

## 9. Product Description

The *'Predator' wireless plow-controller* is a transmitter that enables the user to control and set the position and orientation of the plow, remotely from inside the automobile, during plowing operations. The Predator wireless plow-controller operates at 434 MHz, with FM/FSK modulation characteristics. When activated, the plow-controller transmitter issues a series of packet commands, containing PWM encoded binary data, for a simplex link with the receiving plow mechanism.

### Detailed Description:

The Predator wireless plow-controller is designed to eliminate the need for wire routing from inside the vehicle, through the fire-wall, to the plow mechanism, for control of the plow mechanism. Instead, the wireless system simply uses a portable, hand-held transmitter to transmit the commands to move and control the plow. The plow mechanism would only need to be connected to the power source.

When a command button is pressed on the transmitter, two data packets are transmitted at minimum, and more if the button is continuously held down. When the transmitter button is released, three termination packets are sent, after which the transmitter goes into standby mode. The packet repetition rate is approximately 130 ms, and during that 130 ms cycle, the transmitter is power managed through the transmit IC, such that the power amplifier is gated on only for approximately 57 ms, to allow for the 45 ms packet to be transmitted, plus 12 ms of guard time around the packet. Other than the 57 ms of transmission per packet, the transmitter is in standby mode at all other times, with the transmit IC gated off. The transmitter uses two standard "AA" type batteries, which are replaceable.

## 10. Test Requirements

The Predator wireless plow-controller transmitter unit was to be tested for radiated emissions, and compliance with the limits set forth by 47 CFR, part 15.205, 15.209, 15.231a, 15.231b, and 15.231c, for manually operated periodic transmitters, as well as for compliance with Industry Canada, RSS-210, for low power license-exempt radio-communication devices.

## 11. Summary of Test Report

The Predator wireless plow-controller transmitter was found to **MEET** the requirements as described within the specifications of Title 47 CFR, Part 15.231 and RSS-210, Section 6.1 for a low power transmitter.