

**RF Exposure Report
(mobile devices)
47 CFR 2.1091
RSS-102 Issue 6**

Report No.: WIRS140547 – FCC & ISSED RF Exposure

Test Model: KS210

Received Date: 02/04/2026

Test Date(s): 02/17/2026 – 05/14/2026

Issued Date: 06/11/2026

Applicant: ASSA ABLOY Opening Solutions

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1. Certificate of Conformity

Product: ASSA ABLOY

Brand: ASSA ABLOY

Test Model: KS210

Sample Status: Production

Applicant: ASSA ABLOY Opening Solutions

Test Date(s): 02/17/2026 – 05/14/2026

Standard: 47 CFR FCC Part 2.1091 and FCC Part 1.1310
RSS-102 Issue 6



Chin Ming Lui
Senior Wireless Test Engineer

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of Part 22 Subpart H and Part 24 Subpart E and Part 27 Subpart L of the FCC Rules under normal use and maintenance.

Report Status Sheet

Revision	Report Date	Reason for Revision
Ø	May 15, 2026	Initial Issue.
2	June 11, 2026	Added “Simultaneous operation of the 13.56 MHz RFID and 2.4 GHz BLE radios do not occur” from Operational Description

1. EUT General info

The KS210-K is a wired (DC-powered), fixed-installation server cabinet lock with a keypad input. It is designed to read 13.56 MHz radio frequency identification (RFID) physical credentials and 2.402 GHz–2.480 GHz Bluetooth® Low Energy (BLE) wireless credentials from a mobile device.

RFID operation at 13.56 MHz and BLE operation at 2.4 GHz are provided by a pre-certified RFID/BLE radio module (FCC ID: JQ6-RCS5510 / IC: 2236B-RCS5510).

The KS210-K product design deviates from the modular approval associated with FCC ID: JQ6-RCS5510 / IC: 2236B-RCS5510 through the use of a custom-designed 13.56 MHz tuned coil antenna. This antenna is embedded within an internal keypad printed wiring board (PWB). The custom antenna is a magnetic loop type with a nominal gain of 0 dBi.

BLE communication between the radio module and a mobile device is accomplished using a 2.4 GHz patch antenna, which is connected to the module via an internal coaxial cable assembly. The BLE patch antenna has a typical gain of +4.4 dBi.

Simultaneous operation of the 13.56 MHz RFID and 2.4 GHz BLE radios do not occur.

Note: The information in this section was obtained from “Theory of Operation for the KS210-K RFID Keypad Server Cabinet Lock” by ASSA ABLOY Opening Solutions.

2. RF Exposure Limits

In this document, we evaluate the RF Exposure to human body due the intentional transmission from the transmitter (EUT). The limits for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 and RSS-102 issue 6 were followed.

2.1 FCC ID and IC

- **FCC ID:** VC3-KS210K
- **IC:** 7160A-KS210K

2.2 FCC Limits

According to FCC 1.1310 Table 1: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to Radio-Frequency (RF) radiation as specified in 1.1307(b)

Table 1 to § 1.1310(e)(1) – LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
(A) Limits For Occupational / Controlled Exposure				
0.3 – 3.0	614	1.63	*100	6
3.0 – 30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300 - 1500	...	...	f/300	6
1500 - 100,000	...	...	5	6
(B) Limits For General Population / Uncontrolled Exposure				
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/1500	30
1500 - 100,000	...	...	1.0	30

f = Frequency in MHz

* = plane wave equivalent density

2.3 Industry Canada Limits

According to RSS-102, Industry Canada has adopted the SAR and RF field strength limits established in Health Canada's RF exposure guideline, Safety Code 6.

Table 7: RF Field Strength and Power Density Limits for Devices Used by the General Public (Uncontrolled Environment)				
Frequency Range	Electric Field	Magnetic Field	Power Density	Reference Period
(MHz)	(V _{RMS} /m)	(A _{RMS} /m)	(W/m ²)	(minutes)
10-20	27.46	0.0728	2	6
20-48	$58.07/f^{0.25}$	$0.1540/f^{0.25}$	$8.944/f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	$3.142 f^{0.3417}$	$0.008335 f^{0.3417}$	$0.02619 f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158 f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000/f^{1.2}$
Note: f is frequency in MHz.				

Table 8: RF Field Strength and Power Density Limits for Controlled-Use Devices (Controlled Environment)

Frequency Range	Electric Field	Magnetic Field	Power Density	Reference Period
(MHz)	(V _{RMS} /m)	(A _{RMS} /m)	(W/m ²)	(minutes)
10-20	61.4	0.163	10	6
20-48	129.8/ $f^{0.25}$	0.3444/ $f^{0.25}$	44.72/ $f^{0.5}$	6
48-100	49.33	0.1309	6.455	6
100-6000	15.60 $f^{0.25}$	0.04138 $f^{0.25}$	0.6455 $f^{0.5}$	6
6000-15000	137	0.364	50	6
15000-150000	137	0.364	50	616000/ $f^{1.2}$
150000-300000	0.354 $f^{0.5}$	9.40 x 10 ⁻⁴ $f^{0.5}$	3.33 x 10 ⁻⁴ f	616000/ $f^{1.2}$

Note: f is frequency in MHz.

3 Test Results (Mobile Configuration)

3.1 Classification

Radio is installed inside a mobile host device. The antenna of the product, under normal use condition, is at least 20 cm away from the body of the user and accessible to the end user. Warning statement to the user for keeping at least 20 cm or more separation distance with the antenna should be included in user's manual.

3.2 Maximum RF Power

Bluetooth Low Energy Radio:

Modulation	Frequency Range (MHz)	Max. Conducted Output Power ¹ (dBm)	Max. Conducted Output Power with Tune Up ² (dBm)	Max. Antenna Gain ³ (dBi)	Max. EIRP ⁴ (dBm)	Max. EIRP (mWatts)
GFSK	2400 – 2483.5	4.75	5.75	4.4	10.15	10.3514

¹**Note:** Max. Peak Conducted Output Power obtained from “WIRS140547-FCC 15.247_RSS-247” test report by Eurofins Electrical and Electronic Testing NA, Inc.

²**Note:** Tune-up tolerance of +1 dB.

³**Note:** Antenna gain and information obtained from “Data Sheet Wireless Components PCB type antenna ANT-X200P001B24003 2.45 GHz” datasheet by Yageo Phicomp:

- Manufacturer: Yageo Phicomp
- P/N: ANT-X200P001B24003
- Frequency Range: 2.4 – 2.5 GHz
- Antenna Type: PCB (Patch)
- Peak Gain: 4.4 dBi

⁴**Note:** Max. EIRP (dBm) = Max Conducted Output Power with Tune Up (dBm) + Max Antenna Gain (dBi)

RFID Radio:

Technology	Frequency (MHz)	Max. Field Strength ¹ (dBμV/m @ 3m)	Max. Field Strength with Tune Up ² (dBμV/m @ 3m)	Max. Antenna Gain ³ (dBi)	Max. EIRP ⁴ (dBm)	Max. EIRP (mWatts)
RFID	13.56	70.287	72.287	0	-22.94	0.0051

¹**Note:** Maximum Field Strength measured at 3m distance obtained from “WIRS140547-FCC 15.225_RSS-210” test report by Eurofins Electrical and Electronic Testing NA, Inc.

²**Note:** Tune-up tolerance of +2 dB.

³**Note:** Antenna gain and information obtained from “Theory of Operation for the KS210-K RFID Keypad Server Cabinet Lock” by ASSA ABLOY Opening Solutions:

- Manufacturer: Custom
- P/N: Embedded 3-Turn PCBA Coil
- Frequency: 13.56 MHz
- Antenna Type: Tuned Coil
- Antenna Gain: 0 dBi

⁴**Note:** For transmitters where Field Strength was measured at a specific distance, the radiated power is calculated using the following formula:

$$\text{EIRP} = E_{\text{Meas}} + 20\log(d_{\text{Meas}}) - 104.7$$

Where:

EIRP = Equivalent Isotropically Radiated Power in dBm

E_{Meas} = Field Strength of the emission at the measurement distance in dBμV/m = 72.287 dBμV/m @ 3m

d_{Meas} = Measurement Distance in m = 3m

3.3 RF Exposure Calculation

FCC limits

Calculations for this report are based on highest power obtained from measurements

Bluetooth Low Energy Radio:

Evaluation of 20cm distance:

Modulation	Frequency Range (MHz)	Max. EIRP ¹ (dBm)	Max. EIRP (mW)	Power Density (mW/cm ²) @20 cm	FCC Limit (mW/cm ²)	Results
GFSK	2400 – 2483.5	10.15	10.3514	0.002059	1.0	Complies

¹Note: Max. EIRP (dBm) = Max RF Output Power with Tune Up (dBm) + Max Antenna Gain (dBi)

RFID Radio:

Evaluation of 20cm distance:

Technology	Frequency (MHz)	Max. EIRP ¹ (dBm)	Max. EIRP (mW)	Power Density (mW/cm ²) @20 cm	FCC Limit (mW/cm ²)	Results
RFID	13.56	-22.94	0.0051	0.000001015	0.9789	Complies

¹Note: Max. EIRP (dBm) = $E_{Meas} + 20\log(d_{Meas}) - 104.7 = 72.287 \text{ dB}\mu\text{V/m @ 3m} + 20\log(3\text{m}) - 104.7$

Bluetooth Low Energy + RFID Radio Simultaneous Transmission:

Simultaneous operation of the 13.56 MHz RFID and 2.4 GHz BLE radios do not occur.¹

¹Note: Obtained from “Theory of Operation for the KS210-K RFID Keypad Server Cabinet Lock” by ASSA ABLOY Opening Solutions.

ISED Limits

Calculations for this report are based on highest power are obtained from measurements

Bluetooth Low Energy Radio:

Evaluation of 20cm distance:

Modulation	Frequency Range (MHz)	Max. EIRP ¹ (dBm)	Max. EIRP (W)	Power Density (W/m ²) @20 cm	ISED Limit (W/m ²)	Results
GFSK	2400 – 2483.5	10.15	0.0103514	0.02059	5.348	Complies

¹Note: Max. EIRP (dBm) = Max RF Output Power with Tune Up (dBm) + Max Antenna Gain (dBi)

RFID Radio:

Evaluation of 20cm distance:

Technology	Frequency (MHz)	Max. EIRP ¹ (dBm)	Max. EIRP (W)	Power Density (W/m ²) @20 cm	ISED Limit (W/m ²)	Results
RFID	13.56	-22.94	0.0000051	0.00001015	2	Complies

¹Note: Max. EIRP (dBm) = $E_{Meas} + 20\log(d_{Meas}) - 104.7 = 72.287 \text{ dB}\mu\text{V/m @ } 3\text{m} + 20\log(3\text{m}) - 104.7$

Bluetooth Low Energy + RFID Radio Simultaneous Transmission:

Simultaneous operation of the 13.56 MHz RFID and 2.4 GHz BLE radios do not occur.¹

¹Note: Obtained from “Theory of Operation for the KS210-K RFID Keypad Server Cabinet Lock” by ASSA ABLOY Opening Solutions.

Power Density Calculation

$$P_d = (P_{out} * G) / (4 * \pi * R^2)$$

Where:

P_d = Power density in W/m²

P_{out} = Output power from the antenna in watts (W)

G = Gain of the antenna in linear scale

R = Distance between observation point and center of the radiator in meters (m)

4 Conclusion

This device is compliant with RF Exposure requirements of the limits for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 and RSS-102 Issue 6 for General Public (Uncontrolled Environment). The 13.56 MHz RFID and 2.4 GHz BLE radios cannot simultaneously operate.