

TRXL-830-2 Ankle bracelet Operational Description

The TRXL-830 Ankle bracelet is a small unit worn on the ankle of the monitored offender.

The Ankle bracelet is a battery-operated unit and comprises a printed circuit board (PCB), which includes a RF transmitter module with an integral antenna, and a microcontroller that controls its operation.

The TRXL-830-2 has one RF channel. It is 433 MHz carrier with FSK modulated data.

The bracelet is turned on and off by a probation officer, using an electronic key which is temporarily attached to the bracelet strap's pins.

The unit is powered by an internal 3.6V Lithium Thionyl Chloride battery.

When it is turned on, the Ankle bracelet transmits a 2mSec identification & status signal and then it stops transmission. As a public life safety equipment the Tag transmits the next signal 18-22 seconds after the last signal transmission – any interruption in the reception of the transmitted signal (which might indicate an escaped offender) may put public life at risk – the central monitoring system sends an immediate alert to the probation officer or to the sheriff in-charge, who should take immediate action to ensure public safety.

As per section 15.231(a)(3), being a security and safety of life equipment this device transmits supervision transmissions, including data (e.g. battery ok, strap not cut, etc), to determine the device integrity. The total duration of transmissions does not exceed more than two seconds per hour: $60 \text{ minutes} \times 3 \text{ transmissions per minute} \times 6 \text{ mSec (max.)} = 1.08 \text{ seconds}$.