

# KH3 Series RF Transmitter and Receiver Modules



The KH3 Series is ideally suited for volume use in OEM applications such as remote control / command and keyless entry. It combines a high-performance RF receiver with an on-board remote control encoder and decoder. This provides a complete remote control solution in a single package.

The KH3 Series consists of a separate single channel OOK RF transmitter and RF receiver. These are paired with the Linx DS Series remote control encoder / decoder. Available at 315, 418 and 433.92MHz, the KH3 Series can transmit remote control activations over distances of up to 3,000 feet (1,000 m).

**Simple Addressing:** The modules use the logic state of 10 lines to create a 10-bit address. This gives 1,022 ( $2^{10}-2$ ) unique addresses. As long as the states of the lines match on both sides, the modules communicate. These lines are typically connected to DIP switches for easy configuration.

**Large Number of Buttons:** The module has eight lines for connection to buttons or contacts. When a line goes high on the transmitter a corresponding line goes high on the receiver as long as the addresses match. This makes implementing a remote control link very easy.

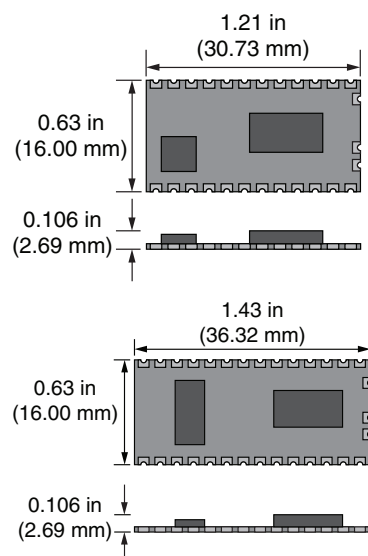
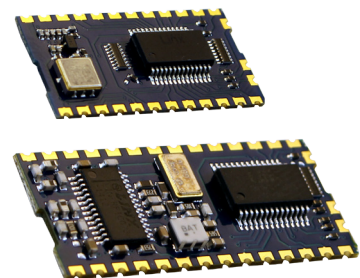
**Simple Implementation:** The modules do not require any programming or configuration of any kind other than the address. They are designed for hardware operation, making implementation easy, low cost and quick.

**Designed for Regulatory Compliance:** The KH3 Series is offered in three frequencies that meet the regulatory requirements of many countries worldwide.

**No Tuning:** The modules are matched to 50-ohms and fully tested, so no tuning or external RF components are required.

**Low Power:** Linx designed the KH3 Series with battery-powered applications in mind, so its power consumption has been highly optimized. A power down feature gives the designer complete control over the module.

**Backwards Compatible:** The KH3 Series is compatible with the KH2 Series. It has been designed to be a drop-in replacement for the most common implementation of the KH2 Series.

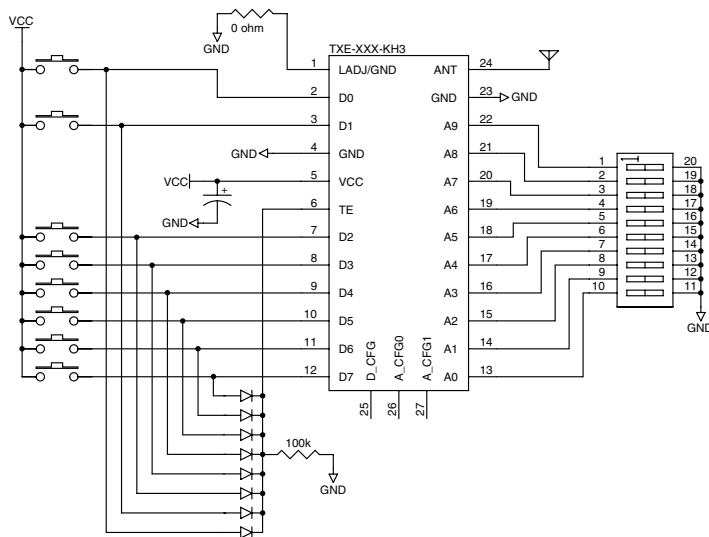


## Specifications

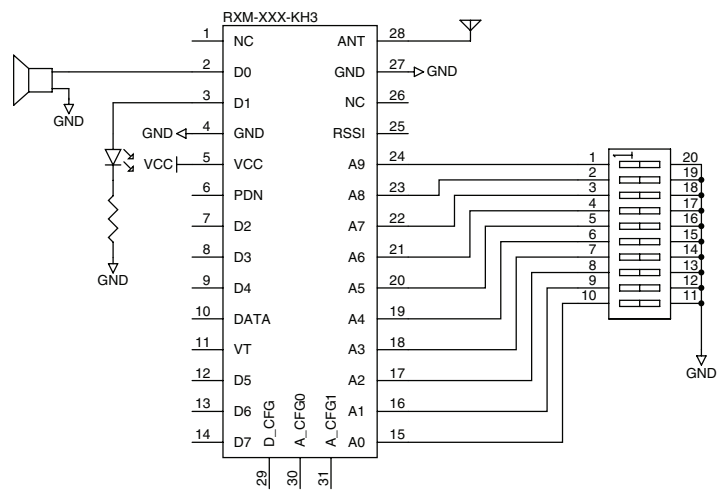
Frequency	
TXM-315-KH3/RXM-315-KH3	315MHz
TXM-418-KH3/RXM-418-KH3	418MHz
TXM-433-KH3/RXM-433-KH3	433.92MHz
Operating Voltage	
TXM-***-KH3	2.7 to 5.2VDC
RXM-***-KH3	2.7 to 3.6VDC
TXM-***-KH3 Supply Current @ 0dBm	1.5mA typical
TXM-***-KH3 Supply Current @ Max Power	2.7mA typical
RXM-***-KH3 Supply Current	5.2mA typical
Power Down Current	
TXM-***-KH3	1µA typical
RXM-***-KH3	28µA typical
TX Output Power	4dBm max.
RX Sensitivity	-112dBm typ.
Operating Temperature Range	
TXM-***-KH3	-40 to +70°C
RXM-***-KH3	-30 to +70°C

## Typical Application Circuits

The circuits below show the typical schematics for the KH3 Series transmitter and receiver.



Transmitter Typical Application Circuit



Receiver Typical Application Circuit

### Ordering Information

Part Number	Description
TXM-315-KH3	315MHz Transmitter / Encoder
TXM-418-KH3	418MHz Transmitter / Encoder
TXM-433-KH3	433MHz Transmitter / Encoder
RXM-315-KH3	315MHz Receiver / Decoder
RXM-418-KH3	418MHz Receiver / Decoder
RXM-433-KH3	433MHz Receiver / Decoder
EVAL-***-KH3	KH3 Series Basic Evaluation Kit

\*\*\* = 315, 418 (Standard), 433MHz

Receivers are supplied in tubes of 20 pcs.

### Applications

- Remote control / command
- Gate openers
- Lighting control
- Call systems
- Remote status monitoring
- Home / industrial automation
- Wire elimination

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