

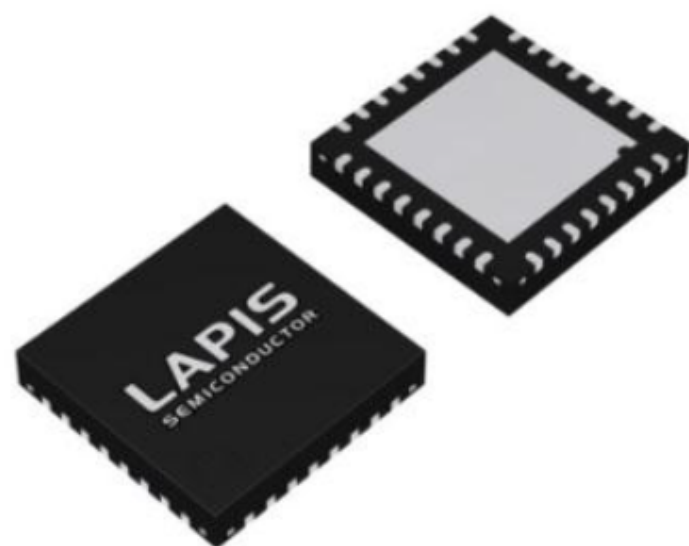
Reliable communication providing highest RF performance

Wireless Com. LSI for M-bus systems

ML7406



Product Overview



Package: WQFN32

The ML7406 family supports short range wireless communications in the range of 750MHz ~ 960MHz, which is applicable to the European smart metering standard (868MHz Wireless M-bus), and Japanese smart metering standard (ARIB STD-T108).

Built-in Wireless M-bus packet handler makes it possible to process data synchronization and packet header control that are conventionally done by software (i.e. inter-operability of T-mode and C-mode, automatic detection of Format A and Format B, 3 out of 6 coding and field checking.....)

The Wireless M-bus packet handler achieves to reduce about 20%* of MCU utilization compared to conventional systems (software processing), and contributes to the reduction of current consumption of the total system.

(*) Lapis semiconductor survey

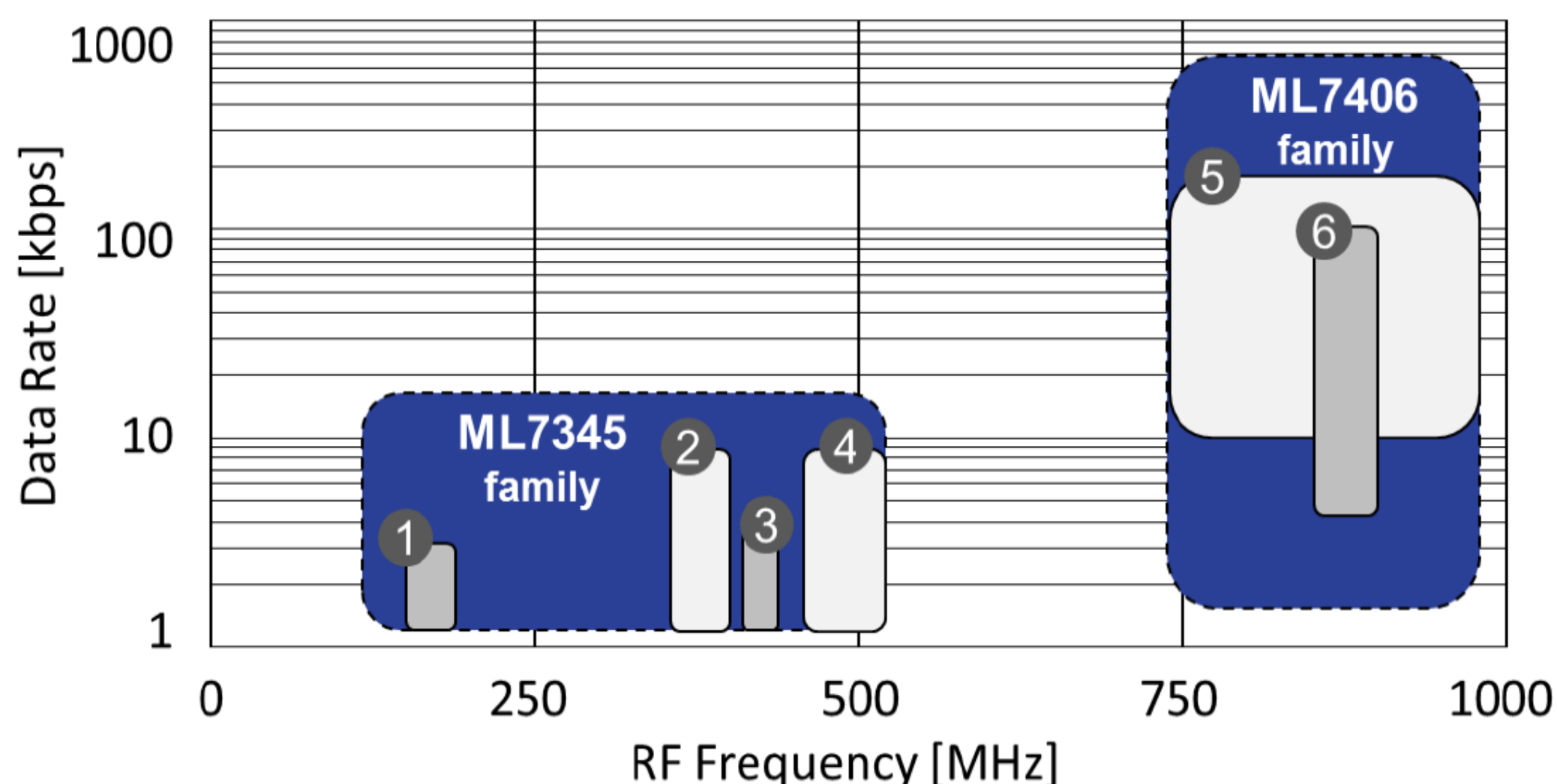
Features

- Operating Frequency 750MHz to 960MHz
- Modulation 2-(G)FSK/MSK
- Data Rate 1,200bps to 500kbps
- Tx Power up to 20mW
- Rx Sensitivity -105dBm typ. at 100kbps BER=0.1%
- Power Supply 1.8V ~ 3.6V
- Consumption 32/24mA typ. at 20mW/10mW output
13mA typ. at 1mW output
15mA typ. at receiving
0.1uA typ. at Deep SLEEP
- Operating Temp. -40~+85°C
- Package 32pin WQFN
- Eco Plan. Lead-free, RoHS compliant
- Complying to the following regulations:
 - ETSI EN300-220
 - ARIB STD-T108
 - EN 13757-4: 2011 (Wireless M-bus)
 - IEEE 802.15.4g
- Packet handling implemented
 - Support Wireless M-bus and universal packet format
 - Format A / Format B detection function
 - 3 out of 6 coding implemented
 - Preamble/SFD detector implemented
 - CRC function implemented
 - Whitening function implemented
 - Address filtering function
- Auto wake-up and auto sleep function
- High speed carrier checking function

Applications

- Smart Metering (Data collectors, Electricity, Gas, Heat, and Water Meters)
- Energy management systems (HEMS/BEMS/FEMS)

Easy and flexible development by design compatibility between ML7406 and ML7345



Possible to develop Wireless M-bus systems of whole RF band

- 1 Wireless M-bus (169MHz)
- 2 RCR STD-30 (426MHz)
- 3 ARIB STD-T67 (429MHz)
- 4 Wireless M-bus (433MHz)
- 5 Q_GDW347.3 (470-510MHz)
- 6 IEEE 802.15.4g (750-950MHz)
- 7 Wireless M-bus (868MHz)