

FCC PART 15.247 TEST REPORT

For

Jingheng Tengwei (Huizhou) Electronic Technology Co., Ltd.

No. 8 Minying 1 Road, Yuanzhou Town, Boluo County, Huizhou City, Guangdong Province, China

FCC ID: 2A4MQ-RKHG101D

Report Type: Original Report	Product Name: Wireless Transmitter
Report Number:	RSZA251127001-00A
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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	RSZA251127001-00A	R1V1	2026-01-14	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Jingheng Tengwei (Huizhou) Electronic Technology Co., Ltd.
Tested Model:	RK HG101D
Product Name:	Wireless Transmitter
Power Supply:	DC 5V
RF Function:	SRD
Maximum Output Power:	-4.43 dBm
Operating Band/Frequency:	2402-2480 MHz
Channel Number:	40
Channel Separation:	2 MHz
Modulation Type:	GFSK
Antenna Type:	Chip Antenna
★Maximum Antenna Gain:	3.5 dBi
Sample/EUT Status:	Good condition

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: RSZA251127001-1 (Assigned by the BACL (Kunshan)). The EUT supplied by the applicant was received on 2025-11-27.)

Objective

This type approval report is prepared for *Jingheng Tengwei (Huizhou) Electronic Technology Co., Ltd.* in accordance with Part 2-Subpart J, and Part 15-Subparts A and C of the Federal Communication Commission 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 C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024[▲], American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices and FCC KDB 558074 D01 15.247 Meas Guidance v05r02.

Measurement Uncertainty

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

Operation Frequency Details:

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.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

The system was configured for testing in an engineering mode, which was provided by manufacturer.

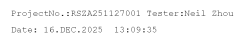
RF Test Tool: FCC Assist 1.0.2.2

★Power level: 6

Note: The power level was declared by the applicant.

Test Date:	2025-12-16
Temperature:	21.6 °C
Relative Humidity:	53 %
ATM Pressure:	102.5kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

SRD



Mode	Duty Cycle (%)	T _{on} (ms)	T _{on+off} (ms)	Duty Cycle Factor(dB)
Middle	87.41	2.194	2.510	0.58

FCC Part 15.247

Support Equipment List and Details

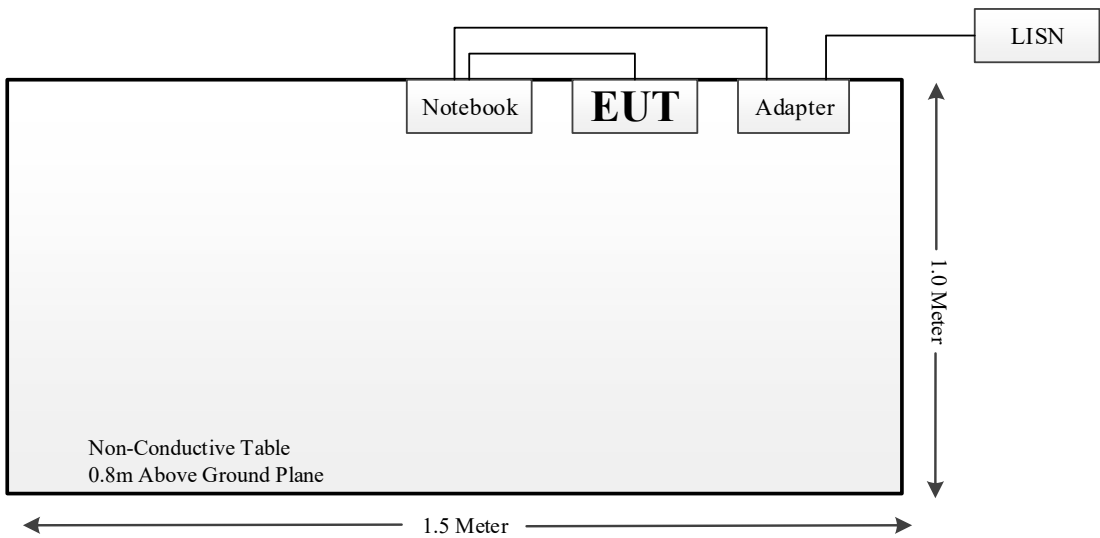
Manufacturer	Description	Model	Serial Number
Lenovo	Notebook	Y700P	PF2B7PL5
Chongqing Lianmao Electronics Co.,Ltd	Adapter	LM-603U-050200U02UL	/

External I/O Cable

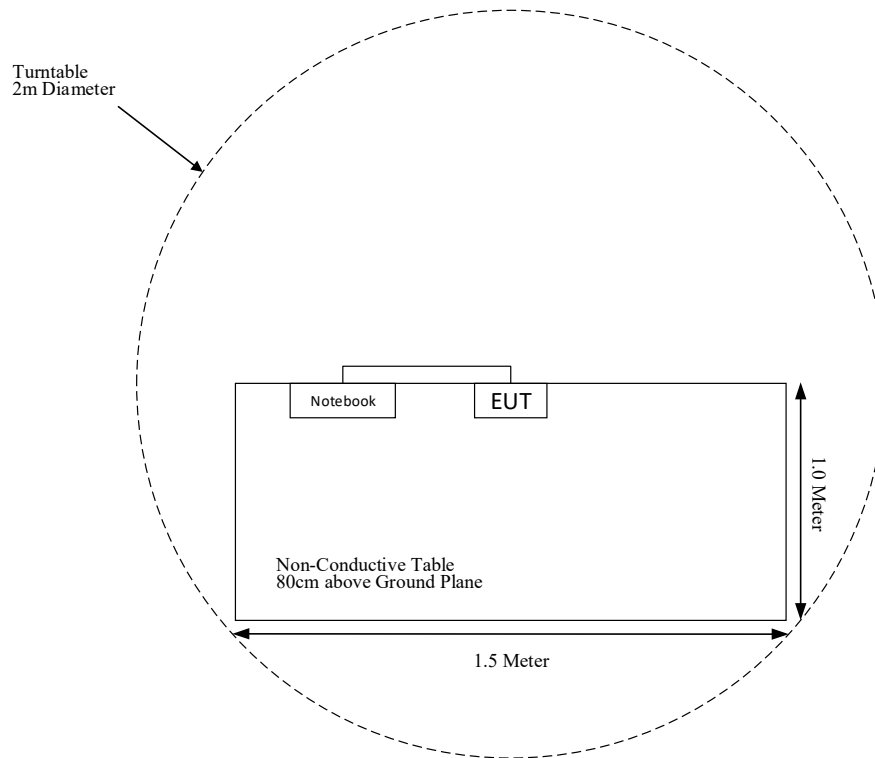
Cable Description	Length (m)	From Port	To Port
USB Cable	1.5	EUT	Notebook
Power Cable 1	2.0	Adapter	Notebook
Power Cable 2	1.0	Adapter	LISN

Block Diagram of Test Setup

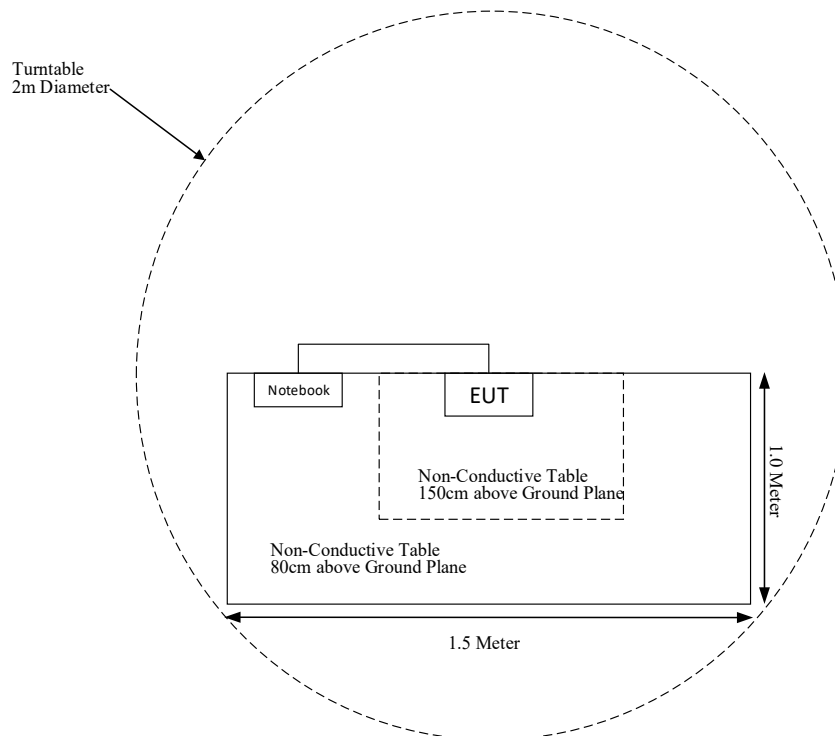
For Conducted Emissions:



For Radiated Emissions(Below 1GHz):



For Radiated Emissions (Above 1GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307(b) & §2.1093	RF exposure	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)	Band Edge	Compliant
§15.247(d)	Conducted Spurious Emission	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	2025-04-09	2026-04-08
Sunol Sciences	Hybrid Antenna	JB3	A090314-2	2024-10-29	2027-10-28
BACL	Active Loop Antenna	1313-1A	4041511	2024-11-22	2027-11-21
Narda	6 dB Attenuator	771-6	10690812-2-1	2024-10-29	2027-10-28
Sonoma Instrument	Pre-amplifier	310N	171205	2025-04-09	2026-04-08
Rohde & Schwarz	Auto Test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-8	008	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-9	009	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-10	010	2025-04-09	2026-04-08
Radiated Emission Test (Chamber #2)					
Rohde & Schwarz	EMI Test Receiver	ESU40	100207/040	2025-04-09	2026-04-08
ETS-LINDGREN	Horn Antenna	3115	9207-3900	2024-11-03	2027-11-02
ETS-LINDGREN	Horn Antenna	3116	2516	2024-12-12	2027-12-11
A.H.Systems,inc	Amplifier	PAM-0118P	512	2025-04-09	2026-04-08
MICRO-TRONICS	Band Reject Filter	BRM50702	G024	2025-04-08	2026-04-07
Narda	Attenuator	10dB	010	2025-04-08	2026-04-07
SELECTOR	Amplifier	EM18G40G	60726	2025-04-09	2026-04-08
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-6	006	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-11	011	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-12	012	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-13	013	2025-04-09	2026-04-08
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSU26	200103	2025-04-09	2026-04-08
Narda	Attenuator	10dB	010	2025-04-08	2026-04-07
XHFDZ	RG316 Coaxial Cable	SMA-316	XHF-1175	Each time	N/A
Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR	1316.3003K03-101746-zn	2025-04-08	2026-04-07
Rohde & Schwarz	LISN	ENV216	101115	2025-04-08	2026-04-07
Audix	Test Software	e3	V9	N/A	N/A
Rohde & Schwarz	Pulse limiter	ESH3-Z2	100552	2025-04-08	2026-04-07
MICRO-COAX	Coaxial Cable	Cable-15	015	2025-04-08	2026-04-07

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§15.203 - ANTENNA REQUIREMENT

Applicable Standard

For intentional device, 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.

Antenna Connector Construction

The EUT has a chip antenna, which was permanently attached to the EUT, antenna gain is 3.5 dBi, fulfill the requirement of this section, please refer to the EUT photos

Result: Compliant.

FCC §1.1307(b) & §2.1093 - RF EXPOSURE

Applicable Standard

According to §2.1093 and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB 447498 D01 General RF Exposure Guidance v06

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot [\sqrt{f}(\text{GHz})] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

1. f (GHz) is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.
4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.

Measurement Result

Mode	Frequency Range (MHz)	Max Tune-up Conducted Power★		Calculated Distance (mm)	Calculated Value	Threshold (1-g SAR)	SAR Test Exclusion
		(dBm)	(mW)				
SRD	2402-2480	-4.0	0.4	5	0.1	3.0	Yes

Note:

1. For the above tune up power were declared by the manufacturer.

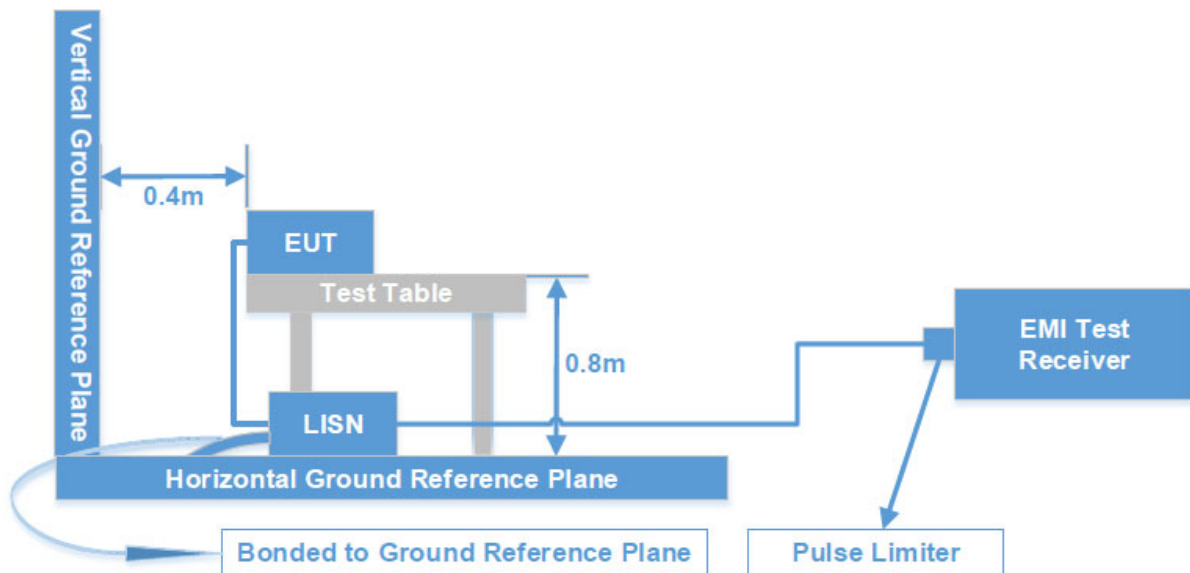
Conclusion: The device meets the exemption requirement.

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 C63.10-2020 + Cor.1-2023. 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
150 kHz – 30 MHz	9 kHz

Test Procedure

ANSI C63.10-2020 + Cor.1-2023 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)

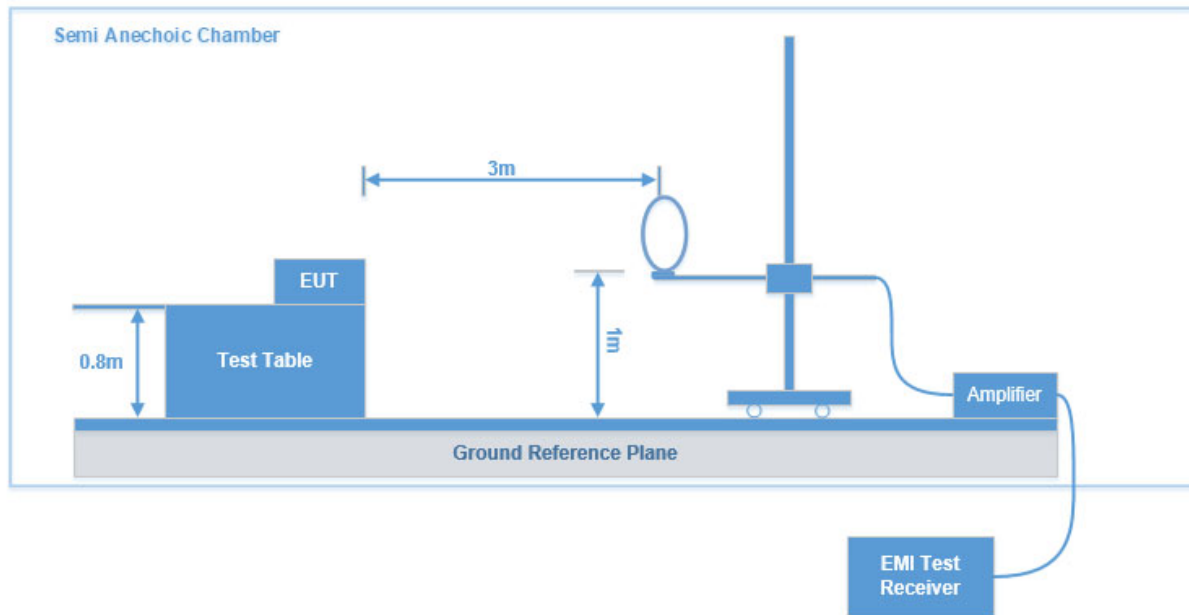
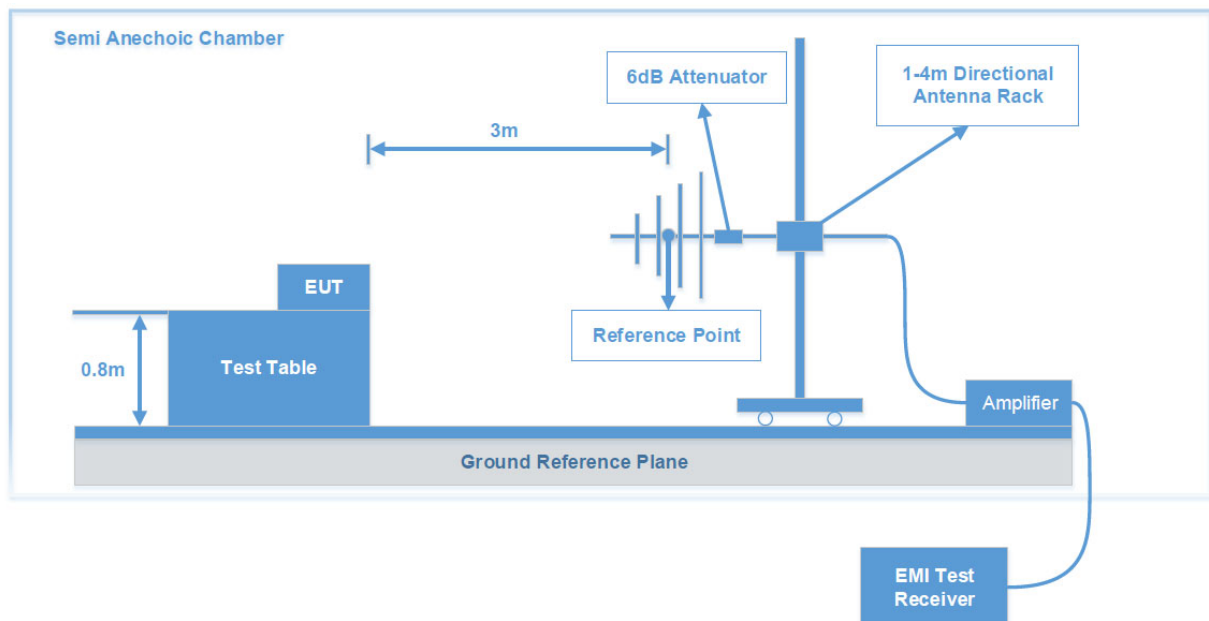
Test Results Summary

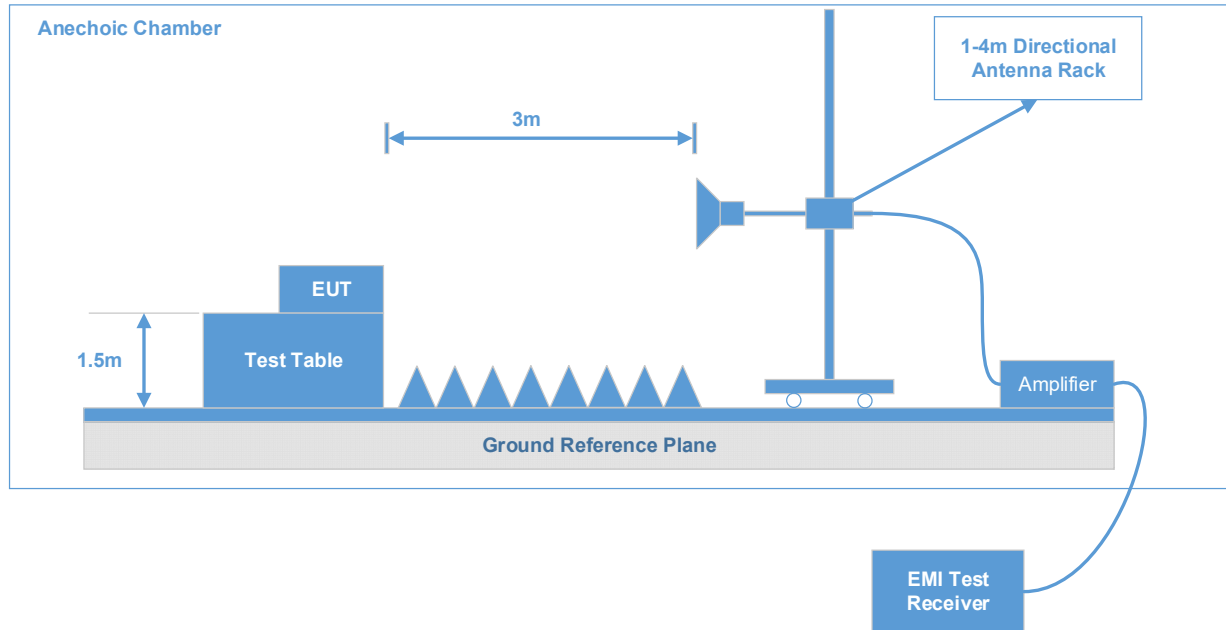
According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

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**9 kHz - 30 MHz:****30 MHz - 1 GHz:**

Above 1 GHz:

The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2020 + Cor.1-2023. The specification used was the FCC 15.209, and FCC 15.247 limits.

EMI Test Receiver Setup

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	Peak/QP/Average	Peak/QP/Average
150 kHz - 30 MHz	9 kHz	30 kHz	9 kHz	Peak/QP/Average	Peak/QP/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

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 (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

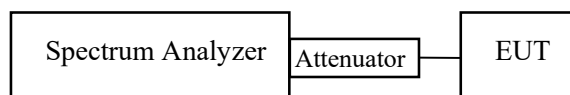
Applicable Standard

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 C63.10-2020 + Cor.1-2023 sub-clause 11.8.1

- a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- b) Set the VBW $\geq [3 \times \text{RBW}]$.
- c) Detector = peak.
- d) Trace mode = max-hold.
- e) Sweep = No faster than coupled (auto) time.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “–6 dB down amplitude”. If a marker is below this “–6 dB down amplitude” value, then it shall be as close as possible to this value.



Note: the offset=Attenuator (10dB) + Cable loss (0.5dB) has been added in Spectrum Analyzer.

Test Data: See Appendix

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

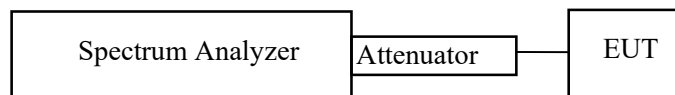
Applicable Standard

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 C63.10:2020 sub-clause 11.9.1.1

- a) Set the RBW $\geq$ DTS bandwidth.
- b) Set VBW $\geq [3 \times \text{RBW}]$.
- c) Set span $\geq [3 \times \text{RBW}]$.
- d) Sweep time = No faster than coupled (auto) time.
- e) Detector = peak.
- f) Trace mode = max-hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.



Note: the offset=Attenuator (10dB) + Cable loss (0.5dB) has been added in Spectrum Analyzer.

Test Data: See Appendix

FCC §15.247(d) –BAND EDGE & CONDUCTED SPURIOUS EMISSION

BAND EDGES

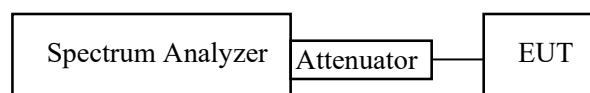
Applicable Standard

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 C63.10-2020 + Cor.1-2023 Section 11.11

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: the offset=Attenuator (10dB) + Cable loss (0.5dB) has been added in Spectrum Analyzer.

CONDUCTED SPURIOUS EMISSION

Applicable Standard

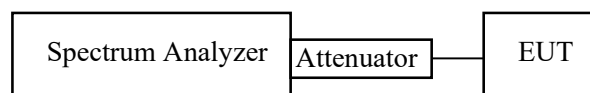
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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 C63.10-2020 + Cor.1-2023 Section 11.11

- a) Set the center frequency and span to encompass frequency range to be measured
- b) Set the RBW = 100 kHz.
- c) Set the VBW $\geq [3 \times \text{RBW}]$.
- d) Detector = peak.
- e) Sweep time = No faster than coupled (auto) time.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.



Note: the offset=Attenuator (10dB) + Cable loss (1dB) has been added in Spectrum Analyzer.

Test Data: See Appendix

FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

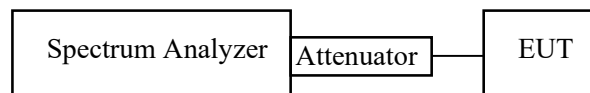
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of 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 C63.10-2020 + Cor.1-2023 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:

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span >1.5 times the DTS bandwidth.
- c) Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- d) Set the VBW $\geq [3 \times \text{RBW}]$.
- e) Detector = peak.
- f) Sweep time = No faster than coupled (auto) time.
- g) Trace mode = max-hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.



Note: the offset=Attenuator (10dB) + Cable loss (0.5dB) has been added in Spectrum Analyzer.

Test Data: See Appendix

APPENDIX - TEST DATA

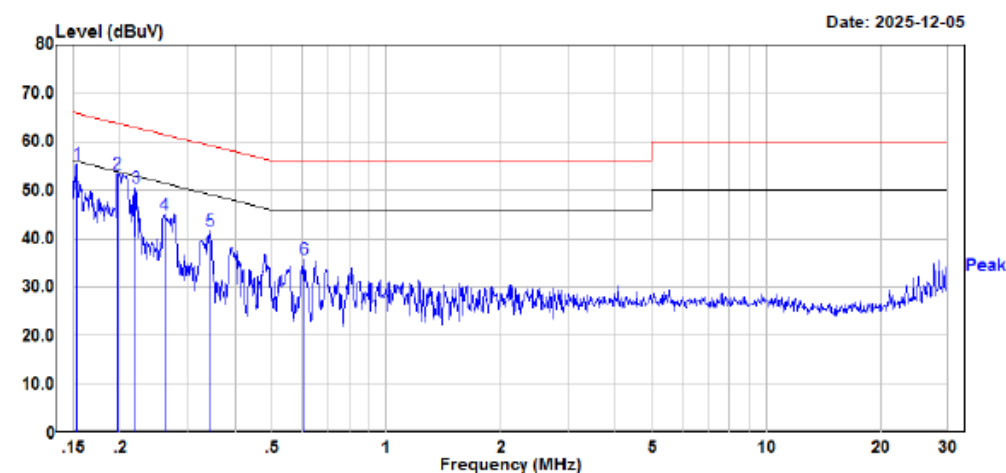
AC LINE CONDUCTED EMISSIONS

Environmental Conditions & Test Information

Test Date:	2025-12-05
Temperature:	19.7 °C
Relative Humidity:	43 %
ATM Pressure:	103.3 kPa
Test Result:	Pass
Test Engineer:	Jack He

EUT operation mode: Transmitting in maximum output power low channel

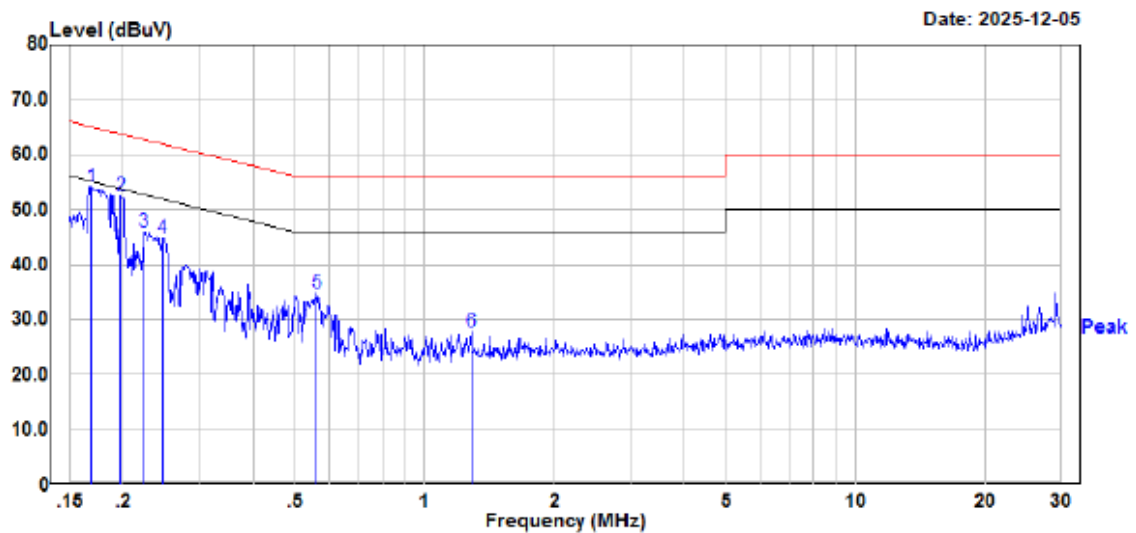
AC 120V/60 Hz, Line



Site : CE
 Condition : limit\FCC PART 15.207
 : DET:Peak
 Project No. : RSZA251127001
 Model : RK HG101D
 Phase : L
 Voltage : 120V/60Hz
 Mode : SRD
 Test Equipment : ENV216,ESR3
 Receiver Setting : RBW: 9 kHz,Sweep Time: Auto
 Temperature : 19.7°C
 Humidity : 43%
 Atmospheric pressure: 103.3kPa
 Test Engineer : Jack He

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.154	34.85	20.41	55.26	65.79	-10.53	Peak
2	0.196	33.04	20.48	53.52	63.76	-10.24	Peak
3	0.219	30.00	20.45	50.45	62.85	-12.40	Peak
4	0.261	24.64	20.40	45.04	61.40	-16.36	Peak
5	0.345	21.27	20.35	41.62	59.09	-17.47	Peak
6	0.609	15.65	20.22	35.87	56.00	-20.13	Peak

AC 120V/60 Hz, Neutral



Site : CE
Condition : limit\FCC PART 15.207
: DET:Peak
Project No. : RSZA251127001
Model : RK HG101D
Phase : N
Voltage : 120V/60Hz
Mode : SRD
Test Equipment : ENV216,ESR3
Receiver Setting : RBW: 9 kHz,Sweep Time: Auto
Temperature : 19.7°C
Humidity : 43%
Atmospheric pressure: 103.3kPa
Test Engineer : Jack He

	Read		Limit	Over	
	Freq	Level	Factor	Level	Line
	MHz	dBuV	dB	dBuV	dBuV
1	0.168	33.80	20.41	54.21	65.05
2	0.197	31.92	20.43	52.35	63.72
3	0.223	25.61	20.40	46.01	62.69
4	0.247	24.25	20.38	44.63	61.86
5	0.562	14.61	20.22	34.83	56.00
6	1.285	7.66	20.21	27.87	56.00

RADIATED EMISSIONS& OUT OF BAND EMISSION**Environmental Conditions & Test Information**

Frequency range:	9 kHz – 30MHz	30MHz – 1 GHz	1 GHz – 18 GHz	18 GHz – 25 GHz
Test Date:	2025-12-18	2025-12-05	2025-12-05 & 2026-01-14	2025-12-05
Temperature:	19 °C	18.3 °C	19.6 °C & 16.2 °C	19.6 °C
Relative Humidity:	51 %	52 %	47 % & 43%	47 %
ATM Pressure:	102.5 kPa	102.8 kPa	102.8 kPa & 102.2 kPa	102.8 kPa
Test Result:	Pass	Pass	Pass	Pass
Test Engineer:	Scarf Yang	Scarf Yang	Destine Hu	Hugh Wu

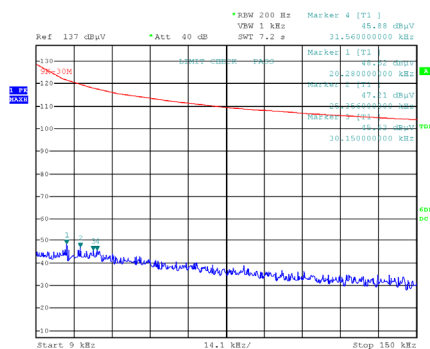
Test Result: Compliant.

Test mode: Transmitting

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

9 kHz-30 MHz (Transmitting in maximum output power low channel)
Parallel(worst case)

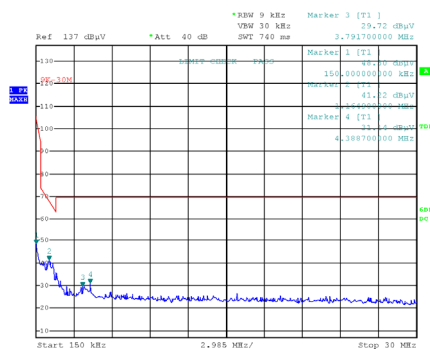
9kHz-150kHz



Project No. RSZA251127001
 Date: 18.DEC.2025 18:04:58

Tester: Scarf Yang

150kHz-30MHz



Project No. RSZA251127001
 Date: 18.DEC.2025 18:14:50

Tester: Scarf Yang

9kHz-150kHz

Frequency (MHz)	Corrected Amplitude (dBμV/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dBμV/m) @3m	Margin (dB)
0.020280	48.62	PK	-0.56	121.46	72.84
0.025356	47.21	PK	-0.59	119.52	72.31
0.030150	45.63	PK	-0.63	118.02	72.39
0.031560	45.88	PK	-0.86	117.62	71.74

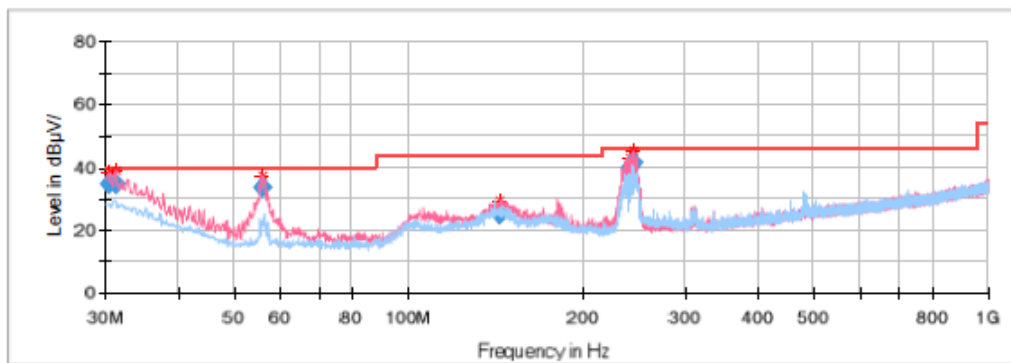
150kHz-30MHz

Frequency (MHz)	Corrected Amplitude (dBμV/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dBμV/m) @3m	Margin (dB)
0.150000	48.30	PK	-11.34	104.08	55.78
1.164900	41.22	PK	-28.15	66.28	25.06
3.791700	29.72	PK	-31.81	69.54	39.82
4.388700	31.14	PK	-31.97	69.54	38.40

30MHz - 1GHz: (Transmitting in maximum output power low channel)
Low Channel: 2402 MHz

Common Information

Project No:	RSZA251127001
EUT Model:	RK HG101D
Test Mode:	Transmitting in SRD mode low 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:	18.3°C
Humidity:	52%
Barometric Pressure:	102.8kPa
Test Engineer:	Scarf Yang
Test Date:	2025/12/05



Final Result

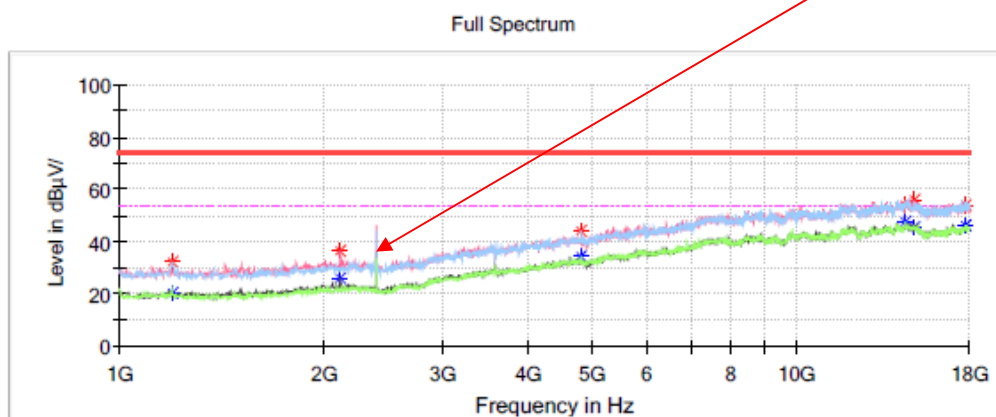
Frequency (MHz)	QuasiPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
30.363750	34.78	40.00	5.22	V	-5.5
31.212500	34.66	40.00	5.34	V	-5.5
55.947500	33.21	40.00	6.79	V	-17.1
143.490000	24.95	43.50	18.55	V	-11.4
240.005000	39.87	46.00	6.13	V	-12.3
244.855000	41.38	46.00	4.62	V	-12.2

1 GHz - 18 GHz:

Low Channel: 2402 MHz

Common Information

Project No.: RSZA251127001
EUT Model: RK HG101D
Test Mode: Transmitting in 2.4G SRD Low Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 19.6℃
Humidity: 47%
Atmospheric Pressure: 102.8kPa
Test Engineer: Destine Hu
Test Date: 2025/12/5

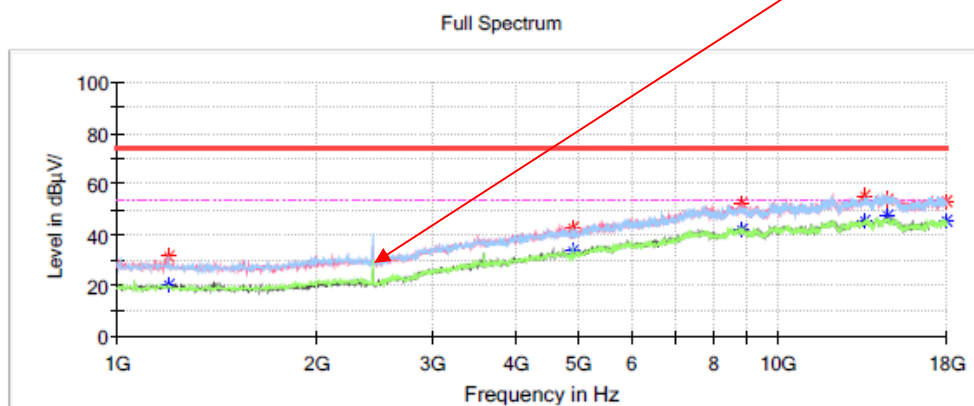
Fundamental Test with
Band Reject Filter**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1197.200000	32.22	---	74.00	41.78	H	-14.5
1197.200000	---	20.43	54.00	33.57	H	-14.5
2122.000000	36.66	---	74.00	37.34	V	-9.9
2122.000000	---	25.61	54.00	28.39	V	-9.9
4804.600000	---	33.97	54.00	20.03	H	-3.4
4804.600000	43.90	---	74.00	30.10	H	-3.4
14515.000000	53.68	---	74.00	20.32	H	11.9
14515.000000	---	47.64	54.00	6.36	H	11.9
14950.200000	56.17	---	74.00	17.83	V	10.4
14950.200000	---	45.73	54.00	8.27	V	10.4
17779.000000	---	46.34	54.00	7.66	H	11.2
17779.000000	53.59	---	74.00	20.41	H	11.2

Middle Channel: 2440 MHz**Common Information**

Project No.: RSZA251127001
 EUT Model: RK HG101D
 Test Mode: Transmitting in 2.4G SRD Middle Channel
 Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 19.6℃
 Humidity: 47%
 Atmospheric Pressure: 102.8kPa
 Test Engineer: Destine Hu
 Test Date: 2025/12/5

Fundamental Test with
Band Reject Filter

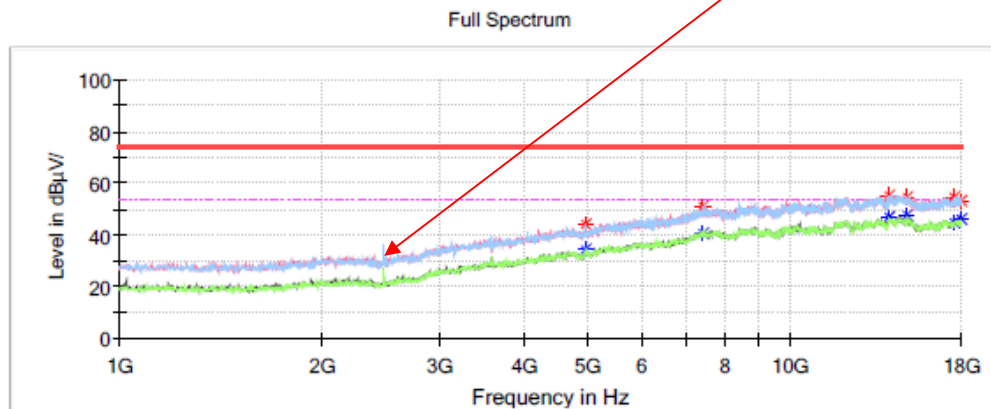
**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1197.200000	---	19.97	54.00	34.03	H	-14.5
1197.200000	31.25	---	74.00	42.75	H	-14.5
4879.400000	---	33.37	54.00	20.63	H	-3.2
4879.400000	42.94	---	74.00	31.06	H	-3.2
8843.800000	---	41.91	54.00	12.09	V	4.7
8843.800000	52.62	---	74.00	21.38	V	4.7
13532.400000	---	45.39	54.00	8.61	V	10.1
13532.400000	55.57	---	74.00	18.43	V	10.1
14695.200000	---	47.26	54.00	6.74	V	11.3
14695.200000	53.85	---	74.00	20.15	V	11.3
17966.000000	52.83	---	74.00	21.17	H	11.7
17966.000000	---	45.76	54.00	8.24	H	11.7

High Channel: 2480 MHz**Common Information**

Project No.: RSZA251127001
 EUT Model: RK HG101D
 Test Mode: Transmitting in 2.4G SRD High Channel
 Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 19.6℃
 Humidity: 47%
 Atmospheric Pressure: 102.8kPa
 Test Engineer: Destine Hu
 Test Date: 2025/12/5

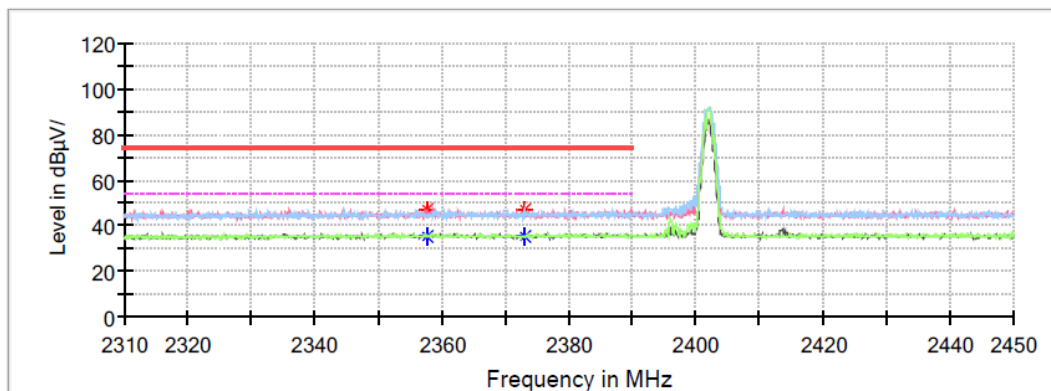
Fundamental Test with
Band Reject Filter

**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)
4957.600000	---	34.18	54.00	19.82	H	-3.0
4957.600000	43.83	---	74.00	30.17	H	-3.0
7398.800000	---	40.73	54.00	13.27	H	2.7
7398.800000	51.36	---	74.00	22.64	H	2.7
14042.400000	---	46.58	54.00	7.42	V	11.2
14042.400000	55.59	---	74.00	18.41	V	11.2
14953.600000	---	47.58	54.00	6.42	V	10.4
14953.600000	54.34	---	74.00	19.66	V	10.4
17581.800000	---	44.78	54.00	9.22	H	10.6
17581.800000	54.74	---	74.00	19.26	H	10.6
17979.600000	52.88	---	74.00	21.12	H	11.7
17979.600000	---	46.01	54.00	7.99	H	11.7

Restricted Bands Emission:**Left Side****Common Information**

Project No.: RSZA251127001
EUT Model: RK MG5
Test Mode: Transmitting in 2.4G SRD Low Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 16.2℃
Humidity: 43%
Atmospheric Pressure: 102.2kPa
Test Engineer: Destine Hu
Test Date: 2026/1/14

Full Spectrum**Critical_Freqs**

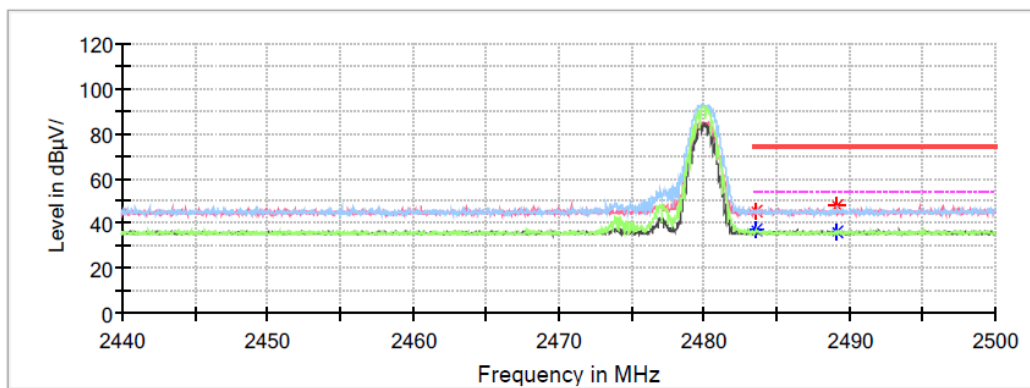
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2357.656000	---	35.34	54.00	18.66	V	0.3
2357.656000	46.97	---	74.00	27.03	V	0.3
2372.944000	47.35	---	74.00	26.65	H	0.4
2372.944000	---	35.05	54.00	18.95	H	0.4

Right Side

Common Information

Project No.: RSZA251127001
EUT Model: RK MG5
Test Mode: Transmitting in 2.4G SRD High Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 16.2℃
Humidity: 43%
Atmospheric Pressure: 102.2kPa
Test Engineer: Destine Hu
Test Date: 2026/1/14

Full Spectrum

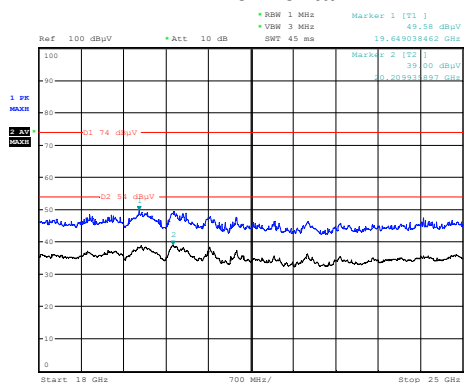


Critical Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2483.536000	---	36.95	54.00	17.05	H	0.5
2483.536000	45.22	---	74.00	28.78	H	0.5
2489.152000	---	35.86	54.00	18.14	H	0.5
2489.152000	47.84	---	74.00	26.16	H	0.5

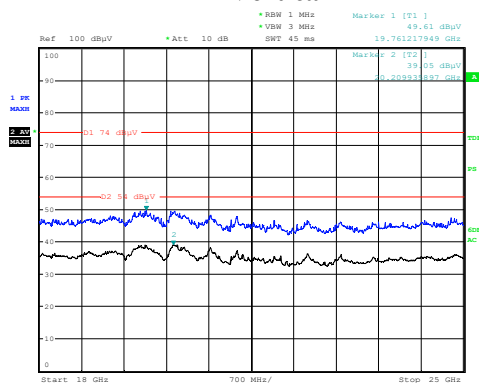
18GHz-25GHz: (Transmitting in maximum output power low channel)

Horizontal



Project No :RSZA251127001 Tester :Hugh Wu
Date: 5.DEC.2025 20:10:16

Vertical



Project No :RSZA251127001 Tester :Hugh Wu
Date: 5.DEC.2025 20:43:32

Frequency (GHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Corr. (dB/m)
20.21	---	39	54	15	H	11.96
19.65	49.58	---	74	24.42	H	11.33
20.21	---	39.05	54	14.95	V	12.47
19.76	49.61	---	74	24.39	V	12.07

6 dB EMISSION BANDWIDTH

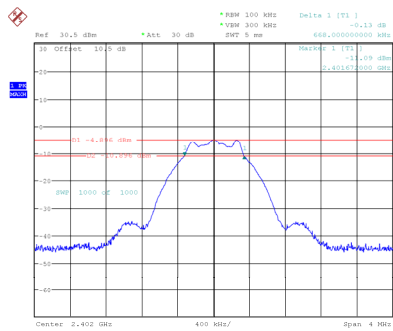
Environmental Conditions & Test Information

Test Date:	2025-12-16
Temperature:	21.6 °C
Relative Humidity:	53 %
ATM Pressure:	102.5kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

Test Result: Compliant.
EUT operation mode: Transmitting

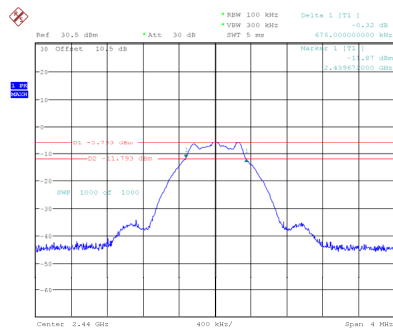
Mode	Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (MHz)
SRD	Low	2402	0.668	≥0.5
	Middle	2440	0.676	≥0.5
	High	2480	0.668	≥0.5

Low Channel



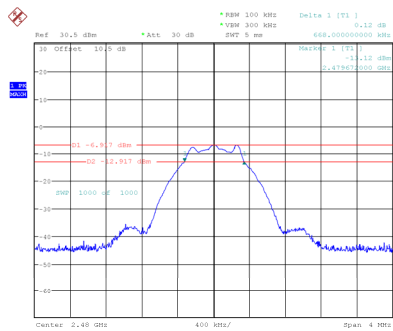
ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 11:53:41

Middle Channel



ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 13:10:11

High Channel



ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 15:20:25

MAXIMUM CONDUCTED OUTPUT POWER

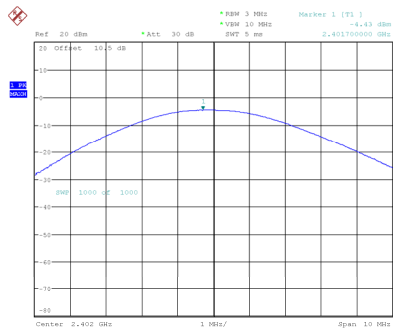
Environmental Conditions & Test Information

Test Date:	2025-12-16
Temperature:	21.6 °C
Relative Humidity:	53 %
ATM Pressure:	102.5kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

Test Result: Compliant.
EUT operation mode: Transmitting

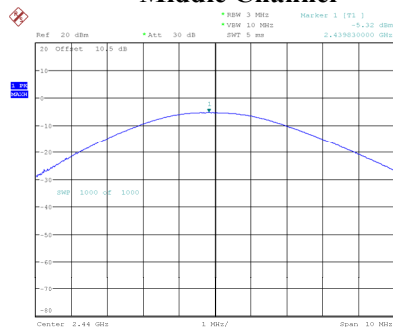
Mode	Channel	Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Limit (dBm)	Result
SRD	Low	2402	-4.43	30	Pass
	Middle	2440	-5.32	30	Pass
	High	2480	-6.38	30	Pass

Low Channel



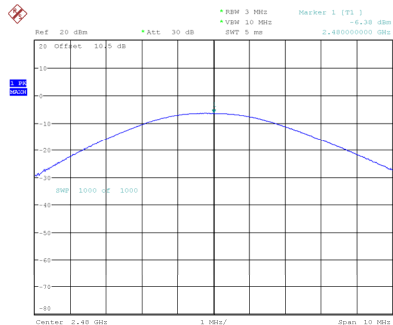
ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 11:54:45

Middle Channel



ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 13:11:06

High Channel



ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 13:21:54

BAND EDGE

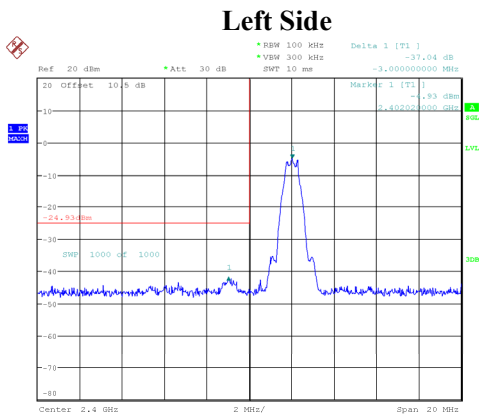
Environmental Conditions & Test Information

Test Date:	2025-12-16
Temperature:	21.6 °C
Relative Humidity:	53 %
ATM Pressure:	102.5kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

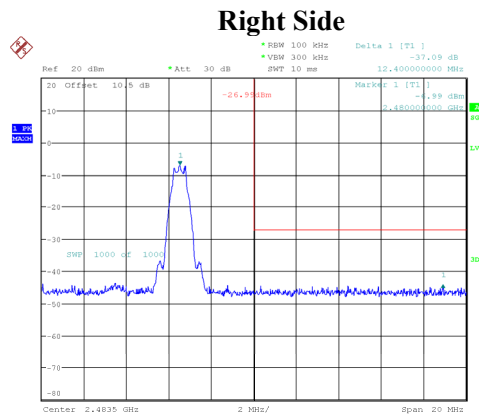
Test Result: Compliant.

EUT operation mode: Transmitting

Mode	Channel	Frequency (MHz)	Result (dBc)	Limit (dBc)
SRD	Low	2402	37.04	20
	High	2480	37.09	



ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 13:55:44



ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 13:22:54

POWER SPECTRAL DENSITY

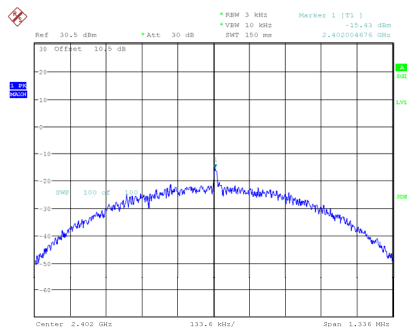
Environmental Conditions & Test Information

Test Date:	2025-12-16
Temperature:	21.6 °C
Relative Humidity:	53 %
ATM Pressure:	102.5kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

Test Result: Compliant.
EUT operation mode: Transmitting

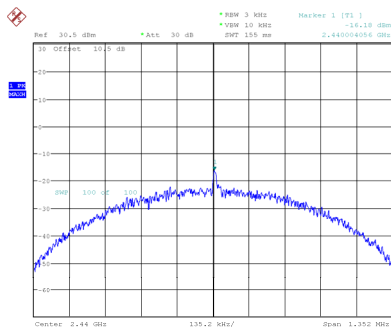
Mode	Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)
SRD	Low	2402	-15.43	≤8
	Middle	2440	-16.18	≤8
	High	2480	-17.45	≤8

Low Channel



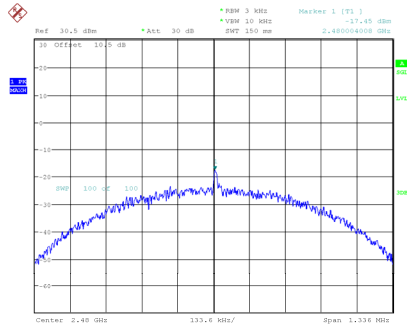
ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 11:57:02

Middle Channel



ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 13:11:31

High Channel



ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 13:23:18

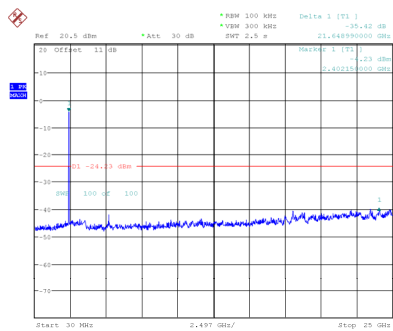
CONDUCTED SPURIOUS EMISSION

Environmental Conditions & Test Information

Test Date:	2025-12-16
Temperature:	21.6 °C
Relative Humidity:	53 %
ATM Pressure:	102.5kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

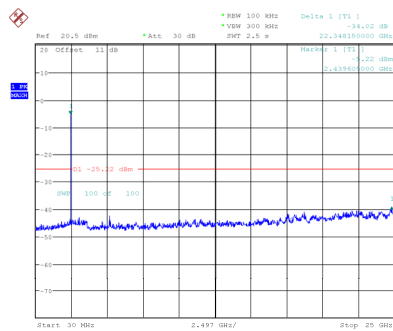
Mode	Channel	Frequency (MHz)	Result (dB)	Limit (dB)	Verdict
SRD	Low	2402	35.42	20	Pass
	Middle	2440	34.02	20	Pass
	High	2480	33.47	20	Pass

Low Channel



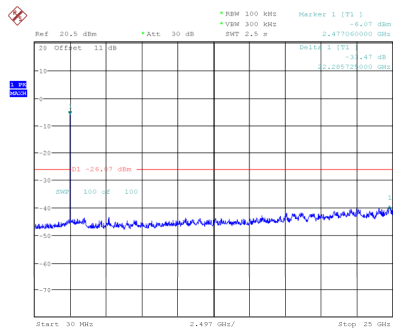
ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 12:20:47

Middle Channel



ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 13:18:39

High Channel



ProjectNo.:RSZA251127001 Tester:Neil Zhou
Date: 16.DEC.2025 13:37:09

EUT PHOTOGRAPHS

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

TEST SETUP PHOTOGRAPHS

Please refer to the attachment EXHIBIT 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.
6. This report may contain standards and test items that are not covered by the accreditation scope and shall be marked with an asterisk “▲”.

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