

RF Exposure Evaluation Report

Product : MAXDRIVE
Trade mark : MATCO TOOLS
Model/Type reference : MAXDRIVE
Serial Number : N/A
Report Number : EED32M00031202
FCC ID : 2AUKMMAXDRIVE
Date of Issue : Mar. 20, 2020
Test Standards : IEEE C95.1 2005
KDB 447498 D03
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091
Test result : PASS

Prepared for:

Matco Tools

4403 Allen Rd. Stow, OH 44224 USA

Prepared by:

**Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China**

TEL: +86-755-3368 3668

FAX: +86-755-3368 3385

Compiled by:

Smile Zhong

Smile Zhong

Reviewed by:

Ware Xin

Ware Xin

Approved by:

Sam Chuang

Sam Chuang

Date:

Mar. 20, 2020



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2 Version

Version No.	Date	Description
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4 General Information

4.1 Client Information

Applicant:	Matco Tools
Address of Applicant:	4403 Allen Rd. Stow, OH 44224 USA
Manufacturer:	Matco Tools
Address of Manufacturer:	4403 Allen Rd. Stow, OH 44224 USA

4.2 General Description of EUT

Product Name:	MAXDRIVE
Model No.(EUT):	MAXDRIVE
Trade Mark:	MATCO TOOLS
EUT Supports Radios application	5.0.1 BT Single mode

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz
Modulation Type:	GFSK
Number of Channels:	40
Test Power Grade:	Default
Test Software of EUT:	DTM Tester
Antenna Type:	Chip antenna
Antenna Gain:	2.08 dBi
Power Supply:	DC 12V
Max Conducted Peak Output Power:	-1.67dBm The Max Conducted Peak Output Power data refer to the report EED32L00200301
Sample Received Date:	Jul. 25, 2019
Sample tested Date:	Jul. 25, 2019 to Aug. 29, 2019
<p>The tested sample(s) and the sample information are provided by the client. This report only change the product name, model name, Trade mark, Applicant's name & address, Manufacturer's name & address and color of the enclosure, All test data come from the report of No. EED32L00200302.</p>	

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 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

5.2 Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

Bluetooth:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
19	2440	0.68	1.61	20	0.0002	1

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32M00031201 or EUT external and internal photos.

*** End of Report ***

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