Spotxel® Reader 3.3

Image-Based Microplate Reading and Assay Analysis

User Manual

10 August 2026 - Rev. 1.1

Spotxel® Reader is designed solely for research purposes. It is not intended or approved for the diagnosis of disease in humans or animals.

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USER MANUAL

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CHAPTER 01

Introduction

Product overview, page navigation, and the main changes in Spotxel Reader 3.3.

Spotxel® Reader is a free app for microplate-reader workflows and image-based assay analysis.

The unpaid version is feature-complete and includes a small advertising placement. Paid access removes this advertising placement.

The app is organized into **pages**, also called **screens**. Most pages correspond to steps in the assay workflow. **Purchases**, **Settings**, and **Info** provide supporting functions and information.

To move between pages, touch or click a menu band or the status lane, then drag horizontally.

You can also open the navigation menu and select a page directly. On each page, the navigation menu can be opened in two ways: double-click or double-tap a menu band, or swipe inward from the left edge of the app.

Each page contains one or two menu bands. The buttons in these bands provide the available actions for that page.

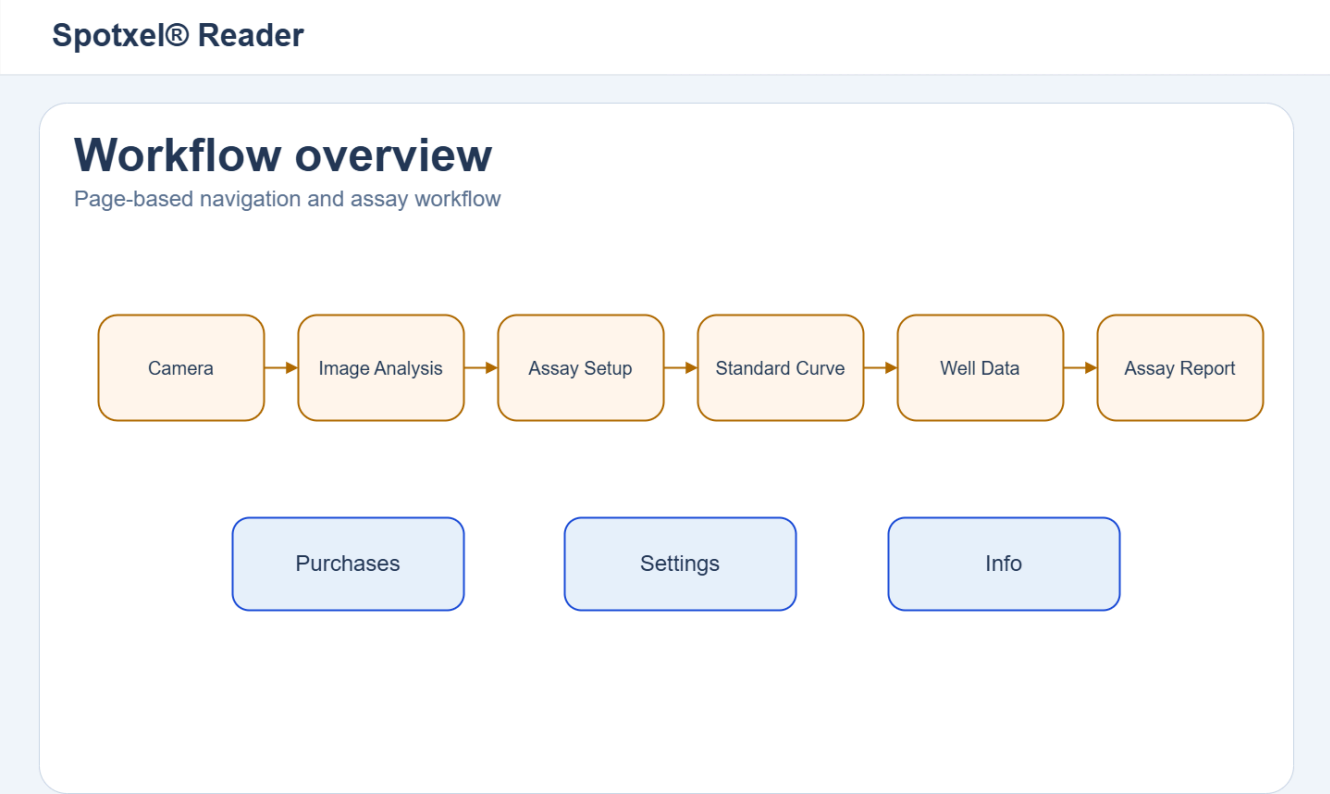


Figure 1. Spotxel Reader page navigation and assay workflow.

Overview of pages

- **Camera**: Preview the plate, prepare image capture with an orientation grid, and capture an image for analysis.

- **Image Analysis**: Select the measured color and quantify well signals from a plate image.
- **Assay Setup**: Create or import an assay design, define standards and unknowns, and calculate unknown concentrations.
- **Standard Curve**: Review the calculated standard curve, inspect unknowns, and select the polynomial degree.
- **Well Data**: Review, sort, import, and export well concentration and signal values.
- **Assay Report**: Choose report sections and export assay data as a PDF report.
- **Purchases**: Review app access, purchase paid access, refresh the product catalog, and restore purchases.
- **Settings**: Configure appearance, layout orientation, workspace, camera device, grid defaults, and troubleshooting.
- **Info**: View version and copyright information, open Help or the navigation menu, share the app, and access product resources. This is the app's starting page.

Actions of Info page

Help
Shows guidance for this page.

Menu
Opens the navigation menu.

Share
Shares Spotxel® Reader or opens the product link.

Links

Use the links on this page to open the privacy policy, product website, third-party license information, and user manual.

New in version 3.3

Spotxel® Reader 3.3 includes several improvements that were not available in versions 1.x or 2.x.

Licenses and access

- Spotxel® Reader is now a free app on all supported platforms.
- The unpaid version is feature-complete and includes a small advertising placement.
- Paid access removes the advertising placement.
- Paid access is available either as a perpetual license or as a 3-month subscription.

User interface

- Multiple color profiles and appearances.
- Workspace setting for organizing images, grid profiles, assay designs, reports, and exports.
- Portrait mode support on desktop versions.
- Switching between portrait and landscape mode.

For desktop use, landscape mode is still recommended because it makes better use of the available screen space.

These options can be configured on the **Settings** page, together with:

- Camera device selection.
- Grid type selection for microplates.

New Image Analysis tools

- **Image Tools**: Rotate and flip the image.
- **Grid Tools**: Rotate and flip the grid.
- **Align Grid**: Automatically align the grid to the plate image. This feature is currently available as a beta feature.

CHAPTER 02

Camera

Preview the plate, align the orientation grid, and capture an image.

For reliable image analysis, the plate should be captured as straight and evenly framed as possible. The **orientation grid** helps you check the plate position before capture. It is a 12 × 8 guide grid with highlighted wells at the corners and center.

The initial grid may not align perfectly with the plate because of camera parameters, lens distortion, and capture distance. Use the grid tools to adjust the grid size, position, and distortion before capturing the image.

Workflow

Start the camera preview, align the orientation grid with the plate, capture an image, review the capture, then accept it for image analysis.

Captured images

Windows and macOS

On desktop systems, accepted image captures are stored in the workspace image folder configured on the **Settings** page.

Android

On Android, accepted image captures are stored under **Pictures/Spotxel Reader**.

iPhone and iPad

On iOS, accepted image captures are saved under **On My iPhone/Spotxel Reader/Images** or **On My iPad/Spotxel Reader/Images**, depending on the device.

To analyze an accepted capture later, open the **Image Analysis** page and select **Open Image**.

Camera permission

The app needs permission from the operating system to use the camera.

On macOS, if camera permission has not been granted, a system dialog appears when **Start** is selected.

On Windows, a system dialog may appear the first time the app is started.

On all platforms, camera permission must be granted before the camera can be used. If permission was denied, enable camera access in the operating system privacy or camera settings, then start the camera preview again.

Actions for Camera

Start

Starts the live camera preview. If camera permission is required, the operating system may ask for permission before the preview can start.

Capture

Captures the current preview image for review.

Capture Info

Shows camera and last-capture details.

Accept

Sends the reviewed capture to Image Analysis.

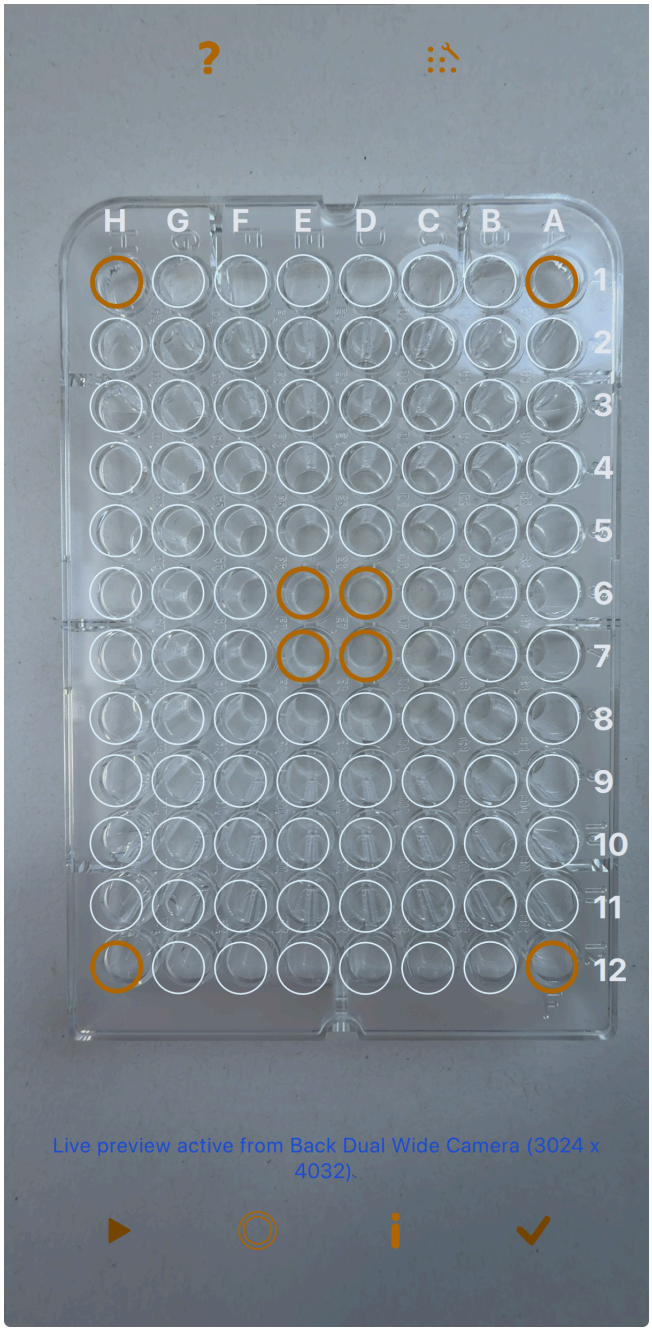


Figure 2. The Camera page with the orientation grid positioned over an empty microplate.

Page and grid actions

Help
Shows guidance for this page.

Grid Tools
Opens the manual grid controls.

Grid Tools

Resize Grid
Changes the grid size with the mouse wheel or pinch gesture.

Move Grid
Moves the grid by dragging on the preview.

Distortion
Adjusts the grid distortion to better match the plate image.

Reset Grid
Restores the default grid for the preview.

Camera device

The default camera is used on this page.

To use another camera, open the **Settings** page and select the device in the **Camera Device** section. Depending on the platform and device, this can be a built-in camera, a USB-connected camera, or a network-connected camera.

CHAPTER 03

Image Analysis

Load an image, align the well grid, select the measured color, and quantify signals.

Workflow

Open an image, align the well grid to the plate, select the measured color, then run the analysis.

Windows and macOS

On desktop systems, **Open Image** opens a file dialog for selecting a source image.

Android

On Android, **Open Image** opens the Android system file picker and shows supported image files.

iPhone and iPad

On iOS, **Open Image** offers **Choose from Photos** and **Choose from Files**. The Files picker starts under **On My iPhone/Spotxel Reader/Images** or **On My iPad/Spotxel Reader/Images**, depending on the device. Accepted camera captures are stored there, and you can also browse iCloud Drive and other Files providers.

Grid alignment settings can be saved to a JSON file and reused later. See **Grid profiles** below.

After analysis, inspect the calculated well signals by zooming and panning the image. Detected well boundaries are highlighted with the main color of the selected color profile.

Sample data

A sample microplate image can be downloaded here.

A package of sample images for testing Align Grid is available for download here.

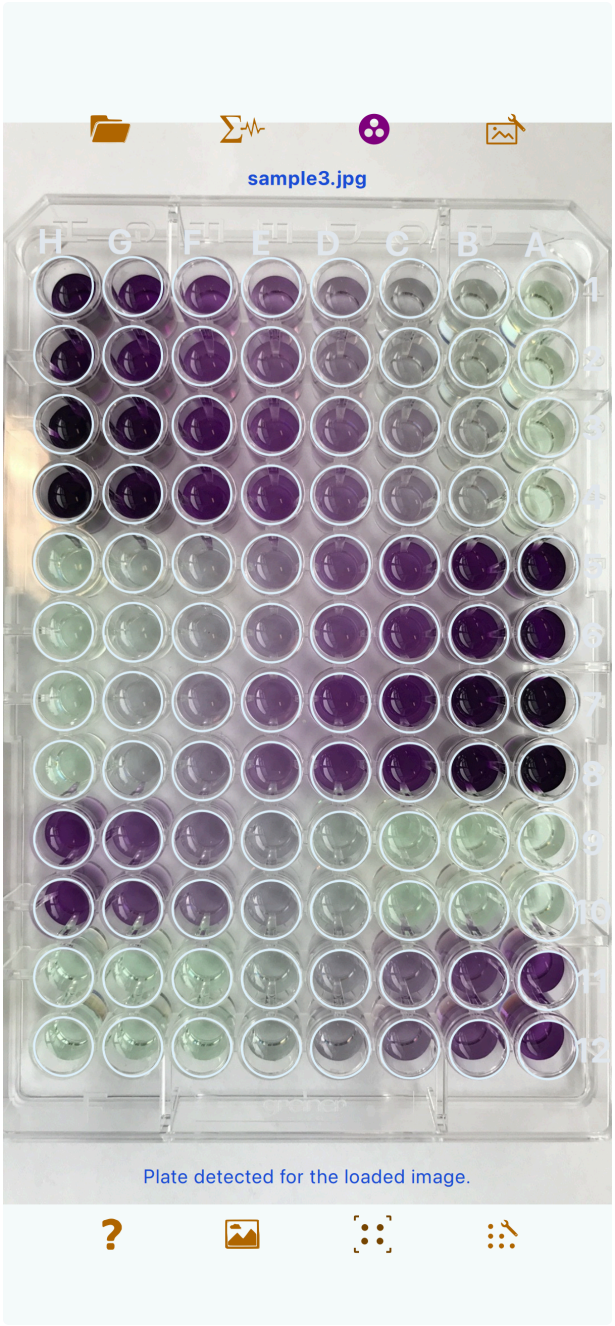


Figure 3. The Image Analysis page after loading a plate image and aligning the well grid.

Image actions

Open Image
Loads a source image.

Analyze
Calculates well signal values when the image, grid, and measured color are ready.

Measured Color
Selects the color channel used for quantification.

Image Tools
Opens image information, pan and zoom, image orientation, and clear actions.

Page and grid actions

The initial grid may not align perfectly with the plate because of camera parameters, lens distortion, capture distance, or image orientation. Use automatic alignment or the manual grid tools to match the grid to the plate image.

Help
Shows guidance for this page.

Align Grid
Automatically fits the grid to the plate image. This feature is currently available as a beta feature. **Grid Mode** must be active to use this action. See **Interaction modes** below.

Precondition: The image should show one complete microplate. The full plate outline must be visible and must not be cut off. Avoid images with multiple plates, hands, strong background objects, or other objects that may be mistaken for the plate.

Grid Tools
Opens manual grid editing, grid profile, visibility, reset, and lock actions.

Interaction modes

Image Analysis has separate image and grid interaction modes. These modes help you inspect the image without accidentally editing the grid, and edit the grid without changing the image view.

Image Mode
Pans and zooms the image without editing the grid.

Grid Mode
Moves, resizes, rotates, or distorts the grid.

Grid Locked
Keeps the grid visible but prevents accidental grid edits.

After loading an image and after running analysis, **Image Mode** is activated so you can inspect the image by panning and zooming.

To switch from **Image Mode** to **Grid Mode**, click or tap the grid. To leave **Grid Mode**, click or tap the image outside the grid.

Use **Grid Mode** while aligning the grid. Once the grid is aligned, **Grid Locked** is recommended to freeze the grid and prevent accidental edits.

Image Tools

Image Tools provide image inspection, view control, orientation correction, and clearing actions.

- **Image Info**: Shows information about the loaded image.
- **Show Image Filename**: Shows or hides the loaded image filename near the Image Tools action band.
- **Pan/Zoom mode**: Enables image panning and zooming.
- **Reset View**: Restores the default image view.
- **Rotate 90° CW**: Rotates the image 90 degrees clockwise.
- **Rotate 90° CCW**: Rotates the image 90 degrees counterclockwise.
- **Rotate 180°**: Rotates the image by 180 degrees.

- **Flip Horizontal**: Mirrors the image horizontally.
- **Flip Vertical**: Mirrors the image vertically.
- **Reset Orientation**: Restores the original image orientation.
- **Clear**: Removes the loaded image and clears the current analysis input.

To zoom the image, use the mouse wheel. On a touchpad or touchscreen, use a pinch gesture by moving two fingers apart or toward each other. On a touchpad, you can also slide two fingers upward or downward. Drag the image to pan when pan and zoom are active.

The image view can also be reset by double-clicking or double-tapping the image outside the grid.

Grid Tools

Grid Tools provide manual grid alignment, profile import and export, visibility control, reset, and locking actions.

Grid profiles

- **Save Grid Profile**: Saves the current grid size, position, distortion, and orientation to a JSON file.
- **Load Grid Profile**: Loads a saved grid profile and applies it to the current grid.

The suggested filename for a saved grid profile is based on the original source image name.

On Android, **Save Grid Profile** opens the system file picker with a suggested filename and folder under **Download/Spotxel Reader/Grid Profiles**.

On iOS, **Save Grid Profile** opens **Save As** with a suggested filename and folder, such as **On My iPhone/Spotxel Reader/Grid Profiles** or **On My iPad/Spotxel Reader/Grid Profiles**.

A grid profile stores the grid configuration only. It does not save the image itself, the image orientation, or any image rotation applied in Image Tools.

Manual grid adjustment

To change the grid manually, select the corresponding tool and use the mouse wheel or a touchpad gesture.

- **Resize Grid**: Changes the grid size. On a touchpad, use two fingers and slide upward or downward. You can also use the more natural pinch gesture by moving two fingers apart or toward each other.
- **Rotate Grid**: Rotates the grid around its center. On a touchpad, use two fingers and slide upward or downward.
- **Distortion**: Adjusts the grid distortion to better match the plate image. On a touchpad, use the corresponding two-finger scroll gesture.

For manual alignment, first align the center wells, such as D6, D7, E6, and E7. Then tune the grid size, rotation, and distortion until the grid fits the whole plate.

Auto-aligned grids

After using **Align Grid**, use these actions if the automatically aligned grid has the wrong orientation:

- **Rotate Grid 180°**: Rotates the grid by 180 degrees.
- **Flip Grid Horizontal**: Mirrors the grid horizontally.
- **Flip Grid Vertical**: Mirrors the grid vertically.

Visibility, reset, and lock

- **Hide Grid**: Hides the grid for better inspection of the image signal. The grid is shown again automatically when **Grid Tools** is opened.
- **Reset Grid**: Restores the grid to the last state used for **Analyze** or **Align Grid**. The grid can also be reset by double-clicking or double-tapping the grid.
- **Lock Grid**: Activates **Grid Locked** to prevent accidental grid edits.

CHAPTER 04

Assay Setup

Annotate wells, define standards, and assign standard concentrations.

Use this page to assign well names, notes, standards, and concentrations for the assay.

During assay setup, you can annotate wells, review detected signal values, and assign concentrations to standard wells. The assay setup can be saved as a TSV file and reused in another analysis.

Sample data

For the sample microplate image, download the sample assay designs.

The archive contains TSV and legacy CSV assay design files with decimal-point and decimal-comma numbers for testing.

New exports use tab-separated values `.tsv` files. Spotxel Reader continues to import both TSV and CSV files. TSV is recommended for new files because it improves compatibility with spreadsheet apps such as Numbers on macOS and iOS.

Workflow

A representative assay grid is shown on this page. It reflects the plate layout and lets you edit the assay design independently of the original plate image.

You can resize the grid with the mouse wheel or a pinch gesture.

To move the grid, drag it as follows:

- On mobile devices, tap a point within the grid and drag.
- On desktop systems, click a row or column label, or click a point within the grid but outside a well boundary ring, then drag.

To set up an assay from scratch, first define the maximum standard concentration and concentration unit. Then annotate the wells and assign concentrations to the standards.

A typical setup workflow is:

1. Set the maximum standard concentration and concentration unit.
2. Use **Annotation** mode to name the assay and annotate wells.
3. Use **Concentration** mode to assign concentrations to standard wells.
4. Use **Signal** mode to review detected signal values, if image analysis data is available.
5. Run **Analyze** to calculate the standard curve and derive unknown concentrations.
6. Export the setup if you want to reuse it later.

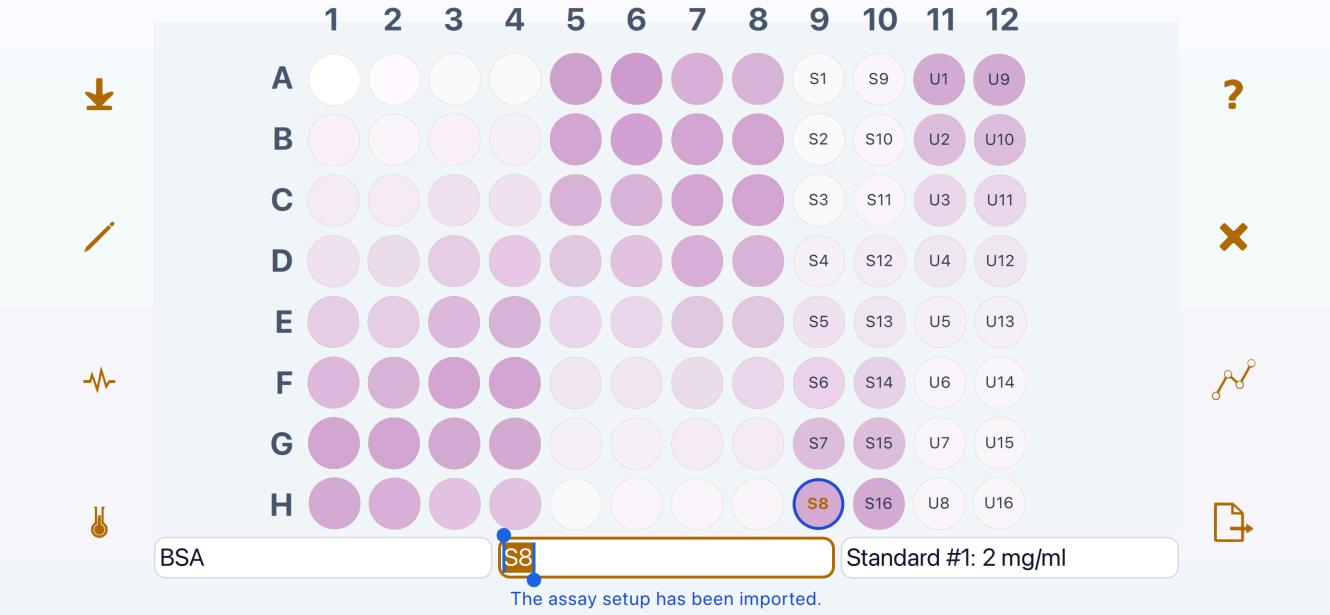


Figure 4. The Assay Setup page in Annotation mode.

Well colors

The selected well is highlighted with the main color of the current color profile.

Standard wells are highlighted with the message color of the current color profile, similar to the text color used in the status lane.

Setup modes and import

Import Setup
Loads assay setup data from a TSV or CSV file.

Annotation
Edits the assay name, well names, and well notes.

Signal
Reviews detected signal values when image analysis data is available.

Concentration
Assigns concentrations to standard wells.

Page actions

Help
Shows guidance for this page.

Clear
Clears editable assay setup entries while keeping detected signal values.

Analyze
Calculates the standard curve from the current setup and derives unknown concentrations.

Export Setup
Saves the assay setup as a TSV file.

Assay design

An assay design is the reusable assay setup data: named wells, optional notes, standards, and standard concentrations. It can be exported to a TSV file and reused later.

Measured signal values and calculated concentrations are not included in an assay design. Export those results from the **Well Data** page.

> **Windows and macOS**
>
> On desktop systems, assay design import and export use the workspace folders configured on the **Settings** page.

> **Android**
>
> On Android, **Export Setup** opens the system file picker with a suggested filename and folder under **Download/Spotxel Reader/Assay Designs**.

> **iPhone and iPad**
>
> On iOS, **Export Setup** opens **Save As** with a suggested filename and folder, such as **On My iPhone/Spotxel Reader/Assay Designs** or **On My iPad/Spotxel Reader/Assay Designs**.

Named wells that do not have a standard concentration are treated as unknowns. Unknown concentrations are calculated only for named unknown wells.

Annotation mode

Use **Annotation** mode to define the assay name and annotate individual wells.

In the **Assay** box, enter the assay name. This name is used when exporting assay data, for example to a TSV file or PDF report.

To annotate a well, click or tap the well to select it. Then enter the well name and optional notes in the input boxes at the bottom.

Example well names are **S1**, **S2**, and **S3** for standards, or **U1**, **U2**, and **U3** for unknowns.

Signal mode

Use **Signal** mode to review detected well signal values after image analysis.

If image analysis data is available, wells are colored according to their detected signal values and the numeric signal value is shown inside each well.

This mode is useful for checking whether the image analysis result is plausible before calculating the standard curve.

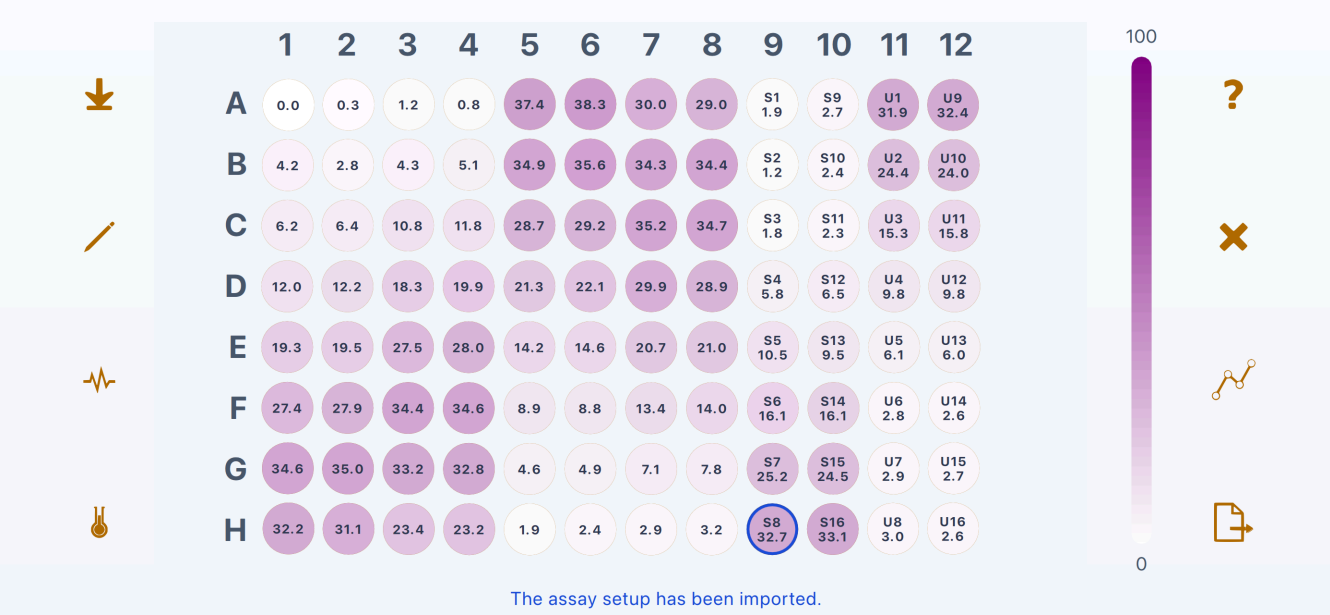


Figure 5. The Assay Setup page in Signal mode.

Concentration mode

Use **Concentration** mode to assign concentrations to standard wells.

First, set the maximum standard concentration. Click or tap the maximum concentration value box on the concentration slider to open the value setting dialog. Enter the maximum value, then choose **OK**.

By default, the maximum concentration is **10 ug/mL**. Select the concentration unit in the adjacent list box if needed.

To define a standard, click or tap a well to select it, then use the concentration slider or enter the value directly in the **well concentration** box at the bottom.

The concentration value must be between zero and the configured maximum concentration. The selected concentration is shown under the well name.

Standard wells are highlighted with the message color of the current color profile. To remove a standard concentration, select the well and delete its concentration value.

Calculating unknown concentrations

After defining the assay design, run **Analyze** to calculate the standard curve from the standards and derive concentrations for the unknowns.

The standards, unknowns, and standard curve are shown on the **Standard Curve** page. There you can inspect signal and concentration values, select a different polynomial degree for the standard curve, and recalculate unknown concentrations.

Only named unknown wells are included in the concentration calculation. To calculate a concentration for an unknown well, assign it a name such as **U1** or **U2**.

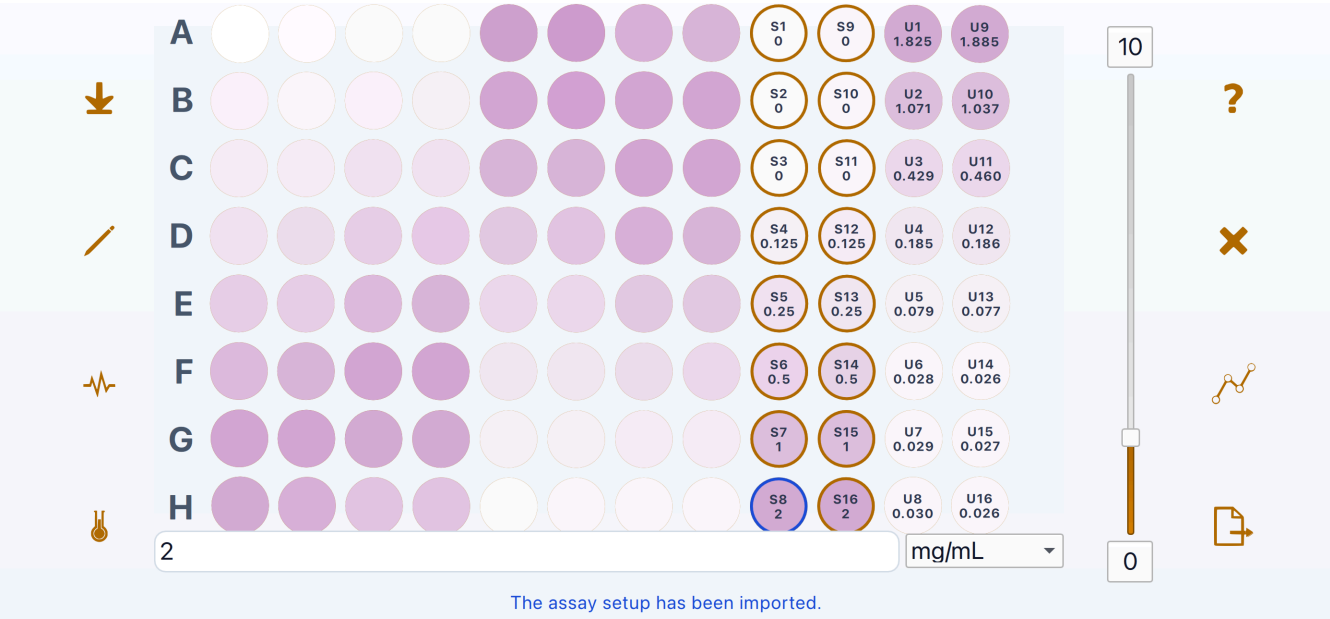


Figure 6. The Assay Setup page in Concentration mode.

CHAPTER 05

Standard Curve

Inspect the fitted curve and recalculate unknown concentrations.

Workflow

This page is updated automatically when valid assay setup and signal data are available.

Review the standard curve, inspect the standard and unknown markers, and adjust the polynomial degree if needed. Then continue to the **Well Data** or **Assay Report** pages.

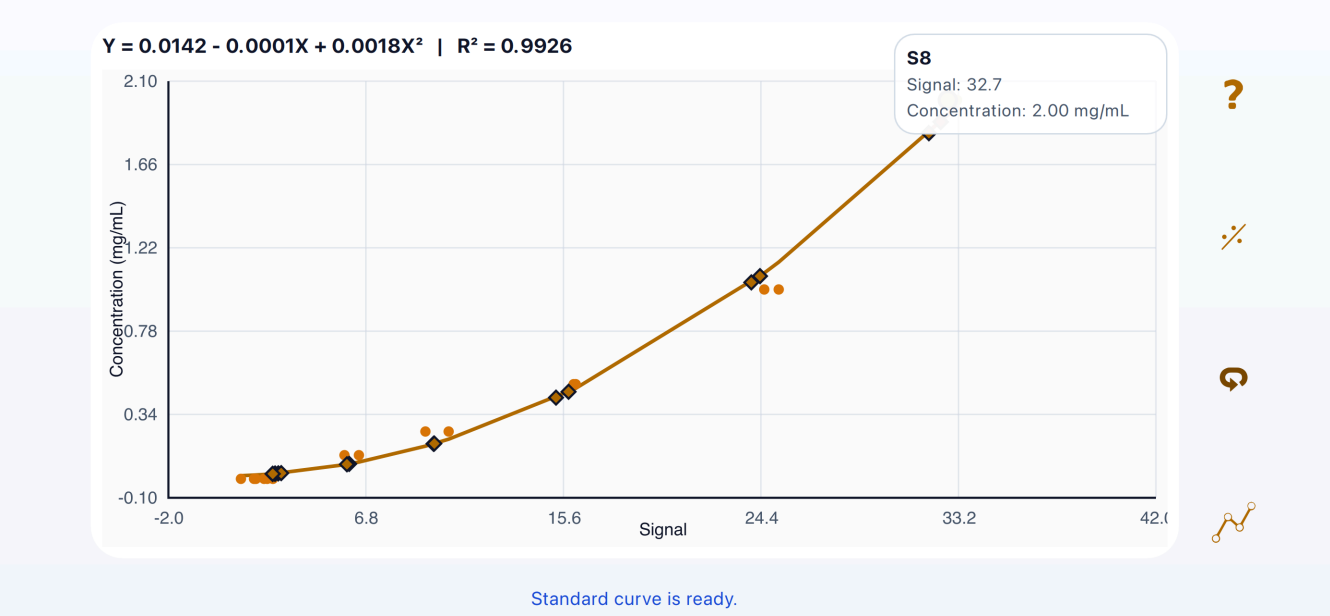


Figure 7. The Standard Curve page with standards, optional unknown markers, the fitted curve, equation, and R^2 value.

Actions

Help
Shows guidance for this page.

Show Unknowns / Hide Unknowns
Shows or hides derived unknown sample markers in the chart.

Reset Zoom
Restores the default chart view.

Polynomial Degree
Selects the regression polynomial degree and recalculates the standard curve.

Standard Curve chart

The chart shows the relationship between measured signal and concentration.

Standards are plotted as markers using their measured signal and assigned concentration. The fitted standard curve is shown as a line through the chart. Unknown samples can also be shown as derived markers.

The horizontal axis shows the measured **Signal**. The vertical axis shows the calculated or assigned **Concentration**.

The standard curve equation is shown at the top of the chart. In the equation, **X** represents the signal and **Y** represents the concentration. **R^2** is the coefficient of determination and indicates how closely the fitted curve matches the standard points.

You can zoom the chart with the mouse wheel or a pinch gesture. To restore the default view, double-click or double-tap the chart, or use **Reset Zoom**.

By default, unknown sample markers are hidden. Use **Show Unknowns** or **Hide Unknowns** to control their visibility.

To view the signal and concentration of a marker, hover over it on desktop or tap it on a touch device.

Polynomial degree

Use **Polynomial Degree** to choose the regression model used for the standard curve.

Changing the polynomial degree recalculates the curve and updates the derived unknown concentrations. A higher degree may fit the standard points more closely, but the simplest degree that describes the assay response is usually preferred.

CHAPTER 06

Well Data

Review, sort, import, and export per-well assay results.

Use this page to review, sort, import, and export assay well data.

The table combines the assay setup, detected signal values, and calculated concentrations into a per-well data view. Use this page to check the final well results before exporting data or creating a report.

Workflow

Review the well data table, sort rows if needed, then export the data as a TSV file.

You can also import a previously exported TSV file or a supported Well Data CSV file to review or reuse saved assay results.

Actions

Help
Shows guidance for this page.

Import Well Data
Loads well data from a TSV or CSV file.

Export Well Data
Saves the current well data table as a TSV file.

Table

The table shows one row per well.

The available columns are:

- **Row**: Plate row.
- **Col.**: Plate column.
- **Name**: Well name, such as a standard or unknown sample name.
- **Signal**: Detected signal value from image analysis.
- **Conc.**: Assigned or calculated concentration.
- **Notes**: Notes from the assay setup or imported data.

Click a column header to sort the table by that column. Click again to change the sort direction.

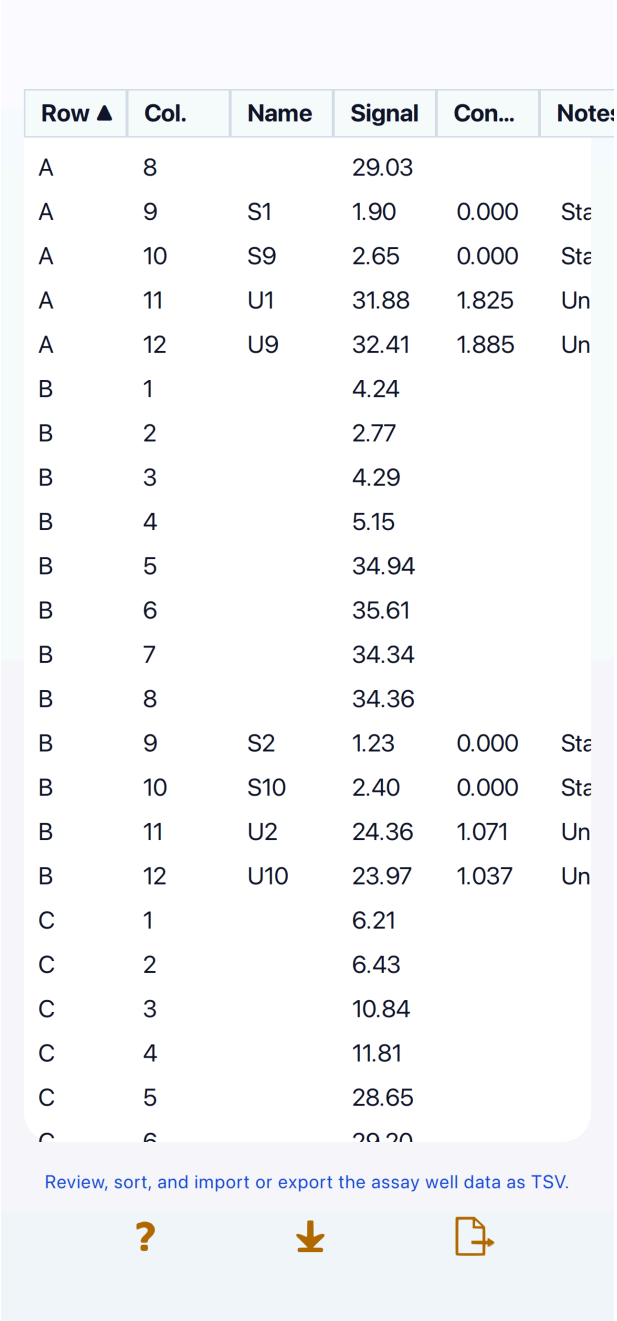


Figure 8. The Well Data page showing one sortable result row per well.

Import and export formats

Use **Export Well Data** to save the current table as a tab-separated values `.tsv` file.

Use **Import Well Data** to load a saved Well Data TSV file or a supported CSV file. CSV import is retained for compatibility with existing files.

> **Windows and macOS**
>
> On desktop systems, well data import and export use the workspace folders configured on the **Settings** page.

Android

On Android, **Export Well Data** opens the system file picker with a suggested filename and folder under **Download/Spotxel Reader/Well Data**.

iPhone and iPad

On iOS, **Export Well Data** opens **Save As** with a suggested filename and folder, such as **On My iPhone/Spotxel Reader/Well Data** or **On My iPad/Spotxel Reader/Well Data**.

Spotxel Reader can read floating-point numbers that use either a decimal point or a decimal comma. Values are displayed and exported according to your system locale.

New exports use TSV because tabs separate the table columns independently of decimal-point or decimal-comma formatting. This improves compatibility with spreadsheet apps such as Numbers on macOS and iOS.

CHAPTER 07

Assay Report

Choose report sections and export the assay as a PDF report.

This page combines the current assay data into a single PDF report. The report can include summary information, the assay setup, the plate image, the standard curve, and the well data table.

Workflow

Review the current report data, choose the sections to include, then use **Export Report** to save the report as a PDF file.

After export, the page shows a confirmation message for the exported file.

Actions

Help
Shows guidance for this page.

Export Report
Saves the selected report sections as a PDF file.

Report sections

Choose which sections to include before exporting.

- **Summary**: Includes general assay information, such as assay name, measured color, concentration unit, plate format, well count, number of named standards and unknowns, and the standard curve equation.
- **Assay Setup Snapshot**: Shows the plate layout with named standards, unknowns, and concentration values.
- **Plate Image**: Adds the source plate image used for analysis.
- **Standard Curve**: Adds the standard curve chart and regression information.
- **Well Data Table**: Adds the per-well data table with row, column, name, role, signal, concentration, and notes.

Current data

The **Current Data** area summarizes the data that will be used for the report. Review this area before exporting to confirm that the assay name, measured color, concentration unit, standards, unknowns, and regression equation are correct.

If required data is missing, return to the corresponding page, such as **Image Analysis**, **Assay Setup**, or **Standard Curve**, complete the missing step, and then come back to **Assay Report**.

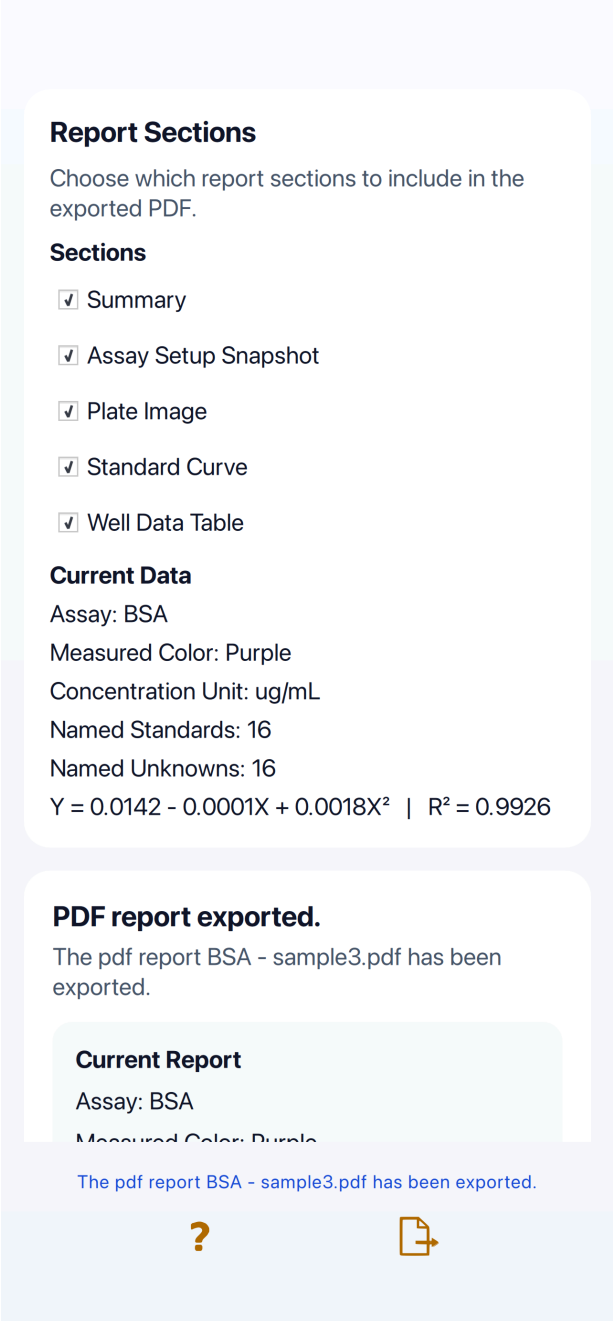


Figure 9. The Assay Report page with report section selection and a summary of the current assay data.

Exported PDF

The exported PDF is generated from the selected sections. Depending on the selected content and the amount of well data, the report may contain multiple pages.

Windows and macOS

On desktop systems, exported reports use the workspace folders configured on the **Settings** page.

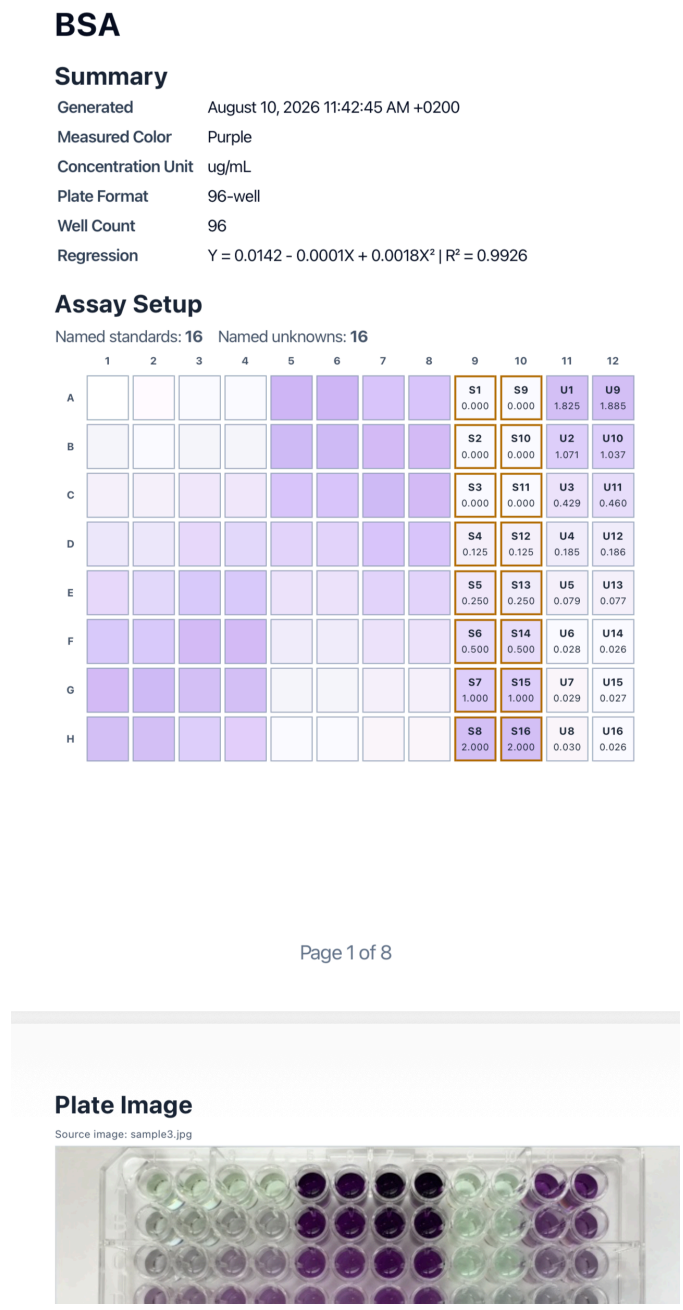
Android

On Android, **Export Report** opens the system file picker with a suggested filename and folder under **Download/Spotxel Reader/Reports**.

iPhone and iPad

On iOS, **Export Report** opens **Save As** with a suggested filename and folder, such as **On My iPhone/Spotxel Reader/Reports** or **On My iPad/Spotxel Reader/Reports**.

Use the exported PDF for documentation, sharing, archiving, or further review outside Spotxel® Reader.



BSA

Summary

Generated	August 10, 2026 11:42:45 AM +0200
Measured Color	Purple
Concentration Unit	ug/mL
Plate Format	96-well
Well Count	96
Regression	Y = 0.0142 - 0.0001X + 0.0018X² | R² = 0.9926

Assay Setup

Named standards: **16** Named unknowns: **16**

	1	2	3	4	5	6	7	8	9	10	11	12
A									S1 0.000	S9 0.000	U1 1.825	U9 1.885
B									S2 0.000	S10 0.000	U2 1.071	U10 1.037
C									S3 0.000	S11 0.000	U3 0.429	U11 0.460
D									S4 0.125	S12 0.125	U4 0.185	U12 0.186
E									S5 0.250	S13 0.250	U5 0.079	U13 0.077
F									S6 0.500	S14 0.500	U6 0.028	U14 0.026
G									S7 1.000	S15 1.000	U7 0.029	U15 0.027
H									S8 2.000	S16 2.000	U8 0.030	U16 0.026

Page 1 of 8

Plate Image

Source image: sample3.jpg

Figure 10. The exported Assay Report displayed in a PDF viewer, showing the first page and the beginning of the second page.

CHAPTER 08

Purchases

Review licenses, subscriptions, entitlements, and purchase restoration.

Spotxel® Reader is a free app. The unpaid version is feature-complete and includes a small advertising placement. Paid access removes this advertising placement.

Paid access is available through purchase products provided by your platform store.

Paid access options

- **Perpetual License**: Permanently removes advertising.
- **3-Month Subscription**: Removes advertising while the subscription is active. It renews every three months, and a free trial may be available depending on the store and current offer.

On Apple platforms, a perpetual license purchased on iPhone, iPad, or Mac can be restored on another Apple device when the same Apple App Store account is used.

Prices, currencies, taxes, trial availability, renewal rules, cancellation, and refunds are handled by the platform store.

Workflow

Select a purchase product, then choose **Buy now** or **Start plan**.

The platform store, such as Microsoft Store, Apple App Store, or Google Play, handles the purchase process. Spotxel® Reader receives the purchase result after you complete or cancel the transaction.

Active paid access is shown in the **Entitlements** section.

Actions

Help
Shows guidance for this page.

Refresh
Reloads the product catalog and entitlement state from the store backend.

Restore
Restores previous purchases for the currently signed-in store account, if supported by the platform store.

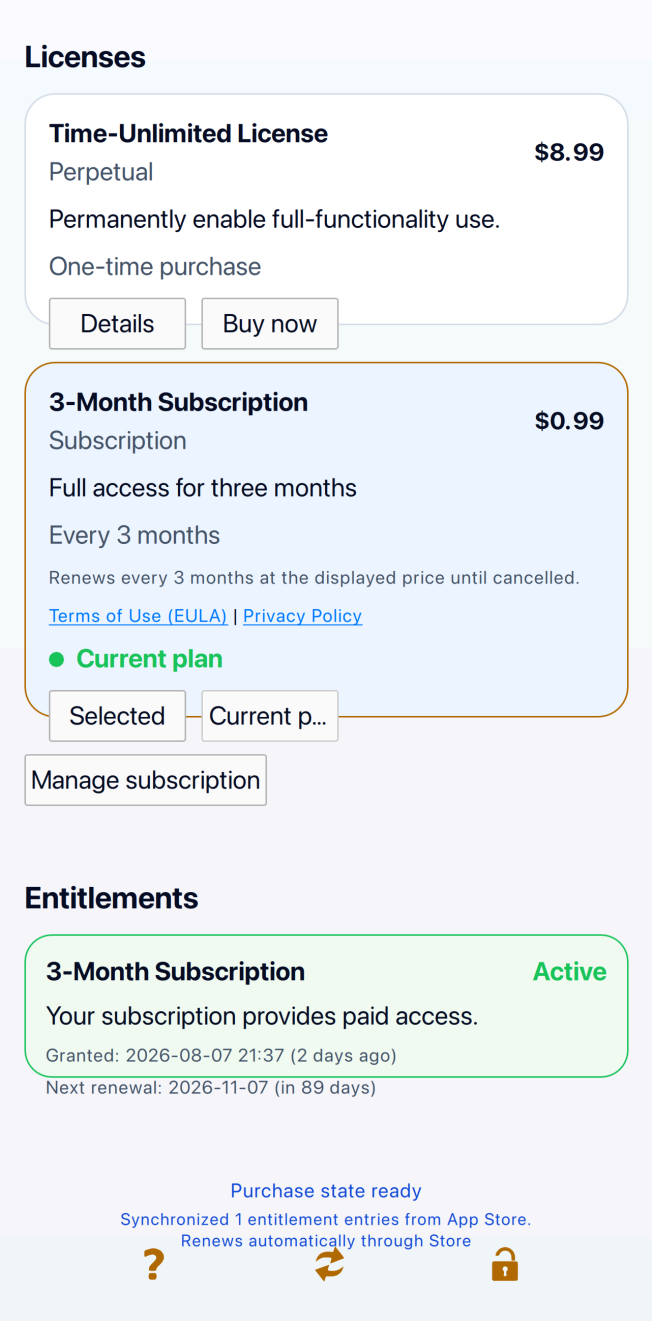


Figure 11. The iOS Purchases page, showing App Store products and current entitlement status.

Licenses

The **Licenses** section lists the available purchase products.

Select a product to view or purchase it. Depending on the product and store state, available buttons may include **Details**, **Buy now**, **Start plan**, **Selected**, or **Current plan**.

Entitlements

The **Entitlements** section shows whether paid access is active.

If a license or subscription is active, this section shows the active entitlement and, where available, the access period. If no paid entitlement is active, Spotxel® Reader runs in ad-supported mode.

Problems with purchases

If paid access is not shown after a purchase, first check the following:

- The device is connected to the internet.
- You are signed in with the same store account used for the purchase.
- On Windows, check the Microsoft Store account.
- On macOS or iOS, check the Apple App Store account.
- On Android, check the Google Play account.

Then use **Refresh** to reload the product catalog and entitlement state. Check the status message at the bottom of the page to confirm whether the store connection succeeds.

If the entitlement is still missing, use **Restore** to restore previous purchases for the current store account.

If the problem remains, contact SICASYS support and include a short description of the issue, your platform, and the purchase product involved. We will help verify the purchase state and guide you through the next steps.

CHAPTER 09

Settings

Configure appearance, workspace, camera, grid defaults, and diagnostics.

Settings apply immediately where possible and are used by related pages such as **Camera** and **Image Analysis**.

Actions

Help
Shows guidance for this page.

Menu
Opens the navigation menu.

Settings groups

- **Appearance**: Configures the color profile and appearance mode.
- **Rotate**: Changes the desktop layout orientation where available.
- **Workspace**: Shows where Spotxel® Reader stores working files and where exported files are saved.
- **Camera Device**: Selects the camera used for image capture.
- **Grid**: Configures the default microplate grid type, visibility, size, and distortion.
- **Troubleshooting**: Enables support-level diagnostic logging and shows the active log path.

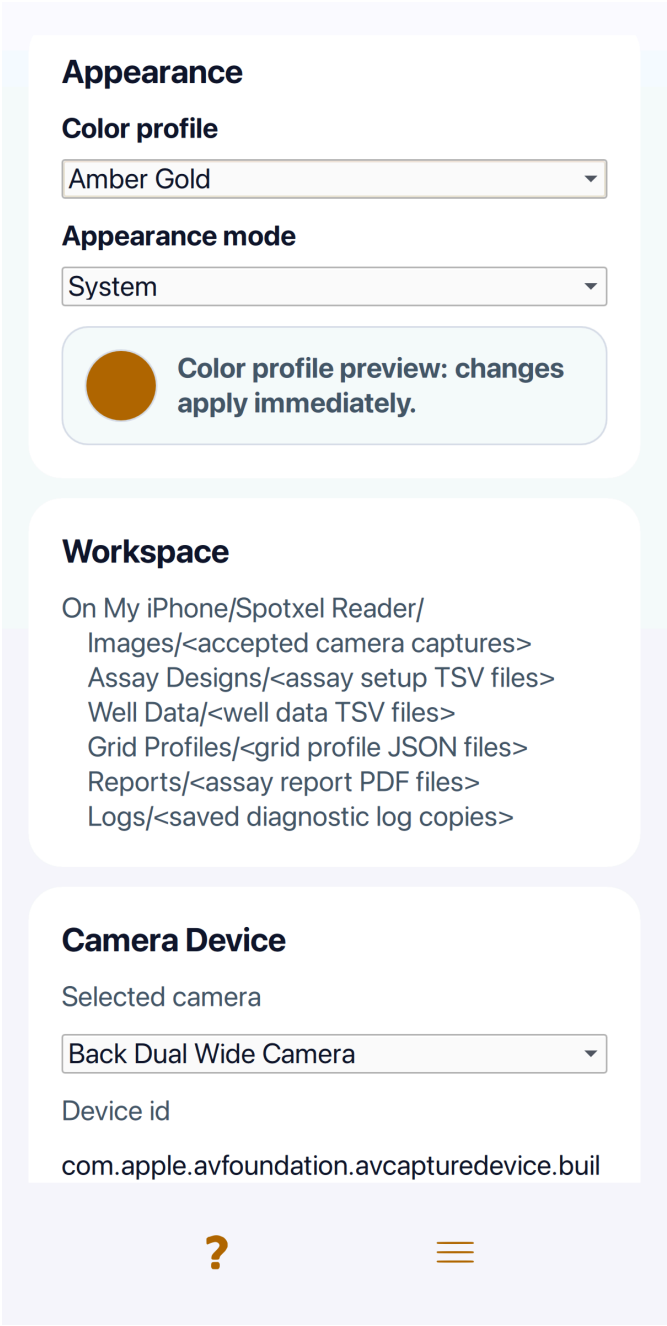


Figure 12. The iOS Settings page, showing appearance options, workspace locations, and camera selection.

Appearance

Use **Appearance** to adjust the visual style of Spotxel® Reader.

Color profile

The **Color profile** setting changes the accent color used for buttons, highlights, and selected controls. The preview shows the selected color profile, and changes apply immediately.

Appearance mode

The **Appearance mode** setting controls whether the app uses a light or dark visual style.

- **System**: Follows the system appearance.

- **Light**: Uses the light appearance.
- **Dark**: Uses the dark appearance.

Rotate

Windows and macOS

Use **Rotate** to switch the desktop layout orientation where this is supported.

Portrait mode can be useful on narrow screens or tablet-style displays. Landscape mode is recommended for most desktop workflows because it provides more horizontal space for assay pages, tables, and charts.

Workspace

Use **Workspace** to review where files created or used by Spotxel® Reader are stored.

Accepted camera captures can be opened again from the **Image Analysis** page by using **Open Image**.

Assay designs and well data are exported as TSV files. Existing CSV files remain supported for import.

Windows and macOS

On desktop systems, the workspace can be changed. By default, the workspace is created in the user's Documents folder as **Spotxel Reader**. Save and export dialogs use workspace subfolders as their starting locations, making related files easier to find and reuse.

Use **Change** to select another workspace folder. Use **Reset to Default** to return to the default workspace location. Use **Open Folder** to open the current workspace in the system file manager. These controls are hidden on Android and iOS because those platforms use system-managed locations.

Android

On Android, accepted camera captures are automatically stored under:

- **Pictures/Spotxel Reader**

For files generated by the app, the following default save locations are suggested:

- **Download/Spotxel Reader/Assay Designs**: Assay design TSV files.
- **Download/Spotxel Reader/Well Data**: Well data TSV files.
- **Download/Spotxel Reader/Grid Profiles**: Grid profile JSON files.
- **Download/Spotxel Reader/Reports**: Assay report PDF files.
- **Download/Spotxel Reader/Logs**: Diagnostic log copies saved from Troubleshooting.

For generated documents, the Android system file picker may allow you to change the file name and save location.

iPhone and iPad

On iOS, the following default save locations are suggested. In the Files app, the device location may appear as **On My iPhone**, **On My iPad**, or a localized equivalent, depending on the device and system language. The paths below use **On My Device** as a generic label.

- **On My Device/Spotxel Reader/Images**: Accepted camera captures.
- **On My Device/Spotxel Reader/Assay Designs**: Assay design TSV files.
- **On My Device/Spotxel Reader/Well Data**: Well data TSV files.
- **On My Device/Spotxel Reader/Grid Profiles**: Grid profile JSON files.
- **On My Device/Spotxel Reader/Reports**: Assay report PDF files.
- **On My Device/Spotxel Reader/Logs**: Diagnostic log copies saved from Troubleshooting.

For generated documents, **Save As** may allow you to change the file name and save location.

Camera Device

Use **Camera Device** to select the camera used by the **Camera** page.

The **Selected camera** list shows the available camera devices. After selecting a camera, the device identifier and permission state are shown below.

If the expected camera is not available, check that it is connected, not being used by another application, and permitted by the operating system.

Grid

Use **Grid** to configure the default microplate grid behavior.

The **Grid type** setting selects the microplate grid format used for analysis. The standard microplate grid is **Microplate (12 × 8)**.

The **Grid visible** setting controls whether the grid is shown by default.

The grid controls also show the current grid mode, grid shape, cell width, and distortion. Use these settings as a starting point for camera capture and image analysis. The grid can still be adjusted later on the **Camera** and **Image Analysis** pages.

Troubleshooting

Use **Troubleshooting** to enable detailed diagnostic logging when support asks for a trace.

Detailed logging records additional runtime information, such as image loading, camera capture, grid alignment, analysis steps, workspace access, and purchase-backend status. It is disabled by default and should normally remain disabled.

When detailed logging is enabled, the current private log path is shown in a shortened, user-friendly form.

On Android and iOS, use **Save Log Copy** to save the current log entries as a stable copy in a user-accessible location. The saved copy can then be reviewed or shared with support.

Android

On Android, saved log copies are stored under:

- **Download/Spotxel Reader/Logs**

iPhone and iPad

On iOS, saved log copies are stored under:

- **On My Device/Spotxel Reader/Logs**

Saving a copy does not move, replace, or interrupt the active private log. Repeating the action creates another saved copy without overwriting an existing one.

The log file may contain technical details such as file paths, device information, and store/backend status messages. **Review** the file before sharing it if it may contain sensitive information.

APPENDIX A

Third-Party Software Notices

Notices and license terms for common and platform-specific third-party components.

Spotxel Reader includes or uses the following third-party runtime software components and relevant model attributions.

OpenCV

Copyright (c) OpenCV team.

OpenCV is licensed under the Apache License, Version 2.0.

AI model

Spotxel Reader includes an AI model developed by SICASYS.

The model was developed and trained using TensorFlow/Keras, including Keras MobileNetV3Small weights pretrained on ImageNet. It was converted for use with the platform-specific inference engine.

TensorFlow and Keras are licensed under the Apache License, Version 2.0.

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Version 2.0, January 2004

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Android-specific components

TensorFlow Lite

Spotxel Reader for Android includes the TensorFlow Lite runtime for on-device AI inference.

TensorFlow Lite is licensed under the Apache License, Version 2.0.

macOS and iOS-specific components

No additional third-party inference runtime is bundled for Apple builds. Spotxel Reader uses Apple's system Core ML framework provided by macOS and iOS.

Windows-specific components

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