ASTI-FM 03-10
REV 3/13 January 2020

DOST-ASTI Bids and Awards Committee
REQUEST FOR QUOTATION

Kind of Procurement Activity:	Negotiated Procurement:Small-value Procurement		
Deadline of Submission of Bids:	Nov-22-2021, 2:00 PM		
RFQ No.:	21-11-3675	**Date:**	November-17-2021
PR No.:	GAA-21-11-12780	**Date:**	November-04-2021

The Department of Science and Technology (DOST) - Advanced Science and Technology Institute (ASTI), through its Bids and Awards Committee (BAC), intends to procure the item/s listed below. As such, suppliers, contractors, or distributors are invited to submit their quotation/s duly signed by authorized representative. Prospective bidder/s who will submit a proposal with the single/lowest calculated and responsive quotation shall be selected. Guidelines on the format and eligibility documents are listed at the box below the item/s to be procured.

Quotations may be sent via **a)** electronic mail at bac-sec@asti.dost.gov.ph, **b)** fax message, or **c)** delivering documents to the BAC Secretariat. For further inquiries, you may contact +63 2 249-8500 local 1206/1212 or +63 2 426-7423.

Thank you.

Respectfully,

Digitally signed by Guba Gerwin Policarpio
Date: 2021.11.17 09:28:32 +08'00'

GERWIN P. GUBA
BAC Chairman

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	**Programmer accessory - TC2050-ARM2010** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the supply and delivery of three (3) units of Tag-Connect adapter board that allows TC2050-IDC cables to be used for the existing STLINK/V2 programmer of ASTI. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 1.4. The procurement of these goods will be used in the continuous research and development of ASTI arQ 2.0. 2. TECHNICAL SPECIFICATIONS 2.1. ARM 20 PIN: 2 x 10 Female Header, 0.1" Pitch 2.2. ARM 10-PIN (JTAG): 2 x 5 Male Header, 0.1" Pitch 2.3. Features 2.3.1. Pin 5 of the 10-pin connector can be used to supply power from some debuggers. 2.3.2. Can improve signal integrity if power on Pin 5 is not required. 2.3.3. Pin 9 of the 10-pin connector can supply nTRST Pin.	3	unit	2420.00	7,260.00

Postal Address : ASTI Bldg., U.P Technology Park Complex, C.P. Garcia Ave., Diliman, Quezon City 1101
Website : www.asti.dost.gov.ph
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	3. DELIVERY AND PAYMENT TERMS 3.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 3.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.				
2	**Programmer accessory - TC2050-IDC-NL** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the Supply and Delivery of five (5) units of programming cables with a spring-pin Tag-Connector for the existing STLINK/V2 programmer of ASTI. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 1.4. The procurement of these goods will be used in the continuous research and development of ASTI arQ 2.0. 2. TECHNICAL SPECIFICATIONS 2.1. S10 PIN: 2 x 5 IDC Female Header Connector 2.2. 10 PIN: 2 x 5 Male Header fitted with a spring-pin Tag-Connect 2.3. Cable type: Ribbon 3. DELIVERY AND PAYMENT TERMS 3.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 3.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.	5	unit	3150.00	15,750.00
3	**Programmer accessory - TC2050-CLIP-3PACK** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the supply and delivery of one (1) unit of retaining CLIP board for the TC2050-IDC-NL that is compatible to the existing STLINK/V2 programmer of ASTI. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 1.4. The procurement of this item will be used in the continuous research and development of ASTI arQ 2.0. 2. TECHNICAL SPECIFICATIONS 2.1. Composed of three (3) clips to temporarily hold a TC2050-IDC-NL (item #2 above) cable in place on a PCB	1	unit	1460.00	1,460.00

	3. DELIVERY AND PAYMENT TERMS 3.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 3.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.				
4	**Development Board - BLE** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the supply and delivery of two (2) units of BT 5.1 stack (Bluetooth low energy or BLE) modules based on nRF52805 SoC solution which incorporates: GPIO, SPI, UART, I2C, and ADC interfaces for connecting peripherals and sensors. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 1.4. The procurement of these goods will be used in the continuous research and development of ASTI arQ 2.0. 2. TECHNICAL SPECIFICATIONS 2.1. Processor: 32-bit ARM Cortex – M4 processor 2.2. Co-Processor Specifications: 128-bit AES ECB / CCM / AAR co-processor 2.3. Programmed memory and RAM: 192KB flash, 24KB RAM 2.4. The development board must have a programmable peripheral interface - PPI and configurable 10 pin GPIOs 2.5. Interfaces: GPIO, SPI, UART, I2C, and PWM 2.6. Supply Voltage Range: 1.7V to 3.6V 2.7. Programmable Output Power: +4dBm to -20dB 2.8. ADC: 2 channel 12-bit / 200KSPS 2.9. The development board must be capable of multi-protocol 2.4GHz radio 2.10. SoC Compatibility: nRF51, nRF24AP and nRF24L 2.11. Bluetooth Specification Certification: BT5.1 & BT5 & BT4.2 2.12. Dimensions: 2.12.1. Length: 11.2mm 2.12.2. Width: 7.2mm 2.12.3. Height: 2.05 or 1.80 mm 3. DELIVERY AND PAYMENT TERMS 3.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 3.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.	2	unit	1390.00	2,780.00

5	**Development Board - Power Analyzer** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the supply and delivery of two (2) units of standalone development boards that acts as a power analyzer and measures power consumption by either providing power to the external board or act as an ampere meter. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 1.4. The procurement of these goods will be used in the continuous research and development of ASTI arQ 2.0. 2. TECHNICAL SPECIFICATIONS 2.1. Supply Voltage Range: 0.8 V to 5.0 V (software configurable) 2.2. Current Measurement Range: 200nA to1A 2.3. Current Measurement Resolution: 100nA and 1mA 2.4. Sampling frequency: 100 kS/s 2.5. Digital Port: 8-pins 2.6. Computer Interface: USB communication 3. ACCESSORIES 3.1. One (1) pc 4-pin current measurement cable 3.2. One (1) pc 10-pin logic port cable 4. DELIVERY AND PAYMENT TERMS 4.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 4.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.	2	unit	7470.00	14,940.00
6	**Development Board - Camera + LoRa** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the supply and delivery of two (2) units of vision shields that are compatible to the existing Portenta H7 Pro board of ASTI. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 1.4. The procurement of these goods will be used in the continuous research and development of ASTI arQ 2.0. 2. TECHNICAL SPECIFICATIONS 2.1. Camera Specifications: 2.1.1. 320x320 pixels resolution 2.2. Connectivity: 868/915MHz ABZ-093 LoRa Module with ARM Cortex-M0+ 2.3. Microphones specifications:	2	unit	6370.00	12,740.00

	2.3.1. Quantity: two (2) on-board microphone 2.3.2. Signal-to-Noise Ratio: 64 dB 2.3.3. Sensitivity: −26 dBFS ± 1dB Omnidirectional 2.4. The development board must have a SD-Card and J-TAG connector. 2.5. Processor: Multicore 32-bit ARM Cortex processor 2.6. Supply voltage: 3.3V 2.7. Dimensions: 2.7.1. Length: 66mm 2.7.2. Width: 25mm 2.8. Weight: 8g 2.9. Operating Temperature: -20 to 85°C 3. DELIVERY AND PAYMENT TERMS 3.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 3.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.				
7	**Gateway - LoRaWAN Developer Base** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the Supply and Delivery of two (2) units of Gateway - LoRaWAN gateway designed for integration with desktop/mobile/embedded systems that converts the mPCIe LoRa concentrator modules into USB Type C pluggable. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 1.4. The procurement of these goods will be used in the continuous research and development of ASTI arQ 2.0. 2. TECHNICAL SPECIFICATIONS 2.1. Must be compatible with SX1302/SX1303 chip-based concentrator modules with 8 uplink channels and 1 downlink channel. 2.2. Must have 2 x SX125x Tx/Rx front-ends. 2.3. Tx power must be up to 27 dBm. 2.4. Rx sensitivity must be down to -139 dBm @ SF12. 2.5. Bandwidth must be 125 kHz. 2.6. Must support global license-free frequency band AU915. 2.7. Must have a USB Type C interface port (USB 2.0). 3. ACCESSORIES 3.1. One (1) pc of USB Type C to A cable 3.2. One (1) pc of LoRa Antenna (2.3 dBi) 4. DELIVERY AND PAYMENT TERMS 4.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 4.2. Full payment will only be given once the items	2	unit	7990.00	15,980.00

	were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.				
8	**Development Board - LoRA IoT Kit** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the Supply and Delivery of one (1) unit of Development Board - LoRa IoT Kit (referred here as development board) compose of modular development kit that features Wireless, Interface, and Sensor modules for potential applications of IoT system. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 1.4. The procurement of this item will be used in the continuous research and development of ASTI arQ 2.0. 2. TECHNICAL SPECIFICATIONS 2.1. Base Board 2.1.1. Quantity: two (2) units 2.1.2. Connections: 2.1.2.1. One (1) Core module 2.1.2.2. one (1) Module compatible with IO Slot 2.1.2.3. Four (4) Modules compatible to Slot A-D 2.1.2.4. One (1) USB port for programming and debugging 2.1.2.5. 3.7 V Rechargeable battery connector 2.1.2.6. 5 V Solar Panel connector 2.1.2.7. I2C, UART, GPIO's and analog input accessible with solder contacts 2.1.3. Size: 30 x 60 mm 2.2. Core Module 2.2.1. Quantity: Two (2) units 2.2.2. Features: 2.2.2.1. Has ultra-low power MCU 2.2.2.2. Has 32-bit ARM Cortex-M4 CPU 2.2.2.3. Has 64 MHz CPU clock 2.2.2.4. Has Semtech SX1262 low power high range LoRA transceiver 2.2.2.5. Has LoRaWAN 1.0.2 protocol stack (must support global license-free frequency band AU915) 2.2.2.6. Has Bluetooth 5.0 protocol stack 2.2.2.7. Has I2C, SPI, Analog inputs, Digital inputs and outputs 2.2.2.8. Low power consumption 2.3. Sensor Board 2.3.1. Temperature and Humidity 2.3.1.1. Quantity: one (1) pc 2.3.1.2. Specification: 2.3.1.2.1. Temperature Accuracy: +- 2.0 degree Celsius 2.3.1.2.2. Temperature Range: -40 to +125 degree Celsius 2.3.1.2.3. Humidity Accuracy: -+2.0% RH 2.3.1.2.4. Humidity Range: 0 to 100% 2.3.1.3. Size: 10 x 10 mm	1	unit	12830.00	12,830.00

2.3.2. Barometer Pressure
2.3.2.1. Quantity: One (1) pc
2.3.2.2. Specification:
2.3.2.2.1. Measurement Range: 260-1260 hPa
2.3.2.2.2. Pressure Accuracy: +-0.1 hPa
2.3.2.2.3. Temperature Range: -40 to +85 degree Celsius
2.3.2.2.4. Temperature Accuracy: +-1.5 degree Celsius
2.3.2.2.5. Has 3 micro ampere power consumption
2.3.2.3. Size: 10 x 10 mm
2.3.3. Ambient Light
2.3.3.1. Quantity: One (1) pc
2.3.3.2. Specification:
2.3.3.2.1. Measurement Range: 0.01 to 83865 lux
2.3.3.2.2. Has 1.8 micro ampere power consumption
2.3.3.3. Size: 10 x 10 mm
2.3.4. 3-axis Acceleration
2.3.4.1. Quantity: One (1) pc
2.3.4.2. Specification:
2.3.4.2.1. User select able scales of +-2g/+-4g/+-8g/+-16g
2.3.4.2.2. Data Acquisition rates from 1 Hz to 5.3 kHz 2.3.4.3.
2.3.4.3. Size: 10 x 10 mm
2.3.5. Environmental
2.3.5.1. Quantity: One (1) pc
2.3.5.2. Specification:
2.3.5.2.1. Temperature Range: -40 to 85 degree Celsius
2.3.5.2.2. Humidity Range: 0 to 100%
2.3.5.2.3. Pressure Range: 300 hPa to 1100 hPa
2.3.5.2.4. Gas sensor response time: < 1 sec
2.3.5.2.5. Gas sensor output: direct output of IAQ (Indoor Air Quality) index
2.3.5.3. Size: 10 x 10 mm
2.3.6. GNSS Location Module
2.3.6.1. Quantity: one (1) pc
2.3.6.2. Specification:
2.3.6.2.1. High Accuracy of 2.5 m
2.3.6.2.2. Update rate: 10 Hz
2.3.6.2.3. Velocity Accuracy: 0.1 m/s
2.3.6.2.4. Heading Accuracy: 0.5 degrees
2.3.6.2.5. Has GPS and GLONASS satellite support
2.3.6.3. Size: 10 x 23 mm
2.3.7. PDM Stereo Microphone Module
2.3.7.1. Quantity: one (1) pc
2.3.7.2. Specification:
2.3.7.2.1. Input Voltage: 3.3 V
2.3.7.2.2. SNR: 64 Db
2.3.7.2.3. Sensitivity: -26 dBFS +-1 dB
2.3.7.2.4. Has stereo microphone 2 x MP34DT06J
2.3.7.2.5. Low power consumption
2.3.7.3. Size: 10 x 10 mm
2.4. Interface Board
2.4.1. Sensor Adapter Module
2.4.1.1. Quantity: one (1) pc
2.4.1.2. Connections:
2.4.1.2.1. One (1) click board compatible slot
2.4.1.2.2. One (1) grove connector compatible with

I2C and digital IO brands
2.4.1.2.3. One (1) grove connector compatible with UART and analog IO brands
2.4.1.2.4. Support for 5 V grove sensors
2.4.1.2.5. One (1) QWICC compatible connector
2.4.1.3. Size: 30 x 36 mm
2.4.2. 4-20mA Interface Module
2.4.2.1. Quantity: one (1) pc
2.4.2.2. Specification:
2.4.2.2.1. 4 to 2 mA current to voltage converter
2.4.2.2.2. 12 V output for sensors
2.4.2.2.3. 0.005 mA conversion accuracy
2.4.2.2.4. 2 kV ESD protection
2.4.2.2.5. Has 2 ports
2.4.2.3. Size: 35 x 25 mm
2.4.3. RS485 Interface Module
2.4.3.1. Quantity: one (1) pc
2.4.3.2. Specification:
2.4.3.2.1. RS485 to serial converter
2.4.3.2.2. Battery and 3.3 V output for sensors
2.4.3.2.3. 18 kV ESD protection
2.4.3.2.4. Has 1 port
2.4.3.3. Size: 35 x 25 mm
2.4.4. Interface Extension Module
2.4.4.1. Quantity: one (1) pc
2.4.4.2. Connections:
2.4.4.2.1. One (1) USB port
2.4.4.2.2. Two (2) I2C port
2.4.4.2.3. One (1) serial port
2.4.4.2.4. Four (4) digital IO
2.4.4.2.5. One (1) analog input port
2.4.4.2.6. Two (2) LED outputs
2.4.4.2.7. One (1) button input
2.4.4.2.8. TVS protected circuits
2.4.4.2.9. PTC thermistor to prevent output power overload
2.4.4.3. Size: 25 x 15 mm
2.4.5. 0-5V Interface Module
2.4.5.1. Quantity: one (1) pc
2.4.5.2. Specification:
2.4.5.2.1. Two 0-5 V analog input channels
2.4.5.2.2. Conversion Accuracy: 10 Mv
2.4.5.2.3. 12 V output to power external sensors
2.4.5.2.4. Reserved I2C expansion interface
2.4.5.2.5. Designed with a 2 kV ESD protection level
2.4.5.3. Size: 32 x 25 mm
2.5. Wireless
2.5.1. Quantity: One (1) pc
2.5.2. Specifications:
2.5.2.1. Espressif ESP32 WROVER
2.5.2.2. 2.4 GHz WiFi and Bluetooth
2.5.2.3. Espressif AT command interface
2.5.2.4. Option to flash custom firmware
2.5.3. Size: 35 x 25 mm

3. ACCESSORIES
3.1. Two (2) units of LoRa Antenna
3.2. Two (2) units of BLE Antenna
3.3. GPS Antenna
3.4. Manual Screwdriver

	4. DELIVERY AND PAYMENT TERMS 4.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 4.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.				
9	**Tool - Torque wrench for SMA Connector** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the Supply and Delivery of two (2) units of Torque Wrench specifically designed for driving SMA connector. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 1.4. The procurement of these goods will be used in the continuous research and development of ASTI arQ 2.0. 2. TECHNICAL SPECIFICATIONS 2.1. Torque must at least be 1 Nm 2.2. Width across flats must at least be 8 mm 2.3. Weight must at least be 95 g 2.4. Handle bar must be brass/nickel plated 2.5. Spanner must be steel/black finished & hardened 3. DELIVERY AND PAYMENT TERMS 3.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 3.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.	2	unit	10900.00	21,800.00
10	**3D Printer Accessory - Build Plate** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the Supply and Delivery of five (5) units of magnetic PEI build plate that are compatible with the existing Ender 3 Pro 3D printers of ASTI. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 1.4. The procurement of these goods will be used in the continuous research and development of ASTI arQ 2.0. 2. TECHNICAL SPECIFICATIONS 2.1. Must be flexible, removable and can stick to magnetics very well.	5	unit	1950.00	9,750.00

	2.2. Must be compatible with PLA, PETG, PEEK, ABS and any other filaments. 2.3. Must withstand numerous heat cycles that a 3D print bed goes through from print to print. 2.4. Dimension(mm): 235x235 3. DELIVERY AND PAYMENT TERMS 3.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 3.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.				
11	**Wireless Mouse** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the Supply and Delivery of two (2) units of high precision and resolution wireless mouse. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 2. TECHNICAL SPECIFICATIONS 2.1. The mouse must at least have the following dimensions 2.1.1. Height: 4.92 in (124.9 mm) 2.1.2. Weight: 3.32 in (84.3 mm) 2.1.3. Depth: 2.01 in (51 mm) 2.1.4. Weight: 4.97 oz (141 g) 2.2. The USB receiver must at least have the following dimensions 2.2.1. Height: 0.72 in (18.4 mm) 2.2.2. Weight: 0.57 in (14.4 mm) 2.2.3. Depth: 0.26 in (6.6 mm) 2.2.4. Weight: 0.07 oz (2 g) 2.3. Must have the following sensor technology requirements 2.3.1. Darkfield high precision 2.3.2. Nominal value: 1000 dpi 2.3.3. DPI (minimum to maximum): 200 to 4000 dpi 2.4. Must have the following requirements for its buttons 2.4.1. buttons: Left/Right click, Back/Forward click, App switch, Wheel mode-shift, Middle click 2.4.2. With scroll wheel and with auto shift 2.4.3. With thumbwheel 2.4.4. With gesture button 2.5. Must operate at least in a distance of 393.7 in or 10 m. 2.6. Must have an advanced 2.4 GHz wireless technology 3. ACCESSORIES 3.1. Must include one (1) pc of unifying USB receiver. 3.2. Must include one (1) pc of USB-c charging cable (USB-A to USB-C).	2	unit	8100.00	16,200.00

	3.3. Must include user documentation. 4. WARRANTY AND AFTER-SALES SUPPORT 4.1 The goods must have at least one (1) year warranty from time of delivery which covers defects in materials and workmanship. Warranty service shall commence from the date of end-user acceptance. 4.2. Any repair or replacement service must be successfully performed within sixty (60) business days. 5. DELIVERY AND PAYMENT TERMS 5.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 5.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.				
12	**Desktop Riser** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the Supply and Delivery of two (2) units of adjustable desktop riser for workstation. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 2. TECHNICAL SPECIFICATIONS 2.1. Must at least have the following work surface. 2.1.1. Tabletop Dimensions: 64.8 x 47 x 1.5 cm 2.1.2. Work Surface Length: 64.8 cm 2.1.3. Work Surface Depth: 47 cm 2.2. Must at least have the following frame requirements. 2.2.1. Height Adjustment: 15.2 cm - 40.6 cm 2.2.2. Unadjusted Height: 4.6 cm 2.3. Weight must at least be 9.5 kg. 2.4. Load capacity must at least be 9.9 kg. 3. WARRANTY AND AFTER-SALES SUPPORT 3.1 The goods must have at least one (1) year warranty from time of delivery which covers defects in materials and workmanship. Warranty service shall commence from the date of end-user acceptance. 3.2. Any repair or replacement service must be successfully performed within sixty (60) business days. 4. DELIVERY AND PAYMENT TERMS 4.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 4.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.	2	unit	7790.00	15,580.00

13	**Satellite Transceiver Board** 1. GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the supply and delivery of two (2) units of Satellite module with carrier board supporting Short Burst Data (SBD) compatible to existing Iridium subscriptions of ASTI. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated. 1.4. The procurement of these goods will be used in the continuous research and development of ASTI arQ 2.0. 2. TECHNICAL SPECIFICATIONS 2.1. RF Interfaces 2.1.1. Frequency Range: 1616 to 1626.5 MHz 2.1.2. Duplexing Method: TDD (Time Domain Duplex) 2.1.3. Input/Output Impedance: 50Ω 2.1.4. Multiplexing Method: TDMA/FDMA 2.2. Power Parameters 2.2.1. Supply Input Voltage Range: 5.0V +/- .5V DC 2.2.2. Supply Input Voltage Ripple: TDD (Time Domain Duplex) 2.2.3. Idle Current (Peak): 156mA 2.2.4. Idle Current (Avg.): 34mA 2.2.5. Transmission Current (Peak): 1.3 A 2.2.6. Transmission Current (Avg.): 145mA 2.2.7. Receive Current (Peak): 156mA 2.2.8. Receive Current (Avg.): 39mA 2.2.9. SBD Transfer - Avg. Current: 158mA 2.2.10. SBD Transfer - Avg. Power: ≤ 0.8 W 2.3. Environmental Specifications 2.3.1. Operating Temperature: - 40C to +85C 2.3.2. Operational Humidity: ≤ 75% RH 2.3.3. Storage Temperature: - 40C to +85C 2.3.4. Storage Humidity: ≤ 93% RH 2.4. Mechanical Specifications 2.4.1. Dimensions: 31.5 mm X 29.6 mm x 8.1 mm (L x W x H) 2.4.2. Weight: 11.4 g 3. ACCESSORIES 3.1. One (1) pc of data and power interface cable per carrier board 4. DELIVERY AND PAYMENT TERMS 4.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 4.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.	2	unit	21000.00	42,000.00
14	**Development Board - LoRA Concentrator with Compatible Enclosure** 1. GENERAL OVERVIEW	2	unit	18400.00	36,800.00

1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the supply and delivery of two (2) units of LoRa development board based on raspberry pi and SX1302 LoRa concentrator chip.
1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges.
1.3. The technical specifications written herein are of minimum requirement, unless otherwise stated.
1.4. The procurement of these goods will be used in the continuous research and development of ASTI arQ 2.0.

2. TECHNICAL SPECIFICATIONS
2.1. Composed of an LPWAN Concentrator Module with mini-PCIe form factor:
2.1.1. Processor: SX1302 Baseband Processor
2.1.2. Memory: 512MB
2.1.3. Frequency: AU915
2.1.4. Power Consumption:
2.1.4.1. Active-mode(TX) - 511mA - 513mA
2.1.4.2. Active-mode(RX) - 70mA- 101mA
2.1.4.3. Min: -40°C
2.1.4.4. Typical: +25°C
2.1.4.5. Max: +85°C
2.1.5. Power Supply Range: 3V - 3.6V
2.1.6. Mechanical Characteristics:
2.1.6.1. Weight: 16.3g
2.1.6.2. Dimensions: 30mmx50.96mm (WxL)
2.1.7. Features
2.1.7.1. 3.3v Mini PCI-e, compatible with 3G/LTE card of Mini PCI-e type.
2.1.7.2. Compatible with 3G/LTE card of Mini PCI-e type.
2.1.7.3. Tx power up to 27dBm, Rx sensitivity down to -139dBm@SF12, BW 125 kHz.
2.1.7.4. Built-in ZOE-M8Q GPS module
2.2. For RAK 2287 Pi Hat
2.2.1. Supported Module: RAK2287-S
2.2.2. Features
2.2.2.1. Raspberry Pi form factor with a 40-pin compatible header.
2.2.2.2. Compatible with 3G/LTE card of Mini PCI-e type.
2.2.2.3. PCIe connector on board

3. ACCESSORIES
3.1. One (1) pc LPWAN concentrator SPI module
3.2. One (1) pc Pi Hat for the SPI module above
3.3. One (1) pc. Raspberry Pi 4
3.4. One (1) pc. Ipex LoRa Antenna
3.5. One (1) pc. Ipex GPS Antenna
3.6. One (1) pc. SD card with preinstalled firmware
3.7. One (1) pc aluminum enclosure

4. DELIVERY AND PAYMENT TERMS
4.1. Upon issuance of Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021.
4.2. Full payment will only be given once the items were completely delivered, inspected, and accepted by

	the End User. No payment shall be made for the supplies and materials not yet delivered under this contract.				
15	**LCD Monitor** 1 GENERAL OVERVIEW 1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the Supply and Delivery of five (5) units of LCD Monitors. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications written herein are of the minimum requirement unless stated. 1.4. The procurement of these goods will be used for the operations and research and development activities of the Embedded Systems Group (ESG). 2 TECHNICAL SPECIFICATIONS 2.1. Display Specifications 2.1.1. Panel Size: Wide Screen 23.8 inch (60.45 cm), LED backlight, 2.1.2. Aspect Ratio: 16:9 2.1.3. Display Viewing Area (HxV): 527.04 x 296.46 mm ± 1mm 2.1.4. Panel Type: WLED / IPS 2.1.5. Resolution: Full HD, 1920 x 1080 2.1.6. Pixel Pitch: 0.2745 mm 2.1.7. Brightness (Max): 250 cd/m2 2.1.8. Contrast Ratio: 1,000:1 2.1.9. Viewing Angle (CR≥10): 178°(H)/ 178°(V) 2.1.10. Color Saturation: 72% NTSC 2.1.11. Response Time: 5ms (Gray to Gray) 2.1.12. Display Colors: 16.7M 2.1.13. Flicker Free 2.2. Video Features 2.2.1. With Blue Light Filter 2.2.2. With Trace Free Technology or equivalent feature that speeds up response time by Overdrive technology 2.2.3. With 8 Video Preset Modes: (Standard / Scenery / Night View / Game / Theater / sRGB / Reading / Darkroom) 2.2.4. With 4 Color Temperature Selection: (Cool / Normal / Warm / User) 2.2.5. Supports High-bandwidth Digital Content Protection (HDCP) 2.2.6. With 48-75Hz Adaptive Sync/ FreeSync™ or equivalent technology which lets a monitor pause its screen refresh until an entire frame of animation is ready to load. 2.3. I/O Ports 2.3.1. Signal Inputs 2.3.1.1. One (1) Display Port 2.3.1.2. One (1) HDMI 2.3.1.3. One (1) D-sub: 2.3.2. One (1) 3.5mm Mini-Jack PC audio-in 2.3.3. One (1) 3.5mm Mini-Jack Earphone Jack 2.4. Audio Feature: 2W x 2 Stereo RMS (Root Mean Square) 2.5. Signal Frequency	5	unit	11770.00	58,850.00

	2.5.1. Analog Signal Frequency: 30~83 KHz(H)/ 50~75 Hz(V) 2.5.2. Digital Signal Frequency: 30~85 KHz(H)/ 48~75 Hz(V) 2.6. Power Consumption 2.6.1. Power on (Typical): <1 6.7W 2.6.2. Power Saving Mode: < 0.5W 2.6.3. Power Off Mode: <0.5W 2.6.4. Voltage: 100-240V, 50 / 60Hz 2.7. Mechanical Design 1.1.1. Chassis Colors: Black 2.7.1. Tilt: -5° ~ +23° 2.7.2. With VESA Wall Mounting: 100 x 100 mm 2.8. Physical Dimensions 2.8.1. with Stand (WxHxD): 540 x 391 x 205 mm ±1mm 2.8.2. without Stand (WxHxD): 540 x 325 x 55 mm ±1mm 2.9. Net Weight: ≤3.63 kg 2.10. Complied Standards: UL, CB, CE, FCC, CCC, BSMI, CU, RCM, VCCI, JM, PSE, MEPS (AU), MEPS (VN), CEC, TCO8.0, CEL, RoHS, WEEE, PC Recycle, WHQL (Windows 10 Windows 8 1 Windows 7), ISO 9241-307, TÜV-GS, TÜV-Ergo, KCC, KC, e-Standby, TÜV-Flicker free, TÜV-Low Blue Light 3 ACCESSORIES 3.1. One (1) pc ≥ 1meter Power Cord 3.2. One (1) pc ≥ 1meter HDMI cable 3.3. One (1) pc ≥ 1meter VGA cable 3.4. One (1) pc ≥ 1meter DisplayPort cable 3.5. One (1) pc ≥ 1meter Audio Cable 3.6. One (1) pc Warranty Card 3.7. One (1) pc Quick Start Guide 4 WARRANTY 4.1. The goods must be shipped with 30-calendar day return for an advanced replacement on DOA parts and components. 4.2. The goods must have at least one (1) year of limited warranty from the time of delivery, covering defects in materials and workmanship. Warranty service shall commence from the date of end-user acceptance. 4.3. Warranty obligation: Five percent (5%). 5 DELIVERY AND PAYMENT 5.1. Upon issuing the Notice to Proceed (NTP), the goods must be delivered on or before December 29, 2021. 5.2. The price of the bid must be inclusive of government tax and other fees. 5.3. Payment upon full delivery.				
	TOTAL APPROVED BUDGET FOR THE CONTRACT:				**Php 284,720.00**

GUIDELINES

A. Submission of Quotations

1. Quotation/s shall include the Request for Quotation and/or the Purchase Request Number as state above;
2. Pictures or brand/model names or numbers, if applicable, should be specified in the quotation/s; and
3. Quotation/s must be signed by the company's duly authorized representative.

B. Eligibiliy Requirements

Pursuant to Annex "H" or Consolidated Guidelines for the Alternative Methods of Procurement of the 2016 Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184, as amended by Government Procurement Policy Board Resolution No. 21-2017 dated 30 May 2017, the following documents shall be submitted except for Repeat Order, Shopping under Section 52.1(a), and Negotiated Procurement under Sections 53.1 (Two-Failed Biddings), and 53.5 (Agency-to-Agency):

For Procurement of Goods

1. Upon submission of quotation

   ✓ PhilGEPS Platinum Membership Certificate including Annex "A". If not available, the following alternate documents may be submitted:

   - PhilGEPS Registration Number
   - Mayor's Permit
     - For individuals/professionals engaged under Section 53.6, 53.7 and 53.9 of the 2016 IRR of RA No. 9184, only the Bureau of Internal Revenue (BIR) Certificate of Registration shall be submitted in lieu of the Mayor's Permit.

2. Upon issuance of Notice of Award (NOA)

   ✓ Omnibus Sworn Statement
   - Applicable only for bidders who have submitted their quotation on item/s with a total Approved Budget for the Contract (ABC) of above Php50,000.00.

   ✓ Income/Business Tax Return
   - Applicable only for: **a)** bidders who have submitted their quotation on item/s with a total ABC of above Php500,000.00; and **b)** bidders for Lease of Real Property and Venue (except for government agencies as lessors).

For Procurement of Infrastructure

1. The requirements for Goods with the same submission indicated therein; and
2. Valid Philippine Contractors Accreditation Board License.

For Procurement of Consulting Services

1. The requirements for Goods with the same submission indicated therein; and
2. Valid Professional Regulation Commission License or Curriculum Vitae.

NOTE: For new suppliers, submit a BIR Certificate of Registration for accounting purposes.

C. Terms and Conditions

1. Additional requirements, if necessary, may be requested by the BAC depending on the item to be bid;
2. For all kinds of procurement, the bidder who passed the bid evaluation, shall submit a duly notarized Omnibus Sworn Statement upon issuance of NOA, unless otherwise provided;
3. All transactions are subject to creditable withholding tax and final Value Added Tax or percentage tax per revenue regulation/s of the BIR;
4. A penalty of one-tenth of one percent (0.001) of the total value of the undelivered goods/services shall be charged as liquidated damages for every day of delay of the delivery; and
5. The DOST-ASTI reserves the right to accept or reject any proposal, to annul the bidding process, and to reject all proposals at any time prior to contract award, without thereby incurring any liability to the affected proponent or proponents.