



AK7V is a vehicle tracking device that is both rich in feature and economical making it perfect for fleet management solution. With 4G / 3G / 2G connection, AK7V is able to monitor vehicle location and remotely control its I/O port to deliver accurate data, including vehicle location and status. Featuring a two-way voice function, AK7V makes communication for the drivers much more efficient and convenient. Through additional accessory – ATrack AC3R, AK7V is compatible with OBDII, J1939, J1708 protocols which allows AK7V to be suitable for all types vehicle and ideal for automotive track & trace and monitoring applications.



### 4G / 3G / 2G Connectivity

With LTE / UMTS / HSPA / GSM communication.



### Multiple Vehicle Compatibilities

Compatible with OBDII, J1939, J1708 protocols via additional accessory – ATrack AC3R.



### Two-Way Voice Communication

Featuring a two-way voice function makes communication more efficient and convenient.



### 3-axis Accelerometer

Built-in 3-axis accelerometer for motion and impact detection.



### Bluetooth

Optional Bluetooth Low Energy (BLE) for IoT applications.

### Optional Accessories

#### I/O Expansion

RS1:1-3 RS232 Expander Cable  
 RS2:RS232-to-RS485 Adapter  
 AC1P:OBDII\_ J1939 Diagnostic Adapter (DB9-Pin)  
 AC1R:OBDII\_ J1939 Diagnostic Adapter (JST-Pin)  
 AC3R:OBDII / J1939 / J1708 Interpreter

#### Safety

12V / 24V Relay  
 CMOS Camera CAM7570  
 CMOS Camera CAM5650  
 SOS Push Button Cable (Unlocked)  
 Business / Private Trip Switch Button Cable (Locked)

#### Identification

1-Wire® iButton Reader & Tag  
 1-Wire® Magnetic iButton Reader & Tag  
 1-Wire® Trailer ID  
 RFID Reader & Tag  
 Active RFID Reader & Tag

#### Utility

Speaker  
 Microphone  
 1-Wire® Temp. Sensor Probe

#### ATrack Proprietary Tool

ACT (ATrack Configuration Tool)  
 ADM (ATrack Device Management Portal)

# Hardware Specification

# AK7V

## CELLULAR

AK7V-ME (Europe)	LTE FDD Cat.M1 B1, B3, B8, B20, B28 GSM 900, 1800
AK7V-MK (Japan)	LTE FDD Cat.M1 B1, B3, B8, B18, B19, B26
AK7V-UG (Global)	WCDMA 800, 850, 900, 1900, 2100 GSM 850, 900, 1800, 1900
AK7V-2G (Global)	GSM 850, 900, 1800, 1900
Data Support	UDP / IP, TCP / IP, SMS
Antenna	Embedded cellular antenna

## GPS

Receiver Type	99 channel engine
Location Technology	GPS & GLONASS
SBAS Support	WAAS, EGNOS, GAGAN, MSAS
Tracking Sensitivity	-167dBm
Acquisition Sensitivity	-149dBm
Location Accuracy	2.5m CEP 50%
Antenna	Internal (Optional external antenna)

## INPUTS/OUTPUTS

Vehicle Bus (Optional)	External Adapter
Serial Interface	RS232
Digital Ignition Input	1 Positive Input
Digital Inputs	Up to 3 (Configurable)
Digital Outputs	2 (Max. sink current 300mA)
Analog Inputs	Up to 2 (Configurable) DC 0~40V (12bits resolution)
1-Wire® Interface	1 (Driver ID, Temperature sensors)
LED Indicators	3 LEDs (Power, GPS, Cellular)
Bluetooth (Optional)	Bluetooth Low Energy v4.2 Class 2
Speaker Out (AK7V-2G/UG)	1 (Mono)
Microphone (AK7V-2G/UG)	1

## SENSORS

Accelerometer	3-axis ±16g
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## ELECTRICAL

Operating Voltage	Vehicle 12V / 24V system
Current Consumption	Operating: 50-250mA@ 12V Deep Sleep: 1.5mA@ 12V
Backup Battery (Optional)	3.7V 250mAh

## MEMORY

Internal Flash Memory	64 Megabit Up to 135,000 logs Up to 27,000 positions
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## ENVIRONMENTAL

Operating Temperature	-40 to +85 °C (without battery) -20 to +60 °C (with battery)
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## Vibration/Shock

MIL-STD-810G/SAE J1455

## PHYSICAL

Dimension	70 mm x 75 mm x 21.5 mm (2.76" x 2.95" x 0.85")
Weight	90g (0.2 lb)
Enclosure	Flame Retardant ABS+PC
Mounting Method	Adhesive

## CONNECTORS

I/O Connection	Molex 12 Pin Connector
SIM Card Socket	NanoSIM (4FF)
Accessory Interface	RS232 with 5V power
External GPS (Optional)	SMA
Configuration Interface	RS232
Speaker Out (AK7V-2G/UG)	3.5mm Mono Jack
Microphone (AK7V-2G/UG)	3.5mm Mono Jack

## CONFIGURATION

Device Maintenance	Firmware and configuration Update via ADM
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## CERTIFICATIONS

Standards	CE, FCC, IC, TELEC, JATE, RoHS
Carriers (Module Certified)	NTT docomo, KDDI, SoftBank

## About ATrack

ATrack Technology Inc. specializes in GPS telematics hardware designing and manufacturing, and has a product portfolio including solutions for cars, trucks, containers & non-powered assets, trailers, and motorcycles. In addition to a line of stable and robust hardware, we are also experienced in firmware and hardware modifications, and customized product developments. ATrack always strives to provide the most reliable hardware and excellent service for our customers and has obtained ISO 9001 Quality Management Systems to enhance product quality and ultimately improve levels of customer satisfaction. For System Integrators & Telematics Service Providers who value vendor responsiveness and flexibility, and are looking for a hardware partner who does not have a competing business model, ATrack is globally proven to be the best choice.

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