

RF Exposure Evaluation Report

Product : M12 RADIO+CHARGER
Trade mark : Milwaukee
Model/Type reference : 2951-20
Serial Number : N/A
Report Number : EED32O81468802
FCC ID : 2AO5X-BM1028M12
Date of Issue : Nov. 28, 2022
47 CFR Part 1.1307
47 CFR Part 2.1093
Test Standards : KDB447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

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Nov. 28, 2022

Check No.: 4841190922



2 Version

Version No.	Date	Description
00	Nov. 28, 2022	Original

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4 General Information

4.1 Client Information

Applicant:	GANZHOU DEHUIDA TECHNOLOGY CO., LTD
Address of Applicant:	Dehuida Science and Technology Park, Huoyanshan Road, Anyuan District, Ganzhou City, Jiangxi Province. P.R China.
Manufacturer:	GANZHOU DEHUIDA TECHNOLOGY CO., LTD
Address of Manufacturer:	Dehuida Science and Technology Park, Huoyanshan Road, Anyuan District, Ganzhou City, Jiangxi Province. P.R China.
Factory:	Shenzhen Dehuida Intelligent Technology Co., Ltd
Address of Factory:	No.121, Qiankeng Road, Qiankeng Community, Fucheng Street, Longhua District, Shenzhen City, P.R. China

4.2 General Description of EUT

Product Name:	M12 RADIO+CHARGER
Model No.(EUT):	2951-20
Trade Mark:	Milwaukee

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz
Modulation Type:	GFSK, π /4DQPSK, 8DPSK
Test Power Grade:	Default
Test Software of EUT:	FCC_assist_1.0.2.2
Antenna Type:	PCB Antenna
Antenna Gain:	-0.98dBi
Power Supply:	AC 120V
Sample Received Date:	Sep. 19, 2022
Sample tested Date:	Sep. 19, 2022 to Oct. 25, 2022
Remark:	Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

4.4 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

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 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.

5.1.2 Test Procedure

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

5.1.3 EUT RF Exposure Evaluation

For Stand alone:

For BT:

Frequency (MHz)	Max. Conducted Output power (dBm)	Tune up tolerance (dBm)	Max.tune up power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2480	4.14	3.5±1.5	5.00	-0.98	5.00	2.85	1.928	≤3060	PASS

Note:

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

Result:compliant

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***