# ERA900TRS

**Product Description**

The ERA900TRS is a low power transceiver module designed to operate within the 902-928MHz allocation for North America. It is for use as a radio component in OEM equipment.

It is suitable for use as a '1 to many' or 'many to many' configuration or as part of a network.

**Technical Description**

The module contains an RFIC from Texas Instruments (CC1020) which is configured and controlled using a Microchip microcontroller PIC18F25K20. RF filter components are set to ensure good carrier and harmonic performance.

A complete can covers and provides screening to the module which is of a size (w)38mm x (h)14mm x (d)3mm.

9 Pins are located along one edge of the device and is intended for through hole mounting.

Besides power pins, Uart Serial Data In/Out, RDY and BUSY pins are provided for buffered use and a Carrier Detect output is available for information purposes.

**Operational Description**

The ERA900TRS configures the radio on power-up to the specified frequency as determined either by factory or by settings stored by the user. These of course are controlled to prevent usage outside the limits provided by the FCC.

The user normally will upload data via the UART interface. This can consist of data at various rates between 1200 and 115200 BAUD and has buffers of 180 bytes in length. After a brief timeout calculated as 20/BAUD (2 Byte lengths) data is transmitted via the CC1020 SPI interface.

The data format uses 'easyRadio' protocols to provide adequate preamble, data detection and error checking (CRC) to ensure that delivered data is correct. It does NOT utilise any forward error correcting scheme.

Unless power saving schemes are being used, the receiver is active at all times that the transmitter is not on. When a valid data message is received, the data is transferred into the UART buffer for delivery to the host. The cycle is complete.