Radio Test Report

Report No.:STS2503118W02

Issued for

Wuxi iData Technology Co., Ltd.

Floor 11, Building B1, No.999 Gaolang East Road, Wuxi City, P.R.C.

Product Name:	Desktop RFID Reader-writer
Brand Name:	iData
Model Name:	iData R400
Series Model(s):	See page seven
FCC ID:	2ADE3IDATAR400
Test Standards:	FCC Part15.249

TEST REPORT

Applicant's Name .....:	Wuxi iData Technology Co., Ltd.
Address.....:	Floor 11, Building B1, No.999 Gaolang East Road, Wuxi City, P.R.C.
Manufacturer's Name.....:	Wuxi iData Technology Co., Ltd.
Address.....:	Floor 11, Building B1, No.999 Gaolang East Road, Wuxi City, P.R.C.

Product Description

Product Name .....:	Desktop RFID Reader-writer
Brand Name .....:	iData
Model Name.....:	iData R400
Series Model(s) .....:	See page seven
Test Standards.....:	FCC Part 15.249
Test Procedure.....:	ANSI C63.10-2020

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

Date of Test.....:	
Date of receipt of test item.....:	19 Mar. 2025
Date of performance of tests ..:	19 Mar. 2025~22 Apr. 2025
Date of Issue.....:	22 Apr. 2025
Test Result .....:	**Pass**

Testing Engineer : Aaron Bu

(Aaron Bu)

Technical Manager : Skylar Li

(Skylar Li)

Authorized Signatory : Bovey Yang

(Bovey Yang)

SHENZHEN STS TEST SERVICES CO., LTD. TESTING APPROVAL

Table of Contents **Page**

Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	22 Apr. 2025	STS2503118W02	ALL	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part 15.249 , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.203	Antenna Requirement	PASS	--
15.249	Radiated Spurious Emission	PASS	--
15.249	Radiated Band Edge Emission	PASS	--
15.249	Field Strength of fundamental	PASS	--
15.215(c)	20dB Bandwidth	PASS	--

NOTE:

(1) 'N/A' denotes test is not applicable in this Test Report.

(2) All tests are according to ANSI C63.10-2020.

1.1 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

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ± **U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	RF output power, conducted	±0.755dB
2	Unwanted Emissions, conducted	±2.874dB
3	All emissions, radiated 9K-30MHz	±3.80dB
4	All emissions, radiated 30M-1GHz	±4.18dB
5	All emissions, radiated 1G-6GHz	±4.90dB
6	All emissions, radiated>6G	±5.24dB
7	Conducted Emission (9KHz-150KHz)	±2.19dB
8	Conducted Emission (150KHz-30MHz)	±2.53dB
9	Occupied Channel Bandwidth	±3.5%
10	Power Spectral Density, conducted	±1.245dB
11	Duty Cycle	±3.2%

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Desktop RFID Reader-writer
Brand Name	iData
Model Name	iData R400
Series Model(s)	iData R410, R400, R410, R400-08, R400-10, R400-16, R400-32, R400-08A, R400-08B, R400-08C, R400-08D, R400-08E, R400-08F, R400-08G, R400-08H, R400-08i, R400-08J, R400-08K, R400-08L, R400-08M, R400-08N, R400-08X, R400-08Y, R400-08Z, R408A, R408B, R408C, R408D, R408E, R408F, R408G, R408H, R408i, R408J, R408K, R408M, R408N, R408X, R408Y, R408Z, R408 plus, R408 Ultra, R408 pro, R408 plus-04, R408 Ultra-04, R408 pro-04, R410A, R410B, R410C, R410D, R410E, R410F, R410G, R410H, R410i, R410J, R410K, R410M, R410N, R410X, R410Y, R410Z, R410plus, R410 Ultra, R410 pro
Model Difference	Only different in model name
Product Description	The EUT is a Desktop RFID Reader-writer Operation Frequency: 902.75 MHz -927.25 MHz Modulation Type: ASK Antenna Designation: flat panel Antenna Gain(Peak): -5dBi Based on the application, features, or specification exhibited in User Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User Manual.
Power Rating	Input: DC12A/2A; DC24V/1A; POE AT(48~57V/0.5A) Output: DC12V/0.5A；DC5V/0.5A
Adapter	Model: TPQ-228F120200UW01 Input: 100-240V~ 50/60Hz 0.8A Output:12.0VDC 2.0A 24.0W
Battery	N/A
Hardware version number	R400V1.1
Software version number	HV1.0SV1.03
Connecting I/O Port(s)	Please refer to the Note 1.

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2. Ports 1 to 4 of the prototype have all been tested. This report only shows the data of the worst port 1. All ports cannot be transmitted simultaneously

2.

Channel List									
Channel	Fre. (MHz)	Channel	Fre. (MHz)	Channel	Fre. (MHz)	Channel	Fre. (MHz)	Channel	Fre. (MHz)
1	902.75	11	907.75	21	912.75	31	917.75	41	922.75
2	903.25	12	908.25	22	913.25	32	918.25	42	923.25
3	903.75	13	908.75	23	913.75	33	918.75	43	923.75
4	904.25	14	909.25	24	914.25	34	919.25	44	924.25
5	904.75	15	909.75	25	914.75	35	919.75	45	924.75
6	905.25	16	910.25	26	915.25	36	920.25	46	925.25
7	905.75	17	910.75	27	915.75	37	920.75	47	925.75
8	906.25	18	911.25	28	916.25	38	921.25	48	926.25
9	906.75	19	911.75	29	916.75	39	921.75	49	926.75
10	907.25	20	912.25	30	917.25	40	922.25	50	927.25

3.

Test channel List		
Test Channel	EUT Channel	Test Frequency (MHz)
lowest	CH01	902.75
middle	CH26	915.25
highest	CH50	927.25

Note: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.

2.2 DESCRIPTION OF THE TEST MODES

For conducted test items and radiated spurious emissions

Each of these EUT operation mode(s) or test configuration mode(s) mentioned below was evaluated respectively.

Pretest Mode	Description	Data/Modulation
Mode 1	TX/CH01	ASK
Mode 2	TX/CH26	ASK
Mode 3	TX/CH50	ASK

Note:

(1) All above mode have been measurement, only worst data was reported.

For AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 4 : Keeping TX

2.3 TEST SOFTWARE AND POWER LEVEL

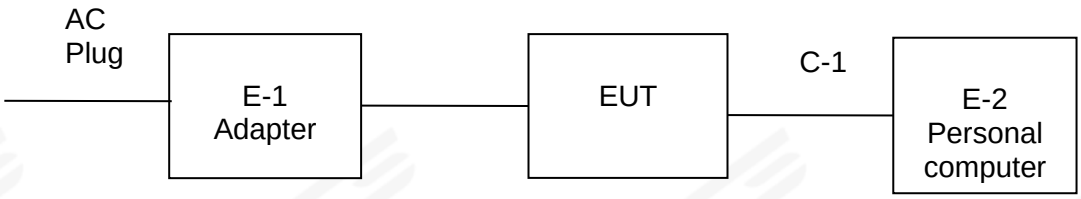
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

RF Function	Type	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
Other SRD	900MHz	ASK	-5	Default	RFID Demo V1.6.2

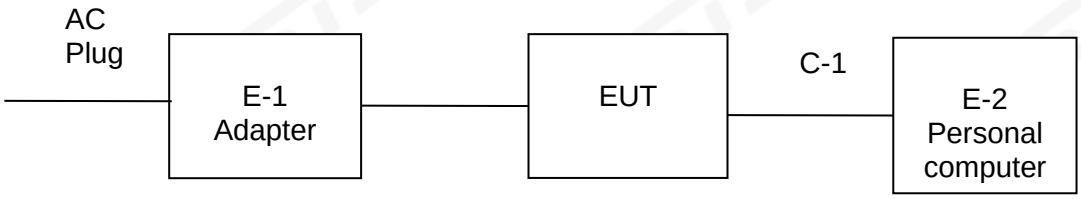
2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters.

Radiated Spurious Emission Test



Conducted Emission Test



2.5 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Note
E-1	Personal computer	DELL	Inspiron 3501	N/A
E-2	Adapter	iData	TPQ-228F120200UW01	N/A
C-1	LAN Cable	ASUS	RJ45	N/A

Item	Shielded Type	Ferrite Core	Length	Note
N/A	N/A	N/A	N/A	N/A

Note:

(1) For detachable type I/O cable should be specified the length in cm in『Length』column.

2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

RF Radiation Test Equipment					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2025.02.24	2026.02.23
Pre-Amplifier(0.1M-3GHz)	EM	EM330	060665	2025.02.22	2026.02.21
Pre-Amplifier(1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2024.09.23	2025.09.22
Pre-Amplifier(18G-40GHz)	SKET	LNPA_1840-50	SK2018101801	2025.02.22	2026.02.21
Active loop Antenna	ZHINAN	ZN30900C	16035	2025.02.25	2026.02.24
Bilog Antenna	TESEQ	CBL6111D	34678	2024.09.30	2025.09.29
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2023.09.24	2025.09.23
Horn Antenna	A-INFOMW	LB-180400-KF	J211020657	2023.10.10	2025.10.09
Positioning Controller	MF	MF-7802	MF-780208587	N/A	N/A
Signal Analyzer	R&S	FSV 40-N	101823	2024.09.23	2025.09.22
Switch Control Box	N/A	N/A	N/A	N/A	N/A
Filter Box	BALUN Technology	SU319E	BL-SZ1530051	N/A	N/A
Antenna Mast	MF	MFA-440H	N/A	N/A	N/A
Turn Table	MF	SC100_1	60531	N/A	N/A
AC Power Source	APC	KDF-11010G	F214050035	N/A	N/A
DC power supply	HONGSHENGFENG	DPS-305AF	17064939	2024.09.23	2025.09.22
Test SW	EZ-EMC	Ver.STSLAB-03A1 RE			
Conduction Test Equipment					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2024.09.24	2025.09.23
Limtter	CYBERTEK	EM5010	N/A	2024.09.24	2025.09.23
LISN	R&S	ENV216	101242	2024.09.24	2025.09.23
LISN	EMCO	3810/2NM	23625	2024.09.24	2025.09.23
Temperature & Humidity	SW-108	SuWei	N/A	2025.02.24	2026.02.23
Test SW	EZ-EMC	Ver.STSLAB-03A1 CE			
RF Connected Test					
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Signal Analyzer	Agilent	N9020A	MY51510623	2025.02.22	2026.02.21
Temperature & Humidity	SW-108	SuWei	N/A	2025.02.24	2026.02.23

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

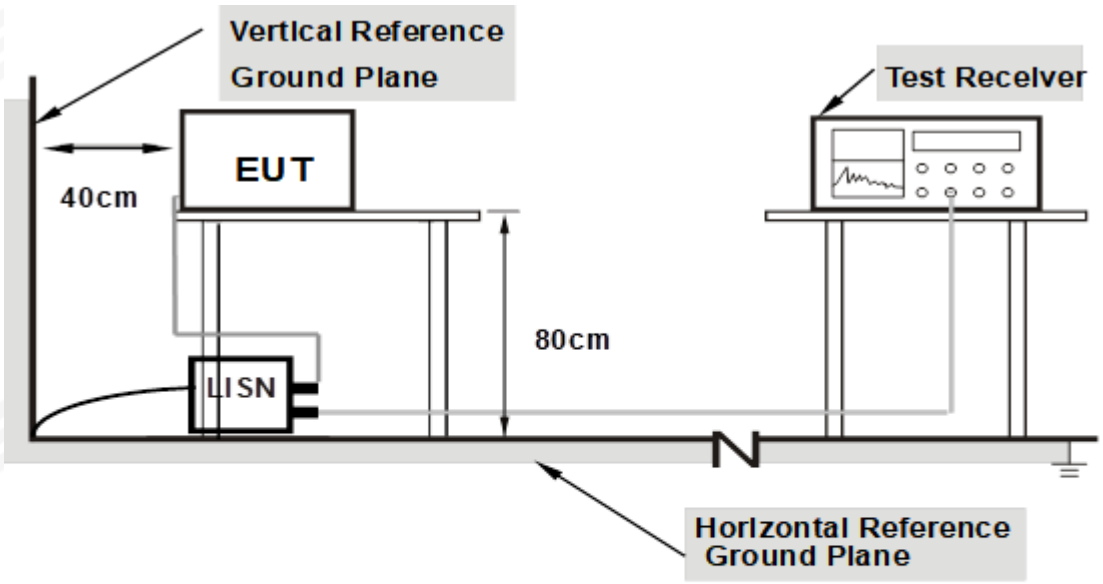
The following table is the setting of the receiver

Receiver Parameters	**Setting**
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN is at least 80 cm from the nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 TEST SETUP



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.1.4 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.