Client:	Eight Sleep, Inc.	PR Number:	PR167335
Model:	Pod Hub	T-Log Number:	TL167335 Hub 182A5
		Project Manager:	Christine Krebill
Contact:	Alex Lednev, Patrick McCabe	Project Engineer:	David Bare
Standard:	FCC part 15.407, RSS-247	Class:	N/A

Maximum Permissible Exposure / SAR Exclusion

Specific Details

Objective: Evaluate the RF Exposure requirements per FCC §1.1310, §2.1091 and RSS-102.

Date of Test: 1/25/2023
Test Engineer: David W. Bare

General Test Configuration

Calculation uses the free space transmission formula:

$$S = (PG)/(4 \pi d^2)$$

Where: S is power density (W/m^2), P is output power (W), G is antenna gain relative to isotropic, d is separation distance from the transmitting antenna (m).

Summary of Results

Device complies with Power Density requirements at 20cm separation:	Yes
If not, required separation distance (in cm):	-

Deviations From The Standard

No deviations were made from the requirements of the standard.

Notes

The BLE and Wi-Fi radios do not transmit simultaneously. 2.4 GHz and 5 GHz Wi-Fi operating modes are mutually exclusive. Only one band can operate at a time. All calculations use power values at 100% duty cycle.

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Standard:	FCC part 15.407, RSS-247	Class:	N/A

FCC MPE Calculation
Use: General
Antenna: Maximum 2.5 dBi
Wi-Fi

Freq. MHz	EUT Power (in. Tolerance) dBm	EUT Power (in. Tolerance) mW*	Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm mW/cm^2	MPE Limit at 20 cm mW/cm^2
2402	6.2	4.2	0	-3.7	6.2	1.78	0.0004	1.000
2440	6.7	4.7	0	-4.7	6.7	1.58	0.0003	1.000
2480	6.3	4.3	0	-2.7	6.3	2.29	0.0005	1.000
2412	23.4	218.8	0	2.5	23.4	389.05	0.077	1.000
2437	23.4	218.8	0	2.5	23.4	389.05	0.077	1.000
2462	23.4	218.8	0	2.5	23.4	389.05	0.077	1.000
5180	14.3	26.9	0	7	14.3	134.90	0.027	1.000
5200	14.3	26.9	0	7	14.3	134.90	0.027	1.000
5240	14.3	26.9	0	7	14.3	134.90	0.027	1.000
5745	23.8	239.9	0	7	23.8	1202.26	0.239	1.000
5785	23.8	239.9	0	7	23.8	1202.26	0.239	1.000
5825	23.8	239.9	0	7	23.8	1202.26	0.239	1.000

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 95 cm mW/cm^2	MPE Limit at 95 cm mW/cm^2	Distance where S <= MPE Limit cm	
2402	0.000	1.000	0.4	BLE
2440	0.000	1.000	0.4	BLE
2480	0.000	1.000	0.4	BLE
2412	0.077	1.000	5.6	Wi-Fi
2437	0.077	1.000	5.6	Wi-Fi
2462	0.077	1.000	5.6	Wi-Fi
5180	0.027	1.000	3.3	Wi-Fi
5200	0.027	1.000	3.3	Wi-Fi
5240	0.027	1.000	3.3	Wi-Fi
5745	0.239	1.000	9.8	Wi-Fi
5785	0.239	1.000	9.8	Wi-Fi
5825	0.239	1.000	9.8	Wi-Fi

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Contact:	Alex Lednev, Patrick McCabe	Project Engineer:	David Bare
Standard:	FCC part 15.407, RSS-247	Class:	N/A

ISED Canada RF Field Strength Power Density Calculation
Use: General
Antenna: Maximum 2.5 dBi

For 300 - 6000 MHz single transmitters (General use)

Freq. MHz	EUT Power dBm	EUT Power mW*	Cable Loss Loss dB	Ant Gain dBi	Power at Ant dBm	EIRP mW	Power Density (S) at 20 cm W/m^2	MPE Limit at 20 cm W/m^2
2402	6.2	4.2	0	-3.7	6.2	1.78	0.004	5.351
2440	6.7	4.7	0	-4.7	6.7	1.58	0.003	5.409
2480	6.3	4.3	0	-2.7	6.3	2.29	0.005	5.469
2412	23.4	218.8	0	2.5	23.4	389.05	0.774	5.366
2437	23.4	218.8	0	2.5	23.4	389.05	0.774	5.404
2462	23.4	218.8	0	2.5	23.4	389.05	0.774	5.442
5180	14.3	26.9	0	7	14.3	134.90	0.268	9.047
5200	14.3	26.9	0	7	14.3	134.90	0.268	9.071
5240	14.3	26.9	0	7	14.3	134.90	0.268	9.119
5745	23.8	239.9	0	7	23.8	1202.26	2.392	9.710
5785	23.8	239.9	0	7	23.8	1202.26	2.392	9.756
5825	23.8	239.9	0	7	23.8	1202.26	2.392	9.803

For the cases where S > the MPE Limit

Freq. MHz	Power Density (S) at 20 cm W/m^2	MPE Limit at 20 cm W/m^2	Distance where S <= MPE Limit cm	
2402	0.004	5.351	0.5	BLE
2440	0.003	5.409	0.5	BLE
2480	0.005	5.469	0.6	BLE
2412	0.774	5.366	7.6	Wi-Fi
2437	0.774	5.404	7.6	Wi-Fi
2462	0.774	5.442	7.5	Wi-Fi
5180	0.268	9.047	3.4	Wi-Fi
5200	0.268	9.071	3.4	Wi-Fi
5240	0.268	9.119	3.4	Wi-Fi
5745	2.392	9.710	9.9	Wi-Fi
5785	2.392	9.756	9.9	Wi-Fi
5825	2.392	9.803	9.9	Wi-Fi