Shenzhen Global Test Service Co.,Ltd.
No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road,
Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong

RF Exposure evaluation

Report Reference No.....:	**GTS20200306005-1-7**
FCC ID. .....:	**2AVV4-001**
Compiled by (position+printed name+signature) . :	File administrators Peter Xiao
Supervised by (position+printed name+signature) . :	Test Engineer Moon Tan
Approved by (position+printed name+signature) . :	Manager Simon Hu
Date of issue .....:	Mar. 19, 2020

Representative Laboratory Name.:	**Shenzhen Global Test Service Co.,Ltd.**
Address .....:	No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong

Applicant's name.....:	**Shenzhen Yilaisi Electronic Technology Co., Ltd.**
Address .....:	2nd Floor, 2 Building, forth industrial estate, Shanghenglang, Longhua district, Shenzhen, Guangdong, China

Test specification .....**:**	
Standard.....:	**47CFR §1.1310** **47CFR §2.1091** **KDB447498 v06**
TRF Originator.....:	Shenzhen Global Test Service Co.,Ltd.
Master TRF .....:	Dated 2014-12

Test item description .....:	**UHF Wireless Microphone System**
Trade Mark.....:	N/A
Manufacturer .....:	Shenzhen Yilaisi Electronic Technology Co., Ltd.
Model/Type reference .....:	ALLAP-W1
Listed Models .....:	UWM-2, WM1, WM2, WM3, UWM1, UWM2, UWM3, UWM4, UWM5, UWM6, UWM7, UWM8, UWM9, UWM1Pro, UWM2Pro, UWM3Pro, UWM4Pro, UWM5Pro, UWM6Pro
Modulation Type.....:	FM
Operation Frequency.....:	From 538.0-557.6MHz and 566.4-586.0MHz
Hardware Version .....:	V1.5
Software Version.....:	V1.3
Rating .....:	DC 3.0V to 2*AA or DC 5.0V /0.2A to Adapter
Result .....:	**PASS**

T E S T R E P O R T

Test Report No. :	**GTS20200306005-1-7**	Mar. 19, 2020 Date of issue

Equipment under Test	:	UHF Wireless Microphone System
Model /Type	:	ALLAP-W1
Listed Models	:	UWM-2, WM1, WM2, WM3, UWM1, UWM2, UWM3, UWM4, UWM5, UWM6, UWM7, UWM8, UWM9, UWM1Pro, UWM2Pro, UWM3Pro, UWM4Pro, UWM5Pro, UWM6Pro
Applicant	:	**Shenzhen Yilaisi Electronic Technology Co., Ltd.**
Address	:	2nd Floor, 2 Building, forth industrial estate, Shanghenglang, Longhua district, Shenzhen, Guangdong, China
Manufacturer	:	**Shenzhen Yilaisi Electronic Technology Co., Ltd.**
Address	:	2nd Floor, 2 Building, forth industrial estate, Shanghenglang, Longhua district, Shenzhen, Guangdong, China

Test Result:	**PASS**

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 EUT configuration

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

● - supplied by the manufacturer

○ - supplied by the lab

○	/	Length (m) :	/
		Shield :	/
		Detachable :	/

1.2 Product Description

Product Name	UHF Wireless Microphone System
Trade Mark	N/A
Model/Type reference	ALLAP-W1
List Models	UWM-2, WM1, WM2, WM3, UWM1, UWM2, UWM3, UWM4, UWM5, UWM6, UWM7, UWM8, UWM9, UWM1Pro, UWM2Pro, UWM3Pro, UWM4Pro, UWM5Pro, UWM6Pro
Model Declaration	PCB board, structure and internal of these model(s) are the same, So no additional models were tested.
Power supply:	DC 3.0V to 2*AA or DC 5.0V /0.2A to Adapter
UHF Wireless Microphone System(Transmitter)	
Frequency Range	538.0-557.6MHz and 566.4-586.0MHz
Channel No.	50 Channels form 538.0-557.6MHz 50 Channels form 566.4-586.0MHz
Modulation Type	FM
Rated Power	15mW/10mW
Antenna Description	External Antenna; 0dBi(Max.)

2. TEST ENVIRONMENT

2.1 Address of the test laboratory

Shenzhen Global Test Service Co.,Ltd.
No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong

2.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS (No. CNAS L8169)
Shenzhen Global Test Service Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA (Certificate No. 4758.01)
Shenzhen Global Test Service Co., Ltd. has been assessed by the American Association for Laboratory Accreditation (A2LA). Certificate No. 4758.01.

2.3 Environmental conditions

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

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

2.4 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 Global Test Service 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 GTS 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=2.

3. METHOD OF MEASUREMENT

3.1 Applicable Standard

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
FCC KDB publication 447498 D01 General RF Exposure Guidance v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.
FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits.
FCC CFR 47 part2 2.1093: Radiofrequency radiation exposure evaluation: portable devices

3.2 Evaluation method and Limit

According to KDB447498 D01 General RF Exposure Guidance v06 Section 4.3.1 Standalone SAR test exclusion considerations: “Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition, listed below, is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.22 The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander (see 5) of section 4.1). To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, typically in the SAR measurement or SAR analysis report, according to the required published RF exposure KDB procedures. When no other RF exposure testing or reporting is required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for the SAR test exclusion. When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions; for example, handheld PTT two-way radios, handsets, laptops & tablets etc.23 “
[(max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance, mm)] · [√f (GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:
• f (GHz) is the RF channel transmit frequency in GHz
• Power and distance are rounded to the nearest mW and mm before calculation
• The result is rounded to one decimal place for comparison
• 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below
The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to f) in section 4.1 is applied to determine SAR test exclusion.

4. Conducted Power Results

High Power			
Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
FM	01	538.0	11.241
	25	547.6	11.268
	50	557.6	11.072

High Power			
Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
FM	01	566.4	11.235
	25	576.0	11.824
	50	586.0	11.525

Low Power			
Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
FM	01	538.0	8.302
	25	547.6	8.691
	50	557.6	8.311

Low Power			
Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
FM	01	566.4	8.927
	25	576.0	8.198
	50	586.0	8.176

5. Manufacturing Tolerance

High Power			
FM (Peak) Channel A			
Channel	Channel 01(538.0MHz)	Channel 25(547.6MHz)	Channel 50(557.6MHz)
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
FM (Peak) Channel B			
Channel	Channel 01(566.4MHz)	Channel 25(576.0MHz)	Channel 50(586.0MHz)
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0

Low Power			
FM (Peak) Channel A			
Channel	Channel 01(538.0MHz)	Channel 25(547.6MHz)	Channel 50(557.6MHz)
Target (dBm)	8.0	8.0	8.0
Tolerance ±(dB)	1.0	1.0	1.0
FM (Peak) Channel B			
Channel	Channel 01(566.4MHz)	Channel 25(576.0MHz)	Channel 50(586.0MHz)
Target (dBm)	8.0	8.0	8.0
Tolerance ±(dB)	1.0	1.0	1.0

6. Measurement Results

6.1 Evaluation Results

High Power						
Modulation Type	f (GHz)	Antenna Distance (mm)	RF output power		SAR Test Exclusion Threshold	SAR Test Exclusion
			dBm	mW		
FM (Channel A)	0.5576	5	12.0	15.85	2.37 < 3.0	Yes
FM (Channel B)	0.5860	5	12.0	15.85	2.43 < 3.0	Yes

Low Power						
Modulation Type	f (GHz)	Antenna Distance (mm)	RF output power		SAR Test Exclusion Threshold	SAR Test Exclusion
			dBm	mW		
FM (Channel A)	0.5576	5	9.0	7.94	1.19 < 3.0	Yes
FM (Channel B)	0.5860	5	9.0	7.94	1.22 < 3.0	Yes

Remark:
1. Output power including tune up tolerance;
2. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to f) in section 4.1 of KDB447498 is applied to determine SAR test exclusion.

6.2 Simultaneous Transmission

The sample support one UHF Wireless Microphone System modular and one antenna, Not need consider simultaneous transmission ;

7. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06, No SAR is required.

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