A9240-A-004-485 Operating Description

General Description

A9240-A-004-485 consists of 7 major blocks: I/O Interface, Micro-Controller, Protocol ASIC, RF front-end, Switch, Antenna, and Power supply. System clock is provided by a crystal oscillator operating at 13.56MHz.

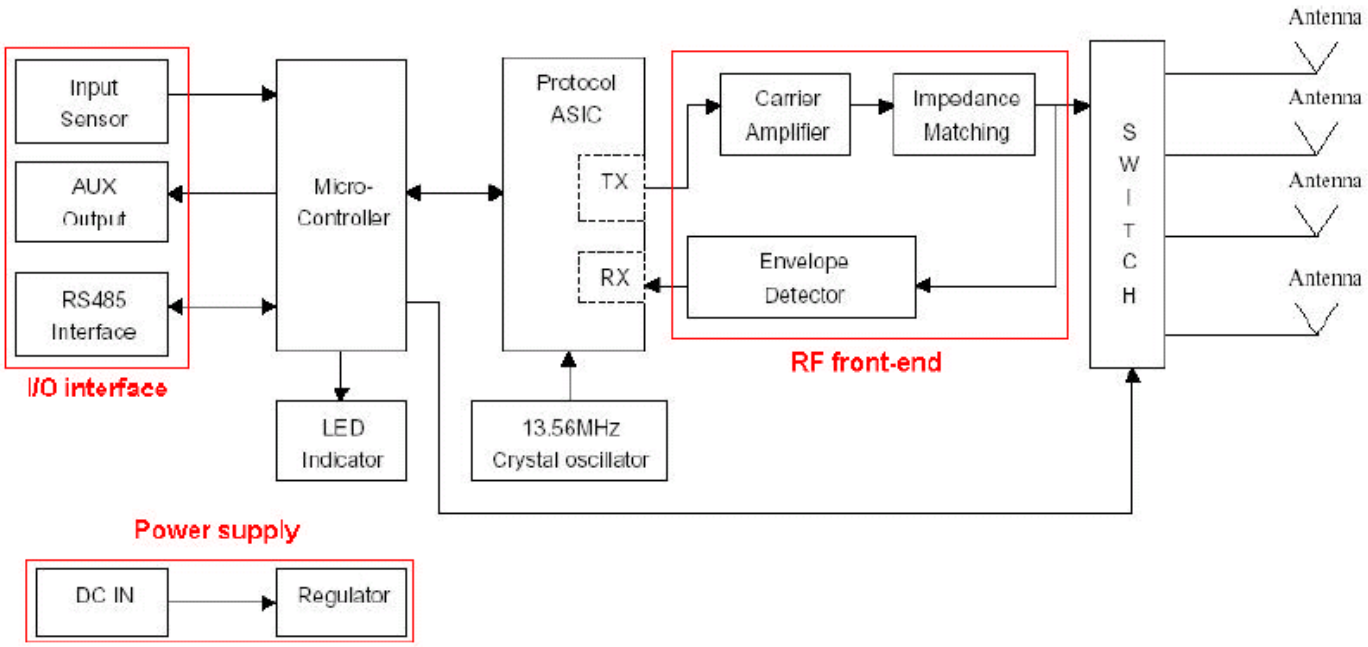

Figure 1: AMIC A9240-A-004-485 RFID Reader Block Diagram

A9240-A-004-485 Operating Description

Building Block Description

1. I/O Interface:
   a. Up to two sensor inputs and four opto-coupled auxiliary outputs are available for external device usage.
   b. RS-485 Interface is used to communicate with remote host controller.

2. Micro-Controller:
   The embedded micro-controller processes ISO15693 standard and special function commands.

3. Protocol ASIC:
   It performs the necessary modulation and demodulation according to ISO-15693 standard format.

4. RF front-end:
   The RF front-end is designed to amplify the 13.56MHz carrier signal, provide the necessary antenna impedance matching, and detect the returned signal.

5. Switch:
   It is used to switch signals to different antennas.

6. Antenna:
   Antenna is the physical layer that emits radio frequency signal at 13.56MHz. It is used to transmit signals to RFID tags and receive signals from RFID tag.

7. Power supply:
   Supply various DC power to system by regulator from DC IN.

A9240-A-004-485 Operating Description

Technical Specifications

Items	Description
Modulation Type	ASK
Carrier Frequency	13.56MHz
Number of Channels	1
Max. Field Strength	54.00dBuV/m at 3m (QP)
Channel Space	NA
Power Supply	19 Vdc from DC power supply

Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	AMIC	A9290-A-06	Loop Antenna	Reversed TNC	-