Radio module deRFmega128-22A021

ZigBee / 6LoWPAN / RF4CE / WirelessHart

- Main component of the pluggable Radio Module deRFmega128-22A021 is Atmels's ATmega128RFA1 micro controller. This single chip solution of an 8Bit-AVR and a 2.4 GHz transceiver is intended for wireless solutions in accordance with the standard IEEE 802.15.4 and for ZigBee™ / 6LoWpan / RF4CE applications.
- The Radio module features two 23 pin mail connectors (1,27 mm pitch) which allow full access to all functions of the Atmega128RFA1.
- The onboard coaxial jack (U.FL) allows the connection of different antennas or pigtails. The integrated transceiver generates +2.4dBm transmit power and obtains a receiver sensitivity of –101 dBm giving a link budget of over 103dB. A hardware 128-Bit AES encryption engine is part of the transceiver.
- A serial 1 Mbit EEPROM offers high memory capacity e.g. for a firmware update over-the-air.
- The power supply range is from 1,8 VDC to 3,6 VDC. In the transmitting and receiving mode the power consumption is approx.18 mA, in sleep mode it is less than 2 µA.

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Technical Data

Dimensions	30 x 22.7 mm
Control and display elements	no
Power supply	1.8 – 3.6 VDC
Power consumption	Active: 18 mA Sleep: <2 µA
Connections	2 x 23 Pin I/O Connector
Antenna	chip ceramic antenna
Antenna gain	+1.3 dBi (Peak), -0.5 dBi (Average)
Antenna diversità	no
Range	Depending upon the antenna used (> 200m (line of sight) with a 0dB antenna)
Frequency range	2.4 GHz
Transmitting power	+2.4 dBm
Receiver sensitivity	-101 dBm
IEEE Standard	802.15.4
Data rate	250 kb/s, 500 kb/s, 1 Mb/s, 2 Mb/s
Micro controller	ATmega128RFA1
Transceiver	Integrated
Interfaces	1xJTAG, 2xUART, 1xTWI
Certification	CE, ETSI, FCC

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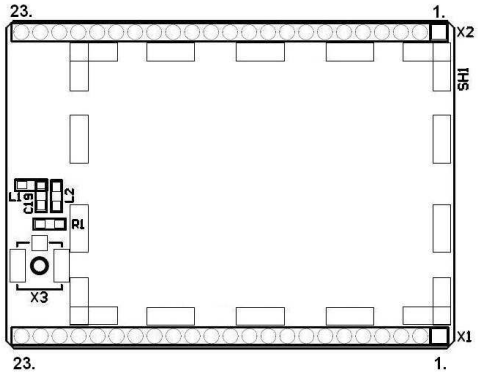
Contact

Pin configuration

Connections

X1:				X2:			
1:	DGND	13	PD7/T0	1:	VCC	13	PF1/ADC1
2:	DGND	14:	PD3/TXD1	2:	DGND	14:	PE6/T3
3:	PB5	15:	PD1/SDA	3:	PE0/RXD0	15:	PF4/TCK
4:	PB7	16:	PG5	4:	PD2/RXD1	16:	PE7
5:	PB4	17:	PD0/SCL	5:	PE1/TXD0	17:	PF5/TMS
6:	PB6	18:	PG2	6:	PD6/T1	18:	PF2/ADC2
7:	PB3/MISO	19:	RSTN	7:	PE2/XCK0	19:	PF6/TDO
8:	PB0	20:	PG1	8:	PE3	20:	RSTON
9:	PB2/MOSI	21:	AREF	9:	PD4	21:	PF7/TDI
10:	CLKI	22:	DGND	10:	PE4	22:	DGND
11:	PB1/SCK	23:	VCC	11:	PF0/ADC0	23:	DGND
12:	PD5/XCK1			12:	PE5		



(Top View)

Scope of delivery

Scope of delivery / Accessories

Radio Module deRFmega128-22A021 article no. 28498

Accessories (optional)

JTAG adapter article no. 27863
RS232 level shifter article no. 28560

Development Boards

Adapter deRFtoRCB article no. 28216
Sensor Terminal Board article no. 26533

Development Kits

deRFdevelopmentKit RFmega128 article no. 28388

Board variants

Variants

Radio module deRFmega128-22A001 article no. 28182

- Order online: http://www.dresden-elektronik.de/shop/cat4.htm -

- technical information subject to change without notice -

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