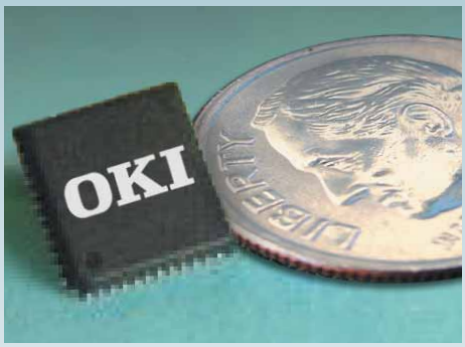
# ML7065

## IEEE802.15.4 Single Chip 2.4 GHz PHY and MAC For Low Data Rate Wireless Personal Area Networks




## Product Description

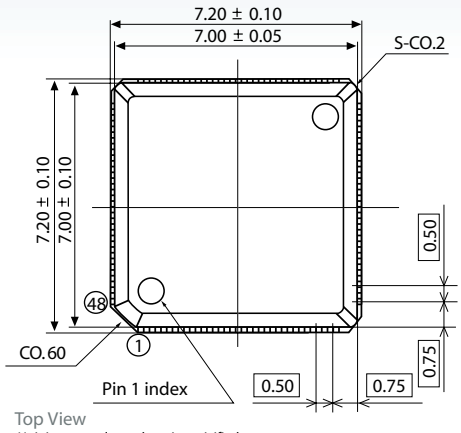
Oki Semiconductor's ML7065 is a single chip 802.15.4 compliant, ZigBee ready, integrated 2.4 GHz radio (PHY) and Media access control (MAC) layer device. Oki's ML7065 includes the complete 802.15.4 MAC which reduces the requirements of the network/application processor. Specifically designed for applications, such as PAN gateways, remote controls for digital home entertainment and environmental systems, and sensor data loggers.

Representing an open global standard, IEEE802.15.4 which specifies the PHY and MAC layers has been adopted by the ZigBee™ Alliance (www.zigbee.org) to construct high-level data link and network layers tailored to the design of wirelessly networked devices. An early participant in the ZigBee Alliance Oki's ML7065's PHY and MAC single-chip architecture assures future smooth transition to ZigBee multi-vendor interoperable products.

## Features

- Single-chip compliant to IEEE802.15.4-2003 (2.4GHz PHY & MAC)
- Suitable for both RFD and FFD operation
- 16 channel (channel #11-26) on 2.4GHz ISM Band (2400-2483.5MHz)
- DSSS with 2M Chip/s and 250Kbps maximum data transmission rate
- Modulation Method: O-QPSK (Offset Quadrature Phase Shift Keying)
- CSMA-CA channel access function
- Output power : 1mW
- Receiver sensitivity : -90dBm typ. (1% Packet Error Rate)
- AES -128 (NIST FIPS-197)
- Host Interface: Synchronous Communicatin Interface
- Operating temperature -25 to +70C
- Package: 48-pin plastic VQFN (P-VQFN48-0707-0.50)

## Package

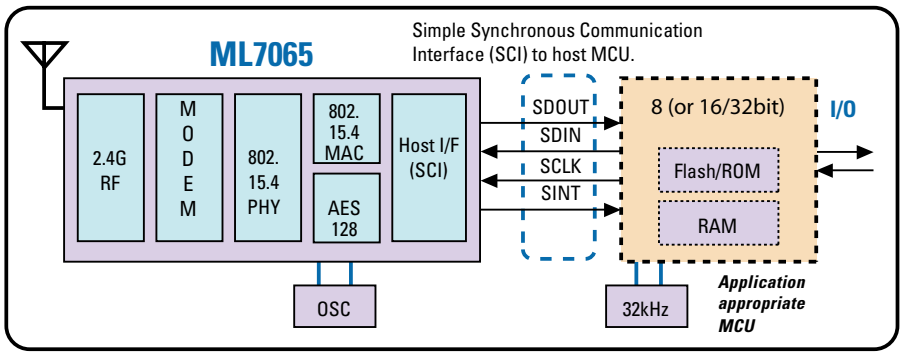



Top View
Unit in mm, unless otherwise spicified.

## Applications

- Network sensors, monitors, diagnostics and measurement equipment
- Total control of in-home heating/cooling, lighting
- Automatic reading of utility meters
- Security systems monitoring devices
- Security protection for home/building perimeters
- Bi-directional remote controllers for home entertainment systems

## Block Diagram




Note: ZigBee is built on the IEEE 802.15.4 standard that defines robust radio (PHY) and medium access control (MAC) communication layers. ZigBee also defines network layers supporting mesh star and cluster tree network topologies, ZigBee Device Object and interoperable Application Support Layer (Profile).

OKI

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