

iBreastExam – Over-the-Air (OTA) Instructions

Firmware

What is Firmware?

Firmware is the “software of the hardware”. It is a program that is embedded into the memory of hardware devices to help them operate. It enables hardware components like the Bluetooth module or the electronic board to function smoothly.

What is an Over-the-Air (OTA) Update?

Like updating the iBreastExam app (the software), you can enhance your device performance and security by updating the firmware of your iBreastExam scanner.

This is especially important if examples of known firmware errors in iBreastExam appear:

- Faulty device number: ~NA~, etc.
- Faulty remaining scans: 6553, over 2000, random numbers, ~NA~, etc.
- Faulty sensor reading: “Issue with sensor: Your sensor cartridge seems to be disconnected. Please disconnect the device, remove, and reinsert the sensor cartridge, and re-connect the device. If the problem persists, please contact customer support.”

OTA Process

Prerequisites for starting the OTA Process

- ✓ **Stable internet connection.**
- ✓ **iBreastExam scanner and mobile phone are physically next to each other.**
- ✓ **iBreastExam scanner and mobile phone fully charged (or connected to a power source).**
- ✓ Scanner: BLE type (device number starting with T; HM13 type (device number starting with W) is not supported).
- ✓ Scanner: Firmware version **9.9** or below (check the firmware version in the “About Application” section in the iBreastExam app's settings).
- ✓ Scanner: Sensor cartridge removed from the scanner.
- ✓ Scanner: iBreastExam scanner turned on but not connected to any mobile phone.
- ✓ **Phone: Android/iOS mobile phone, preferably Samsung, Vivo, MI, Real me, Lenovo, or iPhone. NOT recommended are Huawei, Karbon, Maxx, Lenovo K8.**
- ✓ **Phone: Minimum specifications:**
 - **Memory: 3 GB RAM | 32 GB ROM**
 - **Display: 14.48 cm / 5.5 - 5.7 inches**
 - **Resolution: 720x1440 px**

- **Battery: 3000 mAh**
- **Processor: Preferred Snap Dragon**
- **Android Version: Oreo (8.1.0 and above)**
- **iOS Version: 13.0 and above**
- ✓ **Phone: No Bluetooth devices connected to the mobile phone (such as smart watches, Bluetooth headphones, etc.).**
- ✓ Phone: Have Bluetooth and Location turned ON in the mobile phone.

Steps for Firmware Update through iBreastExam App

1. Connect the scanner with the iBreastExam app.
2. Go to the iBreastExam settings and select "Firmware Update".
3. Enter the password "Update123".
4. The app will show the present battery level of the device, device name, current firmware version, and device number.
5. Tap on the "Download and Update" button and read the instructions carefully.
6. Click on the "Install Update" button.
7. The app automatically completes some checkpoints and installs the latest firmware update.
8. Keep the device close to the mobile phone and wait until the process is completed. **DO NOT close the application, tap on the back arrow, open other applications, turn off Bluetooth or Location, turn off the scanner, or disconnect the mobile phone from the scanner. This will corrupt the firmware and will make the scanner unusable.**
9. Wait for the process to be completed. During the update process, the green connection light of the scanner blinks fast. The whole firmware update process takes around 5-10 minutes.
10. Once the process is completed, the "Firmware Update Success!" pop-up will appear; Tap on the "Ok" button.
11. **Turn off the scanner, insert a sensor cartridge, and turn the scanner back on.**
12. Re-connect the scanner, go to the iBreastExam settings, scroll down to "About Application", and check that the firmware version is up to date (**9.11**).

Troubleshooting during the OTA Process

- Check that no other Bluetooth devices are connected to the mobile phone.
- Check that Bluetooth and Location are turned ON during the whole process.
- Clear the iBreastExam Cache: Long press on the app icon, tap on "App Info", "Storage", "Clear Cache".
- If these instructions do not work, please contact support@uelifesciences.com.