

RF Exposure Evaluation Report

Date of Report:	6/08/2026	Client's Contact person:	Michal Maslik
Number of pages:	12	Responsible Test engineer:	Kalle Orava
Testing laboratory:	Verkotan Oy Elektroniikkatie 17 90590 Oulu Finland	Client:	Circadia Technologies Ltd 92 Albert Embankment Tintagel House SE1 7TY London United Kingdom
Tested device:	Circadia CX00 Contactless Cardiorespiratory Monitor		
Related reports:	-		
Testing has been carried out in accordance with:	47CFR §2.1091 Radiofrequency Radiation Exposure Evaluation: Mobile Devices FCC published RF exposure KDB procedures 447498 D04 Interim General RF Exposure Guidance v01		
Documentation:	The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory		
Test Results:	The EUT complies with the requirements in respect of all parameters subject to the test. The test results relate only to devices specified in this document		
Date and signatures:	06.08.2026 <i>Miia Nurkkala</i> Laboratory Manager		

TABLE OF CONTENTS

1. EVALUATION SUMMARY.....	3
1.1 TEST DETAILS	3
1.2 EVALUATION RESULTS	4
1.2.1 Standalone Exposure	4
1.2.2 Simultaneous Transmission Exposure.....	5
2. DESCRIPTION OF THE DEVICE UNDER TEST (DUT).....	6
2.1 SUPPORTED FREQUENCY BANDS AND OPERATIONAL MODES	7
3. TEST EXCLUSIONS.....	8
4. RESULTS.....	10
4.1 STANDALONE EXPOSURE.....	10
4.2 SIMULTANEOUS TRANSMISSION ANALYSIS	11

1. EVALUATION SUMMARY

1.1 Test Details

Device under Test (DUT):

Product:	Circadia CX00 Contactless Cardiorespiratory Monitor
Manufacturer:	Circadia Technologies Ltd
Model:	CX00
Hardware Version:	Rev 6M
FCC ID:	2BPIS-CX00
Mobile/Portable device:	Mobile
FCC Test Firm Designation Number:	FI0005
Document ID:	FCC_RF Exposure Evaluation_CX00_ID8262_06082026.docx
Document History:	-

1.2 Evaluation Results

1.2.1 Standalone Exposure

The device conforms to the requirements of the standards when the maximum ERP is less than or equal to the Test Exclusion Threshold Limit.

Mode of Operation	Maximum ERP [mW]	Separation Distance [mm]	MPE-Based Exemption threshold [mW]	Evaluation Result
Radar	9.89	200	768	PASS
2.4 GHz WLAN	51.88	200	768	PASS
LTE Cat-M1, B2	242.66	200	768	PASS
LTE Cat-M1, B4	242.66	200	768	PASS
LTE Cat-M1, B5	192.75	200	421.89	PASS
LTE Cat-M1, B8	192.75	200	450.56	PASS
LTE Cat-M1, B12	192.75	200	357.38	PASS
LTE Cat-M1, B13	192.75	200	397.82	PASS
LTE Cat-M1, B25	242.66	200	768	PASS
LTE Cat-M1, B26	192.75	200	416.77	PASS
LTE Cat-M1, B66	242.66	200	768	PASS
LTE Cat-M1, B85	192.75	200	357.38	PASS
LTE NB-IoT, B2	242.66	200	768	PASS
LTE NB-IoT, B4	242.66	200	768	PASS
LTE NB-IoT, B5	192.75	200	421.89	PASS
LTE NB-IoT, B8	192.75	200	450.56	PASS
LTE NB-IoT, B12	192.75	200	357.38	PASS
LTE NB-IoT, B13	192.75	200	397.82	PASS
LTE NB-IoT, B17	192.75	200	360.45	PASS
LTE NB-IoT, B25	242.66	200	768	PASS
LTE NB-IoT, B26	192.75	200	416.77	PASS
LTE NB-IoT, B65	242.66	200	768	PASS
LTE NB-IoT, B66	242.66	200	768	PASS
LTE NB-IoT, B85	192.75	200	357.38	PASS

1.2.2 Simultaneous Transmission Exposure

Highest Simultaneous Transmission SAR	$\sum \text{ERP}_j / \text{ERP}_{\text{th},j}$	Limit	Evaluation Result
Cellular + FMCW Radar	0.55	1	PASS

2. DESCRIPTION OF THE DEVICE UNDER TEST (DUT)

The Circadia CX00 System is a contactless system that uses radar to monitor respiratory rate (RR), heart rate (HR), motion, and presence of a patient in its detection range. The CX00 integrates 60GHz FMCW Radar, 2.4GHz WLAN and a pre-approved Cat M1 LTE module within the unit.

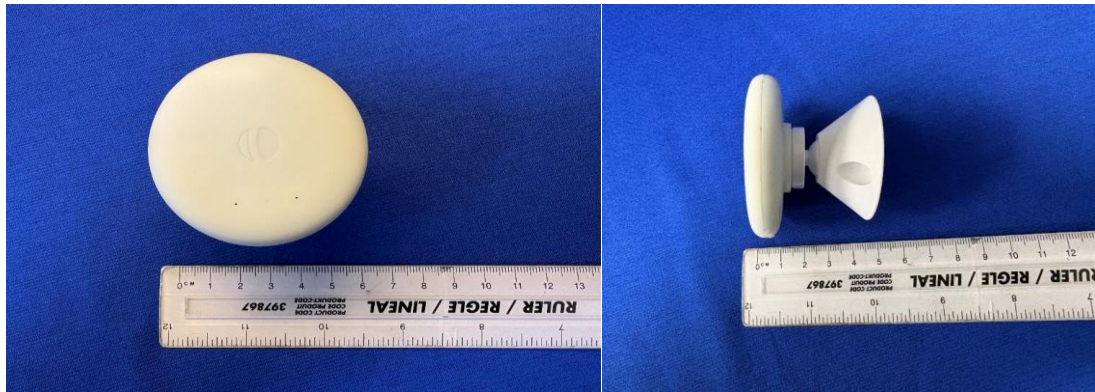


Figure 1. Overview of the DUT

Exposure Environment	General population, uncontrolled
-----------------------------	----------------------------------

2.1 Supported Frequency Bands and Operational Modes

TX Frequency bands	Modes of Operation	Transmitter Frequency Range [MHz]	Maximum Specified Output Power [dBm]
	Radar	57000 – 64000	12.10
	2.4 GHz WLAN	2412 – 2462	17.80
	LTE Cat-M1, B2	1850 – 1910	24
	LTE Cat-M1, B4	1710 – 1755	24
	LTE Cat-M1, B5	824 – 849	24
	LTE Cat-M1, B8	880 – 915	24
	LTE Cat-M1, B12	698 – 716	24
	LTE Cat-M1, B13	777 – 787	24
	LTE Cat-M1, B25	1850 – 1915	24
	LTE Cat-M1, B26	814 – 849	24
	LTE Cat-M1, B66	1710 – 1780	24
	LTE Cat-M1, B85	698 – 716	24
	LTE NB-IoT, B2	1850 – 1910	24
	LTE NB-IoT, B4	1710 – 1755	24
	LTE NB-IoT, B5	824 – 849	24
	LTE NB-IoT, B8	880 – 915	24
	LTE NB-IoT, B12	698 – 716	24
	LTE NB-IoT, B13	777 – 787	24
	LTE NB-IoT, B17	704 – 716	24
	LTE NB-IoT, B25	1850 – 1915	24
	LTE NB-IoT, B26	814 – 849	24
	LTE NB-IoT, B65	1920 – 2010	24
	LTE NB-IoT, B66	1710 – 1780	24
	LTE NB-IoT, B85	698 – 716	24

3. TEST EXCLUSIONS

FCC MPE-based Exemption thresholds in 447498 D04 Interim General RF Exposure Guidance v01 are shown in a table below.

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.						

According to Table B.1 in 447498 D04 Interim General RF Exposure Guidance v01, FCC MPE-based Exemption threshold can be calculated according to formulas:

300-1500 MHz: $0.0128 * R^2 * f$
 1500-100 000 MHz: $19.2 R^2$

where:

R = Separation distance (m)
 f = Frequency (MHz)

Modes of Operation	Frequency [MHz]	Separation Distance [mm]	P _{th} [mW]
Radar	57000	200	768
2.4 GHz WLAN	2412	200	768
LTE Cat-M1, B2	1850	200	768
LTE Cat-M1, B4	1710	200	768
LTE Cat-M1, B5	824	200	421.89
LTE Cat-M1, B8	880	200	450.56
LTE Cat-M1, B12	698	200	357.38
LTE Cat-M1, B13	777	200	397.82
LTE Cat-M1, B25	1850	200	768
LTE Cat-M1, B26	814	200	416.77
LTE Cat-M1, B66	1710	200	768
LTE Cat-M1, B85	698	200	357.38
LTE NB-IoT, B2	1850	200	768
LTE NB-IoT, B4	1710	200	768
LTE NB-IoT, B5	824	200	421.89
LTE NB-IoT, B8	880	200	450.56
LTE NB-IoT, B12	698	200	357.38
LTE NB-IoT, B13	777	200	397.82
LTE NB-IoT, B17	704	200	360.45
LTE NB-IoT, B25	1850	200	768
LTE NB-IoT, B26	814	200	416.77
LTE NB-IoT, B65	1920	200	768
LTE NB-IoT, B66	1710	200	768
LTE NB-IoT, B85	698	200	357.38

4. RESULTS

4.1 Standalone Exposure

Modes of Operation	Frequency [MHz]	Distance, R [mm]	Maximum Input Power to Antenna, P [dBm]	Time Averaging Factor	Time-Averaged Input Power to Antenna, P [mW]	Time-Averaged Input Power to Antenna, P [dBm]	Power Gain of Antenna, G [dBi]	Time-Averaged ERP [dBm]	Time-Averaged ERP [mW]	P _{th} [mW]
Radar	57000	200	12.10	1	16.22	12.10	0	9.95	9.89	768
2.4 GHz WLAN	2412	200	17.80	1	60.26	17.80	1.50	17.15	51.88	768
LTE Cat-M1, B2	1850	200	24	1	251.19	24	2	23.85	242.66	768
LTE Cat-M1, B4	1710	200	24	1	251.19	24	2	23.85	242.66	768
LTE Cat-M1, B5	824	200	24	1	251.19	24	1	22.85	192.75	421.89
LTE Cat-M1, B8	880	200	24	1	251.19	24	1	22.85	192.75	450.56
LTE Cat-M1, B12	698	200	24	1	251.19	24	1	22.85	192.75	357.38
LTE Cat-M1, B13	777	200	24	1	251.19	24	1	22.85	192.75	397.82
LTE Cat-M1, B25	1850	200	24	1	251.19	24	2	23.85	242.66	768
LTE Cat-M1, B26	814	200	24	1	251.19	24	1	22.85	192.75	416.77
LTE Cat-M1, B66	1710	200	24	1	251.19	24	2	23.85	242.66	768
LTE Cat-M1, B85	698	200	24	1	251.19	24	1	22.85	192.75	357.38
LTE NB-IoT, B2	1850	200	24	1	251.19	24	2	23.85	242.66	768
LTE NB-IoT, B4	1710	200	24	1	251.19	24	2	23.85	242.66	768
LTE NB-IoT, B5	824	200	24	1	251.19	24	1	22.85	192.75	421.89
LTE NB-IoT, B8	880	200	24	1	251.19	24	1	22.85	192.75	450.56
LTE NB-IoT, B12	698	200	24	1	251.19	24	1	22.85	192.75	357.38
LTE NB-IoT, B13	777	200	24	1	251.19	24	1	22.85	192.75	397.82
LTE NB-IoT, B17	704	200	24	1	251.19	24	1	22.85	192.75	360.45
LTE NB-IoT, B25	1850	200	24	1	251.19	24	2	23.85	242.66	768
LTE NB-IoT, B26	814	200	24	1	251.19	24	1	22.85	192.75	416.77
LTE NB-IoT, B65	1920	200	24	1	251.19	24	2	23.85	242.66	768
LTE NB-IoT, B66	1710	200	24	1	251.19	24	2	23.85	242.66	768
LTE NB-IoT, B85	698	200	24	1	251.19	24	1	22.85	192.75	357.38

The ERP of the DUT is below the test exclusion threshold.

4.2 Simultaneous Transmission Analysis

The simultaneous transmission compliance is determined by sum of the ratios that can be transmitting simultaneously using formula C.1 from 447498 D04 Interim General RF Exposure Guidance v01.

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

where

ERP_j = the available maximum time-averaged power or the ERP, whichever is greater, 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 $\lambda/2\pi$, according to the applicable § 1.1307(b)(3)(i)(C) Table 1 formula at the location in question.

Following simultaneous transmission combinations are supported:

- 2.4 GHz WLAN + FMCW Radar
- Cellular + FMCW Radar

Modes of Operation	ERP _j / ERP _{thj}
2.4 GHz WLAN	0.068
Radar	0.013
LTE Cat-M1, B2	0.32
LTE Cat-M1, B4	0.32
LTE Cat-M1, B5	0.46
LTE Cat-M1, B8	0.43
LTE Cat-M1, B12	0.54
LTE Cat-M1, B13	0.48
LTE Cat-M1, B25	0.32
LTE Cat-M1, B26	0.46
LTE Cat-M1, B66	0.32
LTE Cat-M1, B85	0.54
LTE NB-IoT, B2	0.32
LTE NB-IoT, B4	0.32
LTE NB-IoT, B5	0.46
LTE NB-IoT, B8	0.43
LTE NB-IoT, B12	0.54
LTE NB-IoT, B13	0.48
LTE NB-IoT, B17	0.53
LTE NB-IoT, B25	0.32
LTE NB-IoT, B26	0.46
LTE NB-IoT, B65	0.32
LTE NB-IoT, B66	0.32
LTE NB-IoT, B85	0.54
Maximum 2.4 GHz WLAN	0.068
Maximum FMCW Radar	0.013
Maximum Cellular	0.54
Maximum Simultaneous Compliance Ratio	0.55

The sum of simultaneously transmitting radios is below 1 thus the results are **PASS**.