

OEM-DES-R831-USB, OEM-DES-R831-USB-HID
13.56 MHz OEM RFID Module
Hardware Description

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1 Introduction

1.1 Reference Documents

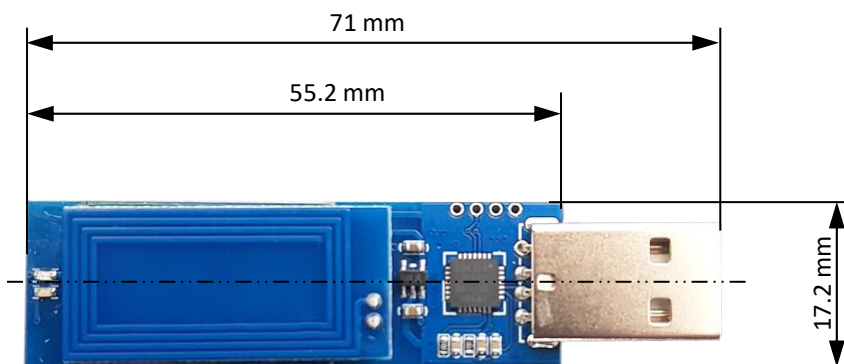
Command Protocol and API Description: OEM-DES devices Communication Protocol_x.yy_EN.pdf

Manual of Test/Demo Software: OEM-DES devices Test Software Manual_x.y_EN.pdf

1.2 Key Features

- Adopts ARM MCU solution
- Compliant with ISO14443A/B, ISO15693, ISO18092 Standard
- 5 V power supply, USB interface and power supply
- Also available with HID-Interface (OEM-DES-R831-USB-HID)

1.3 Dimensions of PCB



The thickness is 9.4 mm in total.

2 Technical Data

Other functions and details to be continued and upgraded.

Electrical Specifications	
Power Supply	USB (5 Vdc)
Power Consumption	< 100 mA
Operating Frequency	13.56 MHz
Operating Distance	Up to 1.5 cm*
Antenna	integrated
Reader IC	CL 663
RF TX Speed	up to 848 kBd
Interfaces	UART (TTL or RS232), USB VCP, HID**
Baudrate on VCP	9600...115200 Bd
Connector	USB Type A plug
HID Output Format	ISO 14443 A: hexadecimal, lowercase, byte-reverse, LSB ISO 15693: hexadecimal, lowercase, MSB The HID output format can be modified on request.
Signals	LED shows successful tag communication with colour change.

* Reading distance depends on tag, antenna and environmental conditions.

** Human Interface Device

Mechanical Specifications	
Dimensions	71 × 17.2 × 9.4 mm
Weight	7 g
Material	FR4, blue + green

Environmental Conditions	
Operating Temperature	-20 °C ... +80 °C
Storage Temperature	-40 °C ... +85 °C
Humidity	up to 95 %, non condensing
MTBF	200'000 h

Supported Standards / Tags	
ISO 14443 A and compatible	Read/write: MIFARE® Classic Mini / 1K /4K, MIFARE Ultralight®, MIFARE Ultralight® C, MIFARE® DESFire®EV1, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X, NTAG 21x
	Read UID only: Read UID only of all other ISO14443A RFID tags
ISO 14443 B and compatible	SRI4K, SR1X4K, AT88RF020, 66CL160S, SR176
ISO 15693 and compatible	EM4135, EM4043, EM4x33, EM4x35, I-Code SLI / SLIX, M24LR16/64, TI Tag-it HF-I, SRF55Vxx (my-d vicinity)

Applicable Standards	
EMC	EN 301489-1:2012-04 (v1.9.21)
	EN 301489-3:2013-12 (V1.6.1)
Radio Regulation	EN 300330-1:2015-08 (V1.8.1)
	EN 300330-2:2015-08 (V1.6.1)
Safety	EN 60950-1:2014-08

	EN 62369-1:2010-03 EN 50364:2010-11
RoHS	EC Guideline 2011/65/EU
Certificates	FCC, CE

SDK Information

Supported OS by Silabs USB VCP Driver	Windows 7/8/8.1/10 (v6.7.3) Windows XP/Server 2003/Vista/7/8/8.1 (v6.7) Windows 2K (v6.3a) WinCE (5.0, 6.0) Macintosh OSX (v4) Linux (3.x.x., 2.6.x) Android 4.2
Supported OS	Windows XP, Vista, 7, 8, 8.1, 10
Supported Languages	ASCII command protocol, VS2005 C++
Demo Software	Windows