

GemmaCert Quick Reference Guide

Introduction

GemmaCert is a life-sciences company developing innovative, easy-to-use, eco-friendly and validated solutions for accurate and quick analysis of cannabis and hemp.

GemmaCert devices are used by professionals worldwide. The patented technology (US10458908B2) combines motion mechanics with three state-of-the-art technologies: Near Infrared Spectroscopy, Image Analysis and Machine Learning.

GemmaCert has the world's largest reference database of cannabis flower spectra based on thousands of samples analysed from sources worldwide.

Each GemmaCert device undergoes comprehensive testing before shipment. GemmaCert devices are CE and RoHS compliant and have been validated by certified lab to meet applicable IEC/EC EMC, Radio and safety standards.

Unboxing

Contents comprise **body, base, reflector, flower pin** and **power supply**. Body and base are packed as one, held together by powerful magnets.



Package



Body & Base



Base



Reflector



Flower pin



Power supply

Contents optionally comprise **Ground accessory** and/or **Extract accessory**. Extract accessory is supplied with two **Blister holders**.



Ground accessory



Extract accessory



Blister holder

1. Remove package contents and place them on a dry, stable surface.
2. Detach **body** from **base**.
3. Plug the round **power supply cable** into **socket** located under the body.
4. Note **Device ID** on sticker under the **base**. You will need this number to pair device with smartphone app (See **Pairing GC-App with GemmaCert**).
5. Set **body** on top of **base**. Rotate **body** till tight fit.
6. Lift **sample container** by gently pulling the green handle upward.



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



7. Slide **reflector** into **sample container**.
8. Insert **flower pin** into **sample container top**.

Note: Reflector and flower pin are held in place by magnets adequate for operation, yet not for transportation. Remove them when transporting the device.



9. Drive **sample container** inwards gently pushing down the green handle.

Note: To avoid damaging the sample container do not let it fall freely.



10. Plug power supply cable into electrical outlet. The **white indicator light** on the **P button** is lit in 50 seconds and starts blinking in about 2 minutes. Blinking white indicates device ready to use (Refer to **Getting to know your device** below).



Note: GemmaCert Support is available for an on-line instruction session. Please do not hesitate to request one if you find this document inadequate.

Getting to know your device

Before analyzing cannabis, you must initialize the device. The **P** button, located on top of the device's body, contains **blue** and **white** indicator lights which play an important role in the initialization process.




Familiarize yourself with device status indicator lights:

Light	Indicates
White steady	Initialization in process. 50 seconds after powering the device the P button is lit and stays lit for about 1 minute. When initialization self-test succeeds the white light starts blinking indicating readiness to pair.
White blinking 1/sec	Ready for pairing.
White blinking 3/sec	Self-test failed. Contact GemmaCert support (see Contacting GemmaCert support), then proceed to Logging in to the GC-App .
Blue steady	Pairing complete. Device is in steady state .
White & blue 1/sec alternating blinks	Calibration or analysis in process . Once completed returns to Blue steady light.

Turning the device on and off

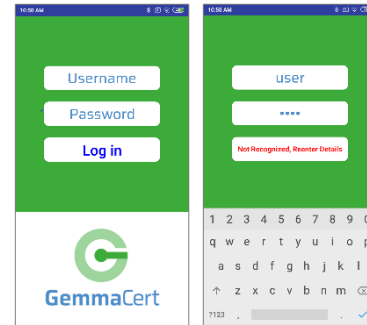
Turn your GemmaCert on by plugging its power supply into electrical outlet. Please be advised the GemmaCert does not contain a battery. Unplugging the power supply will result in immediate shutdown.

Properly turning off your GemmaCert when not in use will prolong its life. Ensure you follow shutdown instruction for your device after use to avoid any data loss or corruption. Device shutdown is initiated by either holding the 'P' button for three consecutive seconds or pressing 'Shut down' on the drop-down menu accessed through hamburger button  on the top right corner. You may safely unplug once the above steps are successfully completed.

Logging into the GC-App on your smartphone

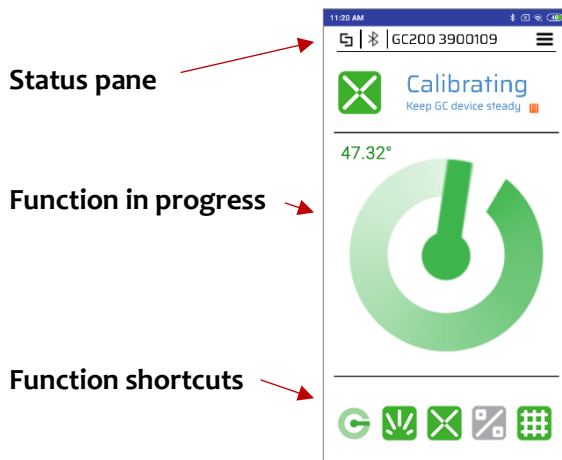
Note: Presently Android only

1. Ensure your smartphone has Internet connection.
2. Search “GemmaCert” at GooglePlay, download and install. Browse link below if not found.
3. Open the **GC-App**. The **Login screen** is displayed.
4. Enter username and password which you received by email following your order. Upon successful login and connection with GemmaCert cloud server, the Menu screen is displayed.
5. “Not Recognized” indicates login failure. Contact Support if login fails.



Note: Link to GC-App <https://play.google.com/store/apps/details?id=com.gca.team.gcapp>

Getting to know the GC-App screen



Status pane

Function in progress

Function shortcuts

Function shortcuts



Home



Mode – select flower, ground matter or extract



Calibrate



Analyze

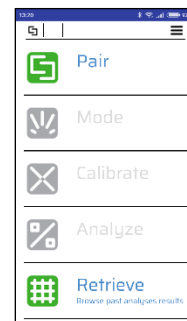


Retrieve – display past analyses results

Pairing GC-App with GemmaCert

1. Press Pair on the GC-App Menu screen. The Pairing screen is displayed with a list of available devices.

Note: When pairing for the first time the list is empty.



2. Select your device, scrolling as needed. You can identify your device by the **device ID** printed on stickers under the device body & base.
Or
If your **device ID** is not displayed on the screen, press **Scan** to detect available devices, then select your device.
3. Press **Pair**.
4. When pairing is completed:
 - a. **P button** light turns to **steady blue**.
 - b. **Status pane** at the top of the screen displays the paired device.
 - c. **Mode** becomes enabled on the **Menu screen**.



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 achieved, contact support (See **Contacting GemmaCert support**).

Device software update

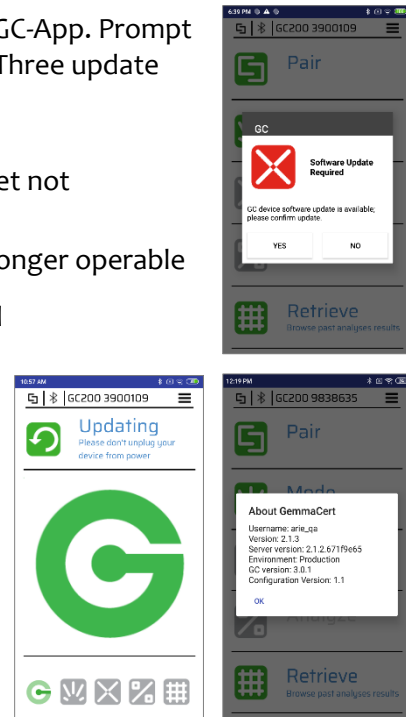
Device software up to date is verified on every pairing with GC-App. Prompt to update is displayed upon detecting an outdated version. Three update necessity levels are indicated by distinct icons:

- Info - minor changes; update at your convenience
- Substantial - potentially affecting results accuracy, yet not mandatory
- Required - presently installed device software is no longer operable

1. Press “Yes” to confirm. Updating screen is displayed for about 30 seconds. Then device restarts; Device ID disappears from the Status pane

Note: Don't turn off the smartphone or the device and don't close the app, until update is complete.

2. Pop-up indicating update completion appears in up to 5 minutes. Device is functional and paired with the smartphone. Contact support if update fails.
3. Version info is available for your reference selecting “About” at the pull-down menu behind the top-right 3-bars icon.



Analyzing cannabis samples

1. Press **Mode** at the **Menu screen** for **Mode selection**.
2. Press desired mode. **Menu screen** is displayed with **Calibrate** function enabled.

Note: **Mode** does not need to be selected before each analysis. Once selected, it applies to all subsequent analyses.

3. Press **Calibrate** at the **Menu screen**. The **Calibrate screen** is displayed, enabling you to enter optional information about:

- Variety (Strain)
- Supplier
- Batch
- Comments (Harvest date, drying protocol, etc.)

Note: **Calibrate** procedure differs between **Modes**.

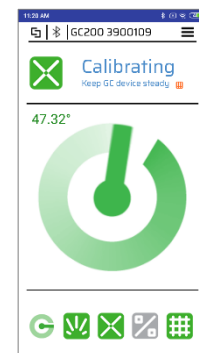
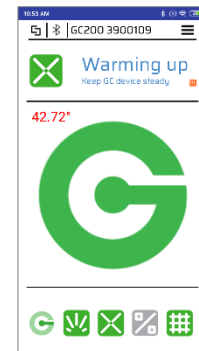
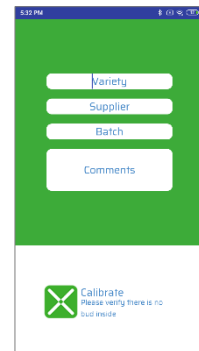
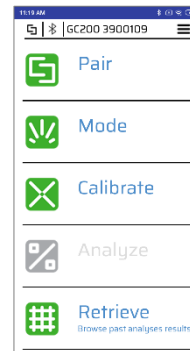
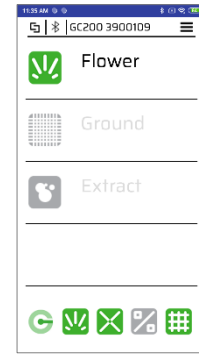
4. Verify device contents match selected Mode:
 - Flower – Reflector inside **without flower**
 - Ground – Ground accessory inside, may be empty or already filled with analyzed sample
 - Extract – Extract accessory inside with an **empty blister within**. Recommended to have another blister, filled with analyzed extract, ready (see Extract analysis detail below)
5. Press **Calibrate** at screen bottom to start analysis. The white and blue lights start blinking, alternating at a rate of 1 blink per second. Calibration duration differs between Modes, lasting about 2 minutes for Flower and Ground and up to 4 minutes for Extract.

Note: Calibration initiated shortly after powering the device comprises a warm-up period, up to 20 minutes in cold environment. Temperature display indicates warm-up; calibration commences upon reaching 47°C.

6. Pull sample container out when instructed and keep hands off the device till further instruction.

Note: Do not use excessive force. The container is held in place by strong magnets and is not meant to be detached from the body.

7. When complete, P button light turns to steady blue, indicating the device's Steady state; **Menu screen** is displayed with **Analyze** function enabled.



Note: Be fast - Analysis must commence within 2 minutes of Calibration completion.

8. Place sample within sample container:

- Flower - Stick flower pin into the flower and insert the pin into sample holder or alternatively stick flower onto the flower pin while it is within sample holder; whichever way you're comfortable with. Adjust flower position aligning middle of flower height with dot close to reflector top.
- Ground – Fill Ground accessory to fully cover its white background with no less than 2mm thick layer. Ground accessory may be filled already before Calibration.



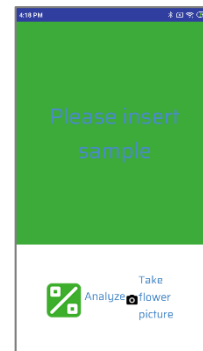
Note: Analyze **dried flowers and dried ground matter only** in **room temperature only**.

- Extract – Replace blister holder (book-like metal structure) containing the empty blister with blister holder containing a filled one:
 - Previously unused blisters should be bent prior to filling to ease closing the blister when filled.
 - Blister is most conveniently filled placed into blister holder, to keep it in place while filled.
 - Blister must be filled to its top, avoiding any airgaps. Airgaps are best detected filling under a light source.
 - Filling very viscous extract may be facilitated by warming the extract. Conversely, leaks of too liquid extract may be avoided refrigerating them towards analysis.
 - Wipe off any excess extract which may have spilled when closing the holder.

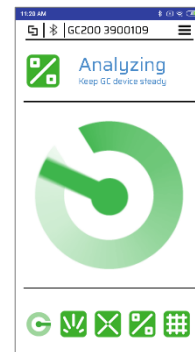
Note: **Do not analyze oils** or otherwise **diluted products**. These will invariably spill and pollute the device.

9. Optionally take a snapshot of the sample for your further reference at Customer Portal, by pressing the camera icon.
10. Drive sample container inwards gently using the green handle.

Note: To avoid damaging the sample container do not let it fall freely.



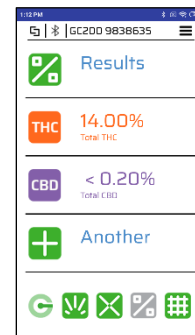
11. Press **Analyze** at screen bottom to start analysis. The white and blue lights start blinking, alternating at a rate of 1 blink per second. Analysis lasts up to 5 minutes for Flower and Ground and about 1 minute for Extract. When complete, the GC-App screen displays the Results key, and the P button light turns to steady blue, indicating device Steady state.
12. **Results** button at the display indicates analysis completion. You must pull sample container out to view the results.
13. Pull sample container out and press **Results** to display the sample active ingredient content.



Note: Do not apply excessive force to pull the container.


14. Press **Another** to start a new analysis.

Note: Remove the body from the base periodically to empty accumulated debris.



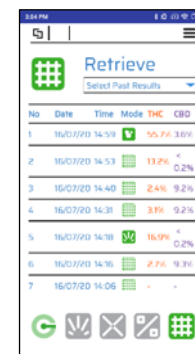
Browsing past analyses results

Browse your analyses results using either the GC-App or GC Customer Portal.

Using the GC-App press Retrieve  to browse through previous analyses results. Retrieve is available also when not paired with a device.

Customer Portal allows more convenient browsing and exporting the results into Excel.

Link to Customer Portal <https://prod.gemmacert.com/CustomerPortal>



Troubleshooting


Table below lists details most common issues faced. In many instances GC app will instruct on issue remedy. Follow these instructions.

#	Issue	Remedy
1	Can't login in GC app	Verify password accuracy, as received in email. If no email received, check your spam. Verify username & password accuracy by logging into Customer Portal. Modifying password use only characters available on qwerty keyboard.
2	GC app does not detect the device	Verify Bluetooth enabled Repeat "Scan"; scan occasionally doesn't detect device when connecting for the first time. If the above doesn't resolve, connect smartphone to device through Bluetooth settings. With some phones this may be needed connecting the first time. If the above doesn't resolve, contact support sending smartphone model and Android version.
3	Sample container can't be pulled out or driven into device body	Do not use force; sample container should move smoothly. This may happen if device is powered off while calibrating or analyzing. Power the device off orderly as instructed under "Turning the device on and off". Power the device on and wait till blinking white indicates initialization complete. If sample container inside, device is ready to use. If sample contained is pulled out, drive it in and wait for initialization completion.
4	Calibration towards flower or ground analysis fails; indicated by GC app telling "Verify sample container White reference at bottom in place."	Pull sample container out. Verify a white 20x20mm square in place at its bottom. If not certain, email a photo to Support. Fetch an alcohol wipe. Place device on its side and detach device base. Wipe sensor lens gently with alcohol wipe through the opening at device bottom.
5	Device repeatedly experiences shock or vibration; indicated by GC app telling "Place device on stable non-vibrating surface. Avoid movement during Calibration and Analysis".	Secure a stable environment. If placed on ordinary table, don't lean on it. Don't type on keyboard placed on the same surface. Don't walk on wooden floor while Calibration or Analysis in process.

#	Issue	Remedy
6	Analyzed sample not identified; indicated by GC app telling “Verify accurate flower placement”.	<p>Verify the sample isn’t wet; only safe-to-store samples, i.e. such that wouldn’t mold, may be analyzed.</p> <p>Flower:</p> <ul style="list-style-type: none"> • Align flower center with the colored dot at reflector body • Analyze big flowers not fitting into reflector without reflector • Place flower on the pin in vertical position <p>Ground:</p> <ul style="list-style-type: none"> • Verify Ground accessory adequately filled
7	Analyzed flower disappears	<p>Pull sample container out. Detach device body from base and shake device body gently. Flower should fall out through opening at body bottom. If it doesn’t fall out, drive sample container in and pull it out a few times to release the flower.</p>

Contacting GemmaCert support

Use any of the means below to contact the GemmaCert support team:

- Select **Feedback** under the hamburger button  at the top right corner
- Select **Feedback** at Customer Portal menu
- Email: support@gemmacert.com

Each of the means opens a support ticket is opened, enabling you to report a problem.

Safety notes

- 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 designed for indoors use only. Cultivation greenhouses, drying rooms and processing sheds qualify as indoors in this context.
- **GemmaCert** is powered by a 6V DC, completely harmless upon contact. The device must be powered by the original power supply. Powering by non-certified power supply may have adverse safety effects.
- **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 do not cause any damage to eyesight.
- **GemmaCert** ambient temperature ranges are:
 - Storage: -10°C to +45°C (14°F - 95°F)
 - Operating: +10°C to +35°C (50°F - 113°F)

Note that operating at high ambient temperature the device will occasionally cool-down. The app will display a “cooling down” indication and analyses won’t be available for cool-down duration.

Warnings

- Your **GemmaCert** contains delicate components. Be sure to place it on a stable, flat surface and avoid moving it abruptly. Avoid placing on vibrating surfaces; e.g. in proximity of air-condition, compressor etc.
- Do not get the device wet. For instructions on how to clean the sample holder refer to the **GC User's Guide**.
- Analyze dry flower buds only. DO NOT use GemmaCert to analyze wet flowers / live tissue.
- **GemmaCert** is powered by a standard 6V DC power adaptor equipped with a round plug. Powering with an unsuitable power supply will affect performance and could damage the device.
- **Flower pin** comprises a sharp needle. Please be careful when attending.
- Clean your GemmaCert thoroughly prior to international travel: Remove any trim from sample holder with a gentle paintbrush. Then empty and wipe the base.