Safety Human Exposure

1.1 Radio Frequency Exposure Compliance

1.1.1 Electromagnetic Fields

RESULT: **Pass**

Test item	:	BLOMPRAKT
Identification / Type No.	:	E2503
FCC ID	:	FHO-E2503
IC	:	10912A-E2503
Test standard	:	CFR47 FCC Part 2: Section 2.1093 CFR47 FCC Part 1: Section 1.1310 FCC KDB Publication 447498 D04 V01 RSS-102 Issue 6 December 2023

- **Product Classification**

This device defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that the RF source's radiating structure(s) is/are within 20 centimeters of the body of the user.

Max 1.50 dBi

- **Radio Frequency Exposure Limit**

For FCC:
According to FCC KDB # 447498 D04 V01, Clause Appendix B and 1.1307(b)(3)(i)(B)
The available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

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

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\ cm}\sqrt{f}}\right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20\ cm}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

d = the separation distance (cm);

For IC:

Frequency (MHz)	≤ 5 mm (mW)	10 mm (mW)	15 mm (mW)	20 mm (mW)	25 mm (mW)	30 mm (mW)	35 mm (mW)	40 mm (mW)	45 mm (mW)	> 50 mm (mW)
≤ 300	45	116	139	163	189	216	246	280	319	362
450	32	71	87	104	124	147	175	208	248	296
835	21	32	41	54	72	96	129	172	228	298
1900	6	10	18	33	57	92	138	194	257	323
2450	3	7	16	32	56	89	128	170	209	245
3500	2	6	15	29	50	72	94	114	134	158
5800	1	5	13	23	32	41	54	74	102	128

When the operating frequency of the device is between two frequencies located in above table, linear interpolation shall be applied for the applicable separation distance. If the separation distance of the device is between two distances located in above table, linear interpolation may be applied for the applicable frequency. Alternatively, the limit corresponding to the smaller distance may be employed.

a) EUT RF Exposure Evaluation standalone operations

FCC

Mode	Frequency [GHz]	*Measured RF Output Power [dBm]	Antenna Gain [dBi]	RF Output Power [mW]	ERP [mW]	d [cm]	Limit-P_{th} [mW]
BR/EDR	2.402	9.6	1.5	9.12	7.85	1.5	22.42
2.4GHz proprietary	2.480	9.2	1.5	8.32	7.16	1.5	22.02

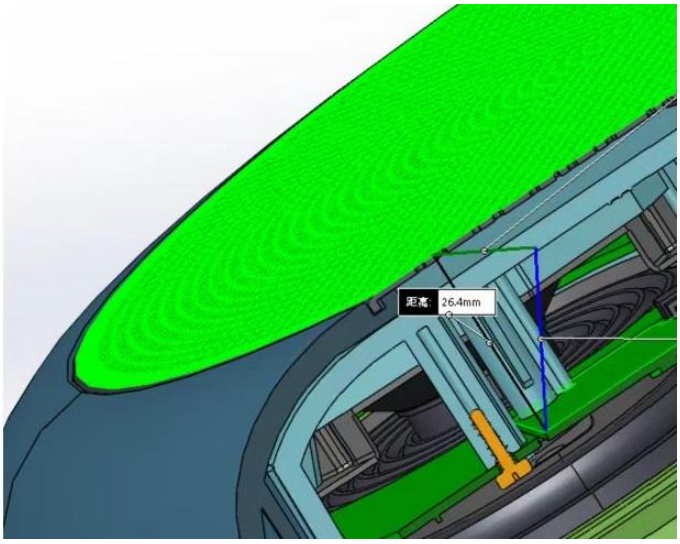
IC

Mode	Frequency [MHz]	*Measured RF Output Power [dBm]	Antenna Gain [dBi]	RF Output Power [mW]	EIRP [mW]	Distance [cm]	Limit [mW]
BR/EDR	2402	9.6	1.5	9.12	12.88	1.5	16.14
2.4GHz proprietary	2480	9.2	1.5	8.32	11.75	1.5	15.97

Note:
BR/EDR RF Output Power: Refer CN2413N0 001
2.4GHz proprietary Output Power: Refer CN24F3D4 001
2.4 GHz proprietary and Bluetooth share the same RF IC and antenna, so no need to evaluation simultaneous transmission.

- **Conclusion**

The minimum distance between antenna and enclosure of the product is 2.64cm which is larger than 1.5cm.



Therefore, the maximum calculations result of above are meet the requirement of Radio Frequency Exposure limit.