**RFID Specifications for Library management**

1, **RFID TAG** (For pasting on each book)

Dimensions: 98.2×12.3mm

Functionality: Read/Write
Protocols Supported :ISO/IEC 18000-6C, EPCglobal Class 1 Gen 2
Integrated Circuit : Alien Higgs-3
Operating Frequency : 840–960 MHz
EPC Size : 96 - 480 Bits
User Memory : 512 Bits Data retention: Up to 10 years
Read distance: Up to 7m (23ft); reader & antenna dependent

Additional Paper label printed with library name & logo

2, **Member Card** (For issuing to Each member)

Dimensions : 85 × 54 × 0.84mm (3.3 × 2.1 × 0.3in)

Case material : PVC

Operating Temperature : -10℃ to +50℃

Operating frequency : 860-960MHz

Supported standard : EPCglobal Class 1 Gen 2; ISO 18000-6C

Read distance : Up to 10m / 32.8ft

Chip type : UCODE G2XM

Memory : 240-bit EPC; 64-bit TID; 512-bit programmable user memory

Functionality : Read/Write

Data retention : ＞10 years

3, **Desktop reader** (Book Issue/Return)

UHF middle-distance integrative reader
Processor : ARM CORTEX M3 100M
Memory : RAM 16Kbits + FRAM 32Kbits
Frequency：860MHz-868MHz(CE)
Protocol ：ISO18000-6B, EPCglobal Class 1 Gen 2
RF Power : 0 to +31dBm
Receive Sensitivity : -80dBm
Antennas : Single unit with inbuilt antenna
Antenna Gain：9 dBi
Antenna Polarization：Circular polarization
Reading Range：5 m
Communication Interface : 10/100 BaseT Ethernet (RJ45); RS-232 (DB9), RS-485, Wiegand
GPIO : 2 inputs & 2 outputs (TTL compatible 0-5V), 3 channel relay output 0-250V AC
Power Consumed：DC+9V/12V
Operating Temperature :-20℃ to +60℃ (-4℉ to +140℉)
Storage Temperature: -40℃ to +80℃ (-40℉ to +176℉)
Humidity: 5-95% non-condensing
Dimensions (L x W x D): 11 x 11 x 2.70 in (28 x 28 x 6.85cm)
Weight: 3.3 lbs ± 0.04 lbs (1.5 kg ± 0.02 kg)
Housing Material:ABS chassis, meets IP65 standards

Linux compatible: should work with both Windows & Linux machines

Browser based software compatibility: should work directly from browser using software such as Koha without installing any additional software on client machine.

4, **Portable hand held reader** (Book Finding, Physical Verification)

 UHF handheld reader with PDA & integrated antenna
 Frequency：860MHz-868MHz(CE)
 Protocol ：ISO18000-6B EPC G2
 Reading Range：2M
 Connectivity: Wi Fi (802.11 b/g), USB
 CPU: Cortex-A8, 800MHz
 Memory: 256 MB RAM/4GB iNAND FLASH; MicroSD/TF card, maximum 32G
 Screen: Color 3.5″ QVGA TFT-LCD with backlight, 65K colors, 240 W x 320 L (QVGA size)
 OS: Windows Embedded CE 6.0
 Dropping survive: Multiple 5ft./1.5m drops over operating temperature range, in accordance with MIL-STD 810G

Environmental sealing: IP64 for dust & water protection
Battery : Main bat. rechargeable li-ion battery 3200mAh, Pistol bat. rechargeable li-ion battery 5200mAh

Dimensions: 192 × 87× 151mm / 7.56 × 3.43 × 5.95in.

5, **Anti-theft Gate reader** (For fixing on Exit gate)

Two Pedestal gates for fixing left & right of Exit gate
Visible & Audible alarm on theft detection

Gate width : up to 2-3 meter

Enclosure : metal
Air Interface protocol : ISO 18000-6C (EPC Class 1 Gen 2), ISO18000-6B
Frequency Band : 865MHz - 867MHz
RF Power : 0 to +31dBm
Receive Sensitivity : -80dBm
Antennas : 4 high performance, mono-static antenna ports

Network Connectivity:10/100BASE-T auto-negotiate (full/half) with auto-sensing MDI/MDX for auto-crossover (RJ-45)

IP Address Configuration: DHCP, Static, or Link Local Addressing (LLA) with Multicast DNS (mDNS)

USB : USB 1.1 Device (Type B) and Host (Type A) ports. USB Virtual COM Serial Port and USB drive support for embedded applications

GPIO : 4 inputs, optically isolated 3-30V; 4 outputs, optically isolated, 0-30V, non-isolated 5V, 100mA supply to integrate camera or access control devices for future application

Low duty cycle for reducing RF interference, power consumption and energy costs

Feature for automatic sensing levels of RF noise, interference and automatically selecting the appropriate settings for best performance

6. **Self Check-in/Check-out Kiosk**

Processor : Intel Duel Core CPU D525

RAM : 2GB or more

Harddisk : 320 GB or more

Touch screen : 17” with 1280\*1024 resolution

Body : Adopted standard cold rolled steel, Ergonomically sleek and smart design, Internal fans for ventilation, Moisture proof, Antirust, Anti-acid, Static free

Printer : 80mm thermal printer with auto cutter

RFID reader : 865-867 Mhz, 7dBi circular polarized antenna, RS232 & TCP/IP interface, Linux compatible

GPIO : 2 inputs & 2 outputs (TTL compatible 0-5V), 3 channel relay output 0-250V AC to integrate camera or access control devices for future application

7. **Book Drop Box**

Processor : Duel Core CPU or more

RAM : 2GB or more

Harddisk : 320 GB or more

RFID reader : 865-867 Mhz, 7dBi circular polarized antenna, RS232 & TCP/IP interface, Linux compatible

LCD display with size 15” or more

Optional 80mm thermal printer with auto cutter

GPIO: 2 inputs & 2 outputs (TTL compatible 0-5V), 3 channel relay output 0-250V AC to integrate camera or access control devices for future application

Enclosure: Metal

**General Terms**

* Bidding firm must have local branch available for quick support
* Bidding firm must have a turnover of at least 15 crores for the last two financial years
* Bidder should be an ISO 9001 certified organization. Copy of the ISO certificate needs to be furnished
* The bidder must be an Original Equipment Manufacturer (OEM) of RFID hardware components or an Authorized Distributor of OEM of RFID hardware components or a System Integrator having experience in RFID solutions in Libraries