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2018-12-06 12:31



Republic of the Philippines
Department of Science and Technology
ADVANCED SCIENCE AND TECHNOLOGY INSTITUTE



ASTI - FM 03-17
REV 0 / 02 April 2018

PURCHASE ORDER

Supplier: Unotronix Inc.	PO No.: 18-11-0327
Address: 5th Floor Filipino Bldg., 135 dela Rosa St., Legaspi Village, Makati City	PO Date: November 25, 2018
TIN: 006-324-481-000	Mode of Procurement: Competitive Bidding: Goods and Services

Gentleman:

Please furnish this Office the following articles subject to the terms and conditions contained herein:

Equipment should be Delivered 180 calendar days upon issuance of Notice to Proceed, Training and Installation shall be completed within 60 calendar days after delivery

Place of Delivery: ASTI Bldg., C.P. Garcia Ave., U.P. Technology Park Complex, U.P. Campus, Diliman, Quezon City 1101	Delivery Term:
Date of Delivery:	Payment Term: Government Terms
	Warranty Term:

Stock / Property No.	Unit	Description	Quantity	Unit Cost	Amount
1	lot	Satellite Modem System	1	₱11,100,000.00	₱11,100,000.00
		I. Receiver - >40k hrs MTBF - with redundant power supplies - hardened OS I.A. Independent, dual channel receiver - IF Input of 720 MHz or 1200 MHz (Tunable), or equivalent to be compatible with the supported ASTI-GRS satellites - With matched filtering and adaptive baseband equalization for correction of cable/channel distortions - Output: at least 2x 1GbE and 2x 10GbE-T UDP/IP - Must support V.35 descrambler I.B. Direct PSK - Up to 500 MSym/s - BPSK, QPSK, SQPSK, 8PSK, MSK - Reed-Solomon - Viterbi (up to 200 Mbps) I.C. DVB-S2 - All LDPC-BCH FEC Code Rates - QPSK, 8PSK, 16APSK, 32APSK - Up to 250 MSym/s - Generic Continuous Stream II. Test Modulator - Single channel modulator with matching IF and functions for test loopback - Has pulse shaping with RC, RRC and bandpass filtering - Test modulator should be able to utilize resources from one of the receiver channels III. Telemetry and Commanding System (T&C) - Small satellite specific software modem with front end digitizer for providing command and telemetry modulation - Tunable 50-2500 MHz front-end, or equivalent to be compatible with the supported ASTI-GRS satellites - One uplink and one downlink channel - 10 MHz bandwidth support/data rates up to 5 Msps - PCM/FM modulator - FSK/GMSK modulator/demodulator - PSK modulator/demodulator (BPSK, QPSK, OQPSK)			

ASTI BLDG, UP Technology Park Complex, C.P. Garcia Ave, Diliman, Quezon City, Philippines 1101
 • Website: www.asti.dost.gov.ph • E-Mail: info@asti.dost.gov.ph • Tel No's: +632 927-2541, +632 927-3502, +632 426-9759, +632 426-9760
 • Fax No: +632 925-8598

- Convolutional Encoding/Viterbi Decoding
- NRL-L/NRL-M/Bi-f Encoding formats
- Must support V.35 scrambler/descrambler

IV. Front-End Processor Application

- Small satellite specific software baseband front end processor for providing basic command processing and telemetry packet processing
- One command formatter
- One telemetry framesync
- Commercial grade 256-bit AES
- AES key generation and handling
- CCSDS Packet Processing Support
- Data Archival
- Reed Solomon (255,233) & (255,239)
- Tx/Rx Berts
- Application CD
- User Guide and ICD

V. Host System

- Supplier shall provide a host system for the software applications
- Processor should be at least 3.0 GHz
- Processor must have at least six (6) cores and twelve (12) threads
- At least 16 GB DDR4 RAM
- At least 1TB HDD storage
- Includes wireless keyboard and mouse
- Includes at least 23" 1080p computer monitor
- Includes latest 64-bit operating system
- Supplier shall ensure the host system's compatibility with the software applications

VI. Installation and training

- On-site installation and training
- Supplier to submit training proposal for end-users approval upon awarding of contract
- Supplier shall provide a site acceptance test for approval of the end-user
- Site acceptance test should include a provision for successful download and reception of supported ASTI-GRS satellites

VII. Payment

- 80% payment to be processed upon complete shipping of equipment to the end-user
- 20% payment to be processed upon end-user's acceptance of equipment and completion of training
- All payments shall be made subject to government terms, rules and conditions

Notes:

- Price inclusive of government fees, taxes and duties
- At least 1 year warranty support for all items
- Delivery: Equipment should be delivered within 180 days upon issuance of NTP, training and installation shall be completed within 60 days after delivery

				TOTAL:	₱11,100,000.00
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(Total Amount in Words)	Eleven Million One Hundred Thousand Pesos
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The contract price is inclusive of taxes and other fees or charges. In case of failure to make the full delivery within the time specified above, a penalty of one-tenth (1/10) of one percent for every day of delay shall be imposed on the undelivered item/s. Once the cumulative amount of liquidated damages reaches ten percent (10%) of the amount of the contract, DOST-ASTI may rescind or terminate the contract, without prejudice to other courses of action and remedies available under the circumstances and in accordance with the provisions of the latest implementing rules and regulations of RA 9184.

Conforme:


Very Truly Yours,

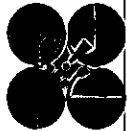

JOEL JOSEPH S. MARCIANO, JR., Ph.D.

Acting Director

(Signature over Printed Name of Supplier)

(Date)

Fund Cluster:	01	ORS / BURS No.:	910192018-12-00123)
Funds Available:	₱ 11,100,000.00	ORS / BURS Date:	December 8, 2018
		Amount:	₱ 11,100,000.00
 GAY CONCEPCION S. BUGAGAO Accountant III			



Republic of the Philippines
Department of Science and Technology

ADVANCED SCIENCE AND TECHNOLOGY INSTITUTE



25 November 2018

NOTICE TO PROCEED
PUBLIC BIDDING

Mr. HENRY R. SARMIENTO
Sales Head
Unotronix Inc.
5th Floor Filipino Bldg.
135 dela Rosa St., Legaspi Village
Makati City

Dear Mr. Sarmiento,

Notice is hereby given to **Unotronix Inc.** that work/delivery may proceed for the following procurement details:

Contract Name	: Supply, Delivery, and Installation of Satellite Modem System
Purchase Request No.	: GAA-18-06-5907
Purchase / Work Order No.	: 18-11-0327
Total Contract Price	: Php 11,100,000.00
(inclusive of taxes, import duties and all other charges or fees)	
Total Contract Price in Words	: Eleven Million One Hundred Thousand Pesos

Upon signing receipt of this Notice, you are responsible for performing the services under the terms and conditions of the Agreement/Purchase Order/Work Order and in accordance with the schedule of requirements/delivery schedule.

You are also hereby required to file a Warranty Security for a minimum period of three (3) months, in the case of Expendable Supplies, or a minimum period of one (1) year, in the case of Non-Expendable Supplies, after acceptance by the Procuring Entity of the delivered supplies. It shall be either retention money in an amount equivalent to at least one percent (1%) of every progress payment, or a special bank guarantee equivalent to at least one percent (1%) of the total contract price. The said amounts shall only be released after the lapse of the warranty period or, in the case of Expendable Supplies, after consumption thereof. Provided, however, That the supplies delivered are free from patent and latent defects and all the conditions imposed under the contract have been fully met.

Note that failure to comply with the above requirements and failure to perform the services under the terms and conditions of the Agreement/Purchase Order/Work Order may constitute grounds for its forfeiture.

Please acknowledge receipt and acceptance of this Notice by signing in the space provided below. There are two (2) copies of this document; you may keep one copy and return the other to the Bids and Awards Committee (BAC) Secretariat of the Advanced Science and Technology Institute. Should you have any questions or clarifications, you may reach us at bac-sec@asti.dost.gov.ph.

Respectfully,


JOEL JOSEPH S. MARCIANO, JR., Ph.D.
Acting Director

DATE OF ISSUANCE: _____ **RECEIVED BY:** _____ **WARRANTY SECURITY**

	_____ (Signature over Printed Name)	Type of Warranty Security: _____	
	_____ Date and Time	Amount of Warranty Security: <u>Php</u>	
		O.R. No.: _____	

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ASTI — FM 03-18
REV 1 / 05 Nov 2018