



RADIO EXPOSURE TEST REPORT

FCC ID : Z8H89FT0073

Equipment : XE3-4TN Outdoor Wi-Fi 6e 4x4 Access Point with SDR,
XE3-4TN Wi-Fi 6e 4x4 Access Point with SDR

Brand Name : Cambium Networks

Model Name : XE3-4T

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

Manufacturer : LITE-ON Technology Corp. Networking Plant
5F, No. 101, Neihuan N. Rd., Nanzih Dist., Kaohsiung City
811, Taiwan, R.O.C.

Standard : 47 CFR Part 2.1091

The product was received on Apr. 10, 2024, and testing was started from May 27, 2024 and completed on Aug. 26, 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

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



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History of this test report

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Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-
Note: Reference to Sporton Project No.: 290202-01.				

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	5180-5250 5250-5320 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 (For 6ID)	5925-7125	5955-7115	802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
6GHz WLAN (For 6SD)	5925-6425 6525-6878	5955-6415 6535-6855	802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Bluetooth	2400-2483.5	2402-2480	BR / EDR: FHSS (GFSK / $\pi/4$ -DQPSK / 8DPSK) LE: GFSK

Note: For WLAN 5GHz the test results include 160MHz, but the certification doesn't include 160MHz.



1.2 Antenna Information

Set	Port						Brand Name	Part Name	Antenna Type	Connector	Gain (dBi)
	WLAN 2.4GHz (Radio 1)	WLAN 5GHz (Radio 2)	WLAN 5GHz (Radio 3)	WLAN 6GHz (Radio 3)	BT (Radio 4)	GPS (Radio 5)					
1	1	1	2	2	-	-	LYNwave	ALX22X-121050-00	Dipole (Omni)	N-Type	Note 1
	2	2	4	4	-	-					
	-	-	1	1	-	-					
	-	-	3	3	-	-					
2	1	1	2	-	-	-	SmartAnt	SAA19-220130	Dipole (Omni)	N-Type	
	2	2	4	-	-	-					
	-	-	1	-	-	-					
	-	-	3	-	-	-					
3	-	-	2	2	-	-	LYNwave	OLX22X-127130-A	Patch (Directional)	N-Type	
	-	-	4	4	-	-					
	-	-	1	1	-	-					
	-	-	3	3	-	-					
4	1	-	-	-	-	-	EAHiSON	ANT-DIR15-2X2-2.4G-01	Panel (Directional)	N-Female	
	2	-	-	-	-	-					
5	-	1	2	-	-	-	KBT	ANT-DIR15-2X2-5.0G-01	Panel (Directional)	N-Female	
	-	2	4	-	-	-					
	-	-	1	-	-	-					
	-	-	3	-	-	-					
6	-	-	-	-	-	1	Cirocomm	03V0134913Z010T	Marine GPS	SMA	
7	-	-	-	-	1	-	INPAQ	RFPCA403422IMAB702	PCB	I-PEX	
8	-	-	-	2	-	-	LYNwave	OLX22X-127141-A	Panel (Directional)	N-Type	
	-	-	-	4	-	-					
	-	-	-	1	-	-					
	-	-	-	3	-	-					



Note 1:

Set	Antenna Gain (dBi)				Cable loss (dB)				Net Gain (dBi)			
	WLAN 2.4GHz (Radio 1)	BT (Radio 4)	GPS (Radio 5)		WLAN 2.4GHz (Radio 1)	BT (Radio 4)	GPS (Radio 5)		WLAN 2.4GHz (Radio 1)	BT (Radio 4)	GPS (Radio 5)	
			1575.42 MHz	1602 MHz			1575.42 MHz	1602 MHz			1575.42 MHz	1602 MHz
1	4.4	-	-	-	-	-	-	-	4.4	-	-	-
2	3	-	-	-	-	-	-	-	3	-	-	-
4	18	-	-	-	0.77	-	-	-	17.23	-	-	-
6	-	-	3	4.5	-	-	-	-	-	-	3	4.5
7	-	3.73	-	-	-	-	-	-	-	3.73	-	-

Set	Antenna Gain (dBi)								Cable loss (dB)								Net Gain (dBi)							
	WLAN 5GHz (Radio 2)				WLAN 5GHz (Radio 3)				WLAN 5GHz (Radio 2)				WLAN 5GHz (Radio 3)				WLAN 5GHz (Radio 2)				WLAN 5GHz (Radio 3)			
	UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3
1	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	-	-	-	-	-	-	-	-	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
2	5	5	6	6	5	5	6	6	-	-	-	-	-	-	-	-	5	5	6	6	5	5	6	6
3	-	-	-	-	11	11	11	11	-	-	-	-	1.45	1.45	1.6	1.6	-	-	-	-	9.55	9.55	9.4	9.4
5	18	18	18	18	18	18	18	18	1.45	1.45	1.6	1.6	1.45	1.45	1.6	1.6	16.55	16.55	16.4	16.4	16.55	16.55	16.4	16.4

As below for 6ID use only:

Set	Antenna Gain (dBi)				Cable loss (dB)				Net Gain (dBi)			
	WLAN 6GHz (Radio 3)				WLAN 6GHz (Radio 3)				WLAN 6GHz (Radio 3)			
	UNII 5, 6		UNII 7, 8		UNII 5, 6		UNII 7, 8		UNII 5, 6		UNII 7, 8	
3	11		11		1.25		1.25		9.75		9.75	
8	13		13		1.25		1.25		11.75		11.75	

As below for 6SD use only:

Set	Antenna Gain (dBi)		Cable loss (dB)		Net Gain (dBi)	
	WLAN 6GHz (Radio 3)		WLAN 6GHz (Radio 3)		WLAN 6GHz (Radio 3)	
	UNII 5	UNII 7	UNII 5	UNII 7	UNII 5	UNII 7
1	5.5	5.5	-	-	5.5	5.5
3	11	11	1.68	2.4	9.32	8.6
8	13	13	1.68	2.4	11.32	10.6

Note 2: The EUT has six sets of antenna for WLAN and one set of antenna for GPS and Bluetooth.

Note 3: The above information was declared by manufacturer.

Note 4: The antenna set 1 and set 2 are the same antenna type, only the highest gain antenna (antenna set 1 for 2.4GHz and 5GHz UNII 2A, antenna set 2 for 5GHz UNII 2C~3) were selected to test and record in this report.

For 6GHz Indoor Access Point: Only the highest gain antenna (antenna set 8 for 6GHz UNII 5~UNII 8) was selected to test and recorded in this report.



For 6GHz Standard Power Access Point:

Only the highest gain antenna (antenna set 1 and set 8 for 6GHz UNII 5, UNII 7) from each antenna type were selected to test and record in this report.

For Radio 1

For 2.4GHz:

For IEEE 802.11b/g/n/VHT/ax 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:

For IEEE 802.11a/n/ac/ax 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 3

For 5GHz UNII 1~3:

For IEEE 802.11a/n/ac/ax 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 6GHz UNII 5~8:

For IEEE 802.11 ax (4TX/4RX):

Port 1~4 can be used as transmitting/receiving antenna.

Port 1~4 can transmit/receive simultaneously.

For Radio 4

Bluetooth (1TX/1RX):

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

For Radio 5

GPS (1RX):

Only Port 1 can be used as receiving antenna.

Note 5: Polarization of antenna set 3: 2*Horizontal, 2*Vertical. so array gain only adds 10log (2).

Polarization of antenna set 4: 1*Horizontal, 1*Vertical. so the array gain is 0dBi.

Polarization of antenna set 5: Radio 2: 1*Horizontal, 1*Vertical. so the array gain is 0dBi.

Radio 3: 2*Horizontal, 2*Vertical. so array gain only adds 10log (2).

Polarization of antenna set 8: Radio 3: 2*Horizontal, 2*Vertical. so array gain only adds 10log (2).

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	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ant}} \left[\sum_{k=1}^{N_{ant}} G_{j,k} \right]^2}{N_{ant}} \right]$
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 :

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

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

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

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

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

Where ;

Antenna set 1

2.4G G1 = 4.4 dBi; G2 = 4.4 dBi ; DG = 4.4 dBi

5G Band1 G1 = 5.5 dBi; G2 = 5.5 dBi; G3 = 5.5 dBi; G4 = 5.5 dBi; DG = 5.5 dBi

5G Band2 G1 = 5.5 dBi; G2 = 5.5 dBi; G3 = 5.5 dBi; G4 = 5.5 dBi; DG = 5.5 dBi

2.4G DG = 7.41 dBi

For 2TX

Radio 2 5G Band1 DG = 8.51 dBi

Radio 2 5G Band2 DG = 8.51 dBi

For 4TX

Radio 3 5G Band1 DG = 11.52 dBi

Radio 3 5G Band2 DG = 11.52 dBi

Antenna set 2

5G Band3 G1 = 6 dBi; G2 = 6 dBi; G3 = 6 dBi; G4 = 6 dBi; DG = 6 dBi

5G Band4 G1 = 6 dBi; G2 = 6 dBi; G3 = 6 dBi; G4 = 6 dBi; DG = 6 dBi

For 2TX

Radio 2 5G Band3 DG = 9.01 dBi

Radio 2 5G Band4 DG = 9.01 dBi

For 4TX

Radio 3 5G Band3 DG = 12.02 dBi

Radio 3 5G Band4 DG = 12.02 dBi



Antenna set 3(Cross-Polarized Antenna)

5G Band1 G1 = 9.55 dBi; G2 = 9.55 dBi; G3 = 9.55 dBi; G4 = 9.55 dBi; DG = 9.55 dBi

5G Band2 G1 = 9.55 dBi; G2 = 9.55 dBi; G3 = 9.55 dBi; G4 = 9.55 dBi; DG = 9.55 dBi

5G Band3 G1 = 9.4 dBi; G2 = 9.4 dBi; G3 = 9.4 dBi; G4 = 9.4 dBi; DG = 9.4 dBi

5G Band4 G1 = 9.4 dBi; G2 = 9.4 dBi; G3 = 9.4 dBi; G4 = 9.4 dBi; DG = 9.4 dBi

Radio 3 5G Band1 DG = 12.56 dBi

Radio 3 5G Band2 DG = 12.56 dBi

Radio 3 5G Band3 DG = 12.41 dBi

Radio 3 5G Band4 DG = 12.41 dBi

Antenna set 4(Cross-Polarized Antenna)

2.4G G1 = 17.23 dBi; G2 = 17.23 dBi

DG = 17.23 dBi

Antenna set 5(Cross-Polarized Antenna)

5G Band1 G1 = 16.55 dBi; G2 = 16.55 dBi; G3 = 16.55 dBi; G4 = 16.55 dBi; DG = 16.55 dBi

5G Band2 G1 = 16.55 dBi; G2 = 16.55 dBi; G3 = 16.55 dBi; G4 = 16.55 dBi; DG = 16.55 dBi

5G Band3 G1 = 16.4 dBi; G2 = 16.4 dBi; G3 = 16.4 dBi; G4 = 16.4 dBi; DG = 16.4 dBi

5G Band4 G1 = 16.4 dBi; G2 = 16.4 dBi; G3 = 16.4 dBi; G4 = 16.4 dBi; DG = 16.4 dBi

For 2TX

Radio 2 5G Band1 DG = 16.55 dBi

Radio 2 5G Band2 DG = 16.55 dBi

Radio 2 5G Band3 DG = 16.40 dBi

Radio 2 5G Band4 DG = 16.40 dBi

For 4TX

Radio 3 5G Band1 DG = 19.56 dBi

Radio 3 5G Band2 DG = 19.56 dBi

Radio 3 5G Band3 DG = 19.41 dBi

Radio 3 5G Band4 DG = 19.41 dBi

1.3 Table for EUT support function

Function	Support Band	Use Condition
AP	6GHz UNII 5~8	Indoor Use for 6ID
	6GHz UNII 5, 7	Outdoor Use for 6SD
Mesh Base	2.4GHz/5GHz UNII 1~3	Indoor / Outdoor Use
Mesh Client (Not pure client)	5GHz UNII 2A, 2C	Indoor / Outdoor Use

Note: The above information was declared by manufacturer.

1.4 Table for Radio function

Radio (R)	WLAN 2.4GHz	WLAN 5GHz	WLAN 6GHz	Bluetooth	GPS
R1	V	-	-	-	-
R2	-	V (20/40/80MHz)	-	-	-
R3	-	V (20/40/80MHz)	V (20/40/80/160MHz)	-	-
R4	-	-	-	V	-
R5	-	-	-	-	V

Note: The above information was declared by manufacturer.



1.5 Table for Multiple Listing

Equipment Name	Use Condition	6GHz Mode	6GHz Antenna	6GHz Antenna Cable	Sealing collar
XE3-4TN Outdoor Wi-Fi 6e 4x4 Access Point with SDR	Outdoor Use	Support (6SD)	Antenna Set 1, 3, 8	Antenna Cable 1	With
XE3-4TN Wi-Fi 6e 4x4 Access Point with SDR	Indoor Use	Support (6ID)	Antenna Set 3, 8	Antenna Cable 2	Without

Note 1: From the above Equipment Names, "XE3-4TN Outdoor Wi-Fi 6e 4x4 Access Point with SDR" 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.

1.6 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FA322335-05

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

Modifications	Performance Checking
Adding AP mode in 6GHz (UNII 5, UNII 7) Standard Power Access Point function in antenna sets 1, 3 and 8 via software change.	Standard Power Access Point MPE.

Note: Other MPE results were based on original report.

1.7 Accessories

Accessories
Bracket 1*1 (Only for EUT use)
Bracket 2*1 (Only for Antenna Set 3 use)
Bracket 3*1 (Only for Antenna Set 4 use)
Bracket 4*1 (Only for Antenna Set 5 use)
Bracket 5*1 (Only for Antenna Set 8 use)
Antenna cable 1*6 (For Antenna Set 3~5 and 8 use; 6GHz only for standard power AP)
Antenna cable 2*4 (Only for Antenna Set 3 and 8 in 6GHz of Indoor Access Point use)
Sealing collar*2 (Only for Outdoor use)



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 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 62 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 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_{th}.

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

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

Mode	DG (dBi)	Power (dBm)	ERP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D (Radio 1 + antenna set 1)	7.41	28.58	33.84	-0.00	2421.029	62	C	7380.5	0.3281
2.4G;D1D (Radio 1 + antenna set 4)	17.23	18.69	33.77	0.07	2421.029	62	C	7380.5	0.3281
5.2G;D1D (Radio 2 + antenna set 1)	5.50	18.86	22.21	0.50	186.638	62	C	7380.5	0.0253
5.3G;D1D (Radio 2 + antenna set 1)	8.51	21.31	27.67	0.17	608.135	62	C	7380.5	0.0824
5.6G;D1D (Radio 2 + antenna set 2)	6.00	23.94	27.79	0.05	608.135	62	C	7380.5	0.0824
5.8G;D1D (Radio 2 + antenna set 2)	6.00	29.94	33.79	0.05	2421.029	62	C	7380.5	0.3281
5.2G;D1D (Radio 2 + antenna set 5)	16.55	18.82	33.22	0.50	2355.049	62	C	7380.5	0.3192
5.3G;D1D (Radio 2 + antenna set 5)	16.55	13.39	27.79	0.05	608.135	62	C	7380.5	0.0824
5.6G;D1D (Radio 2 + antenna set 5)	16.40	13.57	27.82	0.02	608.135	62	C	7380.5	0.0824
5.8G;D1D (Radio 2 + antenna set 5)	16.40	19.57	33.82	0.02	2421.029	62	C	7380.5	0.3281
5.2G;D1D (Radio 3 + antenna set 1)	11.52	12.84	22.21	0.50	186.638	62	C	7380.5	0.0253
5.3G;D1D (Radio 3 + antenna set 1)	11.52	18.31	27.68	0.16	608.135	62	C	7380.5	0.0824
5.6G;D1D (Radio 3 + antenna set 2)	12.02	17.91	27.78	0.06	608.135	62	C	7380.5	0.0824
5.8G;D1D (Radio 3 + antenna set 2)	12.02	23.83	33.70	0.14	2421.029	62	C	7380.5	0.3281
5.2G;D1D (Radio 3 + antenna set 3)	9.55	21.46	28.86	0.50	862.979	62	C	7380.5	0.1170
5.3G;D1D (Radio 3 + antenna set 3)	9.55	20.14	27.54	0.30	608.135	62	C	7380.5	0.0824
5.6G;D1D (Radio 3 + antenna set 3)	12.41	17.44	27.70	0.14	608.135	62	C	7380.5	0.0824
5.8G;D1D (Radio 3 + antenna set 3)	9.40	26.57	33.82	0.02	2421.029	62	C	7380.5	0.3281
5.2G;D1D (Radio 3 + antenna set 5)	16.55	18.8	33.20	0.50	2344.229	62	C	7380.5	0.3177
5.3G;D1D (Radio 3 + antenna set 5)	19.56	10.4	27.81	0.03	608.135	62	C	7380.5	0.0824
5.6G;D1D (Radio 3 + antenna set 5)	16.40	13.56	27.81	0.03	608.135	62	C	7380.5	0.0824
5.8G;D1D (Radio 3 + antenna set 5)	19.41	16.57	33.83	0.01	2421.029	62	C	7380.5	0.3281
6.2G;D1D (6ID) (Radio 3 + antenna set 8)	-	-	23.53	0.50	252.930	62	C	7380.5	0.0343
6.4G;D1D (6ID) (Radio 3 + antenna set 8)	-	-	23.20	0.50	234.423	62	C	7380.5	0.0318
6.7G;D1D (6ID) (Radio 3 + antenna set 8)	-	-	24.07	0.50	286.418	62	C	7380.5	0.0388

**RADIO EXPOSURE TEST REPORT**

Report No. : FA332335-03

Mode	DG (dBi)	Power (dBm)	ERP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	Option	TL ERP (mW)	TL Ratio
7.0G;D1D (6ID) (Radio 3 + antenna set 8)	-	-	22.78	0.50	212.814	62	C	7380.5	0.0288
6.2G;D1D (6SD) (Radio 3 + antenna set 1)	-	-	23.21	0.50	234.963	62	C	7380.5	0.0318
6.7G;D1D (6SD) (Radio 3 + antenna set 1)	-	-	21.72	0.50	166.725	62	C	7380.5	0.0226
6.2G;D1D (6SD) (Radio 3 + antenna set 8)	-	-	30.33	0.50	1210.598	62	C	7380.5	0.1641
6.7G;D1D (6SD) (Radio 3 + antenna set 8)	-	-	29.72	0.50	1051.962	62	C	7380.5	0.1426
2.4G;BT-BR (Radio 4 + antenna set 7)	3.73	9.09	10.67	0.50	13.092	62	C	7380.5	0.0018
2.4G;BT-LE (Radio 4 + antenna set 7)	3.73	8.68	10.26	0.50	11.912	62	C	7380.5	0.0016

**Simultaneous Transmission Analysis Mode:****Mode1: R1 (2.4G + antenna set 1) + R2 (5G antenna set 2) + R3 (5G antenna set 2) + R4 (Bluetooth + antenna set 7)**

Mode	DG (dBi)	Power (dBm)	ERP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	7.41	28.58	33.84	-0.00	2421.029	62	C	7380.5	0.3281
5.8G;D1D	6.00	29.94	33.79	0.05	2421.029	62	C	7380.5	0.3281
5.8G;D1D	12.02	23.83	33.70	0.14	2421.029	62	C	7380.5	0.3281
2.4G;BT-BR	3.73	9.09	10.67	0.50	13.092	62	C	7380.5	0.0018
Sum TL Ratio_C	0.9861								
Ratio Limit	1								

Mode2: R1 (2.4G + antenna set 4) + R2 (5G antenna set 5) + R3 (5G antenna set 5) + R4 (Bluetooth + antenna set 7)

Mode	DG (dBi)	Power (dBm)	ERP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	17.23	18.69	33.77	0.07	2421.029	62	C	7380.5	0.3281
5.8G;D1D	16.40	19.57	33.82	0.02	2421.029	62	C	7380.5	0.3281
5.8G;D1D	19.41	16.57	33.83	0.01	2421.029	62	C	7380.5	0.3281
2.4G;BT-BR	3.73	9.09	10.67	0.50	13.092	62	C	7380.5	0.0018
Sum TL Ratio_C	0.9861								
Ratio Limit	1								

Mode3: R1 (2.4G + antenna set 4) + R2 (5G antenna set 5) + R3 (5G antenna set 3) + R4 (Bluetooth + antenna set 7)

Mode	DG (dBi)	Power (dBm)	ERP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	17.23	18.69	33.77	0.07	2421.029	62	C	7380.5	0.3281
5.8G;D1D	16.40	19.57	33.82	0.02	2421.029	62	C	7380.5	0.3281
5.8G;D1D	9.40	26.57	33.82	0.02	2421.029	62	C	7380.5	0.3281
2.4G;BT-BR	3.73	9.09	10.67	0.50	13.092	62	C	7380.5	0.0018
Sum TL Ratio_C	0.9861								
Ratio Limit	1								

**Mode4: R1 (2.4G + antenna set 1) + R2 (5G antenna set 2) + R3 (6G (6ID) antenna set 8) + R4 (Bluetooth + antenna set 7)**

Mode	DG (dBi)	Power (dBm)	ERP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	7.41	28.58	33.84	0.00	2421.029	62	C	7380.5	0.3281
5.8G;D1D	6.00	29.94	33.79	0.05	2421.029	62	C	7380.5	0.3281
2.4G;BT-BR	3.73	9.09	10.67	0.50	13.092	62	C	7380.5	0.0018
6.7G;D1D	11.75	-	24.07	0.50	286.418	62	C	7380.5	0.0388
Sum TL Ratio_C	0.6968								
Ratio Limit	1								

Mode5: R1 (2.4G + antenna set 4) + R2 (5G antenna set 5) + R3 (6G (6ID) antenna set 8) + R4 (Bluetooth + antenna set 7)

Mode	DG (dBi)	Power (dBm)	ERP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	17.23	18.69	33.77	0.07	2421.029	62	C	7380.5	0.3281
5.8G;D1D	16.40	19.57	33.82	0.02	2421.029	62	C	7380.5	0.3281
2.4G;BT-BR	3.73	9.09	10.67	0.50	13.092	62	C	7380.5	0.0018
6.7G;D1D	11.75	-	24.07	0.50	286.418	62	C	7380.5	0.0388
Sum TL Ratio_C	0.6968								
Ratio Limit	1								

Mode6: R1 (2.4G + antenna set 1) + R2 (5G antenna set 2) + R3 (6G (6SD) antenna set 1) + R4 (Bluetooth + antenna set 7)

Mode	DG (dBi)	Power (dBm)	ERP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	7.41	28.58	33.84	-0.00	2421.029	62	C	7380.5	0.3281
5.8G;D1D	6.00	29.94	33.79	0.05	2421.029	62	C	7380.5	0.3281
6.2G;D1D	5.50	-	23.21	0.50	234.963	62	C	7380.5	0.0318
2.4G;BT-BR	3.73	9.09	10.67	0.50	13.092	62	C	7380.5	0.0018
Sum TL Ratio_C	0.6898								
Ratio Limit	1								

Mode7: R1 (2.4G + antenna set 1) + R2 (5G antenna set 5) + R3 (6G (6SD) antenna set 8) + R4 (Bluetooth + antenna set 7)

Mode	DG (dBi)	Power (dBm)	ERP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	17.23	18.69	33.77	0.07	2421.029	62	C	7380.5	0.3281
5.8G;D1D	16.40	19.57	33.82	0.02	2421.029	62	C	7380.5	0.3281
6.2G;D1D	14.33	-	30.33	0.50	1210.598	62	C	7380.5	0.1641
2.4G;BT-BR	3.73	9.09	10.67	0.50	13.092	62	C	7380.5	0.0018
Sum TL Ratio_C	0.8221								
Ratio Limit	1								

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