

RF Exposure / MPE Calculation

Customer	Japan Radio Co., Ltd.
Description of EUT	IT Controller
Model Number of EUT	JRN-440K
FCC ID	2AX5HJRN-440K
Issue Date	September 10, 2026
Approver	 Satofumi Matsuyama Engineer

Japan Radio Co., Ltd. declares that Model: JRN-440K complies with FCC radiation exposure requirement specified in the FCC Rule 2.1091 (for mobile).

RF Exposure Calculations:

The following information provides the minimum separation distance for the highest gain antenna provided with the "JRN-440K" as calculated from (B) Limits for General Population / Uncontrolled Exposure of TABLE 1- LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) of §1.1310 Radiofrequency radiation exposure limits.

[WLAN 2.4 GHz Part]

*A 2.4 GHz evaluates simultaneous transmission with installed certified modules (FCC ID: Z64-WL18DBMOD)

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1mW/cm² uncontrolled exposure limit. The Friis formula used was:

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

Where

$P =$ 56.23 mW (Maximum average output power)

$G =$ 2.089 Numerical Antenna gain; equal to 3.2 dBi

$r =$ 20 cm (Separation distance)

Power Density Result $S = 0.02337 \text{ mW/cm}^2$

[WWAN: GSM Part]

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 0.55 mW/cm² uncontrolled exposure limit. The Friis formula used was:

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

Where

$P = 355.57$ mW (Maximum average output power*)
 $G = 1.259$ Numerical Antenna gain; equal to 1 dBi
 $r = 20$ cm (Separation distance)

*The Maximum average output power takes the duty cycle into account.

$$\text{Power Density Result } S = 0.08905 \text{ mW/cm}^2$$

[WWAN: WCDMA Part]

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 0.55 mW/cm² uncontrolled exposure limit. The Friis formula used was:

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

Where

$P = 295.12$ mW (Maximum average output power)
 $G = 1.259$ Numerical Antenna gain; equal to 1 dBi
 $r = 20$ cm (Separation distance)

$$\text{Power Density Result } S = 0.07391 \text{ mW/cm}^2$$

[WWAN: LTE Part]

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 0.55 mW/cm² uncontrolled exposure limit. The Friis formula used was:

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

Where

$P = 295.12$ mW (Maximum average output power)
 $G = 1.259$ Numerical Antenna gain; equal to 1 dBi
 $r = 20$ cm (Separation distance)

$$\text{Power Density Result } S = 0.07391 \text{ mW/cm}^2$$

Therefore, if WLAN 2.4 GHz and WWAN transmit simultaneously,

$$0.02337 + 0.08905 / 0.55 \\ = 0.18528 < 1$$