



**DOST-ASTI Bids and Awards Committee
REQUEST FOR QUOTATION**

Kind of Procurement Activity:	Negotiated Procurement: Small-value Procurement		
Deadline of Submission of Bids:	Oct-20-2020, 2:00 PM		
RFQ No.:	20-10-3253	Date:	October-14-2020
PR No.:	GRASPED-20-09-10280	Date:	September-08-2020

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>Thermal Imaging Module compatible with FLIR Lepton 2.5 Specifications:</p> <p>Effective Frame Rate: 8.6 Hz (commercial application exportable) Input Clock: 25-MHz nominal, CMOS IO Voltage Levels Output Format: User-selectable 14-bit, 8-bit (AGC applied), or 24-bit RGB (AGC and colorization applied) Pixel Size: 17 µm Radiometric Accuracy: High gain: Greater of +/- 5°C or 5% (typical) Low gain: Greater of +/- 10°C or 10% (typical) Scene Dynamic Range: -10-140 °C (high gain); up to 450°C (low gain) typical Spectral Range: Longwave infrared, 8 µm to 14 µm Temperature Compensation: Automatic. Output image independent of camera temperature. Thermal Sensitivity: <50 mK (0.050° C) Video Data Interface: Video over SPI Control Port: CCI (I2C-like), CMOS IO Voltage Levels Package Dimensions - Socket Version (w x l x h): 11.8 x 12.7 x 7.2 mm Mechanical Interface: 32-pin socket interface to standard Molex® socket Non-Operating Temperature Range: -40 °C to +80 °C</p>	2	unit	15500.00	31,000.00

	<p>Optimum Temperature Range: -10°C to +80°C Shock: 1500 G @ 0.4 ms Array format: 80 × 60, progressive scan FOV - Diagonal: 63.5° FOV - Horizontal: 50° (nominal) Image Optimization: Factory configured and fully automated Non-Uniformity Correction (NUC): Automatic with shutter Sensor Technology: Uncooled VOx microbolometer Solar protection: Integral Input Supply Voltage: 2.8 V, 1.2 V, 2.5 V to 3.1 V IO Power Dissipation: 150 mW (operating), 650 mW (during shutter event), 4 mW (standby)</p> <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
2	<p>Smart I/O Board compatible with FILIR Lepton Specifications: Power Inputs -Micro USB Maximum Input Voltage (LiPo/H1) -5.5v • Lepton Core Support -Lepton 2.x and 3.x Expansion -I2C, UART, GPIO, JTAG Processor -STM32F412 (1M Flash, 512K RAM) Thermal Video Outputs -UVC over USB PT2 can do 9 Hz color video over usb using the USB UVC class STM32F412 ARM microprocessor. Through-holes for GPIO and peripheral breakouts to easily attach other devices Device Firmware Upgrade (DFU) the STM32 ARM MCU over USB Debug via JTAG through a 6-Pin plug-of-Nails port using a Tag-Connect TC2030-IDC-NL, an ARM20-CTX, & ST-Link V/2. Powered via USB UART, I2C, and GPIO Expansion via standard 0.1” holes Compatible with all current 2.x and 3.x Lepton cores Dimensions: 30mm x 18mm</p> <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	2	unit	8500.00	17,000.00
3	<p>Adapter Module for Thermal Vision Specifications: Expansion -I2C, UART, GPIO, JTAG • Processor -STM32F412 (1M Flash, 512K RAM) • Thermal Video Outputs -UVC over USB interface compatibility with OpenMV Camera and</p>	2	unit	1150.00	2,300.00

	<p>FLIR Lepton v1, 2 and 3 Dimensions</p> <ul style="list-style-type: none"> • Weight 2g • Length 36mm • Width 16mm • Height 8mm <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
4	<p>ANTI SLIP LAPTOP STAND / LAPTOP RISER -- ALUMINUM FOLDABLE ADJUSTABLE NOTEBOOK STAND Specification</p> <ul style="list-style-type: none"> • Anti Slip Silicone - Holds your device very stable • High Quality Aluminum Material • Hollow Design - Colling your device very well • Adjustable - can set height within 55 mm to 155 mm • Multi Support design - supports 15.6 inches or smaller sizes of laptop • Compact, Lightweight: • Light weight just 250grams with High Premium Aluminum construction. Folded size with 8mm thickness only. • Comes with Carrying Sleeve Bag. <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	5	unit	880.00	4,400.00
5	<p>HQ Camera Lens compatible with Rasperberry Pi</p> <ul style="list-style-type: none"> • Resolution: 3MP • Image Format: 0.5" • Aperture: F1.2 • Mount: CS • Field Angle: 63° • Back Focal Length: 7.53mm • M.O.D.: 0.2m • Dimensions: 30×34mm <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	1	unit	2150.00	2,150.00
6	<p>HQ Camera Module compatible with Rasperberry Pi Features:</p> <ul style="list-style-type: none"> • 12.3 megapixels, 7.9mm sensor diagonal, 1.55µm × 1.55µm pixel size • Ouput: RAW12/10/8, COMP8 	2	unit	5550.00	11,100.00

	<ul style="list-style-type: none"> • Back focus: Adjustable (12.5mm – 22.4mm) • Lens standards: C-mount, CS-mount (C-CS adapter included) • IR cut filter: Integrated • Ribbon cable length: 200mm • Tripod mount: 1/4in. – 20 <p>Inclusions:</p> <ul style="list-style-type: none"> • Module assembly w/ 1/4'-20 tripod mount • C-CS adapter • Dust cap • Ribbon cable (200mm) - a longer cable may be needed depending on the mounting technique used. <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
7	<p>PRO HD Webcam,1080p (at30 fps)</p> <p>Specifications: Technical Specifications Max Resolutions: 1080p/30fps- 720p/30fps Focus type: autofocus Built-in mic: stereo Tripod-ready universal clips fits laptops, LCD or monitors Cable length: 5ft (1.5m)</p> <p>System Requirements Compatible with Windows 10 or later Windows 8, Windows 7 Works in USB Video Device Class (UVC) with supported video calling clients Dimensions Height x Width x Depth: 1.14 in (29 mm) x 3.70 (94mm) x .94 (24mm) Cable length: 5ft (1.5m) Height x Width x Depth: 1.70 in (43.3 mm) x 3.70 (94mm) x 2.80 (71mm)</p> <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	2	unit	6150.00	12,300.00
8	<p>Panoramic 360° Camera</p> <p>Specifications</p> <ul style="list-style-type: none"> • Image processor- compatible with Ambarella A12 • Image sensor- compatible Sony IMX 206 • Compatibility-Android 5.0/iOS 8.0 and higher • Video modes-Normal video, Short video, Time-lapse video, Recording cycle • Styles-Panorama, Standard • Video resolution-3456*1728 @ 30fps 2304*1152 @ 60fps 2304*1152 @ 30fps; • Photo resolution-6912*3456 3456*1728 • Charging interface-micro USB 	1	unit	11000.00	11,000.00

	<ul style="list-style-type: none"> • Charging time-within 2 hours • Lens type-large wide-angle folding lens module • Lens components-2 × (5 pieces spherical glass lens + 2 pieces aspheric glass lens + 2 pieces right angle glass prism) • ISO modes-Automatic; Manual: 50, 100, 200, 400, 800, 1600 • Shutter speed-Automatic, Manual: 1,2,3,4 • White balance-Automatic, Outdoor, Cloud, Incandescent, Fluorescent • Storage-microSD card (up to 128GB) • Wi-Fi-802.11 b/g/n, 2.4GHz, ≥50m range with no obstructions • Bluetooth-BT4.0, ≥30m range • Built-in 1600mAh 3.8V Li-ion battery that supports 75 minutes shooting time at 4K with WiFi, support QC2.0 quick charge • IP67 waterproof and dustproof • 23.88MP Effective Pixels, Shoot High-quality image <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
9	<p>100 mm ToF Range Finder Sensor</p> <p>Technical Specs: Size- 4.8 x 2.8 x 1.0 mm Ranging 0 to 100mm Ambient light sensor < 1 Lux up to 100 kLux; 16-bit output; 8 manual settings Operational Voltage; Functional range- 2.6 to 3.0 V; Optimum Range 2.7 to 2.9 V Operational temp; Functional range -20 to 70° C; optimum range -10 to 60° C Typical power consumption- Hardware standby (GPIO= 0) < 1 µA Software standby < 1 µA; ALS 300 µA; Ranging 1.7mA IR emitter 850 nm I2C 400 kHz serial bus; Address, 0x29 (7-bit)</p> <p>Features: 2.8V Regulator - Provides the required 2.8V for the sensor I2C Level Shifter - Provides logic level conversion from 2.8V to VCC 3-in-1 Module IR Emitter Range Sensor Ambient Light Sensor Measures absolute range up to 10cm Gesture Recognition I2C Interface Two Programmable GPIO Sharp Sensor Board Layout</p> <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week</p>	1	unit	2034.48	2,034.48

	upon issuance of NTP				
10	<p>60m Infrared ToF Range Sensor</p> <p>Technical Specifications</p> <ul style="list-style-type: none"> • Principle Infrared Time-of-Flight • Range 0.5 m to 60 m • Update Rate: Up to 240 readings per second • Output Resolution: 0.5 cm below 14m, 2cm from 14m • Accuracy ±4cm in the first 14m, 1.5% above 14m • Field of view: Approx. 2 • Supply voltage: 5V Dc +/- 5% • Supply Current (min-max) 90Ma-330Ma • Interfaces: USB 2.0 Micro-B; UART +3.3V level, 400kHz; • Connectors: Single 9 pin Hirose DF13; Micro Usb • Weight 9g (sensor); 3g (backboard) • Dimensions: Approx. 29x29x22mm (sensor+backboard) <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	1	unit	10658.48	10,658.48
11	<p>drawer Plastic Tool Box, 508 x 249 x 249mm</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Material-Plastic • Box Type-Tool Box • Length-508mm • Width-249mm • Height-508mm • Dimensions-508 x 249 x 249mm • Lock Type-Latch • Number of Drawers-1 • Tray Type-Tote • Colour-Black • Weight-1.8kg <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	1	unit	2250.00	2,250.00
12	<p>HQ Camera Lens - 16mm Telephoto compatible with Rasperberry Pi</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Resolution: 10MP • Image Format: 1" • Aperture: F1.4-16 • Mount: C • Field Angle: • 1" - 44.6° x 33.6° • 2/3" - 30.0° x 23.2° • 1/1.8" - 24.7° x 18.6° • 1/2" - 21.8° x 16.4° 	1	unit	5100.00	5,100.00

	<ul style="list-style-type: none"> • Back Focal Length: 17.53mm • M.O.D.: 0.2m • Dimensions: 39.00×50.00mm <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
13	<p>All-in-1 Type C Adapter</p> <p>Specifications: Resolution: HDMI: 4K / VGA: 1080 P Card Reader: SD/TF Cards Shield: Aluminum foil braid Cable Length: 10 cm USB: 3*usb 3.0 ports RJ45: 1000Mbps ethernet Power Supply Charging Tinned cooper core</p> <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	1	unit	2700.00	2,700.00
14	<p>1-Channel LoRa Gateway</p> <p>Specifications compatible with ESP32-WROOM-32 module -WiFi, BT+BLE microcontroller -Integrated PCB antenna compatible with Hope RFM95W LoRa modem -Frequency range: 868/915 MHz -Spread factor: 6-12 -SPI control interface -CH340C USB-to-Serial interface -Micro-B USB connector for power and programming</p> <p>U.FL antenna connector for LoRa radio -Reset and ESP32 pin0 buttons -14 GPIO ESP32 pin-breakouts -Power and user LEDs -Qwiic connector</p> <p>-All current consumption tested at 5V ~170 mA when formatting SPIFFS in Gateway mode ~150 mA when searching for WiFi network in Gateway mode 80 to 100 mA in steady operation of Gateway ~70 mA when using the LoRa Device example</p> <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	2	unit	2300.00	4,600.00

15	<p>Embedded Module with 868/915 Mhz Lora Radio</p> <p>Specifications:</p> <ul style="list-style-type: none"> • compatible with ATmega32u4 @ 8MHz with 3.3V logic/power • 3.3V regulator with 500mA peak current output • USB native support, comes with USB bootloader and serial port debugging • 20 GPIO pins • Hardware Serial, hardware I2C, hardware SPI support • Measures 2.0" x 0.9" x 0.28" (51mm x 23mm x 8mm) without headers soldered in • Weight 5.5 grams <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	4	unit	2500.00	10,000.00
16	<p>868/915 Mhz Antenna Kit (Compatible with Lora and Sigfox)</p> <p>Specifications:</p> <p>Inclusions:</p> <ul style="list-style-type: none"> 1x RP-SMA (Male) Tilt Swivel 1/2 Wave Whip Antenna 1x RP-SMA (Female) JK-IPEX MHF U.FL 1.13 - 100MM 1x Mounting Screw Hardware <p>Features:</p> <ul style="list-style-type: none"> • 868MHz/915MHz LoRa Bands • Can be used with LoPy, SiPy, LoPy4 and FiPy Boards <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	4	unit	1050.00	4,200.00
17	<p>868Mhz LoRaWAN Developer Gateway</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Type: Connectors • LoRa Module: must be compatible w/ RAK2246 / Semtech SX1308 chip • GPS Module: must be compatible w/ Ublox MAX-7Q GPS module • Heat Sink: Pre-installed Metal Radiator Material • Frequency: RU864, IN865, EU868, US915, AU915, KR920, AS923 • LoRaWAN Version: LoRaWAN V1.0.2 • Interfaces: SPI, UART, I2C, GPIOs • Antenna Interface 1: SMA connector for LoRa • Antenna Interface 2 (for RAK7246G only): SMA connector for GPS • Transmission Power: 20dbm • Receiver Sensitivity: -139dbm @ SF12 at 125kHz • Working Environment: Indoor 	1	unit	9600.00	9,600.00

	<ul style="list-style-type: none"> • Dimension (L x W x H): 96mm x 66mm x 47mm • Enclosure Material: Acrylic • Ingress Protection Rating: IP30 <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
18	<p>High Precision Cjmcu-1220 Ads1220 Adc Spi Low Power 24 Bit A/d Converter Sensor Module</p> <p>Specifications</p> <ul style="list-style-type: none"> • Low current consumption: as low as 120µA in duty cycle mode (typical) • Power range: 3 V~5 V • Up to 20 effective resolutions • Two differential or four single-ended inputs • Dual matched programmable current source: 10µA to 1.5 mA • Internal 2.048-V Reference: 5 ppm/°C (typical) Drift • Internal 2% precision oscillator • Internal temperature sensor: 0.5°C (typical) accuracy • SPI compatible interface (mode 1) <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	2	unit	1350.00	2,700.00
19	<p>Drawer Storage Unit, Transparent Drawers, 334mm x 391mm x 197mmHeight</p> <p>Specifications</p> <ul style="list-style-type: none"> • Drawers-4 • Case Material-PP • Height-334mm • Width-391mm • Depth-197mm • Transparent Drawers-Yes • Drawer Material-PP • Tilt Drawers-No • Colour-Black • Wall Mounted-No <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	1	unit	3990.00	3,990.00
20	<p>PP 12 Drawer Storage Unit, Transparent Drawers, 290mm x 310mm x 180mm</p> <p>Specifications</p> <ul style="list-style-type: none"> • Drawers-6 • Case Material-PP • Height-290mm 	1	unit	4750.00	4,750.00

	<ul style="list-style-type: none"> • Width-310mm • Depth-180mm • Transparent Drawers-Yes • Drawer Material-PS • Tilt Drawers-Yes • Colour-Grey • Wall Mounted-No <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
21	<p>Stainless Steel, Tweezer Set</p> <p>Specifications</p> <ul style="list-style-type: none"> • Material-Stainless Steel • No. of Pieces-7 • Contains: • Anti-Acid/Anti-Mag • SS: 5.SA.BS, 31.SA.5, SS.SA.BS, 574.SA.1,29.SA.5, 3.SA.BS, 122.SA.1 <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	2	unit	2700.00	5,400.00
22	<p>Transparent PP, Adjustable Compartment Box, 81mm x 457mm x 330mm</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Number of Compartments-25 • Height-81mm • Width-457mm • Depth-330mm • Adjustable Compartments=Yes • Transparent Lid-Yes • Material-PP • Colour-Grey, Transparent <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	2	unit	1550.00	3,100.00
23	<p>Breadboard - Full-Size (Bare)</p> <p>Specifications:</p> <ul style="list-style-type: none"> • It has 2 split power buses, 10 columns, and 63 rows - with a total of 830 tie in points. • All pins are spaced by a standard 0.1". • The two sets of five columns are separated by about 0.3", perfect for straddling a DIP package over. • The board accepts wire sizes in the range of 20-29AWG. • This board also has a self-adhesive on the back. • The boards also have interlocking parts 	3	unit	150.00	450.00

	<ul style="list-style-type: none"> • Dimensions: 6.5 x 2.1 x 0.38" (165.1 x 54.29 x 9.68mm) <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
24	<p>Jumper Wire Kit - 140pcs</p> <p>Inclusions:</p> <ul style="list-style-type: none"> • 10x Jumper Wire - 2mm 22AWG • 10x Jumper Wire - 5mm 22AWG • 10x Jumper Wire - 7mm 22AWG • 10x Jumper Wire - 10mm 22AWG • 10x Jumper Wire - 12mm 22AWG • 10x Jumper Wire - 15mm 22AWG • 10x Jumper Wire - 17mm 22AWG • 10x Jumper Wire - 20mm 22AWG • 10x Jumper Wire - 22mm 22AWG • 10x Jumper Wire - 25mm 22AWG • 10x Jumper Wire - 50mm 22AWG • 10x Jumper Wire - 75mm 22AWG • 10x Jumper Wire - 100mm 22AWG • 10x Jumper Wire - 125mm 22AWG <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	1	unit	410.00	410.00
25	<p>Rechargeable batteries with smart quick charger</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Type: Rechargeable Battery • smart & quick charger (compatible for AA&AAA) • Capacity: 950 mAh • With AA 4pcs & AAA 4pcs bundle kit • Can be recharged up to 500 times • Batteries can be recharged when fully, or partially drained • Holds 85% of charge for one year <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	2	unit	5650.00	11,300.00
26	<p>AA Rechargeable Battery Pack of 4</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Type: Rechargeable Battery • Capacity: 2550mAh • Can be recharged up to 500 times • Batteries can be recharged when fully, or partially drained • Holds 85% of charge for 1 year 	3	unit	2000.00	6,000.00

	<p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
27	<p>USB WiFi (802.11b/g/n) Module with Antenna compatible with Raspberry Pi Specifications:</p> <ul style="list-style-type: none"> • Compatible with RTL8192cu Chipset • Antenna Length: 150mm / 5.9" • Sticks out 48mm (1.9") beyond USB port • Weight: 6g • Wireless Standards: IEEE 802.11n (draft), IEEE 802.11g, IEEE 802.11b • Host Interface: High speed USB2.0/1.1 interface • Data Rate: 802.11n: up to 150Mbps (downlink) and up to 150Mbps (uplink) , 802.11g: 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps auto fallback, 802.11b: 11 / 5.5 / 2 / 1 Mbps auto fallback • Frequency Band: 2.4GHz ISM (Industrial Scientific Medical) Band/li> • Chipset: Realtek • RF Frequency: 2412 ~ 2462 MHz (North America), 2412 ~ 2472 MHz (Europe), 2412 ~ 2484 MHz (Japan) • Radio Channel: 1 ~ 14 channels (Universal Domain Selection) • Antenna Type: Integrated Antenna • Roaming: Full mobility and seamless roaming from cell to cell • RF Output Power: 13 ~17 dBm (Typical) • Modulation: 11n: BPSK, QPSK, 16QAM, 64QAM with OFDM, 11g: BPSK, QPSK, 16QAM, 64QAM, OFDM, 11b: DQPSK, DBPSK, DSSS, CCK • Data Security: 64/128-bit WEP Encryption • WPA, WPA-PSK, WPA2, WPA2-PSK. TKIP/AES • Network: Auto-switch to use 802.11n or 802.11g or 802.11b mode • Supports Ad-Hoc, Infrastructure WLAN network, Wireless roaming, Data rate auto fall-back under noisy environment or longer range distance, Site Survey with Profile function • Configuration & Management: Plug-and-Play setup and installation, Management Utility supports 2000 / XP/ Vista • Media Access Control CSMA/CA with ACK • LED Indicator Link/Active (Green) • Operating Temperature 0°C to 40°C • Storage Temperature -20°C to 75°C • Operating Humidity 10% ~ 90% (Non Condensing) • Storage Humidity 5% ~ 95% (Non Condensing) • Regulatory Compliance RoHS Compliant, Wi-Fi Compliant • Requirements Available USB 2.0 port <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week</p>	2	unit	1350.00	2,700.00

	upon issuance of NTP				
28	<p>LTE / GPS IOT shield compatible with Arduino</p> <ul style="list-style-type: none"> • LTE Cat M1, LTE Cat NB1 and EGPRS multi-mode solution in the miniature SARA LGA form factor (26.0 x 16.0 mm, 96-pin). • allow an easy integration into compact designs and a seamless drop-in migration from other u-blox cellular module families. • provide software-based multi-band configurability enabling world-wide global coverage in LTE Cat M1 / NB1 and (E)GPRS / GSM radio access technologies. • temperature range of -40 °C to +85 °C, with low power consumption, and with coverage enhancement for deeper range into buildings and basements (and underground with NB1). • optimal choice for LPWA applications with low to medium data throughput rates, as well as devices that require long battery lifetimes <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	1	unit	5950.00	5,950.00
29	<p>LTE Antenna 175mm Duck SMA Male</p> <p>Specifications:</p> <ul style="list-style-type: none"> • high-gain duck antenna designed for LTE devices that operate in the 690-960MHz and 1710-2690 MHz bands. • Center Frequency: 690~960/1710~2690 MHz • Polarization: Linear • Gain: 3dBi typ. • V.S.W.R: < 3.0 • Impedance 50Ω <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	1	unit	900.00	900.00
30	<p>Interface Cable SMA to U.FL</p> <p>Specifications:</p> <ul style="list-style-type: none"> • This is a 4" connector cable that interfaces U.FL RF connectors to regular SMA connectors. • Frequency Range:DC~12.4GHz • VSWR:≤1.10+0.02f • Impedance:50 Ω • Connector: • SMA Female • IPEX/U.FL • Cable:1.13x1.13x150mm(0.04"x0.04"x5.91") <p>Notes: charged under GRASPED</p>	8	unit	275.00	2,200.00

	Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP				
31	<p>Industrial Multimeter</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Multimeter Type-Digital • Absolute Maximum AC Current Measurement-10A ac • Absolute Maximum DC Current Measurement-10A dc • Absolute Maximum DC Voltage Measurement-1000V dc • Absolute Maximum Resistance Measurement-40MΩ • Absolute Maximum AC Voltage Measurement-1000V ac • Absolute Maximum Capacitance Measurement-10mF • Functions Measured-AC Current, AC Voltage, Capacitance, Continuity, DC Current, DC Voltage, Diode, Frequency, Resistance • Connectivity-Bluetooth • True RMS-Yes • Maximum Frequency-100kHz • Display Type-LED • Safety Category Level-CAT III, CAT IV • Width-82mm • Battery Type-AA • Height-46mm • Length- 165mm <p>Features</p> <ul style="list-style-type: none"> • Perfect for measurement of common parameters including Voltage, Current and Resistance • Capacitance measurement offering enhanced measurement capabilities • 6,000 counts digital and 60 segments analog display • Large white backlit display ensuring measurements can be displayed easily • True RMS measurements on ACV/ACA • 0.5% DCV accuracy • 10A ACA / DCA • Frequency measurements on ACV/ACA • Diode Test • High Frequency Rejection Save and share data quickly and effectively so smart devices via Bluetooth • Data Logging / Manual Save up to 4000 records • Auto-ranging for quick and easy measurements • Min/Max Hold • CAT IV 600V/ CATIII 1000V Safety Standards <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	1	unit	13200.00	13,200.00
32	<p>5m Tape Measure, Metric & Imperial</p> <p>Specifications:</p>	1	unit	850.00	850.00

	<ul style="list-style-type: none"> • Length-5m • Blade Width-19 mm • Imperial or Metric-Imperial, Metric • Series-Tylon • Chemical Resistant-No • Height Safe-No <p>Features:</p> <ul style="list-style-type: none"> • Compact, bi-material Tylon case for comfort and ease of use • Metric and Imperial scales for easy, flexible measuring • Positive blade lock holds the blade in place securely • Belt clip for ease of storage and comfortable carrying • Class II accuracy, suitable for the majority of professionals, providing a reassuring +/-0,5mm error tolerance at 1m. • Highly dust-resistant spring return mechanism designed for hassle-free, long-life operation • Ergonomically designed cushioned and rubberised grip for the comfort of use • Guaranteed high corrosion resistance for hassle-free indoor and outdoor operation • Matt finish blade reduces glare and reflections for easy reading • Self-adjusting, 3-rivet, true-zero end hook automatically moves to compensate for accurate inside and outside measurements <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
33	<p>Velcro, Black Tape, 20mm x 10m</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Colour-Black • Width-20mm • Length-10m • Hook Type-Hook & Loop • Colour-Black • Base Material-Polypropylene & velour PA • Construction Extruded and laminated • Width Nominal $\pm 1\%$ • Overall Thickness $1.35 \pm 0.20\text{mm}$ • Weight/ m2 $550\text{g/m}^2 \pm 60\text{g/m}^2$ • Resistance Properties • Electrical Insulator None • Washing Resistance Good • UV Resistance Low • Humidity Resistance Medium • Sewn Resistances Low • Acid Resistance Medium <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon</p>	3	unit	1500.00	4,500.00

	issuance of NTP				
34	<p>2.4GHz Dipole Swivel Antenna with RP-SMA - 5dBi</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Type: Dipole • Connector: Option • Polarization Linear Vertical • SWE $\leq 1.5:1$ • Frequency 2400~2500MHz • Weight 30g • Size 205X13X13 • 8"/200mm long swivel dipole antenna • 5dBi of gain • 50Ω impedance work with just about any 2.4-2.5GHz wireless receiver/transmitter such as: <ul style="list-style-type: none"> • 2.4GHz Wi-Fi (802.11b/g/n) • 2.4GHz XBee • Bluetooth • Other 2.4GHz transceivers <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	4	unit	610.00	2,440.00
35	<p>2.4GHz Mini Flexible WiFi Antenna with uFL Connector - 100mm</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Operating Range: 2400~2500MHz / 4900~5900MHz • Efficiency: 90% • Bandwidth (VSWR: 2.0 max.) 140 MHz / SWR < 2.0 • Polarization: Linear • Radiation: Omni directional • Antenna Gain: 4DBi • Impedance: 50 ohm • Cable: 100mm / 4" long • Antenna: 40mm x 8mm / 1.6" x 0.3" • Weight: 0.7g <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	4	unit	170.00	680.00
36	<p>Lithium Ion Polymer Battery - 3.7v 2500mAh</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Nominal Capacity Minimum: 2375 mAh; Typical 2500 Mah • Nominal Voltage 3.7V • Charging Cut-off Voltage 4.2 V • Discharge Cut-off Voltage 3.0 V • Standard Charge Constant Current 0.5 C; Constant Voltage 4.2 V, 0.01 C cut-off • Max Constant Charging Current 1500Ma • Standard Discharge: Discharge at 0.2 C to 3.0 V • Max Continuous Discharging Current 1500Ma • Operating Temperature Charge 0~45° Discharge 	8	unit	650.00	5,200.00

	<p>-20~60°C</p> <ul style="list-style-type: none"> Storage Temperature -20~45°C for 1 month; -10~35°C for six months Storage Voltage 3.7-3.85 V Environmental request RoHS <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
37	<p>4 Port USB Power Charger</p> <p>Specifications:</p> <ul style="list-style-type: none"> High-Speed USB-C Charging: Charge USB-C notebooks including Dell XPS 13 and MacBook Air 2018 at full speed via a 45W USB-C port. Charge 4 Devices Simultaneously: A PowerIQ 3.0 enabled USB-C port pumps out a max 45W output to charge virtually any USB-C device at top speed, while 3 USB ports share a total of 20W to provide optimized charging for mobile devices. Ultra-Slim: By swapping out silicon for gallium nitride (GaN), we've been able to create one of our slimmest USB-C chargers—without compromising power. Universal Compatibility: provides high-speed charging to virtually any mobile device. <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p> <ul style="list-style-type: none"> Inclusions: Four Ports USB-C Charger (cable not included), 5 ft detachable power cord, adhesive strip, welcome guide 	3	unit	3300.00	9,900.00
38	<p>Extension Cord Set with Individual Switch 6 Gang 1.83 meter wire</p> <p>Specifications:</p> <ul style="list-style-type: none"> 6-gang universal outlet with individual switch Rigid brass strips for internal connection Outlets are made of copper material for better grip Impact resistant and highly conductive With REAL grounding system connection for safety With built-in safety circuit breaker With built-in lightning protector Outlet enclosures are made up of fire-retardant materials Maximum wattage: 2500W Current: 10A Voltage: 250V Cord Length: 1.83 Meters <p>Notes:</p>	2	unit	880.00	1,760.00

	<p>charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
39	<p>WiFi Multi-Band Antenna Specifications: <ul style="list-style-type: none"> • Internal/External-External • RF Protocols-WiFi, 2G (GSM/GPRS), 3G (UTMS), 4G (LTE) • Supported Frequency Bands-790 → 862 MHz, 1710 → 2180 MHz, 2300 → 2700 MHz • Antenna Physical Form-Rod • Antenna Mounting Type-Wall/Pole • Connector Type-N Type • Gain-3dBi • Antenna Directivity-Omnidirectional • Connector Gender-Female • Operating temperature: -30 to +60°C • Polarisation: Vertical • VSWR: ≤3 • Max power: 10 W • Impedance: 50 Ω • Mechanical data: • Radome: ABS • Size overall: 240 x 22 mm Frequency bands: 790 MHz to 862 MHz - Gain: 1 dBi 1710 MHz to 2180 MHz - Gain 3 dBi 2300 MHz to 2700 MHz - Gain 3 dBi</p> <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	2	unit	4750.00	9,500.00
40	<p>Quad core 64 bit 4GB Embedded Computer Specifications: <ul style="list-style-type: none"> • Processor: compatible with Broadcom BCM2711 Processor Quad core A72 (ARM v8) 64-bit SoC • Memory (depending on model): 4GB LPDDR4 SDRAM or 8GB LPDDR4 SDRAM • Bluetooth: Bluetooth 5.0 • WiFi: 2.4GHz/5.0GHz IEEE 802.11ac • Ethernet: Gigabit Ethernet • USB: 2 x USB 2.0 ports, 2 x USB 3.0 ports • Connection: 40-pin GPIO Header • HDMI: 2 x micro HDMI ports (up to 4Kp60 supported) • Video: 2-lane MIPI DSI display port, 2-lane MIPI CSI camera port • Audio: 4 Pole stereo output and composite video port • Multimedia: H.265 (4Kp60 decode), H.264 (1080p60 decode, 1080p30 encode. OpenGL ES 3.0 graphics. • Storage: microSD card slot for loading operating system and data storage </p>	4	unit	3500.00	14,000.00

	<ul style="list-style-type: none"> • Input power: 5v DC via USB-C Connector (min 3A), 5v DC via GPIO header. POE enabled (PoE HAT required) • Operating Temperature: 0 to 50°C • RAM Size: 4 GB <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
41	<p>Arduino compatible embedded module with Bluetooth Low Energy</p> <p>Specifications:</p> <ul style="list-style-type: none"> • BLE module: Compatible with nRF51822 chipset from Nordic • MCU: Compatible with ATSAMD21G18 @ 48MHz with 3.3V logic/power • Measures 2.0" x 0.9" x 0.28" (51mm x 23mm x 8mm) without headers soldered in • Weight: 5.7 grams • ATSAMD21G18 @ 48MHz with 3.3V logic/power • No EEPROM • 3.3V regulator with 500mA peak current output • USB native support, comes with USB bootloader and serial port debugging • 20 GPIO pins • Hardware Serial, hardware I2C, hardware SPI support • 8 x PWM pins • 10 x analog inputs • 1 x analog output • Built in 100mA lipoly charger with charging status indicator LED • Pin #13 red LED for general purpose blinking • Power/enable pin • 4 mounting holes • Reset button - throughput rates, as well as devices that require long battery lifetimes • support VoLTE over Cat M1. <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	4	unit	2050.00	8,200.00
42	<p>Rechargeable 5V Lipo USB Boost @ 1A - 1000C</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Synchronous operation. • completely turn off the output 2A internal switch (~2.5A peak limiting) means you can get 1000mA+ from a 3.7V LiPoly/Lilon battery. • Low battery indicator LED lights up red when the voltage dips below 3.2V, optimized for LiPo/Lilon 	2	unit	1400.00	2,800.00

	<p>battery usage</p> <ul style="list-style-type: none"> • Full breakout for battery in, control pins and power out. Onboard 1000mA charge-rate 'iOS' data resistors. Solder in the USB connector and you can plug in any iPad, iPhone or iPod for 1000mA charge rate. • 90%+ operating efficiency and low quiescent current: 5mA when enabled and power LED is on, 20uA when disabled (power and low batt LED are off) • Item Weight -0.705 ounces • Product Dimensions -4.4 x 1.5 x 1.2 inches • Item Dimensions LxWxH -4.4 x 1.5 x 1.2 inches <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
43	<p>AI HAT for Edge Computing</p> <ul style="list-style-type: none"> • Processor: compatible with Sipeed MAIX-I module w/o WiFi (1st RISC-V 64 AI Module, K210 inside) • Features <ul style="list-style-type: none"> o 1x USB 2.0 Device, Type C(Power and Programming) o 6x Grove Interface: include 1x Digital IO, 1x PWM, 1x I2C, 1x UART, 2x ADC o 1x Power LED, 1x Boot LED(can be used as User LED) o 1x Reset Button, 1x Boot Button (can be used as User Button) o 1x LCD Interface o 1x Camera Interface o 1x Digital Mic o 1x Accelerometers Sensor o 1x JTAG & ISP UART Pin Header o 2x 20 Pin Header with I2C, UART, SPI, I2S, PWM, GPIO <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	2	unit	2050.00	4,100.00
44	<p>ReSpeaker 4-Mic Array compatible with Raspberry Pi</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Dimensions-65mm x65mm x9mm • Weight-G.W 38g • Battery-Exclude • MIC-4 analog microphones • LED-12 APA102 programable RGB LEDs, connected to SPI interface • Raspberry Pi 40-Pin Headers • support Raspberry Pi Zero, Raspberry Pi 1 B+, Pi 2 B, Pi 3 B, Pi 3 B+ • AC108 highly integrated quad-channel ADC with 	2	unit	1950.00	3,900.00

	<p>I2S/TDM output transition</p> <ul style="list-style-type: none"> • Software Algorithm-VAD(Voice Activity Detection), DOA(Direction of Arrival) and KWS(Keyword Search) • Grove-2 Grove Interfaces • Voice Capture Distance-3 meters radius voice capture <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>				
45	<p>Doppler Radar 24GHz Transceiver</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Transmission Frequency-Min: 24GHz; Typical: 21.125GHz; Max: 24.25GHz • Output Power (EIRP)-7dBm @ 25°C • Update Time-300ms • Communication Interface-UART (115200) • Detection Distance-10m @ 0dBsm • Standard Detection Field-65° / horizontal (-6dB); 22° / vertical (-6dB) • Supply Voltage-3.3-5V • Weight-5g <p>Features</p> <ul style="list-style-type: none"> • Compact size for easy deployment • Light-weight design, suitable for UAV applications • Low power consumption for prolonged usage • 24GHz Transceiver MMIC for high-precision measurements of movement and speed • Fast response using electromagnetic waves • ESD protection to avoid system failures caused by ESD strikes • High penetration which allows it to be deployed behind an object • Maintains operation through harsh weather conditions (temperature, light, dust, rain) <p>Notes: charged under GRASPED Price inclusive of government fees, taxes and duties Delivery: Item must be delivered to ASTI one week upon issuance of NTP</p>	1	unit	4500.00	4,500.00
46	<p>USB Power Adapter</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Output Interface: USB • Power Source: USB • Compatible with: SmartPhone • Support Quick Charge Technology: Qualcomm Quick Charge 2.0 • Output:5V/1A - USB Ports:1 • Model Number:TK05S <p>Notes:</p>	6	unit	375.00	2,250.00

charged under GRASPED
Price inclusive of government fees, taxes and duties
Delivery: Item must be delivered to ASTI one week upon issuance of NTP

TOTAL APPROVED BUDGET FOR THE CONTRACT:

Php 280,022.96

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.