BLOCK DIAGRAM

This document contains UHF radio transmit module description and its block diagram

Radiometrix Ltd

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UHF Radio Telemetry Transmit Module

UK version: TXM-418-A / TXM-418-P
Euro version: TXM-433-A / TXM-433-P

The TXM-418-A and TXM-433-A (subjects) a low power FM (NFM) radio transmitter on a small module. Together with the matching RXPE-418-A or RXPE-433-A receiver a one-way radio data link can be achieved over a distance upto 200 metres on open ground.

Typical features include:

- PCB Mounting, space saving SIL style
- SAW controlled wide band FM transmitter
- Licence Exempt, UK type approved to ETS 300 220 specification MPT 1340
- High data rates, 8Kbps and 19Kbps (-P version)
- Analogue or Digital data input
- Wide supply range 6.0V to 9.6V

The transmitter modules are most commonly employed in Wireless Security systems. The transmitter is approved to ETS 300 220 specification MPT 1340 thus avoiding the need to submit the finished product for further approvals. The RXPE-418-A receiver provides all the outputs necessary to satisfy the requirements of a class 5, RSC/99 wireless alarm system. The TXLRX-418.6 is a home unit receiver ideal for battery powered and fixed applications.

The modules are also suitable for general purpose telemetry/telecommand where their small size and high data rates may be used to advantage.

Typical applications include :-

Domestic and commercial security
Guard patrol / lone worker protection
Medical Alert / Home Call systems
Mobile panic attack
Computer networking
Remote industrial process monitoring
Data transfer through hazardous environments
Lighting control, Garage door openers
Fire alarms
Picture Envelope protection alarms
Remote control, Access control

Brief description

The TXM-418 is designed to work with the matching receiver (RXPE-418). With the addition of simple antennas the pair may be used to transfer serial data up to 19Kbs. The range of the radio link is very variable and depends upon many factors, principally, the type of antenna employed and the operating environment. The 19Kbs quoted range is a reliable operating distance over open ground using 1/4 whip antennas at both ends of the link at 1.0m above ground. Smaller antenna, interference or obstacles (e.g. building etc.) will reduce the reliable working range (down to 20m in extreme cases). Increased antenna height, size (coil or a longer centre antenna will increase the range (see Issue 1 Data Sheet). We recommend that the module evaluation kit, EVAL-418-A, can be used to assess the reliable working range under the anticipated conditions of use.

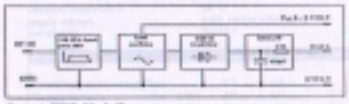

Figure 1: TXM's block diagram

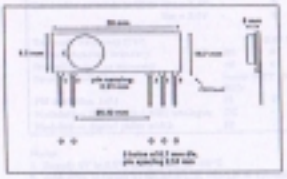

Figure 2: mechanical dimensions

Pin Description

pin 1	RF GND	This pin should be connected to the ground plane around which the integral antenna radiates. It is internally connected to pin 4.
pin 2	RF OUT	Connects to the integral antenna. Output impedance is 50Ω.
pin 3	Vcc	Positive supply - supply voltage from +6V to +9V may be used.
pin 4	Vcc	0V connection for the modulation and supply.
pin 5	DATA IN	Should be driven directly by a CMOS logic device running on the same supply voltage as the module.