

FCC PART 15.247

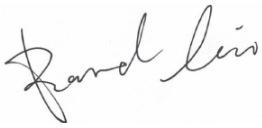
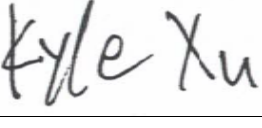
TEST REPORT

For

Signify (China) Investment Co., Ltd.

Building no.9, Lane 888, Tianlin Road, Minhang District, Shanghai 200233, China

FCC ID: 2AGBWSHM2

Report Type: Original Report	Product Name: Sensor
Report Number: RKS240205001-00B	
Report Date: 2024-07-05	
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Approves By:	 Kyle Xu
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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.

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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	RKSB240205001-00B	R1V1	2024-07-05	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Signify (China) Investment Co., Ltd.
Tested Model:	EasySense SNH212 MC
Product Name:	Sensor
Power Supply:	DC 12-22V
RF Function:	BLE; Zigbee
Maximum Output Power:	BLE (1 Mbps): 2.08 dBm BLE (2 Mbps): 2.15 dBm Zigbee: 5.50 dBm
Operating Band /Frequency:	BLE: 2402-2480 MHz Zigbee: 2405-2480 MHz
Modulation Type:	BLE: GFSK Zigbee: O-QPSK
Channel Number:	BLE: 40 Zigbee: 16
Antenna Type:	BLE/Zigbee: PCB Antenna
★Maximum Antenna Gain:	BLE/Zigbee: 2.2 dBi

Note: The maximum antenna gain is provided by the applicant.

All measurement and test data in this report was gathered from production sample serial number: RKSB240205001-1 (Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2024-02-05.)

Objective

This report is prepared for *Signify (China) Investment Co., Ltd.* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communications Commission rules.

The tests were performed in order to determine compliance 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 Compliance Testing of Unlicensed Wireless Devices and FCC KDB 558074 D01 15.247 Meas Guidance v05r02.

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Kunshan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

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 emissions	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 Zigbee mode:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
11	2405	19	2445
12	2410	20	2450
13	2415	21	2455
14	2420	22	2460
15	2425	23	2465
16	2430	24	2470
17	2435	25	2475
18	2440	26	2480

EUT was tested with channel 11, 18 and 26.

EUT Exercise Software

RF Test Tool: FTA2_RF_V2.0

★Power level: Default

Note: The power level was declared by the applicant.

Special Accessories

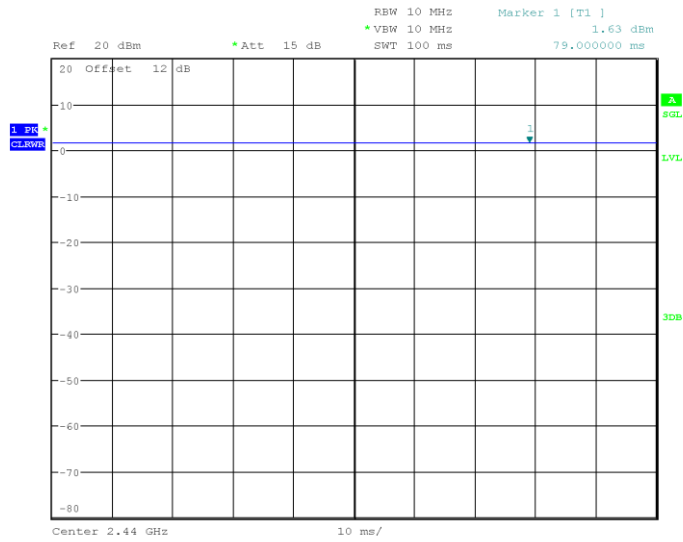
No special accessory.

Equipment Modifications

No modification was made to the EUT tested.

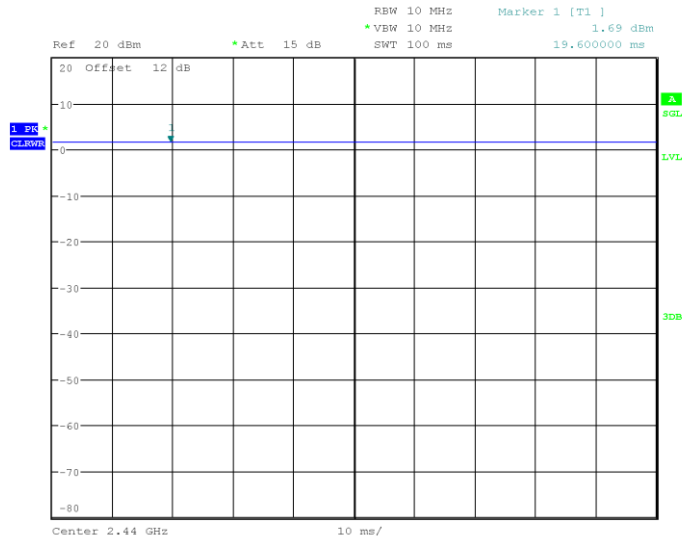
Duty Cycle:

BLE (1Mbps): Middle Channel



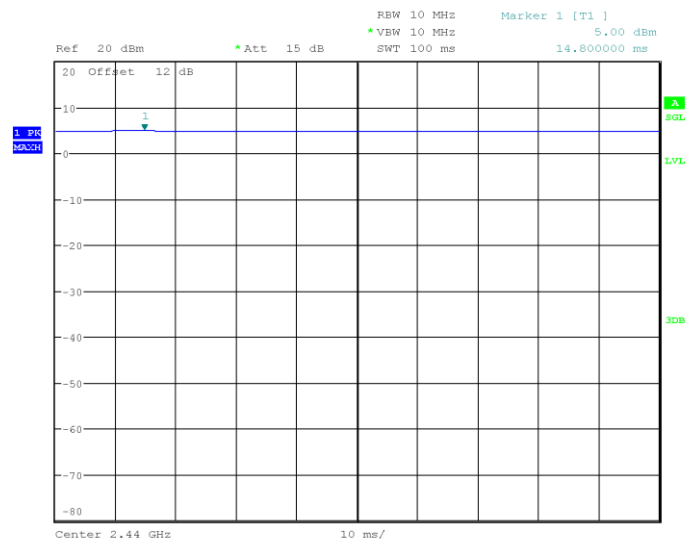
ProjectNo.:RKSB240205001 Tester:Bard Liu
 Date: 22.MAR.2024 11:59:29

BLE (2Mbps): Middle Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
 Date: 22.MAR.2024 11:58:49

Zigbee: Middle Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 14:02:43

Mode	Duty Cycle (%)	T _{on} (ms)	T _{on+off} (ms)	10log(1/x)
BLE (1 Mbps)	100	100	100	0
BLE (2 Mbps)	100	100	100	0
Zigbee	100	100	100	0

Note: “x” means the Duty Cycle.

Support Equipment List and Details

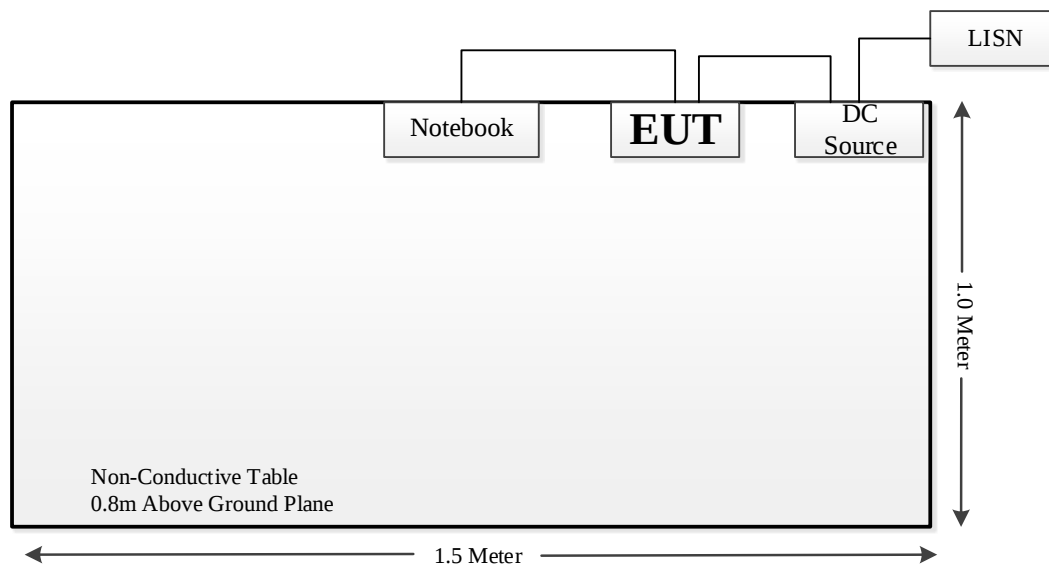
Manufacturer	Description	Model	Serial Number
ZHAOXIN	DC Source	RXN-605D	/
Dell Inc.	Notebook	latitude E5430	FLONLV1

External I/O Cable

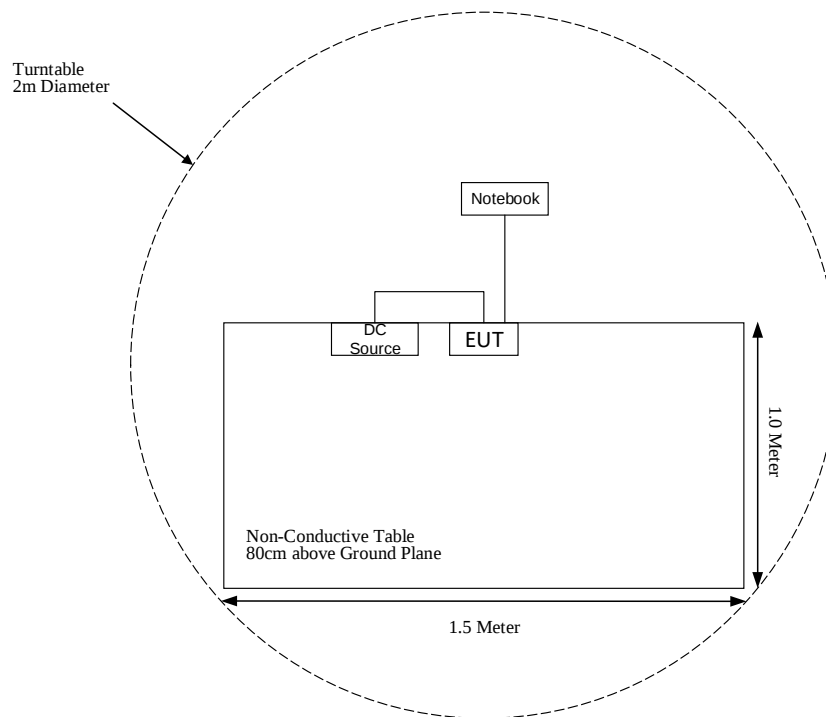
Cable Description	Length (m)	From Port	To
Power Cable	1.5	EUT	DC Source
USB cable	2.0	EUT	Notebook

Block Diagram of Test Setup

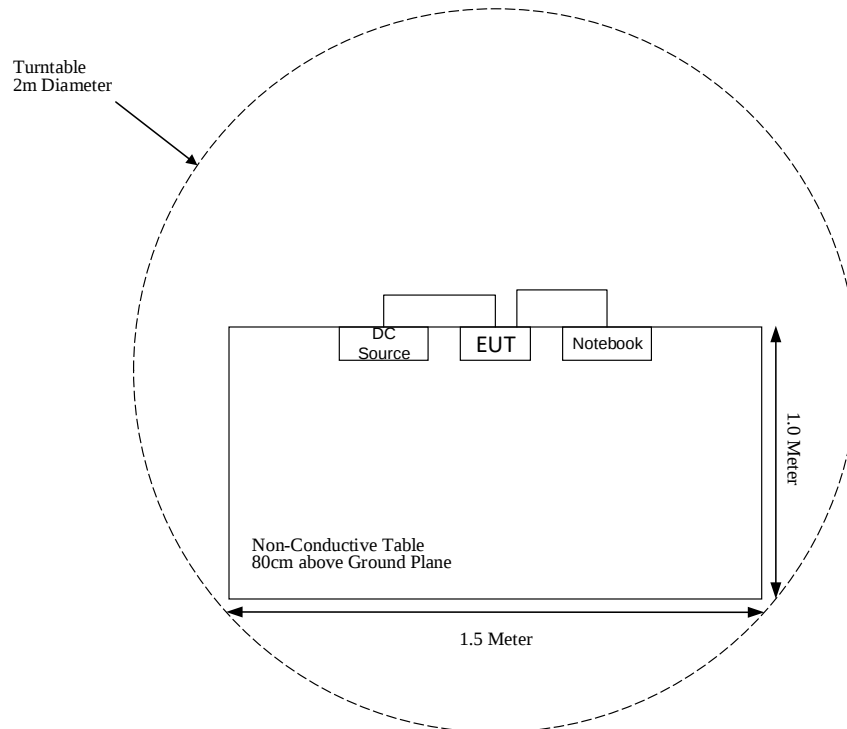
For Conducted Emissions:



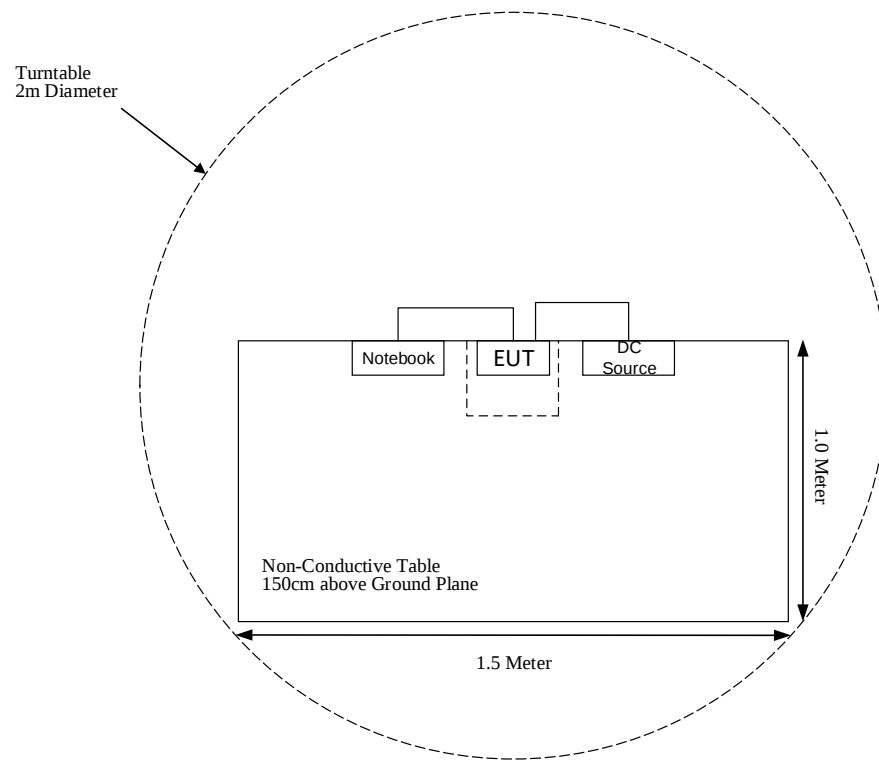
For Radiated Emissions(9kHz – 30MHz):



For Radiated Emissions(30MHz - 1GHz):



For Radiated Emissions(Above 1GHz):



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	Broadband Antenna	JB3	A090314-1	2023-11-11	2024-11-10
ETS-LINDGREN	Loop Antenna	6512	108100	2023-11-09	2024-11-08
Narda	6 dB Attenuator	773-6	10690812-2-3	2023-08-15	2024-08-14
Sonoma Instrument	Pre-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
Radiated Emission Test (Chamber #2)					
Rohde & Schwarz	EMI Test Receiver	ESU40	100207/040	2023-05-19	2024-05-18
ETS-LINDGREN	Horn Antenna	3115	9311-4159	2023-12-02	2024-12-01
ETS-LINDGREN	Horn Antenna	3116	2516	2023-12-08	2024-12-07
A.H.Systems,inc	Amplifier	PAM-0118P	512	2023-05-23	2024-05-22
MICRO-TRONICS	Band Reject Filter	BRM50702	G024	2023-08-05	2024-08-04
Narda	Attenuator	10dB	010	2023-10-10	2024-10-09
SELECTOR	Amplifier	EM18G40G	60726	2023-05-23	2024-05-22
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-6	006	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-11	011	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-12	012	2023-05-23	2024-05-22
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSU26	200103	2023-05-23	2024-05-22
Rohde & Schwarz	Spectrum Analyzer	FSIQ26	100048	2024-4-24	2025-4-23
Narda	Attenuator	10dB	010	2023-10-10	2024-10-09
XHFDZ	RG178 Coaxial Cable	SMA-178	XHF-1102	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 (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)	Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant

FCC §15.203 – ANTENNA REQUIREMENT

Applicable Standard

According to FCC § 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 use of a standard antenna jack or electrical connector is prohibited.

Antenna Connector Construction

The EUT has a PCB antenna for BLE&Zigbee, and the antenna gain is 2.2 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

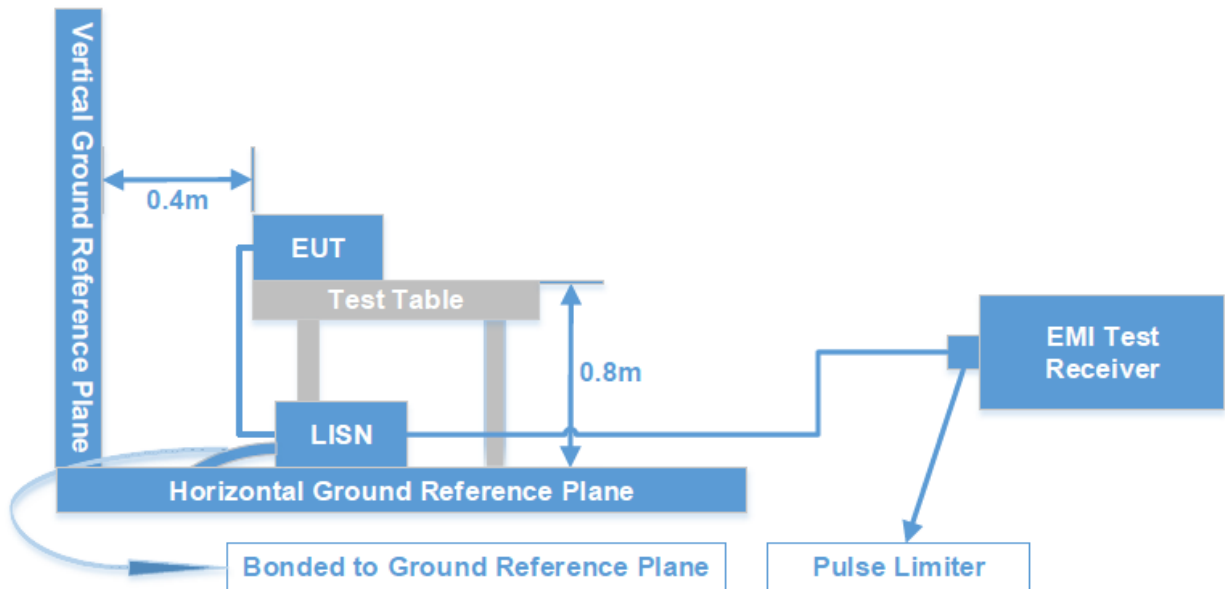
Result: Compliant.

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.

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 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)

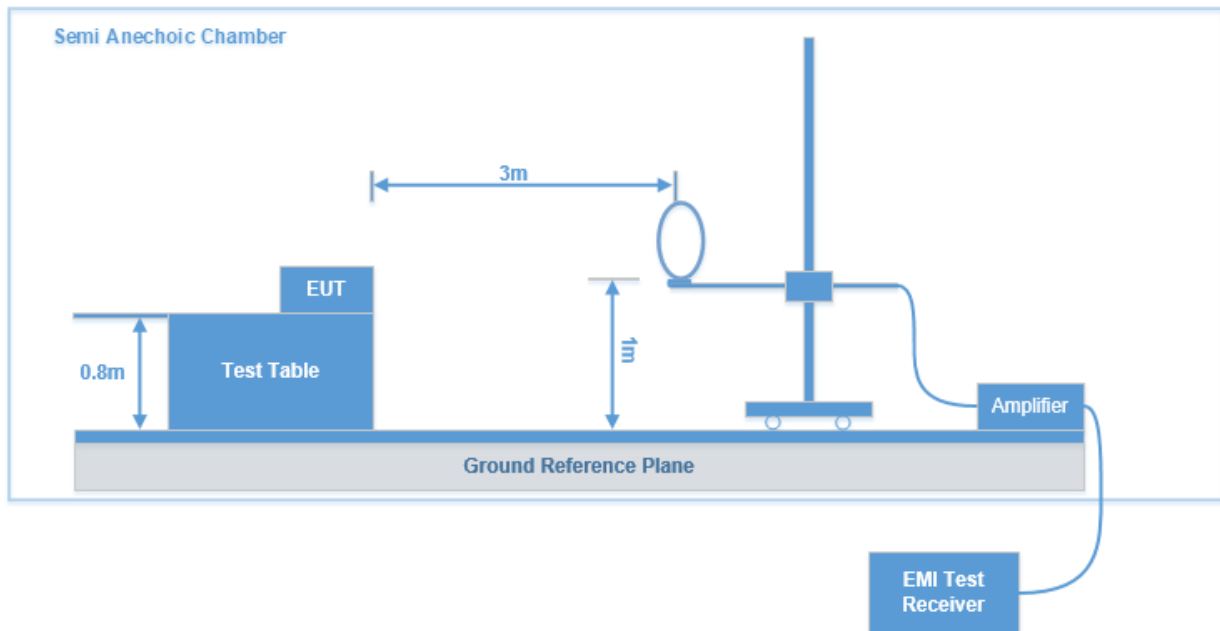
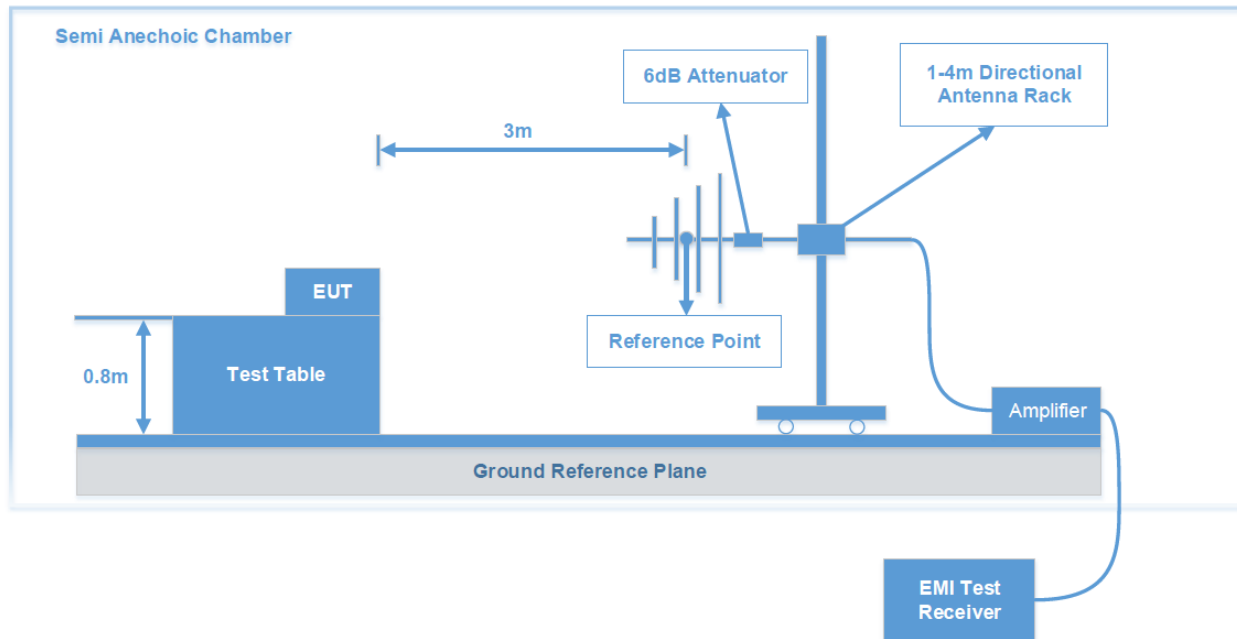
Test Results Summary

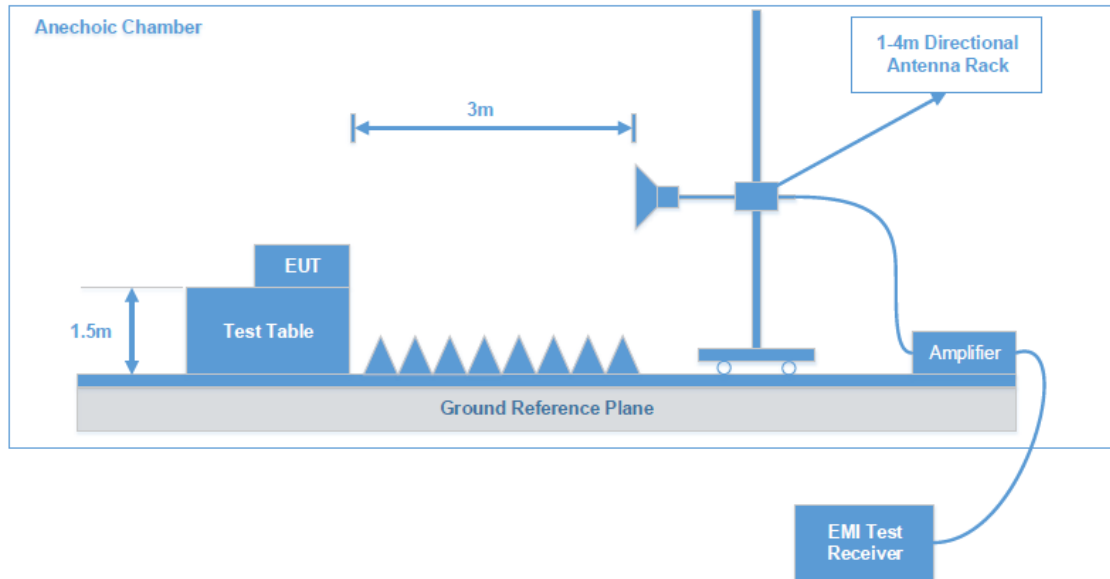
According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

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**9k - 30MHz:****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
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

For 9kHz-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.

Test Procedure

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.

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 (dB μ V/m) = Meter Reading (dB μ V) + 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 (dB μ V/m) – Corrected Amplitude (dB μ V/m)

Note: The QuasiPeak (dB μ V/m), MaxPeak (dB μ V/m), Average (dB μ V/m) which shown in the data table are all Corrected Amplitude.

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

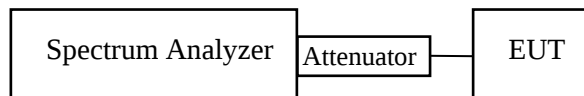
Applicable Standard

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.



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, compliance 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 11.9.1.1

1. Set the RBW $\geq$ DTS bandwidth.
2. Set VBW $\geq 3 * \text{RBW}$.
3. Set span $\geq 3 * \text{RBW}$
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.



Test Data: See Appendix

FCC §15.247(d) – BAND EDGE

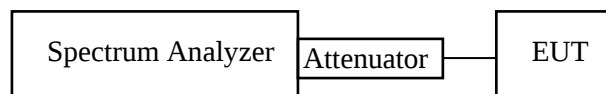
Applicable Standard

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 compliance 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.



Test Data: See Appendix

FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

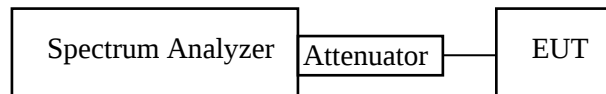
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of 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 compliance, and it is optional if the maximum conducted (average) output power was used to determine compliance:

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.



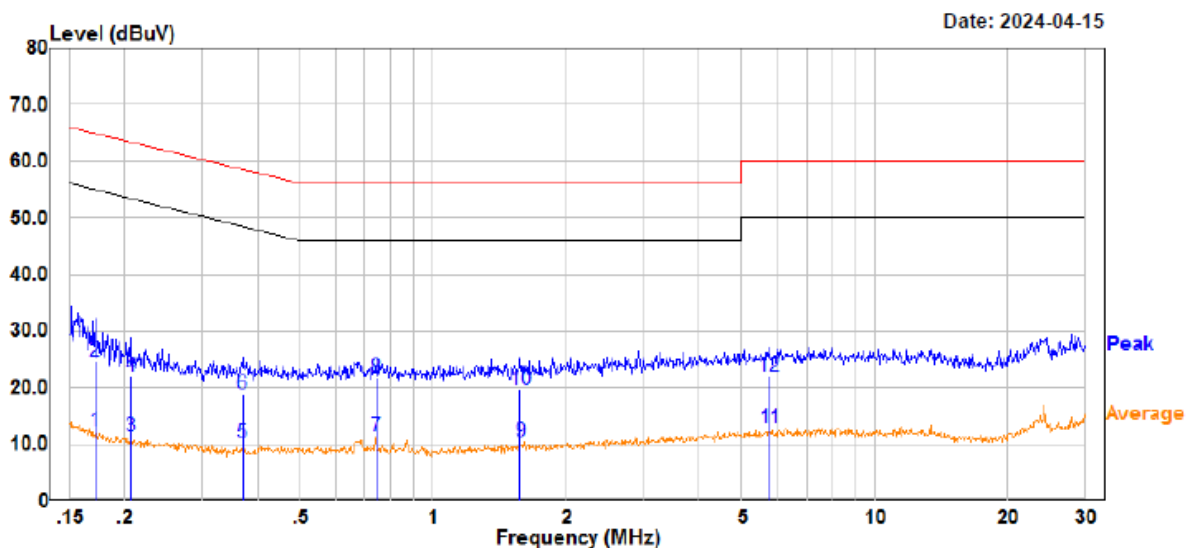
Test Data: See Appendix

Appendix - TEST DATA

Environmental Conditions & Test Information

Test Item:	AC LINE CONDUCTED EMISSIONS	SPURIOUS EMISSIONS		
		9kHz - 1GHz	1 GHz - 18 GHz	18 GHz - 25 GHz
Test Date:	2024-04-15	2024-04-01	2024-03-30	2024-03-30
Temperature:	21 °C	17.4 °C	20.3 °C	20.3 °C
Relative Humidity:	65 %	58 %	52 %	52 %
ATM Pressure:	101.3 kPa	101.5 kPa	101.5 kPa	101.5 kPa
Test Result:	Pass	Pass	Pass	Pass
Test Engineer:	Frank Liu	Leah Li	Peter Wang	Peter Wang

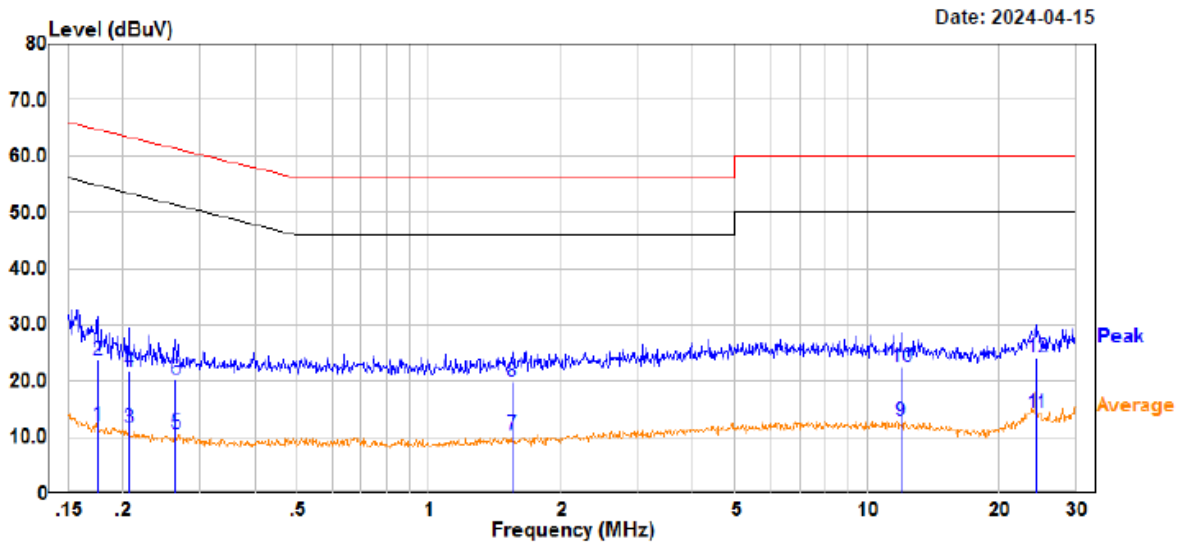
Test Item:	DUTY CYCLE	6 DB EMISSION BANDWIDTH	MAXIMUM CONDUCTED OUTPUT POWER	BAND EDGE	POWER SPECTRAL DENSITY
Test Date:	2024-03-22	2024-03-22& 2024-07-04	2024-03-22	2024-03-22& 2024-07-04	2024-03-22
Temperature:	20.5 °C	20.5 °C~22.3°C	20.5 °C	20.5 °C~22.3°C	20.5 °C
Relative Humidity:	45 %	45 %~48%	45 %	45 %~48%	45 %
ATM Pressure:	101.7kPa	101.7kPa	101.7kPa	101.7kPa	101.7kPa
Test Result:	/	Pass	Pass	Pass	Pass
Test Engineer:	Bard Liu	Bard Liu	Bard Liu	Bard Liu	Bard Liu

AC LINE CONDUCTED EMISSIONS*EUT operation mode: Transmitting in BLE (2 Mbps) low channel (maximum output power mode)***Line:**

Site : CE
Condition : FCC Part 15.207
: DET:Peak
Project No. : RKSB240205001
Model : EasySense SNH212 MC
Phase : L
Voltage : AC 120V/60Hz
Mode : BLE
Test Equipment : ENV216,ESR
Temperature : 21.0°C
Humidity : 65%
Atmospheric pressure: 101.3kPa
Test Engineer : Frank Liu

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.172	-7.61	19.92	12.31	54.88	-42.57	Average
2	0.172	4.79	19.92	24.71	64.88	-40.17	QP
3	0.206	-8.50	19.95	11.45	53.35	-41.90	Average
4	0.206	2.00	19.95	21.95	63.35	-41.40	QP
5	0.370	-9.80	20.05	10.25	48.51	-38.26	Average
6	0.370	-1.10	20.05	18.95	58.51	-39.56	QP
7	0.743	-8.60	20.01	11.41	46.00	-34.59	Average
8	0.743	1.70	20.01	21.71	56.00	-34.29	QP
9	1.577	-9.70	20.05	10.35	46.00	-35.65	Average
10	1.577	-0.50	20.05	19.55	56.00	-36.45	QP
11	5.763	-7.50	20.28	12.78	50.00	-37.22	Average
12	5.763	1.80	20.28	22.08	60.00	-37.92	QP

Neutral:



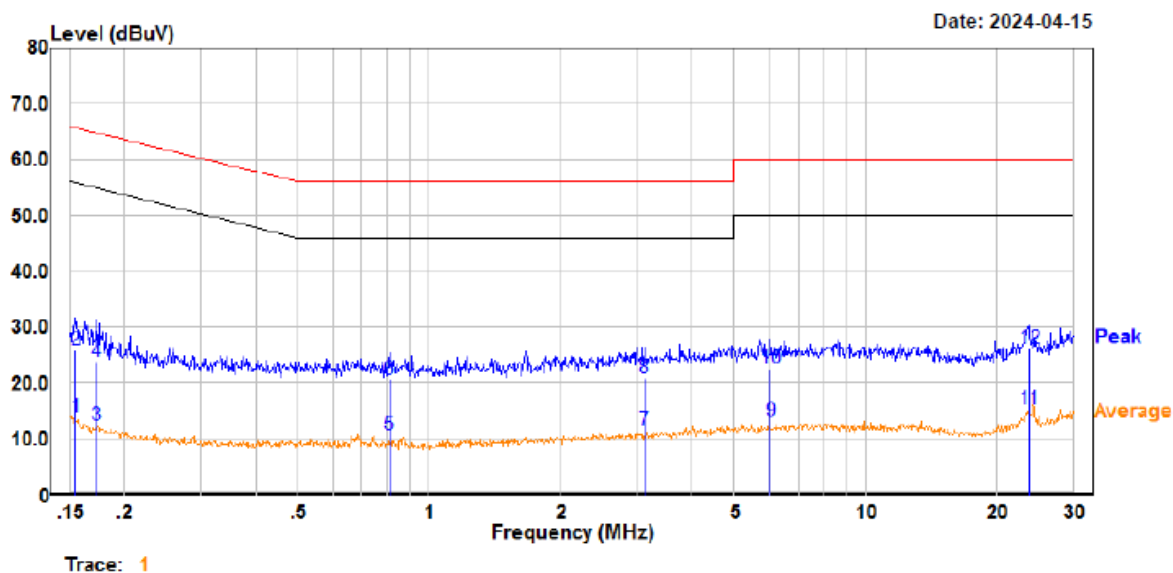
Trace: 1

Site : CE
Condition : FCC Part 15.207
: DET:Peak
Project No. : RKSB240205001
Model : EasySense SNH212 MC
Phase : N
Voltage : AC 120V/60Hz
Mode : BLE
Test Equipment : ENV216,ESR
Temperature : 21.0℃
Humidity : 65%
Atmospheric pressure: 101.3kPa
Test Engineer : Frank Liu

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.175	-7.80	19.92	12.12	54.72	-42.60	Average
2	0.175	3.70	19.92	23.62	64.72	-41.10	QP
3	0.206	-8.30	19.95	11.65	53.35	-41.70	Average
4	0.206	1.80	19.95	21.75	63.35	-41.60	QP
5	0.263	-9.30	19.99	10.69	51.32	-40.63	Average
6	0.263	0.30	19.99	20.29	61.32	-41.03	QP
7	1.546	-9.59	20.03	10.44	46.00	-35.56	Average
8	1.546	-0.29	20.03	19.74	56.00	-36.26	QP
9	11.931	-7.10	19.93	12.83	50.00	-37.17	Average
10	11.931	2.60	19.93	22.53	60.00	-37.47	QP
11	24.334	-5.70	19.94	14.24	50.00	-35.76	Average
12	24.334	4.30	19.94	24.24	60.00	-35.76	QP

EUT operation mode: Transmitting in Zigbee low channel (maximum output power mode)

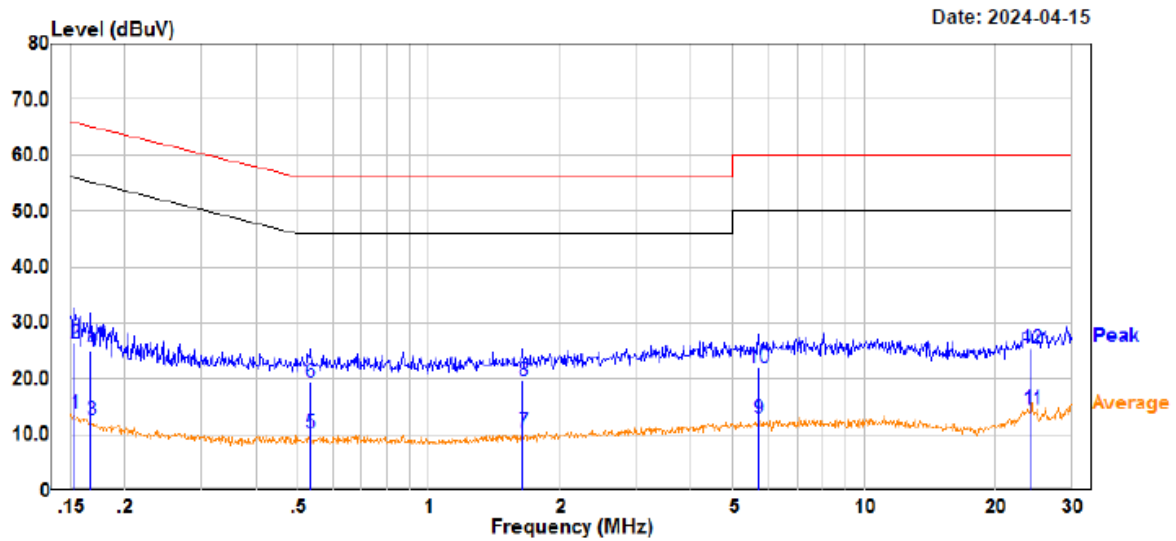
Line:



Site : CE
Condition : FCC Part 15.207
: DET:Peak
Project No. : RKS240205001
Model : EasySense SNH212 MC
Phase : L
Voltage : AC 120V/60Hz
Mode : ZigBee
Test Equipment : ENV216,ESR
Temperature : 21.0℃
Humidity : 65%
Atmospheric pressure: 101.3kPa
Test Engineer : Frank Liu

		Read			Limit	Over	
	Freq	Level	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.155	-6.21	19.90	13.69	55.75	-42.06	Average
2	0.155	6.09	19.90	25.99	65.75	-39.76	QP
3	0.172	-7.61	19.92	12.31	54.84	-42.53	Average
4	0.172	3.89	19.92	23.81	64.84	-41.03	QP
5	0.809	-9.19	19.93	10.74	46.00	-35.26	Average
6	0.809	0.61	19.93	20.54	56.00	-35.46	QP
7	3.106	-8.80	20.25	11.45	46.00	-34.55	Average
8	3.106	0.50	20.25	20.75	56.00	-35.25	QP
9	6.057	-7.30	20.27	12.97	50.00	-37.03	Average
10	6.057	2.10	20.27	22.37	60.00	-37.63	QP
11	23.617	-4.80	19.92	15.12	50.00	-34.88	Average
12	23.617	6.10	19.92	26.02	60.00	-33.98	QP

Neutral:



Trace: 1

Site : CE
Condition : FCC Part 15.207
: DET:Peak
Project No. : RKSB240205001
Model : EasySense SNH212 MC
Phase : N
Voltage : AC 120V/60Hz
Mode : ZigBee
Test Equipment : ENV216,ESR
Temperature : 21.0°C
Humidity : 65%
Atmospheric pressure: 101.3kPa
Test Engineer : Frank Liu

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.154	-6.10	19.89	13.79	55.79	-42.00	Average
2	0.154	6.50	19.89	26.39	65.79	-39.40	QP
3	0.167	-7.40	19.91	12.51	55.09	-42.58	Average
4	0.167	4.90	19.91	24.81	65.09	-40.28	QP
5	0.535	-10.00	20.10	10.10	46.00	-35.90	Average
6	0.535	-0.70	20.10	19.40	56.00	-36.60	QP
7	1.641	-9.70	20.08	10.38	46.00	-35.62	Average
8	1.641	-0.50	20.08	19.58	56.00	-36.42	QP
9	5.705	-7.50	20.28	12.78	50.00	-37.22	Average
10	5.705	1.80	20.28	22.08	60.00	-37.92	QP
11	24.213	-5.31	19.94	14.63	50.00	-35.37	Average
12	24.213	5.39	19.94	25.33	60.00	-34.67	QP

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: (Transmitting in maximum output power mode and channel)

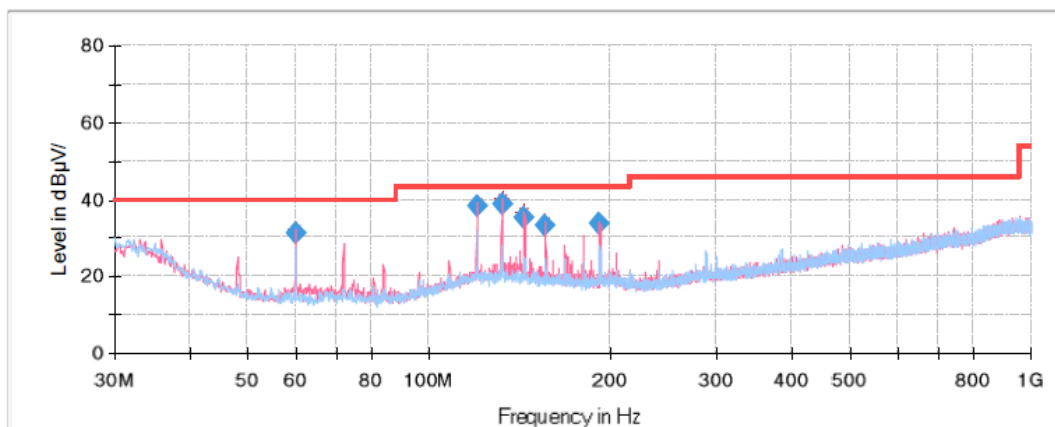
The amplitude of spurious emissions attenuated more than 20 dB below the limit was not be recorded.

30 MHz-1 GHz (Transmitting in maximum output power mode BLE 2Mbps):

Low Channel: 2402 MHz

Common Information

Project No:	RKSB240205001
EUT Model:	EasySense SNH212 MC
Test Mode:	BLE 2M
Standard:	FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment:	ESCI, JB3, 310N
Temperature:	17.4°C
Humidity:	58%
Barometric Pressure:	101.5kPa
Test Engineer:	Leah Li
Test Date:	2024/4/1



Final_Result

Frequency (MHz)	QuasiPeak (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Pol	Corr. (dB/m)
59.940000	31.04	40.00	8.96	V	-17.5
119.960000	38.34	43.50	5.16	V	-11.2
131.970000	38.52	43.50	4.98	V	-11.4
143.970000	35.11	43.50	8.39	V	-11.7
155.970000	33.45	43.50	10.05	V	-12.4
191.820000	33.58	43.50	9.92	V	-12.8

Middle Channel: 2440 MHz

Common Information

Project No:

EUT Model:

Test Mode:

Standard:

Test Equipment:

Temperature:

Humidity:

Barometric Pressure:

Test Engineer:

Test Date:

RKSB240205001

EasySense SNH212 MC

BLE 2M

FCC Part 15.247 & FCC Part 15.205 & Part 15.209

ESCI, JB3, 310N

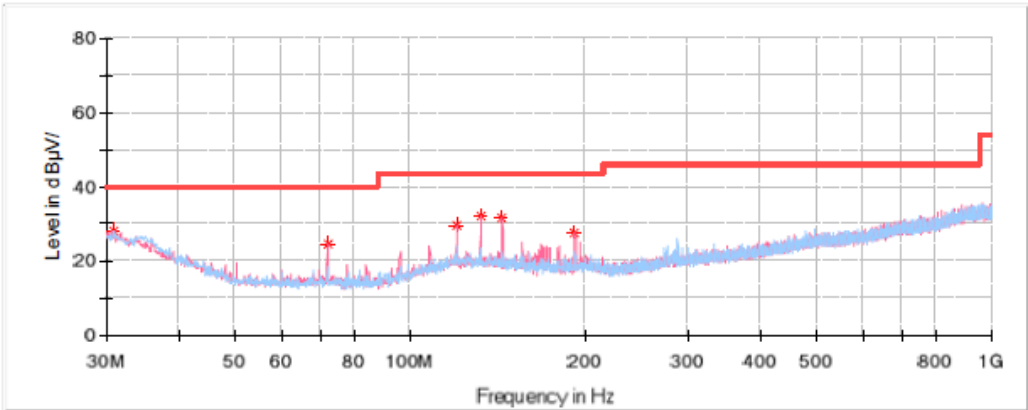
17.4°C

58%

101.5kPa

Leah Li

2024/4/1



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
30.848750	28.23	40.00	11.77	H	-5.0
71.952500	24.88	40.00	15.12	V	-16.9
119.967500	29.85	43.50	13.65	V	-11.2
131.971250	32.34	43.50	11.16	V	-11.4
143.975000	31.48	43.50	12.02	V	-11.7
191.868750	27.61	43.50	15.89	V	-12.8

High Channel:2480 MHz

Common Information

Project No:

EUT Model:

Test Mode:

Standard:

Test Equipment:

Temperature:

Humidity:

Barometric Pressure:

Test Engineer:

Test Date:

RKSB240205001

EasySense SNH212 MC

BLE 2M

FCC Part 15.247 & FCC Part 15.205 & Part 15.209

ESCI, JB3, 310N

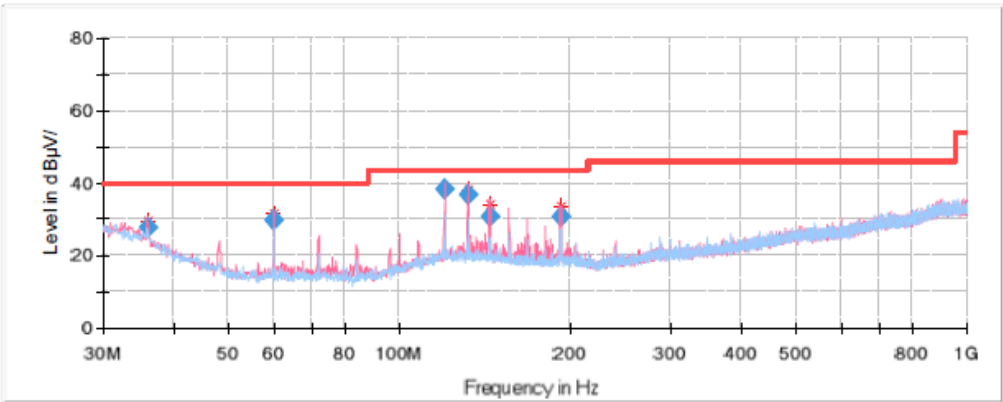
17.4℃

58%

101.5kPa

Leah Li

2024/4/1

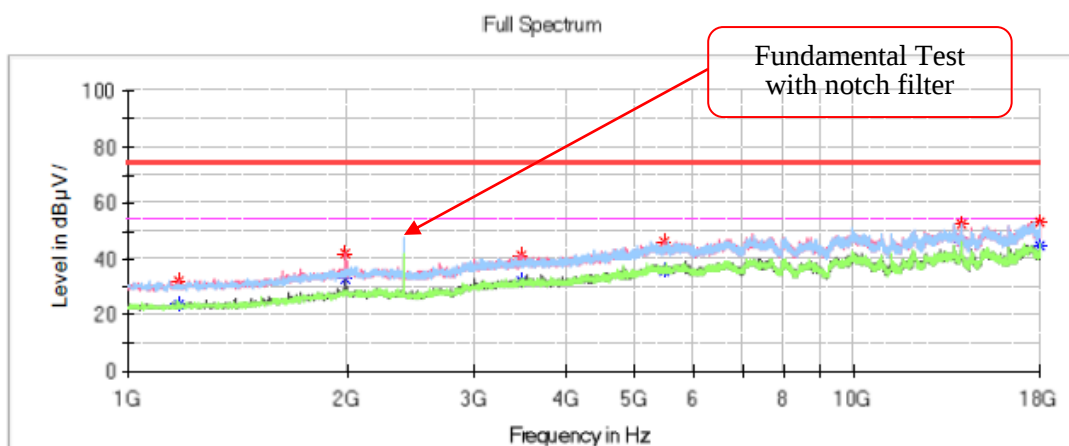


Final Result

Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
35.999150	27.85	40.00	12.15	V	-8.5
59.999450	29.60	40.00	10.40	V	-17.5
119.988500	38.29	43.50	5.21	V	-11.2
131.997350	36.86	43.50	6.64	V	-11.4
144.040100	30.82	43.50	12.68	V	-11.7
192.264250	30.64	43.50	12.86	V	-12.8

1GHz-18GHz (BLE 2M worst case):**Low Channel: 2402 MHz****Common Information**

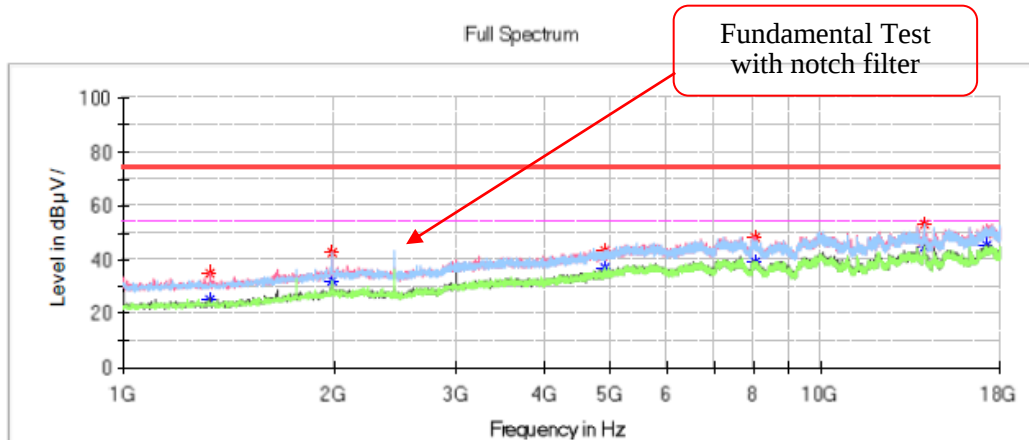
Project No.:	RKSB240205001
EUT Model:	EasySense SNH212 MC
Test Mode:	Transmitting in BLE 2M mode low channel
Standard:	FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment:	ESU40、3115、PAM-0118P
Temperature:	20.3℃
Humidity:	52%
Atmospheric pressure:	101.5KPa
Test Engineer:	Peter Wang
Test Date	2024/3/30

**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)
1175.100000	---	23.60	54.00	30.40	H	-15.0
1175.100000	32.01	---	74.00	41.99	H	-15.0
1994.500000	---	32.55	54.00	21.45	V	-10.6
1994.500000	42.12	---	74.00	31.88	V	-10.6
3471.800000	---	31.93	54.00	22.07	V	-6.2
3471.800000	40.96	---	74.00	33.04	V	-6.2
5471.000000	---	35.75	54.00	18.25	V	0.7
5471.000000	46.02	---	74.00	27.98	V	0.7
14003.300000	52.76	---	74.00	21.24	H	10.5
14003.300000	---	46.01	54.00	7.99	H	10.5
18000.000000	53.35	---	74.00	20.65	V	11.5
18000.000000	---	44.42	54.00	9.58	V	11.5

Middle Channel: 2440 MHz**Common Information**

Project No.:	RKSB240205001
EUT Model:	EasySense SNH212 MC
Test Mode:	Transmitting in BLE 2M mode Middle channel
Standard:	FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment:	ESU40、3115、PAM-0118P
Temperature:	20.3℃
Humidity:	52%
Atmospheric pressure:	101.5KPa
Test Engineer:	Peter Wang
Test Date	2024/3/30

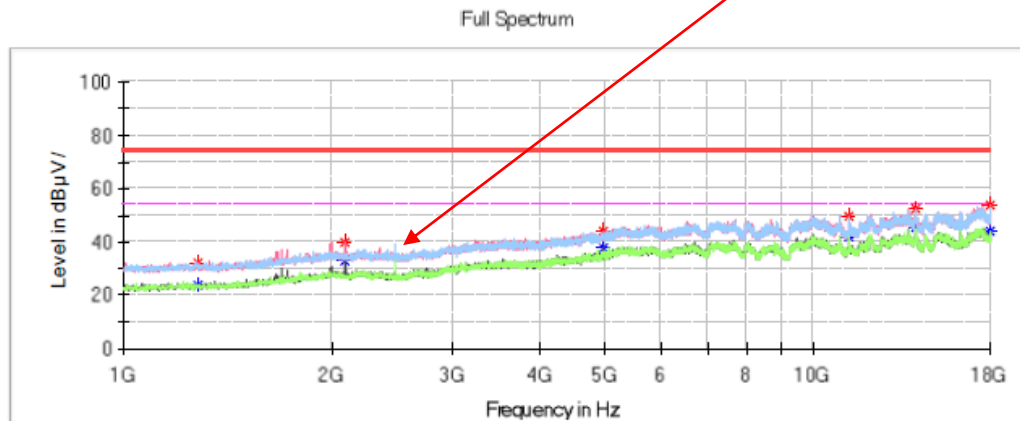
**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1329.800000	---	24.94	54.00	29.06	V	-14.5
1329.800000	34.70	---	74.00	39.30	V	-14.5
1994.500000	---	31.97	54.00	22.03	H	-10.6
1994.500000	42.38	---	74.00	31.62	H	-10.6
4879.400000	---	37.18	54.00	16.82	V	-1.8
4879.400000	43.20	---	74.00	30.80	V	-1.8
8015.900000	---	39.42	54.00	14.58	H	3.8
8015.900000	48.15	---	74.00	25.85	H	3.8
14003.300000	53.23	---	74.00	20.77	V	10.5
14003.300000	---	44.56	54.00	9.44	V	10.5
17248.600000	49.35	---	74.00	24.65	V	13.0
17248.600000	---	45.75	54.00	8.25	V	13.0

High Channel: 2480 MHz**Common Information**

Project No.:	RKS240205001
EUT Model:	EasySense SNH212 MC
Test Mode:	Transmitting in BLE 2M mode High channel
Standard:	FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment:	ESU40、3115、PAM-0118P
Temperature:	20.3℃
Humidity:	52%
Atmospheric pressure:	101.5KPa
Test Engineer:	Peter Wang
Test Date	2024/3/30

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)
1283.900000	---	23.96	54.00	30.04	V	-14.6
1283.900000	32.52	---	74.00	41.48	V	-14.6
2098.200000	---	32.86	54.00	21.14	V	-10.4
2098.200000	39.62	---	74.00	34.38	V	-10.4
4959.300000	---	37.63	54.00	16.37	V	-1.4
4959.300000	44.34	---	74.00	29.66	V	-1.4
11201.700000	---	42.07	54.00	11.93	H	6.7
11201.700000	49.80	---	74.00	24.20	H	6.7
14001.600000	52.47	---	74.00	21.53	V	10.5
14003.300000	---	45.23	54.00	8.77	V	10.5
17998.300000	---	44.26	54.00	9.74	V	11.5
17998.300000	54.10	---	74.00	19.90	V	11.5

Band Edge:

Left Side

Common Information

Project No.:

EUT Model:

Test Mode:

Standard:

Test Equipment:

Temperature:

Humidity:

Atmospheric pressure:

Test Engineer:

Test Date

RKS240205001

EasySense SNH212 MC

Transmitting in BLE 2M mode low channel

FCC Part 15.247 & FCC Part 15.205 & Part 15.209

ESU40、3115、PAM-0118P

20.3℃

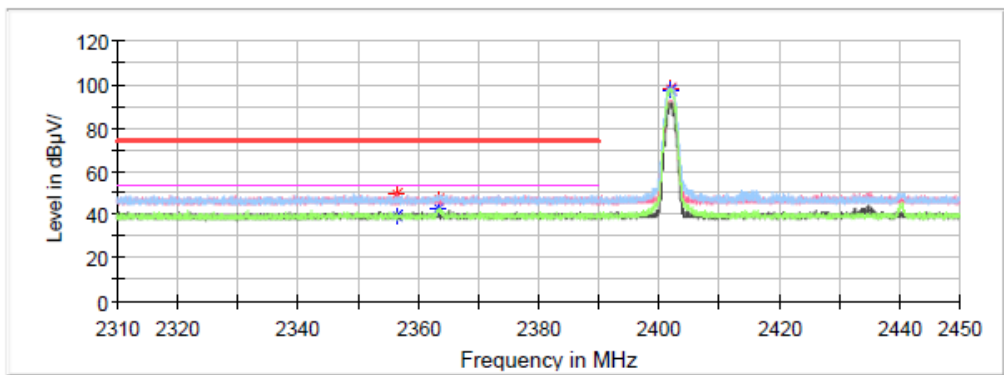
52%

101.5KPa

Peter Wang

2024/3/30

Full Spectrum



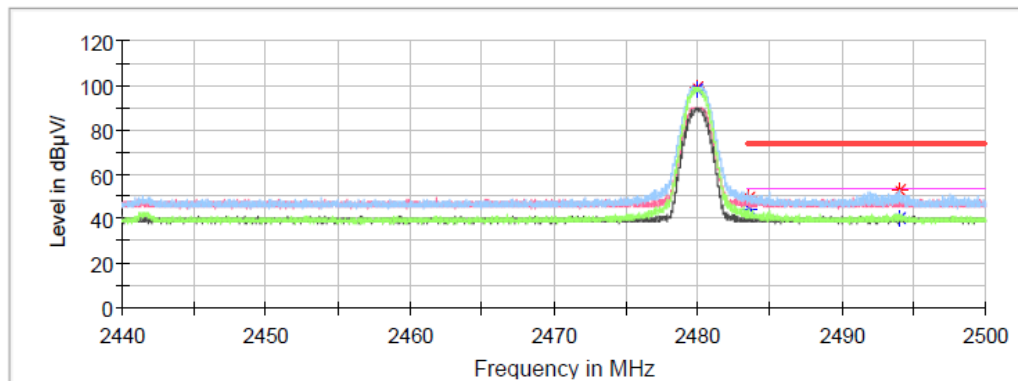
Critical Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2356.438000	---	39.74	54.00	14.26	V	0.0
2356.438000	49.35	---	74.00	24.65	V	0.0
2363.536000	---	42.81	54.00	11.19	H	0.0
2363.536000	47.03	---	74.00	26.97	H	0.0

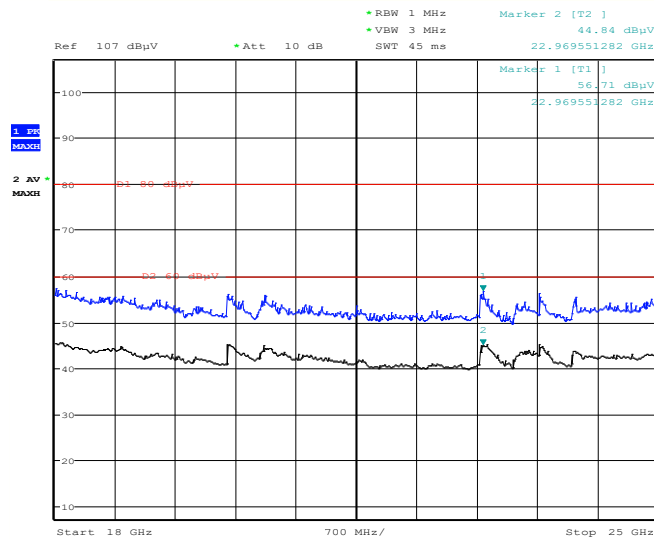
Right Side**Common Information**

Project No.: RKSB240205001
EUT Model: EasySense SNH212 MC
Test Mode: Transmitting in BLE 2M mode High channel
Standard: FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment: ESU40、3115、PAM-0118P
Temperature: 20.3℃
Humidity: 52%
Atmospheric pressure: 101.5KPa
Test Engineer: Peter Wang
Test Date: 2024/3/30

Full Spectrum

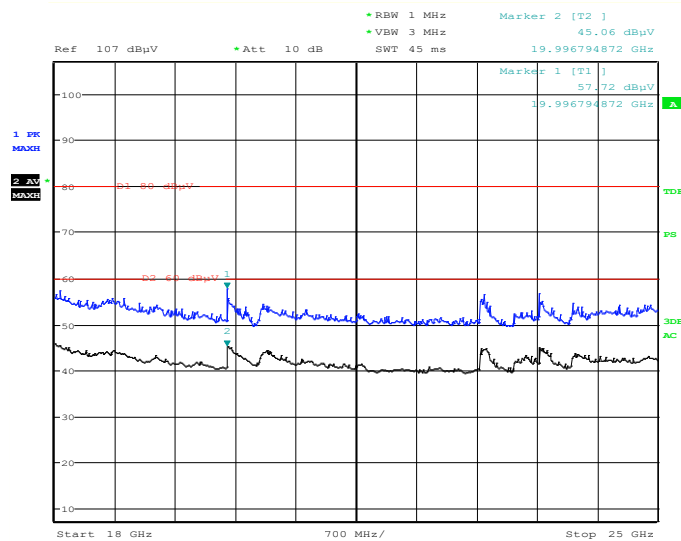
**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2483.578000	---	44.19	54.00	9.81	H	0.2
2483.578000	49.63	---	74.00	24.37	H	0.2
2494.024000	---	40.44	54.00	13.56	H	0.2
2494.024000	52.94	---	74.00	21.06	H	0.2

18 GHz - 25 GHz (BLE (2 Mbps) low channel was worst):**Horizontal**

Project No.: RKSB240205001
Date: 30.MAR.2024 16:50:28

Tester: Peter Wang

Vertical

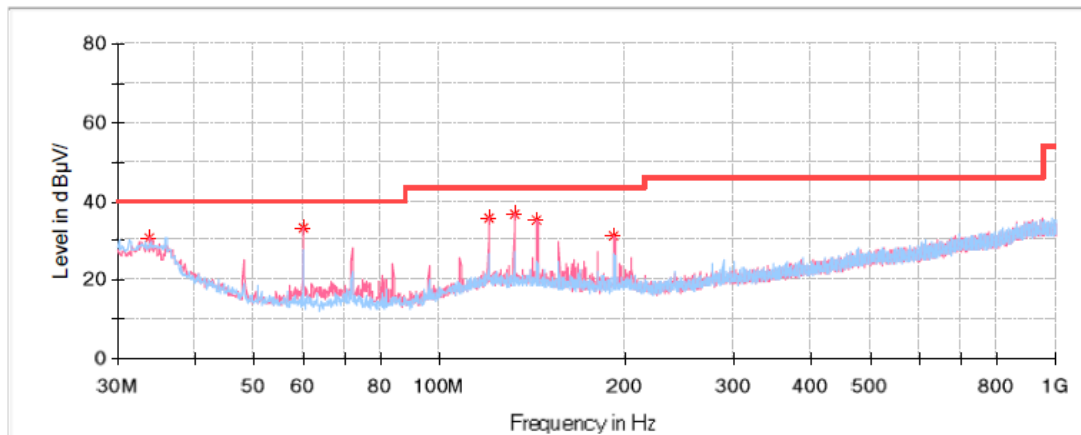
Project No.: RKSB240205001
Date: 30.MAR.2024 18:17:37

Tester: Peter Wang

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

Zigbee:**30 MHz-1 GHz:****Low Channel: 2405 MHz****Common Information**

Project No:	RKSB240205001
EUT Model:	EasySense SNH212 MC
Test Mode:	ZigBee
Standard:	FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment:	ESCI、JB3、310N
Temperature:	17.4℃
Humidity:	58%
Barometric Pressure:	101.5kPa
Test Engineer:	Leah Li
Test Date:	2024/4/1

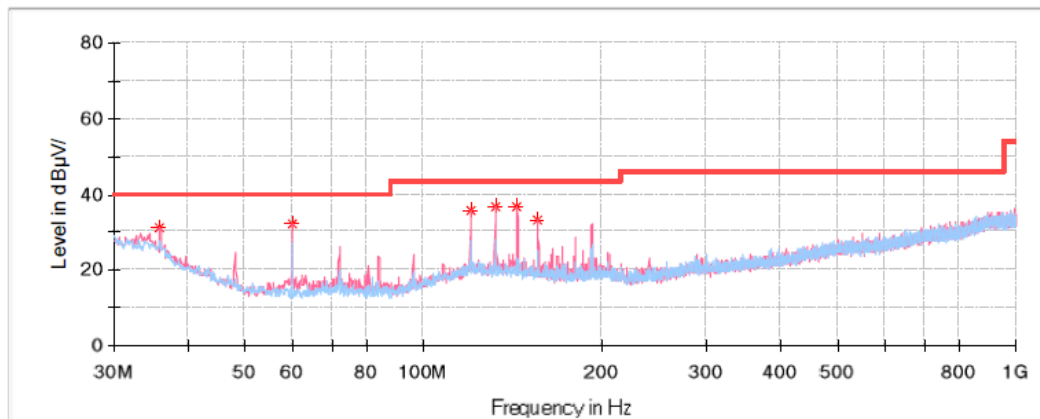
**Critical_Freqs**

Frequency (MHz)	MaxPeak (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Pol	Corr. (dB/m)
33.880000	30.89	40.00	9.11	V	-7.1
59.948750	33.28	40.00	6.72	V	-17.5
119.967500	35.75	43.50	7.75	V	-11.2
131.971250	36.84	43.50	6.66	V	-11.4
143.975000	34.98	43.50	8.52	V	-11.7
191.990000	31.44	43.50	12.06	V	-12.8

Middle Channel: 2440 MHz

Common Information

Project No: RKSB240205001
EUT Model: EasySense SNH212 MC
Test Mode: ZigBee
Standard: FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment: ESCI, JB3, 310N
Temperature: 17.4°C
Humidity: 58%
Barometric Pressure: 101.5kPa
Test Engineer: Leah Li
Test Date: 2024/4/1

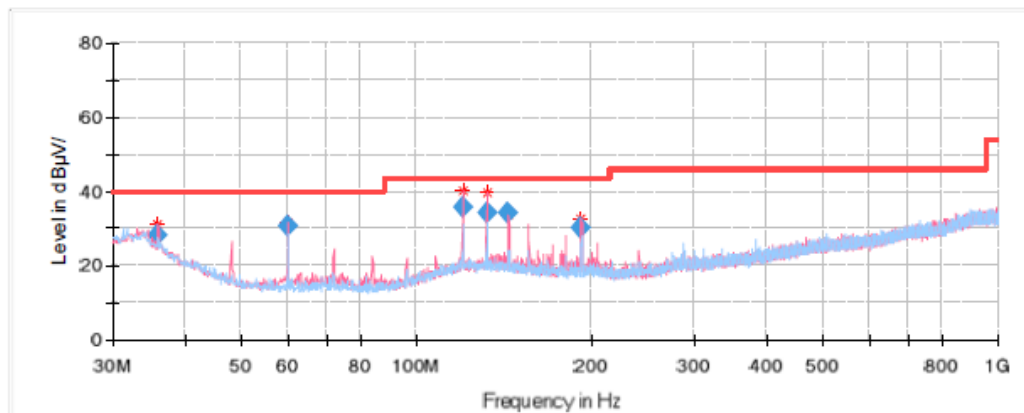


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Pol	Corr. (dB/m)
35.941250	31.03	40.00	8.97	V	-8.5
59.948750	32.20	40.00	7.80	V	-17.5
119.967500	35.71	43.50	7.79	V	-11.2
131.971250	36.90	43.50	6.60	V	-11.4
143.975000	36.66	43.50	6.84	V	-11.7
155.978750	33.02	43.50	10.48	V	-12.4

High Channel:2480 MHz**Common Information**

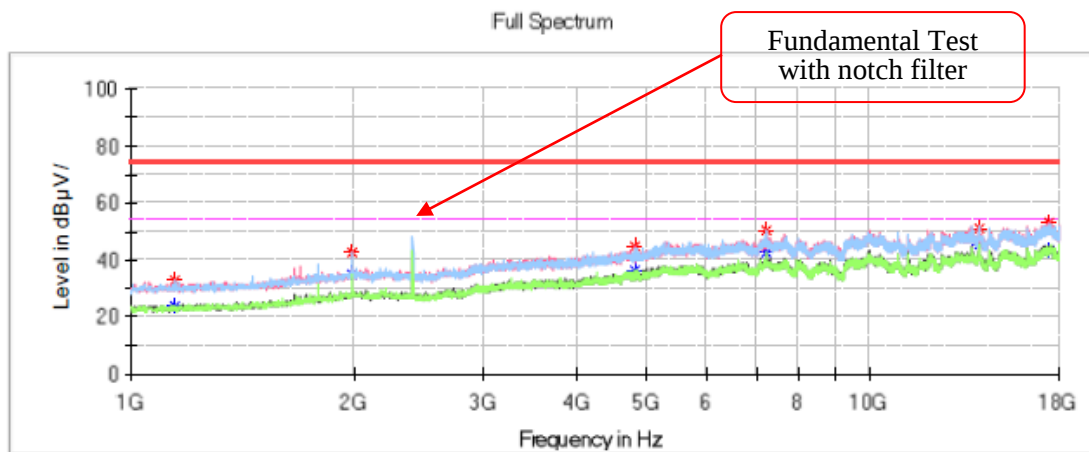
Project No: RKSB240205001
EUT Model: EasySense SNH212 MC
Test Mode: ZigBee
Standard: FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment: ESCI, JB3, 310N
Temperature: 17.4℃
Humidity: 58%
Barometric Pressure: 101.5kPa
Test Engineer: Leah Li
Test Date: 2024/4/1

**Final_Result**

Frequency (MHz)	QuasiPeak (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)	Pol	Corr. (dB/m)
35.940000	28.16	40.00	11.84	V	-8.5
59.940000	30.55	40.00	9.45	V	-17.5
119.960000	35.81	43.50	7.69	V	-11.2
131.970000	34.19	43.50	9.31	V	-11.4
143.970000	34.43	43.50	9.07	V	-11.7
191.990000	30.41	43.50	13.09	V	-12.8

1GHz-18GHz:**Low Channel: 2405 MHz****Common Information**

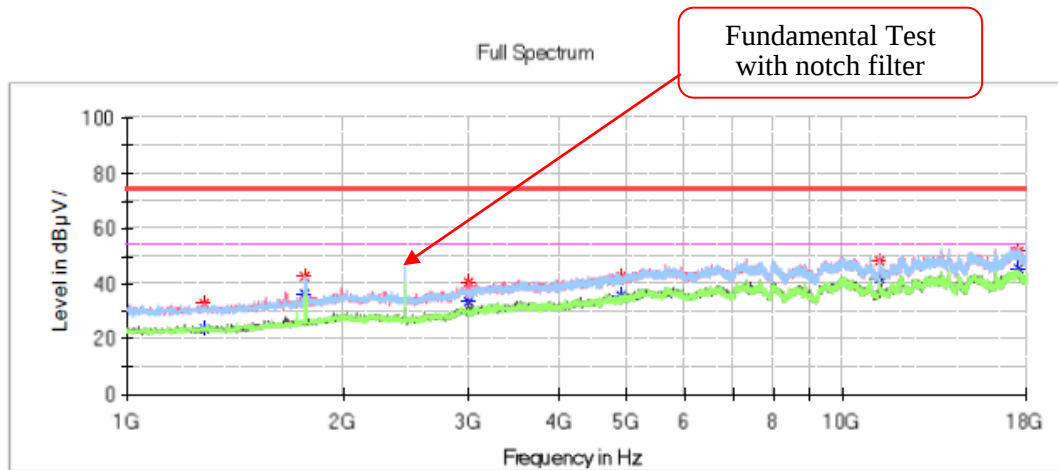
Project No.:	RKSB240205001
EUT Model:	EasySense SNH212 MC
Test Mode:	Transmitting in ZigBee mode low channel
Standard:	FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment:	ESU40、3115、PAM-0118P
Temperature:	20.3℃
Humidity:	52%
Atmospheric pressure:	101.5KPa
Test Engineer:	Peter Wang
Test Date	2024/3/30

**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)
1149.600000	---	23.48	54.00	30.52	H	-15.0
1149.600000	32.85	---	74.00	41.15	H	-15.0
1992.800000	42.99	---	74.00	31.01	H	-10.6
1992.800000	---	34.86	54.00	19.14	H	-10.6
4809.700000	---	36.66	54.00	17.34	V	-2.2
4809.700000	44.70	---	74.00	29.30	V	-2.2
7213.500000	---	42.69	54.00	11.31	H	4.0
7213.500000	50.11	---	74.00	23.89	H	4.0
14003.300000	---	45.34	54.00	8.66	V	10.5
14003.300000	51.30	---	74.00	22.70	V	10.5
17410.100000	---	43.11	54.00	10.89	H	13.4
17410.100000	53.34	---	74.00	20.66	H	13.4

Middle Channel: 2440 MHz**Common Information**

Project No.:	RKS240205001
EUT Model:	EasySense SNH212 MC
Test Mode:	Transmitting in ZigBee mode Middle channel
Standard:	FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment:	ESU40、3115、PAM-0118P
Temperature:	20.3℃
Humidity:	52%
Atmospheric pressure:	101.5KPa
Test Engineer:	Peter Wang
Test Date	2024/3/30

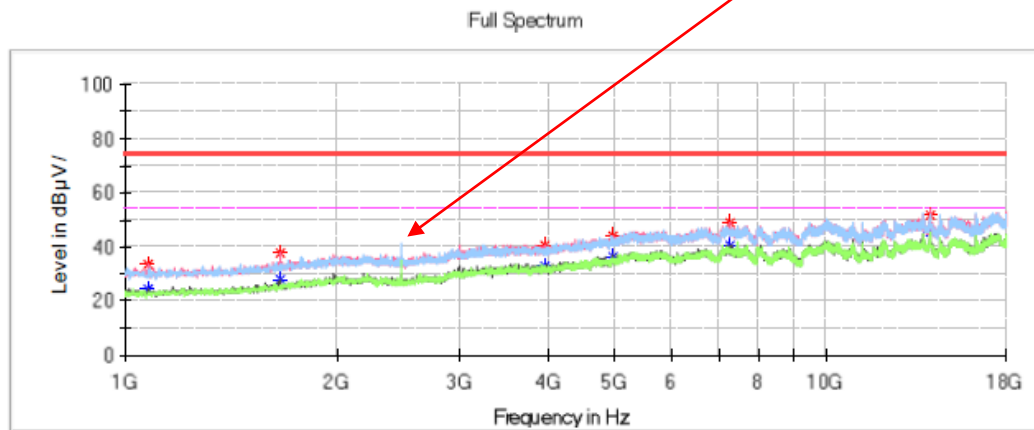
**Critical Freqs**

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1283.900000	---	23.55	54.00	30.45	V	-14.6
1283.900000	33.16	---	74.00	40.84	V	-14.6
1773.500000	---	36.07	54.00	17.93	H	-12.1
1773.500000	42.32	---	74.00	31.68	H	-12.1
2994.100000	---	33.81	54.00	20.19	V	-8.0
2994.100000	40.36	---	74.00	33.64	V	-8.0
4879.400000	---	36.00	54.00	18.00	H	-1.8
4879.400000	42.55	---	74.00	31.45	H	-1.8
11201.700000	48.47	---	74.00	25.53	V	6.7
11201.700000	---	42.18	54.00	11.82	V	6.7
17559.700000	51.94	---	74.00	22.06	H	13.4
17559.700000	---	45.40	54.00	8.60	H	13.4

High Channel: 2480 MHz**Common Information**

Project No.:	RKS240205001
EUT Model:	EasySense SNH212 MC
Test Mode:	Transmitting in ZigBee mode High channel
Standard:	FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment:	ESU40、3115、PAM-0118P
Temperature:	20.3℃
Humidity:	52%
Atmospheric pressure:	101.5KPa
Test Engineer:	Peter Wang
Test Date:	2024/3/30

Fundamental Test
with notch filter

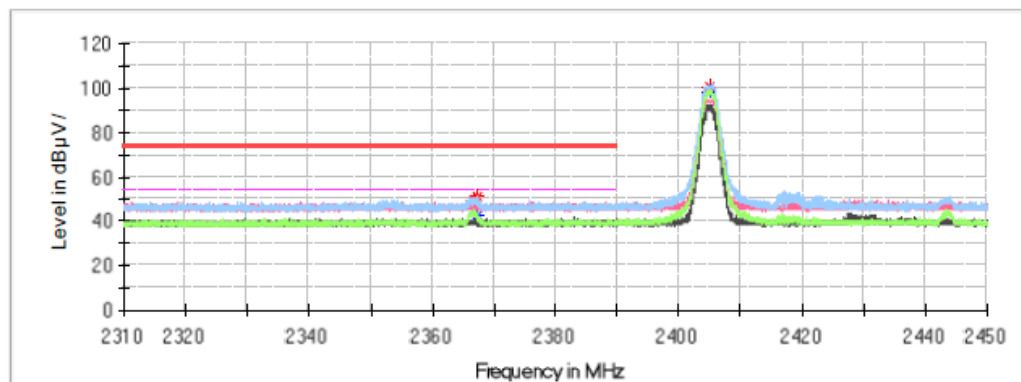
**Critical Freqs**

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1079.900000	33.67	---	74.00	40.33	V	-15.3
1079.900000	---	24.54	54.00	29.46	V	-15.3
1664.700000	38.06	---	74.00	35.94	V	-12.8
1664.700000	---	28.03	54.00	25.97	V	-12.8
3961.400000	40.86	---	74.00	33.14	V	-5.1
3961.400000	---	32.75	54.00	21.25	V	-5.1
4959.300000	44.00	---	74.00	30.00	V	-1.4
4959.300000	---	36.35	54.00	17.65	V	-1.4
7291.700000	48.93	---	74.00	25.07	V	4.0
7291.700000	---	40.49	54.00	13.51	V	4.0
14001.600000	51.83	---	74.00	22.17	H	10.5
14001.600000	---	45.72	54.00	8.28	H	10.5

Band Edge:**Left Side****Common Information**

Project No.:	RKSB240205001
EUT Model:	Easyair SNH212 MC
Test Mode:	Transmitting in ZigBee mode low channel
Standard:	FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment:	ESU40、3115、2641-1
Temperature:	20.3℃
Humidity:	52%
Atmospheric pressure:	101.5KPa
Test Engineer:	Peter Wang
Test Date	2024/3/30

Full Spectrum

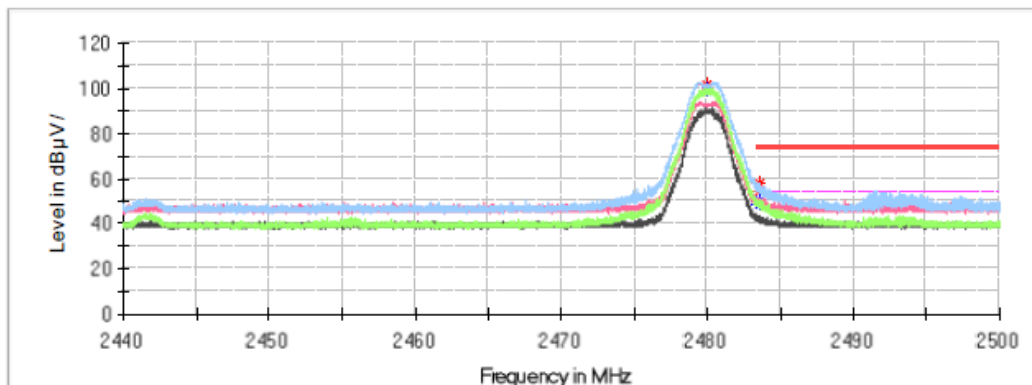
**Critical Freqs**

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2366.784000	---	44.96	54.00	9.04	H	0.0
2366.784000	49.85	---	74.00	24.15	H	0.0
2367.232000	---	43.20	54.00	10.80	H	0.0
2367.232000	50.77	---	74.00	23.23	H	0.0
2405.018000	---	98.07	150.00	51.93	H	0.1
2405.018000	100.40	---	150.00	49.60	H	0.1

Right Side**Common Information**

Project No.:	RKSB240205001
EUT Model:	Easyair SNH212 MC
Test Mode:	Transmitting in ZigBee mode High channel
Standard:	FCC Part 15.247 & FCC Part 15.205 & Part 15.209
Test Equipment:	ESU40、3115、2641-1
Temperature:	20.3℃
Humidity:	52%
Atmospheric pressure:	101.5KPa
Test Engineer:	Peter Wang
Test Date	2024/3/30

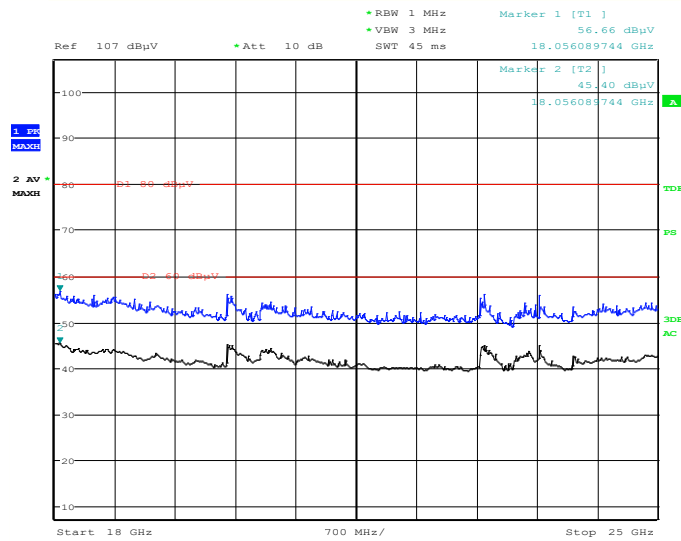
Full Spectrum

**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)
2479.996000	---	99.17	150.00	50.83	H	0.2
2479.996000	101.62	---	150.00	48.38	H	0.2
2483.560000	58.19	---	74.00	15.81	H	0.2
2483.560000	---	48.88	54.00	5.12	H	0.2
2483.584000	54.89	---	74.00	19.11	H	0.2
2483.584000	---	50.62	54.00	3.38	H	0.2

18 GHz - 25 GHz (low channel was worst):

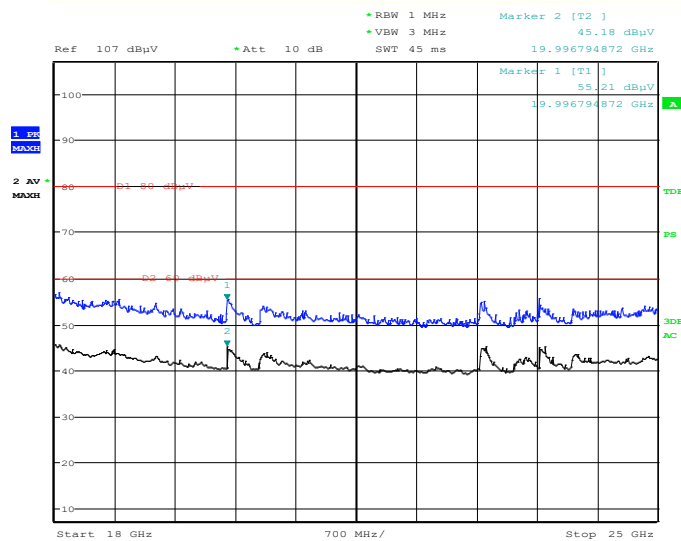
Horizontal



Project No.: RKS240205001
Date: 30.MAR.2024 18:51:58

Tester: Peter Wang

Vertical



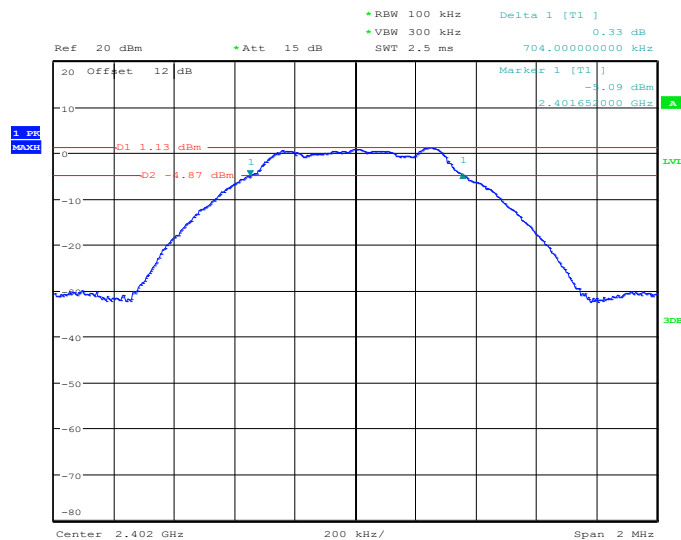
Project No.: RKS240205001
Date: 30.MAR.2024 18:36:08

Tester: Peter Wang

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

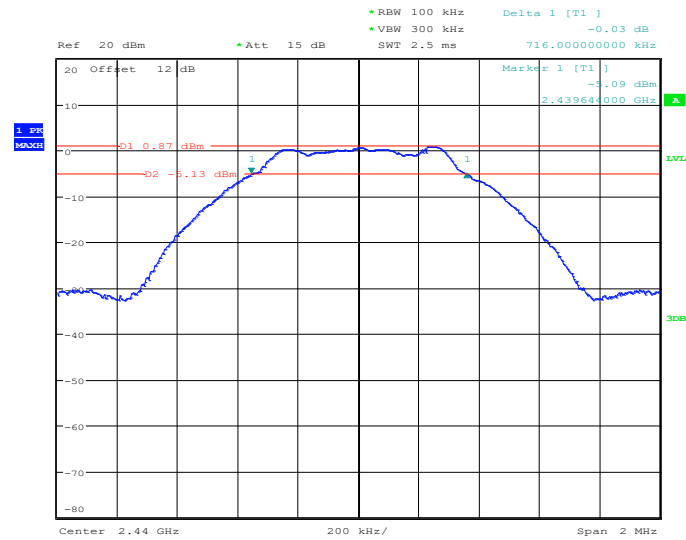
6 dB EMISSION BANDWIDTH

Mode	Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (MHz)
BLE (1 Mbps)	Low	2402	0.704	≥ 0.5
	Middle	2440	0.716	≥ 0.5
	High	2480	0.712	≥ 0.5
BLE (2 Mbps)	Low	2402	1.352	≥ 0.5
	Middle	2440	1.352	≥ 0.5
	High	2480	1.352	≥ 0.5
Zigbee	Low	2405	1.623	≥ 0.5
	Middle	2440	1.599	≥ 0.5
	High	2480	1.623	≥ 0.5

BLE (1 Mbps)**Low Channel**

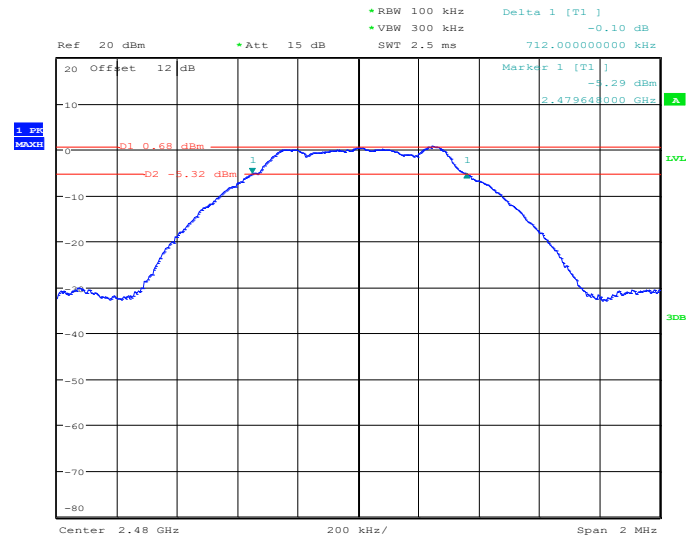
ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:44:49

Middle Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:46:36

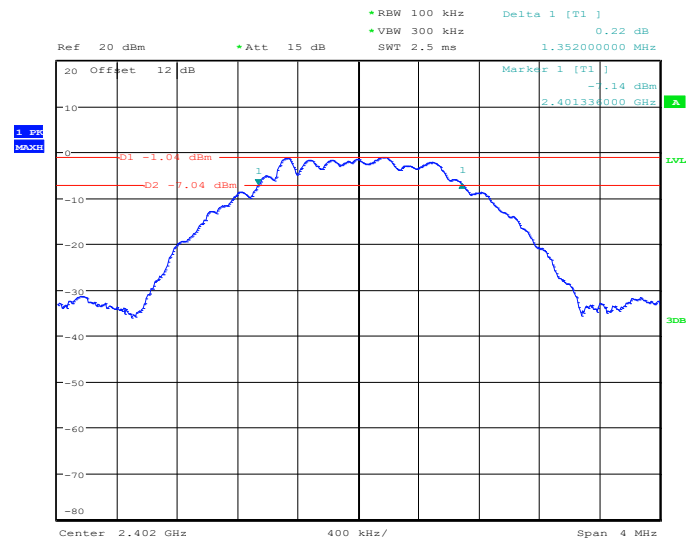
High Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:49:00

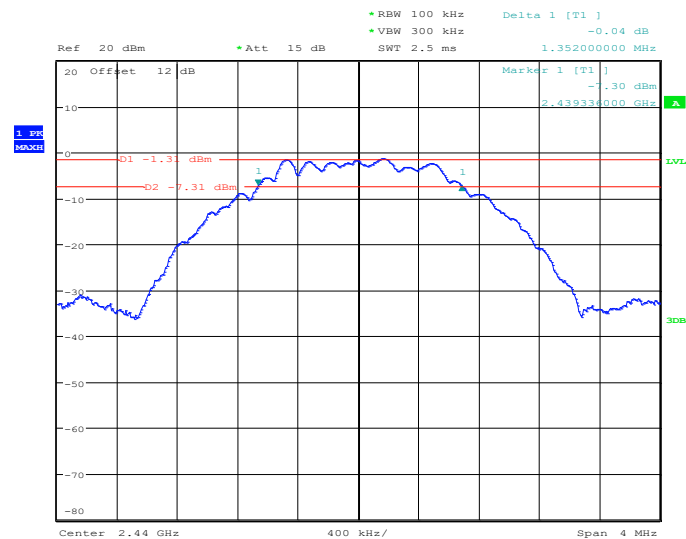
BLE (2 Mbps)

Low Channel



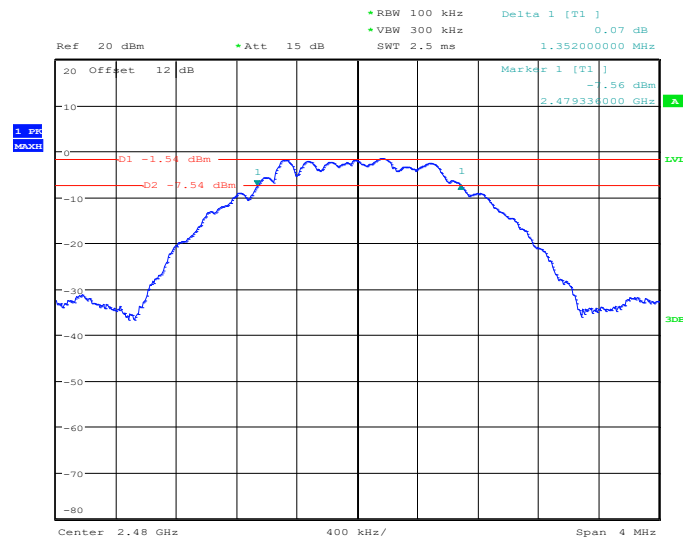
ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:51:09

Middle Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:54:19

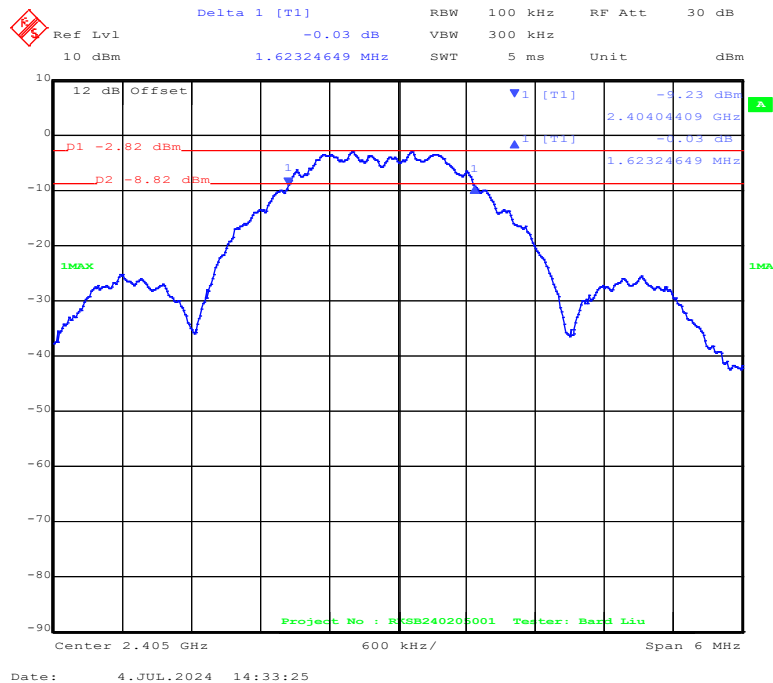
High Channel



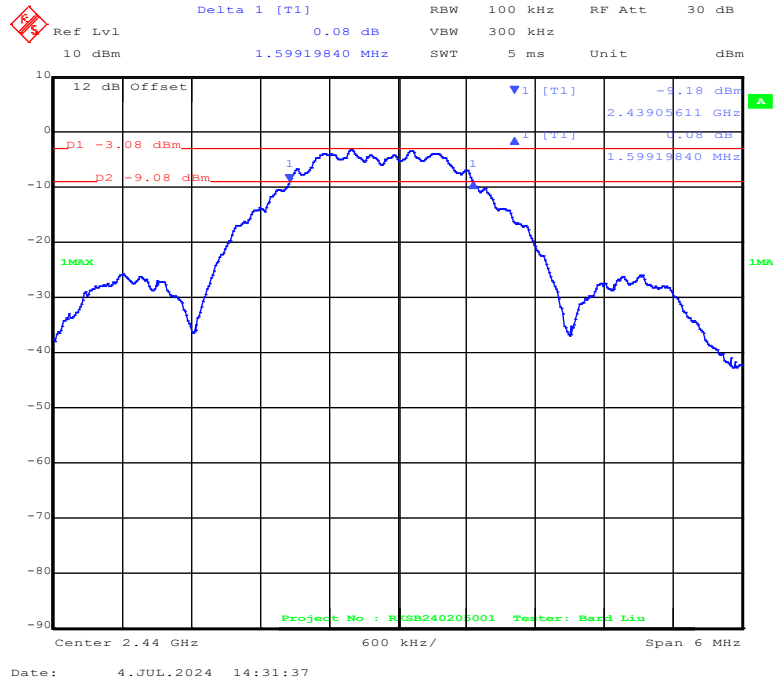
ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:55:45

Zigbee

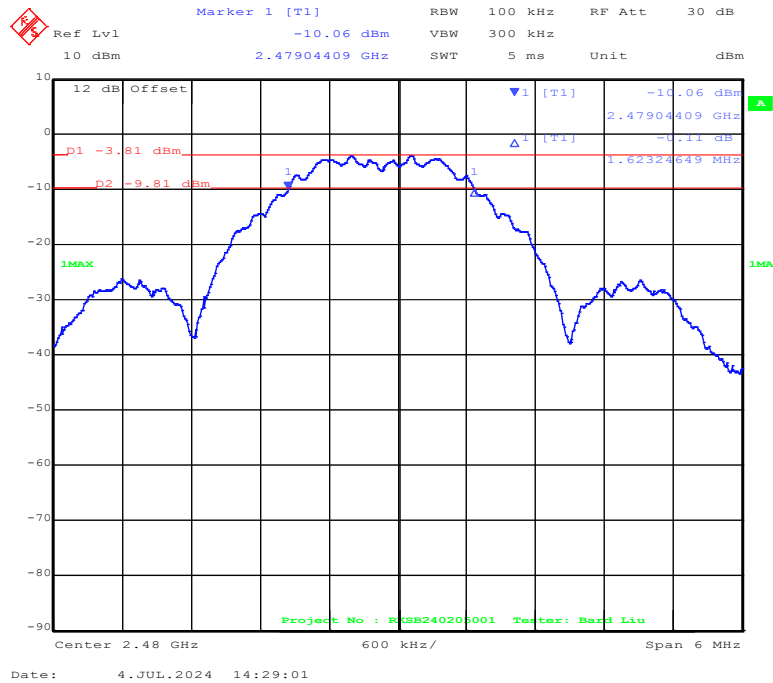
Low Channel



Middle Channel



High Channel



MAXIMUM CONDUCTED OUTPUT POWER

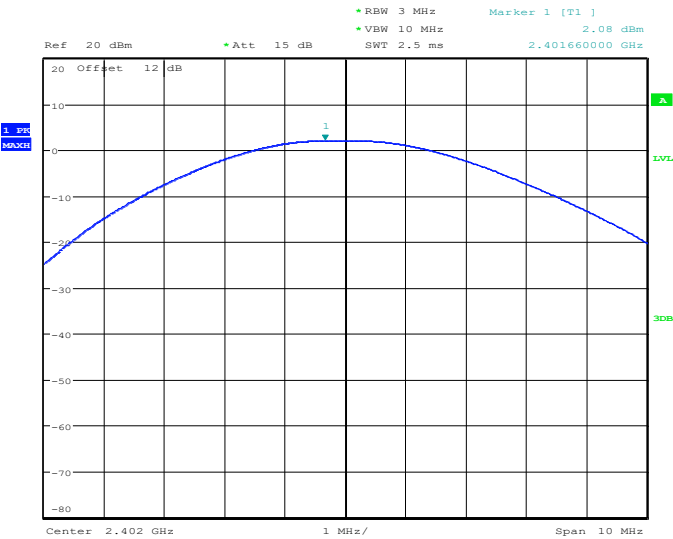
Test Result: Compliant.

EUT operation mode: Transmitting

Mode	Channel	Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Limit (dBm)	Result
BLE (1 Mbps)	Low	2402	2.08	30	Pass
	Middle	2440	1.84	30	Pass
	High	2480	1.67	30	Pass
BLE (2 Mbps)	Low	2402	2.15	30	Pass
	Middle	2440	1.87	30	Pass
	High	2480	1.70	30	Pass
Zigbee	Low	2405	5.50	30	Pass
	Middle	2440	5.01	30	Pass
	High	2480	4.76	30	Pass

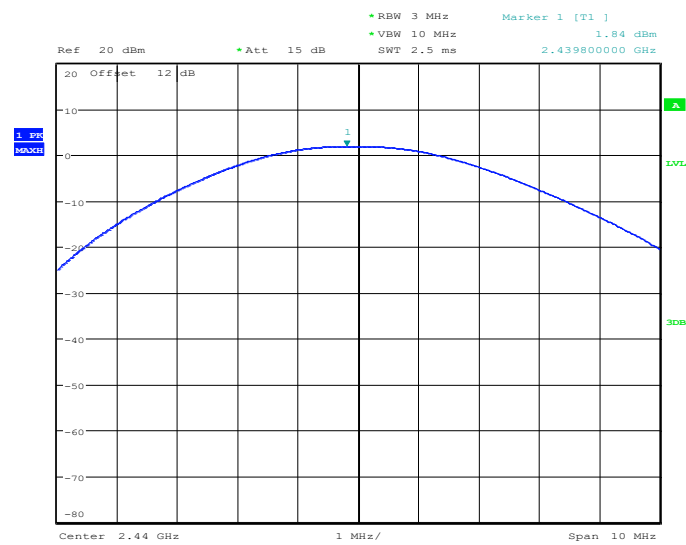
BLE (1 Mbps)

Low Channel



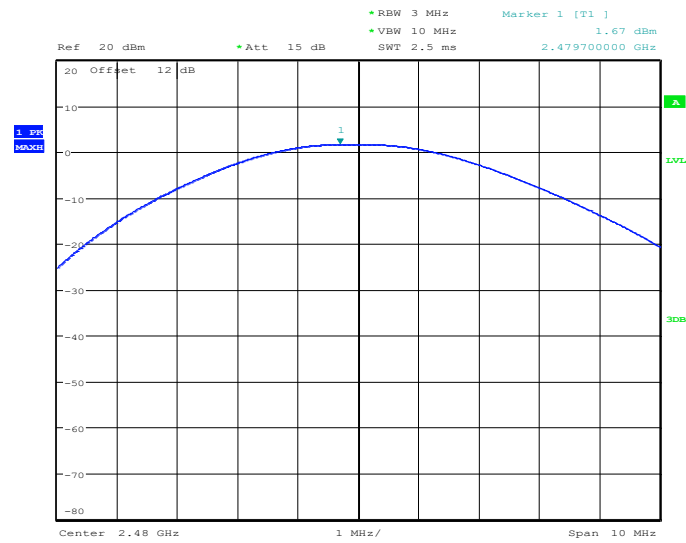
ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:45:10

Middle Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:46:57

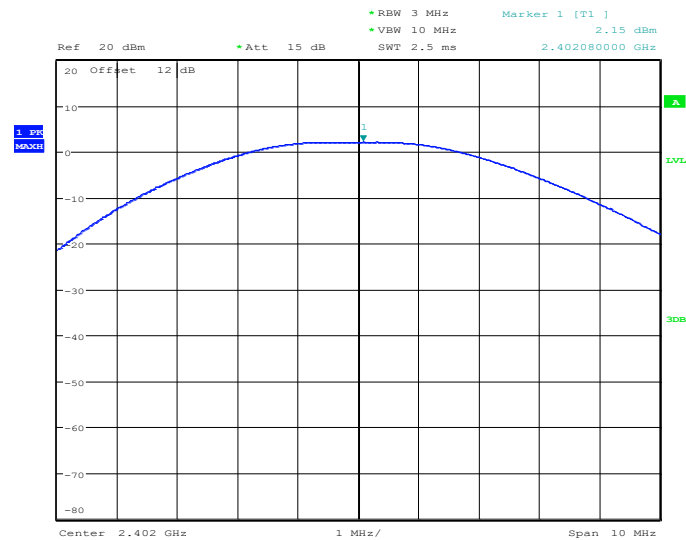
High Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:49:21

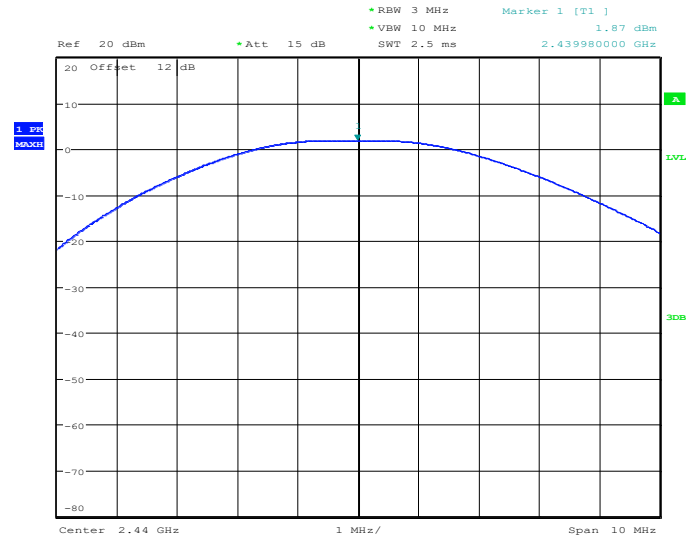
BLE (2 Mbps)

Low Channel



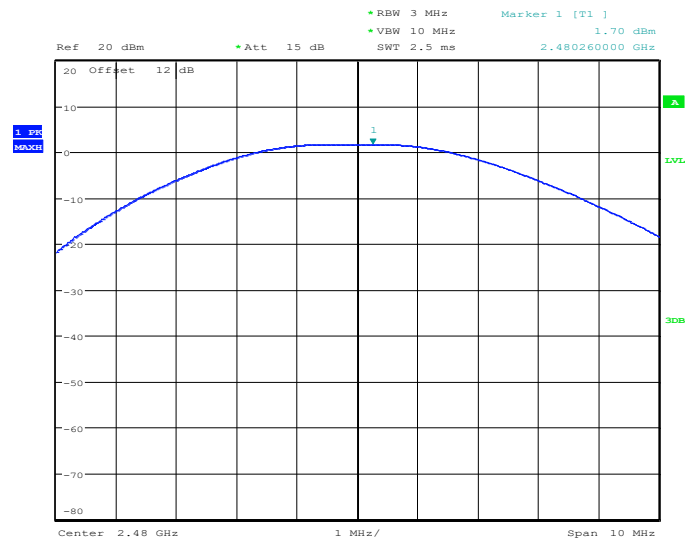
ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:51:30

Middle Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:54:41

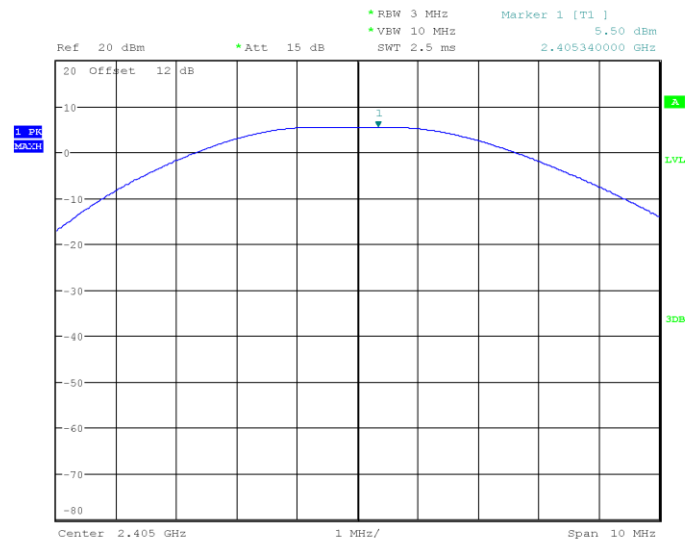
High Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:56:07

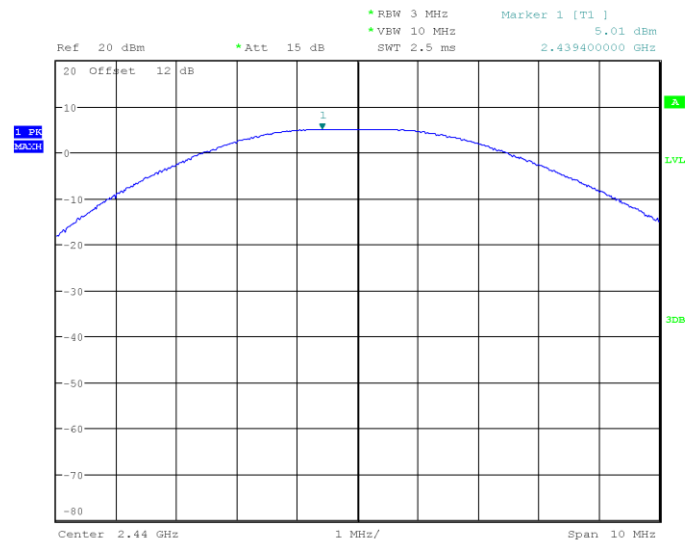
Zigbee

Low Channel



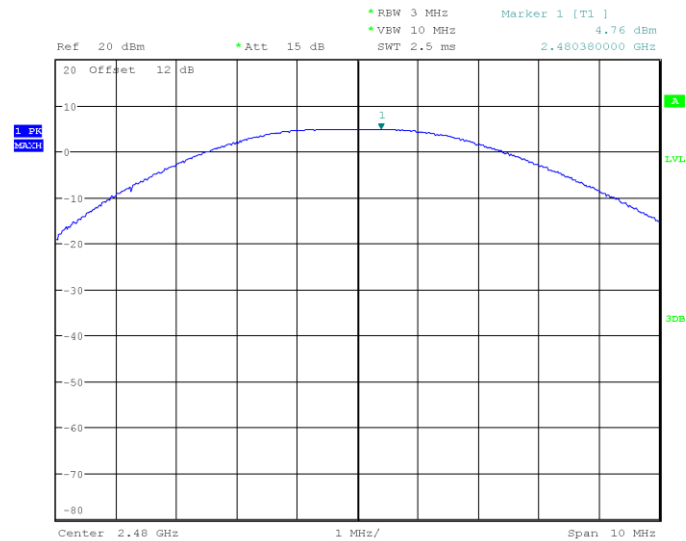
ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 14:12:02

Middle Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 14:11:22

High Channel



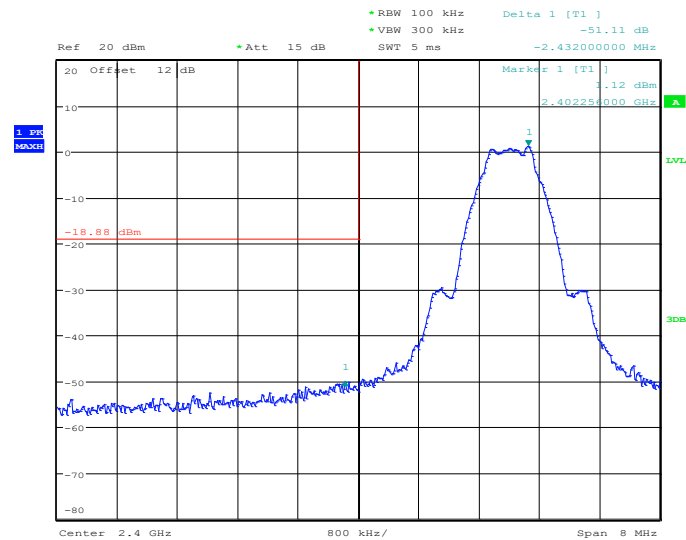
ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 14:10:48

BAND EDGE**Test Result:** Compliant.*EUT operation mode: Transmitting*

Mode	Channel	Frequency (MHz)	Result (dBc)	Limit (dBc)
BLE (1 Mbps)	Low	2402	51.11	20
	High	2480	53.55	
BLE (2 Mbps)	Low	2402	32.20	
	High	2480	50.93	
Zigbee	Low	2405	37.87	
	High	2480	37.35	

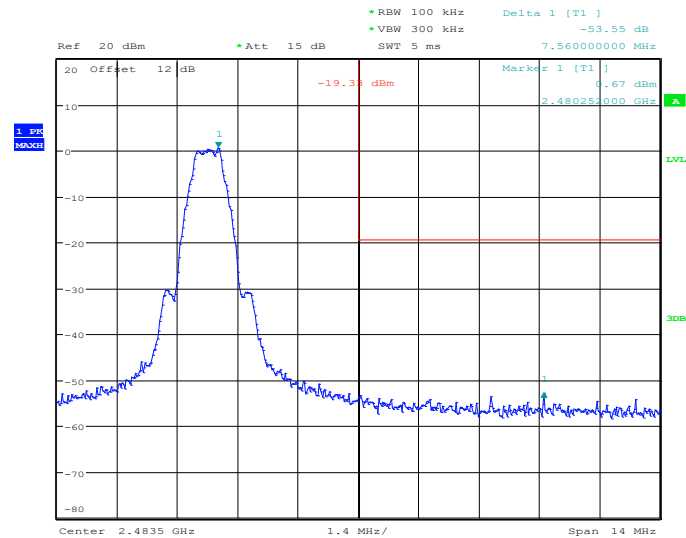
BLE (1 Mbps)

Left Side



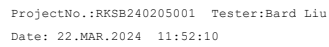
ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:45:54

Right Side



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:50:08

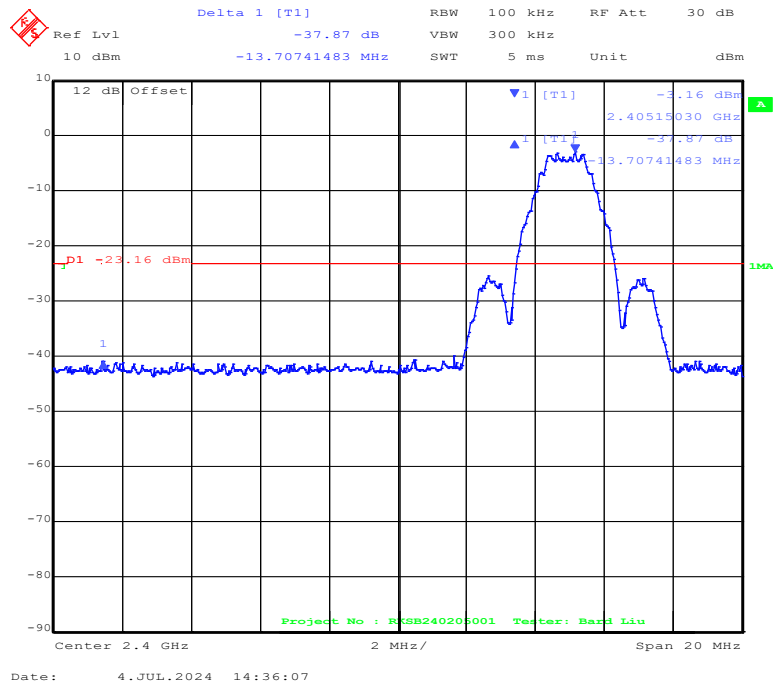
Left Side



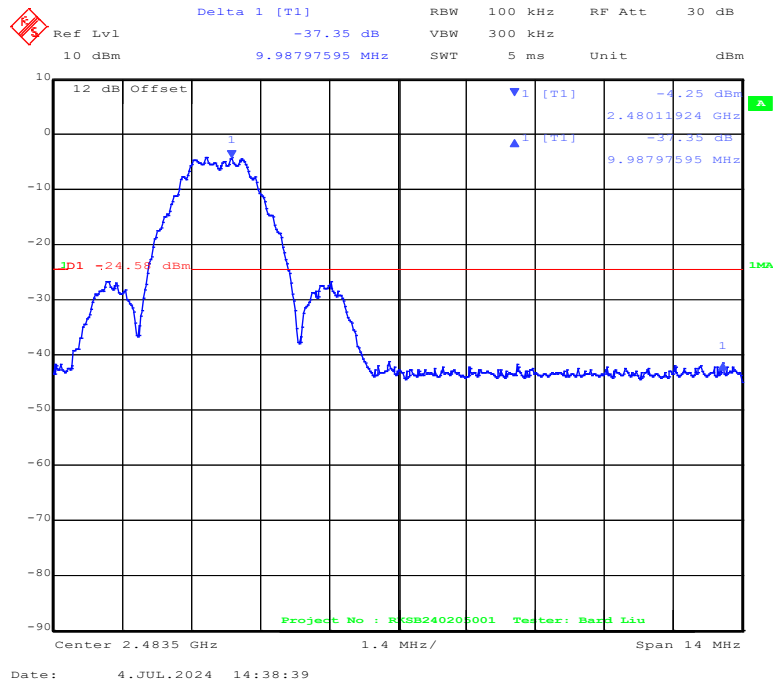
ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:56:50

Zigbee

Left Side



Right Side

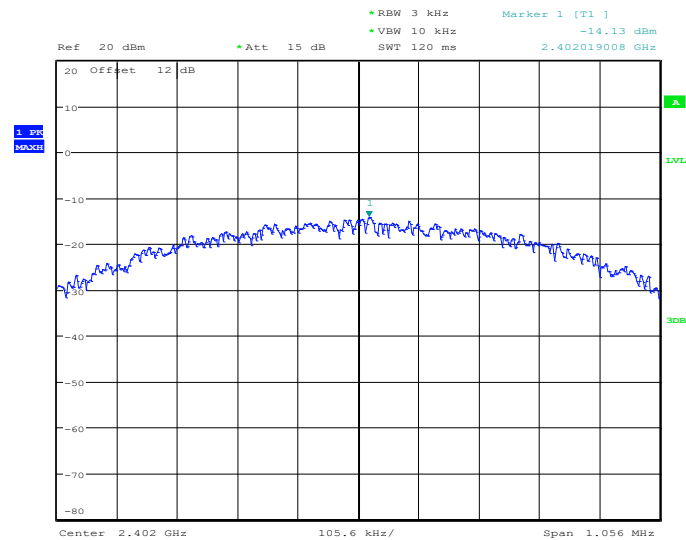


POWER SPECTRAL DENSITY**Test Result:** Compliant.*EUT operation mode: Transmitting*

Mode	Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)
BLE (1 Mbps)	Low	2402	-14.13	≤ 8
	Middle	2440	-14.35	≤ 8
	High	2480	-14.54	≤ 8
BLE (2 Mbps)	Low	2402	-15.55	≤ 8
	Middle	2440	-15.80	≤ 8
	High	2480	-16.00	≤ 8
Zigbee	Low	2405	-10.10	≤ 8
	Middle	2440	-11.06	≤ 8
	High	2480	-10.35	≤ 8

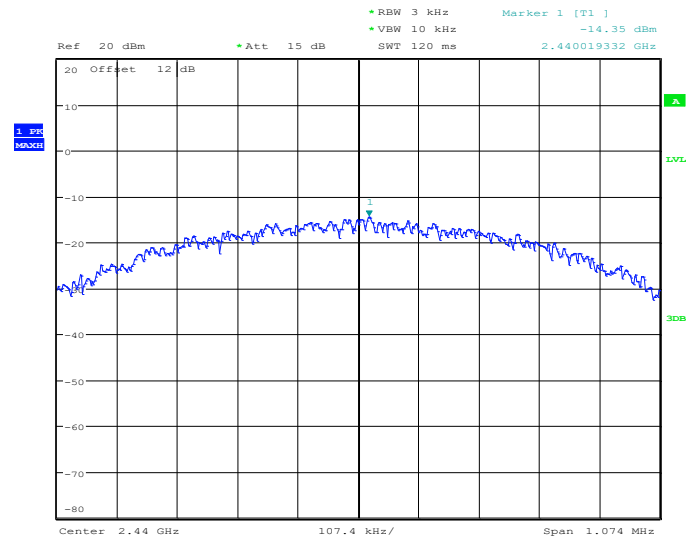
BLE (1 Mbps)

Low Channel



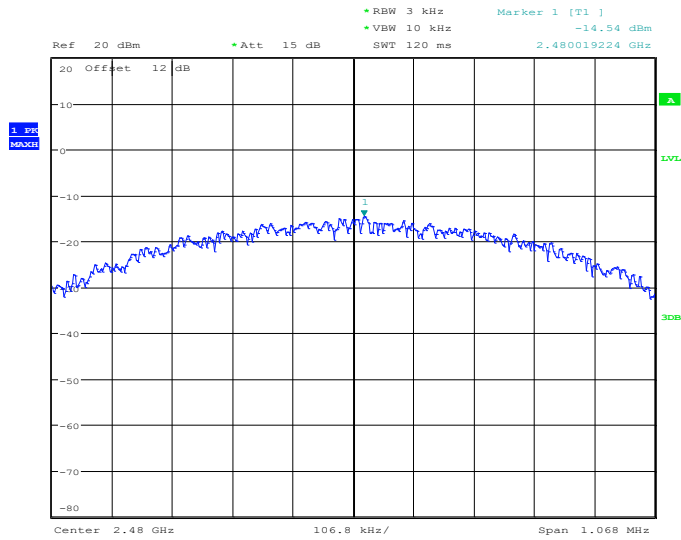
ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:45:18

Middle Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:47:05

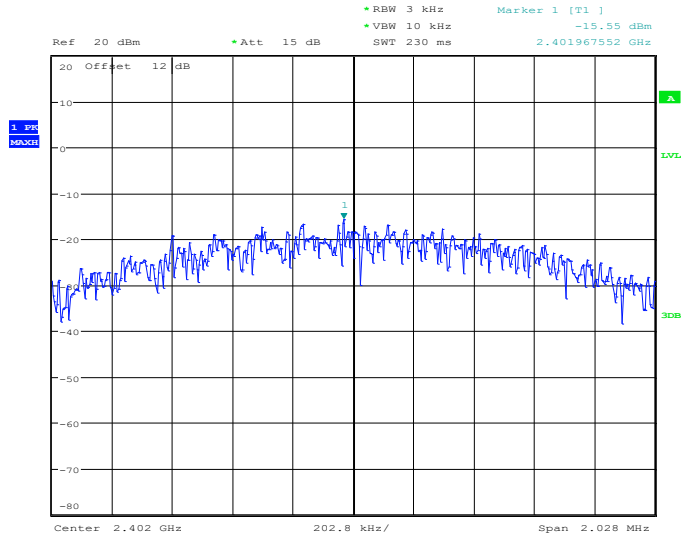
High Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:49:29

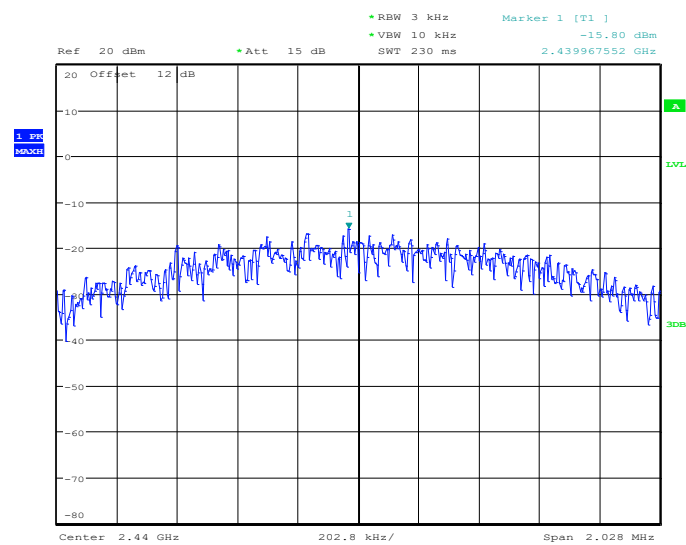
BLE (2 Mbps)

Low Channel



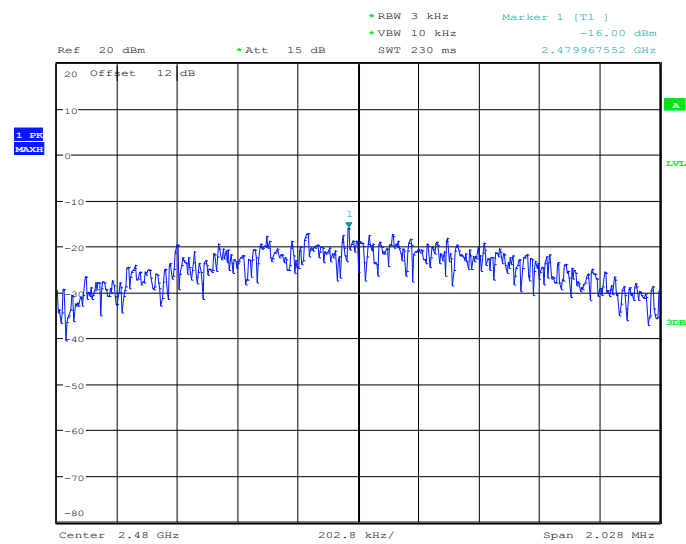
ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:51:38

Middle Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:54:48

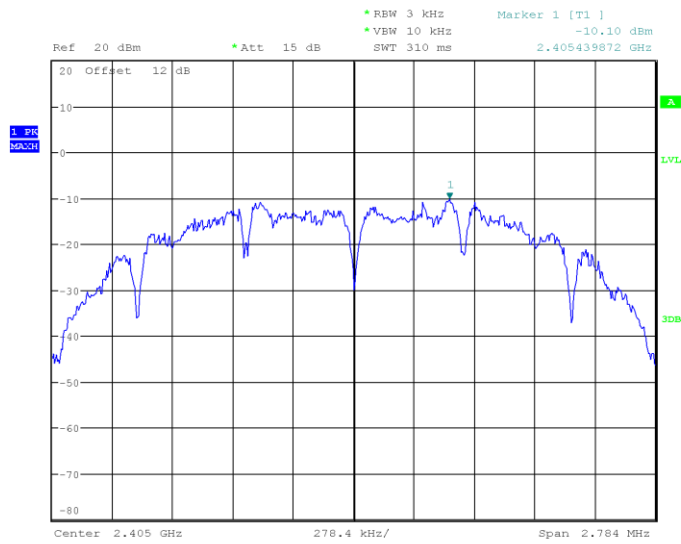
High Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 11:56:15

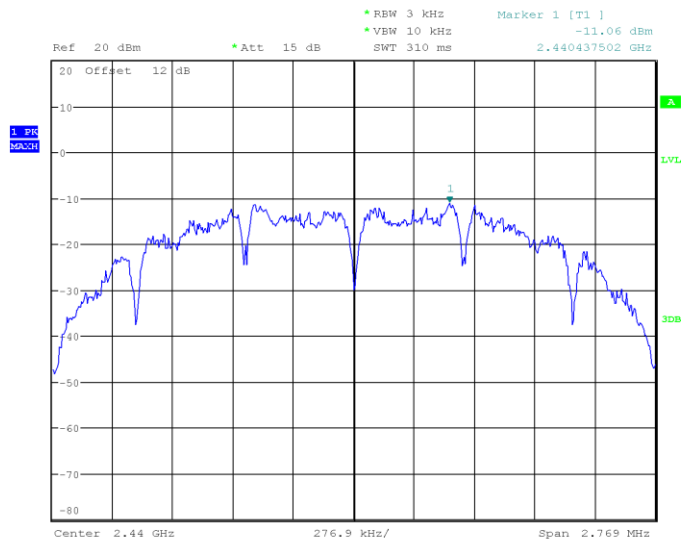
Zigbee

Low Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 14:19:53

Middle Channel



ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 14:20:47

Ref 20 dBm *Att 15 dB SWT 310 ms 2.480437502 GHz

20 Offset 12 dB

1 PR 1000

Marker 1 [T1] -10.35 dBm

Center 2.48 GHz 276.9 kHz/ Span 2.769 MHz

ProjectNo.:RKSB240205001 Tester:Bard Liu
Date: 22.MAR.2024 14:21:44

EUT PHOTOGRAPHS

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

TEST SETUP PHOTOGRAPHS

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

Declarations

1. The laboratory is not responsible for the authenticity of any information provided by the applicant. Information from the applicant that may affect test results is marked with “★”.
2. The test data was only valid for the test sample(s).
3. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.
4. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
5. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor $k=2$ with the 95.45% confidence interval.

******* END OF REPORT *******