



# Jack device technical sheet

Model: JACK-V2

## Introduction

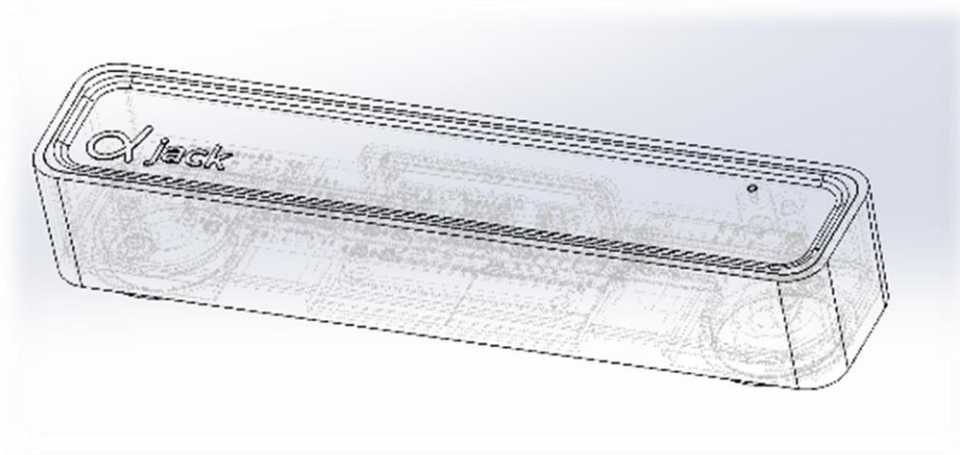
The Jack device is a retrofit device for automotive application. This device is meant to be placed on the windshield of a car, cockpit side with the possibility to be removed without damaging the device itself. Its main purpose is to collect vibrations from the glass in case of shock event to the windshield. To do this, it is equipped with piezoelectric sensors directly in contact with the glass. Any event will be detected by those and stored to be processed.

The device contains a removable cover piece, which includes the 2 piezo electric sensors and is glued to the windshield. This piece needs to be replaced in case of windshield replacement.

This device must be exclusively used to communicate by Bluetooth Low Energy (BLE) with a certified "Gateway" device. This "Gateway" device can be either:

- An Android or iOS phone application implementing Jack SDK
- The 'Jack' Android/iOS phone application
- The Jack Gateway telematics solution
- A third-party telematics solution providing Jack support.

## Datasheet



### Dimensions and material

- Material: ABS
- Color: black
- Dimensions (L x H x W) : 134.01mm x 22.30mm x 27.60mm

## Storage and application conditions

- Storage temperature (recommended): +5°C to +30°C
- Optimal windshield application temperature: > 0°C
- Cover shelf-life (before application): at least 1 year

## Operating conditions

- Operating temperature: -40°C to +85°C
- 6 years lifetime in normal operation

## Functionalities

- 2 piezo-electric sensors to capture windshield vibrations
- 3-axis accelerometer
- Temperature sensor
- Bluetooth Low Energy (BLE) 5.2
- Secure Firmware Over-The-Air update (FOTA)
- Self-powered by solar light: 4-cells solar panel
- 0.9F/5V super capacitor energy buffer
- 1.2Ah Lithium-thionyl Chloride (Li-SOCl<sub>2</sub>) backup battery
- Very low-power IDLE consumption: avg. 20 µA @ 3.3V

## Certifications

- IP53 compliant (humidity / dust)
- CE compliant
- FCC compliant
- ISED compliant

To achieve compliance, the product has been tested against the following norms:

FCC/IC	<b>STANDARDS:</b> FCC Part 15.247/RSS-247 FCC Part 15.247/RSS-247 DTS Test Method ANSI C63.10-2013 Modes BLE 5.0 15.203/RSS-GEN Antenna requirements 15.207/RSS-GEN Conducted Emissions
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	<p>15.247(a)(2) /RSS-247 5.2(a) 6dB &amp; 99% Bandwidth  15.247(b)(3) /RSS-247 5.4(d) Peak Conducted Output Power  15.247(d) /RSS-247 5.5 Conducted Spurious Emissions.  15.247(d) /RSS-247 5.5 Conducted Band Edge.  15.247(d) /RSS-GEN Radiated Spurious Emissions.  15.247(d) /RSS-GEN Radiated Band Edge.  15.247(e) /RSS-247 5.2(b) Power Spectral Density.  FCC Part 2.1093/RSS-102 RF Exposure evaluation: portable devices.  SAR Exemption Evaluation</p>
Europe	<p>STANDARDS:  EN 300 328 V2.2.2  Modes: BLE  5.0 4.3.3.2 RF Output Power  4.3.2.3 Power Spectral Density  4.3.1.3/4.3.2.4 Duty Cycle, Tx sequence, Tx Gap  4.3.1.4 Accumulated Transmit time, frequency occupation &amp; hopping sequence  4.3.1.4 Frequency hopping separation  4.3.1.6/4.3.2.5 Medium Utilization  4.3.1.7/4.3.2.6 Adaptivity  4.3.1.8/4.3.2.7 Occupied Channel Bandwidth  4.3.1.9/4.3.2.8 Transmitter unwanted emission in the OOB domain  4.3.1.10/4.3.2.9 Transmitter unwanted emissions in the spurious domain  4.3.1.11/4.3.2.10 Receiver spurious emissions  4.3.1.12/4.3.2.11 Receiver Blocking  4.3.1.13/4.3.2.12 Geo-location capability EN 50663:2017 RF Exposure SAR Exemption Evaluation</p>
Safety test	EN 61010-1/A1:2019