



1 Cover Page

RF MPE REPORT

Application No.: SHEM1908016367CR
FCC ID: 2AL5H-EHT1020
Applicant: EASTPARTS INTERNATIONAL LTD
Address of Applicant: CHAOTANG INDUSTRIAL ZONE, ZONGHAN STREET, CIXI CITY, ZHEJIANG PROVINCE, CHINA
Manufacturer: EASTPARTS INTERNATIONAL LTD
Address of Manufacturer: CHAOTANG INDUSTRIAL ZONE, ZONGHAN STREET, CIXI CITY, ZHEJIANG PROVINCE, CHINA
Factory: EASTPARTS INTERNATIONAL LTD
Address of Factory: CHAOTANG INDUSTRIAL ZONE, ZONGHAN STREET, CIXI CITY, ZHEJIANG PROVINCE, CHINA
Equipment Under Test (EUT):
EUT Name: SMART DIRECT TRAINER
Model No.: EHT-1020
Add Model No.: LSD9200
Standard(s) : FCC Rules 47 CFR §2.1093
KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2019-08-18
Date of Test: 2019-09-02 to 2019-09-06
Date of Issue: 2019-09-17

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Parlam Zhan

Parlam Zhan
E&E Section Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing Center Electronic

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Revision Record			
Version	Description	Date	Remark
00	Original	2019-09-17	/

Authorized for issue by:				
				
		Micheal Niu / Project Engineer		
				
		Parlam Zhan / Reviewer		



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3 General Information

3.1 General Description of E.U.T.

Power supply:	AC 120V by adapter Adapter: model:DSS65-1205000 INPUT: AC 100-240V~2A 50/60Hz OUTPUT: DC 12V/5A
Test voltage:	AC 120V/60Hz

3.2 Technical Specifications

BLE

Antenna Gain	0.02dBi
Antenna Type	PCB Antenna
Channel Spacing	2MHz
Modulation Type	GFSK
Number of Channels	40
Operation Frequency	2402MHz to 2480MHz

2457MHz

Number of Channels	1
Operation Frequency	2457MHz
Antenna Type:	PCB Antenna
Antenna Gain:	0.02 dBi



3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shanghai Branch
588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China
Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

No tests were sub-contracted.

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **NVLAP (Certificate No. 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program(NVLAP). Certificate No. 201034-0.

- **FCC –Designation Number: CN5033**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

Designation Number: CN5033. Test Firm Registration Number: 479755.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

IC Registration No.: 8617A-1. CAB Identifier: CN0020.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max power of channel})/(\text{min test separation distance})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

For 2.4G band device, the limit of worse case is

$$P_{\text{max}} \leq 3.0 \cdot D_{\text{min}} / \sqrt{f} = 3 \cdot 5 / \sqrt{2.480} = 9.525 \text{ mW}$$

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM190801636701 & SHEM190801636702.

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
BLE	2402	-8.15	0.15
	2440	-9.07	0.12
	2480	-10.04	0.10

2457MHz

Freq. (MHz)	Result Level (dBμV/m)	Result Level (dBm)	Result Level (mW)	Polarity
2457	87.72	-7.48	0.18	Horizontal
2457	81.07	-14.13	0.04	Vertical



5.2 MPE Calculation

For BLE

The Max Conducted Peak Output Power is 0.15mW. The best case gain of the antenna is 0.02dBi.
0dBi logarithmic terms convert to numeric result is nearly 1.005

$$E.I.R.P.=P*G=0.151mW$$

For DXT

The Max EIRP is 0.18mW.

The BT and the DXT modules can simultaneous transmitting at frequency 2.4GHz band. But the maximum rate of MPE is $0.151/9.525+0.18/9.525=0.035\leq 1.0$. according to the KDB447498 the device is exclusion from SAR test.

--End of the Report--