

# Radio module deRFarm7 15A02 Datasheet

- The pluggable radio module deRFarm7-15A02 features an AT91SAM7X512 microcontroller and a Sub-GHz transceiver AT86RF212. The module complies with the IEEE 802.15.4 standard and can be used for ZigBee / 6LoWPAN / RF4CE or proprietary applications.
- The 15A02 module has two 23 pin male connectors (1.27 mm pitch) which give access to most functions of the AT91SAM7X512.
- The onboard coaxial jack (U.FL) allows the connection of different antennas using standard pigtailed. The transceiver generates up to +10 dBm transmit power and has a receiver sensitivity of -110 dBm giving a link budget of up to 120 dB. 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 than 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).



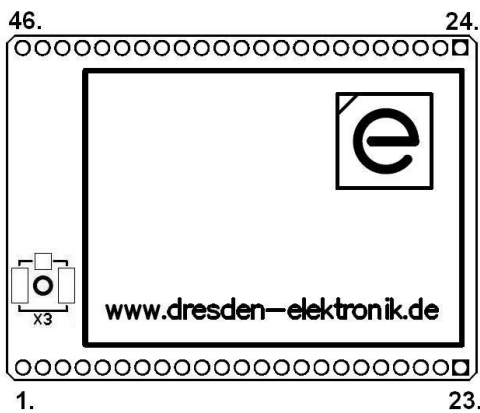
## Technical Data

<b>Dimensions</b>	30 x 22.7 x 8.2 mm	
<b>Operating temperature</b>	-40 to +85°C	
<b>Control and display elements</b>	no	
<b>Power supply</b>	3.0 – 3.6 VDC	
<b>Power consumption</b>	Active: 45 mA @ 12MHz	Sleep: < 250 µA
<b>Connections</b>	2 x 23 Pin I/O Connector U.FL coaxial jack	
<b>Antenna</b>	no	
<b>Antenna gain</b>	no	
<b>Antenna diversity</b>	no	
<b>Range</b>	Depending upon the antenna used > 250 m (line of sight) with a 0dB antenna	
<b>Frequency range</b>	868MHz / 902 – 928 MHz (915 MHz)	
<b>Transmitting power</b>	+5 dBm @ 868 MHz / +10 dBm @ 915 MHz	
<b>Receiver sensitivity</b>	-110 dBm	
<b>IEEE Standard</b>	IEEE 802.15.4	
<b>Data rate (brutto)</b>	20kBit/sec, 40kBit/sec, 250 kbit/s, 500 kbit/s, 1 Mbit/s	
<b>Microcontroller</b>	AT91SAM7X512	
<b>Transceiver</b>	AT86RF212	
<b>Interfaces</b>	JTAG, DBGU, I2C, SPI, UART, USB, RMII, GPIO, ADC	
<b>Certification</b>	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 deRFarm7-15A02

**Connections**

**Scope of delivery**

Radio Module deRFarm7-15A02

**Order No.**

BN-030974

**Order Information**

**Board variants**

Radio Module deRFarm7-25A02

BN-027265

Radio Module deRFarm7-25A00

BN-027264

**Variants**

More information about the variants are described in detail in the user manual.

Order online: <https://shop.dresden-elektronik.de/>

**Contact**