

GemmaCert Quick Reference Guide



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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



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- 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.
- 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.
- Lift sample container by gently pulling the green handle upward.

Note: Do not use excessive force, **sample container** is not meant be 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 | Calibration or analysis in process. Once completed returns to Blue |
| alternating blinks | 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 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



Pairing GC-App with GemmaCert

 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.





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Updating

Analyzing cannabis samples

- 1. Press Mode at the Menu screen for Mode selection.
- 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.

- 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)
- 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 be to be detached from the body.

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



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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 he 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 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



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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 | Verify Bluetooth enabled |
| | device | 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 | Do not use force; sample container should move |
| | pulled out or driven into device | smoothly. |
| | body | This may happen if device is powered off while |
| | | calibrating of 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 nulled out, drive it in and wait for |
| | | initialization completion |
| 4 | Calibration towards flower or | Pull sample container out. Verify a white |
| | ground analysis fails: indicated | 20x20mm square in place at its bottom. If not |
| | by GC app telling "Verify sample | certain, email a photo to Support. |
| | container White reference at | Fetch an alcohol wipe. Place device on its side and |
| | bottom in place." | detach device base. Wipe sensor lens gently with |
| | | alcohol wipe through the opening at device |
| | | bottom. |
| 5 | Device repeatedly experiences | Secure a stable environment. If placed on ordinary |
| | shock or vibration; indicated by | table, don't lean on it. |
| | GC app telling "Place device on | Don't type on keyboard placed on the same |
| | stable non-vibrating surface. | surface. |
| | Avoid movement during | Don't walk on wooden floor while Calibration or |
| | Calibration and Analysis". | Analysis in process. |

| # | Issue | Remedy |
|---|---------------------------------|--|
| 6 | Analyzed sample not identified; | Verify the sample isn't wet; only safe-to-store |
| | indicated by GC app telling | samples, i.e. such that wouldn't mold, may be |
| | "Verify accurate flower | analyzed. |
| | placement". | Flower: |
| | | 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 |
| | | Ground: |
| | | Verify Ground accessory adequately filled |
| 7 | Analyzed flower disappears | 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. |

Contacting GemmaCert support

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

- Select **Feedback** under the hamburger button \equiv at the top right corner
- Select Feedback at Customer Portal menu
- Email: <u>support@gemmacert.com</u>

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 cooldown. 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.