ISO15693 Reader Module Reference Guide V1.10

1. Features:

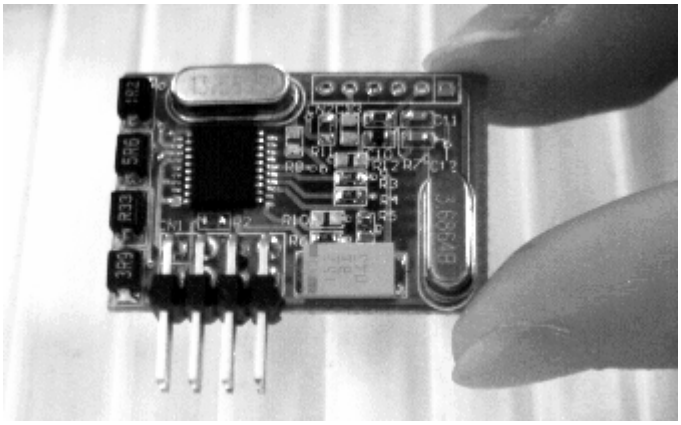
Frequency : 13.56MHz
Tag : ISO15693
Antenna : 50Ω (Ext.)
Interface : 3-wire (CMOS,TTL)
Baud-Rate : 19200, 8, n, 1 (default)
Power Supply : 5V / 200 mA (max)
Standby current : 5V / 300uA
Operating Temperature : 0 ~ 60 °C
Operating Range : 6cm (Avg.)
Mechanical Dimension : 30.0(L) * 28.0(W) * 8.7(H)mm

2. Pin Description

1. ANT_SIG : Antenna Signal
2. ANT_GND : Antenna Ground
3. GND : Power Ground
4. GND : Power Ground
5. RX : Serial Data Input
6. VCC : Power Supply
7. TX : Serial Data Output
8. PC : Power Control

Active Mode : Low Level > 30 ms
Standby Mode : Rising Edge (Low Level To High Level)

Top View



2	4	6	8
1	3	5	7

3. Commands and Protocol

1. Read a block

   (1) Without UID

   Request : 0x1B, ‘R’, block number

   Response: 0x1B, data byte-count, RepData (done)

   : 0x1B, 0x05, “Fail!” (fail)

   (2) With UID

   Request : 0x1B, ‘r’, UID, block number

   Response: Ref. without UID command

   EX:

   Request : 0x1B, ‘R’, 0x01

   Response : 0x1B, 0x05, 0x00, 0x01, 0x02, 0x03, 0x04

2. Write a block

   (1) Without UID

   Request : 0x1B, ‘W’, block number, data

   Response: 0x1B, 0x05, “Done!”

   0x1B, 0x05, “Fail!”

   (2) With UID

   Request : 0x1B, ‘w’, UID, block number, data

   Response: Ref. Without UID command

   EX:

   Request : 0x1B, ‘W’, 0x01, 0x01, 0x02, 0x03, 0x04

   Response : 0x1B, 0x05, “Done!”

3. Lock a block

   (1) Without UID

   Request : 0x1B, ‘L’, block number

   Response : 0x1B, 0x05, “Done!”

   : 0x1B, 0x05, “Fail!”

   (2) With UID

   Request : 0x1B, ‘l’, UID, block number

   Response : Ref. Without UID command

EX:

Request : 0x1B, ‘L’, 0x01

Response : 0x1B, 0x05, “Done!”

4. Get System Info

(1) Without UID

Request : 0x1B, ‘I’

Response : 0x1B, data byte-count, RepData (done)

: 0x1B, 0x05, “Fail!” (fail)

(2) With UID

Request : 0x1B, ‘i’, UID

Response : Ref. Without UID command

EX:

Request : 0x1B, ‘I’

Response : 0x1B, 0x0E, 0x0F, 0x79, 0x66, 0x47, 0x01, 0x00, 0x00, 0x07, 0xE0, 0x00, 0x00, 0x3F, 0x03, 0x87

5. Inventory Mode

Request: 0x1B, ‘M’

Response : (1) 0x1B, 0x03, “End”

(2) 0x1B, Data byte-count. RepData

EX:

Request : 0x1B, ‘M’

Response : 0x1B, 0x09, 0x00, 0x97, 0x66, 0x47, 0x01, 0x00, 0x00, 0x07, 0xE0……..[1]

0x1B, 0x09, 0x00, 0x79, 0x66, 0x47, 0x01, 0x00, 0x00, 0x07, 0xE0……..[2]

0x1B, 0x09, 0x00, 0x1E, 0x94, 0x47, 0x01, 0x00, 0x00, 0x07, 0xE0……..[3]

0x1B, 0x03, “End”

6. Change Baud-Rate

Request : 0x1B, ‘B’, 0x00 (4800bps)
0x1B, ‘B’, 0x01 (9600bps)
0x1B, ‘B’, 0x02 (14400bps)
0x1B, ‘B’, 0x03 (19200bps)
0x1B, ‘B’, 0x04 (28800bps)
0x1B, ‘B’, 0x05 (38400bps)
0x1B, ‘B’, 0x06 (57600bps)
0x1B, ‘B’, 0x07 (115200bps)

Waiting 1 second.

Response : 0x1B, 0x03, “Ok!”

Ex:

Request : 0x1B, ‘B’, 0x06 (change Baud-Rate 57600 bps)

Waiting 1 second….

Response : 0x1B, 0x03, “Ok!”

Note: “RepData” references ISO15693-3 document

Note :

A. Add code 0x0D [ex. VB Chr(13)] at the end of command.

B. Receive Data Format:

Example :

PC -> Reader (0x1B, ‘I’, 0x0D) ,

Reader -> PC (Fail) : "1B054661696C21"

Reader -> PC (Success) : "1B0E0FB0416118000007E000003F038B"

Code format: (case 1: Fail) "1B054661696C21"

Byte 1	Leading code: 0x1B	"1B054661696C21"
Byte 2	Transmit Length 0x05 (Length is 5 Bytes)	1B054661696C21
Byte 3 – Byte 7	"Fail!"	F = Asc(0x46) a = Asc(0x61) i = Asc(0x69) l= Asc(0x6C) != Asc(0x21)

Code format: (case 2: Success)
"1B0E0FB0416118000007E000003F038B"

Byte 1	Leading code: 0x1B	"1B0E0FB0416118000007E000003F038B"
Byte 2	Length: 0x0E (Length is 14 Bytes)	1B0E0FB0416118000007E000003F038B
Byte 3	Flags	1B0E0FB0416118000007E000003F038B
Byte 4-Byte 11	UID	1B0E0FB0416118000007E000003F038B
Byte 12	DSFID	1B0E0FB0416118000007E000003F038B
Byte 13	AFI :	1B0E0FB0416118000007E000003F038B
Byte 14-Byte15	VICC	1B0E0FB0416118000007E000003F038B
Byte 16	IC_r	1B0E0FB0416118000007E000003F038B

Write Block

1.64 Block space , Block “0” ~ Block “63” ，(0x0 – 0x3F)。
2.write to Block “0” command : 0x1B, ‘W’, data…….(block number is omitted)