Description :

1. Piezo: generates an audible signal, signaling whether the card was accepted or not
2. Red LED, Green LED: generates a visual signal if the card was accepted (green LED) or not (red LED)
3. Face LED: shows when the reader is powered
4. Serial Communication RS 485: transmits the card data to the central processing computer and receives signaling commands from the computer.
5. Antenna Driver (125 kHz): Amplifies the 125 kHz signal generated by the microcontroller (in power: voltage and current) and passes it to the Antenna of the 125 kHz resonant circuit.
6. Filter (12.5 kHz to 15.6kHz): The receive signal in the reader is detected, amplified and band-pass filtered at 12.5 kHz and 15.6 kHz. These two frequencies correspond to " 0" logic and "1' logic in the transponder (Access Card) ID information.
7. FSK Decoder (12.5 kHz and 15.6 kHz): Generates digital data 0 logic and 1 logic depending of the input frequency (12.5 and 15.6 kHz)
8. Crystal 16 MHz: Generates a 16 MHz oscillation used by the microcontroller to generate the 125 kHz signal, create internal clock, decode the RX signal from the FSK decoder, generates signal for PIEZO, …
9. Microcontroller: is the core of the Card Reader, manages and controls all activities for a good functionality of the reader. On the TX side, generates 125 kHz signal to the antenna driver, on the RX side receives the signal from FSK decoder. Using the RS 485 serial interface transmits ID card to the central computer and receives status/command information from the central computer. Depending on the reader status generates interface signals for the Red/Green/Face LED, and audible sound for the PIEZO.