User Manual

Unity™ 20 Wireless Datasheet
HU20-ASF-WB

Thank you for your interest in SecuGen fingerprint technology. We focus all our efforts on creating the highest possible quality in fingerprint sensor technology at an affordable price. We hope that this product meets your requirements, and we welcome your feedback.

Table of Contents

FCC STATEMENT

FCC Declaration of Conformity

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.

(2) This device and its accessories must accept any interference received, including interference that may cause undesired operation.

Part 15.21 Statement

Changes or modifications not expressly approved by the manufacturer (or party responsible) for compliance could void the user's authority to operate the equipment.

This device complies with RF exposure requirements.

Notice

Product Handling

1. Users should not modify, disassemble or repair the equipment and components at will.

2. In the following situations, the surrounding environment may cause heat. This may shorten the battery life or damage the product or cause a fire.

   - Do not operate or store the product at too low or too high of a temperature.

3. Do not expose the product to excessive heat.

Battery Handling

1. Charging the battery

   - Fully charge the battery when using for the first time.

   - To protect the built-in rechargeable battery, charge it at least once every 6 months.
     If too much time passes between charges, the life of the rechargeable battery may be reduced, or the rechargeable battery may no longer be able to be charged.

2. Do not use or leave the product at very high temperature conditions.

3. Battery life may be shorter in high or low temperature conditions.

1. General Description

The Unity™ 20 Wireless is a stand-alone fingerprint recognition system that captures and stores fingerprint data and identifies or verifies registered users. The Unity 20 Wireless consists of the U20-ASF-WB module housed in an ergonomic case with a multi-functional button, LED indicators, rechargeable battery, and USB port. The Unity Wireless can also serve as a fingerprint reader that transfers fingerprint data to host devices such as smart phones or tablets via Bluetooth for further handling. The fingerprint reader is rotationally-independent and was designed to comfortably scan fingers from either direction, whether held in the hand or on a desktop.

Key Features

- Auto-On™ Automatic Finger Detection
- Smart Capture™
- USB 2.0 for charging
- FBI certified fingerprint sensor for FIPS 201, PIV and Mobile ID FAP 20 compliance
- Interface to host: Bluetooth
- Three LED status indicators
- Class 1.5PA Bluetooth transceiver
- Support for Bluetooth Serial Port Profile Services (SPP)
- Provides emulation SPP for BLE (iOS interface support)
- Built-in lithium ion polymer rechargeable battery

2. Block Diagram
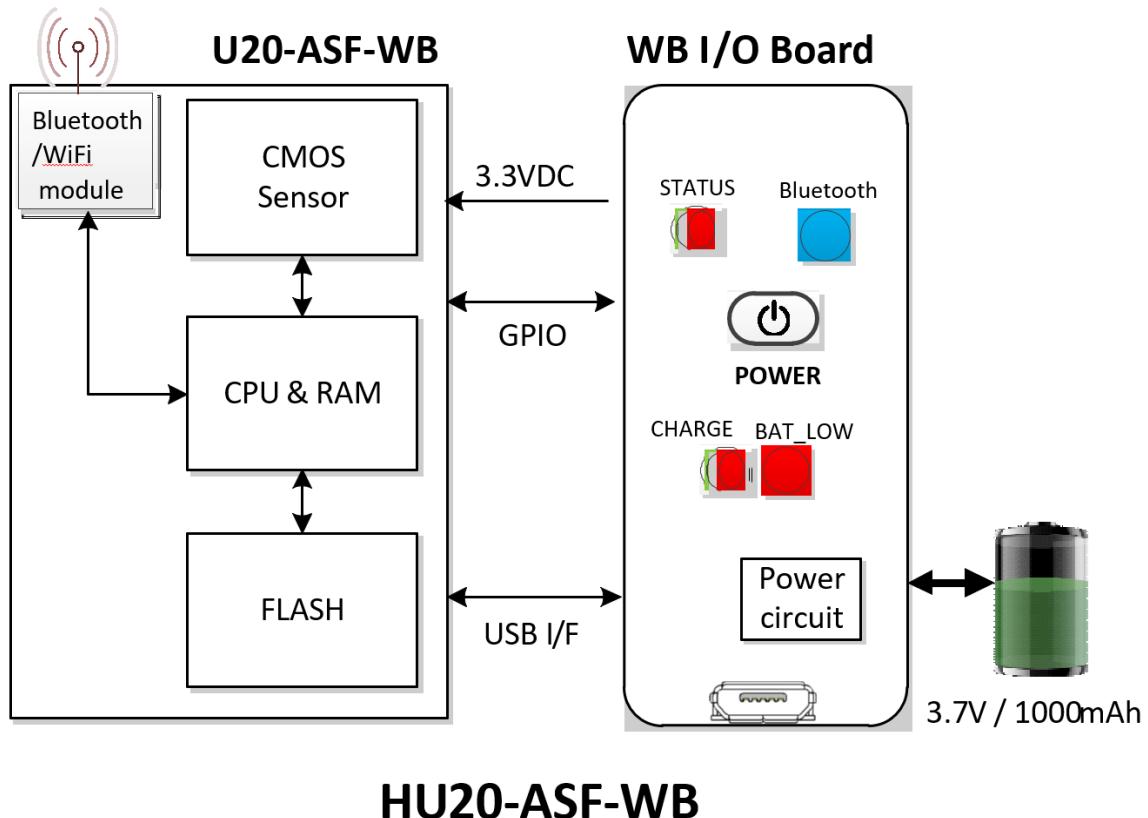
HU20-ASF-WB

3. Technical Specifications

General	
Dimensions	45.2 mm (W) x 103.3 mm (L) x 36.7 (H) mm
Operating Temp. / Humidity	-10°C ~ 60°C / 90% RH (max., non-condensing)
Charging Temp.	10°C ~ 45°C
Weight	90 g
Supply Voltage	Built-in battery or 5.0V DC $\pm$ 5% via USB connection
Current Consumption	200 mA@3.7V (max. Operating) 1000 mA@5V (max. Charging)
USB Interface	For charging
Operating Systems Supported	Windows, Linux, Android and iOS
Fingerprint Reader	
Model	SecuGen® U20™ Optical Fingerprint Reader
Image Resolution	500 PPI
Image Size	300 x 400 pixels
User Capacity	Up to 700 users (1,400 templates)
Effective Sensing Area	18.1 mm x 22.9 mm
Sensing Area	15.24 mm x 20.32 mm
Image Grayscale	256 levels (8-bit)
Light Source / Typical Lifetime	LED / 60,000 hours
Fingerprint Capture Time	0.2 ~ 0.5 sec with Smart Capture™
Bluetooth / WiFi	
Bluetooth V4.2(HS) with integrated Class 1.5 PA and Low Energy (BLE) support	
Concurrent Bluetooth, WLAN operation	
802.11b/g/n single-band radio	
Simultaneous BT/WLAN receive with single antenna	
Battery	
Rated Capacity	1000 mAh
Internal Resistance	≤70 mΩ
Voltage	3.7 V (nominal), 4.2 V (charged), 2.75 V (discharge cut-off)

4. Dimensions
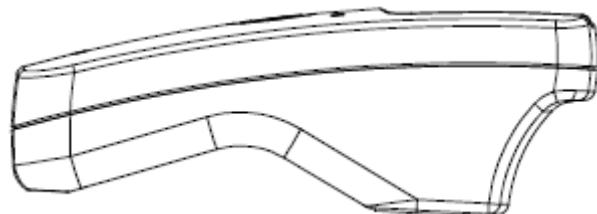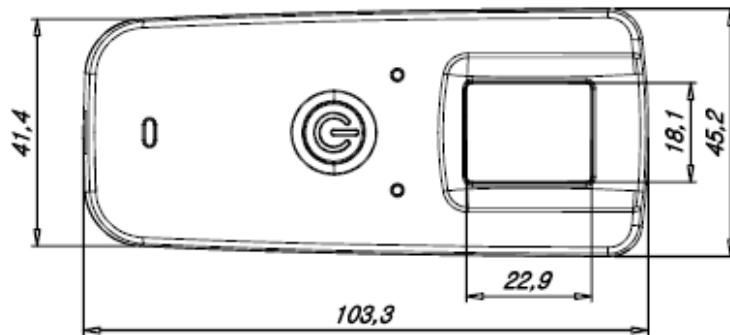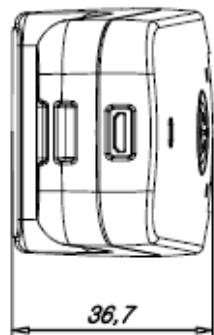
Dimensions (mm)

5. Label Information

Label		
Label color	White	Blue

6. Ordering Information

Product	Part Number	Description
Unity 20 Wireless (HU20-ASF-WB)	EA4-1006	Stand-Alone Fingerprint System in a finished case, with Bluetooth interface, multi-functional power button, LED indicators, rechargeable battery, and USB port

SecuGen Corporation

2065 Martin Avenue, Suite 102, Santa Clara, CA 95050, USA

Tel: +1 (408) 727-7787

SecuGen Korea (manufacturing company)

#506 Jungwoo venture town 1cha, 8, Haebong-ro 330beon-gil, Danwon-gu, Ansan-city,

Gyeonggi-do, South Korea, 15425.

Tel: +82) 70-7762-5309