MLX90131
13.56MHz RFID / NFC Transceiver

Features and Benefits

- ☐ Conforms with ISO/IEC 14443A[1] and 14443B[2]
- ☐ Conforms with ISO/IEC 15693
- ☐ Conforms with ISO/IEC 18000-3 mode 1
- ☐ Conforms with ISO/IEC 18092 (NFC)
- ☐ Conforms with EPC HF Class 1
- ☐ Integrated programmable encoders / decoders
- ☐ High speed communication (848kbit/s)
- ☐ Embedded RF field and TAG detectors
- ☐ SSOP24 package for compact reader design
- ☐ Power supply from 3 to 5.5 Volts

[1] Purchase of MLX90131s doesn't imply any grant of any ISO14443A license. Customers are advised to sign patent licensing agreements with all third parties, especially those companies listed in the introduction of the corresponding standard.

[2] RATP/Innovatron ▐ Technology

Application Examples

- ☐ Wireless interaction for mobile devices
- ☐ Passport reader for biometric download
- ☐ Portable data terminals
- ☐ Access control readers
- ☐ Contact-less payment terminals
- ☐ Smart label printers

Ordering Information

Part No.	Temperature Code	Package Code	Option code
MLX90131	C (0℃ to 70℃)	FR (Lead free SSOP24, 20 9 mils)	--
MLX90131	E (-40℃ to 85℃)	FR (Lead free SSOP24, 2 09 mils)	--

1 Functional Diagram
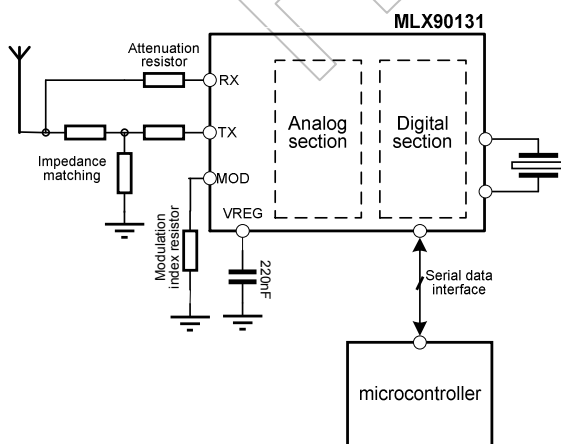
2 Description

The MLX90131 is a 13.56MHz RFID/NFC transceiver IC. It has been designed to handle sub-carrier frequencies from 106 to 848 kHz and baud rates up to 848kbit/s.

The robust and flexible receiver part of the MLX90131 enables designers of NFC/RFID reader device to fit their system requirements and to address the main communication standards with the same device.

The class-E amplifier allows the transmitter part to provide up to 250 miliwatts to a suitable antenna load. This delivered power is suitable for most short to mid range applications.

The MLX90131 embed tag emulation function for NFC capability. The tag and field detector will limit the power consumption in pure RFID reader configuration and in NFC mode.

The serial data interface of the MLX90131 is a compromise between flexibility for high speed data transfer and the pin-count required for the connection.

Several internal digital registers are used to configure the MLX90131 according to the standard of communication used. The digital section of the device contains ASK/FSK and PSK decoders based on sub-carrier detection, a programmable symbol encoder as well as a 15-bits FIFO.