

# 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.**

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2 Contents

	Page
1 COVER PAGE .....	1
2 CONTENTS .....	2
3 GENERAL INFORMATION .....	3
3.1 CLIENT INFORMATION .....	3
3.2 GENERAL DESCRIPTION OF EUT .....	3
3.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD .....	3
3.4 TEST LOCATION .....	4
3.5 DEVIATION FROM STANDARDS .....	4
3.6 ABNORMALITIES FROM STANDARD CONDITIONS .....	4
3.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER .....	4
4 SAR EVALUATION .....	5
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT .....	5
4.1.1 Limits .....	5
4.1.2 Test Procedure .....	5
4.1.3 EUT RF Exposure Evaluation .....	6

### 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
<b>XIAO nRF54L15</b>	Without anything on U8 and U7
<b>XIAO MG24 Sense</b>	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:**

- ① EIRP=conducted power+antenna gain;
- ② ERP=EIRP-2.15
- ③ Only 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 \*\*\*