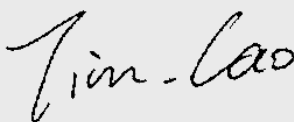




Test report No:  
2650321R.703

## TEST REPORT

|                                                |                                                                                                                                                                                                         |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name                                   | Dual-Band WiFi Module                                                                                                                                                                                   |
| Model and /or type reference                   | CDW-B18821C-01                                                                                                                                                                                          |
| FCC ID                                         | 2BTHP-2-WF002-V01                                                                                                                                                                                       |
| Applicant's name / address                     | Shenzhen Peninsula Medical Group<br>101 1F Block B, 3F Block B, 3F Block A, Building F2, Changfeng industrial Park, Liuxian 3rd Road, 68# Xin'an Street, Bao'an District, Shenzhen, 518100, P.R. China. |
| Test method requested, standard                | FCC 47CFR §2.1091                                                                                                                                                                                       |
| Verdict Summary                                | IN COMPLIANCE                                                                                                                                                                                           |
| Documented By<br>(name / position & signature) | Tim Cao / Project Manager<br>                                                                                       |
| Approved by (name / position & signature)      | Frank He / Technical Manager<br>                                                                                    |
| Date of issue                                  | 2026-08-25                                                                                                                                                                                              |
| Report Version                                 | V1.0                                                                                                                                                                                                    |
| Report template No.                            | Template_FCC-MPE-RF-V1.0                                                                                                                                                                                |

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## COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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## GENERAL CONDITIONS

|                      |                                                                                                                                                                                             |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Location        | DEKRA TESTING SERVICES (ANHUI) CO., LTD.<br>No. 8213, Fanhua Avenue, Baohe District, Hefei City, Anhui Province, China                                                                      |
| Test Facility        | A2LA (Certificate No. 6579.01)<br>CNAS (Certificate No. L21125)<br>FCC - Designation Number: CN1321<br>Test Firm Registration Number: 690292<br>ISED - CAB identifier: CN0175<br>IC#: 32222 |
| Date(receive sample) | May. 15, 2026                                                                                                                                                                               |
| Date (start test)    | May. 19, 2026                                                                                                                                                                               |
| Date (finish test)   | Jul. 01, 2026                                                                                                                                                                               |

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

## DOCUMENT HISTORY

| Report No.   | Version | Description                                                                                                                                                                                                                      | Issued Date |
|--------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 2650321R.703 | V1.0    | Initial issue of report.                                                                                                                                                                                                         | 2026-07-28  |
| 2650321R.703 | V2.0    | Page 5: Update antenna gain.<br>Page 10: Update antenna gain and related data.<br>(The test report No.: 2650321R.703 V2.0 is to replace the test report No.: 2650321R.703 V1.0, and test report 2650321R.703 V1.0 is obsoleted.) | 2026-08-25  |
|              |         |                                                                                                                                                                                                                                  |             |
|              |         |                                                                                                                                                                                                                                  |             |
|              |         |                                                                                                                                                                                                                                  |             |
|              |         |                                                                                                                                                                                                                                  |             |

## 1 GENERAL INFORMATION

|                                                                                                                                                                                   |                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name .....                                                                                                                                                                | Dual-Band WiFi Module                                                                                                                                               |
| Model No. ....                                                                                                                                                                    | CDW-B18821C-01                                                                                                                                                      |
| FCC ID .....                                                                                                                                                                      | 2BTHP-2-WF002-V01                                                                                                                                                   |
| Manufacturer .....                                                                                                                                                                | Shenzhen Peninsula Medical Group                                                                                                                                    |
| Manufacturer Address.....                                                                                                                                                         | 101 1F Block B, 3F Block B, 3F Block A, Building F2, Changfeng industrial Park, Liuxian 3rd Road, 68# Xin'an Street, Bao'an District, Shenzhen, 518100, P.R. China. |
| Power Supply .....                                                                                                                                                                | 3.3 Vdc                                                                                                                                                             |
| Wireless specification.....                                                                                                                                                       | Wi-Fi                                                                                                                                                               |
| Operating frequency range(s) .....                                                                                                                                                | 2.4G ISM band: 2400~2483.5MHz<br>U-NII-1: 5150 MHz to 5250 MHz<br>U-NII-2A: 5250 MHz to 5350 MHz<br>U-NII-2C: 5470 MHz to 5725 MHz<br>U-NII-3: 5725 MHz to 5850 MHz |
| Type of modulation.....                                                                                                                                                           | DSSS / OFDM / OFDMA                                                                                                                                                 |
| Channel Bandwidth .....                                                                                                                                                           | 802.11b/g/n/ac/ax: 20MHz<br>802.11n/ac/ax: 40MHz<br>802.11ac/ax: 80MHz                                                                                              |
| Antenna type .....                                                                                                                                                                | PIFA                                                                                                                                                                |
| Antenna Gain .....                                                                                                                                                                | 2.4GHz: 5.53dBi<br>5GHz: 6.82 dBi                                                                                                                                   |
| Remark:<br>1. As above information is provided and confirmed by the applicant. DEKRA is not liable to the accuracy, suitability, reliability or/and integrity of the information. |                                                                                                                                                                     |

## 2. RF Exposure Evaluation

### 2.1. Limits: KDB 447498 D04

#### B.2 Blanket 1 mW Blanket Exemption

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

The 1 mW blanket exemption applies at separation distances less than 0.5 cm, including where there is no separation. This exemption shall not be used in conjunction with other exemption criteria other than those for multiple RF sources in paragraph § 1.1307(b)(3)(ii)(A).

The 1 mW exemption is independent of service type and covers the full range of 100 kHz to 100 GHz, but it shall not be used in conjunction with other exemption criteria or in devices with higher-power transmitters operating in the same time-averaging period. Exposure from such higher-power transmitters would invalidate the underlying assumption that exposure from the lower-power transmitter is the only contributor to SAR in the relevant volume of tissue.

#### B.3 MPE-based Exemption

General frequency and separation-distance dependent MPE-based effective radiated power (ERP) thresholds are in Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] to support an exemption from further evaluation from 300 kHz through 100 GHz.

TABLE B.1—THRESHOLDS FOR SINGLE RF SOURCES  
SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

| RF Source Frequency                                                                                                                      |   |           | Minimum Distance   |   |                    | Threshold ERP   |
|------------------------------------------------------------------------------------------------------------------------------------------|---|-----------|--------------------|---|--------------------|-----------------|
| $f_L$ MHz                                                                                                                                |   | $f_H$ MHz | $\lambda_L / 2\pi$ |   | $\lambda_H / 2\pi$ | W               |
| 0.3                                                                                                                                      | – | 1.34      | 159 m              | – | 35.6 m             | $1,920 R^2$     |
| 1.34                                                                                                                                     | – | 30        | 35.6 m             | – | 1.6 m              | $3,450 R^2/f^2$ |
| 30                                                                                                                                       | – | 300       | 1.6 m              | – | 159 mm             | $3.83 R^2$      |
| 300                                                                                                                                      | – | 1,500     | 159 mm             | – | 31.8 mm            | $0.0128 R^2 f$  |
| 1,500                                                                                                                                    | – | 100,000   | 31.8 mm            | – | 0.5 mm             | $19.2 R^2$      |
| Subscripts L and H are low and high; $\lambda$ is wavelength.<br>From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns. |   |           |                    |   |                    |                 |

The table applies to any RF source (i.e., single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits. These criteria apply at separation distances from any part of the radiating structure of at least  $\lambda/2\pi$ . The thresholds are based on the general population MPE limits with a single perfect reflection, outside of the reactive near-field, and in the main beam of the radiator. For mobile devices that are not exempt per Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP<sub>20cm</sub> in Formula (B.1) [repeated from § 2.1091(c)(1) and

§ 1.1307(b)(1)(i)(B)].

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

If the ERP is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of  $\lambda/4$  or if the antenna gain is less than that of a half-wave dipole.

SAR-based exemptions are constant at separation distances between 20 cm and 40 cm to avoid discontinuities in the threshold when transitioning between SAR-based and MPE-based exemption criteria at 40 cm, considering the importance of reflections.

## B.4 SAR-based Exemption

SAR-based thresholds are derived based on frequency, power, and separation distance of the RF source. The formula defines the thresholds in general for either available maximum time-averaged power or maximum time-averaged ERP, whichever is greater.

If the ERP of a device is not easily determined, such as for a portable device with a small form factor, the applicant may use the available maximum time-averaged power exclusively if the device antenna or radiating structure does not exceed an electrical length of  $\lambda/4$ .

As for devices with antennas of length greater than  $\lambda/4$  where the gain is not well defined, but always less than that of a half-wave dipole (length  $\lambda/2$ ), the available maximum time-averaged power generated by the device may be used in place of the maximum time-averaged ERP, where that value is not known.

The separation distance is the smallest distance from any part of the antenna or radiating structure for all persons, during operation at the applicable ERP. In the case of mobile or portable devices, the separation distance is from the outer housing of the device where it is closest to the antenna.

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold  $P_{th}$  (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive).  $P_{th}$  is given by Formula (B.1).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left( \frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and  $f$  is in GHz,  $d$  is the separation distance (cm), and  $ERP_{20 \text{ cm}}$  is per Formula (B.1). The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

| Frequency (MHz) | Distance (mm) |    |    |    |     |     |     |     |     |     |     |
|-----------------|---------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|
|                 | 5             | 10 | 15 | 20 | 25  | 30  | 35  | 40  | 45  | 50  |     |
|                 | 300           | 39 | 65 | 88 | 110 | 129 | 148 | 166 | 184 | 201 | 217 |
|                 | 450           | 22 | 44 | 67 | 89  | 112 | 135 | 158 | 180 | 203 | 226 |
|                 | 835           | 9  | 25 | 44 | 66  | 90  | 116 | 145 | 175 | 207 | 240 |
|                 | 1900          | 3  | 12 | 26 | 44  | 66  | 92  | 122 | 157 | 195 | 236 |
|                 | 2450          | 3  | 10 | 22 | 38  | 59  | 83  | 111 | 143 | 179 | 219 |
|                 | 3600          | 2  | 8  | 18 | 32  | 49  | 71  | 96  | 125 | 158 | 195 |
|                 | 5800          | 1  | 6  | 14 | 25  | 40  | 58  | 80  | 106 | 136 | 169 |

### Simultaneous Transmission SAR Test Exemption with Respect to Multiple Exemption Criteria

Either SAR-based or MPE-based exemption may be considered for test exemption for fixed, mobile, or portable device exposure conditions; therefore, the contributions from each exemption in conjunction with the measured SAR (Evaluated<sub>k</sub> term) shall be used to determine exemption for simultaneous transmission according to Formula (C.1) [repeated from § 1.1307(b)(3)(ii)(B)].

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1 \quad (C.1)$$

- a. number of fixed, mobile, or portable RF sources claiming exemption using the § 1.1307(b)(3)(i)(B) formula for  $P_{th}$ , including existing exempt transmitters and those being added.
- b. number of fixed, mobile, or portable RF sources claiming exemption using the applicable § 1.1307(b)(3)(i)(C) Table 1 formula for Threshold ERP, including existing exempt transmitters and those being added.
- c. number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance.

$P_i$  the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source  $i$  at a distance between 0.5 cm and 40 cm (inclusive).

$P_{th,i}$  the exemption threshold power ( $P_{th}$ ) according to the § 1.1307(b)(3)(i)(B) formula for fixed, mobile, or portable RF source  $i$ .

$ERP_j$  the available maximum time-averaged power or the ERP, whichever is greater, of fixed, mobile, or portable RF source  $j$ .

$ERP_{th,j}$  exemption threshold ERP for fixed, mobile, or portable RF source  $j$ , at a distance of at least  $\lambda/2\pi$ , according to the applicable § 1.1307(b)(3)(i)(C) Table 1 formula at the location in question.

$Evaluated_k$  the maximum reported SAR or MPE of fixed, mobile, or portable RF source  $k$  either in the device or at the transmitter site from an existing evaluation.

Exposure Limit $_k$  either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable sources, as applicable

The sum of the ratios of the applicable terms for SAR-based, MPE-based and measured SAR or MPE shall be less than 1, to determine simultaneous transmission exposure compliance.

## 2.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

## 2.3. Test Result of RF Exposure Evaluation

The tune-up power for wifi 2.4GHz is 23dBm and for wifi 5G is 17dBm.

### Standalone Mode:

#### B.2 Blanket 1 mW Blanket Exemption

| Band      | Frequency (MHz)        | Tune-up Power(dBm) | Antenna Gain (dBm) | ERP (dBm) | ERP (mW) | Limit (mW/cm <sup>2</sup> ) | Verdict        |
|-----------|------------------------|--------------------|--------------------|-----------|----------|-----------------------------|----------------|
| WLAN 2.4G | 2400~2483.5            | 23                 | 5.53               | 26.38     | 434.51   | 1.00                        | Not applicable |
| WLAN 5G   | 5150~5350<br>5470~5850 | 17                 | 6.82               | 21.67     | 146.89   | 1.00                        |                |

#### B.3 MPE-based Exemption

| Band      | Frequency (MHz)        | Tune-up Power(dBm) | Antenna Gain (dBm) | Maximum ERP Power (dBm) | Maximum Power (mW) | $\lambda / 2 \pi$ (cm) | R (cm) | Threshold ERP (mW) | Result |
|-----------|------------------------|--------------------|--------------------|-------------------------|--------------------|------------------------|--------|--------------------|--------|
| WLAN 2.4G | 2400~2483.5            | 23                 | 5.53               | 26.38                   | 434.51             | 1.92                   | 5      | 480                | Pass   |
| WLAN 5G   | 5150~5350<br>5470~5850 | 17                 | 6.82               | 21.67                   | 146.89             | 0.82                   | 5      | 480                | Pass   |

**Conclusion:** The safety separation distance for the device is 5 cm.

\_\_\_\_\_ The End \_\_\_\_\_