



## RF EXPOSURE REPORT

<b>Applicant</b>	:	HANSHOW PTE. LTD.
<b>Address</b>	:	138 ROBINSON ROAD #02-33 OXLEY TOWER SINGAPORE(068906)
<b>Equipment under Test</b>	:	ESL Controller
<b>Model No.</b>	:	HS_C09983
<b>Trade Mark</b>	:	N/A
<b>FCC ID</b>	:	2BPF3-C09983
<b>Manufacturer</b>	:	HANSHOW PTE. LTD.
<b>Address</b>	:	138 ROBINSON ROAD #02-33 OXLEY TOWER SINGAPORE(068906)
<b>Report No.</b>	:	DDT-B25061701-6E04
<b>Issue Date</b>	:	Jul. 02, 2025
<b>Issued By</b>	:	Tianjin Dongdian Testing Service Co., Ltd.
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# REPORT

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## TEST REPORT DECLARE

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**Standard Used:** Code of Federal Regulations 47 Subchapter A, Part 1, Subpart 1 §1.1310

**We Declare:**

The equipment described above is assessed by Tianjin Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Tianjin Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assessments.

**After evaluation, our opinion is that the equipment is in accordance with above standard.**

<b>Report No:</b>	DDT-B25061701-6E04		
<b>Date of Receipt:</b>	Jun. 18, 2025	<b>Date of Test:</b>	Jun. 18, 2025



**Prepared By:**

Sunny Zhang

**Sunny Zhang/Engineer**

**Approved By:**

Aaron Zhang

**Aaron Zhang/Manager**

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Tianjin Dongdian Testing Service Co., Ltd.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

## Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Jul. 02, 2025	

## 1. General information

### 1.1. Description of Equipment

EUT* Name	:	ESL Controller
Model Number	:	HS_C09983
EUT function description	:	Please reference user manual of this device
Power Supply	:	DC 5V by USB
Radio Specification	:	Bluetooth (LE)/2.4G SRD
Operation Frequency	:	2402 MHz - 2480 MHz
Modulation	:	GFSK
Data Rate	:	1 Mbps for BLE, 500 kbps for 2.4G SRD
Antenna Type	:	BLE: PIFA antenna, maximum PK gain: 2.52 dBi 2.4G SRD: PCB antenna 1, maximum PK gain: 2.50 dBi PCB antenna 2, maximum PK gain: 3.80 dBi PCB antenna 3, maximum PK gain: 3.08 dBi
Exposure category	:	General population/uncontrolled environment
Device Type	:	Mobile Device

## 1.2. Assess laboratory

Tianjin Dongdian Testing Service Co., Ltd.

Address: Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park Development Area, Tianjin, China.

Tel: +86-22-58038033, <http://www.ddttest.com>, Email: [ddt@dqddt.com](mailto:ddt@dqddt.com)

**NVLAP** (National Voluntary Laboratory Accreditation Program) CODE: 500036-0

**CNAS** (China National Accreditation Service for Conformity Assessment) CODE: L13402

**FCC** Designation Number: CN5004; FCC Test Firm Registration Number: 368676

**ISED** (Innovation, Science and Economic Development Canada) Company Number: 27768

Conformity Assessment Body Identifier: CN0125

**VCCI** Facility Registration Number: C-20089, T-20093, R-20125, G-20122

## 2. RF Exposure Evaluation

### 2.1. Requirement

According 1.1307(b)(3)(i)

For single RF sources (i.e., any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

(A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

(B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold  $P_{th}$  (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive).  $P_{th}$  is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left( \frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

$d$  = the separation distance (cm);

## 2.2. Estimation result

According ANSI C63.10-2020, Convert the electric field strength to an equivalent EIRP using the following relationship:

$$\text{EIRP} = E + 20\log(d) - 104.8$$

where

E is the electric field strength in  $\text{dB}\mu\text{V}/\text{m}$

EIRP is the equivalent isotropically radiated power in  $\text{dBm}$

d is the specified measurement distance in m

2.4G SRD

Mode	Frequency (MHz)	Maximum PK Field Strength ( $\text{dB}\mu\text{V}/\text{m}$ )	EIRP (dBm)
GFSK Ant1	2402	89.74	-5.49
GFSK Ant1	2441	89.69	-5.54
GFSK Ant1	2480	90.25	-4.98
GFSK Ant2	2402	89.68	-5.55
GFSK Ant2	2441	89.80	-5.43
GFSK Ant2	2480	90.23	-5.00
GFSK Ant3	2402	89.62	-5.61
GFSK Ant3	2441	90.02	-5.21
GFSK Ant3	2480	90.14	-5.09

2.4G SRD Max turn-up EIRP is  $-3\text{dBm} = 0.5\text{mW} < \text{ERP}_{20\text{cm}} 3060\text{mW}$

BLE Max turn-up Conducted Power is  $7\text{dBm}$ , Max turn-up EIRP is  $9.52\text{dBm} = 8.95\text{mW} < \text{ERP}_{20\text{cm}} 3060\text{mW}$

Note: The estimation distance is 20 cm, BLE and 2.4G SRD not support simultaneous emission, 2.4G SRD not support MIMO.

Conclusion: The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

**END OF REPORT**