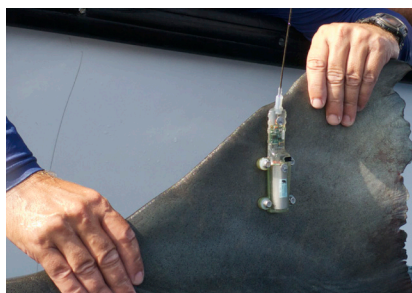




# READY FOR TAKE-OFF

## USING THE REDROCK RR130 IN WILDLIFE TRACKING DEVICES.



Wildlife tracking devices are highly constrained in both size and mass, which also constrains the size and mass of the electronic components used in their design. One typical application involves radio

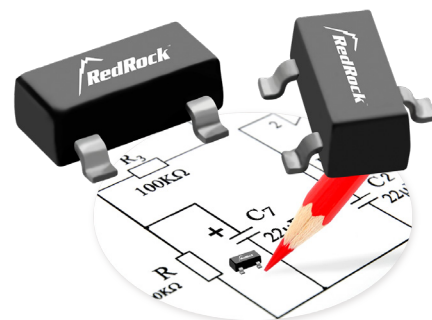
frequency tracking collars that are applied to mammals and birds. The RR130 TMR-based magnetic digital switch is used to start the tracking circuitry (which includes a battery, RF transmitter and may include an ultra-low power microprocessor and data storage circuitry.) The waterproof, sealed tracking device is shipped to the end user with a small magnet attached to its exterior – when the device is ready for use, the magnet is removed, starting the circuitry. The magnet-switch combination may be used for other applications such as triggering a stored data dump from the device, or to make programming changes to the microprocessor.

**“The 4.76 mm<sup>3</sup> volume, 8 mg mass, and low power operation of the RR130 switch offer highly desirable features for wildlife tracking applications.”**

To avoid compromising the target species' natural behavior, it is important that the tracking device be as small and light as possible. Tracking device manufacturers recommend that the device should not exceed 3% of the species' body weight. For example, tracking a 1 kg osprey requires a device weighing no more than 30 gm, and less is highly desirable. Device manufacturers therefore have very tight weight budgets, so the 4.76 mm<sup>3</sup>

volume and 8 mg mass of the RedRock switch are highly desirable features. The low power operation of the RR130 switch also minimizes battery drain, allowing the use of smaller, lighter batteries than devices using power hungry alternatives such as Hall Effect sensors.

Fish tracking system requirements are even more mass-sensitive. Because the tracking device needs to be embedded in the target fish species, its size and mass are even more restricted. A typical fish tracking device is 10 mm \* 5 mm \* 3 mm in size, with a mass of 300 mg, and transmits coded sonar pulse signals to a submerged sonar receiver where they are stored for subsequent retrieval and analysis. At only 2.6% of the mass of the transmitter, the 8 mg mass of the RedRock RR130 switch makes it an ideal device for starting this type of device.



*For further information, sample switches or evaluation kits, contact [redrock@cotorelay.com](mailto:redrock@cotorelay.com)*

*To learn more about how Coto Technology and RedRock can enable your design aspirations, please contact us at the web address below.*

