

# RF Exposure Evaluation Report

**Product** : HUAWEI M-Pencil  
**Trade mark** : HUAWEI  
**Model/Type reference** : CD52  
**Serial Number** : N/A  
**Report Number** : EED32L00291602  
**FCC ID** : 2ABWECD52  
**Date of Issue** : Dec. 05, 2019  
**Test Standards** : 47 CFR Part 1.1307  
: 47 CFR Part 2.1093  
: KDB447498D01 General RF Exposure Guidance v06  
**Test result** : PASS

Prepared for:

**Sunwoda Electronic Co., Ltd.**  
**Floor 1,A,B,D District of Floor2 and**  
**Floor 3 to 9 of Comprehensive Building,**  
**No.2 Yihe Road, Shilong Community,**  
**Shiyan Street, Bao'an District, Shenzhen City,**  
**Guangdong Province, P.R. China**

Prepared by:

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## 2 Version

Version No.	Date	Description
00	Dec. 05, 2019	Original

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## 4 General Information

### 4.1 Client Information

Applicant:	Sunwoda Electronic Co., Ltd.
Address of Applicant:	Floor 1, A, B, D District of Floor2 and Floor 3 to 9 of Comprehensive Building, No.2 Yihe Road, Shilong Community, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, P.R. China
Manufacturer:	Sunwoda Electronic Co., Ltd.
Address of Manufacturer:	Floor 1, A, B, D District of Floor2 and Floor 3 to 9 of Comprehensive Building, No.2 Yihe Road, Shilong Community, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, P.R. China
Factory:	Shenzhen Sunwoda Intelligent Hardware Co., Ltd.
Address of Factory:	101, No. 6-6, Yanshan Road, Yanchuan Community, Yanluo Street, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

### 4.2 General Description of EUT

Product Name:	HUAWEI M-Pencil
Model No.(EUT):	CD52
Trade Mark:	HUAWEI
EUT Supports Radios application:	5.0 BLE Single mode

### 4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz	
Modulation Type:	GFSK	
Test Power Grade:	Default	
Test Software of EUT:	STM32CubeMonitor-RF	
Antenna Type:	PIFA Antenna	
Antenna Gain:	-2.3 dBi	
Power Supply:	Li-ion Polymer Battery	82mAh 3.82V
Max Conducted Peak Output Power:	BT5.0: 1.569 dBm	
	The Max Conducted Peak Output Power data refer to the report EED32L00291601	
Sample Received Date:	Oct. 15, 2019	
Sample tested Date:	Oct. 15, 2019 to Nov. 26, 2019	
The tested sample(s) and the sample information are provided by the client.		

#### **4.4 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

#### **4.5 Deviation from Standards**

None.

#### **4.6 Abnormalities from Standard Conditions**

None.

#### **4.7 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.

#### 5.1.2 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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  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

### 5.1.3 EUT RF Exposure

The tune-up power is 1.00 dBm +/- 1dB, therefore the highest tune-up power is 1.57 dBm (1.44 mW) @ 2440 MHz

When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

So,

$$\left( \frac{1.44\text{mW}}{5\text{mm}} \right) * \left( 2.440\text{GHz}^{0.5} \right) = 0.4$$

$$\left[ \frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] * \left[ \sqrt{f(\text{GHz})} \right] = 0.4 < 3.0$$

Therefore, standalone SAR measurements are not required for both head and body

## PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00291601 for EUT external and internal photos.

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

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