



**NATIONAL CENTER FOR COMBUSTION RESEARCH
AND DEVELOPMENT (NCCRD)
INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI – 600036, INDIA**

Ref. No. ICS/11-12/013/DSTX/TSUN

Date: 6 Mar. 2014

Due date: 27 Mar. 2014

Item name: RFID-Based Asset Tracking System

1. Quotations are invited in duplicate for the items shown overleaf (in Annexure I). The quotations duly sealed and superscribed on the envelope with reference no. and due date, should be addressed to the undersigned so as to reach on or before the due date mentioned above.
2. The quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
3. The total cost of the equipment in terms of CIP Chennai should be clearly mentioned.
4. Terms of warranty and guarantee should be explicitly mentioned.
5. Packing and delivery charges, customs and clearance duty should be clearly stated.
6. Goods shall not be supplied without an official supply order.
7. Local firms : Quotations should be for free delivery to this institute. If quotations for ex-godown delivery charges should be indicated separately.
8. Firms outside Chennai: Quotations should be for F.O.R. Chennai. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If ex-godown, packing, forwarding and freight charges must be indicated.
9. The rate of sales / general taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for sales / general taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have Concessional Sales Tax (CST) applicable to non-government educational institutions run with no profit motive for which a concession sales tax certificate will be issued at the time of final settlement of the bill.
10. Payment : Specify the mode of payment and if advanced payment has to be made. Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
11. IIT Madras is exempt from payment of excise duty and is eligible for concessional rate of customs duty. Necessary certificate will be issued on demand.
12. IIT Madras has the right to accept the whole or any part of the tender or portion of the quantity offered or reject it in full without assigning any reason.
13. In case of any queries/clarifications, please contact Mr. Raj Varadarajan, NCCRD Office, IIT Madras, Chennai, Ph. +91-44-22575025.
14. The sealed quotation may be sent to

Prof. S. R. Chakravarthy

NCCRD Office

No. 201, Rarefied Gas Dynamics Lab (Behind Aerospace Engineering Dept.)

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Annexure I

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Specifications for RFID-Based Asset Tracking System

SL. NO.	DESCRIPTION	QTY
1	Data recording reader - Integrated MR UHF reader	1
2	UHF Hand held reader	1
3	UHF metallic RFID tags	1500
4	Application soft ware	1
5	Implementation	L/S

UHF RFID Handheld Reader

Physical Characteristics	Dimensions 190(L)*80(W)*25(H)mm Weight 400g
Environment	Operating Temp -15°C to 50°C Storage Temp -20°C to 60°C Humidity 5% to 95% non-condensing IP-54 Enclosure Drop Proof Endure 1.2m
Read Distance	With ISO Card (Read Distance:>1m;Write Distance:>0.2m), tag size depended
Frequency Range	865 - 867 MHz (We can do as per your requirements)
RF Output Power	20-30dBm
Tag Air Interfaces	EPC Class 1 Gen 2
Communication Interface	RS232; (Bluetooth Class2 V1.1); USB communication module
Standard Battery	3.7V 3200mAh Li-ion battery
Operating System	Windows CE 5.0 (Multilanguage version)
Microprocessor	SAMNSUNG 400 MHz CPU
Memory Storage	Flash 64/128MB; RAM 64/128MB
SD Slot	Maximum 1GB FLASH RAM
Display	3.5in QVGA (240*320 pixel)64K color
Keypad	25+1 compound keys / support handwriting
Accessories	USB data cable



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UHF Integrated Midrange Reader

Technical Specification

1. Operating Frequency : 865-867 MHz
2. Antenna : Built in Circular Antenna
3. RF Power Output : 0-30 dBm
4. Read Range : Upto 6m
5. Reading Mode : Auto polling or software controlled
6. Communication Interface : RS232; RS485; weigand 26/34; RJ45 Software Controlled
7. Typical reading rate : Average reading per 64bits < 10ms
8. Supported Card : ISO18000-6C (EPCGEN2)
9. Operation Mode : Fixed Frequency

Electrical Specification

1. Power Supply : 9V/<3A DC Adapter

Physical Specification

1. Dimension (L X W X H) : (240 X 240 X 30) mm
2. Indicator : Buzzer and LED
3. Weight : 1kg

Environmental Specification

1. Operating temperature : -20°C to +80°C

UHF Inlay

Mechanical Dimensions

1. Antenna Width : 94mm
2. Antenna Length : 8mm
3. Die-cut width : 110mm
4. Die-cut length : 20mm
5. Web width : 110mm

Electrical Characteristics

1. Integrated circuit (IC) : EPC Class 1 Gen 2 compliant
2. Total memory : 96 bit
3. Operating frequency : 860-960 MHz



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4. Read Sensitivity : 2.3 V/m

General Characteristics of transponder

1. Operating temperature : -40°C/+65°C -40°F/+149°F
 2. ESD voltage immunity : +/- 1 kV peak, HBM
 3. Shelf life : from the date of manufacture 2 years in : +20°C, 50%RH +68°F, 50% RH
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