

Radio Test Report

Report No.: STS2308322H02

Issued for

TOEC Technology CO., LTD.

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

Product Name: TRANSFER MACHINE

Brand Name: TOEC

Model Name: MT200UW

Series Model(s): N/A

FCC ID: Y9K-MT200UW

Test Standard: FCC 47CFR §2.1091

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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 : TRANSFER MACHINE

Brand Name : TOEC

Model Name : MT200UW

Series Model(s) : N/A

Test Standards : FCC 47CFR §2.1091

447498 D04 Interim General RF Exposure Guidance v01

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Date of Test :

Date of receipt of test item : 16 Aug. 2023

Date (s) of performance of tests : 16 Aug. 2023~ 24 Aug. 2023

Date of Issue : 24 Aug. 2023

Test Result : **Pass**

Testing Engineer : *Aaron Bu*

(Aaron Bu)

Technical Manager : *Sean She*

(Sean she)

Authorized Signatory : *Chris Chen*

(Chris Chen)





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	24 Aug. 2023	STS2308322H02	ALL	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	TRANSFER MACHINE									
Brand	TOEC									
Model Number	MT200UW									
Series Model(s)	N/A									
Model Difference	N/A									
Product Description	<p>The EUT is TRANSFER MACHINE</p> <table border="1"><tr><td>Operation Frequency:</td><td>802.11b/g/n 20: 2412~2462 MHz 802.11n(40MHz):2422~2452MHz</td></tr><tr><td>Modulation Type:</td><td>802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM</td></tr><tr><td>Antenna gain:</td><td>2dBi</td></tr><tr><td>Antenna Designation:</td><td>FPC</td></tr></table>		Operation Frequency:	802.11b/g/n 20: 2412~2462 MHz 802.11n(40MHz):2422~2452MHz	Modulation Type:	802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM	Antenna gain:	2dBi	Antenna Designation:	FPC
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Antenna gain:	2dBi									
Antenna Designation:	FPC									
Rating	Input:100~240VAC, 50/60Hz, 1.2A									
Hardware Version	V0.1									
Software Version	V1.0.1									

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/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: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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
2.4G WLAN	AV	17±1dBm

Protocol	Fre. (GHz)	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
2.4G WLAN	2462	20	16.72	2	20	100	0.0199	1	0.0199	Pass

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

2. ERP = EIRP - 2.15

*****END OF THE REPORT*****