Radio Test Report

Report No.: CTA231129004H01

Issued for

TOEC Technology CO., LTD.

No.6 Taishan Road, Hexi district, Tianjin, China

Product Name:	Portable Printer
Brand Name:	TOEC
Model Name:	OEP103R
Series Model(s):	N/A
FCC ID:	Y9K-OEP103R
Test Standard:	FCC 47CFR §2.1091

TEST REPORT

Applicant's Name	:	TOEC Technology CO., LTD.
Address	:	No.6 Taishan Road, Hexi district, Tianjin, China
Manufacturer's Name	:	TOEC Technology CO., LTD.
Address	:	No.6 Tanshan Road, Hexi district, Tianjin China
Product Description		
Product Name	:	Portable Printer
Brand Name	:	TOEC
Model Name	:	OEP103R
Series Model(s)	:	N/A
Test Standards	:	FCC 47CFR §2.1091 447498 D04 Interim General RF Exposure Guidance v01

Date of Test	:	
Date of receipt of test item	:	12 Oct. 2023
Date (s) of performance of tests	:	12 Oct. 2023 ~ 23 Oct. 2023
Date of Issue	:	23 Oct. 2023
Test Result	:	**Pass**

Testing Engineer : Zoey Cao

(Zoey Cao)

Technical Manager : Amy Wen

(Amy Wen)

Authorized Signatory : Eric Wang

(Eric Wang)

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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	23 Oct. 2023	CTA231129004H01	ALL	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

<table>
<tr><td>Product Name</td><td>Portable Printer</td></tr>
<tr><td>Brand Name</td><td>TOEC</td></tr>
<tr><td>Model Name</td><td>OEP103R</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 Portable Printer
<table>
<tr><td>Operation Frequency:</td><td>2402~2480 MHz</td></tr>
<tr><td>Modulation Type:</td><td>GFSK</td></tr>
<tr><td>Antenna gain:</td><td>0dBi</td></tr>
<tr><td>Antenna Designation:</td><td>PCB Antenna</td></tr>
</table></td></tr>
<tr><td>Rating</td><td>Input: DC14V, 6A</td></tr>
<tr><td>Adapter</td><td>Input: 100-240V~ 50/60Hz 1.7A MAX
Output: 14V DC, 6A</td></tr>
<tr><td>Hardware Version</td><td>V1.0</td></tr>
<tr><td>Software Version</td><td>V1.0</td></tr>
</table>

1.2 TEST FACTORY

Shenzhen CTA Testing Technology Co., Ltd.
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,Fuhai Street, Bao'an District, Shenzhen, China

FCC test Firm Registration Number: 517856

IC test Firm Registration Number: 27890

A2LA Certificate No.: 6534.01

IC CAB ID: CN0127

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/cm^2)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz
Friss Formula
Friss Transmission Formula: $Pd = (Pout * G) / (4*pi*r^2)$
Where
Pd = power density in mW/cm^2
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

Turn up

Mode	Detector	Turn up Power
BT	AV	0±1dBm
BLE	AV	0±1dBm

Protocol	Fre. (KHz)	Separation distance (cm)	Max Turn up power (dBm)	ANT Gain (dBi)	Max EIRP (dBm)	Max EIRP (mW)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio	Result
BT	2441	20	1	0	1	1.259	0.0003	1	0.0003	Pass
BLE	2440	20	1	0	1	1.259	0.0003	1	0.0003	Pass

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

2. ERP = EIRP - 2.15

※※※※※END OF THE REPORT※※※※※