RF Exposure Evaluation Report

Report No.:	JYTSZ-R12-2400455
Applicant:	Remote Tech LLC
Address of Applicant:	310 ALDER RD, DOVER DE 19904 USA
Equipment Under Test (EUT)	
Product Name:	Smart Key
Model No.:	RT-HK7F20, RT-HK4F20
FCC ID:	2AOKM-HK24
Applicable standards:	KDB 447498 D04 Interim General RF Exposure Guidance v01
Date of sample receipt:	18 Apr., 2024
Date of Test:	19 Apr., to 07 May, 2024
Date of report issue:	08 May, 2024
Test Result:	PASS

Project by:	Project Engineer	***Date:***	*08 May, 2024*
Reviewed by:	Senior Engineer	***Date:***	*08 May, 2024*
Approved by:	Manager	***Date:***	*08 May, 2024*

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

1 Version

Version No.	Date	Description
00	*08 May, 2024*	*Original*

2 Contents

3 General Information

3.1 Client Information

Applicant:	Remote Tech LLC
Address:	310 ALDER RD, DOVER DE 19904 USA
Manufacturer:	Remote Tech LLC
Address:	310 ALDER RD, DOVER DE 19904 USA

3.2 General Description of E.U.T.

Product Name:	Smart Key
Model No.:	RT-HK7F20, RT-HK4F20
Operation Frequency:	433.92 MHz
Modulation technology:	ASK
Antenna Type:	PCB Antenna
Antenna gain:	-12.88 dBi (declare by Applicant)
Power Supply:	DC 3V (CR 2032 Battery)
Remark:	All models are identical inside, including the electrical circuit design, layout, components used and internal wiring. Models RT-HK7F20, RT-HK4F20 represent appearance of the key with 4 and 7 buttons on the shell. The PCB function is the same for all these models.

3.3 Operating Modes

Operating mode	Detail description
Tx mode	Keep the EUT in continuously transmitting mode

3.4 Additions to, Deviations, or Exclusions from the Method

No

3.5 Laboratory Facility

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

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

3.6 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.
Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info-JYTee@lets.com, Website:http://jyt.lets.com

4 Technical Requirements Specification

4.1 Limits

According to KDB 447498 D04 Interim General RF Exposure Guidance v01 RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices.

RF Exposure Test Exemptions for Single Source

1-mW Test Exemption

Per § 1.1307(b)(3)(i)(A), a single RF source is *exempt RF device* (from the requirement to show data demonstrating compliance to RF exposure limits, as previously mentioned) if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance.

This exemption applies to all operating configurations and exposure conditions, for the frequency range 100 kHz to 100 GHz, regardless of fixed, mobile, or portable device exposure conditions. This is a standalone exemption, and it cannot be applied in conjunction with any other test exemption.

4.2 Result

According to the calculation formula of power:

EIRP = P*G = $(E*d)^2/30$, So P = $(E*d)^2/(30*G)$.

Where:

P = transmitter output power in watts,

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator (unitless),

E = electric field strength in V/m, --- $10^{((dBuV/m)/20)}/10^6$,

d = measurement distance in meters (m)---3m,

Thus, Worse case below:

Frequency (MHz)	Maximum field strength@3m (dBuV/m)	Maximum field strength@3m (V/m)	Antenna Gain (dBi)	Antenna Gain (numeric)	Distance (m)	Output power (mW)	Limit for SAR test exemption(mW)
433.92	72.89	0.0044	-12.88	0.05	3	0.1133	1

4.3 Conclusion

Cuz 0.1133mW < 1mW, The device is exempt from the SAR test and satisfies RF exposure evaluation.

------End of report------