



NATIONAL INSTITUTE OF TECHNOLOGY

TIRUCHIRAPPALLI - 620 015

DEPARTMENT OF ECE

NOTICE INVITING QUOTATION

File No.	NITT/F.NO.002/CAP.EXP.35/2020-21/ECE	Date:	3.3.2021
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To

(Supplier Address)

Sealed quotations are invited from reputed Authorized Dealers / manufacturers for the supply of the Items.

Name of the Item	:	IOT Boards For Mini Project
Quantity Required	:	30
Specification	:	(As per enclosed Schedule Annexure – I)
1. Quotation Reference No.	:	NITT/F.NO.002/CAP.EXP.35/2020-21/ECE
2. Last date and Time for receipt of quotation	:	22.3.2021 before 4.30PM
3. Date & Time of opening of Quotation	:	23.3.2021 At 3.00PM
4. EMD Amount	:	Rs. Bid Security declaration form to be submitted/-
5. Validity (Days)	:	90 Days
6. Address to which quotations are to be sent	:	The Director, National Institute of Technology, Tiruchirappalli – 620 015, Tamil Nadu, India
Kind attention to	:	Dr. M. Bhaskar
Phone	:	9443314616
E-mail	:	bhaskar@nitt.edu

1. Quotations should be submitted in the format given in Annexure – I and Annexure-II
2. The envelope should contain the following details:

<p>“QUOTATION AGAINST ENQUIRY (IOT Boards For Mini Project) - NITT/F.NO.002/CAP.EXP.35/2020-21/ECE</p> <p><u>Kind attention to:</u> Dr. M. Bhaskar</p>
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Last date and Time for receipt of quotation : 22.3.2021 Before 4.30PM

Terms and Conditions:

1.	The quotation must be in the format furnished by NIT Tiruchirappalli and should be of typed format with proper signature of the authority, hand written rates and specification will not be accepted for evaluation. In case there is any unavoidable correction it should be clearly readable and properly attested. If not the quotation will not be considered. Hand written Quotation and incomplete will be rejected.
2.	a) Earnest Money Deposit (EMD) is to be submitted by way of Demand Draft drawn on any Nationalized bank in India in favor of "The Director, NIT, Tiruchirappalli" payable at Trichy. The bids submitted without EMD will be treated as non-responsive and will be rejected. EMD shall bear no interest. Bidder must fill the EMD returning Form (Annexure-III) and submit along with the quotation. EMD for this particular quotation is RS. Bid Security b) declaration form to be submitted/- c) EMD exemption will be given as per the GOVT of India norms. c) Canvassing by the Bidder in any form, unsolicited letter and post-tender correction will leads to rejection of the bid and result in forfeiture of EMD.
3.	You are invited to submit your most competitive quotation for the supply of goods according to the specifications, warranty, delivery and other terms as given by the NITT in the Specification annexure.
4.	Bidders may send the quotations in sealed covers with the quotation reference number and last date for receipt of quotations duly superscribed on the cover. Kind Attention to: as mentioned in the point No. 6 NB: Mention the company Contact Number / E-mail id on the cover.
5.	Quotation will be opened on 23.3.2021 At 3.00PM at the Stores and Purchase Section, NIT, Tiruchirappalli in presence of the tenderers or their representatives who may wish to be present. (Any change in the date, time and venue of the quotation opening will be informed to the bidders through telephone / E-mail)
6.	The National Institute of Technology, Tiruchirappalli reserves the right to accept or reject any quotations, and to cancel the bidding process, and reject all quotations at any time prior to the award of order without assigning any specific reason thereof.
7.	Eligibility: Participation in this Limited tender is by invitation only. For any details / clarifications regarding could be obtained, free of cost, from the National Institute of Technology, Tiruchirappalli on all working days during 10 AM to 5 PM.
8.	Please quote whether your organization is large scale industry or small scale industry. If you have NSIC Certificate, please attach it to the quotation. Mention your registration details
9.	Manufacturer's name and country of origin of materials offered must be clearly specified. Printed brochures, Complete details and ISI specification if any must accompany the quotation. Make / brand of the item shall be stated wherever applicable. If you have got any counter offer as suitable to the material required by us, the same may be shown separately.
10.	Samples must be submitted where specified along with the quotations. Samples must be carefully packed, sealed and labelled clearly with enquiry number, subject and sender's name for easy identification. Rejected samples will be returned at bidders cost only.



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11.	All supplies are subject to inspection and approval before acceptance. Manufacturer / supplier warranty certificates and manufacturer / Government approved lab test certificate shall be furnished along with the supply, wherever applicable
12.	National Institute of Technology, Tiruchirappalli reserves the right to modify the quantity specified in this enquiry by +/- 25%.
13.	Bid Price <ol style="list-style-type: none">The contract shall be for the entire quantity. Bidders must quote for entire quantity. Each bidder shall submit only one quotation in Indian Rupee only.List of reputed customers should be submitted, wherever applicable.The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.All taxes, packing, forwarding and delivering other allied items at the destination shall be included in the price. All such price components may be shown in the quotation. If there is no indication regarding above charges. It will be considered as inclusive of all charges.In case of any discrepancy between unit price and total, the unit price shall prevail.In case the items in the enquiry are covered by any rate contract or any other state or central Government, it should be specified in your quotation and accepted contract rates should also be mentioned. It should be confirmed whether you could supply at the RC rates outside rate contractQuotations containing conditions like "subject to prior sale" may not be considered.Delivery period required for supplying the material should be invariably specified in the quotationOffer from Manufacturer / Authorized dealer / reputed contractor alone will be accepted.
14.	Evaluation of quotations: Quotations will be evaluated item-wise or lump sum basis. The purchase committee will evaluate and compare the quotations determined to be substantially responsive i.e. (i) are properly signed; (ii) Conform to the terms & conditions and specifications; and (iii) price offered are competitive.
15.	Award of contract <ol style="list-style-type: none">The National Institute of Technology, Tiruchirappalli will award the Order for supply of Goods / Services to the bidder whose quotation has been determined to be substantially responsive, and who has offered the lowest evaluated quotation price.The Bidder should furnish the contract agreement and performance security within 15 days from the date of receipt of the order for supply of goods / services, failing which the order will be cancelled without further notice and awarded to next eligible bidder.Notwithstanding the above, National Institute of Technology, Tiruchirappalli reserves the right to accept or reject any quotations, and to cancel the bidding process, and reject all quotations at any time prior to the award of order without assigning any specific reason thereof.National Institute of Technology, Tiruchirappalli, prior to the expiration of the quotation validity period, will notify the bidder whose bid is accepted for the award of contract. The terms of accepted offer shall be incorporated in the purchase order.
16.	Warranty: 12 MONTHS shall be applicable to the supplied goods and installation work. Bidder should clearly indicate the arrangements for support and maintenance during the period for which the warranty shall be in force.
17.	Performance Security: The successful bidder need to submit performance security for an amount of Percentage 3% of purchase order value either in the form of bank guarantee or crossed demand draft drawn on any Nationalized bank in India in favor of "The Director, NIT, Tiruchirappalli" payable at Trichy. The bank guarantee / Demand Draft will be returned to the supplier after 60 days from date of successful completion of supply, installation, and the warranty period.



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18.	Payment: 100% will be paid after Installation and satisfactory working/date of completion of service if the documents are in order. The bill should be raised in favor of "The Director, National Institute of Technology, Tiruchirappalli, Tamil Nadu, India." with institute GST No. 33AAATN5491Q1ZZ. No advance will be provided to the supplier/service provider.
19.	GST: This institution has been included in the list of institutions approved for availing exemption from the payment of GST for research purchases under notification no. 45/2017 central tax – (rate), date: 14-11-2017 / notification no. 47 / 2017 integrated tax – (rate), dated: 14-11-2017
20.	Liquidity damages: If the bidder / supplier, after accepting the Purchase Order or supply of Goods / Services, fails to deliver any or all of the Goods or to perform Services within the period(s) specified in the Order, The National Institute of Technology, Tiruchirappalli shall impose penalty without assigning any reasons to the bidder / supplier a sum equivalent to 0.50 % of the total cost as indicated in the Purchase Order (which will be deemed as agreed price) for each week or part thereof of delay until actual delivery or performance is completed and such penal charges shall be limited to a maximum of 5% of the agreed price. Once the maximum is reached The National Institute of Technology, Tiruchirappalli, may proceed on its own to consider the termination / cancellation of the Order and may inform the bidder about the cancellation of the said purchase order. unless extension is obtained in writing from the office / Department mentioning the levy of LD clause on valid ground before expiry of delivery period
21.	If the deliveries are not maintained and due to that account Procuring Entity is forced to buy the material at your risk and cost from elsewhere, the loss or damage that may be sustained there by will be recovered from the defaulting supplier
22.	Dispute clause: Any dispute relating to the enquiry shall be subject to the jurisdiction of the court at Tiruchirappalli only

ACCEPTANCE BY THE BIDDER

I/We hereby certify that I/We shall abide hereby the terms and conditions and the Annexures of this limited quotation.

Signature & Seal of Vendor with Date

For any details / clarifications regarding could be obtained from Stores and Purchase Section on all working days during 10 AM to 5 PM.

For further detail related to Technical specifications kindly contact Dr. M. Bhaskar (Purchase initiator), **ECE**, bhaskar@nitt.edu, 9443314616.

(NB: Mention the Contact Number / E-mail on the cover. Any change in the date, time and venue of the tender opening will be informed to the bidders through telephone / E-mail)

Enclosures: 1) Specifications of the equipment	Annexure – I
2) Price Format	Annexure - II
3) EMD Return Format	Annexure – III
4) Bank Mandate Form	Annexure – IV



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DEPARTMENT OF ECE

Annexure- I

Specifications of the Equipment

Ref: NITT/F.NO.002/CAP.EXP.35/2020-21/ECE

Date:

S. No	Specification of NIT-T	Specification of the Supplier	
1.	Detail specification Attached Annexure-V	Make	
		Model	
		(No hand written)	
Reasons (if there is difference in specification)			
1.			
2.			

S.No	Other requirements related to the equipment	NITT Requirement	Supplier commitment
1.	Installation required	YES	
2.	Warranty (in Month)	12 MONTHS	
3.	Comprehensive AMC required		
4.	Delivery Period (Weeks)	4 Weeks	
5.		Shipment terms	At NIT-T
6.		Performance Security in %	3%

Signature & Seal of Vendor with Date

Note:

Specification of the Supplier should be given in detail, single word confirmation like Complied / Yes / same will be treated as non - responsive Bid and summarily rejected.

Proof for the supplier's specification must be enclosed along with the quotations. (catalogue, brochure, and product website link if any)



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Annexure- II

PRICE BID FORMAT FOR BIDDERS

Quotation reference No. & Date : NITT/F.NO.002/CAP.EXP.35/2020-21/ECE

Bidder's Offer No. & Date :

S. No.	Description of item	Unit (Set / No) cost	QTY	Rate / Qty in Rs. (excluding GST)	GST in Rs.			Total Value + GST in Rs.
					SGST	CGST	IGST	
1.	Price of each board 1. RASPBERRY PI3 STARTER KIT 2. Raspberry Pi 4 Complete Kit - 8GB . . 12. 3G/GSM/GPRS/GPS TTL MODEM		Each 5 Nos.					
13.	Other accessories / spares etc. as given in scope of supply (Individual item-wise break-up price shall be attached as an annexure to this price bid format.)							
14.	Installation and Commissioning (extra, if any)	<u>YES</u>						
15.	Packing & Forwarding charges (extra, if any)							
16.	Freight & Transit insurance charges, extra, if any							
17.	Total price							
18.	Value of Annual Maintenance Contract							
19.	Net cost to be paid by NIT-T							

Signature & Seal of Vendor

Note: The price quoted should be in Typed format only as per the above form. Hand written quotes will be rejected. No row shall be left blank, Kindly mention NA in case the item is "Not Applicable". If this format is not used or any column is left blank, then the bid will be rejected. AMC Value will not consider for arriving L1 bidder.



**NATIONAL INSTITUTE OF TECHNOLOGY
TIRUCHIRAPPALLI - 620 015**

PROCESS COMPLIANCE/ACCEPTANCE OF TENDER CONDITIONS FORM

**The Director,
National Institute of Technology,
Trichy – 15**

Sub : Acceptance to the Process related & Terms and Conditions for the-Limited-tendering

Ref. : The Terms & Conditions for Limited-Tendering mentioned in tender

No. : _____

Sir,

We hereby confirm the following.

The undersigned is authorized representative of the company. We have carefully gone through the NIT Tiruchirappalli, Tender Documents and the Rules governing the Limited Tender along with this document. We have examined and have no reservations to the Bidding Documents, including addendum (if any). We offer to supply in conformity with the Bidding Documents and in accordance with the condition of contact, specified in this tender document. We will honour the Bid submitted by us during the Limited Tender. We give undertaking that if any mistake occurs while submitting the bid from our side, we will honour the same.

Bid Securing Declaration: - We accept that if we withdraw or modify Bids during the period of validity, or if we are awarded the contract and fail to sign the contract, or to submit a performance security before the deadline defined in this bids document, we will be suspended for the period of 01 year from being eligible to submit Bids for contracts with National Institute of Technology, Tiruchirappalli.

We are aware that if NIT Tiruchirappalli has to carry out e-tender again due to our mistake, NIT Tiruchirappalli has the right to disqualify us for this tender. We confirm that NIT Tiruchirappalli shall not be liable & responsible in any manner when refoatal unforeseen circumstances etc. Our bid shall be valid for the period from the date fixed for the bid submission deadline, and it shall remain binding upon us and accepted at any time before the expiration of bid validity period as per this tender.

If our bid is accepted, we commit to provide a performance security at 3% in Bank Guarantee /Fixed Deposits for due performance of the contract as per NIT Tiruchirappalli policy and warranty-guarantee as per tender specification or agrees as per contract. We understand that this bid, together with your written acceptance thereof included in your notification of award/placement of order, shall constitute a binding contract between us. We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive. We accept that the competent authority in NIT Tiruchirappalli will have full right to reject any/all offer(s) without assigning any reason thereof and does not bind itself to accept the lowest or any other tender and full authority to postpone the tender issue date, submission /opening date or to alter any other condition of tender /cancellation of this tender, as per policy/committee recommendations of NIT Tiruchirappalli at any stage without assigning any reason thereof for which no claim from whomsoever will be entertained. I/We the undersigned have read the entire terms and conditions of this Tender document and we are fully agreeable to the terms and conditions mentioned herein. The decision of competent authority of NIT Tiruchirappalli with respect to this Tender-Result will be fully agreeable and binding on us.

This letter can be treated as signed and acceptance copy of tender documents and the forms submitted as signed by competent authority of firm submitting this tender and there is no need to submit separate signed copy of tender document.

Competent Authority of the Firm/Company/Enterprises to sign:

Name

Designation

Contact Details

Date with stamp & seal of organization:



**NATIONAL INSTITUTE OF TECHNOLOGY
TIRUCHIRAPPALLI - 620 015**

(TO BE PRINTED IN LETTER PAD OF THE FIRM)

Annexure – IV

MANDATE FORM FOR ELECTRONIC FUND TRANSFER/RTGS TRANSFER

Date: / /

To

The Director,
National Institute of Technology,
Tiruchirappalli – 620 015, Tamil Nadu

Sub	:	Authorization for release of payment / dues from National Institute of Technology, Tiruchirappalli through Electronic Fund Transfer/RTGS Transfer.
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1. Name of the Party / Firm / Company / Institute :
2. Address of the Party :
3. City _____ Pin Code _____
4. E-Mail _____ Mobile No: _____
5. Permanent Account Number _____
6. Particulars of Bank:

Bank Name:		Branch Name:	
PIN Code:		Branch Code:	
IFS Code:(11 digit alpha numeric code)			
Account Type	Savings	Current	Cash Credit
Account Number:			

DECLARATION

I hereby declare that the particulars given above are correct and complete. If any transaction delayed and not effected for reasons of incomplete or incorrect information I shall not hold Director, National Institute of Technology Tiruchirappalli responsible. I also undertake to advise any change in the particulars of my account to facilitate updating of records for purpose of credit of amount through NEFT/RTGS Transfer.

Place: _____ Date: _____



Annexure – V

IoT Boards for Mini Project Specification

3. RASPBERRY PI3 STARTER KIT

- A Raspberry Pi 3 Model B
- 8GB or 16GB NOOBS SD card
- An official case
- An official 2.5A multi-region power supply
- An official 1m HDMI cable
- An optical mouse and a keyboard with high-quality scissor-switch action
- A copy of Adventures in Raspberry Pi Foundation Edition
- USB 4, Ethernet – 1
- GPIO 40
- Display DSI/HDMI
- Operating system Linux/Win. 10
- PC card interface – MicroSD
- With audio, Bluetooth and Wi-Fi interface inbuilt.

4. Raspberry Pi 4 Complete Kit - 8GB

- Raspberry Pi 4 Model B 8GB
- Enclosure (Case)
- Power Adapter - Type C connector, 5V 3Amp
- 16GB Class10 MicroSD Card Preloaded with NOOBS
- Micro HDMI to HDMI Cable
- Network Patch Cable
- Copper Heat Sink
- USB Card Reader

5. Raspberry Pi 4 Desktop Kit With Guide Book

Raspberry Pi 4 Desktop kit is supplied with:

1. Guide Book
2. Raspberry Pi Keyboard & Mouse
3. Micro HDMI to Standard HDMI (A/M) 1m Cables-2Pcs.
4. Raspberry Pi 15.3W USB-C Power Supply (Indian Plug)
5. Raspberry Pi 4 Case
6. 16GB NOOBS with Raspbian microSD card

6. Raspberry Pi 3 Model B+ Complete Kit

- Raspberry Pi 3 Model B+ enabled with WiFi Dual Band & BLE 4.2
- Enclosure
- 16GB Class 10 Micro SD Card loaded with NOOBS
- 5v 2.4Amp USB Power Adapter
- USB-MicroUSB Cable for Power
- HDMI Cable 1.4v (1.5Mtr)
- Network Patch Cable

7. Arduino Uno R3 Beginners Kit

- a. Model Type: UNO Rev R3
- b. Microcontroller Chip: ATmega328
- c. Input Voltage(Recommended): 7-12V
- d. Operating Voltage: 5
- e. Analog I/O Pins: 6
- f. Digital I/O Pins: 14 (of which 6 provide PWM output)
- g. PWM Digital I/O Pins: 6



-
- h. DC Current per I/O Pin: DC Current per I/O Pin: 40 mA; DC Current for 3.3V Pin: 50 mA
 - i. Clock Speed: 16 MHz
 - j. EEPROM: 1 KB (ATmega328)
 - k. Flash Memory: 32 KB (ATmega328) of which 0.5 KB used by bootloader
 - l. PWM Output Pins: 6
 - m. SRAM: 2 KB (ATmega328)
 - n. Power Supply Option: DC Jack or USB
 - o. On-Board LEDs: Yes
 - p. Operating Temperature (°C): -40 to +90
8. **Professionals Arduino Electronics with IoT Kit**
- 1 X Arduino UNO R3 Clone with cable
 - 1 X L293D motor driver Arduino shield
 - 1 X Single Shaft BO Motor
 - 9 X LED – RED, GREEN, YELLOW (3 each)
 - 1 X 840 points Breadboard
 - 3 X LDR
 - 1 X 4×4 Keypad
 - 30 X Resistor – 220E,10K, 100K (10 each)
 - 6 X Preset – 1K,10K, 100K (2 each)
 - 1 X HC-05 Bluetooth Module
 - 1 X ESP8266 ESP-01 Module
 - 1 X R307 Finger Print Sensor
 - 1 X Neo-6M GPS Module
 - 1 X ADXL345 Acc. Module
 - 1 X MPU6050 Gyro/Acc. Module
 - 1 X ACS712 5A Current Sensor
 - 1 X TTP223 1-pt Capacitive Touch Module
 - 1 X Tilt Switch Module
 - 1 X Reed Switch
 - 1 X Hall Sensor
 - 1 X SG90 Servo Motor
 - 1 X 5V Bipolar Stepper Motor
 - 1 X RC522 RFID Module
 - 1 X RFID Card and Keychain
 - 1 X ULN2003 Stepper Motor Driver
 - 1 X 16×2 LCD display
 - 1 X 7-seg LED display
 - 1 X 8×8 Dot Matrix Display Module
 - 1 X 4-digit 7-segment Display
 - 1 X 74HC595 IC
 - 1 X 40 pin Male Berg Strip
 - 1 X Flame Sensor Module
 - 1 X IR Proximity Sensor
 - 1 X Electret Condenser Mic
 - 1 X MQ-2 Gas Sensor Module
 - 1 X Water Level Sensor
 - 1 X Soil Moisture Sensor
 - 1 X Ultrasonic HC-SR04 Module
 - 1 X Joystick Module
 - 1 X DHT11 Temp/Humidity Sensor Module
 - 1 X 1-channel Relay Module
 - 1 X 5V Active Buzzer
 - 1 X IR Remote
 - 1 X TSOP
 - 1 X LM35 IC
 - 20 X Male Jumper Wire
 - 20 X Female Jumper Wire



- 4 X 5mm Push Button
 - 1 X 9V Battery with Connector
9. **Starter Kit for Arduino Uno R3 - Uno R3 Breadboard and holder Step Motor / Servo /1602 LCD / jumper Wire/ UNO R3**
- 5V stepper motor 1
 - 5V stepper motor driver board a
 - 1602LCD screen a
 - Tri-color SMD 1
 - Big button 10
 - Plug-in rushing (green bread plate) 1
 - Level 1
 - Bread Line * 651
 - Small button 5
 - Infrared receiver element 1
 - LM35 element 1
 - Fire element 1
 - Mercury element 1
 - The photosensitive member 1
 - RFID red plate 1
 - Key 1
 - 1 * 8 pin 1
 - 5K adjustable potentiometer 1
 - HHC small motor 1
 - SR04 Ultrasonic 1
 - Four digital tube 1
 - A digital tube 2
 - 8 * 8 dot matrix 1
 - F5 LED White 6
 - F5 LED yellow 10
 - F5 LED Green 10
 - F5 LED red 10
 - Black rocker 1
 - UNO R3 1
 - White card 1
 - USB cable 1
 - Active buzzer element 1
10. **STM32 CORTEX-M4 STM32F407VET6 DEVELOPMENT BOARD:**
- Onboard: SD card slot.
 - RTC Battery: CR1220.
 - Wireless Communication: NRF2401 Interface.
 - Data storage: W25Q16.
 - Support FMSC LCD Interface.
 - Multi-user keys.
 - All the CPU-10 lead.
 - Arduino compatible.
 - 2.54mm integer multiples spacing pin.
11. **WIFI Wireless Transceiver Module with flash**
- 1MB Flash Memory
 - LDR Light Sensor on board.
 - WS2812 Led on board.
 - The micro USB connection for power and/or programming.
 - 802.11 b/g/n
 - Wi-Fi Direct (P2P), soft-AP
 - Integrated TCP/IP protocol stack



- Integrated TR switch, balun, LNA, power amplifier and matching network
- Integrated PLL, regulators, DCXO and power management units
- +19.5dBm output power in 802.11b mode
- Power down leakage current of <math><10\mu\text{A}</math>
- Integrated low power 32-bit CPU could be used as an application processor
- SDIO 1.1 / 2.0, SPI, UART
- STBC, 1×1 MIMO, 2×1 MIMO
- A-MPDU & A-MSDU aggregation & 0.4ms guard interval
- Wake up and transmit packets in <math><2\text{ms}</math>
- Standby power consumption of <math><1.0\text{mW}</math> (DTIM3)
- Access Point and Station Modes

12. **3G/GSM/GPRS/GPS TTL MODEM**

- Quad-band GSM/GPRS/EDGE 850/900/1800/1900MHz.
- Dual-Band UMTS//HSPA+ 900/2100MHz.
- HSPA+: Max. 14.4Mbps(DL), Max. 5.76Mbps(UL).
- WCDMA: Max. 384Kbps(DL), Max. 384Kbps(UL).
- GPRS multi-slot class 12, Max. 85.6Kbps(DL), Max. 85.6Kbps(UL).
- EDGE multi-slot class 12, Max. 236.8Kbps(DL), Max. 236.8Kbps(UL).
- Controlled by AT Commands.
- Supports Real Time Clock.
- Supply voltage range 5V ~ 12V.
- Supports for eCALL.
- Integrated GPS/CNSS and supports A-GPS.
- Supports 3.0V to 5.0V logic level.
- Low power consumption, 1mA in sleep mode.
- Supports GPS NMEA protocol.
- Standard Micro SIM Card.
- Firmware update via USB.
- Normal operation temperature: -30°C to +80°C.