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RF Exposure Evaluation Report

Report No.: CQASZ20230701191E-02

Applicant: ShenZhen GeelMi Technology Co., Ltd.

Address of Applicant: B703, Building 1, Zhuanguang Innovation Technology Park, Nanshan District, Shenzhen, China

Equipment Under Test (EUT):

EUT Name: Wireless LED Target System

Model No.: WLTS101

Test Model No.: WLTS101

Brand Name: GEELMI

FCC ID: 2BB35-WLTS101T

Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06

Date of Receipt: 2023-07-04

Date of Test: 2023-07-04 to 2023-07-13

Date of Issue: 2023-08-02

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)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20230701191E-02	Rev.01	Initial report	2023-08-02

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3 General Information

3.1 Client Information

Applicant:	ShenZhen GeelMi Technology Co., Ltd.
Address of Applicant:	B703, Building 1, Zhuanguang Innovation Technology Park, Nanshan District, Shenzhen, China
Manufacturer:	ShenZhen GeelMi Technology Co., Ltd.
Address of Manufacturer:	B703, Building 1, Zhuanguang Innovation Technology Park, Nanshan District, Shenzhen, China
Factory:	ShenZhen GeelMi Technology Co., Ltd.
Address of Factory:	B703, Building 1, Zhuanguang Innovation Technology Park, Nanshan District, Shenzhen, China

3.2 General Description of EUT

Product Name:	Wireless LED Target System
Model No.:	WLTS101
Test Model No.:	WLTS101
Trade Mark:	GEELMI
Hardware Version:	Version:1.04
Software Version:	Version:1.05
Sample Type:	☐ Mobile ☒ Portable
Operation Frequency:	2420MHz
Channel Numbers:	1
Modulation Type:	GFSK
Antenna Type:	Spring antenna
Antenna Gain:	3.02dBi
Power Supply:	Dry dell:3*AA DC1.5V battery

Note: Using the new battery for testing.

EUT is manual transmission equipment, not automatic periodic transmission equipment.

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

Max power(dBm)=Field Strength of Fundamental(dBuV/m@3m)-95.23

Max power(mW)= $10^{(\text{Max power(dBm)}/10)}$

The worst case (refer to report CQASZ20230701191E-01) is below:

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBuV/m)	Polarization
2420	91.50	Peak
2420	86.41	Average

Antenna polarization: Vertical		
Frequency (MHz)	Level (dBuV/m)	Polarization
2420	86.41	Peak
2420	82.98	Average

For 2420MHz wireless:

Field strength = 91.5dBuV/m @3m

So Max power(dBm)=Field Strength of Fundamental(dBuV/m@3m)-95.23=-3.73dBm

So Max power(mW)= $10^{(\text{Max power(dBm)}/10)}$ =0.423

So $(0.423\text{mW}/5\text{mm}) \times \sqrt{2.420\text{GHz}} = 0.132$,

$0.132 < 3.0$ for 1-g SAR

So the SAR report is not required.