GemmaCert®

SMART CANNABIS & HEMP ANALYSIS

User Manual

IMPORTANT NOTICE

PATENTS

Aspects of this device are covered by patents and patent applications (pending).

MANUFACTURER

GemmaCert Ltd.
8 Hamasger Street
Ra'anana, Israel
4365707

info@gemmacert.com
www.gemmacert.com

INTENDED USE

GemmaCert is intended for anyone in the cannabis supply chain, such as breeders and growers, extract producers and manufacturers, pharmacies and clinics or dispensaries and coffee shops.

This user manual describes how to operate the GemmaCert device and mobile app to achieve reliable cannabinoid composition and potency readings in moments.

Intended User(s)

No specific skill set, or knowledge is required of users.

About This User Manual

This user manual provides the necessary instructions for operating the GemmaCert in accordance with its function and intended use.

This user manual contains the following chapters –

- **CHAPTER 1, INTRODUCING GEMMACERT,** page 8, introduces the GemmaCert device, describes its components and the workflow for using it.
- **CHAPTER 2, SETTING UP GEMMACERT,** page 14, describes how to set up the GemmaCert device.
- **CHAPTER 3, ANNALYZING A CANNABIS SAMPLE,** page 24, describes how to analyze a cannabis sample.
- **CHAPTER 4, TROUBLESHOOTING and MAINTENANCE,** page 48, describes how to update, troubleshoot, and maintain GemmaCert software and hardware.

ILLUSTRATIONS

All illustrations and screen captures in this manual are provided as examples only and may not necessarily reflect the equipment setup.

CONVENTIONS IN THIS USER MANUAL

	Notes provide additional important information.
	Tips indicate helpful information for using the GemmaCert device.
	A warning indicates precautions and instructions which, if not followed, may result in serious bodily injury or death.
	A caution indicates instructions or cautionary notes which, if not followed, may result in damage to the equipment or to the quality of measurements.

TABLE OF CONTENTS

List of Figures

List of Tables

1 Introducing GemmaCert

This chapter introduces the GemmaCert device, describes its components and the workflow for using it.

WHAT IS GEMMACERT?

GemmaCert provides reliable, real-time cannabis composition and potency readings without affecting flowers' efficacy or value. GemmaCert can measure a fully intact flower, bud, ground, trim or cannabis extract.

GemmaCert readings are displayed on your smartphone in the GemmaCert app and are retained for up to 24 hours. A desktop web portal is also provided, enabling all results to be viewed and exported to Excel.

HOW DOES GEMMACERT WORK?

The GemmaCert® proprietary device collects spectral data from cannabis specimens, and is CE, RoHS and UL-certified. The data is analyzed on the GemmaCert secure cloud server, and, within two to four minutes, reliable composition and potency readings are transmitted to the user's smartphone. During analysis, GemmaCert uses a proprietary combination of NIR spectroscopy, computer vision algorithms, motion mechanics, and advanced data analytics (machine learning).

Machine learning is used to cross-reference spectral readings with GemmaCert's exclusive reference database. This database contains detailed readings from thousands of flowers that have been analyzed using HPLC in our ISO 17025 lab, as well as in other leading labs in Europe and the US.

GEMMACERT COMPONENTS

GemmaCert Device

The GemmaCert testing and analyzing device is ISO 17025 compliant, accurate and easy to understand. Total CBD and Total THC results are sent straight to your GemmaCert smartphone application and to the web based GemmaCert Customer Portal.

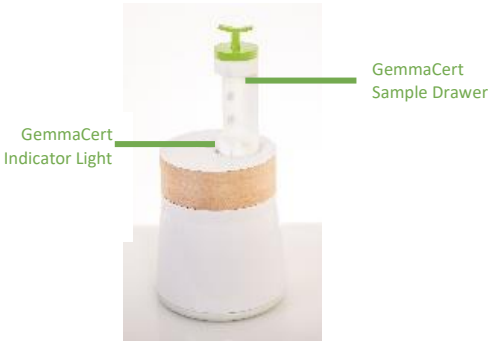


Figure 1: GemmaCert Device

GemmaCert's Android Smartphone App

The GemmaCert smartphone app enables you to control the GemmaCert device and to view results.

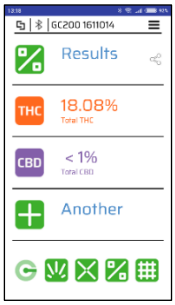
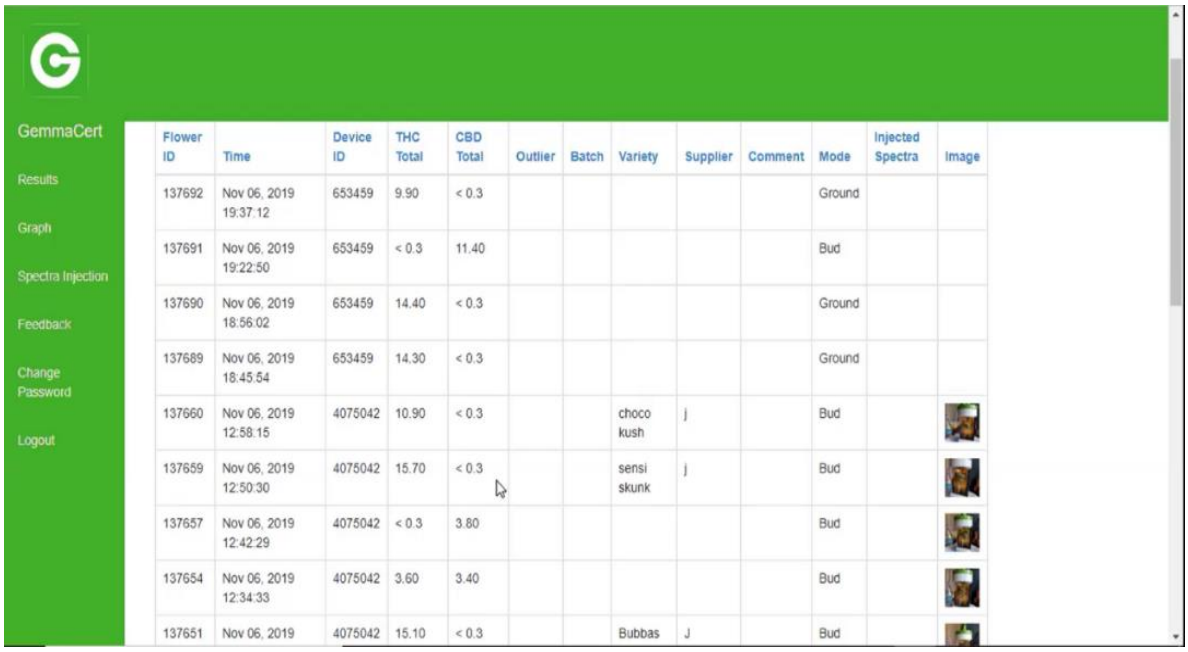


Figure 2: Viewing Results on Your Smartphone

GemmaCert Web Portal

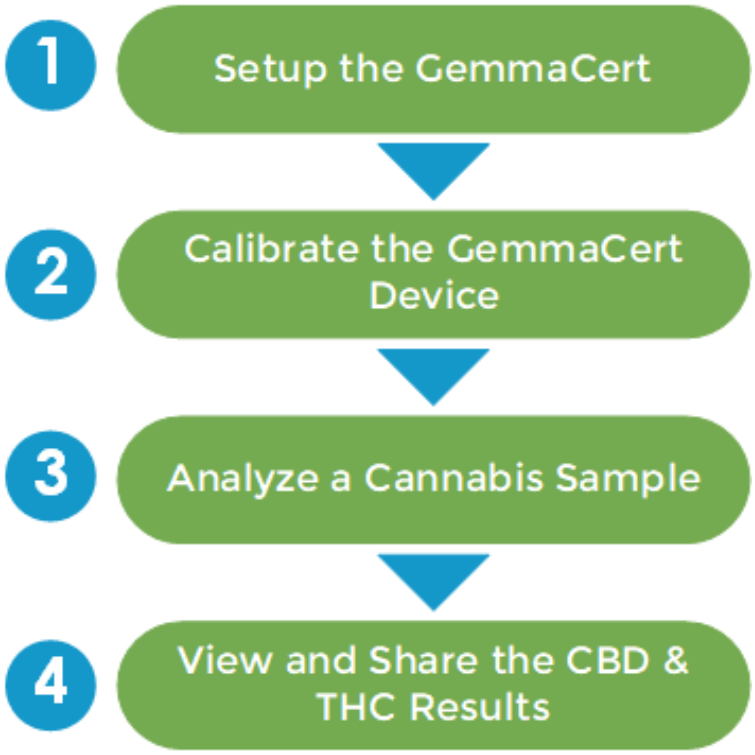
The GC Customer Portal provides a convenient option for browsing analysis results and exporting results to Excel.



Flower ID	Time	Device ID	THC Total	CBD Total	Outlier	Batch	Variety	Supplier	Comment	Mode	Injected Spectra	Image
137692	Nov 06, 2019 19:37:12	653459	9.90	< 0.3						Ground		
137691	Nov 06, 2019 19:22:50	653459	< 0.3	11.40						Bud		
137690	Nov 06, 2019 18:56:02	653459	14.40	< 0.3						Ground		
137689	Nov 06, 2019 18:45:54	653459	14.30	< 0.3						Ground		
137660	Nov 06, 2019 12:58:15	4075042	10.90	< 0.3			choco kush	j		Bud		
137659	Nov 06, 2019 12:50:30	4075042	15.70	< 0.3			sensi skunk	j		Bud		
137657	Nov 06, 2019 12:42:29	4075042	< 0.3	3.80						Bud		
137654	Nov 06, 2019 12:34:33	4075042	3.60	3.40						Bud		
137651	Nov 06, 2019	4075042	15.10	< 0.3			Bubbas	J		Bud		

Figure 3: GemmaCert Customer Portal Results

WORKFLOW FOR USING GEMMACERT



SAFETY INFORMATION

Read all the instructions provided in this user manual before using the GemmaCert system. Using the GemmaCert system in a manner not indicated in this user manual may result in misleading results or may negatively affect the system itself.

- Your GemmaCert is entirely safe and requires no special safety precautions other than carefully plugging the power supply cable into the electrical outlet.
- GemmaCert is powered by a 6V DC and is completely harmless upon contact.
- GemmaCert communicates using Bluetooth®, and emits no electromagnetic radiation other than the Bluetooth® signal.
- GemmaCert contains visible and near-infrared lights at intensities far below those of illumination products. These lights are encased in the device and visible only if the casing is broken or removed. Even then, they are entirely safe and can not cause any eyesight damage.

WARNINGS

- GemmaCert contains delicate components. Be sure to place it on a stable, flat surface and avoid moving it abruptly. Avoid placing it on a vibrating surface, such as in the proximity of an air-conditioner or compressor.
- Do not get the device wet.
- Analyze dry flower/buds/grounds only. DO NOT use GemmaCert to analyze wet cannabis.
- GemmaCert is powered by a standard 6V DC power adaptor equipped with a round plug. The GemmaCert consumes more power than a typical smartphone, and, therefore, you must use the power supply received with it. Powering with an unsuitable power supply will affect performance and could damage the device. GemmaCert may not be powered through its USB socket.
- The Flower pin has a sharp needle. Handle it with care.
- Clean your GemmaCert thoroughly before traveling with it. Remove all trimmings, fragments and dust from the sample holder using the provided brush. Clean the reflector and the sample holder, as described on page 52. Clean out the device's base, as described on page 52.

CONTACTING GEMMACERT SUPPORT

▶ **To contact the GemmaCert support team, either –**

- Tap the menu ☰ icon in the top right corner of the GemmaCert app and then select the **Feedback** option.
- Select **Feedback** in Customer Portal's left pane.
- Email: support@gemmacert.com

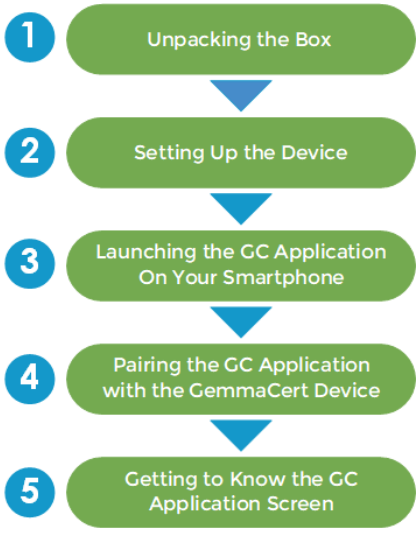
Each of these methods opens a support ticket, which enables you to report a problem.

2

Setting Up GemmaCert

This chapter describes how to set up the GemmaCert device.

SETUP WORKFLOW



Page 15
Page 16
Page 18
Page 19
Page 22

UNPACKING THE BOX

Unpack the contents of the GemmaCert box, as follows –

1 Remove the contents of the package contents and place them on a dry, stable surface.

Figure 4: Package Contents

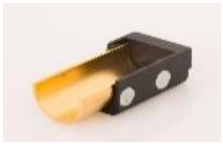
The package contains the following components –

Body

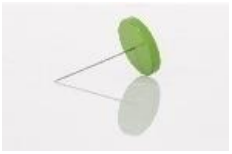
Base

Ground Accessory

Power Supply and Cord



Reflector



Flower Pin

Figure 5: Package Components

SETTING UP THE DEVICE

To set up the device –

1. The base of the GemmaCert is attached to the device by magnets. Gently, pull off the bottom of the device, as shown below –

Figure 6: Pulling the Base Off the Device

2. Plug the round power supply cable into the socket located under the body, as shown below –

Figure 7: Plugging the Power Supply Cable into the Socket

Note – We recommend that you power off the GemmaCert device (using the ☰ → **Turn Off Device** menu option) when you are not going to be analyzing for a few hours, in order to reduce wear on the spectrometer.
Note – You may notice a USB connector inside the device. This connector is only intended for debugging purposes and should not be used unless you are instructed to do so by GemmaCert support.

3. Take note of the Device ID on the sticker under the device's base or on the back of the reflector. This number will be required later in order to pair the GemmaCert app with the device (which is described on page 19).
4. Set the body on top of the base. Rotate the body until it tightly fits into the base.
5. Turn the GemmaCert ON by plugging its power supply into an electrical outlet.
Note – The GemmaCert does not contain a battery. Unplugging the power supply will result in immediate shutdown.
6. The top of the GemmaCert device shows a light indicator. Watch and wait for the following –
   - A steady, faint blue light displays after the device is powered ON.
   - After approximately a minute, a steady white light displays while the device performs a self-test.
   - After approximately two minutes, the self-test completes, and the indicator light blinks white every second to indicate that the device is ready to be paired (connected) to the GemmaCert app.

Figure 8: GemmaCert Device Indicator Light

Note – If the indicator light blinks every three seconds, then the self-test has failed. In this case, contact GemmaCert support.

LAUNCHING THE GC APP ON YOUR SMARTPHONE

▶ **To launch the GemmaCert app –**

1. Verify that your smartphone has an Internet connection.
2. Search for **GemmaCert** in Google Play. Then, download and install it.
   - Download and launch the GemmaCert app on your Android smartphone.

     GC GemmaCert 
   - The app can also be downloaded from the following link – https://play.google.com/store/apps/details?id=com.gca.team.gcapp.

     Note – The GemmaCert app will be available for iPhones soon.
3. Open the GC app. The Login screen displays, as shown below –

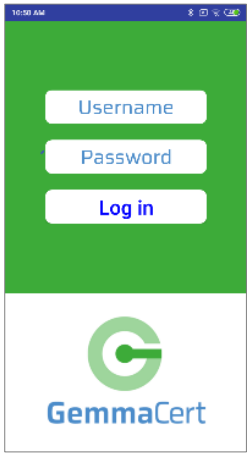


Figure 9: Login Screen

4 Enter the username and password that you received by email after your order. Upon successful login and connection with the GemmaCert cloud server, the Menu screen is displayed, as shown on the next page.

Note – A login failure is indicated by displaying the message **Not Recognized.** Contact support if login fails.

PAIRING THE GC APP WITH THE DEVICE

Each time the device is powered down, the pairing procedure (described below) must be performed. The GC app connects via Bluetooth to the GemmaCert device with which it has been paired.

▶ **To pair the GC app with the GemmaCert device –**

1 Tap **Pair** on the GC app Menu screen.

Figure 10: Pairing – 1

A list of previously paired devices is displayed. This list is empty the first time a specific smartphone is used to pair to a GemmaCert device.

Figure 11: Pairing – 2

2 Select your device according to the **device ID** printed on the sticker on the bottom of the device, as described on page 17.

– OR –

If your **device ID** is not displayed on the screen, tap **Scan** to detect available devices, then select your device.

3 Tap the **Pair** Pair option.

4 After pairing is complete –

- The indicator light turns to steady blue.
- The device ID of the paired device appears at the top of the screen.
- The **Mode** button becomes enabled. The device is now ready to analyze a cannabis sample.

Figure 12: Pairing Completed

Note – If pairing is not completed within 90 seconds, verify that Bluetooth® is enabled on your smartphone, and try again. If pairing is still not successful, contact support.

GETTING TO KNOW THE GC APP SCREEN

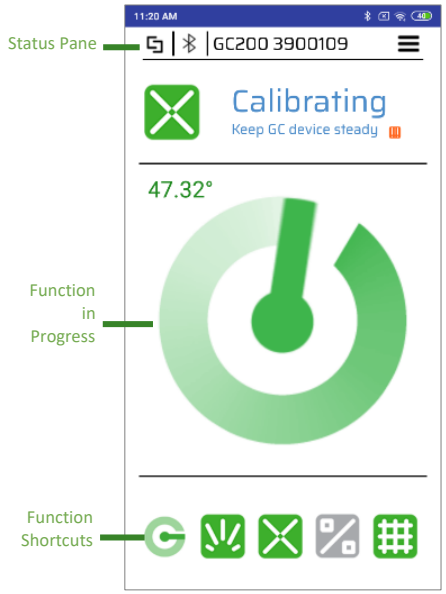


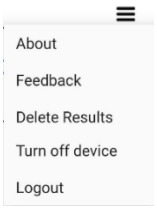
Figure 13: GC App Screen

Status Pane

The Status Pane at the top of the screen specifies the device ID with which the GemmaCert app is paired.

App Menu

Tapping the menu icon in the top right corner displays a menu of options, as follows –



- **About –** Displays version information about the GemmaCert app on the smartphone and the GemmaCert device with which it is paired.
- **Feedback –** Enables you to submit feedback to GemmaCert regarding the system.
- **Delete Results –** Enables you to delete analysis results from the GemmaCert app.
- **Turn Off Device –** We recommend that you use this option when you are not going to be analyzing for a few hours to reduce wear on the spectrometer.
- **Log out –** We recommend logging out of the GemmaCert app after you are finished scanning for the day.

Function Shortcuts

The following function buttons appear at the bottom of the screen to enable you to access various stages of the GemmaCert cannabis processing, as follows –

Home Screen

Mode Screen – Select **Flower**, **Oil** or **Ground Matter**.

Calibrate Screen

Analyze Screen

Retrieve Screen – Display past analyses results.

Menu – Displays a menu of options, as described above.

3
Analyzing a Cannabis Sample

This chapter describes how to analyze a cannabis sample.

ANALYZING A CANNABIS SAMPLE – WORKFLOW

SELECTING THE MODE

GemmaCert can analyze a cannabis flower, ground material or oil.

Note – If you intend to analyze the same type of cannabis material as during the previous analysis, then you can skip this step and go directly to page 28. For example, if you are repeatedly analyzing cannabis flowers, then you can skip this step after analyzing the first flower.

Note – An optional ground material analysis device may be provided for analyzing ground material, as well as a separate device for analyzing oil according to your order. If these options have not been ordered, then they cannot be activated in the menu.

▶ **To analyze cannabis samples –**

1 Tap **Mode** in the Menu screen for Mode selection.

Figure 14: Selecting the Mode – 1

Note – If the **Mode** option is not displayed (as shown above) and the device is paired to the GC app, then you can tap the **Mode** button at the bottom of the screen.

The following displays –

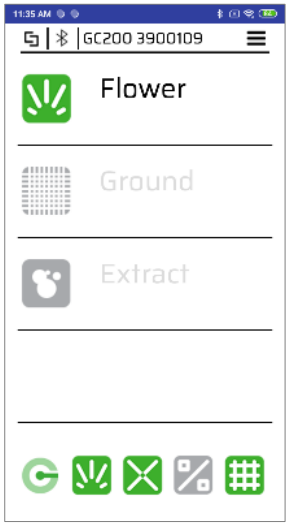


Figure 15: Selecting the Mode – 2

2 Tap **Flower** to analyze a cannabis flower using the reflector or tap **Ground** to analyze ground cannabis using the ground accessory. The **Calibrate** function in the Menu screen becomes enabled, as described below.

CALIBRATING BEFORE ANALYSIS

The GemmaCert device must be calibrated before each new sample analysis. This calibration process must be performed without a cannabis sample inside the device.

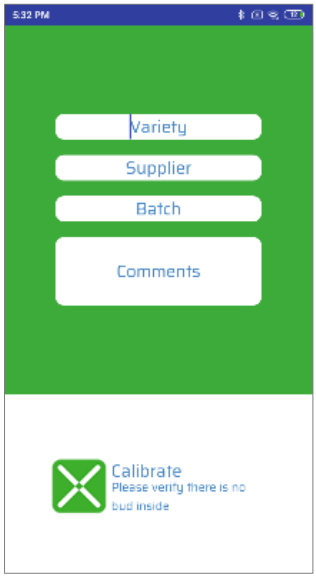
> Before starting the calibration process (as described below), make sure that there is no cannabis sample inside the sample drawer.
>
> Calibrating the device while there is a cannabis sample in the sample drawer may affect the results.

▶ **To calibrate the device –**

1 Tap **Calibrate** in the Menu screen.

Figure 16: Tapping Calibrate

The following displays –



``Figure 17: Entering a Free Text Sample Description

2 You may enter free text information about the analysis to be performed in the following fields. Filling in these fields is optional –

- Variety (Strain)
- Supplier
- Batch
- Comments, such as harvest date, drying protocol and so on.

3 Make sure that there is no flower inside the device!

4 If you have not already done so, gently press down on the green handle on the top of the sample drawer to push it into the device, as shown below –

Figure 18: Pushing the Sample Drawer into the Device

5 Tap the **Calibrate** button at the bottom of the screen to start the calibration process.

The indicator light starts blinking white and blue at a rate of one blink per second. The device warms up. The calibration process starts when the device reaches 47°C and lasts approximately a minute. The temperature of the spectrometer is displayed during the calibration.

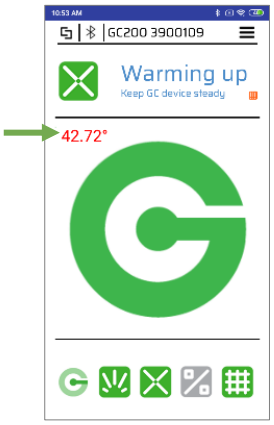


Figure 19: Warming Up

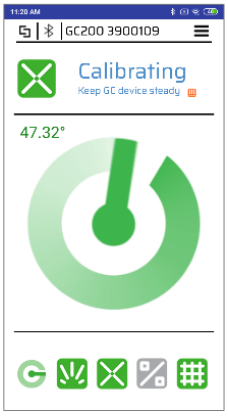


Figure 20: Calibrating

6 After a short time, the following message is displayed, indicating that you should open the sample drawer by pulling the green handle upwards.

Figure 21: Open Drawer Message

7 After the calibration has completed, the GC app displays the Menu screen with the **Analyze** button enabled.

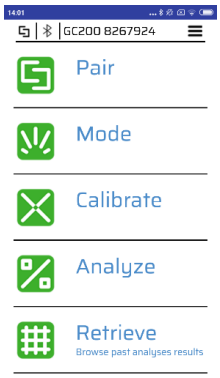


Figure 22: Tapping Analyze

You can now insert the cannabis sample into the sample drawer, as described below.

Note – You must now perform Analysis (as described on the next pages) within one minute of calibration completion.

INSERTING THE CANNABIS SAMPLE FOR ANALYSIS

The process of preparing the device for cannabis analysis depends on the material to be analyzed – **Flower**, **Grounds** or **Oil**. The following describes how to prepare the device to analyze a flower.

Preparing the Device to Analyze a Flower

▶ **To prepare the device to analyze a flower –**

1 Gently pull the sample drawer out of the device by pulling its green handle upwards.

Figure 23: Pulling the Sample Drawer Out

Note – Do not use excessive force. The sample drawer is not meant to be detached from the body. When pulled-up, the container is held in place by strong magnets.

2 Slide the reflector into the sample drawer, as shown below –

Figure 24: Sliding the Reflector into Sample Drawer

3 Only dry flower/buds should be placed in the sample drawer. Do not use GemmaCert to analyze wet flowers.

Stick the flower pin into a flower, as shown below –

Figure 25: Sticking the Flower Pin into a Flower

4 Insert the flower pin with the flower on it into the sample drawer, as shown below –

Figure 26: Inserting the Flower Pin into the Sample Drawer

The top of the reflector has a magnetized indentation for the coin-sized pin head.

Make sure that the pinhead sits flush inside this indentation so that the pin is pointing straight downwards.

Note – Alternatively, instead of the two steps above, you can first insert the flower pin into the sample holder without a flower and then stick the flower onto the flower pin while it is in the sample holder. Use whichever option you prefer.

Make sure that the flower pin is not crooked, as shown below –

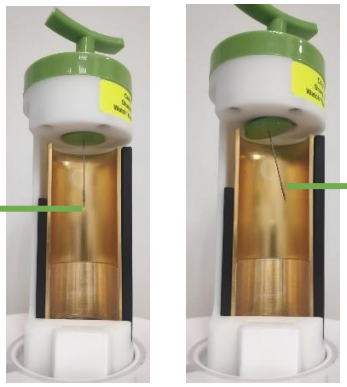


Figure 27: The Right and Wrong Way

Note – The reflector and flower pin are held in place by magnets suitable for operation, but not for transportation. They must be removed before transporting the device.

5 Adjust the position of the flower so that the main bulk of the flower is aligned with the height of the yellow dot on the middle side of the reflector, as shown below –

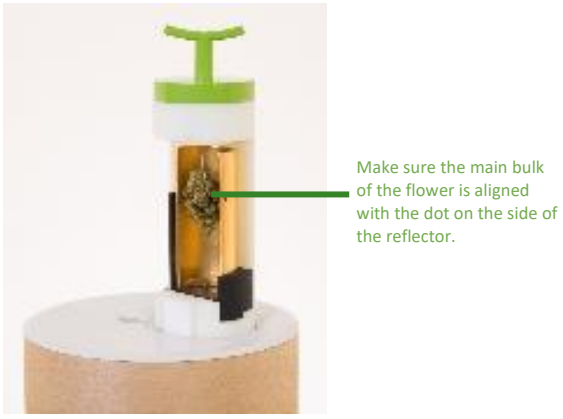


Figure 28: Adjusting Flower Position

6 Gently press down on the green handle on top of the sample drawer while holding on to it. Guide the sample drawer into the device.

Figure 29: Pushing the Sample Drawer into the Device

Note – Do not simple push and let go. Hold on to the green handle and gently lower the sample drawer into the device to avoid it falling freely into the device.

7 Make sure that no part of the flower or its leaves are protruding from the sample drawer.

ANALYZING A SAMPLE

Note – If for any reason, you want to analyze the same cannabis sample more than once, it is recommended to wait at least a few minutes between each analysis in order to allow enough time for it to cool down.

▶ **To start analysis –**

1 Tap **Analyze** in the Menu screen.

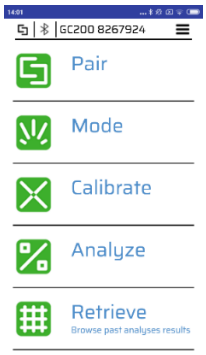


Figure 30: Tapping Analyze

The following displays –

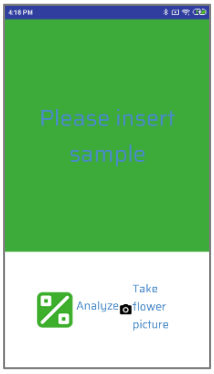


Figure 31: Please Insert Sample

2 You can take an optional snapshot of the flower that can be viewed in the GC Customer Portal by tapping the camera icon in the GemmaCert app screen, as shown above at the bottom of the screen.

Note – If more than a minute has passed since calibration completed, a message is displayed instructing you to calibrate again. In this case, the calibration and analysis procedures must be started from the beginning.

3 Tap the 

button to start analysis. The following displays –

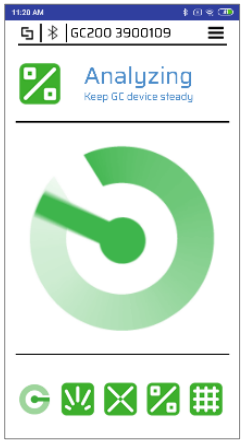


Figure 32: Analysis Is in Progress

The indicator light starts blinking white and blue, alternating at a rate of one blink per second. Analysis lasts approximately four minutes.

After analysis is complete, the GC app screen displays the **Results** button (as shown below), and the indicator light displays steady blue.

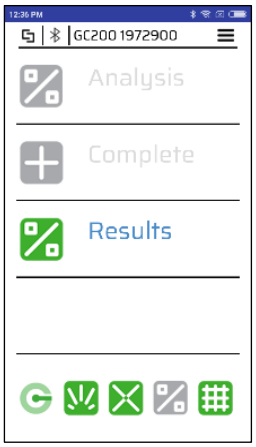


Figure 33: Results

4 The **Results** menu option appears when the analysis is completed, as shown below –

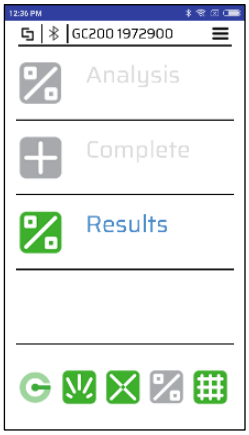


Figure 34: Tapping Results

If an error message is displayed during analysis or while reviewing results, follow the displayed instructions and/or refer to the *Troubleshooting* section on page 50.

5 Tap the **Results** option to display the active ingredients reading of the sample, as shown below –

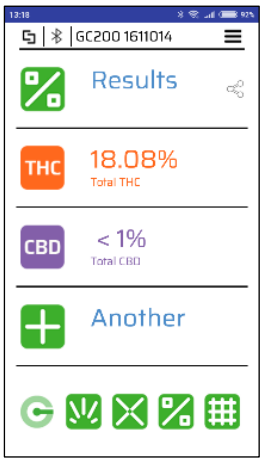


Figure 35: Displaying Results

6 To share the results via email, WhatsApp, or message, tap the Share icon in the top right corner.

Note – Periodically, remove the body from the base in order to empty out accumulated debris, as described on page 52.

7 Gently open the sample drawer by pulling its green handle and remove the flower.

Note – Do not apply excessive force to pull out the drawer.

VIEWING/SHARING ANALYSIS RESULTS

Analyses results can be viewed in either the GC app (see below) or the GC Customer Portal (see page 43).

Analysis Results in the GC App

All the analysis results scanned during the last 24 hours on a smartphone can be viewed in the GemmaCert app even when the smartphone is not paired with a device.

▶ **To review previous results in the GemmaCert app –**

1 Tap **Retrieve** at the Menu screen or tap the **Retrieve**  at the bottom of the screen.

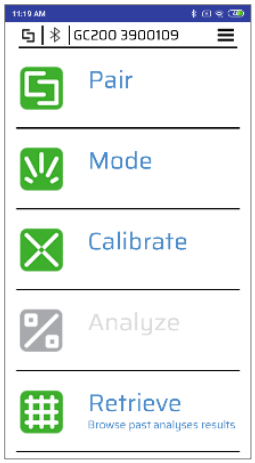


Figure 36: Tapping Retrieve

The following displays –

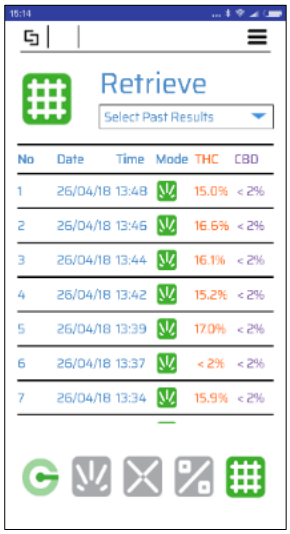


Figure 37: Retrieving Results from the Last 24 Hours

▶ To share analysis results from the app –

To share the results via email, WhatsApp, or message, tap the Share icon.

Analysis Results in the GC Customer Portal

The GC Customer Portal provides is a convenient option for browsing your organization's analysis results and exporting these results (to Excel).

▶ To use the GC Customer Portal –

The GC Customer Portal runs in a standard web browser. We recommend using a standard web browser.

1 Access the Customer Portal at https://prod.gemmacert.com/CustomerPortal. The following displays –

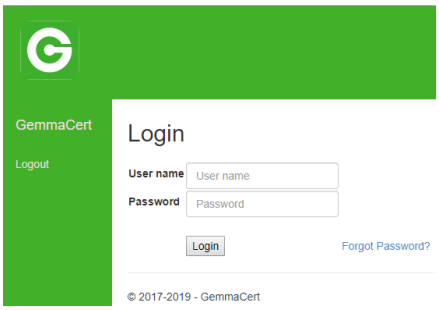


Figure 38: Logging in

2 Enter the username and password provided to you by GemmaCert and click the **Login** button. The following displays –

Flower ID	Time	Device ID	THC Total	CBD Total	Outlier	Batch	Variety	Supplier	Comment	Mode	Injected Spectra	Image
137692	Nov 06, 2019 19:37:12	653459	9.90	< 0.3						Ground		
137691	Nov 06, 2019 19:22:50	653459	< 0.3	11.40						Bud		
137690	Nov 06, 2019 18:56:02	653459	14.40	< 0.3						Ground		
137689	Nov 06, 2019 18:45:54	653459	14.30	< 0.3						Ground		
137660	Nov 06, 2019 12:58:15	4075042	10.90	< 0.3			choco kush	j		Bud		
137659	Nov 06, 2019 12:50:30	4075042	15.70	< 0.3			sensi skunk	j		Bud		
137657	Nov 06, 2019 12:42:29	4075042	< 0.3	3.80						Bud		
137654	Nov 06, 2019 12:34:33	4075042	3.60	3.40						Bud		
137651	Nov 06, 2019	4075042	15.10	< 0.3			Bubbas	J		Bud		

Figure 39: GemmaCert Customer Portal Results

The following describes each of the options in the left pane.

Results

The **Results** option (the default) displays a table of results (shown above). All the results of your organization are displayed, with the most recent results at the top. You can scroll through the history of these results as needed.

Each row of the table shows the results of an analysis activated by the GemmaCert app on the GemmaCert device. These are the same results that can be seen in the GemmaCert app.

Note – The entire history of analysis processes can be seen in the GC Customer Portal. The GemmaCert app only stores results for up to 24 hours.

Graph

The **Graph** option enables you to see your entire analysis result history in a graph.

- Each Variety/Strain appears as a column. The name of the strain appears on the bottom of the graph on the X-axis.
- The Y-axis represents the sample's potency.
- THC results are represented in the graph by green dots.
- CBD results are represented in the graph by blue dots.

The **Variety/Strain** field enables you to filter the results by the free text name that was entered in the GemmaCert app, as described on page 28. The **Variety/Strain** is categorized as **Unknown** if no value was entered in these fields in the GemmaCert app.

PERFORMING AN ADDITIONAL ANALYSIS

▶ **To perform an additional analysis –**

1 Tap the **Results** menu option or the same button at the bottom of the window.

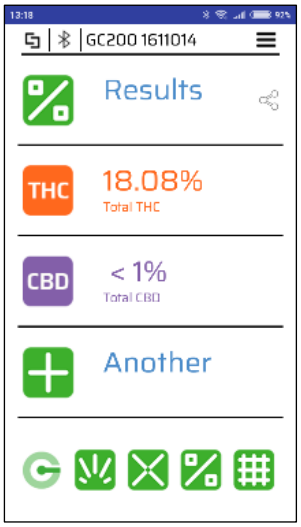


Figure 40: Performing an Additional Analysis

2 Tap the **Another** option to start a new analysis.

POWERING OFF THE DEVICE

Only shut down the device as described below to avoid data loss or corruption.

▶ **To shut down the GemmaCert device –**

- In the GemmaCert app menu, select ☰ ➔ **Turn Off Device**.

– OR –

- Press and hold down the Light Indicator Pair button for three consecutive seconds.

Figure 41: GemmaCert Device Indicator Light / Pair Button

	Properly turning off your GemmaCert when not in use will prolong its life.
	We recommend that you power down the GemmaCert device when you are not going to be analyzing for a few hours to reduce wear on the spectrometer.

Note – Please be advised that the GemmaCert device does not contain a battery. Unplugging the power supply will result in immediate shutdown. After powering up again, the device must be paired with the GemmaCert app again, as described on page 19.

Note – You may refer to page 17 for instructions on powering on the GemmaCert device.

4

Troubleshooting and Maintenance

This chapter describes how to update, troubleshoot and maintain the GEMMACERT

UPDATING DEVICE SOFTWARE

GemmaCert sends software upgrades via secure cloud-based servers to improve performance, add new capabilities and to cover additional cannabinoids.

GemmaCert automatically verifies that the software on the GemmaCert device is up to date each time it is paired with the GemmaCert app. If the software is not updated, then messages are displayed that guide you through the process of updating the device's software.

Figure 42: Software Version

The necessity/urgency for updating the software is specified in the message that displays, as follows –

- **Info –** Minor changes; update at your convenience.
- **Substantial –** May affect result accuracy, yet not mandatory.
- **Required –** The software that is currently installed on the device is no longer operable.

▶ **To update the software –**

1. Tap **Yes** in the message popup to confirm. The updating screen is displayed for approximately 30 seconds. The device then restarts, and the Device ID is no longer displays in the Status pane at the top of the screen.

   Note – Do not turn off the smartphone or the device and do not close the app, until after this update has completed.

2. A pop-up indicating that the update has been completed appears within up to 5 minutes. The device is now functional and paired with the smartphone. Contact support if the update fails.

Figure 43: Update Completion Window

3 Version information is can be displayed by tapping the ☰ icon in the top right corner and selecting the **About** option, as shown below –

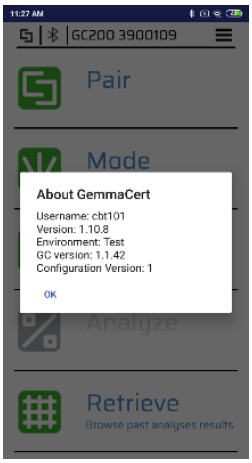


Figure 44: Version Information

Troubleshooting

The following section describes how to troubleshoot various issues that may arise on the GEMMACERT.

The GEMMACERT system automatically initiates a quality control test after pairing to enable human verification of the automatic detections performed by the system.

Should a technical problem occur that is not covered below or that cannot be resolved by the suggested solutions below, contact technical support.

System Message is Displayed

Figure 45: Invalid Unrecognized/Reading Message

A system message may be displayed during analysis, indicating an invalid/unrecognized reading for a variety of reasons, such as the following –

- There was no cannabis sample in the sample drawer.
- Another non-cannabis substance was placed in the sample drawer.
- The cannabis flower/bud fell off the pin inside the sample drawer.
- The flower is not aligned with the height of the yellow dot on the middle side of the reflector, as described on page 35.
- The cannabis sample was wet.
- The white calibration piece is not inserted all the way into the device.

For each of the symptoms above, we recommend re-analyzing the cannabis sample according to the instructions in this user manual. You may contact support if additional assistance is needed.

Analysis Results Are Significantly Different Than Expected

Follow the same instructions as for a system message (described above).

Light Indicator Does Not Light Up

If the light indicator does not light up after you plug in the power supply, then check the connection of the power supply to the bottom of the device, as described on page 17. You may contact support if additional assistance is needed.

MAINTENANCE

Cleaning the Reflector and the Sample Holder

The GemmaCert reflector and the sample holder should be cleaned from time to time and generally kept clear of residue.

A special brush is provided for this purpose.

We recommend taking the reflector out of the sample drawer and gently brushing out residue approximately every 30 to 50 analysis procedures.

You can also use a little bit of Windex.

Do not use water on the reflector.

Cleaning Out the Device's Base

▶ **To clean out the device's base –**

1. Unplug the device from the power supply.
2. The base of the GemmaCert device is attached by magnets. Gently pull the base off the bottom of the device, as shown below –

Figure 46: Pulling the Base Off the Device

3. Clear out accumulated debris.

Cleaning the Spectrometer Lenses

Two alcoholic pads are provided for wiping off the two spectrometer lenses. Alcohol wipes can be used to clean the spectrometer after approximately every 50 analysis procedures.

▶ **To clean the spectrometer lenses –**

1. Unplug the device from the power supply.
2. The base of the GemmaCert device is attached by magnets. To access the spectrometer lenses, gently pull the base off the bottom of the device, as shown above.

   Wipe the two spectrometer lenses using the provided alcoholic wipes or any standard eyeglass wipes.
3. Plug the device power supply into the power socket.
4. Pair the device to the GemmaCert app again, as described on page 19.

Transporting the Device

The reflector and flower pin are held in place by magnets adequate for operation, yet not for transportation. They must be removed before transporting the device.

Clean the reflector, sample drawer and device base (as described above) before transporting the device.

SPECIFICATIONS

- **Connectivity:** Bluetooth
- **Power source:** 6vdc by standard 110/220 ac2dc power supply
- **Storage temperature:** -10c to +45c (14F - 113F)
- **Operating temperature:** +10c to +35c (50F - 95F)
- **Dimensions:** Height 224mm; Diameter top 144mm; bottom 166mm
- **Weight:** 1958g (including power supply)
- **Regulatory compliance:** CE, UL, ROHS, European Pharmacopeia, TUV

System Symbols

The following describes the symbols used for this product.

Table 1: System Symbols

Symbol	Description
	Indicates the need for separate disposal handling of electrical and electronic equipment.
	Consult instruction for use.
	Caution. Indicates the need for the user to consult the instructions for use for important cautionary information (such as warnings and precautions) that cannot be presented on the device itself for a variety of reasons.
	Operating conditions – Temperature – +10°C to +35°C Transport and storage conditions – Temperature – -5°C to +35°C
	Keep dry.
	Manufacturer. Specifies the manufacturer of the device (IVD).
SN	Serial number. A unique identifier for each device.
REF	Catalog number. The catalog/product number of the manufacturer of the device.

Be Certain. Stop Guessing.

www.gemmacert.com