FCC PART 15.407

TEST REPORT

For

Vagaro, Inc.

4430 Rosewood Drive, Suite 500, Pleasanton, CA 94588

FCC ID: 2BFJHD052

Report Type:	**Product Name:**
Original Report	PayPro

Report Number:	RKSA240328001-00C
Report Date:	2024-06-17
Reviewed By:	Jenny Yang
Approves By:	Kyle Xu
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Kunshan) No.248 Chenghu Road, Kunshan, Jiangsu Province, China Tel: +86-512-86175000 Fax: +86-512-88934268 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Kunshan). This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, or any agency of the U.S.Government.

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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	RKSA240328001-00C	R1V1	2024-06-17	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Vagaro, Inc.	
Tested Model:	D052	
Product Name:	PayPro	
Power Supply:	DC 24V	
Maximum Output Power	5G Wi-Fi B1:	5G Wi-Fi B4:
	802.11a:12.95 dBm	12.42 dBm
	802.11ac20:12.64 dBm	12.29 dBm
	802.11n-HT20:12.77 dBm	12.09 Bm
	802.11ac40:10.51 dBm	12.29 dBm
	802.11n-HT40:8.49 dBm	12.21 dBm
	802.11ac80:7.54 dBm	11.89 dBm
Operating Frequency	5G Wi-Fi B1: 5180-5240 MHz, B4: 5745-5825 MHz	
Channel Number	5G Wi-Fi B1: 7, B4: 8	
Channel Separation	5G Wi-Fi: 802.11a/ac20/n20: 20 MHz, ac40/n40: 40 MHz, ac80: 80 MHz	
Modulation Type	OFDM	
Antenna Type	FPC Antenna	
★Maximum Antenna Gain:	Band 1: 1.10 dBi; Band 4: 1.45 dBi	

Adapter Information:
Model: ASSA52-240250
Input: 100-240V, 50/60Hz, 1.5A
Output: 24.0V, 2.5A, 60.0W

Note: The maximum antenna gain was declared by the manufacturer.

All measurement and test data in this report was gathered from production sample serial number: RKSA240328001-1 (Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2024-03-28.)

Objective

This type approval report is prepared for *Vagaro, Inc.* in accordance with Part 2-Subpart J, Part 15-Subparts A and E of the Federal Communication Commissions' rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Kunshan).

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		3.19 dB
RF conducted test with spectrum		0.9dB
RF Output Power with Power meter		0.5dB
Radiated emission	9 kHz~150 kHz	3.8dB
	150 kHz~30 MHz	3.4dB
	30MHz~1GHz	6.11dB
	1GHz~6GHz	4.45dB
	6GHz~18GHz	5.23dB
	18GHz~40GHz	5.65dB
Occupied Bandwidth		0.5kHz
Temperature		1.0℃
Humidity		6%

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu Province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) is accredited in accordance with ISO/IEC 17025:2017 by NVLAP (Lab code: 600338-0), and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No. : CN5055.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The EUT was configured for testing in an engineering mode which was provided by the manufacturer.

For **5150~5250 MHz** band, test channel list is as below,

802.11a/ac20/n20 mode Channel 36, 40, 48 were tested.
802.11n40/ac40 mode Channel 38, 46 were tested.
802.11ac80 mode Channel 42 was tested.

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
38	5190	46	5230
40	5200	48	5240
42	5210	/	/

For **5725~5850 MHz** band,

802.11a/ac20/n20 mode Channel 149, 157, 165 were tested.
802.11n40/ac40 mode Channel 151, 159 were tested.
802.11ac80 mode Channel 155 was tested.

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	159	5795
151	5755	161	5805
153	5765	165	5825
155	5775	/	/
157	5785	/	/

EUT Exercise Software

RF test tool: Engineering Mode

The worst case was performed under:

U-NII	Mode	Date rate	★Power Level		
			Low Channel	Middle Channel	High Channel
5150~5250MHz	802.11a	6Mbps	18	17	17
	802.11n-HT20	MCS0	17	17	17
	802.11n-HT40	MCS0	13	17	17
	802.11ac-VHT20	MCS0	17	17	17
	802.11ac-VHT40	MCS0	15	/	17
	802.11ac-VHT80	MCS0	/	17	/

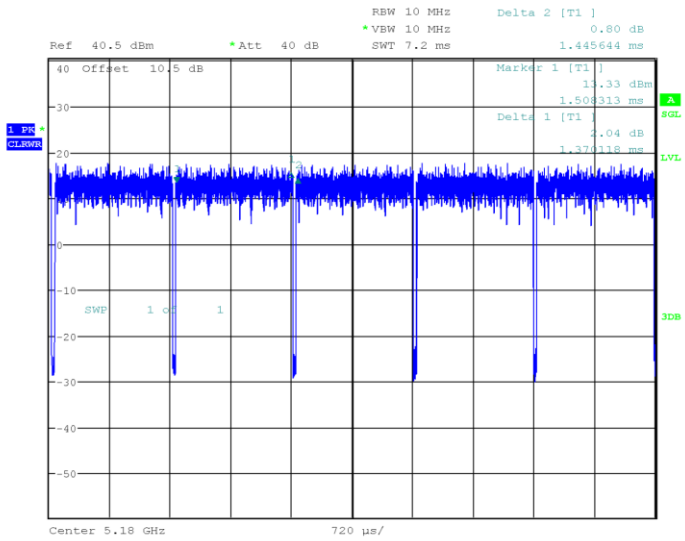
U-NII	Mode	Date rate	★Power Level		
			Low Channel	Middle Channel	High Channel
5725~5850MHz	802.11a	6Mbps	17	17	17
	802.11n-HT20	MCS0	17	17	17
	802.11n-HT40	MCS0	17	17	17
	802.11ac-VHT20	MCS0	17	17	17
	802.11ac-VHT40	MCS0	17	/	17
	802.11ac-VHT80	MCS0	/	17	/

Note: The power level was declared by the applicant.

Duty Cycle

5150MHz-5250MHz Band:

802.11a mode low channel



ProjectNo.:RKSA240328001 Tester:Hardy Huang
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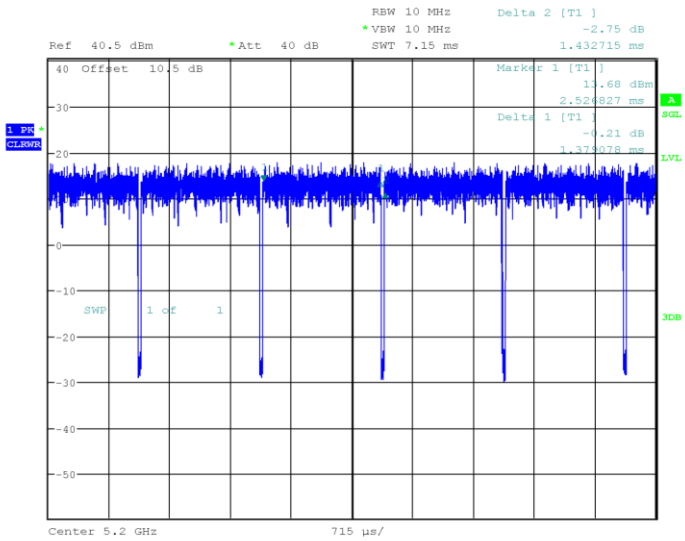
802.11a mode middle channel



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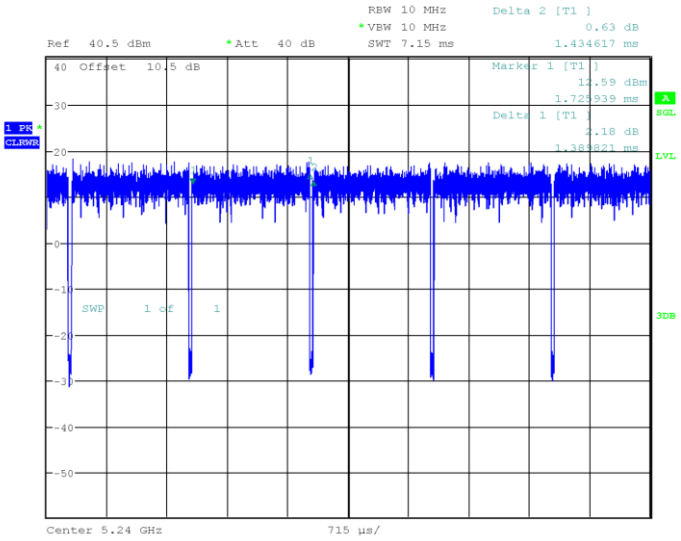
802.11a mode high channel



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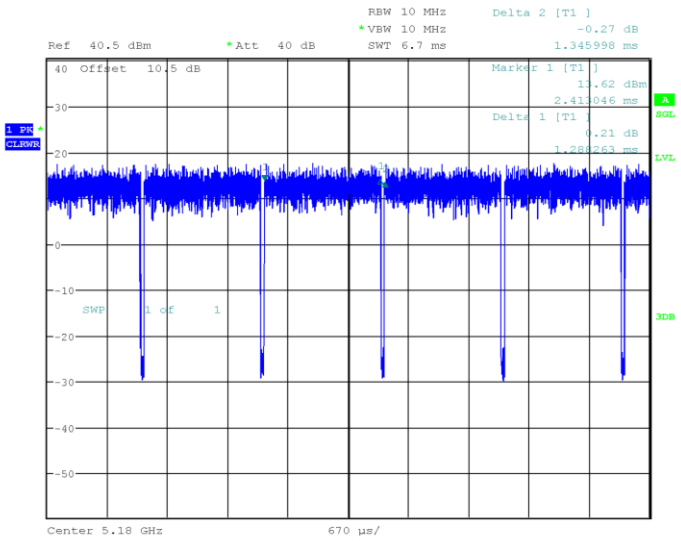
802.11n20 mode low channel



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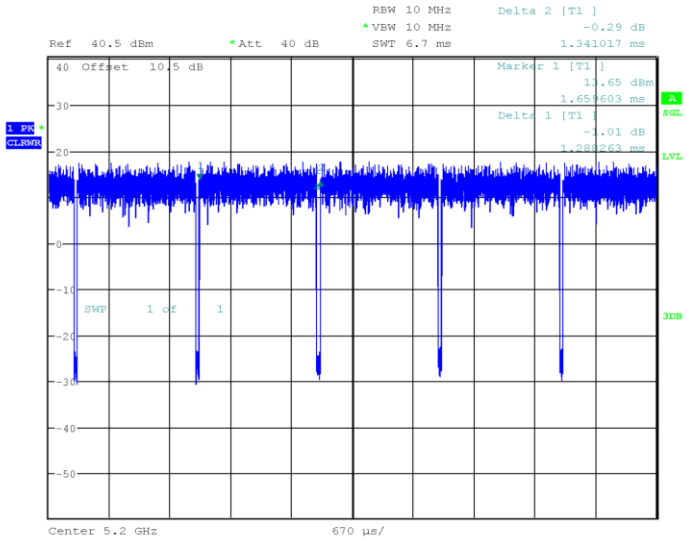
802.11n20 mode middle channel



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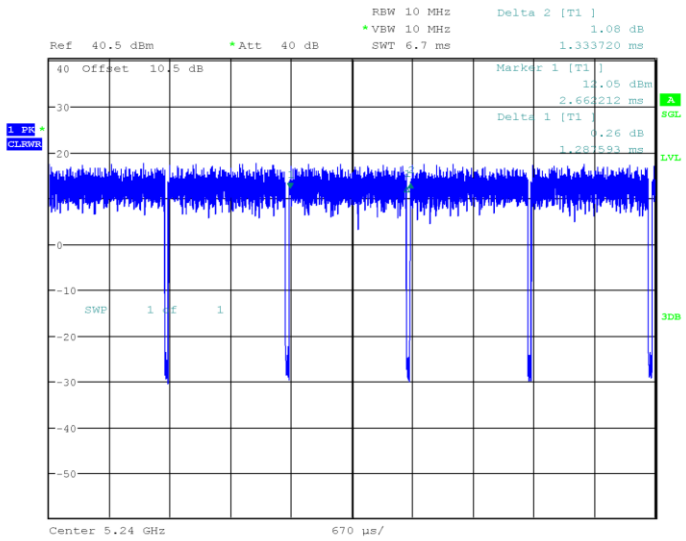
802.11n20 mode high channel



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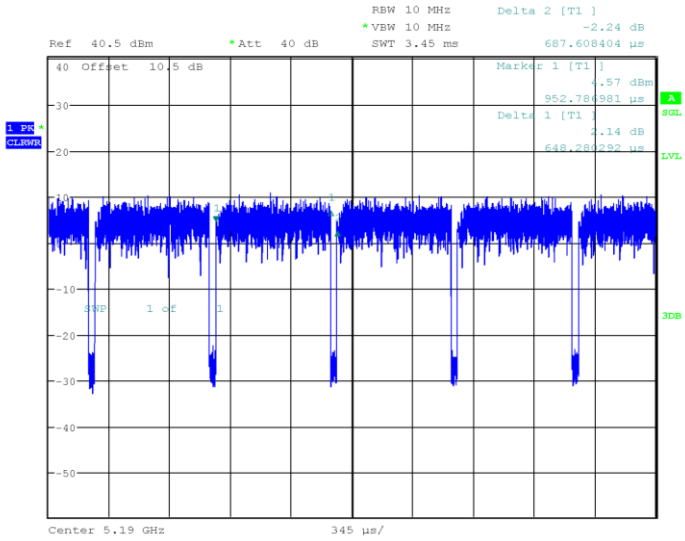
802.11n40 mode low channel



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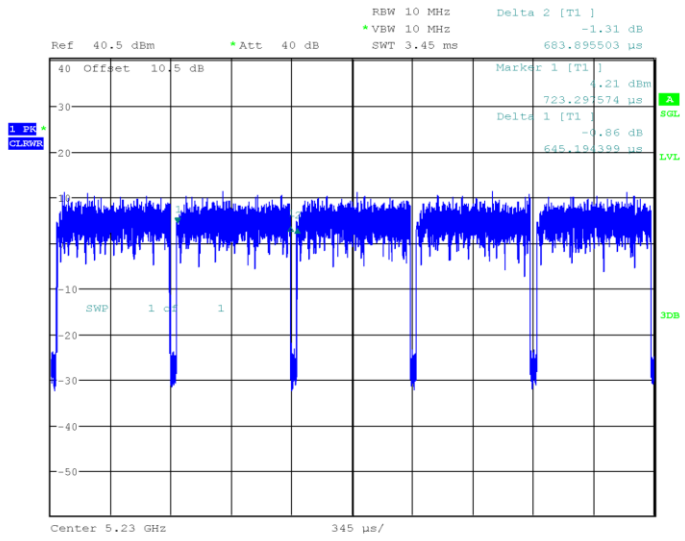
802.11n40 mode high channel



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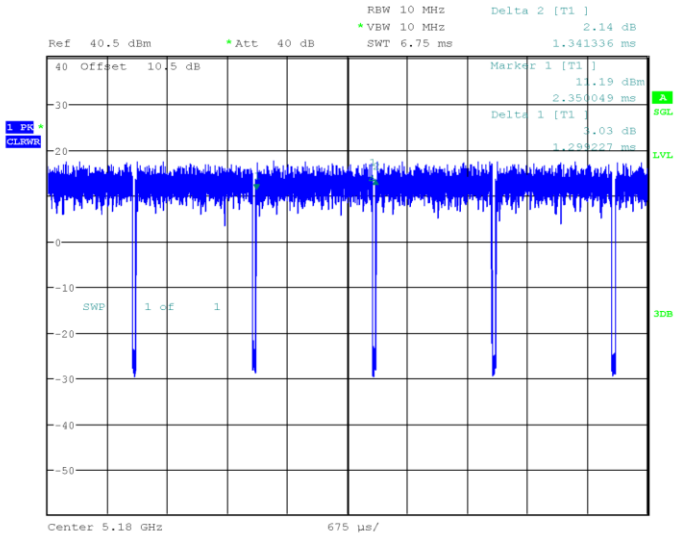
802.11ac20 mode low channel



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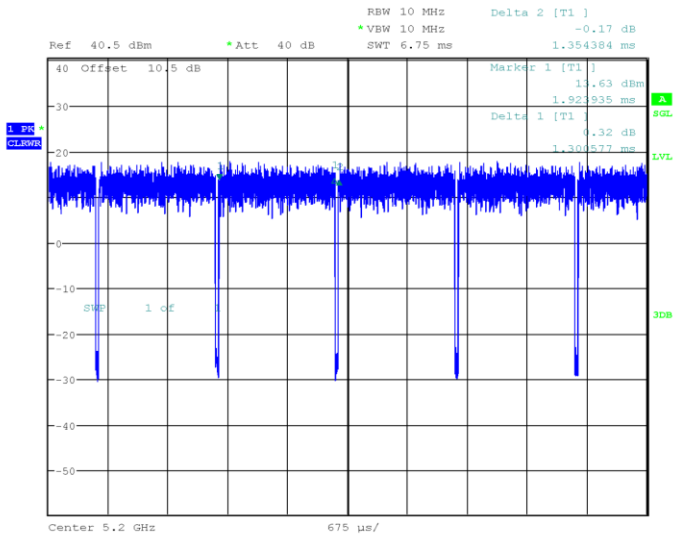
802.11ac20 mode middle channel



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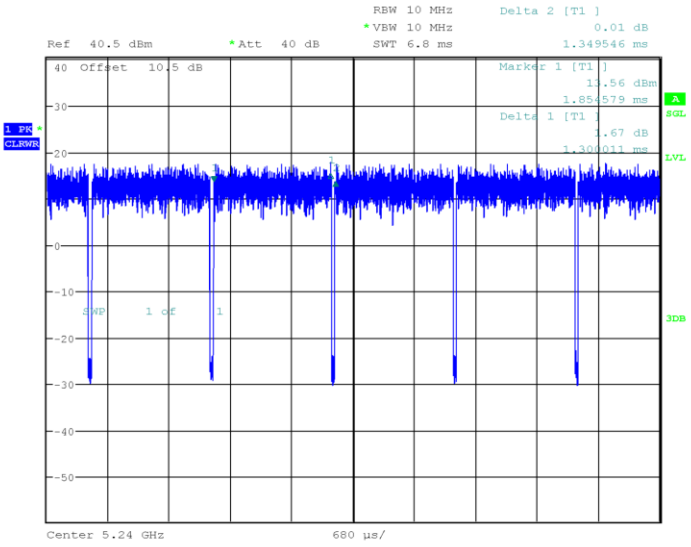
802.11ac20 mode high channel



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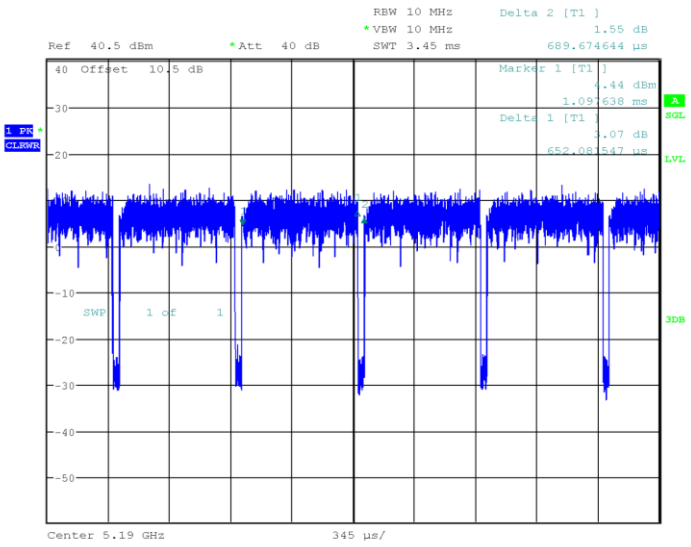
802.11ac40 mode low channel



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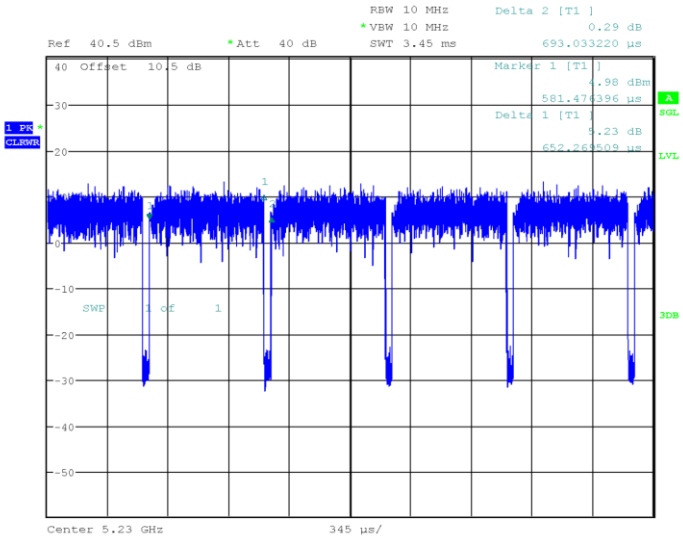
Date: 21.MAY.2024 16:08:26

802.11ac40 mode high channel



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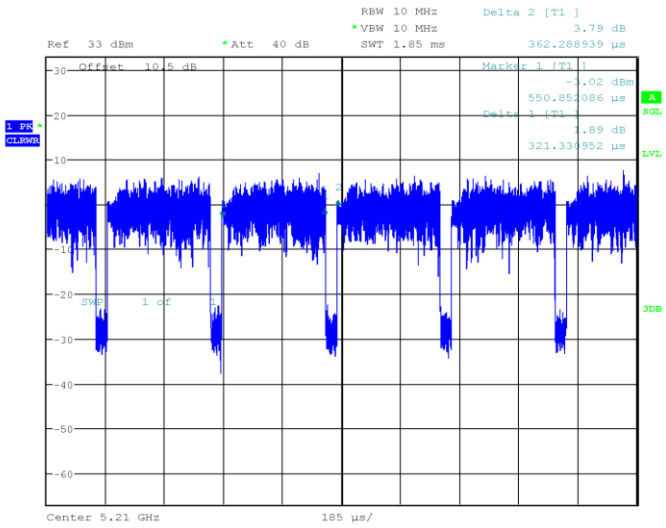
Date: 21.MAY.2024 16:15:19

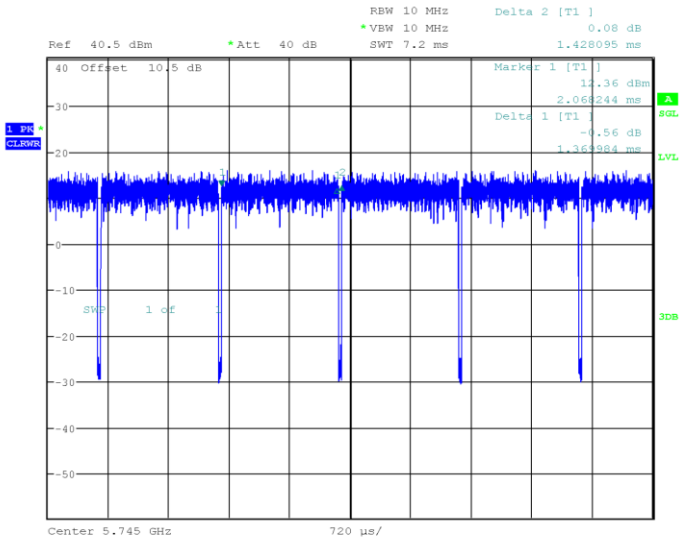
802.11ac80 mode middle channel



ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 16:22:06

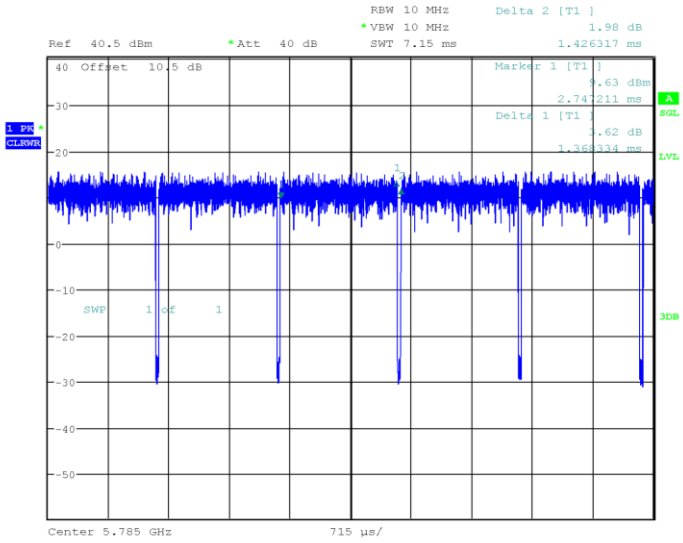
5725MHz-5850MHz Band:

802.11a mode low channel



ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 16:33:46

802.11a mode middle channel



ProjectNo.:RKSA240328001 Tester:Hardy Huang
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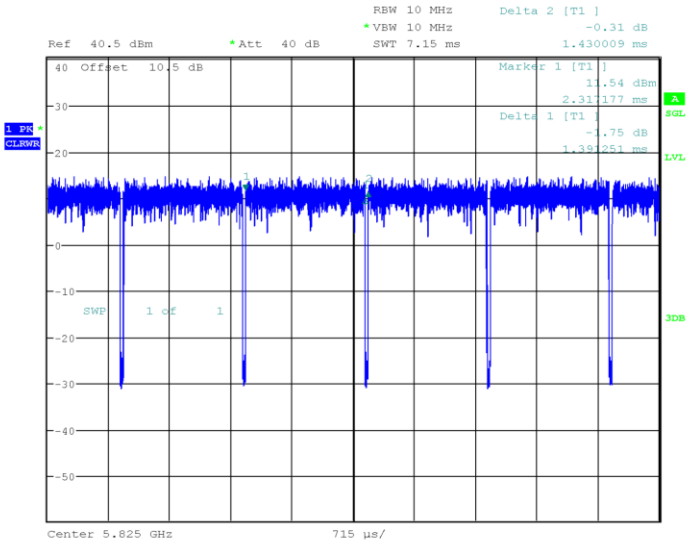
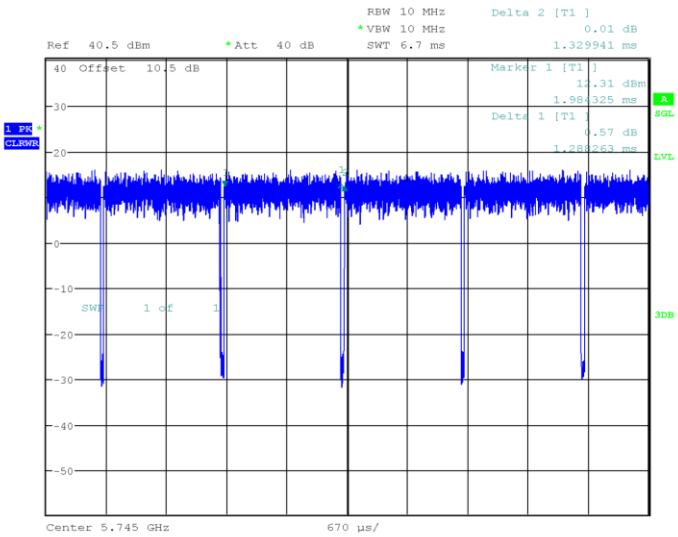
802.11a mode high channel



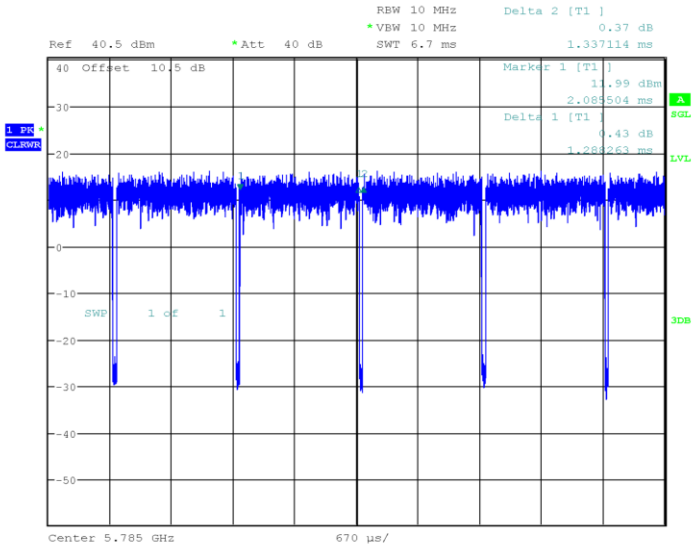
ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 16:41:47

802.11n20 mode low channel



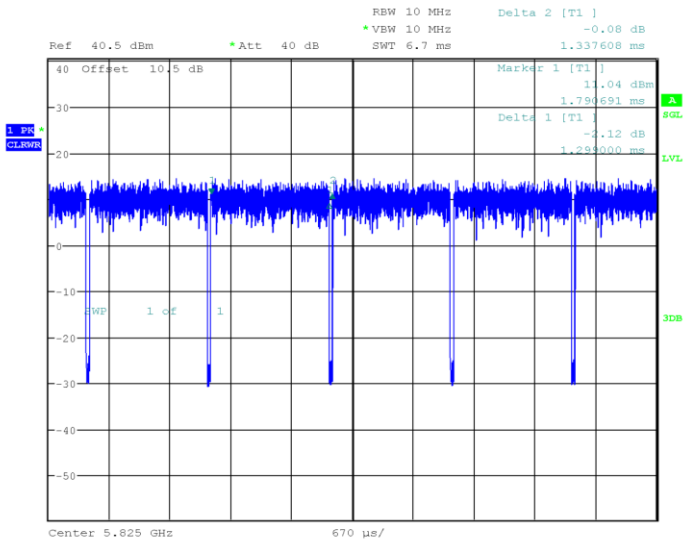
ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 16:46:41

802.11n20 mode middle channel



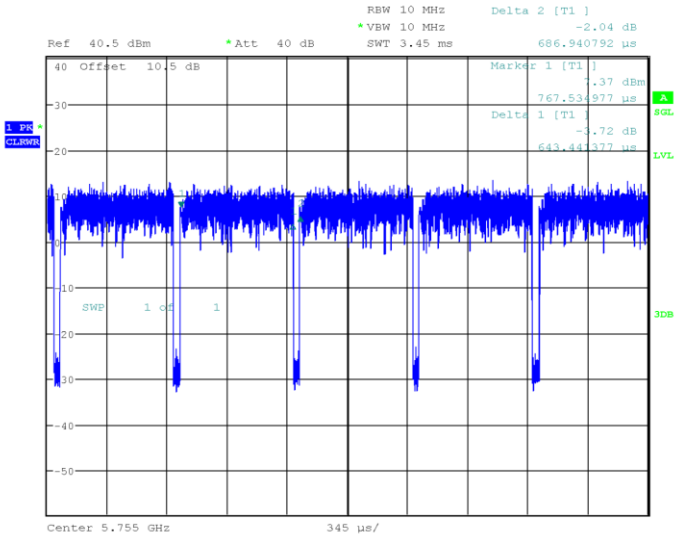
ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 16:51:21

802.11n20 mode high channel



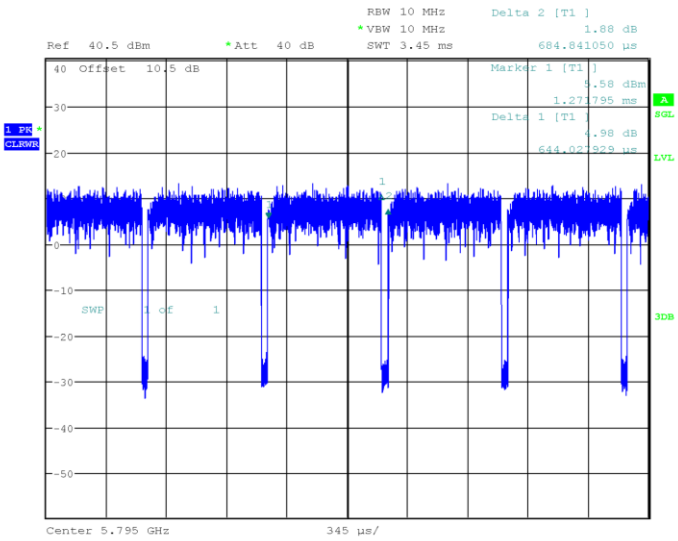
ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 16:56:42

802.11n40 mode low channel



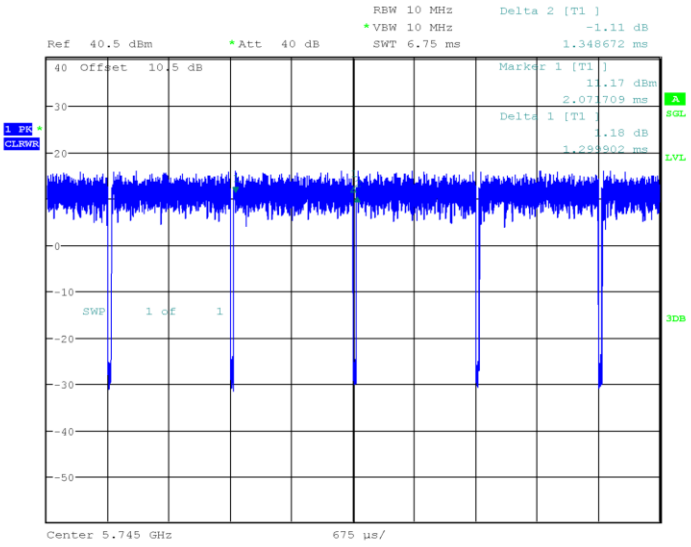
ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 17:03:33

802.11n40 mode high channel



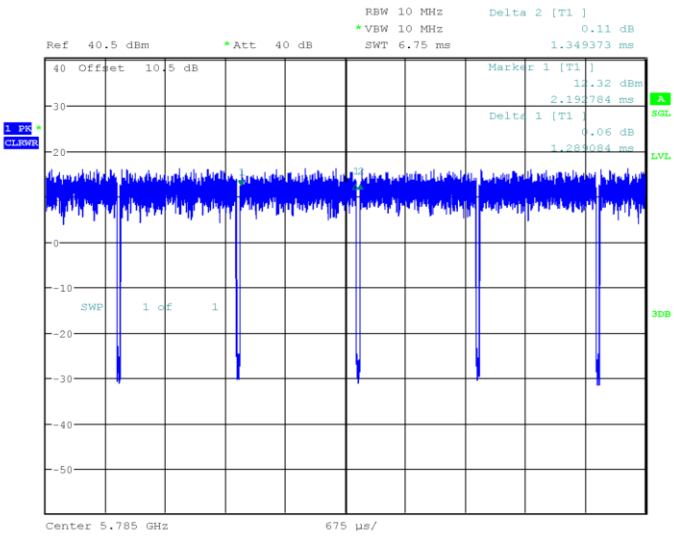
ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 17:10:03

802.11ac20 mode low channel



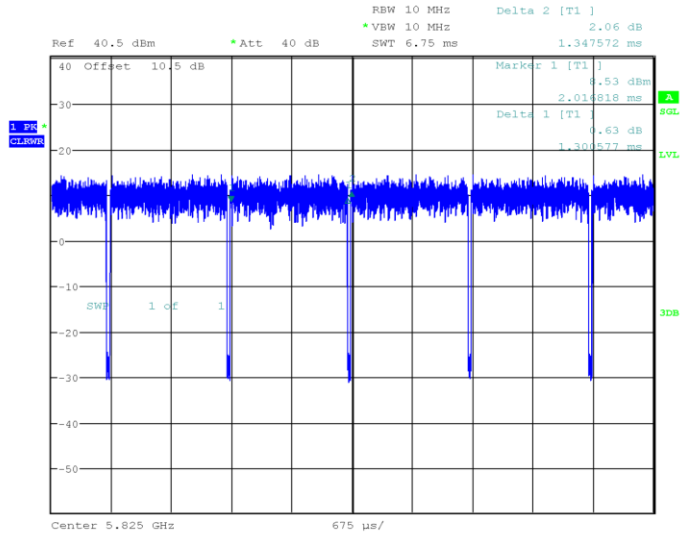
ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 17:15:31

802.11ac20 mode middle channel



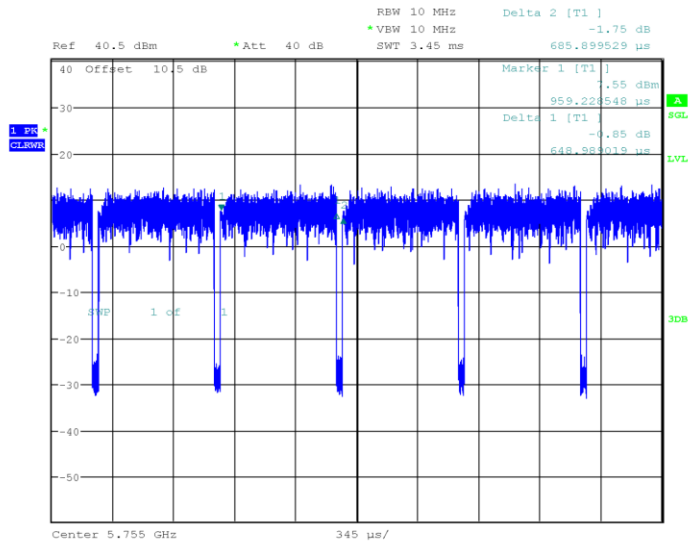
ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 17:21:59

802.11ac20 mode high channel



ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 17:25:55

802.11ac40 mode low channel



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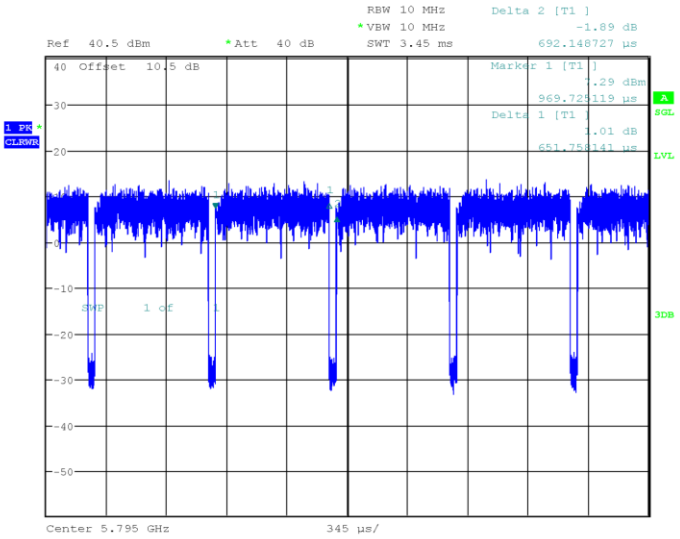
802.11ac40 mode high channel



ProjectNo.:RKSA240328001 Tester:Hardy Huang
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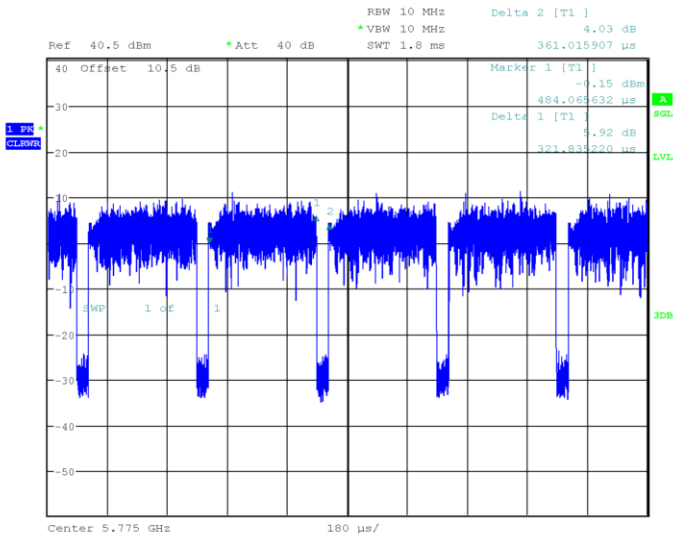
802.11ac80 mode middle channel



ProjectNo.:RKSA240328001 Tester:Hardy Huang
Date: 21.MAY.2024 17:44:56

Mode	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor (dB)
a_5180MHz	1.370	1.446	94.74	0.23
a_5200MHz	1.379	1.433	96.23	0.17
a_5240MHz	1.390	1.435	96.86	0.14
n20_5180MHz	1.288	1.346	95.69	0.19
n20_5200MHz	1.288	1.341	96.05	0.18
n20_5240MHz	1.288	1.334	96.55	0.15
n40_5190MHz	0.648	0.688	94.19	0.26
n40_5230MHz	0.645	0.684	94.30	0.25
ac20_5180MHz	1.299	1.341	96.87	0.14
ac20_5200MHz	1.301	1.354	96.09	0.17
ac20_5240MHz	1.300	1.350	96.30	0.16
ac40_5190MHz	0.652	0.690	94.49	0.25
ac40_5230MHz	0.652	0.693	94.08	0.26
ac80_5210MHz	0.321	0.362	88.67	0.52

Mode	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor (dB)
a_5745MHz	1.370	1.428	95.94	0.18
a_5785MHz	1.368	1.426	95.93	0.18
a_5825MHz	1.391	1.430	97.27	0.12
n20_5745MHz	1.288	1.330	96.84	0.14
n20_5785MHz	1.288	1.337	96.34	0.16
n20_5825MHz	1.299	1.338	97.09	0.13
n40_5755MHz	0.643	0.687	93.60	0.29
n40_5795MHz	0.644	0.685	94.01	0.27
ac20_5745MHz	1.300	1.349	96.37	0.16
ac20_5785MHz	1.289	1.349	95.55	0.20
ac20_5825MHz	1.301	1.348	96.51	0.15
ac40_5755MHz	0.649	0.686	94.61	0.24
ac40_5795MHz	0.652	0.692	94.22	0.26
ac80_5775MHz	0.322	0.361	89.20	0.50

Duty Cycle = Ton/(Ton+Toff)*100%

Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

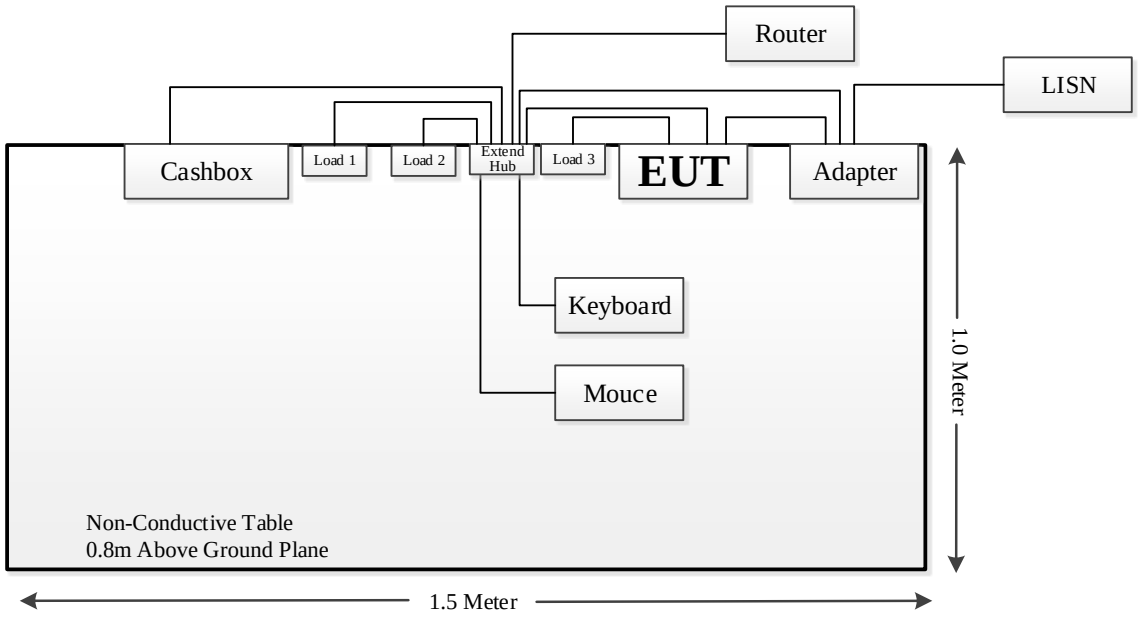
Manufacturer	Description	Model	Serial Number
Lenovo	Mouse	M12Pro	/
/	load*3	/	/
TPLINK	Router	TL XDR3010	12373X0002080
/	cashbox	/	/
/	Keyboard	/	/

External I/O Cable

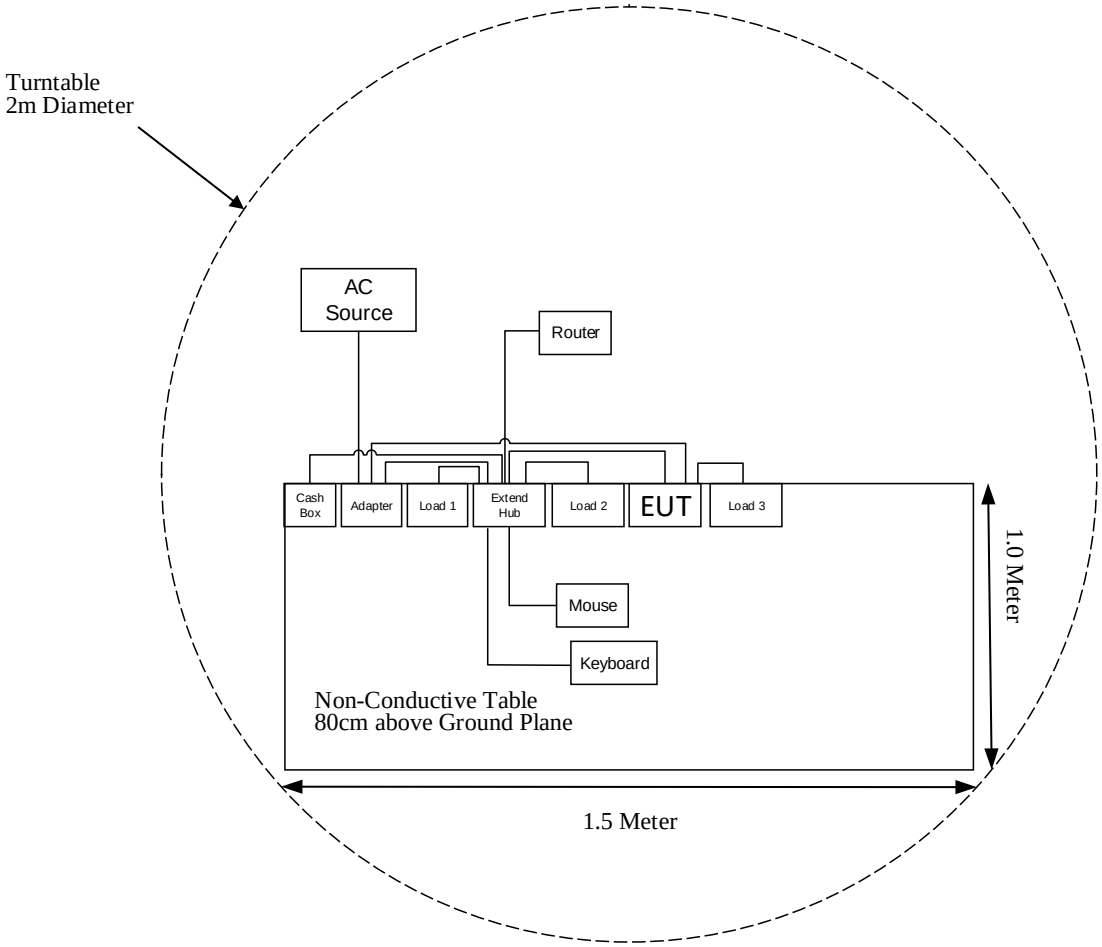
Cable Description	Length (m)	From Port	To
Power cable 1	1.0	AC Source/LISN	Adapter
Power cable 2	1.0	EUT	Extend Hub
RJ45 Cable 1	5.0	Extend Hub	Router
RJ45 Cable 2	1.0	Extend Hub	Cash box
USB Cable 1	1.0	Extend Hub	Mouse
USB Cable 2	1.0	Extend Hub	Keyboard
USB Cable 3	0.5	Extend Hub	Load 1
USB Cable 4	0.5	Extend Hub	Load 2
USB Cable 5	0.5	EUT	Load 3
USB Cable 6	1.5	Adapter	EUT

Block Diagram of Test Setup

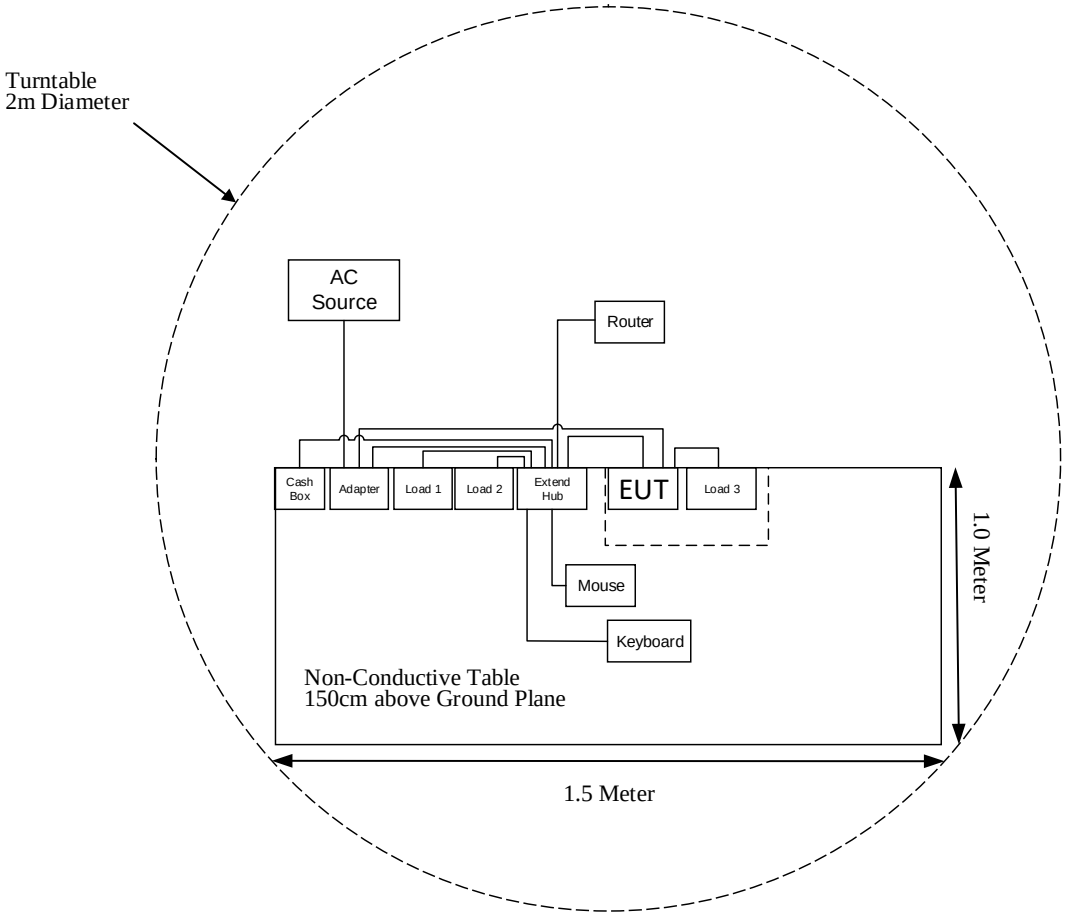
For Conducted Emissions:



For Radiated Emissions (Below 1GHz):



For Radiated Emissions (Above 1 GHz):



TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test (Chamber #1)					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2023-05-23	2024-05-22
Sunol Sciences	Hybrid Antenna	JB3	A090314-1	2023-11-11	2024-11-10
ETS-LINDGREN	Loop Antenna	6512	108100	2023-11-09	2024-11-08
Sonoma Instrument	Amplifier	310N	171205	2023-05-23	2024-05-22
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-8	008	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-9	009	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-10	010	2023-05-23	2024-05-22
Narda	6dB Attenuator	773-6	10690812-2-1	2023-11-11	2024-11-10
Radiated Emission Test (Chamber #2)					
Rohde & Schwarz	EMI Test Receiver	ESU40	100207/040	2024-04-25	2025-04-24
ETS-LINDGREN	Horn Antenna	3115	9311-4159	2023-12-02	2024-12-01
ETS-LINDGREN	Horn Antenna	3116	84159	2023-12-07	2024-12-06
A.H.Systems,inc	Amplifier	PAM-0118P	512	2024-04-25	2025-04-24
EM Electronics Corporation	Amplifier	EM18G40G	060726	2024-04-25	2025-04-24
MICRO-TRONICS	Band Reject Filter	BRC50703	G094	2024-04-25	2025-04-24
MICRO-TRONICS	Band Reject Filter	BRC50705	G085	2024-04-25	2025-04-24
Narda	Attenuator	10dB	010	2024-04-25	2025-04-24
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-6	006	2024-04-25	2025-04-24
MICRO-COAX	Coaxial Cable	Cable-11	011	2024-04-25	2025-04-24
MICRO-COAX	Coaxial Cable	Cable-12	012	2024-04-25	2025-04-24
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSU26	200103	2024-04-24	2025-04-23
Anritsu	Power Sensor	MA24418A	12621	2024-04-23	2025-04-22
Narda	Attenuator	10dB	010	2024-04-25	2025-04-24
XHFDZ	RG316 Coaxial Cable	SMA-316	XHF-1175	Each time	N/A
Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR	101746	2023-05-23	2024-05-22
Rohde & Schwarz	LISN	ENV216	101115	2023-05-23	2024-05-22
Audix	Test Software	e3	V9	N/A	N/A
Rohde & Schwarz	Pulse Limiter	ESH3-Z2	0357.8810.54	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-15	015	2023-05-23	2024-05-22

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207 & §15.407(b) (9)	AC Power Line Conducted Emissions	Compliant
§ 15.205 & §15.209 & §15.407(b)	Undesirable Emission & Restricted Bands	Compliant
§§15.407(a) &§15.407(e)	Emission Bandwidth	Compliant
§15.407(a)	Conducted Transmitter Output Power	Compliant
§15.407(a)	Power Spectral Density	Compliant

FCC §15.203 – ANTENNA REQUIREMENT

Applicable Standard

According to § 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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.
c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.407, if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

Antenna permanently attached to the unit. fulfill the requirement of this section. Please refer to the EUT photos.

Antenna Type	Frequency Range	Max. Antenna Gain	Input impedance
FPC	5150~5250 MHz	1.10 dBi	50Ω
	5725~5850 MHz	1.45 dBi	50Ω

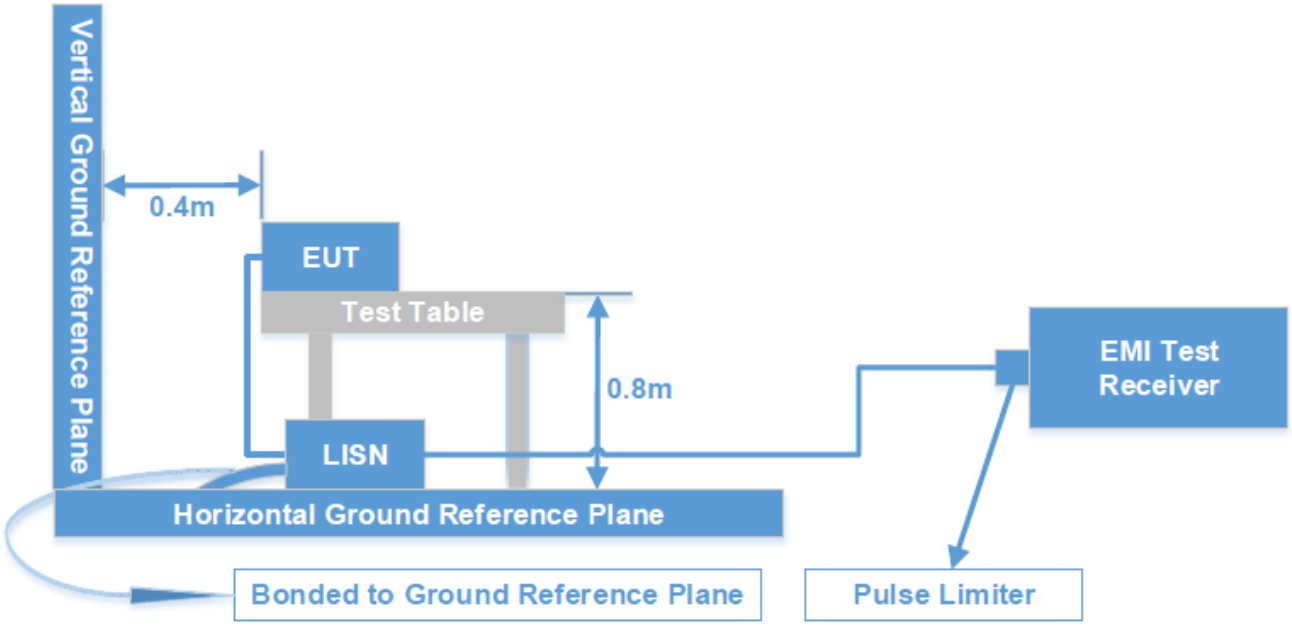
Result: Compliant.

FCC §15.407 (b) (9) §15.207 (a) – AC POWER LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a), §15.407(b) (9)

Test System Setup



The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	VBW
150 kHz - 30 MHz	9 kHz	30 kHz

Test Procedure

During the conducted emission test, the EUT or adapter was connected to the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

If the maximum peak value of the emissions is below the average limit, the QP value and average value measurement will not need to be performed and only record the maximum peak measured value to meet the requirements.

Level & Over Limit Calculation

The Level is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation from the Meter Reading. The basic equation is as follows:

Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)
Level (dBμV) = Read level (dBμV) + Factor (dB)

The "**Over Limit**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit of 7 dB means the emission is 7 dB above the limit. The equation for Over Limit calculation is as follows:

Over Limit (dB) = Level (dBμV) - Limit (dBμV)

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

Test Data: See Appendix

§15.205 & §15.209 & §15.407(B) – UNDESIRABLE EMISSION & RESTRICTED BANDS

Applicable Standard

FCC §15.407 (b); §15.209; §15.205;

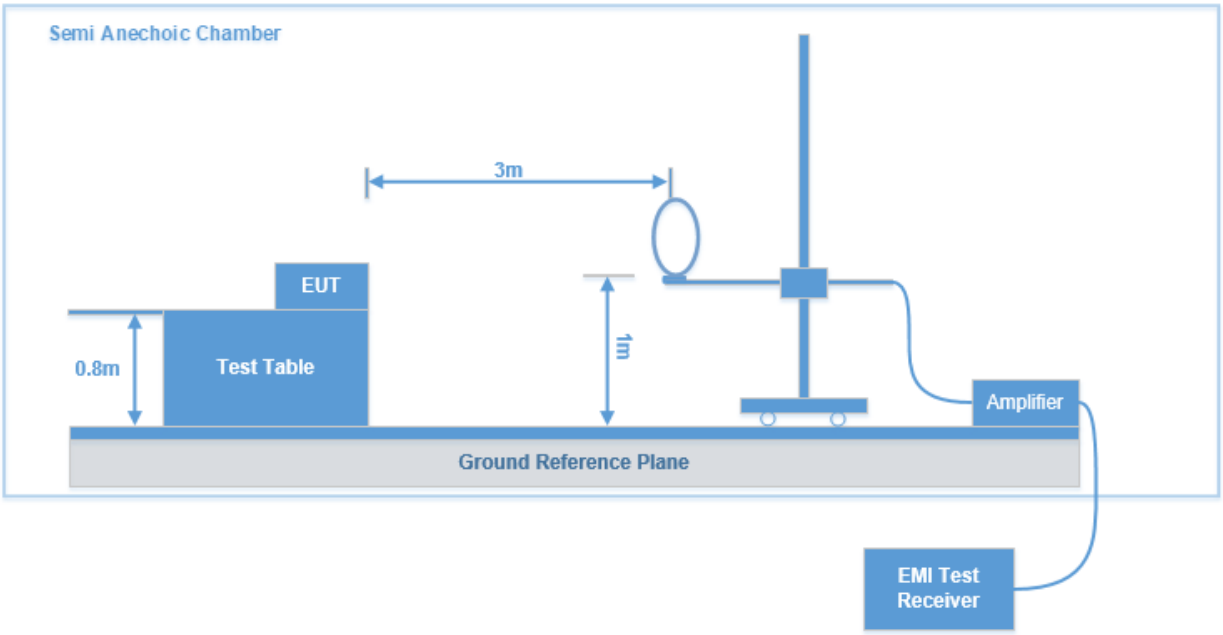
(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2) For transmitters operating in the 5.725-5.85 GHz band:
(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

As per FCC §15.35(d):Unless otherwise specified, on any frenquency or frequencies above 1000MHz,the radiated emission limits are based on the use of measurement instrunmentation employing an average detector function. Unless otherwise specified, measurements above 1000MHz shall be performed using a minimum resolution bandwidth of 1MHz.

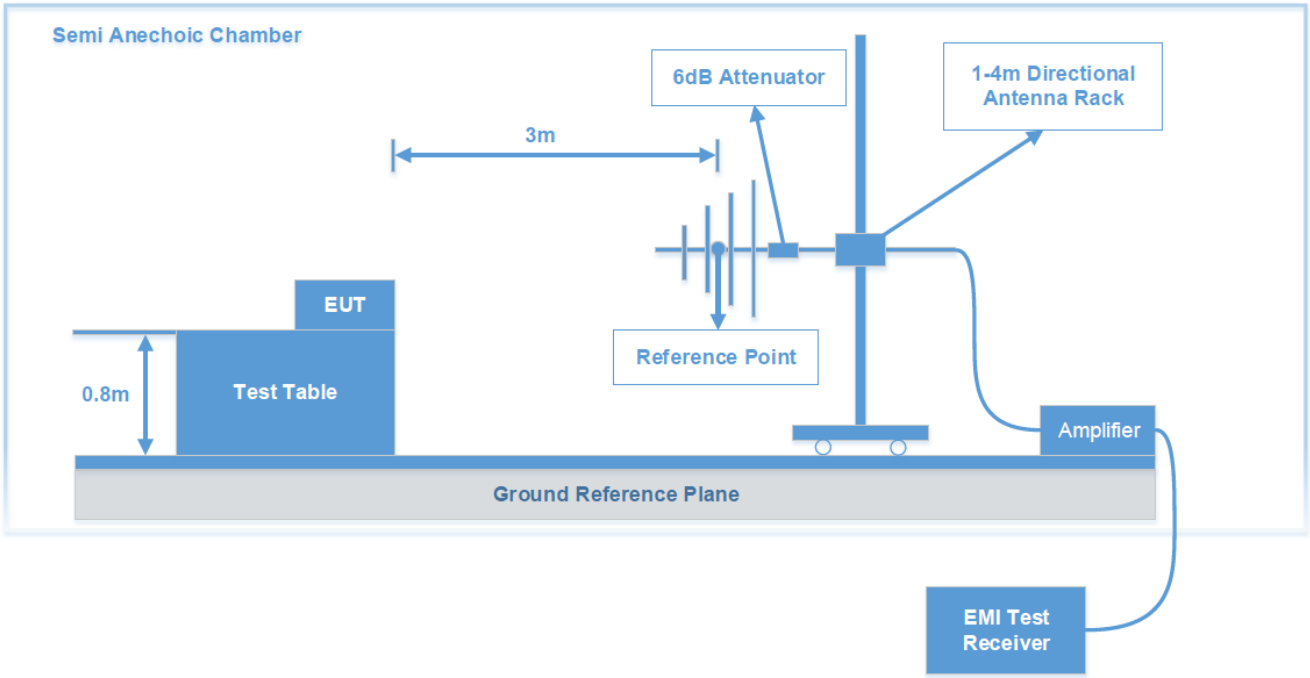
According to 789033 D02 General UNII Test Procedures New Rules v02r01, emission shall be computed as: E [dBμV/m] = EIRP [dBm] + 95.2, for d = 3 meters.

Test System Setup

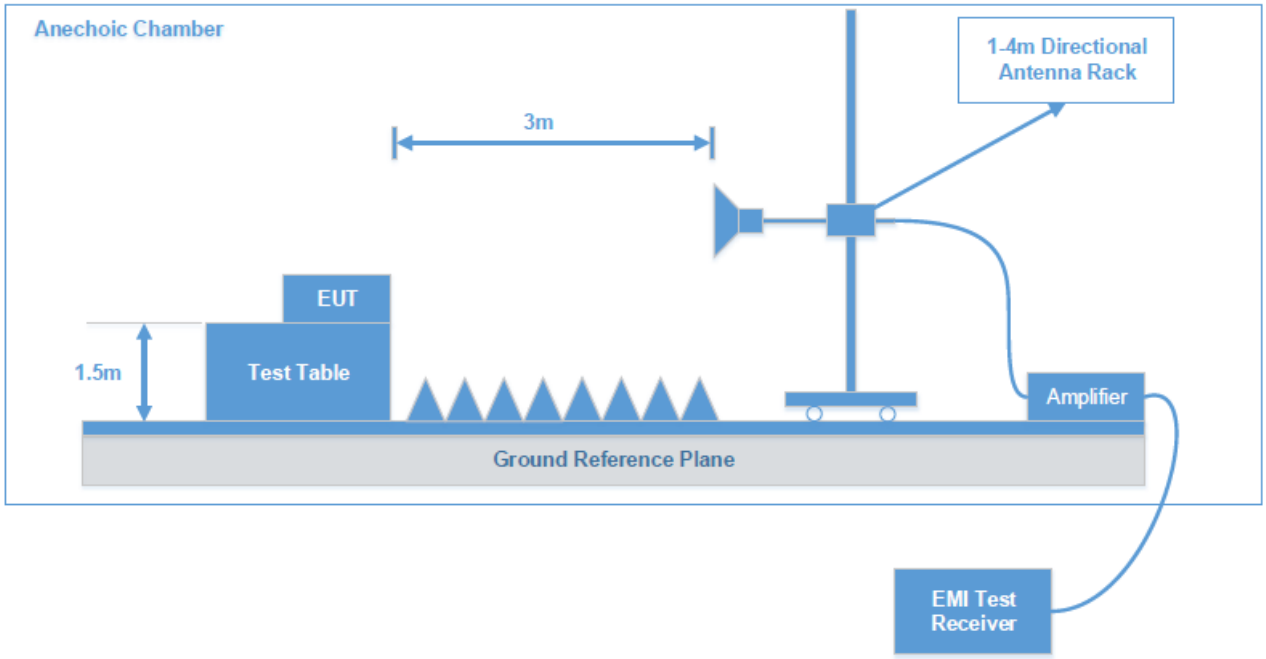
9kHz–30 MHz:



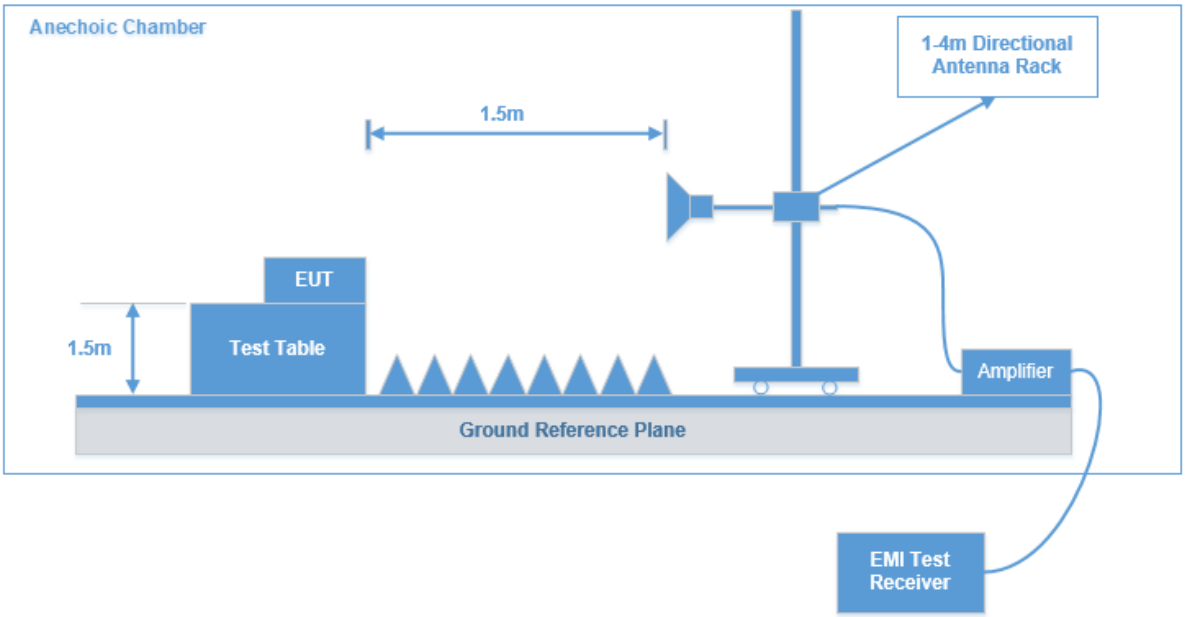
30MHz-1GHz:



1 GHz-18GHz:



18-40GHz：



The radiated emission tests were performed in the 3 meters test site for below 18GHz and 1.5m for 18-40 GHz, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209 and FCC 15.407 limits. The limit at 1.5m for 18-40 GHz is 80dBμV/m（Peak）and 60dBμV/m（Average）

The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209 and FCC 15.407 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 40 GHz.

During the radiated emission test, the EMI test receiver Setup was set with the following configurations:

Frequency Range	RBW	VBW	IF B/W	Detector
9 kHz – 150 kHz	200 Hz	1 kHz	200 Hz	QP/Average
150 kHz – 30 MHz	9 kHz	30 kHz	9 kHz	QP/ Average
30 MHz – 1000 MHz	100 kHz	300 kHz	/	Peak
	/	/	120 kHz	QP
Above 1GHz	1MHz	3 MHz	/	Peak
	1MHz	3 MHz	/	Average

Test Procedure

During the radiated emission test, the adapter was connected to AC floor outlet.Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

If the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at least 6 dB below the QP emission limit, there's no need to record the measured QP level of the emissions in the report.

For 9 kHz-30MHz test, the lowest height of the magnetic antenna shall be 1 m above the ground and three antenna orientations (parallel, perpendicular, and ground-parallel) shall be measured.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude (dBμV/m) = Meter Reading (dBμV) + Corrected factor（dB/m）
Corrected factor（dB/m）= Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

Test Data: See Appendix

FCC §15.407(a) &§15.407(e)–EMISSION BANDWIDTH

Applicable Standard

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

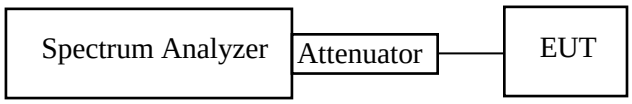
Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Test Procedure

1. Emission Bandwidth (EBW)
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. **Minimum Emission Bandwidth for the band 5.725-5.85 GHz**
Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.725-5.85 GHz. The following procedure shall be used for measuring this bandwidth:
a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.

g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



FCC §15.407(a) – CONDUCTED TRANSMITTER OUTPUT POWER

Applicable Standard

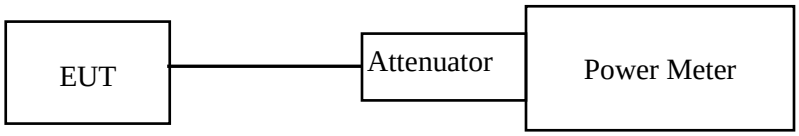
For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
3. Add a correction factor to the display.



FCC §15.407(a) - POWER SPECTRAL DENSITY

Applicable Standard

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Test Procedure

The measurements are base on FCC KDB 789033 D02 General UNII Test Procedyres New Rules v02r01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices section F: Maximum power spectral density (PPSD) and method SA-2

EUT PHOTOGRAPHS

Please refer to the attachment EXHIBIT A-EUT EXTERNAL PHOTOGRAPHS and EXHIBIT B-EUT INTERNAL PHOTOGRAPHS.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment EXHIBIT D-TEST SETUP PHOTOGRAPHS.

Appendix - TEST DATA

Environmental Conditions & Test Information

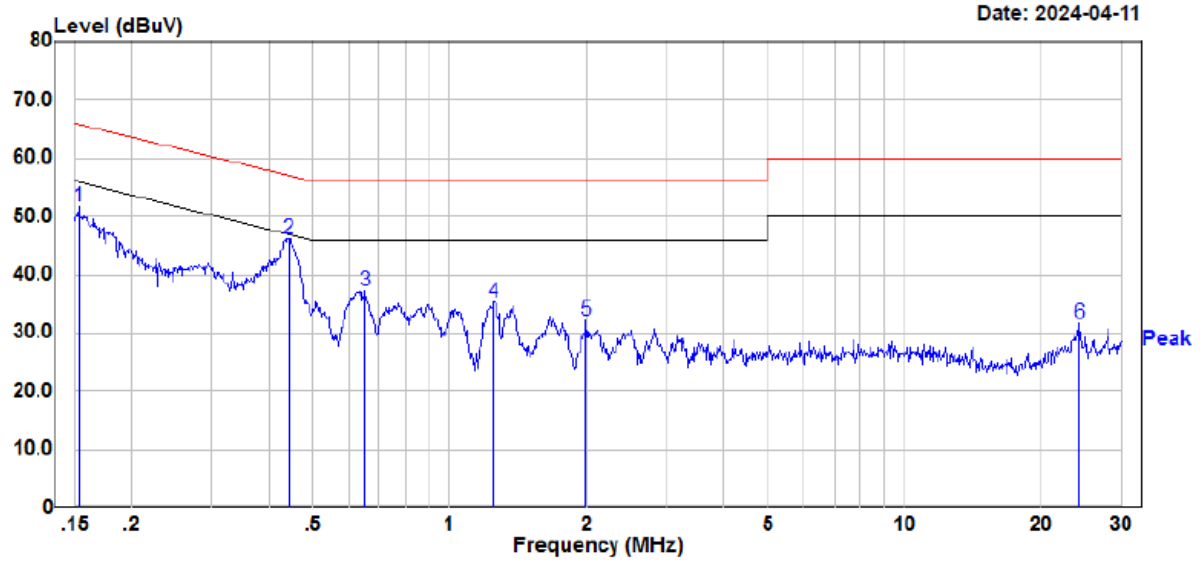
Test Item:	AC power-line conducted emissions limits	UNWANTED EMISSIONS & RESTRICTED FREQUENCY BANDS		
		9kHz - 1GHz	1 GHz - 18 GHz	18 GHz - 40 GHz
Test Date:	2024-04-11	2024-04-13	2024-04-29	2024-06-14
Temperature:	19.6 ℃	19.8 ℃	20.3 ℃	22.5 ℃
Relative Humidity:	62 %	61 %	52 %	56 %
ATM Pressure:	101.8 kPa	101.5 kPa	101.5kPa	100.6 kPa
Test Result:	Pass	Pass	Pass	Pass
Test Engineer:	Frank Liu	Leah Li	Hugh Wu	Hugh Wu

Test Item:	Duty Cycle	Emission Bandwidth	Conducted Transmitter Output Power	Power Spectral Density
Test Date:	2024-05-21	2024-05-21	2024-05-21	2024-05-21
Temperature:	21.5 ℃	21.5 ℃	21.5 ℃	21.5 ℃
Relative Humidity:	52 %	52 %	52 %	52 %
ATM Pressure:	101.4kPa	101.4kPa	101.4kPa	101.4kPa
Test Result:	/	Pass	Pass	Pass
Test Engineer:	Hardy Huang	Hardy Huang	Hardy Huang	Hardy Huang

AC power-line conducted emissions limits

EUT operation mode: Transmitting in 802.11n20 mode low channel of 5150~5250MHz (maximum output power)

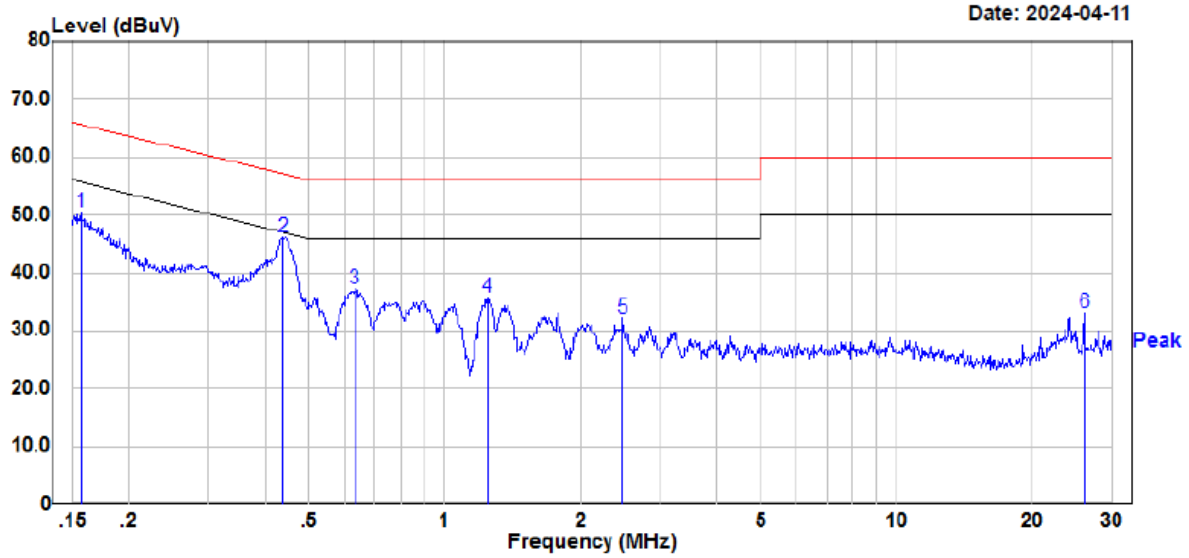
AC 120V/60 Hz, Line




```
Site                  : CE
Condition             : FCC PART 15.207
                      : DET:Peak
Project               : RKSA240328001
Model                 : D052
Phase                 : L
Voltage               : 120V/60Hz
Mode                  : 5G WIFI
Test Equipment        : ENV216,ESR
Temperature           : 19.6℃
Humidity              : 62%
Atmospheric pressure: 101.8kPa
Test Engineer         : Frank Liu
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.153	31.64	19.99	51.63	65.83	-14.20	Peak
2	0.442	26.23	20.00	46.23	57.02	-10.79	Peak
3	0.653	17.27	19.94	37.21	56.00	-18.79	Peak
4	1.248	15.46	19.73	35.19	56.00	-20.81	Peak
5	1.993	12.24	20.03	32.27	56.00	-23.73	Peak
6	24.213	11.71	19.90	31.61	60.00	-28.39	Peak

AC 120V/60 Hz, Neutral




```
Site                  : CE
Condition             : FCC PART 15.207
                      : DET:Peak
Project               : RKSA240328001
Model                 : D052
Phase                 : N
Voltage               : 120V/60Hz
Mode                  : 5G WIFI
Test Equipment        : ENV216,ESR
Temperature           : 19.6℃
Humidity              : 62%
Atmospheric pressure: 101.8kPa
Test Engineer         : Frank Liu
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.156	30.54	20.00	50.54	65.67	-15.13	Peak
2	0.438	26.13	20.00	46.13	57.10	-10.97	Peak
3	0.630	17.22	19.95	37.17	56.00	-18.83	Peak
4	1.241	15.95	19.73	35.68	56.00	-20.32	Peak
5	2.470	11.99	20.06	32.05	56.00	-23.95	Peak
6	26.092	13.11	19.94	33.05	60.00	-26.95	Peak

Transmitter Unwanted Emissions & Restricted frequency bands

After pre-scan in the X, Y and Z axes of orientation, the worst case in the Y axes of orientation is below:

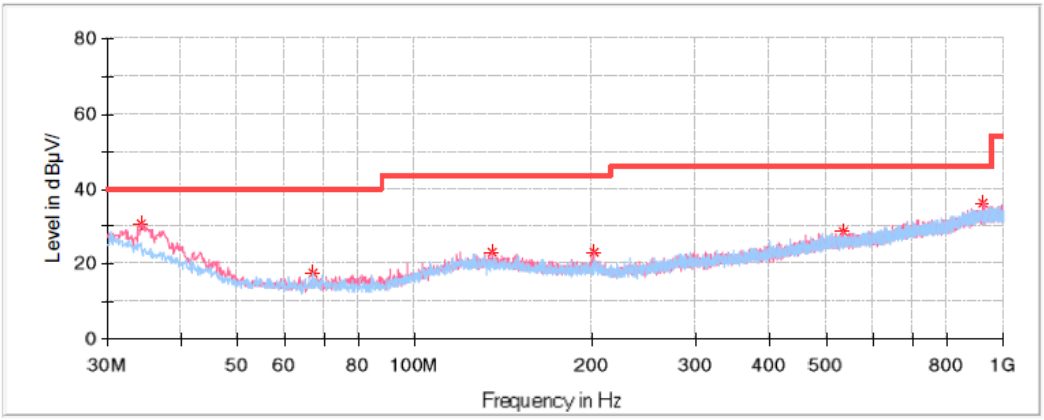
9 kHz-30 MHz: (*maximum output power 802.11n20 mode low channel of 5150~5250MHz)*

The amplitude of spurious emissions attenuated more than 20 dB below the limit was not be recorded.

30MHz-1GHz(5150-5250MHz Band): 802.11n20 (worst case)
Low Channel: 5180 MHz

Common Information

Project No:	RKSA240328001
Test Mode:	5G WIFI Transmitting in 802.11n20 mode low channel
Standard:	FCC Part 15.205 & FCC Part 15.209 & FCC part 15.407
Test Engineer:	Leah Li



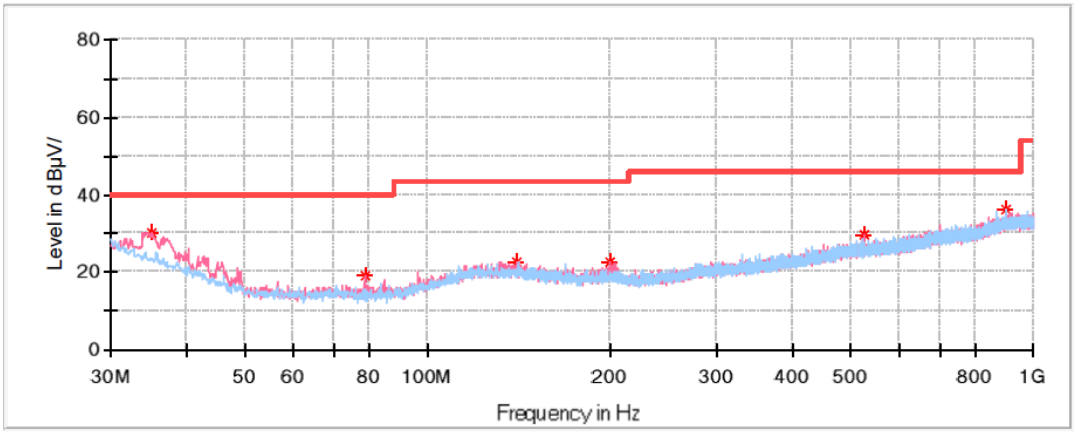
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
34.243750	30.72	40.00	9.28	V	-7.3
66.860000	17.74	40.00	22.26	H	-17.0
135.123750	23.23	43.50	20.27	V	-11.5
200.841250	23.13	43.50	20.37	V	-12.6
533.430000	28.44	46.00	17.56	V	-5.4
921.430000	36.03	46.00	9.97	V	1.4

Middle Channel: 5200 MHz

Common Information

Project No:	RKSA240328001
Test Mode:	5G WIFI Transmitting in 802.11n20 mode middle channel
Standard:	FCC Part 15.205 & FCC Part 15.209 & FCC part 15.407
Test Engineer:	Leah Li



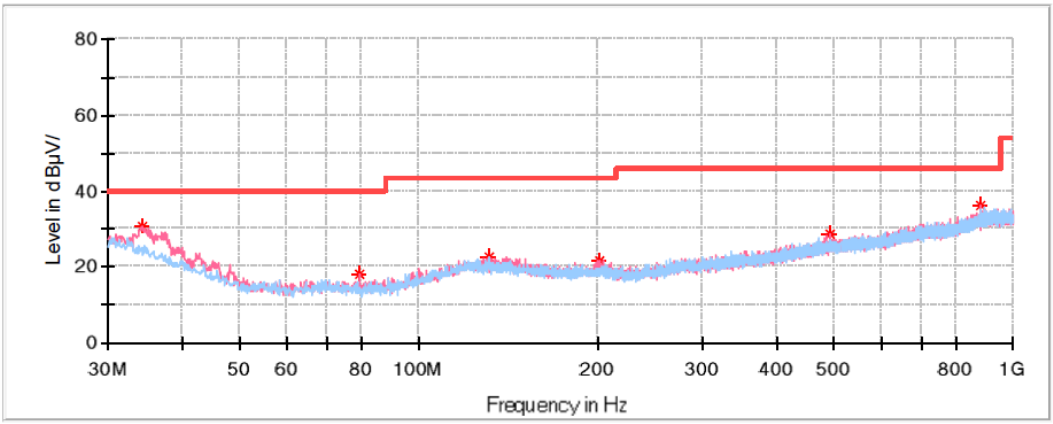
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
35.092500	30.38	40.00	9.62	V	-7.9
78.621250	18.89	40.00	21.11	V	-17.5
140.580000	22.69	43.50	20.81	V	-11.6
199.507500	22.58	43.50	20.92	V	-12.5
525.548750	29.52	46.00	16.48	V	-5.5
901.787500	36.22	46.00	9.78	H	1.3

High Channel: 5240 MHz

Common Information

Project No:	RKSA240328001
Test Mode:	5G WIFI Transmitting in 802.11n20 mode high channel
Standard:	FCC Part 15.205 & FCC Part 15.209 & FCC part 15.407
Test Engineer:	Leah Li



Critical_Freqs

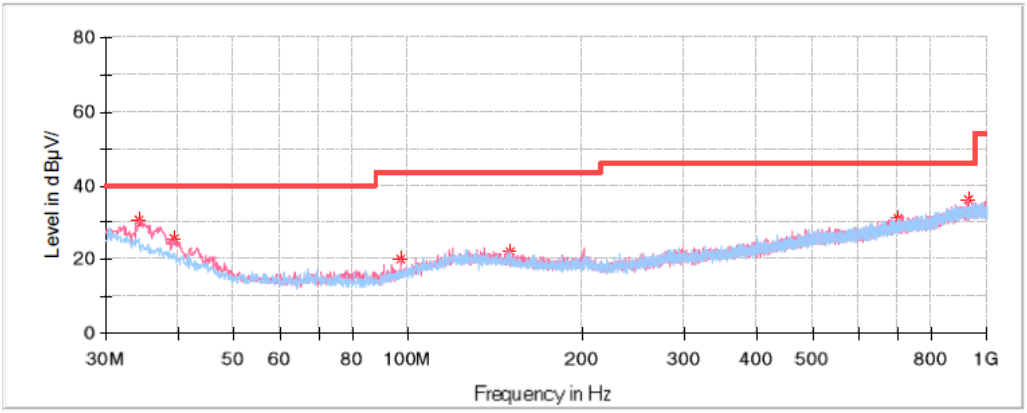
Frequency (MHz)	MaxPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
34.243750	30.84	40.00	9.16	V	-7.3
79.591250	18.36	40.00	21.64	V	-17.5
130.880000	22.84	43.50	20.66	H	-11.4
201.568750	21.75	43.50	21.75	V	-12.6
492.811250	28.65	46.00	17.35	V	-6.0
881.538750	36.22	46.00	9.78	V	0.8

30MHz-1GHz(5725-5850MHz Band): 802.11ac80 (worst case)

Middle Channel: 5775 MHz

Common Information

Project No:	RKSA240328001
Test Mode:	5G WIFI Transmitting in 802.11ac80
Standard:	FCC Part 15.205 & FCC Part 15.209 & FCC part 15.407
Test Engineer:	Leah Li



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
34.243750	30.72	40.00	9.28	V	-7.3
39.457500	25.60	40.00	14.40	V	-10.9
96.808750	20.36	43.50	23.14	V	-15.5
150.037500	22.22	43.50	21.28	H	-12.1
703.058750	31.01	46.00	14.99	H	-2.4
928.098750	36.01	46.00	9.99	V	1.4

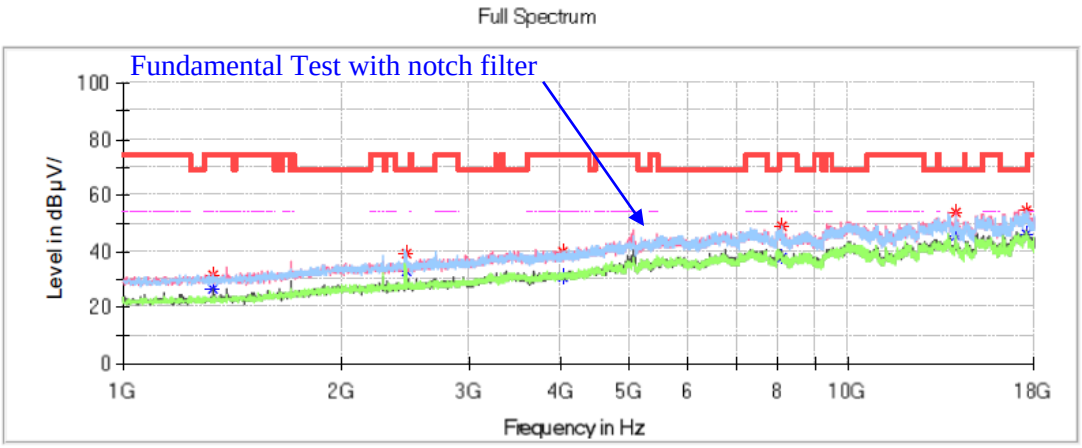
1GHz-18GHz(5150-5250MHz Band):

802.11a Mode:

Low Channel: 5180MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11a mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



Critical_Freqs

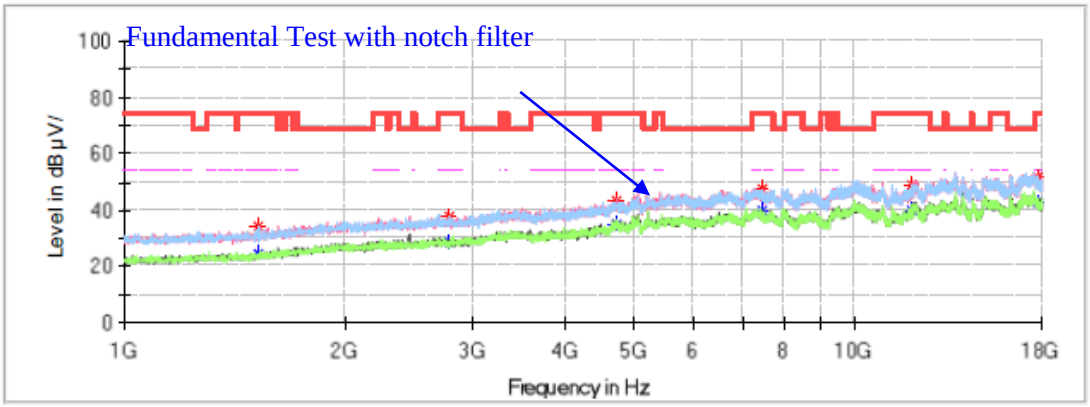
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1328.100000	---	26.36	54.00	27.64	V	-14.5
1328.100000	31.44	---	74.00	42.56	V	-14.5
2456.900000	39.29	---	68.20	28.91	V	-9.8
4029.400000	---	30.66	54.00	23.34	H	-5.0
4029.400000	39.64	---	74.00	34.36	H	-5.0
8089.000000	---	37.71	54.00	16.29	H	3.8
8089.000000	48.99	---	74.00	25.01	H	3.8
14005.000000	53.72	---	68.20	14.48	H	10.5
17558.000000	54.79	---	68.20	13.41	H	13.4

Middle Channel: 5200MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11a mode of middle channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

Full Spectrum



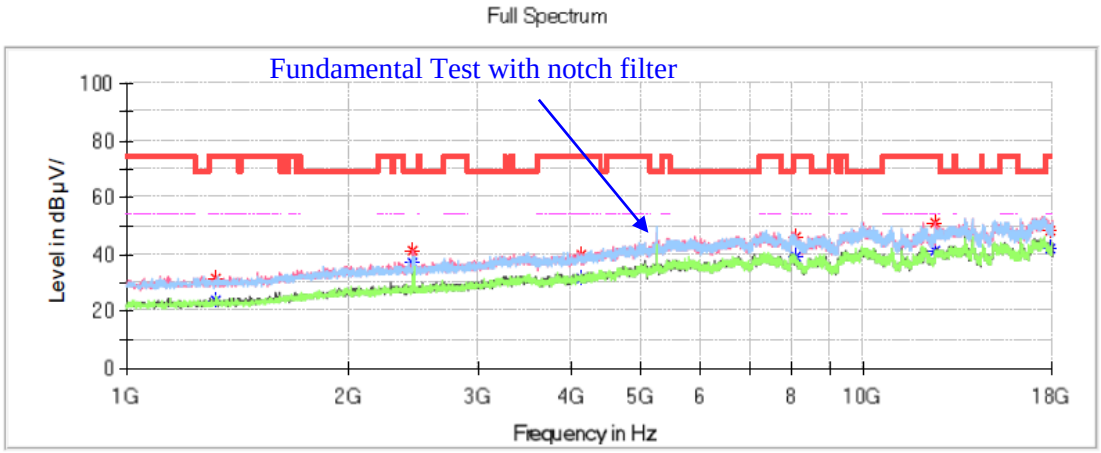
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1528.700000	33.94	---	74.00	40.06	H	-13.7
1528.700000	---	24.22	54.00	29.78	H	-13.7
2785.000000	37.53	---	74.00	36.47	H	-8.8
2785.000000	---	28.78	54.00	25.22	H	-8.8
4704.300000	43.62	---	74.00	30.38	V	-2.7
4704.300000	---	35.25	54.00	18.75	V	-2.7
7444.700000	47.35	---	74.00	26.65	V	4.1
7444.700000	---	39.91	54.00	14.09	V	4.1
11946.300000	48.90	---	74.00	25.10	V	6.9
11946.300000	---	39.69	54.00	14.31	V	6.9
17794.300000	---	42.89	54.00	11.11	V	12.4
17794.300000	51.85	---	74.00	22.15	V	12.4

High Channel: 5240MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11a mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1319.600000	31.28	---	74.00	42.72	V	-14.5
1319.600000	---	23.66	54.00	30.34	V	-14.5
2450.100000	40.94	---	68.20	27.26	V	-9.8
4128.000000	40.06	---	74.00	33.94	H	-4.7
4128.000000	---	31.27	54.00	22.73	H	-4.7
8068.600000	46.12	---	74.00	27.88	V	3.8
8068.600000	---	39.12	54.00	14.88	V	3.8
12512.400000	50.73	---	74.00	23.27	V	8.5
12512.400000	---	41.09	54.00	12.91	V	8.5
17855.500000	48.39	---	74.00	25.61	H	12.1
17855.500000	---	42.26	54.00	11.74	H	12.1

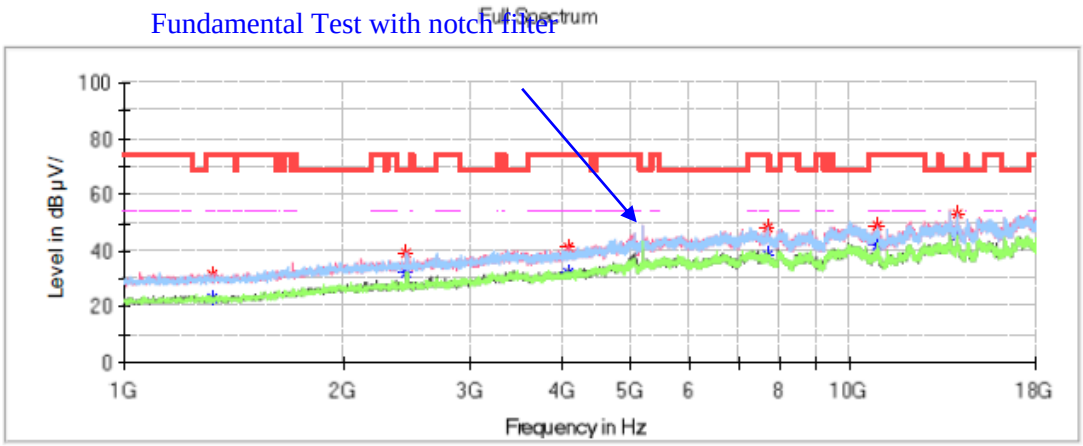
802.11ac20 Mode:

Low Channel: 5180MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac20 mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

Fundamental Test with notch filter



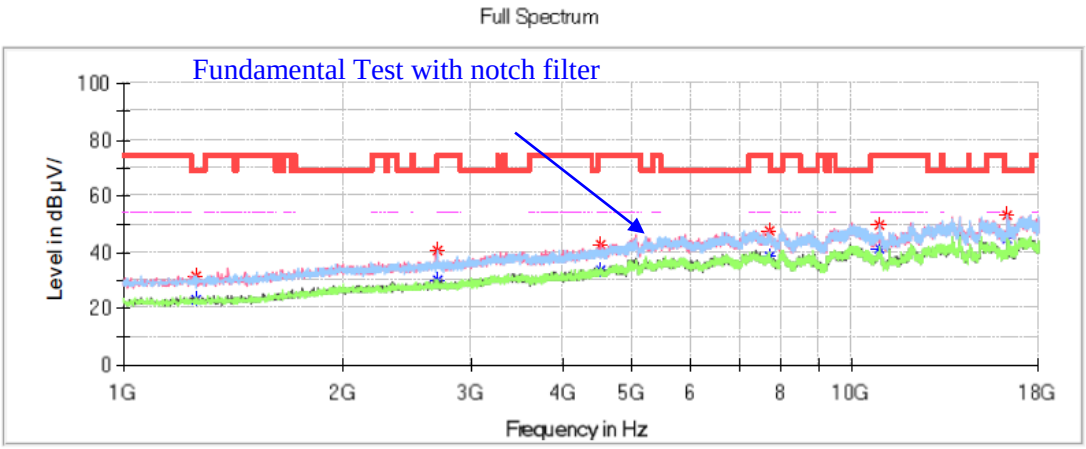
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1319.600000	---	23.23	54.00	30.77	V	-14.5
1319.600000	31.64	---	74.00	42.36	V	-14.5
2450.100000	39.21	---	68.20	28.99	V	-9.8
4082.100000	---	31.98	54.00	22.02	V	-4.8
4082.100000	41.34	---	74.00	32.66	V	-4.8
7687.800000	---	38.66	54.00	15.34	H	4.1
7687.800000	48.43	---	74.00	25.57	H	4.1
10865.100000	---	42.23	54.00	11.77	V	6.6
10865.100000	49.19	---	74.00	24.81	V	6.6
14001.600000	53.49	---	68.20	14.71	V	10.5

Middle Channel: 5200MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac20 mode of middle channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



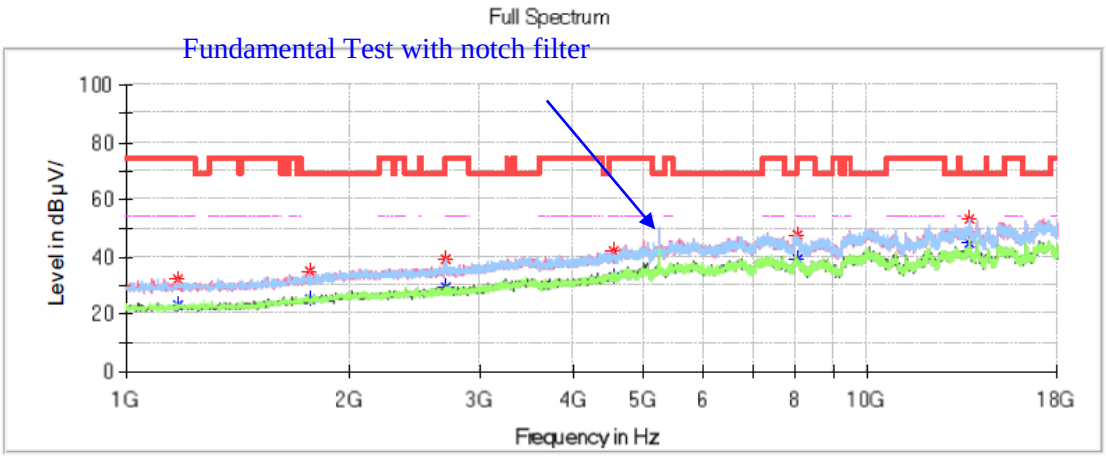
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1256.700000	31.66	---	68.20	36.54	H	-14.7
2698.300000	40.59	---	74.00	33.41	H	-9.1
2698.300000	---	29.78	54.00	24.22	H	-9.1
4510.500000	42.86	---	74.00	31.14	V	-3.7
4510.500000	---	33.80	54.00	20.20	V	-3.7
7699.700000	---	38.30	54.00	15.70	V	4.0
7699.700000	47.53	---	74.00	26.47	V	4.0
10866.800000	---	40.96	54.00	13.04	V	6.6
10866.800000	49.47	---	74.00	24.53	V	6.6
16305.100000	53.29	---	68.20	14.91	H	9.7

High Channel: 5240MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac20 mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



Critical_Freqs

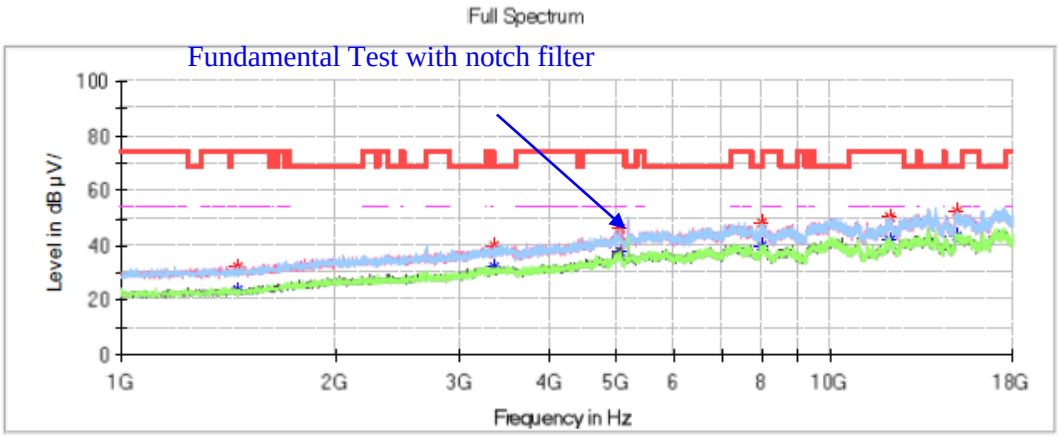
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1176.800000	---	23.32	54.00	30.68	V	-15.0
1176.800000	31.97	---	74.00	42.03	V	-15.0
1766.700000	35.15	---	68.20	33.05	V	-12.1
2694.900000	---	29.51	54.00	24.49	H	-9.1
2694.900000	39.04	---	74.00	34.96	H	-9.1
4534.300000	---	32.68	54.00	21.32	V	-3.6
4534.300000	41.67	---	74.00	32.33	V	-3.6
8022.700000	47.70	---	68.20	20.50	H	3.8
13683.700000	53.31	---	68.20	14.89	H	10.8

802.11n-HT20 Mode:

Low Channel: 5180MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11n20 mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



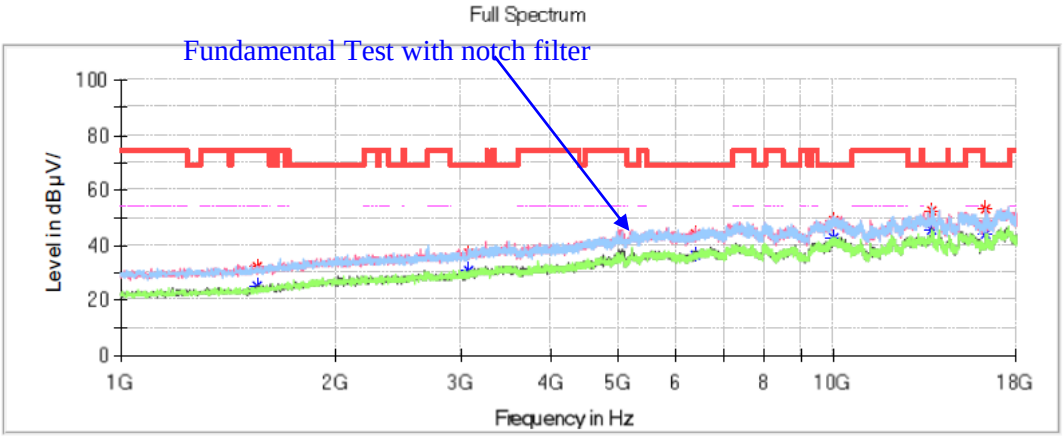
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1462.400000	31.88	---	74.00	42.12	H	-14.0
1462.400000	---	24.03	54.00	29.97	H	-14.0
3354.500000	---	31.94	54.00	22.06	V	-6.7
3354.500000	39.57	---	74.00	34.43	V	-6.7
5061.300000	46.21	---	74.00	27.79	V	-1.0
5061.300000	---	37.75	54.00	16.25	V	-1.0
8009.100000	48.05	---	68.20	20.15	V	3.8
12090.800000	---	41.97	54.00	12.03	H	7.1
12090.800000	50.20	---	74.00	23.80	H	7.1
15050.500000	52.71	---	68.20	15.49	H	10.3

Middle Channel: 5200MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11n20 mode of middle channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



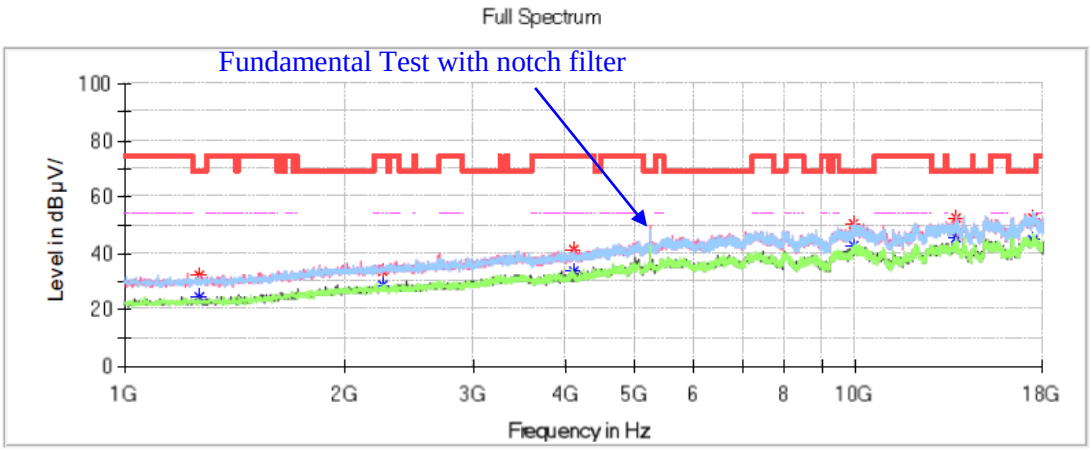
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1557.600000	---	24.94	54.00	29.06	V	-13.5
1557.600000	32.24	---	74.00	41.76	V	-13.5
3067.200000	37.41	---	68.20	30.79	V	-7.8
6389.000000	44.01	---	68.20	24.19	V	0.7
9993.000000	49.06	---	68.20	19.14	V	7.8
13676.900000	52.32	---	68.20	15.88	H	10.8
16315.300000	53.31	---	68.20	14.89	H	9.7

High Channel: 5240MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11n20 mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1266.900000	32.36	---	68.20	35.84	V	-14.7
2251.200000	33.85	---	74.00	40.15	V	-10.2
2251.200000	---	28.50	54.00	25.50	V	-10.2
4107.600000	---	33.47	54.00	20.53	V	-4.8
4107.600000	41.55	---	74.00	32.45	V	-4.8
9942.000000	50.54	---	68.20	17.66	H	7.6
13676.900000	52.62	---	68.20	15.58	H	10.8
17466.200000	52.38	---	68.20	15.82	V	13.5

802.11ac40 Mode:

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
Low Channel: 5190MHz						
1153.000000	---	23.11	54.00	30.89	H	-15.0
1153.000000	32.29	---	74.00	41.71	H	-15.0
2598.000000	37.13	---	68.20	31.07	V	-9.4
5037.500000	---	36.80	54.00	17.20	H	-1.1
5037.500000	46.51	---	74.00	27.49	H	-1.1
10071.200000	49.03	---	68.20	19.17	V	7.7
13676.900000	52.97	---	68.20	15.23	V	10.8
17559.700000	54.28	---	68.20	13.92	V	13.4
High Channel: 5230MHz						
1175.100000	---	24.13	54.00	29.87	H	-15.0
1175.100000	30.61	---	74.00	43.39	H	-15.0
2501.100000	38.00	---	68.20	30.20	V	-9.8
4483.300000	43.35	---	68.20	24.85	V	-3.8
7951.300000	45.48	---	68.20	22.72	V	3.9
9931.800000	49.34	---	68.20	18.86	V	7.6
17314.900000	53.04	---	68.20	15.16	H	13.1

802.11n-HT40 Mode:

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
Low Channel: 5190MHz						
1198.900000	31.09	---	74.00	42.91	V	-14.9
1198.900000	---	24.13	54.00	29.87	V	-14.9
2099.900000	35.97	---	68.20	32.23	V	-10.4
4683.900000	---	34.52	54.00	19.48	V	-2.8
4683.900000	43.07	---	74.00	30.93	V	-2.8
6917.700000	45.47	---	68.20	22.73	V	3.3
9976.000000	49.51	---	68.20	18.69	V	7.7
17493.400000	53.24	---	68.20	14.96	H	13.6
High Channel: 5230MHz						
1394.400000	---	23.08	54.00	30.92	V	-14.3
1394.400000	33.98	---	74.00	40.02	V	-14.3
2693.200000	---	28.52	54.00	25.48	H	-9.1
2693.200000	39.08	---	74.00	34.92	H	-9.1
5049.400000	---	37.45	54.00	16.55	V	-1.0
5049.400000	46.22	---	74.00	27.78	V	-1.0
9454.100000	---	42.10	54.00	11.90	H	6.0
9454.100000	47.26	---	74.00	26.74	H	6.0
13678.600000	51.67	---	68.20	16.53	V	10.8
17530.800000	53.73	---	68.20	14.47	V	13.5

802.11ac80 Mode:

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
Channel: 5210MHz						
1249.900000	31.21	---	68.20	36.99	V	-14.7
2247.800000	---	27.17	54.00	26.83	V	-10.2
2247.800000	36.33	---	74.00	37.67	V	-10.2
5047.700000	---	39.22	54.00	14.78	V	-1.0
5047.700000	46.08	---	74.00	27.92	V	-1.0
7951.300000	46.43	---	68.20	21.77	V	3.9
13306.300000	---	42.44	54.00	11.56	V	10.2
13306.300000	51.85	---	74.00	22.15	V	10.2
17561.400000	53.55	---	68.20	14.65	V	13.4

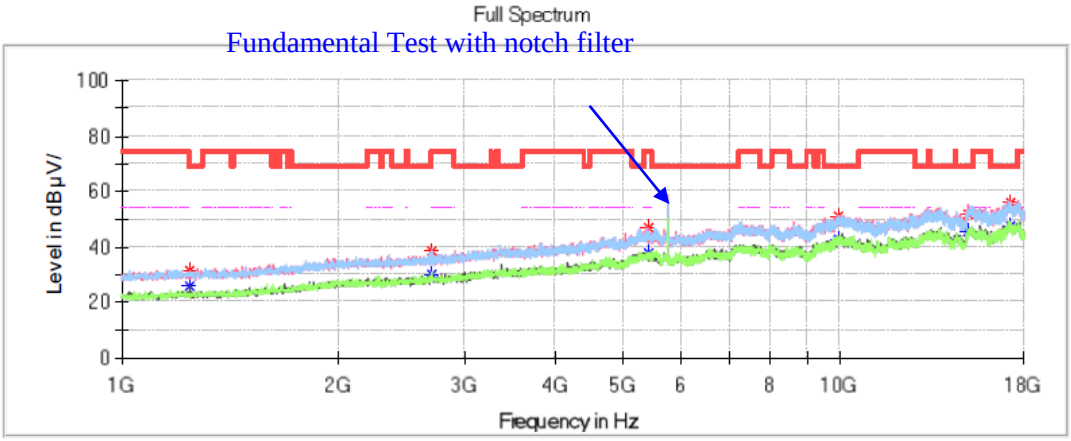
1GHz-18GHz(5725-5850MHz Band):

802.11a Mode:

Low Channel: 5745MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11a mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



Critical_Freqs

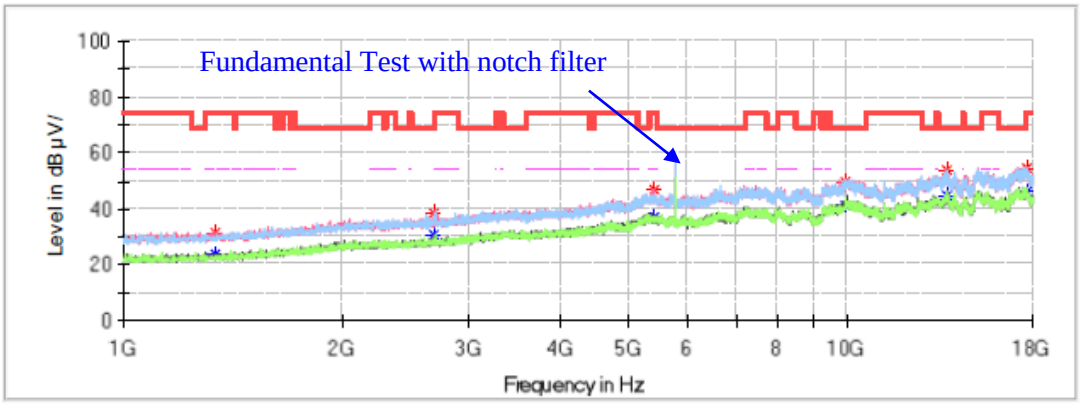
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1243.100000	31.44	---	68.20	36.76	V	-14.7
2691.500000	---	29.87	54.00	24.13	V	-9.1
2691.500000	38.78	---	74.00	35.22	V	-9.1
5397.900000	---	38.04	54.00	15.96	V	0.4
5397.900000	47.05	---	74.00	26.95	V	0.4
9894.400000	51.27	---	68.20	16.93	V	7.5
15081.100000	52.07	---	68.20	16.13	H	10.4
17194.200000	56.12	---	68.20	12.08	H	12.8

Middle Channel: 5785MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11a mode of middle channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

Full Spectrum



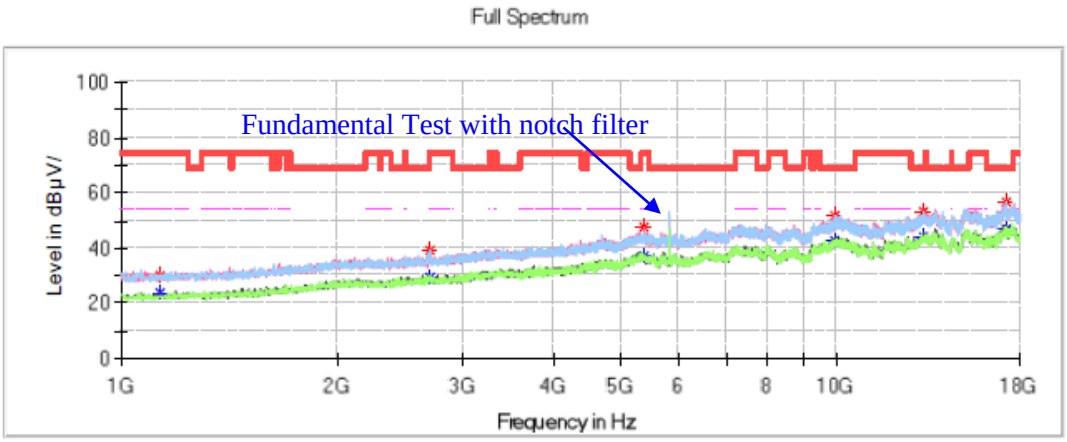
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1341.700000	---	24.12	54.00	29.88	V	-14.4
1341.700000	31.72	---	74.00	42.28	V	-14.4
2686.400000	38.49	---	68.20	29.71	V	-9.1
5399.600000	---	36.82	54.00	17.18	V	0.4
5399.600000	46.69	---	74.00	27.31	V	0.4
9919.900000	49.89	---	68.20	18.31	V	7.6
13738.100000	54.02	---	68.20	14.18	H	10.8
17660.000000	54.82	---	68.20	13.38	H	13.0

High Channel: 5825MHz

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11a mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1132.600000	---	24.09	54.00	29.91	V	-15.1
1132.600000	30.35	---	74.00	43.65	V	-15.1
2693.200000	---	29.18	54.00	24.82	V	-9.1
2693.200000	39.11	---	74.00	34.89	V	-9.1
5379.200000	---	37.40	54.00	16.60	V	0.3
5379.200000	47.44	---	74.00	26.56	V	0.3
9930.100000	51.87	---	68.20	16.33	H	7.6
13238.300000	53.45	---	68.20	14.75	H	10.0
17243.500000	56.75	---	68.20	11.45	H	13.0

802.11ac20 Mode:

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
Low Channel: 5745MHz						
1146.200000	---	20.81	54.00	33.19	V	-15.1
1146.200000	30.46	---	74.00	43.54	V	-15.1
2694.900000	---	28.43	54.00	25.57	H	-9.1
2694.900000	39.14	---	74.00	34.86	H	-9.1
5374.100000	---	37.20	54.00	16.80	V	0.3
5374.100000	46.80	---	74.00	27.20	V	0.3
9948.800000	50.62	---	68.20	17.58	V	7.6
13676.900000	52.92	---	68.20	15.28	H	10.8
17597.100000	55.11	---	68.20	13.09	V	13.2
Middle Channel: 5785MHz						
1178.500000	---	21.63	54.00	32.37	V	-15.0
1178.500000	29.82	---	74.00	44.18	V	-15.0
2686.400000	36.41	---	68.20	31.79	V	-9.1
4558.100000	---	31.93	54.00	22.07	H	-3.5
4558.100000	43.63	---	74.00	30.37	H	-3.5
9996.400000	50.90	---	68.20	17.30	V	7.8
13682.000000	53.73	---	68.20	14.47	H	10.8
17614.100000	54.03	---	68.20	14.17	V	13.1
High Channel: 5825MHz						
1224.400000	---	22.51	54.00	31.49	V	-14.8
1224.400000	31.84	---	74.00	42.16	V	-14.8
2504.500000	36.21	---	68.20	31.99	V	-9.7
5389.400000	---	36.13	54.00	17.87	H	0.4
5389.400000	47.42	---	74.00	26.58	H	0.4
9981.100000	49.36	---	68.20	18.84	H	7.8
13676.900000	52.73	---	68.20	15.47	V	10.8
17420.300000	53.33	---	68.20	14.87	V	13.4

802.11n-HT20 Mode:

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
Low Channel: 5745MHz						
1122.400000	---	22.51	54.00	31.49	V	-15.1
1122.400000	28.11	---	74.00	45.89	V	-15.1
2589.500000	36.07	---	68.20	32.13	V	-9.4
5396.200000	---	37.25	54.00	16.75	H	0.4
5396.200000	46.36	---	74.00	27.64	H	0.4
10028.700000	51.23	---	68.20	16.97	V	7.8
13678.600000	53.29	---	68.20	14.91	V	10.8
17581.800000	53.26	---	68.20	14.94	V	13.3
Middle Channel: 5785MHz						
1217.600000	---	21.95	54.00	32.05	V	-14.8
1217.600000	30.80	---	74.00	43.20	V	-14.8
2698.300000	---	30.27	54.00	23.73	H	-9.1
2698.300000	35.64	---	74.00	38.36	H	-9.1
5377.500000	---	38.42	54.00	15.58	V	0.3
5377.500000	47.55	---	74.00	26.45	V	0.3
9991.300000	50.07	---	68.20	18.13	V	7.8
13685.400000	53.25	---	68.20	14.95	H	10.8
17620.900000	52.96	---	68.20	15.24	V	13.1
High Channel: 5825MHz						
1438.600000	---	23.43	54.00	30.57	V	-14.1
1438.600000	32.54	---	74.00	41.46	V	-14.1
2688.100000	38.34	---	68.20	29.86	H	-9.1
4648.200000	42.03	---	74.00	31.97	H	-3.0
4648.200000	---	34.07	54.00	19.93	H	-3.0
9952.200000	50.24	---	68.20	17.96	V	7.7
13680.300000	52.00	---	68.20	16.20	V	10.8
17600.500000	54.11	---	68.20	14.09	V	13.2

802.11ac40 Mode:

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
Low Channel: 5755MHz						
1129.200000	---	23.23	54.00	30.77	V	-15.1
1129.200000	30.91	---	74.00	43.09	V	-15.1
2688.100000	36.93	---	68.20	31.27	V	-9.1
5374.100000	---	36.96	54.00	17.04	H	0.3
5374.100000	45.79	---	74.00	28.21	H	0.3
8400.100000	---	37.18	54.00	16.82	V	3.9
8400.100000	47.46	---	74.00	26.54	V	3.9
13676.900000	51.89	---	68.20	16.31	H	10.8
17546.100000	54.53	---	68.20	13.67	V	13.4
High Channel: 5795MHz						
1217.600000	---	22.72	54.00	31.28	H	-14.8
1217.600000	31.29	---	74.00	42.71	H	-14.8
2443.300000	36.41	---	68.20	31.79	V	-9.9
4049.800000	---	32.65	54.00	21.35	H	-4.9
4049.800000	40.96	---	74.00	33.04	H	-4.9
7344.400000	---	37.59	54.00	16.41	V	4.1
7344.400000	48.28	---	74.00	25.72	V	4.1
10173.200000	51.12	---	68.20	17.08	V	7.6
17187.400000	53.70	---	68.20	14.50	V	12.8

802.11n-HT40 Mode:

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
Low Channel: 5755MHz						
1153.000000	---	22.31	54.00	31.69	V	-15.0
1153.000000	32.12	---	74.00	41.88	V	-15.0
2489.200000	---	29.54	54.00	24.46	V	-9.8
2489.200000	36.11	---	74.00	37.89	V	-9.8
5394.500000	---	37.09	54.00	16.91	H	0.4
5394.500000	46.04	---	74.00	27.96	H	0.4
9489.800000	---	39.24	54.00	14.76	V	6.2
9489.800000	49.41	---	74.00	24.59	V	6.2
13678.600000	53.05	---	68.20	15.15	V	10.8
17534.200000	53.15	---	68.20	15.05	H	13.5
High Channel: 5795MHz						
1173.400000	---	22.32	54.00	31.68	V	-15.0
1173.400000	32.16	---	74.00	41.84	V	-15.0
2438.200000	37.54	---	68.20	30.66	H	-9.9
5377.500000	---	38.52	54.00	15.48	V	0.3
5377.500000	46.61	---	74.00	27.39	V	0.3
9447.300000	---	39.27	54.00	14.73	H	6.0
9447.300000	48.70	---	74.00	25.30	H	6.0
13676.900000	51.67	---	68.20	16.53	V	10.8

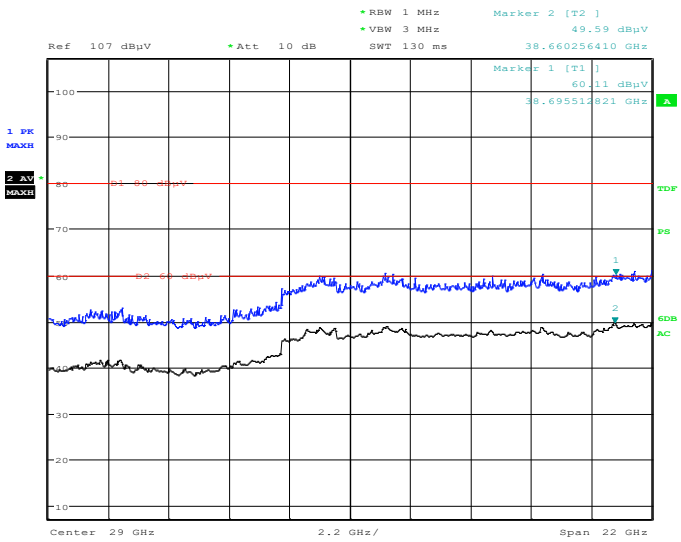
802.11ac80 Mode:

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
Middle Channel: 5775MHz						
1139.400000	---	21.67	54.00	32.33	V	-15.1
1139.400000	31.01	---	74.00	42.99	V	-15.1
2276.700000	---	31.58	54.00	22.42	H	-10.1
2276.700000	36.21	---	74.00	37.79	H	-10.1
5244.900000	45.75	---	68.20	22.45	V	-0.2
9705.700000	49.70	---	68.20	18.50	V	6.9
13678.600000	52.33	---	68.20	15.87	H	10.8
17168.700000	54.75	---	68.20	13.45	V	12.8

18GHz-40GHz:

Pre-scan with 802.11a, 802.11ac20, 802.11n-HT20, 802.11ac40, 802.11n-HT40, 802.11 ac80 modes of operation in the X,Y and Z axes of orientation, the worst case ***802.11n20 mode (5180MHz)*** *was recorded*

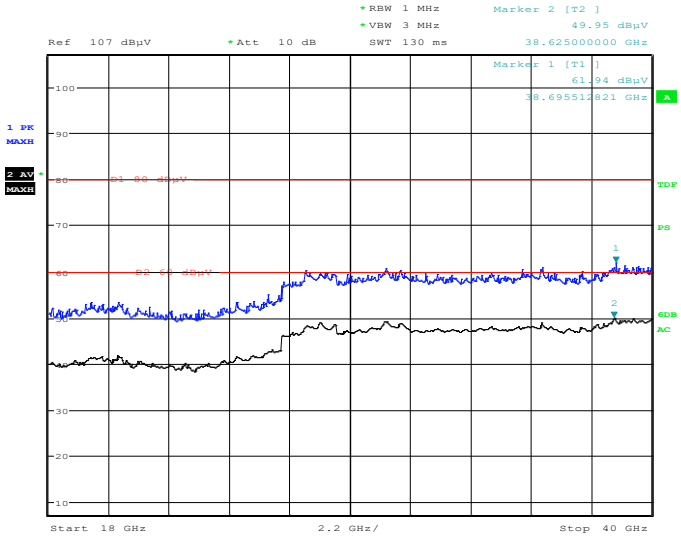
Horizontal



Project No : RKSA240328001 Tester :Hugh Wu

Date: 14.JUN.2024 12:08:34

Vertical



Project No : RKSA240328001 Tester :Hugh Wu

Date: 14.JUN.2024 12:25:44

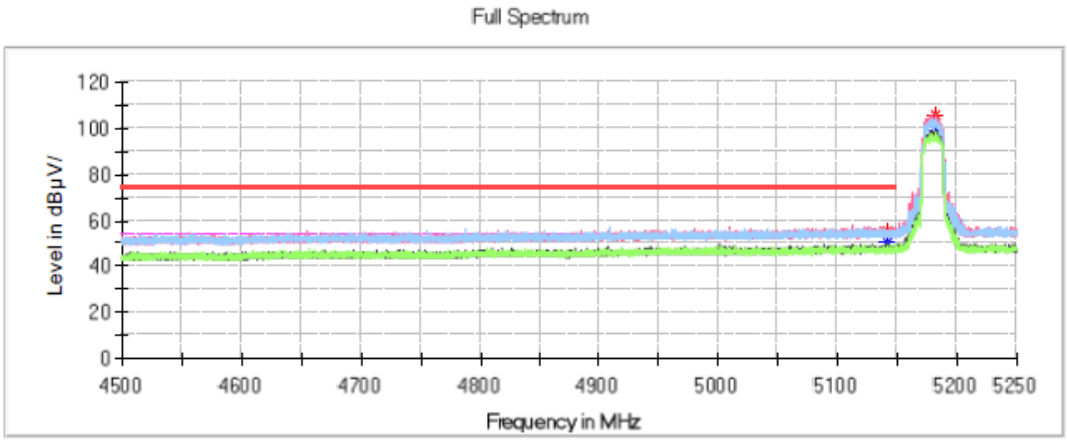
Note: The test distance is 1.5m. The limit is 80dBµV/m(Peak) and 60dBµV/m(Average).

Restricted Bands Emissions Test (5150-5250MHz Band):

802.11a Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11a mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

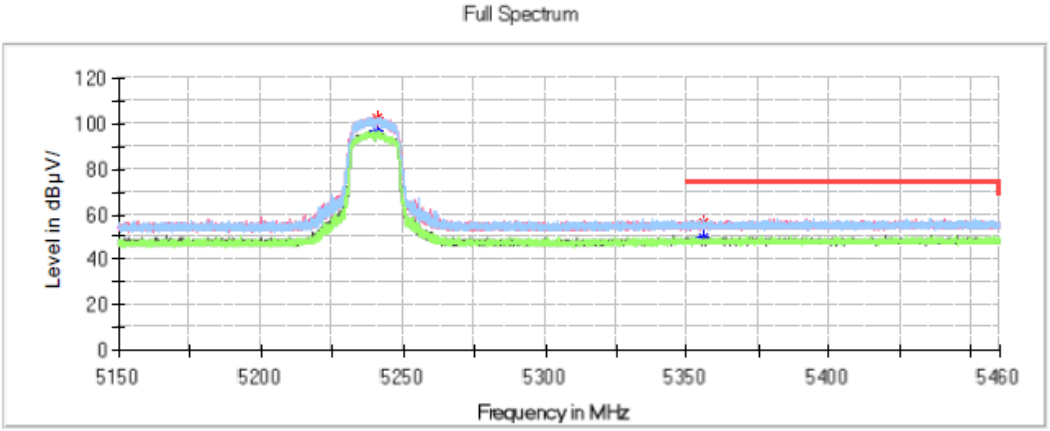


Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5141.250000	55.68	---	74.00	18.32	V	9.4
5141.250000	---	50.01	54.00	3.99	V	9.4

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11a mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



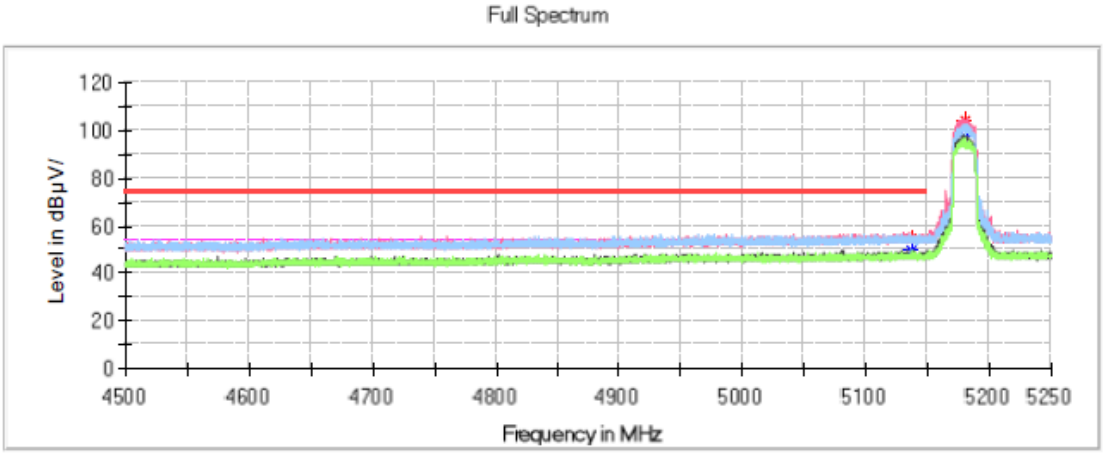
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5355.654000	---	49.73	54.00	4.27	V	10.2
5355.654000	56.26	---	74.00	17.74	V	10.2

802.11ac20 Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac20 mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



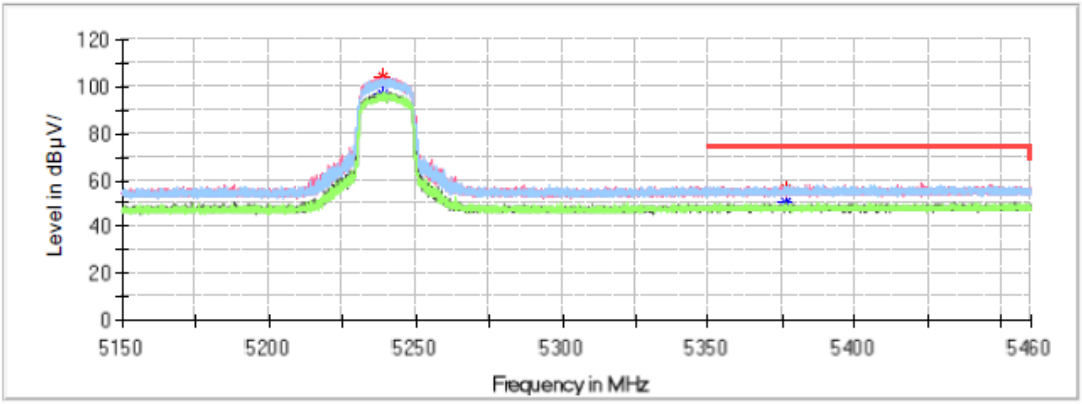
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5136.975000	54.81	---	74.00	19.19	H	9.4
5136.975000	---	49.68	54.00	4.32	H	9.4

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac20 mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

Full Spectrum



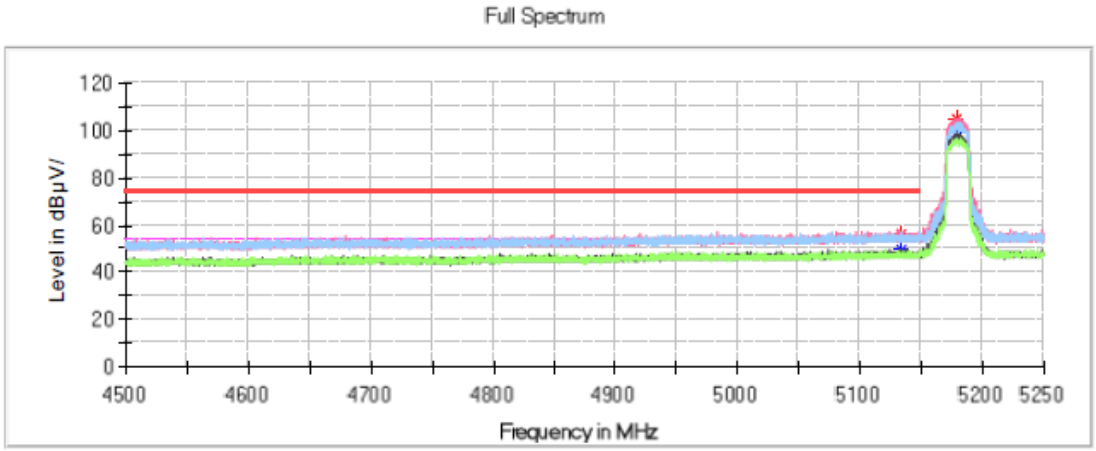
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5376.269000	---	50.66	54.00	3.34	V	10.3
5376.269000	56.60	---	74.00	17.40	V	10.3

802.11n-HT20 Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11n20 mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



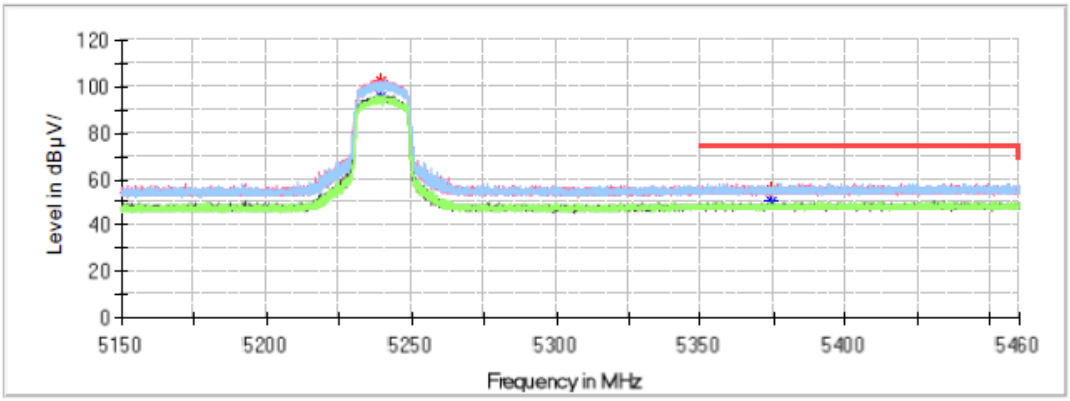
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5133.450000	56.64	---	74.00	17.36	V	9.3
5133.450000	---	49.80	54.00	4.20	V	9.3

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11n20 mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

Full Spectrum



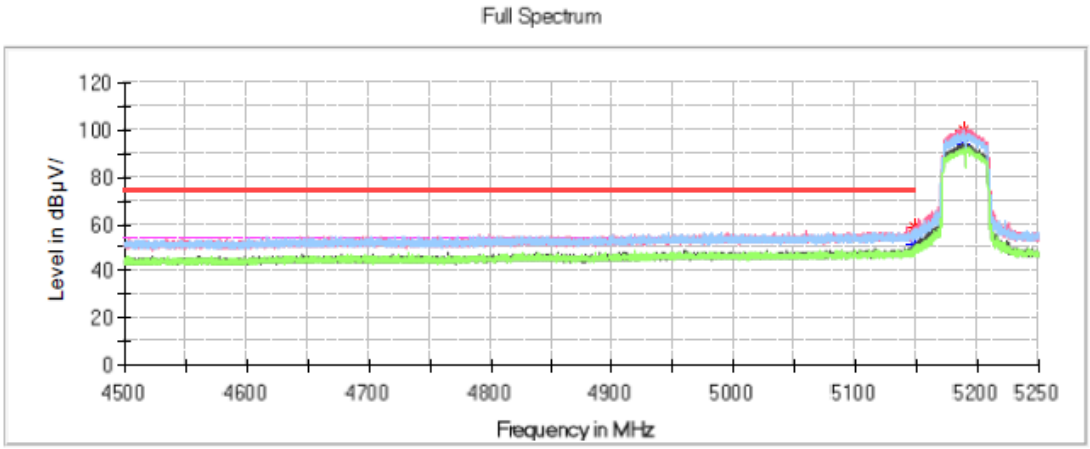
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5374.781000	---	50.48	54.00	3.52	H	10.3
5374.781000	55.46	---	74.00	18.54	H	10.3

802.11ac40 Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac40 mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



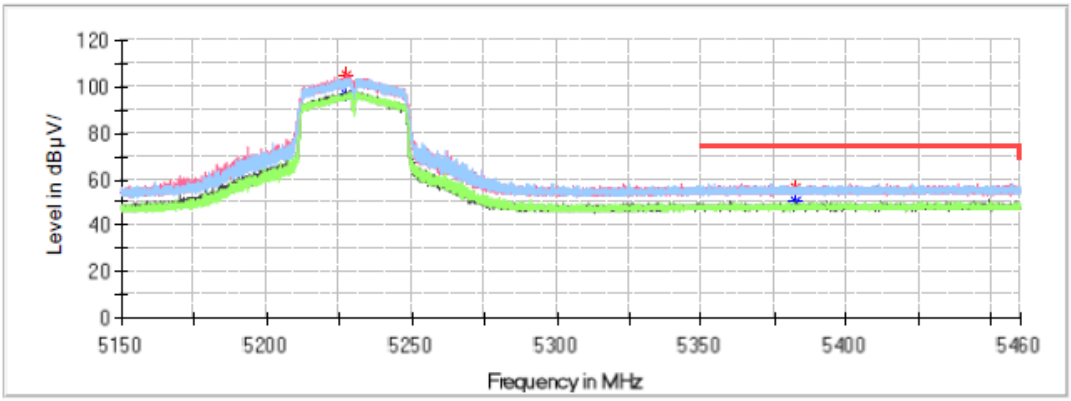
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5148.450000	---	51.31	54.00	2.69	V	9.4
5148.450000	59.11	---	74.00	14.89	V	9.4

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac40 mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

Full Spectrum



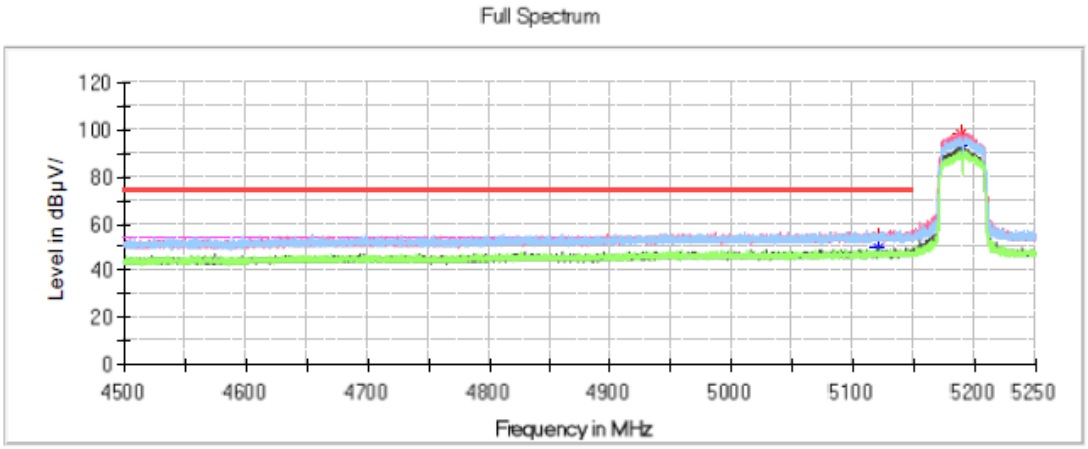
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5382.190000	---	50.15	54.00	3.85	V	10.4
5382.190000	56.54	---	74.00	17.46	V	10.4

802.11n-HT40 Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11n40 mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



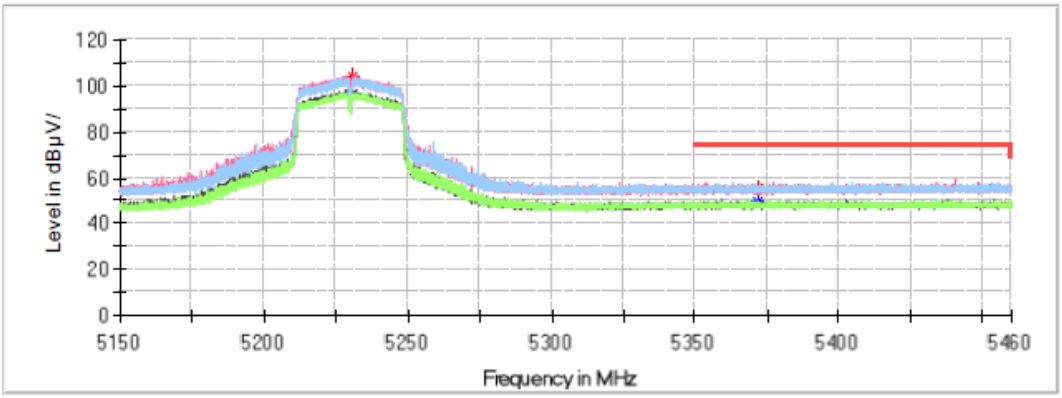
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5120.775000	54.77	---	74.00	19.23	V	9.3
5120.775000	---	49.92	54.00	4.08	V	9.3

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11n40 mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

Full Spectrum



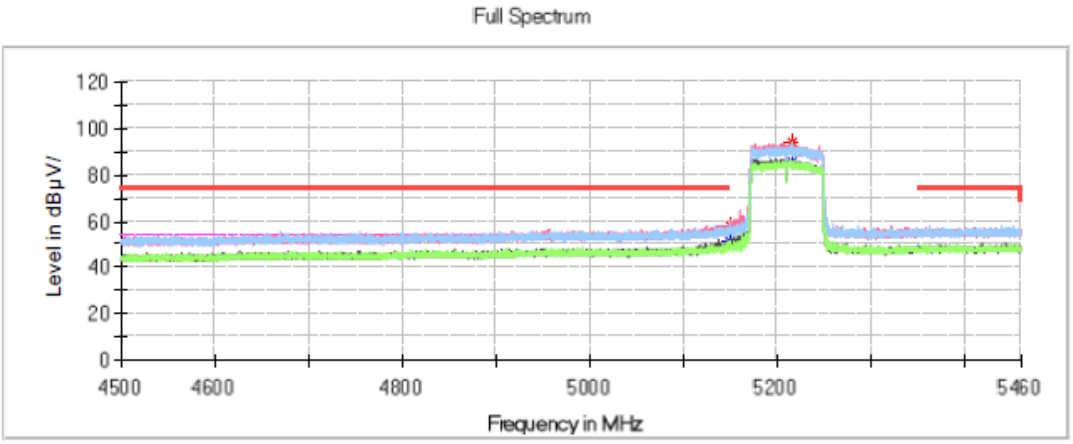
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5372.115000	54.98	---	74.00	19.02	H	10.3
5372.115000	---	49.78	54.00	4.22	H	10.3

802.11ac80 Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac80 mode of middle channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5149.536000	57.67	---	74.00	16.33	H	9.4
5149.536000	---	51.01	54.00	2.99	H	9.4

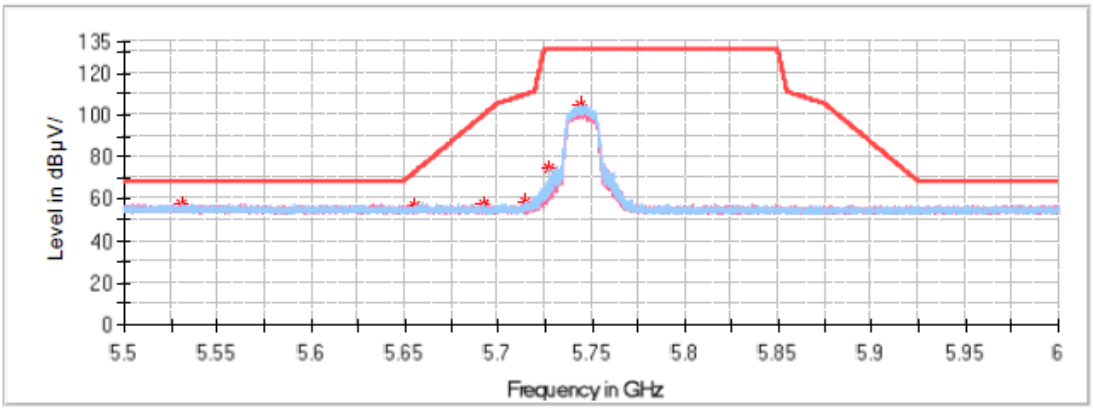
Bandedge Emissions Test (5725-5850MHz Band):

802.11a Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11a mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

Full Spectrum



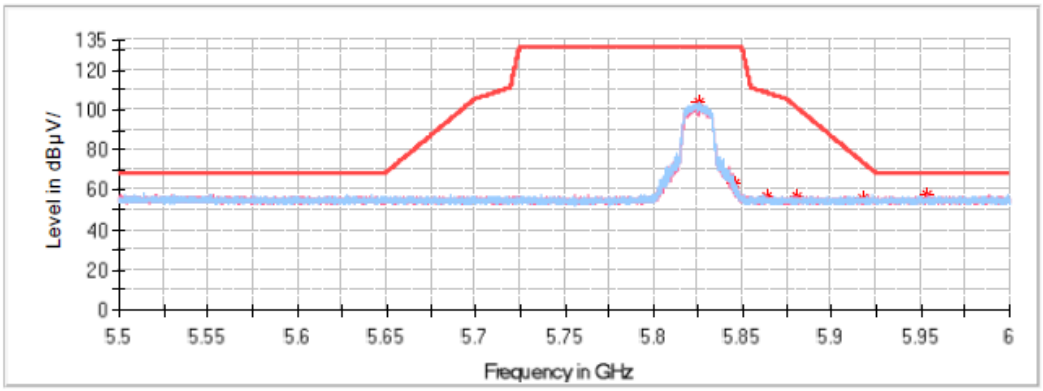
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5530.300000	57.64	---	68.20	10.56	H	10.8
5655.200000	56.81	---	72.05	15.24	H	10.6
5692.650000	57.18	---	99.76	42.58	H	10.6
5715.100000	58.13	---	109.43	51.30	H	10.6

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11a mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

Full Spectrum



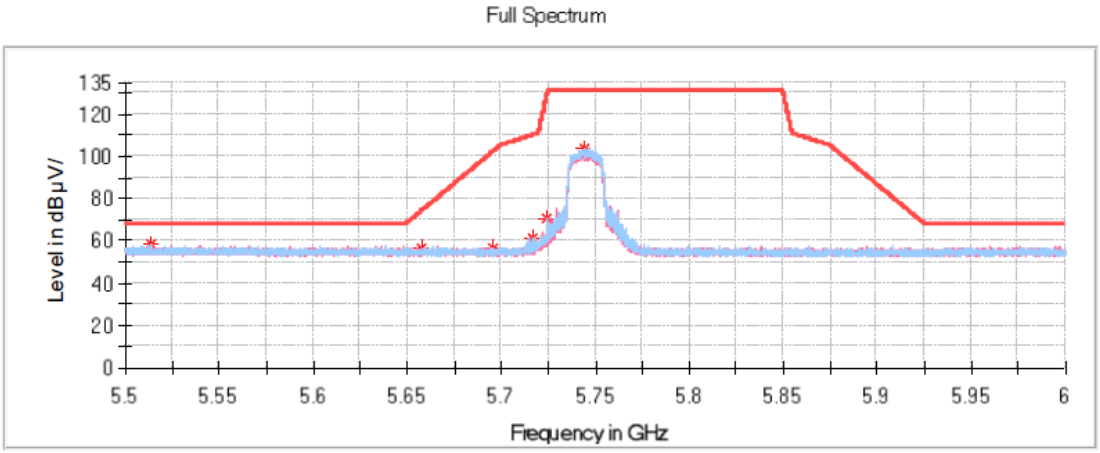
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5863.950000	56.69	---	108.29	51.60	V	10.4
5880.400000	57.06	---	101.20	44.14	V	10.3
5917.800000	56.15	---	73.53	17.38	V	10.3
5953.200000	57.26	---	68.20	10.94	V	10.3

802.11ac20 Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac20 mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

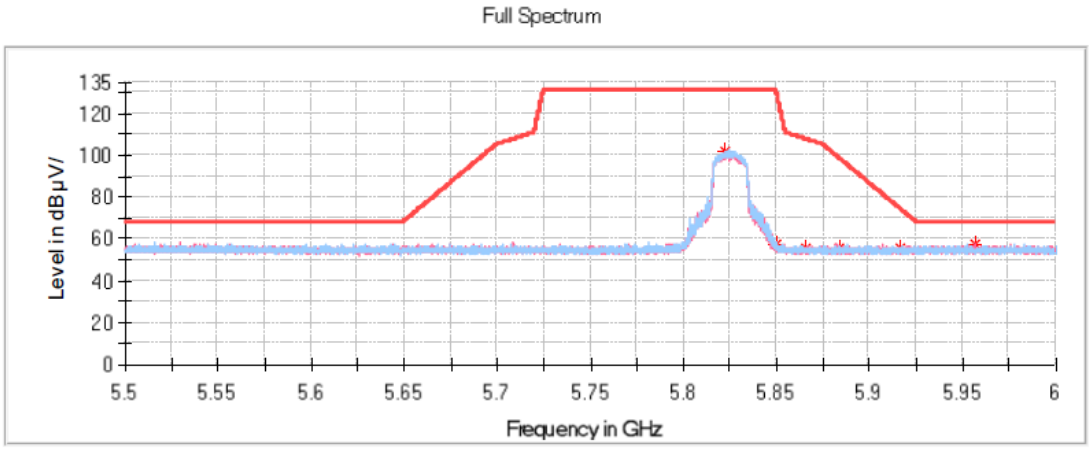


Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5513.900000	58.07	---	68.20	10.13	H	10.8
5657.600000	56.75	---	73.82	17.07	V	10.6
5695.350000	56.85	---	101.76	44.91	V	10.6
5716.750000	61.32	---	109.89	48.57	H	10.6
5724.600000	71.09	---	129.57	58.48	H	10.5

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac20 mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



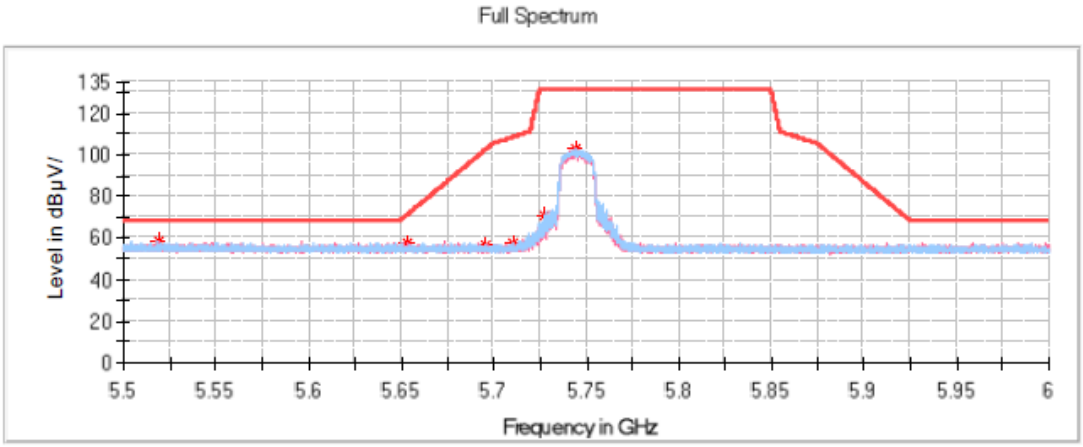
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5850.400000	57.32	---	129.57	72.25	H	10.4
5865.400000	55.55	---	107.89	52.34	H	10.4
5884.100000	55.66	---	98.47	42.81	V	10.3
5916.200000	56.01	---	74.71	18.70	V	10.3
5956.600000	57.69	---	68.20	10.51	V	10.2

802.11n-HT20 Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11n20 mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

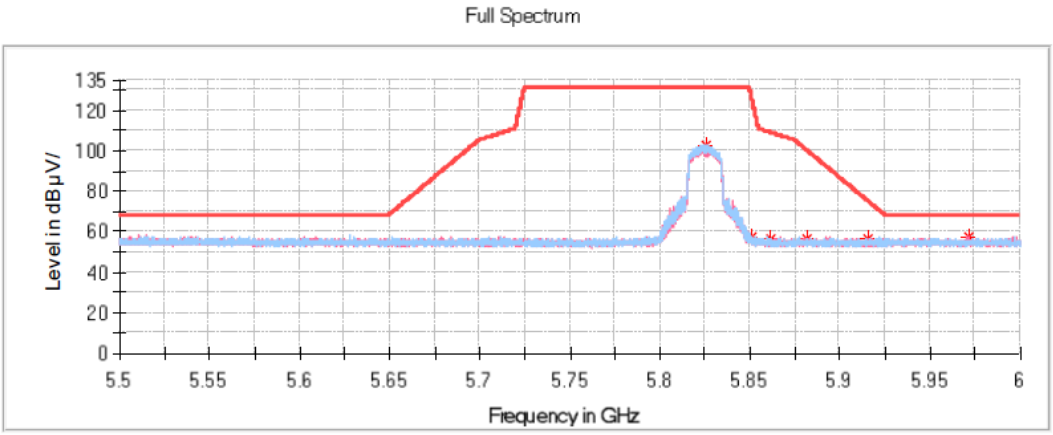


Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5518.900000	58.28	---	68.20	9.92	V	10.8
5653.800000	57.28	---	71.01	13.73	V	10.6
5695.050000	56.20	---	101.54	45.34	H	10.6
5710.200000	58.02	---	108.06	50.04	H	10.6

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11n20 mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



Critical_Freqs

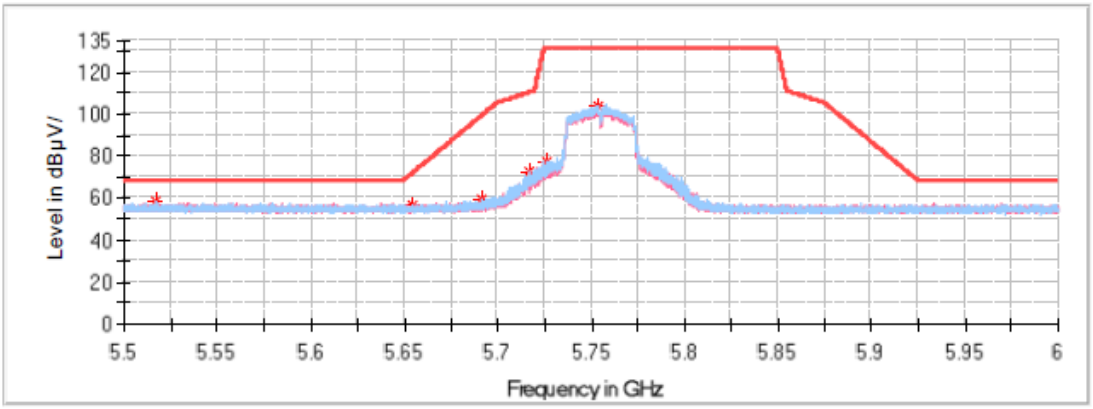
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5850.500000	57.72	---	129.16	71.44	H	10.4
5861.250000	56.27	---	109.05	52.78	H	10.4
5881.250000	56.79	---	100.58	43.78	V	10.3
5915.600000	56.41	---	75.16	18.75	V	10.3
5971.400000	57.19	---	68.20	11.01	V	10.2

802.11ac40 Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac40 mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

Full Spectrum

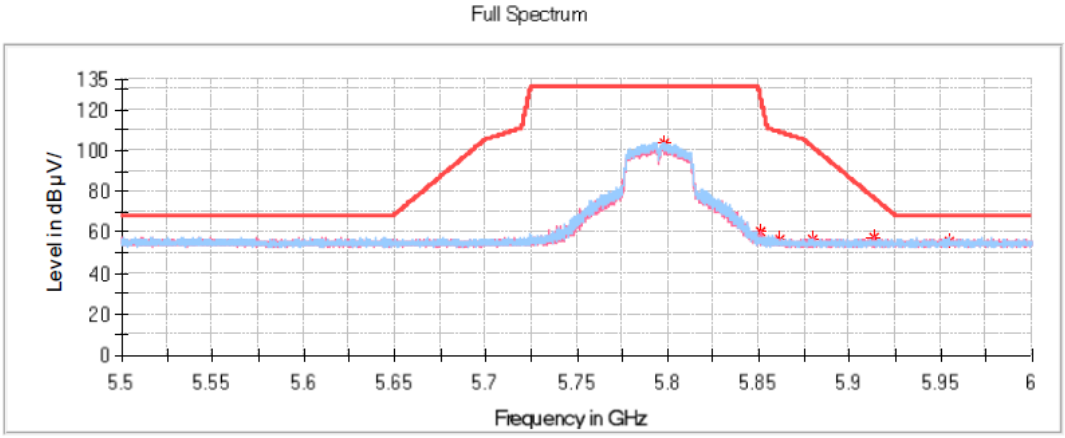


Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5517.000000	58.11	---	68.20	10.09	H	10.8
5654.600000	56.38	---	71.60	15.22	H	10.6
5691.000000	59.66	---	98.54	38.88	H	10.6
5717.100000	72.61	---	109.99	37.38	H	10.6

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac40 mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



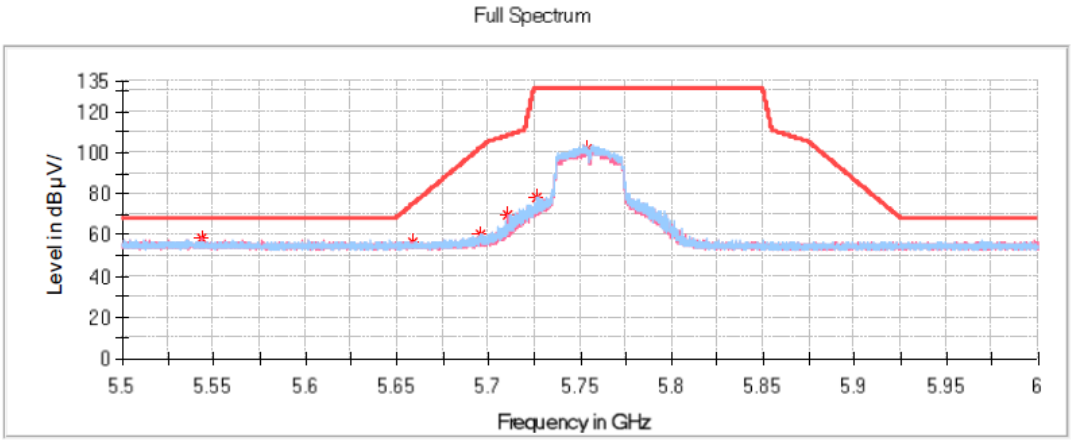
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5850.700000	60.28	---	128.34	68.07	V	10.4
5861.600000	56.31	---	108.95	52.64	V	10.4
5879.800000	56.35	---	101.65	45.29	V	10.3
5913.750000	57.71	---	76.53	18.81	V	10.3
5954.150000	55.50	---	68.20	12.70	H	10.2

802.11n-HT40 Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11n40 mode of low channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

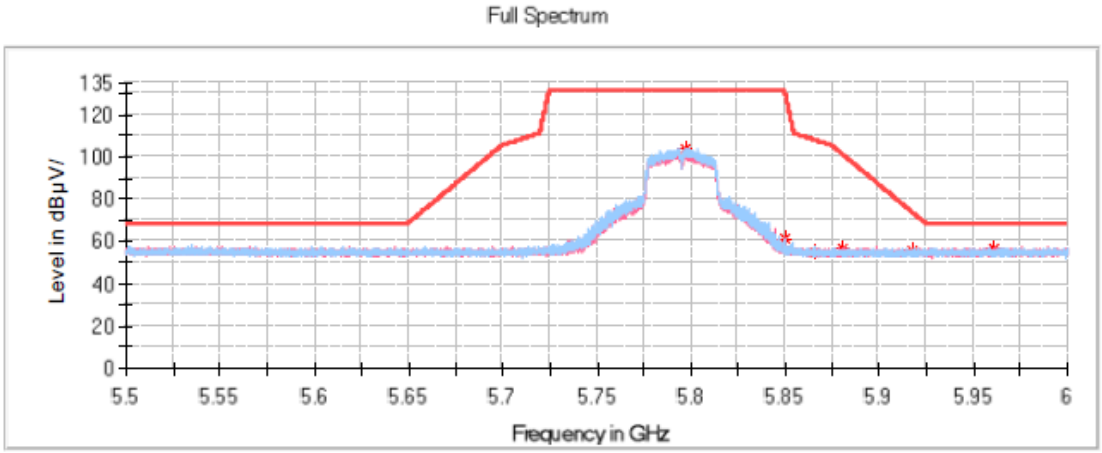


Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5543.500000	58.28	---	68.20	9.92	V	10.8
5658.850000	56.93	---	74.75	17.82	V	10.6
5695.600000	59.98	---	101.94	41.96	H	10.6
5710.850000	69.78	---	108.24	38.46	H	10.6

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11n40 mode of high channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu



Critical_Freqs

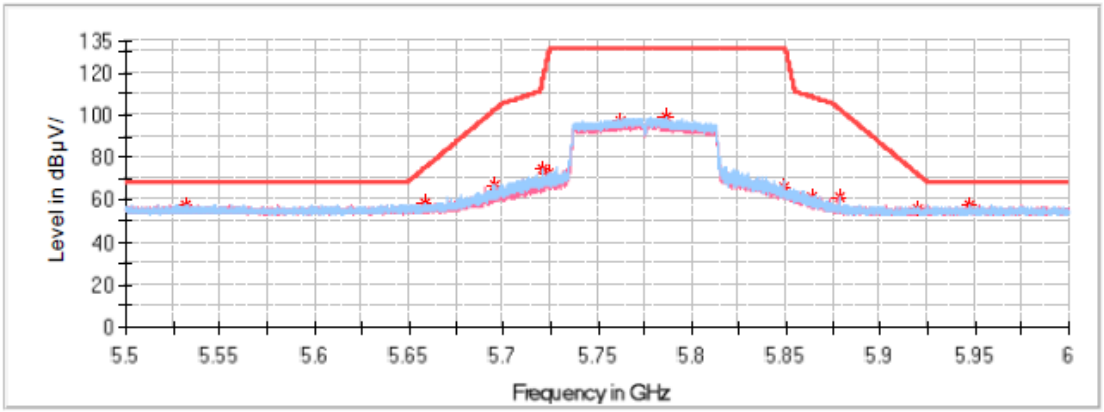
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5865.450000	55.09	---	107.87	52.78	V	10.4
5880.250000	57.04	---	101.32	44.27	V	10.3
5917.150000	56.05	---	74.01	17.96	V	10.3
5960.550000	56.84	---	68.20	11.36	V	10.2

802.11ac80 Mode:

Common Information

Project No.:	RKSA240328001
Test Mode:	5G Wi-Fi 802.11ac80 mode of middle channel
Standard:	FCC Part 15.407 & FCC Part 15.205 & FCC Part 15.209
Test Engineer:	Hugh Wu

Full Spectrum



Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
5531.550000	58.03	---	68.20	10.17	H	10.8
5658.100000	58.10	---	74.19	16.09	H	10.6
5695.450000	67.15	---	101.83	34.68	H	10.6
5720.800000	74.80	---	114.06	39.26	H	10.6
5723.750000	72.92	---	126.10	53.18	H	10.5
5863.950000	61.55	---	108.29	46.74	H	10.4
5878.650000	61.75	---	102.50	40.75	H	10.3
5919.400000	56.01	---	72.34	16.33	H	10.3
5947.100000	57.56	---	68.20	10.64	H	10.3

EMISSION BANDWIDTH

Test Result: Compliant

5150-5250 MHz:

Mode	26dB Bandwidth (MHz)
802.11a_5180MHz	20.513
802.11a_5200MHz	20.513
802.11a_5240MHz	21.021
802.11n20_5180MHz	20.816
802.11n20_5200MHz	20.665
802.11n20_5240MHz	21.274
802.11n40_5190MHz	41.059
802.11n40_5230MHz	40.859
802.11ac20_5180MHz	20.665
802.11ac20_5200MHz	20.462
802.11ac20_5240MHz	20.869
802.11ac40_5190MHz	41.159
802.11ac40_5230MHz	41.059
802.11ac80_5210MHz	82.917

Mode	99% OBW (MHz)
802.11a_5180MHz	16.550
802.11a_5200MHz	16.600
802.11a_5240MHz	16.650
802.11n20_5180MHz	17.550
802.11n20_5200MHz	17.600
802.11n20_5240MHz	17.650
802.11n40_5190MHz	36.200
802.11n40_5230MHz	36.200
802.11ac20_5180MHz	17.550
802.11ac20_5200MHz	17.550
802.11ac20_5240MHz	17.600
802.11ac40_5190MHz	36.200
802.11ac40_5230MHz	36.200
802.11ac80_5210MHz	76.000

Note:
The 99% Occupied Bandwidth have not fall into the band 5250-5350MHz, please refer to the test plots of 99% Occupied Bandwidth.

5725-5850MHz:

Mode	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11a_5745MHz	15.285	0.500	Pass
802.11a_5785MHz	15.285	0.500	Pass
802.11a_5825MHz	15.285	0.500	Pass
802.11n20_5745MHz	15.285	0.500	Pass
802.11n20_5785MHz	15.285	0.500	Pass
802.11n20_5825MHz	15.285	0.500	Pass
802.11n40_5755MHz	35.365	0.500	Pass
802.11n40_5795MHz	35.365	0.500	Pass
802.11ac20_5745MHz	15.285	0.500	Pass
802.11ac20_5785MHz	15.285	0.500	Pass
802.11ac20_5825MHz	15.285	0.500	Pass
802.11ac40_5755MHz	35.365	0.500	Pass
802.11ac40_5795MHz	35.365	0.500	Pass
802.11ac80_5775MHz	75.724	0.500	Pass

Mode	99% OBW (MHz)
802.11a_5745MHz	16.550
802.11a_5785MHz	16.550
802.11a_5825MHz	16.600
802.11n20_5745MHz	17.650
802.11n20_5785MHz	17.600
802.11n20_5825MHz	17.600
802.11n40_5755MHz	36.400
802.11n40_5795MHz	36.300
802.11ac20_5745MHz	17.550
802.11ac20_5785MHz	17.550
802.11ac20_5825MHz	17.600
802.11ac40_5755MHz	36.300
802.11ac40_5795MHz	36.300
802.11ac80_5775MHz	76.200

Note:
The 99% Occupied Bandwidth have not fall into the band 5470-5725MHz, please refer to the test plots of 99% Occupied Bandwidth.

Mode	26dB Bandwidth (MHz)
802.11a_5745MHz	20.833
802.11a_5785MHz	20.800
802.11a_5825MHz	21.394
802.11n20_5745MHz	21.062
802.11n20_5785MHz	21.057
802.11n20_5825MHz	24.388
802.11n40_5755MHz	41.303
802.11n40_5795MHz	41.467
802.11ac20_5745MHz	20.872
802.11ac20_5785MHz	20.833
802.11ac20_5825MHz	22.973
802.11ac40_5755MHz	41.263
802.11ac40_5795MHz	41.046
802.11ac80_5775MHz	93.351