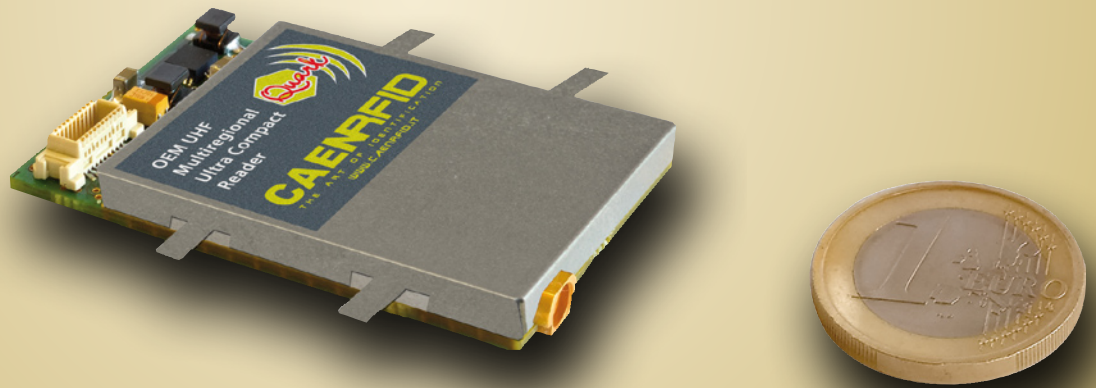


# Quark R1230C

The world's  
**smallest**  
OEM reader

**OEM UHF Multiregional Ultra Compact Reader**



## Features

- **Multi-Regional Support**
  - ETSI EN 302 208
  - FCC part 15
- **EPC C1 G2, ISO 18000-6C Compliant**
- **Ultra Compact Size**
- **USB 2.0 Full Speed Device Port**
- **External Antenna connector**
- **SW programmable output power max 200mW (23dBm)**
- **Low power consumption**

## Applications

- **Handheld devices**
- **Multiregional Label Printers and Applicators**
- **Point of sales devices**
- **Voice operated gloves**

## General Info

Model R1230C (Quark), the new OEM reader of the **easy2read<sup>®</sup> Family**, is an UHF multiregional ultra compact reader for low-power, high performances UHF RFID applications.

With programmable output power in 13 steps from 10dBm to 23dBm, the reader can detect tags at more than 2 mt of distance (depending on antenna and tag dimensions).

Due to its low power consumption, the module is specifically designed to be easily integrated in battery powered devices as well as powered directly by a standard USB port.

The radio frequency core of the module permits to achieve fast reading and to be used in dense reader and dense tag environments for top-class rated performances.

The compactness of the device and the board-to-board connector allow to embed the R1230C inside the new small form factor industrial handhelds, smartphone accessories, small USB dongles and other compact form factor devices.

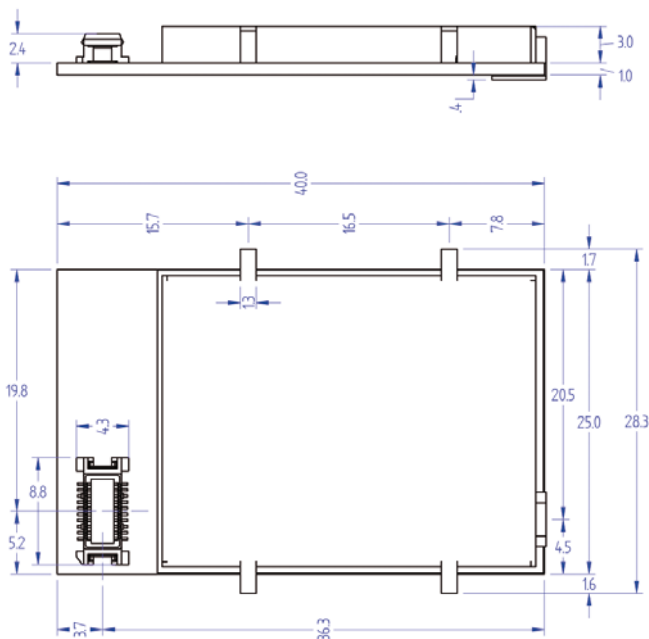
The R1230C complies with and can operate in both European and US regulatory environments and due to its multiregional capabilities, it's ideal for integration in devices requiring compliance to different geographical regions.

## Technical Specifications Table

<b>Frequency</b>	902÷928 MHz (FCC part 15) 865.600÷867.600 (ETSI EN 302 208)
<b>Output Power</b>	Programmable in 13 levels (1dB step) from 10dBm to 23dBm ( from 10mW to 200mW)
<b>Antenna Connectors</b>	MMCX P.N. 82MMCX-S50-0-2/111 (Huber Suhner)
<b>Frequency Tolerance</b>	±10 ppm over the entire temperature range
<b>Number of Channels</b>	4 channels (compliant to ETSI EN 302 208 v1.2.1) 50 hopping channels (compliant to FCC part 15.247) <sup>1</sup>
<b>Standard compliance</b>	EPC C1 G2/ISO 18000-6C Other by FW upgrade
<b>Digital I/O</b>	4 I/O lines (3.3V level; Iout=5mA max)
<b>UART Serial Port</b>	Data rate: up to 115 kbit/s Databits: 8 Stopbits: 1 Parity: none Flow control: none 3.3 V out, 5 V tolerant
<b>USB Device Port</b>	USB 2.0 Full Speed device port
<b>Dimensions</b>	(W)25 x (L)40 x (H)6 mm <sup>3</sup> (1.0 x 1.6 x 0.2 inch <sup>3</sup> )
<b>Supply Voltage Range</b>	2.5V ÷ 5.5V
<b>Operating Temperature</b>	-10 °C to +55 °C
<b>Weight</b>	8g

<sup>1</sup> All subsets of FCC band are supported

## Mechanical Specifications



\* Measurement unit = millimeter

## Electrical Interfaces

**Antenna Port Connector:** MMCX jack (P.N. 82MMCX-S50-0-2/111 HUBER SUHNER)

**Supply and Communication Connector:** Molex P.N.53748-0208<sup>1</sup>

JTAG pins are for internal debug only and shall not be connected by the user

### Supply and I/O connector pinout table

Pin#	Signal	Description
1	GND	Ground
2	TCK	TCK JTAG signal (debug purpose only)
3	GND	Ground
4	/RST	Reset (active low)
5	TXD	UART TX to host
6	TMS	TMS JTAG signal (debug purpose only)
7	RXD	UART RX from host
8	TDI	TDI JTAG signal
9	5V_USB	5V USB input voltage <sup>2</sup>
10	TDO	TDO JTAG signal (debug purpose only)
11	D+	USB D+
12	TST	TST JTAG signal (debug purpose only)
13	D-	USB D-
14	GPO0	General Purpose IO #0
15	VDD_M	3.3Vdc for JTAG operation (debug purpose only)
16	GPO1	General Purpose IO #1
17	VIN	Input supply voltage
18	GPO2	General Purpose IO #2
19	VIN	Input supply voltage
20	GPO3	General Purpose IO #3

<sup>1</sup> Mates with Molex 52991-0208 (to be used on the host board)

<sup>2</sup> To supply the module from USB port this pin shall be connected to VIN pins (PIN#17 and PIN#19)

**CAENRFID**

**easy2**  
products family

- OEM Readers
- Fixed Readers
- Desktop Readers

**easy2read**<sup>®</sup>

## easy2read<sup>®</sup> Family

The EASY2READ<sup>®</sup> family constitutes a complete and reliable product line of readers for any Auto-ID need. A reading range from a few centimetres up to 7-8 metres distance makes the EASY2READ<sup>®</sup> family suitable for applications such as access control, UHF gates, desktop reading or OEM modules for integration into handheld or printer devices.

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