Certificate #4338.01

MPE Report

Report No.: STS2605399H01

Issued for

SHENZHEN MINEWSEMI CO., LTD

Room 402, Building C, Business Center, Gangzhilong Science Park, No. 8 QingLong Road, Qinghua Community, Longhua District, Shenzhen

Product Name:	Bluetooth low energy module
Brand Name:	MinewSemi
Model Name:	ME54BS62
Series Model(s):	N/A
FCC ID:	2BDJ6-ME54BS62
Test Standard:	FCC 47CFR §2.1091

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the ShenZhen STS Test Services Co., Ltd.

TEST REPORT

Applicant's Name ..... : SHENZHEN MINEWSEMI CO., LTD

Address ..... : Room 402, Building C, Business Center, Gangzhilong Science Park, No. 8 QingLong Road, Qinghua Community, Longhua District, Shenzhen

Manufacturer's Name ..... : SHENZHEN MINEWSEMI CO., LTD

Address ..... : Room 402, Building C, Business Center, Gangzhilong Science Park, No. 8 QingLong Road, Qinghua Community, Longhua District, Shenzhen

Product Description

Product Name ..... : Bluetooth low energy module

Brand Name ..... : MinewSemi

Model Name ..... : ME54BS62

Series Model(s) ..... : N/A

Test Standards ..... : FCC 47CFR §2.1091
447498 D01 Interim General RF Exposure Guidance v06

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Date of Test .....

Date of receipt of test item 2026-05-28

Date (s) of performance of tests ..... 2026-05-28 to 2026-06-12

Date of Issue 2026-06-12

Test Result ..... **Pass**

Testing Engineer : Aaron Bu

(Aaron Bu)

Technical Manager : Skylar. Li

(Skylar Li)

Authorized Signatory : Bovey Yang

(Bovey Yang)

SHENZHEN STS TEST SERVICES CO., LTD. TESTING APPROVAL

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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	2026-06-12	STS2605399H01	ALL	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

<table>
<tr><td>Product Name</td><td>Bluetooth low energy module</td></tr>
<tr><td>Brand Name</td><td>MinewSemi</td></tr>
<tr><td>Model Name</td><td>ME54BS62</td></tr>
<tr><td>Series Model(s)</td><td>N/A</td></tr>
<tr><td>Model Difference</td><td>N/A</td></tr>
<tr><td>Product Description</td><td>The EUT is a Bluetooth low energy module
<table>
<tr><td>Operation Frequency:</td><td>2402~2480 MHz</td></tr>
<tr><td>Modulation Type:</td><td>GFSK</td></tr>
<tr><td>Radio Technology:</td><td>BLE</td></tr>
<tr><td>Bluetooth Configuration:</td><td>BLE(Support 1M, 2M)</td></tr>
<tr><td>Number Of Channel:</td><td>40</td></tr>
<tr><td>Antenna Type:</td><td>PCB antenna</td></tr>
<tr><td>Antenna Gain (dBi)</td><td>-0.7</td></tr>
</table>
<table>
<tr><td>Operation Frequency:</td><td>2405~2480 MHz</td></tr>
<tr><td>Modulation Type:</td><td>O-QPSK</td></tr>
<tr><td>Radio Technology:</td><td>IEEE 802.15.4</td></tr>
<tr><td>Number Of Channel:</td><td>16</td></tr>
<tr><td>Antenna Type:</td><td>PCB antenna</td></tr>
<tr><td>Antenna Gain (dBi)</td><td>-0.7</td></tr>
</table></td></tr>
<tr><td>Power Rating</td><td>DC 3.3V</td></tr>
<tr><td>Adapter</td><td>N/A</td></tr>
<tr><td>Battery</td><td>N/A</td></tr>
<tr><td>Hardware Version</td><td>N/A</td></tr>
<tr><td>Software Version</td><td>N/A</td></tr>
</table>

1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : 101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.
Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b)
Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
3.0-30	1842/f	4.89/f	*(900/f²)
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1.34-30	824/f	2.19/f	*(180f²)
1500 – 100000	--	--	1.0

F= Frequency in MHz
Friss Formula
Friss Transmission Formula: Pd = (Pout * G) / (4*pi*r²)
Where
Pd = power density in mW/cm²
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416
R = Distance between observation point and the center of radiator in cm
If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.

2.3 TEST RESULT

Tune up

Mode	Detector	Tune up Power
BLE	PK	7±1dBm
IEEE 802.15.4(Thread，Zigbee)	PK	8±1dBm

Protocol	**Fre. (GHz)**	**Separation distance (cm)**	**Max Tune up power (dBm)**	**ANT Gain (dBi)**	**Max EIRP (dBm)**	**Max EIRP (mW)**	**Power Density (mW/cm²)**	**Limit (mW/cm²)**	**Ratio**	**Result**
BLE	2.480	20	9	-0.7	8.3	6.76	0.0013	1	0.0013	Pass
IEEE 802.15.4(Thread，Zigbee)	2.440	20	8	-0.7	7.3	5.37	0.0011	1	0.0011	Pass

Multiple transmission:

BLE + Zigbee =0.0013+0.0011=0.0024＜1

Note: 1. The Maxinum power is less than the limit, complies with the exemption requirements.

2. ERP = EIRP - 2.15

※※※※※END OF THE REPORT※※※※※