

MPE Report

Applicant : **Netradyne, Inc.**

Product Name : **Wireless Alert Button**

Trade Name : **Netradyne**

Model Number : **ACCET1BABDV01**

Applicable Standard : **47 CFR § 2.1091**

Received Date : **Feb. 15, 2024**

Issued Date : **Mar. 11, 2024**

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Taiwan Accreditation Foundation accreditation number: 1330

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Approved By :



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Revision History

<i>Rev.</i>	<i>Issued Date</i>	<i>Description</i>	<i>Revised by</i>
00	Mar. 11, 2024	Initial Issue	Rowan Hsieh

1. General Information

1.1 Reference Applicable Standard

Standard	Description	Version
IEEE C95.1	American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 300 KHz to 100 GHz, New York.	1992
47 CFR § 2.1091	Radiofrequency radiation exposure evaluation: mobile devices.	-
47 CFR § 1.1310	Radiofrequency radiation exposure limits.	-

1.2 Testing Location

Test Facilities

Company Name: Eurofins E&E Wireless Taiwan Co., Ltd.
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Test Site Location

- No. 140-1, Changan Street, Bade District, Taoyuan City 334025, Taiwan
- No. 2, Wuquan 5th Rd. Wugu Dist., New Taipei City, Taiwan

Laboratory Accreditation

Location	TAF	FCC	ISED
No. 140-1, Changan Street, Bade District, Taoyuan City 334025, Taiwan	Accreditation No.: 1330	Designation No.: TW0010	Company No.: 7381A CAB ID: TW1330
No. 2, Wuquan 5th Rd. Wugu Dist., New Taipei City, Taiwan	Accreditation No.: 1330	Designation No.: TW0034	Company No.: 28922 CAB ID: TW1330

2. Description of Equipment under Test (EUT)

Applicant	Netradyne, Inc. 9171 Towne Centre Drive, Suite 110 San Diego, California 92122, United States			
Product Name	Wireless Alert Button			
Trade Name	Netradyne			
Model Number	ACCET1BABDV01			
FCC ID	2AM8R-BABDV01			
Use Distance	20 cm			
Antenna Information	Trade Name	Model No.	Type	Gain
	MOKOSMART	BS-139	PCB Antenna	2.25 dBi
Accessory Information				
Battery	Trade Name	Omniergy	Model Number	CR3032P/H
	DC 3 V, 550 mAh			

Note:

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

2.1 RF Specification

Bluetooth				
Support type:	<input type="checkbox"/> BR	<input type="checkbox"/> EDR	<input checked="" type="checkbox"/> BLE-1 Mbps	<input checked="" type="checkbox"/> BLE-2 Mbps

3. RF Exposure Limit

For devices that operate at larger distances from persons, where there are minimal RF coupling interactions between a device and the user or nearby persons, RF exposure compliance using maximum permissible exposure (MPE) limits is applied. The limits for MPE is listed as below:

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 / 1,500	30
1,500-100,000	-	-	1.0	30
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	1,842 / f	4.89 / f	(900 / f ²)*	6
30-300	61.4	0.163	1.0	6
300-1,500	-	-	F / 300	6
1,500-100,000	-	-	5	6

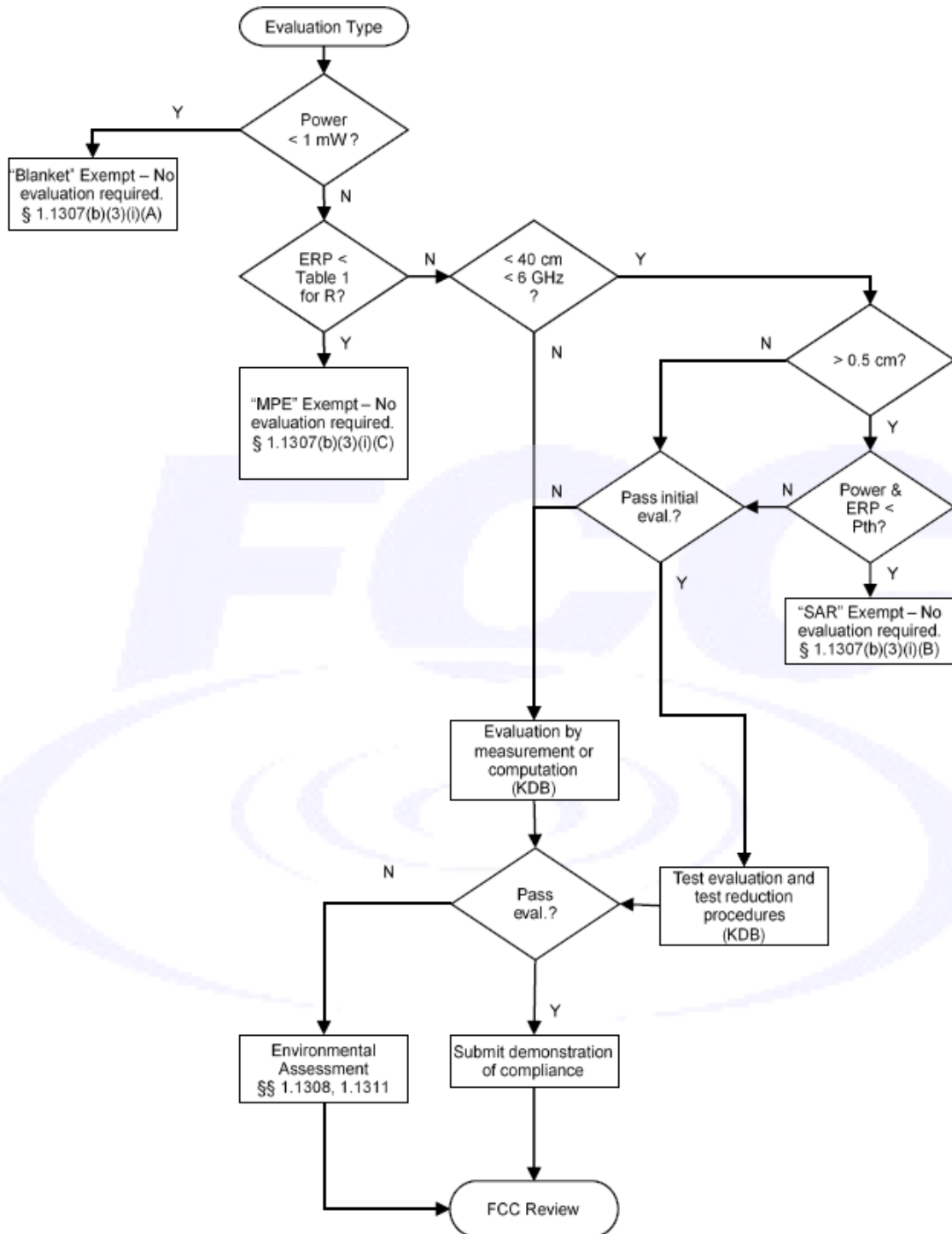
f = frequency in MHz. * = Plane-wave equivalent power density.

4. RF Exposure Assessment

4.1 Exemption Evaluation

Exemption evaluation was performed according to the appendix A and B in KDB447498 D04.

The General Sequence for Determination of Procedure demonstrated in Figure A.1 of KDB447498 D04 was applied.



4.2 Human Exposure Assessment

Due to the design and installation of this product, it is not possible to conduct SAR evaluation. This is because client either manufactures or supplies the antenna(s) that will be used in the installation of this product. Therefore, this product will be evaluated as a mobile device per 47 CFR § 1.1310 titled "Radiofrequency radiation exposure limits", generally referred to as MPE limits.

In 47 CFR § 2.1091, paragraph (b) defines a mobile device as "a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 cm is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons."

Exposure evaluation

$$S_{eirp} = \frac{EIRP}{4\pi d^2} = \frac{PG}{4\pi d^2} \left(W / m^2 \right)$$

Where

S: is the input power (W);

G: is the antenna gain;

d : is the distance between antennas and evaluation point (m).

5. Maximum Transmitting Mode Evaluation

Antenna transmission description
Bluetooth : 1TX (Diversity)

6. Result

Band	Frequency (MHz)	Conducted Power (dBm) [P]	ANT Gain (dBi)	Numeric Gain [G]	Power with Duty cycle (mW) [P]x[G]	Power Density (mW/cm ²) [S]	Standalone Limit (mW/cm ²)	Evaluated / Exposure Limit
Bluetooth	2402 - 2480	4.74	2.25	1.68	5.00	0.001	1.00	0.001

Note:

1. The calculation uses the minimum distance defined by the regulations of 20 cm, which is more conservative than the actual use distance of the product.
2. The maximum power and gain were applied to evaluate MPE.
3. This device does not support simultaneous transmission.

MAX MPE: 0.001 mW/cm²

7. Conclusion

The result shows that this device is compliance with the exposure limits in 47 CFR §1.1310.

***** End of Report *****