

TEST REPORT

FCC Rules Part 15.231

Report Reference No......: **MTWG22020066-H**

FCC ID..... : **2AY3B-SC91**

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Date of issue.....: **February 16, 2022**

Representative Laboratory Name .: **Shenzhen Most Technology Service Co., Ltd.**

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Applicant's name.....: **Beijing Toplead Technology Co.,Ltd.**

Address: 816,Block D, North Zhonghui International Center Shijingshan
District Beijing China.

Test specification/ Standard: **47 CFR Part 1.1307**

47 CFR Part 2.1093

TRF Originator.....: Shenzhen Most Technology Service Co., Ltd.

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Test item description: clock

Trade Mark: Smartro

Model/Type reference.....: SC91

Listed Models: N/A

Modulation Type: ASK

Operation Frequency.....: 433.92MHz

Hardware version: VER 2.1

Software version: VER 2.1

Rating: DC3V(by Batteries)

Result.....: **PASS**

TEST REPORT

Equipment under Test : clock

Model /Type : SC91

Listed Models : N/A

Applicant : **Beijing Toplevel Technology Co.,Ltd.**

Address : 816,Block D, North Zhonghui International Center Shijingshan
District Beijing China

Manufacturer : **Beijing Toplevel Technology Co.,Ltd.**

Address : 816,Block D, North Zhonghui International Center Shijingshan
District Beijing China

Test Result:	PASS
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Contents**1. Revision History**

Revision	Issue Date	Revisions	Revised By
00	2022.02.16	Initial Issue	Alisa Luo

2.1 RF Exposure Compliance Requirement

2.1.1 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.

2.1.2 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:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{(\text{min. test separation distance, mm})} \right] \cdot$$

$$\left[\sqrt{f(\text{GHz})} \right] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

$f(\text{GHz})$ 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

2.1.3 EUT RF Exposure

$$\text{EIRP} = \text{PT} * \text{GT} = (\text{E} \times \text{D})^2 / 30$$

where:

PT = transmitter output power in watts,

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

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

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

$$\text{So PT} = (\text{E} \times \text{D})^2 / 30 / \text{GT}$$

The worst case (refer to report MTWG22020064) is below:

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBuV/m)	Polarization
433.92	80.15	Peak
433.92	70.55	Average

Antenna polarization: Vertical		
Frequency (MHz)	Level (dBuV/m)	Polarization
433.92	80.46	Peak
433.92	70.86	Average

For 433.92MHz wireless:

Field strength=80.46 dBuV/m

Ant gain:0dBi;so Ant numeric gain=1.0

$$\text{EIRP} = \text{PT} * \text{GT} = (\text{E} \times \text{D})^2 / 30 = (10^{(\text{dB}\mu\text{V/m})/20} / 10^6 * 3)^2 / 30 = 0.000034$$

$$\text{So PT} = \text{EIRP} / \text{GT} = 0.000034 \text{ W} = 0.034 \text{ mW}$$

$$\text{So } (0.034 \text{ mW} / 5 \text{ mm}) * \sqrt{0.43392 \text{ GHz}} = 0.0103$$

exclusion=0.0103<3.0 for 1-g SAR

So the SAR report is not required.