RF Exposure Report

Report No.: AGC00213240503FH01

FCC ID	:	WSG-KH69
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	Bluetooth Dongle
BRAND NAME	:	N/A
MODEL NAME	:	KH69, I11, I1, I13
APPLICANT	:	SKY WING Communication Electronics Co., Ltd
DATE OF ISSUE	:	Jul. 11, 2024
STANDARD(S)	:	FCC KDB 447498 D01 V06
REPORT VERSION	:	V1.0

Attestation of **G**lobal **C**ompliance (Shenzhen) Co., Ltd

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jul. 11, 2024	Valid	Initial Release

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1. General Information

Applicant	SKY WING Communication Electronics Co., Ltd
Address	No.62, 10 Rd, Longyan, Humen Town, Dongguan City, Guangdong Province, China
Manufacturer	SKY WING Communication Electronics Co., Ltd
Address	No.62, 10 Rd, Longyan, Humen Town, Dongguan City, Guangdong Province, China
Factory	SKY WING Communication Electronics Co., Ltd
Address	No.62, 10 Rd, Longyan, Humen Town, Dongguan City, Guangdong Province, China
Product Designation	Bluetooth Dongle
Brand Name	N/A
Test Model	KH69
Series Model(s)	I11, I1, I13
Difference Description	All the same except for the model name
Date of receipt of test item	May 21, 2024
Date of Test	May 21, 2024 to Jul. 11, 2024
Deviation from Standard	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Test Report Form No	AGCER-FCC-RF Exposure-V1

Note: The test results of this report relate only to the tested sample identified in this report.

Prepared By

Thea Huang

Thea Huang
(Project Engineer)   Jul. 11, 2024

Reviewed By

Calvin Liu

Calvin Liu
(Reviewer)   Jul. 11, 2024

Approved By

Max Zhang

Max Zhang
(Authorized Officer)   Jul. 11, 2024

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Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86−755 2523 4088   E−mail: agc@agccert.com   Web: http://www.agccert.com/

2. Product Information

2.1 Product Technical Description

Frequency Band (Operating)	☒Bluetooth: 2.402GHz ~ 2.480GHz ☐Other:
Hardware Version	V02
Software Version	V01
Modulation Type	BR ☒GFSK, EDR ☒π /4-DQPSK, ☒8DPSK
Maximum Transmitter Power	2.549dBm
Device Category	☒Portable (<20cm separation) ☐Mobile (>20cm separation) ☐Others:
Antenna Diversity	☒Single antenna ☐Multiple antennas ☐Tx diversity ☐Rx diversity ☐Tx/Rx diversity
Antenna Designation	Chip Antenna
Antenna Gain	1.9dBi
Minimum Assessment Distance	5mm
Evaluation Applied	☐MPE Evaluation ☒SAR Evaluation

3. Test Environment

3.1 Address Of The Test Laboratory

Laboratory: Attestation of Global Compliance (Shenzhen) Co., Ltd.

Address: 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

3.2 Test Facility

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

CNAS-Lab Code: L5488

Attestation of Global Compliance (Shenzhen) Co., Ltd. has been assessed and proved to follow CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories.)

A2LA-Lab Cert. No.: 5054.02

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to follow ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 975832

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files with Registration 975832.

IC-Registration No.: 24842(CAB identifier: CN0063)

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the Certification and Engineering Bureau of Industry Canada. The acceptance letter from the IC is maintained in our files with Registration 24842.

3.3 Environmental Conditions

	NORMAL CONDITIONS
Temperature range (℃)	15 - 35
Relative humidity range	20 % - 75 %
Pressure range (kPa)	86 - 106
Power supply	DC5V
Note: The Extreme Temperature and Extreme Voltages declared by the manufacturer.	

4. Portable Device Evaluation Method and Limit

Following FCC KDB 447498 D01 "General SAR test exclusion guidance" The corresponding SAR Exclusion Threshold condition, listed below:

◆ The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤50 mm are determined by:

   ➢ [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] [$\sqrt{f(GHz)}$] ≤ 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 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 is applied to determine SAR test exclusion.

◆ At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following:

   ➢ [Threshold at 50 mm in step 1) + (test separation distance - 50mm) (f(MHz)/150)] mW, at 100MHz to 1500 MHz;
   ➢ [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)-10] mW at > 1500 MHz and ≤6 GHz;

◆ At frequencies below 100 MHz, the following may be considered for SAR test exclusion.

   ➢ The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by [1 + log(100/f(MHz))] for test separation distances > 50 mm and < 200 mm.
   ➢ The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by 1/2 for test separation distances ≤ 50 mm.
   ➢ SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

5. Mobile Device Evaluation Method and Limit

Human exposure to RF emissions from mobile devices (47 CFR §2.1091) may be evaluated based on the MPE limits adopted by the FCC for electric and magnetic field strength and/or power density, as appropriate, since exposures are assumed to occur at distances of 20 cm or more from persons.

Limits For General Population / Uncontrolled Exposure

Frequency Range (MHz)	E-field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $|E|^2$, $|H|^2$ or S (Minutes)
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 -- 1500	--	--	f/1500	30
1500 -- 100,000	--	--	1.0	30

*Note:

1. f= Frequency in MHz * Plane-wave Equivalent Power Density

2. The averaging time for General Population/Uncontrolled exposure to fixed transmitters is not applicable for mobile and portable transmitters. See 47 CFR §§2.1091 and 2.1093 on source-based time-averaging requirement for mobile and portable transmitters.

The calculation formula of MPE measurement is as follows:
- S=PG/4πR²
- 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

6. Measurement Results

Test Mode	Channel Frequency (MHz)	Max Output power (dBm)	Max Output power (mW)	Calculation Value (Note 1)	Limit Value
8DPSK					
BT_ EDR	2480	2.549	1.798	0.565	3.0

Note:
1. Calculation Value =[(max. power of channel, mW)/(min. test separation distance, mm)] ·[√f(GHz)].
    Fox example: 1.798/5*√2.480=0.565 ≤ 3.0

According to KDB447498 D01 V06, threshold at which no SAR required is ≤3.0 for 1-g SAR, separation distance is 5mm, and no simultaneous SAR measurement is required.

7. Measurement Evaluation

Since Source-base time average power is below SAR test exclusion power thresholds, the SAR evaluation is not required.

-----End of Report-----

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