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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
I.I.T., MADRAS - 600 036.

Ref No. : CSEN | 2014 | 002 | DRDO | SPLX

Dated : 20.05.2014

To

DUE DATE

04.06.2014, 5:00 PM

- Quotations to be addressed to :

V. Kamakoti

Dear Sirs,



DR. V. KAMAKOTI
DEPT. OF COMPUTER SCIENCE & ENGG.
INDIAN INSTITUTE OF TECHNOLOGY-MADRAS
CHENNAI - 600 036.

1. Quotation are invited **in duplicate** for the various items shown over leaf / enclosed list.
2. The quotations duly sealed and superscribed on the envelope with the reference No. & due date should be addressed to the above name so as to reach him **on or before the due date** STIPULATED above.
3. The Quotation should be valid for **sixty days** from the due date and the period of delivery required should also be clearly indicated.
4. If the item is under DGS & D Rate Contract, the Rate Contract No. and price - accompanied by copy of the R.C. must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate Contract price (Please note that we are not Direct Demanding Officers).
5. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the quotations, wherever applicable. Samples if called for, submitted free of charges, and collected back at the suppliers expenses.
6. **Local Firms** :- Quotations should be for free delivery to this Institute. If Quotations are for Ex-Godown, delivery charges should be indicated separately.
7. **Firms outside Madras** : Quotations should be for F.O.R. Madras. 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.
8. The rate of Sales/General Taxes and the percentages of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quote. Where this is not done, no claim for Sales / General Taxes will be admitted at any later stage and on any ground whatever. The taxes leviable should take into consideration run with no profit motive, and which necessary concessional Sales Tax Certificate would be issued at the time of passing the bill.
9. Goods should be supplied carriage paid and insured.
10. Goods shall not be supplied without an official supply order.
11. **PAYMENT** :- Every attempt will be made to make payment within thirty days from the date of receipt of bill / acceptance of goods whichever is earlier.

Yours faithfully,

V. Kamakoti

12. Details Enclosed.

HEAD OF THE DEPT. / PROJ. CO-ORDINATOR

Specifications- Wireless Sensor Network Development kit

- The kit should comprise of

| SI No | Items | Qty in Nos. |
|-------|--|-------------|
| 1 | Sensing Node with XBee Radio (Xbee-ZB) & XBee Antennas(2dBi) | 05 |
| 2 | Gateway Node | 01 |
| 3 | Lithium Batteries | 05 |
| 4 | GPRS+Antenna | 01 |
| 5 | Flexible Solar Panel | 01 |
| 6 | GPS Module | 01 |
| 7 | Sensor Board with sensors for Temp, Humidity, linear displacement, dust, ultrasonic sensor | 05 |
| 8 | IDE with programming Unit | 01 |

- Sensing Node
 - Microcontroller: ATmega1281
 - Frequency: 8MHz or better
 - SRAM: 8KB or better
 - EEPROM: 4KB or better
 - FLASH: 128KB or better
 - SD Card: 2GB or better
 - Analog Inputs: 7 or better
 - Digital IO: 8 or better
 - UART (accessible to user): 2 min.
 - Built in RTC
 - Weight: 20gr or less
 - Dimensions: 75 x 55 x 15 mm or less
 - Temperature Range: -20°C to +65°C
 - Gateway Node for communication with external network 1 No.
 - Communication Protocol: ZigBee-Pro
 - Xbee Radio
 - Communication Protocol: Zigbee-Pro
 - Frequency: 2.4 GHz
 - Power: 2 mW
 - Antenna Connector: SMA
 - Xbee Antenna
 - Connector: Mating SMA
 - Gain: 2 dBi
 - Frequency: 2.4 GHz

- Li Ion Battery
 - Rechargeble
 - Nominal Voltage 3.7 V
 - Capacity 1150 mAh or more

- GPRS Module
 - Quadband: 850MHz/900MHz/1800MHz/1900MHz
 - TX Power: 2W (Class 4) 850MHz/900MHz
1W (Class1) 1800MHz/1900MHz
 - Sensitivity: -106dBm or better
 - Antenna connector: UFL
 - External antenna gain: 0dBi

- GPS Module
 - Acquisition sensitivity: better than -142 dBm
 - Hot start <1second
 - Antenna: 2.4 dBi

- Flexible Solar Panel
 - Voltage Rating 7.2V
 - Current Rating 100 mA

- Sensor Board
 - Weight of board : Less than 20 gms
 - Dimensions : Same as that of Sensing Node
 - Should have mating connectors for interfacing with radio
 - Sensors
 - Temperature : MCP9700A
 - Humidity : 808H5V5
 - Dust : GP2Y1010AU0F
 - Linear displacement : SLS095
 - Ultrasonic Sensor : XL-MaxSonar-WRA1

Note:-

System must be integrated and demonstrated by the supplier. A sample program must be downloaded on a sensing node via OTP.