Radio modules deRFarm7-15A02|15C02

ZigBee® / 6LoWPAN / RF4CE

- 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 15C02 is a solderable variant.
- The onboard coaxial jack (U.FL) allows the connection of different antennas using standard pigtails. 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).

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Technical Data

Dimensions	30 x 22.7 mm (15A02) 30 x 20.4 mm (15C02)	
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 Pin I/O Connector U.FL coaxial jack	
Antenna	no	
Antenna gain	no	
Antenna diversity	no	
Range	Depending upon the antenna used > 250 m (line of sight) with a 0dB antenna	
Frequency range	868MHz / 902 – 928 MHz (915 MHz)	
Transmitting power	+5 dBm @ 868 MHz / +10 dBm @ 915 MHz	
Receiver sensitivity	-110 dBm	
IEEE Standard	802.15.4	
Data rate (brutto)	20kBit/sec, 40kBit/sec, 250 kbit/s, 500 kbit/s, 1 Mbit/s	
Microcontroller	AT91SAM7X512	
Transceiver	AT86RF212	
Interfaces	JTAG, DBGU, TWI, SPI, UART, USB, ETH	
Certification	CE, ETSI, FCC pending	

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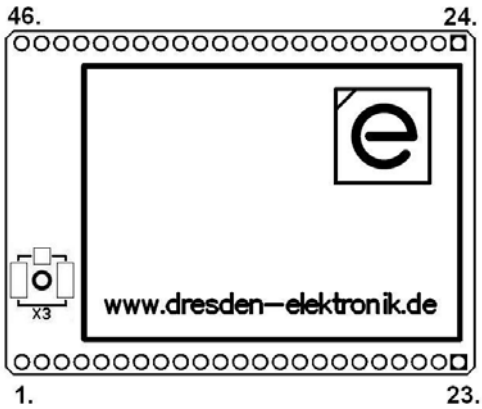
Contact

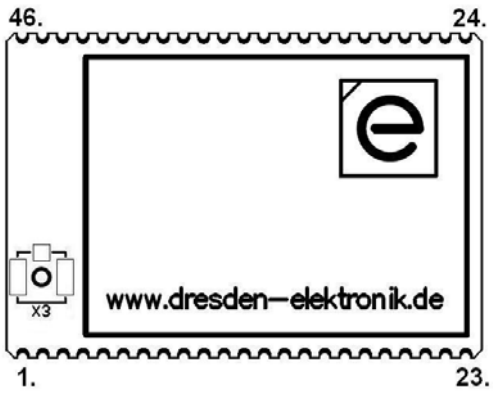
Connections

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



Top View deRFarm7-15C02

Scope of delivery / Accessories

Scope of delivery — **Order No.**

Radio Module deRFarm7-15A02	BN-030974
Radio Module deRFarm7-15C02	coming soon

Variants

Board variants

Radio Module deRFarm7-15A00	coming soon
Radio Module deRFarm7-15C00	coming soon
Radio Module deRFarm7-25A02	BN-027265
Radio Module deRFarm7-25C02	coming soon
Radio Module deRFarm7-25A00	BN-027264
Radio Module deRFarm7-25C00	coming soon

order online: http://www.dresden-elektronik.de/shop/cat4.html

– technical information subject to change without notice –

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