



MPE Report

Report No.: STS2412041H01

Issued for

Zhejiang Hyxi Technology Co., Ltd.

Room 216, Block A, Building 1, No. 57 Jiang'er Road,
Changhe Street, Binjiang District, Hangzhou, Zhejiang
Province, China

Product Name: Data Communication Stick

Brand Name:  HYXiPOWER

Model Name: HYX-DCS-4G-A

Series Model(s): N/A

FCC ID: 2BDBN-DCSA4GG1

Test Standard: FCC 47CFR §2.1091

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.

**TEST REPORT**

Applicant's Name: Zhejiang Hyxi Technology Co., Ltd.
Address: Room 216, Block A, Building 1, No. 57 Jiang'er Road, Changhe Street, Binjiang District, Hangzhou, Zhejiang Province, China
Manufacturer's Name: Zhejiang Hyxi Technology Co., Ltd.
Address: Room 216, Block A, Building 1, No. 57 Jiang'er Road, Changhe Street, Binjiang District, Hangzhou, Zhejiang Province, China

Product Description

Product Name: Data Communication Stick
Brand Name: **HYXiPOWER**
Model Name: HYX-DCS-4G-A
Series Model(s): N/A

Test Standards: FCC 47CFR §2.1091
447498 D04 Interim General RF Exposure Guidance v01

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: 05 Dec. 2024
Date (s) of performance of tests: 05 Dec. 2024 ~ 25 Dec. 2024
Date of Issue: 25 Dec. 2024
Test Result: **Pass**

Testing Engineer :

(Lenon Hou)

Technical Manager :

(Tony Liu)

Authorized Signatory :

(Bovey Yang)





TABLE OF CONTENTS

1. GENERAL INFORMATION	5
1.1 GENERAL DESCRIPTION OF THE EUT	5
1.2 TEST FACTORY	6
2. FCC 47CFR §2.1091 REQUIREMENT	7
2.1 TEST STANDARDS	7
2.2 LIMIT	7
2.3 TEST RESULT	8

**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	25 Dec. 2024	STS2412041H01	ALL	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Data Communication Stick	
Brand Name		
Model Name	HYX-DCS-4G-A	
Series Model(s)	N/A	
Model Difference	N/A	
Product Description	The EUT is Data Communication Stick	
	Operation Frequency:	TX: WCDMA B2: 1850-1910 MHz WCDMA B5: 824-849 MHz WCDMA B4: 1710-1755 MHz LTE Band 2:1850~1910MHz LTE Band 4:1710~1755MHz LTE Band 5:824~849MHz LTE Band 12:699~716MHz LTE Band 13:777~787MHz LTE Band 17: 704-716 MHz LTE Band 66:1710~1780MHz LTE Band 71: 663-698 MHz RX: WCDMA B2: 1930-1990 MHz WCDMA B5: 869-894 MHz WCDMA B4: 2110-2155 MHz LTE Band 2:1930 ~1990MHz LTE Band 4:2110~2155MHz LTE Band 5:869~894MHz LTE Band 12:729~746MHz LTE Band 13:746~756 MHz LTE Band 17: 734-746 MHz LTE Band 66:2110~2200MHz LTE Band 71: 617-652MHz
	Modulation Type:	WCDMA: QPSK; HSDPA:QPSK/16QAM; HSUPA:BPSK LTE: QPSK /16QAM
	Antenna gain:	WCDMA B2/B4:1.87dBi WCDMA B5:1.25dBi LTE Band 2/B4/B66:1.87dBi LTE Band 5/B12/B13/B17/B71:1.25dBi
	Antenna Designation:	PIFA
Power Rating	Input:DC 5V 1A	
Adapter	N/A	
Battery	N/A	
Hardware Version	V1.0	
Software Version	V1.0	



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
WCDMA Band 2	AV	24±1dBm
WCDMA Band 4	AV	24±1dBm
WCDMA Band 5	AV	24±1dBm
LTE Band 2	AV	24±1dBm
LTE Band 4	AV	24±1dBm
LTE Band 5	AV	24±1dBm
LTE Band 12	AV	24±1dBm
LTE Band 13	AV	24±1dBm
LTE Band 17	AV	24±1dBm
LTE Band 66	AV	24±1dBm
LTE Band 71	AV	24±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
WCDMA B2	1850	20	25	1.87	26.87	486.4	0.097	1	0.0968	Pass
WCDMA B4	1710	20	25	1.87	26.87	486.4	0.097	1	0.0968	Pass
WCDMA B5	824	20	25	1.25	26.25	421.7	0.084	0.549	0.1527	Pass
LTE B2	1850	20	25	1.87	26.87	486.4	0.097	1	0.0968	Pass
LTE B4	1710	20	25	1.87	26.87	486.4	0.097	1	0.0968	Pass
LTE B5	824	20	25	1.25	26.25	421.7	0.084	0.549	0.1527	Pass
LTE B12	699	20	25	1.25	26.25	421.7	0.084	0.466	0.1800	Pass
LTE B13	777	20	25	1.25	26.25	421.7	0.084	0.518	0.1620	Pass
LTE B17	704	20	25	1.25	26.25	421.7	0.084	0.469	0.1788	Pass
LTE B66	1710	20	25	1.87	26.87	486.4	0.097	1	0.0968	Pass
LTE B71	663	20	25	1.25	26.25	421.7	0.084	0.442	0.1898	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