



# 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. 17, 2023 and completed on Mar. 14, 2024. 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 variant 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**

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**Photographs of EUT v01**



## History of this test report

Report No.	Version	Description	Issued Date
FA340101-03	01	Initial issue of report	Mar. 12, 2024
FA340101-03	02	Modifying the MPE results for Set 6 antenna of UNII 1 and UNII 7.	Mar. 15, 2024



## 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: Wendy Pan**



# 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) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) VHT: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5240 5260-5320 5500-5720 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
6GHz WLAN	5925-6425 6525-6875	5955-6415 6535-6855	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

Set	Ant.	2.4GHz Port	5GHz Port	6GHz Port	Bluetooth/ Zigbee	GPS	Brand	Model Name	Antenna Type	Connector	Remark	Gain (dBi)
1	1	2	2	-	-	-	CISCO	CW-ANT-O1-NS-00	Dipole	N-Type	External Antenna	Note 1
	2	1	1	-	-	-	CISCO	CW-ANT-O1-NS-00	Dipole	N-Type	External Antenna	
	3	-	-	1	-	-	CISCO	CW-ANT-O1-NS-00	Dipole	N-Type	External Antenna	
	4	-	-	2	-	-	CISCO	CW-ANT-O1-NS-00	Dipole	N-Type	External Antenna	
2	5	1	1	1	-	-	AWAN	A8M6P-100005	PIFA	N-Type	Internal Antenna	
3	6	-	-	-	1	-	AWAN	A8M6P-100003	PIFA	N-Type	Internal Antenna	
4	7	-	-	-	-	1	AWAN	A8M6P-100004	PIFA	N-Type	Internal Antenna	
5	8	-	-	-	-	2	CISCO	CW-ANT-GPS2-S-00	Patch	SMA	External Antenna	
6	9	2	2	-	-	-	CISCO	CW-ANT-D1-NS-00	Patch	N-Type	External Antenna	
	10	1	1	-	-	-	CISCO	CW-ANT-D1-NS-00	Patch	N-Type	External Antenna	
	11	-	-	1	-	-	CISCO	CW-ANT-D1-NS-00	Patch	N-Type	External Antenna	
	12	-	-	2	-	-	CISCO	CW-ANT-D1-NS-00	Patch	N-Type	External Antenna	



Note1:

Ant.	Gain (dBi)								
	2.4GHz	5GHz UNII 1	5GHz UNII 2A	5GHz UNII 2C	5GHz UNII 3	6GHz UNII 5	6GHz UNII 7	Bluetooth / Zigbee	GPS
1	4	8	8	8	8	-	-	-	-
2	4	8	8	8	8	-	-	-	-
3	-	-	-	-	-	8	8	-	-
4	-	-	-	-	-	8	8	-	-
5	4.9	3	3	3.1	3	2.8	3.2	-	-
6	-	-	-	-	-	-	-	5.7	-
7	-	-	-	-	-	-	-	-	3.7
8	-	-	-	-	-	-	-	-	3.18
9	8	9	9	9	9	-	-	-	-
10	8	9	9	9	9	-	-	-	-
11	-	-	-	-	-	9	9	-	-
12	-	-	-	-	-	9	9	-	-

Note2: The above information was declared by manufacturer.

Note3: The antenna 9~ 10 is the cross-polarized antenna; it doesn't need to evaluate array gain.

Note4: For radio 1: The EUT can be equipped with antenna set 1 or set 6 for radio 1.



Note5: Directional gain information

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

Ex.

Directional Gain (NSS1) formula :

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

$$NSS1(g1,1) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20} ; NSS1(g1,3) = 10^{G3/20} ; NSS1(g1,4) = 10^{G4/20}$$

$$g_{j,k} = (NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4))^2$$

$$DG = 10 \log[(NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4))^2 / N_{ANT}] => 10$$

$$\log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / N_{ANT}]$$

Where ;

Set 1 Ant. Dipole

2.4G G1= 4 dBi ; G2= 4 dBi ;DG= 7.01dBi

5G G1= 8 dBi ; G2= 8 dBi ;DG= 11.01dBi

6G G1= 8 dBi ; G2= 8 dBi ;DG= 11.01dBi

Set 6 Ant. Patch Patch (Cross-Polarized Antenna)

2.4G G1= 8.00 dBi ;G2= 8.00 dBi ;

5G UNII-1 G1 = 9.00 dBi; G2 = 9.00 dBi;

5G UNII-2A G1 = 9.00 dBi; G2 = 9.00 dBi;

5G UNII-2C G1 = 9.00 dBi; G2 = 9.00 dBi;

5G UNII-3 G1 = 9.00 dBi; G2 = 9.00 dBi;

2.4G DG = 8.00 dBi

5G UNII-1 DG = 9.00 dBi

5G UNII-2A DG = 9.00 dBi

5G UNII-2C DG = 9.00 dBi

5G UNII-3 DG = 9.00 dBi

Set 6 Ant. Patch

6G G1= 9 dBi ; G2= 9 dBi ;DG= 12.01dBi





**<For Radio 1 (2.4GHz/5GHz/6GHz Functions)>**

**IEEE 802.11a/b/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/6GHz Functions)>**

**IEEE 802.11a/b/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

Note 1: From the above models, model: CW9163E-B was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.

### 1.4 Table for Radio Function

Radio	Support Band
1	2.4GHz / 5GHz UNII 1~UNII 3 / 6GHz UNII5 , UNII 7
2	Scanning 2.4GHz / 5GHz UNII 1~UNII 3 / 6GHz UNII5 , UNII 7
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 Model Name: R66-MK-3001	Brand Name: UDE Model Name: R66-MK-2001
2	Brand Name: ODS Model Name: CMK-RJ45-CAP	Brand Name: ODS Model Name: CMK-RJ45-CG

Note1: From the above EUTs, EUT 1 was selected as representative EUT for all the tests.

Note2: The above information was declared by manufacturer.



## 1.6 Table of Serial Number

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

Note: The above information was declared by manufacturer.

## 1.7 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FA340101-02

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Adding one set antenna (antenna set 6) with different antenna type and higher gain for Radio 1 use only.	MPE
2. Adding a bracket of antenna and used for antenna set 6.	After evaluating, it is not necessary to re-test all test items.

Note: Other test results were based on original report.

## 1.8 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
Bracket of antenna	Cisco	CW-WNT-ART2	Used for Ant.9~12



### 1.9 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

### 1.10 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 64 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

**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, <= Pth.

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

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 <sup>2</sup> .
1.34-30	3,450 R <sup>2</sup> /f <sup>2</sup> .
30-300	3.83 R <sup>2</sup> .
300-1,500	0.0128 R <sup>2</sup> f.
1,500-100,000	19.2R <sup>2</sup> .
Note: R is in meters, f is in MHz.	



## 2.4 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

For Radio 1 + Set 1 Ant.

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	64	0.07717	1.00000	C	41.105	0.3080
5.2G;D1D	8.00	23.01	31.01	0.50	31.51	64	0.02751	1.00000	C	41.105	0.1098
5.3G;D1D	11.01	18.95	29.96	0.03	29.99	64	0.01938	1.00000	C	41.105	0.0774
5.6G;D1D	8.00	21.97	29.97	0.02	29.99	64	0.01938	1.00000	C	41.105	0.0774
5.8G;D1D	8.00	27.97	35.97	0.02	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	8.00	-	32.58	0.5	33.08	64	0.03948	1.00000	C	41.105	0.1576
6.7G;D1D	8.00	-	30.51	0.5	31.01	64	0.02451	1.00000	C	41.105	0.0978

For Radio 1 + Set 6 Ant.

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	8.00	27.98	35.98	0.01	35.99	64	0.07717	1.00000	C	41.105	0.3080
5.2G;D1D	9.00	22.93	31.93	0.50	32.43	64	0.03400	1.00000	C	41.105	0.1357
5.3G;D1D	9.00	20.89	29.89	0.10	29.99	64	0.01938	1.00000	C	41.105	0.0774
5.6G;D1D	9.00	20.92	29.92	0.07	29.99	64	0.01938	1.00000	C	41.105	0.0774
5.8G;D1D	9.00	26.96	35.96	0.03	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	9.00	-	31.87	0.5	32.37	64	0.03353	1.00000	C	41.105	0.1338
6.7G;D1D	9.00	-	30.50	0.5	31.00	64	0.02446	1	C	41.105	0.0976

For Scanning Radio 2 + Set 2 Ant.

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	64	0.04513	1.00000	C	41.105	0.1801
5.2G;D1D	3.00	19.33	22.33	0.50	22.83	64	0.00373	1.00000	C	41.105	0.0149
5.3G;D1D	3.00	22.57	25.57	0.50	26.07	64	0.00786	1.00000	C	41.105	0.0314
5.6G;D1D	3.10	22.81	25.91	0.50	26.41	64	0.00850	1.00000	C	41.105	0.0339
5.8G;D1D	3.00	24.29	27.29	0.50	27.79	64	0.01168	1.00000	C	41.105	0.0466
6.2G;D1D	2.80	-	26.84	0.50	27.34	64	0.01053	1.00000	C	41.105	0.0420
6.7G;D1D	3.20	-	24.26	0.50	24.76	64	0.00581	1.00000	C	41.105	0.0232



**For Radio 3 + Set 3 Ant.**

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	64	0.00836	1.00000	C	41.105	0.0334
2.4G;G1D	5.70	20.03	25.73	0.50	26.23	64	0.00816	1.00000	C	41.105	0.0325





**Simultaneous Transmission Analysis Mode:**

**Mode 1: Radio 1+ Set 1 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 2.4GHz) + Radio 3 + Set 3 Ant. (Bluetooth)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	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	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	8.00	27.97	35.97	0.02	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	8.00	-	32.58	0.50	33.08	64	0.03948	1.00000	C	41.105	0.1576
2.4G;G1D	4.90	28.26	33.16	0.50	33.66	64	0.04513	1.00000	C	41.105	0.1801
2.4G;BT-LE	5.70	20.14	25.84	0.50	26.34	64	0.00836	1.00000	C	41.105	0.0334
Sum TL Ratio_C	0.9871										
Ratio Limit	1										

**Mode 2: Radio 1+ Set 1 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 5GHz) + Radio 3 + Set 3 Ant. (Bluetooth)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	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	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	8.00	27.97	35.97	0.02	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	8.00	-	32.58	0.50	33.08	64	0.03948	1.00000	C	41.105	0.1576
5.8G;D1D	3.00	24.29	27.29	0.50	27.79	64	0.01168	1.00000	C	41.105	0.0466
2.4G;BT-LE	5.70	20.14	25.84	0.50	26.34	64	0.00836	1.00000	C	41.105	0.0334
Sum TL Ratio_C	0.8536										
Ratio Limit	1										



**Mode 3: Radio 1+ Set 1 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 6GHz) + Radio 3 + Set 3 Ant. (Bluetooth)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	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	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	8.00	27.97	35.97	0.02	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	8.00	-	32.58	0.50	33.08	64	0.03948	1.00000	C	41.105	0.1576
6.2G;D1D	2.80	-	26.84	0.50	27.34	64	0.01053	1.00000	C	41.105	0.0420
2.4G;BT-LE	5.70	20.14	25.84	0.50	26.34	64	0.00836	1.00000	C	41.105	0.0334
Sum TL Ratio_C	0.849										
Ratio Limit	1										

**Mode 4: Radio 1+ Set 1 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 2.4GHz) + Radio 3 + Set 3 Ant. (Zigbee)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	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	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	8.00	27.97	35.97	0.02	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	8.00	-	32.58	0.50	33.08	64	0.03948	1.00000	C	41.105	0.1576
2.4G;G1D	4.90	28.26	33.16	0.50	33.66	64	0.04513	1.00000	C	41.105	0.1801
2.4G;G1D	5.70	20.03	25.73	0.50	26.23	64	0.00816	1.00000	C	41.105	0.0325
Sum TL Ratio_C	0.9862										
Ratio Limit	1										



**Mode 5: Radio 1+ Set 1 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 5GHz) + Radio 3 + Set 3 Ant. (Zigbee)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	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	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	8.00	27.97	35.97	0.02	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	8.00	-	32.58	0.50	33.08	64	0.03948	1.00000	C	41.105	0.1576
5.8G;D1D	3.00	24.29	27.29	0.50	27.79	64	0.01168	1.00000	C	41.105	0.0466
2.4G;G1D	5.70	20.03	25.73	0.50	26.23	64	0.00816	1.00000	C	41.105	0.0325
Sum TL Ratio_C	0.8527										
Ratio Limit	1										

**Mode 6: Radio 1+ Set 1 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 6GHz) + Radio 3 + Set 3 Ant. (Zigbee)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	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	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	8.00	27.97	35.97	0.02	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	8.00	-	32.58	0.50	33.08	64	0.03948	1.00000	C	41.105	0.1576
6.2G;D1D	2.80	-	26.84	0.50	27.34	64	0.01053	1.00000	C	41.105	0.0420
2.4G;G1D	5.70	20.03	25.73	0.50	26.23	64	0.00816	1.00000	C	41.105	0.0325
Sum TL Ratio_C	0.8481										
Ratio Limit	1										



**Mode 7: Radio 1+ Set 6 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 2.4GHz)  
+ Radio 3 + Set 3 Ant. (Bluetooth)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Option	TL EIRP (dBm)	TL Ratio
2.4G;G1D	8.00	27.98	35.98	0.01	35.99	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	9.00	26.96	35.96	0.03	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	9.00	-	31.87	0.50	32.37	64	0.03353	1.00000	C	41.105	0.1338
2.4G;G1D	4.90	28.26	33.16	0.50	33.66	64	0.04513	1.00000	C	41.105	0.1801
2.4G;BT-LE	5.70	20.14	25.84	0.50	26.34	64	0.00836	1.00000	C	41.105	0.0334
Sum TL Ratio_C	0.9633										
Ratio Limit	1										

**Mode 8: Radio 1+ Set 6 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 5GHz) +  
Radio 3 + Set 3 Ant. (Bluetooth)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Option	TL EIRP (dBm)	TL Ratio
2.4G;G1D	8.00	27.98	35.98	0.01	35.99	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	9.00	26.96	35.96	0.03	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	9.00	-	31.87	0.50	32.37	64	0.03353	1.00000	C	41.105	0.1338
5.8G;D1D	3.00	24.29	27.29	0.50	27.79	64	0.01168	1.00000	C	41.105	0.0466
2.4G;BT-LE	5.70	20.14	25.84	0.50	26.34	64	0.00836	1.00000	C	41.105	0.0334
Sum TL Ratio_C	0.8298										
Ratio Limit	1										



**Mode 9: Radio 1+ Set 6 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 6GHz) + Radio 3 + Set 3 Ant. (Bluetooth)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Option	TL EIRP (dBm)	TL Ratio
2.4G;G1D	8.00	27.98	35.98	0.01	35.99	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	9.00	26.96	35.96	0.03	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	9.00	-	31.87	0.50	32.37	64	0.03353	1.00000	C	41.105	0.1338
6.2G;D1D	2.80	-	26.84	0.50	27.34	64	0.01053	1.00000	C	41.105	0.0420
2.4G;BT-LE	5.70	20.14	25.84	0.50	26.34	64	0.00836	1.00000	C	41.105	0.0334
Sum TL Ratio_C	0.8252										
Ratio Limit	1										

**Mode 10: Radio 1+ Set 6 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 2.4GHz) + Radio 3 + Set 3 Ant. (Zigbee)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Option	TL EIRP (dBm)	TL Ratio
2.4G;G1D	8.00	27.98	35.98	0.01	35.99	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	9.00	26.96	35.96	0.03	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	9.00	-	31.87	0.50	32.37	64	0.03353	1.00000	C	41.105	0.1338
2.4G;G1D	4.90	28.26	33.16	0.50	33.66	64	0.04513	1.00000	C	41.105	0.1801
2.4G;G1D	5.70	20.03	25.73	0.50	26.23	64	0.00816	1.00000	C	41.105	0.0325
Sum TL Ratio_C	0.9624										
Ratio Limit	1										



**Mode 11: Radio 1+ Set 6 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 5GHz) + Radio 3 + Set 3 Ant. (Zigbee)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Option	TL EIRP (dBm)	TL Ratio
2.4G;G1D	8.00	27.98	35.98	0.01	35.99	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	9.00	26.96	35.96	0.03	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	9.00	-	31.87	0.50	32.37	64	0.03353	1.00000	C	41.105	0.1338
5.8G;D1D	3.00	24.29	27.29	0.50	27.79	64	0.01168	1.00000	C	41.105	0.0466
2.4G;G1D	5.70	20.03	25.73	0.50	26.23	64	0.00816	1.00000	C	41.105	0.0325
Sum TL Ratio_C	0.8289										
Ratio Limit	1										

**Mode 12: Radio 1+ Set 6 Ant. (WLAN 2.4GHz+5GHz+6GHz) + Scanning Radio 2 + Set 2 Ant. (WLAN 6GHz) + Radio 3 + Set 3 Ant. (Zigbee)**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Option	TL EIRP (dBm)	TL Ratio
2.4G;G1D	8.00	27.98	35.98	0.01	35.99	64	0.07717	1.00000	C	41.105	0.3080
5.8G;D1D	9.00	26.96	35.96	0.03	35.99	64	0.07717	1.00000	C	41.105	0.3080
6.2G;D1D	9.00	-	31.87	0.50	32.37	64	0.03353	1.00000	C	41.105	0.1338
6.2G;D1D	2.80	-	26.84	0.50	27.34	64	0.01053	1.00000	C	41.105	0.0420
2.4G;G1D	5.70	20.03	25.73	0.50	26.23	64	0.00816	1.00000	C	41.105	0.0325
Sum TL Ratio_C	0.8243										
Ratio Limit	1										

Note: The above antenna gain was declared by manufacturer.

—————THE END—————