Radio Exposure Evaluation Report

FCC ID	:	**2AHBN-AP64**
Equipment	:	**802.11ax WiFi6E 2+2+2 Access Point**
Brand Name	:	**Juniper**
Model Name	:	**AP64**
Applicant	:	**Juniper Networks, Inc. 1133 Innovation Way, Sunnyvale, CA 94089, USA**
Manufacturer	:	**Juniper Networks, Inc. 1133 Innovation Way, Sunnyvale, CA 94089, USA**
Standard	:	**47 CFR FCC Part 2 Subpart J, section 2.1091**

The product was received on Sep. 13, 2023, and testing was started from Sep. 28, 2023 and completed on Oct. 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 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.)

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History of this test report

Report No.	Version	Description	Issued Date
FA391129	01	Initial issue of report	Dec. 06, 2023
FA391129	02	Revised typo. (This report is the latest version replacing for the report issued on Dec. 06, 2023.)	Dec. 08, 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: Michelle Tsai

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) 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)
Bluetooth	2400-2483.5	2402-2480	LE: DSSS (GFSK)
Thread	2400-2483.5	2405-2475	DSSS (O-QPSK)
ZigBee	2400-2483.5	2405-2475	DSSS (O-QPSK)

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Remark
1	Juniper	0990279010_1	PIFA	I-PEX	Radio 2_2.4G+Radio 1_6G
2	Juniper	0990279010_2	PIFA	I-PEX	Radio 0_5G+BT/Thread/Zigbee
3	Juniper	0990279010_3	PIFA	I-PEX	Radio 1_2.4G+Radio 0_5G
4	Juniper	0990279010_4	PIFA	I-PEX	Radio 1_2.4G+Radio 1_6G
5	Juniper	0990279010_5	PIFA	I-PEX	Radio 2_2.4G+Radio 2_5G+ Radio 2_6G
6	Juniper	0990278910	PIFA	I-PEX	GPS

Ant.	Gain (dBi)							
	Radio 0	Radio 1		Radio 2			BT/Thread/Zigbee	GPS
	5G	2.4G	6G	2.4G	5G	6G		
1	-	-	4.45	1.58	-	-	-	-
2	5.46	-	-	-	-	-	1.22	-
3	5.41	1.38	-	-	-	-	-	-
4	-	4.41	4.25	-	-	-	-	-
5	-	-	-	2.3	4.26	3.9	-	-
6	-	-	-	-	-	-	-	3.15

Composite Gain (dBi)									
	2.4G	UNII-1	UNII-2A	UNII-2C	UNII-3	6.175G	6.475G	6.695G	6.995G
DG [1SS] Ant.1 & Ant.5	4.35	-	-	-	-	-	-	-	-
DG [1SS] Ant.3 & Ant.4	5.08	-	-	-	-	-	-	-	-
DG [1SS] Ant.2 & Ant.3	-	5.46	5.42	5.52	3.99	-	-	-	-
DG [1SS] Ant.1 & Ant.4	-	-	-	-	-	5.37	4.72	4.36	4.63

Note 1: The EUT has six antennas.

For 2.4GHz function:

For IEEE 802.11 b/g/n/VHT/ax mode (1TX/1RX) (Radio 2)
Ant. 5 could transmit/receive.
For IEEE 802.11 b/g/n/VHT/ax mode (2TX/2RX) (Radio 1)
Ant. 3 and Ant. 4 could transmit/receive simultaneously.
For IEEE 802.11 b/g/n/VHT/ax mode (2TX/2RX) (Radio 2)
Ant. 1 and Ant. 5 could transmit/receive simultaneously.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)
Ant. 2 could transmit/receive.

For 5GHz function:

For IEEE 802.11 a/n/ac/ax mode (1TX/1RX) (Radio 2)
Ant. 5 could transmit/receive.
For IEEE 802.11 a/n/ac/ax mode (2TX/2RX) (Radio 0)
Ant. 2 and Ant. 3 could transmit/receive simultaneously.

For Thread function:

For Thread mode (1TX/1RX)
Ant. 2 could transmit/receive.

For Zigbee function:

For Zigbee mode (1TX/1RX)
Ant. 2 could transmit/receive.

1.1.3 Accessories

Accessories				
Bracket	**Brand Name**	Juniper	**Model Name**	APOUTBR-FM2

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

Test Lab.：Sporton International Inc. Hsinhua Laboratory		
☒ Hsinhua **(TAF:** 3785**)**	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)	
	TEL: 886-3-327-3456	**FAX:** 886-3-327-0973
Test site Designation No. TW3785 with FCC.		

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/ cm²)	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/ cm²)	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

Multiple Transmitters Condition
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 1_2.4GHz WLAN + Radio 2_2.4GHz WLAN + Radio 0_5GHz WLAN + Bluetooth 2. Radio 1_2.4GHz WLAN + Radio 2_5GHz WLAN + Radio 0_5GHz WLAN + Bluetooth 3. Radio 1_2.4GHz WLAN + Radio 2_2.4GHz WLAN + Radio 0_5GHz WLAN + Zigbee 4. Radio 1_2.4GHz WLAN + Radio 2_5GHz WLAN + Radio 0_5GHz WLAN + Zigbee 5. Radio 1_2.4GHz WLAN + Radio 2_2.4GHz WLAN + Radio 0_5GHz WLAN + Thread 6. Radio 1_2.4GHz WLAN + Radio 2_5GHz WLAN + Radio 0_5GHz WLAN + Thread

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)	$\mathrm{P}th(mW)=\begin{cases} ERP_{20cm}(d/20cm)^{x} \rightarrow d \le 20cm \\ ERP_{20cm} \rightarrow 20cm < d \le 40cm \end{cases}$ $x=-\log_{10}\left(\frac{60}{ERP_{20cm}\sqrt{f}}\right)$ and f is in GHz $\begin{cases} ERP_{20cm}: 0.3GHz \le f < 1.5GHz \rightarrow 2040f(mW) \\ ERP_{20cm}: 1.5GHz \le f \le 6GHz \rightarrow 3060(mW) \end{cases}$
C	§1.1307(b)(3)(i)(C)	$\begin{cases} 0.3 \sim 1.34MHz \rightarrow ERP(\mathrm{W}) = 1920R^2 \\ 1.34 \sim 30MHz \rightarrow ERP(\mathrm{W}) = 3450R^2/f^2 \\ 30 \sim 300MHz \rightarrow ERP(\mathrm{W}) = 3.83R^2 \\ 300 \sim 1500MHz \rightarrow ERP(\mathrm{W}) = 0.0128R^2 f \\ 1500 \sim 100000MHz \rightarrow ERP(\mathrm{W}) = 19.2R^2 \end{cases}$ f is in MHz; R is in m; $\mathrm{R} > \lambda/2\pi$

2.3 Multiple RF Sources Exposure

Refer Std.	Exemption Exposure Thresholds (TL)
§1.1307(b)(3)(ii)(A)	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)
§1.1307(b)(3)(ii)(B)	$\sum_{i=1}^{a}\frac{P_i}{P_{th,i}}+\sum_{j=1}^{b}\frac{ERP_j}{ERP_{th,j}}+\sum_{k=1}^{c}\frac{Evaluated_k}{ExposureLimit_k}\le 1$ 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_i = 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). $P_{th,i}$ = the exemption threshold power (P_{th}) according to paragraph §1.1307(b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i. ERP_j = the ERP of fixed, mobile, or portable RF source j. $ERP_{th,j}$ = 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. $Evaluated_k$ = 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. $Evaluated\ Limit_k$ = 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.

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 (V/m) = $\frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) = $\frac{E^2}{377}$

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_Radio 1

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;G1D;	4.41	23.18	27.59	0.50	392.7444	20.00	0.12815	1.00000	B	3060	0.1284
2.4G;D1D;	4.41	23.25	27.66	0.50	399.1260	20.00	0.13024	1.00000	B	3060	0.1304

2.4GHz WLAN_Non-Beamforming_Radio 2

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;G1D	2.30	23.36	25.66	0.50	251.8315	20.00	0.08217	1.00000	B	3060	0.0823
2.4G;D1D	2.30	23.05	25.35	0.50	234.4823	20.00	0.07651	1.00000	B	3060	0.0766

2.4GHz WLAN_Beamforming_Radio 1

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D;	5.08	23.12	28.20	0.50	451.9704	20.00	0.14748	1.00000	B	3060	0.1477

2.4GHz WLAN_Beamforming_Radio 2

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	4.35	22.95	27.30	0.50	367.3753	20.00	0.11988	1.00000	B	3060	0.1201

5GHz WLAN_Non-Beamforming_Radio 0_Indoor

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	5.46	23.19	28.65	0.50	501.3142	20.00	0.16358	1.00000	B	3060	0.1638
5.3G;D1D	5.46	23.88	29.34	0.50	587.6382	20.00	0.19175	1.00000	B	3060	0.1920
5.6G;D1D	5.46	23.36	28.82	0.50	521.3267	20.00	0.17011	1.00000	B	3060	0.1704
5.8G;D1D	5.46	24.97	30.43	0.50	755.2835	20.00	0.24645	1.00000	B	3060	0.2468

5GHz WLAN_Non-Beamforming_Radio 0_Outdoor

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	5.46	20.42	25.88	0.50	264.9171	20.00	0.08644	1.00000	B	3060	0.0866
5.3G;D1D	5.46	23.88	29.34	0.50	587.6382	20.00	0.19175	1.00000	B	3060	0.1920
5.6G;D1D	5.46	23.36	28.82	0.50	521.3267	20.00	0.17011	1.00000	B	3060	0.1704
5.8G;D1D	5.46	24.97	30.43	0.50	755.2835	20.00	0.24645	1.00000	B	3060	0.2468

5GHz WLAN_Non-Beamforming_Radio 2_Indoor

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	4.26	19.61	23.87	0.50	166.7670	20.00	0.05442	1.00000	B	3060	0.0545
5.3G;D1D	4.26	19.62	23.88	0.50	167.1514	20.00	0.05454	1.00000	B	3060	0.0546
5.6G;D1D	4.26	20.41	24.67	0.50	200.4980	20.00	0.06542	1.00000	B	3060	0.0655
5.8G;D1D	4.26	20.98	25.24	0.50	228.6178	20.00	0.07460	1.00000	B	3060	0.0747

5GHz WLAN_Non-Beamforming_Radio 2_Outdoor

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	4.26	18.28	22.54	0.50	122.7750	20.00	0.04006	1.00000	B	3060	0.0401
5.3G;D1D	4.26	19.62	23.88	0.50	167.1514	20.00	0.05454	1.00000	B	3060	0.0546
5.6G;D1D	4.26	20.41	24.67	0.50	200.4980	20.00	0.06542	1.00000	B	3060	0.0655
5.8G;D1D	4.26	20.98	25.24	0.50	228.6178	20.00	0.07460	1.00000	B	3060	0.0747

5GHz WLAN_ Beamforming_Radio 0_Indoor

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	5.52	23.06	28.58	0.50	493.2987	20.00	0.16096	1.00000	B	3060	0.1612
5.3G;D1D	5.52	23.76	29.28	0.50	579.5755	20.00	0.18912	1.00000	B	3060	0.1894
5.6G;D1D	5.52	23.31	28.83	0.50	522.5285	20.00	0.17050	1.00000	B	3060	0.1708
5.8G;D1D	5.52	24.84	30.36	0.50	743.2074	20.00	0.24251	1.00000	B	3060	0.2429

5GHz WLAN_ Beamforming_Radio 0_Outdoor

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
5.2G;D1D	5.52	20.31	25.83	0.50	261.8846	20.00	0.08545	1.00000	B	3060	0.0856
5.3G;D1D	5.52	23.76	29.28	0.50	579.5755	20.00	0.18912	1.00000	B	3060	0.1894
5.6G;D1D	5.52	23.31	28.83	0.50	522.5285	20.00	0.17050	1.00000	B	3060	0.1708
5.8G;D1D	5.52	24.84	30.36	0.50	743.2074	20.00	0.24251	1.00000	B	3060	0.2429

Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;BT-LE	1.22	5.00	6.22	0.50	2.8649	20.00	0.00093	1.00000	B	3060	0.0009

Zigbee

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;G1D	1.22	7.03	8.25	0.50	4.5720	20.00	0.00149	1.00000	B	3060	0.0015

Thread

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D	1.22	7.04	8.26	0.50	4.5826	20.00	0.00150	1.00000	B	3060	0.0015

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)

Simultaneous Transmission Analysis Mode:

Radio 1_2.4GHz WLAN + Radio 2_2.4GHz WLAN + Radio 0_5GHz WLAN + Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D;	5.08	23.12	28.20	0.50	451.9704	20.00	0.14748	1.00000	B	3060	0.1477
2.4G;D1D	4.35	22.95	27.30	0.50	367.3753	20.00	0.11988	1.00000	B	3060	0.1201
5.8G;D1D	5.46	24.97	30.43	0.50	755.2835	20.00	0.24645	1.00000	B	3060	0.2468
2.4G;BT-LE	1.22	5.00	6.22	0.50	2.8649	20.00	0.00093	1.00000	B	3060	0.0009
										Sum Ratio	0.5155
										Ratio Limit	1

Radio 1_2.4GHz WLAN + Radio 2_5GHz WLAN + Radio 0_5GHz WLAN + Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D;	5.08	23.12	28.20	0.50	451.9704	20.00	0.14748	1.00000	B	3060	0.1477
5.8G;D1D	4.26	20.98	25.24	0.50	228.6178	20.00	0.07460	1.00000	B	3060	0.0747
5.8G;D1D	5.46	24.97	30.43	0.50	755.2835	20.00	0.24645	1.00000	B	3060	0.2468
2.4G;BT-LE	1.22	5.00	6.22	0.50	2.8649	20.00	0.00093	1.00000	B	3060	0.0009
										Sum Ratio	0.4702
										Ratio Limit	1

Radio 1_2.4GHz WLAN + Radio 2_2.4GHz WLAN + Radio 0_5GHz WLAN + Zigbee

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D;	5.08	23.12	28.20	0.50	451.9704	20.00	0.14748	1.00000	B	3060	0.1477
2.4G;D1D	4.35	22.95	27.30	0.50	367.3753	20.00	0.11988	1.00000	B	3060	0.1201
5.8G;D1D	5.46	24.97	30.43	0.50	755.2835	20.00	0.24645	1.00000	B	3060	0.2468
2.4G;G1D	1.22	7.03	8.25	0.50	4.5720	20.00	0.00149	1.00000	B	3060	0.0015
										Sum Ratio	0.5161
										Ratio Limit	1

Radio 1_2.4GHz WLAN + Radio 2_5GHz WLAN + Radio 0_5GHz WLAN + Zigbee

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D;	5.08	23.12	28.20	0.50	451.9704	20.00	0.14748	1.00000	B	3060	0.1477
5.8G;D1D	4.26	20.98	25.24	0.50	228.6178	20.00	0.07460	1.00000	B	3060	0.0747
5.8G;D1D	5.46	24.97	30.43	0.50	755.2835	20.00	0.24645	1.00000	B	3060	0.2468
2.4G;G1D	1.22	7.03	8.25	0.50	4.5720	20.00	0.00149	1.00000	B	3060	0.0015
										Sum Ratio	0.4707
										Ratio Limit	1

Radio 1_2.4GHz WLAN + Radio 2_2.4GHz WLAN + Radio 0_5GHz WLAN + Thread

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D;	5.08	23.12	28.20	0.50	451.9704	20.00	0.14748	1.00000	B	3060	0.1477
2.4G;D1D	4.35	22.95	27.30	0.50	367.3753	20.00	0.11988	1.00000	B	3060	0.1201
5.8G;D1D	5.46	24.97	30.43	0.50	755.2835	20.00	0.24645	1.00000	B	3060	0.2468
2.4G;D1D	1.22	7.04	8.26	0.50	4.5826	20.00	0.00150	1.00000	B	3060	0.0015
										Sum Ratio	0.5161
										Ratio Limit	1

Radio 1_2.4GHz WLAN + Radio 2_5GHz WLAN + Radio 0_5GHz WLAN + Thread

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up ERP (mW)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)	Option	TL ERP (mW)	TL Ratio
2.4G;D1D;	5.08	23.12	28.20	0.50	451.9704	20.00	0.14748	1.00000	B	3060	0.1477
5.8G;D1D	4.26	20.98	25.24	0.50	228.6178	20.00	0.07460	1.00000	B	3060	0.0747
5.8G;D1D	5.46	24.97	30.43	0.50	755.2835	20.00	0.24645	1.00000	B	3060	0.2468
2.4G;D1D	1.22	7.04	8.26	0.50	4.5826	20.00	0.00150	1.00000	B	3060	0.0015
										Sum Ratio	0.4707
										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———