

SAR-based Exemption Estimation Report

Report Number	: 68.760.22.0602.01A	Date of Issue:	2022-09-07
Model / HVIN	: MLN-00, MLN-01, MLN-02, MLN-03		
Product Type	: Bluetooth Earbuds		
Applicant	: Cosonic Intelligent Technologies Co.,Ltd.		
Address	: 5th Floor,1st Building,No.6 South Industry Road, Songshan Lake Hi-tech Industrial, Development Zone, 523808 Dongguan, China		
Manufacturer	: Cosonic Intelligent Technologies Co.,Ltd.		
Address	: Songshan Lake Hi-tech Industrial, Development Zone, Songshan Lake Hi-tech Industrial, Development Zone, 523808 Dongguan, China		
Test Result	: ☒ Positive ☐ Negative		
Total pages including Appendices	: 8		

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2 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12&13, Zhiheng Wisdomland Business Park,
Guankou Erlu, Nantou, Nanshan District,
Shenzhen, 518052 China

FCC Designation Number: CN5009

FCC Registration No.: 514049

Telephone: 86 755 8828 6998

Fax: 86 755 8828 5299

3 Description of the Equipment Under Test

Product:	Bluetooth Earbuds
Model no.:	MLN-00
FCC ID:	2ALVK-MLN00
Trade Mark:	MOECEN, HONOR CHOICE
Rating:	5VDC, 0.5A
RF Transmission Frequency:	2402MHz-2480MHz
No. of Operated Channel:	40
Modulation:	GFSK
Antenna Type:	FPC Antenna
Antenna Gain:	-3.0dBi max for 2.4GHz
Description of the EUT:	The equipment under test is a Bluetooth Earbuds supports with 2.4GHz BR/EDR and BLE functions.

NOTE 1: The above EUT's information is declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

4 Test Specifications

Test Standards	
KDB 447498 D04	Interim General RF Exposure Guidance v01
§ 1.1307(b)(3)(i)(B)	SAR-based exemption formula

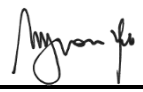
5 General Information

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Prepared By
Project Engineer

2022-09-07
Date

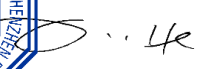
Myron Yu
Name

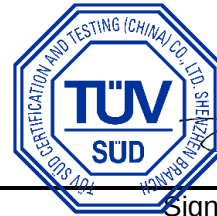

Signature

Approved By
Project Manager

2022-09-07
Date

Jessie He
Name


Signature



6 RF Exposure Requirements

For multiple RF sources: Multiple RF sources are exempt if:

- (A) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).
- (B) in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

7 RF Exposure Evaluation (FCC)

7.1 Calculation of exemption threshold power for Single Chain Transmitters

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 Pth (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). Pth is given by Formula (B.2).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

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

Mode	Rated RF Output Power (dBm)	Antenna Gain (dBi)	ERP (mW)	R (cm)	Pth (mW)	ERP<Pth ?
BR/EDR (2402MHz)	3.69	-3.0	1.17	0.5	2.79	Yes
BLE (2402MHz)	-4.96	-3.0	0.16	0.5	2.79	Yes

7.2 Calculation of Simultaneous Transmission

The sum of the ratios of the applicable terms for SAR-based shall be less than 1, to determine simultaneous transmission exposure compliance.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} < 1$$

Mode	P/Pth	Sum of the ratios	Limit
BR/EDR	0.42	0.48	1.0
BLE	0.06		

7.3 Conclusion

According to the table above, we can conclude that the limit percentage of above supporting frequency bands calculation results are less than 1, therefore, the product meets the requirements.