Shenzhen Huatongwei International Inspection Co., Ltd.
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MPE TEST REPORT

Report Reference No. ..... :	**TRE1702002902** R/C…….: 52994
FCC ID ..... :	**2ABUBSIS8800-U**
Applicant's name ..... :	**SHENZHEN SAMHOO SCI&TECH CO.,LTD.**
Address.....:	Room 401,Building 2th,Huaqiangyun Industrial Park,Meixiu Road, Meilin,Futian District,Shenzhen,China
Manufacturer.....:	SHENZHEN SAMHOO SCI&TECH CO.,LTD.
Address.....:	Room 401,Building 2th,Huaqiangyun Industrial Park,Meixiu Road, Meilin,Futian District,Shenzhen,China
Test item description ..... :	**Digital transceiver**
Trade Mark .....:	Samhoo
Model/Type reference.....:	SIS8800-U
Listed Model(s) .....:	-
Standard ..... :	**FCC Per 47 CFR 2.1091(b)**
Date of receipt of test sample…….....:	Feb. 15, 2017
Date of testing……..:	Feb. 16, 2017 – Apr. 25, 2017
Date of issue……:	Apr. 25, 2017
Result..... ……..:	**PASS**

Compiled by (position+printed name+signature)..:	File administrators Shayne Zhu	Shayne Zhu
Supervised by (position+printed name+signature)..:	Project Engineer Cary Luo	Cary Luo
Approved by (position+printed name+signature)..:	RF Manager Hans Hu	Hans Hu

Testing Laboratory Name ..... :	**Shenzhen Huatongwei International Inspection Co., Ltd.**
Address.....:	1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Contents

1. SUMMARY

1.1. Client Information

Applicant:	SHENZHEN SAMHOO SCI&TECH CO.,LTD.
Address:	Room 401,Building 2th,Huaqiangyun Industrial Park,Meixiu Road, Meilin,Futian District,Shenzhen,China
Manufacturer:	SHENZHEN SAMHOO SCI&TECH CO.,LTD.
Address:	Room 401,Building 2th,Huaqiangyun Industrial Park,Meixiu Road, Meilin,Futian District,Shenzhen,China

1.2. Report version

Version No.	Date of issue	Description
00	Apr. 25, 2017	Original

1.3. Product Description

Name of EUT:	Digital transceiver	
Trade mark:	Samhoo	
Model/Type reference:	SIS8800-U	
Listed mode(s):	-	
Power supply:	1)DC 12V 2)AC 120V/60Hz	
Battery information:	-	
Charger information:	-	
Adapter information:	-	
Operation Frequency Range:	From 400MHz to 470MHz	
Rated Output Power:	High Power: 50W (47.00dBm)/Low Power: 5W (37.00dBm)	
Modulation Type:	Analog Voice:	FM
	Digital Voice /Digital Data:	4FSK
Digital Type:	DMR	
Channel Separation:	Analog Voice:	☒ 12.5kHz
	Digital Voice /Digital Data:	☒ 12.5kHz ☐ 6.25kHz
Emission Designator:	Analog Voice:	☒12.5kHz Channel Separation: 5K94F3E ☐25kHz Channel Separation: ---
	Digital Voice& Data:	☒12.5kHz Channel Separation: 7K84FXW ☐6.25kHz Channel Separation: ---
	Digital Data:	☒12.5kHz Channel Separation: 7K84FXD ☐6.25kHz Channel Separation: ---
Support data rate:	9.6kbps	
Antenna Type:	External	
Maximum Transmitter Power:	Digital	50.35W for 12.5kHz Channel Separation
	Analog	50.58W for 12.5kHz Channel Separation

Note: The product has the same digital working characters when operating in both two digitized voice/data mode. So only one set of test results for digital modulation modes are provided in this test report.

1.4. Test frequency list

Mode	Modulation	Operation Frequency Range	Test Frequency (MHz)	
Analog	FM	400MHz~470MHz	CH_L	400.0125
			CH_M	435.0000
			CH_H	469.9875
Digital	4FSK	400MHz~470MHz	CH_L	400.0125
			CH_M	435.0000
			CH_H	469.9875

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above listed frequency for testing.

EUT operation mode

Test mode	Transmitting	Power level	Digital	Analog
		High	12.5kHz	12.5kHz
TX1	√	√	√	
TX2	√	√		√

√: is operation mode.

1.5. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

● - supplied by the manufacturer

○ - supplied by the lab

●	Power Cable	Length (m) :	3.00
		Shield :	Unshielded
		Detachable :	Undetachable
○	Multimeter	Manufacturer :	/
		Model No. :	/

1.6. Modifications

No modifications were implemented to meet testing criteria.

2. TEST ENVIRONMENT

2.1. Address of the test laboratory

1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China
Phone: 86-755-26748019 Fax: 86-755-26748089

The sites are constructed in conformance with the requirements
of ANSI C63.7, ANSI C63.4 (2009) and CISPR Publication 22.

2.2. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

2.3. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.57 dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

3. Method of measurement

3.1. Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.
According to §1.1310 and §2.1091 RF exposure is calculated.

3.2. Limit

FCC Part 1.1310(e):

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	$*900/f^2$	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	$*180/f^2$	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f=frequency in MHz
*=Plane-wave equivalent power density

3.3. MPE Calculation Method

Predication of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01

$S=PG/4\pi R^2$

Where: S=power density
P=power input to antenna
G=power gain of the antenna in the direction of interest relative to an isotropic radiator
R=distance to the center of radiation of the antenna

As declared by the Applicant, the EUT transmits with the maximum soure-baed Duty Cycle of 100%-see the User manual, and the EUT is a wireless device used in a fixed mounted on outdoor permanent structures , at least 350cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum fixed separation distance, r =350cm, as well as the gain of the used antenna is 8dBi, the RF power density can be obtained.

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TEST RESULTS

FCC Part 2.1091:

TX1						
Test Frequency (MHz)	Minimum Separation Distance (cm)	Max Output Power (mW)	Antenna Gain (Numeric)	Power Density At 350cm (mW/cm^2)	Power Density Limit FCC (mW/cm^2)	Test Results
400.0125	350	60000	6.3096	0.2461	0.2667	PASS
435	350	60000	6.3096	0.2461	0.2667	
469.9875	350	60000	6.3096	0.2461	0.2667	

TX2						
Test Frequency (MHz)	Minimum Separation Distance (cm)	Max Output Power (mW)	Antenna Gain (Numeric)	Power Density At 350cm (mW/cm^2)	Power Density Limit FCC (mW/cm^2)	Test Results
400.0125	350	60000	6.3096	0.2461	0.2667	PASS
435	350	60000	6.3096	0.2461	0.2667	
469.9875	350	60000	6.3096	0.2461	0.2667	

Note:
Max Output Power(W)= Rated Output Power(W)+ Rated Output Power(W)*20%

4. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for General Population/Uncontrolled Exposure.

.....End of Report.....