

RF Exposure Report

Report No.: EMC127472-RF Exposure FCC_ICES R4

Test Model: A-RF3

Test Date: July 28, 2026

Issued Date: July 28, 2026

Applicant: Lutron Electronics

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1. Certificate of Conformity

Product: A-RF3

FCC ID: JPZ0159

IC ID: 2851A-JPZ0159

Brand: Lutron Electronics

Test Model: A-RF3

Applicant: Lutron Electronics

Test Date: July 28, 2026

Standard: 47 CFR FCC Part 2.1093
RSS-102, Issue 6, December 2023



Donald Salguero
EMC Laboratory Engineer

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated. 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.



Elmer Rodriguez
Manager, Electromagnetic Compatibility Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
Ø	March 19, 2026	Initial Issue.
1	May 7, 2026	IC ID Typo Fix, Test Model Corrected, RSS Standard Year Corrected
2	May 15, 2026	Correction on RSS-102 Evaluation Calculations.
3	June 12, 2026	Simultaneous TX Scenario Added.
4	July 28, 2026	Updated Calculation

2. RF Exposure

Requirements:

47 CFR 2.1091(c)(1)

Evaluation of compliance with the exposure limits in § 1.1310 of this chapter, and preparation of an EA if the limits are exceeded, is necessary for mobile devices with single RF sources having either more than an available maximum time-averaged power of 1 mW or more than the ERP listed in Table 1 to § 1.1307(b)(3)(i)(C), whichever is greater. For mobile devices not exempt by § 1.1307(b)(3)(i)(C) at distances from 20 centimeters to 40 centimeters and frequencies from 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 of this chapter is necessary if the ERP of the device is greater than ERP_{20cm} in the formula below. If the ERP of a single RF source at distances from 20 centimeters to 40 centimeters and frequencies from 0.3 GHz to 6 GHz is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP) in comparison with the following formula only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

47 CFR 2.1091(c)(2)

For multiple mobile or portable RF sources within a device operating in the same time averaging period, routine environmental evaluation is required if the formula in § 1.1307(b)(3)(ii)(B) of this chapter is applied to determine the exemption ratio and the result is greater than 1.

Evaluation:

$$S_{\text{limit1}} = 1 \text{ mW/cm}^2 \text{ (2.4GHz Transmitter)}$$

$$S_{\text{limit2}} = 433.6/1500 = 0.29 \text{ mW/cm}^2 \text{ (434MHz Transmitter)}$$

$$S = \frac{P * G}{4 * \pi * r^2}$$

Where

S = power density in mW/cm²

P = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

15.231. Transmitter

Frequency: 431.5 MHz – 436.6 MHz

Max Field Strength = 80.77 dBuV/m @ 3m

ERP (dBm) = E (dBuV/m) + 20 log [d (m)] - 104.77 - 2.15

ERP = 80.77 + 9.54 - 104.77 - 2.15

ERP = -16.6 dBm = 0.022 mW < 1mW

EUT is exempt from MPE assessment.

Spectral Density calculation for simultaneous TX assessment.

$$S = 0.022 / (4 * 3.1416 * 20^2) = 0.0000044 \text{ mW/cm}^2$$

15.247. Transmitter

Frequency: 2402 MHz – 2480MHz

Max Conducted Power: 21.4dBm*

Tune Up Tolerance: 1dB

Antenna Gain: 2.9 dBi

EIRP = 21.4+1+2.9 = 25.3 dBm = 339 mW

*max power as declared on operational description.

At a minimum separation distance of 20 cm for a mobile exposure device.

$$S_{DTS} = 339 / (4 \cdot 3.1416 \cdot 20^2) = 0.067 \text{ mW/cm}^2$$

$$S_{DTS} < S_{\text{limit1}}$$

EUT complies with RF Exposure requirements for mobile device at separation distance of 20cm

Simultaneous TX Scenario

Ratios:

$$15.231 \rightarrow 0.0000044 / 0.29 = 0.000015$$

$$15.247 \rightarrow 0.067 / 1 = 0.067$$

$$\text{Total Exposure} = 0.000015 + 0.067 = 0.067015 < 1$$

EUT complies with RF exposure requirements in a simultaneous TX scenario.

Requirements:

RSS-102 Issue 6 (5.3.2)

5.3.2 Electric field strength levels, magnetic field strength levels and power density levels (10 MHz to 300 GHz)

The electric and magnetic field strength reference levels, power density reference levels, and associated reference period for devices employed by the general public (uncontrolled environment) and controlled-use devices (controlled environment) are specified in table 7 and table 8. Note that the power density limits specified in these tables apply to whole body exposure conditions.

RSS-102 Issue 6 (6.6)

6.6 Exemption limits

Field reference level (FRL) exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm (i.e. mobile devices), except when the device operates as follows:

- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834} \text{W}$ (adjusted for tune-up tolerance), where f is in MHz

RSS-102 Issue 6 (7.1.5)

7.1.5 Devices with multiple transmitters

Devices with multiple transmitters may be subject to evaluation by a combination of the evaluation methods specified in RSS-102, as applicable to each transmitter in the device.

In addition, all transmitters that transmit simultaneously shall be accounted for in the overall declaration of compliance of the device.

Exemption Evaluation

$$P_{\text{exempt}} = 0.0131 f^{0.6834}$$

Where f is in MHz and in 300-6000MHz frequency range

RSS-210 Transmitter Parameters:

Max Field Strength @ 433.6MHz = 80.77 dBuV/m @ 3m
Antenna Gain = -4 dBd = -1.85 dBi

$EIRP (dBm) = E (dBuV/m) + 20 \log [d (m)] - 104.77$

$EIRP = 80.77 + 9.54 - 104.77$

$EIRP = -14.46 \text{ dBm}$

Conducted Power (P) = EIRP – Antenna Gain (G)

$P = -14.46 - (-1.85) = -12.61 \text{ dBm} = 0.055 \text{ mW} = 0.000055 \text{ W}$

At 433.6MHz, Exemption limit = $0.0131 \cdot (433.6^{0.6834}) = 0.83 \text{ W}$

EIRP is lower than exemption limit.

EUT meets exemption criteria at separation distance of 20cm

RSS-247 Transmitter Parameters:

Frequency: 2402 MHz – 2480MHz

Max Conducted Power: 21.4dBm*

Tune Up Tolerance: 1dB

Antenna Gain: 2.9 dBi

$EIRP = 21.4 + 1 + 2.9 = 25.3 \text{ dBm} = 0.34 \text{ W}$

*max power as declared on operational description.

At 2402MHz, Exemption limit = $0.0131 \cdot (2402^{0.6834}) = 2.676 \text{ W}$

EIRP is lower than exemption limit.

EUT meets exemption criteria at separation distance of 20cm

Simultaneous TX Scenario

Ratios:

$RSS210 \rightarrow 0.000055 / 0.83 = 0.00066$

$RSS247 \rightarrow 0.34 / 2.676 = 0.127$

Total Exposure: $0.00066 + 0.127 = 0.12766 < 1$

EUT meets exemption criteria