# Kronegger
## NFC & RFID Reader Designs

# Kronegger HF and LF OEM Modules

„Our customers ask for standard-compliant and future-proof reader electronics. Therefore we concentrate on small modules as the missing link between the RFID-card and your business. In addition, we provide design services for fast and successful integration"
Dr. Peter Kronegger (GM).

### Applications

- Kiosks
- Public transport
- Car parking
- Ticketing (sports, events)
- Card printers
- Vending machines
- E-Mobility

### Modules highlights

- Fast serial interface (TTL) up to 115200 bps
- ASCII and binary protocol
- 5 VDC +- 10% or 3.3V
- 2 LED, 8 I/O ports (for display, buzzer), test pins
- Hard- and software controlled power saving modes

### Kronegger strengths

- Fast support through it's design center in Austria
- RF antenna laboratory for customer product tuning
- C# Library for fast integration
- Quality production in EU

### OEM Readers

Designed for quick integration into cost sensitive applications. Typically an antenna and interface logic are added in a customized manner.

### Demo Kit

A set containing reader, cable, tag samples and PC Software ready for quick feasibility checks as well as for development work.

### Plug & Play Readers

Designed for immediate use. They come with an antenna and interface like USB or RS232. Please refer to datasheet „Kronegger Plug & Play boards" for details.

### NFC Kit

Integrate your application with NFC enabled phones. Comes with Android Libraries and C# sample code.

Coming soon

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| Product features | NFC OEM | NFC+ OEM | XXL+ OEM | 125 kHz OEM |
|---|---|---|---|---|
| Order number | 0203-1003 | 0203-1013 | 0213-1009 | 0214-1010 |
| **Standards** | | | | |
| ISO 14443 A part 1, 2, 3 | ✓ | ✓ | ✓ | |
| ISO 14443 B, B Prime | ✓ | ✓ | ✓ | |
| ISO 15693 | | | ✓ | |
| NFC Card Emulation Mode, T=CL, 1) | | ✓ | | |
| NFC Reader Mode | ✓ | ✓ | ✓ | |
| NFC Initiator Peer-Peer active mode | | ✓ | | |
| NFC Target Peer-Peer active mode | | ✓ | | |
| NFC Initiator Peer-Peer passive mode | ✓ | ✓ | ✓ | |
| NFC Target Peer-Peer passive mode | | ✓ | | |
| 125 kHz | | | | ✓ |
| **Functionality** | | | | |
| SN reading, Anticollision | ✓ | ✓ | ✓ | ✓ |
| Read Write Support | ✓ | ✓ | ✓ | ✓ |
| MIFARE Authentication | ✓ | ✓ | ✓ | |
| Boot loader for firmware update | ✓ | ✓ | ✓ | ✓ |
| APDU support | ✓ | ✓ | ✓ | |
| SAM support | ✓ | ✓ | ✓ | |
| **Supported technologies** | | | | |
| MIFARE 1k, 4k, Mini | ✓ | ✓ | ✓ | |
| MIFARE Ultralight, Ultralight C | ✓ | ✓ | ✓ | |
| MIFARE Plus and DESfire EV1 2/4/8K | ✓ | ✓ | ✓ | |
| Smart MX, SLE66R35, SLE66R32P ... | ✓ | ✓ | ✓ | |
| 14443 A and B microcontrollers | ✓ | ✓ | ✓ | |
| ICODE (SLI, S, L, UID, EPC) | | | ✓ | |
| MyD (10p, 02P,10S,01P) | | | ✓ | |
| Felica | ✓ | ✓ | ✓ | |
| EM4x02, Hitag 1, Hitag 2, Hitag S, ATA5577 | | | | ✓ |
| **General** | | | | |
| Interface | CMOS-TTL serial, 1200 Bit/s to 115200 Bit/s (up to 460800 Bit/s with NFC+ and XXL+), 8N1, ASCII and binary protocol, C# library | | | |
| Power Supply | 3.3 to 5VDC ± 10% regulated, 20 - 100 mA depending on antenna | | 3.3 to 5VDC ± 10% regulated, 50 - 150 mA depending onantenna | 5VDC ± 10% regulated, 70 mA - depending on antenna and tag |
| Reading Distance | Up to 100mm | | Up to 150mm | Up to 80 mm |
| Inputs and Outputs | 2 LED-outputs, 8 I/O ports shared with SAM interface, enable pin for power down | | | 2 LEDs, 1 I/O port, enable pin for power down |
| Dimensions / Weight | (LxWxH) 25.5x30.0x4.8mm ± 0.5mm / 5g ± 10% | | | |
| Temperature | -20°C to +80°C operational / -40°C to +85°C storage | | | |
| RoHS conformity | yes | | | |

1) optional on request