# **Task01\_FatkhullakhTurakhonov**

## **Object name**

**Fitness Tracker (Smart Band)**

## **Object description**

A fitness tracker is a wrist-worn electronic device designed to monitor and record various health and activity metrics. Typical functions include step counting, heart rate monitoring, sleep analysis, and workout tracking. Most trackers connect to smartphones via Bluetooth to sync data with a companion app. Modern devices often include OLED/AMOLED displays, vibration motors for alarms and notifications, GPS tracking, water resistance (5 ATM or IP68), and a rechargeable battery lasting 5–20 days depending on usage. Materials are usually a lightweight polymer case with a silicone strap, making them comfortable for daily wear.

## **Object picture**

*(An image can be inserted here, but description alone is acceptable.)*

## **Smoke tests**

* Device powers on and shows the home screen.
* Touchscreen or physical button responds to input.
* Device charges correctly (charging icon visible, battery percentage increases).
* Time and date display correctly after initial sync.
* Device pairs with the mobile app via Bluetooth.
* Step counter updates when walking.
* Heart rate sensor returns a plausible reading.
* Notifications from the smartphone appear on the tracker.
* Device survives a quick rinse or splash without malfunction.

## **Critical path tests**

* Step count accuracy within ±10–15% during normal walking.
* Sleep session detection works for a full night’s sleep.
* Workout mode can be started, paused, and stopped; data syncs to the app.
* GPS (if supported) records a walking/running route with acceptable accuracy.
* Notifications display sender + content, and can be dismissed.
* Alarm vibrates at the set time and can be stopped on the device.
* Battery life lasts the advertised number of days under normal use.
* Changing watch face or settings in the app reflects on the device.
* Firmware update installs successfully and device reboots without data loss.

## **Extended tests**

* Device works in extreme temperatures (0°C cold, 40°C hot).
* Touchscreen responds with wet fingers or after swimming.
* Heart rate readings remain stable during intense exercise and with different skin tones.
* Step counter does not add false steps when typing or driving.
* Device logs and syncs data correctly after being disconnected for several days.
* Long messages in different languages (Cyrillic, Arabic) display without errors.
* Payment via NFC (if available) completes successfully, including error handling.
* Multiple phones: unpairing from one and pairing with another works smoothly.
* Strap is durable and withstands repeated removal/attachment.
* Device charges safely and stops charging automatically at 100%.