Compliance with 47 CFR 15.247(i)

> "*Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter*."

The EUT is a hand-held RFID computer used to read barcode labels and Radio Frequency Identification (ID) (RFID) tags for inventory management applications. The integral RFID radio operates in the 902 – 928 MHz band as a frequency hopping spread spectrum transmitter. The EUT will only be used in a hand-held configuration with a separation distance of 5 centimeters or greater between the antenna and the user's hand. There are no provisions for body worn accessories such as belt clips, holsters, or lanyards. Therefore, hand SAR evaluation is not required and MPE estimates are provided below. The antenna is integral to the unit and has a maximum gain of 3.29 dBi. The maximum peak conducted output power is 903.3 mW.

Since the transmit frequency is less than 1.5 GHz, and the output power is less than 1.5 W ERP, the EUT is categorically excluded from routine environmental evaluation per 47 CFR 2.1091(c).

The MPE estimates are as follows:

Table 1 in 47 CFR 1.1310 defines the maximum permissible exposure (MPE) for the general population as ($f_{MHz}/1500$) mW/cm^2. The exposure level at a 20 cm distance from the EUT's transmitting antenna is calculated using the general equation:

$S = (PG)/4\pi R^2$
Where: S = power density (mW/cm^2)
P = power input to the antenna (mW)
G = numeric power gain relative to an isotropic radiator
R = distance to the center of the radiation of the antenna (20 cm = limit for MPE estimates)
PG = EIRP

Solving for S, the maximum power density 20 cm from the transmitting antenna is summarized in the following table:

MPE Estimate

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Antenna Type	Antenna Manufacturer	Antenna Part No.	Transmit Frequency (MHz)	Max Peak Conducted Output Power (mW)	Antenna Gain (dBi)	Minimum Antenna Cable Loss (dB)	Power Density @ 20 cm (mW/cm^2)	General Population Exposure Limit from 1.1310 (mW/cm^2)
Patch	MARS	MA-SI915-1S E4	902	903.3	3.29	0	0.383	0.601333333

The power density does not exceed 0.6013 mW/cm^2 at 20 cm; therefore, the exposure condition is compliant with FCC rules.

The applicant's radio, FCC ID: O9NFALCON5500, is compliant with the requirements of 15.247(i).