

RF Exposure Exemption Report

Paxton Access Limited

Paxlock Pro 2 – Latch Galaxy, Model: 900-710

In accordance with FCC CFR 47 Part 1.1307



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FCC Accreditation
294497/UK2010 Octagon House, Fareham Test Laboratory

EXECUTIVE SUMMARY

The wireless devices described within this report are compliant with the exemption criteria related to human exposure to electromagnetic fields laid out in FCC CFR Title 47 Part 1.1307.



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1 Report Summary

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
01	First Issue	03-Aug-2026
02	Updated Introduction (1.2) in Report Summary	10-Aug-2026

Table 1

1.2 Introduction

Applicant	Paxton Access Ltd
Manufacturer	Paxton Access Ltd
Model Number(s)	900-710
Hardware Version Identification Number (HVIN)	900-710
Hardware Version(s)	z-lm02 & z-lmb1 – ppc-lm02 & ppc-lmb1
Firmware Version Identification Number (FVIN)	3.45
Specification/Issue/Date	FCC 47 CFR Part 1.1307: 2024
Order Number	237192
Date	21-November-2025
Related Document(s)	• KDB 447498 D04 v01



1.3 Brief Summary of Results

The wireless devices described within this report are compliant with the exemption criteria related to human exposure to electromagnetic fields laid out in FCC CFR Title 47 Part 1.1307.

The calculations shown in this report were made in accordance with the procedures specified in the applied test specification(s).



1.4 Manufacturer's Declared Variants

All the variants have identically the same electrical & electronic design, housed within all the products. The only variations between them, as will be explained below, is the handle shape and length of deadlatch. These minor changes will have no effect on Radio or EMC performance.

There are two main variants of the “**Paxlock Pro 2**” the “**Paxlock Pro 2 Latch**” and “**Paxlock Pro 2 Mortice**”.

The latch uses a Cylindrical Cartridge with a 60mm or 70mm backset deadlatch. The Mortice variant encompasses a Morice lock with a mortice key cylinder.

With each of the two variants we produce the products with two types of handle version, the “**SQUARE**” and “**ROUNDED**”, these are called **Galaxy** and **Eclipse**. So, we have two variants of each of the Latch and Mortice handles.

We also produce two backset lengths of the “Paxlock pro 2 Latch” as described earlier, the 60mm and 70mm. Hence, therefore we have four sales codes for the “Paxlock pro 2 Latch” as we have two backset's and the two handle types.

The mortice has only the one lock type with the two handles variants, hence the “Paxlock pro 2 Mortice” has two sales codes.

The sales codes for the various variants are shown below.

SALES CODES	Description
900-710	Paxlock Pro 2 - Latch (2-3/8” backset) Galaxy
900-715	Paxlock Pro 2 - Latch (2-3/8” backset) Eclipse
900-720	Paxlock Pro 2 - Latch (2-3/4” backset) Galaxy
900-725	Paxlock Pro 2 - Latch (2-3/4” backset) Eclipse
900-730	Paxlock Pro 2 - Mortice Galaxy
900-735	Paxlock Pro 2 - Mortice Eclipse

All the variants have exactly the same design of electronics housed within all the products, the only variations between them, as has been explained above, is the handle type and length of deadlatch, which has no effect on EMC or Radio testing.

1.5 Product Information

1.5.1 Technical Description

The Paxlock is the battery powered smart electronic lock providing both access control and reader functions. The unit combines a 125kHz and 13.56 MHz proximity reader, a wireless bluetooth & Zigbee interface both 2.4GHz and a locking mechanism.

PaxLock is a complete standalone system, there's nothing to wire together and no mains connection is required. The unit is powered by four replaceable AA batteries.

The purpose of the equipment is to receive validated user input via a radio signal from a passive proximity token (card or keyfob) and then provide a digital output to the internal locking mechanism for access control. An event of this process is then transmitted to the PC through the wireless interface and stored as an archive. User's access rights are configured at the PC and the PaxLock unit is then updated as required using the same wireless method.

1.5.2 Transmitter Description

The following radio access technologies and frequency bands are supported by the equipment under test.

Radio Access Technology	Frequency Band (MHz)	Minimum Frequency (MHz)	Output Power (dBm)	Duty Cycle (%)
BLE 2.4GHz	2400-2483.5	2402.000	10.00	0.52*
IEEE 802.15.4	2400-2483.5	2405.000	10.00	0.52*
RFID 13.56MHz	13.56MHz	13.560	9.90	1.25
RFID 125kHz	125kHz	0.125	15.10	1.25

Table 2 - Transmitter Description - FCC

Note: Transmitter power includes upper bounds of uncertainty therefore maximum values are used.

*The duty cycle for this technology is limited by customer firmware and will never exceed the value in the table, for further information see figure 1.

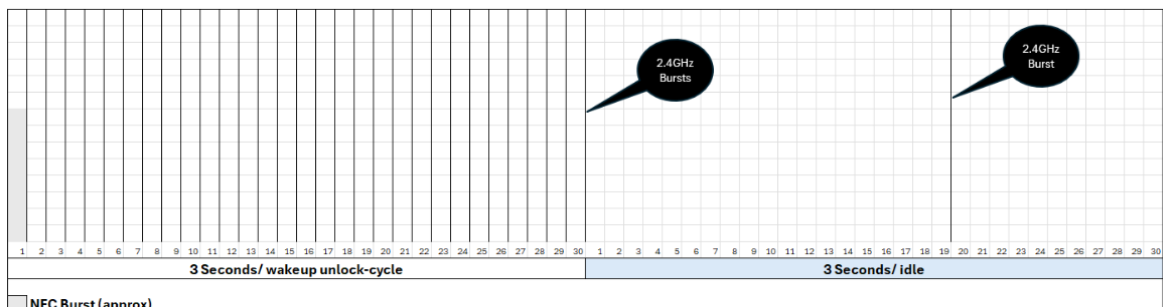


Figure 1 – Maximum EUT duty cycle diagram

Duty Cycle calculation:

- 1ms for every 100ms for 3000ms,
- 30ms then 1ms in the 3000ms idle period.
- 31ms in 6 seconds
- approx. 0.52



1.5.3 Antenna Description

The following antennas are supported by the equipment under test.

Radio Access Technology	Antenna Model	Gain (dBi)	Antenna Length (cm)	Minimum Separation Distance (mm)
BLE 2.4GHz	EFR32MG13P	Integral antenna gain -4dBi	0.17 x 0.13	5
IEEE 802.15.4	EFR32MG13P	Integral antenna gain -4dBi	0.17 x 0.13	5

Table 3 - Antenna Description > 30 MHz

Radio Access Technology	Antenna Model	Number of Turns (N)	Antenna Length* (cm)	Minimum Separation Distance (mm)
RFID 13.56MHz	Mifare Flexi	5	3.3	5
RFID 125kHz	Wire wound former	150	2.3	5

Table 4 - Antenna Description < 30 MHz

* These may be in the form of a loop antenna, in this case the antenna length is taken to be the widest diameter (in the case of circular loop antennas) or the longest edge (in the case of square antennas).

In the case of more than one type of antenna being supported by the equipment, the calculation is based on the maximum of the antenna gains. If other antennas can be used that have greater gains, the minimum separation distances will need to be recalculated.

Note: Antenna gain includes upper bounds of uncertainty therefore maximum values are used.

1.5.4 Equipment Configuration

Simultaneous transmission is supported for the following configurations;

- Bluetooth Low Energy & RFID 13.56 MHz
- IEE 802.15.4, RFID 125 kHz & RFID 13.56 MHz
- IEEE 802.15.4 & RFID 13.56 MHz
- IEEE 802.15.4 & RFID 125 kHz

Worst case configuration for simultaneous transmission was identified as:

- IEE 802.15.4, RFID 125 kHz & RFID 13.56 MHz



1.6 Test Location

TÜV SÜD conducted the following tests at our Octagon House Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Exposure Assessment	Joshua Peploe-Williams	UKAS

Table 5

Office Address:

TÜV SÜD
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2 Assessment Details

2.1 Single RF Source Options for Determination of Exemption

Option	Reference	RF Exposure Test Exemptions for Single Source												
A (1-mW Test Exemption)	FCC 1.1307(b)(3)(i)(A)	The available maximum time averaged power is no more than 1 mW, regardless of separation distance.												
B (SAR-Based Exemption)	FCC 1.1307(b)(3)(i)(B)	The available maximum timeaveraged 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: $P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$ Where $x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$ and $ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$ <i>d</i> = the separation distance (cm);												
C (MPE-Based Exemption)	FCC 1.1307(b)(3)(i)(C)	Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least λ/2π, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of λ/4 or if the antenna gain is less than that of a half-wave dipole (1.64 linear value). TABLE 1 TO § 1.1307(b)(3)(i)(C)—SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION <table><tr><th>RF Source frequency (MHz)</th><th>Threshold ERP (watts)</th></tr><tr><td>0.3–1.34</td><td>1,920 R².</td></tr><tr><td>1.34–30</td><td>3,450 R²/f².</td></tr><tr><td>30–300</td><td>3.83 R².</td></tr><tr><td>300–1,500</td><td>0.0128 R²f.</td></tr><tr><td>1,500–100,000</td><td>19.2R².</td></tr></table>	RF Source frequency (MHz)	Threshold ERP (watts)	0.3–1.34	1,920 R ² .	1.34–30	3,450 R ² /f ² .	30–300	3.83 R ² .	300–1,500	0.0128 R ² f.	1,500–100,000	19.2R ² .
RF Source frequency (MHz)	Threshold ERP (watts)													
0.3–1.34	1,920 R ² .													
1.34–30	3,450 R ² /f ² .													
30–300	3.83 R ² .													
300–1,500	0.0128 R ² f.													
1,500–100,000	19.2R ² .													

Table 6



2.2 Multiple RF Sources Options for Determination of Exemption

Option	Reference	
A 1-mW Test Exemption for Multiple Sources	FCC 1.1307(b)(3)(ii)(A)	The available maximum time averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those is paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).
B Simultaneous Transmission with both SAR-based and MPE- Based Test Exemptions	FCC 1.1307(b)(3)(ii)(B)	In the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation. $\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$

Table 7



2.3 Individual Antenna Port Exposure Results

2.3.1 Single Source Calculation of Exposure at Specified Separation Distance FCC 1.1307 (b)(3)(i)(A) 'Option A'

RAT	Frequency (MHz)	Conducted Power Output mW	Duty Cycle %	Time Average Conducted Power Output mW	1.1307(b)(3)(ii)(A) Exemption (Yes/No)
Bluetooth Low Energy	2402	10.00	0.52	0.052000	Yes
IEE 802.15.4	2405	10.00	0.52	0.052000	Yes
RFID 13.56MHz	13.56	9.77	1.25	0.122155	Yes
RFID 125kHz	0.125	32.36	1.25	0.404492	Yes

Table 8 - Transmitter Result

The calculations show that the individual transmitters comply with FCC 1.1307(b)(3)(i)(A) 1 mW based exception. mm.



2.3.2 Combined Antenna Port RF Exposure Results FCC 1.1307(b)(3)(ii)(A)

2.3.3 Combination 1 - Option A 1mW Summation

RAT	Frequency (MHz)	Conducted Power Output mW	Duty Cycle %	Time Average Conducted Power Output mW	The sum of multiple sources is less than 1 mW during the time-averaging period?
IEE 802.15.4	2402	10.00	0.52	0.052000	Yes
RFID 13.56MHz	13.56	9.77	1.25	0.122155	Yes
RFID 125kHz	0.125	32.36	1.25	0.404492	Yes
Summation				0.578647	Yes

Table 9 - Transmitter Result

The calculations show that the multiple transmitters comply with FCC 1.1307(b)(3)(ii)(A) summation-based exemption.