				62	12.31	6.05
			484 T	65	13.60	3.66
			SU	-	13.39	3.46

**802.11ax(HE80)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	Total Power (dBm)	
					UNII 2C	UNII 3
HE80	5690	138	26 T	# 0	-	-
				# 18	-	-
				35	-1.84	6.95
				36	-11.70	7.28
			52 T	# 37	-	-
				# 45	-	-
				51	8.92	-7.91
				52	-3.31	8.31
			106 T	# 53	-	-
				# 57	-	-
				59	10.11	-24.03
				60	6.95	6.20
			242 T	# 61	-	-
				# 62	-	-
				63	11.43	-23.72
				64	9.97	3.65
			484 T	# 65	-	-
				66	11.43	1.32
			996 T	67	12.26	-1.48
			SU	-	13.14	-0.56

**10.6.4 Power Spectral Density**

**Test Note:**

1. # : 26dB bandwidth is only located in UNII 2C. Therefore 26dB bandwidth do not overlap.
2. Limit(UNII 1, 2A, 2C) : 11.0 dBm/MHz
3. Limit(UNII 3) : 30.0 dBm/500kHz

**10.6.4.1 Ant1**

**802.11ax(HE20)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	PSD (dBm)	
					UNII 2C	UNII 3
HE20	5720	144	26 T	0	6.019	-21.741
				4	5.088	-22.761
				7	-2.265	3.379
				8	-17.450	3.051
			52 T	37	4.296	-24.846
				38	4.605	-19.065
				39	4.339	0.745
				40	-4.549	1.446
			106 T	53	3.262	-21.893
				54	3.126	0.121
			242 T	61	2.033	-1.141
			SU	-	3.266	0.298

**802.11ax(HE40)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	PSD (dBm)	
					UNII 2C	UNII 3
HE40	5710	142	26 T	# 0	-	-
				9	6.420	-24.580
				16	2.720	3.261
				17	-21.297	3.156
			52 T	# 37	-	-
				41	4.986	-25.990
				43	4.693	-9.699
				44	1.023	1.420
			106 T	# 53	-	-
				# 54	-	-
				55	3.649	-23.854
				56	3.297	0.390
			242 T	# 61	-	-
				62	2.124	-1.261
			484 T	65	-0.286	-3.743
			SU	-	-0.439	-4.067

**802.11ax(HE80)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	PSD (dBm)	
					UNII 2C	UNII 3
HE80	5690	138	26 T	# 0	-	-
				# 18	-	-
				35	1.176	2.307
				36	-22.990	2.251
			52 T	# 37	-	-
				# 45	-	-
				51	3.837	-12.105
				52	-0.341	0.679
			106 T	# 53	-	-
				# 57	-	-
				59	2.143	-30.217
				60	1.729	-1.457
			242 T	# 61	-	-
				# 62	-	-
				63	-0.237	-26.614
				64	-0.562	-3.845
			484 T	# 65	-	-
				66	-2.593	-6.281
			996 T	67	-5.419	-9.258
			SU	-	-4.257	-8.021



**10.6.4.2 Ant2**

**802.11ax(HE20)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	PSD (dBm)	
					UNII 2C	UNII 3
HE20	5720	144	26 T	0	5.276	-23.102
				4	4.291	-21.561
				7	-3.385	2.499
				8	-17.429	2.246
			52 T	37	3.791	-22.074
				38	3.777	-21.784
				39	3.554	-0.087
				40	-5.145	0.516
			106 T	53	2.640	-21.200
				54	2.680	-0.222
			242 T	61	1.205	-1.900
			SU	-	2.723	-0.450

**802.11ax(HE40)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	PSD (dBm)	
					UNII 2C	UNII 3
HE40	5710	142	26 T	# 0	-	-
				9	5.851	-24.475
				16	1.890	2.479
				17	-21.397	2.622
			52 T	# 37	-	-
				41	4.179	-25.422
				43	3.948	-10.244
				44	0.192	0.731
			106 T	# 53	-	-
				# 54	-	-
				55	3.182	-33.800
				56	2.833	-0.400
			242 T	# 61	-	-
				62	1.374	-1.787
			484 T	65	-0.756	-4.573
			SU	-	-1.005	-4.655

**802.11ax(HE80)**

BW	Frequency [MHz]	Channel No.	Tone	RU Index	PSD (dBm)	
					UNII 2C	UNII 3
HE80	5690	138	26 T	# 0	-	-
				# 18	-	-
				35	1.256	2.007
				36	-23.286	1.995
			52 T	# 37	-	-
				# 45	-	-
				51	3.667	-12.764
				52	-1.203	0.623
			106 T	# 53	-	-
				# 57	-	-
				59	1.744	-29.644
				60	1.197	-1.954
			242 T	# 61	-	-
				# 62	-	-
				63	-0.437	-27.071
				64	-0.821	-4.535
			484 T	# 65	-	-
				66	-2.816	-6.847
			996 T	67	-5.316	-9.851
			SU	-	-4.480	-8.750

**10.7 RADIATED SPURIOUS EMISSIONS (9 kHz – 1GHz)**

**Frequency Range : 9 kHz – 30MHz**

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBuV/m	dBm/m	dBm	(H/V)	dBuV/m	dBuV/m	dB
No Critical peaks found							

**Note:**

1. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Distance extrapolation factor =  $40\log(\text{specific distance} / \text{test distance})$  (dB)
3. Limit line = specific Limits (dBuV) + Distance extrapolation factor

**Frequency Range : Below 1 GHz**

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBuV/m	dBm/m	dBm	(H/V)	dBuV/m	dBuV/m	dB
No Critical peaks found							

**Note:**

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode

## 10.8 RADIATED SPURIOUS EMISSIONS (Above 1 GHz)

### 10.8.1 802.11ax(HE20)

#### 1. 26 Tone RU 4

Band : UNII 1  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5180 MHz  
 Channel No. 36 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10360	39.32	0.49	V	39.81	68.20	28.39	PK
15540	50.14	2.62	V	52.76	73.98	21.22	PK
15540	37.43	2.62	V	40.05	53.98	13.93	AV
10360	52.16	0.49	H	52.65	68.20	15.55	PK
15540	49.50	2.62	H	52.12	73.98	21.86	PK
15540	37.38	2.62	H	40.00	53.98	13.98	AV

Band : UNII 1  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5200 MHz  
 Channel No. 40 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10400	49.99	1.38	V	51.37	68.20	16.83	PK
15600	48.54	1.50	V	50.04	73.98	23.94	PK
15600	36.78	1.50	V	38.28	53.98	15.70	AV
10400	50.32	1.38	H	51.70	68.20	16.50	PK
15600	48.82	1.50	H	50.32	73.98	23.66	PK
15600	36.50	1.50	H	38.00	53.98	15.98	AV

Band : UNII 1  
Operation Mode: 802.11ax(HE20)  
Transfer MCS Index: MCS0  
Operating Frequency 5240 MHz  
Channel No. 48 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10480	50.90	-0.33	V	50.57	68.20	17.63	PK
15720	49.95	0.56	V	50.51	73.98	23.47	PK
15720	39.18	0.56	V	39.74	53.98	14.24	AV
10480	50.84	-0.33	H	50.51	68.20	17.69	PK
15720	50.32	0.56	H	50.88	73.98	23.10	PK
15720	36.89	0.56	H	37.45	53.98	16.53	AV

Band : UNII 2A  
Operation Mode: 802.11ax(HE20)  
Transfer MCS Index: MCS0  
Operating Frequency 5260 MHz  
Channel No. 52 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10520	51.33	-0.06	V	51.27	68.20	16.93	PK
15780	49.35	0.96	V	50.31	73.98	23.67	PK
15780	36.70	0.96	V	37.66	53.98	16.32	AV
10520	50.94	-0.06	H	50.88	68.20	17.32	PK
15780	49.82	0.96	H	50.78	73.98	23.20	PK
15780	36.75	0.96	H	37.71	53.98	16.27	AV

Band : UNII 2A  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5300 MHz  
 Channel No. 60 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10600	51.38	-0.18	V	51.20	73.98	22.78	PK
10600	39.25	-0.18	V	39.07	53.98	14.91	AV
15900	50.13	-0.13	V	50.00	73.98	23.98	PK
15900	38.39	-0.13	V	38.26	53.98	15.72	AV
10600	51.55	-0.18	H	51.37	73.98	22.61	PK
10600	39.20	-0.18	H	39.02	53.98	14.96	AV
15900	49.99	-0.13	H	49.86	73.98	24.12	PK
15900	38.53	-0.13	H	38.40	53.98	15.58	AV

Band : UNII 2A  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5320 MHz  
 Channel No. 64 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10640	51.87	-0.04	V	51.83	73.98	22.15	PK
10640	39.82	-0.04	V	39.78	53.98	14.20	AV
15960	50.85	-0.36	V	50.49	73.98	23.49	PK
15960	37.48	-0.36	V	37.12	53.98	16.86	AV
10640	51.55	-0.04	H	51.51	73.98	22.47	PK
10640	39.68	-0.04	H	39.64	53.98	14.34	AV
15960	49.31	-0.36	H	48.95	73.98	25.03	PK
15960	37.39	-0.36	H	37.03	53.98	16.95	AV

Band : UNII 2C  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5500 MHz  
 Channel No. 100 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11000	52.55	1.75	V	54.30	73.98	19.68	PK
11000	39.02	1.75	V	40.77	53.98	13.21	AV
16500	49.95	1.06	V	51.01	68.20	17.19	PK
11000	51.02	1.75	H	52.77	73.98	21.21	PK
11000	39.10	1.75	H	40.85	53.98	13.13	AV
16500	49.89	1.06	H	50.95	68.20	17.25	PK

Band : UNII 2C  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5600 MHz  
 Channel No. 120 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11200	50.83	0.26	V	51.09	73.98	22.89	PK
11200	38.85	0.26	V	39.11	53.98	14.87	AV
16800	50.10	3.41	V	53.51	68.20	14.69	PK
11200	50.64	0.26	H	50.90	73.98	23.08	PK
11200	38.90	0.26	H	39.16	53.98	14.82	AV
16800	49.37	3.41	H	52.78	68.20	15.42	PK



Band : UNII 2C  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5720 MHz  
 Channel No. 144 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11440	50.82	0.74	V	51.56	73.98	22.42	PK
11440	38.98	0.74	V	39.72	53.98	14.26	AV
17160	49.68	5.47	V	55.15	68.20	13.05	PK
11440	51.34	0.74	H	52.08	73.98	21.90	PK
11440	39.12	0.74	H	39.86	53.98	14.12	AV
17160	50.02	5.47	H	55.49	68.20	12.71	PK

Band : UNII 3  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5745MHz  
 Channel No. 149 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	51.99	0.57	V	52.56	73.98	21.42	PK
11490	38.40	0.57	V	38.97	53.98	15.01	AV
17235	50.42	5.22	V	55.64	68.20	12.56	PK
11490	51.80	0.57	H	52.37	73.98	21.61	PK
11490	38.48	0.57	H	39.05	53.98	14.93	AV
17235	50.50	5.22	H	55.72	68.20	12.48	PK

Band : UNII 3  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5785 MHz  
 Channel No. 157 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	50.64	0.73	V	51.37	73.98	22.61	PK
11570	38.61	0.73	V	39.34	53.98	14.64	AV
17355	49.68	6.04	V	55.72	68.20	12.48	PK
11570	51.47	0.73	H	52.20	73.98	21.78	PK
11570	38.66	0.73	H	39.39	53.98	14.59	AV
17355	49.89	6.04	H	55.93	68.20	12.27	PK

Band : UNII 3  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5825 MHz  
 Channel No. 165 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	51.55	-0.65	V	50.90	73.98	23.08	PK
11650	39.08	-0.65	V	38.43	53.98	15.55	AV
17475	49.80	7.62	V	57.42	68.20	10.78	PK
11650	52.27	-0.65	H	51.62	73.98	22.36	PK
11650	39.32	-0.65	H	38.67	53.98	15.31	AV
17475	49.94	7.62	H	57.56	68.20	10.64	PK

**2. SU**

Band : UNII 1  
Operation Mode: 802.11ax(HE20)  
Transfer MCS Index: MCS0  
Operating Frequency 5180 MHz  
Channel No. 36 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10360	52.82	0.49	V	53.31	68.20	14.89	PK
15540	50.44	2.62	V	53.06	73.98	20.92	PK
15540	37.36	2.62	V	39.98	53.98	14.00	AV
10360	52.24	0.49	H	52.73	68.20	15.47	PK
15540	50.75	2.62	H	53.37	73.98	20.61	PK
15540	37.40	2.62	H	40.02	53.98	13.96	AV

Band : UNII 1  
Operation Mode: 802.11ax(HE20)  
Transfer MCS Index: MCS0  
Operating Frequency 5200 MHz  
Channel No. 40 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10400	50.87	1.38	V	52.25	68.20	15.95	PK
15600	50.00	1.50	V	51.50	73.98	22.48	PK
15600	36.78	1.50	V	38.28	53.98	15.70	AV
10400	51.47	1.38	H	52.85	68.20	15.35	PK
15600	49.93	1.50	H	51.43	73.98	22.55	PK
15600	36.80	1.50	H	38.30	53.98	15.68	AV

Band : UNII 1  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5240 MHz  
 Channel No. 48 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10480	51.36	-0.33	V	51.03	68.20	17.17	PK
15720	49.55	0.56	V	50.11	73.98	23.87	PK
15720	37.03	0.56	V	37.59	53.98	16.39	AV
10480	51.00	-0.33	H	50.67	68.20	17.53	PK
15720	50.06	0.56	H	50.62	73.98	23.36	PK
15720	37.12	0.56	H	37.68	53.98	16.30	AV

Band : UNII 2A  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5260 MHz  
 Channel No. 52 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10520	52.71	-0.06	V	52.65	68.20	15.55	PK
15780	49.71	0.96	V	50.67	73.98	23.31	PK
15780	36.78	0.96	V	37.74	53.98	16.24	AV
10520	51.52	-0.06	H	51.46	68.20	16.74	PK
15780	50.12	0.96	H	51.08	73.98	22.90	PK
15780	36.85	0.96	H	37.81	53.98	16.17	AV

Band : UNII 2A  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5300 MHz  
 Channel No. 60 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10600	51.24	-0.18	V	51.06	73.98	22.92	PK
10600	39.37	-0.18	V	39.19	53.98	14.79	AV
15900	50.50	-0.13	V	50.37	73.98	23.61	PK
15900	38.43	-0.13	V	38.30	53.98	15.68	AV
10600	52.19	-0.18	H	52.01	73.98	21.97	PK
10600	39.28	-0.18	H	39.10	53.98	14.88	AV
15900	50.48	-0.13	H	50.35	73.98	23.63	PK
15900	38.67	-0.13	H	38.54	53.98	15.44	AV

Band : UNII 2A  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5320 MHz  
 Channel No. 64 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
10640	51.37	-0.04	V	51.33	73.98	22.65	PK
10640	39.91	-0.04	V	39.87	53.98	14.11	AV
15960	51.25	-0.36	V	50.89	73.98	23.09	PK
15960	37.55	-0.36	V	37.19	53.98	16.79	AV
10640	51.96	-0.04	H	51.92	73.98	22.06	PK
10640	39.71	-0.04	H	39.67	53.98	14.31	AV
15960	50.64	-0.36	H	50.28	73.98	23.70	PK
15960	37.60	-0.36	H	37.24	53.98	16.74	AV

Band : UNII 2C  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5500 MHz  
 Channel No. 100 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11000	51.07	1.75	V	52.82	73.98	21.16	PK
11000	39.18	1.75	V	40.93	53.98	13.05	AV
16500	50.14	1.06	V	51.20	68.20	17.00	PK
11000	51.64	1.75	H	53.39	73.98	20.59	PK
11000	39.27	1.75	H	41.02	53.98	12.96	AV
16500	49.80	1.06	H	50.86	68.20	17.34	PK

Band : UNII 2C  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5600 MHz  
 Channel No. 120 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11200	51.58	0.26	V	51.84	73.98	22.14	PK
11200	39.08	0.26	V	39.34	53.98	14.64	AV
16800	50.70	3.41	V	54.11	68.20	14.09	PK
11200	51.01	0.26	H	51.27	73.98	22.71	PK
11200	38.99	0.26	H	39.25	53.98	14.73	AV
16800	50.21	3.41	H	53.62	68.20	14.58	PK

Band : UNII 2C  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5720 MHz  
 Channel No. 144 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11440	51.90	0.74	V	52.64	73.98	21.34	PK
11440	39.00	0.74	V	39.74	53.98	14.24	AV
17160	49.97	5.47	V	55.44	68.20	12.76	PK
11440	51.69	0.74	H	52.43	73.98	21.55	PK
11440	39.21	0.74	H	39.95	53.98	14.03	AV
17160	50.34	5.47	H	55.81	68.20	12.39	PK

Band : UNII 3  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5745MHz  
 Channel No. 149 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11490	50.98	0.57	V	51.55	73.98	22.43	PK
11490	38.40	0.57	V	38.97	53.98	15.01	AV
17235	50.55	5.22	V	55.77	68.20	12.43	PK
11490	51.21	0.57	H	51.78	73.98	22.20	PK
11490	38.53	0.57	H	39.10	53.98	14.88	AV
17235	50.98	5.22	H	56.20	68.20	12.00	PK

Band : UNII 3  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5785 MHz  
 Channel No. 157 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11570	51.44	0.73	V	52.17	73.98	21.81	PK
11570	38.69	0.73	V	39.42	53.98	14.56	AV
17355	50.10	6.04	V	56.14	68.20	12.06	PK
11570	51.65	0.73	H	52.38	73.98	21.60	PK
11570	38.64	0.73	H	39.37	53.98	14.61	AV
17355	50.92	6.04	H	56.96	68.20	11.24	PK

Band : UNII 3  
 Operation Mode: 802.11ax(HE20)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5825 MHz  
 Channel No. 165 Ch

Frequency [MHz]	Reading [dBuV]	A.F.+C.L. -A.G+D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
11650	52.01	-0.65	V	51.36	73.98	22.62	PK
11650	39.24	-0.65	V	38.59	53.98	15.39	AV
17475	49.28	7.62	V	56.90	68.20	11.30	PK
11650	52.88	-0.65	H	52.23	73.98	21.75	PK
11650	39.28	-0.65	H	38.63	53.98	15.35	AV
17475	50.21	7.62	H	57.83	68.20	10.37	PK

**Note:**

All Modes of operation were investigated and the worst case configuration results are reported.

In order to simplify the report, We only have attached RSE result of worst case.

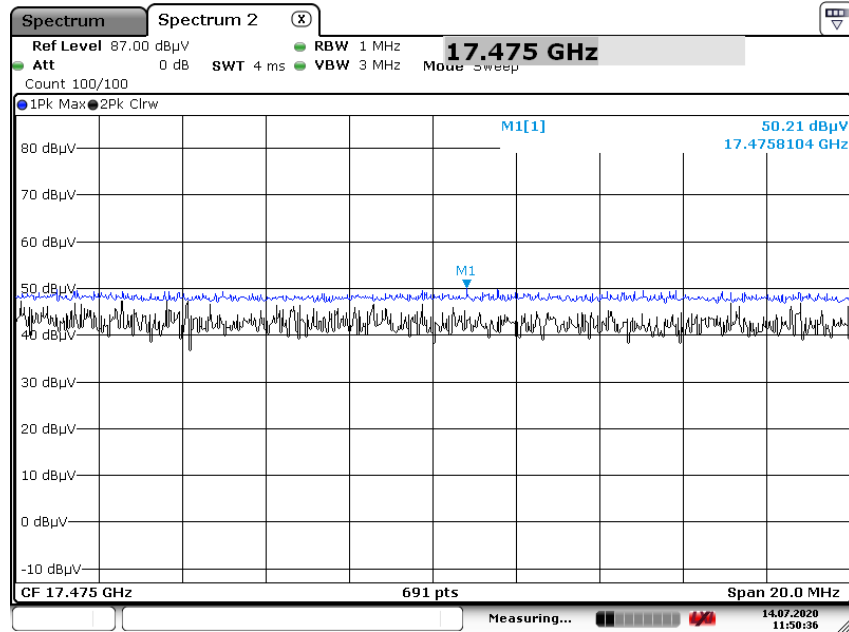
[Worst Case]

- UNII 1, 2A,2C, 3 : HE20
- HE20 : Worst case(Highest Power) : SU
- HE20 : Additional Tone : 26 T (RU 4)



▣ Test Plots

Peak Reading (802.11ax(HE20), Ch.165 3rd Harmonic, Y-H) - SU



Date: 14.JUL.2020 11:50:36

**Note:**

Only the worst case plots for Radiated Spurious Emissions.

## 10.9 RADIATED RESTRICTED BAND EDGE

### 10.9.1 802.11ax(HE20)

#### 1. 26 Tone

Band :	UNII 1
Operation Mode:	802.11ax(HE20)
Transfer Rate:	MCS0
Operating Frequency	5180 MHz
Channel No.	36 Ch
RU offset.	0

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	43.82	5.75	H	49.57	73.98	24.41	PK
5150	31.50	5.75	H	37.25	53.98	16.73	AV
5150	43.51	5.75	V	49.26	73.98	24.72	PK
5150	31.32	5.75	V	37.07	53.98	16.91	AV

Band :	UNII 2A
Operation Mode:	802.11ax(HE20)
Transfer Rate:	MCS0
Operating Frequency	5320 MHz
Channel No.	64 Ch
RU offset.	8

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	43.98	5.52	H	49.50	73.98	24.48	PK
5350	31.38	5.52	H	36.9	53.98	17.08	AV
5350	42.89	5.52	V	48.41	73.98	25.57	PK
5350	31.12	5.52	V	36.64	53.98	17.34	AV

Band : UNII 2C  
 Operation Mode: 802.11ax(HE20)  
 Transfer Rate: MCS0  
 Operating Frequency 5500 MHz  
 Channel No. 100 Ch  
 RU offset. 0

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	44.12	7.05	H	51.17	73.98	22.81	PK
5460	32.42	7.05	H	39.47	53.98	14.51	AV
5470	44.68	6.59	H	51.27	68.20	16.93	PK
5460	43.91	7.05	V	50.96	73.98	23.02	PK
5460	32.30	7.05	V	39.35	53.98	14.63	AV
5470	44.19	6.59	V	50.78	68.20	17.42	PK

**2. SU**

Band : UNII 1  
 Operation Mode: 802.11ax(HE20)  
 Transfer Rate: MCS0  
 Operating Frequency 5180 MHz  
 Channel No. 36 Ch  
 RU offset. 61

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	44.80	5.75	H	50.55	73.98	23.43	PK
5150	32.20	5.75	H	37.95	53.98	16.03	AV
5150	43.89	5.75	V	49.64	73.98	24.34	PK
5150	32.02	5.75	V	37.77	53.98	16.21	AV

Band : UNII 2A  
 Operation Mode: 802.11ax(HE20)  
 Transfer Rate: MCS0  
 Operating Frequency 5320 MHz  
 Channel No. 64 Ch  
 RU offset. 61

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	45.45	5.52	H	50.97	73.98	23.01	PK
5350	32.37	5.52	H	37.89	53.98	16.09	AV
5350	45.33	5.52	V	50.85	73.98	23.13	PK
5350	32.37	5.52	V	37.89	53.98	16.09	AV

Band : UNII 2C  
 Operation Mode: 802.11ax(HE20)  
 Transfer Rate: MCS0  
 Operating Frequency 5500 MHz  
 Channel No. 100 Ch  
 RU offset. 61

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	44.32	7.05	H	51.37	73.98	22.61	PK
5460	31.65	7.05	H	38.7	53.98	15.28	AV
5470	45.00	6.59	H	51.59	68.20	16.61	PK
5460	43.95	7.05	V	51	73.98	22.98	PK
5460	31.59	7.05	V	38.64	53.98	15.34	AV
5470	44.85	6.59	V	51.44	68.20	16.76	PK

**10.9.2 802.11ax(HE40)**

**1. 26 Tone**

Band :	UNII 1
Operation Mode:	802.11ax(HE40)
Transfer MCS Index:	MCS0
Operating Frequency	5190 MHz
Channel No.	38 Ch
RU offset.	0

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	43.64	12.72	H	56.36	73.98	17.62	PK
5150	31.72	12.72	H	44.44	53.98	9.54	AV
5150	42.94	12.72	V	55.66	73.98	18.32	PK
5150	31.65	12.72	V	44.37	53.98	9.61	AV

Band :	UNII 1
Operation Mode:	802.11ax(HE40)
Transfer MCS Index:	MCS0
Operating Frequency	5310 MHz
Channel No.	62 Ch
RU offset.	17

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	44.67	12.38	H	57.05	73.98	16.93	PK
5350	31.34	12.38	H	43.72	53.98	10.26	AV
5350	44.35	12.38	V	56.73	73.98	17.25	PK
5350	31.28	12.38	V	43.66	53.98	10.32	AV

Band :	UNII 2C
Operation Mode:	802.11ax(HE40)
Transfer MCS Index:	MCS0
Operating Frequency	5510 MHz
Channel No.	102 Ch
RU offset.	0

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	43.96	13.91	H	57.87	73.98	16.11	PK
5460	31.55	13.91	H	45.46	53.98	8.52	AV
5470	44.61	13.46	H	58.07	68.20	10.13	PK
5460	43.75	13.91	V	57.66	73.98	16.32	PK
5460	31.48	13.91	V	45.39	53.98	8.59	AV
5470	44.26	13.46	V	57.72	68.20	10.48	PK

**2. SU**

Band : UNII 1  
 Operation Mode: 802.11ax(HE40)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5190 MHz  
 Channel No. 38 Ch  
 RU offset. 65

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	43.66	12.72	H	56.38	73.98	17.60	PK
5150	32.03	12.72	H	44.75	53.98	9.23	AV
5150	43.54	12.72	V	56.26	73.98	17.72	PK
5150	31.77	12.72	V	44.49	53.98	9.49	AV

Band : UNII 1  
 Operation Mode: 802.11ax(HE40)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5310 MHz  
 Channel No. 62 Ch  
 RU offset. 65

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	45.65	12.38	H	58.03	73.98	15.95	PK
5350	32.40	12.38	H	44.78	53.98	9.20	AV
5350	42.75	12.38	V	55.13	73.98	18.85	PK
5350	32.29	12.38	V	44.67	53.98	9.31	AV



Band : UNII 2C  
 Operation Mode: 802.11ax(HE40)  
 Transfer MCS Index: MCS0  
 Operating Frequency 5510 MHz  
 Channel No. 102 Ch  
 RU offset. 65

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	44.32	13.91	H	58.23	73.98	15.75	PK
5460	31.63	13.91	H	45.54	53.98	8.44	AV
5470	44.97	13.46	H	58.43	68.20	9.77	PK
5460	44.14	13.91	V	58.05	73.98	15.93	PK
5460	31.60	13.91	V	45.51	53.98	8.47	AV
5470	43.99	13.46	V	57.45	68.20	10.75	PK

**10.9.3 802.11ax(HE80)**

**1. 26 Tone**

Band :	UNII 1
Operation Mode:	802.11ax(HE80)
Transfer MCS Index:	MCS0
Operating Frequency	5210 MHz
Channel No.	42 Ch
RU offset.	0

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	43.70	12.72	H	56.42	73.98	17.56	PK
5150	31.35	12.72	H	44.07	53.98	9.91	AV
5150	42.85	12.72	V	55.57	73.98	18.41	PK
5150	31.09	12.72	V	43.81	53.98	10.17	AV

Band :	UNII 2A
Operation Mode:	802.11ax(HE80)
Transfer MCS Index:	MCS0
Operating Frequency	5290 MHz
Channel No.	58 Ch
RU offset.	36

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	43.69	12.38	H	56.07	73.98	17.91	PK
5350	31.48	12.38	H	43.86	53.98	10.12	AV
5350	43.11	12.38	V	55.49	73.98	18.49	PK
5350	31.35	12.38	V	43.73	53.98	10.25	AV

Band :	UNII 2C
Operation Mode:	802.11ax(HE80)
Transfer MCS Index:	MCS0
Operating Frequency	5530 MHz
Channel No.	106 Ch
RU offset.	0

Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	44.02	13.91	H	57.93	73.98	16.05	PK
5460	31.49	13.91	H	45.4	53.98	8.58	AV
5470	44.21	13.46	H	57.67	68.20	10.53	PK
5460	42.94	13.91	V	56.85	73.98	17.13	PK
5460	31.30	13.91	V	45.21	53.98	8.77	AV
5470	43.19	13.46	V	56.65	68.20	11.55	PK

**2. SU**

Band :	UNII 1
Operation Mode:	802.11ax(HE80)
Transfer MCS Index:	MCS0
Operating Frequency	5210 MHz
Channel No.	42 Ch
RU offset.	67

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5150	44.99	12.72	H	57.71	73.98	16.27	PK
5150	33.07	12.72	H	45.79	53.98	8.19	AV
5150	43.79	12.72	V	56.51	73.98	17.47	PK
5150	32.85	12.72	V	45.57	53.98	8.41	AV

Band :	UNII 2A
Operation Mode:	802.11ax(HE80)
Transfer MCS Index:	MCS0
Operating Frequency	5290 MHz
Channel No.	58 Ch
RU offset.	67

Frequency [MHz]	Reading dBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5350	46.79	12.38	H	59.17	73.98	14.81	PK
5350	33.79	12.38	H	46.17	53.98	7.81	AV
5350	45.99	12.38	V	58.37	73.98	15.61	PK
5350	33.47	12.38	V	45.85	53.98	8.13	AV

Band :	UNII 2C
Operation Mode:	802.11ax(HE80)
Transfer MCS Index:	MCS0
Operating Frequency	5530 MHz
Channel No.	106 Ch
RU offset.	67

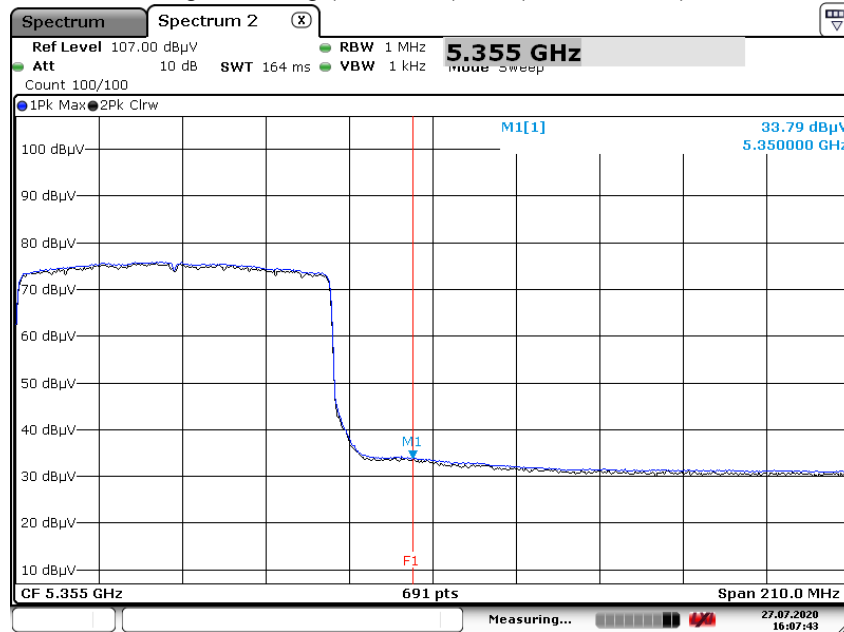
Frequency [MHz]	Reading DBuV	AN.+CL-AMP+ATT. +D.F. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
5460	44.27	13.91	H	58.18	73.98	15.80	PK
5460	31.40	13.91	H	45.31	53.98	8.67	AV
5470	44.76	13.46	H	58.22	68.20	9.98	PK
5460	43.85	13.91	V	57.76	73.98	16.22	PK
5460	31.20	13.91	V	45.11	53.98	8.87	AV
5470	43.68	13.46	V	57.14	68.20	11.06	PK

**Note:**

All Modes of operation were investigated and the worst case configuration results are reported.  
 In order to simplify the report, We only have attached Bandedge result of worst case.

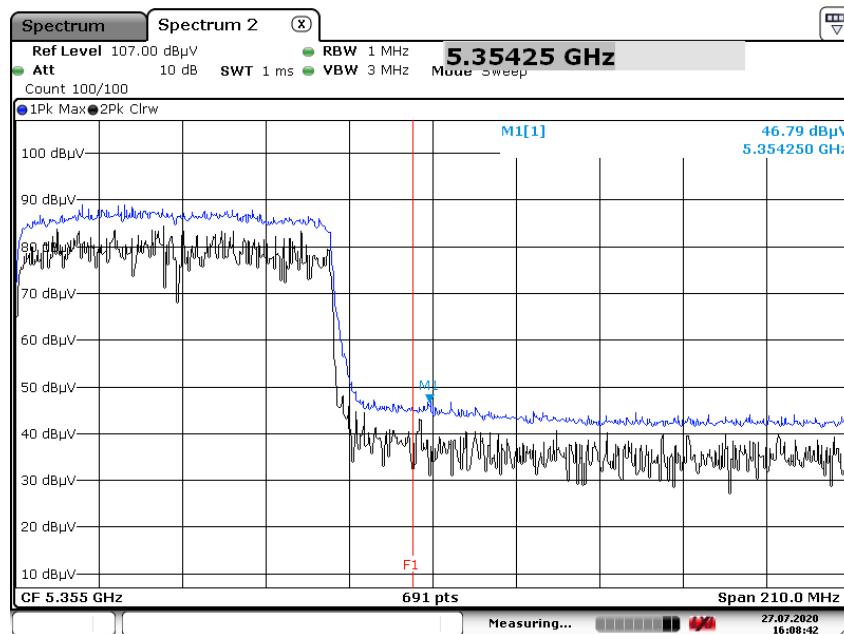
☑ Test Plots(UNII 1, 2A, 2C),

Average Reading (802.11ax(HE80), Ch.58, X-H) - SU



Date: 27.JUL.2020 16:07:43

Peak Reading (802.11ax(HE80), Ch.58, X-H) - SU



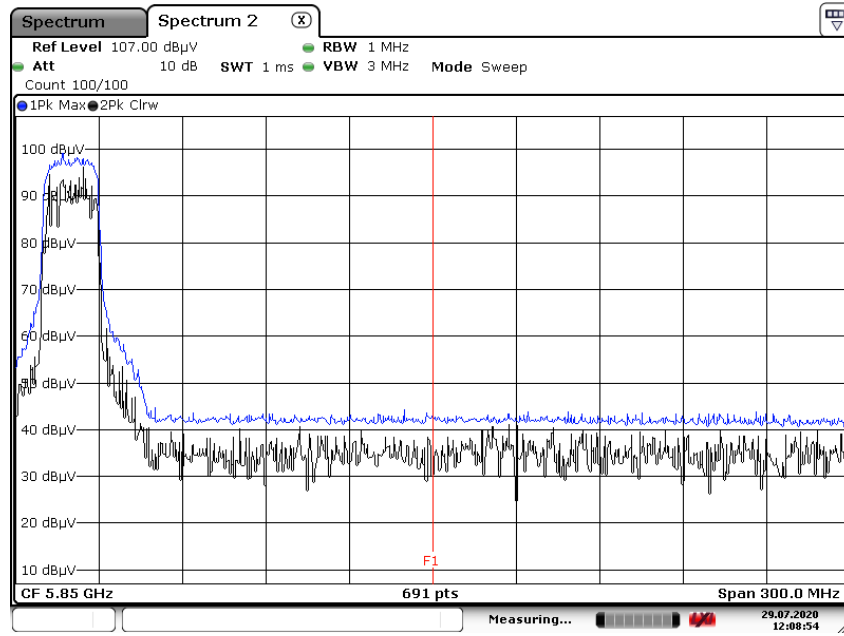
Date: 27.JUL.2020 16:08:42

**Note:**

Only the worst case plots for Radiated Restricted Band Edge.

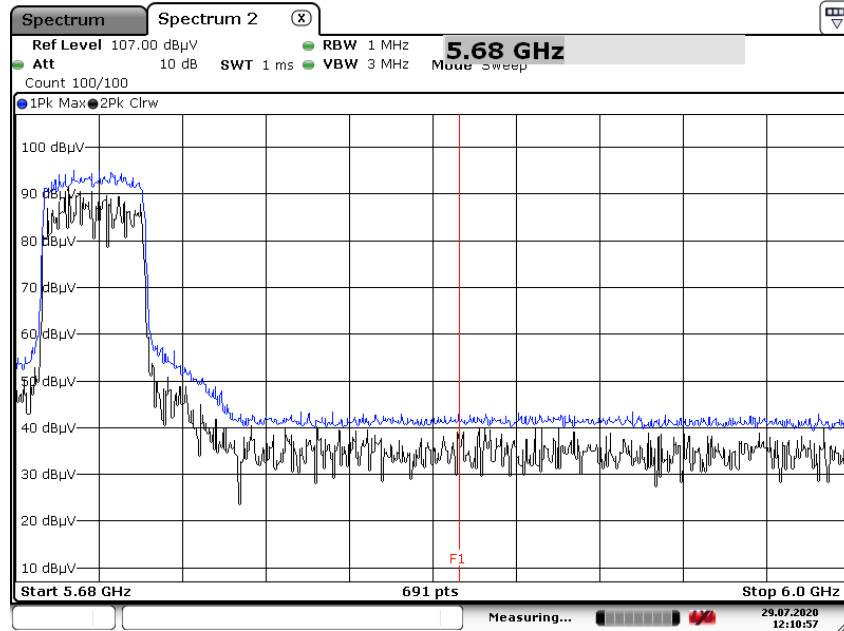
▣ Test Plots(Staraddle Channel)

Peak Reading (802.11ax(HE20), Ch.144, SU)



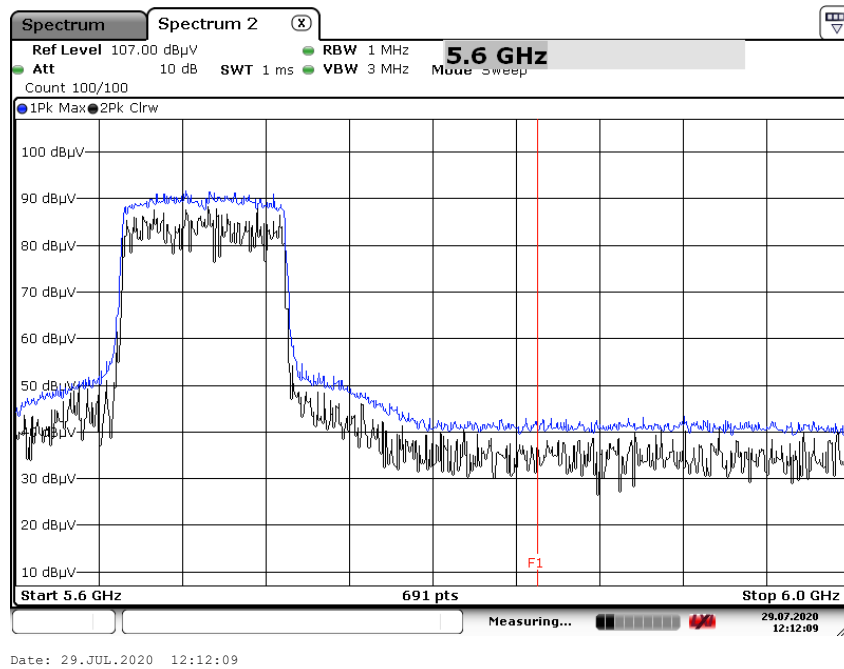
Date: 29.JUL.2020 12:08:54

Peak Reading (802.11ax(HE40), Ch.142, SU)



Date: 29.JUL.2020 12:10:58

Peak Reading (802.11ax(HE80), Ch.138, SU)



Date: 29.JUL.2020 12:12:09

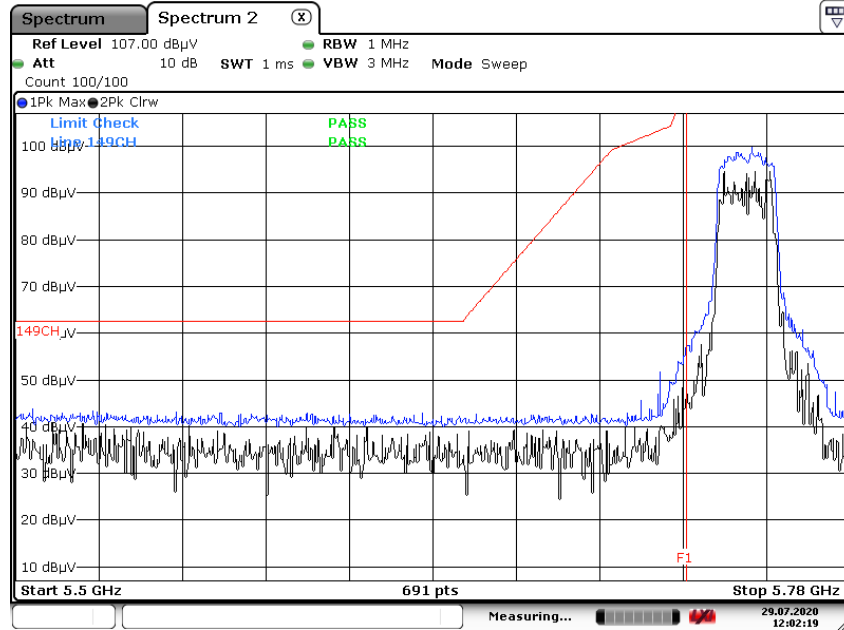
**Note :**

1. Only the worst case plots for Radiated Restricted Band Edge.
2. Red line : 5 850 MHz
3. Ambient Noise (Because of ambient noise, We attached only the worst plot without a data table)



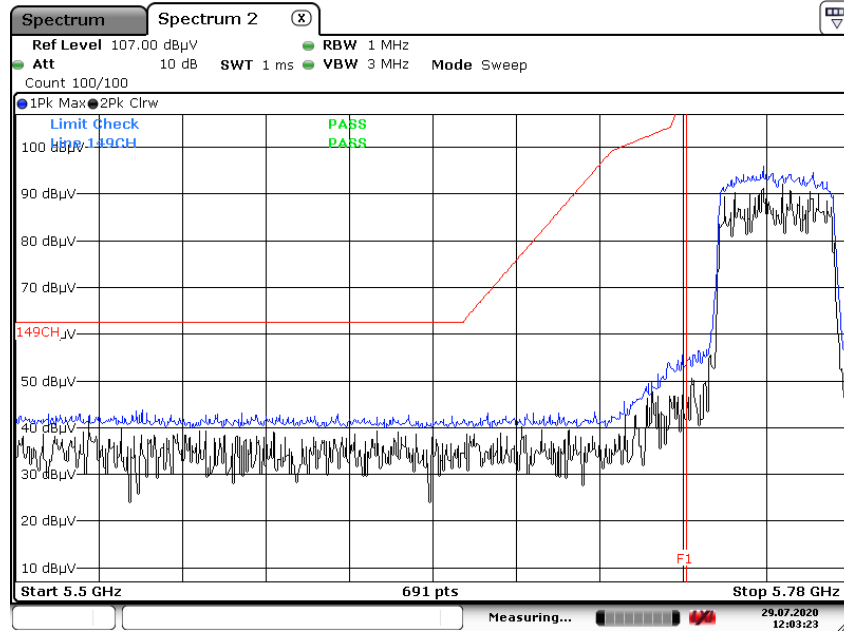
▣ Test Plots(UNII 3)

Peak Reading (802.11ax(HE20), Ch.149, SU)



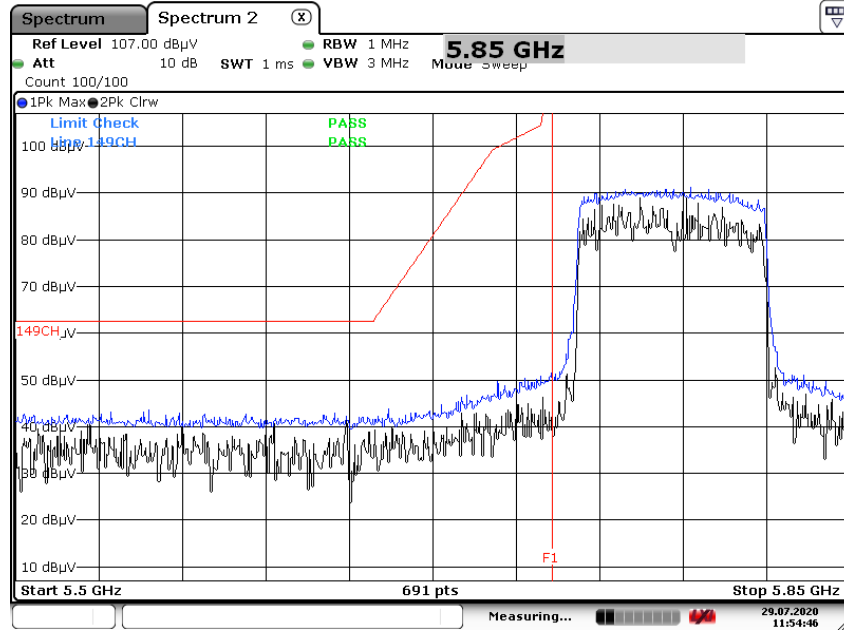
Date: 29.JUL.2020 12:02:19

Peak Reading (802.11ax(HE40), Ch.151, SU)



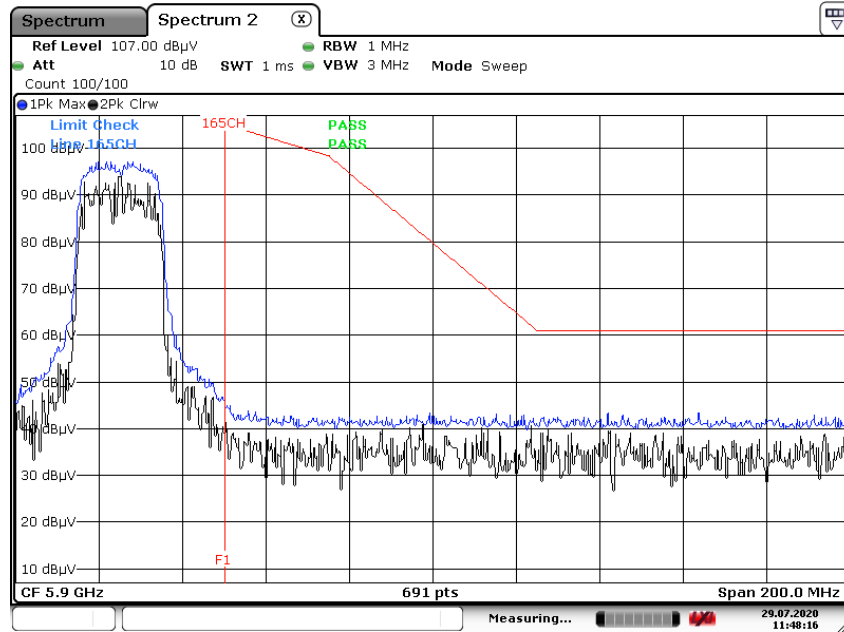
Date: 29.JUL.2020 12:03:23

Peak Reading (802.11ax(HE80), Ch.155, SU)



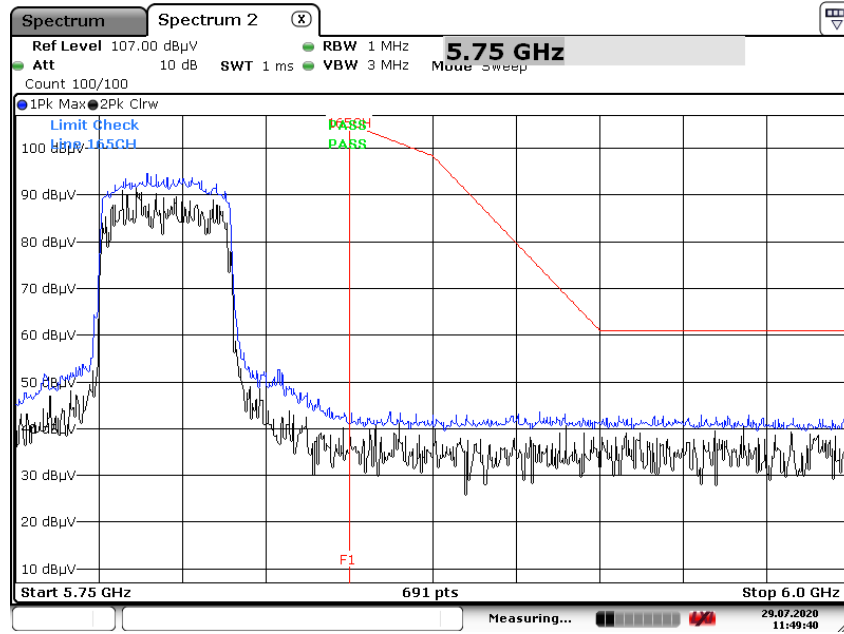
Date: 29.JUL.2020 11:54:47

Peak Reading (802.11ax(HE20), Ch.165, SU)



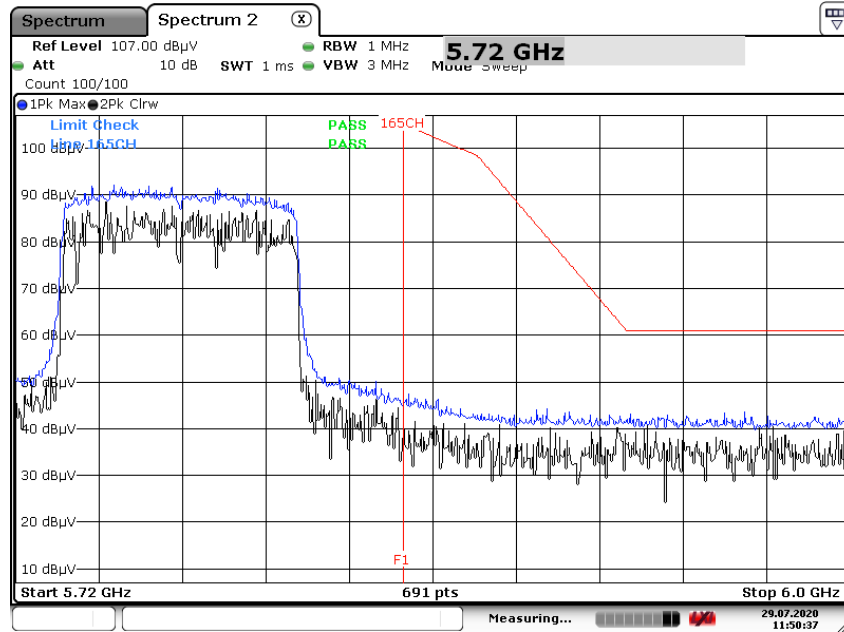
Date: 29.JUL.2020 11:48:16

Peak Reading (802.11ax(HE40), Ch.159, SU)



Date: 29.JUL.2020 11:49:40

Peak Reading (802.11ax(HE80), Ch.155, SU)



Date: 29.JUL.2020 11:50:37

## 11. LIST OF TEST EQUIPMENT

### Conducted Test

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Rohde & Schwarz	ENV216 / LISN	09/11/2019	Annual	102245
Rohde & Schwarz	ESCI / Test Receiver	06/05/2020	Annual	100033
ESPAC	SU-642 / Temperature Chamber	03/18/2020	Annual	0093008124
Agilent	N9020A / Signal Analyzer	05/11/2020	Annual	MY51110085
Agilent	N9020A / Signal Analyzer	05/25/2020	Annual	MY52090906
Agilent	N9030A / Signal Analyzer	01/13/2020	Annual	MY49431210
Rohde & Schwarz	OSP 120 / Power Measurement Set	07/02/2020	Annual	101231
Agilent	N1911A / Power Meter	04/07/2020	Annual	MY45100523
Keysight	N1921A / Power Sensor	06/08/2020	Annual	MY57820067
Agilent	87300B / Directional Coupler	11/11/2019	Annual	3116A03621
Hewlett Packard	11667B / Power Splitter	05/25/2020	Annual	05001
Hewlett Packard	E3632A / DC Power Supply	06/12/2020	Annual	KR75303960
Agilent	8493C / Attenuator(10 dB)	06/26/2020	Annual	07560
Rohde & Schwarz	EMC32 / Software	N/A	N/A	N/A
HCT CO., LTD.	FCC WLAN&BT&BLE Conducted Test Software v3.0	N/A	N/A	N/A

### Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

**Radiated Test**

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Innco system	CO3000 / Controller(Antenna mast)	N/A	N/A	CO3000-4p
Innco system	MA4640/800-XP-EP / Antenna Position Tower	N/A	N/A	N/A
Audix	EM1000 / Controller	N/A	N/A	060520
Audix	Turn Table	N/A	N/A	N/A
Rohde & Schwarz	Loop Antenna	05/18/2020	Biennial	1513-175
Schwarzbeck	VULB 9168 / Hybrid Antenna	03/22/2019	Biennial	760
Schwarzbeck	BBHA 9120D / Horn Antenna	04/29/2019	Biennial	9120D-937
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	11/29/2019	Biennial	BBHA9170541
Rohde & Schwarz	FSP(9 kHz ~ 30 GHz) / Spectrum Analyzer	04/27/2020	Annual	100854
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	09/26/2019	Annual	101068-SZ
Agilent	N9020A / Signal Analyzer	05/11/2020	Annual	MY51110085
Wainwright Instruments	WRCJV2400/2483.5-2370/2520-60/12SS / Band Reject Filter	01/21/2020	Annual	2
Wainwright Instruments	WRCJV5100/5850-40/50-8EEK / Band Reject Filter	02/10/2020	Annual	1
Wainwright Instruments	WHK3.0/18G-10EF / High Pass Filter	03/02/2020	Annual	8
Wainwright Instruments	WHKX8-6090-7000-18000-40SS/ High Pass Filter	03/02/2020	Annual	25
Api tech.	18B-03 / Attenuator (3 dB)	03/02/2020	Annual	1
Agilent	8493C-10 / Attenuator(10 dB)	03/02/2020	Annual	08285
CERNEX	CBLU1183540 / Power Amplifier	03/02/2020	Annual	22964
CERNEX	CBL06185030 / Power Amplifier	03/02/2020	Annual	22965
CERNEX	CBL18265035 / Power Amplifier	12/26/2019	Annual	22966
CERNEX	CBL26405040 / Power Amplifier	03/23/2020	Annual	25956

**Note:**

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
3. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5(Version : 2017).

**12. ANNEX A\_ TEST SETUP PHOTO**

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-2008-FC064-P