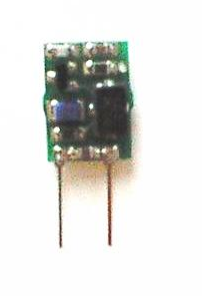
Features

- MINIATURE TWO PIN PACKAGE
- SAW RESONATOR 100% AM MODULATION
- DATA RATES UP TO 2400 BITS/S
- OPTIMAL RANGE 100m (433.92 MHz Version)
- 315 / 318 / 433.92 / 868.35 & 916.5 MHz VERSIONS
- CMOS/TTL COMPATIBLE INPUT
- LOW CURRENT CONSUMPTION (typ. 5mA)
- SINGLE SUPPLY VOLTAGE 1.5 – 13V



Applications

- VEHICLE ALARM SYSTEMS
- REMOTE GATE CONTROLS
- GARAGE DOOR OPENERS
- DOMESTIC AND COMMERCIAL SECURITY

Compatible Receiver Modules

- MKR1-XXX (see data sheet MKR1)
- MKR2AM-XXX (data sheet MKR2AM)
- MKR5A-XXX (highest spec AM receiver)

General Description

The MKT1-XXX miniature transmitter UHF radio module enables the implementation of a simple telemetry link at data rates of up to 2400 bit/s when used with one of the compatible MK receiver modules.

Available for operation at all world frequencies these modules are able to transmit at distances of up to 100m.

The MKT1-XXX module will suit one-to-one and multi-node wireless links in applications including building and car security and remote control applications. Because of its small size and low power requirements, the module is ideal for use in portable battery powered wireless applications.

Absolute Maximum Ratings: Transmitter

Operating temperature:	-20°C to +55°C
Storage temperature:	-40°C to +85°C
Supply Voltage (pin 1)	15V
Data input (pin 1)	15V

Electrical Characteristics: Transmitter

	pin	min.	typ.	max.	units	notes
DC LEVELS						
Supply voltage		1.5	5.0	13	Volts	
Current & RF POWER						
For supply 7 to 13 volts:-						
Supply current @ Rd = 1.0KΩ (data high)		6	8.2	9	mA	
RF power into 50Ω @ Rd = 1KΩ		2	4	6	dBm	433MHz
For supply 1.5 to 3.7 volts:-						
Supply current @ Rd = 51Ω (data high)		4		7	mA	
RF power into 50Ω @ Rd = 51Ω		-4		0	dBm	433 Hz
Note, above values apply to all frequencies						
RF & Data						
Data rate @ rf<500 MHz		100		2400	bits/s	

Connection Details

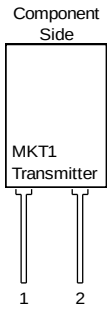


Figure 1: MKT1 Transmitter

Pin Description

Data *(pin 1)*
CMOS/TTL compatible input. Must be driven with appropriate current limiting resistor to provide the module with 5mA.

GND *(pin2)*
Ground connection, preferably connected to a solid ground plane.

General Information

The MKT1-XXX requires a current limiting resistor (Rd) to source the module with the correct drive current. The following values of Rd can be used with the module depending on the drive voltage:

Drive Voltage = 1.5 –3.7V then Rd = 51 to 300Ω
Drive Voltage = 7 – 13 V then Rd = 1K0Ω typical

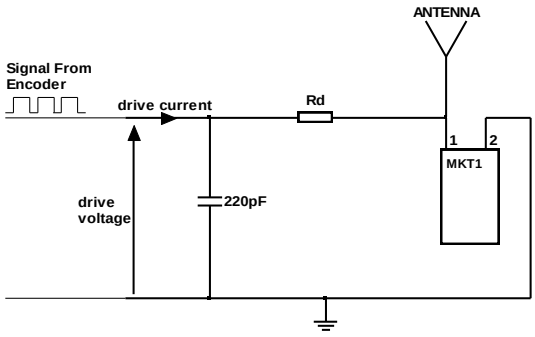


Figure 2: Drive Circuit Required For MKT1 Transmitter Module

Application Information

Antenna Design

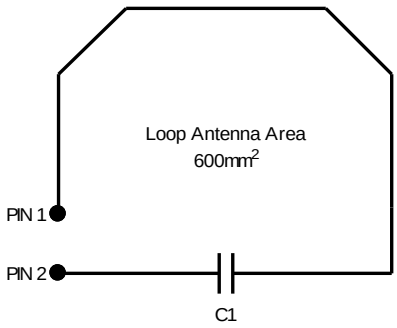
The design and positioning of the antenna is as crucial as the module performance itself in achieving a good wireless system range. The following will assist the designer in maximising system performance.

The antenna should be kept as far away from sources of electrical interference as physically possible. If necessary, additional power line decoupling capacitors should be placed close to the module.

The antenna 'hot end' should be kept clear of any objects, especially any metal as this can severely restrict the efficiency of the antenna to transmit power. Any earth planes restricting the radiation path to the antenna will also have the same effect.

Best range is achieved with either a straight piece of wire, rod or PCB track @ ¼ wavelength (15.5cm @ 433.92MHz). Further range may be achieved if the ¼ wave antenna is placed perpendicular in the middle of a solid earth plane measuring at least 16cm radius. In this case, the antenna should be connected to the module via some 50 ohm characteristic impedance coax.

Loop Antenna



C1 = 2.2pF @ 418MHz
C1 = 1pF @ 433MHz

Whip Antenna

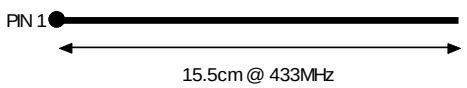


Figure 3: Antenna Configurations To Be Used With The MKT1 Transmitter Module

Mechanical Dimensions

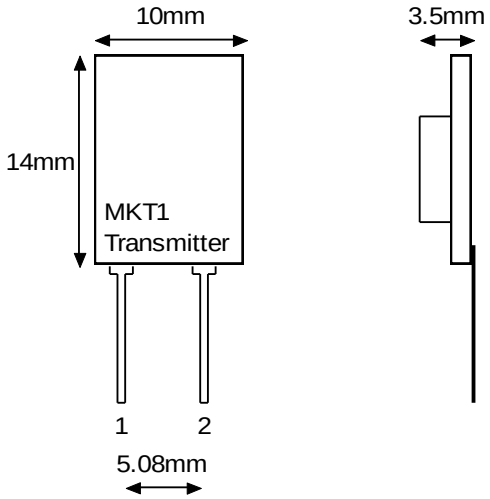


Figure 4: MKT1 Transmitter

Ordering Information

Standard Product;

Part No	Description
MKT1-434	AM Two Pin Transmitter 433.92MHz
MKT1-868	AM Two Pin Transmitter 868.35 MHz
MKT1-916	AM Two Pin Transmitter 916.5 MHz

Please consult our sales department for further information.

M.K.Consultants (UK) Ltd
288a-290 Quenns Road
HALIFAX
West Yorkshire
HX1 4NS
England

Tel +44 (0) 1422 329002
Fax +44 (0) 1422 353153

Email: admin@mkconsultants.eu
Web www.mkconsultants.eu