FCC PART 15.247

TEST REPORT

For

SPACEWALKER PTE. LTD.

60 PAYA LEBAR ROAD SINGAPORE Singapore

FCC ID: 2BK3M-ST3U001

Report Type:	**Product Name:**
Original Report	NAVEE Electric Scooter

Report Number:	RKSA240902001-00B
Report Date:	2024-12-04
Reviewed By:	Bard Liu
Approved By:	Oscar Ye
Prepared By:	Bay Area Compliance Laboratories Corp. (Kunshan) No.248 Chenghu Road, Kunshan, Jiangsu Province, China Tel: +86-512-86175000 Fax: +86-512-88934268 www.baclcorp.com.cn

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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	RKSA240902001-00B	R1V1	2024-12-04	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	SPACEWALKER PTE. LTD.
Tested Model:	ST3-U, ST3 Pro-U, ST3 Pro-C
Model Difference:	Model name, controller model, motor power and Battery capacity, see the declaration letter for details
Product Name:	NAVEE Electric Scooter
Power Supply:	DC 46.8V from Battery
RF Function:	BLE 1Mbps, BLE 2Mbps
Operating Band/Frequency:	2402-2480MHz
Maximum Output Power:	BLE (1 Mbps): 4.73 dBm BLE (2 Mbps): 4.76 dBm
Channel Number:	40
Channel Separation:	2 MHz
Modulation Type	GFSK
Antenna Type:	PCB Antenna
★Maximum Antenna Gain:	0.21 dBi

Adapter Information:
Model: FY-5461500
Input: AC100-240V 50/60Hz 2.5A
Output:54.6V, 1.5A

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

All measurement and tested data in this report was gathered from production sample serial number: RKSA240902001-1 (ST3-U), RKSA240902001-2 (ST3 Pro-U), RKSA240902001-3 (ST3 Pro-C) (Assigned by BACL (Kunshan). The EUT supplied by the applicant was received on 2024-09-02.)

Objective

This report is prepared for *SPACEWALKER PTE. LTD.* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communications Commission rules.

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

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for 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		0.9 dB
RF Output Power with Power meter		0.5 dB
Radiated emissions	9 kHz~150 kHz	3.8 dB
	150 kHz~30 MHz	3.4 dB
	30MHz~1GHz	6.11 dB
	1GHz~6GHz	4.45 dB
	6GHz~18GHz	5.23 dB
	18GHz~40GHz	5.65 dB
Occupied Bandwidth		0.5 kHz
Temperature		1.0 ℃
Humidity		6 %

Test Facility

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

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

SYSTEM TEST CONFIGURATION

Description of Test Configuration

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.

EUT Exercise Software

RF Test Tool: RTL8762x_RFTestTool.exe

★Power level: -13.2

Note: The power level was declared by the applicant.

Special Accessories

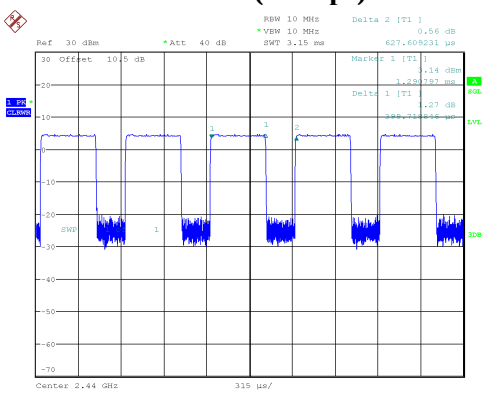
No special accessory.

Equipment Modifications

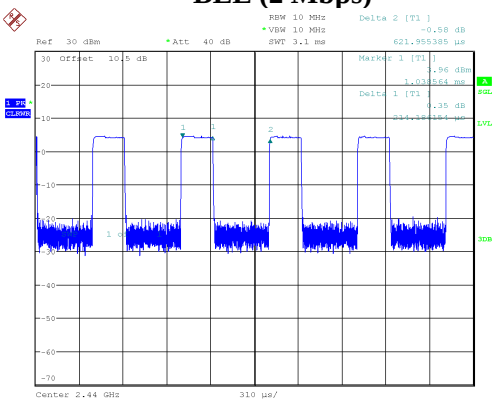
No modification was made to the EUT tested.

Duty Cycle:

BLE (1 Mbps)



BLE (2 Mbps)



Mode	Duty Cycle (%)	T_{on}(ms)	T_{on+off}(ms)	10log(1/x) (dB)
BLE (1 Mbps)	63.69	0.400	0.628	1.96
BLE (2 Mbps)	34.41	0.214	0.622	4.63

Note:
1.“x” means the Duty Cycle.
2.Offset（10.5dB）= Attenuator（10dB）+Cable loss（0.5dB）

Support Equipment List and Details

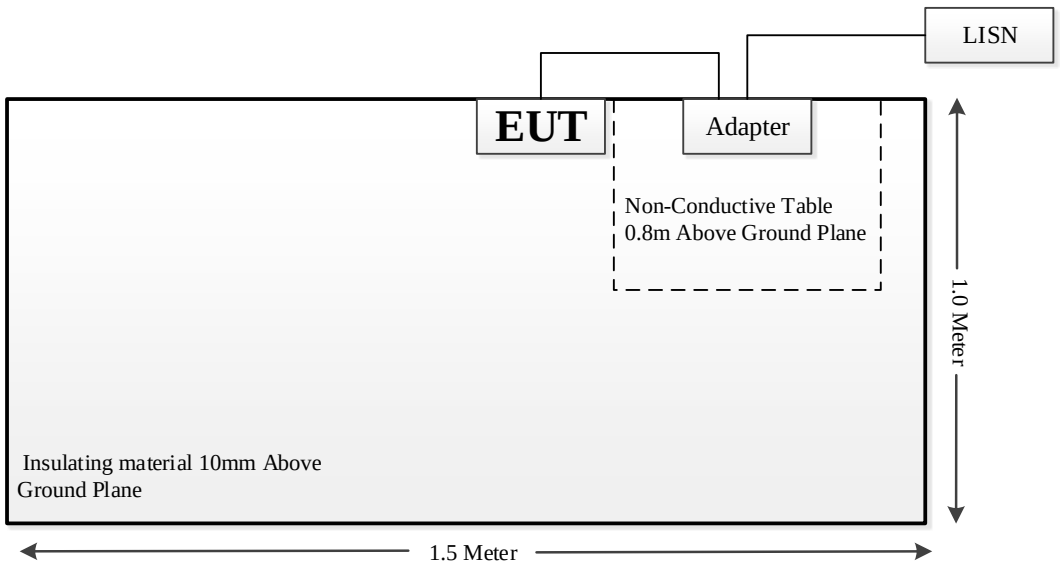
Manufacturer	Description	Model	Serial Number
/	/	/	/

External I/O Cable

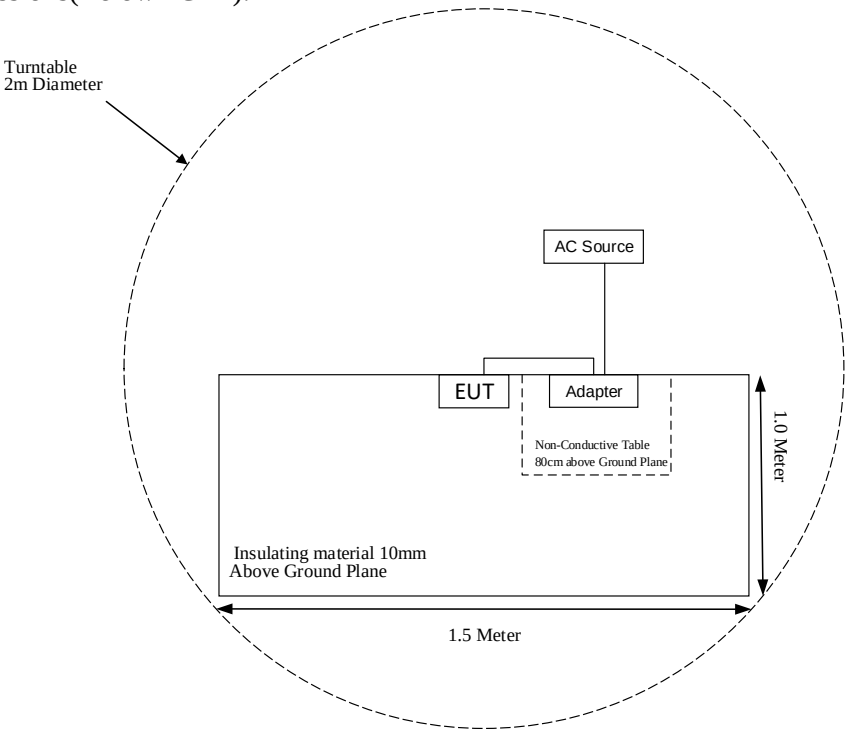
Cable Description	Length (m)	From Port	To Port
Power Cable 1	1.0	AC Source/LISN	Adapter
Power Cable 2	1.5	Adapter	EUT

Block Diagram of Test Setup

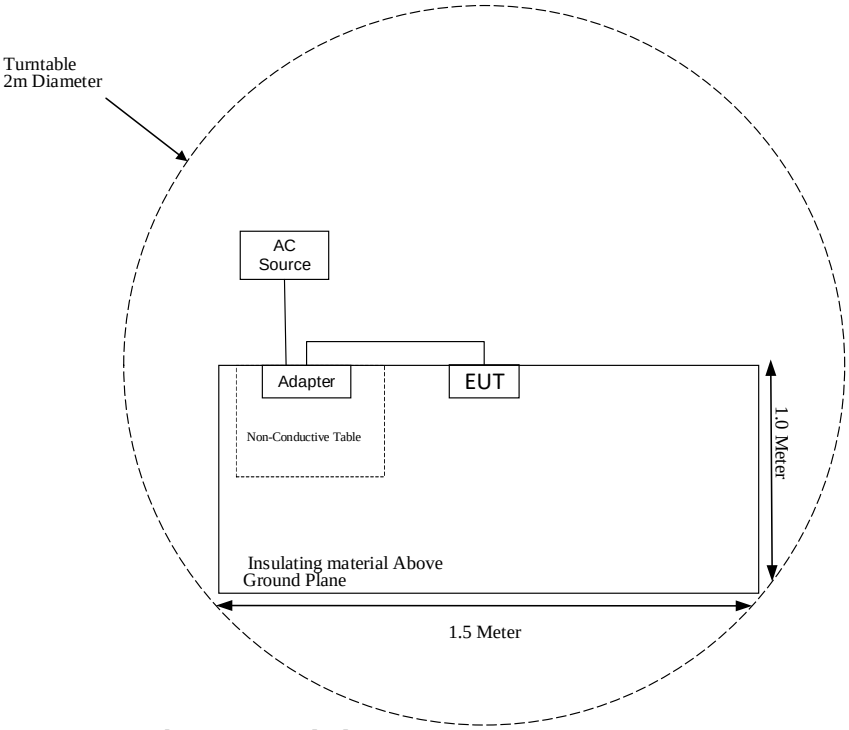
For Conducted Emissions:



For Radiated Emissions(Below 1GHz):



For Radiated Emissions(Above 1GHz):



Note: The EUT Antenna 1.5m above Ground Plane.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test (Chamber #1)					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2024-04-23	2025-04-22
Sunol Sciences	Broadband Antenna	JB3	A090314-1	2023-11-11	2024-11-10
ETS-LINDGREN	Loop Antenna	6512	108100	2023-11-09	2024-11-08
Narda	6 dB Attenuator	773-6	10690812-2-1	2023-11-11	2024-11-10
Sonoma Instrument	Pre-amplifier	310N	171205	2024-04-23	2025-04-22
Rohde & Schwarz	Auto Test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-8	008	2024-04-23	2025-04-22
MICRO-COAX	Coaxial Cable	Cable-9	009	2024-04-23	2025-04-22
Radiated Emission Test (Chamber #2)					
Rohde & Schwarz	EMI Test Receiver	ESU40	100207/040	2024-04-25	2025-04-24
ETS-LINDGREN	Horn Antenna	3115	9311-4159	2023-12-02	2024-12-01
ETS-LINDGREN	Horn Antenna	3116	2516	2023-12-08	2024-12-07
A.H.Systems,inc	Amplifier	PAM-0118P	512	2024-04-25	2025-04-24
MICRO-TRONICS	Band Reject Filter	BRM50702	G024	2024-04-23	2025-04-22
Narda	Attenuator	10dB	010	2024-04-23	2025-04-22
SELECTOR	Amplifier	EM18G40G	60726	2024-04-25	2025-04-24
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-6	006	2024-04-23	2025-04-22
MICRO-COAX	Coaxial Cable	Cable-11	011	2024-04-25	2025-04-24
MICRO-COAX	Coaxial Cable	Cable-12	012	2024-04-25	2025-04-24
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSU26	200103	2024-04-24	2025-04-23
Narda	Attenuator	10dB	010	2024-04-23	2025-04-22
XHFDZ	RG178 Coaxial Cable	SMA-178	XHF-1102	Each time	N/A
Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR	101746	2024-04-23	2025-04-22
Rohde & Schwarz	LISN	ENV216	101115	2024-04-23	2025-04-22
Audix	Test Software	e3	V9	N/A	N/A
Rohde & Schwarz	Pulse Limiter	ESH3-Z2	0357.8810.54	2024-03-29	2025-03-28
MICRO-COAX	Coaxial Cable	Cable-15	015	2024-04-23	2025-04-22

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

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§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)	Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant

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:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where
• f(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	5.0	3.16	5.0	1.0	3.0	Yes

Result: So the standalone SAR evaluation is not necessary.

FCC §15.203 – ANTENNA REQUIREMENT

Applicable Standard

According to FCC § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Antenna Connector Construction

The EUT has a PCB antenna for BLE, and the antenna gain is 0.21 dBi, which is permanently attached to the unit, fulfill the requirement of this section. Please refer to the EUT photos.

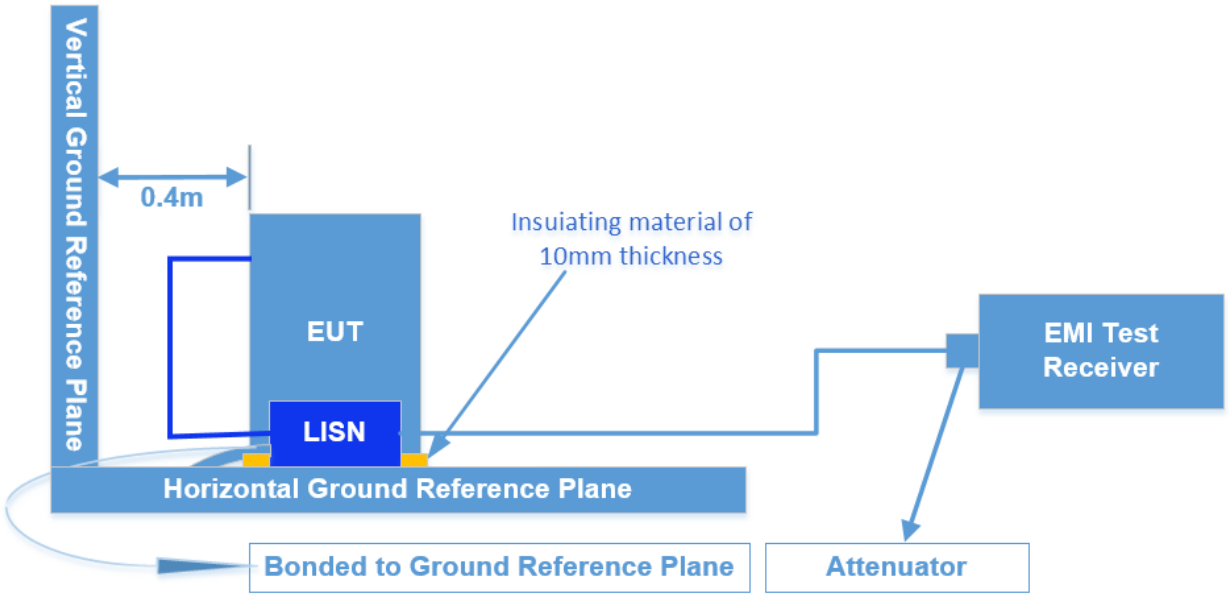
Result: Compliant.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a)

Test System Setup



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

EMI Test Receiver Setup

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

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

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

Test Procedure

ANSI C63.10-2013 clause 6.2

During the conducted emission test, the adapter was connected to the outlet of the LISN.

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

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

Level & Over Limit Calculation

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

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

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

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

Test Results Summary

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

Test Data: See Appendix

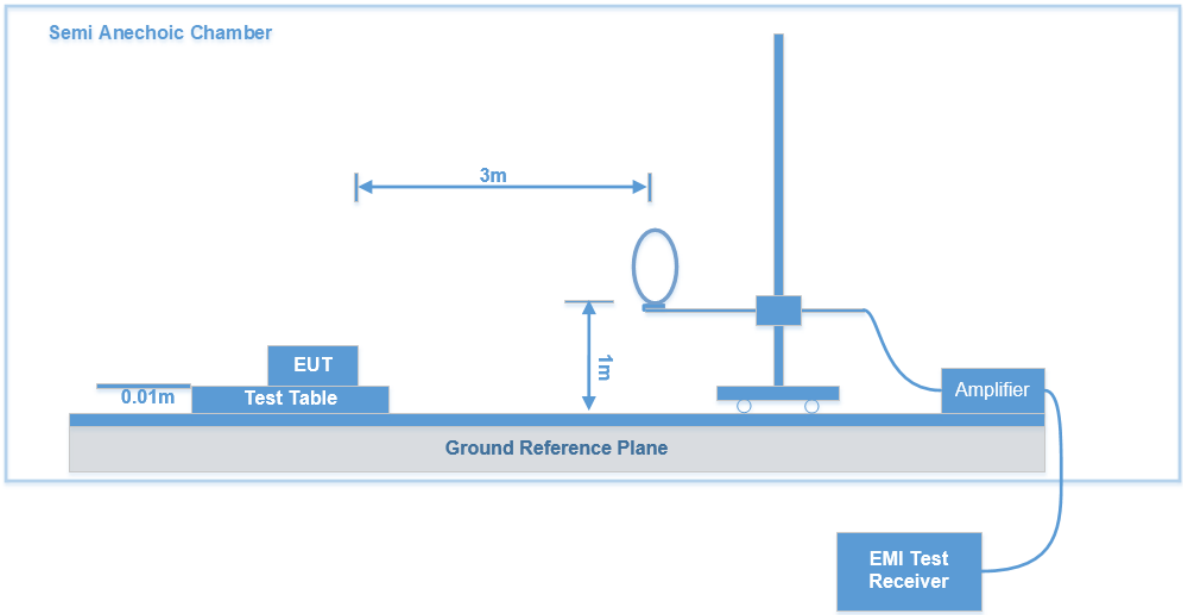
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

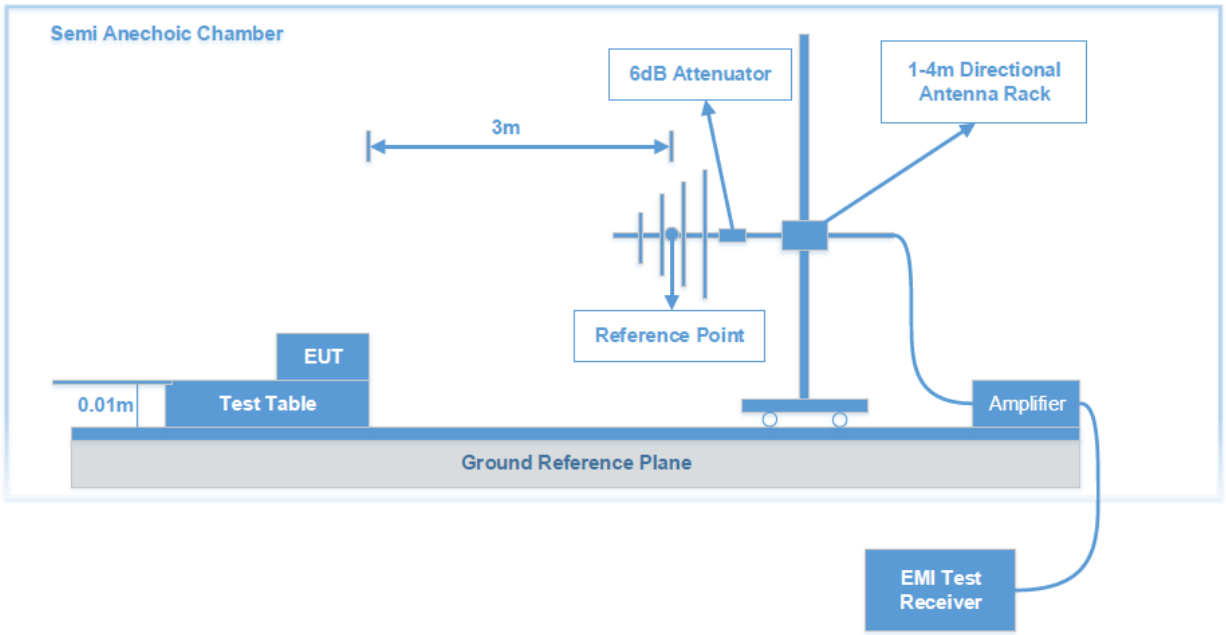
FCC §15.247 (d); §15.209; §15.205;

Test System Setup

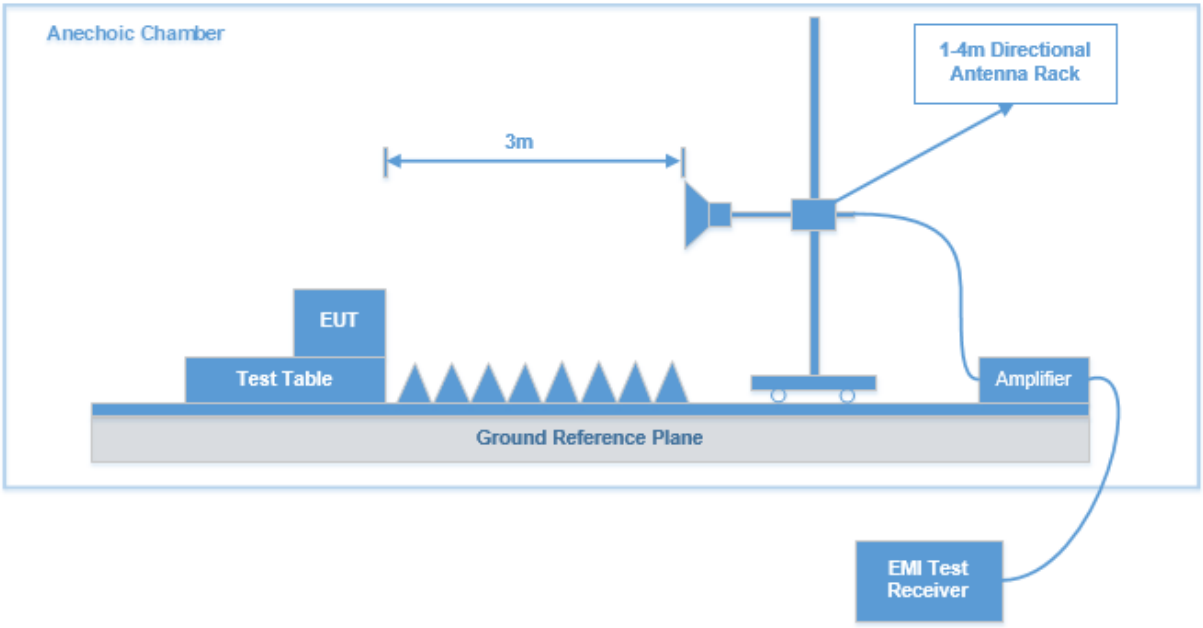
9 kHz - 30 MHz:



30 MHz - 1 GHz:



Above 1 GHz:



Note: The EUT Antenna 1.5m above Ground Plane.

The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 limits.

EMI Test Receiver Setup

The system was investigated from 9 kHz to 25 GHz.

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

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

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

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

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

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

Test Results Summary

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

Test Data: See Appendix

FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

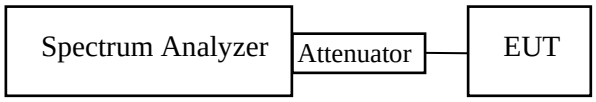
Applicable Standard

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

Test Procedure

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

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 * RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



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

Test Data: See Appendix

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

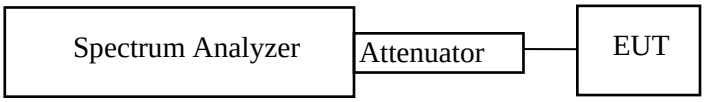
Applicable Standard

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

Test Procedure

According to ANSI C63.10-2013 sub-clause 11.9.1.1

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



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

Test Data: See Appendix

FCC §15.247(d) – BAND EDGE

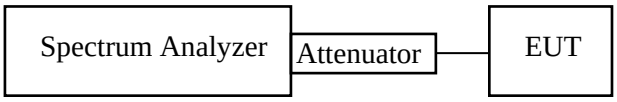
Applicable Standard

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

Test Procedure

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

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



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

Test Data: See Appendix

FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

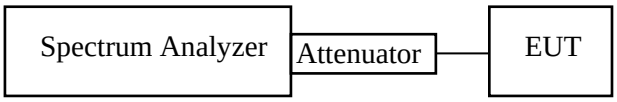
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of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

Test Procedure

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

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

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



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

Test Data: See Appendix

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.

APPENDIX - TEST DATA

Environmental Conditions & Test Information

Test Item:	AC LINE CONDUCTED EMISSIONS		SPURIOUS EMISSIONS			
			9kHz – 30MHz	30MHz - 1GHz	1-18 GHz	18-25 GHz
Test Date:	2024-09-10	2024-12-03	2024-09-19	2024-09-18	2024-09-20	2024-09-26
Temperature:	28.1 ℃	17.4 ℃	25.7 ℃	26.3 ℃	25.3 ℃	25.8 ℃
Relative Humidity:	55 %	57 %	50 %	51 %	52 %	50 %
ATM Pressure:	101.1 kPa	102.4 kPa	101.1 kPa	101.2 kPa	101.4 kPa	101.3 kPa
Test Result:	Pass	Pass	Pass	Pass	Pass	Pass
Test Engineer:	Leah Li	Myles Miao	Grace Luo	Grace Luo	Destine Hu	Hugh Wu

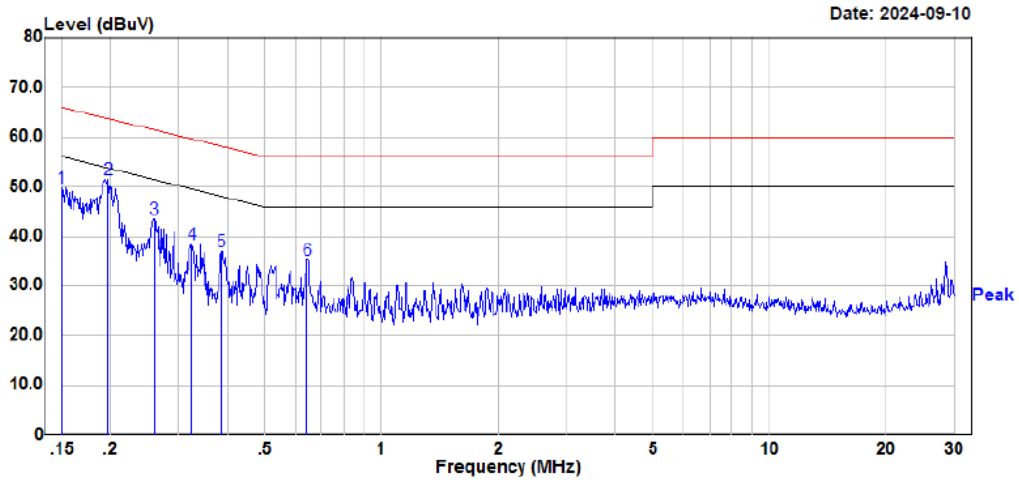
Test Item:	DUTY CYCLE	6 DB EMISSION BANDWIDTH	MAXIMUM CONDUCTED OUTPUT POWER	BAND EDGE	POWER SPECTRAL DENSITY
Test Date:	2024-09-24	2024-09-24	2024-09-24	2024-09-24	2024-09-24
Temperature:	24.6 ℃	24.6 ℃	24.6 ℃	24.6 ℃	24.6 ℃
Relative Humidity:	49 %	49 %	49 %	49 %	49 %
ATM Pressure:	101.2 kPa	101.2 kPa	101.2 kPa	101.2 kPa	101.2 kPa
Test Result:	/	Pass	Pass	Pass	Pass
Test Engineer:	Neil Zhou	Neil Zhou	Neil Zhou	Neil Zhou	Neil Zhou

AC LINE CONDUCTED EMISSIONS

Model: ST3-U

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

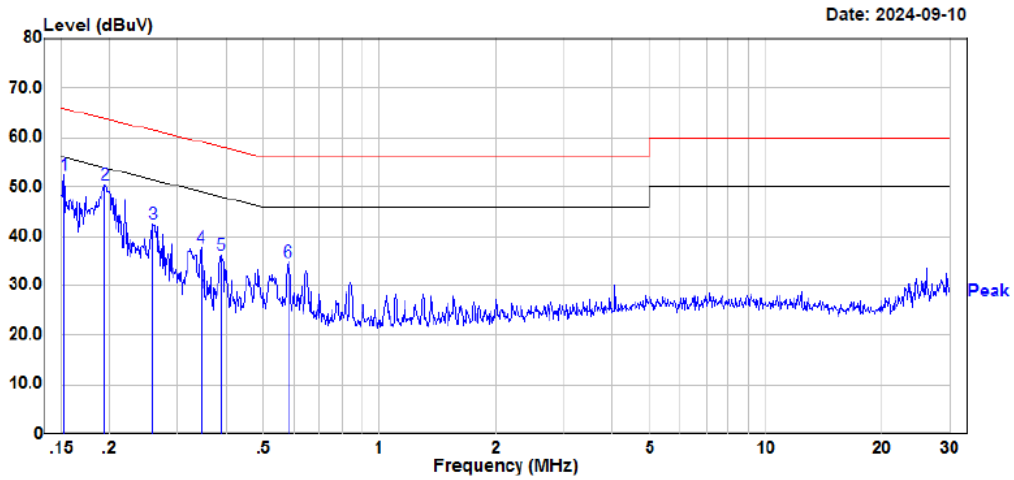
AC 120V/60 Hz, Line




```
Site                : CE
Condition           : limit\FCC PART 15.207
                    : DET:Peak
Project No.         : RKSA240902001
Model               : ST3-U
Phase               : L
Voltage             : 120V/60Hz
Mode                : BLE 1M
Test Equipment      : ENV216,ESR
Temperature         : 28.1℃
Humidity            : 55%
Atmospheric pressure: 101.1kPa
Test Engineer       : Leah Li
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.150	29.67	20.12	49.79	66.00	-16.21	Peak
2	0.197	31.46	20.11	51.57	63.72	-12.15	Peak
3	0.260	23.32	20.14	43.46	61.45	-17.99	Peak
4	0.325	18.25	20.18	38.43	59.58	-21.15	Peak
5	0.387	16.80	20.20	37.00	58.13	-21.13	Peak
6	0.643	15.23	20.09	35.32	56.00	-20.68	Peak

AC 120V/60 Hz, Neutral

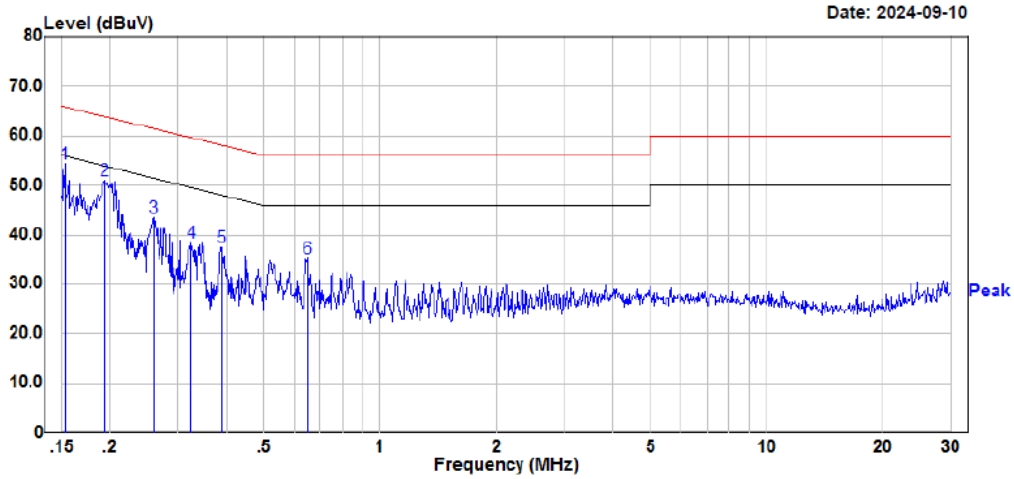



```
Site                : CE
Condition           : limit\FCC PART 15.207
                    : DET:Peak
Project No.         : RKSA240902001
Model               : ST3-U
Phase               : N
Voltage             : 120V/60Hz
Mode                : BLE 1M
Test Equipment      : ENV216,ESR
Temperature         : 28.1℃
Humidity            : 55%
Atmospheric pressure: 101.1kPa
Test Engineer       : Leah Li
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.152	32.36	20.12	52.48	65.88	-13.40	Peak
2	0.194	30.33	20.11	50.44	63.85	-13.41	Peak
3	0.258	22.35	20.14	42.49	61.49	-19.00	Peak
4	0.345	17.45	20.19	37.64	59.09	-21.45	Peak
5	0.389	15.99	20.20	36.19	58.09	-21.90	Peak
6	0.579	14.60	20.11	34.71	56.00	-21.29	Peak

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

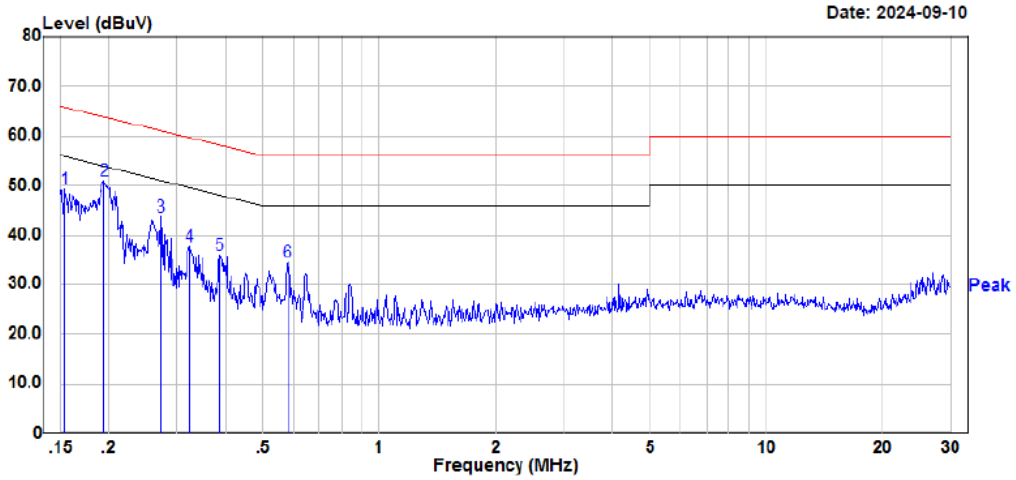
AC 120V/60 Hz, Line




```
Site                : CE
Condition           : limit\FCC PART 15.207
                    : DET:Peak
Project No.         : RKSA240902001
Model               : ST3-U
Phase               : L
Voltage             : 120V/60Hz
Mode                : BLE 2M
Test Equipment      : ENV216,ESR
Temperature         : 28.1℃
Humidity            : 55%
Atmospheric pressure: 101.1kPa
Test Engineer       : Leah Li
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.153	34.25	20.12	54.37	65.83	-11.46	Peak
2	0.193	30.81	20.11	50.92	63.89	-12.97	Peak
3	0.260	23.34	20.14	43.48	61.45	-17.97	Peak
4	0.325	18.25	20.18	38.43	59.58	-21.15	Peak
5	0.389	17.34	20.20	37.54	58.09	-20.55	Peak
6	0.649	15.11	20.08	35.19	56.00	-20.81	Peak

AC 120V/60 Hz, Neutral



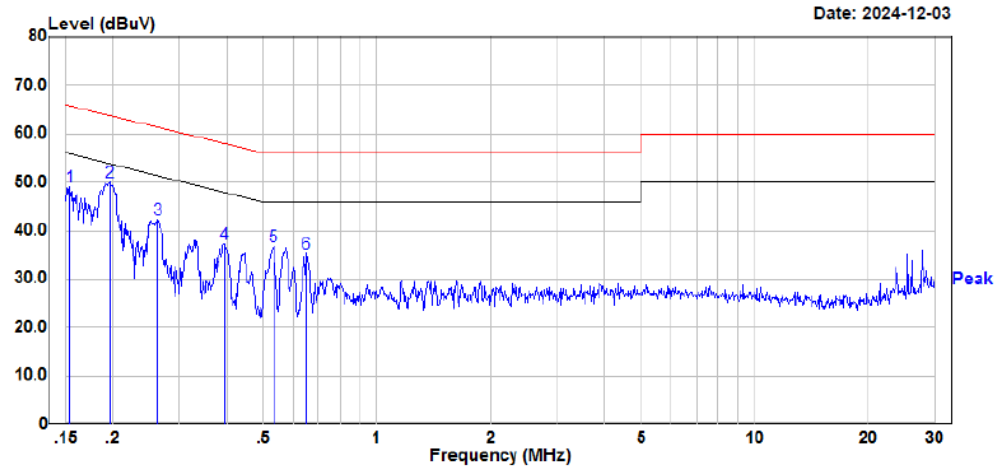
Site : CE
Condition : limit\FCC PART 15.207
: DET:Peak
Project No. : RKSA240902001
Model : ST3-U
Phase : N
Voltage : 120V/60Hz
Mode : BLE 2M
Test Equipment : ENV216,ESR
Temperature : 28.1℃
Humidity : 55%
Atmospheric pressure: 101.1kPa
Test Engineer : Leah Li

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.154	29.17	20.12	49.29	65.79	-16.50	Peak
2	0.194	30.87	20.11	50.98	63.85	-12.87	Peak
3	0.273	23.57	20.15	43.72	61.03	-17.31	Peak
4	0.323	17.56	20.18	37.74	59.62	-21.88	Peak
5	0.387	15.94	20.20	36.14	58.13	-21.99	Peak
6	0.579	14.52	20.11	34.63	56.00	-21.37	Peak

Model: ST3 Pro-U

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

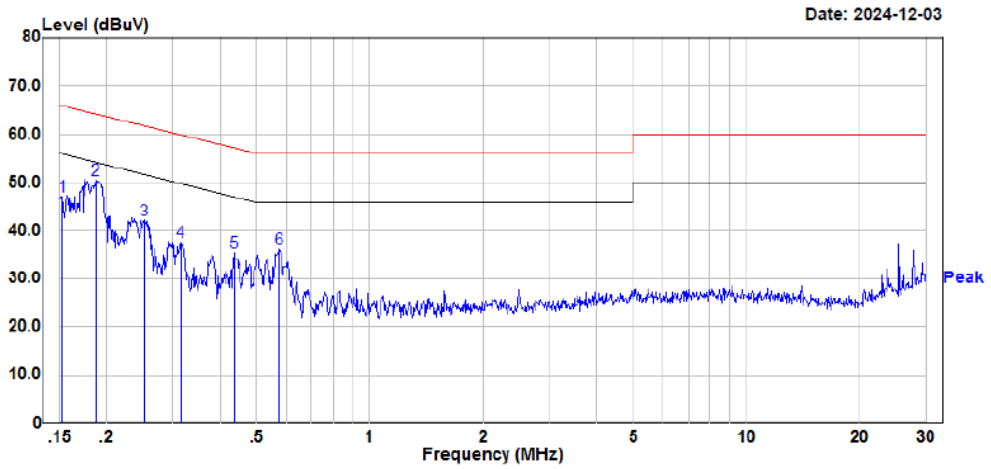
AC 120V/60 Hz, Line




```
Site                : CE
Condition           : limit\FCC PART 15.207
                    : DET:Peak
Project No.         : RKSA240902001
Model               : ST3 Pro-U
Phase               : L
Voltage             : 120V/60Hz
Mode                : BLE 1M
Test Equipment      : ENV216,ESR
Receiver Setting    : RBW: 9 kHz, VBW: 30 kHz, Sweep Time: Auto
Temperature         : 17.4℃
Humidity            : 57%
Atmospheric pressure: 102.4kPa
Test Engineer       : Myles Miao
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.154	28.84	20.12	48.96	65.79	-16.83	Peak
2	0.196	30.01	20.11	50.12	63.76	-13.64	Peak
3	0.262	22.11	20.14	42.25	61.36	-19.11	Peak
4	0.394	17.01	20.20	37.21	57.97	-20.76	Peak
5	0.532	16.57	20.12	36.69	56.00	-19.31	Peak
6	0.649	15.20	20.08	35.28	56.00	-20.72	Peak

AC 120V/60 Hz, Neutral

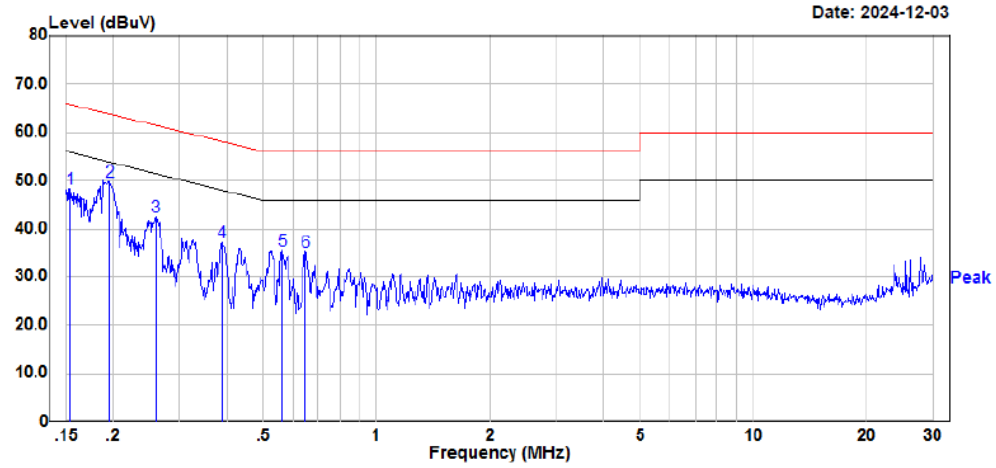


Site : CE
Condition : limit\FCC PART 15.207
: DET:Peak
Project No. : RKSA240902001
Model : ST3 Pro-U
Phase : N
Voltage : 120V/60Hz
Mode : BLE 1M
Test Equipment : ENV216,ESR
Receiver Setting : RBW: 9 kHz, VBW: 30 kHz, Sweep Time: Auto
Temperature : 17.4℃
Humidity : 57%
Atmospheric pressure: 102.4kPa
Test Engineer : Myles Miao

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.152	27.11	20.12	47.23	65.88	-18.65	Peak
2	0.187	30.39	20.11	50.50	64.18	-13.68	Peak
3	0.252	21.91	20.14	42.05	61.69	-19.64	Peak
4	0.314	17.25	20.17	37.42	59.87	-22.45	Peak
5	0.436	15.03	20.23	35.26	57.14	-21.88	Peak
6	0.573	16.04	20.10	36.14	56.00	-19.86	Peak

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

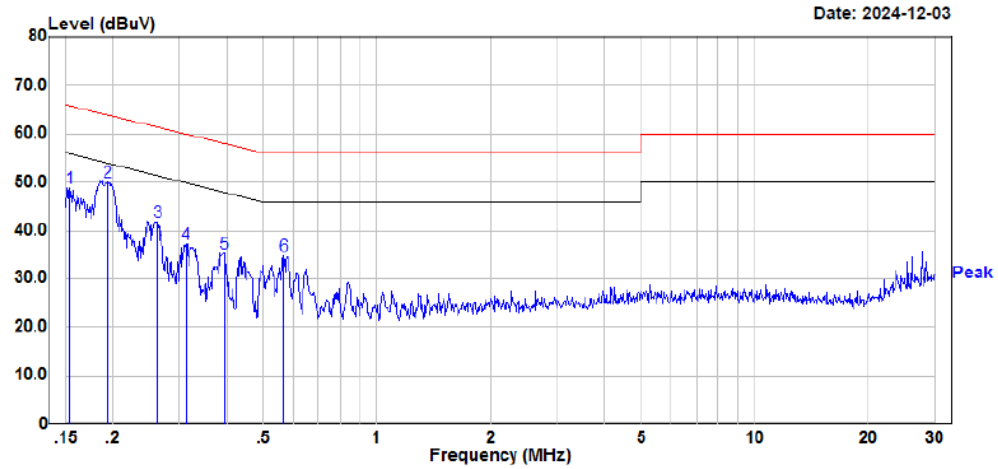
AC 120V/60 Hz, Line




```
Site                : CE
Condition           : limit\FCC PART 15.207
                    : DET:Peak
Project No.         : RKSA240902001
Model               : ST3 Pro-U
Phase               : L
Voltage             : 120V/60Hz
Mode                : BLE 2M
Test Equipment      : ENV216,ESR
Receiver Setting    : RBW: 9 kHz, VBW: 30 kHz, Sweep Time: Auto
Temperature         : 17.4℃
Humidity            : 57%
Atmospheric pressure: 102.4kPa
Test Engineer       : Myles Miao
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.154	28.25	20.12	48.37	65.79	-17.42	Peak
2	0.195	29.63	20.11	49.74	63.81	-14.07	Peak
3	0.260	22.31	20.14	42.45	61.45	-19.00	Peak
4	0.389	17.11	20.20	37.31	58.09	-20.78	Peak
5	0.562	15.42	20.11	35.53	56.00	-20.47	Peak
6	0.646	15.12	20.08	35.20	56.00	-20.80	Peak

AC 120V/60 Hz, Neutral



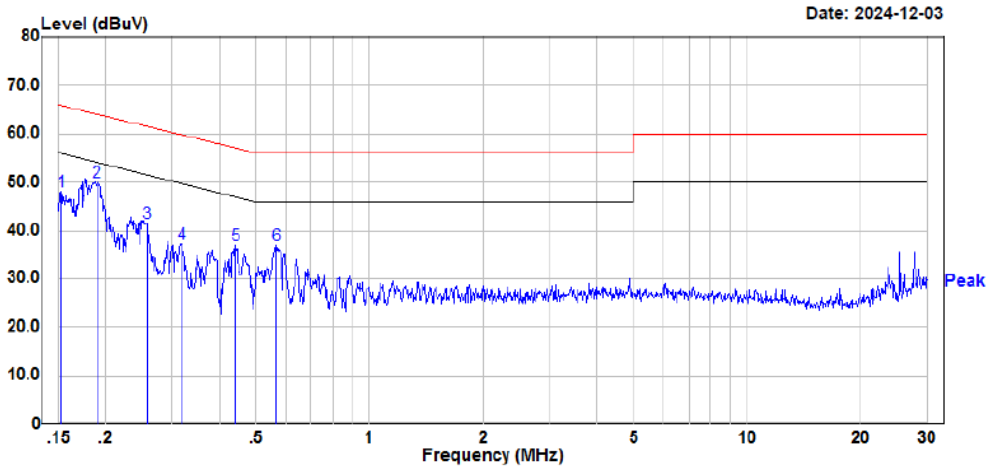

```
Site                : CE
Condition           : limit\FCC PART 15.207
                    : DET:Peak
Project No.         : RKSA240902001
Model               : ST3 Pro-U
Phase               : N
Voltage             : 120V/60Hz
Mode                : BLE 2M
Test Equipment      : ENV216,ESR
Receiver Setting    : RBW: 9 kHz, VBW: 30 kHz, Sweep Time: Auto
Temperature         : 17.4℃
Humidity            : 57%
Atmospheric pressure: 102.4kPa
Test Engineer       : Myles Miao
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.154	28.82	20.12	48.94	65.79	-16.85	Peak
2	0.193	29.91	20.11	50.02	63.89	-13.87	Peak
3	0.262	21.79	20.14	41.93	61.36	-19.43	Peak
4	0.312	17.16	20.17	37.33	59.91	-22.58	Peak
5	0.394	15.05	20.20	35.25	57.97	-22.72	Peak
6	0.565	14.68	20.10	34.78	56.00	-21.22	Peak

Model: ST3 Pro-C

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

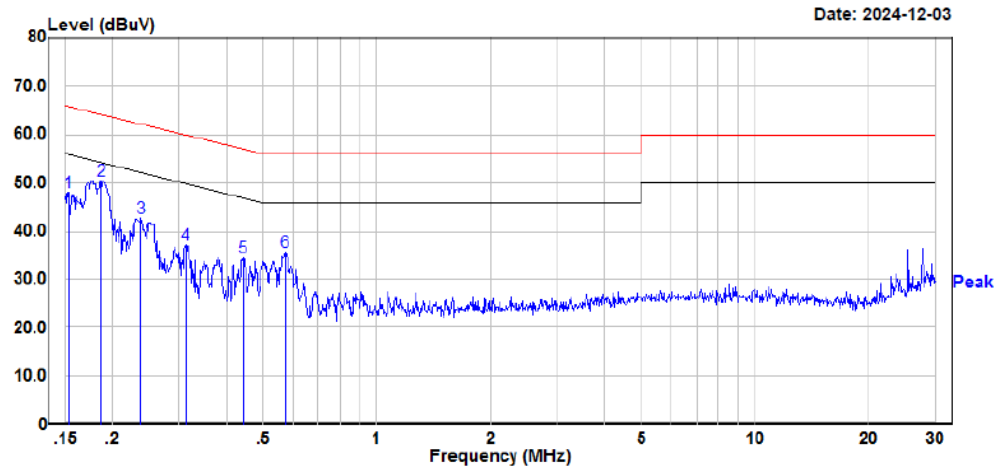
AC 120V/60 Hz, Line




```
Site                : CE
Condition           : limit\FCC PART 15.207
                    : DET:Peak
Project No.         : RKSA240902001
Model               : ST3 Pro-C
Phase               : L
Voltage             : 120V/60Hz
Mode                : BLE 1M
Test Equipment      : ENV216,ESR
Receiver Setting    : RBW: 9 kHz, VBW: 30 kHz, Sweep Time: Auto
Temperature         : 17.4℃
Humidity            : 57%
Atmospheric pressure: 102.4kPa
Test Engineer       : Myles Miao
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.152	27.96	20.12	48.08	65.88	-17.80	Peak
2	0.190	29.96	20.11	50.07	64.05	-13.98	Peak
3	0.257	21.48	20.14	41.62	61.53	-19.91	Peak
4	0.318	17.10	20.18	37.28	59.75	-22.47	Peak
5	0.440	16.79	20.23	37.02	57.06	-20.04	Peak
6	0.565	16.89	20.10	36.99	56.00	-19.01	Peak

AC 120V/60 Hz, Neutral

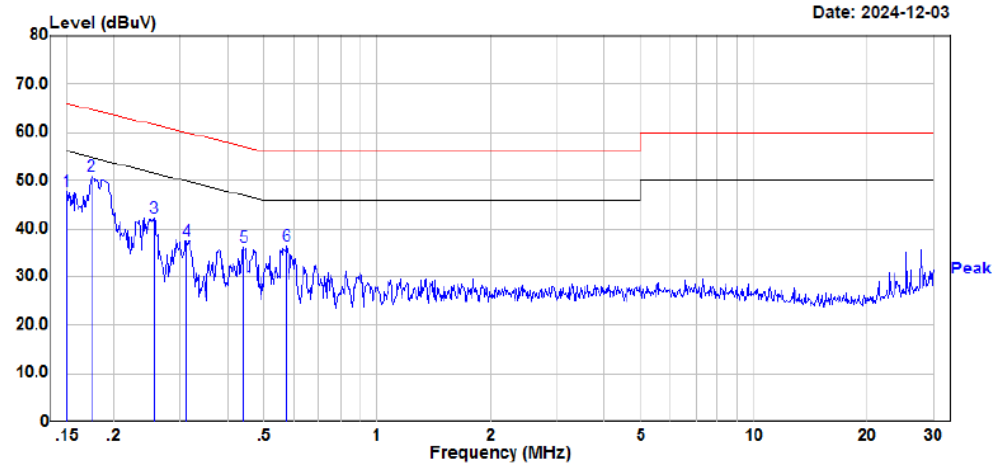



```
Site                : CE
Condition           : limit\FCC PART 15.207
                    : DET:Peak
Project No.         : RKSA240902001
Model               : ST3 Pro-C
Phase               : N
Voltage             : 120V/60Hz
Mode                : BLE 1M
Test Equipment      : ENV216,ESR
Receiver Setting    : RBW: 9 kHz, VBW: 30 kHz, Sweep Time: Auto
Temperature         : 17.4℃
Humidity            : 57%
Atmospheric pressure: 102.4kPa
Test Engineer       : Myles Miao
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.153	27.93	20.12	48.05	65.83	-17.78	Peak
2	0.186	30.43	20.11	50.54	64.22	-13.68	Peak
3	0.237	22.56	20.13	42.69	62.19	-19.50	Peak
4	0.312	17.13	20.17	37.30	59.91	-22.61	Peak
5	0.442	14.23	20.23	34.46	57.02	-22.56	Peak
6	0.570	15.57	20.10	35.67	56.00	-20.33	Peak

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

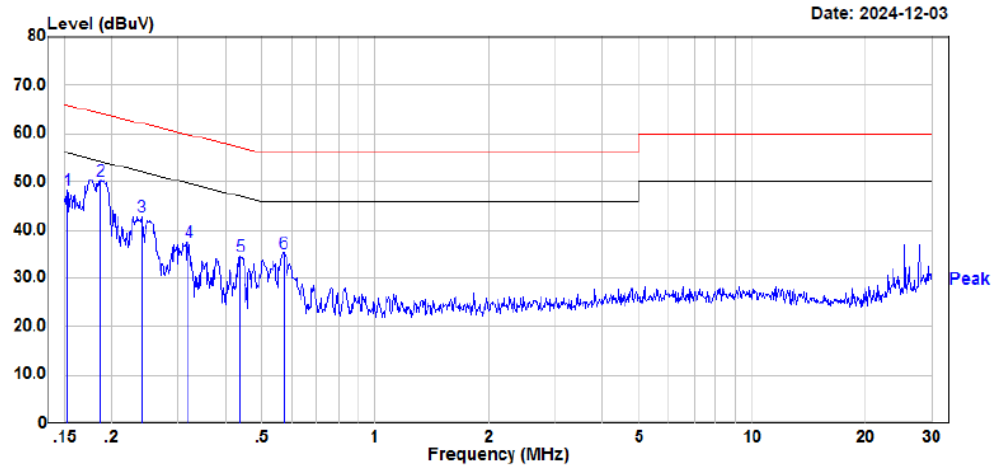
AC 120V/60 Hz, Line




```
Site                : CE
Condition           : FCC PART 15.207
                    : DET:Peak
Project No.         : RKSA240902001
Model               : ST3 Pro-C
Phase               : L
Voltage             : 120V/60Hz
Mode                : BLE 2M
Test Equipment      : ENV216,ESR
Receiver Setting    : RBW: 9 kHz, VBW: 30 kHz, Sweep Time: Auto
Temperature         : 17.4℃
Humidity            : 57%
Atmospheric pressure: 102.4kPa
Test Engineer       : Myles Miao
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.150	27.78	20.12	47.90	66.00	-18.10	Peak
2	0.174	30.81	20.11	50.92	64.76	-13.84	Peak
3	0.256	22.10	20.14	42.24	61.57	-19.33	Peak
4	0.311	17.35	20.17	37.52	59.96	-22.44	Peak
5	0.440	16.12	20.23	36.35	57.06	-20.71	Peak
6	0.573	16.44	20.10	36.54	56.00	-19.46	Peak

AC 120V/60 Hz, Neutral




```
Site                : CE
Condition           : FCC PART 15.207
                    : DET:Peak
Project No.         : RKSA240902001
Model               : ST3 Pro-C
Phase               : N
Voltage             : 120V/60Hz
Mode                : BLE 2M
Test Equipment      : ENV216,ESR
Receiver Setting    : RBW: 9 kHz, VBW: 30 kHz, Sweep Time: Auto
Temperature         : 17.4℃
Humidity            : 57%
Atmospheric pressure: 102.4kPa
Test Engineer       : Myles Miao
```

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.152	28.22	20.12	48.34	65.88	-17.54	Peak
2	0.186	30.25	20.11	50.36	64.22	-13.86	Peak
3	0.240	22.60	20.13	42.73	62.11	-19.38	Peak
4	0.320	17.29	20.18	37.47	59.71	-22.24	Peak
5	0.438	14.31	20.23	34.54	57.10	-22.56	Peak
6	0.570	15.08	20.10	35.18	56.00	-20.82	Peak

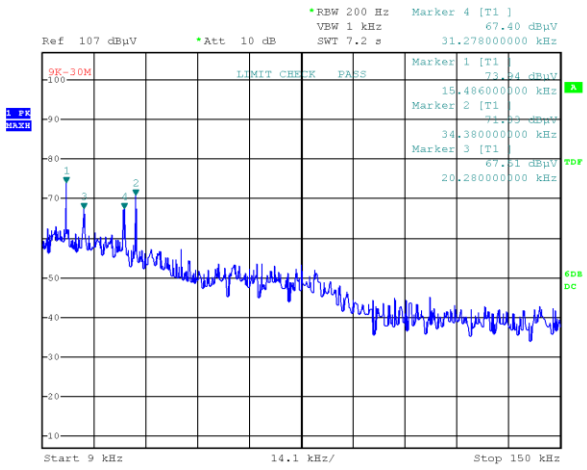
SPURIOUS EMISSIONS

Test Result: Compliant.

EUT operation mode: Transmitting

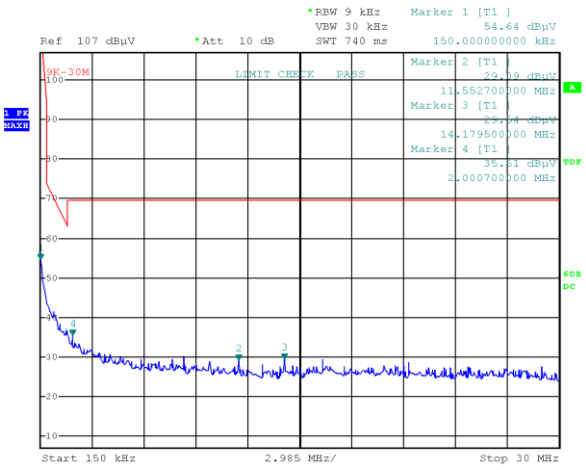
9 kHz-30 MHz: (*Transmitting in maximum output power BLE (2 Mbps) low channel)*
Parallel (worst case):
Model: ST3-U

9 kHz-150kHz



Project No.RKSA240902001 Tester:Grace Luo
Date: 19.SEP.2024 03:50:24

150 kHz -30 MHz



Project No.RKSA240902001 Tester:Grace Luo
Date: 19.SEP.2024 03:32:26

9 kHz-150 kHz

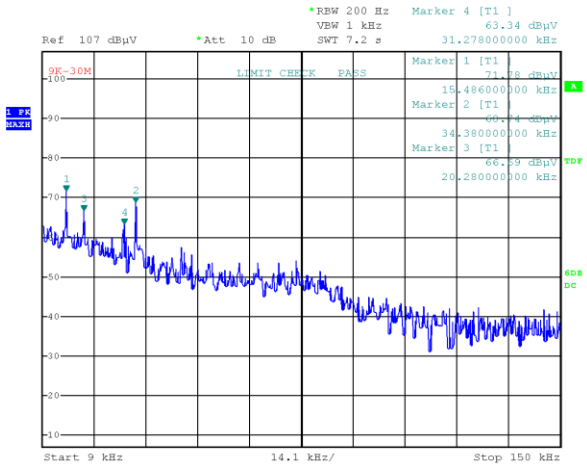
Frequency (MHz)	Corrected Amplitude (dBµV/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dBµV/m) @3m	Margin (dB)
0.015486	73.94	PK	52.87	123.81	49.87
0.034380	71.03	PK	46.06	116.88	45.85
0.020280	67.51	PK	49.92	121.46	53.95
0.031278	67.40	PK	46.87	117.70	50.30

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)
0.15000	54.64	PK	50.90	104.08	49.44
11.55270	29.09	PK	6.28	69.54	40.45
14.17950	29.54	PK	6.07	69.54	40.00
2.00070	35.51	PK	14.40	69.54	34.03

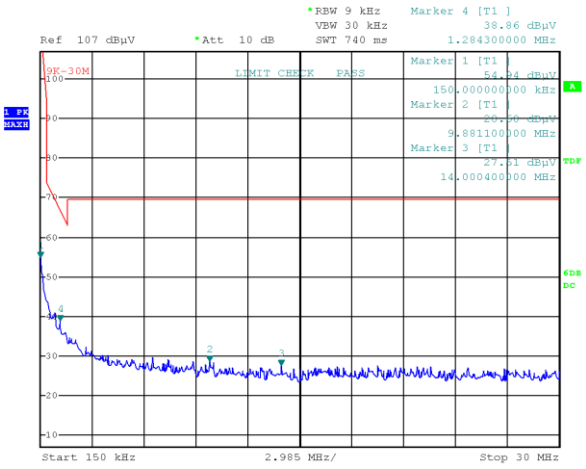
Model: ST3 Pro-U

9 kHz-150kHz



Project No.RKSA240902001 Tester:Grace Luo
Date: 19.SEP.2024 03:45:52

150 kHz -30 MHz



Project No.RKSA240902001 Tester:Grace Luo
Date: 19.SEP.2024 03:36:17

9 kHz-150 kHz

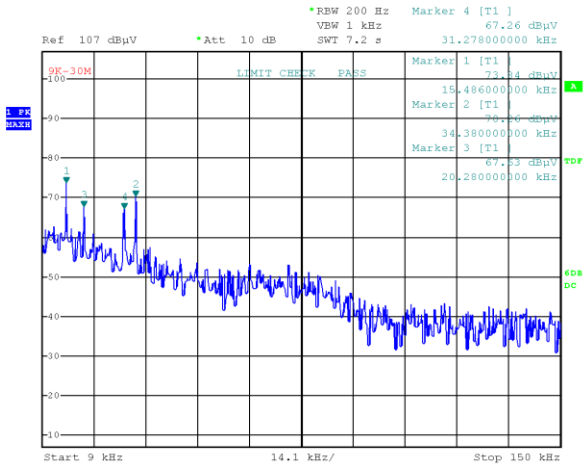
Frequency (MHz)	Corrected Amplitude (dBµV/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dBµV/m) @3m	Margin (dB)
0.015486	71.78	PK	52.87	123.81	52.03
0.034380	68.74	PK	46.06	116.88	48.14
0.020280	66.69	PK	49.92	121.46	54.77
0.031278	63.34	PK	46.87	117.70	54.36

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)
0.15000	54.94	PK	50.90	104.08	49.14
9.88110	28.68	PK	6.40	69.54	40.86
14.00040	27.61	PK	6.08	69.54	41.93
1.28430	38.86	PK	5.10	65.43	26.57

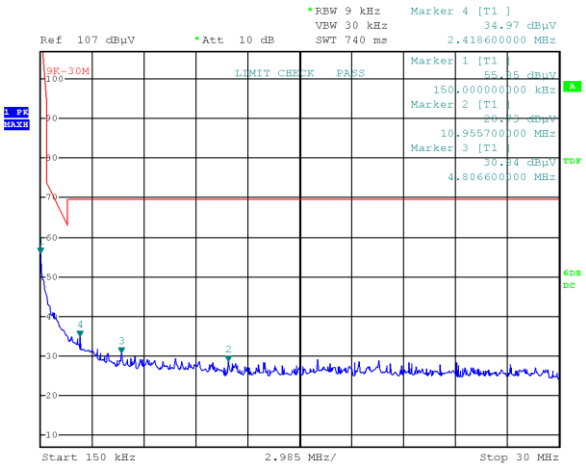
Model: ST3 Pro-C

9 kHz-150kHz



Project No.RKSA240902001 Tester:Grace Luo
Date: 19.SEP.2024 03:55:47

150 kHz -30 MHz



Project No.RKSA240902001 Tester:Grace Luo
Date: 19.SEP.2024 03:28:32

9 kHz-150 kHz

Frequency (MHz)	Corrected Amplitude (dBµV/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dBµV/m) @3m	Margin (dB)
0.015486	73.84	PK	52.87	123.81	49.97
0.034380	70.26	PK	46.06	116.88	46.62
0.020280	67.63	PK	49.92	121.46	53.83
0.031278	67.26	PK	46.87	117.70	50.44

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)
0.15000	55.85	PK	50.90	104.08	48.23
10.95570	28.73	PK	6.32	69.54	40.81
4.80660	30.84	PK	10.37	69.54	38.70
2.41860	34.97	PK	12.64	69.54	34.57

30 MHz - 1 GHz:

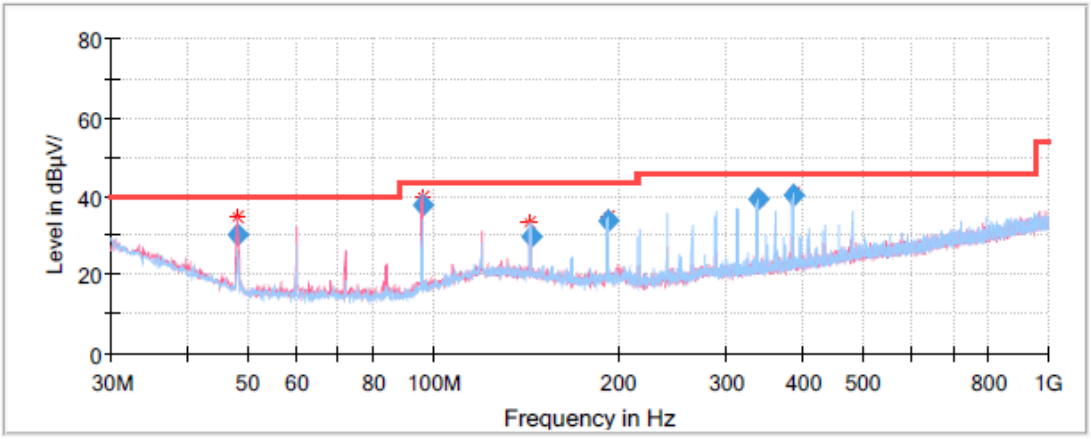
Transmitting in maximum output power low channel

BLE (1 Mbps):

Model: ST3-U

Common Information

Project No:	RKSA240902001
EUT Model:	ST3-U
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
Temperature:	26.3℃
Humidity:	51%
Barometric Pressure:	101.2kPa
Test Engineer:	Grace Luo
Test Date:	2024/9/18



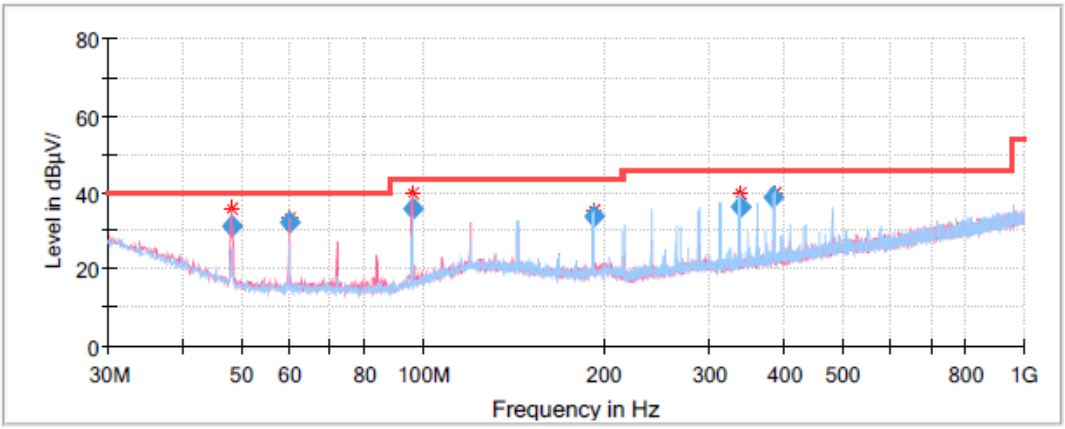
Final_Result

Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
48.097700	30.26	40.00	9.74	V	-15.8
96.405050	37.86	43.50	5.64	V	-15.3
144.599000	29.93	43.50	13.57	H	-11.6
192.437150	33.82	43.50	9.68	H	-12.5
336.774500	39.16	46.00	6.84	H	-9.6
384.878350	40.32	46.00	5.68	H	-8.4

Model: ST3 Pro-U

Common Information

Project No:	RKSA240902001
EUT Model:	ST3 Pro-U
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
Temperature:	26.3℃
Humidity:	51%
Barometric Pressure:	101.2kPa
Test Engineer:	Grace Luo
Test Date:	2024/9/18



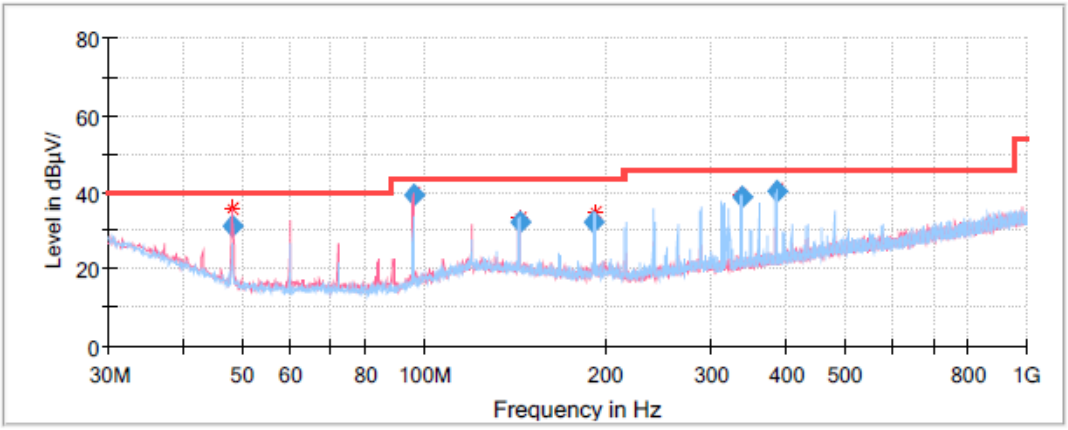
Final_Result

Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
48.097400	31.10	40.00	8.90	V	-15.8
59.994650	32.16	40.00	7.84	V	-17.6
96.411800	35.81	43.50	7.69	V	-15.3
192.461450	33.68	43.50	9.82	H	-12.5
337.465700	36.29	46.00	9.71	H	-9.6
383.890450	38.93	46.00	7.07	H	-8.4

Model: ST3 Pro-C

Common Information

Project No:	RKSA240902001
EUT Model:	ST3 Pro-C
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
Temperature:	26.3℃
Humidity:	51%
Barometric Pressure:	101.2kPa
Test Engineer:	Grace Luo
Test Date:	2024/9/18



Final_Result

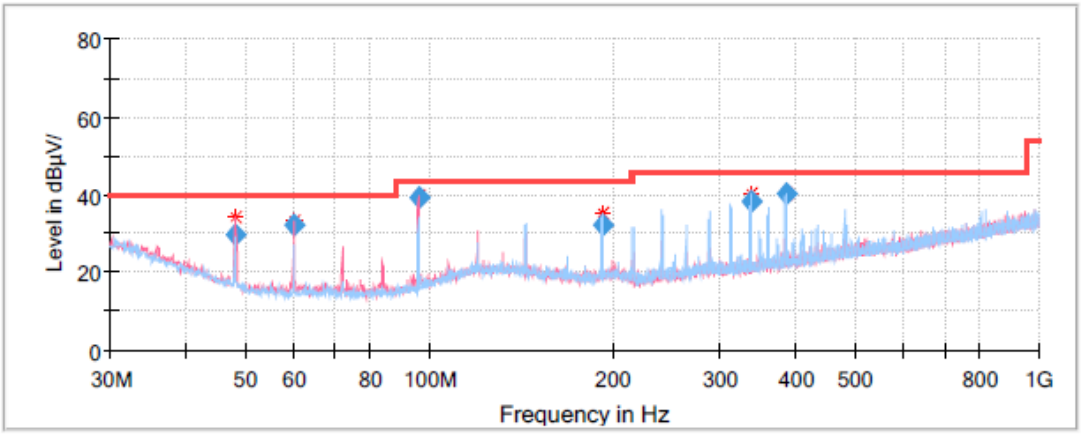
Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
48.093800	31.21	40.00	8.79	V	-15.8
96.204500	39.18	43.50	4.32	V	-15.4
144.318350	32.29	43.50	11.21	H	-11.6
191.945750	32.31	43.50	11.19	H	-12.5
336.755250	38.83	46.00	7.17	H	-9.6
384.869350	40.04	46.00	5.96	H	-8.4

BLE (2 Mbps):

Model: ST3-U

Common Information

Project No:	RKSA240902001
EUT Model:	ST3-U
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
Temperature:	26.3℃
Humidity:	51%
Barometric Pressure:	101.2kPa
Test Engineer:	Grace Luo
Test Date:	2024/9/18



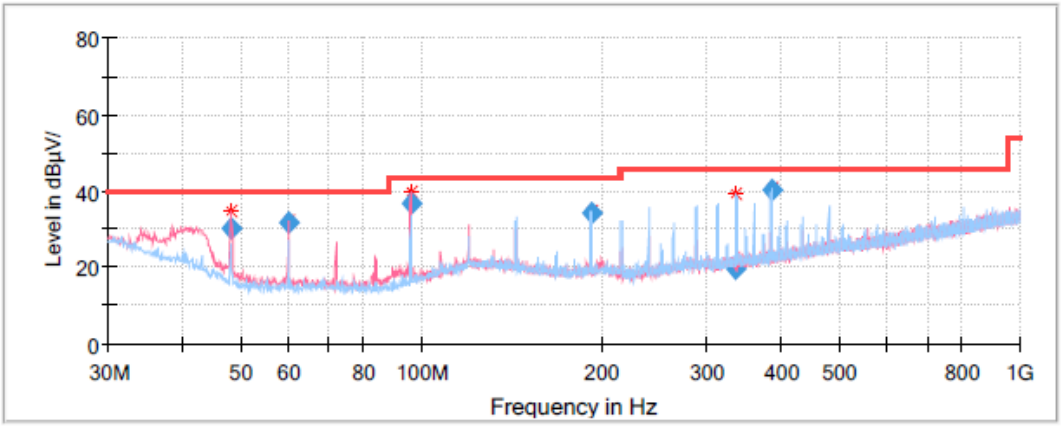
Final_Result

Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
47.945000	29.74	40.00	10.26	V	-15.8
60.007850	31.95	40.00	8.05	V	-17.6
96.207000	39.10	43.50	4.40	V	-15.4
192.822800	32.28	43.50	11.22	H	-12.5
336.762500	38.36	46.00	7.64	H	-9.6
384.815650	40.16	46.00	5.84	H	-8.4

Model: ST3 Pro-U

Common Information

Project No:	RKSA240902001
EUT Model:	ST3 Pro-U
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
Temperature:	26.3℃
Humidity:	51%
Barometric Pressure:	101.2kPa
Test Engineer:	Grace Luo
Test Date:	2024/9/18



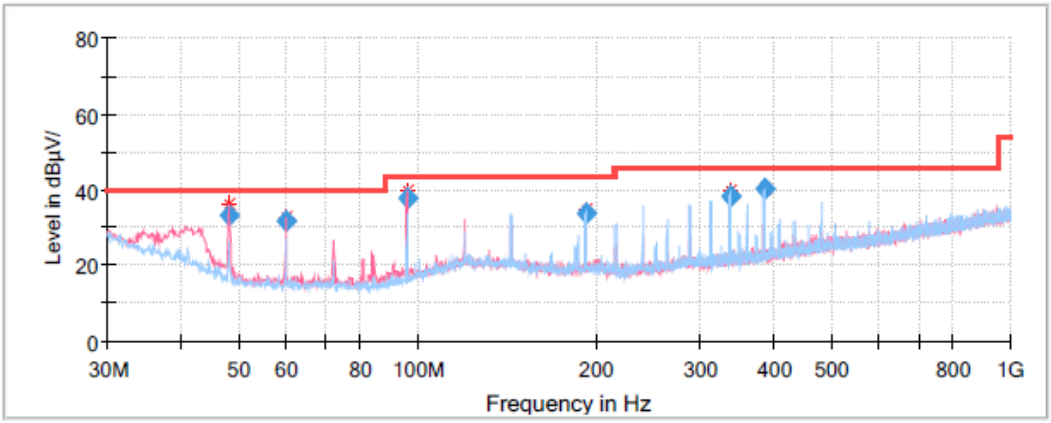
Final_Result

Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
48.078200	30.22	40.00	9.78	V	-15.7
60.009050	31.68	40.00	8.32	V	-17.6
96.400100	36.49	43.50	7.01	V	-15.3
192.418850	34.20	43.50	9.30	H	-12.5
335.930850	19.77	46.00	26.23	H	-9.6
384.854600	40.33	46.00	5.67	H	-8.4

Model: ST3 Pro-C

Common Information

Project No:	RKSA240902001
EUT Model:	ST3 Pro-C
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
Temperature:	26.3℃
Humidity:	51%
Barometric Pressure:	101.2kPa
Test Engineer:	Grace Luo
Test Date:	2024/9/18



Final_Result

Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
47.994500	33.00	40.00	7.00	V	-15.7
60.009350	31.56	40.00	8.44	V	-17.6
96.202000	37.64	43.50	5.86	V	-15.4
192.425150	33.85	43.50	9.65	H	-12.5
337.397300	38.34	46.00	7.66	H	-9.6
384.793450	40.27	46.00	5.73	H	-8.4

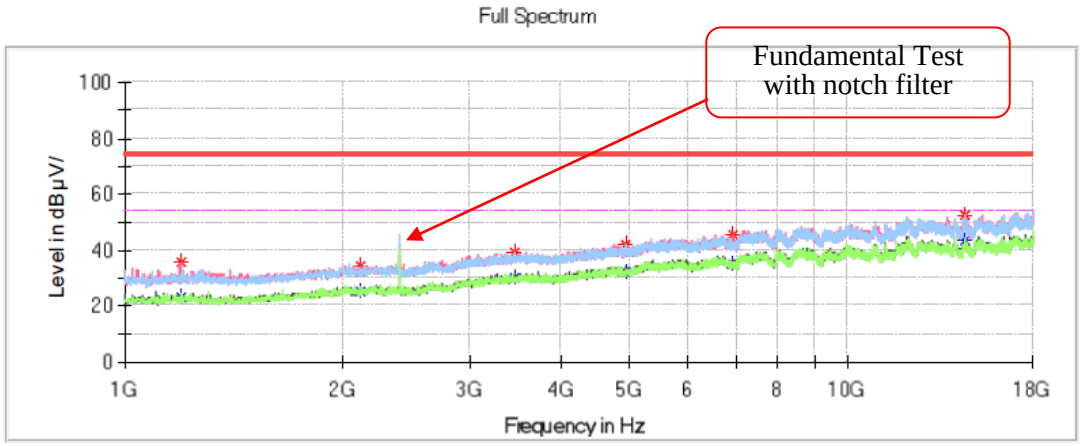
1 GHz-18 GHz:

BLE (1 Mbps):

Low Channel: 2402 MHz

Common Information

Project No.:	RKSA240902001
Test Mode:	BLE 1M
Standard:	FCC Part 15.205& FCC Part 15.209&FCC Part 15.247
Test Engineer:	Destine Hu



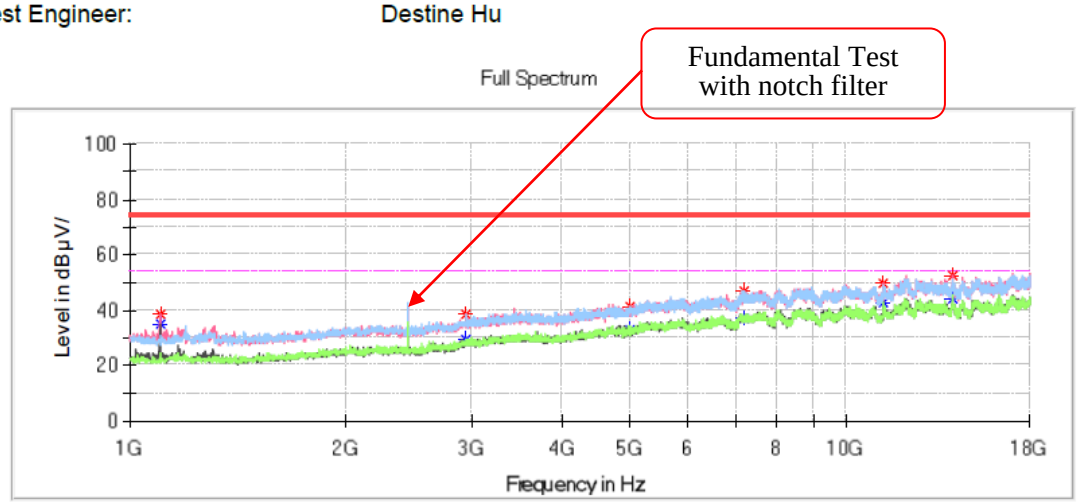
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1197.200000	35.64	---	74.00	38.36	V	-15.2
1197.200000	---	23.18	54.00	30.82	V	-15.2
2115.200000	34.00	---	74.00	40.00	V	-11.4
2115.200000	---	25.28	54.00	28.72	V	-11.4
3458.200000	39.28	---	74.00	34.72	H	-6.5
3458.200000	---	29.76	54.00	24.24	H	-6.5
4938.900000	42.03	---	74.00	31.97	H	-2.7
4938.900000	---	32.43	54.00	21.57	H	-2.7
6946.600000	---	34.87	54.00	19.13	V	2.4
6946.600000	45.15	---	74.00	28.85	V	2.4
14489.500000	---	43.17	54.00	10.83	H	9.4
14489.500000	52.48	---	74.00	21.52	H	9.4

Middle Channel: 2440 MHz

Common Information

Project No.:	RKSA240902001
Test Mode:	BLE 1M
Standard:	FCC Part 15.205& FCC Part 15.209&FCC Part 15.247
Test Engineer:	Destine Hu



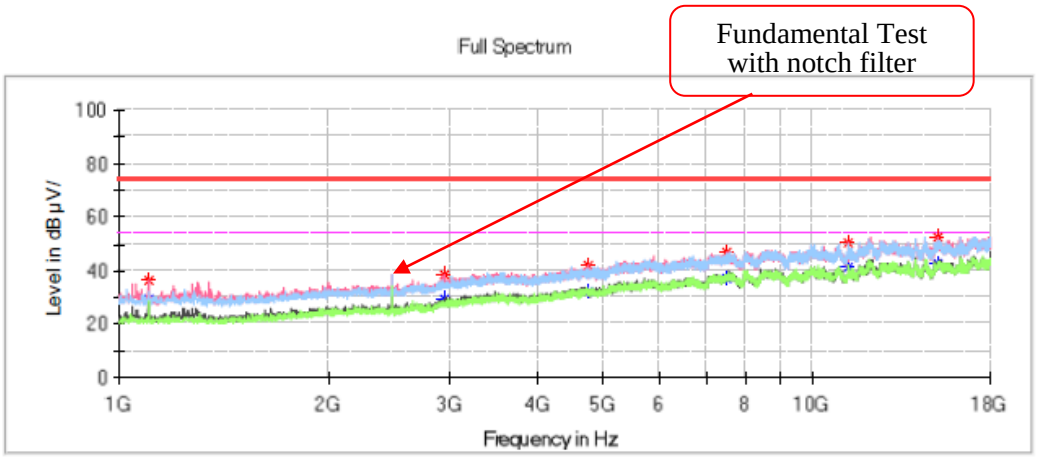
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1102.000000	38.72	---	74.00	35.28	V	-15.3
1102.000000	---	35.07	54.00	18.93	V	-15.3
2936.300000	---	29.23	54.00	24.77	H	-8.7
2936.300000	38.19	---	74.00	35.81	H	-8.7
4979.700000	---	32.72	54.00	21.28	H	-2.5
4979.700000	41.46	---	74.00	32.54	H	-2.5
7172.700000	---	36.81	54.00	17.19	H	3.1
7172.700000	47.19	---	74.00	26.81	H	3.1
11201.700000	---	42.77	54.00	11.23	V	7.9
11201.700000	49.92	---	74.00	24.08	V	7.9
14006.700000	---	44.09	54.00	9.91	V	9.8
14006.700000	52.70	---	74.00	21.30	V	9.8

High Channel: 2480 MHz

Common Information

Project No.:	RKSA240902001
Test Mode:	BLE 1M
Standard:	FCC Part 15.205& FCC Part 15.209&FCC Part 15.247
Test Engineer:	Destine Hu



Critical_Freqs

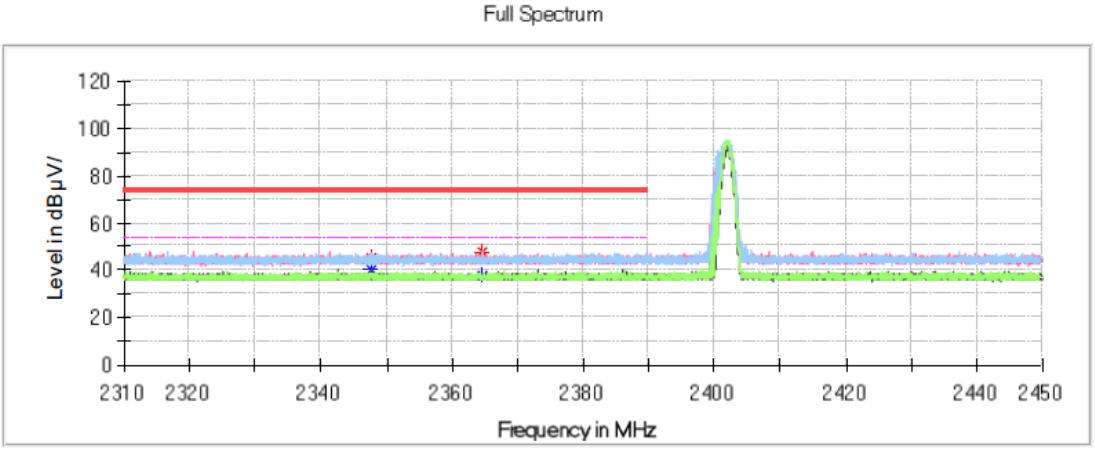
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1102.000000	---	29.14	54.00	24.86	V	-15.3
1102.000000	36.50	---	74.00	37.50	V	-15.3
2948.200000	---	29.05	54.00	24.95	V	-8.6
2948.200000	38.25	---	74.00	35.75	V	-8.6
4745.100000	---	31.89	54.00	22.11	H	-3.4
4745.100000	41.82	---	74.00	32.18	H	-3.4
7502.500000	---	37.21	54.00	16.79	V	3.9
7502.500000	47.00	---	74.00	27.00	V	3.9
11256.100000	---	41.20	54.00	12.80	V	8.1
11256.100000	50.48	---	74.00	23.52	V	8.1
15140.600000	---	43.01	54.00	10.99	V	9.5
15140.600000	52.36	---	74.00	21.64	V	9.5

Restricted Bands Emission:

Left Side

Common Information

Project No.:	RKSA240902001
Test Mode:	BLE 1M
Standard:	FCC Part 15.205& FCC Part 15.209&FCC Part 15.247
Test Engineer:	Destine Hu



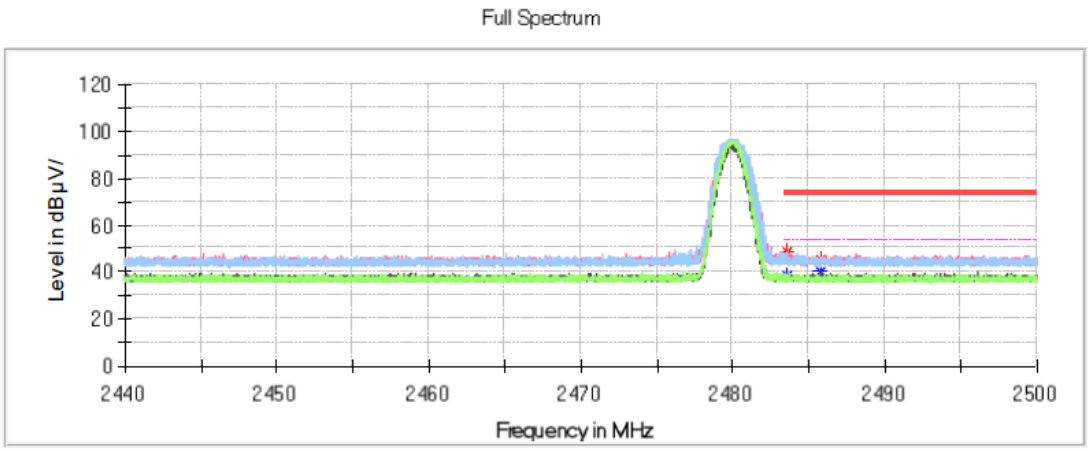
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2347.730000	45.26	---	74.00	28.74	V	-0.7
2347.730000	---	40.14	54.00	13.86	V	-0.7
2364.684000	47.58	---	74.00	26.42	H	-0.7
2364.684000	---	38.00	54.00	16.00	H	-0.7

Right Side

Common Information

Project No.:	RKSA240902001
Test Mode:	BLE 1M
Standard:	FCC Part 15.205& FCC Part 15.209&FCC Part 15.247
Test Engineer:	Destine Hu



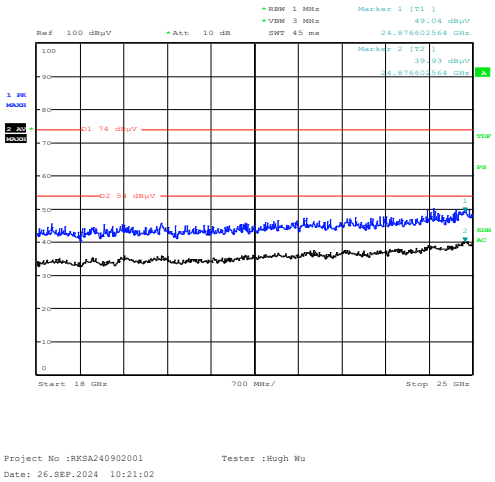
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2483.524000	48.48	---	74.00	25.52	H	-0.3
2483.524000	---	38.22	54.00	15.78	H	-0.3
2485.840000	45.34	---	74.00	28.66	V	-0.2
2485.840000	---	39.97	54.00	14.03	V	-0.2

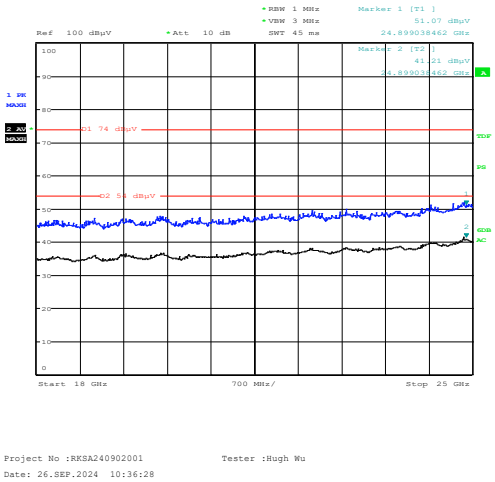
18 GHz - 25 GHz (Transmitting in maximum output power BLE (1 Mbps) Low Channel):

Frequency (MHz)	Max Peak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
24876.60	---	39.93	54	14.07	H	15.31
24876.60	49.04	---	74	24.96	H	15.31
24899.04	---	41.21	54	12.79	V	15.34
24899.04	51.07	---	74	22.93	V	15.34

Horizontal



Vertical



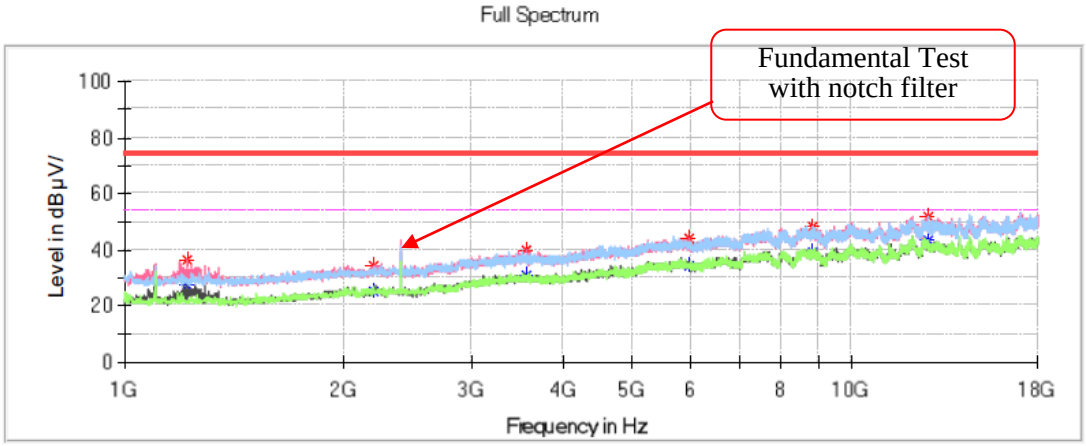
Note: The test distance is 3m.

BLE (2 Mbps):

Low Channel: 2402 MHz

Common Information

Project No.:	RKSA240902001
Test Mode:	BLE 2M
Standard:	FCC Part 15.205& FCC Part 15.209&FCC Part 15.247
Test Engineer:	Destine Hu



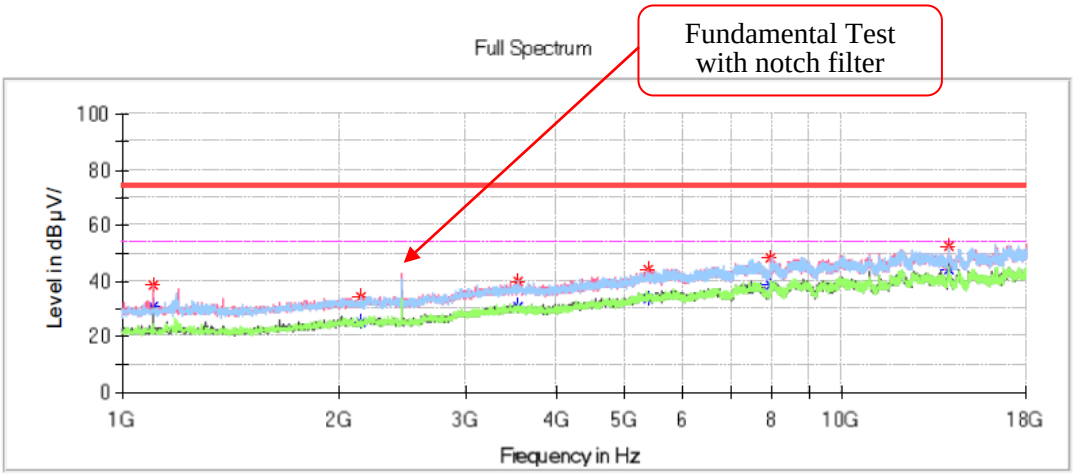
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1219.300000	---	27.09	54.00	26.91	V	-15.1
1219.300000	36.64	---	74.00	37.36	V	-15.1
2203.600000	---	25.32	54.00	28.68	V	-11.1
2203.600000	34.52	---	74.00	39.48	V	-11.1
3573.800000	---	31.03	54.00	22.97	V	-6.3
3573.800000	40.11	---	74.00	33.89	V	-6.3
5975.900000	---	34.15	54.00	19.85	V	0.0
5975.900000	44.33	---	74.00	29.67	V	0.0
8801.300000	---	39.00	54.00	15.00	H	5.4
8801.300000	48.32	---	74.00	25.68	H	5.4
12713.000000	---	43.03	54.00	10.97	H	9.7
12713.000000	51.49	---	74.00	22.51	H	9.7

Middle Channel: 2440 MHz

Common Information

Project No.:	RKSA240902001
Test Mode:	BLE 2M
Standard:	FCC Part 15.205& FCC Part 15.209&FCC Part 15.247
Test Engineer:	Destine Hu



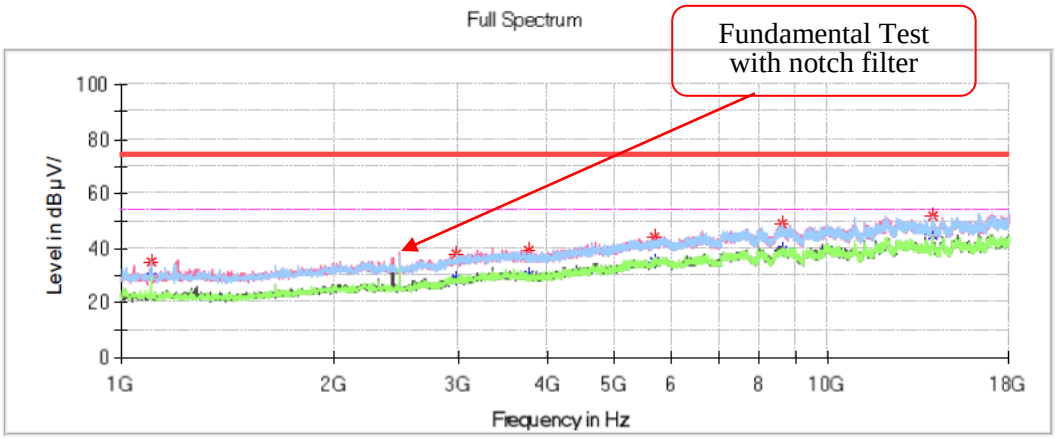
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1103.700000	---	30.84	54.00	23.16	V	-15.3
1103.700000	38.73	---	74.00	35.27	V	-15.3
2142.400000	---	25.50	54.00	28.50	H	-11.3
2142.400000	33.95	---	74.00	40.05	H	-11.3
3541.500000	---	30.75	54.00	23.25	H	-6.3
3541.500000	39.97	---	74.00	34.03	H	-6.3
5365.600000	---	33.80	54.00	20.20	V	-0.9
5365.600000	43.88	---	74.00	30.12	V	-0.9
7951.300000	---	38.73	54.00	15.27	V	3.9
7951.300000	48.16	---	74.00	25.84	V	3.9
14006.700000	---	44.03	54.00	9.97	H	9.8
14006.700000	52.31	---	74.00	21.69	H	9.8

High Channel: 2480 MHz

Common Information

Project No.:	RKSA240902001
Test Mode:	BLE 2M
Standard:	FCC Part 15.205& FCC Part 15.209&FCC Part 15.247
Test Engineer:	Destine Hu



Critical_Freqs

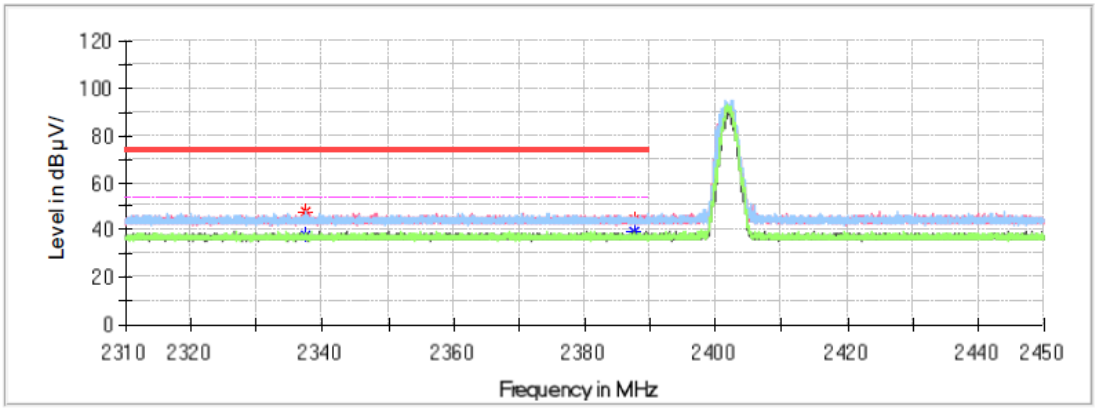
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1102.000000	---	29.43	54.00	24.57	H	-15.3
1102.000000	35.17	---	74.00	38.83	H	-15.3
2980.500000	---	28.39	54.00	25.61	H	-8.5
2980.500000	38.09	---	74.00	35.91	H	-8.5
3781.200000	---	29.91	54.00	24.09	V	-6.1
3781.200000	39.07	---	74.00	34.93	V	-6.1
5690.300000	---	34.78	54.00	19.22	H	-0.2
5690.300000	44.14	---	74.00	29.86	H	-0.2
8590.500000	---	39.40	54.00	14.60	V	5.4
8590.500000	49.09	---	74.00	24.91	V	5.4
14003.300000	---	44.65	54.00	9.35	V	9.8
14003.300000	51.51	---	74.00	22.49	V	9.8

Restricted Bands Emission:

Left Side

Common Information

Project No.:	RKSA240902001
Test Mode:	BLE 2M
Standard:	FCC Part 15.205& FCC Part 15.209&FCC Part 15.247
Test Engineer:	Destine Hu



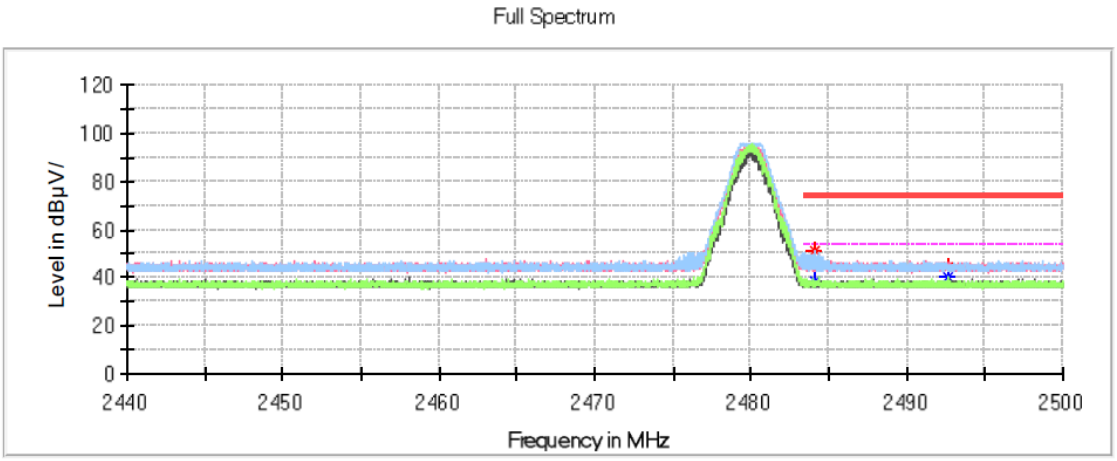
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2337.524000	47.46	---	74.00	26.54	H	-0.7
2337.524000	---	37.57	54.00	16.43	H	-0.7
2387.686000	44.13	---	74.00	29.87	V	-0.6
2387.686000	---	39.57	54.00	14.43	V	-0.6

Right Side

Common Information

Project No.:	RKSA240902001
Test Mode:	BLE 2M
Standard:	FCC Part 15.205& FCC Part 15.209&FCC Part 15.247
Test Engineer:	Destine Hu



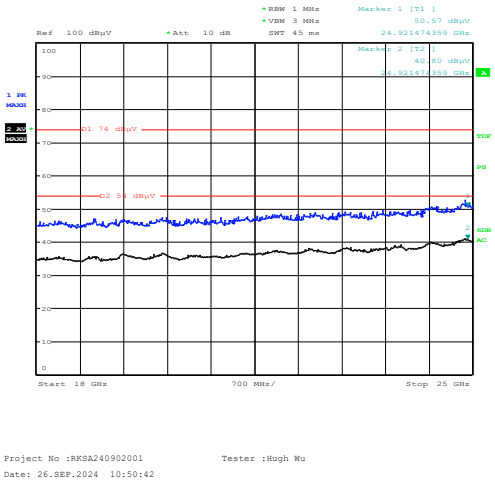
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2484.070000	51.54	---	74.00	22.46	H	-0.3
2484.070000	---	38.55	54.00	15.45	H	-0.3
2492.626000	44.17	---	74.00	29.83	V	-0.2
2492.626000	---	40.07	54.00	13.93	V	-0.2

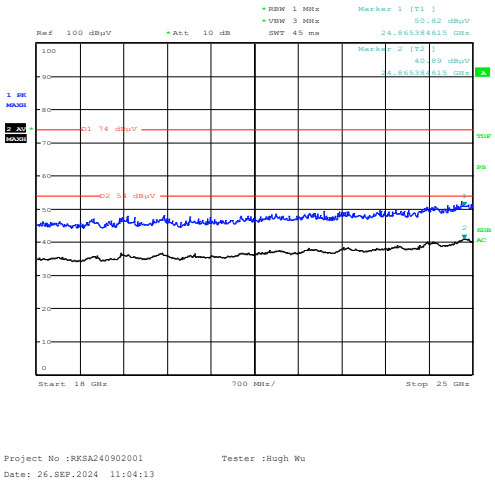
18 GHz - 25 GHz (Transmitting in maximum output power BLE (2 Mbps) Low Channel):

Frequency (MHz)	Max Peak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
24921.47	---	40.8	54	13.2	H	15.37
24921.47	50.57	---	74	23.43	H	15.37
24865.38	---	40.89	54	13.11	V	15.29
24865.38	50.82	---	74	23.18	V	15.29

Horizontal



Vertical



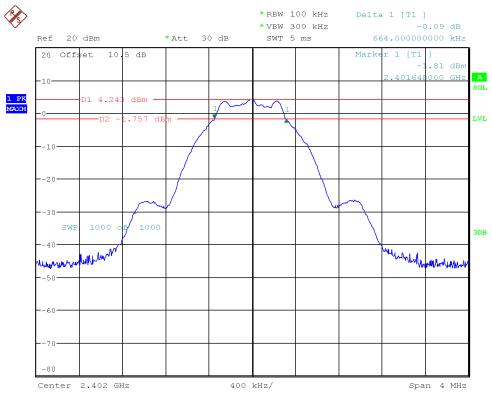
Note: The test distance is 3m.

6 dB EMISSION BANDWIDTH

Mode	Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (MHz)
BLE (1 Mbps)	Low	2402	0.664	≥0.5
	Middle	2440	0.700	≥0.5
	High	2480	0.752	≥0.5
BLE (2 Mbps)	Low	2402	1.120	≥0.5
	Middle	2440	1.128	≥0.5
	High	2480	0.964	≥0.5

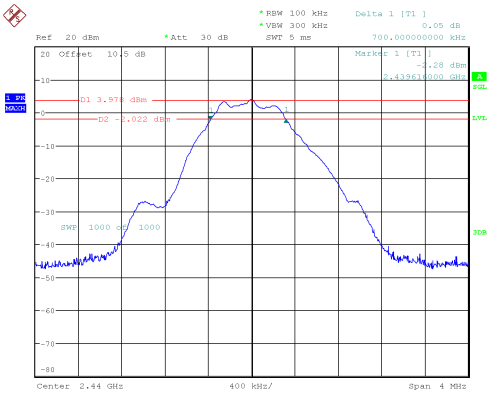
BLE (1 Mbps):

Low Channel



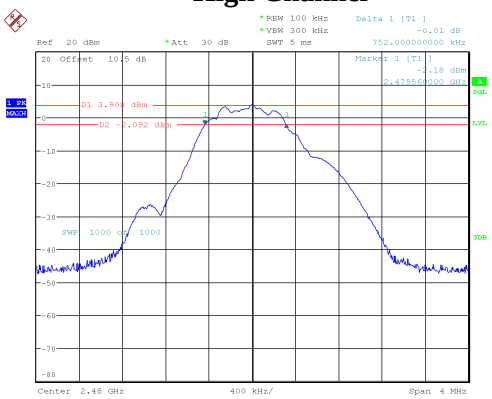
ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:27:04

Middle Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:34:05

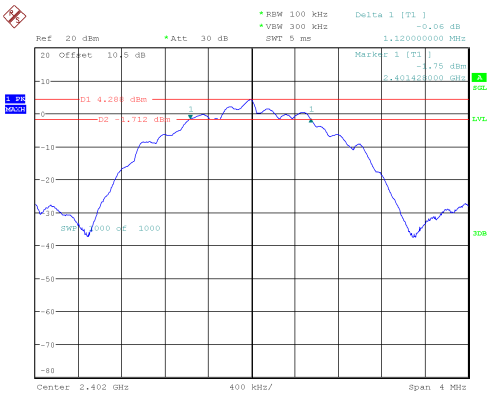
High Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:41:26

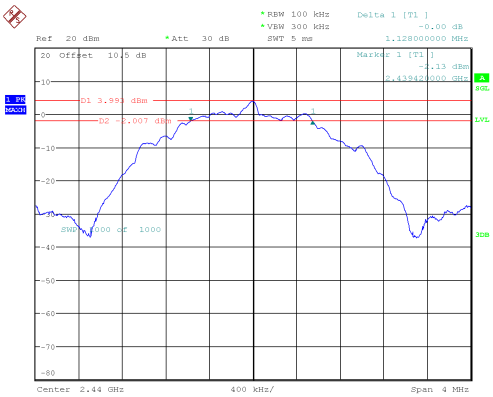
BLE (2 Mbps)

Low Channel



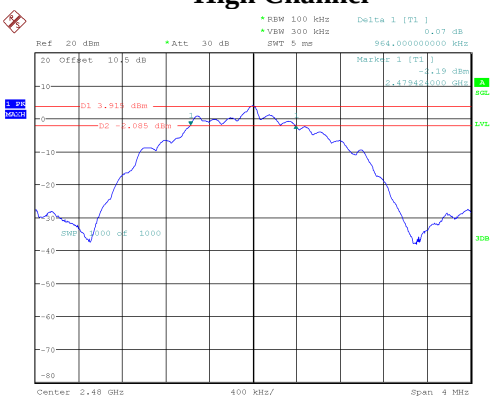
ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:47:59

Middle Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:53:49

High Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 19:00:01

MAXIMUM CONDUCTED OUTPUT POWER

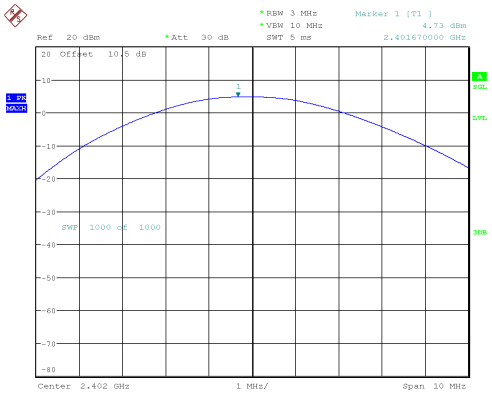
Test Result: Compliant.

EUT operation mode: Transmitting

Mode	Channel	Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Limit (dBm)	Result
BLE (1 Mbps)	Low	2402	4.73	30	Pass
	Middle	2440	4.47	30	Pass
	High	2480	4.41	30	Pass
BLE (2 Mbps)	Low	2402	4.76	30	Pass
	Middle	2440	4.50	30	Pass
	High	2480	4.40	30	Pass

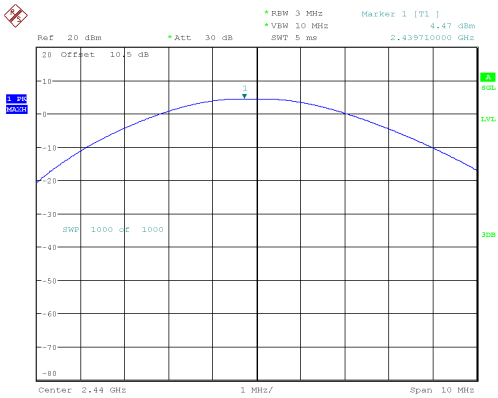
BLE (1 Mbps):

Low Channel



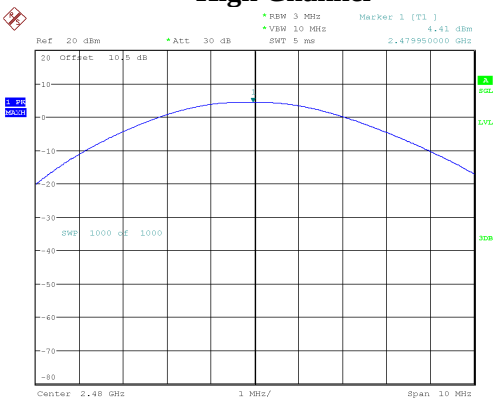
ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:31:03

Middle Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:38:45

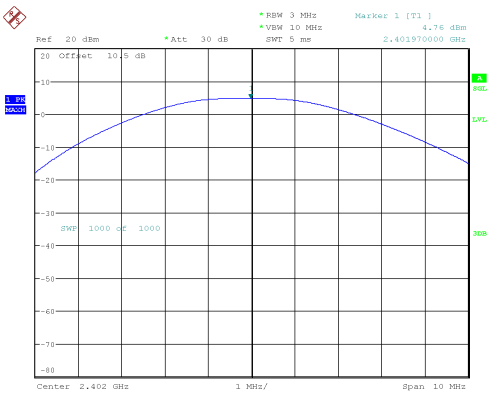
High Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:44:37

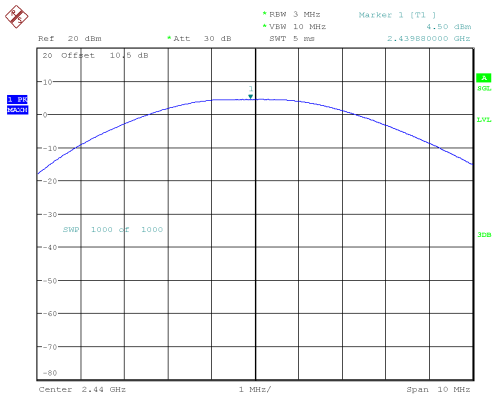
BLE (2 Mbps)

Low Channel



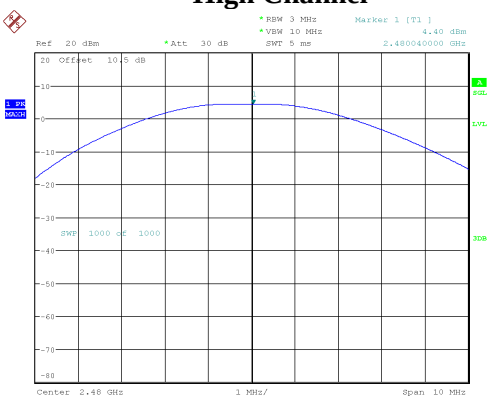
ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:51:01

Middle Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:57:00

High Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 19:03:31

BAND EDGE

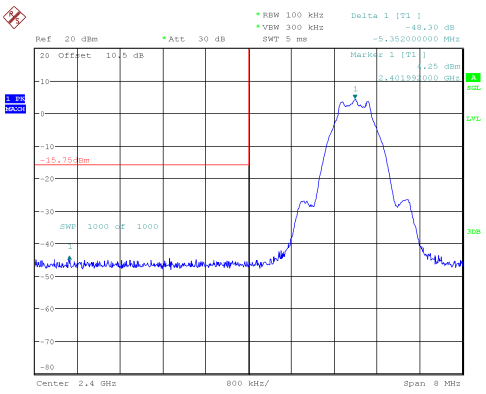
Test Result: Compliant.

EUT operation mode: Transmitting

Mode	Channel	Frequency (MHz)	Result (dBc)	Limit (dBc)
BLE (1 Mbps)	Low	2402	48.30	20
	High	2480	48.06	
BLE (2 Mbps)	Low	2402	31.17	20
	High	2480	47.33	

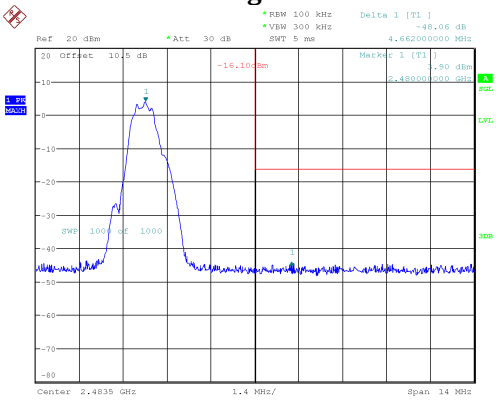
BLE (1 Mbps)

Left Side



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:26:21

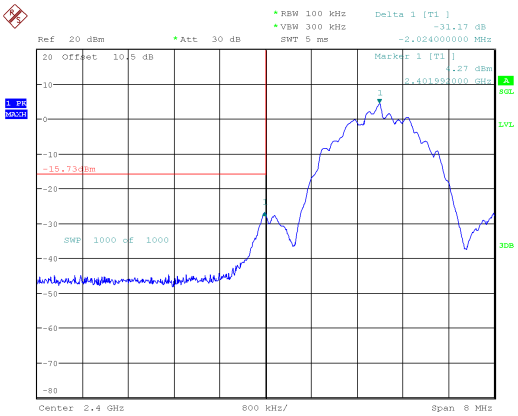
Right Side



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:40:28

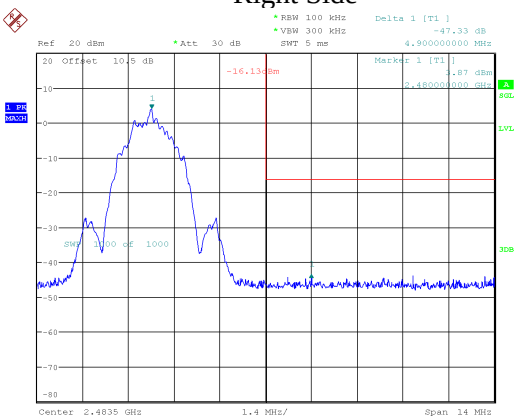
BLE (2 Mbps)

Left Side



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:47:13

Right Side



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:59:00

POWER SPECTRAL DENSITY

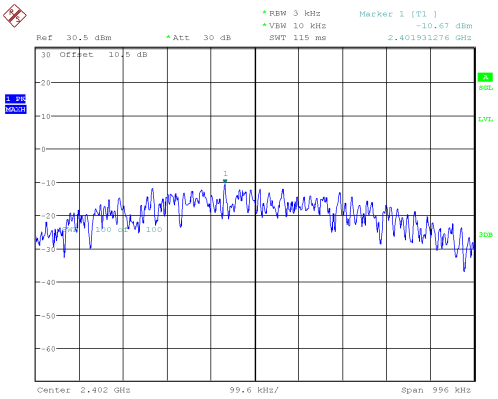
Test Result: Compliant.

EUT operation mode: Transmitting

Mode	Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)
BLE (1 Mbps)	Low	2402	-10.67	≤8
	Middle	2440	-10.73	≤8
	High	2480	-11.19	≤8
BLE (2 Mbps)	Low	2402	-13.10	≤8
	Middle	2440	-12.95	≤8
	High	2480	-13.42	≤8

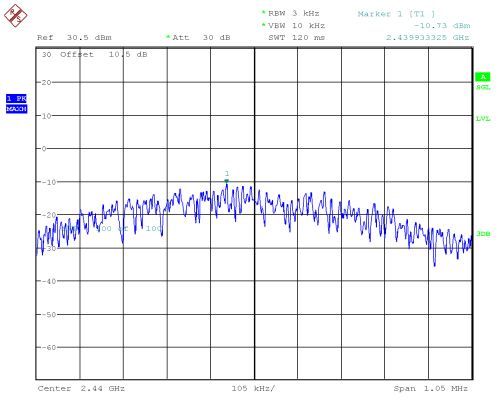
BLE (1 Mbps):

Low Channel



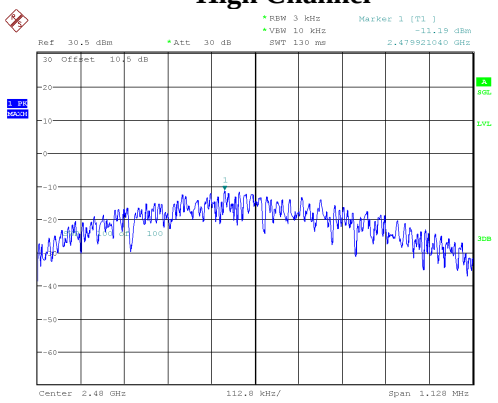
ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:31:26

Middle Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:39:09

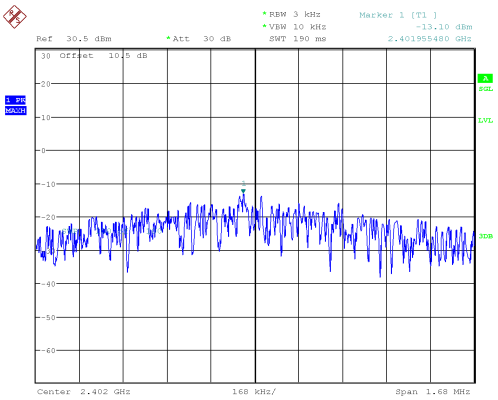
High Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:45:04

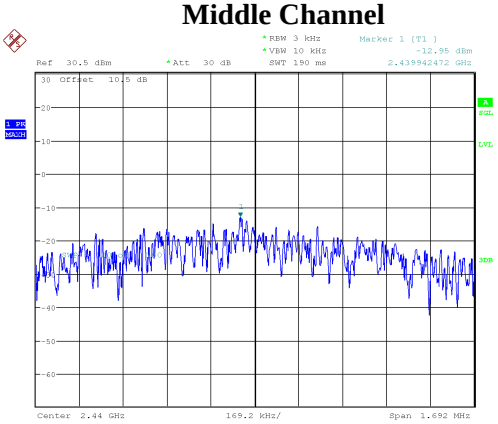
BLE (2 Mbps)

Low Channel



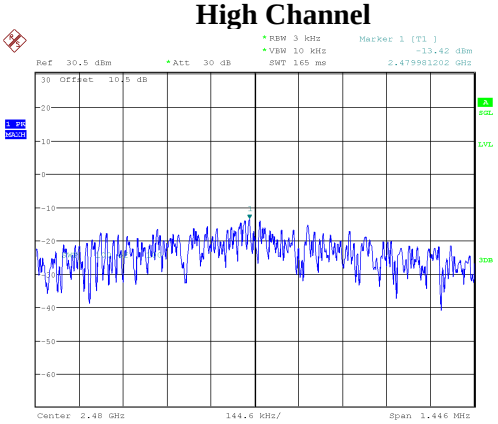
ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:51:34

Middle Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 18:57:34

High Channel



ProjectNo.:RKSA240902001 Tester:Neil Zhou
Date: 24.SEP.2024 19:04:02

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 *******