

**RF Exposure Calculation per FCC §2.1091
for
IntelliSense
C2DLWSH-21-SR**

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Prepared for:

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1. Radiofrequency radiation evaluation exposure (§2.1091)

FCC §2.1091 calls out the criteria for evaluation of radiofrequency exposure. The SN921 is a fixed device and is not to be moved once installed.

Per §2.1091(c), the requirements for evaluation of RF exposure do not apply to this equipment.

If the device were classified as a mobile device, per 2.1091(c), mobile devices that operate at frequencies in excess of 1.5 GHz and whose ERP is less than 3 watts are excluded from routine environmental evaluation.

The operational frequency of the SN921 Spread Spectrum Transmitter is 923.58 MHz

The ERP for the SN921 transmitter is calculated as follows:

$$\begin{aligned}\text{Effective Radiated Power,} & \quad \text{ERP} = \text{PtGt} \\ \text{Power Density,} & \quad S = E^2/Z_0 \\ & \quad S = (\text{PtGt})/4\pi r^2 \\ & \quad \text{PtGt} = S \times 4\pi r^2\end{aligned}$$

From measurement, the output power of the transmitter is 50.1 mW.

The PCB antenna is designed to be omnidirectional and has a nominal gain of 0dBi or 1.

Thus,

$$\text{PtGt} = 50.1 \times 10^{-3} * 1$$

And

$$\text{PtGt} = 50.1 \text{ mW}$$

This is well below the 3 Watt limit set by the FCC in 2.1091(c).