VALENVERAS

EDITION 2026

POWERED BY BUCHI

VALENVERAS PORTABLE LAB

# Quick Start Guide

Operate the scanner, prepare samples and complete your first measurement.




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# Contents

This guide covers the instrument and its case, the hardware interfaces, power management, the sampling methods, the mobile application workflow and the powder analysis kit supplied for cannabis analysis.


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**READ THIS FIRST**

The sample must be in direct contact with the Scanner optical window during the measurement. A current calibration is required before the first measurement of each session.

# 01 Instrument & Case Contents

The instrument, the cover and everything supplied in the transport case.

**A. Scanner** · ProxiScout™ (model NEO1001), designed and manufactured by BÜCHI

The main spectra collection device (Figure 1).

**B. Scanner Cover**

A protective cover for the optical window that should be placed on top of the Scanner when it is not being used. The cover attaches to the Scanner easily via magnets, and includes a small white box containing the reference material for calibration measurements. To avoid losing the cover, use the lanyard to attach it to the Scanner.

**C. Scanner Power Adapter**

An AC/DC adapter dedicated for use with the Scanner via a USB connection. It also comes with a power plug converter for users located in the USA. Refer to Section 03 for more details about adapter usage.

**D. Maintenance Accessories**

Alcohol wipes and a microfiber cloth for the optical window, and a combined brush and squeegee for removing particles from the Scanner head between samples. Replace the wipes with any non-abrasive, high-grade isopropyl alcohol wipe once the supplied ones are used up.

**E. Powder Analysis Kit**

The calibration tile for the powder analysis kit, the powder sample dish holder, three powder sample dishes and the powder sample dish weight (Figure 2). Its assembly and use are described in Section 10.

## 1.1 Parts Overview




FIGURE 1 — SCANNER PARTS OVERVIEW

**a** Light window
**b** Bluetooth
**c** Power button
**d** Calibration tile
**e** Screen
**f** Scan button
**g** Cover
**h** USB-C port
**i** Lanyard

## 1.2 What Is Included




FIGURE 2 — POWDER ANALYSIS KIT, AS DELIVERED

- **a** Calibration tile for the powder analysis kit
- **b** Powder sample dish holder
- **c** Instrument
- **d** Three powder sample dishes
- **e** Powder sample dish weight

The case contains rechargeable Li-ion batteries. Observe the applicable transport regulations when shipping the kit.

# 02 Scanner User Interface

Buttons, charging port and on-device screen indicators.

## 2.1 Scan and Power Buttons

The main functionality of the Scanner is controlled by the Scan and Power buttons — shown in Figure 3 — as summarized in the table below.

| Power button functionality | Scan button functionality |
|---|---|
| • A short press turns on the Scanner if it is powered off.<br>• When the Scanner is turned on:<br>  ◦ A long press turns the Scanner off.<br>  ◦ A short press changes the status of the Bluetooth connection from “Disconnected” to “Ready to connect”. | • A short press is used to take a sample measurement.<br>• A long press is used to take a calibration measurement. |
| See Section 05 — Power & Connection States — for details about the Bluetooth connection. | See Section 04 — Sample Interface — and Section 11 — Your First Measurement — for details about the usage of the Scan button. |

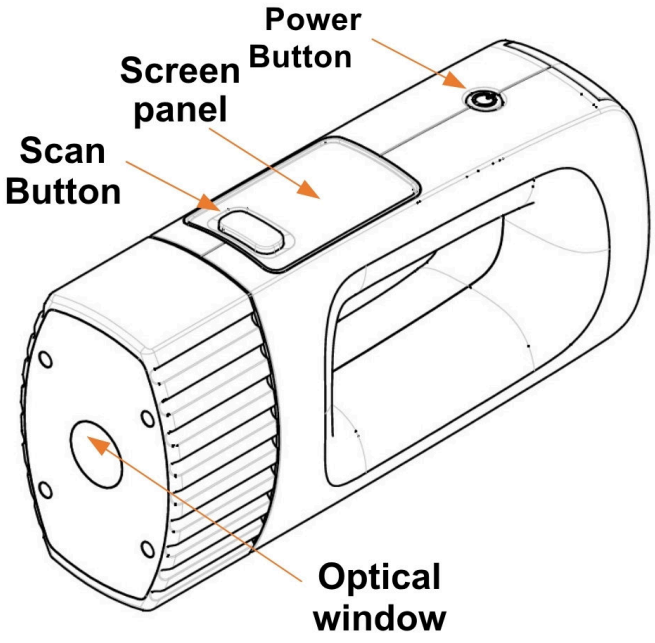



FIGURE 3 — SCANNER INTERFACES

## 2.2 Scanner USB Port

The Scanner USB port is used for battery charging, and is shown in Figure 4. To charge the battery, plug the power adapter into the USB port.

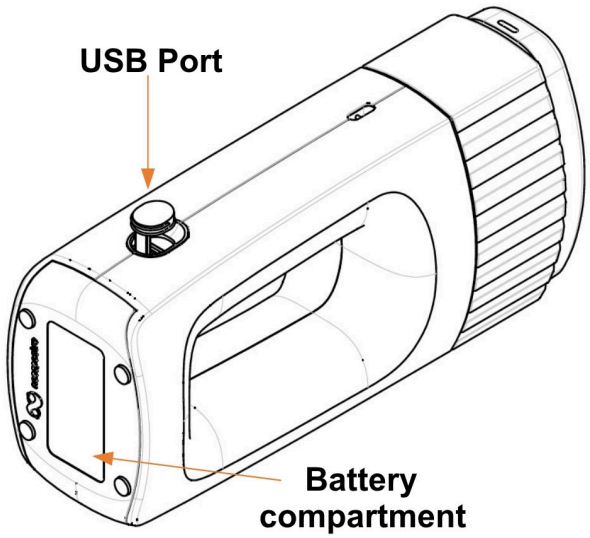



FIGURE 4 — USB CHARGING PORT AND BATTERY COMPARTMENT

## 2.3 Scanner Screen Panel

The four main areas of the Scanner screen are shown in Figure 5: Stored Scans, Battery Status, BLE (Bluetooth) Status and Messages.

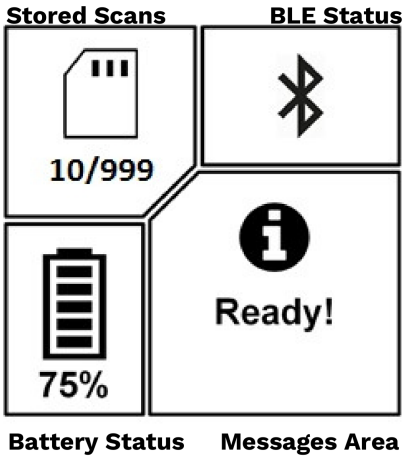



FIGURE 5 — SCREEN PANEL OVERVIEW

### 2.3.1 Stored Scans

When the Scanner is not connected to an app, spectral data are stored in the Scanner local memory. The memory can store up to 999 spectra. The number shown on the screen indicates how many spectra are currently stored in the Scanner.

### 2.3.2 Battery Status

The remaining battery capacity is shown, together with an indication of whether the charger is connected, as illustrated in Figures 6a and 6b.

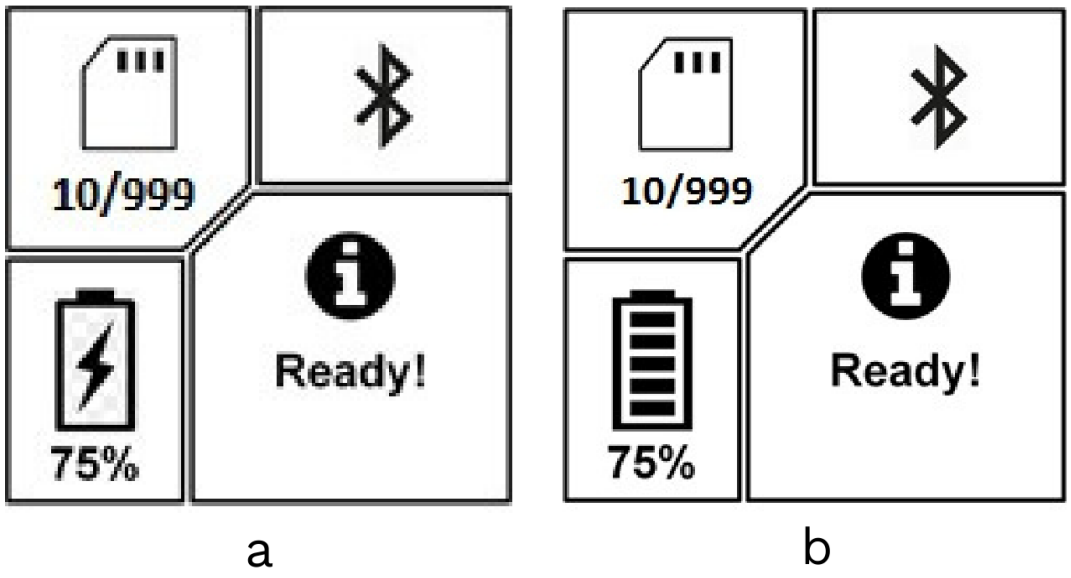



FIGURE 6 — (A) SCANNER BEING CHARGED · (B) SCANNER NOT BEING CHARGED

# 03 Powering the Scanner

Battery operation, charging specifications and battery replacement.

## 3.1 Charger / Battery Powered Operation

The Scanner is powered by two replaceable 18650 batteries with 3400 mAh nominal capacity. The batteries are installed in the device for out-of-the-box operation. The Scanner also comes with a **15 V / 2.4 A** AC/DC adapter capable of powering the Scanner to charge and scan simultaneously, irrespective of the battery status.

TABLE 1 — SPECIFICATIONS OF THE CHARGING CABLE

| Parameter | Specification |
|---|---|
| **Description** | Universal AC/DC USB-C PD external wall mount (Class II) adapter |
| **Input voltage** | 100 VAC ~ 240 VAC |
| **Frequency range** | 50 Hz ~ 60 Hz |
| **Input current** | 1.0 A |
| **Output voltage (PDO)** | 5 V / 9 V / 12 V / 15 V / 20 V |
| **Rated output current (min)** | 3 A @ 5 V · 3 A @ 9 V · 3 A @ 12 V · 2.4 A @ 15 V · 1.8 A @ 20 V |
| **Power output (min)** | 36 W |
| **Form** | Wall mount (Class II) |
| **Plug** | NA / EU |
| **Recommended models** | Qualtek QFWC-45-20-USCR · Globtek GTM96181-36PD-PPS |

Charging speed will be slower if an off-the-shelf standard 5 V USB charger is used. In addition, performing measurements is only possible when the battery is sufficiently charged.

## 3.2 Battery Replacement

Follow these steps to replace the battery:

1. Unscrew the four screws in the battery cover at the bottom of the Scanner (see Figure 7).
2. Prepare two identical batteries — flat-top Panasonic 18650B type, preferably fully charged.
3. Insert the batteries in the compartment, making sure that the "−" side of each battery is placed at the terminal with a spring.
4. Press the two batteries inside the Scanner.
5. Turn on the Scanner.

**SAFETY — BATTERY HANDLING**

Risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the battery manufacturer instructions.

If the batteries are not charged the Scanner may not be able to boot. Connect the charger and wait until the Scanner is charged.

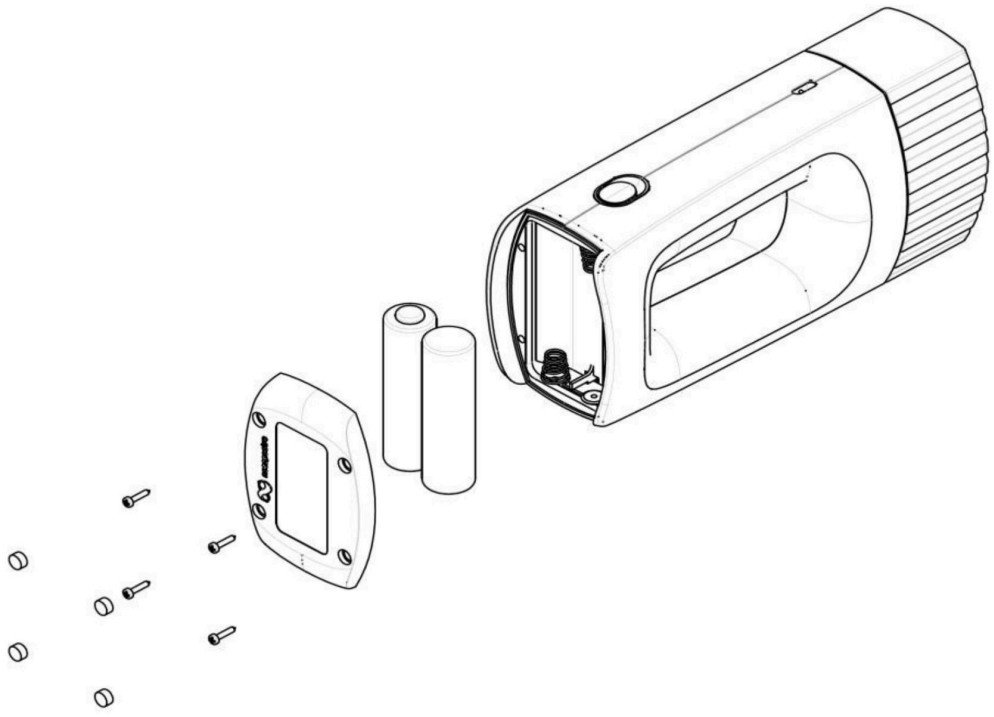


FIGURE 7 — BATTERY REPLACEMENT PROCESS

# 04 Sample Interface

How a cannabis sample is presented to the optical window.

## Sample on Top of the Scanner

- Place the Scanner on a flat surface with the optical window facing up.
- Place the ground material in the powder sample dish and seat the dish in the holder on the sample stage.
- Place the sample weight on top of the dish, so the material covers the entire surface of the dish and stays in contact with the optical window.

Ground or loose material — milled dry flowers, dried plant tissue, solid extracts — is always analyzed in the powder sample dish. The assembly of the dish and its holder is described in Section 10.

**IMPORTANT**

The user must ensure that the sample is in contact with the Scanner window during the whole measurement.

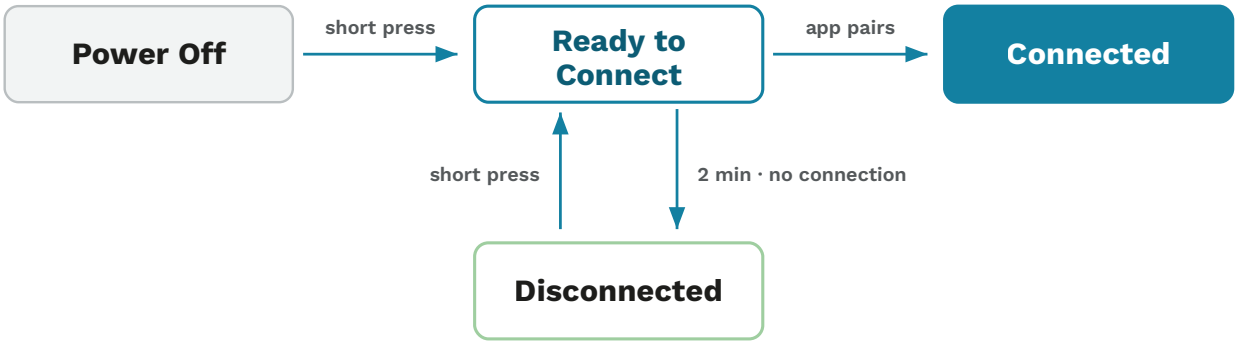


FIGURE 8 — SAMPLE DISH AND SAMPLE WEIGHT IN PLACE

# 05 Power & Connection States

How the Scanner transitions between operating states.

The Scanner has four main states: Power Off, Ready to Connect, Connected and Disconnected. Each state is described below.




A long press on the Power button returns the Scanner to Power Off from any state.

FIGURE 9 — STATE TRANSITIONS

1 **Power Off**

A long press on the Power button turns off the Scanner. Keeping the device in this state when it is not in use is recommended to conserve battery.

2 **Ready to Connect**

The initial state when the Scanner is turned on. The Scanner is discoverable by nearby mobile devices for a Bluetooth connection. It stays in this state for two minutes and then automatically moves to “Disconnected” if no connection is established. To return to “Ready to connect”, press the Power button briefly.

3 **Connected**

The main state during Bluetooth-connected operation. The Scanner is turned on and connected to a mobile device, and is ready to take scans either from the mobile application or from the Scan button on the Scanner.

4 **Disconnected**

When the Scanner is turned on but not connected to any external mobile device for two minutes, it automatically moves to this state to save power. In this state the Scanner is not discoverable when a mobile device searches for nearby Bluetooth connections. To return to “Ready to connect”, press the Power button briefly.

# 06 Firmware Update

Updating and restoring the Scanner firmware from the mobile app.

## 6.1 Firmware Update

Updating the firmware (FW) of the Scanner is done through the mobile app. The procedure is as follows:

1. Plug the Scanner into the charger in advance and charge the battery to 100 %.
2. Open the Scan application and make sure the mobile device is connected to the internet.
3. Press the gear button in the Home tab, choose “Scanner Firmware” from the menu, then choose “Firmware Update”.
4. The application searches for available updates.
5. Once the firmware update is complete, the Scanner turns off automatically and the mobile application is disconnected.

## 6.2 Restore Default Firmware

Restoring the default firmware of the Scanner is also done through the mobile app. This action brings the Scanner firmware back to the version originally flashed during the production of the unit. To restore the firmware, follow the instructions in Section 6.1 but, in step 3, choose “Restore Default Firmware”.

# 07 Scanner Error Codes

Scanner error codes range from 1 to 191. The detailed description of these codes is shown in the tables below.

TABLE 2 — NUMERIC ERROR CODES

| Error code | Description |
|---|---|
| **0** | No error |
| **1 – 127** | Core sensor error |
| **128 – 129** | Core sensor timeout |
| **130 – 148** | Last calibration scan settings differ from the current material scan settings |
| **149 – 150** | No calibration scan found |
| **151 – 152** | Error in opening scan file for reading |
| **153 – 154** | Error in opening scan file for writing |
| **155 – 156** | Error in reading scan file |
| **157 – 158** | Error in writing scan file |
| **159 – 168** | Scan numbers file does not exist |
| **169 – 170** | Scan file is out of range of the stored scan files |
| **171 – 172** | Maximum number of scan files is exceeded |
| **173 – 174** | Failed to open configuration file |
| **178 – 181** | Mismatch in configuration file length |
| **186 – 187** | Error in parameter extraction from configuration file |
| **188 – 189** | Incorrect location is being accessed in internal memory |
| **191** | Internal memory is full |

TABLE 3 — COMMUNICATION, FIRMWARE AND THERMAL EVENTS

| Group | Description |
|---|---|
| **Bluetooth** | BT classic controller initialization failed |
| **Bluetooth** | BT classic controller enable failed |
| **Bluetooth** | BT classic initialization failed |
| **Bluetooth** | BT classic enable failed |
| **Bluetooth** | BT classic GAP register failed |
| **Bluetooth** | BT classic SPP register failed |
| **Bluetooth** | BT classic SPP initialization failed |
| **Bluetooth** | BLE packet failed |
| **Power** | Scan failure due to low battery |
| **Firmware** | Error occurred during OTA initialization |
| **Firmware** | Error occurred during OTA payload sending |
| **Firmware** | Error occurred during OTA finalization |
| **Firmware** | Error occurred during OTA restore default FW |
| **Thermal** | Scanner is hot — cooling is required |

# 08 Precautions & Compliance

Operating limits, optical maintenance and regulatory notices.

- Avoid long periods of exposure of the sample to the infrared light coming out of the light source, as heating may occur and affect the sample surface.
- Avoid direct eye contact with the light emitted from the light source.
- The glass window on the Scanner must remain clean in order to perform accurate measurements. The Scanner case includes several accessories to maintain the device: periodically clean the window with the included alcohol wipes and remove any streaks with the included microfiber cloth. Once the supplied wipes are used up, replace them with any non-abrasive, high-grade isopropyl alcohol wipe.
- When analyzing samples, particles can stick to the Scanner head and should be removed each time the Scanner is repositioned for the next scan. A combination brush and squeegee accessory is included in the Scanner case for easy particle and dust removal.
- To keep the device clean and protected, cover the head with the Scanner cover any time it is not in use.
- The device is tested to operate in temperature ranges between −5 °C and 40 °C. Performance at other temperature ranges is not guaranteed.

**CAUTION**

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

**FCC 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; or consult the dealer or an experienced radio/TV technician for help.

# 09 Before Getting Started

Install the Scan app, sign in, load your models and set your preferences.

## 9.1 Download Your Scan App

**Let's Login...**

Download on the App Store

Neospectra Scan App on the App Store

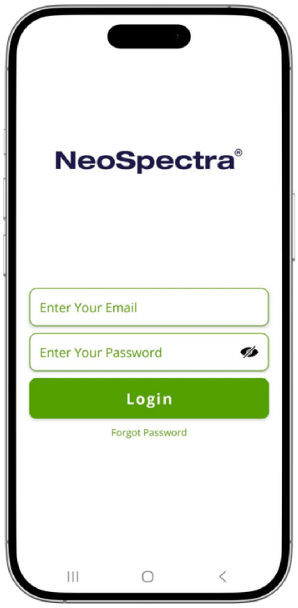
**Let's Login...**

GET IT ON Google Play

Neospectra Scan App on Google Play

## 9.2 Login

Open the Scan app and sign in. If you do not remember your password, use the "Forgot Password" link on the login screen.

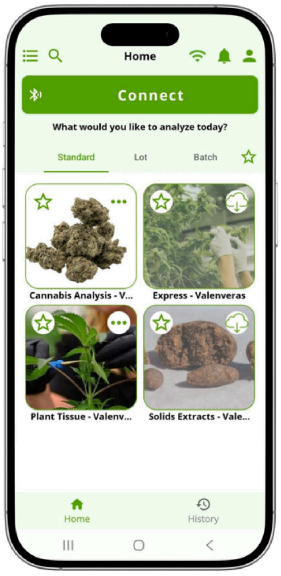



LOGIN SCREEN

## 9.3 Get Your Models

The Home tab lists the analysis models available to your account: Cannabis Analysis, Express, Plant Tissue and Solids Extracts. Select the model matching the material you are about to analyze. If a model you expect is missing, contact support@valenveras.com.

Models can be organized by Standard, Lot or Batch, and marked as favorites with the star icon for faster access during routine work.




HOME — MODEL SELECTION



PROXISCOUT™ IN USE

## 9.4 Preferences

The Preferences panel in the app controls review and outlier warnings, data synchronization, language and device management.

# 10 Valenveras Powder Dish

Assembly of the powder analysis accessory on the Scanner sample stage.

## 10.1 Parts Overview




FIGURE 10 — POWDER DISH PARTS

**a** Powder dish

**b** Scanner

## 10.2 How to Assemble

Attach the powder dish holder on the top of the Scanner, making sure that it is completely inserted onto the sample stage of the Scanner.



STEP 1 — ATTACH THE HOLDER



STEP 2 — INSERT THE SAMPLE DISH

# 11 Your First Measurement

Six steps from power-on to a full result on screen.



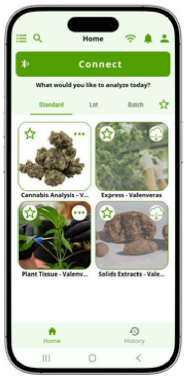
### 1 Turn the Scanner on

Press the Power button until the screen displays.



### 2 Connect your device

Press “Connect” in the app and select your device. If you cannot find it, press the Power button briefly.




### 3 Choose the material

Select the material you want to analyze in the app. If no material is listed, contact support@valenveras.com.




### 4 Prepare calibration

The Scanner requires a current calibration. Remove the cap from the calibration tile once the instrument is turned on.



### 5 Calibrate the device

Place the calibration tile in the clean powder dish and press “Calibrate” on the app. Replace the cap on the tile when done.



### 6 Take the measurement

Place your sample in the powder dish, then both into the holder on the Scanner. Place the sample weight on top and press “Scan” — from the app or the Scanner. The results are displayed.

# 12 Where to Find Your Results

On the mobile device and in the NeoSpectra Cloud Portal.

All measurement results are saved on your mobile device and on your NeoSpectra Cloud Portal. When the Scanner is used without an app connection, the spectra are stored in its local memory — up to 999 — and synchronized later.



FIGURE 11 — RESULTS SYNC TO THE APP AND THE NEOSPECTRA CLOUD PORTAL

**TECHNICAL SUPPORT**

For sample setup, model subscriptions or instrument service, contact Valenveras at support@valenveras.com.

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