



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



ASTI - FM 03-17  
 REV 2 / 31 January 2020

**PURCHASE ORDER**

|                  |   |                             |                            |
|------------------|---|-----------------------------|----------------------------|
| <b>Supplier:</b> | <b>JASSEN HARRIS INDUSTRIES CORP.</b>                             | <b>PO No.:</b>              | <b>VIROS-23-09-002</b>     |
| <b>Address:</b>  | <b>1063 Tomas Mapua St., Brgy. 329 Zone 33, Sta. Cruz, Manila</b> | <b>PO Date:</b>             | <b>September 4, 2023</b>   |
| <b>TIN:</b>      | <b>009-248-102-000</b>  | <b>Mode of Procurement:</b> | <b>Competitive Bidding</b> |

Gentleman:

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

|                           |   |                       |   |
|---------------------------|---|-----------------------|---|
| <b>Place of Delivery:</b> | <b>ASTI Bldg., C.P. Garcia Ave., U.P. Technology Park Complex, U.P. Campus, Diliman, Quezon City 1101</b> | <b>Delivery Term:</b> | <b>Thirty (30) calendar days upon issuance of NTP</b> |
| <b>Date of Delivery:</b>  |   | <b>Payment Term:</b>  | <b>Government Terms</b>                               |
|                           |   | <b>Warranty Term:</b> |   |

| Stock / Property No. | Unit | Description   | Quantity | Unit Cost     | Amount        |
|----------------------|------|---|----------|---------------|---------------|
| 1                    | Lot  | <p><b>V2X Devices</b></p> <p>1. GENERAL OVERVIEW</p> <p>1.1. The Advanced Science and Technology Institute (ASTI) is seeking qualified and competent bidders for the supply and delivery of one (1) Lot V2X Devices.</p> <p>1.2. Said devices are to be characterized and evaluated for its functionality, latency, and reliability, and will be integrated to project prototypes as communication medium.</p> <p>1.3. The approved budget for the contract is inclusive of all applicable government taxes and services charges.</p> <p>2. SUPPLY AND DELIVERY OF THE FOLLOWING ITEMS:</p> <p>2.1. V2X Devices</p> <p>2.1.1. One (1) Lot V2X Devices includes the following:</p> <p>2.1.1.1. Four (4) Units C-V2X System-On-Module</p> <p>2.1.1.2. Two (2) Units C-V2X Evaluation Kit</p> <p>2.1.1.3. Two (2) Units DSRC-EU System-On-Module</p> <p>2.1.1.4. One (1) Unit DSRC-EU Evaluation Kit</p> <p>2.1.2. One (1) Lot V2X Devices Specification:</p> <p>2.1.2.1. C-V2X System-On-Module</p> <p>2.1.2.1.1. IEEE 1609/SAE J2735 stack and SDK for C-V2X Protocol</p> <p>2.1.2.1.2. Form Factor: PCI Express Mini Card (Mini PCIe), 51.0 mm x 38.5 mm PCBA size, 8.5 mm wider than the standard</p> <p>2.1.2.1.3. Complete V2X system in small 50.95 x 38.5 mm product size with standard mPCIe pin-definition, containing V2X chipsets, GPS, eHSM, 256MB DDR3 RAM, and 512MB NAND.</p> <p>2.1.2.1.4. V2X SDK with standard compliant V2X stacks, user friendly APIs for Service, Tx/Rx, PoTi, J2735 compliant Messages encode/code, and</p> | 1        | P1,122,000.00 | P1,122,000.00 |

Postal Address : ASTI Bldg., U.P. Technology Park Complex, CP Garcia Ave., Diliman, Quezon City 1101  
 Website : www.asti.dost.gov.ph  
 Email : info@asti.dost.gov.ph

Tel No. : +632 8249-8500  
 +632 8426-9755;  
 Fax No. : +632 8426-9764

application example codes, including Event Detector to detect remote vehicle and roadside events, Traffic Signal Detector to detect current position's signal phase, RTK Sample Application to improve GNSS accuracy.

2.1.2.1.5. Secured V2X communication supports SCMS or CCMS including the V2X PKI certificate management and the private key operation on the embedded Hardware Security Module (eHSM).

2.1.2.1.6. Integrated and modular V2X subsystem in mPCIe allows expandable applications of V2X sensor fusions or AI applications on an existing computing host platform with ease.

2.1.2.1.7. External Molex connector can be used to provide 5V power input, 1PPS if external GNSS selected, and other UART I/O directly from the host platform board, in case no 5V power input GNSS 1PPS, and UART supported from mPCIe slot.

2.1.2.1.8. Antenna detection and diagnose supported.

2.1.2.1.9. Support DFU mode using command from the host platform to update the SOM firmware.

2.1.2.1.10. Standard off-the-shelf with rugged design for V2X PoC, design reference and field deployment of T-Box or NAD or vehicle aftermarket or ITS transportation and road traffic industries.

#### 2.1.2.2. C-V2X Evaluation Kit

2.1.2.2.1. IEEE 1609/SAE J2735 stack and SDK for C-V2X Protocol; C-V2X Radio mode: 3GPP LTE-V2X Rel. 14 PC5 side link; Supported Frequency

band: 5.895 ~ 5.925 GHz.

2.1.2.2.2. Product Form Factor: 103mm (L) x 95mm(W) x 31mm (H) aluminum plate enclosure, thickness: 1.0mm

2.1.2.2.3. External Connectors: One integrated 20-pin I/O interface - Power 6-48V DC, Reset, One RS-232 for console (baud rate 115200 bps), one RS-232 for external GNSS NMEA input, one 1PPS input, Two CAN, One USB with USB bus power, Two GPIOs; One Ethernet port, One USB Mini-B port, Two FAKRA Z RF port for V2X, One FAKRA C RF port for GNSS.

2.1.2.2.4. On-Board Interface reserved: one Mini PCIe slot (for LTE module), one SIM slot, LED headers, Boot strapping DIP switch, JTAG 7-pin header.

2.1.2.2.5. Antenna: two detachable FAKRA type Z V2X 5dBi Omni Dipole (for diversity) one detachable FAKRA type C active GNSS antenna, cable length: 3 meters

2.1.2.2.6. Operation Voltage: DC 6-48 V ± 5% Complete V2X system, containing V2X chipsets, GPS, eHSM, 256MB DDR3 RAM, and 512MB NAND.

2.1.2.2.7. V2X SDK with standard compliant V2X stacks, user friendly APIs for Service, Tx/Rx, PoTI, J2735 compliant Messages encode/code, and application example codes, including Event Detector to detect remote vehicle and roadside events, Traffic Signal Detector to detect current position's signal phase, RTK Sample Application to improve GNSS accuracy.

2.1.2.2.8. Secured V2X communication supports

SCMS or CCMS including the V2X PKI certificate management and the private key operation on the embedded Hardware Security Module (eHSM).

2.1.2.2.9. Antenna detection and diagnose supported.

2.1.2.3. DSRC-EU System-On-Module

2.1.2.3.1. ITS-G5 stack and SDK for DSRC-EU V2X Protocol

2.1.2.3.2. Form Factor: PCI Express Mini Card (Mini PCIe), 51.0 mm x 38.5 mm PCBA size, 8.5 mm wider than the standard

2.1.2.3.3. Complete V2X system in small 50.95 x 38.5 mm product size with standard mPCIe pin-definition, containing V2X chipsets, GPS, eHSM, 256MB DDR3 RAM, and 512MB NAND.

2.1.2.3.4. V2X SDK with standard compliant V2X stacks, user friendly APIs for Service, Tx/Rx, PoTi, ITS-G5 compliant Messages encode/code, and application example codes, including Event Detector to detect remote vehicle and roadside events, Traffic Signal Detector to detect current position's signal phase, RTK Sample Application to improve GNSS accuracy.

2.1.2.3.5. Secured V2X communication supports SCMS or CCMS including the V2X PKI certificate management and the private key operation on the embedded Hardware Security Module (eHSM).

2.1.2.3.6. Integrated and modular V2X subsystem in mPCIe allows expandable applications of V2X sensor fusions or AI applications on an existing computing host platform with ease.

2.1.2.3.7. External Molex connector can be used to provide 5V power input, 1PPS if external GNSS selected, and other UART I/O directly from the host platform board, in case no 5V power input GNSS 1PPS, and UART supported from mPCIe slot.

2.1.2.3.8. Antenna detection and diagnose supported.

2.1.2.3.9. Support DFU mode using command from the host platform to update the SOM firmware.

2.1.2.4. DSRC-EU Evaluation Kit

2.1.2.4.1. ITS-G5 stack and SDK for DSRC-EU V2X Protocol; DSRC-V2X Radio mode: 802.11p Supported Frequency band: 5.895 ~ 5.925 GHz.

2.1.2.4.2. Product Form Factor: 103mm (L) x 95mm(W) x 31mm (H) aluminum plate enclosure, thickness: 1.0mm

2.1.2.4.3. External Connectors: One integrated 20-pin I/O interface - Power 6-48V DC, Reset, One RS-232 for console (baud rate 115200 bps), one RS-232 for external GNSS NMEA input, one 1PPS input, Two CAN, One USB with USB bus power, Two GPIOs; One Ethernet port, One USB Mini-B port, Two FAKRA Z RF port for V2X, One FAKRA C RF port for GNSS.

2.1.2.4.3. On-Board Interface reserved: one Mini PCIe slot (for LTE module), one SIM slot, LED headers, Boot strapping DIP switch, JTAG 7-pin header.

2.1.2.4.3. Antenna: two detachable FAKRA type Z V2X 5dBi Omni Dipole (for diversity) one detachable

|                                |  |               |                      |
|--------------------------------|--|---------------|----------------------|
|                                | <p>FAKRA type C active GNSS antenna, cable length: 3 meters</p> <p>2.1.2.4.3. Operation Voltage: DC 6-48 V ± 5% Complete V2X system, containing V2X chipsets, GPS, eHSM, 256MB DDR3 RAM, and 512MB NAND.</p> <p>2.1.2.4.3. V2X SDK with standard compliant V2X stacks, user friendly APIs for Service, Tx/Rx, PoTI, ITS-G5 compliant Messages encode/code, and application example codes, including Event Detector to detect remote vehicle and roadside events, Traffic Signal Detector to detect current position's signal phase, RTK Sample Application to improve GNSS accuracy.</p> <p>2.1.2.4.4. Secured V2X communication supports SCMS or CCMS including the V2X PKI certificate management and the private key operation on the embedded Hardware Security Module (eHSM).</p> <p>2.1.2.4.7. Antenna detection and diagnose supported.</p> <p><b>3. WARRANTY AND AFTER SALES SUPPORT</b></p> <p>3.1. All units must carry six (6) months warranty for other parts and services that covered defects in materials and workmanship.</p> <p>3.2. Replacement units should be provided for defective units, fifteen (15) calendar days upon receipt of notice from End-users/DOST-ASTI Property and Supply Section.</p> <p>3.2.1. Defective units may be defined as units not working upon testing or units that have failed to work after testing within seven (7) calendar days from purchase.</p> <p>3.3. End- users must be able to request technical support by phone or email. Moreover, technical support service should be available and can reached from Mondays to Fridays at 8am-5pm subject upon the availability of the aforementioned.</p> <p>3.3.1. The end-user should receive feedbacks and responses from the third party twenty-four (24) hours after the inquiry or concern was made.</p> <p><b>4. PAYMENT AND DELIVERY TERMS</b></p> <p>4.1. Delivery of Goods and/or performance of services shall be made by the supplier within thirty (30) calendar days upon issuance of Notice to Proceed.</p> <p>4.2. Payment shall be made only upon certification/acceptance by the end-user to the effect that the Goods have been rendered or delivered in accordance with the terms of this Contract and have been duly inspected and accepted. No payment shall be made for items not yet delivered under this Contract.</p> <p>4.3. Price of the bid must be inclusive of government taxes and other charges. Breakdown of prices must be provided by the supplier.</p> <p>(Please see attached offer.)</p> |               |                      |
|                                |  | <b>TOTAL:</b> | <b>₱1,122,000.00</b> |
| <b>(Total Amount in Words)</b> | <b>One Million One Hundred Twenty Two Thousand Pesos Only</b>  |               |                      |

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

Conforme:

Very Truly Yours,


  
FRANZA A. DE LEON, Ph.D.

Digitally signed  
by Franza  
Benjamin R. Lina

Director, DOST-ASTI

\_\_\_\_\_  
(Signature over Printed Name of Supplier)

\_\_\_\_\_  
(Date)

|   |                         |                  |                               |
|---|-------------------------|------------------|-------------------------------|
| Fund Cluster:   | <u>07</u>               | ORS / BURS No.:  | <u>073086012023-09-000953</u> |
| Funds Available:  | <u>PHP 1,122,000.00</u> | ORS / BURS Date: | <u>SEPTEMBER 07, 2023</u>     |
|   |                         | Amount:          | <u>₱ 1,122,000.00</u>         |
| <br><b>GAY CONCEPCION S. BUGAGAO</b><br>Accountant III |                         |                  |                               |



Republic of the Philippines  
Department of Science and Technology

**ADVANCED SCIENCE AND TECHNOLOGY INSTITUTE**



04 September 2023

**NOTICE TO PROCEED**  
**PUBLIC BIDDING**

**Mr. MIKE JASSEN T. SY**

President

**JASSEN HARRIS INDUSTRIES CORP.**

1063 Tomas Mapua St., Brgy. 329 Zone 33  
Sta. Cruz, Manila

Dear Mr. Sy,

Notice is hereby given to **JASSEN HARRIS INDUSTRIES CORP.** that work/delivery may proceed for the following procurement details:

|   |  |
|---|--|
| Contract Name   | : <u>Supply and Delivery of One (1) Lot V2X Devices</u>    |
| Purchase Request No.  | : <u>VIROS-23-05-16851</u>                                 |
| Purchase / Work Order No.   | : <u>VIROS-23-09-002</u>                                   |
| Total Contract Price  | : <u>Php 1,122,000.00</u>                                  |
| (inclusive of taxes, import duties and all other charges or fees) |  |
| Total Contract Price in Words                                     | : <u>One Million One Hundred Twenty Two Thousand Pesos</u> |

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

You are also hereby required to file a Warranty Security for a minimum period of three (3) months, in the case of Expendable Supplies, or a minimum period of one (1) year, in the case of Non-Expendable Supplies, after acceptance by the Procuring Entity of the delivered supplies. It shall be either retention money in an amount equivalent to at least five percent (5 %) of every progress payment, or a special bank guarantee equivalent to at least five percent (5 %) of the total contract price. The said amounts shall only be released after the lapse of the warranty period or, in the case of Expendable Supplies, after consumption thereof: Provided, however, That the supplies delivered are free from patent and latent defects and all the conditions imposed under the contract have been fully met.

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

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

Respectfully,

**FRANZ A. DE LEON, Ph.D.**  
Director

**DATE OF ISSUANCE:**

**RECEIVED BY:**

**WARRANTY SECURITY**

SEP 11 2023

\_\_\_\_\_  
Signature over Printed Name

Type of Warranty Security: \_\_\_\_\_

Amount of Warranty Security: Php

O.R. No.: \_\_\_\_\_

\_\_\_\_\_  
Date and Time

Postal Address : ASTI Bldg., U.P. Technology Park Complex,  
CP Garcia Ave., Diliman, Quezon City 1101

Website : [www.ast.dost.gov.ph](http://www.ast.dost.gov.ph)

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