

PRELIMINARY

Technical Information Manual

Revision n. 2

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Mod. A828US

*OEM UHF COMPACT
READER (FCC PART 15)*

NPO:

00107/05:828US.MUTx/02

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1. Introduction

The A828US OEM UHF compact reader (FCC part 15), is a CAEN multi protocol OEM compact module for integration into barcode printers, printer applicators, handheld computers and PDAs, devices requiring UHF tag programming and reading.

The A828US is fully compliant to the US telecommunication regulation FCC part 15 (902-928 MHz).

Currently the A828EU Module supports the ISO18000-6 B, the Philips UCODE EPC 1.19 and EPC Class1 Gen2 protocols, other future UHF protocols will be available by firmware upgrade.



Fig. 1.1: Mod. A828US OEM UHF compact reader (FCC part 15)

2. Mod. A828US Technical Specifications

2.1. Mod. A828US Technical Specifications Table

Table 2.1: Mod. A828US Technical Specifications

Dimensions	37 x 60 x 6.6 mm ³ (1.46 x 2,36 x 0.26 inches ³)
Electrical Power	180 mA @ 5 V (TX/RX mode) 80 mA @ 5 V (idle mode) 200 µA @ 5 V (stby mode)
Operating Temperature	-20 °C to 60 °C
Frequency	912.500÷917.400 MHz (FCC part 15)
RF Power	50 mW @ 5 V (17 dBm)
Antenna	1 external antenna MMCX connector
Frequency Tolerance	±10 ppm over the entire temperature range
Number of channels	50 hopping channels (compliant to FCC part 15)
Standard Compliance	ISO 18000-6B Philips UCODE EPC 1.19 EPC C1G2 EPC C1G1 (via firmware upgrade)
Digital I/O	Five I/O lines 3.3V out, 5V tolerant
UART Serial Port	Baudrate: 115200 Databits: 8 Stopbits: 1 Parity: none Flow control: none 3.3 V out, 5 V tolerant 96÷115 kbit/s data rate (settable)

2.2. External connections

The location of the connectors is shown in Fig. 2.1. Their mechanical specifications are listed here below:

Antenna Port: RF Coax Connector Huber+Suhner type 82MMCX-S50-0-2/111_K (to be used with Huber+Suhner type 11MMCX-50-1-1/111_O)

MOLEX Connector: PCB Headers Molex type 53261-1290
(to be used with Molex Type 51021-1200 + 12pcs crimp terminal type 50058-8100)

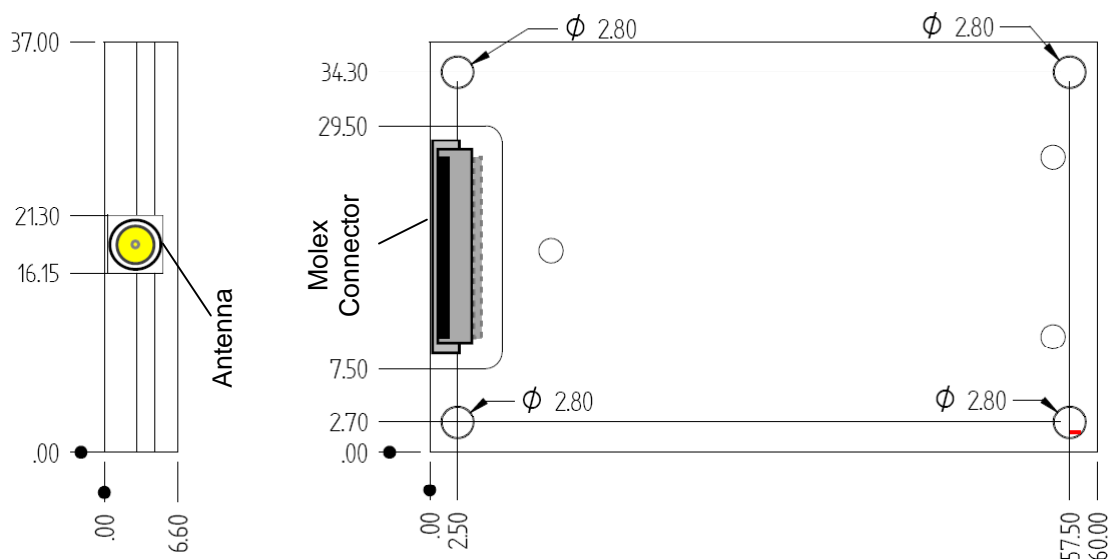


Fig. 2.1: Mod. A828US technical drawings

2.2.1. MOLEX Connector Specifications

The compact reader A828US external connector is a SMD, 12 poles, 1.27 pitch connector whose pinout is shown in table below.

Table 2.2: MOLEX Connector electrical specifications

Pin	Function	Direction	Duration (min.)
1	Power Line (+5V)	-	-
2	/RESET(active low)	IN	200 ns
3	GPIO0	IN/OUT	-
4	GPIO1	IN/OUT	-
5	GPIO2	IN/OUT	-
6	GPIO3	IN/OUT	-
7	GPI/O 4 - /TAG ID	IN/OUT	-
8	/WAKEUP(active low)	IN	200 ns
9	RXD	IN	-
10	TXD	OUT	-
11	GND	-	-
12	GND	-	-

The GPIO0-GPIO4 pin are 5 general purpose bidirectional pins, their default direction (or after a Reset) is *Out*; GPIO4 works also as Identify Tag signal. the Wakeup pin (active low) must be used when the A828US board is put into power down mode.

The RXD/TXD pins are used to communicate with the A828US board via UART port; to establish a link with the device you must configure your COM port as follows:

1. Baud rate : 115200
2. Parity : None
3. Data bits : 8
4. Stop bits : 1

The following diagram shows the A828US status:

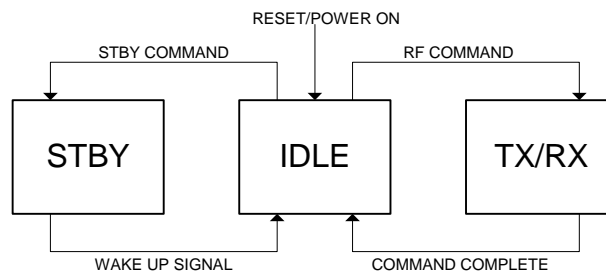


Fig. 2.2: Status block diagram

2.2.2. Regulatory Compliance

This equipment has been tested and found to comply with Part 15 of the FCC Rules.

NOTE:

(a) Any changes or modification not approved by CAEN RFID could void the user's authority to operate the equipment.

(b) The A828US Module, which is rated at 50 mW output, cannot use an antenna with more than 16 dBi of gain. Use of any other antenna with a gain greater than 16 dBi may void the user's authority to operate the equipment.