

RF Exposure Evaluation Report

Product : XIAO nRF54L15
Trade mark : Seeed Studio
Model/Type reference : XIAO nRF54L15 Sense,
XIAO nRF54L15
Serial Number : N/A
Report Number : EED32R81069002
FCC ID : Z4T-XIAONRF54L15
Date of Issue : Jul. 15, 2025
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091
47 CFR Part 2.1093
447498 D04 Interim General RF Exposure
Guidance v01
Test result : PASS

Prepared for:

Seeed Technology Co., Ltd.**9F, G3 Building, TCL International E City, Zhongshanyuan Road,
Nanshan District, Shenzhen, Guangdong Province, P.R.C**

Prepared by:

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3 General Information

3.1 Client Information

Applicant:	Seeed Technology Co., Ltd.
Address of Applicant:	9F, G3 Building, TCL International E City, Zhongshanyuan Road, Nanshan District, Shenzhen, Guangdong Province, P.R.C
Manufacturer:	Seeed Technology Co., Ltd.
Address of Manufacturer:	9F, G3 Building, TCL International E City, Zhongshanyuan Road, Nanshan District, Shenzhen, Guangdong Province, P.R.C
Factory:	Seeed Technology Co., Ltd.
Address of Factory:	9F, G3 Building, TCL International E City, Zhongshanyuan Road, Nanshan District, Shenzhen, Guangdong Province, P.R.C

3.2 General Description of EUT

Product Name:	XIAO nRF54L15
Model No.(EUT):	XIAO nRF54L15 Sense, XIAO nRF54L15
Trade Mark:	Seeed Studio

3.3 Product Specification subjective to this standard

Frequency Range:	BLE: 2402MHz~2480MHz
Modulation Type:	BLE: GFSK
Test Power Grade:	Default
Test Software of EUT:	sscom5.13.1.exe
Antenna Type:	Ceramic Antenna
Antenna Gain:	4.97dBi
Power Supply:	USB port: DC 5.0V
Sample Received Date:	Jun. 30, 2025
Sample tested Date:	Jun. 30, 2025 to Jul. 07, 2025

Remark:

Model No.: Model No.: XIAO nRF54L15 Sense, XIAO nRF54L15

Only the model XIAO nRF54L15 Sense was tested.

The XIAO nRF54L15 is missing the microphone (U8) and six-axis sensor (U7) present in the Sense version.

	Difference description
XIAO nRF54L15	Without anything on U8 and U7
XIAO MG24 Sense	Welded microphone on U8, and six-axis sensor on U7

3.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

3.5 Deviation from Standards

None.

3.6 Abnormalities from Standard Conditions

None.

3.7 Other Information Requested by the Customer

None.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW). This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}}(d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20\text{cm}}$ is per Formula (B.1).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

4.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

4.1.3 EUT RF Exposure Evaluation**For Stand alone:****For BLE**

Frequency (MHz)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2480	6.89	4.97	11.86	9.71	9.35	≤3060	PASS

Note:

- ①EIRP=conducted power+antenna gain;
- ②ERP=EIRP-2.15
- ③Only the worst case data was recorded in the report.

Statement

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule stated in ILAC-G8:09/2019/CNAS-GL015:2022;
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*** End of Report ***