





## Module

Name	Quectel EC21-AU, Quectel EC21-EC, Teltonika TM2500
Technology	LTE(CaT1)/3G(UMTS/HSPA)/2G(GSM/GPRS)/GNSS/BLUETOOTH

## GNSS

GNSS	GPS, GLONASS, GALILEO, BEIDOU, QZSS, AGPS
Receiver	Tracking: 33
Tracking sensitivity	-165 dBm
Accuracy	< 3 m
Hot start	< 1 s
Warm start	< 25 s
Cold start	< 35 s

## Cellular

Technology	LTE Cat 1, UMTS, GSM	
2G bands	EC21-AU:	GSM: B2/B3/B5/B8
	EC21-EC:	GSM: B3/B8
3G bands	EC21-AU:	WCDMA: B1/B2/B5/B8
	EC21-EC:	WCDMA: B1/B8
4G bands	EC21-AU:	LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40
	EC21-EC:	LTE FDD: B1/B3/B7/B8/B20/B28A
Data transfer	LTE:	LTE FDD: Max 10Mbps (DL)/Max 5Mbps (UL) LTE TDD: Max 8.96Mbps (DL)/Max 3.1Mbps (UL)
	UMTS:	WCDMA: Max 384Kbps (DL)/Max 384Kbps (UL)
	GSM:	GPRS: Max 107Kbps (DL)/Max 85.6Kbps (UL)
Data support	SMS (text/data)	

## Power

Input voltage range	10 - 30 V DC with overvoltage protection
Internal Back-up battery	170 mAh Li-Ion battery 3.7 V (0.63 Wh)

## Bluetooth

Specification	4.0 + LE
Supported peripherals	Temperature and Humidity sensor, OBDII dongle, Inateck Barcode Scanner, Universal BLE sensors support

## Physical specification

Dimensions	65 x 56.6 x 20.6 mm (L x W x H)
Weight	55 g

## Operating environment

Operating temperature (without battery)	-40 °C to +85 °C
Storage temperature (without battery)	-40 °C to +85 °C
Operating humidity	5% to 95% non-condensing
Ingress Protection Rating	IP41
Battery charge temperature	0 °C to +45 °C
Battery discharge temperature	-20 °C to +60 °C
Battery storage temperature	-20 °C to +45 °C for 1 month -20 °C to +35 °C for 6 months

## Interface

Digital Inputs	1
Digital Outputs	1
Analog Inputs	1
CAN Adapter Inputs	1
1-Wire	1
RS232	1
RS485	1
GNSS antenna	Internal High Gain
Cellular antenna	Internal High Gain
USB	2.0 Micro-USB
LED indication	2 status LED lights
SIM	2x SIM Card (Dual-SIM)
Memory	128MB internal flash memory

## Features

Sensors	Accelerometer
Scenarios	Green Driving, Over Speeding detection, GNSS Fuel Counter, DOUT Control Via Call, Excessive Idling detection, Immobilizer, iButton Read Notification, Unplug detection, Towing detection, Crash detection, Auto Geofence, Manual Geofence, Trip
Sleep modes	GPS Sleep, Online Deep Sleep, Deep Sleep, Ultra Deep Sleep
Configuration and firmware update	FOTA Web, FOTA, Teltonika Configurator (USB, Bluetooth), FMBT mobile application (Configuration)
SMS	Configuration, Events, DOUT control, Debug
GPRS commands	Configuration, DOUT control, Debug
Time Synchronization	GNSS, NITZ, NTP
Fuel monitoring	LLS (Analog), Digital LLS (RS232, RS485), LV-CAN200, ALL-CAN300, CAN-CONTROL, OBDII dongle
Ignition detection	Digital Input 1, Accelerometer, External Power Voltage, Engine RPM (CAN Adapters, OBDII dongle)
RS232 Modes	Log Mode, NMEA, LLS, LCD, RFID HID/MF7, Garmin FMI, TCP ASCII/Binary
RS485 Modes	Log Mode, NMEA, LLS, TCP ASCII/Binary

