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TECHNICAL REPORT
HID GLOBAL CORPORATION
OK5122 Reader Board

March 24, 2020

This report concerns the Intentional Radiator and Antenna portions of the OK5122 Reader Board.

Equipment Type: Module

Equipment Authorization: Part 15, Subpart C

Frequency of Operation for OK5122 READER BOARD: 13.56 MHz

Equipment Market: Industrial

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Frequencies used

Clock Frequencies

- External CLRC66303HN RFID Controller
 - 13.576 MHz Normal Operation
- External Controller, RAM, ROM, USB
 - 8 MHz Normal Operation with PLL to generate 48MHz internally

RF transmit frequencies 13.56 MHz

Antenna

The antenna is split up into two turns in one layer with an approximately dimension of 54.3 x 62.0 mm. The estimated inductance is 2.45uH with a 3.7 +j241 impedance. Antenna gain is 1 dBi.

Ground System

For the OK5122 READER BOARD, the transmitter driver circuitry, analog circuitry and digital circuitry all share a common ground plane. The DC grounding is achieved through the high-density connector which attaches to the host.

Antenna: 13.56 MHz

Reader Type – Smart Card Reader

External PCB Antenna to main board – PCB: 55.88 mm x 66.00 mm.

Antenna: approximately 54.3 mm x 62.0 mm.

Gain: 1 dBi

Field Strength: 53.5 dBuV/m @ 3 meter spacing

Transmitting Frequency: 13.56 MHz

Reader Type – Smart Card Reader Board.

Model	Transmitter power at antenna port
5122	67.1 nW
	EIRP

Note: OK5122 is the reader board version of the OK5422 but with a different PCB form factor. The antenna dimensions of the OK5122 are the same as the OK5121.

