TEST REPORT

eurofins | KCTL **Eurofins KCTL Co.Ltd.**
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Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-70-5008-1021
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1. Client

- Name : Samsung Electronics Co., Ltd.
- Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
- Date of Receipt : 2024-07-01

2. Use of Report : Certification

3. Name of Product / Model : Wi-Fi/BLE combo module / ACAU710R

4. Manufacturer / Country of Origin : Samsung Electronics Co., Ltd. / Korea

5. FCC ID : A3LACAU710R

6. IC Certificate No. : 649E-ACAU710R

7. Date of Test : 2024-07-12 to 2024-10-02

8. Location of Test : ■ Permanent Testing Lab ☐ On Site Testing
(Address:65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)

9. Test method used : FCC Part 15 Subpart E, 15.407
RSS-247 Issue 3 August 2023
RSS-Gen Issue 5 February 2021

10. Test Result : Refer to the test result in the test report
This laboratory is not accredited for the test results marked. *

Affirmation	Tested by	Technical Manager
	Name : Sehwan Park (Signature)	Name : Heesu Ahn (Signature)

The above testing certificate is the accredited test result by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

2024-10-16

Accredited by KOLAS, Republic of KOREA **Eurofins KCTL Co.,Ltd.**

REPORT REVISION HISTORY

Date	Revision	Page No
2024-10-11	Originally issued	-
2024-10-16	Updated	1, 59 ~ 67, 127

Note. The report No. KR24-SRF0137 is superseded by the report No. KR24-SRF0137-A.

General remarks for test reports

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:**

Procedure number, issue date and title:
Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.

☒ **Statement not required by the standard or client used for type testing**

CONTENTS

1. General information

Client	:	Samsung Electronics Co., Ltd.
Address	:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Manufacturer	:	Samsung Electronics Co., Ltd.
Address	:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Factory	:	Chengdu Xuguang Technology Co.,Ltd
Address	:	No.86 2nd Section, Park Road, Longquanyi District, Chengdu City, Sichuan Province, P.R. China
Laboratory	:	Eurofins KCTL Co.,Ltd.
Address	:	65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea
Accreditations	:	FCC Site Designation No: KR0040, FCC Site Registration No: 687132 VCCI Registration No. : R-20080, G-20078, C-20059, T-20056 CAB Identifier: KR0040 ISED Number: 8035A KOLAS No.: KT231

2. Device information

Equipment under test	:	Wi-Fi/BLE combo module			
Model	:	ACAU710R			
Modulation technique	:	Bluetooth(BDR/EDR)	:	GFSK, π/4DQPSK, 8DPSK	
		Bluetooth(BLE)	:	GFSK	
		WIFI(802.11a/b/g/n/ac/ax)	:	DSSS, OFDM, OFDMA	
Number of channels	:	Bluetooth	:	79 ch	
		BLE	:	40 ch	
		2.4 ㎓ WLAN	:	11 ch (20 ㎒)	
		UNII 1	:	4 ch (20 ㎒)	
		UNII 2A	:	4 ch (20 ㎒)	
		UNII 2C	:	12 ch (20 ㎒)	
		UNII 3	:	5 ch (20 ㎒)	
Power source	:	DC 5 ㅿ, 12 ㅿ			
Antenna specification	:	Chip antenna			
Antenna gain	:	BT/BLE/2.4 ㎓ WLAN	:	-0.10 ㏈i	
		UNII 1	:	0.90 ㏈i	
		UNII 2A	:	0.20 ㏈i	
		UNII 2C	:	-0.40 ㏈i	
		UNII 3	:	-0.70 ㏈i	
Frequency range	:	Bluetooth	:	2 402 ㎒ ~ 2 480 ㎒	(BDR/EDR/BLE)
		2.4 ㎓ WALN	:	2 412 ㎒ ~ 2 462 ㎒	(802.11b/g/n/ax_HT20/HE20)
		UNII-1	:	5 180 ㎒ ~ 5 240 ㎒	(802.11a/n/ac/ax_HT20/VHT20/HE20)
		UNII-2A	:	5 260 ㎒ ~ 5 320 ㎒	(802.11a/n/ac/ax_HT20/VHT20/HE20)
		UNII-2C	:	5 500 ㎒ ~ 5 720 ㎒	(802.11a/n/ac/ax_HT20/VHT20/HE20)
		UNII-3	:	5 745 ㎒ ~ 5 825 ㎒	(802.11a/n/ac/ax_HT20/VHT20/HE20)
Software version	:	v1.0			
Hardware version	:	v1.0			
Test device serial No.	:	Conducted : 9C443D587C84			
		Radiated : C8A6ER364B08			
Operation temperature	:	-20 ℃ ~ 85 ℃			

2.1. Frequency/channel operations

This device contains the following capabilities:
WLAN (11a/b/g/n/ac/ax), Bluetooth (BDR/EDR/BLE)

UNII-1		UNII-2A		UNII-2C		UNII-3	
Ch.	Frequency (㎒)	Ch.	Frequency (㎒)	Ch.	Frequency (㎒)	Ch.	Frequency (㎒)
36	5 180	52	5 260	100	5 500	149	5 745
40	5 200	56	5 280	120	5 600	157	5 785
48	5 240	64	5 320	140	5 700	165	5 825
				144	5 720		

Table 2.1.1. 802.11ax HE20 mode

2.2. RF power setting in TEST SW

Mode	RU Type		Frequency (㎒)	Power Setting
	RU Tone	RU offset		
802.11a	N/A	N/A	5 180	16.00
			5 200	16.00
			5 240	15.00
			5 260	16.00
			5 280	16.00
			5 320	16.00
			5 500	16.00
			5 600	16.00
			5 660	16.00
			5 700	16.00
			5 720	16.00
			5 745	10.50
			5 785	10.50
			5 825	10.50
802.11n HT20	N/A	N/A	5 180	15.00
			5 200	15.00
			5 240	15.00
			5 260	15.00
			5 280	15.00
			5 320	15.00
			5 500	15.00
			5 600	15.00
			5 660	15.00
			5 700	15.00
			5 720	15.00
			5 745	10.50
			5 785	10.50
			5 825	10.50

Mode	RU Type		Frequency (㎒)	Power Setting
	RU Tone	RU offset		
802.11ac VHT20	N/A	N/A	5 180	15.00
			5 200	15.00
			5 240	15.00
			5 260	15.00
			5 280	15.00
			5 320	15.00
			5 500	15.00
			5 600	15.00
			5 660	15.00
			5 700	15.00
			5 720	15.00
			5 745	10.50
			5 785	10.50
			5 825	10.50
802.11ax HE20	26	0	5 180	13.25
		4		13.25
		8		13.25
		0	5 200	13.25
		4		13.25
		8		13.25
		0	5 240	6.00
		4		6.00
		8		6.00
		0	5 260	12.25
		4		12.25
		8		12.25
		0	5 280	12.25
		4		12.25
		8		12.25
		0	5 320	12.25
		4		12.25
		8		12.25
		0	5 500	12.50
		4		12.50
		8		12.50
		0	5 600	12.50
		4		12.50
		8		12.50
		0	5 660	12.50
		4		12.50
		8		12.50

Mode	RU Type		Frequency (㎒)	Power Setting
	RU Tone	RU offset		
802.11ax HE20	26	0	5 700	12.50
		4		12.50
		8		12.50
		0	5 720	12.50
		4		12.50
		8		12.50
		0	5 745	10.50
		4		10.50
		8		10.50
		0	5 785	10.50
		4		10.50
		8		10.50
		0	5 825	10.50
		4		10.50
		8		10.50
	52	37	5 180	15.25
		38		15.25
		40		15.25
		37	5 200	15.25
		38		15.25
		40		15.25
		37	5 240	8.00
		38		8.00
		40		8.00
		37	5 260	14.50
		38		14.50
		40		14.50
		37	5 280	14.50
		38		14.50
		40		14.50
		37	5 320	14.50
		38		14.50
		40		14.50
		37	5 500	15.00
		38		15.00
		40		15.00
		37	5 600	14.75
		38		14.75
		40		14.75
		37	5 660	15.00
		38		15.00
		40		15.00

Mode	RU Type		Frequency (㎒)	Power Setting
	RU Tone	RU offset		
802.11ax HE20	52	37	5 700	14.50
		38		14.50
		40		14.50
		37	5 720	14.50
		38		14.50
		40		14.50
		37	5 745	10.50
		38		10.50
		40		10.50
		37	5 785	10.50
		38		10.50
		40		10.50
		37	5 825	10.50
		38		10.50
		40		10.50
	106	53	5 180	15.25
		54		15.25
		53	5 200	15.25
		54		15.25
		53	5 240	11.50
		54		11.50
		53	5 260	14.75
		54		14.75
		53	5 280	14.75
		54		14.75
		53	5 320	15.25
		54		15.25
		53	5 500	15.25
		54		15.25
		53	5 600	14.75
		54		14.75
		53	5 660	15.25
		54		15.25
		53	5 700	14.50
		54		14.50
		53	5 720	14.50
		54		14.50
		53	5 745	10.50
		54		10.50
		53	5 785	10.50
		54		10.50
		53	5 825	10.50
		54		10.50

Mode	RU Type		Frequency (㎒)	Power Setting
	RU Tone	RU offset		
802.11ax HE20	242	61	5 180	15.25
			5 200	15.25
			5 240	14.75
			5 260	14.75
			5 280	14.75
			5 320	15.25
			5 500	15.25
			5 600	14.75
			5 660	15.25
			5 700	14.50
			5 720	14.50
			5 745	10.50
			5 785	10.50
			5 825	10.50
	SU	-	5 180	15.25
			5 200	15.25
			5 240	14.75
			5 260	14.75
			5 280	14.75
			5 320	15.25
			5 500	15.25
			5 600	14.75
			5 660	15.25
			5 700	14.50
			5 720	14.50
			5 745	10.50
			5 785	10.50
			5 825	10.50

2.3. Test RU offset for tones in each modes

BW (㎒)	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 / SU	-	61 / -	-

2.4. Band portion of RU allocation about straddle channels

Mode	Channel	Tone number in RU	RU offset	Portion
HE20	Straddle 5 720 ㎒	26T	0	UNII-2C
			4	UNII-2C
			8	UNII-3
		52T	37	UNII-2C
			38	UNII-2C
			40	UNII-3
		106T	53	UNII-2C
			54	UNII-2C & UNII-3
		242T / SU	61 / -	UNII-2C & UNII-3

2.5. Duty Cycle Factor

Test mode		ANT	Tone	Period (ms)	T_{on} time (ms)	Duty cycle		Duty cycle factor (dB)
						(Linear)	(%)	
802.11ax	HE20	SISO	26T	2.108 7	2.003 4	0.950 1	95.01	0.22
			52T	2.123 1	2.018 7	0.950 8	95.08	0.22
			106T	2.123 1	2.018 7	0.950 8	95.08	0.22
			242T	2.122 2	2.018 7	0.951 2	95.12	0.22
			SU	1.556 8	1.453 2	0.933 5	93.35	0.30

Notes.

1. Duty cycle (Linear) = Ton time / Period
2. DCF(Duty cycle factor) = 10log(1/duty cycle)
3. DCF is not compensated to average result if duty cycle is more than 98%
4. Please refer to Appendix A for plots.

3. Antenna requirement

Requirement of FCC part section 15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall 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.

Requirement of RSS-Gen Section 6.8:

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).

When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer.

The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.

- The transmitter has permanently attached Chip Antenna (Internal antenna) on board.
- The E.U.T Complies with the requirement of §15.203, §15.247, §15.407.

4. Summary of tests

FCC Part section(s)	IC Rule Reference	Parameter	Test Condition	Test results
15.407(a)	RSS-247 Issue 2, 6.2	Maximum conducted output power	Conducted	Pass
15.407(a)	RSS-247 Issue 2, 6.2	Maximum power spectral density		Pass
15.407(a)	RSS-Gen Issue 5, 6.7	26 ㏈ Channel Bandwidth		Pass
15.407(e)	RSS-247 Issue 2, 6.2.4	6 ㏈ Channel Bandwidth		Pass
-	RSS-Gen Issue 5, 6.7	Occupied Bandwidth		Pass
15.207(a)	RSS-Gen Issue 5, 8.8	AC Conducted Emissions		Pass
15.407(b), 15.205(a), 15.209(a)	RSS-Gen Issue 5, 8.9, 8.10 RSS-247 Issue 2, 6.2,	Spurious emission	Radiated	Pass
		Band-edge, restricted band		Pass

Notes.

1. All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
2. According to exploratory test no any obvious emission were detected from 9 ㎑ to 30 ㎒. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30 m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.
3. EUT was investigated in three orthogonal orientations X, Y and Z. it was determined that **X** orientation was worst-case orientation. Therefore, all final radiated testing was performed with the EUT in **X** orientation.
4. All configurations have been performed (Stand-alone, Stand-alone with TA, With accessories). Worst case: Stand-alone with TA
5. The test procedure(s) in this report were performed in accordance as following.
   - ANSI C63.10-2013
   - KDB 662911 D01 v02r01
   - KDB 789033 D02 v02r01
6. Based on the baseline scan, the worst-case data rates were:
   802.11ax HE20 mode: MCS0
7. For AC Conducted emission and spurious emission below 1 ㎓, please refer to 15.407 legacy test report.

5. 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 indicated a 95 % level of confidence. The measurement data shown herein meets of exceeds the U_{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 (±)	
Maximum Peak Output Power	0.9 dB	
Peak Power Spectral Density	1.0 dB	
6 dB Channel Bandwidth	0.1 %	
Occupied Bandwidth	0.1 %	
Conducted spurious emission	1.9 dB	
Conducted Emissions	150 kHz to 30 MHz	2.8 dB
Radiated spurious Emissions (Bandedge, restricted band)	Below 30 MHz	2.3 dB
	30 MHz to 1 000 MHz	2.5 dB
	1 000 MHz to 18 000 MHz	4.7 dB
	Above 18 000 MHz	4.8 dB

6. Measurement results explanation example

The offset level is set in the spectrum analyzer to compensate the RF cable loss factor between EUT conducted output port and spectrum analyzer.
With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

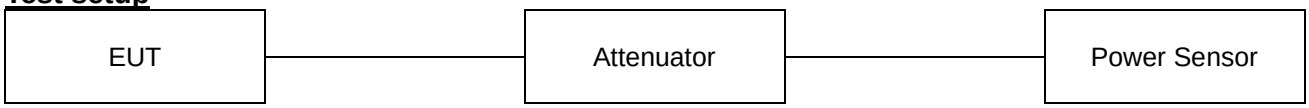
Frequency (㎒)	Factor(㏈)	Frequency (㎒)	Factor(㏈)
30	9.94	9 000	13.16
50	10.03	10 000	13.21
100	10.14	11 000	13.41
200	10.26	12 000	13.47
300	10.41	13 000	13.51
400	10.49	14 000	13.32
500	10.47	15 000	13.41
600	10.59	16 000	13.73
700	10.64	17 000	13.77
800	10.66	18 000	13.86
900	10.72	19 000	13.53
1 000	10.66	20 000	13.74
2 000	11.13	21 000	13.86
3 000	11.51	22 000	13.93
4 000	11.58	23 000	14.32
5 000	12.00	24 000	13.84
6 000	12.21	25 000	14.05
7 000	13.05	26 000	14.70
8 000	13.09	26 500	14.88

Notes:
Offset(㏈) = RF cable loss(㏈) + Attenuator(㏈)

7. Test results

7.1. Maximum conducted output power

Test setup



Limit

According to §15.407(a), RSS-247(6.2)

FCC

Band	EUT category		Conducted output power limit
UNII-1		Outdoor access point	1 W (30 dBm)
		Indoor access point	
		Fixed point-to-point access point	
	√	Client device	250 mW (23.98 dBm)
UNII-2A	√		250 mW or 11 dBm + 10logB[1)]
UNII-2C	√		250 mW or 11 dBm + 10logB[1)]
UNII-3	√		1 W (30 dBm)

IC

Band	Maximum e.i.r.p. limit
UNII-1	200 mW or 10 + 10 logB[2)], dBm
UNII-2A	1 W or 17 dBm + 10logB[2)]
UNII-2C	1 W or 17 dBm + 10logB[2)]
UNII-3	1 W (30 dBm)

Note:

1) Conducted output power limit B is the 26 dB emission bandwidth.
2) Maximum e.i.r.p. limit B is the 99% emission bandwidth.

Test procedure

ANSI C63.10-2013-Section 12.3.3.2 and 14.2
KDB 789033 D02 v02r01 - Section E.2.d) or E.3.a)
KDB 662911 D01 v02r01 – Section F)

Test settings
Used test method is Section E.2.d)

◆ **KDB 789033 D02 v02r01**

Section E.2.d)
Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction):

(i) Measure the duty cycle, x, of the transmitter output signal as described in II.B..
(ii) Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
(iii) Set RBW = 1 ㎒
(iv) Set RBW ≥ 3 ㎒
(v) Number of points in sweep ≥ 2×span/RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
(vi) Sweep time = auto.
(vii) Detector = power averaging (rms), if available. Otherwise use sample detector mode.
(viii) Do not use sweep triggering. Allow the sweep to "free run."
(ix) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
(x) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 ㎒ intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
(xi) 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 (because the measurement represents an average over both the on and off times of the transmission). For example, add 10 log(1/0,25) = 6 ㏈ if the duty cycle is 25%.

Section E.3.a)
Method PM (Measurement using an RF average power meter):

(i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied.

- The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
- At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
- The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five

(ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in II
(iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
(iv) Adjust the measurement in ㏈m by adding 10 log (1/x) where x is the duty cycle (e.g., 10 log (1/0.25) if the duty cycle is 25%).

Test results

[DC 5 V]

802.11ax HE20 SISO in the UNII-1 band

Conducted Output Power

Channel	Frequency (㎒)	Tones	RU offset	Measured output power			FCC Limit (dBm)	IC Limit (dBm)
				Reading (dBm)	DCF (dB)	Result (dBm)		
Low	5 180	26T	0	11.97	0.22	12.19	23.98	22.12
			4	12.75	0.22	12.97	23.98	22.12
			8	12.00	0.22	12.22	23.98	22.12
		52T	37	14.47	0.22	14.69	23.98	22.12
			38	14.96	0.22	15.18	23.98	22.12
			40	14.46	0.22	14.68	23.98	22.12
		106T	53	14.70	0.22	14.92	23.98	22.12
			54	14.69	0.22	14.91	23.98	22.12
		242T	61	14.79	0.22	15.01	23.98	22.12
		SU	-	14.61	0.30	14.91	23.98	22.12
Mid	5 200	26T	0	11.81	0.22	12.03	23.98	22.12
			4	12.67	0.22	12.89	23.98	22.12
			8	11.82	0.22	12.04	23.98	22.12
		52T	37	14.48	0.22	14.70	23.98	22.12
			38	14.91	0.22	15.13	23.98	22.12
			40	14.38	0.22	14.60	23.98	22.12
		106T	53	14.62	0.22	14.84	23.98	22.12
			54	14.65	0.22	14.87	23.98	22.12
		242T	61	14.61	0.22	14.83	23.98	22.12
		SU	-	14.56	0.30	14.86	23.98	22.12
High	5 240	26T	0	4.92	0.22	5.14	23.98	22.12
			4	5.79	0.22	6.01	23.98	22.12
			8	5.03	0.22	5.25	23.98	22.12
		52T	37	7.20	0.22	7.42	23.98	22.12
			38	7.72	0.22	7.94	23.98	22.12
			40	7.30	0.22	7.52	23.98	22.12
		106T	53	10.89	0.22	11.11	23.98	22.12
			54	10.93	0.22	11.15	23.98	22.12
		242T	61	14.45	0.22	14.67	23.98	22.12
		SU	-	14.35	0.30	14.65	23.98	22.12

Note:

1. Conducted Output power(dB m) = 10log($10^{(ANT\ 1/10)}$ + $10^{(ANT\ 2/10)}$) (dB m) + DCF(dB)

E.I.R.P.

Channel	Frequency (㎒)	Tones	RU offset	Conducted Output Power (dBm)	ANT gain (dBi)	MAX e.i.r.p (dBm)	MAX e.i.r.p Limit (dBm)
Low	5 180	26T	0	11.97	0.90	13.09	22.12
			4	12.75		13.87	22.12
			8	12.00		13.12	22.12
		52T	37	14.47		15.59	22.12
			38	14.96		16.08	22.12
			40	14.46		15.58	22.12
		106T	53	14.70		15.82	22.12
			54	14.69		15.81	22.12
		242T	61	14.79		15.91	22.12
		SU	-	14.61		15.81	22.12
Mid	5 200	26T	0	11.81		12.93	22.12
			4	12.67		13.79	22.12
			8	11.82		12.94	22.12
		52T	37	14.48		15.60	22.12
			38	14.91		16.03	22.12
			40	14.38		15.50	22.12
		106T	53	14.62		15.74	22.12
			54	14.65		15.77	22.12
		242T	61	14.61		15.73	22.12
		SU	-	14.56		15.76	22.12
High	5 240	26T	0	4.92		6.04	22.12
			4	5.79		6.91	22.12
			8	5.03		6.15	22.12
		52T	37	7.20		8.32	22.12
			38	7.72		8.84	22.12
			40	7.30		8.42	22.12
		106T	53	10.89		12.01	22.12
			54	10.93		12.05	22.12
		242T	61	14.45		15.57	22.12
		SU	-	14.35		15.55	22.12

Note:

1. E.I.R.P. Calculation: E.I.R.P. (dBm) = Conducted output power (dBm) + Antenna gain (dBi)

802.11ax HE20 SISO in the UNII-2A band
Conducted Output Power

Channel	Frequency (㎒)	Tones	RU offset	Measured output power			FCC Limit (dBm)	IC Limit (dBm)
				Reading (dBm)	DCF (dB)	Result (dBm)		
Low	5 260	26T	0	11.77	0.22	11.99	23.57	29.18
			4	12.58	0.22	12.80	23.57	29.18
			8	11.77	0.22	11.99	23.57	29.18
		52T	37	14.38	0.22	14.60	23.57	29.18
			38	14.79	0.22	15.01	23.57	29.18
			40	14.33	0.22	14.55	23.57	29.18
		106T	53	14.84	0.22	15.06	23.57	29.18
			54	14.99	0.22	15.21	23.57	29.18
		242T	61	14.84	0.22	15.06	23.57	29.18
		SU	-	14.79	0.30	15.09	23.57	29.18
Mid	5 280	26T	0	11.66	0.22	11.88	23.57	29.18
			4	12.47	0.22	12.69	23.57	29.18
			8	11.71	0.22	11.93	23.57	29.18
		52T	37	14.32	0.22	14.54	23.57	29.18
			38	14.82	0.22	15.04	23.57	29.18
			40	14.32	0.22	14.54	23.57	29.18
		106T	53	14.82	0.22	15.04	23.57	29.18
			54	14.90	0.22	15.12	23.57	29.18
		242T	61	14.75	0.22	14.97	23.57	29.18
		SU	-	14.66	0.30	14.96	23.57	29.18
High	5 320	26T	0	11.00	0.22	11.22	23.57	29.18
			4	11.79	0.22	12.01	23.57	29.18
			8	11.09	0.22	11.31	23.57	29.18
		52T	37	13.63	0.22	13.85	23.57	29.18
			38	14.12	0.22	14.34	23.57	29.18
			40	13.62	0.22	13.84	23.57	29.18
		106T	53	14.73	0.22	14.95	23.57	29.18
			54	14.59	0.22	14.81	23.57	29.18
		242T	61	14.72	0.22	14.94	23.57	29.18
		SU	-	14.66	0.30	14.96	23.57	29.18

Note:

1. Conducted Output power(㏈ m) = 10log($10^{(ANT\ 1/10)}$ + $10^{(ANT\ 2/10)}$) (㏈ m) + DCF(㏈)

E.I.R.P.

Channel	Frequency (㎒)	Tones	RU offset	Conducted Output Power (dBm)	ANT gain (dBi)	MAX e.i.r.p (dBm)	MAX e.i.r.p Limit (dBm)
Low	5 260	26T	0	11.77	0.20	12.19	29.18
			4	12.58		13.00	29.18
			8	11.77		12.19	29.18
		52T	37	14.38		14.80	29.18
			38	14.79		15.21	29.18
			40	14.33		14.75	29.18
		106T	53	14.84		15.26	29.18
			54	14.99		15.41	29.18
		242T	61	14.84		15.26	29.18
		SU	-	14.79		15.29	29.18
Mid	5 280	26T	0	11.66		12.08	29.18
			4	12.47		12.89	29.18
			8	11.71		12.13	29.18
		52T	37	14.32		14.74	29.18
			38	14.82		15.24	29.18
			40	14.32		14.74	29.18
		106T	53	14.82		15.24	29.18
			54	14.90		15.32	29.18
		242T	61	14.75		15.17	29.18
		SU	-	14.66		15.16	29.18
High	5 320	26T	0	11.00		11.42	29.18
			4	11.79		12.21	29.18
			8	11.09		11.51	29.18
		52T	37	13.63		14.05	29.18
			38	14.12		14.54	29.18
			40	13.62		14.04	29.18
		106T	53	14.73		15.15	29.18
			54	14.59		15.01	29.18
		242T	61	14.72		15.14	29.18
		SU	-	14.66		15.16	29.18

Note:

1. E.I.R.P. Calculation: E.I.R.P. (dBm) = Conducted output power (dBm) + Antenna gain (dBi)

802.11ax HE20 SISO in the UNII-2C band
Conducted Output Power

Channel	Frequency (㎒)	Tones	RU offset	Measured output power			FCC Limit (dBm)	IC Limit (dBm)
				Reading (dBm)	DCF (dB)	Result (dBm)		
Low	5 500	26T	0	11.82	0.22	12.04	23.51	29.17
			4	12.65	0.22	12.87	23.51	29.17
			8	11.83	0.22	12.05	23.51	29.17
		52T	37	14.80	0.22	15.02	23.51	29.17
			38	15.23	0.22	15.45	23.51	29.17
			40	14.60	0.22	14.82	23.51	29.17
		106T	53	15.27	0.22	15.49	23.51	29.17
			54	15.14	0.22	15.36	23.51	29.17
		242T	61	15.12	0.22	15.34	23.51	29.17
		SU	-	15.08	0.30	15.38	23.51	29.17
Mid	5 580	26T	0	12.18	0.22	12.40	23.51	29.17
			4	12.96	0.22	13.18	23.51	29.17
			8	12.12	0.22	12.34	23.51	29.17
		52T	37	14.80	0.22	15.02	23.51	29.17
			38	15.22	0.22	15.44	23.51	29.17
			40	14.80	0.22	15.02	23.51	29.17
		106T	53	15.19	0.22	15.41	23.51	29.17
			54	15.18	0.22	15.40	23.51	29.17
		242T	61	15.17	0.22	15.39	23.51	29.17
		SU	-	14.90	0.30	15.20	23.51	29.17
High	5 700	26T	0	12.23	0.22	12.45	23.51	29.17
			4	12.84	0.22	13.06	23.51	29.17
			8	12.01	0.22	12.23	23.51	29.17
		52T	37	14.56	0.22	14.78	23.51	29.17
			38	15.03	0.22	15.25	23.51	29.17
			40	14.34	0.22	14.56	23.51	29.17
		106T	53	14.81	0.22	15.03	23.51	29.17
			54	14.58	0.22	14.80	23.51	29.17
		242T	61	14.67	0.22	14.89	23.51	29.17
		SU	-	14.63	0.30	14.93	23.51	29.17
Straddle	5 720	26T	0	11.38	0.22	11.60	23.51	29.17
			4	11.87	0.22	12.09	23.51	29.17
		52T	37	13.71	0.22	13.93	23.51	29.17
			38	14.12	0.22	14.34	23.51	29.17
		106T	53	13.94	0.22	14.16	23.51	29.17

Note:

1. Conducted Output power(㏈ m) = 10log($10^{(ANT\ 1/10)}$ + $10^{(ANT\ 2/10)}$) (㏈ m) + DCF(㏈)

E.I.R.P.

Channel	Frequency (㎒)	Tones	RU offset	Conducted Output Power (dBm)	ANT gain (dBi)	MAX e.i.r.p (dBm)	MAX e.i.r.p Limit (dBm)
Low	5 500	26T	0	11.82	-0.40	11.64	29.17
			4	12.65		12.47	29.17
			8	11.83		11.65	29.17
		52T	37	14.80		14.62	29.17
			38	15.23		15.05	29.17
			40	14.60		14.42	29.17
		106T	53	15.27		15.09	29.17
			54	15.14		14.96	29.17
		242T	61	15.12		14.94	29.17
		SU	-	15.08		14.98	29.17
Mid	5 580	26T	0	12.18		12.00	29.17
			4	12.96		12.78	29.17
			8	12.12		11.94	29.17
		52T	37	14.80		14.62	29.17
			38	15.22		15.04	29.17
			40	14.80		14.62	29.17
		106T	53	15.19		15.01	29.17
			54	15.18		15.00	29.17
		242T	61	15.17		14.99	29.17
		SU	-	14.90		14.80	29.17
High	5 700	26T	0	12.23		12.05	29.17
			4	12.84		12.66	29.17
			8	12.01		11.83	29.17
		52T	37	14.56		14.38	29.17
			38	15.03		14.85	29.17
			40	14.34		14.16	29.17
		106T	53	14.81		14.63	29.17
			54	14.58		14.40	29.17
		242T	61	14.67		14.49	29.17
		SU	-	14.63		14.53	29.17
Straddle	5 720	26T	0	11.38		11.20	29.17
			4	11.87		11.69	29.17
		52T	37	13.71		13.53	29.17
			38	14.12		13.94	29.17
		106T	53	13.94		13.76	29.17

Notes:

1. e.i.r.p. Calculation: e.i.r.p. (dBm) = Conducted output power (dBm) + Antenna gain (dBi)

802.11ax HE20 SISO in the UNII-3 band
Conducted Output Power

Channel	Frequency (㎒)	Tones	RU offset	Measured output power			FCC Limit (dBm)	IC Limit (dBm)
				Reading (dBm)	DCF (dB)	Result (dBm)		
Straddle	5 720	26T	8	10.67	0.22	10.89	30.00	30.00
		52T	40	13.03	0.22	13.25	30.00	30.00
Low	5 745	26T	0	10.50	0.22	10.72	30.00	30.00
			4	6.92	0.22	7.14	30.00	30.00
			8	6.93	0.30	7.23	30.00	30.00
		52T	37	10.69	0.22	10.91	30.00	30.00
			38	11.31	0.22	11.53	30.00	30.00
			40	10.36	0.22	10.58	30.00	30.00
		106T	53	10.92	0.22	11.14	30.00	30.00
			54	11.33	0.22	11.55	30.00	30.00
		242T	61	10.62	0.22	10.84	30.00	30.00
		SU	-	11.08	0.22	11.30	30.00	30.00
Mid	5 785	26T	0	10.91	0.22	11.13	30.00	30.00
			4	11.04	0.22	11.26	30.00	30.00
			8	10.93	0.30	11.23	30.00	30.00
		52T	37	10.33	0.22	10.55	30.00	30.00
			38	10.91	0.22	11.13	30.00	30.00
			40	9.98	0.22	10.20	30.00	30.00
		106T	53	10.56	0.22	10.78	30.00	30.00
			54	10.97	0.22	11.19	30.00	30.00
		242T	61	10.28	0.22	10.50	30.00	30.00
		SU	-	10.77	0.22	10.99	30.00	30.00
High	5 825	26T	0	10.60	0.22	10.82	30.00	30.00
			4	10.82	0.22	11.04	30.00	30.00
			8	10.59	0.30	10.89	30.00	30.00
		52T	37	9.84	0.22	10.06	30.00	30.00
			38	10.47	0.22	10.69	30.00	30.00
			40	9.45	0.22	9.67	30.00	30.00
		106T	53	10.08	0.22	10.30	30.00	30.00
			54	10.53	0.22	10.75	30.00	30.00
		242T	61	9.88	0.22	10.10	30.00	30.00
		SU	-	10.34	0.22	10.56	30.00	30.00

Note:

1. Conducted Output power(㏈m) = 10log($10^{(ANT\ 1/10)}$ + $10^{(ANT\ 2/10)}$) (㏈m) + DCF(㏈)

E.I.R.P.

Channel	Frequency (㎒)	Tones	RU offset	Conducted Output Power (dBm)	ANT gain (dBi)	MAX e.i.r.p (dBm)	MAX e.i.r.p Limit (dBm)
Straddle	5 720	26T	8	10.67	-0.70	10.19	30.00
		52T	40	13.03		12.55	30.00
Low	5 745	26T	0	10.50		10.21	30.00
			4	6.92		10.83	30.00
			8	6.93		9.88	30.00
		52T	37	10.69		10.44	30.00
			38	11.31		10.85	30.00
			40	10.36		10.14	30.00
		106T	53	10.92		10.60	30.00
			54	11.33		10.43	30.00
		242T	61	10.62		10.56	30.00
		SU	-	11.08		10.53	30.00
Mid	5 785	26T	0	10.91		9.85	30.00
			4	11.04		10.43	30.00
			8	10.93		9.50	30.00
		52T	37	10.33		10.08	30.00
			38	10.91		10.49	30.00
			40	9.98		9.80	30.00
		106T	53	10.56		10.29	30.00
			54	10.97		10.12	30.00
		242T	61	10.28		10.34	30.00
		SU	-	10.77		10.19	30.00
High	5 825	26T	0	10.60		9.36	30.00
			4	10.82		9.99	30.00
			8	10.59		8.97	30.00
		52T	37	9.84		9.60	30.00
			38	10.47		10.05	30.00
			40	9.45		9.40	30.00
		106T	53	10.08		9.86	30.00
			54	10.53		9.64	30.00
		242T	61	9.88		9.73	30.00
		SU	-	10.34		9.71	30.00

Note:

1. e.i.r.p. Calculation: e.i.r.p. (dBm) = Conducted output power (dBm) + Antenna gain (dBi)

802.11ax HE20 SISO in the Straddle
Conducted Output Power

Channel	Frequency (㎒)	Tones	RU offset	Measured output power			FCC Limit (dBm)	IC Limit (dBm)
				Reading (dBm)	DCF (dB)	Result (dBm)		
UNII-2C	5 720	106T	54	10.47	0.22	10.69	23.51	29.17
		242T	61	12.74	0.22	12.96	23.51	29.17
		SU	-	12.62	0.30	12.92	23.51	29.17
UNII-3		106T	54	10.12	0.22	10.34	30.00	30.00
		242T	61	10.21	0.22	10.43	30.00	30.00
		SU	-	10.11	0.30	10.41	30.00	30.00

802.11ax HE20 SISO in the Straddle
E.I.R.P.

Band	Frequency (㎒)	Tones	RU offset	Conducted Output Power (dBm)	ANT gain (dBi)	MAX e.i.r.p (dBm)	MAX e.i.r.p Limit (dBm)
UNII-2C	5 720	106T	54	10.47	-0.40	10.29	29.17
		242T	61	12.74		12.56	29.17
		SU	-	12.62		12.52	29.17
UNII-3		106T	54	10.12	-0.70	9.64	30.00
		242T	61	10.21		9.73	30.00
		SU	-	10.11		9.71	30.00

[DC 12 V]
802.11ax HE20 SISO in the UNII-1 band
Conducted Output Power

Channel	Frequency (㎒)	Tones	RU offset	Measured output power			FCC Limit (dBm)	IC Limit (dBm)
				Reading (dBm)	DCF (dB)	Result (dBm)		
Low	5 180	26T	0	11.98	0.22	12.20	23.98	22.20
			4	12.75	0.22	12.97	23.98	22.20
			8	12.00	0.22	12.22	23.98	22.20
		52T	37	14.42	0.22	14.64	23.98	22.20
			38	14.94	0.22	15.16	23.98	22.20
			40	14.47	0.22	14.69	23.98	22.20
		106T	53	14.69	0.22	14.91	23.98	22.20
			54	14.72	0.22	14.94	23.98	22.20
		242T	61	14.68	0.22	14.90	23.98	22.20
		SU	-	14.61	0.30	14.91	23.98	22.20
Mid	5 200	26T	0	11.82	0.22	12.04	23.98	22.20
			4	12.44	0.22	12.66	23.98	22.20
			8	11.79	0.22	12.01	23.98	22.20
		52T	37	14.36	0.22	14.58	23.98	22.20
			38	14.86	0.22	15.08	23.98	22.20
			40	14.40	0.22	14.62	23.98	22.20
		106T	53	14.64	0.22	14.86	23.98	22.20
			54	14.62	0.22	14.84	23.98	22.20
		242T	61	14.77	0.22	14.99	23.98	22.20
		SU	-	14.56	0.30	14.86	23.98	22.20
High	5 240	26T	0	5.00	0.22	5.22	23.98	22.20
			4	5.80	0.22	6.02	23.98	22.20
			8	5.01	0.22	5.23	23.98	22.20
		52T	37	7.22	0.22	7.44	23.98	22.20
			38	7.74	0.22	7.96	23.98	22.20
			40	7.23	0.22	7.45	23.98	22.20
		106T	53	10.92	0.22	11.14	23.98	22.20
			54	10.90	0.22	11.12	23.98	22.20
		242T	61	14.47	0.22	14.69	23.98	22.20
		SU	-	14.37	0.30	14.67	23.98	22.20

Note:
1. Conducted Output power(dB m) = 10log($10^{(ANT\ 1/10)}$ + $10^{(ANT\ 2/10)}$) (dB m) + DCF(dB)

E.I.R.P.

Channel	Frequency (㎒)	Tones	RU offset	Conducted Output Power (dBm)	ANT gain (dBi)	MAX e.i.r.p (dBm)	MAX e.i.r.p Limit (dBm)
Low	5 180	26T	0	11.98	0.90	13.10	22.20
			4	12.75		13.87	22.20
			8	12.00		13.12	22.20
		52T	37	14.42		15.54	22.20
			38	14.94		16.06	22.20
			40	14.47		15.59	22.20
		106T	53	14.69		15.81	22.20
			54	14.72		15.84	22.20
		242T	61	14.68		15.80	22.20
		SU	-	14.61		15.81	22.20
Mid	5 200	26T	0	11.82		12.94	22.20
			4	12.44		13.56	22.20
			8	11.79		12.91	22.20
		52T	37	14.36		15.48	22.20
			38	14.86		15.98	22.20
			40	14.40		15.52	22.20
		106T	53	14.64		15.76	22.20
			54	14.62		15.74	22.20
		242T	61	14.77		15.89	22.20
		SU	-	14.56		15.76	22.20
High	5 240	26T	0	5.00		6.12	22.20
			4	5.80		6.92	22.20
			8	5.01		6.13	22.20
		52T	37	7.22		8.34	22.20
			38	7.74		8.86	22.20
			40	7.23		8.35	22.20
		106T	53	10.92		12.04	22.20
			54	10.90		12.02	22.20
		242T	61	14.47		15.59	22.20
		SU	-	14.37		15.57	22.20

Note:

1. E.I.R.P. Calculation: E.I.R.P. (dBm) = Conducted output power (dBm) + Antenna gain (dBi)

802.11ax HE20 SISO in the UNII-2A band
Conducted Output Power

Channel	Frequency (㎒)	Tones	RU offset	Measured output power			FCC Limit (dBm)	IC Limit (dBm)
				Reading (dBm)	DCF (dB)	Result (dBm)		
Low	5 260	26T	0	11.77	0.22	11.99	23.57	29.17
			4	12.58	0.22	12.80	23.57	29.17
			8	11.77	0.22	11.99	23.57	29.17
		52T	37	14.32	0.22	14.54	23.57	29.17
			38	14.56	0.22	14.78	23.57	29.17
			40	14.34	0.22	14.56	23.57	29.17
		106T	53	14.86	0.22	15.08	23.57	29.17
			54	14.94	0.22	15.16	23.57	29.17
		242T	61	14.86	0.22	15.08	23.57	29.17
		SU	-	14.77	0.30	15.07	23.57	29.17
Mid	5 280	26T	0	11.64	0.22	11.86	23.57	29.17
			4	12.51	0.22	12.73	23.57	29.17
			8	11.70	0.22	11.92	23.57	29.17
		52T	37	14.33	0.22	14.55	23.57	29.17
			38	14.83	0.22	15.05	23.57	29.17
			40	14.31	0.22	14.53	23.57	29.17
		106T	53	14.80	0.22	15.02	23.57	29.17
			54	14.91	0.22	15.13	23.57	29.17
		242T	61	14.88	0.22	15.10	23.57	29.17
		SU	-	14.67	0.30	14.97	23.57	29.17
High	5 320	26T	0	10.98	0.22	11.20	23.57	29.17
			4	11.81	0.22	12.03	23.57	29.17
			8	11.00	0.22	11.22	23.57	29.17
		52T	37	13.62	0.22	13.84	23.57	29.17
			38	14.13	0.22	14.35	23.57	29.17
			40	13.60	0.22	13.82	23.57	29.17
		106T	53	14.60	0.22	14.82	23.57	29.17
			54	14.60	0.22	14.82	23.57	29.17
		242T	61	14.59	0.22	14.81	23.57	29.17
		SU	-	14.67	0.30	14.97	23.57	29.17

Note:

1. Conducted Output power(㏈ m) = 10log($10^{(ANT\ 1/10)}$ + $10^{(ANT\ 2/10)}$) (㏈ m) + DCF(㏈)

E.I.R.P.

Channel	Frequency (㎒)	Tones	RU offset	Conducted Output Power (dBm)	ANT gain (dBi)	MAX e.i.r.p (dBm)	MAX e.i.r.p Limit (dBm)
Low	5 260	26T	0	11.77	0.20	12.19	29.17
			4	12.58		13.00	29.17
			8	11.77		12.19	29.17
		52T	37	14.32		14.74	29.17
			38	14.56		14.98	29.17
			40	14.34		14.76	29.17
		106T	53	14.86		15.28	29.17
			54	14.94		15.36	29.17
		242T	61	14.86		15.28	29.17
		SU	-	14.77		15.27	29.17
Mid	5 280	26T	0	11.64		12.06	29.17
			4	12.51		12.93	29.17
			8	11.70		12.12	29.17
		52T	37	14.33		14.75	29.17
			38	14.83		15.25	29.17
			40	14.31		14.73	29.17
		106T	53	14.80		15.22	29.17
			54	14.91		15.33	29.17
		242T	61	14.88		15.30	29.17
		SU	-	14.67		15.17	29.17
High	5 320	26T	0	10.98		11.40	29.17
			4	11.81		12.23	29.17
			8	11.00		11.42	29.17
		52T	37	13.62		14.04	29.17
			38	14.13		14.55	29.17
			40	13.60		14.02	29.17
		106T	53	14.60		15.02	29.17
			54	14.60		15.02	29.17
		242T	61	14.59		15.01	29.17
		SU	-	14.67		15.17	29.17

Note:

1. E.I.R.P. Calculation: E.I.R.P. (dBm) = Conducted output power (dBm) + Antenna gain (dBi)

802.11ax HE20 SISO in the UNII-2C band
Conducted Output Power

Channel	Frequency (㎒)	Tones	RU offset	Measured output power			FCC Limit (dBm)	IC Limit (dBm)
				Reading (dBm)	DCF (dB)	Result (dBm)		
Low	5 500	26T	0	11.80	0.22	12.02	23.60	29.21
			4	12.63	0.22	12.85	23.60	29.21
			8	11.83	0.22	12.05	23.60	29.21
		52T	37	14.77	0.22	14.99	23.60	29.21
			38	15.09	0.22	15.31	23.60	29.21
			40	14.61	0.22	14.83	23.60	29.21
		106T	53	15.11	0.22	15.33	23.60	29.21
			54	15.15	0.22	15.37	23.60	29.21
		242T	61	15.15	0.22	15.37	23.60	29.21
		SU	-	15.09	0.30	15.39	23.60	29.21
Mid	5 600	26T	0	12.16	0.22	12.38	23.60	29.21
			4	12.95	0.22	13.17	23.60	29.21
			8	12.10	0.22	12.32	23.60	29.21
		52T	37	14.81	0.22	15.03	23.60	29.21
			38	15.36	0.22	15.58	23.60	29.21
			40	14.78	0.22	15.00	23.60	29.21
		106T	53	15.03	0.22	15.25	23.60	29.21
			54	15.06	0.22	15.28	23.60	29.21
		242T	61	15.07	0.22	15.29	23.60	29.21
		SU	-	14.90	0.30	15.20	23.60	29.21
High	5 700	26T	0	12.21	0.22	12.43	23.60	29.21
			4	12.84	0.22	13.06	23.60	29.21
			8	11.90	0.22	12.12	23.60	29.21
		52T	37	14.58	0.22	14.80	23.60	29.21
			38	15.03	0.22	15.25	23.60	29.21
			40	14.42	0.22	14.64	23.60	29.21
		106T	53	14.78	0.22	15.00	23.60	29.21
			54	14.60	0.22	14.82	23.60	29.21
		242T	61	14.69	0.22	14.91	23.60	29.21
		SU	-	14.62	0.30	14.92	23.60	29.21
Straddle	5 720	26T	0	11.38	0.22	11.60	23.60	29.21
			4	11.87	0.22	12.09	23.60	29.21
		52T	37	13.71	0.22	13.93	23.60	29.21
			38	14.12	0.22	14.34	23.60	29.21
		106T	53	13.94	0.22	14.16	23.60	29.21

Note:
1. Conducted Output power(㏈m) = 10log($10^{(ANT\ 1/10)}$ + $10^{(ANT\ 2/10)}$) (㏈m) + DCF(㏈)

E.I.R.P.

Channel	Frequency (㎒)	Tones	RU offset	Conducted Output Power (dBm)	ANT gain (dBi)	MAX e.i.r.p (dBm)	MAX e.i.r.p Limit (dBm)
Low	5 500	26T	0	11.80	-0.40	11.618	29.21
			4	12.63		12.445	29.21
			8	11.83		11.653	29.21
		52T	37	14.77		14.592	29.21
			38	15.09		14.907	29.21
			40	14.61		14.433	29.21
		106T	53	15.11		14.934	29.21
			54	15.15		14.965	29.21
		242T	61	15.15		14.971	29.21
		SU	-	15.09		14.992	29.21
Mid	5 580	26T	0	12.16		11.975	29.21
			4	12.95		12.774	29.21
			8	12.10		11.919	29.21
		52T	37	14.81		14.629	29.21
			38	15.36		15.176	29.21
			40	14.78		14.598	29.21
		106T	53	15.03		14.851	29.21
			54	15.06		14.876	29.21
		242T	61	15.07		14.89	29.21
		SU	-	14.90		14.798	29.21
High	5 700	26T	0	12.21		12.026	29.21
			4	12.84		12.661	29.21
			8	11.90		11.721	29.21
		52T	37	14.58		14.401	29.21
			38	15.03		14.848	29.21
			40	14.42		14.239	29.21
		106T	53	14.78		14.601	29.21
			54	14.60		14.417	29.21
		242T	61	14.69		14.505	29.21
		SU	-	14.62		14.519	29.21
Straddle	5 720	26T	0	11.38		11.2	29.21
			4	11.87		11.69	29.21
		52T	37	13.71		13.53	29.21
			38	14.12		13.94	29.21
		106T	53	13.94		13.76	29.21

Note:

1. e.i.r.p. Calculation: e.i.r.p. (dBm) = Conducted output power (dBm) + Antenna gain (dBi)

802.11ax HE20 SISO in the UNII-3 band
Conducted Output Power

Channel	Frequency (㎒)	Tones	RU offset	Measured output power			FCC Limit (dBm)	IC Limit (dBm)
				Reading (dBm)	DCF (dB)	Result (dBm)		
Straddle	5 720	26T	8	10.67	0.22	10.89	30.00	30.00
		52T	40	13.03	0.22	13.25	30.00	30.00
Low	5 745	26T	0	10.65	0.22	10.87	30.00	30.00
			4	11.32	0.22	11.54	30.00	30.00
			8	10.32	0.22	10.54	30.00	30.00
		52T	37	10.98	0.22	11.20	30.00	30.00
			38	11.37	0.22	11.59	30.00	30.00
			40	10.69	0.22	10.91	30.00	30.00
		106T	53	11.10	0.22	11.32	30.00	30.00
			54	10.98	0.22	11.20	30.00	30.00
		242T	61	11.03	0.22	11.25	30.00	30.00
		SU	-	10.92	0.30	11.22	30.00	30.00
Mid	5 785	26T	0	10.35	0.22	10.57	30.00	30.00
			4	10.93	0.22	11.15	30.00	30.00
			8	9.97	0.22	10.19	30.00	30.00
		52T	37	10.62	0.22	10.84	30.00	30.00
			38	11.01	0.22	11.23	30.00	30.00
			40	10.21	0.22	10.43	30.00	30.00
		106T	53	10.82	0.22	11.04	30.00	30.00
			54	10.55	0.22	10.77	30.00	30.00
		242T	61	10.71	0.22	10.93	30.00	30.00
		SU	-	10.64	0.30	10.94	30.00	30.00
High	5 825	26T	0	9.82	0.22	10.04	30.00	30.00
			4	10.66	0.22	10.88	30.00	30.00
			8	9.45	0.22	9.67	30.00	30.00
		52T	37	10.08	0.22	10.30	30.00	30.00
			38	10.55	0.22	10.77	30.00	30.00
			40	9.90	0.22	10.12	30.00	30.00
		106T	53	10.31	0.22	10.53	30.00	30.00
			54	10.13	0.22	10.35	30.00	30.00
		242T	61	10.22	0.22	10.44	30.00	30.00
		SU	-	10.21	0.30	10.51	30.00	30.00

Note:

1. Conducted Output power(㏈m) = 10log($10^{(ANT\ 1/10)}$ + $10^{(ANT\ 2/10)}$) (㏈m) + DCF(㏈)

E.I.R.P.

Channel	Frequency (㎒)	Tones	RU offset	Conducted Output Power (dBm)	ANT gain (dBi)	MAX e.i.r.p (dBm)	MAX e.i.r.p Limit (dBm)
Straddle	5 720	26T	8	10.67	-0.70	10.19	30.00
		52T	40	13.03		12.55	30.00
Low	5 745	26T	0	10.65		10.17	30.00
			4	11.32		10.84	30.00
			8	10.32		9.84	30.00
		52T	37	10.98		10.50	30.00
			38	11.37		10.89	30.00
			40	10.69		10.21	30.00
		106T	53	11.10		10.62	30.00
			54	10.98		10.50	30.00
		242T	61	11.03		10.55	30.00
		SU	-	10.92		10.52	30.00
Mid	5 785	26T	0	10.35		9.87	30.00
			4	10.93		10.45	30.00
			8	9.97		9.49	30.00
		52T	37	10.62		10.14	30.00
			38	11.01		10.53	30.00
			40	10.21		9.73	30.00
		106T	53	10.82		10.34	30.00
			54	10.55		10.07	30.00
		242T	61	10.71		10.23	30.00
		SU	-	10.64		10.24	30.00
High	5 825	26T	0	9.82		9.34	30.00
			4	10.66		10.18	30.00
			8	9.45		8.97	30.00
		52T	37	10.08		9.60	30.00
			38	10.55		10.07	30.00
			40	9.90		9.42	30.00
		106T	53	10.31		9.83	30.00
			54	10.13		9.65	30.00
		242T	61	10.22		9.74	30.00
		SU	-	10.21		9.81	30.00

Note:

1. e.i.r.p. Calculation: e.i.r.p. (dBm) = Conducted output power (dBm) + Antenna gain (dBi)

802.11ax HE20 SISO in the Straddle
Conducted Output Power

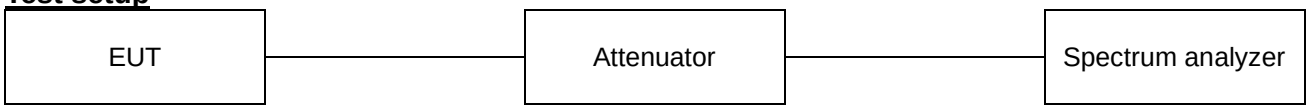
Channel	Frequency (㎒)	Tones	RU offset	Measured output power			FCC Limit (dBm)	IC Limit (dBm)
				Reading (dBm)	DCF (dB)	Result (dBm)		
UNII-2C	5 720	106T	54	10.47	0.22	10.69	23.51	29.17
		242T	61	12.74	0.22	12.96	23.51	29.17
		SU	-	12.62	0.30	12.92	23.51	29.17
UNII-3		106T	54	10.13	0.22	10.35	30.00	30.00
		242T	61	10.22	0.22	10.44	30.00	30.00
		SU	-	10.21	0.30	10.51	30.00	30.00

802.11ax HE20 SISO in the Straddle
E.I.R.P.

Band	Frequency (㎒)	Tones	RU offset	Conducted Output Power (dBm)	ANT gain (dBi)	MAX e.i.r.p (dBm)	MAX e.i.r.p Limit (dBm)
UNII-2C	5 720	106T	54	10.47	-0.40	10.29	29.17
		242T	61	12.74		12.56	29.17
		SU	-	12.62		12.52	29.17
UNII-3		106T	54	10.13	-0.70	9.65	30.00
		242T	61	10.22		9.74	30.00
		SU	-	10.21		9.81	30.00

7.2. Maximum Power Spectral Density

Test setup



Limit

According to §15.407(a), RSS-247(6.2)

Band	EUT category		Limit
UNII-1		Outdoor access point	17dBm/MHz
		Indoor access point	
		Fixed point-to-point access point	
	√	Client device	11 dBm /MHz
UNII-2A	√		11 dBm /MHz
UNII-2C	√		11 dBm /MHz
UNII-3	√		30 dBm /500 kHz

Notes:

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power And the peak power spectral density shall be reduced by the amount in dB that the directional gain if the antenna exceed 6 dBi

Test procedure

ANSI C63.10-2013 Section 12.3.2.2, 14.3.2.2
KDB 789033 D02 v02r01 - Section F
KDB 662911 D01 v02r01 - Section E). 2) and Section F)

Test settings

Section F

The rules requires “maximum power spectral density” measurements where the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission. Refer to III.A for additional guidance for devices that use channel aggregation.

1. Create an average power spectrum for the EUT operating mode being tested by following the instructions in II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled,
   “Compute power….” (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)
2. Search function on the instrument to find the peak of the spectrum and record its value.
3. Adjustments to the peak value of the spectrum, if applicable:

   a) If Method SA-2 or SA-2 Alternative was used, add 10 log (1/x), where x is the duty cycle, to the peak of the spectrum.
   b) If Method SA-3 Alternative was used and the linear mode was used in II.E.2.g) (viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.
4. The result is the Maximum PSD over 1MHz reference bandwidth
5. For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the

preceding procedures make use of 1 ㎒ RBW to satisfy directly the 1 ㎒ reference bandwidth specified in Section 15.407(a)(5). For devices operating in the band 5.725-5.85 ㎓, the rules specify a measurement bandwidth of 500 ㎑. Many spectrum analyzers do not have 500 ㎑ RBW, thus a narrower RBW may need to be used. The rules permit the use of RBWs less than 1㎒, or 500 ㎑, "provided that the measured power is integrated over the full reference bandwidth" to show the total power over the specified measurement bandwidth(i.e., 1 ㎒, or 500 ㎑). If measurements are performed using a reduced resolution bandwidth (< 1 ㎒, or < 500 ㎑) and integrated over 1 ㎒, or 500 ㎑ bandwidth, the following adjustments to the procedures apply:

a) Set RBW≥1/T, where T is defined in II.B.l.a).
b) Set VBW≥3 RBW.
c) If measurement bandwidth of Maximum PSD is specified in 500 ㎑, add 10 log (500 ㎑ /RBW) to the measured result, whereas RBW (<500 ㎑) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
d) If measurement bandwidth of Maximum PSD is specified in 1 ㎒, add 10 log (1㎒/RBW) to the measured result, whereas RBW (< 1 ㎒) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note:

- As a practical matter, it is recommended to use reduced RBW of 100 ㎑ for the II.F.5.c) and II.F.5.d), since RBW=100 ㎑ is available on nearly all spectrum analyzers.
- Method SA-2 is used.
- Please refer to Appendix A for plots

Test results

[DC 5 V]

802.11ax HE20 SISO in the UNII-1 band

Channel	Frequency (㎒)	Tones	RU offset	Measured PSD (dBm/㎒)	DCF (dB)	Maximum PSD (dBm/㎒) Average	Maximum PSD Limit (dBm/㎒)
Low	5 180	26T	0	9.06	0.22	9.28	11.00
			4	9.17	0.22	9.39	11.00
			8	8.81	0.22	9.03	11.00
		52T	37	8.78	0.22	9.00	11.00
			38	9.15	0.22	9.37	11.00
			40	8.73	0.22	8.95	11.00
		106T	53	6.36	0.22	6.58	11.00
			54	6.53	0.22	6.75	11.00
		242T	61	2.91	0.22	3.13	11.00
		SU	-	2.82	0.30	3.12	11.00
Mid	5 200	26T	0	9.72	0.22	9.94	11.00
			4	9.28	0.22	9.50	11.00
			8	9.34	0.22	9.56	11.00
		52T	37	9.36	0.22	9.58	11.00
			38	9.26	0.22	9.48	11.00
			40	9.37	0.22	9.59	11.00
		106T	53	6.73	0.22	6.95	11.00
			54	6.67	0.22	6.89	11.00
		242T	61	3.61	0.22	3.83	11.00
		SU	-	3.53	0.30	3.83	11.00
High	5 240	26T	0	3.00	0.22	3.22	11.00
			4	2.65	0.22	2.87	11.00
			8	2.70	0.22	2.92	11.00
		52T	37	2.57	0.22	2.79	11.00
			38	2.65	0.22	2.87	11.00
			40	2.24	0.22	2.46	11.00
		106T	53	3.16	0.22	3.38	11.00
			54	3.14	0.22	3.36	11.00
		242T	61	3.11	0.22	3.33	11.00
		SU	-	3.15	0.30	3.45	11.00

Note:

1. Maximum PSD(㏈m/㎒) = Reading (㏈m/㎒) + DCF(㏈)

802.11ax HE20 SISO in the UNII-2A band

Channel	Frequency (㎒)	Tones	RU offset	Measured PSD (dBm/㎒)	DCF (dB)	Maximum PSD (dBm/㎒) Average	Maximum PSD Limit (dBm/㎒)
Low	5 260	26T	0	9.14	0.22	9.36	11.00
			4	9.34	0.22	9.56	11.00
			8	9.27	0.22	9.49	11.00
		52T	37	9.17	0.22	9.39	11.00
			38	9.52	0.22	9.74	11.00
			40	9.29	0.22	9.51	11.00
		106T	53	6.89	0.22	7.11	11.00
			54	7.07	0.22	7.29	11.00
		242T	61	3.44	0.22	3.66	11.00
		SU	-	3.55	0.30	3.85	11.00
Mid	5 280	26T	0	8.75	0.22	8.97	11.00
			4	8.46	0.22	8.68	11.00
			8	8.61	0.22	8.83	11.00
		52T	37	8.96	0.22	9.18	11.00
			38	9.25	0.22	9.47	11.00
			40	8.57	0.22	8.79	11.00
		106T	53	6.17	0.22	6.39	11.00
			54	6.45	0.22	6.67	11.00
		242T	61	3.11	0.22	3.33	11.00
		SU	-	3.44	0.30	3.74	11.00
High	5 320	26T	0	8.67	0.22	8.89	11.00
			4	9.10	0.22	9.32	11.00
			8	8.45	0.22	8.67	11.00
		52T	37	8.54	0.22	8.76	11.00
			38	8.60	0.22	8.82	11.00
			40	8.59	0.22	8.81	11.00
		106T	53	6.51	0.22	6.73	11.00
			54	6.46	0.22	6.68	11.00
		242T	61	3.11	0.22	3.33	11.00
		SU	-	3.29	0.30	3.59	11.00

Note:

1. Maximum PSD(dB m/㎒) = Reading (dB m/㎒) + DCF(dB)

802.11ax HE20 SISO in the UNII-2C band

Channel	Frequency (㎒)	Tones	RU offset	Measured PSD (dBm/㎒)	DCF (dB)	Maximum PSD (dBm/㎒) Average	Maximum PSD Limit (dBm/㎒)
Low	5 500	26T	0	8.69	0.22	8.91	11.00
			4	8.48	0.22	8.70	11.00
			8	8.88	0.22	9.10	11.00
		52T	37	9.29	0.22	9.51	11.00
			38	9.53	0.22	9.75	11.00
			40	9.18	0.22	9.40	11.00
		106T	53	7.12	0.22	7.34	11.00
			54	7.04	0.22	7.26	11.00
		242T	61	3.62	0.22	3.84	11.00
		SU	-	3.51	0.30	3.81	11.00
Mid	5 580	26T	0	9.12	0.22	9.34	11.00
			4	8.84	0.22	9.06	11.00
			8	8.86	0.22	9.08	11.00
		52T	37	9.42	0.22	9.64	11.00
			38	9.54	0.22	9.76	11.00
			40	8.88	0.22	9.10	11.00
		106T	53	6.51	0.22	6.73	11.00
			54	6.51	0.22	6.73	11.00
		242T	61	3.21	0.22	3.43	11.00
		SU	-	3.44	0.30	3.74	11.00
High	5 700	26T	0	10.23	0.22	10.45	11.00
			4	9.83	0.22	10.05	11.00
			8	9.41	0.22	9.63	11.00
		52T	37	9.61	0.22	9.83	11.00
			38	9.97	0.22	10.19	11.00
			40	9.39	0.22	9.61	11.00
		106T	53	7.05	0.22	7.27	11.00
			54	6.58	0.22	6.80	11.00
		242T	61	4.01	0.22	4.23	11.00
		SU	-	3.66	0.30	3.96	11.00
Straddle	5 720	26T	0	8.62	0.22	8.84	11.00
			4	7.90	0.22	8.12	11.00
		52T	37	8.28	0.22	8.50	11.00
			38	8.46	0.22	8.68	11.00
		106T	53	5.37	0.22	5.59	11.00

Note:

1. Maximum PSD(㏈m/㎒) = Reading (㏈m/㎒) + DCF(㏈)

802.11ax HE20 SISO in the UNII-3 band

Channel	Frequency (㎒)	Tones	RU offset	Measured PSD (dBm/500㎑)	DCF (dB)	Maximum PSD (dBm/500㎑) Average	Maximum PSD Limit (dBm/500㎑)
Straddle	5 720	26T	8	5.22	0.22	5.44	30.00
		52T	40	4.88	0.22	5.10	30.00
Low	5 745	26T	0	5.15	0.22	5.37	30.00
			4	6.16	0.22	6.38	30.00
			8	5.30	0.22	5.52	30.00
		52T	37	3.22	0.22	3.44	30.00
			38	3.30	0.22	3.52	30.00
			40	3.02	0.22	3.24	30.00
		106T	53	0.39	0.22	0.61	30.00
			54	0.43	0.22	0.65	30.00
		242T	61	-2.90	0.22	-2.68	30.00
		SU	-	-3.06	0.30	-2.76	30.00
Mid	5 785	26T	0	4.94	0.22	5.16	30.00
			4	5.51	0.22	5.73	30.00
			8	4.39	0.22	4.61	30.00
		52T	37	2.36	0.22	2.58	30.00
			38	2.56	0.22	2.78	30.00
			40	2.49	0.22	2.71	30.00
		106T	53	0.17	0.22	0.39	30.00
			54	-0.28	0.22	-0.06	30.00
		242T	61	-3.42	0.22	-3.20	30.00
		SU	-	-3.47	0.30	-3.17	30.00
High	5 825	26T	0	4.97	0.22	5.19	30.00
			4	5.53	0.22	5.75	30.00
			8	4.12	0.22	4.34	30.00
		52T	37	2.59	0.22	2.81	30.00
			38	2.63	0.22	2.85	30.00
			40	2.06	0.22	2.28	30.00
		106T	53	-0.29	0.22	-0.07	30.00
			54	-0.46	0.22	-0.24	30.00
		242T	61	-3.77	0.22	-3.55	30.00
		SU	-	-3.41	0.30	-3.11	30.00

Note:

1. Maximum PSD(dBm/㎒) = Reading (dBm/㎒) + DCF(dB)

802.11ax HE20 SISO in the Straddle

Band	Frequency (㎒)	Tones	RU offset	Measured PSD	DCF (dB)	Maximum PSD Average	Maximum PSD Limit
UNII-2C	5 720	106T	54	5.08	0.22	5.30	11.00
		242T	61	1.94	0.22	2.16	11.00
		SU	-	1.87	0.30	2.17	11.00
UNII-3		106T	54	1.87	0.22	2.09	30.00
		242T	61	-1.61	0.22	-1.39	30.00
		SU	-	-1.53	0.30	-1.23	30.00

Note:

1. Maximum PSD(㏈m/㎒) = Reading (㏈m/㎒) + DCF(㏈)
2. The Unit of UNII-2C is (㏈m / ㎒) and Unit of UNII-3 is (㏈m / 500 ㎑)

[DC 12 V]
802.11ax HE20 SISO in the UNII-1 band

Channel	Frequency (㎒)	Tones	RU offset	Measured PSD (dBm/㎒)	DCF (dB)	Maximum PSD (dBm/㎒) Average	Maximum PSD Limit (dBm/㎒)
Low	5 180	26T	0	9.10	0.22	9.32	11.00
			4	8.71	0.22	8.93	11.00
			8	9.13	0.22	9.35	11.00
		52T	37	8.80	0.22	9.02	11.00
			38	9.44	0.22	9.66	11.00
			40	9.30	0.22	9.52	11.00
		106T	53	6.38	0.22	6.60	11.00
			54	6.27	0.22	6.49	11.00
		242T	61	3.10	0.22	3.32	11.00
		SU	-	2.82	0.30	3.12	11.00
Mid	5 200	26T	0	9.47	0.22	9.69	11.00
			4	9.29	0.22	9.51	11.00
			8	9.22	0.22	9.44	11.00
		52T	37	9.27	0.22	9.49	11.00
			38	9.55	0.22	9.77	11.00
			40	9.41	0.22	9.63	11.00
		106T	53	6.58	0.22	6.80	11.00
			54	6.66	0.22	6.88	11.00
		242T	61	3.11	0.22	3.33	11.00
		SU	-	3.18	0.30	3.48	11.00
High	5 240	26T	0	3.22	0.22	3.44	11.00
			4	2.50	0.22	2.72	11.00
			8	3.01	0.22	3.23	11.00
		52T	37	2.64	0.22	2.86	11.00
			38	3.30	0.22	3.52	11.00
			40	2.37	0.22	2.59	11.00
		106T	53	3.01	0.22	3.23	11.00
			54	3.21	0.22	3.43	11.00
		242T	61	0.17	0.22	0.39	11.00
		SU	-	-0.30	0.30	0.00	11.00

Note:
1. Maximum PSD(㏈m/㎒) = Reading (㏈m/㎒) + DCF(㏈)

802.11ax HE20 SISO in the UNII-2A band

Channel	Frequency (㎒)	Tones	RU offset	Measured PSD (dBm/㎒)	DCF (dB)	Maximum PSD (dBm/㎒) Average	Maximum PSD Limit (dBm/㎒)
Low	5 260	26T	0	9.36	0.22	9.58	11.00
			4	9.16	0.22	9.38	11.00
			8	9.41	0.22	9.63	11.00
		52T	37	9.44	0.22	9.66	11.00
			38	9.50	0.22	9.72	11.00
			40	9.71	0.22	9.93	11.00
		106T	53	6.87	0.22	7.09	11.00
			54	6.86	0.22	7.08	11.00
		242T	61	3.97	0.22	4.19	11.00
		SU	-	3.72	0.30	4.02	11.00
Mid	5 280	26T	0	8.89	0.22	9.11	11.00
			4	8.43	0.22	8.65	11.00
			8	8.88	0.22	9.10	11.00
		52T	37	8.74	0.22	8.96	11.00
			38	8.79	0.22	9.01	11.00
			40	8.60	0.22	8.82	11.00
		106T	53	6.57	0.22	6.79	11.00
			54	6.49	0.22	6.71	11.00
		242T	61	3.02	0.22	3.24	11.00
		SU	-	3.03	0.30	3.33	11.00
High	5 320	26T	0	8.46	0.22	8.68	11.00
			4	8.29	0.22	8.51	11.00
			8	8.66	0.22	8.88	11.00
		52T	37	8.51	0.22	8.73	11.00
			38	8.90	0.22	9.12	11.00
			40	8.59	0.22	8.81	11.00
		106T	53	6.06	0.22	6.28	11.00
			54	5.96	0.22	6.18	11.00
		242T	61	2.91	0.22	3.13	11.00
		SU	-	2.62	0.30	2.92	11.00

Note:

1. Maximum PSD(dBm/㎒) = Reading (dBm/㎒) + DCF(dB)

802.11ax HE20 SISO in the UNII-2C band

Channel	Frequency (㎒)	Tones	RU offset	Measured PSD (dBm/㎒)	DCF (dB)	Maximum PSD (dBm/㎒) Average	Maximum PSD Limit (dBm/㎒)
Low	5 500	26T	0	9.14	0.22	9.36	11.00
			4	8.99	0.22	9.21	11.00
			8	9.15	0.22	9.37	11.00
		52T	37	9.31	0.22	9.53	11.00
			38	9.85	0.22	10.07	11.00
			40	9.56	0.22	9.78	11.00
		106T	53	6.99	0.22	7.21	11.00
			54	7.14	0.22	7.36	11.00
		242T	61	3.79	0.22	4.01	11.00
		SU	-	3.83	0.30	4.13	11.00
Mid	5 580	26T	0	8.91	0.22	9.13	11.00
			4	8.68	0.22	8.90	11.00
			8	8.67	0.22	8.89	11.00
		52T	37	9.59	0.22	9.81	11.00
			38	9.91	0.22	10.13	11.00
			40	9.23	0.22	9.45	11.00
		106T	53	6.55	0.22	6.77	11.00
			54	6.44	0.22	6.66	11.00
		242T	61	3.33	0.22	3.55	11.00
		SU	-	3.24	0.30	3.54	11.00
High	5 700	26T	0	10.14	0.22	10.36	11.00
			4	10.06	0.22	10.28	11.00
			8	9.21	0.22	9.43	11.00
		52T	37	9.77	0.22	9.99	11.00
			38	10.28	0.22	10.50	11.00
			40	9.23	0.22	9.45	11.00
		106T	53	7.22	0.22	7.44	11.00
			54	6.83	0.22	7.05	11.00
		242T	61	3.70	0.22	3.92	11.00
		SU	-	4.13	0.30	4.43	11.00
Straddle	5 720	26T	0	8.61	0.22	8.83	11.00
			4	7.94	0.22	8.16	11.00
		52T	37	8.28	0.22	8.50	11.00
			38	8.40	0.22	8.62	11.00
		106T	53	5.40	0.22	5.62	11.00

Note:

1. Maximum PSD(㏈m/㎒) = Reading (㏈m/㎒) + DCF(㏈)

802.11ax HE20 SISO in the UNII-3 band

Channel	Frequency (㎒)	Tones	RU offset	Measured PSD (dBm/500㎑)	DCF (dB)	Maximum PSD (dBm/500㎑) Average	Maximum PSD Limit (dBm/500㎑)
Straddle	5 720	26T	8	5.11	0.22	5.33	30.00
		52T	40	4.75	0.22	4.97	30.00
Low	5 745	26T	0	5.59	0.22	5.81	30.00
			4	6.06	0.22	6.28	30.00
			8	5.74	0.22	5.96	30.00
		52T	37	3.30	0.22	3.52	30.00
			38	3.53	0.22	3.75	30.00
			40	3.18	0.22	3.40	30.00
		106T	53	0.58	0.22	0.80	30.00
			54	0.83	0.22	1.05	30.00
		242T	61	-2.94	0.22	-2.72	30.00
		SU	-	-2.93	0.30	-2.63	30.00
Mid	5 785	26T	0	5.43	0.22	5.65	30.00
			4	5.27	0.22	5.49	30.00
			8	5.11	0.22	5.33	30.00
		52T	37	3.07	0.22	3.29	30.00
			38	2.68	0.22	2.90	30.00
			40	2.39	0.22	2.61	30.00
		106T	53	0.30	0.22	0.52	30.00
			54	-0.25	0.22	-0.03	30.00
		242T	61	-3.53	0.22	-3.31	30.00
		SU	-	-3.62	0.30	-3.32	30.00
High	5 825	26T	0	5.45	0.22	5.67	30.00
			4	5.42	0.22	5.64	30.00
			8	4.53	0.22	4.75	30.00
		52T	37	2.68	0.22	2.90	30.00
			38	2.88	0.22	3.10	30.00
			40	2.31	0.22	2.53	30.00
		106T	53	0.16	0.22	0.38	30.00
			54	-0.33	0.22	-0.11	30.00
		242T	61	-3.49	0.22	-3.27	30.00
		SU	-	-3.37	0.30	-3.07	30.00

Note:

1. Maximum PSD(㏈m/㎒) = Reading (㏈m/㎒) + DCF(㏈)

802.11ax HE20 SISO in the Straddle

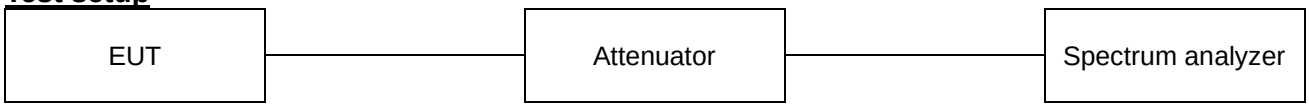
Band	Frequency (㎒)	Tones	RU offset	Measured PSD	DCF (dB)	Maximum PSD Average	Maximum PSD Limit
UNII-2C	5 720	106T	54	5.14	0.22	5.36	11.00
		242T	61	1.96	0.22	2.18	11.00
		SU	-	1.83	0.30	2.13	11.00
UNII-3		106T	54	1.91	0.22	2.13	30.00
		242T	61	-1.61	0.22	-1.39	30.00
		SU	-	-1.61	0.30	-1.31	30.00

Note:

1. Maximum PSD(㏈m/㎒) = Reading (㏈m/㎒) + DCF(㏈)
2. The Unit of UNII-2C is (㏈m / ㎒) and Unit of UNII-3 is (㏈m / 500 ㎑)

7.3. 26 dB Bandwidth & 99% Bandwidth

Test setup



Limit

N/A

Test procedure

ANSI C63.10-2013 Section 12.4
KDB 789033 D02 v02r01 - Section C.1 (26dBbandwidth)
KDB 789033 D02 v02r01 - Section D (99% bandwidth)

Test settings

1. 26 dB Bandwidth

a. Set RBW = approximately 1% of the emission bandwidth.
b. Set the VBW > RBW.
c. Detector = Peak.
d. Trace mode = max hold.
e. Measure the maximum width of the emission that is 26 dB down from the 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%.

2. 99% Occupied Bandwidth

a. Set center frequency to the nominal EUT channel center frequency.
b. Set span = 1.5 times to 5.0 times the OBW.
c. Set RBW = 1% to 5% of the OBW
d. Set VBW ≥ 3 x RBW
e. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
f. Use the 99% power bandwidth function of the instrument (if available).
g. If the instrument does not have a 99% power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

Note:

1. Please refer to Appendix A for plots
2. Straddle channels: For 99% Bandwidth, measured 99% occupied bandwidth is separated as below.
   - For UNII-2C = 5 725 ㎒ – T1 (Measured frequency on the marker table)
   - For UNII 3 = T2 (Measured frequency on the marker table) - 5 725 ㎒

Test results
[DC 5 V]

Band	Mode	Frequency (㎒)	Tones	RU offset	26 ㏈ bandwidth (㎒)	99% bandwidth (㎒)
UNII-1	HE20	5 180	26T	0	19.68	18.23
				4	18.03	16.73
				8	20.93	18.18
			52T	37	19.33	17.98
				38	18.08	16.88
				40	20.23	18.13
			106T	53	19.88	17.73
				54	20.18	17.98
			242T	61	20.78	18.83
			SU	-	20.73	18.88
		5 200	26T	0	19.53	18.23
				4	18.03	16.73
				8	20.48	18.23
			52T	37	19.68	18.13
				38	18.33	16.53
				40	20.13	18.13
			106T	53	20.33	18.03
				54	20.38	18.03
			242T	61	20.88	18.88
			SU	-	20.18	18.88
		5 240	26T	0	19.78	18.23
				4	18.18	16.28
				8	20.78	18.43
			52T	37	19.58	18.03
				38	18.18	16.73
				40	20.13	18.03
			106T	53	19.53	17.98
				54	20.33	18.03
			242T	61	21.18	18.83
			SU	-	20.58	18.83

Band	Mode	Frequency (㎒)	Tones	RU offset	26 ㏈ bandwidth (㎒)	99% bandwidth (㎒)
UNII-2A	HE20	5 260	26T	0	19.78	18.28
				4	18.08	16.83
				8	20.83	18.43
			52T	37	19.68	18.03
				38	18.33	16.78
				40	20.08	18.03
			106T	53	19.93	17.98
				54	20.48	18.03
			242T	61	21.23	18.83
			SU	-	20.83	18.88
		5 280	26T	0	19.73	18.28
				4	18.08	16.63
				8	20.78	18.43
			52T	37	19.53	18.03
				38	18.28	16.53
				40	20.23	18.13
			106T	53	19.63	17.98
				54	19.98	18.08
			242T	61	21.38	18.88
			SU	-	20.93	18.88
		5 320	26T	0	19.73	18.28
				4	18.08	16.78
				8	20.73	18.33
			52T	37	19.88	18.03
				38	18.28	16.78
				40	20.08	18.08
			106T	53	20.43	17.93
				54	20.38	17.98
			242T	61	21.13	18.83
			SU	-	20.83	18.83

Band	Mode	Frequency (㎒)	Tones	RU offset	26 ㏈ bandwidth (㎒)	99% bandwidth (㎒)
UNII-2C	HE20	5 500	26T	0	19.73	18.28
				4	18.18	16.58
				8	20.78	18.43
			52T	37	19.58	18.03
				38	18.18	16.83
				40	20.03	18.08
			106T	53	20.43	18.03
				54	20.73	18.03
			242T	61	20.98	18.83
			SU	-	20.78	18.83
		5 600	26T	0	19.68	18.23
				4	18.13	16.48
				8	20.58	18.38
			52T	37	19.63	17.83
				38	18.38	16.78
				40	20.18	17.93
			106T	53	19.83	17.93
				54	20.88	18.03
			242T	61	21.18	18.88
			SU	-	20.53	18.88
		5 700	26T	0	19.48	18.18
				4	18.08	16.73
				8	20.78	18.38
			52T	37	19.48	17.88
				38	17.83	16.83
				40	20.03	18.08
			106T	53	19.88	17.83
				54	20.88	18.03
			242T	61	21.13	18.88
			SU	-	20.83	18.88

Band	Mode	Frequency (㎒)	Tones	RU offset	26 ㏈ bandwidth (㎒)	99% bandwidth (㎒)
UNII-2C	HE20	Straddle 5 720	26T	0	15.19	18.03
				4	14.09	16.63
			52T	37	15.09	17.98
				38	14.24	16.78
			106T	53	15.14	17.98
				54*	5.64	18.03
			242T	61*	5.74	18.88
			SU	-*	5.64	18.88

* RU Allocation included in the straddle band

[DC 12 V]

Band	Mode	Frequency (㎒)	Tones	RU offset	26 ㏈ bandwidth (㎒)	99% bandwidth (㎒)
UNII-1	HE20	5 180	26T	0	19.83	18.18
				4	18.18	16.58
				8	20.28	18.33
			52T	37	19.73	17.88
				38	18.28	16.73
				40	20.28	17.98
			106T	53	19.88	18.03
				54	20.03	17.98
			242T	61	21.03	18.88
			SU	-	20.38	18.83
		5 200	26T	0	19.63	18.23
				4	18.08	16.58
				8	20.68	18.28
			52T	37	19.53	18.08
				38	18.18	16.78
				40	20.33	18.03
			106T	53	19.88	17.78
				54	19.83	17.73
			242T	61	21.38	18.88
			SU	-	20.78	18.88
		5 240	26T	0	19.78	18.18
				4	18.23	16.78
				8	20.88	18.38
			52T	37	19.73	18.03
				38	18.28	16.83
				40	20.03	18.08
			106T	53	19.83	18.03
				54	20.33	17.78
			242T	61	21.08	18.83
			SU	-	20.83	18.83

Band	Mode	Frequency (㎒)	Tones	RU offset	26 ㏈ bandwidth (㎒)	99% bandwidth (㎒)
UNII-2A	HE20	5 260	26T	0	19.73	18.23
				4	18.08	16.63
				8	20.68	18.43
			52T	37	19.88	17.98
				38	18.33	16.88
				40	20.13	18.08
			106T	53	20.38	18.03
				54	20.53	17.93
			242T	61	21.28	18.88
			SU	-	20.88	18.88
		5 280	26T	0	19.83	18.28
				4	18.13	16.68
				8	20.88	18.38
			52T	37	19.73	17.98
				38	18.33	16.78
				40	20.08	18.08
			106T	53	19.83	17.98
				54	20.48	18.03
			242T	61	21.23	18.83
			SU	-	20.88	18.88
		5 320	26T	0	19.78	18.18
				4	18.13	16.48
				8	20.83	18.38
			52T	37	19.83	18.03
				38	18.33	16.78
				40	20.13	17.98
			106T	53	19.78	18.03
				54	20.38	18.03
			242T	61	21.23	18.83
			SU	-	20.83	18.83

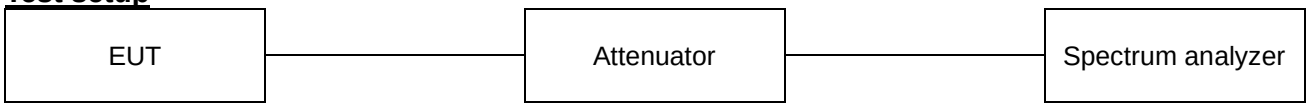
Band	Mode	Frequency (㎒)	Tones	RU offset	26 ㏈ bandwidth (㎒)	99% bandwidth (㎒)
UNII-2C	HE20	5 500	26T	0	19.73	18.23
				4	18.18	16.83
				8	20.53	18.28
			52T	37	19.73	18.08
				38	18.28	16.63
				40	20.33	17.98
			106T	53	19.98	18.03
				54	20.38	17.98
			242T	61	21.13	18.88
			SU	-	20.83	18.88
		5 600	26T	0	19.58	18.23
				4	18.18	16.78
				8	20.53	18.48
			52T	37	19.78	17.98
				38	18.23	16.83
				40	19.98	18.08
			106T	53	19.88	17.98
				54	20.53	18.08
			242T	61	21.43	18.88
			SU	-	20.93	18.88
		5 700	26T	0	19.63	18.13
				4	18.18	16.68
				8	20.73	18.38
			52T	37	19.68	17.88
				38	18.28	16.73
				40	20.33	18.08
			106T	53	19.93	17.88
				54	20.98	18.08
			242T	61	21.03	18.83
			SU	-	20.73	18.83

Band	Mode	Frequency (㎒)	Tones	RU offset	26 ㏈ bandwidth (㎒)	99% bandwidth (㎒)
UNII-2C	HE20	Straddle 5 720	26T	0	15.19	18.03
				4	14.09	16.63
			52T	37	15.09	17.98
				38	14.24	16.78
			106T	53	15.14	17.98
				54*	5.64	18.03
			242T	61*	5.74	18.88
			SU	-*	5.64	18.88

* RU Allocation included in the straddle band

7.4. 6 dB Bandwidth & 99% Bandwidth

Test setup



Limit

According to §15.407(e), Within the 5.725-5.850 ㎓ and 5.850-5.895 ㎓ bands, the minimum 6 ㏈ bandwidth of U-NII devices shall be at least 500㎑.

Test procedure

ANSI C63.10-2013 Section 6.9.2
KDB 789033 D02 v02r01 - Section C.2

Test settings

Minimum Emission Bandwidth for the band 5.725−5.85 ㎓ and 5.850–5.895 ㎓.

Section 15.407(e) specifies the minimum 6 ㏈ emission bandwidth of at least 500 ㎑ for the band 5.725−5.85 ㎓ and 5.850-5.895 ㎓ band. The following procedure shall be used for measuring this Bandwidth:

1. Set RBW = 100 ㎑.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. 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 ㏈ relative to the maximum level measured in the fundamental emission.

Note:

1. For the 6dB Bandwidth, it was tested at the RU allocation with lowest tones number for each bandwidth
2. * RU Allocation included in the straddle band
3. Straddle channels: For 99% Bandwidth, measured 99% occupied bandwidth is separated as below.
   - For UNII-2C = 5 725 ㎒ – T1 (Measured frequency on the marker table)
   - For UNII 3 = T2 (Measured frequency on the marker table) - 5 725 ㎒
4. Please refer to Appendix A for plots

Test results

[DC 5 V]

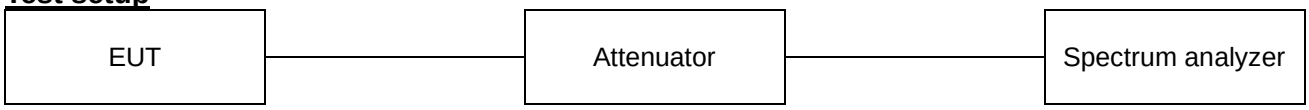
Band	Mode	Frequency (㎒)	Tones	RU offset	6 ㏈ bandwidth (㎒)	99% bandwidth (㎒)
UNII-3	HE20	Straddle 5 720	26T	8	4.44	18.28
			52T	40	4.44	18.13
			106T	54*	4.49	4.49
			242T	61*	4.44	4.39
			SU	-*	4.39	4.39
		5 745	26T	0	2.10	18.23
		5 785	26T	0	2.10	18.18
		5 825	26T	0	2.10	18.18
		Minimum Bandwidth			2.10	4.39
Minimum Limit (㎒)					0.5	-

[DC 12 V]

Band	Mode	Frequency (㎒)	Tones	RU offset	6 ㏈ bandwidth (㎒)	99% bandwidth (㎒)
UNII-3	HE20	Straddle 5 720	26T	8	4.44	18.28
			52T	40	4.44	18.13
			106T	54*	4.49	4.49
			242T	61*	4.44	4.39
			SU	-*	4.39	4.39
		5 745	26T	0	2.10	18.23
		5 785	26T	0	2.10	18.23
		5 825	26T	0	2.10	18.18
		Minimum Bandwidth			2.10	4.39
Minimum Limit (㎒)					0.5	-

7.5. Frequency stability

Test setup



Limit

According to §15.407(g),
Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

According to RSS-GEN(6.11),
For licence-exempt devices, the following conditions apply:

(a) at the temperatures of -20°C (-4°F), +20°C (+68°F) and +50°C (+122°F), and at the manufacturer's rated supply voltage

(b) at the temperature of +20°C (+68°F) and at ±15% of the manufacturer's rated supply voltage

If the frequency stability limits are only met within a temperature range that is smaller than the range specified in (a) for licensed or licence-exempt devices, the frequency stability requirement will be deemed to be met if the transmitter is automatically prevented from operating outside this smaller temperature range and if the published operating characteristics for the equipment are revised to reflect this restricted temperature range.

If the device contains both licence and licence-exempt transmitter modules, the device's frequency stability shall be measured under the most stringent condition specified in the applicable RSS of the transmitter module.

In addition, if an unmodulated carrier is not available, the method used to measure frequency stability shall be described in the test report.

According to RSS-GEN(8.11),
If the frequency stability of the licence-exempt radio apparatus is not specified in the applicable RSS, the fundamental emissions of the radio apparatus should be kept within at least the central 80% of its permitted operating frequency band in order to minimize the possibility of out-of-band operation. In addition, its occupied bandwidth shall be entirely outside the restricted bands and the prohibited TV bands of 54-72 MHz, 76-88 MHz, 174-216 MHz, and 470-602 MHz, unless otherwise indicated.

Test procedure

ANSI C63.10-2013 - Section 6.8.1

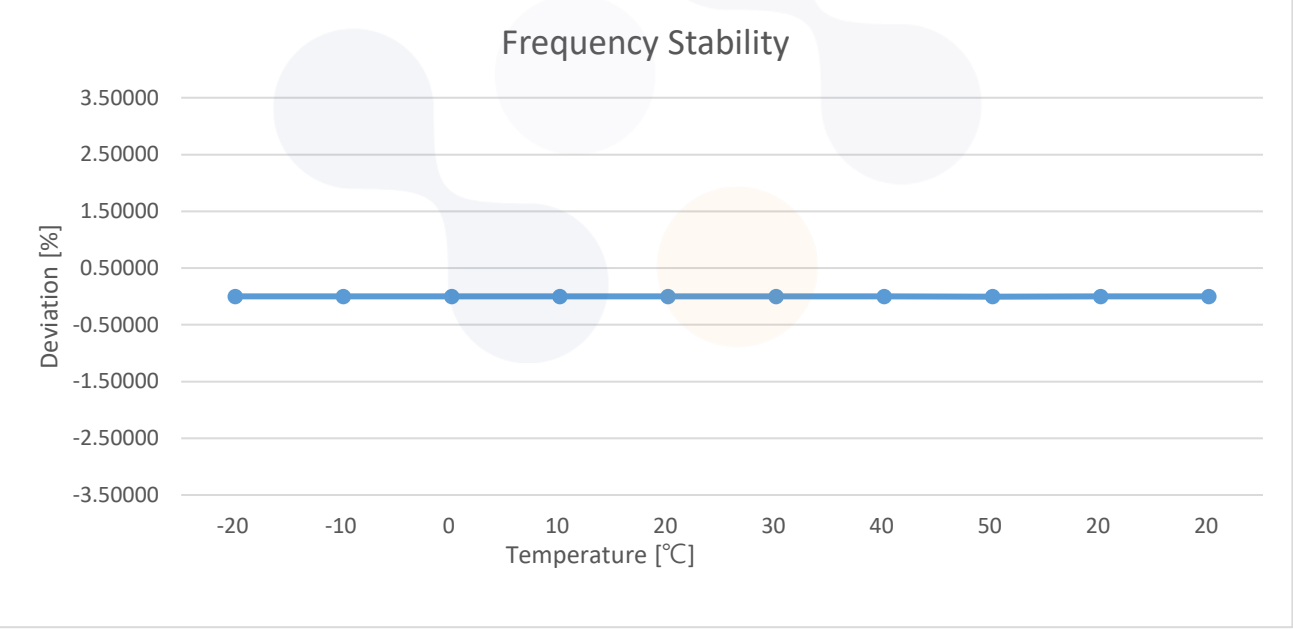
Test results

[DC 5 V]

Test band : UNII-1

Frequency (㎐) : 5 180 000 000

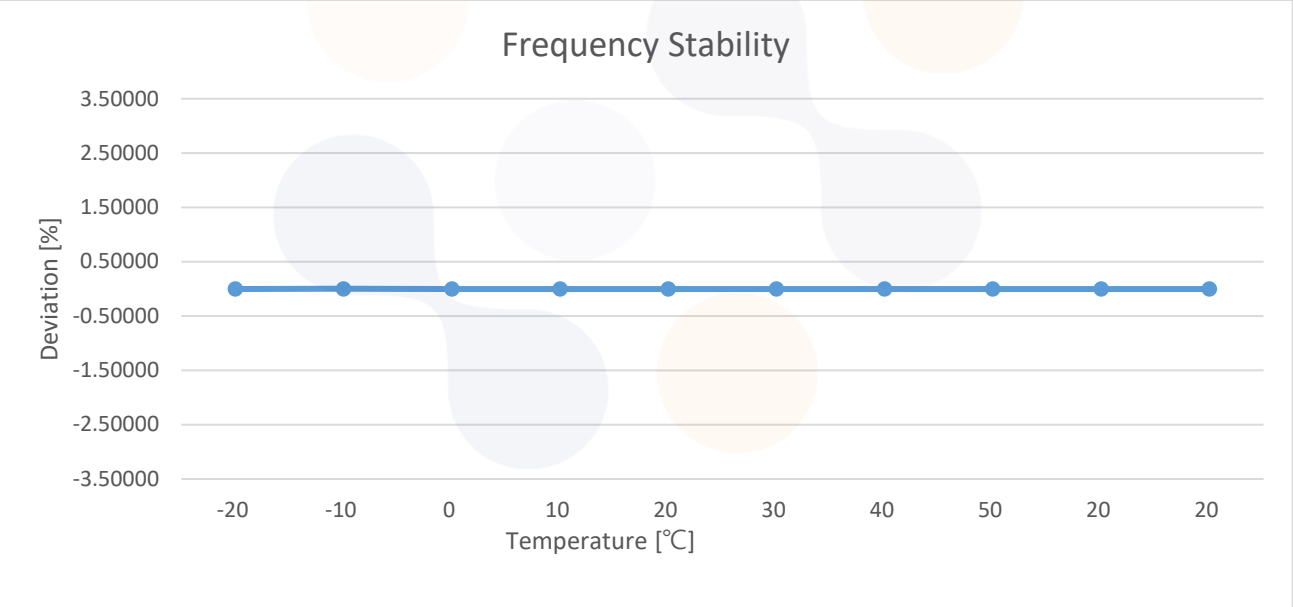
Voltage (%)	Power (V)	Temp. (°C)	Frequency (㎐)	Frequency error (㎐)	Deviation	
					(ppm)	(%)
100%	5.00	-20	5 180 004 800	4 800	0.93	0.000 09
		-10	5 180 012 190	12 190	2.35	0.000 24
		0	5 179 998 600	-1 400	-0.27	-0.000 03
		+10	5 179 986 610	-13 390	-2.58	-0.000 26
		+20	5 179 975 820	-24 180	-4.67	-0.000 47
		+30	5 179 958 840	-41 160	-7.95	-0.000 80
		+40	5 179 956 040	-43 960	-8.49	-0.000 85
		+50	5 179 947 850	-52 150	-10.07	-0.001 01
85%	4.25	+20	5 179 973 230	-26 770	-5.17	-0.000 52
115%	5.75	+20	5 179 971 630	-28 370	-5.48	-0.000 55



Test band : UNII-2A

Frequency (㎐) : 5 260 000 000

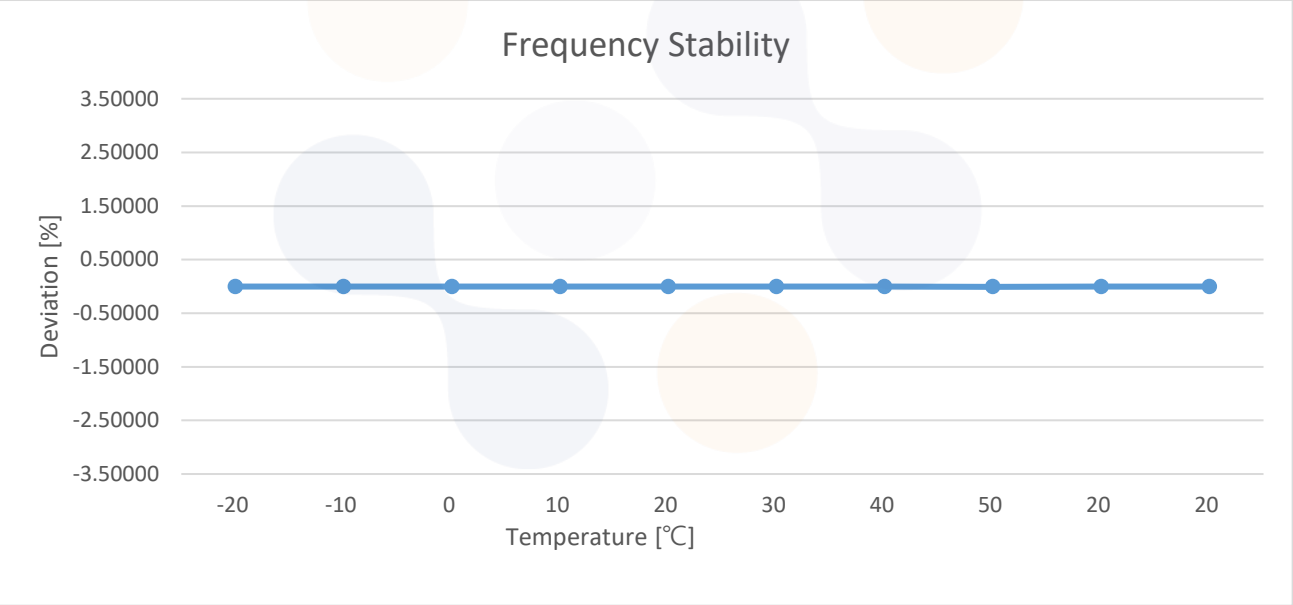
Voltage (%)	Power (V)	Temp. (°C)	Frequency (㎐)	Frequency error (㎐)	Deviation	
					(ppm)	(%)
100%	5.00	-20	5 260 009 790	9 790	1.86	0.000 19
		-10	5 260 011 590	11 590	2.20	0.000 22
		0	5 260 008 590	8 590	1.63	0.000 16
		+10	5 259 983 020	-16 980	-3.23	-0.000 32
		+20	5 259 973 830	-26 170	-4.98	-0.000 50
		+30	5 259 955 240	-44 760	-8.51	-0.000 85
		+40	5 259 949 450	-50 550	-9.61	-0.000 96
		+50	5 259 945 250	-54 750	-10.41	-0.001 04
85%	4.25	+20	5 259 970 830	-29 170	-5.55	-0.000 56
115%	5.75	+20	5 259 969 830	-30 170	-5.74	-0.000 57



Test band : UNII-2C

Frequency (㎐) : 5 500 000 000

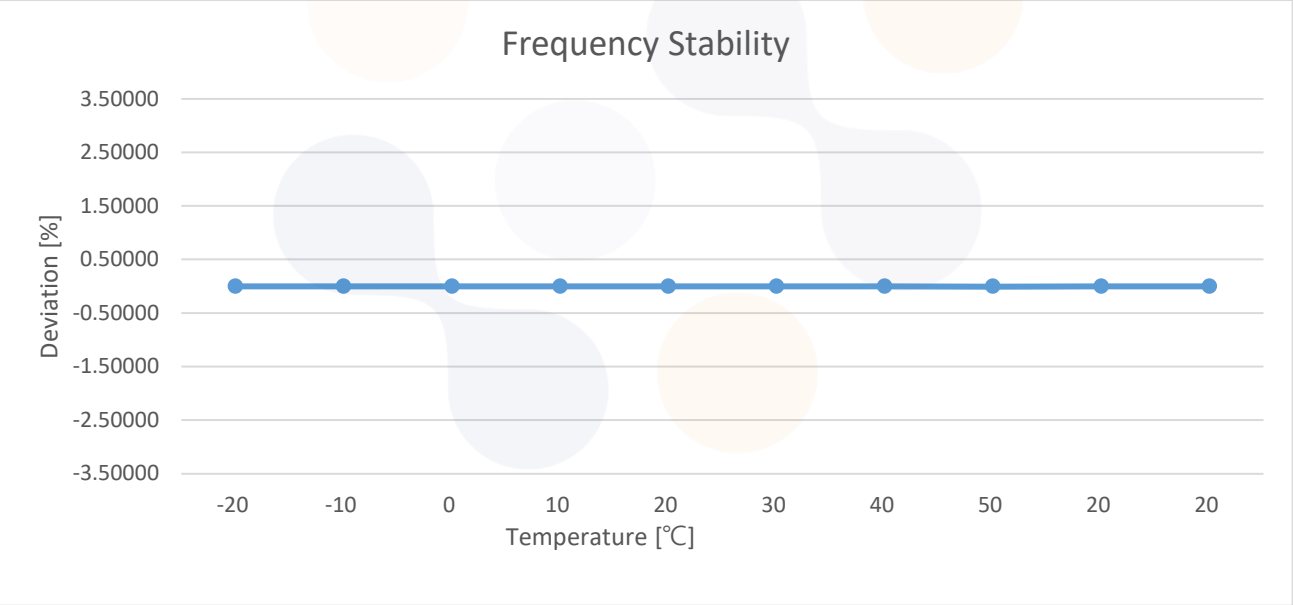
Voltage (%)	Power (V)	Temp. (°C)	Frequency (㎐)	Frequency error (㎐)	Deviation	
					(ppm)	(%)
100%	5.00	-20	5 500 015 380	15 380	2.80	0.000 28
		-10	5 500 012 590	12 590	2.29	0.000 23
		0	5 500 006 790	6 790	1.23	0.000 12
		+10	5 499 979 620	-20 380	-3.71	-0.000 37
		+20	5 499 970 430	-29 570	-5.38	-0.000 54
		+30	5 499 952 650	-47 350	-8.61	-0.000 86
		+40	5 499 947 650	-52 350	-9.52	-0.000 95
		+50	5 499 942 860	-57 140	-10.39	-0.001 04
85%	4.25	+20	5 499 968 230	-31 770	-5.78	-0.000 58
115%	5.75	+20	5 499 967 230	-32 770	-5.96	-0.000 60



Test band : UNII-3

Frequency (㎐) : 5 745 000 000

Voltage (%)	Power (V)	Temp. (°C)	Frequency (㎐)	Frequency error (㎐)	Deviation	
					(ppm)	(%)
100%	5.00	-20	5 745 014 590	14 590	2.54	0.000 25
		-10	5 745 012 190	12 190	2.12	0.000 21
		0	5 745 003 600	3 600	0.63	0.000 06
		+10	5 744 976 020	-23 980	-4.17	-0.000 42
		+20	5 744 969 230	-30 770	-5.36	-0.000 54
		+30	5 744 948 250	-51 750	-9.01	-0.000 90
		+40	5 744 944 660	-55 340	-9.63	-0.000 96
		+50	5 744 940 260	-59 740	-10.40	-0.001 04
85%	4.25	+20	5 744 967 030	-32 970	-5.74	-0.000 57
115%	5.75	+20	5 744 966 030	-33 970	-5.91	-0.000 59

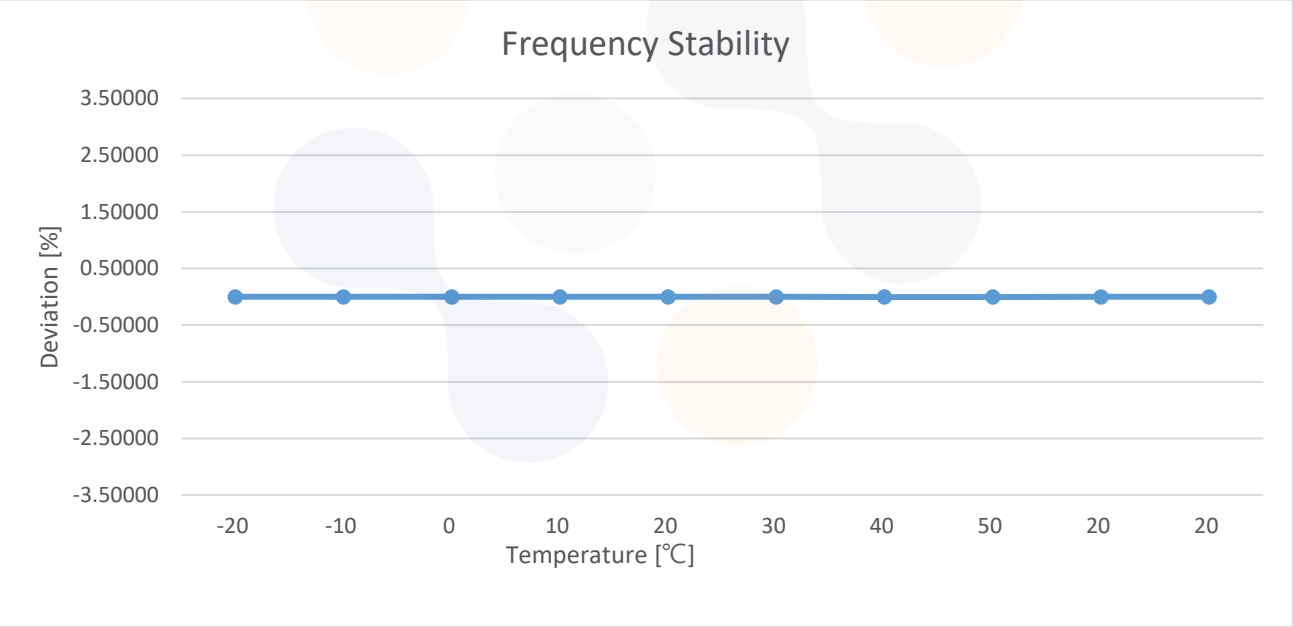


[DC 12 V]

Test band : UNII-1

Frequency (㎐) : 5 180 000 000

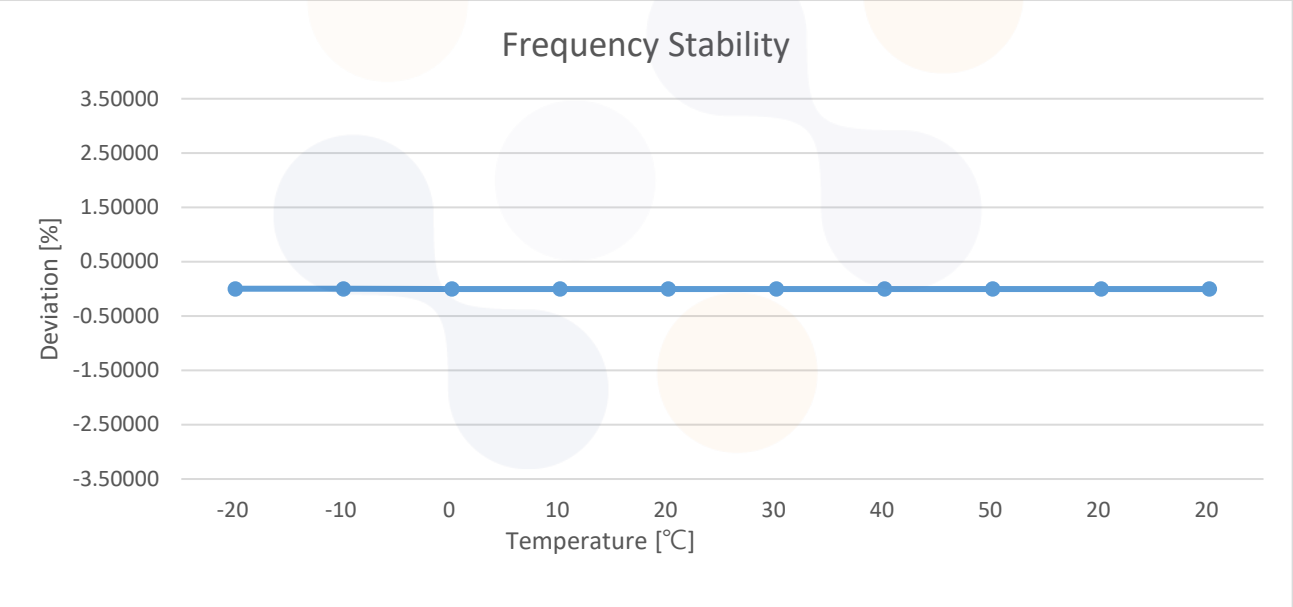
Voltage (%)	Power (V)	Temp. (°C)	Frequency (㎐)	Frequency error (㎐)	Deviation	
					(ppm)	(%)
100%	12.00	-20	5 180 007 990	7 990	1.54	0.000 15
		-10	5 180 011 990	11 990	2.31	0.000 23
		0	5 180 008 390	8 390	1.62	0.000 16
		+10	5 179 994 610	-5 390	-1.04	-0.000 10
		+20	5 179 985 410	-14 590	-2.82	-0.000 28
		+30	5 179 966 430	-33 570	-6.48	-0.000 65
		+40	5 179 951 250	-48 750	-9.41	-0.000 94
		+50	5 179 946 850	-53 150	-10.26	-0.001 03
85%	10.20	+20	5 179 982 420	-17 580	-3.39	-0.000 34
115%	13.80	+20	5 179 980 420	-19 580	-3.78	-0.000 38



Test band : UNII-2A

Frequency (㎐) : 5 260 000 000

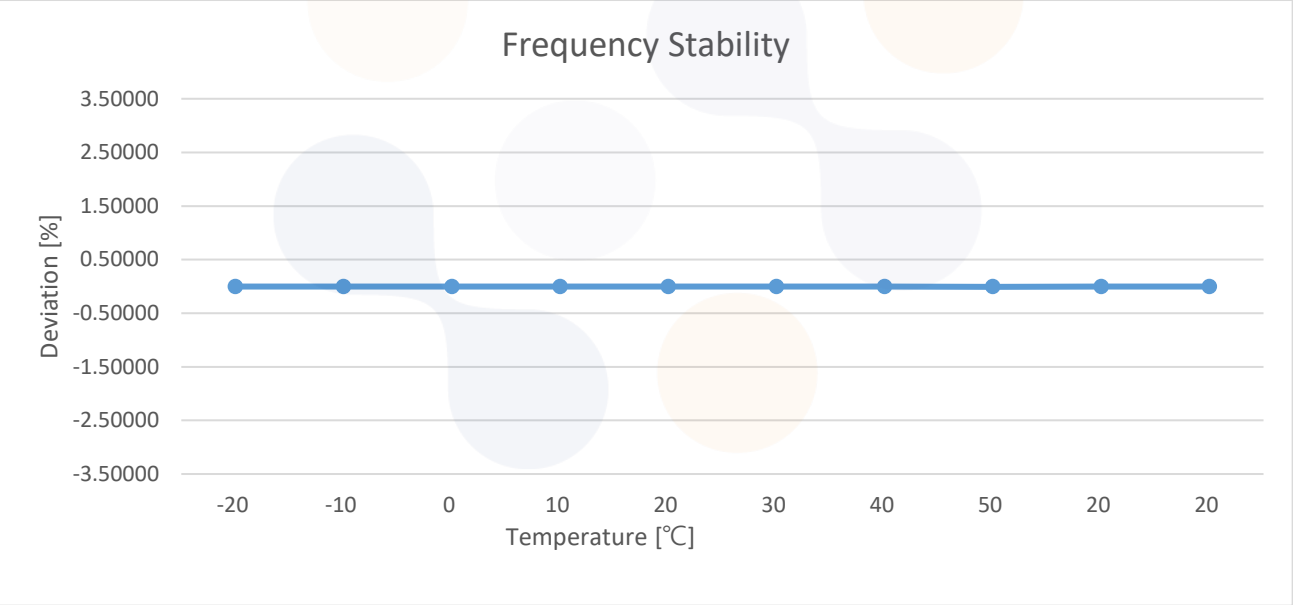
Voltage (%)	Power (V)	Temp. (°C)	Frequency (㎐)	Frequency error (㎐)	Deviation	
					(ppm)	(%)
100%	12.00	-20	5 260 010 990	10 990	2.09	0.000 21
		-10	5 260 011 590	11 590	2.20	0.000 22
		0	5 260 003 400	3 400	0.65	0.000 07
		+10	5 259 992 210	-7 790	-1.48	-0.000 15
		+20	5 259 978 220	-21 780	-4.14	-0.000 41
		+30	5 259 959 640	-40 360	-7.67	-0.000 77
		+40	5 259 951 650	-48 350	-9.19	-0.000 92
		+50	5 259 945 250	-54 750	-10.41	-0.001 04
85%	10.20	+20	5 259 977 020	-22 980	-4.37	-0.000 44
115%	13.80	+20	5 259 975 620	-24 380	-4.64	-0.000 46



Test band : UNII-2C

Frequency (㎐) : 5 500 000 000

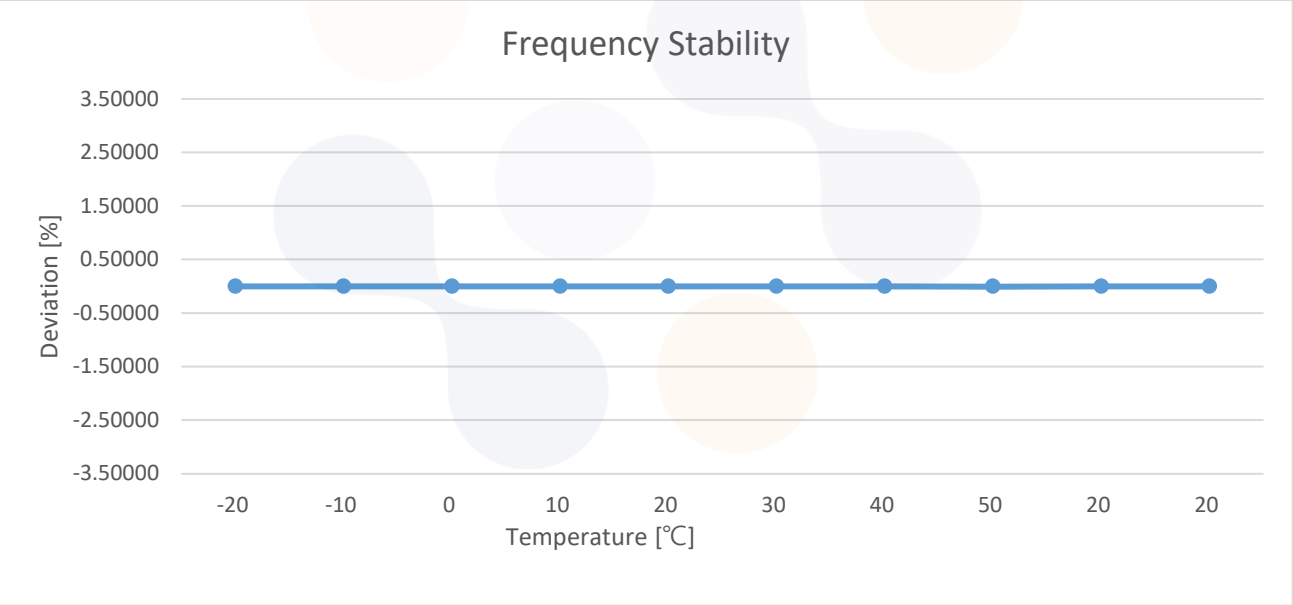
Voltage (%)	Power (V)	Temp. (°C)	Frequency (㎐)	Frequency error (㎐)	Deviation	
					(ppm)	(%)
100%	12.00	-20	5 500 014 190	14 190	2.58	0.000 26
		-10	5 500 012 590	12 590	2.29	0.000 23
		0	5 500 002 800	2 800	0.51	0.000 05
		+10	5 499 988 010	-11 990	-2.18	-0.000 22
		+20	5 499 971 430	-28 570	-5.19	-0.000 52
		+30	5 499 955 240	-44 760	-8.14	-0.000 81
		+40	5 499 948 050	-51 950	-9.45	-0.000 95
		+50	5 499 944 060	-55 940	-10.17	-0.001 02
85%	10.20	+20	5 499 970 430	-29 570	-5.38	-0.000 54
115%	13.80	+20	5 499 969 230	-30 770	-5.59	-0.000 56



Test band : UNII-3

Frequency (㎐) : 5 745 000 000

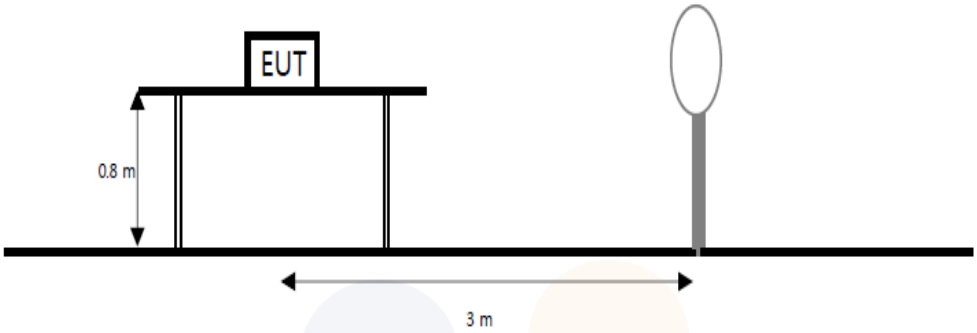
Voltage (%)	Power (V)	Temp. (°C)	Frequency (㎐)	Frequency error (㎐)	Deviation	
					(ppm)	(%)
100%	12.00	-20	5 745 014 990	14 990	2.61	0.000 26
		-10	5 745 012 790	12 790	2.23	0.000 22
		0	5 745 002 400	2 400	0.42	0.000 04
		+10	5 744 982 420	-17 580	-3.06	-0.000 31
		+20	5 744 966 830	-33 170	-5.77	-0.000 58
		+30	5 744 953 050	-46 950	-8.17	-0.000 82
		+40	5 744 945 050	-54 950	-9.56	-0.000 96
		+50	5 744 940 660	-59 340	-10.33	-0.001 03
85%	10.20	+20	5 744 966 230	-33 770	-5.88	-0.000 59
115%	13.80	+20	5 744 965 830	-34 170	-5.95	-0.000 60



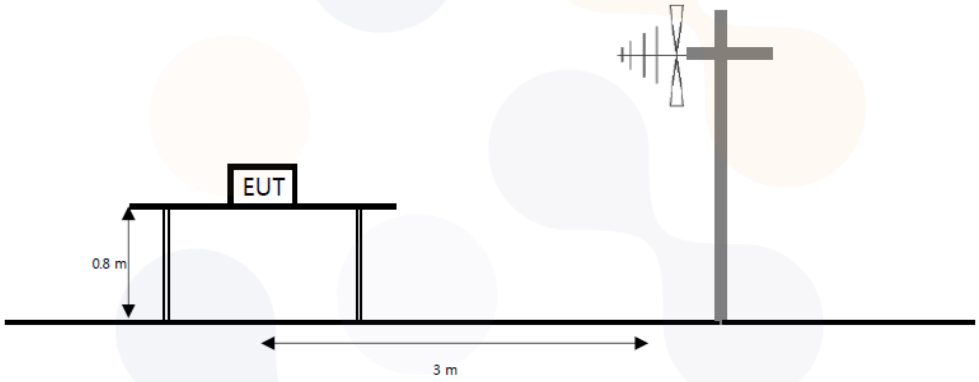
7.6. Spurious Emission, Band Edge and Restricted bands

Test setup

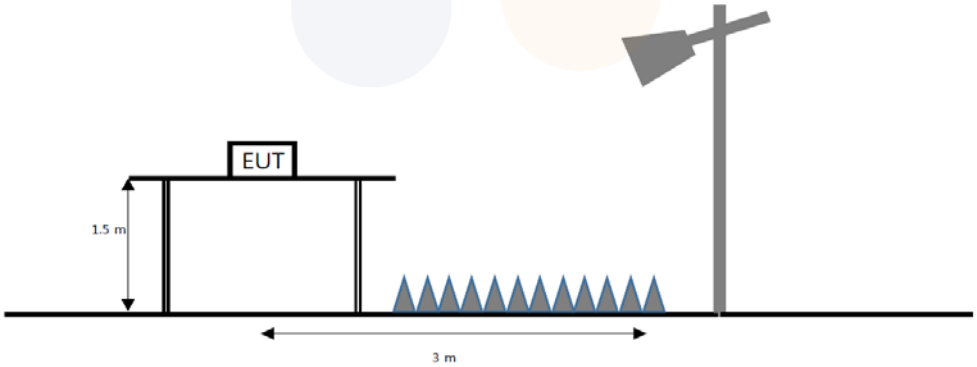
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 ㎑ to 30 ㎒ Emissions



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 ㎓ to the tenth harmonic of the highest fundamental frequency or to 40 ㎓ emissions, whichever is lower.



Limit

FCC

According to section 15.209(a) except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (㎒)	Field strength (㎶/m)	Measurement distance (m)
0.009 - 0.490	2 400/F(㎑)	300
0.490 - 1.705	24 000/F(㎑)	30
1.705 - 30	30	30
30 - 88	100**	3
88 - 216	150**	3
216 - 960	200**	3
Above 960	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 ㎒, 76–88 ㎒, 174–216 ㎒ or 470–806 ㎒. However, operation within these frequency bands is permitted under other sections of this part, e.g., Section15.231 and 15.241.

According to section 15.205(a) and (b) only spurious emissions are permitted in any of the frequency bands listed below:

㎒	㎒	㎒	㎓
0.009 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.694 75 - 16.695 25	608 - 614	5.35 - 5.46
2.173 5 - 2.190 5	16.804 25 - 16.804 75	960 – 1 240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1 300 – 1 427	8.025 - 8.5
4.177 25 - 4.177 75	37.5 - 38.25	1 435 – 1 626.5	9.0 - 9.2
4.207 25 - 4.207 75	73 - 74.6	1 645.5 – 1 646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1 660 – 1 710	10.6 - 12.7
6.267 75 - 6.268 25	108 - 121.94	1 718.8 – 1 722.2	13.25 - 13.4
6.311 75 - 6.312 25	123 - 138	2 200 – 2 300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2 310 – 2 390	15.35 - 16.2
8.362 - 8.366	156.524 75 - 156.525 25	2 483.5 – 2 500	17.7 - 21.4
8.376 25 - 8.386 75	156.7 - 156.9	2 690 – 2 900	22.01 - 23.12
8.414 25 - 8.414 75	162.012 5 - 167.17	3 260 – 3 267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3 332 – 3 339	31.2 - 31.8
12.519 75 - 12.520 25	240 - 285	3 345.8 – 3 358	36.43 - 36.5
12.576 75 - 12.577 25	322 - 335.4	3 600 – 4 400	Above 38.6
13.36 - 13.41			

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in section 15.209. At frequencies equal to or less than 1 000 ㎒, compliance with the limits in section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1 000 ㎒, compliance with the emission limits in section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in section 15.35 apply to these measurements.

According to section 15.407(b), undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

For transmitters operating in the 5.15-5.25 ㎓ band: All emissions outside of the 5.15-5.35 ㎓ band shall not exceed an e.i.r.p. of −27 ㏈m/㎒
For transmitters operating in the 5.25-5.35 ㎓ band: All emissions outside of the 5.15-5.35 ㎓ band shall not exceed an e.i.r.p. of −27 ㏈m/㎒.

For transmitters operating in the 5.725-5.85 ㎓ band: All emissions shall be limited to a level of -27 ㏈m/㎒ at 75 ㎒ or more above or below the band edge increasing linearly to 10 ㏈m/㎒ at 25 ㎒ above or below the band edge, and form 25 ㎒ above or below the band edge increasing linearly to a level of 15.6 ㏈m/㎒ at 5 ㎒ above or below the band edge, and from 5 ㎒ above or below the band edge increasing linearly to a level of 27 ㏈m/㎒ at the band edge.

IC

According to RSS-247(5.5), In any 100 ㎑ bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 ㏈ below that in the 100 ㎑ bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 ㏈ instead of 20 ㏈. Attenuation below the general field strength limits specified in RSS-Gen is not required.

According to RSS-Gen(8.9), Except where otherwise indicated in the applicable RSS, radiated emissions shall comply with the field strength limits shown in table 5 and table 6. Additionally, the level of any transmitter unwanted emission shall not exceed the level of the transmitter's fundamental emission.

Table 5- General field strength limits at frequencies above 30 ㎒

Frequency(㎒)	Field strength (㎶/m at 3 m)
30 to 88	100
88 to 216	150
216 to 960	200
Above 960	500

Table 6- General field strength limits at frequencies below 30 ㎒

Frequency	Magnetic field strength (H-Field) (㎂/m)	Measurement distance(m)
9 – 490 ㎑ 1)	6.37/F (F in ㎑)	300
490 – 1705 ㎑	63.7/F (F in ㎑)	30
1.705 - 30 ㎒	0.08	30

According to RSS-Gen(8.10), Restricted frequency bands, identified in table 7, are designated primarily for safety-of-life services (distress calling and certain aeronautical activities), certain satellite downlinks, radio astronomy and some government uses. Except where otherwise indicated, the following conditions related to the restricted frequency bands apply:

(a) The transmit frequency, including fundamental components of modulation, of licence-exempt radio apparatus shall not fall within the restricted frequency bands listed in table 7 except for apparatus compliant with RSS-287, Emergency Position Indicating Radio Beacons (EPIRB), Emergency Locator Transmitters (ELT), Personal Locator Beacons (PLB), and Maritime Survivor Locator Devices (MSLD).
(b) Unwanted emissions that fall into restricted frequency bands listed in table 7 shall comply with the limits specified in table 5 and table 6.
(c) Unwanted emissions that do not fall within the restricted frequency bands listed in table 7 shall comply either with the limits specified in the applicable RSS or with those specified in table 5 and table 6.

Table 7- Restricted frequency bands*

MHz	MHz	GHz
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 - 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 - 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 - 8500	
108 - 138	--	

* Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

Test procedure

ANSI C63.10-2013 Section 12.7.7.2, 12.7.5, 12.7.6
KDB 789033 D02 v02r01 – Section G

Test settings

Peak field strength measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in table
3. VBW ≥ (3×RBW)
4. Detector = peak
5. Sweep time = auto
6. Trace mode = max hold
7. Allow sweeps to continue until the trace stabilizes

Table. RBW as a function of frequency

Frequency	RBW
9 ㎑ to 150 ㎑	200 ㎐ to 300 ㎐
0.15 ㎒ to 30 ㎒	9 ㎑ to 10 ㎑
30 ㎒ to 1 000 ㎒	100 ㎑ to 120 ㎑
> 1 000 ㎒	1 ㎒

Average field strength measurements

Trace averaging with continuous EUT transmission at full power

If the EUT can be configured or modified to transmit continuously (D ≥ 98%), then the average emission levels shall be measured using the following method (with EUT transmitting continuously):

1. RBW = 1 ㎒ (unless otherwise specified).
2. VBW ≥ (3×RBW).
3. Detector = RMS (power averaging), if [span / (# of points in sweep)] ≤ (RBW / 2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
4. Averaging type = power (i.e., rms):
   1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
   2) Some instruments require linear display mode to use linear voltage averaging. Log or ㏈ averaging shall not be used.
5. Sweep time = auto.
6. Perform a trace average of at least 100 traces.

Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction

If continuous transmission of the EUT (D ≥ 98%) cannot be achieved and the duty cycle is constant (duty cycle variations are less than ±2%), then the following procedure shall be used:

1. The EUT shall be configured to operate at the maximum achievable duty cycle.
2. Measure the duty cycle D of the transmitter output signal as described in 11.6.
3. RBW = 1 ㎒ (unless otherwise specified).
4. VBW ≥ [3 × RBW].
5. Detector = RMS (power averaging), if [span / (# of points in sweep)] ≤ (RBW / 2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
6. Averaging type = power (i.e., rms):
   1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
   2) Some instruments require linear display mode to use linear voltage averaging. Log or ㏈ averaging shall not be used.
7. Sweep time = auto.
8. Perform a trace average of at least 100 traces.
9. A correction factor shall be added to the measurement results prior to comparing with the emission limit to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:
   1) If power averaging (rms) mode was used in step f), then the applicable correction factor is [10 log (1 / D)], where D is the duty cycle.
   2) If linear voltage averaging mode was used in step f), then the applicable correction factor is [20 log (1 / D)], where D is the duty cycle.
   3) If a specific emission is demonstrated to be continuous (D ≥ 98%) rather than turning ON and OFF with with the transmit cycle, then no duty cycle correction is required for that emission.

Band edge measurements

Integration Method

For maximum emissions measurements, follow the procedures described in II.G.5., “Procedures for unwanted maximum Emissions Measurements above 1000 ㎒. Except for the following changes:

1. Set RBW = 100 ㎑
2. Set VBW ≥ 3 × RBW
3. Perform a band-power integration across the 1 ㎒ bandwidth in which the band edge emission level is to be measured. CAUTION: you must ensure that the spectrum analyzer or EMI receiver is set for peak detection and max-hold for this measurement.

For average emissions measurements, follow the procedures described in II.G.6., “Procedures for average unwanted Emissions Measurements above 1000 ㎒. Except for the following changes:

1. Set RBW = 100 ㎑
2. Set VBW ≥ 3 × RBW
3. Perform a band-power integration across the 1 ㎒ bandwidth in which the band edge emission level is to be measured.

Notes:

1. *f* <30 ㎒, extrapolation factor of 40 ㏈/decade of distance. $F_d = 40\log(D_m/Ds)$
   f ≥30 ㎒, extrapolation factor of 20 ㏈/decade of distance. $F_d = 20\log(D_m/Ds)$
   Where:
   F_d= Distance factor in ㏈
   D_m= Measurement distance in meters
   D_s= Specification distance in meters
2. Factors(㏈) = Antenna factor(㏈/m) + Cable loss(㏈) + or Amp. gain(㏈) + or F_d(㏈)
3. The worst-case emissions are reported however emissions whose levels were not within 20 ㏈ of respective limits were not reported.
4. Average test would be performed if the peak result were greater than the average limit.
5. 1) means restricted band.
6. Above 1 ㎓ the worst results between two antenna polarizations (H and V) were documented in the test report.
7. Below 30 ㎒ frequency range, In order to search for the worst result, all orientations about parallel, perpendicular, and ground-parallel were investigated then reported. when the emission level was higher than 20 ㏈ of the limit, then the following statement shall be made: “No spurious emissions were detected within 20 ㏈ of the limit.”
8. For above 1 ㎓ pre-scan to detect harmonic and spurious emissions, the resolution bandwidth is set to 1 ㎒; the video bandwidth is set to 30 ㎑ for peak measurements.
9. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X ㎑ resulted in a level of Y ㏈㎶/m, which is equivalent to Y - 51.5 = Z ㏈㎂/m, which has the same margin, W ㏈, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.
10. Measurement configuration for 11ax RU allocations
    1) For the radiated band-edge test, it was tested at 11ax RU allocations near the band edge.
    - The target power of 20 ㎒ RU tone is the same or higher than other bandwidth (40/80 ㎒), Therefore, it was tested as a representative at 20 ㎒ bandwidth and additional full tone cases were tested for the remaining bandwidth.
    2) The pre-scan was performed for all modes, and then only the RU allocation with actual highest output power considering each bandwidth was reported as a representative.

Test results (Above 1 000 ㎒)
[DC 5 V]
UNII-1 SISO Restricted Band edge (Lowest Channel)

802.11ax_HE20 SU mode_Lowest Channel (5 180 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 149.82[1)]	H	48.95	34.22	-24.13	-	59.04	74.00	14.96
Average Data								
5 149.82[1)]	H	33.99	34.22	-24.13	0.30	44.38	54.00	9.62

802.11ax_HE20 RU mode (26T / RU offset 0)_Lowest Channel (5 180 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 140.12[1)]	H	52.01	34.21	-24.12	-	62.10	74.00	11.90
Average Data								
5 140.12[1)]	H	32.49	34.21	-24.12	0.22	42.80	54.00	11.20

802.11ax_HE20 RU mode (52T / RU offset 37)_Lowest Channel (5 180 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 141.07[1)]	H	55.87	34.21	-24.12	-	65.96	74.00	8.04
Average Data								
5 141.07[1)]	H	34.06	34.21	-24.12	0.22	44.37	54.00	9.63

802.11ax_HE20 RU mode (106T / RU offset 53)_Lowest Channel (5 180 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 149.82[1)]	H	49.83	34.22	-24.13	-	59.92	74.00	14.08
Average Data								
5 149.82[1)]	H	34.03	34.22	-24.13	0.22	44.34	54.00	9.66

802.11ax_HE20 RU mode (242T / RU offset 61)_Lowest Channel (5 180 ㎒)

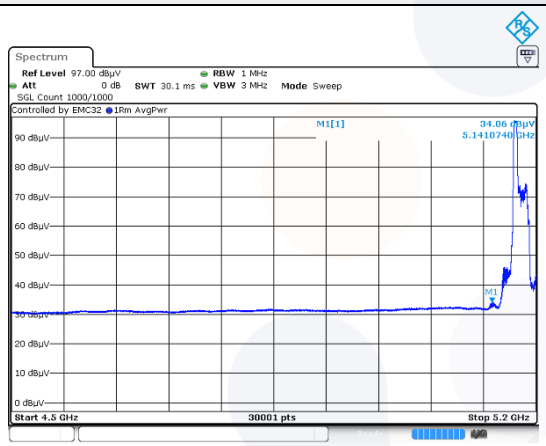
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 149.75[1)]	H	49.06	34.22	-24.13	-	59.15	74.00	14.85
Average Data								
5 149.75[1)]	H	34.45	34.22	-24.13	0.22	44.76	54.00	9.24

Plot of Band edge

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE20 RU mode (52T / RU offset 37)_Lowest Channel (5 180 ㎒)

Average data



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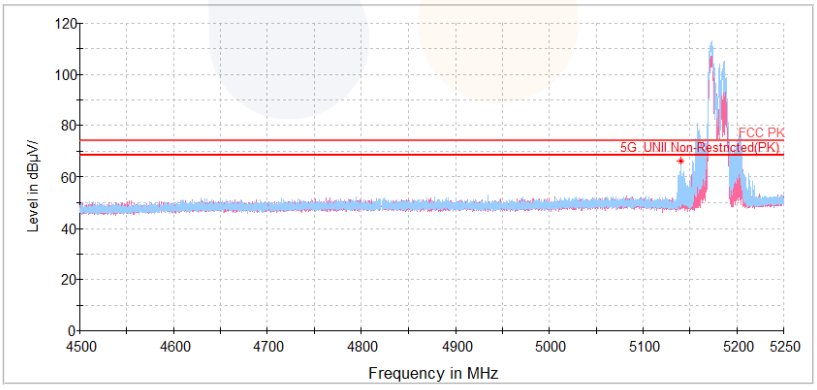
Horizontal/Vertical for Band-edge



UNII-2A SISO Restricted Band edge (Highest Channel)

802.11ax_HE20 SU mode_Highest Channel (5 320 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 350.00[1)]	H	51.52	34.38	-23.35	-	62.55	74.00	11.45
Average Data								
5 350.00[1)]	H	34.56	34.38	-23.35	0.30	45.89	54.00	8.11

802.11ax_HE20 RU mode (26T / RU offset 8)_Highest Channel (5 320 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 350.10[1)]	H	54.38	34.38	-23.35	-	65.41	74.00	8.59
Average Data								
5 350.10[1)]	H	32.25	34.38	-23.35	0.22	43.50	54.00	10.50

802.11ax_HE20 RU mode (52T / RU offset 40)_Highest Channel (5 320 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 353.20[1)]	H	49.22	34.38	-23.38	-	60.22	74.00	13.78
Average Data								
5 353.20[1)]	H	32.93	34.38	-23.38	0.22	44.15	54.00	9.85

802.11ax_HE20 RU mode (106T / RU offset 54)_Highest Channel (5 320 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 350.58[1)]	H	44.19	34.38	-23.36	-	55.21	74.00	18.79
Average Data								
5 350.58[1)]	H	33.41	34.38	-23.36	0.22	44.65	54.00	9.35

802.11ax_HE20 RU mode (242T / RU offset 61)_Highest Channel (5 320 ㎒)

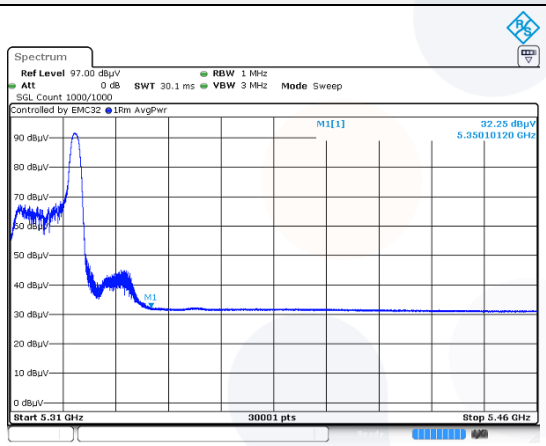
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 350.31[1)]	H	48.75	34.38	-23.36	-	59.77	74.00	14.23
Average Data								
5 350.31[1)]	H	34.83	34.38	-23.36	0.22	46.07	54.00	7.93

Plot of Band edge

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE20 RU mode (26T / RU offset 8)_Highest Channel (5 320 ㎒)

Average data



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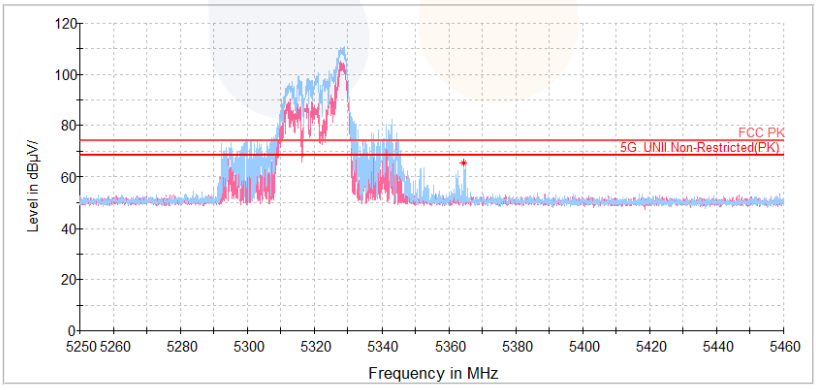
Horizontal/Vertical for Band-edge



UNII-2C SISO Restricted Band edge (Lowest Channel)

802.11ax_HE20 SU mode_Lowest Channel (5 500 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 459.93[1)]	H	44.53	34.47	-23.26	-	55.74	74.00	18.26
Average Data								
5 459.93[1)]	H	33.86	34.47	-23.26	0.30	45.37	54.00	8.63

802.11ax_HE20 RU mode (26T / RU offset 0)_Lowest Channel (5 500 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 459.70[1)]	H	52.43	34.47	-23.27	-	63.63	74.00	10.37
Average Data								
5 459.70[1)]	H	33.39	34.47	-23.27	0.22	44.81	54.00	9.19

802.11ax_HE20 RU mode (52T / RU offset 37)_Lowest Channel (5 500 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 459.93[1)]	H	51.81	34.47	-23.26	-	63.02	74.00	10.98
Average Data								
5 459.93[1)]	H	33.89	34.47	-23.26	0.22	45.32	54.00	8.68

802.11ax_HE20 RU mode (106T / RU offset 53)_Lowest Channel (5 500 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 457.96[1)]	H	43.43	34.47	-23.28	-	54.62	74.00	19.38
Average Data								
5 457.96[1)]	H	33.19	34.47	-23.28	0.22	44.60	54.00	9.40

802.11ax_HE20 RU mode (242T / RU offset 61)_Lowest Channel (5 500 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 459.89[1)]	H	42.86	34.47	-23.26	-	54.07	74.00	19.93
Average Data								
5 459.89[1)]	H	33.93	34.47	-23.26	0.22	45.36	54.00	8.64

Plot of Band edge

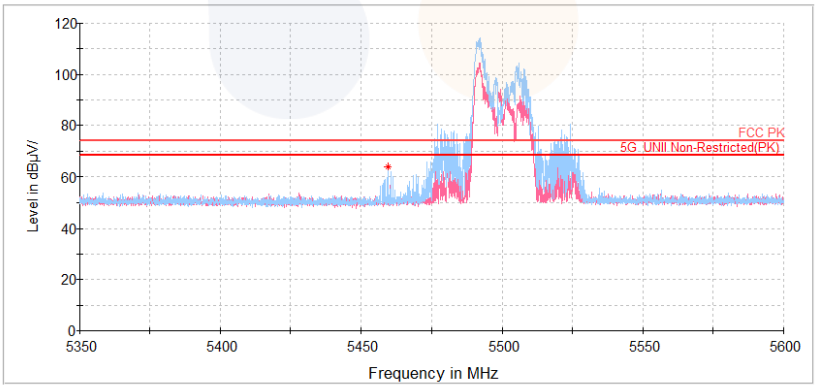
In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE20 RU mode (26T / RU offset 0)_Lowest Channel (5 500 ㎒)

Average data

Blank

Horizontal/Vertical for Band-edge



UNII-2C SISO Restricted Band edge (Highest Channel)

802.11ax_HE20 SU mode_Highest Channel (5 700 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 728.20	H	52.24	34.87	-23.13	-	63.98	68.20	4.22

802.11ax_HE20 RU mode (26T / RU offset 8)_Highest Channel (5 700 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 728.39	H	54.49	34.87	-23.12	-	66.24	68.20	1.96

802.11ax_HE20 RU mode (52T / RU offset 40)_Highest Channel (5 700 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 726.36	H	52.97	34.86	-23.14	-	64.69	68.20	3.51

802.11ax_HE20 RU mode (106T / RU offset 54)_Highest Channel (5 700 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 725.01	H	52.26	34.86	-23.14	-	63.98	68.20	4.22

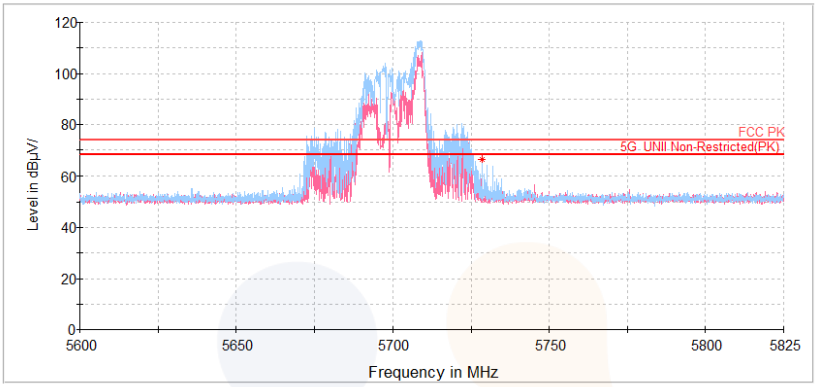
802.11ax_HE20 RU mode (242T / RU offset 61)_Highest Channel (5 700 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 726.22	H	53.44	34.86	-23.14	-	65.16	68.20	3.04

Plot of Band edge

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE20 RU mode (26T / RU offset 8)_Highest Channel (5 700 ㎒)

Horizontal/Vertical for Band-edge


UNII-3 SISO Restricted Band edge (Lowest Channel)

802.11ax_HE20 SU mode_Lowest Channel (5 745 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 724.48	H	58.47	34.86	-23.15	-	70.18	121.02	50.84

802.11ax_HE20 RU mode (26T / RU offset 0)_Lowest Channel (5 745 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 722.82	H	65.22	34.86	-23.15	-	76.93	117.22	40.28

802.11ax_HE20 RU mode (52T / RU offset 37)_Lowest Channel (5 745 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 724.03	H	62.09	34.86	-23.15	-	73.80	119.99	46.18

802.11ax_HE20 RU mode (106T / RU offset 53)_Lowest Channel (5 745 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 724.50	H	54.40	34.86	-23.15	-	66.11	121.05	54.94

802.11ax_HE20 RU mode (242T / RU offset 61)_Lowest Channel (5 745 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp. + Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 722.44	H	61.97	34.86	-23.16	-	73.67	116.37	42.70

Plot of Band edge

In order to simplify the report, attached plots were only the lowest margin condition

802.11ax_HE20 RU mode (26T / RU offset 0)_Lowest Channel (5 745 ㎒)

Horizontal/Vertical for Band-edge