Table of Contents

1. Product Information

Product Name	Clip
Product Model	Modj0005
Trade Mark	Modjoul

2. Product Description

1.1 This product can collect and store human motion and posture, positioning information and environmental data.

1.2 Clip electronics include: 6-Axis Motion Tracking IMU, 3D magnetometer, barometric pressure / humidity and temperature sensors, WiFi 5G/2.4G module, Flash memory, high stability and low power consumption RTC chip that can work for up to 3 months when the battery is out of power.

1.3 Clip can connect to AWS IoT to upload data.

1.4 RGB LED displays different work states.

1.5 Clip supports OTA firmware.

3. Scope

This document contains general requirements for the electrical and mechanical elements.

4. Materials

3.1 Clip housing: 65% ABS+35% PC (black)

5. Clip Electronics Characteristics

Working Voltage	Max 5V±5%
Working Current	Avg. 25mA
WIFI Channel Frequency	2.4G & 5.0G
Power off Current	60μA
Charging Current	780mA
Battery Charging Time	<3 hours
Battery Life (continuous working time)	>80hours
Humidity Accuracy	3%
Pressure Accuracy	±1.5pa/k
ESD Protect	5kv
WiFi Communication Distance	>15m

6. Battery Specifications & Features

Mechanical Form Factor	53 x 34 x 8.8mm
Battery Type	Lithium polymer battery
Battery Capacity	3.7V DC, 2000mAh
Protection	Over current and short
Working Environment	-20°C ~ 60°C

Mechanical Form Factor	Φ4.8 x 2.5mm
Battery Type	Lithium battery
Battery Capacity	3V, 2.3mAh

7. WiFi Specification

7.1 Work Frequency: 2412 - 2462MHz & 5180 - 5825MHz
7.2 Transmit Power: 16.31 dBm transmit output power
7.3 Supported Data Rates: 6, 9, 12, 18, 24, 36, 48, 54Mbps
7.4 Working Temperature: -20°C ~ 60°C
7.5 Storage Temperature: -40°C ~ 85°C
7.6 Receive Current: 20mA (with ideal DC-DC converter)
7.7 Transmit Current: 230mA peak current in TX (13dBm)

8. Clip Operation & Features

8.1 POWER OFF State
8.1.1 The Clip default state is POWER OFF. Under this state, all the peripherals and functions for the system micro power consumption are closed.
8.1.2 Under NORMAL State, press and hold the Hotspot Button for 12s to power it off.

8.2 NORMAL State
8.2.1 From POWER OFF State, press and hold the SOS Button for 3s to enter into NORMAL State.
8.2.2 Once powered on, the Clip automatically collects motion posture and environmental data, and stores them in Flash.
8.2.3 Wi-Fi hotspot device (MiFi) with WPA-2 personal network broadcast. The credentials must be defined as follows:
SSID: modjoul1 PW: BW489A600365
The broadcast SSID should NOT be a hidden network.
8.2.4 When the Clip is plugged into the Charger, the Clip will automatically connect to AWS IoT core and update data.

8.3 CHARGING State
8.3.1 The Clip will enter into CHARGING State when it is connected to a Micro-USB Cable or plugged into Docking Station that is connected to a Power Supply.
8.3.2 In CHARGING State, the Clip can upload data via WiFi.

8.4 ERASE DATA State

8.4.1 In NORMAL State or CHARGING State, press and hold the Hotspot Button for 6s and then release the button, then press the button for 3 times to start erase data.

8.5 HW RESET

8.5.1 When MCU hang-up, Press and hold Reset Button for 1s or SOS Button for 16s to reset the system.

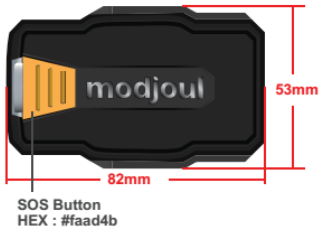
9. LED Functions

Clip System State	LED Status
Power Off	Off
Normal	Green LED on
Charging	Off
Erase Data	LED turns Red --> Green --> Red --> Blue --> Purple in order
HW Reset	Off

10. System Drawings

modjoul

Clip 5



FRONT

RIGHT

BACK

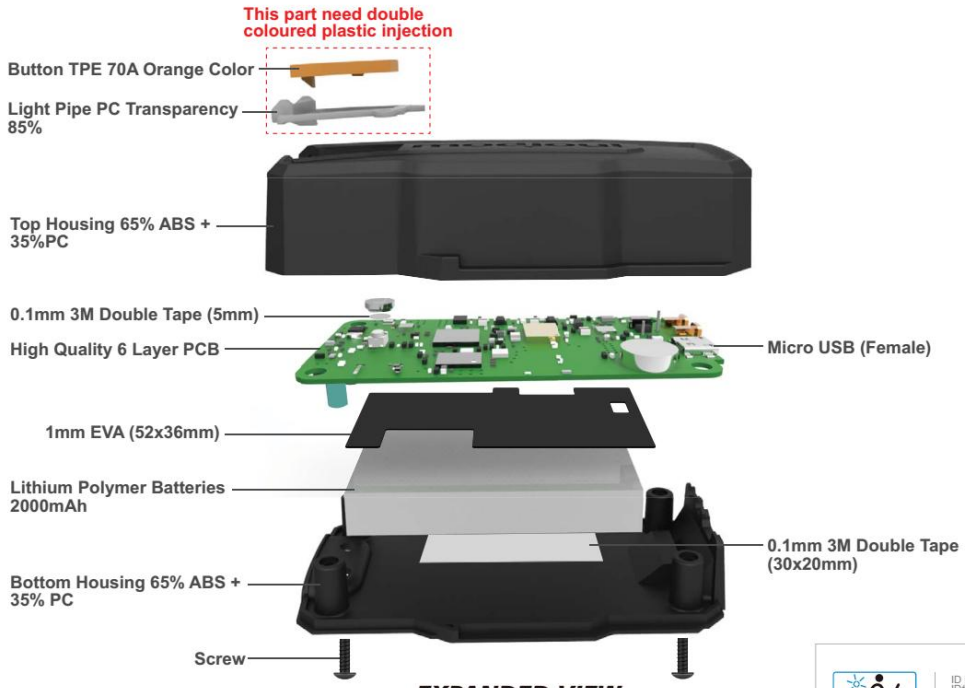
BOTTOM

WEEL

ID DESIGNER: LYR
ID# : DIOMJSBI0108
DATE: 2021-12-13
PAGE: 01/05
VERSION: 1.08

modjoul

Clip Gen 3.2



EXPANDED VIEW

WEEL

ID DESIGNER: LYR
ID# : DIOMJSBI0301
DATE: 2022-03-18
PAGE: 03/05
VERSION: 3.01

FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception,

which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different

from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

Specific absorption rate (SAR):

This Clip meets the government's requirements for exposure to radiowaves. The guidelines are based on standards developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a margin of safety designed to ensure the safety of all people regardless of their age or health.

The FCC Statement of Exposure to RF and the SAR limit for the United States (FCC) is 1.6 W/kg average for each gram of tissue. This device was tested for typical operations of use on the body, with the back of the Clip at 0mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain a distance of 0mm between the user's body and the back of the Clip. Functioning in the body This device was tested for typical operations of use in the body. To comply with RF exposure requirements, a minimum separation distance of 0mm must be maintained between the user's body and the telephone, including the antenna. Use only the supplied antenna or an approved antenna.

The maximum results of Specific Absorption Rate (SAR) found during testing for Modj0005 are 0.587W/kg