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**Required exhibits for FCC certification FCC rule section 2.1033(B)**

**System description:**

The RF –ID reader system contain 3 main components:

- Two MSC boards (embedded in the 3D printer)
- 6 Antennas (2/4 antennas connected to each MSC board)
- 6 transponders inside the resin cartridges (one RF-ID tag per cartridge)
- Embedded PC (inside the 3D printer main unit)

Each MSC board is connected by RS-232 to the 3D printer embedded PC with software application that controls the reader.

The PC sends command states to the MSC board to identify the transponders (check for cartridge presence) – than the reader creates electromagnetic field emitting thru the antenna. When placing the cartridge, the transponder comes near the antenna at a distance which is sufficient to make a reaction at the transponder, a voltage generates at the transponder coil. The antenna gets the ID and/or data from the transponder according to the reader command.

If the system identifies the transponder's encryption it sends the transponder's data to the printer software for authentication. The same way the reader can write to the transponder memory including verification process.

