REYAX

RR10 V2.0 13.56MHz RFID Reader Module

Pin16   Pin9

20mm

Pin1   Pin8
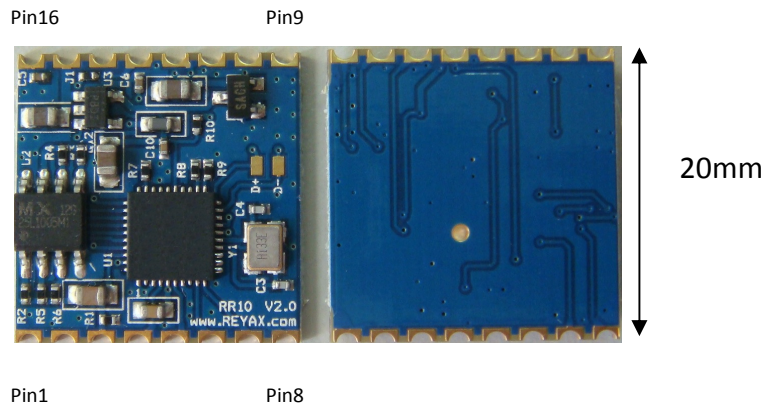
Introduction

REYAX RR10 is a new low cost RFID module, we design it base on the RFID 13.56MHz protocol.

Support Protocol

RR10：ISO 14443A/B、ISO15693 、ISO 18000-3, mode 1、Mifare Ultralight、Mifare & Felica UID、Emulate as ISO14443A card、NFCIP-1, NFCIP-2, ISO 18092 compliant

Near Field Communication

≡NFCIP-1, NFCIP-2
≡Peer to Peer communication

Application

≡Inventory Control
≡Access Control
≡Data Exchange
≡E-Ticketing for events
≡Public transport
≡PC access
≡Authentication
≡Production equipments
≡Factory Automation
≡VIP Membership Card Management Systems
≡Library Management Systems
≡Industrial Automation Applications

REYAX

Pin Description
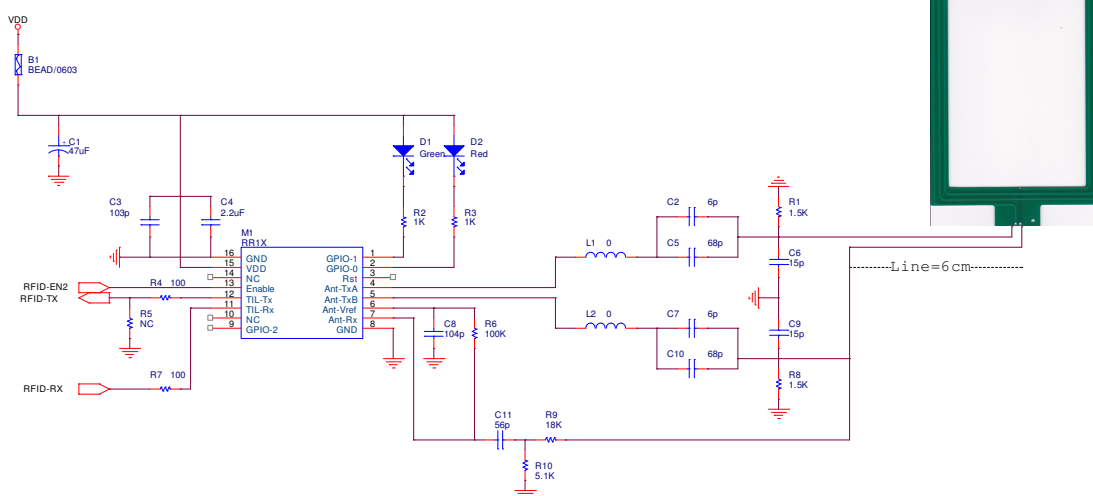
Pin	Name	Input/Output	Description
1	GPIO_1	Output	Reading indication
2	GPIO_0	Output	Power indication
3	Rst	Input	Reset Module, High：Reset and Power down
4	Ant TxA	Analog Output	Transmitter TXA：deliver modulated carrier
5	Ant TxB	Analog Output	Transmitter TXB：deliver modulated carrier
6	Ant Vref	Analog Input	Internal Reference Voltage
7	Ant Rx	Analog Input	Receiver Input
8	Gnd	Ground	Ground
9	GPIO_2		Not used
10	NC		Not used
11	Rx	Input	UART RXD
12	Tx	Output	UART TXD
13	Enable	Input	High：Enable ，Low：Disable
14	NC		Not used
15	VDD	Power	Power supply：+2.5V~+5.5V
16	Gnd	Ground	Ground

Specification

Item	Min.	Typ	Max.	Unit	condition
Frequency	13.553	13.56	13.567	MHz	
Transmitter power		200		mW	On 25Ω load
Transmitter Modulation		10	100	%	ASK
Antenna impedance		25		Ω	
Operating Voltage	2.9	3	5.5	V	
Idle Current		20		uA	
Scan Current	70	80	90	mA	
Initialization Time		2	3	Sec	
Operating Temperature Range	-40	25	+85	˚C	
Baud rate		115200		bps	
Dimensions					20mm*20mm*2.6mm
Antenna					External

Application Circuit Reference

REYAX ANT-135601

Line=6cm

VDD

B1
BEAD/0603

C1
47uF

C3
103p

C4
2.2uF

D1
Green

D2
Red

R2
1K

R3
1K

M1
RR1X

Pin	Signal
16	GND
15	VDD
14	NC
13	Enable
12	TIL-Tx
11	TIL-Rx
10	NC
9	GPIO-2

GPIO-1 1
GPIO-0 2
Rst 3
Ant-TxA 4
Ant-TxB 5
Ant-Vref 6
Ant-Rx 7
GND 8

RFID-EN2
RFID-TX

R4 100

R5
NC

R7 100

RFID-RX

C8
104p

R6
100K

L1 0

L2 0

C2 6p

C5 68p

C7 6p

C10 68p

R1
1.5K

C6
15p

C9
15p

R8
1.5K

C11
56p

R9
18K

R10
5.1K

Support Tag ICs

Support ISO 14443A

Mifare Ultralight MF0 IC U1X (64 Byte)

Support ISO 14443B

ST SRI4K (512 Byte)、ST SRIX4K (512 Byte)、Atmel AT88RF020、Atmel AT88SC3216CRF

Support ISO 15693

NXP I-Code SLI (1024 bit)、Tag-it™ HF-I Standard (256 bits)、Tag-it™ HF-I Pro (256 bits)、Tag-it™ HF-I Plus (2k bits)、Fujitsu FerVID™ family MB89R118 (2048 byte)、Fujitsu FerVID™ family MB89R119 (256 byte)、MStar MSR3200 Lyra (1024 bits)