

RF EXPOSURE EVALUATION REPORT FROM UL

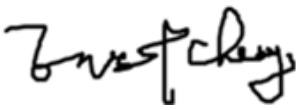
For: ASSA ABLOY Global Solutions AB

Product: Adorn

FCC ID: 2BRES-ADORNV1C1

RF Exposure Evaluation Report Serial No.:
UL/REGA1/15762912.6

This RF Exposure Evaluation Report Is Issued Under The Authority
Of Andrew Hoare, Head of Certification:

pp 

Written By: Marc Schmidt



Checked By: Ernest Cheung



Report Copy No: PDF01

Issue Date: 21 November 2025

This report may be reproduced in full. Partial reproduction may only be made with the written consent of UL.

UL

RF EXPOSURE EVALUATION REPORT

No: UL/REGA1/15762912.6

Page: 2 of 6

Issue Date: 21 November 2025

For: ASSA ABLOY Global Solutions AB
Product: Adorn

This page has been left intentionally blank.

For: ASSA ABLOY Global Solutions AB
Product: Adorn

Table of Contents

1. Client Information..... 4

2. Description Of The Apparatus And Its Operational Environment..... 4

3. Equipment Specifications..... 4

4. Methods and Procedures..... 5

5. Calculations..... 6

6. Conclusion..... 6

For: ASSA ABLOY Global Solutions AB
Product: Adorn

1. Client Information

Company Name:	ASSA ABLOY Global Solutions AB
Address:	Lodjursgatan 10 Landskrona, 261 44 Sweden
Contact Name:	Robin Bengtsson

2. Description Of The Apparatus And Its Operational Environment

Model / Type Reference:	Adorn
Basic Direct Function:	Access control module with integrated RFID and BLE
Intended Operating Environment:	Indoors/Outdoors

3. Equipment Specifications

Equipment Category:	Bluetooth LE / RFID (NFC)
Type of Unit:	Access control module with integrated RFID and BLE
Operating Frequency Range:	Bluetooth LE 2402–2480 MHz RFID (NFC) 13.56 MHz
Max. RF Output Power:	Bluetooth LE 8 ± 1 dBm*
Peak Antenna Gain:	Bluetooth LE 3.7 dBi*
Duty Cycle:	Bluetooth LE 100 % (Worst-case assumption) RFID (NFC) 100 % (Worst-case assumption)
Max. EIRP:	Bluetooth LE 12.7 dBm = 18.6 mW (incl. tolerance) RFID (NFC) 21.65 dBμV/m @ 30 m* = 61.65 dBμV/m @ 3 m (a conservative conversion factor of 40 dB/decade was used, as no far-field conditions exist) 61.65 dBμV/m @ 3 m = -33.55 dBm = $0.442 \cdot 10^{-3}$ mW

* Specification values have been supplied by the manufacturer

Bluetooth LE and RFID (NFC) can transmit simultaneously

For: ASSA ABLOY Global Solutions AB
Product: Adorn

4. Methods and Procedures

Reference:	KDB 447498 D01 v06
Title:	RF Exposure Procedures and Equipment Authorisation Policies for Mobile and Portable Devices
Reference:	FCC §1.1310
Title:	Radiofrequency radiation exposure limits

For: ASSA ABLOY Global Solutions AB
Product: Adorn

5. Calculations

5.1 MPE

The MPE calculation to calculate the safe operating distance for the user is.

$$S = \text{EIRP} / (4 * \pi * R^2)$$

Where S = Power density
EIRP = Effective Isotropic Radiated Power
R = distance to the centre of radiation of the antenna (safe operating distance)

Power Density Requirement

From table 1 (ii) - Limits for General Population/ Uncontrolled Exposure of FCC §1.1310 (1)(e) for **f = 1.34 - 30 MHz**, **S_{req} = 180/f² mW/cm²**

From table 1 (ii) - Limits for General Population/ Uncontrolled Exposure of FCC §1.1310 (1)(e) for **f = 1500 - 100000 MHz**, **S_{req} = 1 mW/cm²**

(f = operating frequency in MHz)

VALUES

Frequency Range (MHz)	Operating Band	EIRP (mW)	Power Density S mw/ cm ²		
			Limit S _{req}	Calculated S _n @ 20cm	S _n /S _{req}
2402 – 2480	Bluetooth LE	18.6	1.00	3.7*10 ⁻³	3.7*10⁻³
13.56 – 13.56	RFID (NFC)	0.442*10 ⁻³	0.98	88*10 ⁻⁹	90*10⁻⁹

5.2 KDB447498 D01 v06 Section 7.2 SIMULTANEOUS TRANSMISSION CONSIDERATIONS

As per KDB, summation of calculated MPE ratios (worst case):

$$\begin{aligned} \Sigma \text{MPE}_{\text{ratios}} &= (S_1 / S_{\text{req1}}) + (S_2 / S_{\text{req2}}) \leq 1 \\ &= 3.7*10^{-3} + 90*10^{-9} = 3.7*10^{-3} \end{aligned}$$

Σ of MPE ratios ≤ 1.0, so in accordance with KDB447498 D01 V06 Section 7.2, simultaneous transmission test exclusion applies for the transmitters.

6. Conclusion

The required 20cm RF exposure limits for General Population/Uncontrolled Exposure will not be exceeded for the Adorn.