

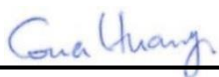
RF EXPOSURE EVALUATION REPORT

FCC ID : 2A4B7-1021
Equipment : Contactless Sleep Tracker and Wake Light
Model Name : V4E6N2
Applicant : Blueberry Cornel LLC
2150 S. Central Expressway Suite 200 McKinney, TX 75070
Standard : 47 CFR Part 1.1307
47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part 1.1307, 47 CFR Part 2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full



Approved by: Cona Huang / Deputy Manager



SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



Table of Contents

1. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)	4
2. MAXIMUM RF AVERAGE OUTPUT POWER AMONG PRODUCTION UNITS	5
3. MPE-BASED EXEMPTION	7
4. RF EXPOSURE EVALUATION	8
4.1. Standalone assessment	8
5. SIMULTANEOUS TRANSMISSION MPE TEST EXEMPTION	9



History of this test report

Report No.	Version	Description	Issued Date
FA1D2427-01	Rev. 01	Initial issue of report	Jul. 12, 2022

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Contactless Sleep Tracker and Wake Light
Model Name	V4E6N2
FCC ID	2A4B7-1021
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.5GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8GHz Band: 5725 MHz ~ 5850 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz 60GHz: non-ISM: 62 GHz ~ 63.1 GHz ISM: 61.03 GHz ~ 61.47 GHz
Mode	WLAN: 802.11a/b/g/n HT20 Bluetooth BR/EDR/LE 60GHz

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

Reviewed by: Jason Wang

Report Producer: Carlie Tsai

2. Maximum RF average output power among production units

<Bluetooth>

Band	Channel	Frequency	Data rate/BW	Ant.	Tune up (dBm)
BT3.0	CH 00	2402 MHz	1M	1	6.50
BT3.0	CH 39	2441 MHz	1M	1	6.50
BT3.0	CH 78	2480 MHz	1M	1	6.00
BT5.0	CH 00	2402 MHz	1M	1	6.00
BT5.0	CH 19	2440 MHz	1M	1	6.50
BT5.0	CH 39	2480 MHz	1M	1	6.00
BT5.0	CH 00	2402 MHz	2M	1	6.50
BT5.0	CH 19	2440 MHz	2M	1	7.00
BT5.0	CH 39	2480 MHz	2M	1	6.50

<2.4GHz WLAN>

Band	Channel	Frequency	Data rate/BW	Ant.	Tune up (dBm)
802.11b	CH 01	2412 MHz	1M	1	18.50
802.11b	CH 06	2437 MHz	1M	1	19.00
802.11b	CH 11	2462 MHz	1M	1	17.00
802.11b	CH 12	2467 MHz	1M	1	16.50
802.11b	CH 13	2472 MHz	1M	1	14.50
802.11g	CH 01	2412 MHz	6M	1	14.50
802.11g	CH 06	2437 MHz	6M	1	18.50
802.11g	CH 11	2462 MHz	6M	1	14.50
802.11g	CH 12	2467 MHz	6M	1	12.00
802.11g	CH 13	2472 MHz	6M	1	5.50
802.11n HT20	CH 01	2412 MHz	MCS 0	1	13.50
802.11n HT20	CH 06	2437 MHz	MCS 0	1	18.50
802.11n HT20	CH 11	2462 MHz	MCS 0	1	13.00
802.11n HT20	CH 12	2467 MHz	MCS 0	1	11.50
802.11n HT20	CH 13	2472 MHz	MCS 0	1	5.00

<5GHz WLAN>

Band	Channel	Frequency	Data rate/BW	Ant.	Tune up (dBm)
802.11a	CH36	5180 MHz	6M	2	14.50
802.11a	CH44	5220 MHz	6M	2	15.00
802.11a	CH48	5240 MHz	6M	2	15.00
802.11n HT20	CH36	5180 MHz	MCS 0	2	13.00
802.11n HT20	CH44	5220 MHz	MCS 0	2	15.00
802.11n HT20	CH48	5240 MHz	MCS 0	2	15.00
802.11a	CH52	5260 MHz	6M	2	15.00
802.11a	CH60	5300 MHz	6M	2	15.50
802.11a	CH64	5320 MHz	6M	2	14.00
802.11n HT20	CH52	5260 MHz	MCS 0	2	15.00
802.11n HT20	CH60	5300 MHz	MCS 0	2	15.50
802.11n HT20	CH64	5320 MHz	MCS 0	2	13.50
802.11a	CH100	5500 MHz	6M	2	14.00
802.11a	CH116	5580 MHz	6M	2	16.00
802.11a	CH140	5700 MHz	6M	2	12.00
802.11n HT20	CH100	5500 MHz	MCS 0	2	13.00
802.11n HT20	CH116	5580 MHz	MCS 0	2	15.50
802.11n HT20	CH140	5700 MHz	MCS 0	2	10.00
802.11a	CH149	5745 MHz	6M	2	16.00
802.11a	CH157	5785 MHz	6M	2	16.00
802.11a	CH165	5825 MHz	6M	2	16.00
802.11n HT20	CH149	5745 MHz	MCS 0	2	16.00
802.11n HT20	CH157	5785 MHz	MCS 0	2	15.50
802.11n HT20	CH165	5825 MHz	MCS 0	2	16.00

<60GHz>

Band	Mode	Group	Frequency	Max EIRP (dBm)
Non-ISM	SFCW	1	62GHz - 63.1GHz	3
Non-ISM	SFCW	2	62GHz - 63.1GHz	-2.5
ISM	SFCW	1	61.03GHz - 61.47GHz	20
ISM	SFCW	2	61.03GHz - 61.47GHz	17

3. MPE-based Exemption

General frequency and separation-distance dependent MPE-based effective radiated power (ERP) thresholds are in Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] to support an exemption from further evaluation from 300 kHz through 100 GHz.

**TABLE B.1—THRESHOLDS FOR SINGLE RF SOURCES
SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION**

RF Source Frequency			Minimum Distance			Threshold ERP
f_L MHz		f_H MHz	$\lambda_L / 2\pi$		$\lambda_H / 2\pi$	W
0.3	—	1.34	159 m	—	35.6 m	$1,920 R^2$
1.34	—	30	35.6 m	—	1.6 m	$3,450 R^2 / f^2$
30	—	300	1.6 m	—	159 mm	$3.83 R^2$
300	—	1,500	159 mm	—	31.8 mm	$0.0128 R^2 f$
1,500	—	100,000	31.8 mm	—	0.5 mm	$19.2 R^2$
Subscripts L and H are low and high; λ is wavelength. From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns.						

4. RF Exposure Evaluation

4.1. Standalone assessment

General Note:

1. ERP_j is mean the available maximum time-averaged power or the ERP, whichever is greater, of fixed, mobile, or portable RF source j.
2. ERP_{th} is mean exemption threshold ERP for fixed, mobile, or portable RF source j, at a distance of at least $\lambda/2\pi$, according to the applicable § 1.1307(b)(3)(i)(C) Table 1 formula at the location in question
3. The distance of 20cm is used in the calculation formula of part1.1307(b)(3)(i)(C)

<WLAN/BT>

Band	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Maximum EIRP (dBm)	Maximum ERP (dBm)	Maximum EIRP (mW)	Maximum ERP (mW)	ERP_j (dBm)	ERP_j (mW)	Part1.1307 option(c) ERP Threshold (mW)	Part1.1307 option(c) ERP ERP_j/ERP_{th}
WLAN2.4GHz Band	5.20	19.00	24.20	22.05	263.03	160.32	22.05	160.32	768.000	0.209
WLAN5GHz Band	6.50	16.00	22.50	20.35	177.83	108.39	20.35	108.39	768.000	0.141
Bluetooth	5.20	7.00	12.20	10.05	16.60	10.12	10.05	10.12	768.000	0.013

<non-ISM>

Band	Maximum EIRP (dBm)	Maximum ERP (dBm)	Maximum EIRP (mW)	Maximum ERP (mW)	ERP_j (dBm)	ERP_j (mW)	Part1.1307 option(c) ERP Threshold (mW)	Part1.1307 option(c) ERP ERP_j/ERP_{th}
60GHz	3.00	0.85	2.00	1.22	0.85	1.22	768.000	0.002

<ISM>

Band	Maximum EIRP (dBm)	Maximum ERP (dBm)	Maximum EIRP (mW)	Maximum ERP (mW)	ERP_j (dBm)	ERP_j (mW)	Part1.1307 option(c) ERP Threshold (mW)	Part1.1307 option(c) ERP ERP_j/ERP_{th}
60GHz	20.00	17.85	100.00	60.95	17.85	60.95	768.000	0.079

5. Simultaneous Transmission MPE Test Exemption

General Note:

1. Either MPE-based exemption may be considered for test exemption for fixed, mobile, or portable device exposure conditions; therefore, the contributions from each exemption in conjunction with the measured SAR (*Evaluated_k* term) shall be used to determine exemption for simultaneous transmission according to Formula (C.1).
2. The sum of the ratios of the applicable terms for MPE-based and MPE shall be less than 1, to determine simultaneous transmission exposure compliance.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1 \quad (C.1)$$

<non-ISM + WLAN 2.4G>

60GHz ERP _i /ERP _{th} Ratio	WLAN 2.4GHz ERP _j /ERP _{th} Ratio	Sum of the Ratio 60GHz + WLAN 2.4GHz
0.002	0.209	0.211

<non-ISM + WLAN 5G>

60GHz ERP _i /ERP _{th} Ratio	WLAN 5GHz ERP _j /ERP _{th} Ratio	Sum of the Ratio 60GHz + WLAN 5GHz
0.002	0.141	0.143

<ISM + WLAN 2.4G>

60GHz ERP _i /ERP _{th} Ratio	WLAN 2.4GHz ERP _j /ERP _{th} Ratio	Sum of the Ratio 60GHz + WLAN 2.4GHz
0.079	0.209	0.288

<ISM + WLAN 5G>

60GHz ERP _i /ERP _{th} Ratio	WLAN 5GHz ERP _j /ERP _{th} Ratio	Sum of the Ratio 60GHz + WLAN 5GHz
0.079	0.141	0.220

Conclusion:

For the minimum separation distance R of 20cm (R as defined in § 1.1307) which can be assumed based on provided EUT documentation the related criteria of § 1.1307 to exempt from routine environmental evaluation for demonstration of compliance with the RF exposure limits in § 1.1310 are met for both, single and multiple RF sources, as documented