

FCC PART 15.247

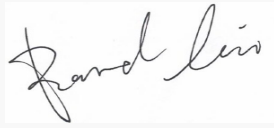
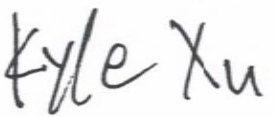
TEST REPORT

For

Hangzhou Sky-Lighting CO., Ltd.

No.161 North Star-Bridge Road, Linping, Hangzhou, Zhejiang 311100, China

FCC ID: 2AVJP-A199RGBCWTD

Report Type: Original Report	Product Name: LED lamp
Report Number: <u>RKSB240926007-00B</u>	
Report Date: <u>2025-08-01</u>	
Reviewed By: <u>Bard Liu</u>	
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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.

TABLE OF CONTENTS

REPORT REVISION HISTORY.....	4
GENERAL INFORMATION.....	5
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	5
OBJECTIVE	5
TEST METHODOLOGY	6
MEASUREMENT UNCERTAINTY	6
TEST FACILITY	6
SYSTEM TEST CONFIGURATION.....	7
DESCRIPTION OF TEST CONFIGURATION	7
EQUIPMENT MODIFICATIONS	7
EUT EXERCISE SOFTWARE	8
SUPPORT EQUIPMENT LIST AND DETAILS	11
EXTERNAL I/O CABLE.....	11
BLOCK DIAGRAM OF TEST SETUP	11
BLOCK DIAGRAM OF TEST SETUP	12
SUMMARY OF TEST RESULTS.....	13
TEST EQUIPMENT LIST	14
FCC §1.1310 & §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE).....	15
FCC §15.203 - ANTENNA REQUIREMENT.....	17
APPLICABLE STANDARD	17
ANTENNA CONNECTOR CONSTRUCTION	17
FCC §15.207 (a) - AC LINE CONDUCTED EMISSIONS.....	18
APPLICABLE STANDARD	18
TEST SYSTEM SETUP.....	18
EMI TEST RECEIVER SETUP.....	18
TEST PROCEDURE	19
TEST RESULTS SUMMARY	19
TEST DATA: SEE APPENDIX	19
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS.....	20
APPLICABLE STANDARD	20
TEST SYSTEM SETUP.....	20
EMI TEST RECEIVER SETUP.....	22
TEST PROCEDURE	22
TEST RESULTS SUMMARY	22
TEST DATA: SEE APPENDIX	22
FCC §15.247(A) (2) - 6 DB EMISSION BANDWIDTH.....	23
APPLICABLE STANDARD	23
TEST PROCEDURE	23
TEST DATA: SEE APPENDIX	23
FCC §15.247(B) (3) - MAXIMUM CONDUCTED OUTPUT POWER.....	24
APPLICABLE STANDARD	24
TEST PROCEDURE	24
TEST DATA: SEE APPENDIX	25
FCC §15.247(D) – 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE	26
APPLICABLE STANDARD	26
TEST PROCEDURE	26
TEST DATA: SEE APPENDIX	26

FCC §15.247(E) - POWER SPECTRAL DENSITY	27
APPLICABLE STANDARD	27
TEST PROCEDURE	27
TEST DATA: SEE APPENDIX	27
APPENDIX - TEST DATA	28
ENVIRONMENTAL CONDITIONS & TEST INFORMATION	28
AC LINE CONDUCTED EMISSIONS	29
SPURIOUS EMISSIONS	33
6 dB EMISSION BANDWIDTH	64
OCCUPIED BANDWIDTH	69
POWER SPECTRAL DENSITY	74
TRANSMITTER OUTPUT POWER MEASUREMENT	79
OUT OF BAND EMISSIONS	82
EUT PHOTOGRAPHS	85
TEST SETUP PHOTOGRAPHS	86

REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	RKSB240926007-00B	R1V1	2025-08-01	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant	Hangzhou Sky-Lighting CO., Ltd.
Tested Model	QPA19-PA-WIFILIC-TY-RGBCW 9W
Product Name	LED lamp
Power Supply	AC 120V
RF Function:	2.4G Wi-Fi; BLE
Operating Band/Frequency:	2.4G Wi-Fi: 2412~2462 MHz(802.11b/g/n20), 2422~2452 MHz(802.11n40) BLE(1Mbps): 2402-2480 MHz
Maximum Peak Output Power:	2.4G Wi-Fi: 802.11b: 13.757 dBm 802.11g: 14.338 dBm 802.11n20: 14.591 dBm 802.11n40: 15.064 dBm BLE(1Mbps): 11.05 dBm
Channel Number:	2.4G Wi-Fi: 11(802.11b/g/n20), 7(802.11n40) BLE: 40
Channel Separation:	2.4G Wi-Fi: 5 MHz BLE: 2 MHz
Modulation Type:	2.4G Wi-Fi: DSSS, OFDM BLE: GFSK
Antenna Type:	2.4G Wi-Fi /BLE: wire Antenna
★Maximum Antenna Gain:	2.4G Wi-Fi /BLE: -7.52 dBi

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: RKS240926007-1/ RKS240926007-2 (Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2024-09-26.)

Objective

This report is prepared for *Hangzhou Sky-Lighting CO., Ltd.* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commissions' rules.

The tests were performed in order to determine Compliant with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliant Testing of Unlicensed Wireless Devices and FCC 558074 D01 15.247 Meas Guidance v05r02.

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		3.19dB
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°C
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

Channel List for BLE mode:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	14	2430	28	2458
1	2404	15	2432	29	2460
2	2406	16	2434	30	2462
3	2408	17	2436	31	2464
4	2410	18	2438	32	2466
5	2412	19	2440	33	2468
6	2414	20	2442	34	2470
7	2416	21	2444	35	2472
8	2418	22	2446	36	2474
9	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	39	2480
12	2426	26	2454	/	/
13	2428	27	2456	/	/

EUT was tested with channel 0, 19 and 39.

Channel List for Wi-Fi Mode:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437	/	/

For 802.11b, 802.11g and 802.11n-HT20 mode, EUT was tested with Channel 1, 6 and 11.

For 802.11n-HT40 mode, EUT was tested with Channel 3, 6 and 9.

Equipment Modifications

No modification was made to the EUT tested.

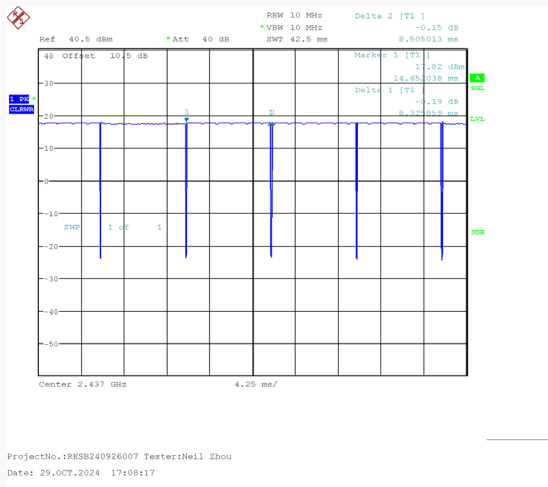
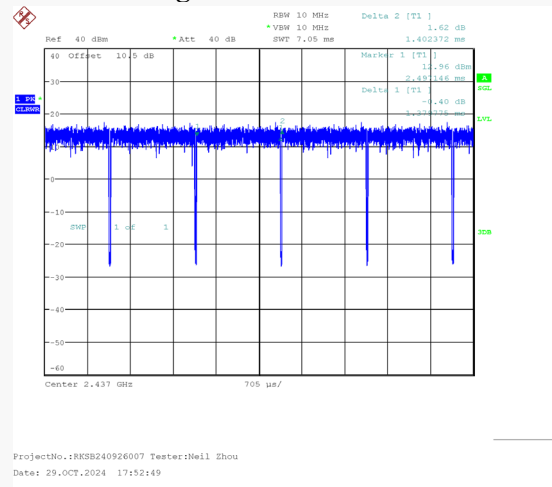
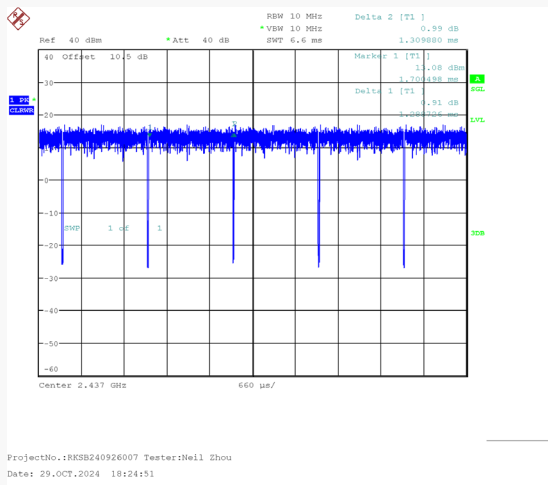
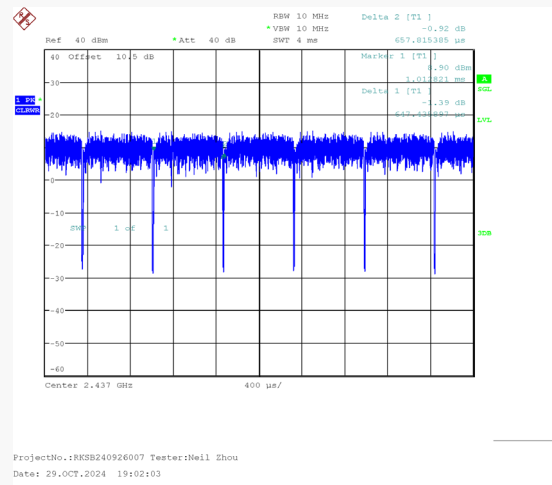
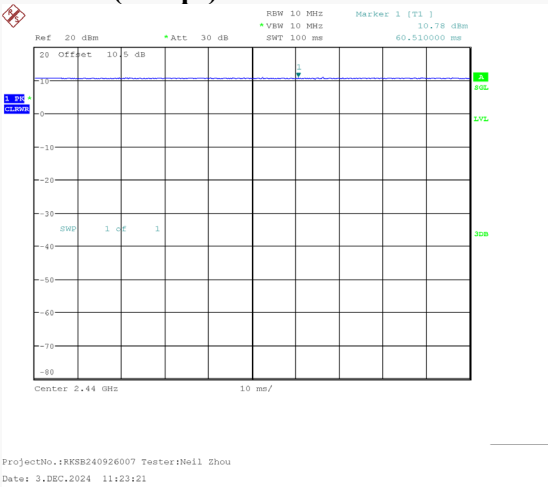
EUT Exercise Software

RF test software: Wifi Test Tool v1.6.0 release

Pre-scan with all the data rates, and the worst case was performed as below:

Mode	Data Rate	Channel	★Power Level
802.11b	1 Mbps	2412	79
		2437	79
		2462	79
802.11g	6 Mbps	2412	79
		2437	79
		2462	79
802.11n-HT20	MCS0	2412	79
		2437	79
		2462	79
802.11n-HT40	MCS0	2422	79
		2437	79
		2452	79
BLE(1Mbps)	1Mbps	2402	40
		2440	40
		2480	40

Note: The power level was declared by the applicant.

Duty Cycle:**802.11b Mode Middle Channel****802.11g Mode Middle Channel****802.11n-HT20 Mode Middle Channel****802.11n-HT40 Mode Middle Channel****BLE(1Mbps) Mode Middle Channel**

Mode	Duty Cycle (%)	Ton(ms)	Ton+off(ms)	$10\log(1/x)$ (dB)
802.11b	97.90	8.326	8.505	0.09
802.11g	98.43	1.380	1.402	/
802.11n-HT20	98.40	1.289	1.310	/
802.11n-HT40	98.33	0.647	0.658	/
BLE(1Mbps)	100	100	100	/

Note: “x” means the Duty Cycle.

Support Equipment List and Details

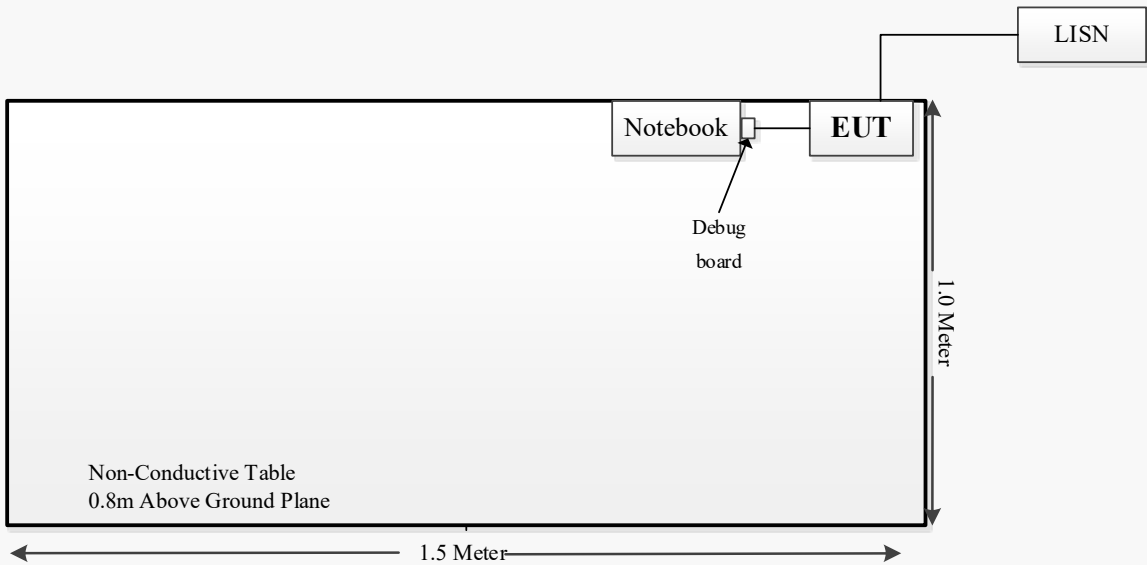
Manufacturer	Description	Model	Serial Number
Lenovo	Notebook	Y700P	PF2B7PL5

External I/O Cable

Cable Description	Length (m)	From Port	To Port
Power Cable 1	1.0	AC Source/LISN	EUT
USB cable	1.0	Debug board	Notebook
Data Cable	0.1	Debug board	EUT

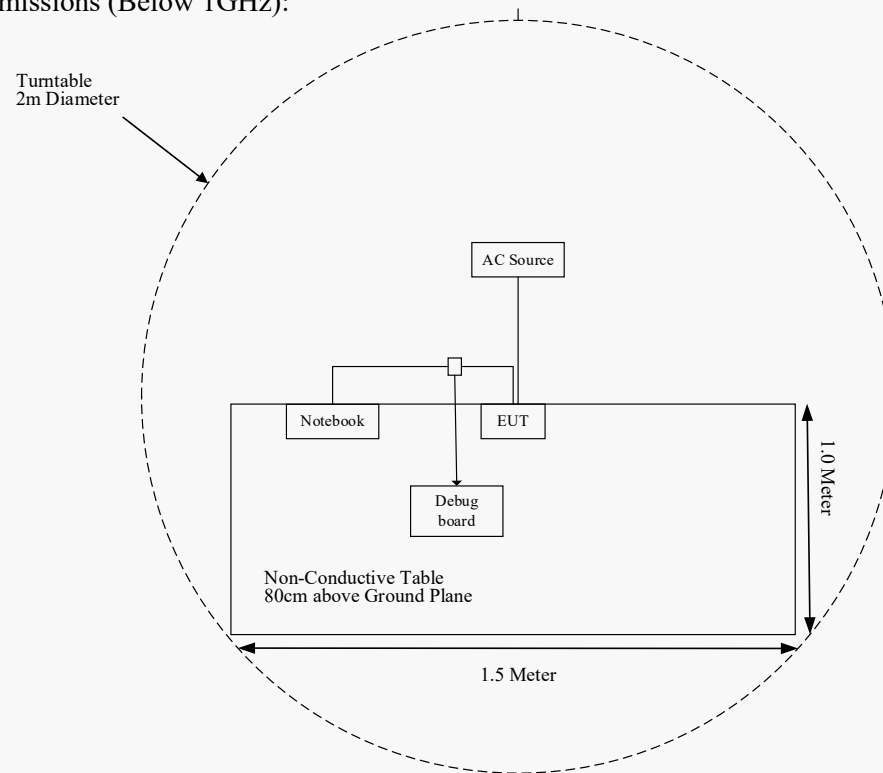
Block Diagram of Test Setup

For Conducted Emissions:

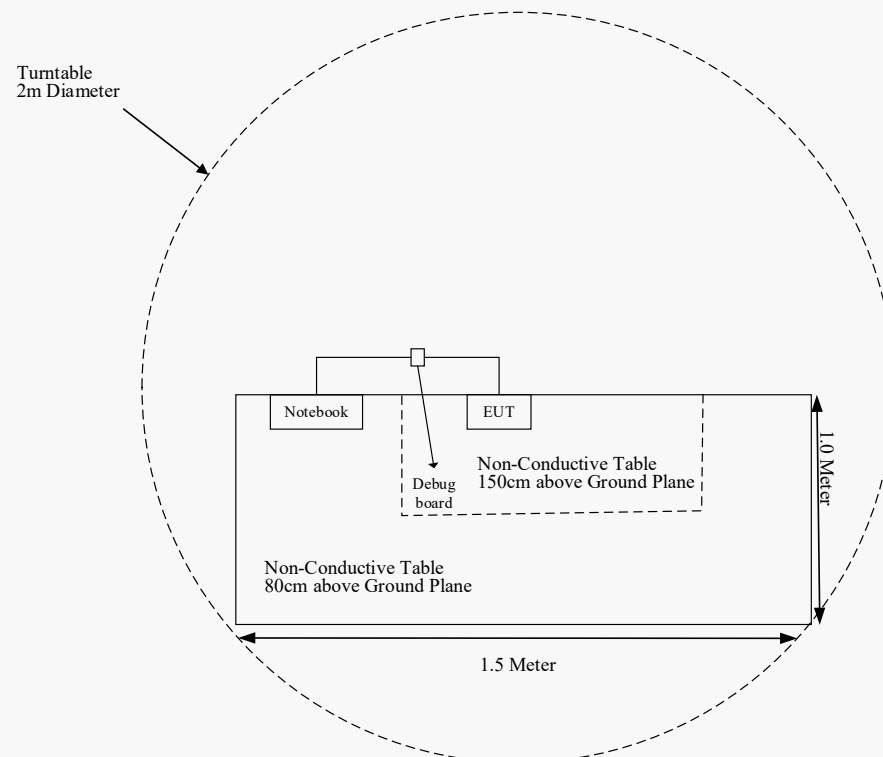


Block Diagram of Test Setup

For Radiated Emissions (Below 1GHz):



For Radiated Emissions (Above 1 GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1310 & §2.1091	MAXIMUM PERMISSIBLE EXPOSURE (MPE)	Compliant
§15.203	Antenna Requirement	Compliant
§15.207 (a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliant
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliant
§15.247(b)(3)	Maximum Conducted Output Power	Compliant
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant

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	2024-04-23	2025-04-22
Sunol Sciences	Broadband Antenna	JB3	A090314-1	2024-11-08	2027-11-07
Narda	6dB Attenuator	773-6	10690812-2-1	2024-11-08	2027-11-07
ETS-LINDGREN	Loop Antenna	6512	108100	2024-11-03	2027-11-02
Sonoma Instrument	Pre-amplifier	310N	171205	2024-04-23	2025-04-22
Rohde & Schwarz	Auto Test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-8	008	2024-04-25	2025-04-24
MICRO-COAX	Coaxial Cable	Cable-9	009	2024-04-25	2025-04-24
MICRO-COAX	Coaxial Cable	Cable-10	010	2024-04-25	2025-04-24
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	N/A	N/A
ETS-LINDGREN	Horn Antenna	3116	2516	2023-12-08	2024-12-07
A.H.Systems, inc	Amplifier	PAM-0118P	512	2024-04-25	2025-04-24
SELECTOR	Amplifier	EM18G40G	060726	2024-04-25	2025-04-24
MICRO-TRONICS	Band Reject Filter	BRM50702	G024	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
MICRO-COAX	Coaxial Cable	Cable-13	013	2024-04-25	2025-04-24
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSU26	200103	2024-04-24	2025-04-23
Rohde & Schwarz	Spectrum Analyzer	FSU26	200103	2025-04-09	2026-04-08
Narda	Attenuator	10dB	010	2024-04-25	2025-04-24
Narda	Attenuator	10dB	010	2025-04-08	2026-04-07
Anritsu	Power Sensor	MA24418A	12621	2024-04-23	2025-04-22
XHFDZ	RG178 Coaxial Cable	SMA-178	XHF-1102	Each time	N/A
Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR	1316.3003K03-101746-zn	2024-04-23	2025-04-22
Rohde & Schwarz	LISN	ENV216	101115	2024-04-23	2025-04-22
Audix	Test Software	e3	V9	N/A	N/A
Rohde & Schwarz	Pulse limiter	ESH3-Z2	100552	2024-04-23	2025-04-22
MICRO-COAX	Coaxial Cable	Cable-15	015	2024-04-25	2025-04-24

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).

FCC §1.1310 & §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart §2.1091 and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculated Formulary

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

Mode	Frequency Range (MHz)	Antenna Gain		★Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
BLE	2402~2480	-7.52	0.18	11.5	14.13	20	0.0005	1.0
2.4G Wi-Fi	2412~2462	-7.52	0.18	15.0	31.62	20	0.0011	1.0
	2422-2452	-7.52	0.18	15.5	35.48	20	0.0013	1.0

Note:

1. For the above tune up power were declared by the manufacturer.
2. Wi-Fi and BLE cannot transmit simultaneously.

Result: The device meet FCC MPE at 20 cm distance.

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 Compliant 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 15.247 (b), 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

The EUT has a wire antenna for 2.4G Wi-Fi & BLE, and the antenna gain is -7.52 dBi, which is permanently attached to the unit, fulfill the requirement of this section. Please refer to the EUT photos.

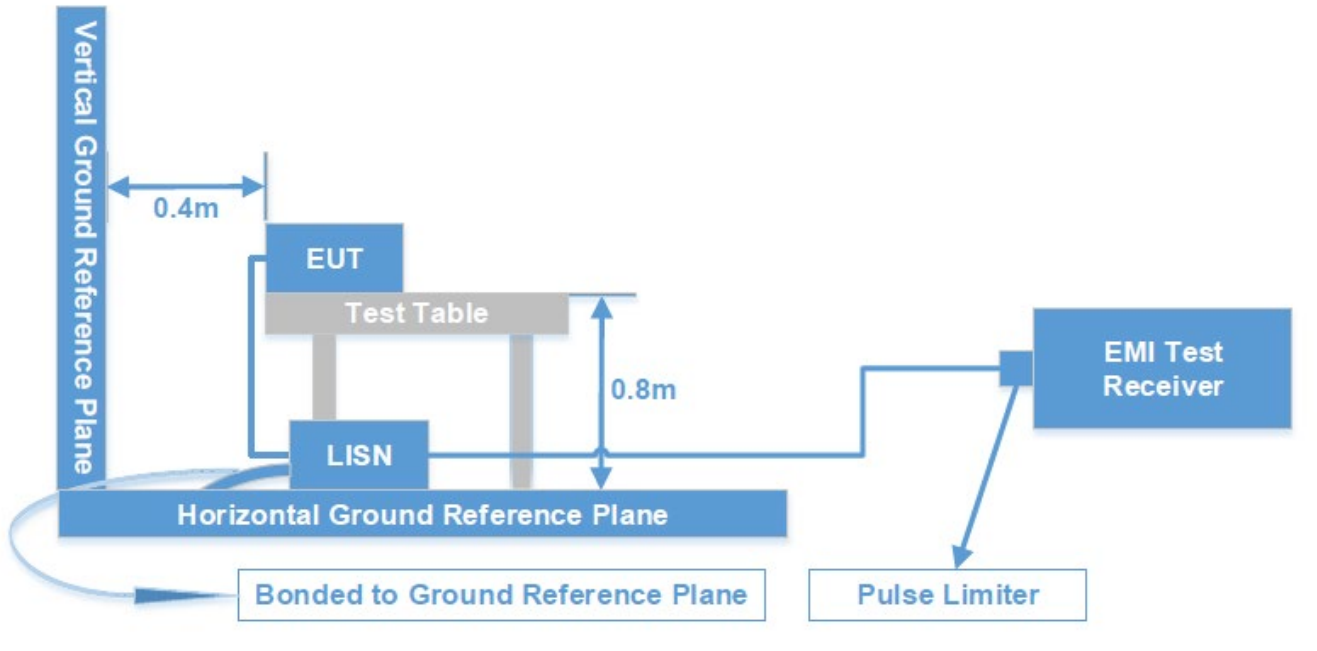
Result: Compliant.

FCC §15.207 (a) - AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a)

Test System Setup



The measurement procedure of EUT setup is according with ANSI C63.10-2013. The related limit was specified in FCC Part 15.207.

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

ANSI C63.10-2013 clause 6.2

During the conducted emission test, the EUT or adapter was connected to the outlet of 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

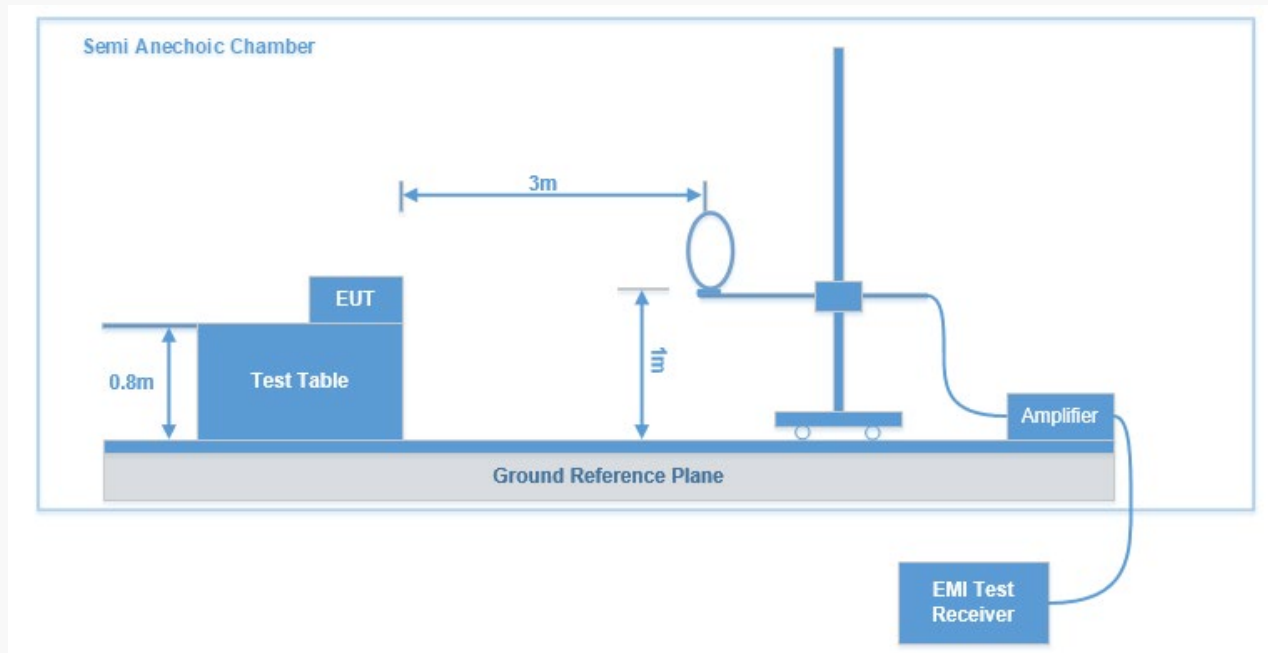
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

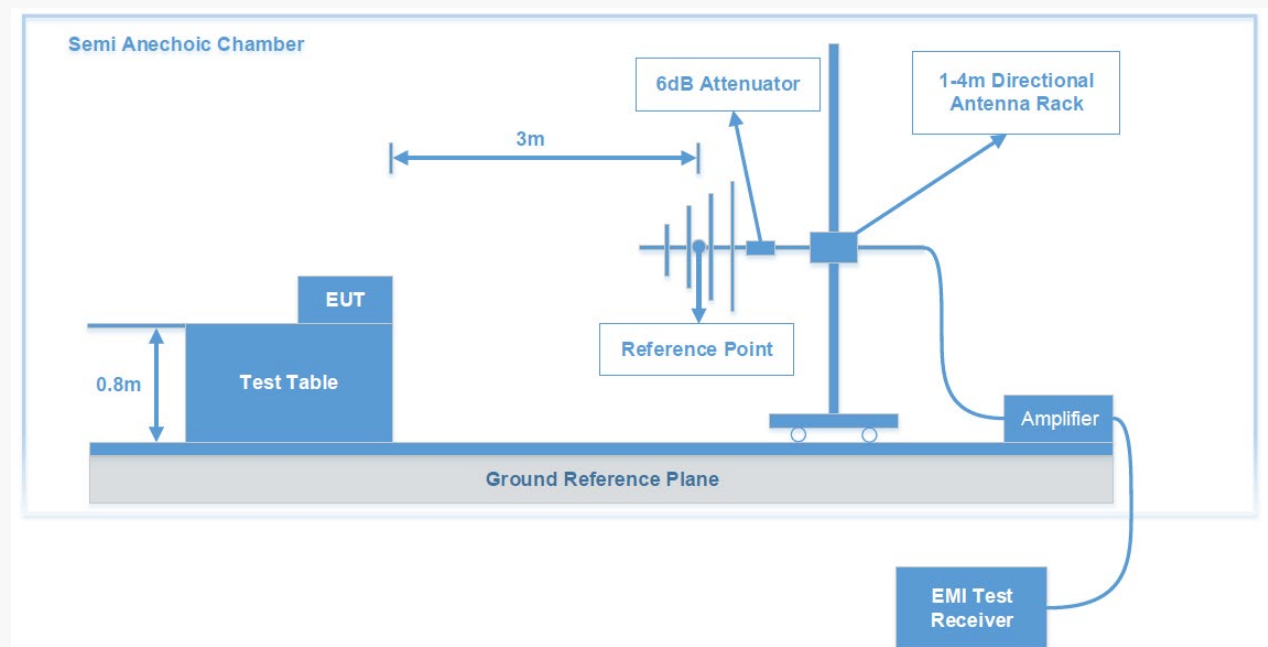
FCC §15.247 (d); §15.209; §15.205;

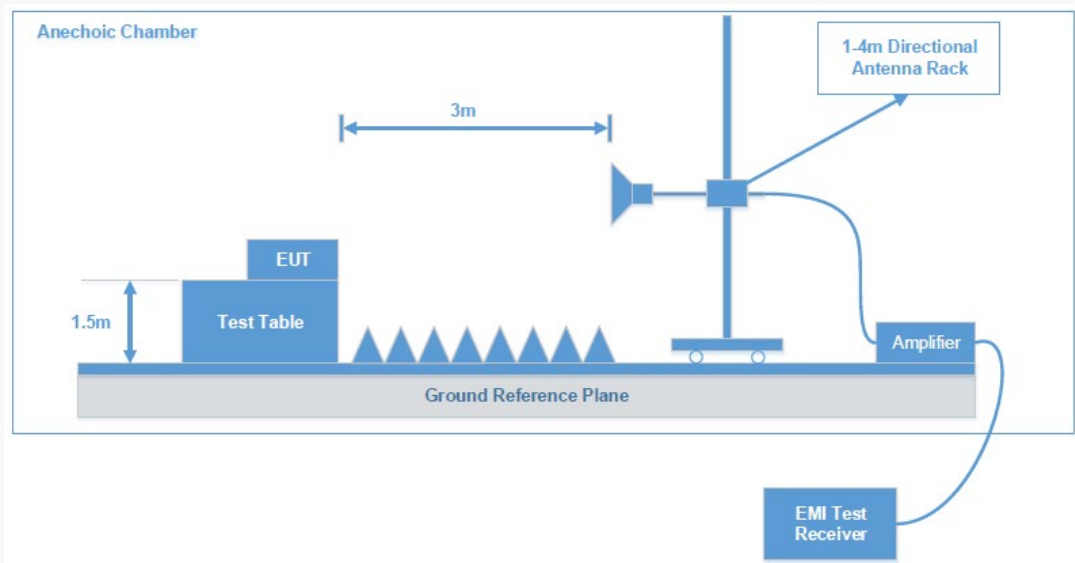
Test System Setup

9 kHz – 30 MHz:



30 MHz - 1 GHz:



Above 1GHz:

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 15.247 limits.

EMI Test Receiver Setup

The system was investigated from 9 kHz to 25 GHz.

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

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

Test Procedure

According to ANSI C63.10-2013 clause 6.5, 6.6 and 6.7.

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) + 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 Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.209 and 15.247.

Test Data: See Appendix

FCC §15.247(A) (2) - 6 DB EMISSION BANDWIDTH

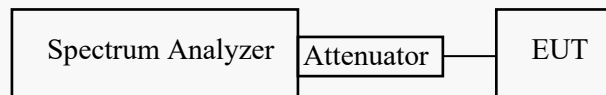
Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Procedure

According to ANSI C63.10-2013 sub-clause 11.8.1

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 * \text{RBW}$.
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 dB relative to the maximum level measured in the fundamental emission.



Note: Offset (10.5dB) = Attenuator (10dB) + Cable loss (0.5dB)

Test Data: See Appendix

FCC §15.247(B) (3) - MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, Compliant with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Test Procedure

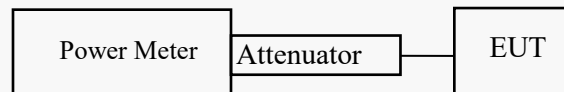
According to ANSI C63.10-2013 sub-clause 11.9.1.3

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

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.

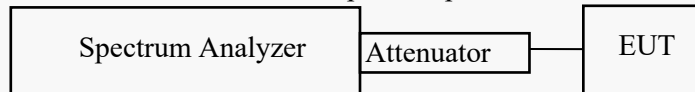
11.9.2.3.2 Method AVGPM-G

Method AVGPM-G is a measurement using a gated RF average power meter. Alternatively, measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.



According to ANSI C63.10-2013 sub-clause 11.9.1.1
For BLE:

1. Set the $RBW \geq DTS$ bandwidth.
2. Set $VBW \geq 3 * RBW$.
3. Set $span \geq 3 * RBW$
4. Sweep time = auto couple.
5. Detector = peak.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use peak marker function to determine the peak amplitude level.



Note: Offset (10.5dB) = Attenuator (10dB) + Cable loss (0.5dB)

Test Data: See Appendix

FCC §15.247(D) – 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

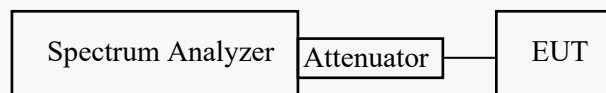
Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates Compliant with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Procedure

According to ANSI C63.10-2013 sub-clause 6.10.

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.



Note: Offset (10.5dB) = Attenuator (10dB) + Cable loss (0.5dB)

Test Data: See Appendix

FCC §15.247(E) - POWER SPECTRAL DENSITY

Applicable Standard

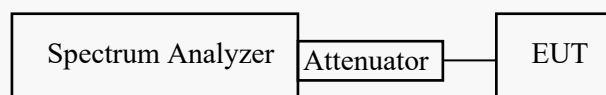
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Procedure

According to ANSI C63.10-2013 sub-clause 11.10.2

The following procedure shall be used if maximum peak conducted output power was used to determine Compliant, and it is optional if the maximum conducted (average) output power was used to determine Compliant:

1. Set the RBW to: $3\text{kHz} \leq \text{RBW} \leq 100\text{ kHz}$.
2. Set the VBW $\geq 3 * \text{RBW}$.
3. Set the span to 1.5 times the DTS bandwidth.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the maximum amplitude level within the RBW.
9. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.



Note: Offset (10.5dB) = Attenuator (10dB) + Cable loss (0.5dB)

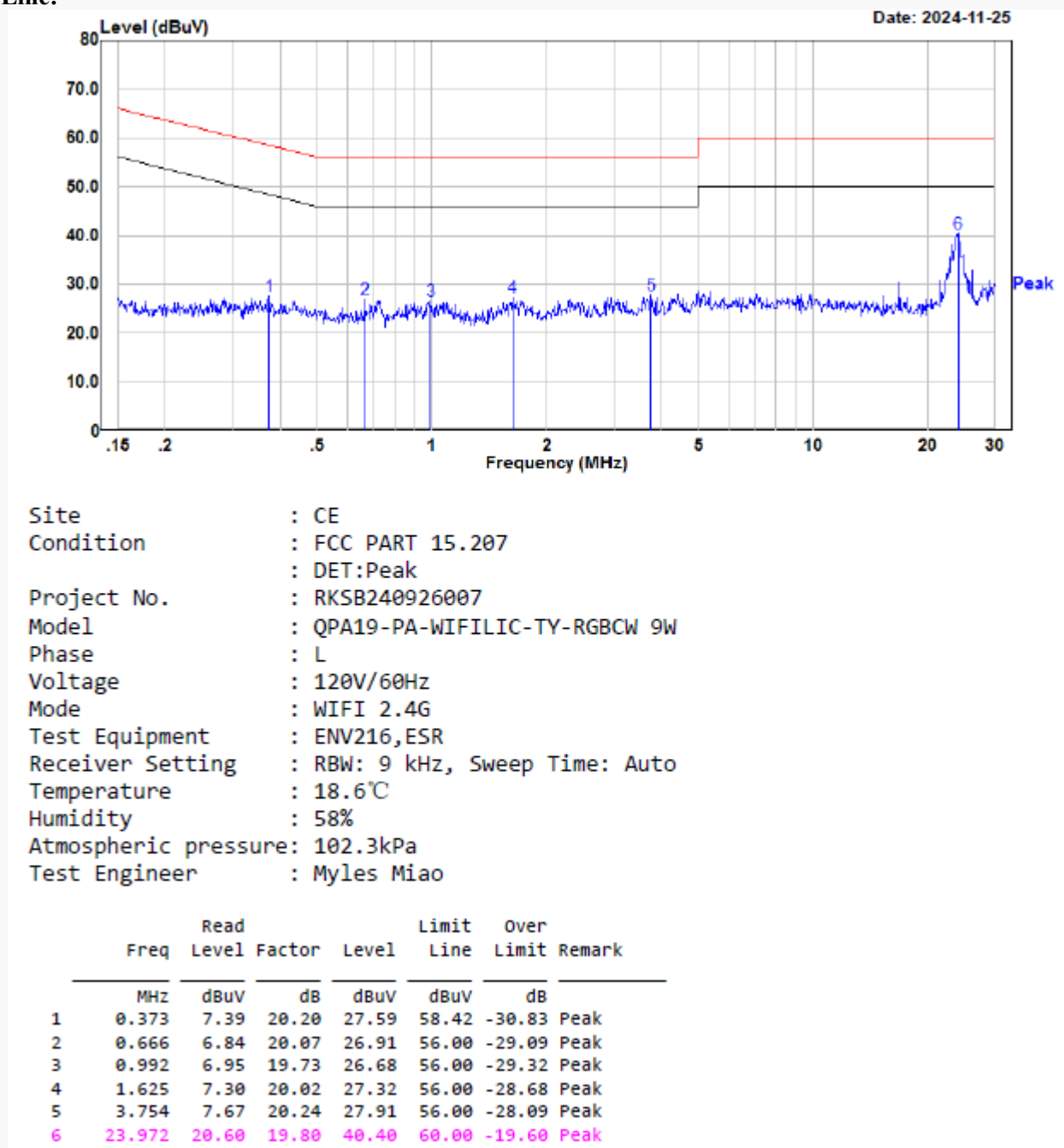
Test Data: See Appendix

APPENDIX - TEST DATA

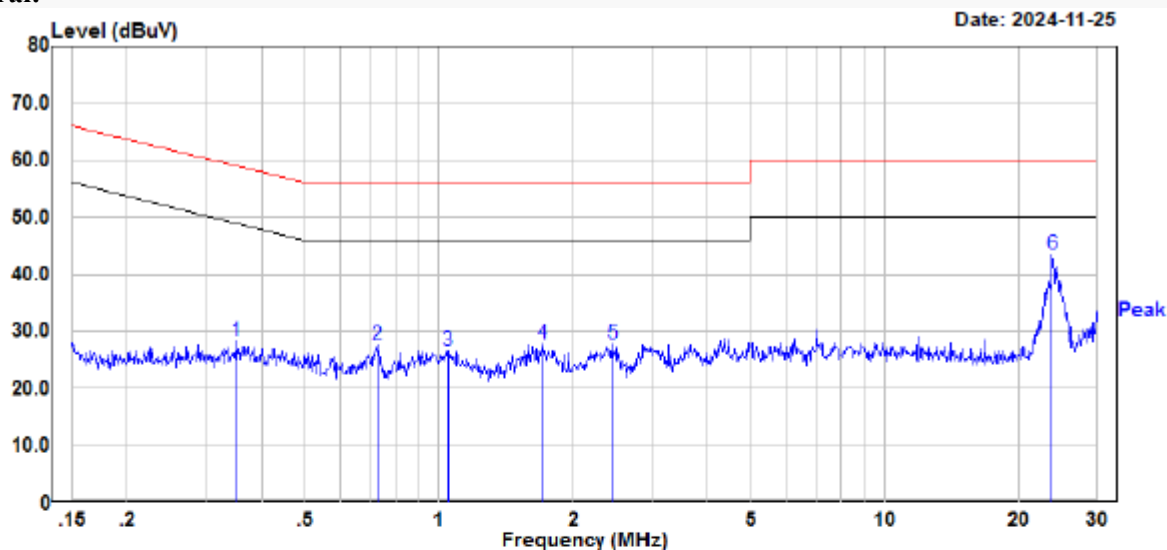
Environmental Conditions & Test Information

Test Item:	AC LINE CONDUCTED EMISSIONS	RADIATED EMISSIONS			DUTY CYCLE
		9 kHz-1 GHz	1 GHz - 18 GHz	18 GHz -25 GHz	
Test Date:	2024-11-25	2024-11-12 to 2024-11-23	2024-12-04	2024-12-04	2024-10-29 to 2024-12-03
Temperature:	18.6 °C	19.7-18.9 °C	23.8 °C	23.8 °C	18.5-23.4 °C
Relative Humidity:	58 %	54-63 %	50 %	50 %	51-57 %
ATM Pressure:	102.3 kPa	102.0-103.0 kPa	102.1 kPa	102.1 kPa	101.8-102.4kPa
Test Result:	Pass	Pass	Pass	Pass	/
Test Engineer:	Myles Miao	Jerry Yan	Destine Hu	Hugh Wu	Neil Zhou

Test Item:	6 DB EMISSION BANDWIDTH	OCCUPIED BANDWIDTH	POWER SPECTRAL DENSITY	TRANSMITTER OUTPUT POWER MEASUREMENT	OUT OF BAND EMISSIONS
Test Date:	2024-12-03 to 2025/07/31	2024-12-03 to 2025/07/29	2024-10-29 to 2024-12-03	2024-10-29 to 2024-12-03	2024-10-29 to 2024-12-03
Temperature:	22.9-23.4 °C	22.9-23.4 °C	18.5-23.4 °C	18.5-23.4 °C	18.5-23.4 °C
Relative Humidity:	49-57 %	49-57 %	51-57 %	51-57 %	51-57 %
ATM Pressure:	100.9-102.4kPa	100.9-102.4kPa	101.8-102.4kPa	101.8-102.4kPa	101.8-102.4kPa
Test Result:	Pass	Pass	Pass	Pass	Pass
Test Engineer:	Neil Zhou	Neil Zhou	Neil Zhou	Neil Zhou	Neil Zhou

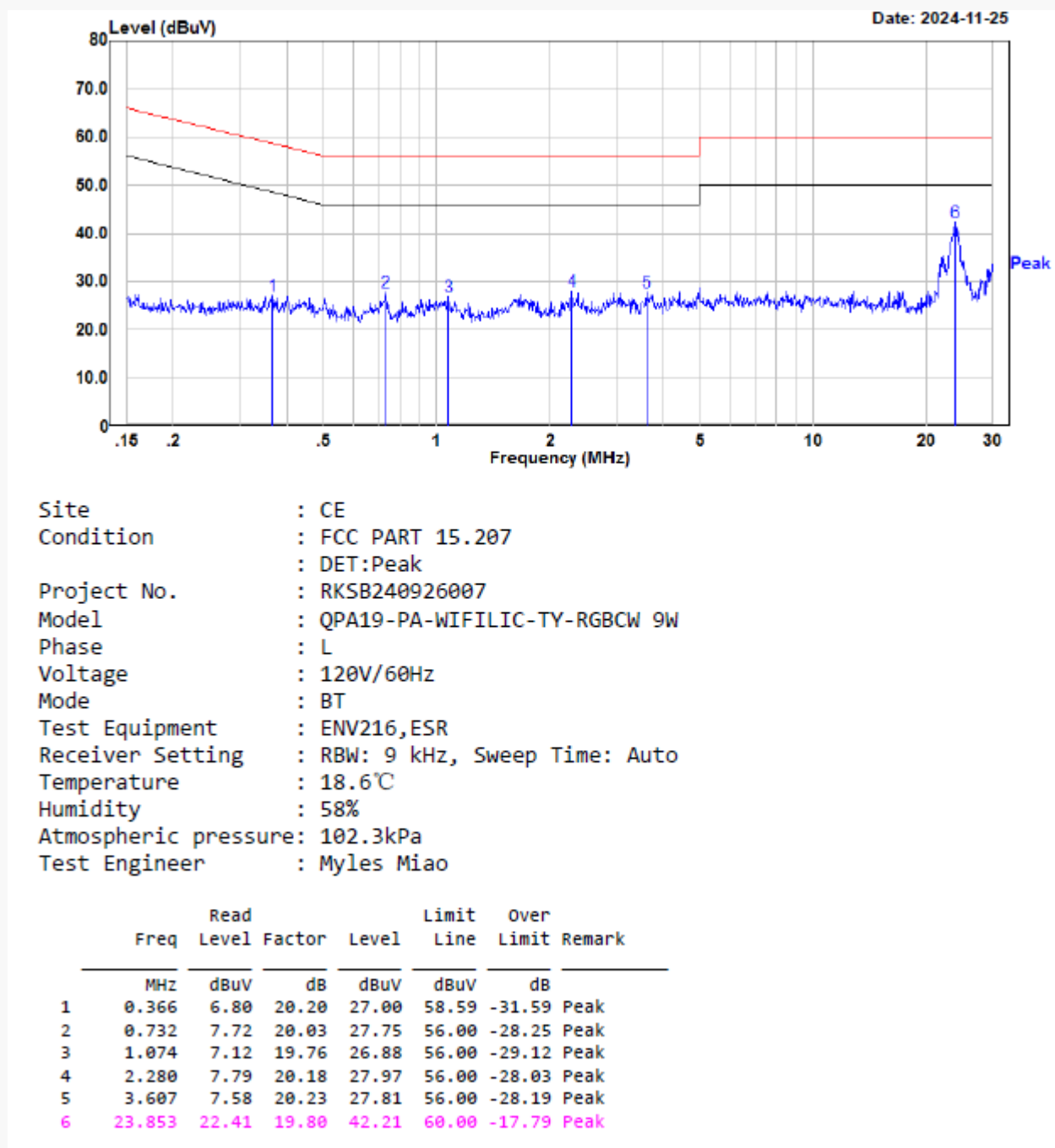
AC LINE CONDUCTED EMISSIONS**For Wi-Fi Mode:***EUT operation mode: Transmitting in maximum output power mode 802.11n40 mode high channel***Line:**

Neutral:

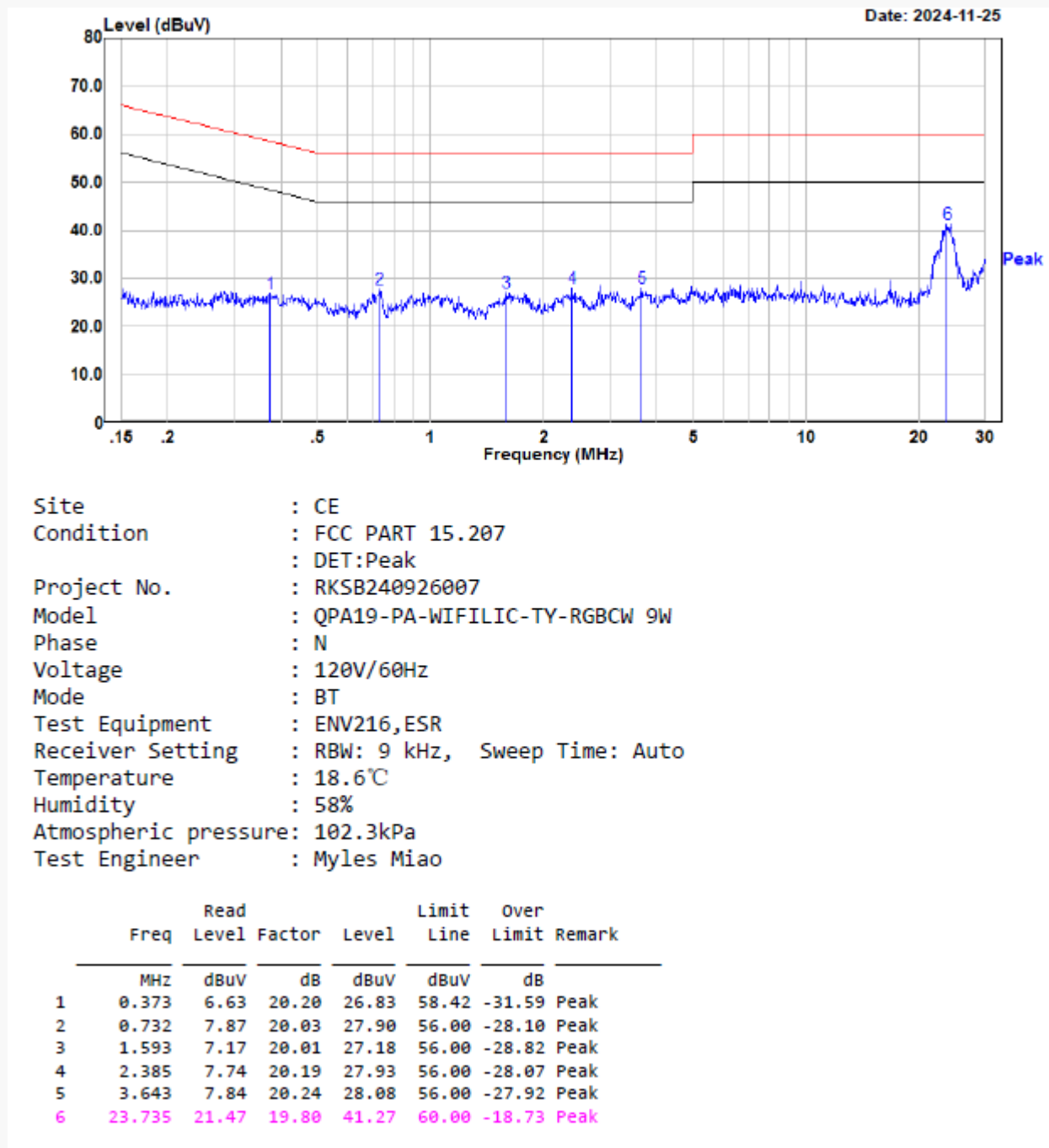


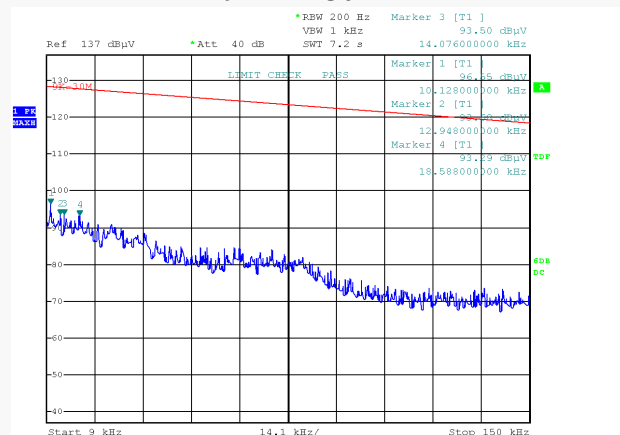
Site : CE
Condition : FCC PART 15.207
: DET:Peak
Project No. : RKS240926007
Model : QPA19-PA-WIFILIC-TY-RGBCW 9W
Phase : N
Voltage : 120V/60Hz
Mode : WIFI 2.4G
Test Equipment : ENV216,ESR
Receiver Setting : RBW: 9 kHz, Sweep Time: Auto
Temperature : 18.6°C
Humidity : 58%
Atmospheric pressure: 102.3kPa
Test Engineer : Myles Miao

		Read			Limit	Over	
	Freq	Level	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.352	8.10	20.19	28.29	58.92	-30.63	Peak
2	0.728	7.56	20.03	27.59	56.00	-28.41	Peak
3	1.048	6.90	19.75	26.65	56.00	-29.35	Peak
4	1.708	7.70	20.06	27.76	56.00	-28.24	Peak
5	2.445	7.57	20.19	27.76	56.00	-28.24	Peak
6	23.735	23.80	19.80	43.60	60.00	-16.40	Peak

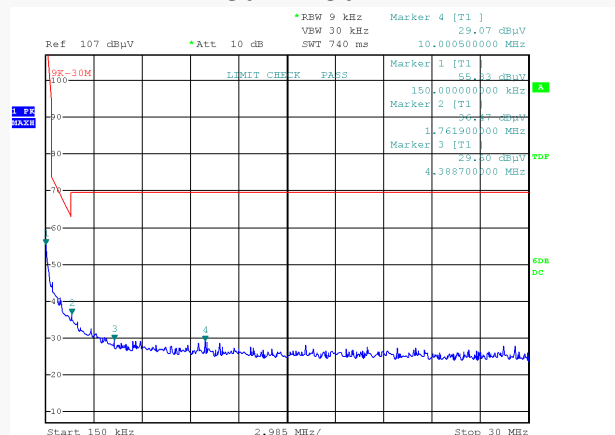
For BLE Mode:*EUT operation mode: Transmitting in maximum output power mode low channel***Line**

Neutral



SPURIOUS EMISSIONS**Test Result:** Compliant*EUT operation mode: Transmitting**After pre-scan in the X, Y and Z axes of orientation, the worst case in the X axes of orientation is below:***9 kHz-30MHz:****For Wi-Fi Mode: (Transmitting in maximum output power mode 802.11n40 mode high channel)****9kHz-150kHz**Project No. RKSB240926007
Date: 23.NOV.2024 09:52:31

Tester: Jerry Yan

150kHz-30MHzProject No. RKSB240926007
Date: 23.NOV.2024 09:56:31

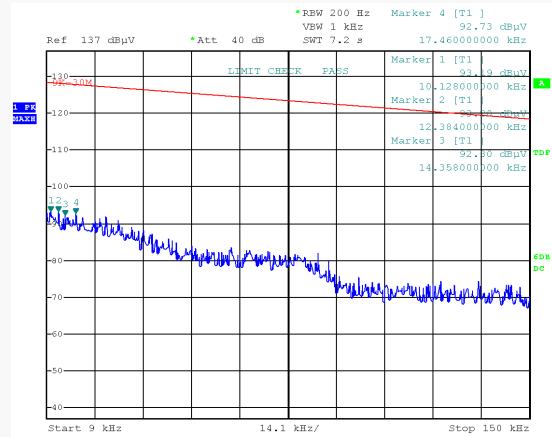
Tester: Jerry Yan

Frequency (kHz)	Corrected Amplitude (dBμV/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dBμV/m) @3m	Margin (dB)
10.13	96.55	PK	56.28	127.49	30.94
12.95	93.68	PK	54.49	125.36	31.68
14.08	93.50	PK	53.77	124.63	31.13
18.59	93.29	PK	50.90	122.22	28.93

Frequency (MHz)	Corrected Amplitude (dBμV/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dBμV/m) @3m	Margin (dB)
0.15	55.33	PK	50.90	104.08	48.75
1.76	36.47	PK	11.28	69.54	33.07
4.39	29.50	PK	14.83	69.54	40.04
10.00	29.07	PK	6.11	69.54	40.47

For BLE Mode: (Transmitting in maximum output power mode low channel)

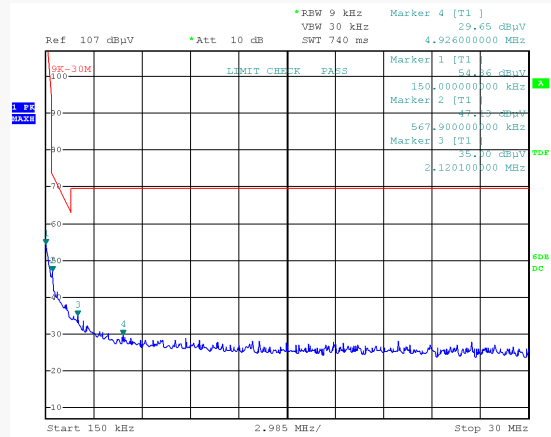
9kHz-150kHz



Project No. RKSB240926007
Date: 23.NOV.2024 10:00:43

Tester: Jerry Yan

150kHz-30MHz



Project No. RKSB240926007
Date: 23.NOV.2024 10:04:21

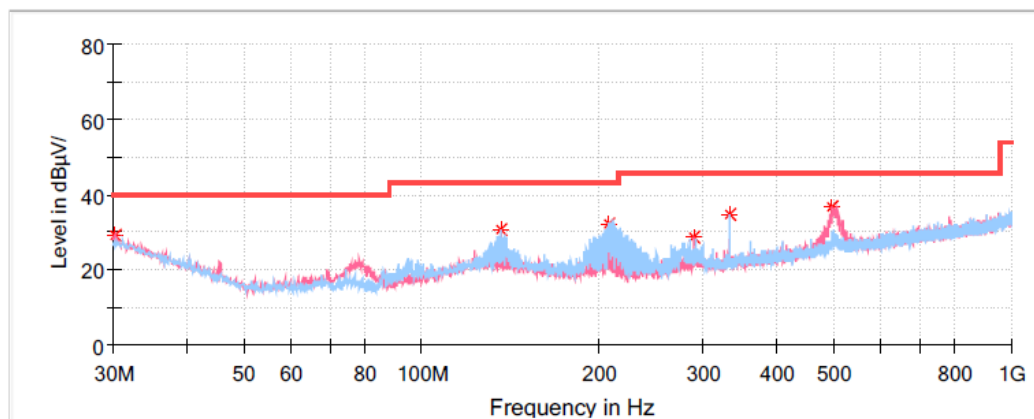
Tester: Jerry Yan

Frequency (kHz)	Corrected Amplitude (dBμV/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dBμV/m) @3m	Margin (dB)
10.13	93.19	PK	56.28	127.49	34.30
12.38	93.20	PK	54.85	125.75	32.55
14.36	92.30	PK	53.59	124.46	32.16
17.46	92.73	PK	51.62	122.76	30.03

Frequency (MHz)	Corrected Amplitude (dBμV/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dBμV/m) @3m	Margin (dB)
0.15	56.36	PK	50.90	104.08	47.72
0.57	47.13	PK	22.23	72.49	25.36
2.12	35.00	PK	13.90	69.54	34.54
4.93	29.65	PK	9.05	69.54	39.89

For Wi-Fi Mode:**30MHz-1GHz (Transmitting in maximum output power 802.11n40 mode and high channel.):****High channel: 2452MHz****Common Information**

Project No:	RKSB240926007
Test Mode:	Transmitting in 802.11n40 mode high channel
Standard:	FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment:	ESCI, JB3, 310N
Receiver Setting:	RBW: 100 kHz, VBW: 300 kHz, Sweep Time: Auto
Temperature:	19.7 °C
Humidity:	63%
Barometric Pressure:	102.0 kPa
Test Engineer:	Jerry Yan
Test Date:	2024/11/12

**Critical_Freqs**

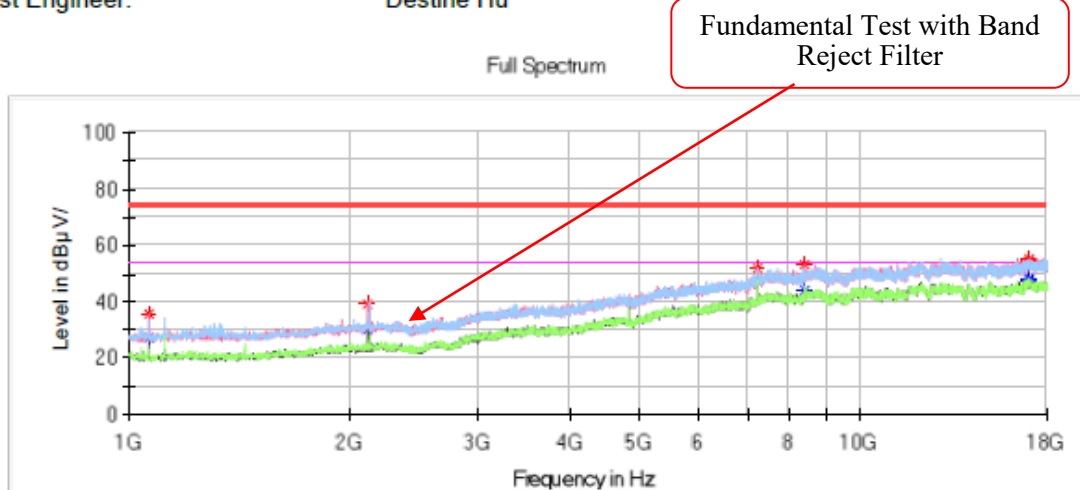
Frequency (MHz)	MaxPeak (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Pol	Corr. (dB/m)
30.121250	29.18	40.00	10.82	V	-4.8
135.972500	30.60	43.50	12.90	H	-11.2
206.903750	32.32	43.50	11.18	H	-12.5
288.383750	28.54	46.00	17.46	V	-10.3
331.791250	34.78	46.00	11.22	H	-9.6
496.206250	36.91	46.00	9.09	V	-5.4

1GHz-18GHz:
802.11b Mode:

Low Channel: 2412MHz

Common Information

Project No.: RKS240926007
 Test Mode: Transmitting in 802.11b mode low channel
 Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Test Engineer: Destine Hu

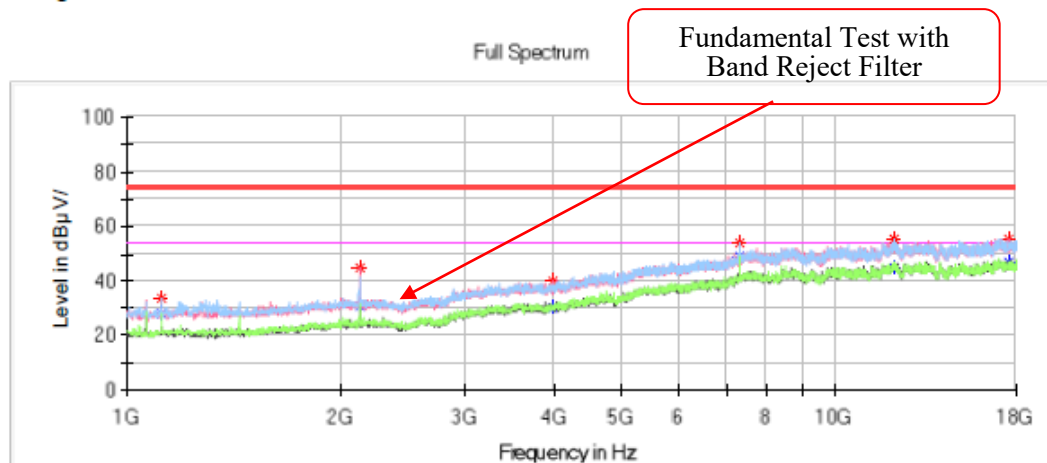


Critical Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1062.900000	35.65	---	74.00	38.35	V	-15.4
1062.900000	---	27.59	54.00	26.41	V	-15.4
2123.700000	38.97	---	74.00	35.03	V	-11.3
2123.700000	---	30.12	54.00	23.88	V	-11.3
7239.000000	51.66	---	74.00	22.34	H	3.2
7239.000000	---	47.39	54.00	6.61	H	3.2
8410.300000	---	43.72	54.00	10.28	H	5.2
8410.300000	53.30	---	74.00	20.70	H	5.2
17002.100000	55.36	---	74.00	18.64	V	12.3
17002.100000	---	47.37	54.00	6.63	V	12.3
17022.500000	54.22	---	74.00	19.78	V	12.2
17022.500000	---	47.99	54.00	6.01	V	12.2

Middle Channel: 2437MHz**Common Information**

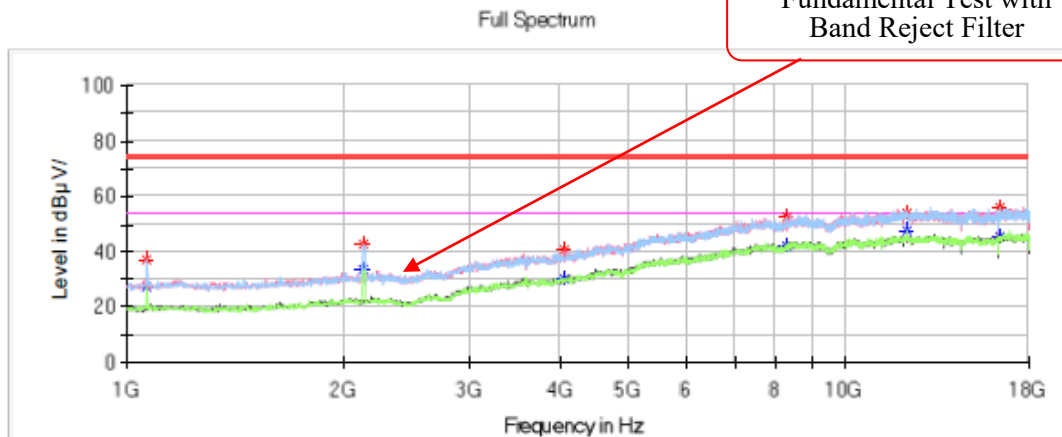
Project No.: RKSB240926007
 Test Mode: Transmitting in 802.11b mode middle channel
 Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Test Engineer: Destine Hu

**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)
1119.000000	33.82	---	74.00	40.18	H	-15.3
1119.000000	---	27.94	54.00	26.06	H	-15.3
2130.500000	---	30.63	54.00	23.37	V	-11.3
2130.500000	44.92	---	74.00	29.08	V	-11.3
3983.500000	---	29.81	54.00	24.19	H	-5.9
3983.500000	39.53	---	74.00	34.47	H	-5.9
7313.800000	---	48.78	54.00	5.22	H	3.4
7313.800000	53.73	---	74.00	20.27	H	3.4
12075.500000	---	44.87	54.00	9.13	H	9.1
12075.500000	55.05	---	74.00	18.95	H	9.1
17593.700000	---	46.78	54.00	7.22	V	11.6
17593.700000	55.50	---	74.00	18.50	V	11.6

High Channel: 2462MHz**Common Information**

Project No.: RKS240926007
 Test Mode: Transmitting in 802.11b mode high channel
 Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Test Engineer: Destine Hu

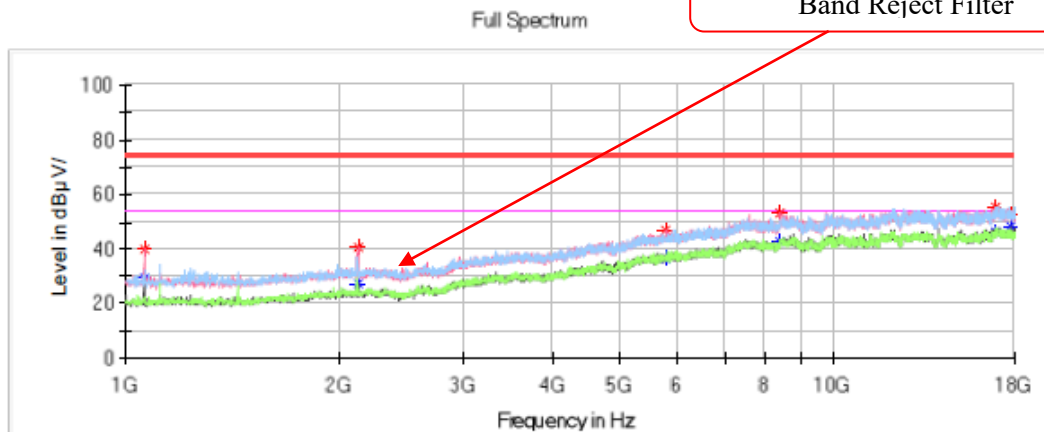
**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1064.900000	---	27.36	54.00	26.64	H	-15.4
1064.900000	36.80	---	74.00	37.20	H	-15.4
2132.500000	---	33.28	54.00	20.72	H	-11.3
2132.500000	42.41	---	74.00	31.59	H	-11.3
4073.600000	---	29.77	54.00	24.23	V	-5.7
4073.600000	40.25	---	74.00	33.75	V	-5.7
8289.600000	---	41.76	54.00	12.24	H	4.8
8289.600000	52.69	---	74.00	21.31	H	4.8
12182.600000	---	47.41	54.00	6.59	V	9.2
12182.600000	53.55	---	74.00	20.45	V	9.2
16398.600000	56.05	---	74.00	17.95	H	10.5
16398.600000	---	45.44	54.00	8.56	H	10.5

802.11g Mode:**Low Channel: 2412MHz****Common Information**

Project No.: RKS240926007
 Test Mode: Transmitting in 802.11g mode low channel
 Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Test Engineer: Destine Hu

Fundamental Test with
Band Reject Filter

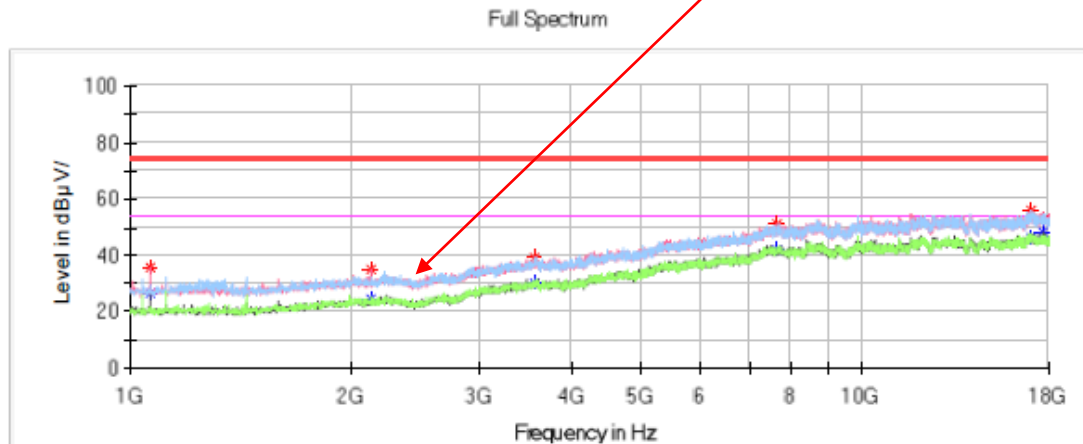
**Critical Freqs**

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1062.900000	39.95	---	74.00	34.05	V	-15.4
1062.900000	---	29.50	54.00	24.50	V	-15.4
2127.100000	---	27.54	54.00	26.46	V	-11.3
2127.100000	40.88	---	74.00	33.12	V	-11.3
5783.800000	46.74	---	74.00	27.26	V	-0.1
5783.800000	---	36.11	54.00	17.89	V	-0.1
8406.900000	53.25	---	74.00	20.75	H	5.1
8406.900000	---	42.72	54.00	11.28	H	5.1
16961.300000	55.55	---	74.00	18.45	H	12.2
16961.300000	---	45.83	54.00	8.17	H	12.2
17731.400000	52.42	---	74.00	21.58	H	11.7
17731.400000	---	47.92	54.00	6.08	H	11.7

Middle Channel: 2437MHz**Common Information**

Project No.: RKSB240926007
Test Mode: Transmitting in 802.11g mode middle channel
Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

Fundamental Test with
Band Reject Filter

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μV/m)	Average (dB μV/m)	Limit (dB μV/m)	Margin (dB)	Pol	Corr. (dB/m)
1062.900000	---	26.32	54.00	27.68	V	-15.4
1062.900000	35.49	---	74.00	38.51	V	-15.4
2130.500000	---	24.20	54.00	29.80	V	-11.3
2130.500000	34.98	---	74.00	39.02	V	-11.3
3567.000000	---	30.24	54.00	23.76	H	-6.3
3567.000000	39.35	---	74.00	34.65	H	-6.3
7669.100000	---	42.25	54.00	11.75	V	3.9
7669.100000	51.23	---	74.00	22.77	V	3.9
17024.200000	---	46.18	54.00	7.82	H	12.2
17024.200000	55.71	---	74.00	18.29	H	12.2
17700.800000	---	47.90	54.00	6.10	V	11.7
17700.800000	52.13	---	74.00	21.87	V	11.7

High Channel: 2462MHz**Common Information**

Project No.:

RKS240926007

Test Mode:

Transmitting in 802.11g mode high channel

Standard:

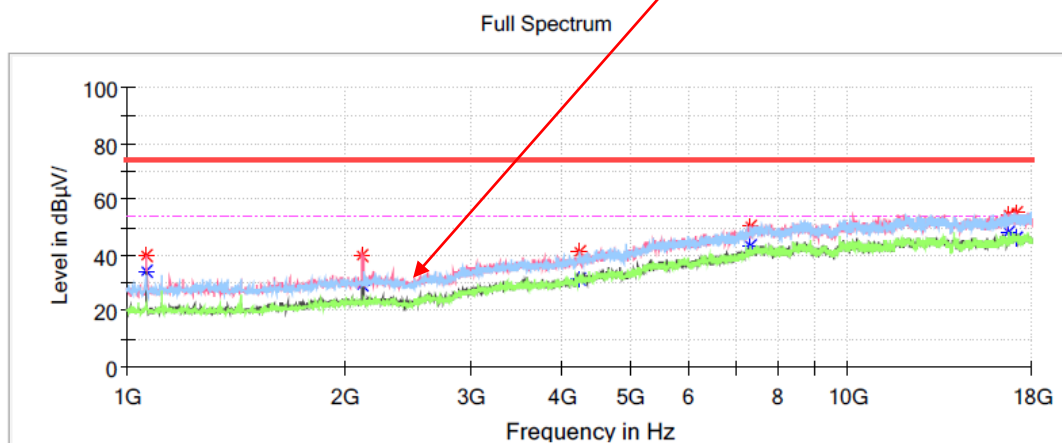
FCC Part 15.205&FCC Part 15.209&FCC Part 15.247

Receiver Setting:

RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto

Test Engineer:

Destine Hu

Fundamental Test with Band
Reject Filter**Critical_Freqs**

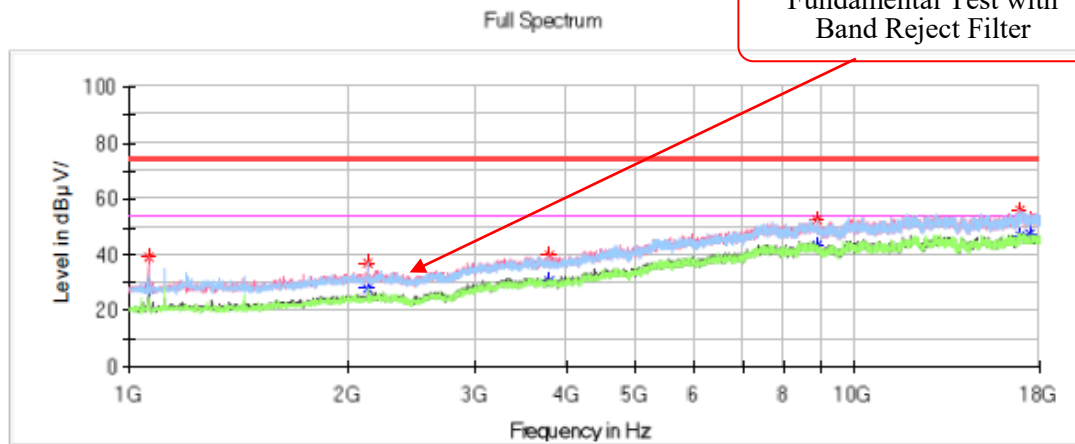
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1064.600000	40.14	---	74.00	33.86	V	-15.4
1064.600000	---	34.01	54.00	19.99	V	-15.4
2123.700000	39.89	---	74.00	34.11	V	-11.3
2123.700000	---	29.64	54.00	24.36	V	-11.3
4241.900000	---	31.66	54.00	22.34	H	-5.1
4241.900000	41.45	---	74.00	32.55	H	-5.1
7308.700000	---	43.10	54.00	10.90	H	3.4
7308.700000	50.50	---	74.00	23.50	H	3.4
16723.300000	---	47.85	54.00	6.15	V	11.4
16723.300000	54.57	---	74.00	19.43	V	11.4
17085.400000	---	46.04	54.00	7.96	H	12.2
17085.400000	55.21	---	74.00	18.79	H	12.2

802.11n-HT20 Mode :

Low Channel: 2412MHz

Common Information

Project No.: RKS240926007
 Test Mode: Transmitting in 802.11n20 mode low channel
 Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Test Engineer: Destine Hu

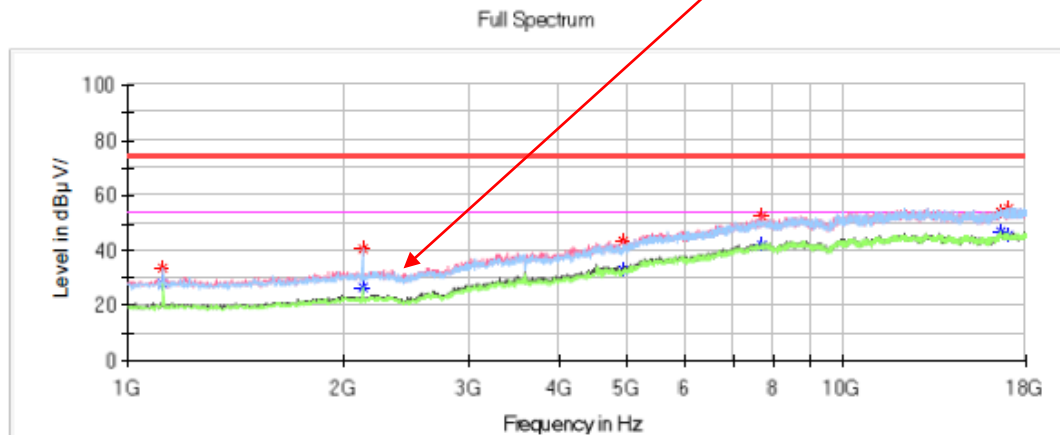
**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1064.600000	39.07	---	74.00	34.93	V	-15.4
1064.600000	---	28.25	54.00	25.75	V	-15.4
2127.100000	37.22	---	74.00	36.78	H	-11.3
2127.100000	---	27.65	54.00	26.35	H	-11.3
3791.400000	---	30.71	54.00	23.29	V	-6.1
3791.400000	39.67	---	74.00	34.33	V	-6.1
8860.800000	52.75	---	74.00	21.25	H	5.4
8860.800000	---	43.30	54.00	10.70	H	5.4
16866.100000	55.97	---	74.00	18.03	V	11.9
16866.100000	---	46.93	54.00	7.07	V	11.9
17486.600000	---	47.54	54.00	6.46	H	11.6
17486.600000	52.32	---	74.00	21.68	H	11.6

Middle Channel: 2437MHz**Common Information**

Project No.: RKS240926007
 Test Mode: Transmitting in 802.11n20 mode middle channel
 Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Test Engineer: Destine Hu

Fundamental Test with Band
Reject Filter

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB µV/m)	Average (dB µV/m)	Limit (dB µV/m)	Margin (dB)	Pol	Corr. (dB/m)
1119.200000	---	27.82	54.00	26.18	H	-15.3
1119.200000	33.65	---	74.00	40.35	H	-15.3
2128.600000	---	26.61	54.00	27.39	H	-11.3
2128.600000	40.33	---	74.00	33.67	H	-11.3
4920.200000	---	33.19	54.00	20.81	V	-2.7
4920.200000	43.14	---	74.00	30.86	V	-2.7
7684.400000	---	42.10	54.00	11.90	V	3.9
7684.400000	52.19	---	74.00	21.81	V	3.9
16589.000000	---	47.00	54.00	7.00	H	11.0
16589.000000	53.96	---	74.00	20.04	H	11.0
16980.000000	---	45.54	54.00	8.46	V	12.2
16980.000000	55.53	---	74.00	18.47	V	12.2

High Channel: 2462MHz**Common Information**

Project No.:

RKS240926007

Test Mode:

Transmitting in 802.11n20 mode high channel

Standard:

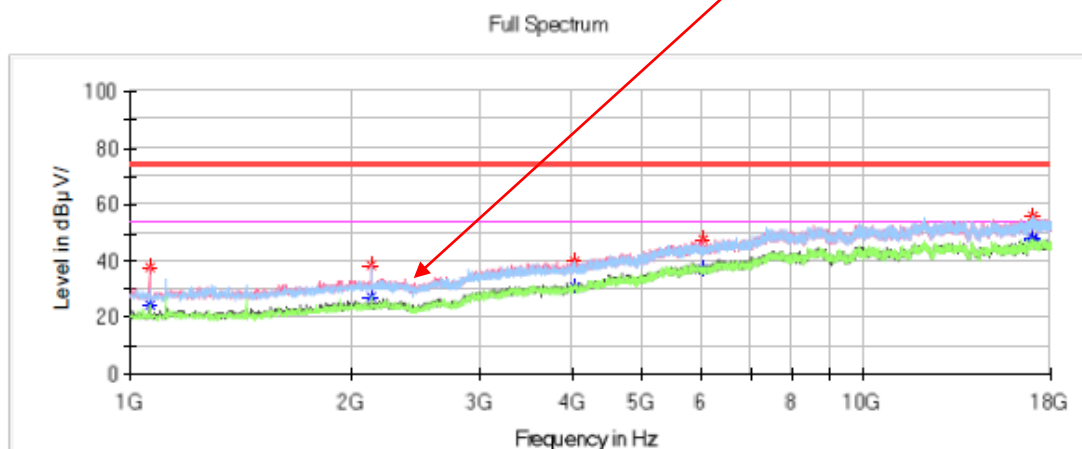
FCC Part 15.205&FCC Part 15.209&FCC Part 15.247

Receiver Setting:

RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto

Test Engineer:

Destine Hu

Fundamental Test with
Band Reject 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)
1064.600000	37.60	---	74.00	36.40	H	-15.4
1064.600000	---	24.72	54.00	29.28	H	-15.4
2128.800000	38.32	---	74.00	35.68	V	-11.3
2128.800000	---	27.31	54.00	26.69	V	-11.3
4027.700000	---	30.90	54.00	23.10	V	-5.8
4027.700000	40.02	---	74.00	33.98	V	-5.8
6042.200000	---	36.99	54.00	17.01	V	0.1
6042.200000	47.44	---	74.00	26.56	V	0.1
16986.800000	55.69	---	74.00	18.31	H	12.2
16986.800000	---	47.58	54.00	6.42	H	12.2
17022.500000	53.25	---	74.00	20.75	H	12.2
17022.500000	---	47.97	54.00	6.03	H	12.2

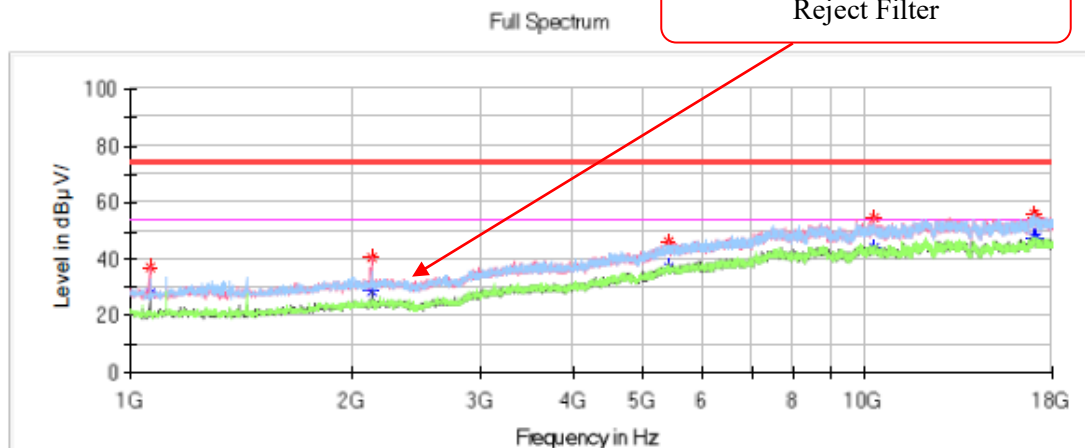
802.11n-HT40 Mode :

Low Channel: 2422MHz

Common Information

Project No.: RKSB240926007
 Test Mode: Transmitting in 802.11n40 mode low channel
 Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Test Engineer: Destine Hu

Fundamental Test with Band
Reject Filter

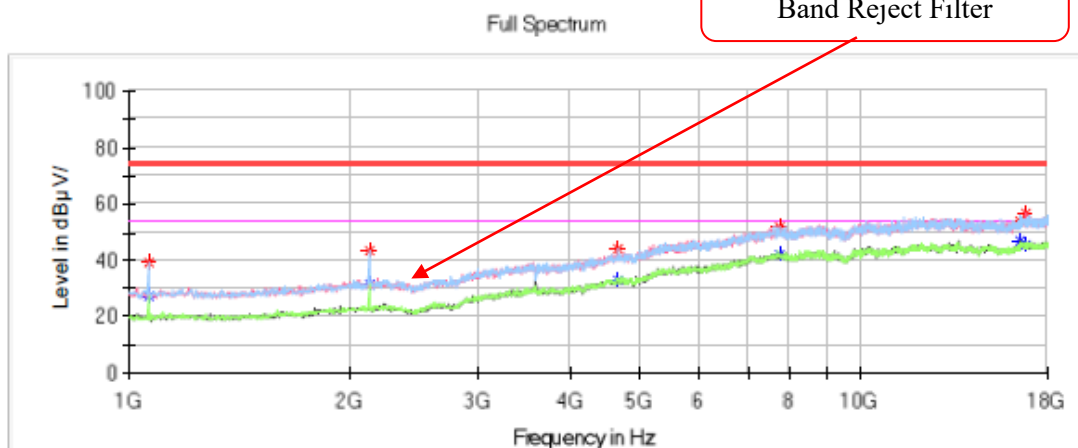


Critical Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1062.900000	37.15	---	74.00	36.85	V	-15.4
1062.900000	---	27.99	54.00	26.01	V	-15.4
2130.500000	40.31	---	74.00	33.69	V	-11.3
2130.500000	---	28.98	54.00	25.02	V	-11.3
5394.500000	---	36.83	54.00	17.17	V	-0.8
5394.500000	46.19	---	74.00	27.81	V	-0.8
10273.500000	---	43.88	54.00	10.12	H	7.1
10273.500000	54.21	---	74.00	19.79	H	7.1
17014.000000	55.91	---	74.00	18.09	H	12.3
17014.000000	---	47.80	54.00	6.20	H	12.3
17093.900000	54.46	---	74.00	19.54	H	12.1
17093.900000	---	47.82	54.00	6.18	H	12.1

Middle Channel: 2437MHz**Common Information**

Project No.: RKS240926007
 Test Mode: Transmitting in 802.11n40 mode middle channel
 Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Test Engineer: Destine Hu

**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)
1061.300000	---	27.40	54.00	26.60	H	-15.4
1061.300000	39.26	---	74.00	34.74	H	-15.4
2128.800000	---	31.36	54.00	22.64	H	-11.3
2128.800000	43.19	---	74.00	30.81	H	-11.3
4655.000000	---	33.12	54.00	20.88	H	-3.7
4655.000000	44.05	---	74.00	29.95	H	-3.7
7755.800000	---	42.22	54.00	11.78	V	3.9
7755.800000	51.86	---	74.00	22.14	V	3.9
16541.400000	53.51	---	74.00	20.49	V	10.9
16541.400000	---	46.60	54.00	7.40	V	10.9
16779.400000	---	45.59	54.00	8.41	H	11.6
16779.400000	56.37	---	74.00	17.63	H	11.6

High Channel: 2452MHz**Common Information**

Project No.:

RKS240926007

Test Mode:

Transmitting in 802.11n40 mode high channel

Standard:

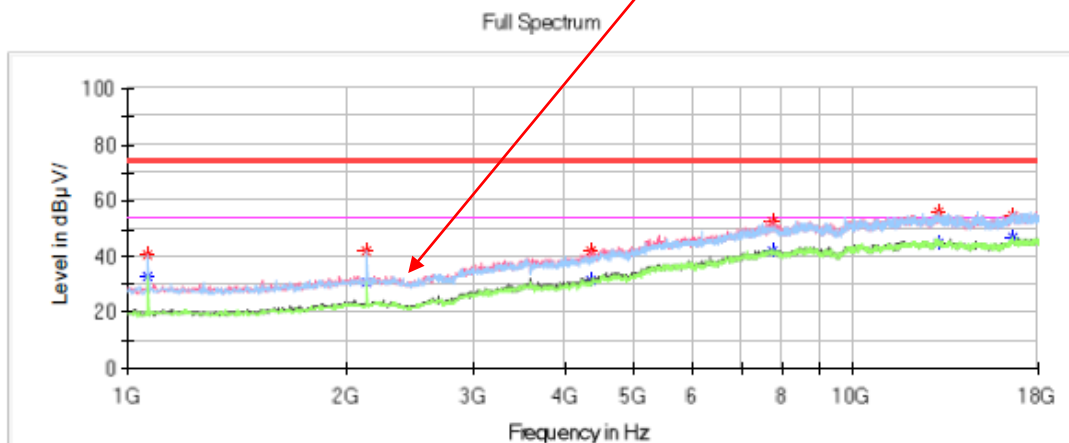
FCC Part 15.205&FCC Part 15.209&FCC Part 15.247

Receiver Setting:

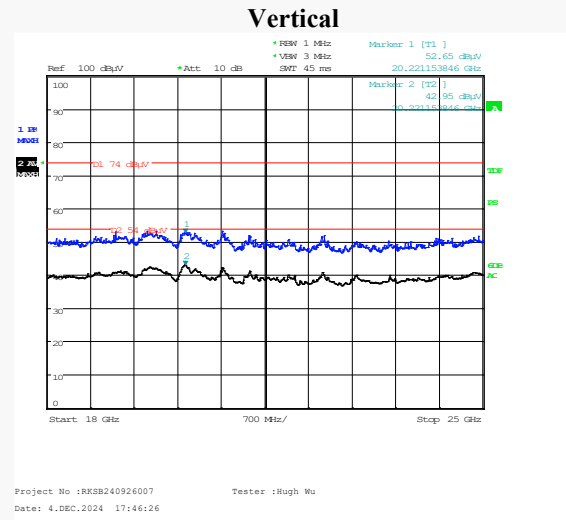
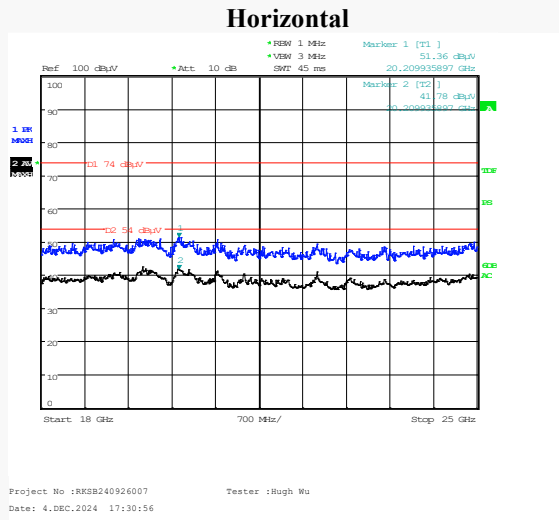
RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto

Test Engineer:

Destine Hu

Fundamental Test with
Band Reject 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)
1064.700000	---	32.68	54.00	21.32	H	-15.4
1064.700000	40.57	---	74.00	33.43	H	-15.4
2132.400000	---	30.84	54.00	23.16	H	-11.3
2132.400000	42.06	---	74.00	31.94	H	-11.3
4345.600000	---	31.19	54.00	22.81	V	-4.8
4345.600000	42.19	---	74.00	31.81	V	-4.8
7749.000000	---	41.76	54.00	12.24	V	3.9
7749.000000	52.52	---	74.00	21.48	V	3.9
13107.400000	55.86	---	74.00	18.14	H	9.7
13107.400000	---	44.71	54.00	9.29	H	9.7
16575.400000	54.46	---	74.00	19.54	V	11.0
16575.400000	---	47.10	54.00	6.90	V	11.0

18GHz-25GHz: Transmitting in maximum output power 802.11n40 mode and high channel

Note: The test distance is 3m. The limit is 74dB μ V/m(Peak) and 54dB μ V/m(Average).

Frequency (GHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
20.22	---	42.95	54	11.05	V	12.48
20.22	52.65	---	74	21.35	V	12.48
20.21	---	41.78	54	12.22	H	12.47
20.21	51.36	---	74	22.64	H	12.47

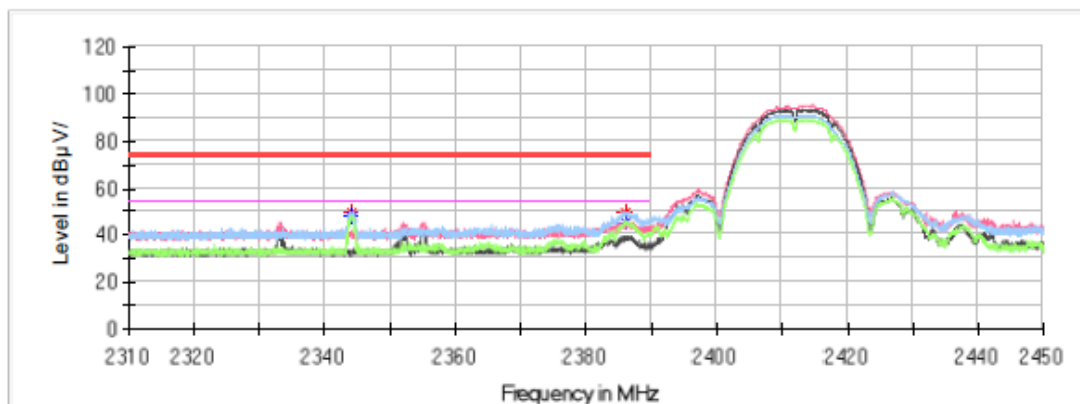
Band Edge:
802.11b Mode:

Low Channel

Common Information

Project No.: RKSB240926007
Test Mode: Transmitting in 802.11b mode low channel
Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

Full Spectrum



Critical Freqs

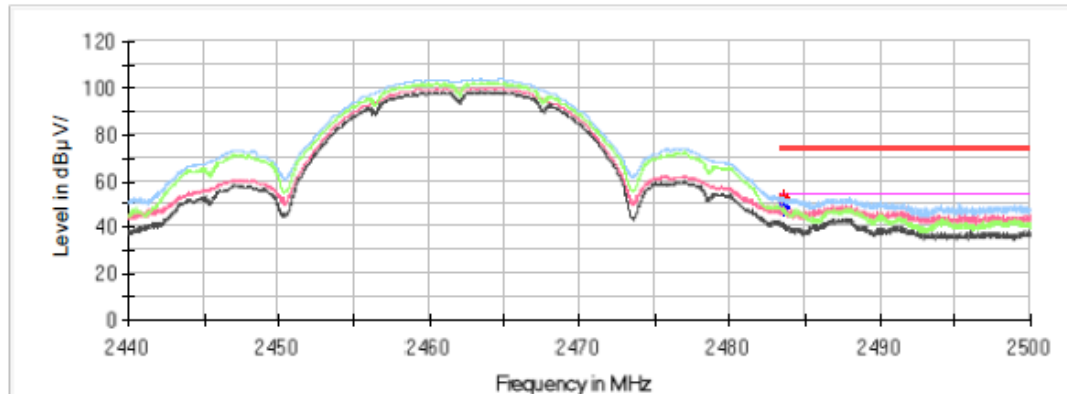
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2344.020000	49.82	---	74.00	24.18	H	-4.7
2344.020000	---	48.22	54.00	5.78	H	-4.7
2386.104000	49.91	---	74.00	24.09	H	-4.6
2386.104000	---	45.17	54.00	8.83	H	-4.6

High Channel

Common Information

Project No.: RKSB240926007
Test Mode: Transmitting in 802.11b mode high channel
Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

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)
2483.524000	---	48.49	54.00	5.51	H	-4.3
2483.524000	51.97	---	74.00	22.03	H	-4.3
2483.560000	---	47.69	54.00	6.31	H	-4.3
2483.560000	53.04	---	74.00	20.96	H	-4.3

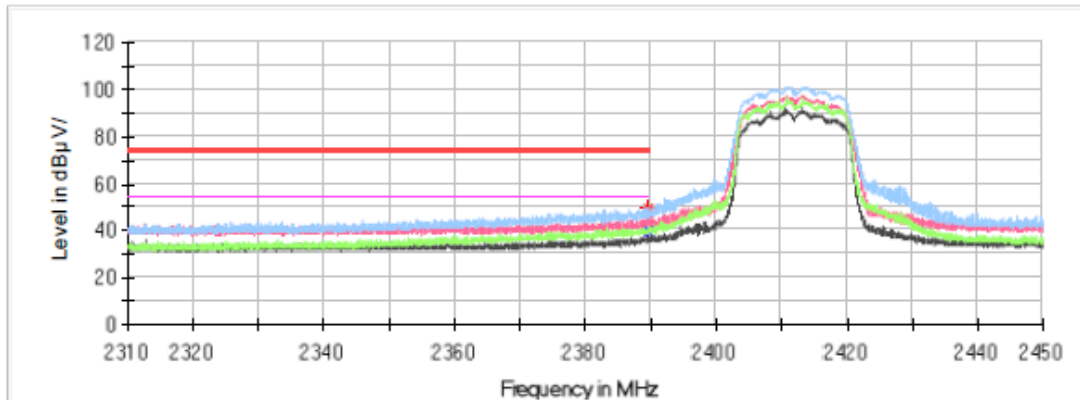
802.11g Mode :

Low Channel

Common Information

Project No.: RKS240926007
Test Mode: Transmitting in 802.11g mode low channel
Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

Full Spectrum



Critical Freqs

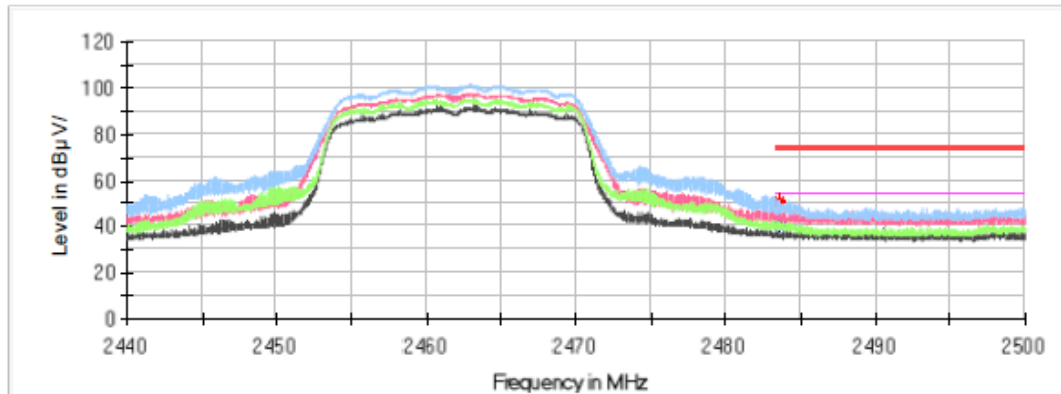
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2389.534000	49.62	---	74.00	24.38	H	-4.6
2389.534000	---	39.78	54.00	14.22	H	-4.6
2389.786000	47.36	---	74.00	26.64	H	-4.6
2389.786000	---	41.59	54.00	12.41	H	-4.6

High Channel

Common Information

Project No.: RKS240926007
Test Mode: Transmitting in 802.11g mode high channel
Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

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)
2483.554000	51.13	---	74.00	22.87	H	-4.3
2483.554000	---	39.94	54.00	14.06	H	-4.3
2483.596000	50.03	---	74.00	23.97	H	-4.3
2483.596000	---	42.16	54.00	11.84	H	-4.3

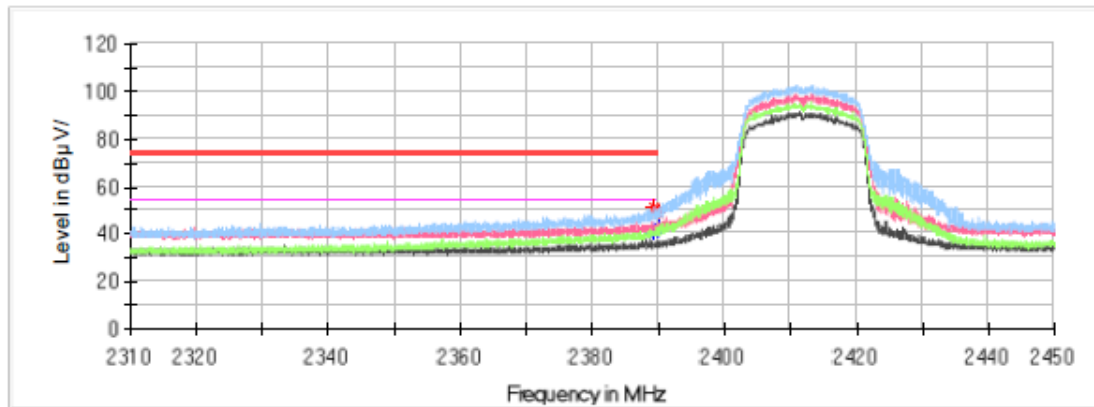
802.11n-HT20 Mode:

Low Channel

Common Information

Project No.: RKS240926007
Test Mode: Transmitting in 802.11n20 mode low channel
Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

Full Spectrum



Critical Freqs

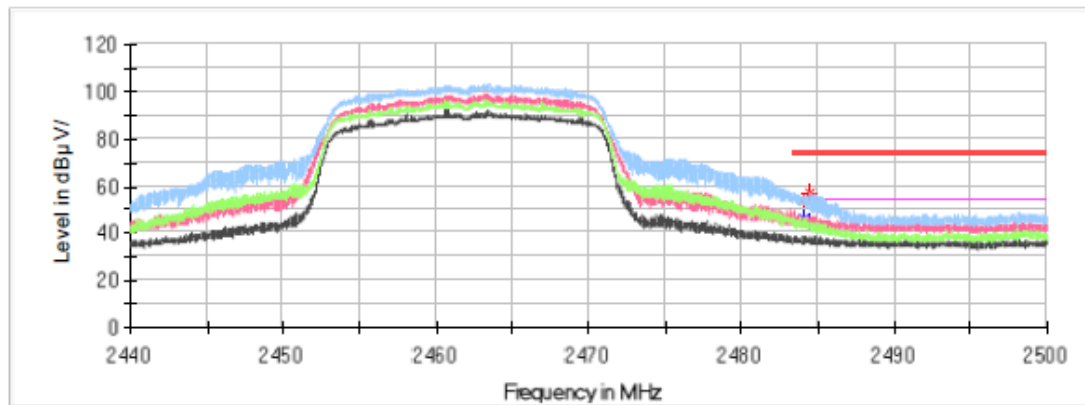
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2389.296000	50.79	---	74.00	23.21	H	-4.6
2389.296000	---	40.17	54.00	13.83	H	-4.6
2389.814000	48.68	---	74.00	25.32	H	-4.6
2389.814000	---	42.91	54.00	11.09	H	-4.6

High Channel

Common Information

Project No.: RKSB240926007
Test Mode: Transmitting in 802.11n20 mode high channel
Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

Full Spectrum



Critical Freqs

Frequency (MHz)	MaxPeak (dB μV/m)	Average (dB μV/m)	Limit (dB μV/m)	Margin (dB)	Pol	Corr. (dB/m)
2484.040000	53.44	---	74.00	20.56	H	-4.3
2484.040000	---	46.16	54.00	7.84	H	-4.3
2484.508000	56.85	---	74.00	17.15	H	-4.3
2484.508000	---	44.31	54.00	9.69	H	-4.3

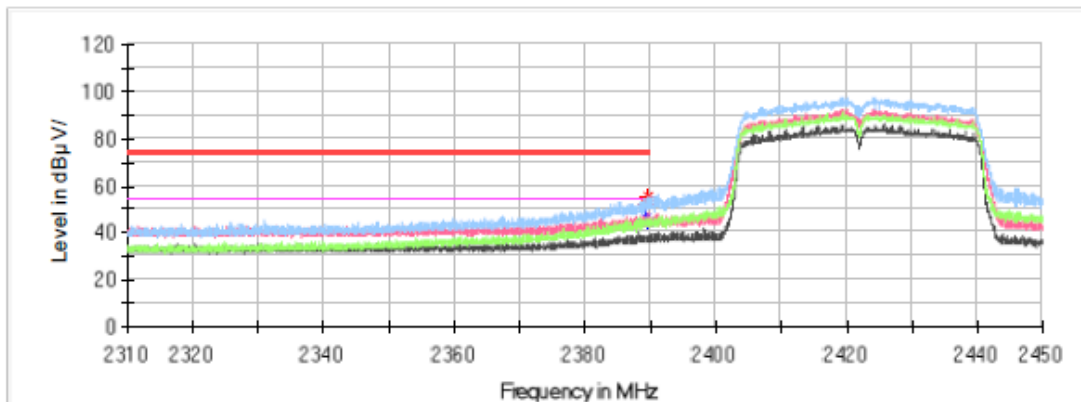
802.11n-HT40 Mode:

Low Channel

Common Information

Project No.: RKSB240926007
Test Mode: Transmitting in 802.11n40 mode low channel
Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

Full Spectrum



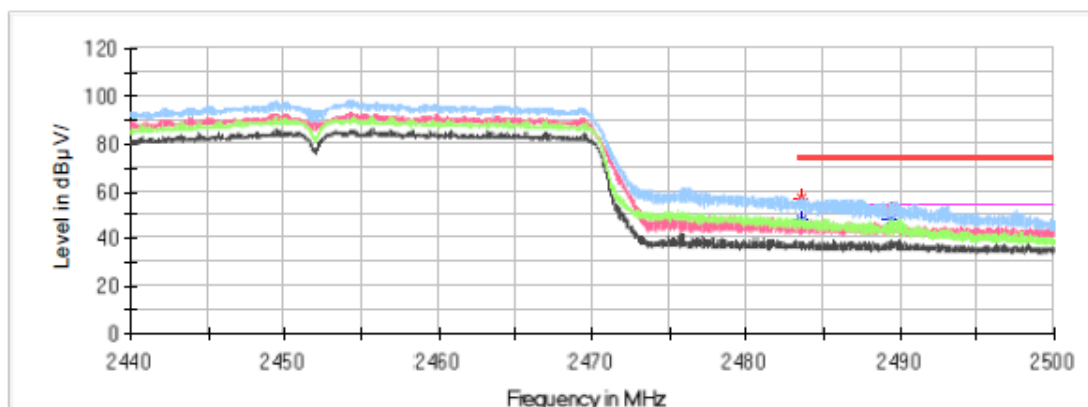
Critical Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2389.324000	51.80	---	74.00	22.20	H	-4.6
2389.324000	---	46.40	54.00	7.60	H	-4.6
2389.786000	---	44.81	54.00	9.19	H	-4.6
2389.786000	55.03	---	74.00	18.97	H	-4.6

High Channel**Common Information**

Project No.: RKS240926007
Test Mode: Transmitting in 802.11n40 mode high channel
Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

Full Spectrum

**Critical Freqs**

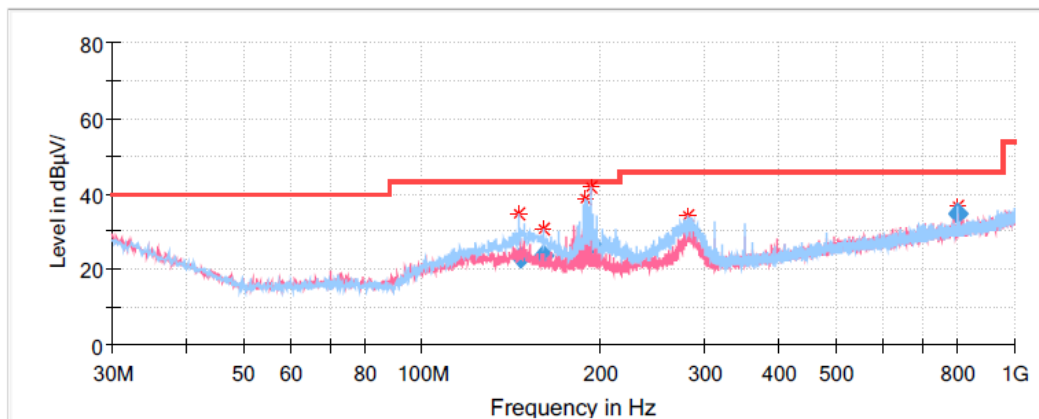
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2483.608000	56.85	---	74.00	17.15	H	-4.3
2483.608000	---	48.14	54.00	5.86	H	-4.3
2489.404000	51.89	---	74.00	22.11	H	-4.2
2489.404000	---	48.23	54.00	5.77	H	-4.2

For BLE Mode: (Transmitting in maximum output power low channel)
30MHz-1GHz

Low Channel: 2402MHz

Common Information

Project No: RKSB240926007
Test Mode: Transmitting in BLE-1M mode Low channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESCI, JB3, 310N
Receiver Setting: RBW: 120 kHz, VBW: 300 kHz, Sweep Time: Auto
Temperature: 18.9°C
Humidity: 54%
Barometric Pressure: 103.0kPa
Test Engineer: Jerry Yan
Test Date: 2024/11/23



Final Result

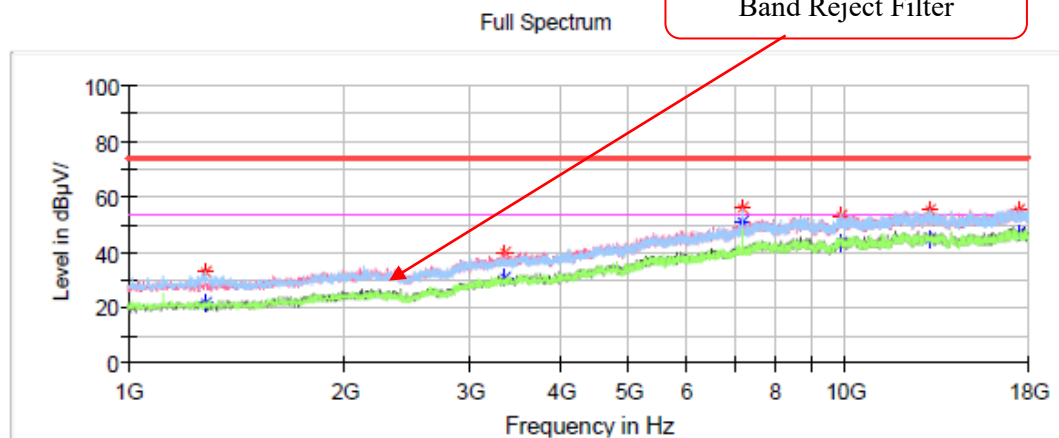
Frequency (MHz)	QuasiPeak (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Pol	Corr. (dB/m)
146.722950	23.32	43.50	20.18	H	-11.5
160.186700	23.41	43.50	20.09	H	-12.1
188.935800	26.35	43.50	17.15	H	-12.5
192.848650	26.60	43.50	16.90	H	-12.4
282.221850	30.38	46.00	15.62	H	-10.4
800.013750	34.51	46.00	11.49	H	-0.8

1GHz-18GHz:

Low Channel: 2402MHz

Common Information

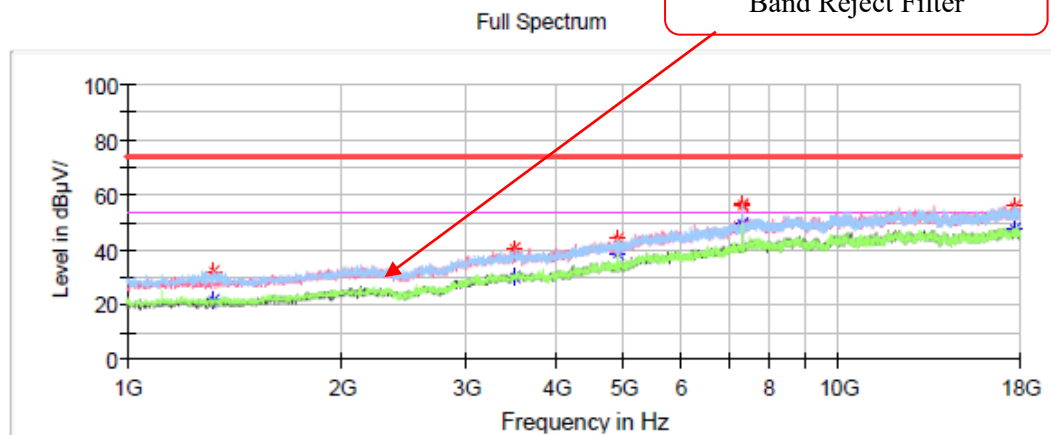
Project No.: RKSB240926007
 Test Mode: BLE 1M
 Standard: FCC Part 15.205& FCC Part 15.209& FCC Part 15.247
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Test Engineer: Destine Hu

**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)
1280.500000	---	21.94	54.00	32.06	H	-15.1
1280.500000	32.85	---	74.00	41.15	H	-15.1
3359.600000	---	31.03	54.00	22.97	V	-6.9
3359.600000	39.76	---	74.00	34.24	V	-6.9
7205.000000	---	50.76	54.00	3.24	V	3.1
7205.000000	56.18	---	74.00	17.82	V	3.1
9877.400000	---	43.22	54.00	10.78	V	6.7
9877.400000	53.44	---	74.00	20.56	V	6.7
13078.500000	---	44.89	54.00	9.11	H	9.7
13078.500000	55.32	---	74.00	18.68	H	9.7
17498.500000	---	47.07	54.00	6.93	V	11.5
17498.500000	55.31	---	74.00	18.69	V	11.5

Middle Channel: 2440MHz**Common Information**

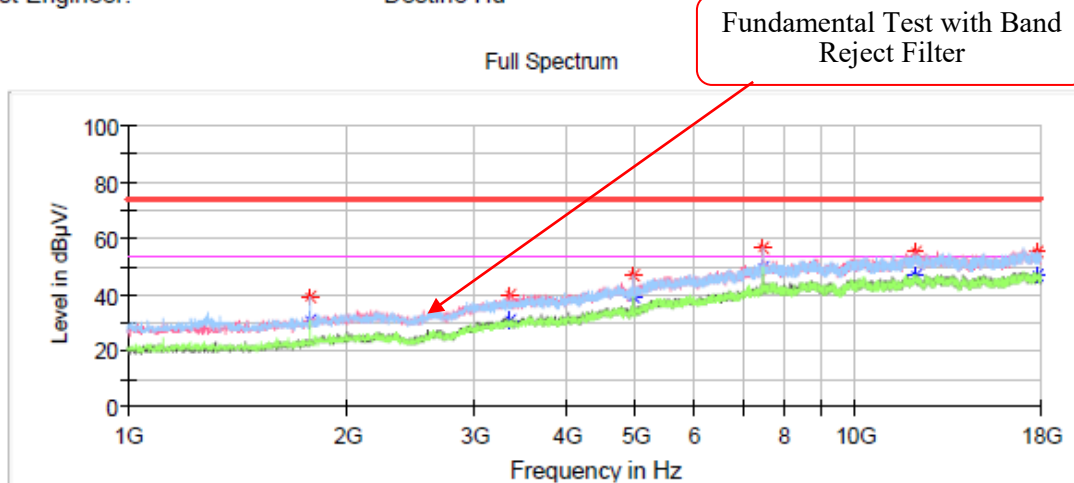
Project No.: RKSB240926007
Test Mode: BLE 1M
Standard: FCC Part 15.205& FCC Part 15.209& FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

**Critical Freqs**

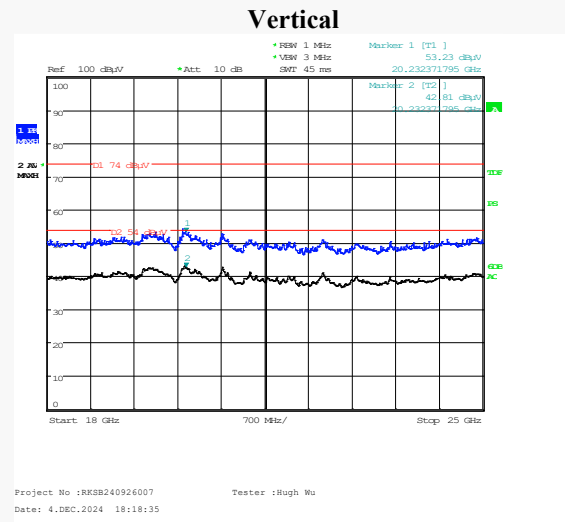
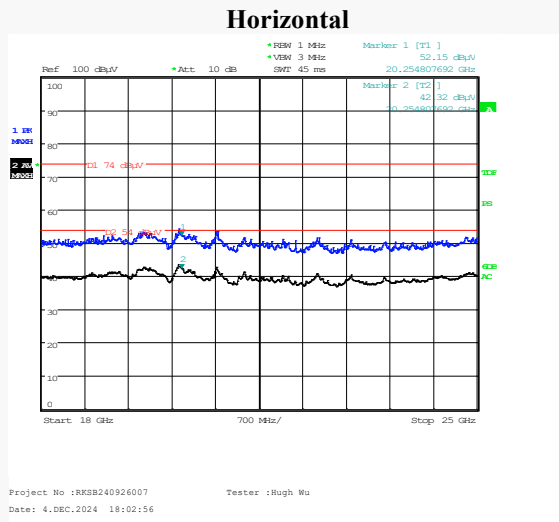
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1324.700000	---	22.00	54.00	32.00	H	-15.0
1324.700000	32.04	---	74.00	41.96	H	-15.0
3504.100000	---	30.36	54.00	23.64	V	-6.3
3504.100000	40.28	---	74.00	33.72	V	-6.3
4879.400000	44.35	---	74.00	29.65	H	-2.9
4879.400000	---	38.11	54.00	15.89	H	-2.9
7318.900000	---	49.43	54.00	4.57	H	3.4
7318.900000	56.00	---	74.00	18.00	H	3.4
7320.600000	---	49.19	54.00	4.81	H	3.4
7320.600000	56.41	---	74.00	17.59	H	3.4
17697.400000	---	47.33	54.00	6.67	V	11.7
17697.400000	55.85	---	74.00	18.15	V	11.7

High Channel: 2480MHz**Common Information**

Project No.: RKSB240926007
 Test Mode: BLE 1M
 Standard: FCC Part 15.205& FCC Part 15.209& FCC Part 15.247
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Test Engineer: Destine Hu

**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)
1782.000000	---	30.99	54.00	23.01	H	-13.0
1782.000000	39.11	---	74.00	34.89	H	-13.0
3352.800000	---	30.74	54.00	23.26	V	-7.0
3352.800000	39.73	---	74.00	34.27	V	-7.0
4959.300000	46.58	---	74.00	27.42	H	-2.6
4959.300000	---	38.98	54.00	15.02	H	-2.6
7439.600000	56.72	---	74.00	17.28	V	3.7
7439.600000	---	49.64	54.00	4.36	V	3.7
12097.600000	---	46.53	54.00	7.47	V	9.1
12097.600000	55.10	---	74.00	18.90	V	9.1
17773.900000	---	46.81	54.00	7.19	H	11.8
17773.900000	55.49	---	74.00	18.51	H	11.8

18GHz-25GHz: (Transmitting in maximum output power low channel)

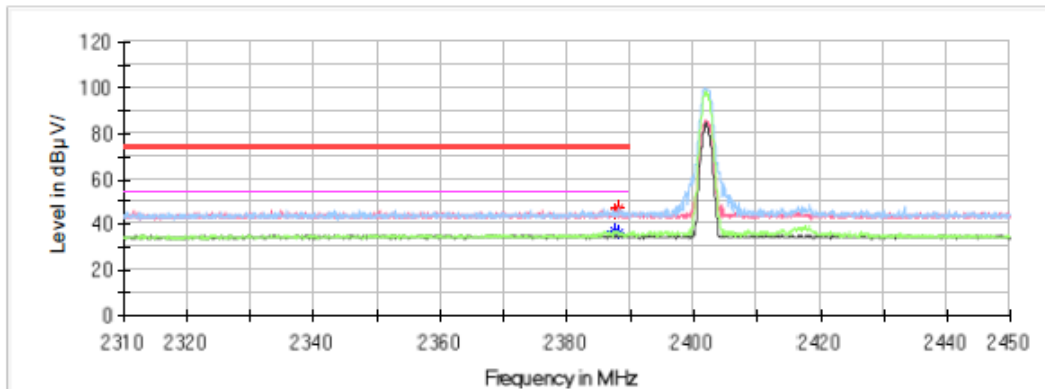
Note: The test distance is 3m. The limit is 74dBμV/m(Peak) and 54dBμV/m(Average).

Frequency (GHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
20.23	---	42.81	54	11.19	V	12.49
20.23	53.23	---	74	20.77	V	12.49
20.25	---	42.32	54	11.68	H	12.51
20.25	52.15	---	74	21.85	H	12.51

Band Edge:**Low Channel****Common Information**

Project No.: RKSB240926007
Test Mode: BLE 1M
Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

Full Spectrum

**Critical Freqs**

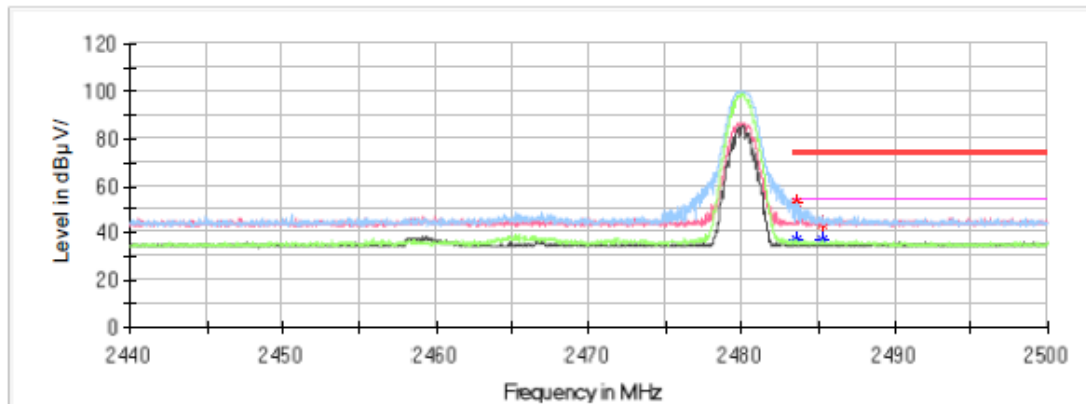
Frequency (MHz)	MaxPeak (dB µV/m)	Average (dB µV/m)	Limit (dB µV/m)	Margin (dB)	Pol	Corr. (dB/m)
2387.672000	---	37.10	54.00	16.90	H	-0.6
2387.672000	45.63	---	74.00	28.37	H	-0.6
2388.288000	---	35.90	54.00	18.10	H	-0.6
2388.288000	47.20	---	74.00	26.80	H	-0.6

High Channel

Common Information

Project No.: RKS240926007
Test Mode: BLE 1M
Standard: FCC Part 15.205&FCC Part 15.209&FCC Part 15.247
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Test Engineer: Destine Hu

Full Spectrum



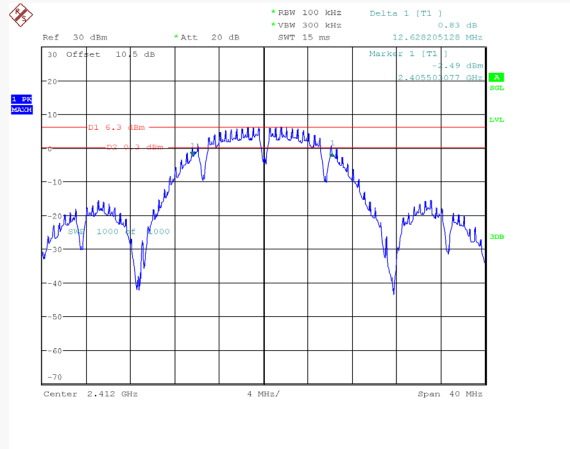
Critical Freqs

Frequency (MHz)	MaxPeak (dB μV/m)	Average (dB μV/m)	Limit (dB μV/m)	Margin (dB)	Pol	Corr. (dB/m)
2483.536000	52.74	---	74.00	21.26	H	-0.3
2483.536000	---	36.81	54.00	17.19	H	-0.3
2485.312000	44.05	---	74.00	29.95	H	-0.2
2485.312000	---	36.85	54.00	17.15	H	-0.2

6 dB EMISSION BANDWIDTH**Test Result:** Compliant.*EUT operation mode: Transmitting***For Wi-Fi Mode:**

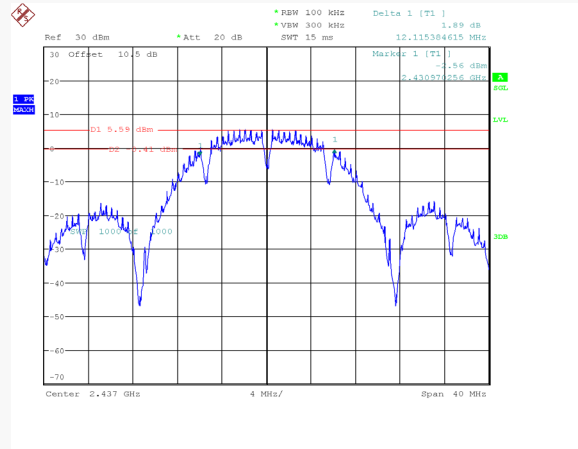
Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (MHz)
802.11b Mode			
Low	2412	12.628	≥ 0.5
Middle	2437	12.115	≥ 0.5
High	2462	12.179	≥ 0.5
802.11g Mode			
Low	2412	15.256	≥ 0.5
Middle	2437	15.256	≥ 0.5
High	2462	15.256	≥ 0.5
802.11n-HT20 Mode			
Low	2412	15.192	≥ 0.5
Middle	2437	15.192	≥ 0.5
High	2462	15.192	≥ 0.5
802.11n-HT40 Mode			
Low	2422	32.821	≥ 0.5
Middle	2437	32.949	≥ 0.5
High	2452	32.821	≥ 0.5

802.11b Mode Low Channel



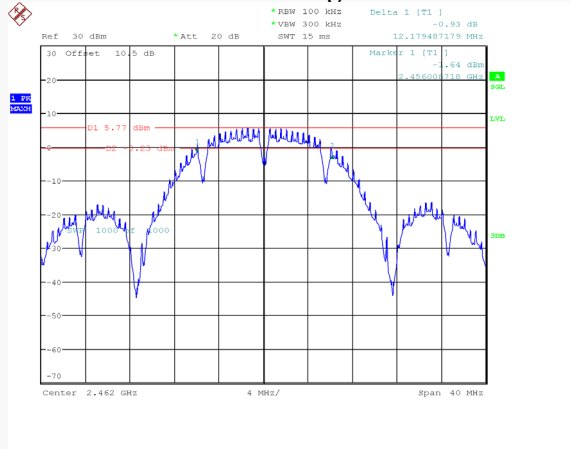
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 15:49:43

802.11b Mode Middle Channel



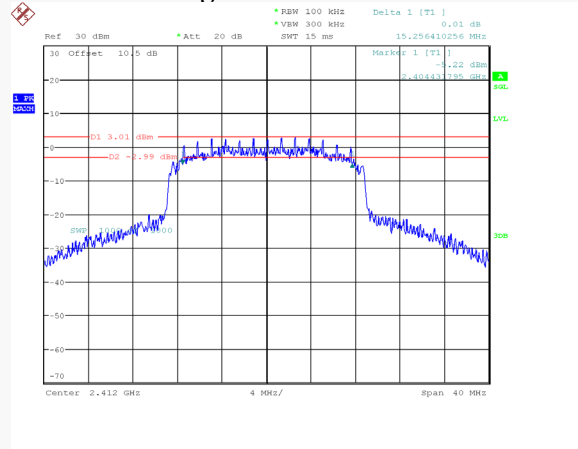
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 15:54:10

802.11b Mode High Channel



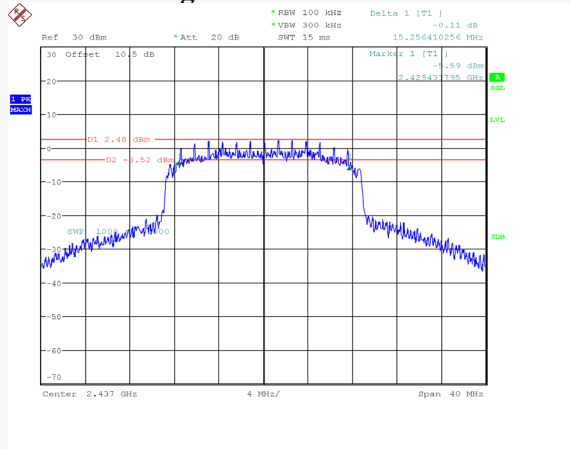
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 16:00:46

802.11g Mode Low Channel



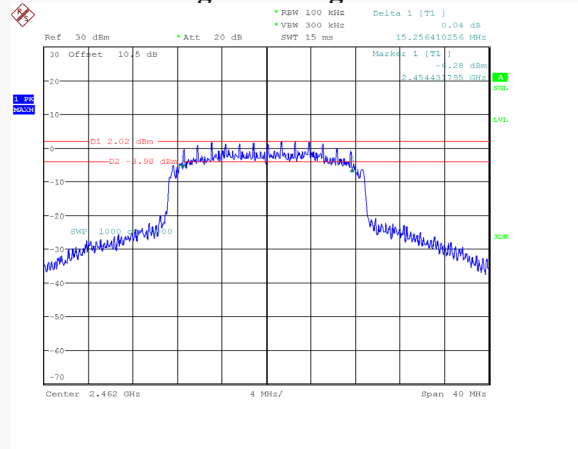
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 16:06:07

802.11g Mode Middle Channel



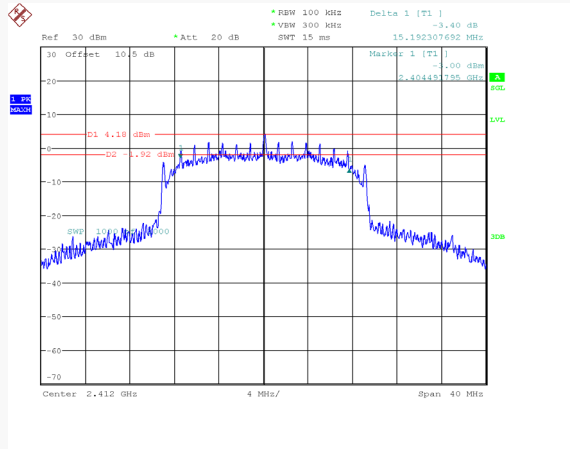
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 16:09:13

802.11g Mode High Channel



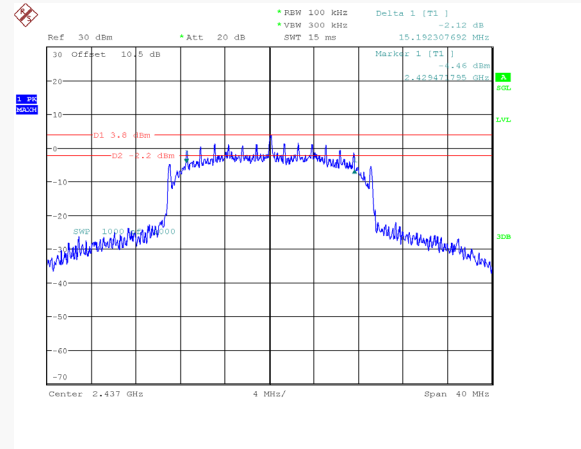
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 16:14:14

802.11n-HT20 Mode Low Channel



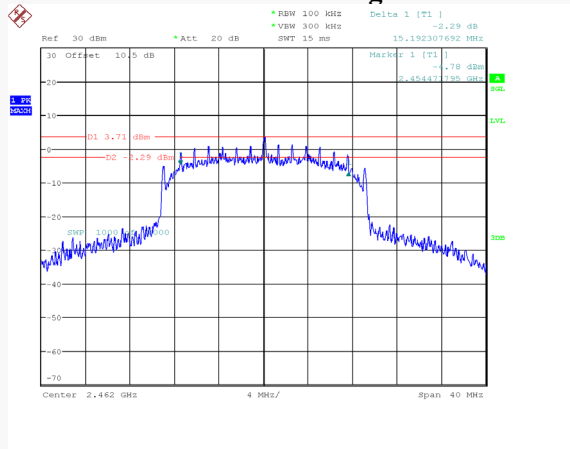
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 16:21:05

802.11n-HT20 Mode Middle Channel



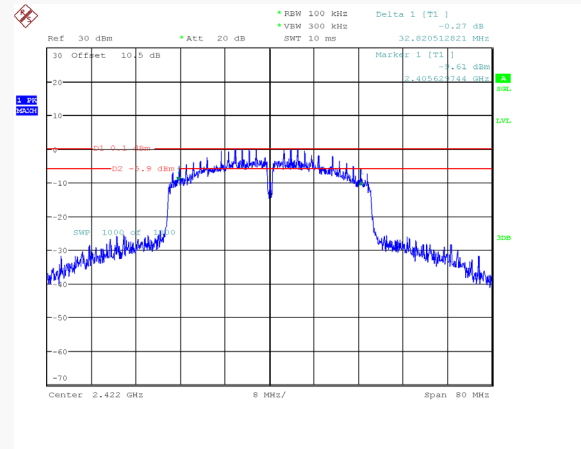
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 16:23:31

802.11n-HT20 Mode High Channel



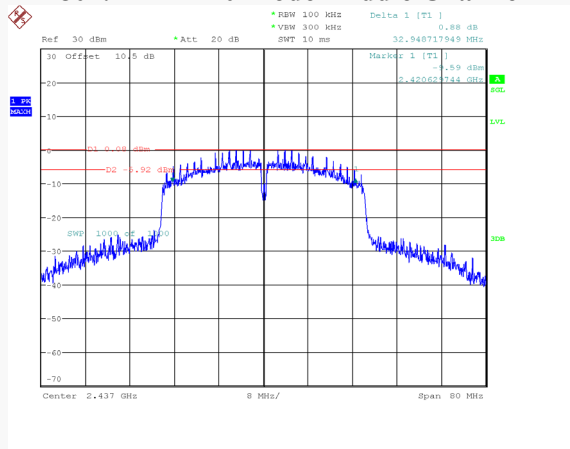
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 16:28:47

802.11n-HT40 Mode Low Channel



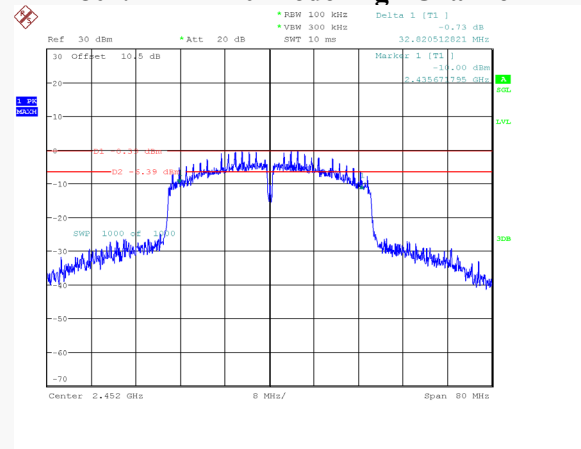
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 16:35:11

802.11n-HT40 Mode Middle Channel



ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 16:37:54

802.11n-HT40 Mode High Channel

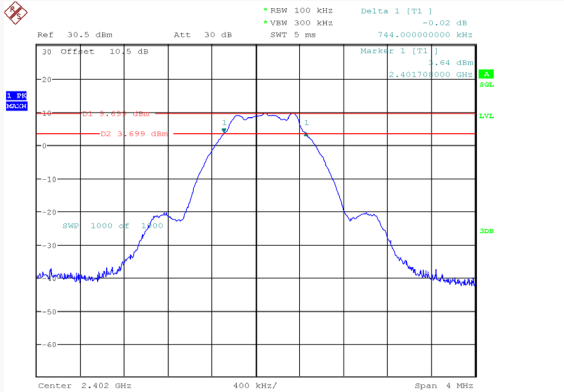


ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 31.JUL.2025 16:39:50

For BLE Mode:

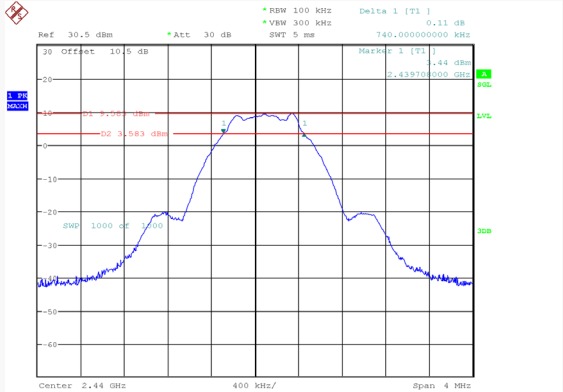
Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (MHz)
Low	2402	0.744	≥ 0.5
Middle	2440	0.740	≥ 0.5
High	2480	0.740	≥ 0.5

Low Channel



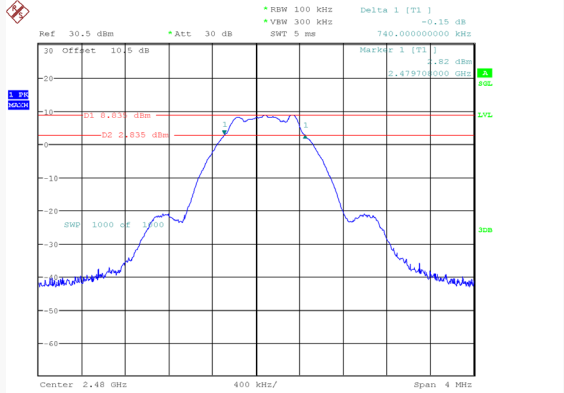
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 3.DEC.2024 11:04:11

Middle Channel



ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 3.DEC.2024 11:08:48

High Channel

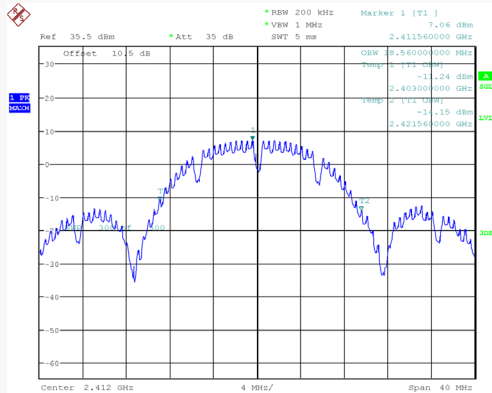


ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 3.DEC.2024 11:28:37

OCCUPIED BANDWIDTH*EUT operation mode: Transmitting***For Wi-Fi Mode:**

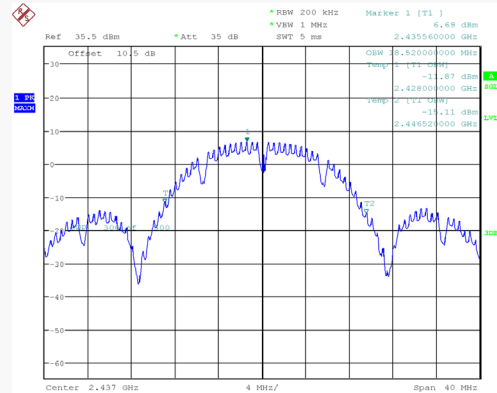
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
802.11b Mode		
Low	2412	18.560
Middle	2437	18.520
High	2462	18.440
802.11g Mode		
Low	2412	17.560
Middle	2437	17.520
High	2462	17.520
802.11n-HT20 mode		
Low	2412	18.320
Middle	2437	18.320
High	2462	18.320
802.11n-HT40 mode		
Low	2422	37.240
Middle	2437	36.160
High	2452	36.240

802.11b Mode Low Channel



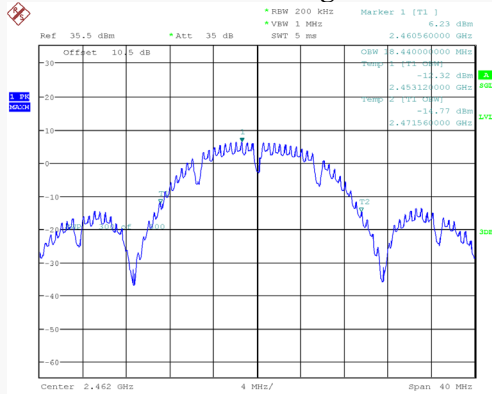
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 10:12:40

802.11b Mode Middle Channel



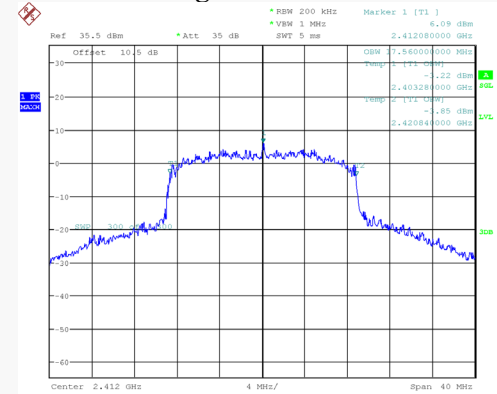
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 10:07:55

802.11b Mode High Channel



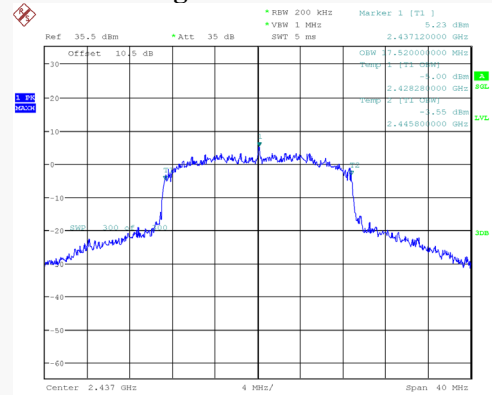
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 10:16:14

802.11g Mode Low Channel



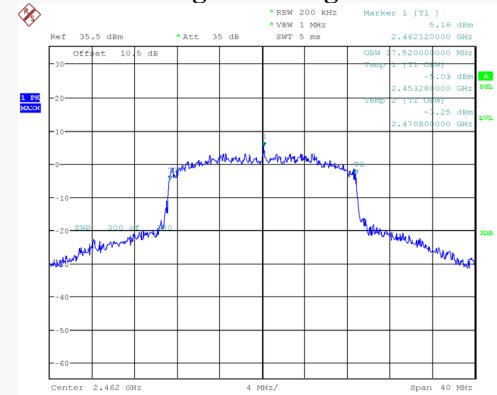
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 10:12:45

802.11g Mode Middle Channel



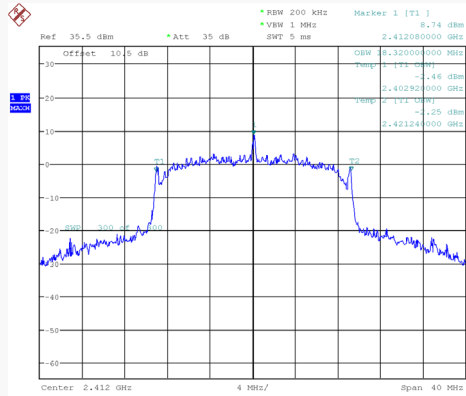
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 10:37:24

802.11g Mode High Channel



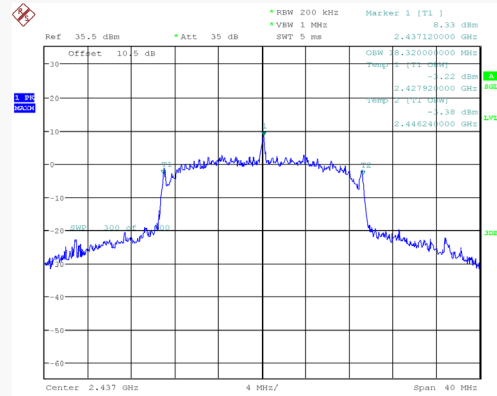
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 10:40:27

802.11n-HT20 Mode Low Channel



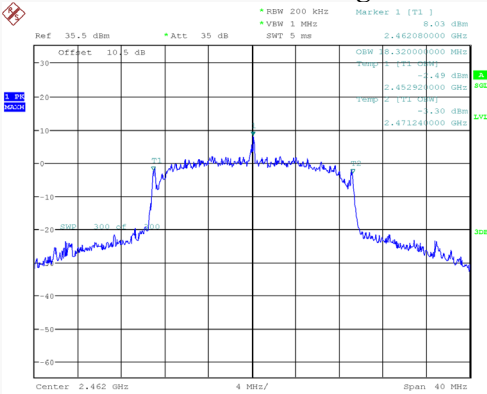
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 10:45:39

802.11n-HT20 Mode Middle Channel



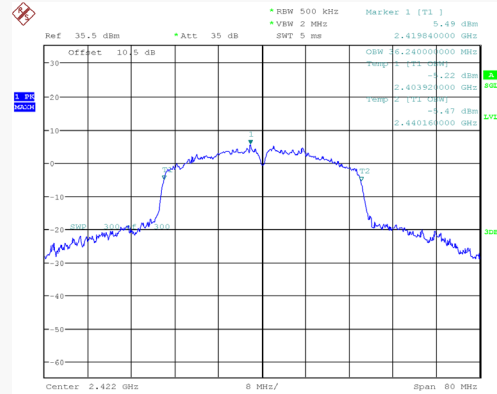
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 10:48:38

802.11n-HT20 Mode High Channel



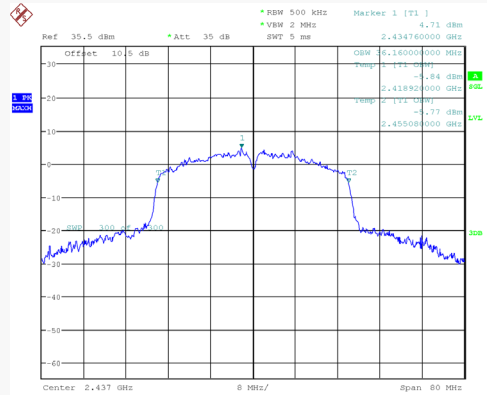
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 10:51:16

802.11n-HT40 Mode Low Channel



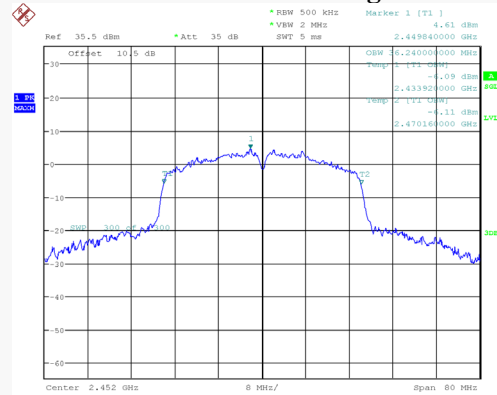
ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 10:57:05

802.11n-HT40 Mode Middle Channel



ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 10:59:42

802.11n-HT40 Mode High Channel

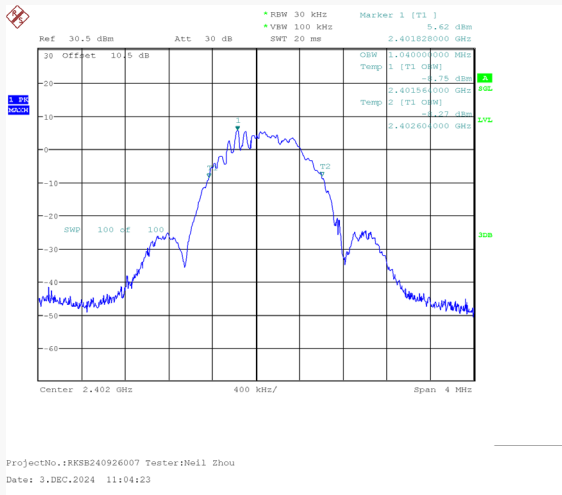


ProjectNo.:RKSB240926007 Tester:Neil Zhou
Date: 29.JUL.2025 11:01:50

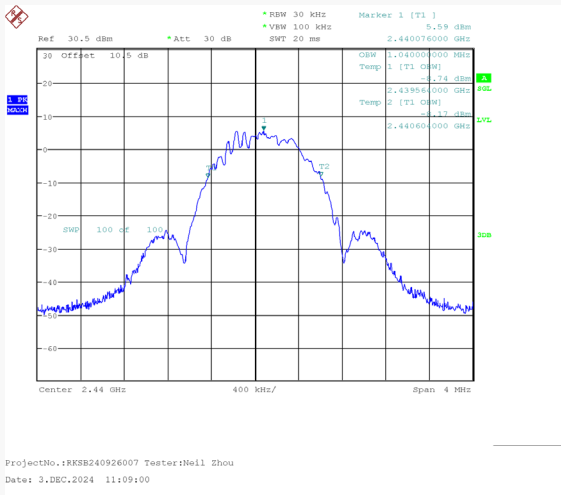
For BLE Mode:

Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
Low	2402	1.040
Middle	2440	1.040
High	2480	1.040

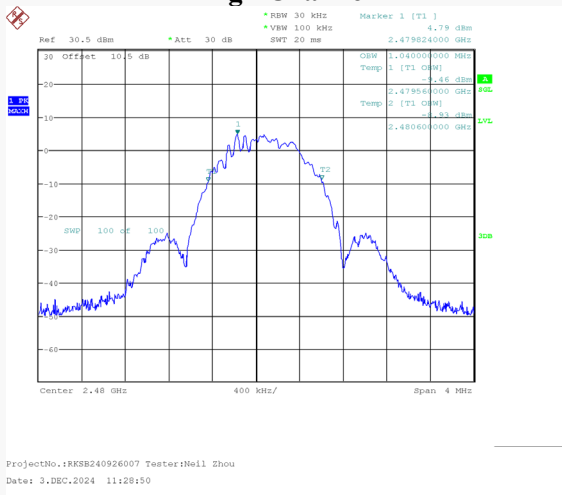
Low Channel



Middle Channel



High Channel



POWER SPECTRAL DENSITY**Test Result:** Compliant.*EUT operation mode: Transmitting***For Wi-Fi Mode:**

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)
802.11b Mode			
Low	2412	-7.44	≤ 8
Middle	2437	-8.12	≤ 8
High	2462	-8.31	≤ 8
802.11g Mode			
Low	2412	-10.87	≤ 8
Middle	2437	-11.25	≤ 8
High	2462	-11.62	≤ 8
802.11n-HT20 mode			
Low	2412	-10.90	≤ 8
Middle	2437	-11.49	≤ 8
High	2462	-11.74	≤ 8
802.11n-HT40 mode			
Low	2422	-12.01	≤ 8
Middle	2437	-12.59	≤ 8
High	2452	-12.64	≤ 8