



**SARDAR VALLABHBHAI NATIONAL INSTITUTE OF
TECHNOLOGY, SURAT-395 007.**

DECE Copy
Department of Electronics
Engineering
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No. SVNIT/DECE/ OH-35 / 1419 / 1501 / 2026-27

Date: 09/10/2026

To,

12 OCT 2026

As per attached list

SUB: -ENQUIRY FOR SUPPLY OF EDGE DEVICE PACKAGE

Dear Sir,

You are requested to quote your prices for supply of stores listed overleaf. The quotations may be sent to the undersigned in a sealed envelop and subscribed as: "Quotation with reference to Enquiry No. SVNIT / DECE / OH - 35 / 1419 / / 2026-2027, DATE: 09/10/2026". Your quotation should reach the undersigned on or before 30/10/2026.

No.	Name of Item with Specification	Qty.
1	Edge Device Package including Raspberry Pis, Transceivers, Pi Hats etc. (Detailed Specifications are attached overleaf)	03 Nos.

The quotations should be furnish the following information.

- 1) The brand or make of each item should be specifically stated and wherever necessary, Complete set of specifications and dimensions should be given.
- 2) All the applicable taxes, Insurance charges, Packing and Forwarding charges, if not included in the prices quoted, should be clearly specified.
- 3) The period of validity of the quotation should be at least 45 Days. Offers subject to prior sale may please be avoided.
- 4) The delivery period is to be clearly mentioned in the quotation.
- 5) The mode of delivery of the stores may be mentioned. The delivery should be F.O.R. Surat or at the Institute.(i.e., Department of Electronics Engineering, Sardar Vallabhbhai National Institute Of Technology, Surat)
- 6) All concessions available to an educational institution should be specified and also taken into account while quoting.
- 7) Payment is normally made by cheque drawn on the S.V.N.I.T. Branch Office of State Bank of India, Surat-395007 within a period of thirty days from the date of receipt of stores.
- 8) The Director reserves the right to accept stores, which are not strictly in confirming with the specifications but otherwise found suitable.

Yours Faithfully,
[Signature]
Head, DoECE

Detailed Technical Specifications:
Edge Device Package including Raspberry Pis, Transceivers, Pi Hats etc.

1. Package Architecture and Intended Applications

- IoT gateway: Collect sensor data through GPIO/I2C/SPI/UART/USB, process locally, and forward to cloud/server through Wi-Fi, Ethernet, LTE, or LoRaWAN.
- Field edge node: Operate with GNSS positioning, local data logging, touchscreen UI, battery/solar support, and long-range communication.
- Vehicle/asset tracking: Use GNSS plus LTE/LoRa for coordinate transmission, geofencing, route logging, telemetry, and alert messaging.
- Smart agriculture/environment: Interface with temperature, humidity, soil, water-quality, light, gas, vibration, and camera sensors.
- Education and research: Support Python, C/C++, Node-RED, MQTT, REST APIs, computer vision, edge AI, and communication protocol experiments.
- Industrial/remote monitoring: Support wired/wireless transceivers, watchdog, RTC, robust casing, and optional DIN-rail or panel mounting.

2. Edge Computing Unit - Raspberry Pi / Equivalent

- Primary board: Raspberry Pi 5, Raspberry Pi Compute Module 5 with suitable IO/carrier board, or equivalent/better Raspberry Pi-compatible edge computer.
- Processor: Minimum quad-core 64-bit Arm Cortex-A76 class processor at 2.4 GHz or better for Pi 5/CM5-class systems.
- Memory: Minimum 4 GB LPDDR4X RAM; 8 GB or 16 GB option preferred for AI, computer vision, dashboards, and multi-service gateways.
- Storage: Minimum 64 GB high-endurance microSD card, or eMMC/SSD option. For field deployment, industrial/high-endurance media is preferred.
- Graphics/display: Support HDMI output and MIPI DSI display interface. Dual 4K HDMI capability preferred for Raspberry Pi 5-class board.
- Networking: Dual-band Wi-Fi, Bluetooth/BLE, Gigabit Ethernet, and support for LTE/4G HAT or USB modem.
- Power: 5 V DC input through USB-C or suitable carrier-board input. For Raspberry Pi 5-class board, 5 V/5 A power supply is preferred.
- Operating system: Latest stable Raspberry Pi OS 64-bit, Ubuntu Server/Desktop for Raspberry Pi, or Debian-compatible Linux image as applicable.
- Security features: Configurable SSH, firewall, user access control, secure update procedure, encrypted storage option, and TPM/secure element option where required.

3. Compatible Touch Screen Display:

- Display size: 7-inch Raspberry Pi-compatible capacitive touchscreen.
- Resolution: Minimum 720 x 1280 pixels or better.
- Touch support: True capacitive multi-touch; minimum 5 simultaneous touch points preferred.
- Interface: MIPI DSI interface preferred for official Raspberry Pi display. HDMI plus USB touch acceptable for third-party rugged displays.
- Surface: Anti-glare or hardened front surface preferred for field and lab use.
- Mounting: Panel-mount, enclosure-mount, VESA, or bracket-mount option with required ribbon cables, spacers, screws, and GPIO/DSI adapter cables.
- Software support: Plug-and-play support in Raspberry Pi OS; on-screen keyboard, touch calibration utility, and kiosk/dashboard mode support.

4. Communication Transceivers and HATs

- GNSS/GPS HAT: Multi-constellation GNSS receiver supporting GPS and/or NavIC where available; UART/USB/I2C interface; external active antenna support; 1PPS output preferred; cold-start/hot-start specifications to be provided by vendor.
- LTE/4G HAT: 4G LTE Cat-1/Cat-4 or better module with regional band support for India; nano-SIM/eSIM support; TCP/IP, MQTT/HTTP/HTTPS support; GNSS option preferred; USB/UART control; SMA/u.FL antenna connector.
- LoRa/LoRaWAN HAT: LoRa transceiver based on SX1262/SX1276/SX1278 or equivalent; support for 433/865-867/868/915 MHz as per regional regulation; SPI interface; configurable spreading factor, bandwidth, coding rate, and transmit power; SMA/u.FL antenna connector.

5. Power, Enclosure, and Mechanical Requirements

- Power adapter: Official or equivalent certified USB-C power supply rated as per board requirement; for Pi 5-class board, 5 V/5 A or 27 W preferred.
- RTC: Real-time clock with battery backup, either on-board or through a compatible RTC HAT/module.
- Thermal design: Heatsink/fan/active cooler to maintain stable operation under continuous load. Thermal throttling should be minimized.
- Mounting: Desktop, panel, DIN-rail, wall-mount, or vehicle-mount kit depending on application.
- Environmental: Operating temperature range to be declared by vendor. Extended temperature/rugged option preferred for outdoor/industrial use.

6. Pre-installed programs: The Program for receiving the Communication packets from similar edge devices or other devices should be provided along with the detailed document for the same.