

## **GemTAG X501USB Operational Description**

### **Re: FCC ID registration**

**GemTAG X501USB is a contactless reader operating at 13.56MHz as defined in the ISO14443 standard.**

**X501USB communicates with ISO14443 contactless cards by means of electromagnetic coupling between the reader antenna and the card antenna for the purpose of energy and data transfer to the card as defined in ISO14443. The same antenna is used for receiving data from the card which then transfers data to the reader via modulating the electromagnetic field emitted by the reader according to ISO14443.**

**X501USB employs a CLRC632 integrated circuit from NXP by the method of a directly matched antenna. The antenna itself comprises of copper traces on a PCB which is part of the reader construction. The baud rates, modulation and emitted power are in compliance with ISO14443 and according to CLRC632 manufacturer specifications. The peak transmitter power is 1 Watt, the antenna gain is 0 dB.**

**The reader incorporates a MCU that is controlled by the host via a set of commands. The MCU controls the operation of the CLRC632 IC.**

**The reader transmission is initiated by the host device and depending on the application the transmission might be either permanent or intermittent.**