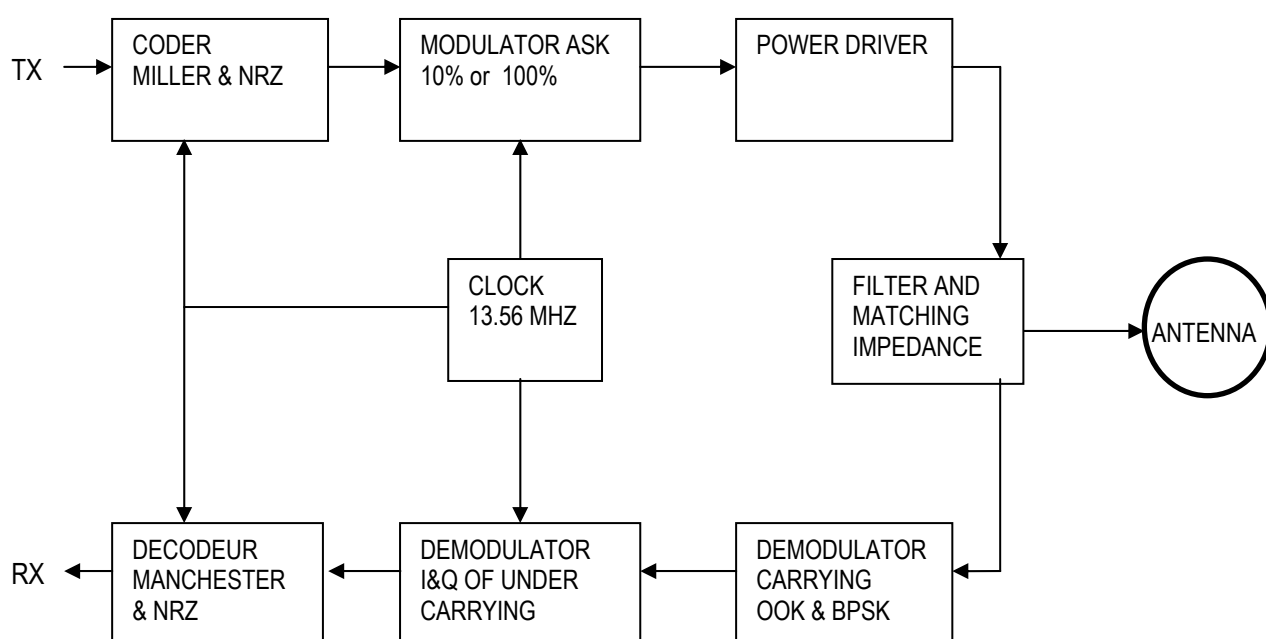


OPERATIONAL DESCRIPTION OF THE RADIO OF THE BBR415

1. SYNOPTIC





2. TYPE OF RADIO

The Contactless Card Reader is radio equipment functioning in Half-duplex mode, at fixed speed for the up and down line: 106 Kbits.

He is intended for the data communication with the emission and the reception uninterrupted.

The carrier frequency is of 13.56MHz.

This radio is in conformity with the international standard ISO 14443 and ISO 10373.

The consumption is of 350mW and the precision in frequency of carrying is of ± 7 kHz.

3. CLOCK

The clock is produced by crystal which oscillates at the frequency of 13.56MHz.

The precision of crystal is of 50ppm in the range of temperature of -20 with +60°C.

4. EMISSION

The TX signal coded Miller or NRZ is emitted by a screen length variable at the speed of Carrier frequency $F_c/128$ (106 Kbits) which modulates under carrier frequency in $F_c/16$ (847 kHz) according to mode ASK (10 or 100%).

This signal is amplified and injected in the antenna through a filter of impedance matching.

The antenna is a loop of inductive current in order to create a magnetic field.

The magnetic field ranging is from 1.5A/m (functional distance from contactless card reader) to 7.5A/m (maximum value in contact)

5. RECEPTION

The signal recovered on the antenna is at least of 30/H1,2 mVpic.

After elimination of the carrier frequency with 13.56MHz, the signal modulated OOK or BPSK crosses a demodulator I/Q (phase and squaring).

We recover then decoded reception signal RX (NRZ or Manchester).