

FCC PART 15.247

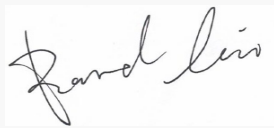
TEST REPORT

For

UROVO PTE. LIMITED

1 Raffles Place, #21-01 One Raffles Place Tower 1, Singapore 048616

FCC ID: 2BQURRFG91

Report Type: Original Report	Product Name: UHF RFID Sled
Report Number: <u>RSHA250523001-00B</u>	
Report Date: <u>2025-11-18</u>	
Reviewed By: <u>Bard Liu</u>	
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Kunshan). This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, or any agency of the U.S. Government.

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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	RSHA250523001-00B	R1V1	2025-11-18	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant	UROVO PTE. LIMITED
Product Name:	UHF RFID Sled
Tested Model:	RFG91
Series Model	RFG90, RFG95, RF91, RFP91, RS5, BG5, G5, US91, US95
Model Difference:	Model Name
Power Supply	DC 5 V from adapter or DC 3.6V by battery
RF Function:	BLE
Operating Band/Frequency:	BLE(1 Mbps)/ BLE(2 Mbps): 2402-2480 MHz
Maximum Peak Output Power:	BLE(1 Mbps): -0.91 dBm BLE(2 Mbps): -0.90 dBm
Channel Number:	BLE(1Mbps/2 Mbps): 40
Channel Separation:	BLE: 2 MHz
Modulation Type:	GFSK
★Maximum Antenna Gain:	1.69 dBi

Adapter Information:

Model: YHPCU052000A0A

Input: 100-240Vac, 50/60Hz, 0.5A

Output: 5V, 2A, 10W

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

All measurement and test data in this report was gathered from production sample serial number: RSHA250523001-1 (Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2025-05-23.)

Objective

This report is prepared for *UROVO PTE. LIMITED* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commissions' rules.

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

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2020, American National Standard of Procedures for Compliant Testing of Unlicensed Wireless Devices and FCC 558074 D01 15.247 Meas Guidance v05r02.

Measurement Uncertainty

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

Test Facility

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

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

SYSTEM TEST CONFIGURATION

Description of Test Configuration

Channel List for BLE mode:

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

EUT was tested with channel 0, 19 and 39.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

RF test software: UHFReader288Demo

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

Mode	Data Rate	★Power Level
BLE(1Mbps)	1Mbps	8
BLE(2Mbps)	2Mbps	8

Note: The power level was declared by the applicant.

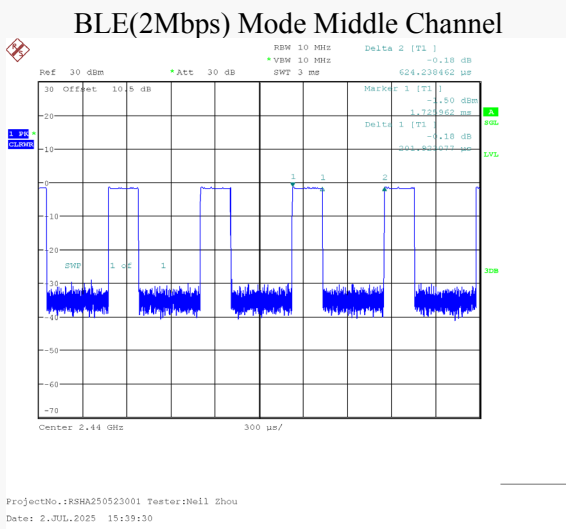
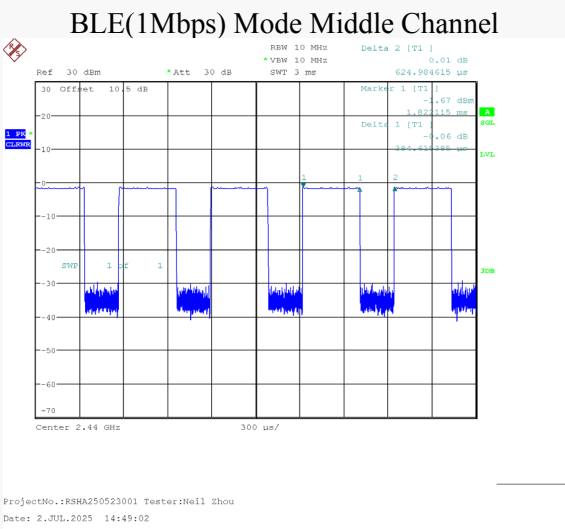
Environmental Conditions & Test Information

Test Date:	2025-07-02
Temperature:	25.6 °C
Relative Humidity:	42 %
ATM Pressure:	101.3kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

Mode	Duty Cycle (%)	Ton(ms)	Ton+off(ms)
BLE(1Mbps)	61.60	0.385	0.625
BLE(2Mbps)	32.37	0.202	0.624

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

Duty Cycle:



Support Equipment List and Details

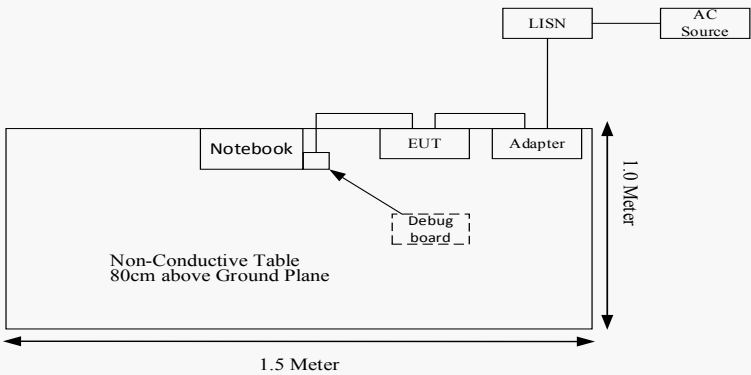
Manufacturer	Description	Model	Serial Number
Lenovo	Notebook	Y700P	PF2B7PL5
/	Debug board	/	/

External I/O Cable

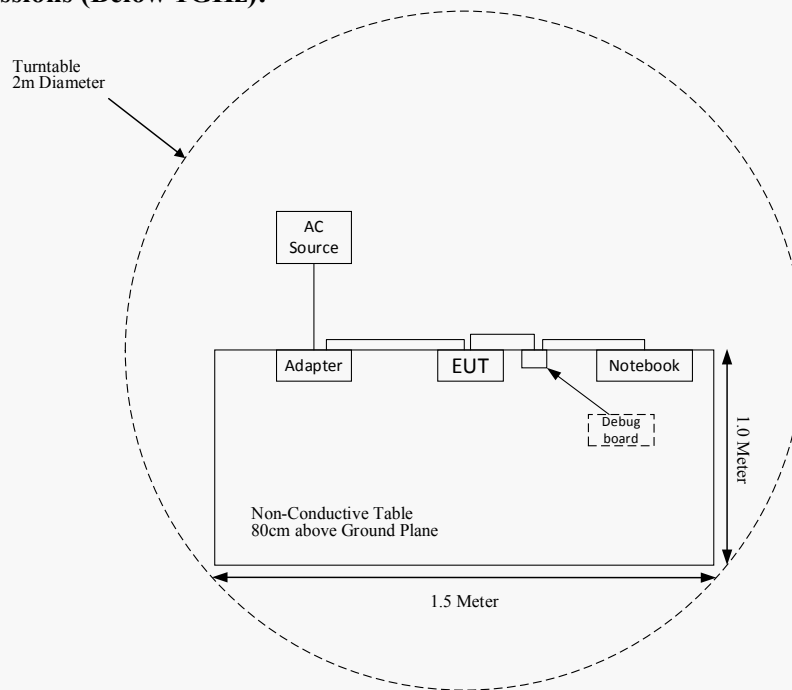
Cable Description	Length (m)	From Port	To Port
Data Cable 1	1.0	Notebook	Debug board
Data Cable 2	0.2	Debug board	EUT
Power Cable 1	1.0	EUT	Adapter
Power Cable 2	1.0	Adapter	AC Source/LISN

Block Diagram of Test Setup

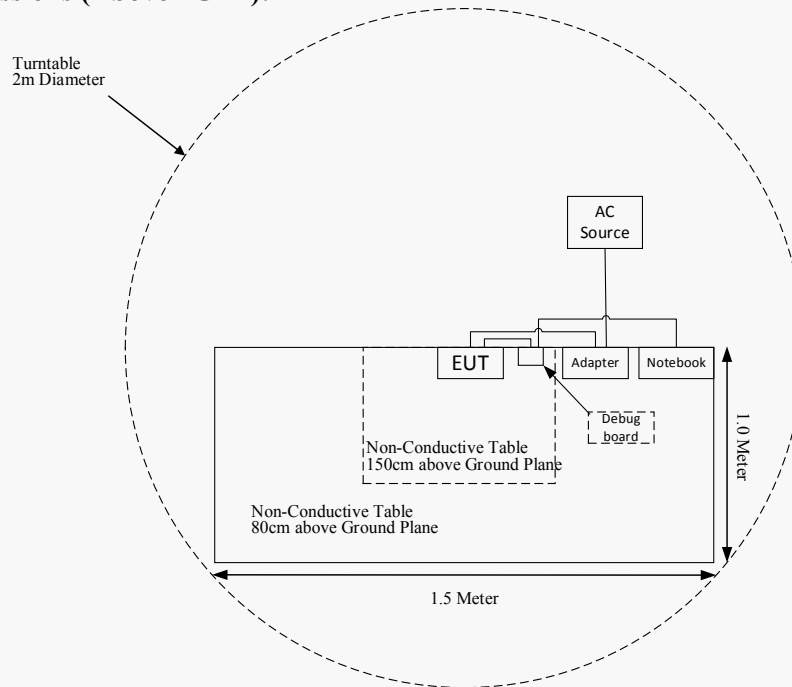
For Conducted Emissions:



For Radiated Emissions (Below 1GHz):



For Radiated Emissions (Above 1GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307(b)(1)& §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)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test (Chamber #1)					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2025-04-09	2026-04-08
Sunol Sciences	Broadband Antenna	JB3	A090314-1	2024-11-08	2027-11-07
Narda	6dB Attenuator	773-6	10690812-2-1	2024-10-29	2027-10-28
BACL	Active Loop Antenna	1313-1A	4041511	2024-11-22	2027-11-21
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	9311-4159	2024-12-02	2025-12-01
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
SELECTOR	Amplifier	EM18G40G	060726	2025-04-09	2026-04-08
MICRO-TRONICS	Band Reject Filter	BRM50702	G024	2024-08-05	2025-08-04
				2025-08-04	2026-08-03
Narda	Attenuator	10dB	010	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	2025-04-09	2026-04-08
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	2024-07-28	2025-07-27
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 §1.1307(b) & §2.1093 - RF EXPOSURE

Applicable Standard

According to §15.247(i) and §1.1310, 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 KDB447498 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:

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

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 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)				
BLE	2402-2480	-0.5	0.89	5.0	0.3	3.0	Yes

Note:

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

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine Compliant with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

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

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT have a FPC antenna permanently attached to the EUT. fulfill the requirement of this section. Please refer to the EUT photos.

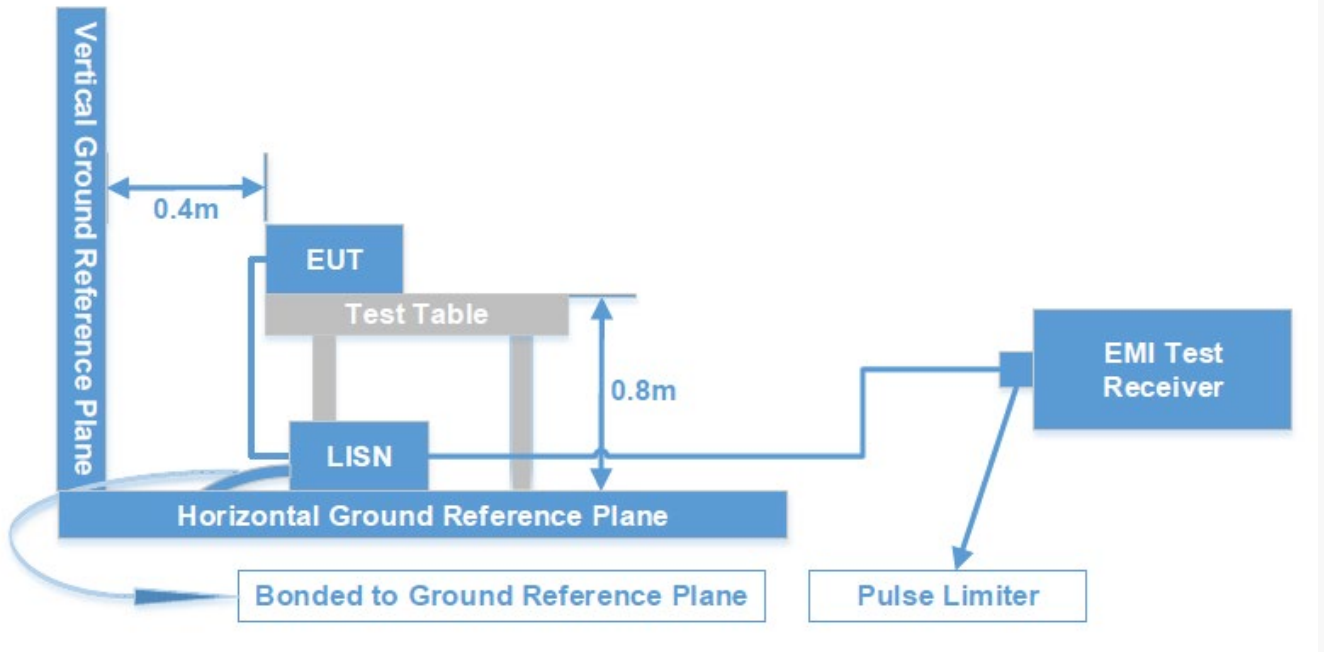
Result: Compliant.

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 C63.10-2020. The related limit was specified in FCC Part 15.207.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

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 C63.10-2020 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

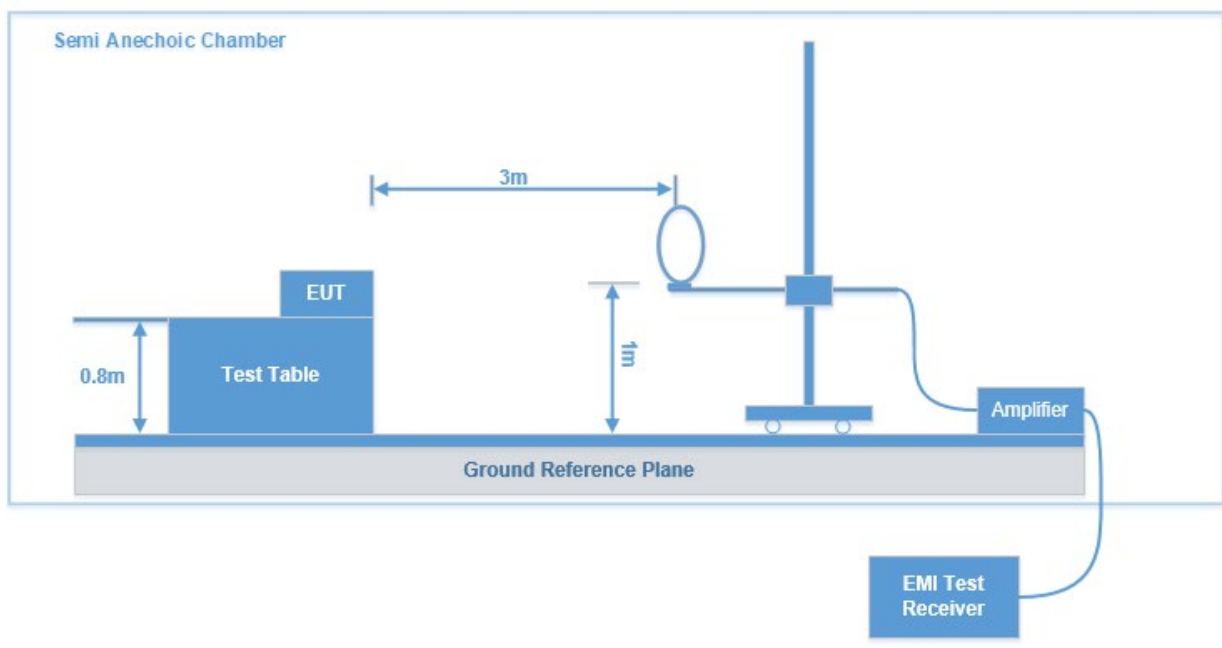
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

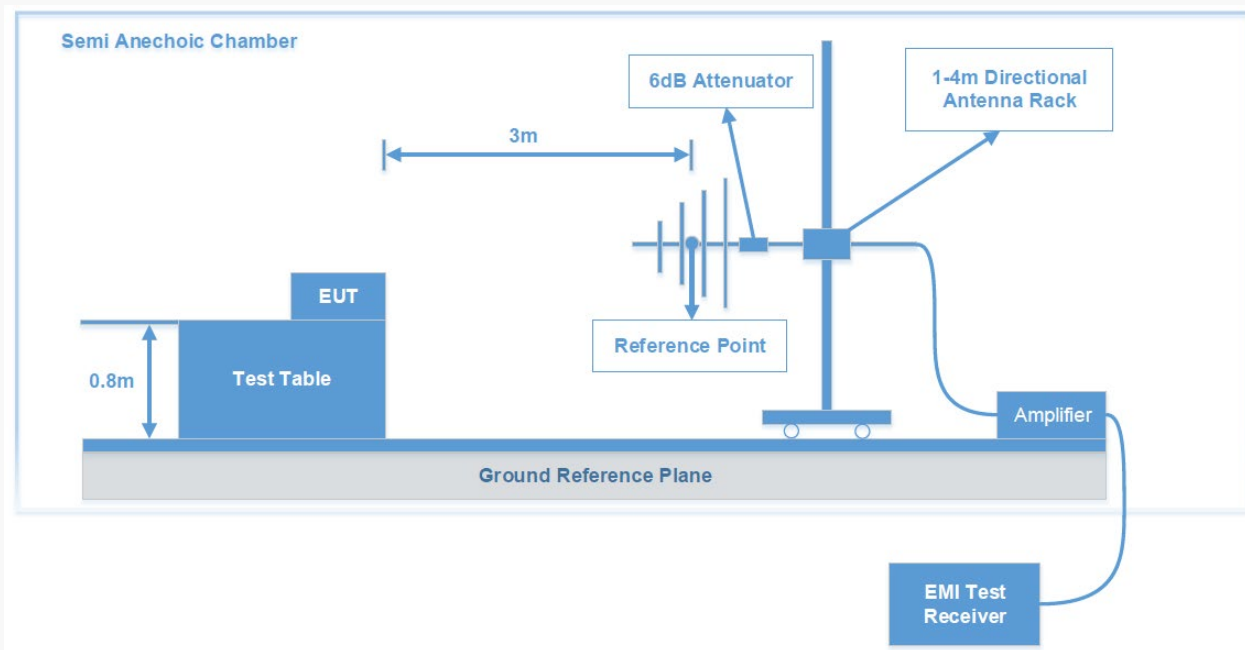
FCC §15.247 (d); §15.209; §15.205;

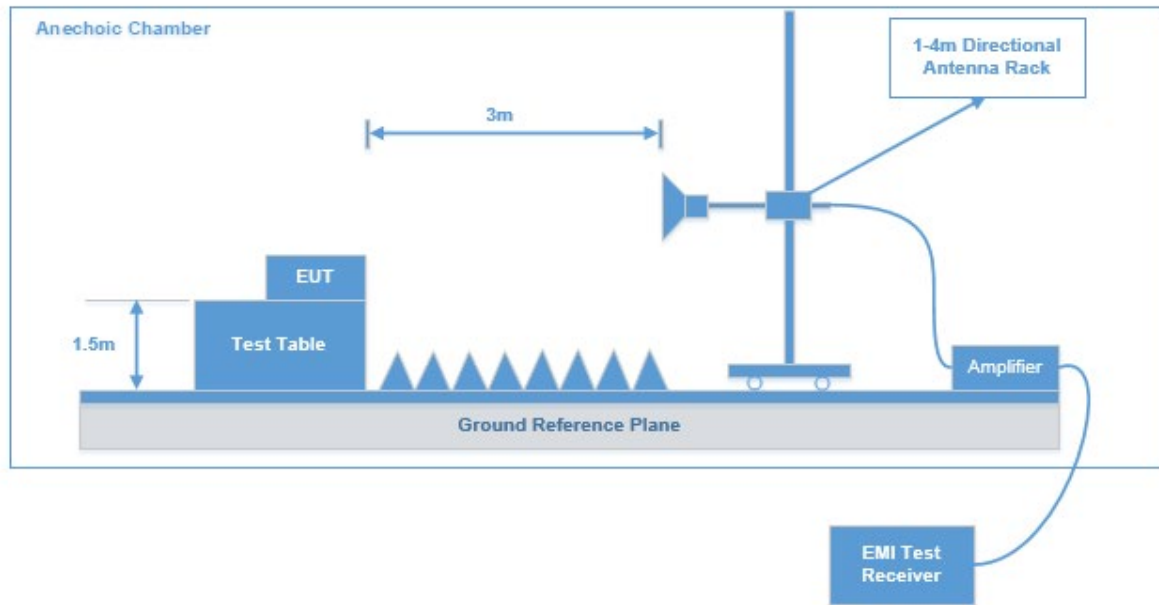
Test System Setup

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. 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
9 kHz - 150 kHz	200 Hz	1 kHz	200 Hz	QP/Average
150 kHz - 30 MHz	9 kHz	30 kHz	9 kHz	QP/ Average
30 MHz - 1000 MHz	100 kHz	300 kHz	/	Peak
	/	/	120 kHz	QP
Above 1GHz	1MHz	3 MHz	/	Peak
	1MHz	3 MHz	/	Average

Test Procedure

According to ANSI C63.10-2020 clause 6.4, 6.5 and 6.6.

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)

Test Results Summary

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

Test Data: See Appendix

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

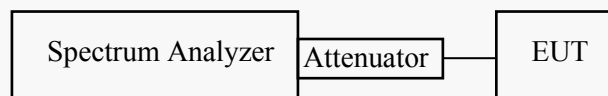
Applicable Standard

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

Test Data: See Appendix

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

Applicable Standard

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

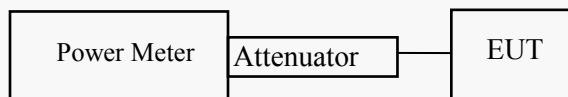
Test Procedure

According to ANSI C63.10-2020 sub-clause 11.9.1.2

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

11.9.2.3.2 Method AVGPM-G

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



For BLE:

According to ANSI C63.10-2020 sub-clause 11.9.1.1

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



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

Test Data: See Appendix

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

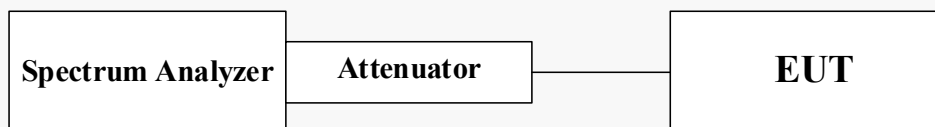
Applicable Standard

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

Test Procedure

According to ANSI C63.10-2020 sub-clause 6.10.

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



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

Test Data: See Appendix

FCC §15.247(E) - POWER SPECTRAL DENSITY

Applicable Standard

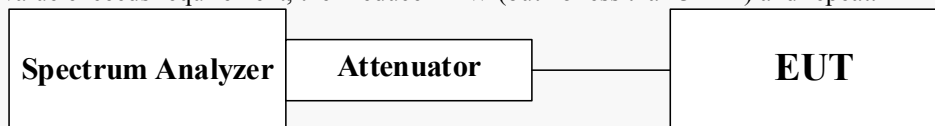
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of 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 sub-clause 11.10.2

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

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

Test Data: See Appendix

APPENDIX - TEST DATA

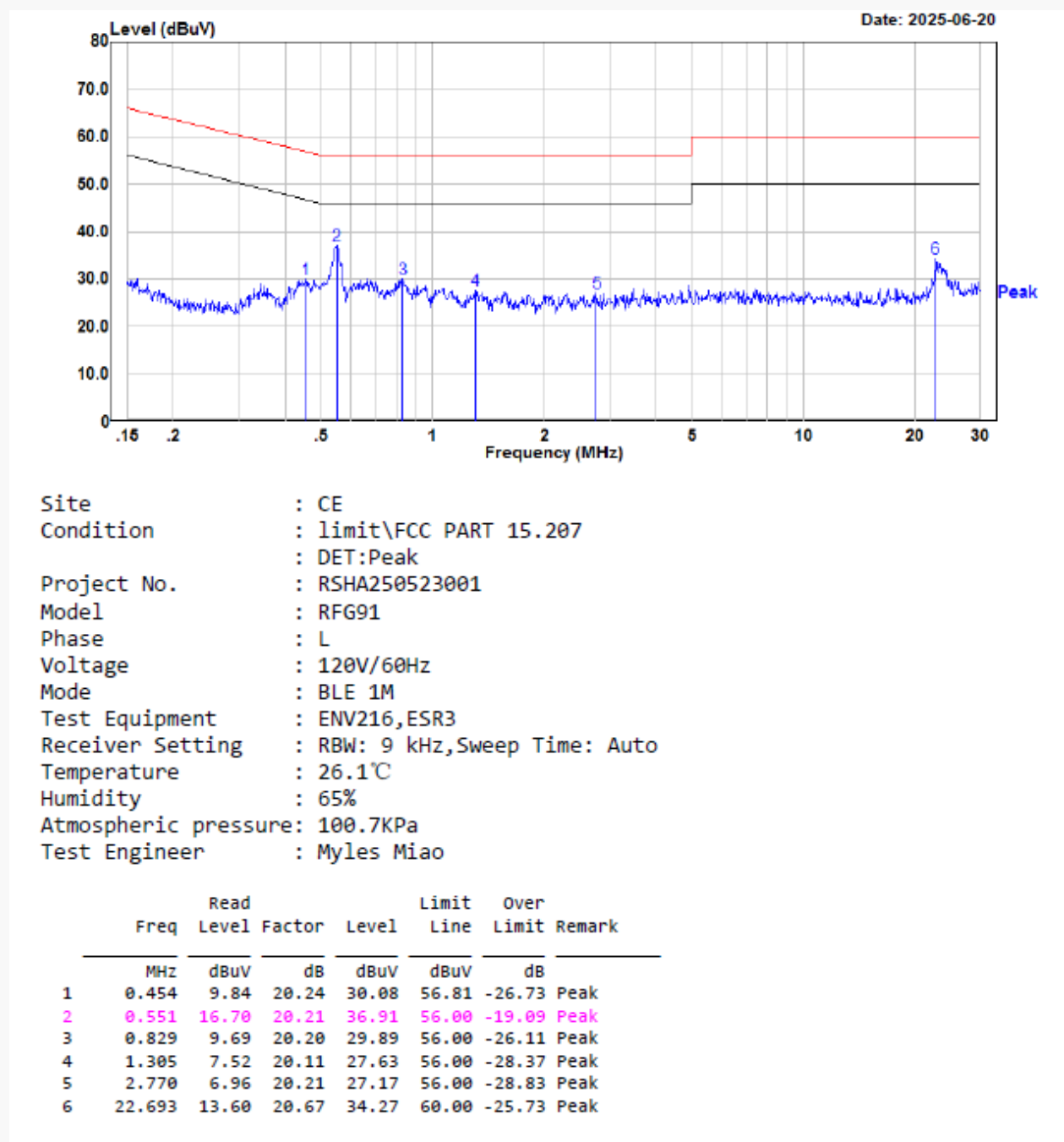
AC LINE CONDUCTED EMISSIONS

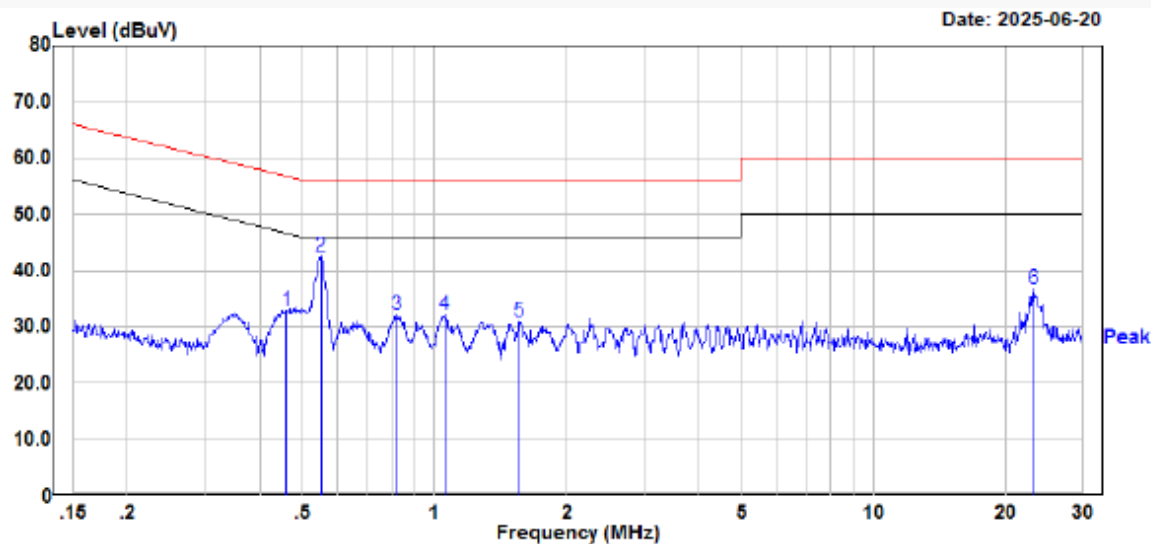
Environmental Conditions & Test Information

Test Date:	2025-06-20
Temperature:	26.1 °C
Relative Humidity:	65 %
ATM Pressure:	100.7 kPa
Test Result:	Pass
Test Engineer:	Myles Miao

EUT operation mode: Transmitting in BLE (1 Mbps) low channel (maximum output power)

Line:



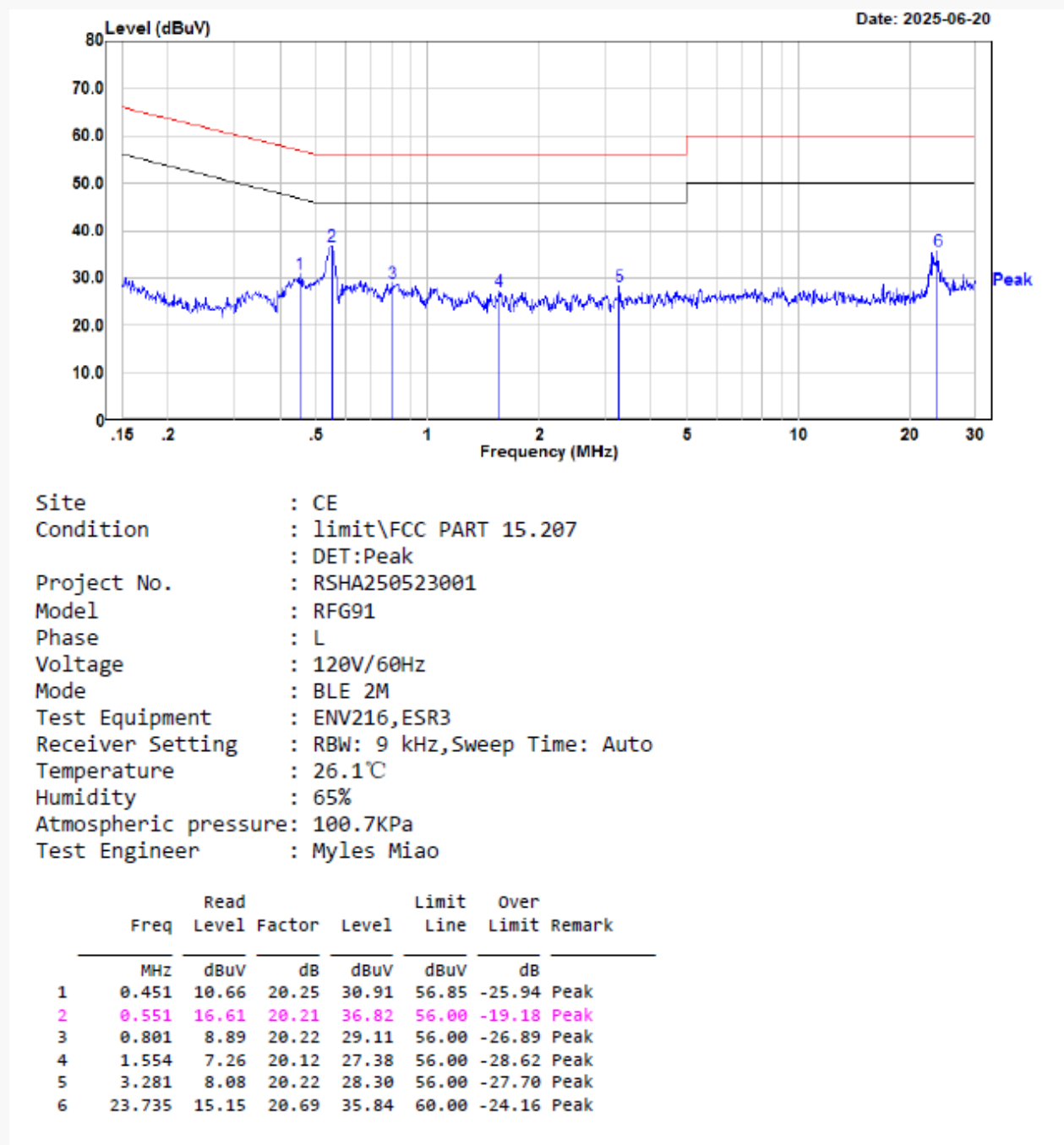
Neutral:

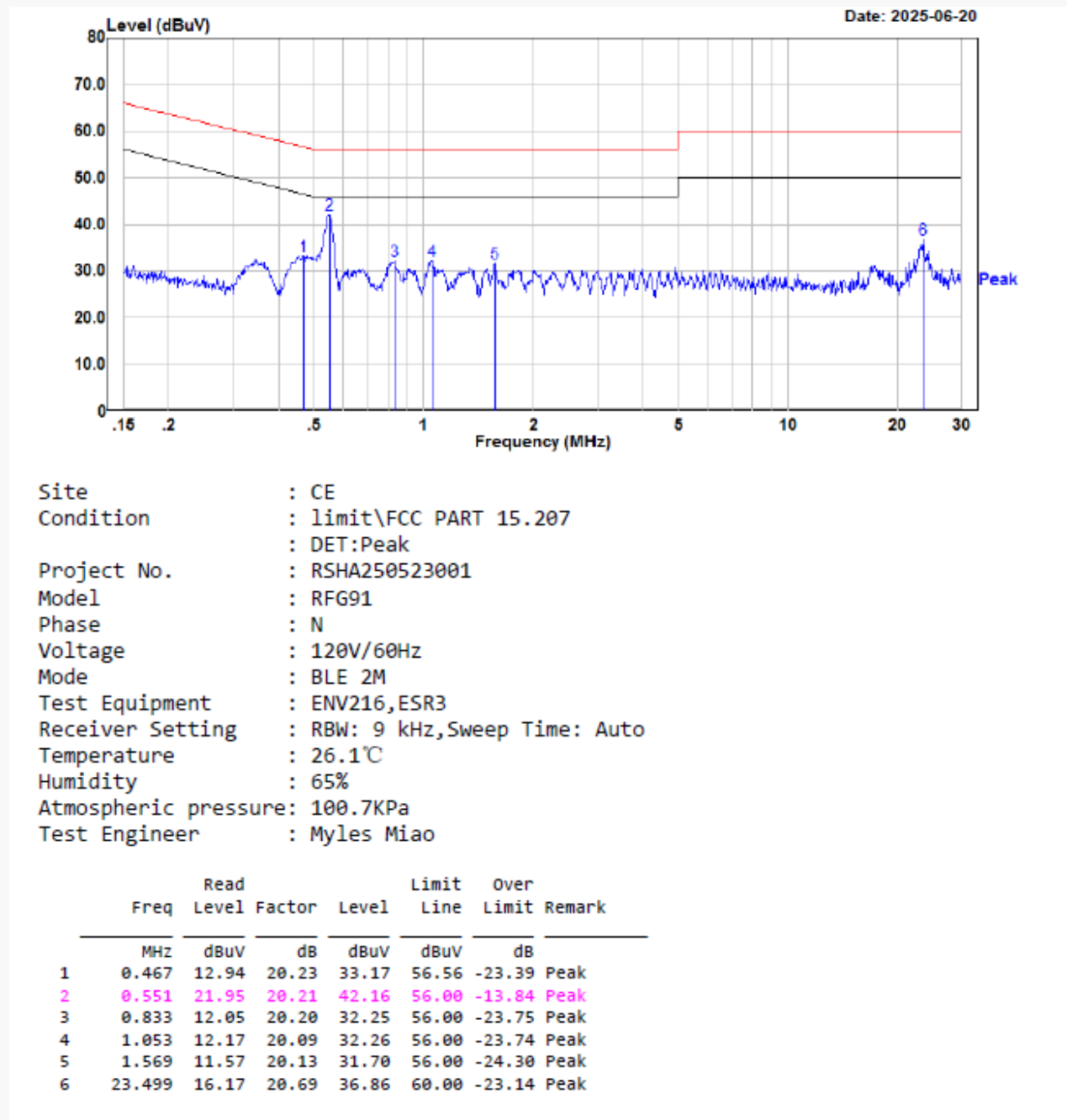
Site : CE
Condition : limit\FCC PART 15.207
Model : RFG91
Phase : N
Voltage : 120V/60Hz
Mode : BLE 1M
Test Equipment : ENV216,ESR3
Receiver Setting : RBW: 9 kHz,Sweep Time: Auto
Temperature : 26.1℃
Humidity : 65%
Atmospheric pressure: 100.7KPa
Test Engineer : Myles Miao

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.460	12.72	20.23	32.95	56.69	-23.74	Peak
2	0.551	22.23	20.21	42.44	56.00	-13.56	Peak
3	0.821	12.02	20.21	32.23	56.00	-23.77	Peak
4	1.053	12.05	20.09	32.14	56.00	-23.86	Peak
5	1.561	10.91	20.12	31.03	56.00	-24.97	Peak
6	23.035	16.10	20.68	36.78	60.00	-23.22	Peak

EUT operation mode: Transmitting in BLE (2 Mbps) low channel (maximum output power)

Line:



Neutral:

SPURIOUS EMISSIONS

Environmental Conditions & Test Information

Test Item:	SPURIOUS EMISSIONS			
	9kHz – 30MHz	30 MHz-1 GHz:	1 GHz - 18 GHz	18 GHz - 25 GHz
Test Date:	2025-06-19	2025-06-18	2025-06-24 and 2025-11-18	2025-06-24
Temperature:	25.9 °C	24.2 °C	20.3 and 18.4 °C	20.3 °C
Relative Humidity:	47 %	42 %	52 % and 46 %	52 %
ATM Pressure:	101.1 kPa	101.1 kPa	102.6 kPa and 103.3 kPa	102.6 kPa
Test Result:	Pass	Pass	Pass	Pass
Test Engineer:	Jonathan	Jonathan	Danny Zhu and Destine Hu	Hugh Wu

Test Result: Compliant

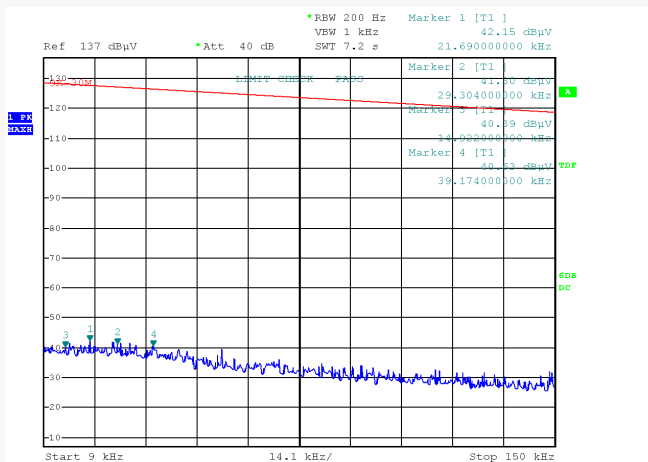
EUT operation mode: Transmitting

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

For BLE Mode:

9 kHz-30MHz: Transmitting in maximum output power mode BLE (1 Mbps) low channel
Parallel(worst case)

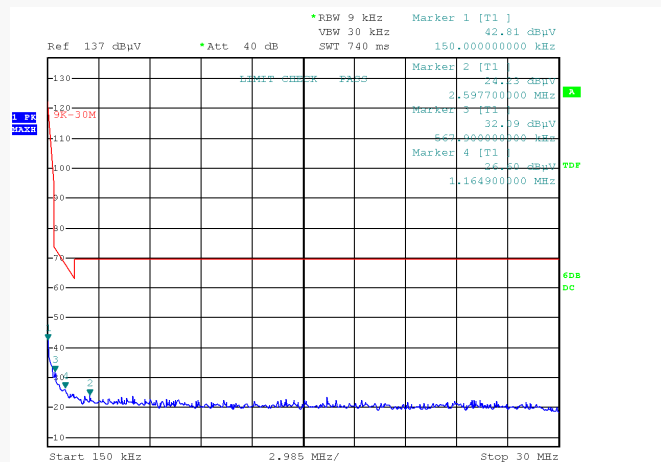
9kHz-150kHz



Project No. RSHA250523001
Date: 19.JUN.2025 18:27:29

Tester: Jonathan

150kHz-30MHz



Project No. RSHA250523001
Date: 19.JUN.2025 18:31:25

Tester: Jonathan

9 kHz-150 kHz:

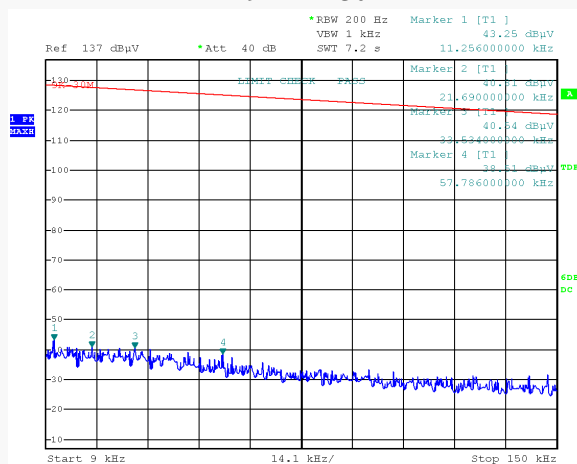
Frequency (kHz)	Corrected Amplitude (dB μ V/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dB μ V/m) @3m	Margin (dB)
14.92	40.39	PK	-0.54	124.13	83.74
21.69	42.15	PK	-0.57	120.88	78.73
29.30	41.30	PK	-0.61	118.27	76.97
39.17	40.63	PK	-2.08	115.75	75.12

150 kHz-30 MHz:

Frequency (MHz)	Corrected Amplitude (dB μ V/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dB μ V/m) @3m	Margin (dB)
0.15	42.81	PK	-11.34	104.08	61.27
0.57	32.09	PK	-23.30	72.49	40.40
1.16	26.60	PK	-28.14	66.32	39.72
2.60	24.23	PK	-31.21	69.54	45.31

9 kHz-30MHz: Transmitting in maximum output power mode BLE (2 Mbps) low channel
Parallel(worst case)

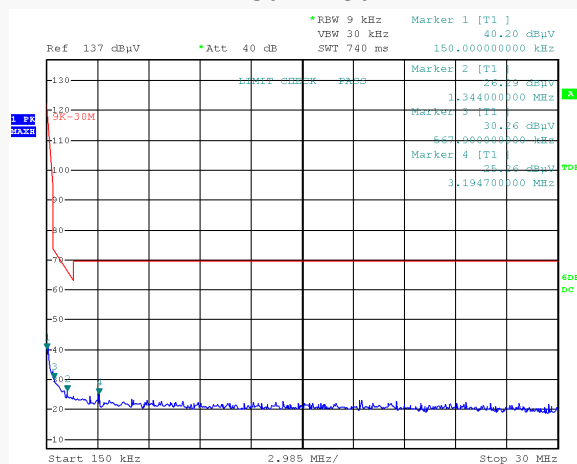
9kHz-150kHz



Project No.RSHA250523001
 Date: 19.JUN.2025 18:34:52

Tester:Jonathan

150kHz-30MHz



Project No.RSHA250523001
 Date: 19.JUN.2025 18:38:29

Tester:Jonathan

9 kHz-150 kHz:

Frequency (kHz)	Corrected Amplitude (dBμV/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dBμV/m) @3m	Margin (dB)
11.26	43.25	PK	-0.52	126.57	83.32
21.69	40.81	PK	-0.57	120.88	80.07
33.53	40.54	PK	-1.18	117.10	76.56
57.79	38.51	PK	-4.72	112.37	73.86

150 kHz-30 MHz:

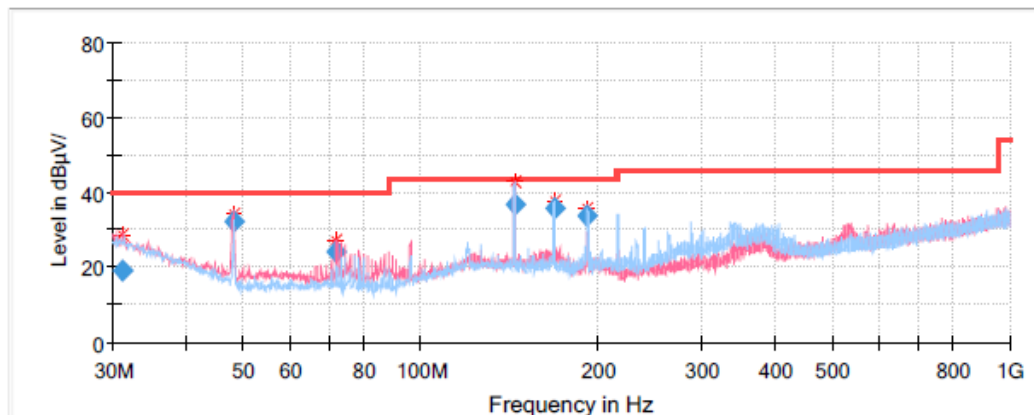
Frequency (MHz)	Corrected Amplitude (dBμV/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dBμV/m) @3m	Margin (dB)
0.15	40.20	PK	-11.34	104.08	63.88
0.57	30.26	PK	-23.30	72.49	42.23
1.34	26.29	PK	-28.73	65.06	38.77
3.19	25.26	PK	-31.51	69.54	44.28

30 MHz-1 GHz:**BLE (1 Mbps):**

(Transmitting in maximum output power mode BLE (1 Mbps) low channel)

Low Channel: 2402MHz**Common Information**

Project No: RSHA250523001
EUT Model: RFG91
Test Mode: Transmitting in BLE-1M mode low channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESCI, JB3, 310N
Receiver Setting: RBW: 100 kHz, VBW: 300 kHz, Sweep Time: Auto
Temperature: 24.2 °C
Humidity: 42%
Barometric Pressure: 101.1 kPa
Test Engineer: Jonathan
Test Date: 2025/6/18

**Final Result**

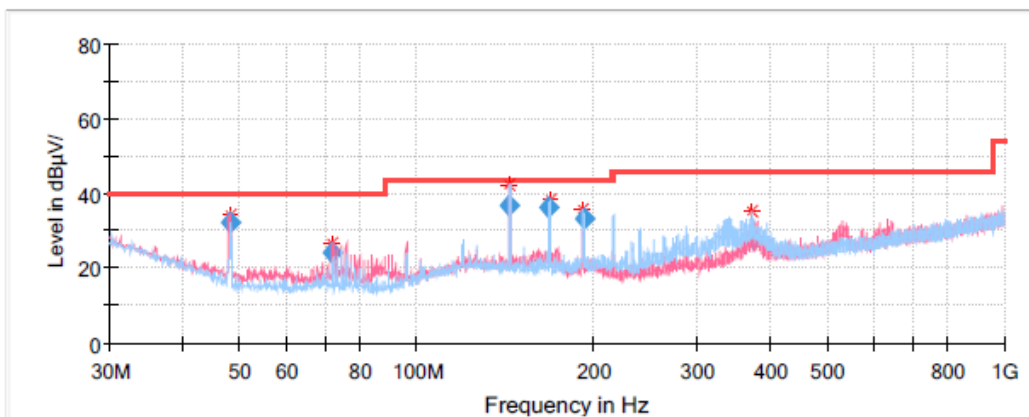
Frequency (MHz)	QuasiPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
31.212500	19.01	40.00	20.99	V	-5.0
47.945000	32.01	40.00	7.99	V	-15.9
71.831250	24.32	40.00	15.68	V	-16.7
144.460000	36.95	43.50	6.55	H	-11.4
168.346250	35.83	43.50	7.67	H	-12.5
191.868750	33.77	43.50	9.73	H	-12.5

BLE (2 Mbps):

(Transmitting in maximum output power mode BLE (2 Mbps) Low channel)

Low Channel: 2402MHz**Common Information**

Project No: RSHA250523001
EUT Model: RFG91
Test Mode: Transmitting in BLE-2M 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: 24.2°C
Humidity: 42%
Barometric Pressure: 101.1kPa
Test Engineer: Jonathan
Test Date: 2025/6/18

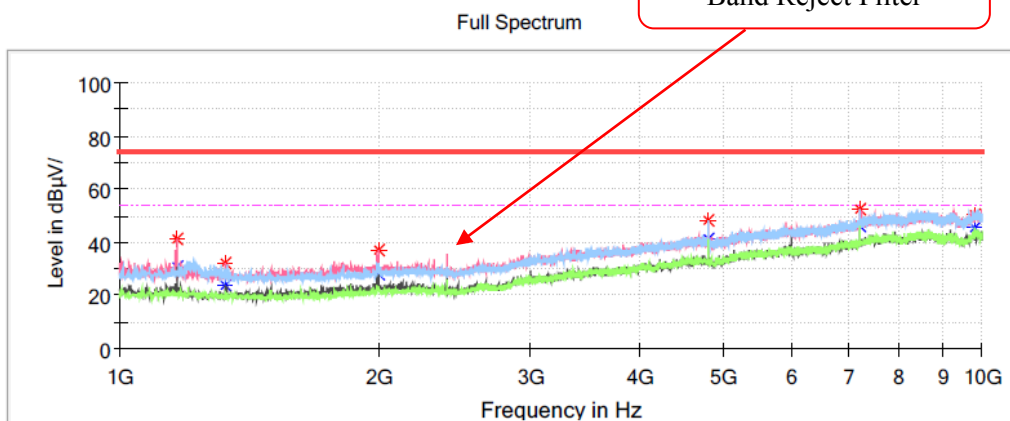
**Final_Result**

Frequency (MHz)	QuasiPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
47.997150	32.37	40.00	7.63	V	-15.8
71.823700	24.39	40.00	15.61	V	-16.7
143.771200	36.71	43.50	6.79	H	-11.4
167.903500	36.18	43.50	7.32	H	-12.5
192.074850	33.43	43.50	10.07	H	-12.5
373.359500	27.47	46.00	18.53	H	-8.6

BLE (1 Mbps):**1 GHz-18 GHz:****Low Channel: 2402MHz****Common Information**

Project No.: RSHA250523001
EUT Model: RFG91
Test Mode: BLE 1M Low Channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 18.4°C
Humidity: 46%
Atmospheric Pressure: 103.3kPa
Test Engineer: Destine Hu
Test Date: 2025/11/18

Fundamental Test with
Band Reject Filter

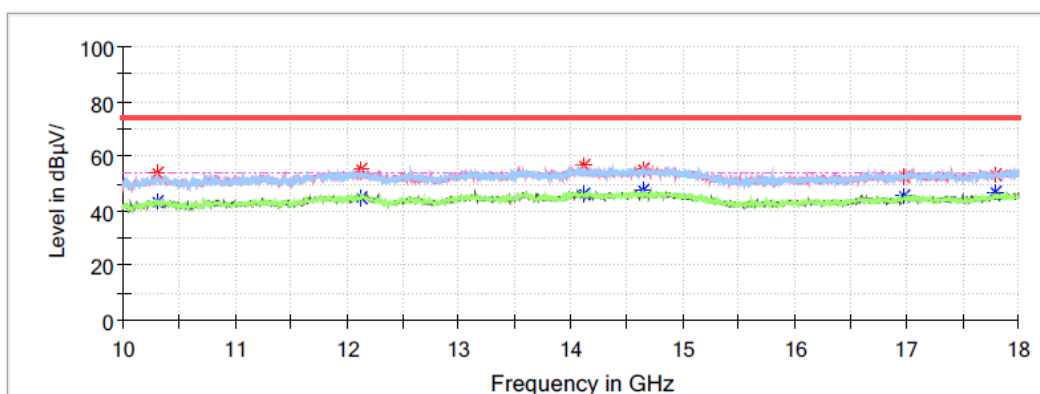
**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1165.600000	41.13	---	74.00	32.87	V	-14.6
1165.600000	---	31.05	54.00	22.95	V	-14.6
1328.500000	---	23.56	54.00	30.44	V	-14.0
1328.500000	32.24	---	74.00	41.76	V	-14.0
1999.000000	36.76	---	74.00	37.24	V	-10.0
1999.000000	---	27.75	54.00	26.25	V	-10.0
4803.400000	---	41.07	54.00	12.93	H	-3.4
4803.400000	48.05	---	74.00	25.95	H	-3.4
7206.400000	---	46.08	54.00	7.92	H	2.1
7206.400000	52.12	---	74.00	21.88	H	2.1
9793.900000	50.60	---	74.00	23.40	H	5.7
9793.900000	---	45.12	54.00	8.88	H	5.7

Common Information

Project No.: RSHA250523001
 EUT Model: RFG91
 Test Mode: BLE 1M Low Channel
 Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 18.4°C
 Humidity: 46%
 Atmospheric Pressure: 103.3kPa
 Test Engineer: Destine Hu
 Test Date: 2025/11/18

Full Spectrum

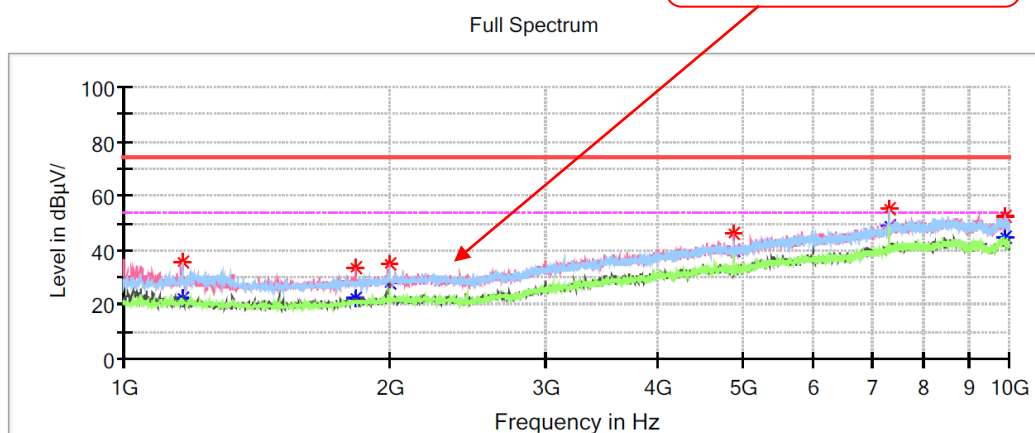


Critical_Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
10308.800000	---	43.67	54.00	10.33	H	6.6
10308.800000	53.86	---	74.00	20.14	H	6.6
12123.200000	---	44.70	54.00	9.30	H	9.0
12123.200000	55.11	---	74.00	18.89	H	9.0
14120.000000	56.40	---	74.00	17.60	V	11.3
14120.000000	---	46.20	54.00	7.80	V	11.3
14646.400000	54.94	---	74.00	19.06	V	11.5
14646.400000	---	47.29	54.00	6.71	V	11.5
16977.600000	---	45.55	54.00	8.45	V	10.9
16977.600000	52.47	---	74.00	21.53	V	10.9
17800.000000	---	46.65	54.00	7.35	H	11.2
17800.000000	53.37	---	74.00	20.63	H	11.2

Middle Channel: 2440MHz**Common Information**

Project No.: RSHA250523001
EUT Model: RFG91
Test Mode: BLE 1M Middle Channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 18.4°C
Humidity: 46%
Atmospheric Pressure: 103.3kPa
Test Engineer: Destine Hu
Test Date: 2025/11/18

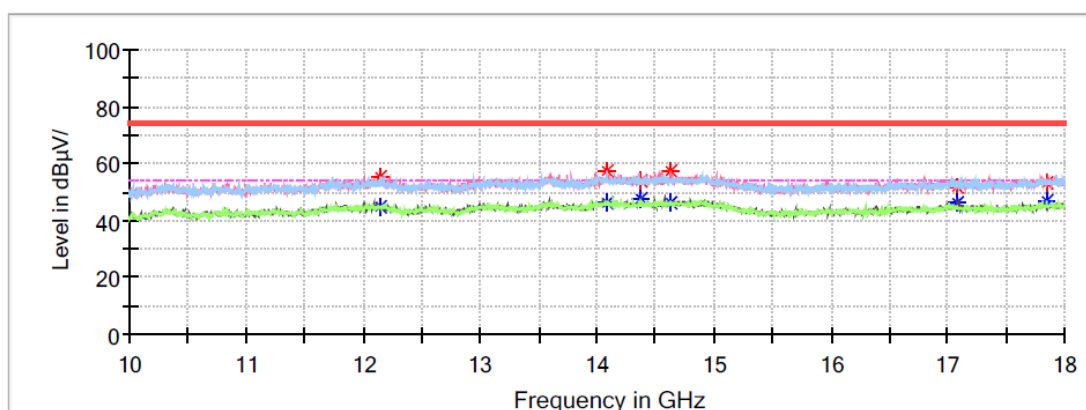
**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1165.600000	---	22.22	54.00	31.78	V	-14.6
1165.600000	35.88	---	74.00	38.12	V	-14.6
1828.000000	---	22.06	54.00	31.94	V	-11.2
1828.000000	33.41	---	74.00	40.59	V	-11.2
1993.600000	---	27.87	54.00	26.13	V	-10.1
1993.600000	34.90	---	74.00	39.10	V	-10.1
4879.900000	---	39.99	54.00	14.01	V	-3.2
4879.900000	45.87	---	74.00	28.13	V	-3.2
7320.700000	---	48.97	54.00	5.03	H	2.4
7320.700000	55.25	---	74.00	18.75	H	2.4
9922.600000	52.18	---	74.00	21.82	H	6.1
9922.600000	---	44.63	54.00	9.37	H	6.1

Common Information

Project No.: RSHA250523001
 EUT Model: RFG91
 Test Mode: BLE 1M Middle Channel
 Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 18.4°C
 Humidity: 46%
 Atmospheric Pressure: 103.3kPa
 Test Engineer: Destine Hu
 Test Date: 2025/11/18

Full Spectrum



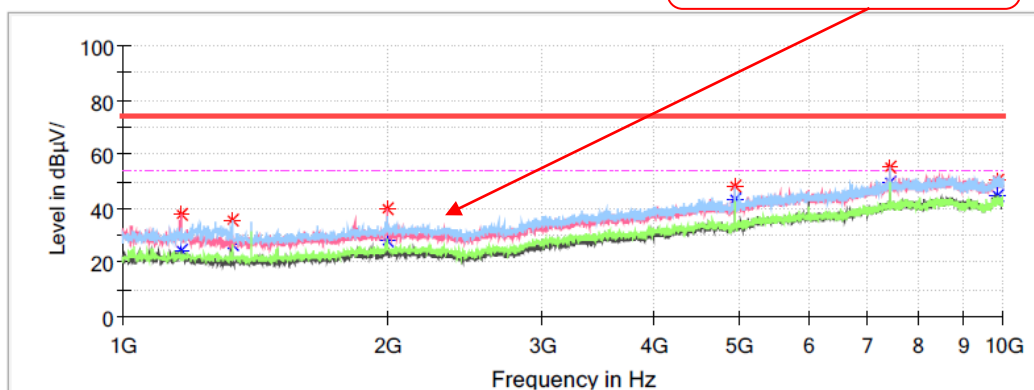
Critical_Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
12147.200000	---	44.76	54.00	9.24	H	9.0
12147.200000	55.35	---	74.00	18.65	H	9.0
14089.600000	---	46.26	54.00	7.74	H	11.2
14089.600000	57.13	---	74.00	16.87	H	11.2
14366.400000	---	47.27	54.00	6.73	H	11.7
14366.400000	54.12	---	74.00	19.88	H	11.7
14635.200000	---	46.46	54.00	7.54	V	11.5
14635.200000	57.09	---	74.00	16.91	V	11.5
17088.000000	52.03	---	74.00	21.97	V	10.9
17088.000000	---	46.08	54.00	7.92	V	10.9
17851.200000	---	46.63	54.00	7.37	H	11.4
17851.200000	52.90	---	74.00	21.10	H	11.4

High Channel: 2480MHz**Common Information**

Project No.: RSHA250523001
EUT Model: RFG91
Test Mode: BLE 1M High Channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 18.4°C
Humidity: 46%
Atmospheric Pressure: 103.3kPa
Test Engineer: Destine Hu
Test Date: 2025/11/18

Full Spectrum

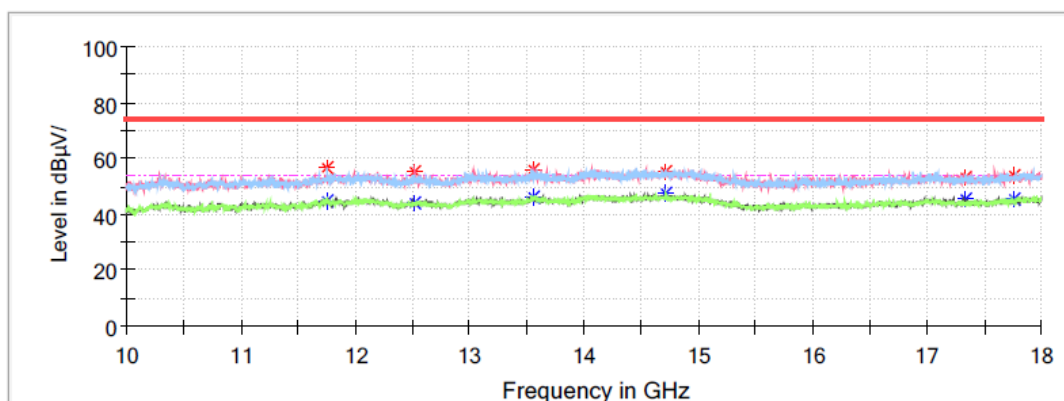
Fundamental Test with
Band Reject Filter**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1165.600000	---	24.48	54.00	29.52	V	-14.6
1165.600000	38.08	---	74.00	35.92	V	-14.6
1330.300000	---	26.43	54.00	27.57	H	-14.0
1330.300000	35.74	---	74.00	38.26	H	-14.0
1993.600000	---	27.79	54.00	26.21	H	-10.1
1993.600000	39.72	---	74.00	34.28	H	-10.1
4960.000000	---	43.62	54.00	10.38	V	-3.0
4960.000000	48.33	---	74.00	25.67	V	-3.0
7439.500000	---	49.47	54.00	4.53	H	2.8
7439.500000	55.51	---	74.00	18.49	H	2.8
9834.400000	50.63	---	74.00	23.37	V	5.8
9834.400000	---	44.76	54.00	9.24	V	5.8

Common Information

Project No.: RSHA250523001
 EUT Model: RFG91
 Test Mode: BLE 1M High Channel
 Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 18.4°C
 Humidity: 46%
 Atmospheric Pressure: 103.3kPa
 Test Engineer: Destine Hu
 Test Date: 2025/11/18

Full Spectrum

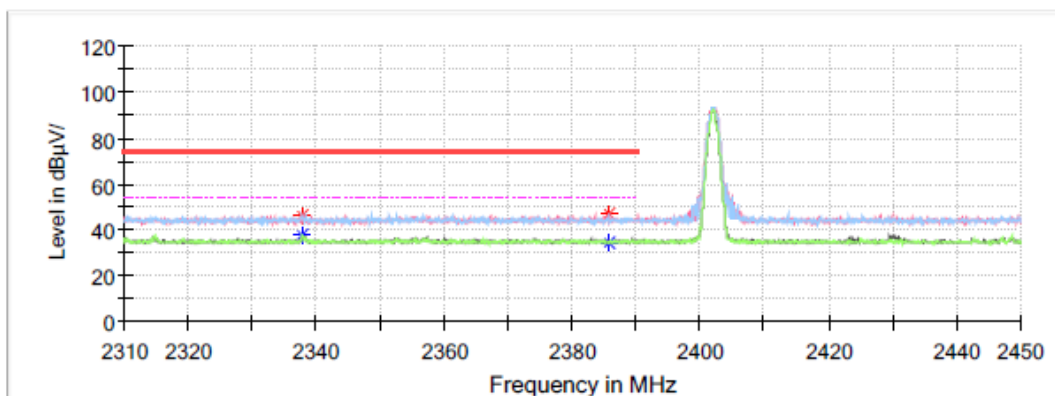


Critical_Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
11755.200000	56.70	---	74.00	17.30	V	8.6
11755.200000	---	44.47	54.00	9.53	V	8.6
12526.400000	---	43.93	54.00	10.07	V	8.8
12526.400000	54.97	---	74.00	19.03	V	8.8
13564.800000	---	45.87	54.00	8.13	H	10.1
13564.800000	55.87	---	74.00	18.13	H	10.1
14723.200000	54.97	---	74.00	19.03	H	11.2
14723.200000	---	47.33	54.00	6.67	H	11.2
17340.800000	53.28	---	74.00	20.72	V	10.6
17340.800000	---	45.43	54.00	8.57	V	10.6
17760.000000	---	45.80	54.00	8.20	V	11.1
17760.000000	53.94	---	74.00	20.06	V	11.1

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

Project No.: RSHA250523001
EUT Model: RFG91
Test Mode: BLE 1M Low Channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 20.3°C
Humidity: 52%
Atmospheric Pressure: 102.6kPa
Test Engineer: Danny Zhu
Test Date: 2025/6/24

Full Spectrum**Critical Freqs**

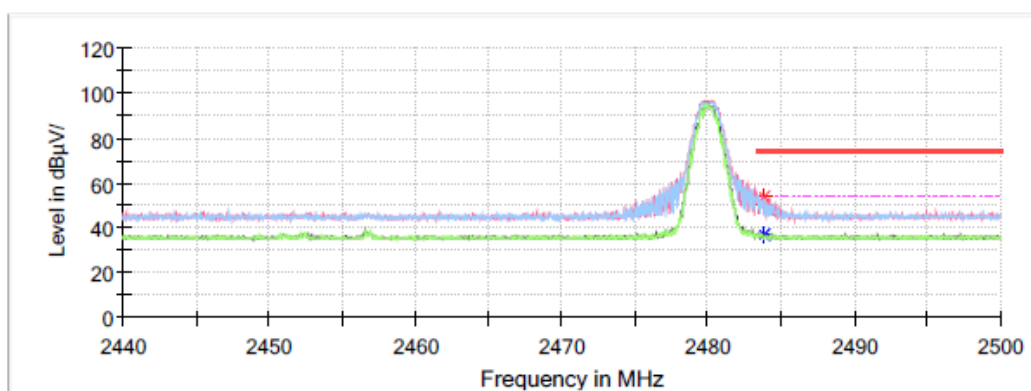
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2337.888000	---	37.38	54.00	16.62	H	-0.4
2337.888000	46.02	---	74.00	27.98	H	-0.4
2385.824000	---	34.75	54.00	19.25	V	-0.3
2385.824000	46.88	---	74.00	27.12	V	-0.3

High Channel

Common Information

Project No.: RSHA250523001
EUT Model: RFG91
Test Mode: BLE 1M High Channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 20.3°C
Humidity: 52%
Atmospheric Pressure: 102.6kPa
Test Engineer: Danny Zhu
Test Date: 2025/6/24

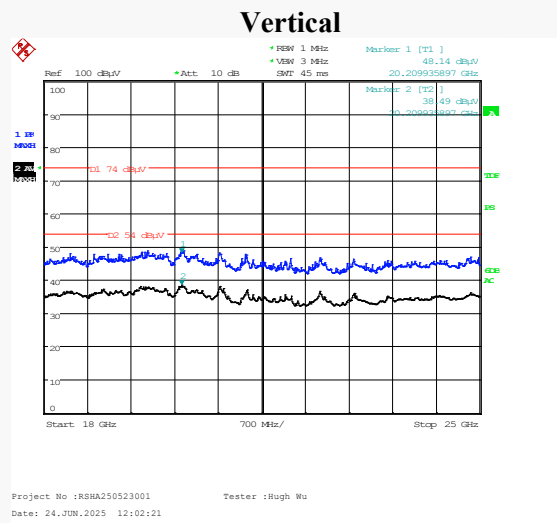
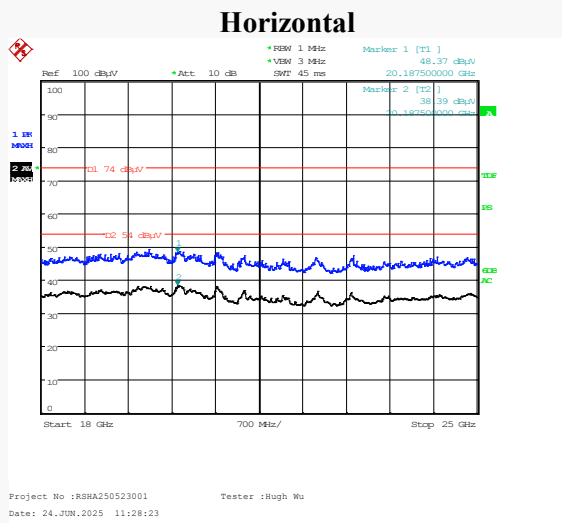
Full Spectrum



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)
2483.776000	50.41	---	74.00	23.59	V	-0.2
2483.776000	---	37.27	54.00	16.73	V	-0.2
2483.872000	---	36.76	54.00	17.24	V	-0.2
2483.872000	53.78	---	74.00	20.22	V	-0.2

18GHz-25GHz: Transmitting in maximum output power mode and BLE 1M low channel

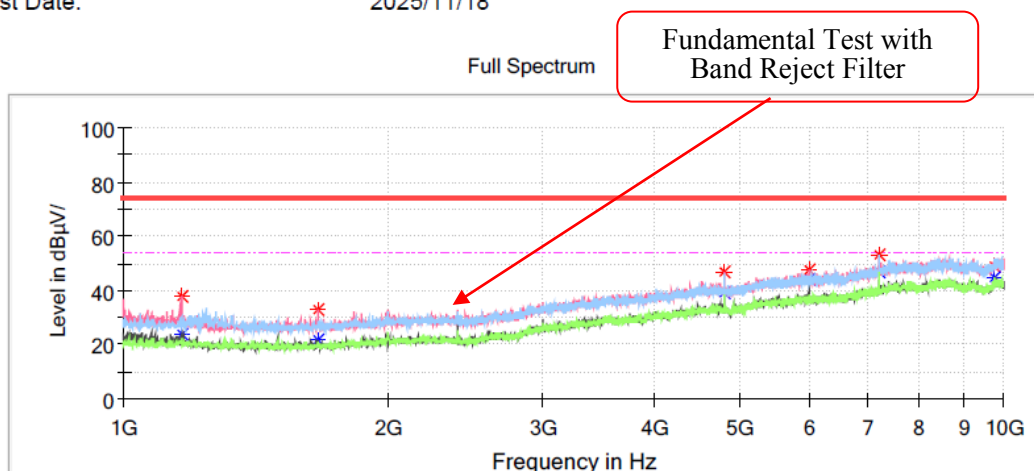


Frequency (GHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
20.21	---	38.49	54	15.51	V	12.47
20.21	48.14	---	74	25.86	V	12.47
20.19	---	38.39	54	15.61	H	12.45
20.19	48.37	---	74	25.63	H	12.45

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

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

Project No.:	RSHA250523001
EUT Model:	RFG91
Test Mode:	BLE 2M Low Channel
Standard:	FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment:	ESU40,3115,PAM-0118P
Receiver Setting:	RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature:	18.4°C
Humidity:	46%
Atmospheric Pressure:	103.3kPa
Test Engineer:	Destine Hu
Test Date:	2025/11/18

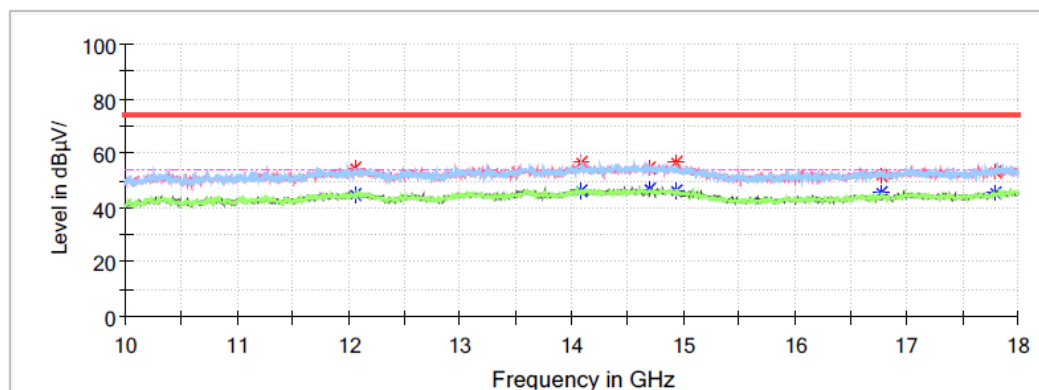
**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1162.900000	37.52	---	74.00	36.48	V	-14.6
1162.900000	---	23.69	54.00	30.31	V	-14.6
1663.300000	---	21.75	54.00	32.25	V	-12.3
1663.300000	32.68	---	74.00	41.32	V	-12.3
4804.300000	46.65	---	74.00	27.35	V	-3.4
4804.300000	---	39.08	54.00	14.92	V	-3.4
6000.400000	---	43.89	54.00	10.11	V	-0.6
6000.400000	47.38	---	74.00	26.62	V	-0.6
7207.300000	53.45	---	74.00	20.55	H	2.1
7207.300000	---	46.93	54.00	7.07	H	2.1
9751.600000	48.82	---	74.00	25.18	V	5.6
9751.600000	---	44.69	54.00	9.31	V	5.6

Common Information

Project No.: RSHA250523001
 EUT Model: RFG91
 Test Mode: BLE 2M Low Channel
 Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 18.4℃
 Humidity: 46%
 Atmospheric Pressure: 103.3kPa
 Test Engineer: Destine Hu
 Test Date: 2025/11/18

Full Spectrum

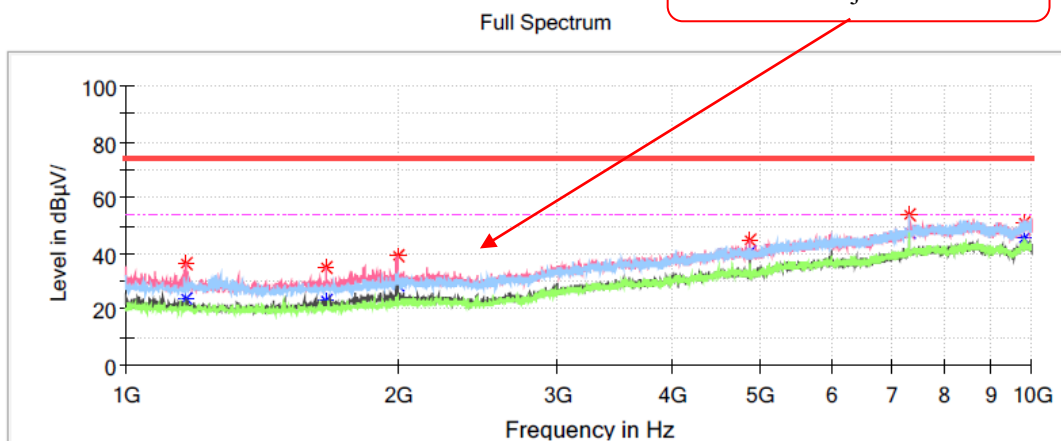


Critical Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
12064.000000	---	44.56	54.00	9.44	H	9.0
12064.000000	54.80	---	74.00	19.20	H	9.0
14092.800000	56.36	---	74.00	17.64	H	11.3
14092.800000	---	46.18	54.00	7.82	H	11.3
14704.000000	54.54	---	74.00	19.46	V	11.3
14704.000000	---	47.17	54.00	6.83	V	11.3
14931.200000	56.50	---	74.00	17.50	V	10.5
14931.200000	---	46.05	54.00	7.95	V	10.5
16780.800000	---	45.75	54.00	8.25	H	10.1
16780.800000	52.01	---	74.00	21.99	H	10.1
17790.400000	---	45.75	54.00	8.25	H	11.2
17790.400000	53.11	---	74.00	20.89	H	11.2

Middle Channel: 2440MHz**Common Information**

Project No.: RSHA250523001
EUT Model: RFG91
Test Mode: BLE 2M Middle Channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 18.4°C
Humidity: 46%
Atmospheric Pressure: 103.3kPa
Test Engineer: Destine Hu
Test Date: 2025/11/18

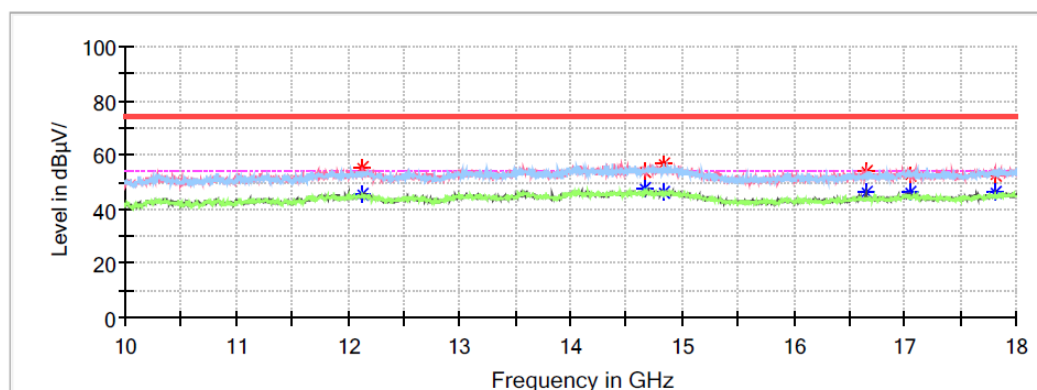
**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1164.700000	---	24.05	54.00	29.95	V	-14.6
1164.700000	36.49	---	74.00	37.51	V	-14.6
1662.400000	---	22.95	54.00	31.05	V	-12.3
1662.400000	35.01	---	74.00	38.99	V	-12.3
1998.100000	38.90	---	74.00	35.10	V	-10.0
1998.100000	---	28.88	54.00	25.12	V	-10.0
4879.000000	44.97	---	74.00	29.03	V	-3.2
4879.000000	---	40.72	54.00	13.28	V	-3.2
7318.900000	54.08	---	74.00	19.92	H	2.4
7318.900000	---	47.39	54.00	6.61	H	2.4
9811.900000	51.27	---	74.00	22.73	H	5.8
9811.900000	---	45.13	54.00	8.87	H	5.8

Common Information

Project No.: RSHA250523001
 EUT Model: RFG91
 Test Mode: BLE 2M Middle Channel
 Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 18.4°C
 Humidity: 46%
 Atmospheric Pressure: 103.3kPa
 Test Engineer: Destine Hu
 Test Date: 2025/11/18

Full Spectrum



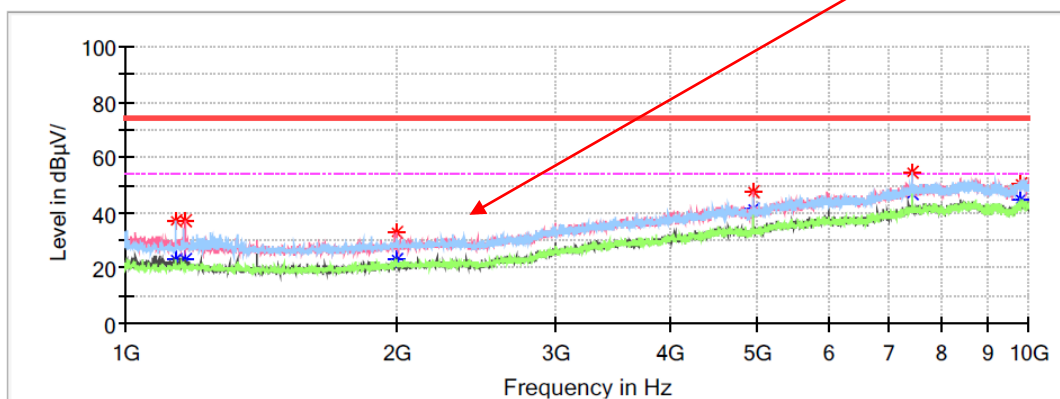
Critical_Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
12136.000000	---	45.13	54.00	8.87	H	9.0
12136.000000	55.57	---	74.00	18.43	H	9.0
14660.800000	---	47.24	54.00	6.76	H	11.4
14660.800000	53.70	---	74.00	20.30	H	11.4
14828.800000	---	45.95	54.00	8.05	V	10.9
14828.800000	56.88	---	74.00	17.12	V	10.9
16648.000000	---	46.04	54.00	7.96	V	9.6
16648.000000	53.54	---	74.00	20.46	V	9.6
17044.800000	---	46.01	54.00	7.99	V	10.9
17044.800000	52.51	---	74.00	21.49	V	10.9
17809.600000	---	46.04	54.00	7.96	H	11.3
17809.600000	52.55	---	74.00	21.45	H	11.3

High Channel: 2480MHz**Common Information**

Project No.: RSHA250523001
EUT Model: RFG91
Test Mode: BLE 2M High Channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 18.4°C
Humidity: 46%
Atmospheric Pressure: 103.3kPa
Test Engineer: Destine Hu
Test Date: 2025/11/18

Full Spectrum

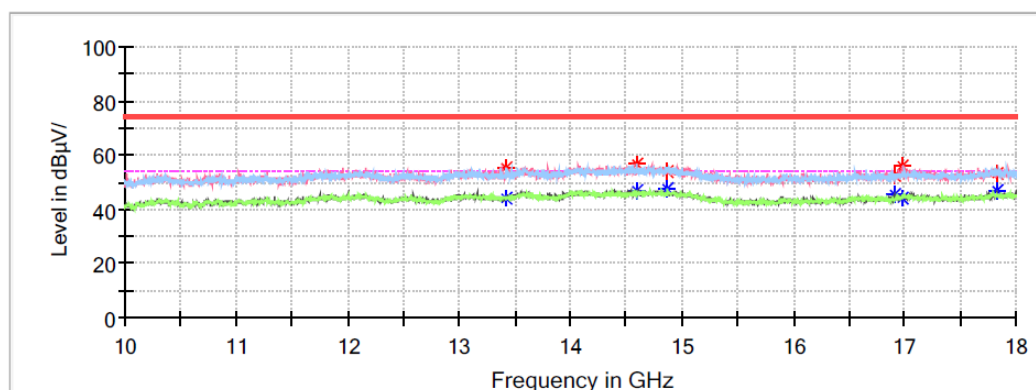
Fundamental Test with
Band Reject Filter**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1137.700000	---	23.21	54.00	30.79	H	-14.7
1137.700000	37.37	---	74.00	36.63	H	-14.7
1164.700000	---	23.27	54.00	30.73	V	-14.6
1164.700000	37.19	---	74.00	36.81	V	-14.6
1999.900000	---	23.05	54.00	30.95	V	-10.0
1999.900000	33.18	---	74.00	40.82	V	-10.0
4960.900000	---	41.42	54.00	12.58	V	-3.0
4960.900000	47.26	---	74.00	26.74	V	-3.0
7441.300000	---	46.87	54.00	7.13	H	2.8
7441.300000	54.77	---	74.00	19.23	H	2.8
9804.700000	---	44.66	54.00	9.34	H	5.7
9804.700000	50.36	---	74.00	23.64	H	5.7

Common Information

Project No.: RSHA250523001
 EUT Model: RFG91
 Test Mode: BLE 2M High Channel
 Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 18.4°C
 Humidity: 46%
 Atmospheric Pressure: 103.3kPa
 Test Engineer: Destine Hu
 Test Date: 2025/11/18

Full Spectrum



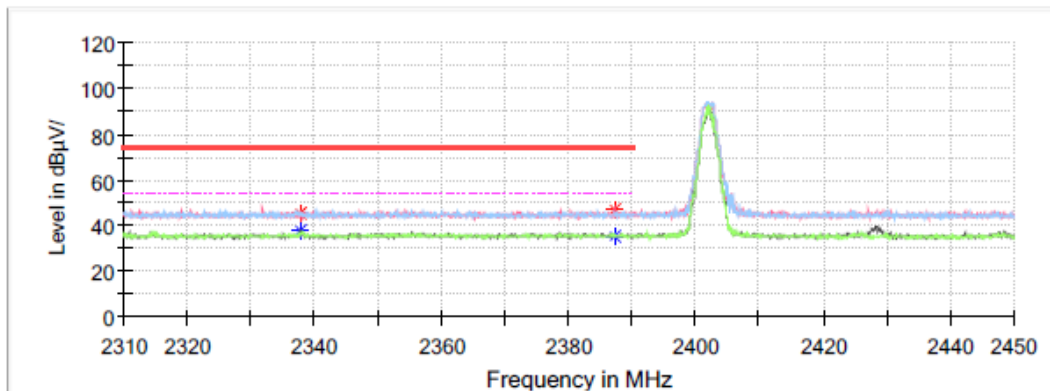
Critical_Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
13419.200000	55.57	---	74.00	18.43	V	9.9
13419.200000	---	43.78	54.00	10.22	V	9.9
14593.600000	---	46.55	54.00	7.45	V	11.7
14593.600000	56.33	---	74.00	17.67	V	11.7
14870.400000	---	47.24	54.00	6.76	H	10.7
14870.400000	54.00	---	74.00	20.00	H	10.7
16902.400000	52.68	---	74.00	21.32	V	10.6
16902.400000	---	45.73	54.00	8.27	V	10.6
16982.400000	---	44.38	54.00	9.62	V	10.9
16982.400000	55.81	---	74.00	18.19	V	10.9
17824.000000	---	46.96	54.00	7.04	V	11.3
17824.000000	53.30	---	74.00	20.70	V	11.3

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

Project No.: RSHA250523001
EUT Model: RFG91
Test Mode: BLE 2M Low Channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 20.3°C
Humidity: 52%
Atmospheric Pressure: 102.6kPa
Test Engineer: Danny Zhu
Test Date: 2025/6/24

Full Spectrum

**Critical Freqs**

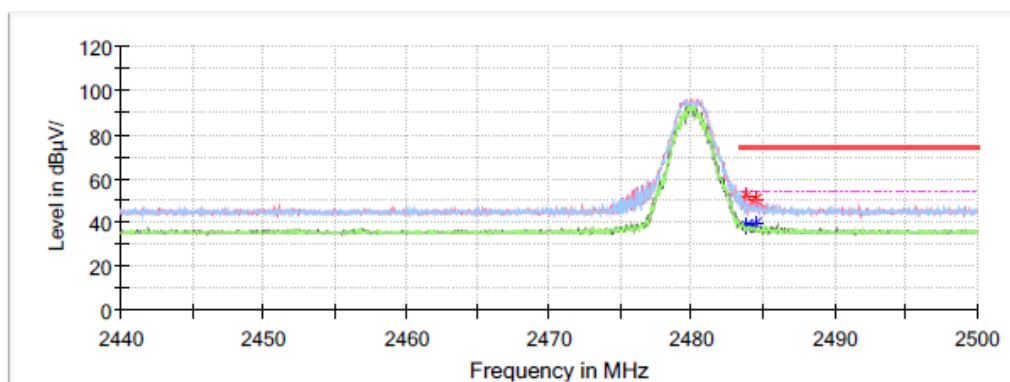
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2337.888000	---	37.50	54.00	16.50	H	-0.4
2337.888000	45.35	---	74.00	28.65	H	-0.4
2387.112000	---	35.49	54.00	18.51	V	-0.3
2387.112000	47.13	---	74.00	26.87	V	-0.3

High Channel

Common Information

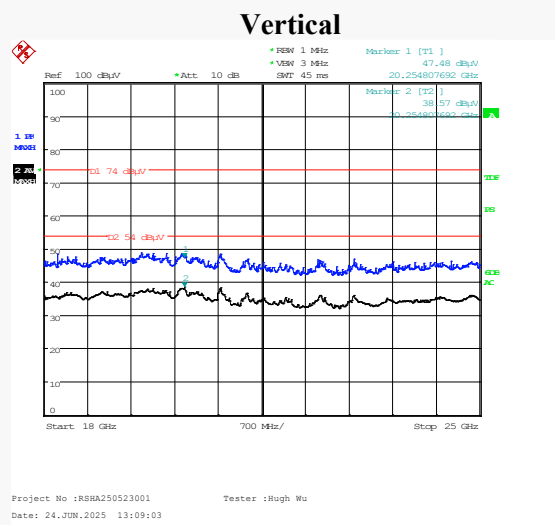
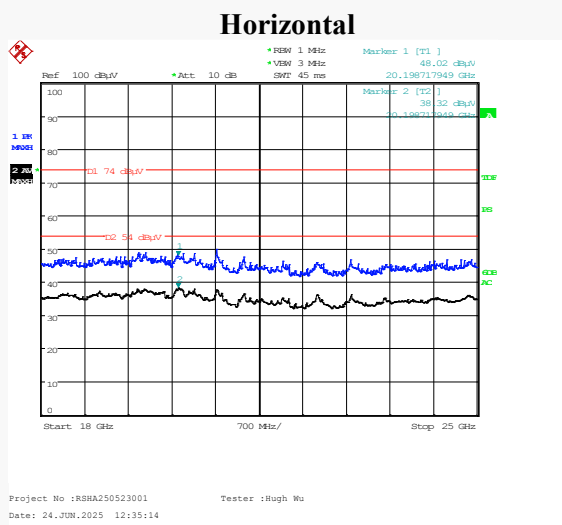
Project No.: RSHA250523001
EUT Model: RFG91
Test Mode: BLE 2M High Channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 20.3°C
Humidity: 52%
Atmospheric Pressure: 102.6kPa
Test Engineer: Danny Zhu
Test Date: 2025/6/24

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)
2483.800000	51.70	---	74.00	22.30	V	-0.2
2483.800000	---	38.37	54.00	15.63	V	-0.2
2484.448000	50.05	---	74.00	23.95	V	-0.2
2484.448000	---	39.08	54.00	14.92	V	-0.2

18GHz-25GHz: Transmitting in maximum output power mode and BLE 2M low channel

Frequency (GHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
20.25	---	38.57	54	15.43	V	12.51
20.25	47.48	---	74	26.52	V	12.51
20.20	---	38.32	54	15.68	H	12.46
20.20	48.02	---	74	25.98	H	12.46

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

6 dB EMISSION BANDWIDTH**Environmental Conditions & Test Information**

Test Date:	2025-07-02
Temperature:	25.6 °C
Relative Humidity:	42 %
ATM Pressure:	101.3kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

Test Result: Compliant.

EUT operation mode: Transmitting

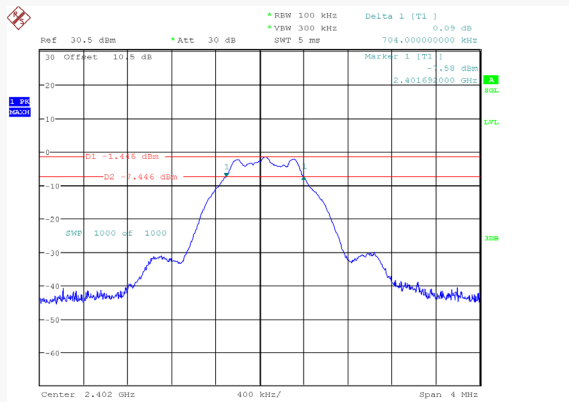
For BLE Mode:

Mode	Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (MHz)	Result
BLE (1 Mbps)	Low	2402	0.704	≥ 0.5	Pass
	Middle	2440	0.708	≥ 0.5	Pass
	High	2480	0.708	≥ 0.5	Pass
BLE (2 Mbps)	Low	2402	1.164	≥ 0.5	Pass
	Middle	2440	1.158	≥ 0.5	Pass
	High	2480	1.158	≥ 0.5	Pass

For BLE Mode:

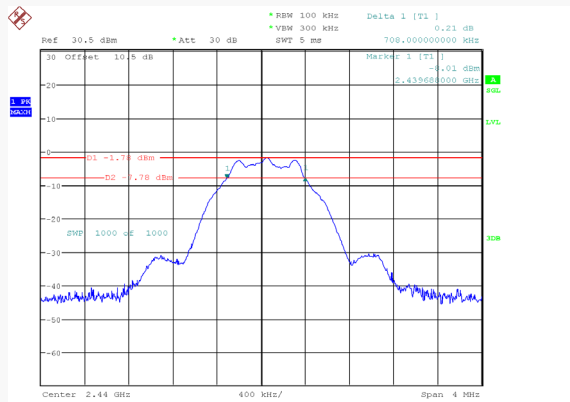
BLE (1 Mbps):

Low Channel



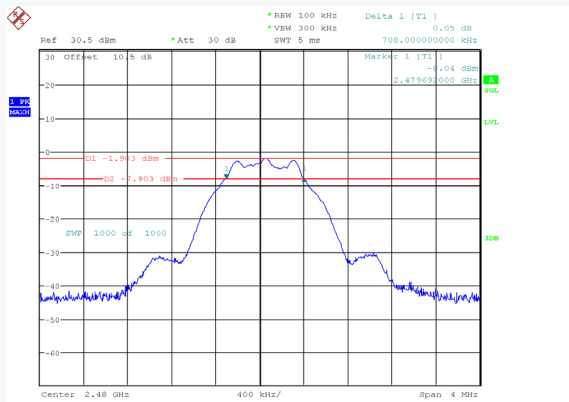
ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 14:38:34

Middle Channel



ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 14:49:37

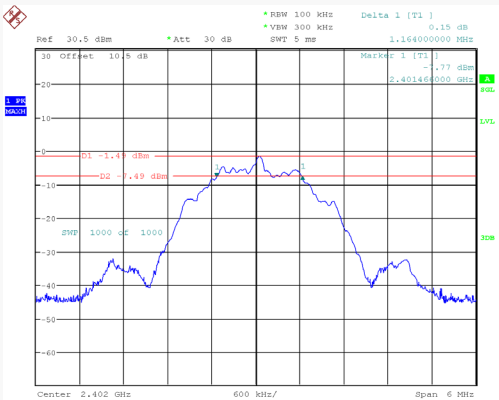
High Channel



ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 15:01:39

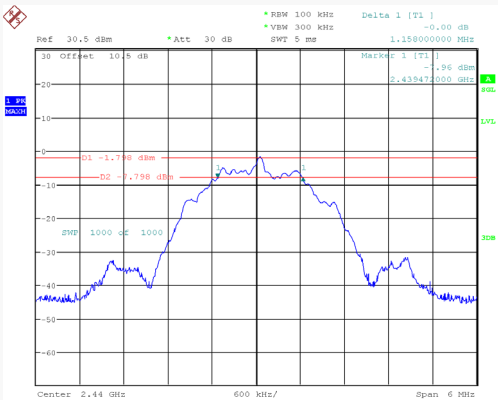
BLE (2 Mbps):

Low Channel



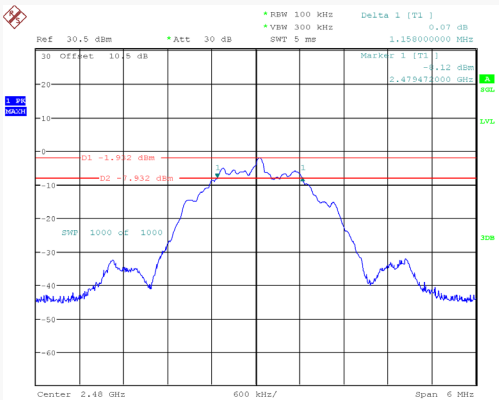
ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 15:11:54

Middle Channel



ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 15:40:06

High Channel



ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 15:49:56

MAXIMUM CONDUCTED OUTPUT POWER**Environmental Conditions & Test Information**

Test Date:	2025-07-02
Temperature:	25.6 °C
Relative Humidity:	42 %
ATM Pressure:	101.3kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

Test Result: Compliant.

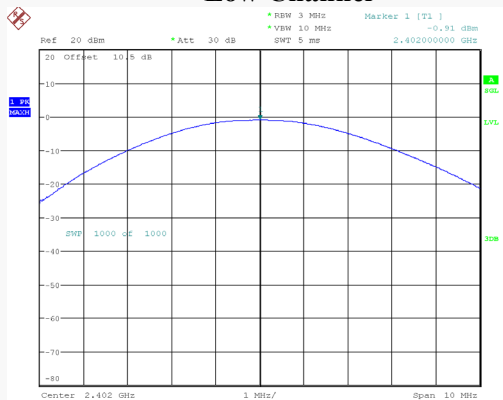
EUT operation mode: Transmitting

BLE Mode:

Mode	Channel	Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Limit (dBm)	Result
BLE (1 Mbps)	Low	2402	-0.91	≤30	Pass
	Middle	2440	-1.22	≤30	Pass
	High	2480	-1.36	≤30	Pass
BLE (2 Mbps)	Low	2402	-0.90	≤30	Pass
	Middle	2440	-1.22	≤30	Pass
	High	2480	-1.39	≤30	Pass

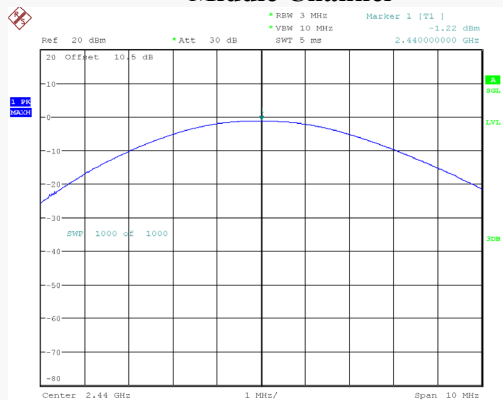
BLE (1 Mbps)

Low Channel



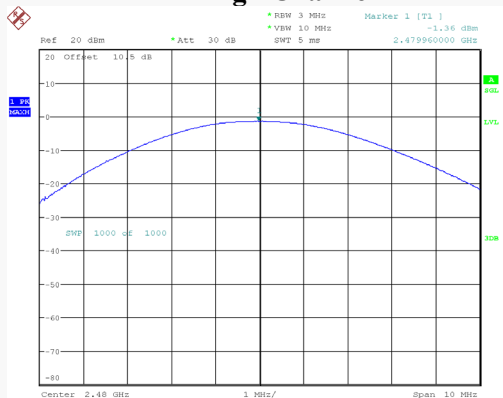
ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 14:39:56

Middle Channel



ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 14:53:37

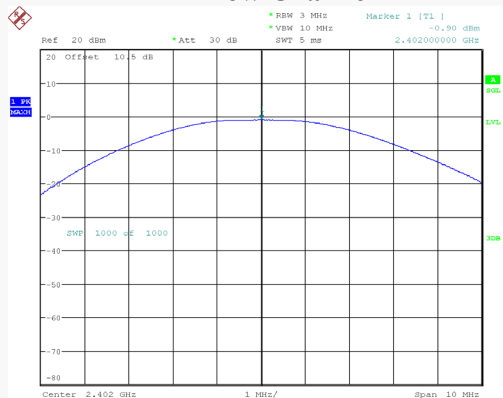
High Channel



ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 15:02:17

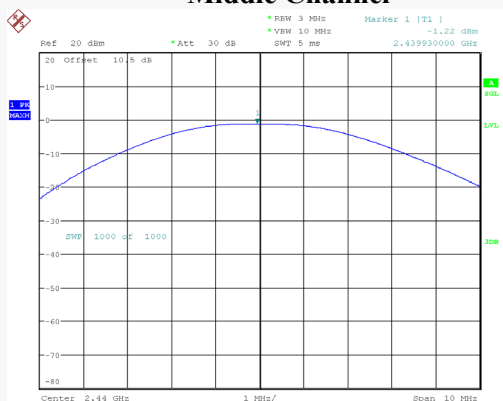
BLE (2 Mbps)

Low Channel



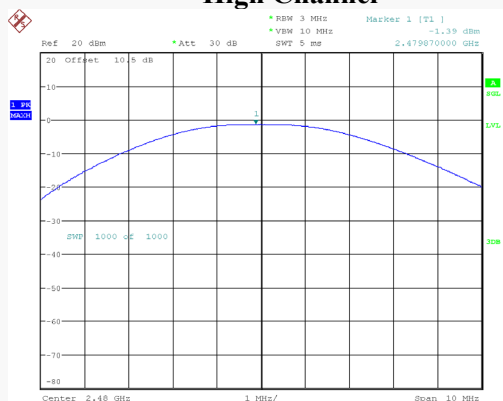
ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 15:12:29

Middle Channel



ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 15:40:59

High Channel



ProjectNo.:RSHA250523001 Tester:Neil Zhou
Date: 2.JUL.2025 15:51:14

100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE**Environmental Conditions & Test Information**

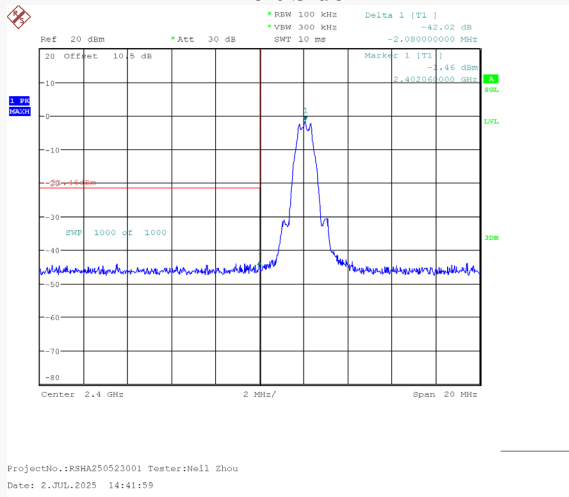
Test Date:	2025-07-02
Temperature:	25.6 °C
Relative Humidity:	42 %
ATM Pressure:	101.3kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

*EUT operation mode: Transmitting***Test Result:** Compliant**BLE Mode:**

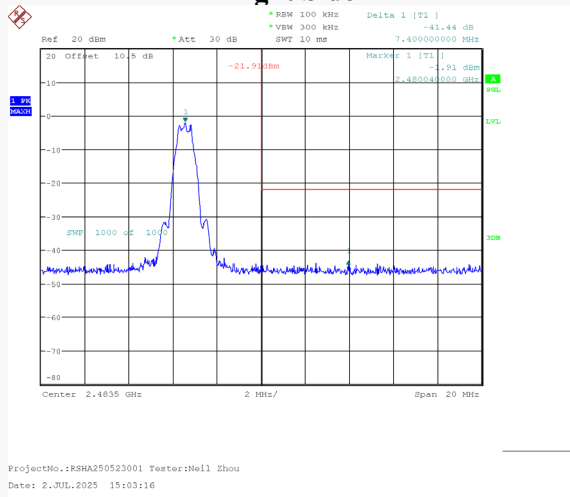
Mode	Channel	Frequency (MHz)	Result (dB)	Limit (dB)
BLE (1 Mbps)	Low	2402	42.02	20
	High	2480	41.44	
BLE (2 Mbps)	Low	2402	32.52	20
	High	2480	41.88	

For BLE Mode:
BLE (1 Mbps)

Left Side

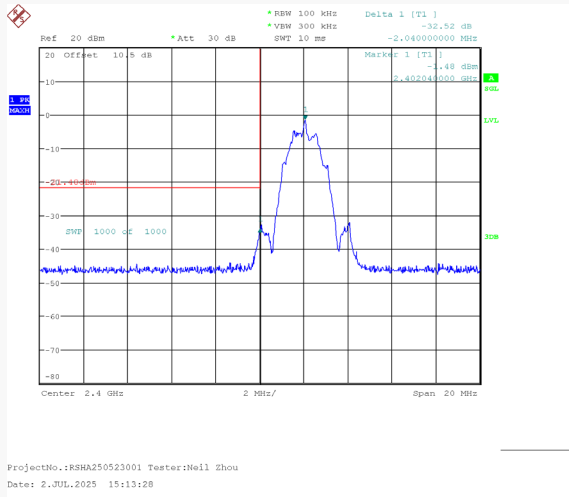


Right Side

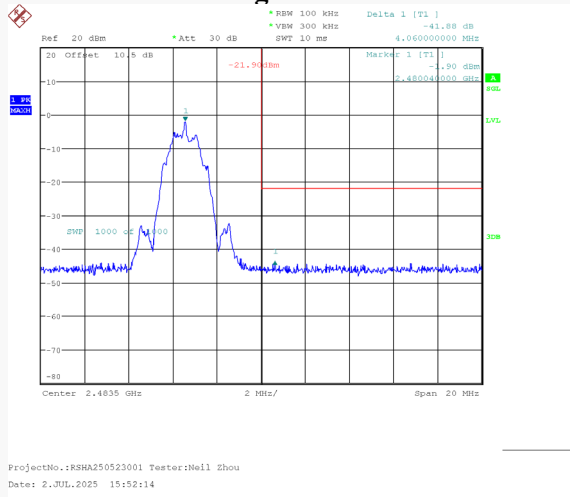


BLE (2 Mbps)

Left Side



Right Side



POWER SPECTRAL DENSITY**Environmental Conditions & Test Information**

Test Date:	2025-07-02
Temperature:	25.6 °C
Relative Humidity:	42 %
ATM Pressure:	101.3kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

Test Result: Compliant.

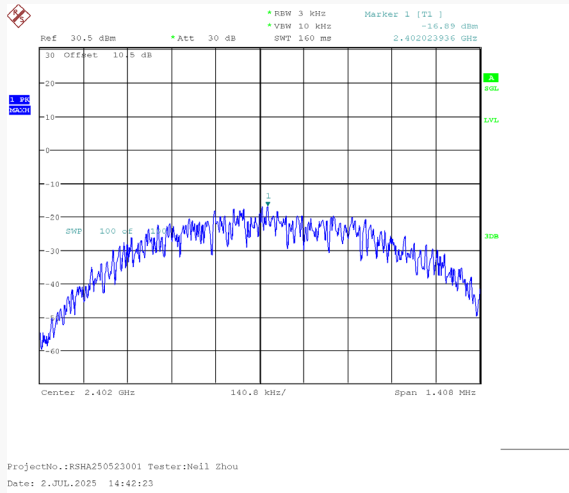
EUT operation mode: Transmitting

For BLE Mode:

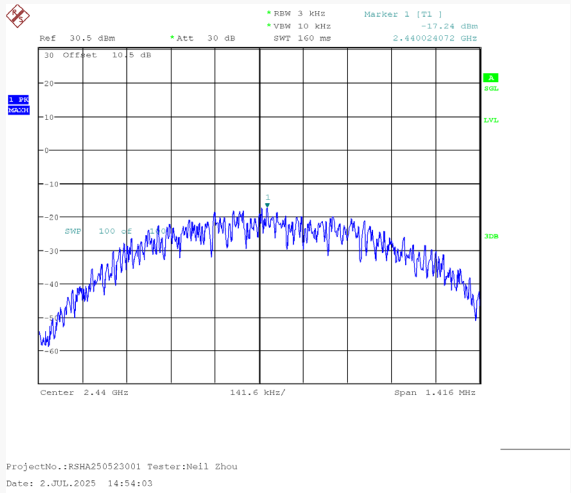
Mode	Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
BLE (1 Mbps)	Low	2402	-16.89	≤8	Pass
	Middle	2440	-17.24	≤8	Pass
	High	2480	-17.50	≤8	Pass
BLE (2 Mbps)	Low	2402	-19.55	≤8	Pass
	Middle	2440	-19.81	≤8	Pass
	High	2480	-19.97	≤8	Pass

For BLE Mode:
BLE (1 Mbps)

Low Channel

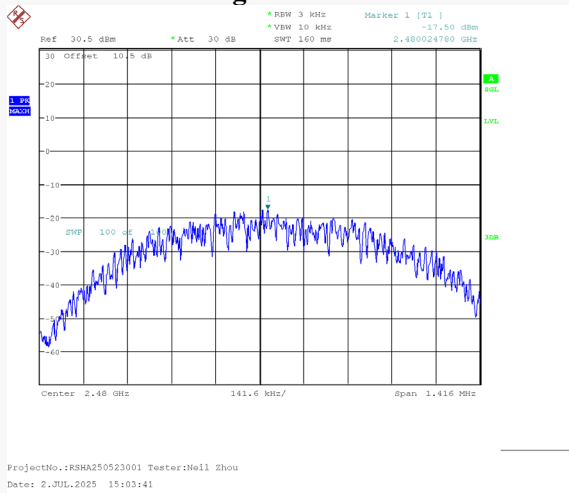


Middle Channel

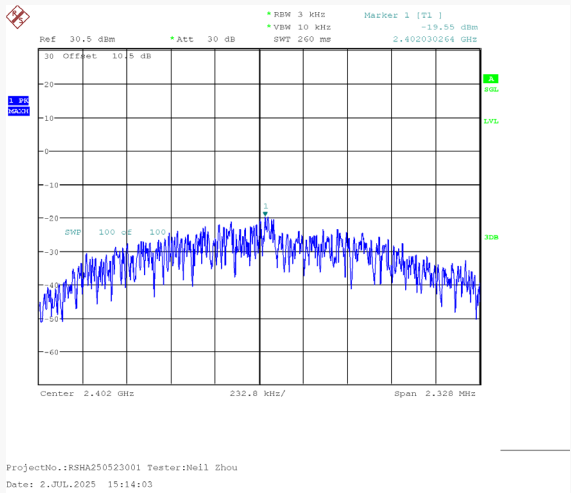


BLE (2 Mbps)

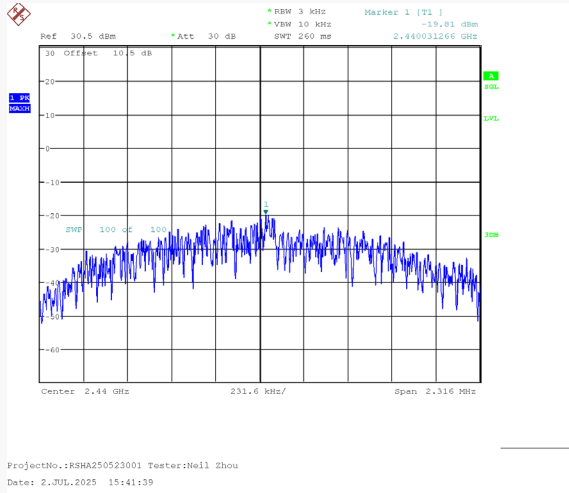
High Channel



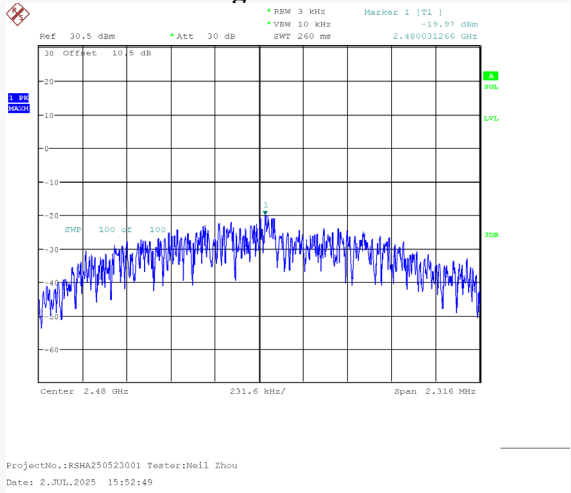
Low Channel



Middle Channel



High Channel



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.

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