



# Radio Exposure Evaluation Report

**FCC ID** : TOR-C330  
**Equipment** : Wireless Access Point  
**Brand Name** : Arista  
**Model Name** : C-330, C-330E  
**Applicant** : Arista Networks, Inc.  
5453 Great America Parkway, Santa Clara,  
CA 95054 USA  
**Manufacturer** : Arista Networks, Inc.  
5453 Great America Parkway, Santa Clara,  
CA 95054 USA  
**Standard** : 47 CFR FCC Part 2 Subpart J, section 2.1091

The product was received on Dec. 16, 2022, and testing was started from Dec. 26, 2022 and completed on Feb. 17, 2023. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR FCC Part 2 Subpart J, section 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. Hsinhua Laboratory, the test report shall not be reproduced except in full.

Approved by: Jackson Tsai

**SPORTON INTERNATIONAL INC. Hsinhua Laboratory**  
No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)



# Table of Contents

**HISTORY OF THIS TEST REPORT .....3**

**SUMMARY OF TEST RESULT .....4**

**1 GENERAL DESCRIPTION .....5**

1.1 Information.....5

1.2 Applicable Standards .....8

1.3 Testing Location .....8

**2 MAXIMUM PERMISSIBLE EXPOSURE .....9**

2.1 Limit of Maximum Permissible Exposure .....9

2.2 RF Exposure Exempt Measurement .....10

2.3 Multiple RF Sources Exposure .....11

2.4 MPE Calculation Method .....12

2.5 Calculated Result and Limit.....13

**Photographs of EUT V01**



## **History of this test report**

Report No.	Version	Description	Issued Date
FA2D1412-01	01	Initial issue of report	May 29, 2023



### Summary of Test Result

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

**Declaration of Conformity:**

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

**Comments and Explanations:**

None

Reviewed by: Ryan Hsiao

Report Producer: Ann Hou



# 1 General Description

## 1.1 Information

### 1.1.1 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) 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	5925-7125	5955-7095	802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Bluetooth	2400-2483.5	2402-2480	LE: DSSS (GFSK)



1.1.2 Antenna Information

C-330

Ant.	Brand	Model Name	Antenna Type	Connector	Remark
1	WHAYU	C393-510223-A	PIFA	I-PEX	Radio 3_2.4G+5G+6G
2	WHAYU	C393-510223-A	PIFA	I-PEX	Radio 1_2.4G+Radio 0_5G
3	WHAYU	C393-510223-A	PIFA	I-PEX	Radio 3_2.4G+5G+6G
4	WHAYU	C393-510223-A	PIFA	I-PEX	Radio 1_2.4G+ Radio 0_5G
5	WHAYU	C393-510223-A	PIFA	I-PEX	Radio 2_6G
6	WHAYU	C393-510223-A	PIFA	I-PEX	Radio 2_6G
7	WHAYU	C393-510223-A	Dipole	I-PEX	Radio 4_BT

Ant.	Gain (dBi)						
	Radio 0	Radio 1	Radio 2	Radio 3			Radio 4
	5G	2.4G	6G	2.4G	5G	6G	BT
1	-	-	-	4.7	6.4	6.3	-
2	2.48	1.31	-	-	-	-	-
3	-	-	-	4.2	6.4	6.1	-
4	4.29	1.14	-	-	-	-	-
5	-	-	5.79	-	-	-	-
6	-	-	5.88	-	-	-	-
7	-	-	-	-	-	-	4.6

Composite Gain (dBi)									
	2.4G	UNII-1	UNII-2A	UNII-2C	UNII-3	6.175G	6.475G	6.695G	6.995G
DG [1SS]	2.43	4.5	3.9	3.82	4.72	6.06	5.38	6.58	6.18
DG [2SS]	1.31	4.29	3.18	3.16	3.09	5.88	5.1	5.81	5.86

Note 1: The EUT has seven antennas.

**For 2.4GHz function:**

For IEEE 802.11 b/g/n/ax mode (2TX/2RX) (Radio 1)  
 Ant. 2 and Ant. 4 could transmit/receive simultaneously.  
 For IEEE 802.11 b/g/n/ax mode (2TX/2RX) (Radio 3)  
 Ant. 1 and Ant. 3 could transmit/receive simultaneously.

**For 5GHz function:**

For IEEE 802.11 a/n/ac/ax mode (2TX/2RX) (Radio 0)  
 Ant. 2 and Ant. 4 could transmit/receive simultaneously.  
 For IEEE 802.11 a/n/ac/ax mode (2TX/2RX) (Radio 3)  
 Ant. 1 and Ant. 3 could transmit/receive simultaneously.

**For BT function:**

For IEEE 802.15.1 Bluetooth mode (1TX/1RX) (Radio 4)  
 Ant. 7 could transmit/receive.



**For 6GHz function:**

For IEEE 802.11 ax mode (2TX/2RX) (Radio 2)  
 Ant. 5 and Ant. 6 could transmit/receive simultaneously.  
 For IEEE 802.11 ax mode (2TX/2RX) (Radio 3)  
 Ant. 1 and Ant. 3 could transmit/receive simultaneously.

**C-330E**

Ant.	Brand	Model Name	Antenna Type	Connector	Remark
1	WHAYU	C393-510225-A	External Dipole	SMA	Radio 3_2.4G+5G
2	WHAYU	C393-510225-A	External Dipole	SMA	Radio 1_2.4G+Radio 0_5G
3	WHAYU	C393-510225-A	External Dipole	SMA	Radio 3_2.4G+5G
4	WHAYU	C393-510225-A	External Dipole	SMA	Radio 1_2.4G+ Radio 0_5G
5	WHAYU	C393-510225-A	Dipole	I-PEX	Radio 4_BT

Ant.	Gain (dBi)				
	Radio 0	Radio 1	Radio 3		Radio 4
	5G	2.4G	2.4G	5G	BT
1	-	-	5.2	5.6	-
2	5.9	4.9	-	-	-
3	-	-	4.7	6.6	-
4	5.6	4.4	-	-	-
5	-	-	-	-	4.6

**For 2.4GHz function:**

For IEEE 802.11 b/g/n/ax mode (2TX/2RX) (Radio 1)  
 Ant. 2 and Ant. 4 could transmit/receive simultaneously.  
 For IEEE 802.11 b/g/n/ax mode (2TX/2RX) (Radio 3)  
 Ant. 1 and Ant. 3 could transmit/receive simultaneously.

**For 5GHz function:**

For IEEE 802.11 a/n/ac/ax mode (2TX/2RX) (Radio 0)  
 Ant. 2 and Ant. 4 could transmit/receive simultaneously.  
 For IEEE 802.11 a/n/ac/ax mode (2TX/2RX) (Radio 3)  
 Ant. 1 and Ant. 3 could transmit/receive simultaneously.

**For BT function:**

For IEEE 802.15.1 Bluetooth mode (1TX/1RX) (Radio 4)  
 Ant. 5 could transmit/receive.

**1.1.3 Table for Multiple Listing**

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

Model Name	Antenna	Description
C-330	Internal	Same PCBA, only different in housing and antenna for 4 SKU.
C-330E	External	



1.1.4 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FA2D1412
Below is the table for the change of the product with respect to the original one.

Table with 2 columns: Modifications, Performance Checking. Row 1: Frequency bands U-NII-2A and U-NII-2C were added | MPE was evaluated.

1.1.5 Accessories

Table with 5 columns: Ceiling, Brand Name, ARISTA, Model Name, MNT-AP-15MM

Reminder: Regarding to more detail and other information, please refer to user manual.

1.2 Applicable Standards

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

- 47 CFR FCC Part 2 Subpart J, section 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

1.3 Testing Location

Table with 2 main rows for testing locations: Hsinhua and Wen 33rd.St. Each row includes address, TEL, FAX, and Test site Designation No.



## 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

#### Multiple Transmitters Condition (C-330)

Co-location as simultaneously transmitting (co-transmitting) and the evaluation shall be consider that simultaneous transmissions from co-located devices the individual transmitters are evaluated separately. After sum of the individual value (basic restriction / reference level) are measured/calculated also have to under basic restriction / reference level.

Co-transmitting mode:

1. Radio 0+Radio 1+Radio 2+Radio 3 (2.4GHz WLAN)+Bluetooth
2. Radio 0+Radio 1+Radio 2+Radio 3 (5GHz WLAN)+Bluetooth
3. Radio 0+Radio 1+Radio 2+Radio 3 (6GHz WLAN)+Bluetooth

#### Multiple Transmitters Condition (C-330E)

Co-location as simultaneously transmitting (co-transmitting) and the evaluation shall be consider that simultaneous transmissions from co-located devices the individual transmitters are evaluated separately. After sum of the individual value (basic restriction / reference level) are measured/calculated also have to under basic restriction / reference level.

Co-transmitting mode:

1. Radio 0+Radio 1+Radio 3 (2.4GHz WLAN)+Bluetooth
2. Radio 0+Radio 1+Radio 3 (5GHz WLAN)+Bluetooth

## 2.2 RF Exposure Exempt Measurement

Option	Refer Std.	Exemption Exposure Thresholds (TL)
A	§1.1307(b)(3)(i)(A)	Available maximum time-averaged power is no more than 1 mW
B	§1.1307(b)(3)(i)(B)	$P_{th}(mW) = \begin{cases} ERP_{20cm} (d / 20cm)^x \rightarrow d \leq 20cm \\ ERP_{20cm} \rightarrow 20cm < d \leq 40cm \end{cases}$ $x = -\log_{10} \left( \frac{60}{ERP_{20cm} \sqrt{f}} \right) \text{ and } f \text{ is in GHz}$ $\begin{cases} ERP_{20cm} : 0.3GHz \leq f < 1.5GHz \rightarrow 2040 f (mW) \\ ERP_{20cm} : 1.5GHz \leq f \leq 6GHz \rightarrow 3060 (mW) \end{cases}$
C	§1.1307(b)(3)(i)(C)	$\begin{cases} 0.3 \sim 1.34MHz \rightarrow ERP(W) = 1920R^2 \\ 1.34 \sim 30MHz \rightarrow ERP(W) = 3450R^2 / f^2 \\ 30 \sim 300MHz \rightarrow ERP(W) = 3.83R^2 \\ 300 \sim 1500MHz \rightarrow ERP(W) = 0.0128R^2 f \\ 1500 \sim 100000MHz \rightarrow ERP(W) = 19.2R^2 \end{cases}$ <p>f is in MHz; R is in m; <math>R &gt; \lambda / 2\pi</math></p>



### 2.3 Multiple RF Sources Exposure

Refer Std.	Exemption Exposure Thresholds (TL)
§1.1307(b)(3)(ii)(A)	<p>The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required)</p>
§1.1307(b)(3)(ii)(B)	$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{ExposureLimit_k} \leq 1$ <p>a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph §1.1307(b)(3)(i)(B) of this section for P , including existing exempt transmitters and those being added.  b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph §1.1307(b)(3)(i)(C) of this section 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 including existing evaluated transmitters.  P<sub>i</sub> = 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<sub>th,i</sub> = the exemption threshold power ( P<sub>th</sub> ) according to paragraph §1.1307(b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i.  ERP<sub>j</sub> = the ERP of fixed, mobile, or portable RF source j.  ERP<sub>th,j</sub> = exemption threshold ERP for fixed, mobile, or portable RF source j, at a distance of at least λ/2π according to the applicable formula of paragraph §1.1307(b)(3)(i)(C) of this section.  Evaluated<sub>k</sub> = 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 at the location of exposure.  Evaluated Limit<sub>k</sub> = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source k, as applicable from § 1.1310 of this chapter.</p>



## 2.4 MPE Calculation Method

The MPE was calculated at 20 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

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

## 2.5 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

### 2.4GHz WLAN\_Non-Beamforming\_C-330\_Radio 1

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;G1D	1.31	20.77	22.08	0.50	110.4358	20	0.03604	1.000	B	3060	0.0361
2.4G;D1D	1.31	20.60	21.91	0.50	106.1965	20	0.03465	1.000	B	3060	0.0347

### 2.4GHz WLAN\_Non-Beamforming\_C-330\_Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;G1D	4.70	19.83	24.53	0.50	194.1378	20	0.06335	1.000	B	3060	0.0634
2.4G;D1D	4.70	20.46	25.16	0.50	224.4450	20	0.07324	1.000	B	3060	0.0733

### 5GHz WLAN\_Non-Beamforming\_C-330\_Radio 0

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	4.29	21.29	25.58	0.50	247.2350	20.00	0.08067	1.000	B	3060	0.0808
5.3G;D1D	4.29	21.52	25.81	0.50	260.6814	20.00	0.08506	1.000	B	3060	0.0852
5.6G;D1D	4.29	21.71	26.00	0.50	272.3391	20.00	0.08886	1.000	B	3060	0.0890
5.8G;D1D	4.29	21.53	25.82	0.50	261.2823	20.00	0.08526	1.000	B	3060	0.0854

### 5GHz WLAN\_Non-Beamforming\_C-330\_Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	6.40	20.60	27.00	0.50	342.8546	20	0.13700	1.000	B	3060	0.1120
5.3G;D1D	6.40	20.84	27.24	0.50	362.3348	20	0.11823	1.000	B	3060	0.1184
5.6G;D1D	6.40	20.82	27.22	0.50	360.6700	20	0.11769	1.000	B	3060	0.1179
5.8G;D1D	6.40	21.73	28.13	0.50	444.7439	20	0.14512	1.000	B	3060	0.1453

### 6GHz WLAN\_Non-Beamforming\_C-330\_Radio 2

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
6.2G;D1D	5.88	19.14	25.02	0.50	217.3252	20	0.07091	1.000	C	768	0.2830
6.4G;D1D	5.88	19.04	24.92	0.50	212.3782	20	0.06930	1.000	C	768	0.2765
6.7G;D1D	5.88	19.31	25.19	0.50	226.0008	20	0.07374	1.000	C	768	0.2943
7.0G;D1D	5.88	19.33	25.21	0.50	227.0440	20	0.07408	1.000	C	768	0.2956



6GHz WLAN Non-Beamforming C-330 Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
6.2G;D1D	6.30	12.12	18.42	0.50	47.5456	20	0.05980	1.000	C	768	0.0619
6.4G;D1D	6.30	11.92	18.22	0.50	45.4057	20	0.05724	1.000	C	768	0.0591
6.7G;D1D	6.30	11.76	18.06	0.50	43.7633	20	0.05517	1.000	C	768	0.0570
7.0G;D1D	6.30	11.44	17.74	0.50	40.6546	20	0.05404	1.000	C	768	0.0529

Bluetooth Non-Beamforming C-330 Radio 4

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;BT-LE	4.60	6.98	11.58	0.50	9.8426	20	0.00321	1.000	B	3060	0.0032

2.4GHz WLAN Beamforming C-330 Radio 1

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	2.43	19.86	22.29	0.50	115.9071	20	0.03782	1.000	B	3060	0.0379

2.4GHz WLAN Beamforming C-330 Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	7.46	20.31	27.77	0.50	409.3643	20	0.13358	1.000	B	3060	0.1338

5GHz WLAN Beamforming C-330 Radio 0

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	4.50	21.17	25.67	0.50	252.4120	20	0.08236	1.000	B	3060	0.0825
5.3G;D1D	3.90	21.38	25.28	0.50	230.7332	20	0.07529	1.000	B	3060	0.0754
5.6G;D1D	3.82	21.57	25.39	0.50	236.6519	20	0.07722	1.000	B	3060	0.0773
5.8G;D1D	4.72	21.40	26.12	0.50	279.9690	20	0.09135	1.000	B	3060	0.0915

5GHz WLAN Beamforming C-330 Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	9.41	20.08	29.49	0.50	608.2891	20	0.27210	1.000	B	3060	0.1988
5.3G;D1D	9.41	20.06	29.47	0.50	605.4942	20	0.19757	1.000	B	3060	0.1979
5.6G;D1D	9.41	20.08	29.49	0.50	608.2891	20	0.19849	1.000	B	3060	0.1988
5.8G;D1D	9.41	21.69	31.10	0.50	881.2721	20	0.28756	1.000	B	3060	0.2880



6GHz WLAN Beamforming\_C-330\_Radio 2

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
6.2G;D1D	6.06	19.01	25.07	0.50	219.8417	20	0.07173	1.000	C	768	0.2863
6.4G;D1D	5.38	18.92	24.30	0.50	184.1238	20	0.06008	1.000	C	768	0.2397
6.7G;D1D	6.58	19.17	25.75	0.50	257.1047	20	0.08389	1.000	C	768	0.3348
7.0G;D1D	6.18	19.20	25.38	0.50	236.1076	20	0.07704	1.000	C	768	0.3074

6GHz WLAN Beamforming\_C-330\_Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
6.2G;D1D	9.21	12.00	21.21	0.50	90.3878	20	0.11395	1.000	C	768	0.1177
6.4G;D1D	9.21	11.80	21.01	0.50	86.3197	20	0.10858	1.000	C	768	0.1124
6.7G;D1D	9.21	11.63	20.84	0.50	83.0061	20	0.10465	1.000	C	768	0.1081
7.0G;D1D	9.21	11.30	20.51	0.50	76.9325	20	0.10297	1.000	C	768	0.1002

2.4GHz WLAN Non-Beamforming\_C-330E\_Radio 1

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;G1D	4.90	20.32	25.22	0.50	227.5674	20	0.07426	1.000	B	3060	0.0744
2.4G;D1D	4.90	20.57	25.47	0.50	241.0516	20	0.07866	1.000	B	3060	0.0788

2.4GHz WLAN Non-Beamforming\_C-330E\_Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;G1D	5.20	19.95	25.15	0.50	223.9288	20	0.07307	1.000	B	3060	0.0732
2.4G;D1D	5.20	20.57	25.77	0.50	258.2914	20	0.08428	1.000	B	3060	0.0844

5GHz WLAN Non-Beamforming\_C-330E\_Radio 0

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	5.90	21.38	27.28	0.50	365.6874	20	0.11932	1.000	B	3060	0.1195
5.3G;D1D	5.90	21.56	27.46	0.50	381.1624	20	0.12437	1.000	B	3060	0.1246
5.6G;D1D	5.90	21.89	27.79	0.50	411.2539	20	0.13419	1.000	B	3060	0.1344
5.8G;D1D	5.90	21.49	27.39	0.50	375.0680	20	0.12239	1.000	B	3060	0.1226

5GHz WLAN Non-Beamforming\_C-330E\_Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	6.60	20.65	27.25	0.50	363.1700	20	0.11850	1.000	B	3060	0.1187
5.3G;D1D	6.60	21.11	27.71	0.50	403.7476	20	0.13174	1.000	B	3060	0.1319
5.6G;D1D	6.60	21.16	27.76	0.50	408.4228	20	0.13327	1.000	B	3060	0.1335
5.8G;D1D	6.60	21.45	28.05	0.50	436.6264	20	0.14247	1.000	B	3060	0.1427



Bluetooth\_Non-Beamforming\_C-330E\_Radio 4

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;BT-LE	4.60	6.98	11.58	0.50	9.8426	20	0.00321	1.000	B	3060	0.0032

2.4GHz WLAN\_Beamforming\_C-330E\_Radio 1

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	7.66	19.94	27.60	0.50	393.6498	20	0.12845	1.000	B	3060	0.1287

2.4GHz WLAN\_Beamforming\_C-330E\_Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	7.96	20.46	28.42	0.50	475.4556	20	0.15514	1.000	B	3060	0.1554

5GHz WLAN\_Beamforming\_C-330E\_Radio 0

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	8.76	21.24	30.00	0.50	684.0849	20	0.22322	1.000	B	3060	0.2236
5.3G;D1D	8.76	20.73	29.49	0.50	608.2891	20	0.19849	1.000	B	3060	0.1988
5.6G;D1D	8.76	20.73	29.49	0.50	608.2891	20	0.19849	1.000	B	3060	0.1988
5.8G;D1D	8.76	21.37	30.13	0.50	704.8716	20	0.23000	1.000	B	3060	0.2304

5GHz WLAN\_Beamforming\_C-330E\_Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	9.12	20.32	29.44	0.50	601.3260	20	0.19621	1.000	B	3060	0.1965
5.3G;D1D	9.12	20.20	29.32	0.50	584.9382	20	0.19087	1.000	B	3060	0.1912
5.6G;D1D	9.12	20.37	29.49	0.50	608.2891	20	0.19849	1.000	B	3060	0.1988
5.8G;D1D	9.12	21.31	30.43	0.50	755.2835	20	0.24645	1.000	B	3060	0.2468

Note 1: Option A, B and C refer as clause 2.2

Note 2: For option B, Pth(mW) convert to TL ERP(mW); For option C, ERP(W) convert to TL ERP(mW)

Note 3: TL Ratio=Tune-up ERP(mW)/TL ERP(mW)





C-330

Simultaneous Transmission Analysis Mode: Radio 0+Radio 1+Radio 2+Radio 3 (2.4GHz WLAN)+Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	2.43	19.86	22.29	0.50	115.9071	20	0.03782	1.000	B	3060	0.0379
5.8G;D1D	4.72	21.40	26.12	0.50	279.9690	20	0.09135	1.000	B	3060	0.0915
6.7G;D1D	6.58	19.17	25.75	0.50	257.1047	20	0.08389	1.000	C	768	0.3348
2.4G;D1D	7.46	20.31	27.77	0.50	409.3643	20	0.13358	1.000	B	3060	0.1338
2.4G;BT-LE	4.60	6.98	11.58	0.50	9.8426	20	0.00321	1.000	B	3060	0.0032
										Sum Ratio	0.6012
										Ratio Limit	1

Simultaneous Transmission Analysis Mode: Radio 0+Radio 1+Radio 2+Radio 3 (5GHz WLAN)+Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	2.43	19.86	22.29	0.50	115.9071	20	0.03782	1.000	B	3060	0.0379
5.8G;D1D	4.72	21.40	26.12	0.50	279.9690	20	0.09135	1.000	B	3060	0.0915
6.7G;D1D	6.58	19.17	25.75	0.50	257.1047	20	0.08389	1.000	C	768	0.3348
5.8G;D1D	9.41	21.69	31.10	0.50	881.2721	20	0.28756	1.000	B	3060	0.2880
2.4G;BT-LE	4.60	6.98	11.58	0.50	9.8426	20	0.00321	1.000	B	3060	0.0032
										Sum Ratio	0.7554
										Ratio Limit	1

Simultaneous Transmission Analysis Mode: Radio 0+Radio 1+Radio 2+Radio 3 (6GHz WLAN)+Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	2.43	19.86	22.29	0.50	115.9071	20	0.03782	1.000	B	3060	0.0379
5.8G;D1D	4.72	21.40	26.12	0.50	279.9690	20	0.09135	1.000	B	3060	0.0915
6.7G;D1D	6.58	19.17	25.75	0.50	257.1047	20	0.08389	1.000	C	768	0.3348
6.2G;D1D	9.21	12.00	21.21	0.50	90.3878	20	0.02949	1.000	C	768	0.1177
2.4G;BT-LE	4.60	6.98	11.58	0.50	9.8426	20	0.00321	1.000	B	3060	0.0032
										Sum Ratio	0.5851
										Ratio Limit	1



C-330E

Simultaneous Transmission Analysis Mode: Radio 0+Radio 1+Radio 3 (2.4GHz WLAN)+Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	7.66	19.94	27.60	0.50	393.6498	20	0.12845	1.000	B	3060	0.1286
5.8G;D1D	8.76	21.37	30.13	0.50	704.8716	20	0.23000	1.000	B	3060	0.2304
2.4G;D1D	7.96	20.46	28.42	0.50	475.4556	20	0.15514	1.000	B	3060	0.1554
2.4G;BT-LE	4.60	6.98	11.58	0.50	9.8426	20	0.00321	1.000	B	3060	0.0032
										Sum Ratio	0.5176
										Ratio Limit	1

Simultaneous Transmission Analysis Mode: Radio 0+Radio 1+Radio 3 (5GHz WLAN)+Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	7.66	19.94	27.60	0.50	393.6498	20	0.12845	1.000	B	3060	0.1286
5.8G;D1D	8.76	21.37	30.13	0.50	704.8716	20	0.23000	1.000	B	3060	0.2304
5.8G;D1D	9.12	21.31	30.43	0.50	755.2835	20	0.24645	1.000	B	3060	0.2468
2.4G;BT-LE	4.60	6.98	11.58	0.50	9.8426	20	0.00321	1.000	B	3060	0.0032
										Sum Ratio	0.6090
										Ratio Limit	1

Note 1: Option A, B and C refer as clause 2.2

Note 2: For option B, Pth(mW) convert to TL ERP(mW); For option C, ERP(W) convert to TL ERP(mW)

Note 3: TL Ratio=Tune-up ERP(mW)/TL ERP(mW)

Note 4: Refer as clause 2.3 Multiple RF Sources Exposure. Please follow below option and sum TL ration table.

Option	Sum TL Ratio_B	Option	Sum TL Ratio_C	Option	Sum TL Ratio_E
B	$\sum_{i=1}^a \frac{P_i}{P_{th,i}}$	C	$\sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}}$	E	$\sum_{k=1}^c \frac{Evaluated_k}{ExposureLimit_k}$

Note: The above antenna gain was declared by manufacturer.

—————THE END—————