

**Radio module deRFarm7
25A00**
Datasheet

- The pluggable radio module deRFarm7-25A00 features an AT91SAM7X512 microcontroller and a 2.4 GHz transceiver AT86RF231. The module complies with IEEE 802.15.4 and can be used for ZigBee / 6LoWPAN / RF4CE or proprietary applications.
- The 25A00 module has two 23 pin male connectors (1.27 mm pitch) which give access to most functions of the AT91SAM7X512.
- The chip ceramic antenna provides a transmitting power of +2.5 dBm ERP. Distances of more than 200 m can be reached for line of sight conditions. The integrated transceiver obtains a receiver sensitivity of -101 dBm. A hardware 128-Bit AES encryption engine is part of the transceiver.
- The power supply range is from 3.0 VDC to 3.6 VDC with transmit and receive currents of approx. 45 mA @ 12MHz CPU clock. A current consumption of less then 250 µA can be achieved in sleep mode.
- Special features of the deRFarm7 module family are the integrated Ethernet MAC (EMAC) and the integrated USB device port (UDP)



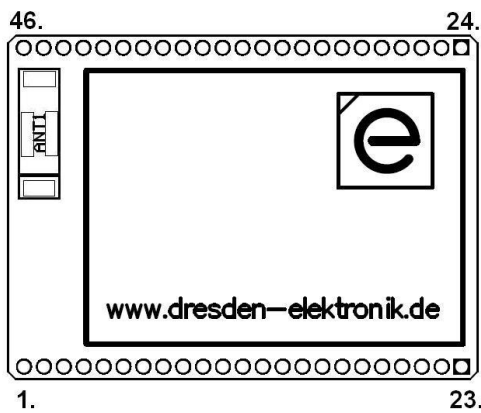
Technical Data

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|-------------------------------------|--|
| Dimensions | 30 x 22.7 x 8.2 mm |
| Operating temperature | -40 to +85°C |
| Control and display elements | no |
| Power supply | 3.0 – 3.6 VDC |
| Power consumption | Active: 45 mA @ 12MHz Sleep: < 250 µA |
| Connections | 2 x 23 pins |
| Antenna | Chip ceramic |
| Antenna gain | +1.3 dBi (Peak), -0.5 dBi (Average) |
| Antenna diversity | no |
| Range | > 200 m (line of sight) |
| Frequency range | 2.4 GHz |
| Transmitting power | +2.5 dBm ERP |
| Receiver sensitivity | -101 dBm |
| IEEE Standard | IEEE 802.15.4 |
| Data rate (brutto) | 250 kbit/s, 500 kbit/s, 1 Mbit/s, 2 Mbit/s |
| Microcontroller | AT91SAM7X512 |
| Transceiver | AT86RF231 |
| Interfaces | JTAG, DBGU, I2C, SPI, UART, USB, RMII, GPIO, ADC |
| Certification | CE, ETSI, FCC |

Technical Data

Pin configuration

| | | | | | | | |
|-----|--------|-----|------|-----|-------|-----|---------|
| 1: | VCC | 13: | PA18 | 24: | VCC | 36: | PB28 |
| 2: | DGND | 14: | PA3 | 25: | DGND | 37: | PB5 |
| 3: | ADVREF | 15: | PA17 | 26: | PA27 | 38: | TCK |
| 4: | USBDM | 16: | PB0 | 27: | PA0 | 39: | PB7 |
| 5: | RSTN | 17: | PA16 | 28: | PA28 | 40: | TMS |
| 6: | PB3 | 18: | PB8 | 29: | PA4 | 41: | PB1 |
| 7: | PA11 | 19: | PB6 | 30: | PB9 | 42: | TDO |
| 8: | PB26 | 20: | PB18 | 31: | PB21 | 43: | JTAGSEL |
| 9: | PA10 | 21: | PB15 | 32: | USBDP | 44: | TDI |
| 10: | PA1 | 22: | DGND | 33: | PB19 | 45: | DGND |
| 11: | PB25 | 23: | DGND | 34: | PB27 | 46: | DGND |
| 12: | PB2 | | | 35: | PA14 | | |



Top View deRFarm7-25A00

Connections

Scope of delivery

Radio Module deRFarm7-25A00

Order No.

BN-027264

Order Information

Board variants

Radio Module deRFarm7-25A02
Radio Module deRFarm7-15A02

BN-027265
BN-030974

Variants

More information about the variants are described in detail in the user manual.
Order online: <https://shop.dresden-elektronik.de/>

Contact