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RF Exposure Evaluation Report

Report No.: CQASZ20240701384E-02
Applicant: Fourth Space CO.,LTD
Address of Applicant: Room 1002,Building C, Phase II,Unibuit Industrial Park,SHENZHEN, China
Equipment Under Test (EUT):
EUT Name: Cybertake Remote Control
Model No.: YK-01
Test Model No.: YK-01
Brand Name: Cybertake
FCC ID: 2BGZ7-YK01
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2024-07-12
Date of Test: 2024-07-12 to 2024-07-25
Date of Issue: 2024-12-16
Test Result: **PASS***

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

Tested By: Lewis Zhou
(Lewis Zhou)

Reviewed By: Timo Lei
(Timo Lei)

Approved By: Jack Ai
(Jack Ai)



The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20240701384E-02	Rev.01	Initial report	2024-12-16

2 Contents

	Page
1 VERSION	2
2 CONTENTS	3
.....	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:	Fourth Space CO.,LTD
Address of Applicant:	Room 1002,Building C, Phase II,Unibuit Industrial Park,SHENZHEN, China
Manufacturer:	Fourth Space CO.,LTD
Address of Manufacturer:	Room 1002,Building C, Phase II,Unibuit Industrial Park,SHENZHEN, China
Factory:	Fourth Space CO.,LTD
Address of Factory:	Room 1002,Building C, Phase II,Unibuit Industrial Park,SHENZHEN, China

3.2 General Description of EUT

Product Name:	Cybertake Remote Control
Model No.:	YK-01
Test Model No.:	YK-01
Trade Mark:	Cybertake
Software Version:	V1.2
Hardware Version:	V1.3
Sample Type:	☐ Mobile ☒ Portable
Operation Frequency:	433.92MHz
Channel Numbers:	1
Modulation Type:	FSK
Antenna Type:	PCB antenna
Antenna Gain:	-1.22dBi
Power Supply:	2*AAA battery: DC 3V

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

$$e_{irp} = p_t \times g_t = (E \times d)^2 / 30$$

where:

p_t = transmitter output power in watts,

g_t = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, $10^{((dB_{\mu V/m})/20)/10^6}$,

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

$$\text{So } p_t = (E \times d)^2 / 30 / g_t$$

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBuV/m)	Polarization
433.92	72.37	Peak
433.92	60.73	Average

Antenna polarization: Vertical		
Frequency (MHz)	Level (dBuV/m)	Polarization
433.92	75.97	Peak
433.92	64.33	Average

For 433.92MHz wireless:

Field strength = 75.97dB μ V/m @3m

Ant. gain -1.22dBi; so Ant numeric gain=0.755

So $p_t = \{ [10^{(75.97/20)} / 10^6 \times 3]^2 / 30 / 0.755 \} \times 1000 \text{mW} = 0.016 \text{mW}$

So $(0.016 \text{mW} / 5 \text{mm}) \times \sqrt{0.43392 \text{GHz}} = 0.002$,

0.002 < 3.0 for 1-g SAR

So the SAR report is not required.