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RF Exposure Evaluation Report

Report No. : CQASZ20190900992E-02
Applicant: Tech4home, Lda
Address of Applicant: Rua de Fundões, nº151, 3700-121 São João da Madeira, Portugal
Equipment Under Test (EUT):
EUT Name: Remote Control Unit
All Model No.: CSR001, T4HXXXXXXXXXX Caster product family (X can be a letter, number, symbol or space)
Test Model No.: CSR001
Brand Name: Tech4home, Lda
FCC ID: 2ALB6-CSR001
Standards: 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2019-09-30
Date of Test: 2019-09-30 to 2019-10-11
Date of Issue: 2019-10-11
Test Result : **PASS***

*In the configuration tested, the EUT complied with the standards specified above

Tested By:

Tom Chen
(Tom Chen)

Reviewed By:

Sheek Luo
(Sheek Luo)

Approved By:

Jack Ai
(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20190900992E-02	Rev.01	Initial report	2019-10-11

2 Contents

	Page
1 VERSION	2
2 CONTENTS	3
3 GENERAL INFORMATION	4
3.1 CLIENT INFORMATION.....	4
3.2 GENERAL DESCRIPTION OF EUT	4
4 SAR EVALUATION	5
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT	5
4.1.1 <i>Standard Requirement</i>	5
4.1.2 <i>Limits</i>	5
4.1.3 <i>EUT RF Exposure</i>	6

3 General Information

3.1 Client Information

Applicant:	Tech4home, Lda
Address of Applicant:	Rua de Fundões, nº151, 3700-121 São João da Madeira, Portugal
Manufacturer:	Jiangsu Huitong(Group) Co.,Ltd.
Address of Manufacturer:	No.24, Block 2,Taohuawu New District Zhenjiang Jiangsu P.R.C

3.2 General Description of EUT

Product Name:	Remote Control Unit
All Model No.:	CSR001, T4HXXXXXXXXXX Caster product family (X can be a letter, number, symbol or space)
Test Model No.:	CSR001
Trade Mark:	Tech4home, Lda
Hardware Version:	Caster PCB-GWA7.820.1025-2V0.3_20190507
Software Version:	T4HS1813_32k_0149.01.12_APP_PLUS_BIM
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.0
Modulation Type:	GFSK
Transfer Rate:	1Mbps
Number of Channel:	40
Product Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Test Software of EUT:	Blue test 1.0 (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	3.3dBi
EUT Power Supply:	2 AAA battery:DC3V

Note:

All model No.: CSR001, T4HXXXXXXXXXX Caster product family (X can be a letter, number, symbol or space)
Only the model CSR001 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance, pack and model name.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

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 Exclusion Threshold condition, listed below, is satisfied.

4.1.2 Limits

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:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{(\text{min. test separation distance, mm})} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

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

4.1.3 EUT RF Exposure

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-3.5	-3±1	-2	0.631
Middle(2440MHz)	-2.72	-2±1	-1	0.794
Highest(2480MHz)	-2.1	-2±1	-1	0.794

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-3.5	-3±1	-2	0.631	0.20	3.0
Middle (2440MHz)	-2.72	-2±1	-1	0.794	0.25	
Highest (2480MHz)	-2.1	-2±1	-1	0.794	0.25	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20190900992E-01