RADIO TEST REPORT

Report No: STS2108108H02

Issued for

HANK SMART TECH CO., LTD

201, Bldg 15, Asia Industrial Park, Fengmen Rd., Gangtou Community, Bantian St., Longgang Dist., Shenzhen, China, 518129

Product Name:	Wi-Fi Flood Sensor
Brand Name:	N/A
Model Name:	HKSWL-FLD08
Series Model:	N/A
FCC ID:	2AXIE-FLD08
Test Standard:	FCC 47CFR §2.1091

Shenzhen STS Test Services Co., Ltd.
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Test Report Certification

Applicant's Name..... :	HANK SMART TECH CO., LTD
Address ..... :	201, Bldg 15, Asia Industrial Park, Fengmen Rd., Gangtou Community, Bantian St., Longgang Dist., Shenzhen, China, 518129
Manufacturer's Name ..... :	HANK SMART TECH CO., LTD
Address ..... :	201, building 15, Asia Industrial Park, Fengmen Road, Gangtou community, Bantian street, Longgang District, Shenzhen City, Guangdong Province, China, 518129

Product Description

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Standards..... :	FCC 47CFR §2.1091

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Date of Test..... :	
Date of receipt of test item ..... :	17 Aug. 2021
Date (s) of performance of tests..... :	17 Aug. 2021 ~ 30 Aug. 2021
Date of Issue..... :	30 Aug. 2021
Test Result ..... :	**Pass**

Testing Engineer : Chris Chen

(Chris Chen)

Technical Manager : Sean She

(Sean she)

Authorized Signatory : Vita Li

(Vita Li)

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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	30 Aug. 2021	STS2108108H02	ALL	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Wi-Fi Flood Sensor
Brand Name	N/A
Model Name	HKSWL-FLD08
Series Model	N/A
Model Difference	N/A
Product Description	The EUT is Wi-Fi Flood Sensor Operation Frequency: 802.11b/g/n 20: 2412~2462 MHz Modulation Type: 802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM): BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM): BPSK,QPSK,16-QAM,64-QAM Antenna gain: 0dBi Antenna Designation: PCB Antenna
Rating	Input: DC 3V from AAA*2 Battery
Battery	Rated Voltage:1.5V
Hardware version number	V1.0
Software version number	V1.0.1

1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong 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: $Pd = (Pout * G) / (4*pi*r^2)$

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 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 EUT OPERATION CONDITION

EUT was enabled to transmit and receive at lowest, middle and highest channels.

2.4 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.

2.5 TEST RESULT

Turn up

Mode	Detector	Turn up Power
802.11b	AV	9±1dBm

ANT Gain (G)

2402-2483.5MHz: 0dBi (gain of antenna in linear scale=1)

Protocol	Max Turn up Power (dBm)	Max Turn up Power (mW)	ANT Gain(gain of antenna in linear scale)	Power Density (mW/cm²)	Limit (mW/cm²)	Result
802.11b	10	10.00	1	0.002	1	Pass

※※※※※END OF THE REPORT※※※※※