



RADIO EXPOSURE TEST REPORT

FCC ID : Z8H89FT0090

Equipment : X7-56X Indoor Wi-Fi 7 Tri-band 4x4 AP, 60deg

Brand Name : Cambium Networks

Model Name : X7-56X

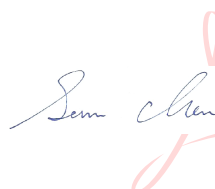
Applicant : Cambium Networks Inc.
3800 Golf Road, Suite 360 Rolling Meadows, IL 60008, USA

Manufacturer : Cambium Networks Inc.
3800 Golf Road, Suite 360 Rolling Meadows, IL 60008, USA

Standard : 47 CFR Part 2.1091

The product was received on Oct. 20, 2025, and testing was started from Oct. 23, 2025 and completed on Feb. 04, 2026. 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.

 Sam Chen
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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 12
Issued Date : Mar. 06, 2026
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: Sandy Chuang

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) 802.11be: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850 5725-5895	5180-5250 5250-5320 5500-5720 5745-5825 5815-5885	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) 802.11be: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM)
6GHz WLAN	5925-7125	5955-7115	802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11be: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM)
Bluetooth	2400-2483.5	2402-2480	LE: GFSK
Zigbee	2400-2483.5	2405-2480	O-QPSK

1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Modes of Operation
1	1	Accton	120G00000289A-1	Directivity	MHF	Note 1	WLAN 2.4GHz (Radio 1)
2	2	Accton	120G00000289A-2	Directivity	MHF		WLAN 2.4GHz (Radio 1)
3	3	Accton	120G00000289A-3	Directivity	MHF		WLAN 5GHz UNII 1-3 or UNII 1-2A (Radio 2)
4	2	Accton	120G00000289A-4	Directivity	MHF		WLAN 5GHz UNII 1-3 or UNII 1-2A (Radio 2)
5	1	Accton	120G00000289A-5	Directivity	MHF		WLAN 5GHz UNII 1-3 or UNII 1-2A (Radio 2)
6	4	Accton	120G00000289A-6	Directivity	MHF		WLAN 5GHz UNII 1-3 or UNII 1-2A (Radio 2)
7	1	Accton	120G00000289A-7	Directivity	MHF		WLAN 5GHz UNII 2C-4 or WLAN 6GHz (Radio 3)
8	2	Accton	120G00000289A-8	Directivity	MHF		WLAN 5GHz UNII 2C-4 or WLAN 6GHz (Radio 3)
9	4	Accton	120G00000289A-9	Directivity	MHF		WLAN 5GHz UNII 2C-4 or WLAN 6GHz (Radio 3)
10	3	Accton	120G00000289A-10	Directivity	MHF		WLAN 5GHz UNII 2C-4 or WLAN 6GHz (Radio 3)
11	1	Accton	120G00000289A	Omni	MHF		Bluetooth or Zigbee (Radio 4)



Note 1:

Ant.	Antenna Gain (dBi)						
	WLAN 2.4GHz (Radio 1)						
	2.4GHz		2.45GHz		2.4835GHz		
1	7.63		8.38		8.42		
2	7.42		7.66		7.68		
Ant.	WLAN 5GHz UNII 1-3 or UNII 1-2A (Radio 2)						
	5.2GHz		5.3GHz		5.6GHz		5.785GHz
3	6.75		6.61		7.93		7.46
4	8.13		7.07		8.01		7.60
5	7.76		7.49		7.65		7.08
6	6.84		7.27		7.42		7.52
Ant.	WLAN 5GHz UNII 2C-4 or WLAN 6GHz (Radio 3)						
	5.6GHz	5.785GHz	5.885GHz	6.175GHz	6.475GHz	6.695GHz	6.995GHz
7	8.13	7.84	7.97	9.25	9.39	8.81	8.95
8	7.47	6.49	6.70	8.20	9.67	8.44	8.57
9	7.22	6.39	6.76	7.39	7.52	7.34	9.23
10	7.42	7.48	7.66	7.36	7.37	7.17	7.14
Bluetooth or Zigbee (Radio 4)							
11	6.16						

Item	Directional Gain (dBi)						
	WLAN 2.4GHz (Radio 1)						
	2.4GHz		2.45GHz			2.4835GHz	
2T1S	7.93		8.38			8.42	
2T2S	7.63		8.38			8.42	
Item	WLAN 5GHz UNII 1-3 or UNII 1-2A (Radio 2)						
	5.2GHz		5.3GHz		5.6GHz		5.785GHz
4T1S	10.89		10.48		10.97		10.41
4T2S	8.13		7.49		8.01		7.60
4T4S	8.13		7.49		8.01		7.60
Item	WLAN 5GHz UNII 2C-4 or WLAN 6GHz (Radio 3)						
	5.6GHz	5.785GHz	5.885GHz	6.175GHz	6.475GHz	6.695GHz	6.995GHz
4T1S	10.52	10.62	11.38	11.54	12.25	10.88	11.53
4T2S	8.13	7.84	7.97	9.25	9.67	8.81	9.23
4T4S	8.13	7.84	7.97	9.25	9.67	8.81	9.23

Note 2: The above information (excepting Ant. 1-10 antenna gain and directional gain) was declared by manufacturer.

Note 3: **For Radio 1:**

For 2.4GHz IEEE 802.11b/g/n/VHT/ax/be mode (2TX/2RX)

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

Port 1 and Port 2 could transmit/receive simultaneously.

For Radio 2:

For 5GHz (UNII 1-3 or UNII 1-2A) IEEE 802.11a/n/ac/ax/be mode (4TX/4RX)

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

For Radio 3:

For 5GHz (UNII 2C-4) IEEE 802.11a/n/ac/ax/be mode (4TX/4RX)

For 6GHz IEEE 802.11 ax/be mode (4TX/4RX)

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

For Radio 4:

For Bluetooth or Zigbee mode (1TX/1RX)

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

1.3 Table for Radio function

Radio \ Function	WLAN 2.4GHz	WLAN 5GHz	WLAN 6GHz	Bluetooth	Zigbee
1	V	-	-	-	-
2	-	V (UNII 1-3 or UNII 1-2A)	-	-	-
3	-	V (UNII 2C-4)	V	-	-
4	-	-	-	V	V

Note 1: For WLAN 5GHz: The Radio 2 and 3 can't operate at the same frequency simultaneously.

Note 2: The above information was declared by manufacturer.

1.4 Table for EUT Operation Function

Mode	Operation Function
1	R1: 2.4GHz + R2: 5GHz Full Band + R3: 6GHz + R4: Bluetooth
2	R1: 2.4GHz + R2: 5GHz Full Band + R3: 6GHz + R4: Zigbee
3	R1: 2.4GHz + R2: 5GHz Low Band + R3: 5GHz High band + R4: Bluetooth
4	R1: 2.4GHz + R2: 5GHz Low Band + R3: 5GHz High band + R4: Zigbee

Note 1: The R means Radio.

Full Band means UNII 1-3.

Low Band means UNII 1-2A.

High Band means UNII 2C-4.

Note 2: The above information was declared by manufacturer.

1.5 Accessories

Accessories
Wall-mounted rack 1

1.6 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 ISCED.



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 ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	*(100)	<6
3.0-30	1842/f	4.89/f	*(900/f ²)	<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 ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<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 32 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

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

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 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 ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	8.42	27.31	35.73	0.26	35.99	32	0.30867	1.00000	0.30867

For Radio 2:

UNII 1~3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
5.2G;D1D	10.89	24.87	35.76	0.23	35.99	32	0.30867	1.00000	0.30867
5.3G;D1D	10.48	19.38	29.86	0.11	29.97	32	0.07718	1.00000	0.07718
5.6G;D1D	10.97	18.9	29.87	0.10	29.97	32	0.07718	1.00000	0.07718
5.8G;D1D	7.60	28.38	35.98	0.01	35.99	32	0.30867	1.00000	0.30867

UNII 1~2A

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
5.2G;D1D	10.89	24.74	35.63	0.36	35.99	32	0.30867	1.00000	0.30867
5.3G;D1D	7.49	22.46	29.95	0.02	29.97	32	0.07718	1.00000	0.07718

For Radio 3:

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
5.6G;D1D	10.52	19.44	29.96	0.01	29.97	32	0.07718	1.00000	0.07718
5.8G;D1D	10.62	25.36	35.98	0.01	35.99	32	0.30867	1.00000	0.30867
5.81G;D1D	11.38	24.46	35.84	0.15	35.99	32	0.30867	1.00000	0.30867
6.2G;D1D	-	-	29.75	0.24	29.99	32	0.07753	1.00000	0.07753
6.4G;D1D	-	-	29.14	0.50	29.64	32	0.07153	1.00000	0.07153
6.7G;D1D	-	-	29.09	0.50	29.59	32	0.07071	1.00000	0.07071
7.0G;D1D	-	-	28.26	0.50	28.76	32	0.05841	1.00000	0.05841

For Radio 4:

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;BT-LE	6.16	18.96	25.12	0.50	25.62	32	0.02835	1.00000	0.02835
2.4G;Zigbee	6.16	19.4	25.56	0.50	26.06	32	0.03137	1.00000	0.03137

**Simultaneous Transmission Analysis****Mode 1: R1: 2.4GHz + R2: 5GHz Full Band + R3: 6GHz + R4: Bluetooth**

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	8.42	27.31	35.73	0.26	35.99	32	0.30867	1.00000	0.30867
5.8G;D1D	7.60	28.38	35.98	0.01	35.99	32	0.30867	1.00000	0.30867
6.2G;D1D	-	-	29.75	0.24	29.99	32	0.07753	1.00000	0.07753
2.4G;BT-LE	6.16	18.96	25.12	0.50	25.62	32	0.02835	1.00000	0.02835
Sum S/Limit Ratio	0.72322								
Ratio Limit	1								

Mode 2: R1: 2.4GHz + R2: 5GHz Full Band + R3: 6GHz + R4: Zigbee

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	8.42	27.31	35.73	0.26	35.99	32	0.30867	1.00000	0.30867
5.8G;D1D	7.60	28.38	35.98	0.01	35.99	32	0.30867	1.00000	0.30867
6.2G;D1D	-	-	29.75	0.24	29.99	32	0.07753	1.00000	0.07753
2.4G;Zigbee	6.16	19.4	25.56	0.50	26.06	32	0.03137	1.00000	0.03137
Sum S/Limit Ratio	0.72624								
Ratio Limit	1								

Mode 3: R1: 2.4GHz + R2: 5GHz Low Band + R3: 5GHz High band + R4: Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	8.42	27.31	35.73	0.26	35.99	32	0.30867	1.00000	0.30867
5.2G;D1D	10.89	24.74	35.63	0.36	35.99	32	0.30867	1.00000	0.30867
5.8G;D1D	10.62	25.36	35.98	0.01	35.99	32	0.30867	1.00000	0.30867
2.4G;BT-LE	6.16	18.96	25.12	0.50	25.62	32	0.02835	1.00000	0.02835
Sum S/Limit Ratio	0.95436								
Ratio Limit	1								

Mode 4: R1: R1: 2.4GHz + R2: 5GHz Low Band + R3: 5GHz High band + R4: Zigbee

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	8.42	27.31	35.73	0.26	35.99	32	0.30867	1.00000	0.30867
5.2G;D1D	10.89	24.74	35.63	0.36	35.99	32	0.30867	1.00000	0.30867
5.8G;D1D	10.62	25.36	35.98	0.01	35.99	32	0.30867	1.00000	0.30867
2.4G;Zigbee	6.16	19.4	25.56	0.50	26.06	32	0.03137	1.00000	0.03137
Sum S/Limit Ratio	0.95738								
Ratio Limit	1								

—————THE END—————