HIGH FREQUENCY RFID
Contactless 13.56 MHz Reader Writer

Product Datasheet   **MPN: - A-HWR1/2/4**

INTRODUCTION

The MFRC522 **A-HWR1/2/4** is a highly integrated reader/writer for contactless communication at 13.56 MHZ. The MFRC522 **A-HWR1/2/4** reader supports ISO 14443A / MIFARE.

The MFRC522 **A-HWR1/2/4** internal transmitter part is able to drive a reader/writer antenna designed to communicate with ISO 14443A/MIFARE cards and transponders without additional active circuitry. MFR255 **A-HWR1/2/4** RFID Reader features an outstanding modulation and demodulation algorithm to serve effortless RF communication.

Various interfaces are implemented:

- ✓ Serial UART (**A-HWR1**)
- ✓ RS-485 interface (**A-HWR4**)
- ✓ RS-232 interface (**A-HWR2**)

FEATURES

- ✓ Support ISO14443A MIFARE Classic 1k, MIFARE Ultralight MIFARE1 S50, MIFARE Pro, MIFARE DESFire.
- ✓ Fast data transfer contactless communication
- ✓ Secure Secure-Encrypted contactless communication up to 106 KHz
- ✓ Typical operating distance in reader/writer up to 40mm depending on the antenna size and tuning.
- ✓ In built 13.56MHz Antenna

SPECIFICATIONS

Country of origin	India
Operating Frequency	13.56 MHz
Reading Distance	Up to 35mm
Read/Write Support	Yes
Baud Rate Supported	9600, 19200, 38400, 56700, 115200 Default 9600
Tag Supported	MIFARE 1K/4K, MIFARE Ultralight, MIFARE Pro, MIFARE DESFire
Tag Detection	Based on Commands
Operating Voltage	DC 5V
Operating Current	50mA@5V
Idle Current	40mA@5V
Sleep Current	<80uA
Peak Current	<30m
Operating Temperature	0°C to 65°C
Relative Humidity	5% - 95% (non-condensing)
Indication	LED

PCB Dimensions(L x W)	68.50mm x 46.00mm

Table 4.1 General Specification

COMMANDS

Note 1: The following commands are specific to Avyanna Tech Pvt. Ltd (ATPL) RFID 13.56 MHz products (A-HRW1, A-HRW2, A-HRW4).
Note 2: The following commands are provided in hexadecimal format.
For more details please refer user manual.

Command	Description
0X80	RESET
0X81	FIRMWARE
0X83	SELECT TAG
0X85	AUTHENTICATE
0X86	READ BLOCK
0X89	WRITE BLOCK
0X8B	WRITE 4 BYTE BLOCK
0X8C	WRITE KEY
0X90	ANTENNA POWER
0X91	READ PORT
0X92	WRITE PORT
0x93	HALT
0x94	SELECT BAUD RATE
0X96	SLEEP

ORDERING INFORMATION

MPN	Description
A-HWR1	13.56 RFID based Reader-Writer module with UART Interface
A-HRW2	13.56 RFID based Reader-Writer module with RS232 Interface
A-HRW4	13.56 RFID based Reader-Writer module with RS485 Interface