



Project No: TM-2412000436P  
Report No.: TMWK2412004783KS

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# RF Exposure Evaluation Report

**FCC 47 CFR § 2.1091**

for  
**Digital device**

**Model: 9290038165**

Prepared for:

**Signify (China) Investment Co., Ltd.**

**Building no.9, Lane 888, Tianlin Road, Minhang District, Shanghai, 200233, China**

Prepared by

**Compliance Certification Services Inc.**

**Wugu Laboratory**

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**New Taipei City, Taiwan**

**Issued Date: August 22, 2025**

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Revision History

| Rev. | Issue Date      | Revisions     | Effect Page | Revised By |
|------|-----------------|---------------|-------------|------------|
| 00   | August 22, 2025 | Initial Issue | ALL         | Peggy Tsai |

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1 Attestation of Test Results

|   |  |
|---|--|
| Applicant   | Signify (China) Investment Co., Ltd.<br>Building no.9, Lane 888, Tianlin Road, Minhang District, Shanghai, 200233, China |
| Manufacturer  | Signify (China) Investment Co., Ltd.<br>Building no.9, Lane 888, Tianlin Road, Minhang District, Shanghai, 200233, China |
| Model Name  | 9290038165   |
| Applicable Standards  | FCC 47 CFR § 2.1091<br>FCC 47 CFR § 1.1307<br>FCC 47 CFR § 1.1310<br>Published RF exposure KDB procedures                |
| Receive EUT Date:   | December 31, 2024  |
| Compliance Certification Services Inc. , tested the above equipment in accordance with the requirements set forth in the above standards. Determination of compliance is based on the results of the compliance measurement,not taking into account measurement instrumentation uncertainty.All indications of Pass/Fail in this report are opinions expressed by Compliance Certification Services Inc, based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. |  |
| Approved & Released By:<br>  |  |
| Sky Zhou<br>Asst. Section Manager   |  |

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## 2 Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1091, the following FCC Published RF exposure [KDB](#) procedures:

- 447498 D04 Interim General RF Exposure Guidance v01
- 865664 D02 RF Exposure Reporting v01r02




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### 3 Device Under Test (DUT) Information

#### 3.1 DUT Description

|                   |  |
|-------------------|--|
| Product           | Digital device   |
| Trade Name        | <b>PHILIPS</b> , hue,  ignify |
| Model No.         | 9290038165   |
| Model Discrepancy | N/A  |
| EUT Serial #      | C429961921C6   |
| Software Version  | V5.0.10R10DK   |
| Hardware Version  | MB: C version<br>SB: B version<br>LB: B version  |
| Sample Stage      | Identical prototype  |

### 3.2 Wireless Technologies

|                         |  |          |                      |       |     |                |          |                      |       |         |                |          |                      |       |         |               |          |                      |       |                |               |          |                      |       |                 |               |          |                      |       |                |               |          |                      |       |                |               |          |                      |       |
|-------------------------|--|----------|----------------------|-------|-----|----------------|----------|----------------------|-------|---------|----------------|----------|----------------------|-------|---------|---------------|----------|----------------------|-------|----------------|---------------|----------|----------------------|-------|-----------------|---------------|----------|----------------------|-------|----------------|---------------|----------|----------------------|-------|----------------|---------------|----------|----------------------|-------|
| Frequency bands         | <input checked="" type="checkbox"/> Bluetooth: 2402MHz-2480MHz<br><input checked="" type="checkbox"/> 802.11b/g/n HT20/ac VHT20: 2412MHz ~ 2462 MHz<br><input checked="" type="checkbox"/> 802.11n HT40/ac VHT40: 2422MHz ~ 2452MHz<br><input checked="" type="checkbox"/> 802.11a/n HT20: 5180MHz ~ 5240MHz / 5260MHz ~ 5320MHz / 5500MHz ~ 5720MHz / 5745MHz ~ 5825MHz<br><input checked="" type="checkbox"/> 802.11ac VHT20: 5180MHz ~ 5240MHz / 5260MHz ~ 5320MHz / 5500MHz ~ 5720MHz / 5745MHz ~ 5825MHz<br><input type="checkbox"/> 802.11ax HE20: 5180MHz ~ 5240MHz / 5260MHz ~ 5320MHz / 5500MHz ~ 5720MHz / 5745MHz ~ 5825MHz<br><input checked="" type="checkbox"/> 802.11n HT40: 5190MHz ~ 5230MHz / 5270MHz ~ 5310MHz / 5510MHz ~ 5710MHz / 5755MHz ~ 5795MHz<br><input checked="" type="checkbox"/> 802.11ac VHT40: 5190MHz ~ 5230MHz / 5270MHz ~ 5310MHz / 5510MHz ~ 5710MHz / 5755MHz ~ 5795MHz<br><input type="checkbox"/> 802.11ax HE40: 5190MHz ~ 5230MHz / 5270MHz ~ 5310MHz / 5510MHz ~ 5710MHz / 5755MHz ~ 5795MHz<br><input checked="" type="checkbox"/> 802.11ac VHT80: 5210MHz / 5290MHz / 5530MHz ~ 5690MHz / 5775MHz<br><input type="checkbox"/> 802.11ax HE80: 5210MHz / 5290MHz / 5530MHz ~ 5690MHz / 5775MHz<br><input checked="" type="checkbox"/> Others: Zigbee: 2405MHz-2480MHz |          |                      |       |     |                |          |                      |       |         |                |          |                      |       |         |               |          |                      |       |                |               |          |                      |       |                 |               |          |                      |       |                |               |          |                      |       |                |               |          |                      |       |
| Exposure classification | <input type="checkbox"/> Occupational/Controlled exposure<br><input checked="" type="checkbox"/> General Population/Uncontrolled exposure  |          |                      |       |     |                |          |                      |       |         |                |          |                      |       |         |               |          |                      |       |                |               |          |                      |       |                 |               |          |                      |       |                |               |          |                      |       |                |               |          |                      |       |
| Antenna Specification   | <p><b>Type:</b> PIFA Antenna</p> <p>Bluetooth: Gain: 2.6 dBi<br/>Zigbee: Gain: 2 dBi<br/>WIFI 2.4G: Gain: 2.6 dBi<br/>WIFI 5G:<br/>Band1: Gain: 4.4 dBi<br/>Band2: Gain: 4.4 dBi<br/>Band3: Gain: 4.4 dBi<br/>Band4: Gain: 4.4 dBi</p> <table><tr><td>BT:</td><td>Antenna Gain :</td><td>2.60 dBi</td><td>(Numeric gain: 1.82)</td><td>Worst</td></tr><tr><td>Zigbee:</td><td>Antenna Gain :</td><td>2.00 dBi</td><td>(Numeric gain: 1.58)</td><td>Worst</td></tr><tr><td>2.4GHz:</td><td>Antenna Gain:</td><td>2.60 dBi</td><td>(Numeric gain: 1.82)</td><td>Worst</td></tr><tr><td>5GHz(U-NII-1):</td><td>Antenna Gain:</td><td>4.40 dBi</td><td>(Numeric gain: 2.75)</td><td>Worst</td></tr><tr><td>5GHz(U-NII-2A):</td><td>Antenna Gain:</td><td>4.40 dBi</td><td>(Numeric gain: 2.75)</td><td>Worst</td></tr><tr><td>5GHz(U-NII-2C)</td><td>Antenna Gain:</td><td>4.40 dBi</td><td>(Numeric gain: 2.75)</td><td>Worst</td></tr><tr><td>5GHz(U-NII-3):</td><td>Antenna Gain:</td><td>4.40 dBi</td><td>(Numeric gain: 2.75)</td><td>Worst</td></tr></table>   |          |                      |       | BT: | Antenna Gain : | 2.60 dBi | (Numeric gain: 1.82) | Worst | Zigbee: | Antenna Gain : | 2.00 dBi | (Numeric gain: 1.58) | Worst | 2.4GHz: | Antenna Gain: | 2.60 dBi | (Numeric gain: 1.82) | Worst | 5GHz(U-NII-1): | Antenna Gain: | 4.40 dBi | (Numeric gain: 2.75) | Worst | 5GHz(U-NII-2A): | Antenna Gain: | 4.40 dBi | (Numeric gain: 2.75) | Worst | 5GHz(U-NII-2C) | Antenna Gain: | 4.40 dBi | (Numeric gain: 2.75) | Worst | 5GHz(U-NII-3): | Antenna Gain: | 4.40 dBi | (Numeric gain: 2.75) | Worst |
| BT:                     | Antenna Gain :   | 2.60 dBi | (Numeric gain: 1.82) | Worst |     |                |          |                      |       |         |                |          |                      |       |         |               |          |                      |       |                |               |          |                      |       |                 |               |          |                      |       |                |               |          |                      |       |                |               |          |                      |       |
| Zigbee:                 | Antenna Gain :   | 2.00 dBi | (Numeric gain: 1.58) | Worst |     |                |          |                      |       |         |                |          |                      |       |         |               |          |                      |       |                |               |          |                      |       |                 |               |          |                      |       |                |               |          |                      |       |                |               |          |                      |       |
| 2.4GHz:                 | Antenna Gain:  | 2.60 dBi | (Numeric gain: 1.82) | Worst |     |                |          |                      |       |         |                |          |                      |       |         |               |          |                      |       |                |               |          |                      |       |                 |               |          |                      |       |                |               |          |                      |       |                |               |          |                      |       |
| 5GHz(U-NII-1):          | Antenna Gain:  | 4.40 dBi | (Numeric gain: 2.75) | Worst |     |                |          |                      |       |         |                |          |                      |       |         |               |          |                      |       |                |               |          |                      |       |                 |               |          |                      |       |                |               |          |                      |       |                |               |          |                      |       |
| 5GHz(U-NII-2A):         | Antenna Gain:  | 4.40 dBi | (Numeric gain: 2.75) | Worst |     |                |          |                      |       |         |                |          |                      |       |         |               |          |                      |       |                |               |          |                      |       |                 |               |          |                      |       |                |               |          |                      |       |                |               |          |                      |       |
| 5GHz(U-NII-2C)          | Antenna Gain:  | 4.40 dBi | (Numeric gain: 2.75) | Worst |     |                |          |                      |       |         |                |          |                      |       |         |               |          |                      |       |                |               |          |                      |       |                 |               |          |                      |       |                |               |          |                      |       |                |               |          |                      |       |
| 5GHz(U-NII-3):          | Antenna Gain:  | 4.40 dBi | (Numeric gain: 2.75) | Worst |     |                |          |                      |       |         |                |          |                      |       |         |               |          |                      |       |                |               |          |                      |       |                 |               |          |                      |       |                |               |          |                      |       |                |               |          |                      |       |

Maximum  
Tune up  
power

|        |           |             |
|--------|-----------|-------------|
| Zigbee | 10.50 dBm | (11.220 mW) |
| BLE    | 6.00 dBm  | (3.98 mW)   |

#### 2.4GHz

|                      |           |             |
|----------------------|-----------|-------------|
| IEEE 802.11b         | 18.00 dBm | (63.096 mW) |
| IEEE 802.11g         | 14.00 dBm | (25.119 mW) |
| IEEE 802.11n HT 20   | 13.50 dBm | (22.39 mW)  |
| IEEE 802.11n HT 40   | 12.50 dBm | (17.78 mW)  |
| IEEE 802.11ac VHT 20 | 13.50 dBm | (22.39 mW)  |
| IEEE 802.11ac VHT 40 | 12.50 dBm | (17.78 mW)  |

#### 5GHz (U-NII-1)

|                      |           |             |
|----------------------|-----------|-------------|
| IEEE 802.11a         | 19.50 dBm | (89.125 mW) |
| IEEE 802.11n HT 20   | 19.50 dBm | (89.125 mW) |
| IEEE 802.11n HT 40   | 17.00 dBm | (50.12 mW)  |
| IEEE 802.11ac VHT 20 | 19.50 dBm | (89.13 mW)  |
| IEEE 802.11ac VHT 40 | 17.00 dBm | (50.12 mW)  |
| IEEE 802.11ac VHT 80 | 14.00 dBm | (25.12 mW)  |

#### 5GHz (U-NII-2A)

|                      |           |             |
|----------------------|-----------|-------------|
| IEEE 802.11a         | 20.00 dBm | (100.00 mW) |
| IEEE 802.11n HT 20   | 20.00 dBm | (100.00 mW) |
| IEEE 802.11n HT 40   | 17.00 dBm | (50.12 mW)  |
| IEEE 802.11ac VHT 20 | 20.00 dBm | (100.00 mW) |
| IEEE 802.11ac VHT 40 | 17.00 dBm | (50.12 mW)  |
| IEEE 802.11ac VHT 80 | 14.50 dBm | (28.18 mW)  |

#### 5GHz (U-NII-2C)

|                      |           |            |
|----------------------|-----------|------------|
| IEEE 802.11a         | 16.50 dBm | (44.67 mW) |
| IEEE 802.11n HT 20   | 17.50 dBm | (56.23 mW) |
| IEEE 802.11n HT 40   | 17.00 dBm | (50.12 mW) |
| IEEE 802.11ac VHT 20 | 17.50 dBm | (56.23 mW) |
| IEEE 802.11ac VHT 40 | 17.00 dBm | (50.12 mW) |
| IEEE 802.11ac VHT 80 | 16.00 dBm | (39.81 mW) |

#### 5GHz (U-NII-3)

|                     |           |            |
|---------------------|-----------|------------|
| IEEE 802.11a        | 18.50 dBm | (70.79 mW) |
| IEEE 802.11n HT20   | 19.50 dBm | (89.13 mW) |
| IEEE 802.11n HT40   | 17.00 dBm | (50.12 mW) |
| IEEE 802.11ac VHT20 | 19.50 dBm | (89.13 mW) |
| IEEE 802.11ac VHT40 | 17.00 dBm | (50.12 mW) |
| IEEE 802.11ac VHT80 | 19.00 dBm | (79.43 mW) |

#### Notes:

- For more details, please refer to the User's manual of the EUT.
- Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
- The power referred the Tune up power of the test report TMWK2412004778KR, TMWK2412004779KR, TMWK2412004780KR and TMWK2412004781KR for RF Exposure assessment purpose.



## 4 Maximum Permissible Exposure

### 4.1 Limits for Maximum Permissible Exposure (MPE)

**Table 1 - Limits for Maximum Permissible Exposure (MPE)**

| Frequency range (MHz)                                   | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
|---|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (A) Limits for Occupational/Controlled Exposure         |                               |                               |                                     |                          |
| 0.3-3.0   | 614                           | 1.63                          | * 100                               | 6                        |
| 3.0-30  | 1842/f                        | 4.89/f                        | * 900/f <sup>2</sup>                | 6                        |
| 30-300  | 61.4                          | 0.163                         | 1.0                                 | 6                        |
| 300-1,500   |                               |                               | f/300                               | 6                        |
| 1,500-100,000   |                               |                               | 5                                   | 6                        |
| (B) Limits for General Population/Uncontrolled Exposure |                               |                               |                                     |                          |
| 0.3-1.34  | 614                           | 1.63                          | * 100                               | 30                       |
| 1.34-30   | 824/f                         | 2.19/f                        | * 180/f <sup>2</sup>                | 30                       |
| 30-300  | 27.5                          | 0.073                         | 0.2                                 | 30                       |
| 300-1,500   |                               |                               | f/1500                              | 30                       |
| <b><u>1,500-100,000</u></b>                             |                               |                               | 1.0                                 | 30                       |

## 4.2 MPE Calculation Method

### Calculation

Given  $E = \frac{\sqrt{30 \times P \times G}}{d}$  &  $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \text{ Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm<sup>2</sup>

If, Substituting the MPE safe distance using d = 20 cm into Equation 1:

$$S = 0.000199 \times P \times G$$

### 4.3 MPE EXEMPTION

- (A) The available maximum time-averaged power is no more than 1 mW
- (B) The available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold  $P_{th}$  (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive).  $P_{th}$  is given by:

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

Where

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

and

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

$d$  = the separation distance (cm);

- (C) Using Table 1 and the minimum separation distance ( $R$  in meters) from the body of a nearby person for the frequency ( $f$  in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply,  $R$  must be at least  $\lambda/2\pi$ , where  $\lambda$  is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP 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 (1.64 linear value).

| Single RF Sources Subject to Routine Environmental Evaluation |                       |
|---|-----------------------|
| RF Source frequency (MHz)                                     | Threshold ERP (watts) |
| 0.3-1.34  | $1,920 R^2$ .         |
| 1.34-30   | $3,450 R^2/f^2$ .     |
| 30-300  | $3.83 R^2$ .          |
| 300-1,500   | $0.0128 R^2 f$ .      |
| 1,500-100,000   | $19.2 R^2$ .          |
| Note: $R$ is in meters, $f$ is in MHz.                        |                       |

#### 4.4 Multiple RF sources

In the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation),

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



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## 5 MPE Exemption Option B

### Zigbee

| Mode   | Frequency (MHz) | R(m) | Max Tune-up power (dBm) | G(dBi) | Max Tune-up EIRP (dBm) | Max Tune-up ERP (dBm) | Max Tune-up ERP (mW) | ERP Threshold (mW) | MPE Exemption |
|--------|-----------------|------|-------------------------|--------|------------------------|-----------------------|----------------------|--------------------|---------------|
| Zigbee | 2405            | 0.2  | 10.5                    | 2.00   | 12.50                  | 10.35                 | 10.839               | 3060               | Complies      |

### Bluetooth

| Mode | Frequency (MHz) | R(m) | Max Tune-up power (dBm) | G(dBi) | Max Tune-up EIRP (dBm) | Max Tune-up ERP (dBm) | Max Tune-up ERP (mW) | ERP Threshold (mW) | MPE Exemption |
|------|-----------------|------|-------------------------|--------|------------------------|-----------------------|----------------------|--------------------|---------------|
| BLE  | 2402            | 0.2  | 6.0                     | 2.60   | 8.60                   | 6.45                  | 4.416                | 3060               | Complies      |

### WIFI 2.4GHz (DTS)

| Mode                 | Frequency (MHz) | R(m) | Max Tune-up power (dBm) | G(dBi) | Max Tune-up EIRP (dBm) | Max Tune-up ERP (dBm) | Max Tune-up ERP (mW) | ERP Threshold (mW) | MPE Exemption |
|----------------------|-----------------|------|-------------------------|--------|------------------------|-----------------------|----------------------|--------------------|---------------|
| IEEE 802.11b         | 2412            | 0.2  | 18.0                    | 2.60   | 20.60                  | 18.45                 | 69.984               | 3060               | Complies      |
| IEEE 802.11g         | 2412            | 0.2  | 14.0                    | 2.60   | 16.60                  | 14.45                 | 27.861               | 3060               | Complies      |
| IEEE 802.11n HT 20   | 2412            | 0.2  | 13.5                    | 2.60   | 16.10                  | 13.95                 | 24.831               | 3060               | Complies      |
| IEEE 802.11n HT 40   | 2422.00         | 0.2  | 12.5                    | 2.60   | 15.10                  | 12.95                 | 19.724               | 3060               | Complies      |
| IEEE 802.11ac VHT 20 | 2412.00         | 0.2  | 13.5                    | 2.60   | 16.10                  | 13.95                 | 24.831               | 3060               | Complies      |
| IEEE 802.11ac VHT 40 | 2422.00         | 0.2  | 12.5                    | 2.60   | 15.10                  | 12.95                 | 19.724               | 3060               | Complies      |

### WIFI 5.2GHz (U-NII 1)

| Mode                 | Frequency (MHz) | R(m) | Max Tune-up power (dBm) | G(dBi) | Max Tune-up EIRP (dBm) | Max Tune-up ERP (dBm) | Max Tune-up ERP (mW) | ERP Threshold (mW) | MPE Exemption |
|----------------------|-----------------|------|-------------------------|--------|------------------------|-----------------------|----------------------|--------------------|---------------|
| IEEE 802.11a         | 5220            | 0.2  | 19.5                    | 4.40   | 23.90                  | 21.75                 | 149.624              | 3060               | Complies      |
| IEEE 802.11n HT 20   | 5220            | 0.2  | 19.5                    | 4.40   | 23.90                  | 21.75                 | 149.624              | 3060               | Complies      |
| IEEE 802.11n HT 40   | 5230            | 0.2  | 17.0                    | 4.40   | 21.40                  | 19.25                 | 84.140               | 3060               | Complies      |
| IEEE 802.11ac VHT 20 | 5220            | 0.2  | 19.5                    | 4.40   | 23.90                  | 21.75                 | 149.624              | 3060               | Complies      |
| IEEE 802.11ac VHT 40 | 5230            | 0.2  | 17.0                    | 4.40   | 21.40                  | 19.25                 | 84.140               | 3060               | Complies      |
| IEEE 802.11ac VHT 80 | 5210            | 0.2  | 14.0                    | 4.40   | 18.40                  | 16.25                 | 42.170               | 3060               | Complies      |

### WIFI 5.3GHz (U-NII 2A)

| Mode                 | Frequency (MHz) | R(m) | Max Tune-up power (dBm) | G(dBi) | Max Tune-up EIRP (dBm) | Max Tune-up ERP (dBm) | Max Tune-up ERP (mW) | ERP Threshold (mW) | MPE Exemption |
|----------------------|-----------------|------|-------------------------|--------|------------------------|-----------------------|----------------------|--------------------|---------------|
| IEEE 802.11a         | 5260            | 0.2  | 20.0                    | 4.40   | 24.40                  | 22.25                 | 167.880              | 3060               | Complies      |
| IEEE 802.11n HT 20   | 5260            | 0.2  | 20.0                    | 4.40   | 24.40                  | 22.25                 | 167.880              | 3060               | Complies      |
| IEEE 802.11n HT 40   | 5270            | 0.2  | 17.0                    | 4.40   | 21.40                  | 19.25                 | 84.140               | 3060               | Complies      |
| IEEE 802.11ac VHT 20 | 5260            | 0.2  | 20.0                    | 4.40   | 24.40                  | 22.25                 | 167.880              | 3060               | Complies      |
| IEEE 802.11ac VHT 40 | 5270            | 0.2  | 17.0                    | 4.40   | 21.40                  | 19.25                 | 84.140               | 3060               | Complies      |
| IEEE 802.11ac VHT 80 | 5290            | 0.2  | 14.5                    | 4.40   | 18.90                  | 16.75                 | 47.315               | 3060               | Complies      |

### WIFI 5.5GHz (U-NII 2C)

| Mode                 | Frequency (MHz) | R(m) | Max Tune-up power (dBm) | G(dBi) | Max Tune-up EIRP (dBm) | Max Tune-up ERP (dBm) | Max Tune-up ERP (mW) | ERP Threshold (mW) | MPE Exemption |
|----------------------|-----------------|------|-------------------------|--------|------------------------|-----------------------|----------------------|--------------------|---------------|
| IEEE 802.11a         | 5580            | 0.2  | 16.5                    | 4.40   | 20.90                  | 18.75                 | 74.989               | 3060               | Complies      |
| IEEE 802.11n HT 20   | 5580            | 0.2  | 17.5                    | 4.40   | 21.90                  | 19.75                 | 94.406               | 3060               | Complies      |
| IEEE 802.11n HT 40   | 5550            | 0.2  | 17.0                    | 4.40   | 21.40                  | 19.25                 | 84.140               | 3060               | Complies      |
| IEEE 802.11ac VHT 20 | 5580            | 0.2  | 17.5                    | 4.40   | 21.90                  | 19.75                 | 94.406               | 3060               | Complies      |
| IEEE 802.11ac VHT 40 | 5550            | 0.2  | 17.0                    | 4.40   | 21.40                  | 19.25                 | 84.140               | 3060               | Complies      |
| IEEE 802.11ac VHT 80 | 5610            | 0.2  | 16.0                    | 4.40   | 20.40                  | 18.25                 | 66.834               | 3060               | Complies      |

### WIFI 5.8GHz (U-NII 3)

| Mode                | Frequency (MHz) | R(m) | Max Tune-up power (dBm) | G(dBi) | Max Tune-up EIRP (dBm) | Max Tune-up ERP (dBm) | Max Tune-up ERP (mW) | ERP Threshold (mW) | MPE Exemption |
|---------------------|-----------------|------|-------------------------|--------|------------------------|-----------------------|----------------------|--------------------|---------------|
| IEEE 802.11a        | 5745            | 0.2  | 18.5                    | 4.40   | 22.90                  | 20.75                 | 118.850              | 3060               | Complies      |
| IEEE 802.11n HT20   | 5745            | 0.2  | 19.5                    | 4.40   | 23.90                  | 21.75                 | 149.624              | 3060               | Complies      |
| IEEE 802.11n HT40   | 5755            | 0.2  | 17.0                    | 4.40   | 21.40                  | 19.25                 | 84.140               | 3060               | Complies      |
| IEEE 802.11ac VHT20 | 5745            | 0.2  | 19.5                    | 4.40   | 23.90                  | 21.75                 | 149.624              | 3060               | Complies      |
| IEEE 802.11ac VHT40 | 5755            | 0.2  | 17.0                    | 4.40   | 21.40                  | 19.25                 | 84.140               | 3060               | Complies      |
| IEEE 802.11ac VHT80 | 5775            | 0.2  | 19.0                    | 4.40   | 23.40                  | 21.25                 | 133.352              | 3060               | Complies      |

## 6 Simultaneous Transmission Analysis

In the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation),

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

### 6.1 Sum of the Bluetooth & Zigbee Bluetooth + Zigbee

| Mode   | Max Tune-up ERP(mW) | ERP Threshold(mW) | simultaneous Transmission | simultaneous Transmission Limit |
|--------|---------------------|-------------------|---------------------------|---------------------------------|
| BLE    | 4.416               | 3060              | 0.005                     | ≤1                              |
| Zigbee | 10.839              | 3060              |                           |                                 |

### 6.2 Sum of the WIFI 2.4GHz & Zigbee WiFi 2.4GHz + Zigbee

| Mode        | Max Tune-up ERP(mW) | ERP Threshold(mW) | simultaneous Transmission | simultaneous Transmission Limit |
|-------------|---------------------|-------------------|---------------------------|---------------------------------|
| WiFi 2.4GHz | 69.984              | 3060              | 0.027                     | ≤1                              |
| Zigbee      | 10.839              | 3060              |                           |                                 |

### 6.3 Sum of the WIFI 5GHz & Bluetooth & Zigbee WiFi 5GHz + Bluetooth + Zigbee

| Mode      | Max Tune-up ERP(mW) | ERP Threshold(mW) | simultaneous Transmission | simultaneous Transmission Limit |
|-----------|---------------------|-------------------|---------------------------|---------------------------------|
| WiFi 5GHz | 167.880             | 3060              | 0.060                     | ≤1                              |
| Bluetooth | 4.416               | 3060              |                           |                                 |
| Zigbee    | 10.839              | 3060              |                           |                                 |

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## 7 Facilities

All measurement facilities used to collect the measurement data are located at

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan.

**--End of Test Report--**