THEORY OF OPERATION

The transmitter in this case is integrated w/ receiver there is just one carrier frequency 13.56 MHz and two sub carrier frequencies 423/484 kHz (13.56 MHz divided by 32 and 28) that show up on receiving input when the tag is energized and is clocking out the card information (FSK modulation of the carrier). These two frequencies get filtered and decoded after entering the RX input (Please refer to the block diagram and functional block description).

Note that this device IS NOT a classical transmitter and receiver, the antenna is a magnetic coupler which modulates receiver input by detuning itself and tuning in resonance thus representing zeros and ones in a code. It happens when the tag energizes, wakes up and begins its response by connecting and disconnecting it's own antenna coil.