

# RF Exposure Evaluation Report

**Product** : Wireless mouse  
**Trade mark** : MINISO  
**Model/Type reference** : Look at page 2  
**Test Model No.** : CM612G  
**Serial Number** : N/A  
**Report Number** : EED32N80217202  
**FCC ID** : 2AMSRM612G  
**Date of Issue** : May 20, 2021  
**Test Standards** : 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF  
Exposure Guidance v06  
**Test result** : PASS

Prepared for:

**Dongguan Couso Technology Co.,Ltd**  
**No.26 minye road, tangxia town, Dongguan City,**  
**Guangdong Province, China**

Prepared by:

**Centre Testing International Group Co., Ltd.**  
**Hongwei Industrial Zone, Bao'an 70 District,**  
**Shenzhen, Guangdong, China**

**TEL: +86-755-3368 3668**

**FAX: +86-755-3368 3385**



Compiled by:

*Martin Lee*

Reviewed by:

*Aaron Ma*

Martin Lee

Aaron Ma

Approved by:

*David Wang*

Date:

May 20, 2021

Report Seal

David Wang

Check No.:9114120421

## 2 Version

| Version No. | Date         | Description |
|-------------|--------------|-------------|
| 00          | May 20, 2021 | Original    |
|             |              |             |
|             |              |             |

All Model No.:

CS1000, CS1100, CS1200, CS1300, CS1400, CS1500, CS1600, CS1700, CS1800, CS1900, CS2000, CS2100, CS2200, CS2300, CS2400, CS2500, CS2600, CS2700, CS2800, CS2900, CS3000, CS3100, CS3200, CS3300, CS3400, CS3500, CS3600, CS3610, CS3620, CS3630, CS3640, CS3650, CS3660, CS3670, CS3680, CS3690, CS3700, CS3710, CS3720, CS3730, CS3740, CS3750, CS3760, CS3770, CS3780, CS3790, CS3800, CS3810, CS3820, CS3830, CS3840, CS3850, CS3860, CS3870, CS3880, CS3890, CS4000, CS4100, CS4200, CS4300, CS4400, CS4500, CS4570, CS4380, CS4550 CS4600, CS4650, CS4700, CS4800, CS4900, CS5000, CS5100, CS5200, CS5300, CS5400, CS5500, CS5600, CS5700, CS5800, CS5900, CS6000, CS6100, CS6200, CS6300, CS6400, CS6500, CS6600, CS6700, CS6800, CS6900, CS7000, CS7100, CS7200, CS7300, CS7400, CS7500, CS7600, CS7700, CS7800, CS7900, CS8000, CS8100, CS8200, CS8300, CS8400, CS8500, CS8600, CS8700, CS8800, CS8900, CS9000, CS9100, CS9200, CS9300, CS9400, CS9500, CS9600, CS9700, CS9800, CS9900, CK300, CK310, CK320, CK330, CK340, CK350, CK360, CK370, CK380, CK390, CK400, CK410, CK420, CK430, CK440, CK450, CK455, CK465, CK460, CK470T, CK480, CK490, CK500, CK510, CK520, CK530, CK540, CK550, CK560, CK570, CK580, CK590, CK600, CK601, CK700, CK710, CK720, CK730, CK740, CK750, CK760, CK770, CK780, CK790, CK800, CK801, CK802, CK803, CK804, CK805, CK806, CK807, CK808, CK809, CK900, CK910, CK920, CK921, CK923, CK925, CK926, CK927, CK928, CK929, CK930, CK940, CK950, CK960, CK970, CK980, CK990, CG10, CG16, CG20, CG30, CG40, CG50, CG60, CG70, CG80, CG90, V10, V11, V20, V30, V40, V50, V60, V70, V80, V90, CM610, CM611, CM613, CM614, CM615, CM616, CM617, CM618, CM619, CM620, CM621, CM622, CM623, CM624, CM625, CM626, CM627, CM628, CM629, CM630, CM631, CM632, CM633, CM634, CM635, CM636, CM637, CM638, CM639, CM640, CM650, CM660, CM665, CM670, CM675, CM680, CM685, CM690, CM695, CM800, CM810, CM815, CM820, CM830, CM840, CM850, CM860, CM870, CM880, CM881, CM890, CM891, CM892, CM892W, CM893, CM894, CM895, CM896, CM897, CM898, CM899, CM898L, CM880 PRO, CM880 PLUS, CM612G

Only the model CM612G 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 and model name.

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## 4 General Information

### 4.1 Client Information

|                          |  |
|--------------------------|--|
| Applicant:               | Dongguan Couso Technology Co.,Ltd  |
| Address of Applicant:    | No.26 minye road, tangxia town, Dongguan City, Guangdong Province, China |
| Manufacturer:            | Dongguan Couso Technology Co.,Ltd  |
| Address of Manufacturer: | No.26 minye road, tangxia town, Dongguan City, Guangdong Province, China |
| Factory:                 | Dongguan Couso Technology Co.,Ltd  |
| Address of Factory:      | No.26 minye road, tangxia town, Dongguan City, Guangdong Province, China |

### 4.2 General Description of EUT

|  |  |
|--|--|
| Product Name:  | Wireless mouse   |
| Model No.:   | Look at page 2   |
| Test Model No.:  | CM612G   |
| Trade Mark:  | MINISO   |
| Product Type:  | <input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location |
| Operation Frequency:   | 2402MHz~2480MHz  |
| Modulation Type:   | GFSK   |
| Number of Channel:   | 79   |
| Antenna Type:  | PCB antenna  |
| Antenna Gain:  | -0.61dBi   |
| Power Supply:  | AA battery, DC 1.5V  |
| Sample Received Date:  | Apr. 14, 2021  |
| Sample tested Date:  | Apr. 14, 2021 to Apr. 26, 2021   |
| Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified. |  |

### 4.3 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

### 4.4 Deviation from Standards

None.

### 4.5 Abnormalities from Standard Conditions

None.

### 4.6 Other Information Requested by the Customer

None.



## 5 SAR Evaluation

### 5.1 RF Exposure Compliance Requirement

#### 5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06  
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.

#### Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$$\left[ \frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0$$
 for 1-g SAR and  $\leq 7.5$  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 calculation<sup>17</sup>

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  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

### 5.1.2 EUT RF Exposure

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

where:

pt = transmitter output power in watts,

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

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

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

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

The worst case (refer to report EED32N80217201) is below:

| Antenna polarization: Horizontal |                |              |
|----------------------------------|----------------|--------------|
| Frequency (MHz)                  | Level (dBuV/m) | Polarization |
| 2402                             | 93.41          | Peak         |
| 2402                             | 88.63          | Average      |

| Antenna polarization: Vertical |                |              |
|--------------------------------|----------------|--------------|
| Frequency (MHz)                | Level (dBuV/m) | Polarization |
| 2480                           | 92.63          | Peak         |
| 2480                           | 87.79          | Average      |

For 2402MHz wireless:

Field strength = 93.41dB $\mu$ V/m @3m

Ant. gain -0.61dBi; so Ant numeric gain=0.87

$$\text{So } pt = \{ [10^{(93.41/20)/10^6} \times 3]^2 / 30 / 0.87 \} \times 1000mW = 0.757mW$$

$$\text{So } (0.757mW/5mm) \times \sqrt{2.402GHz} = 0.235,$$

$$0.235 < 3.0 \text{ for 1-g SAR}$$

So the SAR report is not required.

## PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32N80217201 for EUT external and internal photos.

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 CTI, this report can't be reproduced except in full.

\*\*\* End of Report \*\*\*