



# RADIO EXPOSURE TEST REPORT

**FCC ID** : UDX-600191010  
**Equipment** : Catalyst Wireless 9163E Series Wi-Fi 6E Access Point  
**Brand Name** : CISCO  
**Model Name** : CW9163E-B, CW9163E-MR  
**Applicant** : Cisco Systems, Inc.  
170 West Tasman Drive, San Jose, CA 95134 USA  
**Manufacturer** : Cisco Systems, Inc.  
170 West Tasman Drive, San Jose, CA 95134 USA  
**Standard** : 47 CFR Part 2.1091

The product was received on Apr. 07, 2023, and testing was started from Apr. 12, 2023 and completed on Sep. 08, 2023. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.



Approved by: Sam Chen

**Sporton International Inc. Hsinchu Laboratory**  
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



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### Photographs of EUT v01



## History of this test report

TEL : 886-3-656-9065  
FAX : 886-3-656-9085  
Report Template No.: CB-A1\_1 Ver1.1

Page Number : 3 of 14  
Issued Date : Sep. 19, 2023  
Report Version : 01



## Summary of Test Result

| Report Clause | Ref Std. Clause | Test Items          | Result (PASS/FAIL) | Remark |
|---------------|-----------------|---------------------|--------------------|--------|
| 2             | -               | Exposure evaluation | PASS               | -      |

**Conformity Assessment Condition:**

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".

**Disclaimer:**

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Sam Chen

Report Producer: Viola Huang



# 1 General Description

## 1.1 EUT General Information

| RF General Information |                                                  |                                                  |                                                                                                                                                                                                |
|------------------------|--------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Evaluation Mode        | Frequency Range (MHz)                            | Operating Frequency (MHz)                        | Modulation Type                                                                                                                                                                                |
| 2.4GHz WLAN            | 2400-2483.5                                      | 2412-2462                                        | 802.11b: DSSS (DBPSK, DQPSK, CCK)<br>802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)<br>VHT: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)<br>802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) |
| 5GHz WLAN              | 5150-5250<br>5250-5350<br>5470-5725<br>5725-5850 | 5180-5240<br>5260-5320<br>5500-5720<br>5745-5825 | 802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)<br>802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)<br>802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)                                 |
| Bluetooth              | 2400-2483.5                                      | 2402-2480                                        | LE: GFSK                                                                                                                                                                                       |
| Zigbee                 | 2400-2483.5                                      | 2405-2480                                        | O-QPSK                                                                                                                                                                                         |



## 1.2 Antenna Information

| Ant. | 2.4GHz Port | 5GHz Port | Bluetooth / Zigbee | GPS | Brand | Model Name   | Antenna Type | Connector | Remark           | Gain (dBi) |
|------|-------------|-----------|--------------------|-----|-------|--------------|--------------|-----------|------------------|------------|
| 1    | 2           | 2         | -                  | -   | CISCO | CW-ANT-O1-NS | Dipole       | N-Type    | External Antenna | Note 1     |
| 2    | 1           | 1         | -                  | -   | CISCO | CW-ANT-O1-NS | Dipole       | N-Type    | External Antenna |            |
| 3    | -           | -         | -                  | -   | CISCO | CW-ANT-O1-NS | Dipole       | N-Type    | External Antenna |            |
| 4    | -           | -         | -                  | -   | CISCO | CW-ANT-O1-NS | Dipole       | N-Type    | External Antenna |            |
| 5    | 1           | 1         | -                  | -   | AWAN  | A8M6P-100005 | PIFA         | N-Type    | Internal Antenna |            |
| 6    | -           | -         | 1                  | -   | AWAN  | A8M6P-100003 | PIFA         | N-Type    | Internal Antenna |            |
| 7    | -           | -         | -                  | 1   | AWAN  | A8M6P-100004 | PIFA         | N-Type    | Internal Antenna |            |
| 8    | -           | -         | -                  | 2   | CISCO | CW-ANT-GPS2  | Patch        | SMA       | External Antenna |            |

Note1:

| Ant. | Gain (dBi) |             |              |              |             |             |             |             |             |                    | GPS  |
|------|------------|-------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|--------------------|------|
|      | 2.4GHz     | 5GHz UNII 1 | 5GHz UNII 2A | 5GHz UNII 2C | 5GHz UNII 3 | 6GHz UNII 5 | 6GHz UNII 6 | 6GHz UNII 7 | 6GHz UNII 8 | Bluetooth / Zigbee |      |
| 1    | 4          | 8           | 8            | 8            | 8           | -           | -           | -           | -           | -                  | -    |
| 2    | 4          | 8           | 8            | 8            | 8           | -           | -           | -           | -           | -                  | -    |
| 3    | -          | -           | -            | -            | -           | 8           | 8           | 8           | 8           | -                  | -    |
| 4    | -          | -           | -            | -            | -           | 8           | 8           | 8           | 8           | -                  | -    |
| 5    | 4.9        | 3           | 3            | 3.1          | 3           | 2.8         | 3.2         | 3.2         | 2.7         | -                  | -    |
| 6    | -          | -           | -            | -            | -           | -           | -           | -           | -           | 5.7                | -    |
| 7    | -          | -           | -            | -            | -           | -           | -           | -           | -           | -                  | 3.7  |
| 8    | -          | -           | -            | -            | -           | -           | -           | -           | -           | -                  | 3.18 |

Note2: The above information was declared by manufacturer.

Note3: The 6GHz function of Antennas 3~5 doesn't be enabled at this time.

Note4: Directional gain information

| Type   | Maximum Output Power                                                                                                                                | Power Spectral Density                                                                                                              |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Non-BF | Directional gain = Max.gain + array gain.<br>For power measurements on IEEE 802.11 devices<br>Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4 | $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left( \sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$ |
| BF     | $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left( \sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$                 | $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left( \sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$ |

Ex.

Directional Gain (NSS1) formula :

$$DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left( \sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$$

$$NSS1(g1,1) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20} ;$$

$$g_{j,k} = (NSS1(g1,1) + NSS1(g1,2))^2$$

$$DG = 10 \log[(NSS1(g1,1) + NSS1(g1,2))^2 / N_{ANT}] \Rightarrow 10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$$

Where ;

Dipole

$$2.4G \ G1= 4 \text{ dBi} ; G2= 4 \text{ dBi} ; DG= 7.01\text{dBi}$$

$$5G \ G1= 8 \text{ dBi} ; G2= 8 \text{ dBi} ; DG= 11.01\text{dBi}$$

#### <For Radio 1 (2.4GHz/5GHz Functions)>

**IEEE 802.11b/g/n/VHT/ax**

**For 1TX/2RX:**

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used to transmit at one time.

**For 2TX/2RX:**

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

#### <For Scanning Radio 2 (2.4GHz/5GHz Functions)>

**IEEE 802.11b/g/n/VHT/ax**

**For 1TX/1RX:**

Only Port 1 can be use as transmitting/receiving antenna.

#### <For Radio 3 / Bluetooth/Zigbee Functions>

**For 1TX/1RX:**

Only Port 1 can be use as transmitting/receiving antenna.

#### <For Radio 4 / GPS Functions>

**For 1RX:**

The EUT supports the antenna with RX diversity functions.

Both Port 1 and Port 2 support receive functions, but only one of them will be used to receive at one time.



### 1.3 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

| Model Name | SW     |
|------------|--------|
| CW9163E-B  | Cisco  |
| CW9163E-MR | Meraki |

Note1: From the above models, model: CW9163E-B was selected as representative model for the test and its data was recorded in this report.

Note2: The above information was declared by manufacturer.

### 1.4 Table for Radio Function

| Radio | Support Band                         |
|-------|--------------------------------------|
| 1     | 2.4GHz / 5GHz UNII 1~UNII 3          |
| 2     | Scanning 2.4GHz / 5GHz UNII 1~UNII 3 |
| 3     | Bluetooth / Zigbee                   |
| 4     | GPS                                  |

Note1: The above information was declared by manufacturer.

Note2: The Radio 1 and Radio 2 can't be operated simultaneously.

### 1.5 Table for EUT Information

| EUT | RJ-45 Connector                             | Console Connector                          |
|-----|---------------------------------------------|--------------------------------------------|
| 1   | Brand Name: UDE<br>Model Name: R66-MK-3001  | Brand Name: UDE<br>Model Name: R66-MK-2001 |
| 2   | Brand Name: ODS<br>Model Name: CMK-RJ45-CAP | Brand Name: ODS<br>Model Name: CMK-RJ45-CG |

Note: From the above EUTs, EUT 1 was selected as representative EUT for all the tests and its data was recorded in this report.



## 1.6 Table of Serial Number

| Test items                                                                                    | Serial Number |
|-----------------------------------------------------------------------------------------------|---------------|
| For 2.4GHz / 5GHz<br>(As below for Non Beamforming mode)<br>1. Maximum Conducted Output Power | DSM2711000W   |
| (As below for Beamforming mode)<br>2. Maximum Conducted Output Power                          | DSM2711001S   |
| For Bluetooth<br>3. Maximum Conducted Output Power                                            | DSM2711000B   |
| For Zigbee<br>4. Maximum Conducted Output Power                                               | DSM27110013   |

Note: The above information was declared by manufacturer.

## 1.7 Accessories

| Equipment                             | Brand Name | Model Name    | Remark              |
|---------------------------------------|------------|---------------|---------------------|
| Mount bracket 1*1                     | Meraki     | MA-MNT-MR-16  | Used for CW9163E-MR |
| Mount bracket 2*1                     | Cisco      | AIR-MNT-VERT1 | Used for CW9163E-B  |
| Waterproof Covering (Cap) 1*1         | UDE        | R66-MK-3001   | Used for EUT 1      |
| Waterproof Covering (Cap) 2*1         | ODS        | CMK-RJ45-CAP  | Used for EUT 2      |
| Waterproof Covering (Cable Gland) 1*1 | UDE        | R66-MK-2001   | Used for EUT 1      |
| Waterproof Covering (Cable Gland) 2*1 | ODS        | CMK-RJ45-CG   | Used for EUT 2      |

## 1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 2.1091
- ♦ KDB 447498 D04 Interim General RF Exposure Guidance v01

The following reference test guidance is not within the scope of accreditation of TAF.

- ♦ 47 CFR Part 1.1307
- ♦ 47 CFR Part 1.1310

## 1.9 Testing Location

| Testing Location Information                              |                                                                                    |
|-----------------------------------------------------------|------------------------------------------------------------------------------------|
| Test Lab. : Sporton International Inc. Hsinchu Laboratory |                                                                                    |
| Hsinchu                                                   | ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) |
| (TAF: 3787)                                               | TEL: 886-3-656-9065 FAX: 886-3-656-9085                                            |
|                                                           | Test site Designation No. TW3787 with FCC.                                         |
|                                                           | Conformity Assessment Body Identifier (CABID) TW3787 with ISED.                    |



## 2 Maximum Permissible Exposure

### 2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|------------------------------------------|------------------------------------------------------------------|
| 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                                                               |
| 300-1500              | -                                 | -                                 | f/300                                    | <6                                                               |
| 1500-100,000          | -                                 | -                                 | 5                                        | <6                                                               |

(B) Limits for General Population / Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|------------------------------------------|------------------------------------------------------------------|
| 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                                                              |
| 300-1500              | -                                 | -                                 | f/1500                                   | <30                                                              |
| 1500-100,000          | -                                 | -                                 | 1.0                                      | <30                                                              |

Note: f = frequency in MHz ; \*Plane-wave equivalent power density

### 2.2 MPE Calculation Method

The MPE was calculated at 59 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = RF output power (W)

**G** = EUT Antenna numeric gain (numeric)

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

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



## 2.3 MPE Exemption

Option (A): 1.1307(b)(3)(i)(A): Available maximum time-averaged power is < 1 mW

Option (B): 1.1307(b)(3)(i)(B): Device operates between 300 MHz and 6 GHz and the maximum time-averaged power or effective radiated power (ERP), whichever is greater, <= P<sub>th</sub>.

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

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);

Option (C): 1.1307(b)(3)(i)(C): ERP is below a threshold calculated based on the distance

$R$  between the person and the antenna / radiating structure, where  $R > \lambda / 2 \pi$ .

| 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.                        |                       |



## 2.4 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

### For Radio 1

| Mode     | DG (dBi) | Power (dBm) | EIRP (dBm) | Tolerance (dB) | Tune-up EIRP (dBm) | Distance (cm) | S (mW/cm <sup>2</sup> ) | S Limit (mW/cm <sup>2</sup> ) | Option | TL EIRP (dBm) | TL Ratio |
|----------|----------|-------------|------------|----------------|--------------------|---------------|-------------------------|-------------------------------|--------|---------------|----------|
| 2.4G;D1D | 7.01     | 28.70       | 35.71      | 0.28           | 35.99              | 59            | 0.09080                 | 1.00000                       | C      | 40.398        | 0.3624   |
| 5.2G;D1D | 8.00     | 23.01       | 31.01      | 0.50           | 31.51              | 59            | 0.03237                 | 1.00000                       | C      | 40.398        | 0.1292   |
| 5.3G;D1D | 11.01    | 18.95       | 29.96      | 0.03           | 29.99              | 59            | 0.02281                 | 1.00000                       | C      | 40.398        | 0.0910   |
| 5.6G;D1D | 8.00     | 21.97       | 29.97      | 0.02           | 29.99              | 59            | 0.02281                 | 1.00000                       | C      | 40.398        | 0.0910   |
| 5.8G;D1D | 8.00     | 27.97       | 35.97      | 0.02           | 35.99              | 59            | 0.09080                 | 1.00000                       | C      | 40.398        | 0.3624   |

### For Scanning Radio 2

| Mode     | DG (dBi)  | Power (dBm) | EIRP (dBm) | Tolerance (dB) | Tune-up EIRP (dBm) | Distance (cm) | S (mW/cm <sup>2</sup> ) | S Limit (mW/cm <sup>2</sup> ) | Option | TL EIRP (dBm) | TL Ratio |
|----------|-----------|-------------|------------|----------------|--------------------|---------------|-------------------------|-------------------------------|--------|---------------|----------|
| 2.4G;G1D | 4.90      | 28.26       | 33.16      | 0.50           | 33.66              | 59            | 0.05310                 | 1.00000                       | C      | 40.398        | 0.2119   |
| 5.2G;D1D | 3.00/1.60 | 19.33       | 22.33      | 0.50           | 22.83              | 59            | 0.00439                 | 1.00000                       | C      | 40.398        | 0.0175   |
| 5.3G;D1D | 3.00      | 22.57       | 25.57      | 0.50           | 26.07              | 59            | 0.00925                 | 1.00000                       | C      | 40.398        | 0.0369   |
| 5.6G;D1D | 3.10      | 22.81       | 25.91      | 0.50           | 26.41              | 59            | 0.01000                 | 1.00000                       | C      | 40.398        | 0.0399   |
| 5.8G;D1D | 3.00      | 24.29       | 27.29      | 0.50           | 27.79              | 59            | 0.01374                 | 1.00000                       | C      | 40.398        | 0.0548   |

### For Radio 3

| Mode       | DG (dBi) | Power (dBm) | EIRP (dBm) | Tolerance (dB) | Tune-up EIRP (dBm) | Distance (cm) | S (mW/cm <sup>2</sup> ) | S Limit (mW/cm <sup>2</sup> ) | Option | TL EIRP (dBm) | TL Ratio |
|------------|----------|-------------|------------|----------------|--------------------|---------------|-------------------------|-------------------------------|--------|---------------|----------|
| 2.4G;BT-LE | 5.70     | 20.14       | 25.84      | 0.50           | 26.34              | 59            | 0.00984                 | 1.00000                       | C      | 40.398        | 0.0393   |
| 2.4G;G1D   | 5.70     | 20.03       | 25.73      | 0.50           | 26.23              | 59            | 0.00960                 | 1.00000                       | C      | 40.398        | 0.0383   |

**Simultaneous Transmission Analysis Mode:****Mode 1: Radio 1 (WLAN 2.4GHz+5GHz) + Scanning Radio 2 ( WLAN 2.4GHz) + Radio 3 (Bluetooth)**

| Mode           | DG<br>(dBi) | Power<br>(dBm) | EIRP<br>(dBm) | Tolerance<br>(dB) | Tune-up EIRP<br>(dBm) | Distance<br>(cm) | S<br>(mW/cm <sup>2</sup> ) | Limit<br>(mW/cm <sup>2</sup> ) | Option | TL EIRP<br>(dBm) | TL Ratio |
|----------------|-------------|----------------|---------------|-------------------|-----------------------|------------------|----------------------------|--------------------------------|--------|------------------|----------|
| 2.4G;D1D       | 7.01        | 28.70          | 35.71         | 0.28              | 35.99                 | 59               | 0.09080                    | 1.00000                        | C      | 40.398           | 0.3624   |
| 5.8G;D1D       | 8.00        | 27.97          | 35.97         | 0.02              | 35.99                 | 59               | 0.09080                    | 1.00000                        | C      | 40.398           | 0.3624   |
| 2.4G;BT-LE     | 5.70        | 20.14          | 25.84         | 0.50              | 26.34                 | 59               | 0.00984                    | 1.00000                        | C      | 40.398           | 0.0393   |
| 2.4G;G1D       | 4.90        | 28.26          | 33.16         | 0.50              | 33.66                 | 59               | 0.05310                    | 1.00000                        | C      | 40.398           | 0.2119   |
| Sum TL Ratio_C | 0.976       |                |               |                   |                       |                  |                            |                                |        |                  |          |
| Ratio Limit    | 1           |                |               |                   |                       |                  |                            |                                |        |                  |          |

**Mode 2: Radio 1 (WLAN 2.4GHz+5GHz) + Scanning Radio 2 ( WLAN 5GHz) + Radio 3 (Bluetooth)**

| Mode           | DG<br>(dBi) | Power<br>(dBm) | EIRP<br>(dBm) | Tolerance<br>(dB) | Tune-up EIRP<br>(dBm) | Distance<br>(cm) | S<br>(mW/cm <sup>2</sup> ) | Limit<br>(mW/cm <sup>2</sup> ) | Option | TL EIRP<br>(dBm) | TL Ratio |
|----------------|-------------|----------------|---------------|-------------------|-----------------------|------------------|----------------------------|--------------------------------|--------|------------------|----------|
| 2.4G;D1D       | 7.01        | 28.70          | 35.71         | 0.28              | 35.99                 | 59               | 0.09080                    | 1.00000                        | C      | 40.398           | 0.3624   |
| 5.8G;D1D       | 8.00        | 27.97          | 35.97         | 0.02              | 35.99                 | 59               | 0.09080                    | 1.00000                        | C      | 40.398           | 0.3624   |
| 5.8G;D1D       | 3.00        | 24.29          | 27.29         | 0.50              | 27.79                 | 59               | 0.01374                    | 1.00000                        | C      | 40.398           | 0.0548   |
| 2.4G;BT-LE     | 5.70        | 20.14          | 25.84         | 0.50              | 26.34                 | 59               | 0.00984                    | 1.00000                        | C      | 40.398           | 0.0393   |
| Sum TL Ratio_C | 0.8189      |                |               |                   |                       |                  |                            |                                |        |                  |          |
| Ratio Limit    | 1           |                |               |                   |                       |                  |                            |                                |        |                  |          |

**Mode 3: Radio 1 (WLAN 2.4GHz+5GHz) + Scanning Radio 2 ( WLAN 2.4GHz) + Radio 3 (Zigbee)**

| Mode           | DG<br>(dBi) | Power<br>(dBm) | EIRP<br>(dBm) | Tolerance<br>(dB) | Tune-up EIRP<br>(dBm) | Distance<br>(cm) | S<br>(mW/cm <sup>2</sup> ) | Limit<br>(mW/cm <sup>2</sup> ) | Option | TL EIRP<br>(dBm) | TL Ratio |
|----------------|-------------|----------------|---------------|-------------------|-----------------------|------------------|----------------------------|--------------------------------|--------|------------------|----------|
| 2.4G;D1D       | 7.01        | 28.70          | 35.71         | 0.28              | 35.99                 | 59               | 0.09080                    | 1.00000                        | C      | 40.398           | 0.3624   |
| 5.8G;D1D       | 8.00        | 27.97          | 35.97         | 0.02              | 35.99                 | 59               | 0.09080                    | 1.00000                        | C      | 40.398           | 0.3624   |
| 2.4G;G1D       | 4.90        | 28.26          | 33.16         | 0.50              | 33.66                 | 59               | 0.05310                    | 1.00000                        | C      | 40.398           | 0.2119   |
| 2.4G;G1D       | 5.70        | 20.03          | 25.73         | 0.50              | 26.23                 | 59               | 0.00960                    | 1.00000                        | C      | 40.398           | 0.0383   |
| Sum TL Ratio_C | 0.975       |                |               |                   |                       |                  |                            |                                |        |                  |          |
| Ratio Limit    | 1           |                |               |                   |                       |                  |                            |                                |        |                  |          |

**Mode 4: Radio 1 (WLAN 2.4GHz+5GHz) + Scanning Radio 2 ( WLAN 5GHz) + Radio 3 (Zigbee)**

| Mode           | DG<br>(dBi) | Power<br>(dBm) | EIRP<br>(dBm) | Tolerance<br>(dB) | Tune-up EIRP<br>(dBm) | Distance<br>(cm) | S<br>(mW/cm <sup>2</sup> ) | Limit<br>(mW/cm <sup>2</sup> ) | Option | TL EIRP<br>(dBm) | TL Ratio |
|----------------|-------------|----------------|---------------|-------------------|-----------------------|------------------|----------------------------|--------------------------------|--------|------------------|----------|
| 2.4G;D1D       | 7.01        | 28.70          | 35.71         | 0.28              | 35.99                 | 59               | 0.09080                    | 1.00000                        | C      | 40.398           | 0.3624   |
| 5.8G;D1D       | 8.00        | 27.97          | 35.97         | 0.02              | 35.99                 | 59               | 0.09080                    | 1.00000                        | C      | 40.398           | 0.3624   |
| 5.8G;D1D       | 3.00        | 24.29          | 27.29         | 0.50              | 27.79                 | 59               | 0.01374                    | 1.00000                        | C      | 40.398           | 0.0548   |
| 2.4G;G1D       | 5.70        | 20.03          | 25.73         | 0.50              | 26.23                 | 59               | 0.00960                    | 1.00000                        | C      | 40.398           | 0.0383   |
| Sum TL Ratio_C | 0.8179      |                |               |                   |                       |                  |                            |                                |        |                  |          |
| Ratio Limit    | 1           |                |               |                   |                       |                  |                            |                                |        |                  |          |

Note: The above antenna gain was declared by manufacturer.

————THE END————