



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:	Jun-16-2021, 2:00 PM		
RFQ No.:	21-06-3441	Date:	June-11-2021
PR No.:	GAA-21-05-11341	Date:	May-12-2021

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,

REYNALDO JOSEPH A. CALLAO JR.
BAC Chairman

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	<p>WATER TOLERANT 2D TOUCH SURFACE DEVELOPMENT KIT</p> <p>A. Technical Specifications</p> <ol style="list-style-type: none"> Function: Human Interface 8 Bit Embedded MCU Utilized IC / Part: PIC16F18456 <ul style="list-style-type: none"> Clock Speed: 32 MHz Flash Mem Size: 28 Kbytes Flash RAM Size: 2 Kbytes EEPROM Size: 256 bytes Touch Pad: 5x6 surface, diamond pattern with dedicated driven shield Two Self-Capacitance, water tolerant Touch buttons Supported Debugging and Programming Software: PKoB 4 (direct MPLAB and Data Visualizer) LEDs to indicate position and mode LED Driver: MCP23017 <p>B. Package Contents</p> <p>DM0164149 Water Tolerant 2D Touch Surface development kit - PIC edition</p> <p>C. Notes:</p> <ol style="list-style-type: none"> For prototyping activities. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. 	2	unit	1933.00	3,866.00

	<p>3. At least one (1) year of limited warranty for parts and services.</p> <p>4. Price is inclusive of government duties and taxes and other fees.</p> <p>5. Payment upon full delivery.</p>				
2	<p>IN-CIRCUIT DEBUGGER AND PROGRAMMER FOR THE STM8 AND STM32 MICROCONTROLLERS</p> <p>A. General</p> <p>1. In-circuit debugger and programmer for the STM8 and STM32</p> <p>2. Single-wire interface module (SWIM) and JTAG/serial wire debugging (SWD) communication microcontrollers</p> <p>B. Features</p> <p>1. 5V power supplied by a USB connector</p> <p>2. USB 2.0 full-speed compatible interface</p> <p>3. USB Type-A to Mini-B cable provided</p> <p>4. SWIM specific features:</p> <p>a. 1.65 V to 5.5 V application voltage support on the SWIM interface</p> <p>b. SWIM low-speed and high-speed modes support</p> <p>c. SWIM programming speed rates: 9.7 kbyte/s in low-speed, 12.8 kbyte/s in high-speed</p> <p>d. SWIM cable for connection to an application with an ERNI standard connector</p> <p>- Vertical connector reference: 284697 or 214017</p> <p>- Horizontal connector reference: 214012</p> <p>e. SWIM cable for connection to an application with pin headers or 2.54 mm pitch connector</p> <p>5. JTAG/serial wire debug (SWD) specific features:</p> <p>a. 1.65 V to 3.6 V application voltage support on the JTAG/SWD interface and 5 V tolerant inputs</p> <p>b. JTAG cable for connection to a standard JTAG 20-pin 2.54 mm pitch connector</p> <p>c. JTAG support</p> <p>d. SWD and serial wire viewer (SWV) communication support</p> <p>6. Direct firmware update support (DFU)</p> <p>7. Status LED blinking during the communication with the PC</p> <p>8. Operating temperature from 0 °C to 50 °C</p> <p>9. 1000 Vrms high isolation voltage (ST-LINK/V2-ISOL only)</p> <p>C. Compatible Development toolchains</p> <p>1. STM8 microcontrollers</p> <p>a. IAR Systems - IAR-EWSTM8(1)</p> <p>b. Cosmic - Free IDEA(1)</p> <p>c. Raisonance - RIDE-STM8(1)</p> <p>d. iSYSTEM - winIDEA-STM8(1)</p> <p>e. STMicroelectronics - STVD-STM8(1) (using Cosmic toolchain)</p> <p>f. STMicroelectronics - STVP-STM8(1)</p> <p>2. STM32 microcontrollers</p> <p>a. IAR Systems - EWARM(1)</p> <p>b. Keil® - MDK-ARM(1)</p> <p>c. STMicroelectronics - STM32CubeIDE</p> <p>d. STMicroelectronics - STM32CubeProgrammer (STM32CubeProg)</p>	3	unit	2000.00	6,000.00

	<p>e. STMicroelectronics - STM32CubeMonitor</p> <p>D. Notes:</p> <ol style="list-style-type: none"> 1. For prototyping activities. 2. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. 3. At least one (1) year of limited warranty for parts and services. 4. Price is inclusive of government duties and taxes and other fees. 5. Payment upon full delivery. 				
3	<p>ULTRA-LOW-POWER DISCOVERY KIT IoT NODE</p> <p>A. Features</p> <ol style="list-style-type: none"> 1. uses Ultra-low-power STM32L4 Series MCU based on Arm® Cortex®-M4 core with 1 Mbyte of Flash memory and 128 Kbytes of SRAM, in LQFP100 package 2. uses 64-Mbit Quad-SPI Flash memory 3. with Bluetooth® V4.1 module (SPBTLE-RF) 4. has Sub-GHz (868 or 915 MHz) low-power-programmable RF module (SPSGRF-868 or SPSGRF-915) 5. with Wi-Fi® module Inventek system ISM43362-M3G-L44 (802.11 b/g/n compliant) 6. with Dynamic NFC tag based on M24SR with its printed NFC antenna 7. has 2 digital omnidirectional microphones (MP34DT01) 8. has Capacitive digital sensor for relative humidity and temperature (HTS221) 9. uses High-performance 3-axis magnetometer (LIS3MDL) 10. with 3D accelerometer and 3D gyroscope (LSM6DSL) 11. has a 260-1260 hPa absolute digital output barometer (LPS22HB) 12. with Time-of-Flight and gesture-detection sensor (VL53L0X) 13. has 2 push-buttons (user and reset) 14. with USB OTG FS with Micro-AB connector 15. with ARDUINO® Uno V3 expansion connector 16. with PMOD™ expansion connector 17. Flexible power-supply options: ST-LINK USB VBUS or external sources 18. On-board ST-LINK/V2-1 debugger/programmer with USB re-enumeration capability: mass storage, Virtual COM port and debug port 19. Comprehensive free software including a variety of examples, as part of the STM32Cube package, as well as a cloud connector software expansion, enabling direct access to cloud servers 20. Support of wide choice of Integrated Development Environments (IDEs) including IAR™, Keil®, GCC-based IDEs, Arm® Mbed Enabled™ 21. Arm® Mbed Enabled™ (see http://mbed.org) <p>B. Inclusion/s</p> <p>Includes B-L475E-IOT01A Board</p> <p>C. Notes:</p>	2	unit	5900.00	11,800.00

	<ol style="list-style-type: none"> 1. For prototyping activities. 2. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. 3. At least one (1) year of limited warranty for parts and services. 4. Price is inclusive of government duties and taxes and other fees. 5. Payment upon full delivery. 				
4	<p>ULTRA-LOW-POWER DISCOVERY KIT IoT NODE</p> <p>A. Features</p> <ol style="list-style-type: none"> 1. uses Ultra-low-power STM32L4+ Series STM32L4S5VIT6 microcontroller based on the Arm® Cortex®-M4 core with 2 Mbytes of Flash memory and 640 Kbytes of RAM in LQFP100 package 2. uses 64-Mbit Quad-SPI Flash memory from Macronix™ 3. with Bluetooth® 4.1 module (SPBTLE-RF) from STMicroelectronics 4. has 802.11 b/g/n compliant Wi-Fi® module (ISM43362-M3G-L44) from Inventek Systems 5. with Dynamic NFC tag based on ST25DV04K with its printed NFC antenna 6. has 2 digital omnidirectional microphones (MP34DT01) from STMicroelectronics 7. has Capacitive digital sensor for relative humidity and temperature (HTS221) from STMicroelectronics 8. with High-performance 3-axis magnetometer (LIS3MDL) from STMicroelectronics 9. with 3D accelerometer and 3D gyroscope (LSM6DSL) from STMicroelectronics 10. with 260-1260 hPa absolute digital output barometer (LPS22HB) from STMicroelectronics 11. equipped with Time-of-flight and gesture-detection sensor (VL53L0X) from STMicroelectronics 12. has a Highly-secure solution (STSAFE-A110) from STMicroelectronics 13. with 2 push-buttons (user and reset) 14. with USB OTG FS with Micro-AB connector 15. with ARDUINO® Uno V3 expansion connector 16. with Pmod™ expansion connector 17. Flexible power-supply options: ST-LINK, USB VBUS or external sources 18. On-board ST-LINK/V2-1 debugger/programmer with USB re-enumeration capability: mass storage, Virtual COM port, and debug port 19. Comprehensive free software libraries and examples available with the STM32Cube MCU Package 20. Support of a wide choice of Integrated Development Environments (IDEs) including IAR™, Keil®, and STM32CubeIDE <p>B. Inclusion/s B-L4S5I-IOT01A Board</p> <p>C. Notes</p> <ol style="list-style-type: none"> 1. For prototyping activities. 2. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. 3. At least one (1) year of limited warranty for parts and 	2	unit	4700.00	9,400.00

	<p>services.</p> <p>4. Price is inclusive of government duties and taxes and other fees.</p> <p>5. Payment upon full delivery.</p>				
5	<p>DISCOVERY KIT WITH LINEAR TOUCH SENSORS AND E-PAPER DISPLAY</p> <p>A. Features</p> <ol style="list-style-type: none"> uses STM32L053C8T6 microcontroller featuring 64 KB of Flash memory, 8 KB RAM in an LQFP48 package. with On-board ST-LINK/V2-1 with selection mode switch to use the kit as a standalone STLINK/V2-1 (with SWD connector for programming and debugging) mbed™-enabled (mbed.org) has a USB ST-LINK with re-enumeration capability and three different interfaces such as: <ul style="list-style-type: none"> virtual com port mass storage debug port Board power supply: through USB bus or from an external 5 V supply voltage External application power supply: 3 V and 5 V. One linear touch sensor or four touchkeys. IDD current measurement. 2.04" E-paper display, 172x72 pixels Four LEDs: <ul style="list-style-type: none"> LD1 (red/green) for USB communication LD2 (red) for 3.3 V power-on Two user LEDs: LD3 (green), LD4 (red) Two pushbuttons (user and reset) Extension header for LQFP48 I/Os for a quick connection to the prototyping board and easy probing Comprehensive free software including a variety of examples, part of STM32CubeL0 package System requirements Windows OS (XP, 7, 8) USB standard Type-A to Mini-B cable <p>B. Inclusion/s</p> <p>One (1) development board</p> <p>C. Notes</p> <ol style="list-style-type: none"> For prototyping activities. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. At least one (1) year of limited warranty for parts and services. Price is inclusive of government duties and taxes and other fees. Payment upon full delivery. 	2	unit	2100.00	4,200.00
6	<p>AI SENSING DEVELOPMENT KIT</p> <p>A. Development kit which includes</p> <ol style="list-style-type: none"> Reference Design Board with ff components <ul style="list-style-type: none"> LSM6DSM always-on 3D accelerometer and 3D gyroscope, LSM303AGR Ultra-compact high-performance eCompass module, LPS22HB MEMS nano pressure sensor, MP34DT05-A MEMS audio sensor omnidirectional 	1	unit	7200.00	7,200.00

	<p>stereo digital microphone, - BlueNRG-MS Upgradable Bluetooth® low energy network processor, - BALF-NRG-02D3 conjugate match balun to BlueNRG transceiver, with integrated harmonic filter and - LD39115J18R Linear Voltage Regulator</p> <p>2. Cradle board equipped with audio DAC, USB port, STM32 Nucleo, Arduino UNO R3 and SWD connector</p> <p>3. Cradle with battery charger, humidity and temperature sensor, SD memory card slot, USB port and breakaway SWD connector</p> <p>B. Features</p> <ol style="list-style-type: none"> 1. CE certified RoHS and China RoHS compliant 2. WEEE compliant 3. FCC (ID: S9NSTILE01) certified 4. IC (IC: 8976C-STILE01) certified with PMN: STEVAL-STLKT01V1; HVIN: STEVAL-STLCS01V1; HMN: STEVAL-STLCX01V1; FVIN: bluenrg_7_1_e_Mode_2-32MHz-XO32K_4M.img 5. TYPE certified (006-000482) <p>C. Inclusions</p> <ol style="list-style-type: none"> 1. 13.5mm x 13.5mm Reference Design Board/Module 2. Cradle Board 3. 100mAh LiPO Battery 4. Programming Cable 5. Cradle Expansion Board 6. Plastic case <p>D. Notes</p> <ol style="list-style-type: none"> 1. For prototyping activities. 2. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. 3. At least one (1) year of limited warranty for parts and services. 4. Price is inclusive of government duties and taxes and other fees. 5. Payment upon full delivery. 				
7	<p>MACHINE LEARNING EVALUATION KIT WITH ADD-ON LOW POWER INERTIAL MEASUREMENT UNIT (IMU) SENSOR BOARD</p> <p>A. Features:</p> <ol style="list-style-type: none"> 1. Includes SAMD21G18 Arm® Cortex®-M0+ based 32-bit microcontroller (MCU) with on-board debugger (nEDBG) 2. Includes ATECC608A CryptoAuthentication™ secure element IC 3. Fully certified ATWINC1510 Wi-Fi® network controller 4. Includes MCP9808 high accuracy temperature sensor 5. Includes add-on board MikroE 6DOF IMU 2 Click Board (BMI160) <p>B. Notes</p> <ol style="list-style-type: none"> 1. For prototyping activities. 2. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. 	5	unit	4900.00	24,500.00

	<p>3. At least one (1) year of limited warranty for parts and services.</p> <p>4. Price is inclusive of government duties and taxes and other fees.</p> <p>5. Payment upon full delivery.</p>				
8	<p>JTAG TO SWD CABLE ADAPTER BOARD</p> <p>A. Specifications:</p> <ol style="list-style-type: none"> Dimensions with components: 34mm x 24mm x 12mm Weight: 5.7g JTAG <ul style="list-style-type: none"> No. of rows: 2 No. of columns: 10 Pitch: 2.54 mm SWD <ul style="list-style-type: none"> No. of rows: 2 No. of columns: 5 Pitch: 1.27 mm Others <ul style="list-style-type: none"> must be compatible with SEGGER J-Link <p>B. Notes</p> <ol style="list-style-type: none"> For prototyping activities. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. At least one (1) year of limited warranty for parts and services. Price is inclusive of government duties and taxes and other fees. Payment upon full delivery. 	1	unit	500.00	500.00
9	<p>10-PIN 2X5 SOCKET-SOCKET SWD CABLE</p> <p>A. Specifications:</p> <ol style="list-style-type: none"> 10-pin Ribbon Cable Pitch: 0.06mm Connector Pitch: 1.27mm 2x5 box Dimensions: 150mm long x 6mm wide Connector: 5mm x 3mm Weight: 1.9g <p>B. Notes</p> <ol style="list-style-type: none"> For prototyping activities. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. At least one (1) year of limited warranty for parts and services. Price is inclusive of government duties and taxes and other fees. Payment upon full delivery. 	2	unit	300.00	600.00
10	<p>CYLINDRICAL BATTERY</p> <p>A. Specifications:</p> <ol style="list-style-type: none"> Chemical Composition: Li-ion (Lithium-Ion) Hybrid Capacity (Ah): 3.5 Ah (3500mAh) Type /size: 18650 Protected Nominal Voltage (V): 3.6V - 3.7V Charging Voltage (V): 4.2 V Charging Algorithm: CC/CV Weight (g): 48 g Diameter (mm): 18.6 mm (+/- 0.03) 	12	unit	859.00	10,308.00

	<p>9. Height (mm): 68.9 mm (+/- 0.03)</p> <p>10. Max. Continuous Discharge current Load: 10A (10000 mA)</p> <p>11. Protection cutoff: 10A</p> <p>12. Protection ICs: Made by Seiko</p> <p>13. Welded Button Top: Yes</p> <p>14. External welded PCB Protection: Yes</p> <p>B. Notes</p> <p>1. For prototyping activities.</p> <p>2. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP.</p> <p>3. At least one (1) year of limited warranty for parts and services.</p> <p>4. Price is inclusive of government duties and taxes and other fees.</p> <p>5. Payment upon full delivery.</p>				
11	<p>DUAL-CORE MCU 32-BIT EMBEDDED EVALUATION BOARD DISCOVERY KIT</p> <p>A. Features:</p> <p>1. uses STM32H747XIH6 Arm®-based microcontroller with 2 Mbytes of Flash memory and 1 Mbyte of RAM in TFBGA240 + 25 package</p> <p>2. includes 4" capacitive touch LCD display module with MIPI® DSI interface (STM32H747I-DISCO order code only)</p> <p>3. Ethernet compliant with IEEE802.3-2002</p> <p>4. USB OTG HS</p> <p>5. SAI audio codec</p> <p>6. ST-MEMS digital microphones</p> <p>7. 2 x 512-Mbit Quad-SPI NOR Flash memory</p> <p>8. 256-Mbit SDRAM</p> <p>9. 4 color user LEDs</p> <p>10. 1 user and reset push-button</p> <p>11. 4-direction joystick with selection button</p> <p>12. Fanout daughterboard</p> <p>13. Board connectors:</p> <ul style="list-style-type: none"> - Camera (8-bit) - USB with Micro-AB - Ethernet RJ45 - SPDIF RCA input and output - Stereo headset jack including analog microphone input - Audio jack for external speakers - microSD™ card - TAG-Connect 10-pin footprint <ul style="list-style-type: none"> - Arm® Cortex® 10-pin 1.27 mm-pitch debug connector over STDC14 footprint <p>14. Board expansion connectors:</p> <ul style="list-style-type: none"> - Arduino™ Uno V3 - Pmod™ Type 2A and Type 4A <p>vSTMod+</p> <ul style="list-style-type: none"> - Audio daughterboard <p>15. Flexible power-supply options:</p> <ul style="list-style-type: none"> - ST-LINK USB VBUS, USB OTG HS connector, or external sources <p>16. On-board STLINK-V3E debugger/programmer with USB re-enumeration capability: mass storage, Virtual COM port and debug port</p> <p>17. Comprehensive free software libraries and</p>	2	unit	8500.00	17,000.00

	<p>examples available with the STM32Cube MCU Package</p> <p>18. Support of a wide choice of integrated development environments (IDEs), including IAR™, Keil® and GCC-based IDEs</p> <p>B. Notes</p> <ol style="list-style-type: none"> 1. For prototyping activities. 2. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. 3. At least one (1) year of limited warranty for parts and services. 4. Price is inclusive of government duties and taxes and other fees. 5. Payment upon full delivery. 				
12	<p>DISCOVERY KIT WITH 32-BIT MCU</p> <p>A. Features:</p> <ol style="list-style-type: none"> 1. uses STM32F769NIH6 microcontroller featuring 2 Mbytes of Flash memory and 512+16+4 Kbytes of RAM, in BGA216 package 2. includes an on-board ST-LINK/V2-1 supporting USB reenumeration capability 3. USB ST-LINK functions: virtual COM port, mass storage, debug port 4. includes 4" capacitive touch LCD display with MIPI® DSI connector 5. SAI audio codec 6. Two audio line jacks, one for input and one for output 7. Stereo speaker outputs 8. Four ST MEMS microphones on DFSDM inputs 9. Two SPDIF RCA input and output connectors 10. Two push-buttons (user and reset) 11. 512-Mbit Quad-SPI Flash memory 12. 128-Mbit SDRAM 13. Connector for microSD card 14. Wi-Fi or Ext-EEP daughterboard connector 15. USB OTG HS with Micro-AB connector 16. Ethernet connector compliant with - IEEE-802.3-2002 17. Five power supply options: <ul style="list-style-type: none"> - ST LINK/V2-1 - USB HS connector - 5 V from RJ45 (Power Over Ethernet) - 5 V from Arduino™ or external connector - USB charger 18. Power Over Ethernet based on IEEE 802.3af (Powered Device, 48 V to 5 V, 3 W) 19. Power supply output for external applications: 3.3 V or 5 V 20. Arduino™ Uno V3 connectors 21. Comprehensive free software including a variety of examples, part of the STM32Cube package 22. Supported by a wide choice of integrated development environments <p>B. Notes</p> <ol style="list-style-type: none"> 1. For prototyping activities. 2. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. 3. At least one (1) year of limited warranty for parts and 	2	unit	7700.00	15,400.00

	<p>services.</p> <p>4. Price is inclusive of government duties and taxes and other fees.</p> <p>5. Payment upon full delivery.</p>				
13	<p>32-BIT EMBEDDED DEVELOPMENT BOARD KIT</p> <p>A. Features:</p> <p>1. uses ATSAME70Q21B Microcontroller</p> <ul style="list-style-type: none"> - Cortex -M7 - Max Speed: 300MHz - Flash: 2048KB - RAM: 384KB <p>2. Memory</p> <ul style="list-style-type: none"> - QSPI: 32Mbit (4MB) - External SDRAM: 16Mbit (2MB) - Serial EEPROM w/MAC address <p>3. Interfaces</p> <ul style="list-style-type: none"> - Arduino Mega interface - X32+ Mikro interface - Modular Ethernet interface (RMII + SPI) - Modular Graphics interface - Image Sensor Interface Headers (ISI) - EXT1/2 - On board debugger (EBDG + DGI interface) - CAN interface - Micro SD Card interface - 1 User button - 1 User LED - 5-14V input compatible <p>4. Kit must include</p> <ul style="list-style-type: none"> - One SAM E70 Xplained Ultra Development Kit - One KSZ8061 Ethernet PHY - One Graphics card set up for 565 (16-bit color) graphics <p>B. Notes</p> <p>1. For prototyping activities.</p> <p>2. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP.</p> <p>3. At least one (1) year of limited warranty for parts and services.</p> <p>4. Price is inclusive of government duties and taxes and other fees.</p> <p>5. Payment upon full delivery.</p>	2	unit	9600.00	19,200.00
14	<p>32-BIT EMBEDDED EVALUATION BOARD</p> <p>A. Features:</p> <p>1. Microcontroller: STM32H747XI dual Cortex®-M7+M4 32bit low power ARM MCU</p> <p>2. Radio module: Murata 1DX dual WiFi 802.11b/g/n 65 Mbps and Bluetooth 5.1 BR/EDR/LE</p> <p>3. Secure Element (default): NXP SE0502</p> <p>4. Board Power Supply (USB/VIN): 5V</p> <p>5. Supported Battery: Li-Po Single Cell, 3.7V, 700mAh Minimum (integrated charger)</p> <p>6. Circuit Operating Voltage: 3.3V</p> <p>7. Current Consumption: 2.95 µA in Standby mode (Backup SRAM OFF, RTC/LSE ON)</p> <p>8. Display Connector: MIPI DSI host & MIPI D-PHY to interface with low-pin count large display</p> <p>9. GPU: Chrom-ART graphical hardware Accelerator™</p>	2	unit	8700.00	17,400.00

	<p>10. Timers: 22x timers and watchdogs 11. UART: 4x ports (2 with flow control) 12. Etherney PHY: 10 / 100 Mbps (through expansion port only) 13. SD Card: Interface for SD Card connector (through expansion port only) 14. Operational Temperature: -40 °C to +85 °C 15. MKR Headers: Use any of the existing industrial MKR shields on it 16. High-density Connectors: Two 80 pin connectors will expose all of the board's peripherals to other devices 17. Camera Interface: 8-bit, up to 80 MHz 18. ADC: 3x ADCs with 16-bit max. resolution (up to 36 channels, up to 3.6 MSPS) 19. DAC: 2x 12-bit DAC (1 MHz) 20. USB-C: Host / Device, DisplayPort out, High / Full Speed, Power delivery</p> <p>B. Notes</p> <ol style="list-style-type: none"> 1. For prototyping activities. 2. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP. 3. At least one (1) year of limited warranty for parts and services. 4. Price is inclusive of government duties and taxes and other fees. 5. Payment upon full delivery. 				
15	<p>HARDWARE DEBUGGER PACKAGE</p> <p>A. Specifications:</p> <ol style="list-style-type: none"> 1. Supported OS: Microsoft Windows 2000, XP, 2003, Vista, 7 and newer (32 bit and 64 bit versions), Linux, macOS 10.5 and higher 2. Electromagnetic compatibility (EMC): EN 55022, EN 55024 3. Operating temperature: +5°C ... +60°C 4. Storage temperature: -20°C ... +65 °C 5. Relative humidity (non-condensing): Max. 90% rH 6. Mechanical <ul style="list-style-type: none"> - Size (without cables): 100mm x 53mm x 27mm - Weight (without cables): 70g - Size compact device (without cables): 47mm x 40mm x 14mm - Weight compact device (without cables): 20g 7. Available Interfaces <ul style="list-style-type: none"> - USB interface (J-Link BASE Compact): USB 2.0 (Hi-Speed); Micro USB - Target interface: JTAG/SWD 20-pin 8. JTAG/SWD Interface, Electrical <ul style="list-style-type: none"> - Power supply: USB powered 9. Max. 50mA + Target Supply current. <ul style="list-style-type: none"> - Target interface voltage (VIF): 1.2V ... 5V - Current drawn from target voltage sense pin (VTRef): < 25µA - Target supply voltage: 5V (derived from USB voltage) - Target supply current: Max. 300mA - Reset type: Open drain. Can be pulled low or tristated - Reset low level output voltage: VOL <= 10% of VIF 	1	lot	33600.00	33,600.00

10. For the whole target voltage range (1.2V <= VIF <= 5V)
 - LOW level input voltage (VIL): VIL <= 40% of VIF
 - HIGH level input voltage (VIH): VIH >= 60% of VIF
11. For 1.2V >= VIF <= 3.6V
 - LOW level output voltage (VOL) with a load of 10 kOhm: VOL <= 10% of VIF
 - HIGH level output voltage (VOH) with a load of 10 kOhm: VOH >= 90% of VIF
12. For 3.6 <= VIF <= 5V
 - LOW level output voltage (VOL) with a load of 10 kOhm: VOL <= 20% of VIF
 - HIGH level output voltage (VOH) with a load of 10 kOhm: VOH >= 80% of VIF
13. JTAG/SWD Interface, Timing
 - Target interface speed: Max. 15 MHz
 - SWO sampling frequency: Max. 30 MHz
 - Data input rise time (Trdi): Trdi <= 20ns
 - Data input fall time (Tfdi): Tfdi <= 20ns
 - Data output rise time (Trdo): Trdo <= 10ns
 - Data output fall time (Tfdo): Tfdo <= 10ns
 - Clock rise time (Trc): Trc <= 3ns
 - Clock fall time (Tfc): Trc <= 3ns
14. Others
 - must include .1" 20-pin ribbon cable
 - USB cable

B. Notes

1. For prototyping activities.
2. Items must be delivered to ASTI within 30 calendar days upon issuance of NTP.
3. At least one (1) year of limited warranty for parts and services.
4. Price is inclusive of government duties and taxes and other fees.
5. Payment upon full delivery.

TOTAL APPROVED BUDGET FOR THE CONTRACT:

Php 180,974.00

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. Eligibility 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.