

**Applicant:**

Life Fitness  
10601 West Belmont Avenue  
60131 Illinois

**Test report no.:**

200945-AU01+W03

**for:**

Life Fitness  
NFC Card Reader Module  
Life Fitness NFC Card Reader

**according to:**

RSS-102



Deutsche  
Akkreditierungsstelle  
D-PL-12155-01-04



Deutsche  
Akkreditierungsstelle  
D-PL-12155-01-03

**Accreditation:**

FCC test firm accreditation expiration date: 2021-05-30  
MRA US-EU, FCC designation number: DE0010  
FCC registration number: 97268  
BnetzA-CAB-02/21-02/5 Valid until 2023-11-26



Recognized until 2023-03-16 by the  
Department of Innovation, Science and Economic Development Canada (ISED)  
as a recognized testing laboratory  
CAB identifier: DE0011  
Company number: 3472A

**Location of Testing:**

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The technical accuracy is guaranteed through the quality management of  
Element Materials Technology Straubing GmbH.

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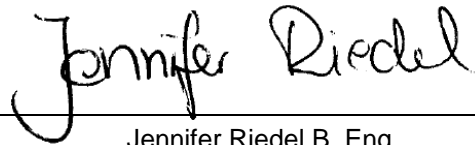
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## 1 Summary of test results

<i>IC standard</i>	<i>Requirement</i>	<i>Page</i>	<i>Result</i>	<i>Note(s)</i>
RSS-102 Issue 5, section 2.5.1	SAR test exclusion, except 3 kHz – 10 MHz	9	Passed	---

Straubing, August 26, 2021



Jennifer Riedel B. Eng.  
Radio Test Engineer



Konrad Graßl  
Department Manager Radio

## 2 Test regulations

<i>Standard</i>	<i>Title</i>
RSS-102 Issue 5 (March 19, 2015) Amendment 1 (February 2, 2021)	Spectrum Management and Telecommunications Radio Standards Specification Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus (All Frequency Bands)
Safety Code 6 (2015)	Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz
Notice 2016-DRS001 September 20, 2016 Updated July 2020	Applicability of Latest FCC RF Exposure KDB Procedures and Other Procedures
KDB 447498 D01 v06	Mobile and portable devices RF Exposure procedures and equipment authorisation policies, October 23, 2015.

### 3 Equipment under test (EUT)

#### 3.1 General information

Product type:	NFC Card Reader Module	
Model Name:	Life Fitness NFC Card Reader	
Manufacturer:	Life Fitness	
Serial number:	101740011AA21100048	
Version:	Hardware:	LF1017400-0011RC RevAA
	Software:	10.01.AE
Short description:	The EUT is a RFID Reader module operating at the frequency 13.56 MHz.	
FCC ID:	LM6-LFNFCCR1	
IC certification number:	23315-LFNFCCR1	
Operating frequency:	13.56 MHz	
Technology:	RFID	
Antenna types:	PCB antenna	
	<input type="checkbox"/> detachable	<input checked="" type="checkbox"/> not detachable
Power supply:	DC supply	
	Nominal voltage: 5 V	
Exposure tier:	<input checked="" type="checkbox"/> Head	
	<input checked="" type="checkbox"/> Body	
	<input type="checkbox"/> Limbs	
	<input type="checkbox"/> other	
	<input type="checkbox"/> See appropriate results	
Separation distance:	<input checked="" type="checkbox"/> ≤ 20 cm	
	<input type="checkbox"/> > 20 cm	
	<input type="checkbox"/> See appropriate results	
Evaluated against exposure limits:	<input checked="" type="checkbox"/> General public use	
	<input type="checkbox"/> Controlled use	

#### 3.2 Photographs of EUT

See Annex C of test report 200945-AU01+W01 of test laboratory Element Materials Technology Straubing GmbH.

#### **4 Test results**

This clause gives details about the test results as collected on page 5.



## 4.1 Canada

### 4.1.1 SAR test exclusion, except 3 kHz – 10 MHz

Requirement: RSS-102 Issue 5, section 2.5.1

Reference: n/a

Performed by: Jennifer Riedel B. Eng. Date of test: August 26, 2021

Result:  Limits kept  Limits not kept

#### 4.1.1.1 Exemption Limits for Routine Evaluation – SAR Evaluation

According to RSS 102 clause 2.5.1:

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 1.

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of ≤5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
≤300	71 mW	101 mW	132 mW	162 mW	193 mW
450	52 mW	70 mW	88 mW	106 mW	123 mW
835	17 mW	30 mW	42 mW	55 mW	67 mW
1900	7 mW	10 mW	18 mW	34 mW	60 mW
2450	4 mW	7 mW	15 mW	30 mW	52 mW
3500	2 mW	6 mW	16 mW	32 mW	55 mW
5800	1 mW	6 mW	15 mW	27 mW	41 mW

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of 30 mm	At separation distance of 35 mm	At separation distance of 40 mm	At separation distance of 45 mm	At separation distance of ≥50 mm
≤300	223 mW	254 mW	284 mW	315 mW	345 mW
450	141 mW	159 mW	177 mW	195 mW	213 mW
835	80 mW	92 mW	105 mW	117 mW	130 mW
1900	99 mW	153 mW	225 mW	316 mW	431 mW
2450	83 mW	123 mW	173 mW	235 mW	309 mW
3500	86 mW	124 mW	170 mW	225 mW	290 mW
5800	56 mW	71 mW	85 mW	97 mW	106 mW

<sup>4</sup> The exemption limits in Table 1 are based on measurements and simulations of half-wave dipole antennas at separation distances of 5 mm to 25 mm from a flat phantom, providing a SAR value of approximately 0.4 W/kg for 1 g of tissue. For low frequencies (300 MHz to 835 MHz), the exemption limits are derived from a linear fit. For high frequencies (1900 MHz and above), the exemption limits are derived from a third order polynomial fit.

<sup>5</sup> Transmitters operating between 0.003-10 MHz, meeting the exemption from routine SAR evaluation, shall demonstrate compliance to the instantaneous limits in Section 4.

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power. For controlled use devices where the 8 W/kg for 1 gram of tissue applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 5. For limb-worn devices where the 10 gram value applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 2.5. If the operating frequency of the device is between two frequencies located in Table 1, linear interpolation shall be applied for the applicable separation distance. For test separation distance less than 5 mm, the exemption limits for a separation distance of 5 mm can be applied to determine if a routine evaluation is required.

For medical implants devices, the exemption limit for routine evaluation is set at 1 mW. The output power of a medical implants device is defined as the higher of the conducted or e.i.r.p to determine whether the device is exempt from the SAR evaluation.

### 4.1.1.2 Results

The following data are based on applicants document: Test report 200945-AU01+W02 of the test laboratory Element Materials Technology Straubing GmbH

Application: RFID  
 Operation frequency range: 13.56 MHz  
 Antenna model: Loop antenna  
 Antenna connector: none  
 Antenna type: internal  
 not detachable  
 Maximum E-Field: 41.99 dBµV/m at 30 m

Information related to Exposure:

Tune-up tolerance (according to the manufacturer): ± 2 dB  
 Separation distance: < 5 mm  
 Exposure tier: general public  
 Power averaging over time: not applied

<i>Separation distance (mm)</i>	<i>Channel frequency (MHz)</i>	<i>EIRP + tolerance (dBm)</i>	<i>EIRP + tolerance (mW)</i>	<i>Limit 1-g SAR (mW)</i>	<i>Ratio of limit</i>	<i>Result</i>
< 5 mm	13.56	-31.2	0.001	4.0	0.0002	Passed

Table 1: Result of SAR test exclusion, exposure to the head and body

EIRP is calculated using the formula of ANSI C63.10-2013 clause 9.5:

$$EIRP = E + 20\log(d) - 104.7$$

Where: EIRP = equivalent isotropically radiated power in dBm  
 E = electric field strength in dBµV/m  
 d = measurement distance in meters (m)

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## 5 Revision history

<i>Revision</i>	<i>Date</i>	<i>Issued by</i>	<i>Description of modifications</i>
0	2021-08-26	Jennifer Riedel B. Eng.	First edition

Template: RF\_FCC\_IC\_Human Exposure\_V1.3