

Cortrium Apex 1.26

Cortrium Apex 1.26

Instructions for Use

1. Intended use and warnings.....	4
2. Installation.....	5
3. Log in to Cortrium Apex.....	6
3.1 Keep users signed in on local computer in Cortrium Apex.....	7
4. Prepare the C3w/C3 ⁺ for a new patient.....	9
5. Order a Holter report.....	13
6. View Holter reports and the entire recording.....	17
6.1 View Holter reports	17
6.2 Recording viewer	19
6.3 Summary editor.....	20
7. Edit patient details and view details of recordings.....	20
8. Delete a recording.....	23
9. Download EDF file.....	25
9.1 How to download EDF file before ordering the Holter report	25
9.2 How to download EDF file after ordering a report.....	27
10. Log out of Cortrium Apex.....	28
11. Software-Updates.....	28
12. Minimum technical requirements	28
13. Troubleshooting	29

13.1 "The device seems to be set up for a patient..."	29
13.2 Recording summary shows "n/a lead off" or "n/a events"	29
13.3 The internet connection was interrupted.....	29
13.4 Apex is newly installed but does not open	30
14. Security information	30
15. Labelling and symbols.....	31
16. Infrastructure statement	32
Appendix I	33
i. Available Integrations.....	33
ii. GDT Patient File	34
iii. DICOM Encapsulated Report	35
iv. CPR Patient Lookup	37
v. Uploader Only Role	38
vi. Active Directory Integration.....	39
vii. Patient Referral	40
viii. Report Approval Flow	43
ix. Nereida patient lookup & report delivery	46

1. Intended use and warnings

Intended use

Cortrium Apex is a software application used to prepare the Cortrium C3w/C3⁺ Holter monitor prior to use for a new patient, manage patient data, order, and view ECG Holter reports, download the recording in .EDF format, and to view the entire ECG recording. In addition, recording data can be downloaded and imported into third-party software for analysis. The software is compatible with both Microsoft Windows and MacOS (see section 12 for minimum requirements).

Intended users

The software is intended to be used by healthcare professionals in private practice, clinics and hospitals as well as remotely.

Warnings

- This product may only be used in accordance with its intended use as mentioned in these instructions
- Users of this product are unique, and should never share passwords
- Screenshots of the software may contain sensitive information and should be avoided
- Data shared outside of the system is at the user's own risk
- In case of serious incidents in relation to the software, please contact your local competent authority as well as Cortrium by e-mail: customercare@cortrium.com without undue delay.

Additional information

Please note that software versioning displayed in the screenshots in this manual may refer to previous versions of the software.

E.g. if no changes have been made to the user interface the version shown in the screenshots can be older than the current version of the software, however the functionality is identical.

For users who have enabled integrations, screenshots and usage may differ. For instructions on using these integrations, please refer to Appendix I at the end of this document.

Contraindications

Apex should not be used for preparation of patients that have, life-threatening conditions that could result in immediate danger.

2. Installation

- a. You have been invited to Cortrium Apex by email. Open the invitation email on a computer where you want to install Cortrium Apex
- b. Click on the link in the invitation email to set a password
- c. Confirm your password
- d. Select "Go to next step" to proceed to the download
- e. Download the installation file for Windows or MacOS
- f. When the download is complete, run the installation file
- g. Once the installation is complete, Cortrium Apex will open automatically
- h. You can now log in using your email address and the respective password and start using Cortrium Apex

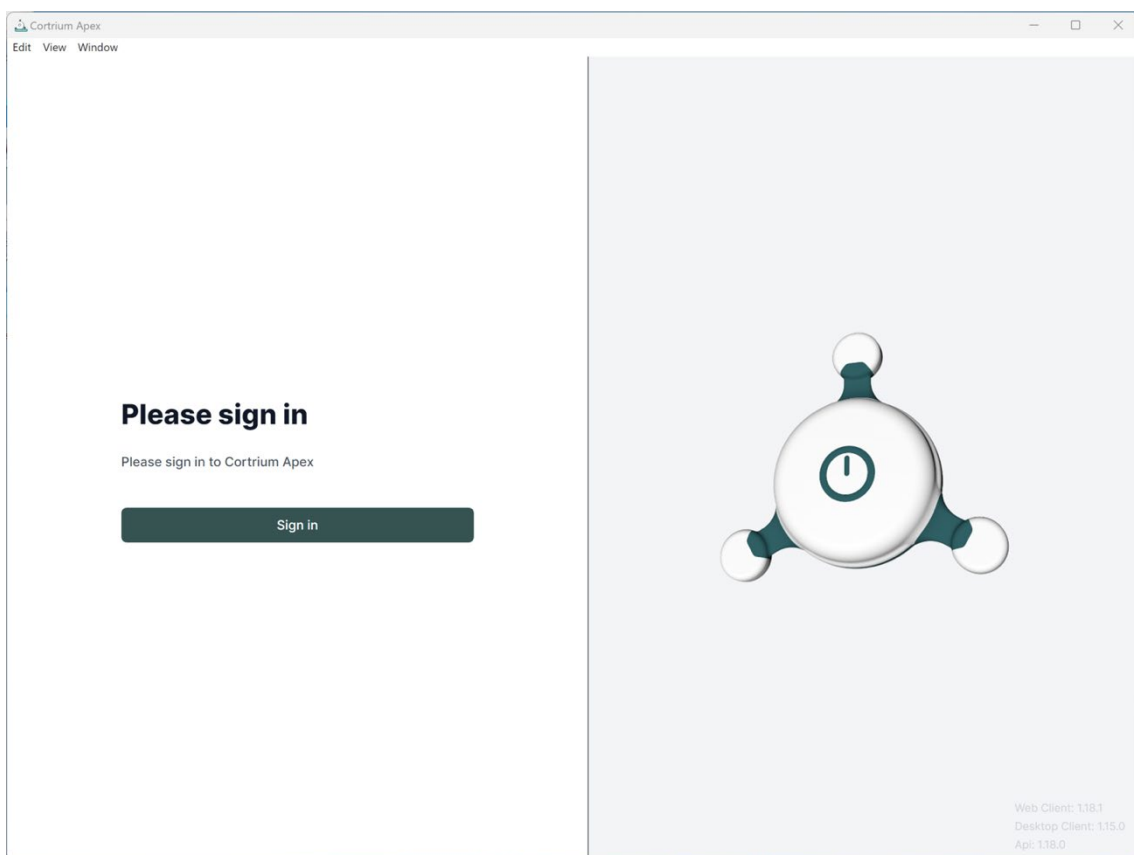
Please note that Cortrium Apex requires an internet connection. You will not be able to log in or use Cortrium Apex without an internet connection

3. Log in to Cortrium Apex

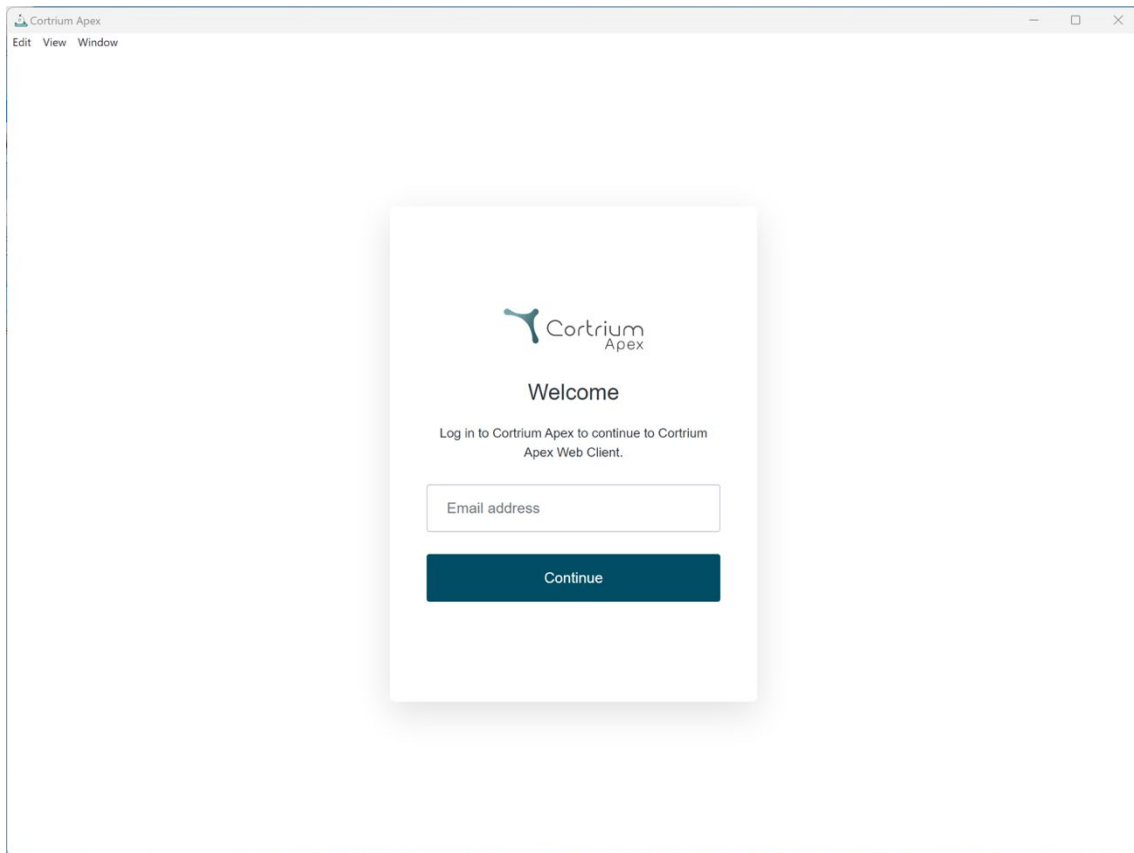
To use Cortrium Apex, you must first have a user login. If you are the administrator of the facility, this has been set up for you by Cortrium. If you are not the administrator and do not yet have a user login, this can be set up by the administrator of your facility.

Once you have installed Cortrium Apex and received your login, you can proceed with the following steps:

- Open Cortrium Apex on your computer by double-clicking on the Cortrium Apex icon.
- Click on "Sign in" (If you have forgotten your password, click on "Forgot your password")

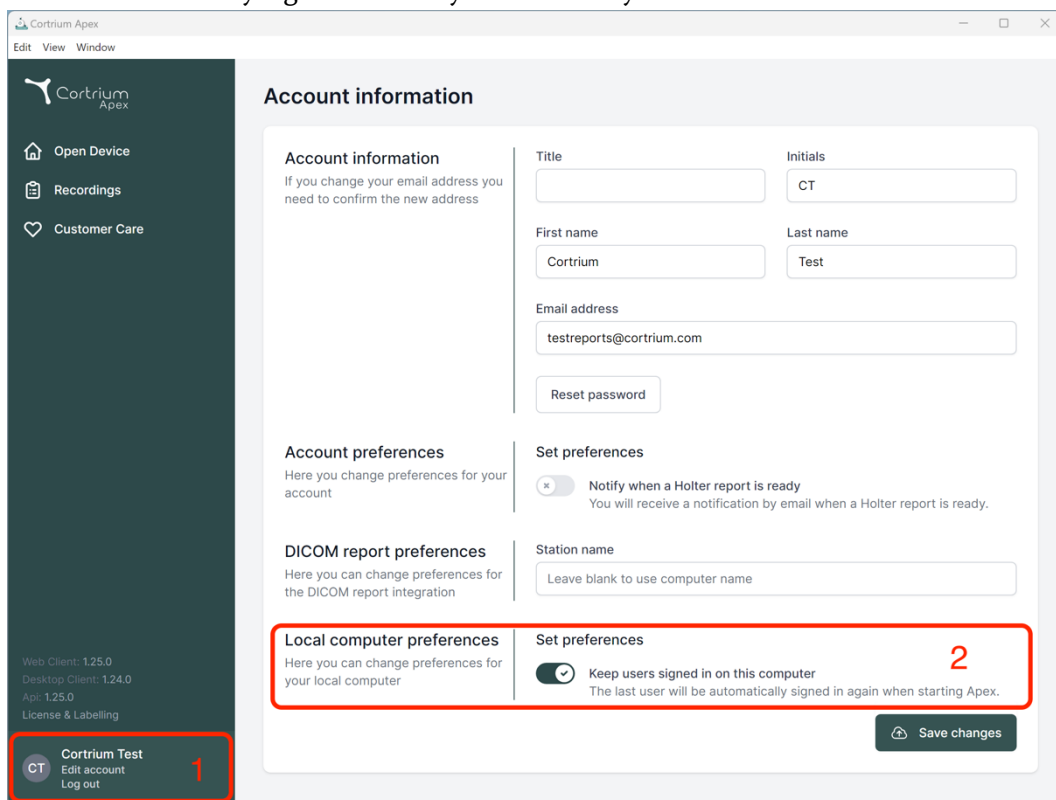


- Enter your user information and press “Continue”.



3.1 Keep users signed in on local computer in Cortrium Apex

- Users can stay signed in locally if OS security is enabled.



The screenshot shows the Cortrium Apex web application interface. On the left is a dark sidebar with navigation links: 'Open Device', 'Recordings', and 'Customer Care'. Below these are version numbers for Web Client, Desktop Client, and API, along with a 'License & Labelling' link. At the bottom of the sidebar, a user profile for 'Cortrium Test' is shown with options to 'Edit account' and 'Log out'. The main content area is titled 'Account information' and contains several sections: 'Account information' with fields for Title, Initials, First name, Last name, and Email address; 'Account preferences' for changing account settings; 'DICOM report preferences' for integration settings; and 'Local computer preferences' for local device settings. A red box labeled '1' highlights the user profile in the sidebar. Another red box labeled '2' highlights the 'Local computer preferences' section, specifically the 'Keep users signed in on this computer' toggle, which is currently turned on. A 'Save changes' button is located at the bottom right of the preferences section.

Account information

If you change your email address you need to confirm the new address

Title: Initials:

First name: Last name:

Email address:

[Reset password](#)

Account preferences

Here you change preferences for your account

Set preferences

☒ Notify when a Holter report is ready
You will receive a notification by email when a Holter report is ready.

DICOM report preferences

Here you can change preferences for the DICOM report integration

Station name

Local computer preferences

Here you can change preferences for your local computer

Set preferences

☒ Keep users signed in on this computer
The last user will be automatically signed in again when starting Apex.

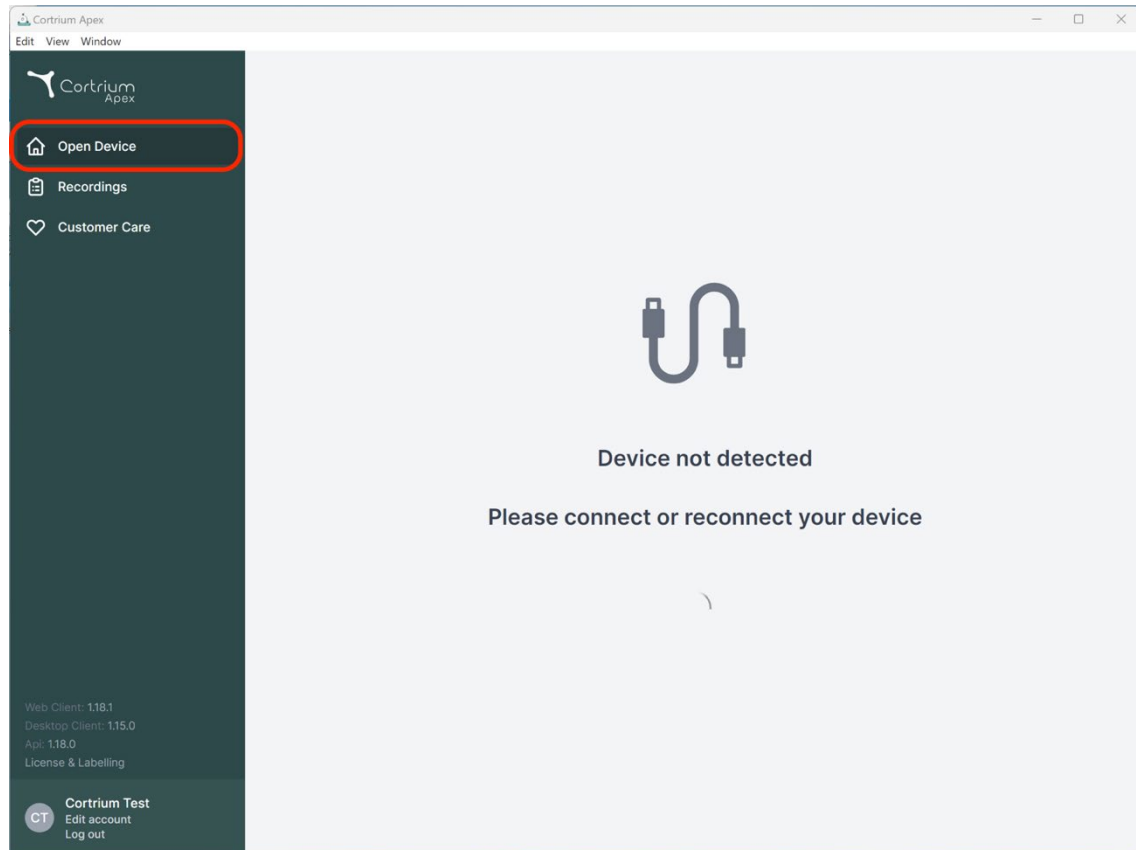
[Save changes](#)

CT Cortrium Test
Edit account
Log out

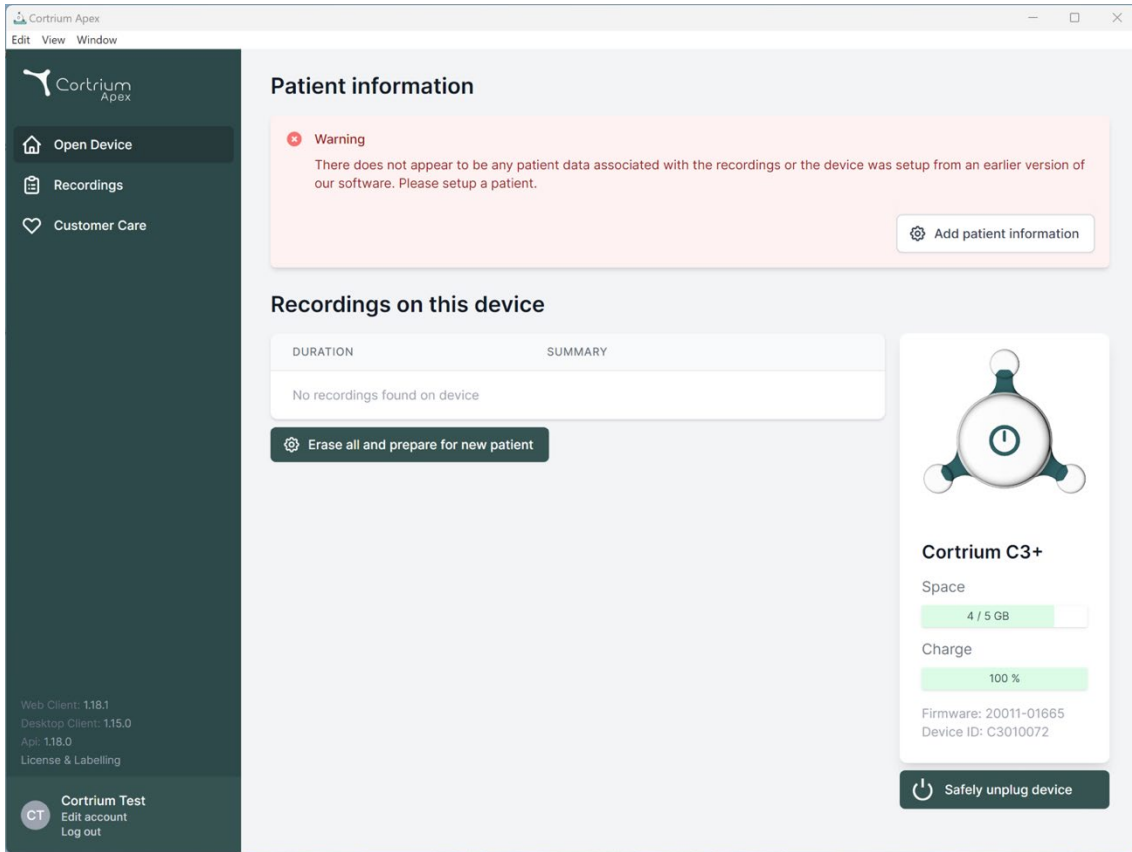
4. Prepare the C3w/C3⁺ for a new patient

If the C3w/C3⁺ has already been used to record a long-term ECG, please read the section "Order a Holter report" before following the steps in this section.

- Select the "Open Device" button.



- Connect the C3w/C3⁺ to the computer using the USB cable provided.
(If you are using an Apple product, you may need a USB converter)



The screenshot shows the Cortrium Apex web application interface. On the left is a dark sidebar with navigation links: 'Open Device', 'Recordings', and 'Customer Care'. Below these are version details (Web Client: 1.18.1, Desktop Client: 1.15.0, Api: 1.18.0, License & Labelling) and a 'Cortrium Test' section with 'Edit account' and 'Log out' options. The main content area has a 'Patient information' section with a warning message: 'There does not appear to be any patient data associated with the recordings or the device was setup from an earlier version of our software. Please setup a patient.' and an 'Add patient information' button. Below this is a 'Recordings on this device' section with a table showing 'No recordings found on device' and an 'Erase all and prepare for new patient' button. On the right is a device status panel for 'Cortrium C3+' showing 'Space' (4 / 5 GB), 'Charge' (100 %), 'Firmware: 20011-01665', and 'Device ID: C3010072', with a 'Safely unplug device' button at the bottom.

- Cortrium Apex displays information about the connected device and any data stored on it.
- Select "Erase all and prepare device for new patient".
- Fill in the relevant patient and recording information:

Cortrium Apex
Edit View Window

Patient information

Warning
There does not appear to be any patient data associated with the recordings or the device was setup from an earlier version of

Patient

Patient ID: 28081960 Date of birth: 08/28/1960

First name: Cortrium Last name: Test

Gender: ☐ Female ☒ Male ☐ Other Reason for recording: Other

Notes

Notes on patient or recording

Device setup

Recording length: 1 day Pacemaker: None Sample rate: 256 Hz

Please note that analysis cannot be guaranteed if a pacemaker is implanted

Save to device

Warning This will erase all recordings on the device

Cancel

Save to device

Cortrium C3+

Space: 4 / 5 GB

Charge: 100 %

Software: 20011-01665 Device ID: C3010072

Safely unplug device

Web Client: 1.18.1
Desktop Client: 1.15.0
App: 1.18.0
License & Labelling

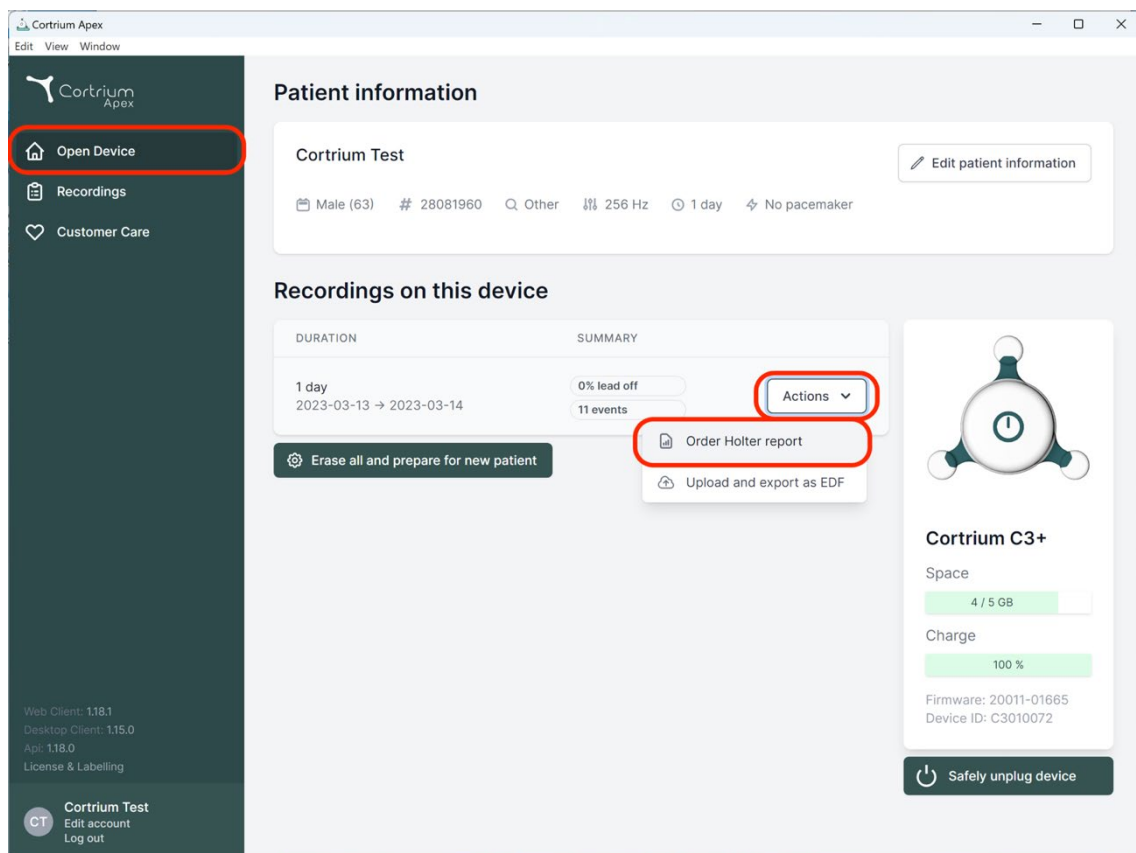
Cortrium Test
Edit account
Log out

- Now click on "Save to Device". This deletes all patient data or recordings stored on the device and saves the new patient information in the system.
- You can now eject your device via the "Safely unplug device" button on the right-hand side.
- The C3w/C3⁺ is now ready for a recording on a new patient.
- In case you typed in wrong patient information, the information can be edited by clicking on "Edit patient information".

5. Order a Holter report

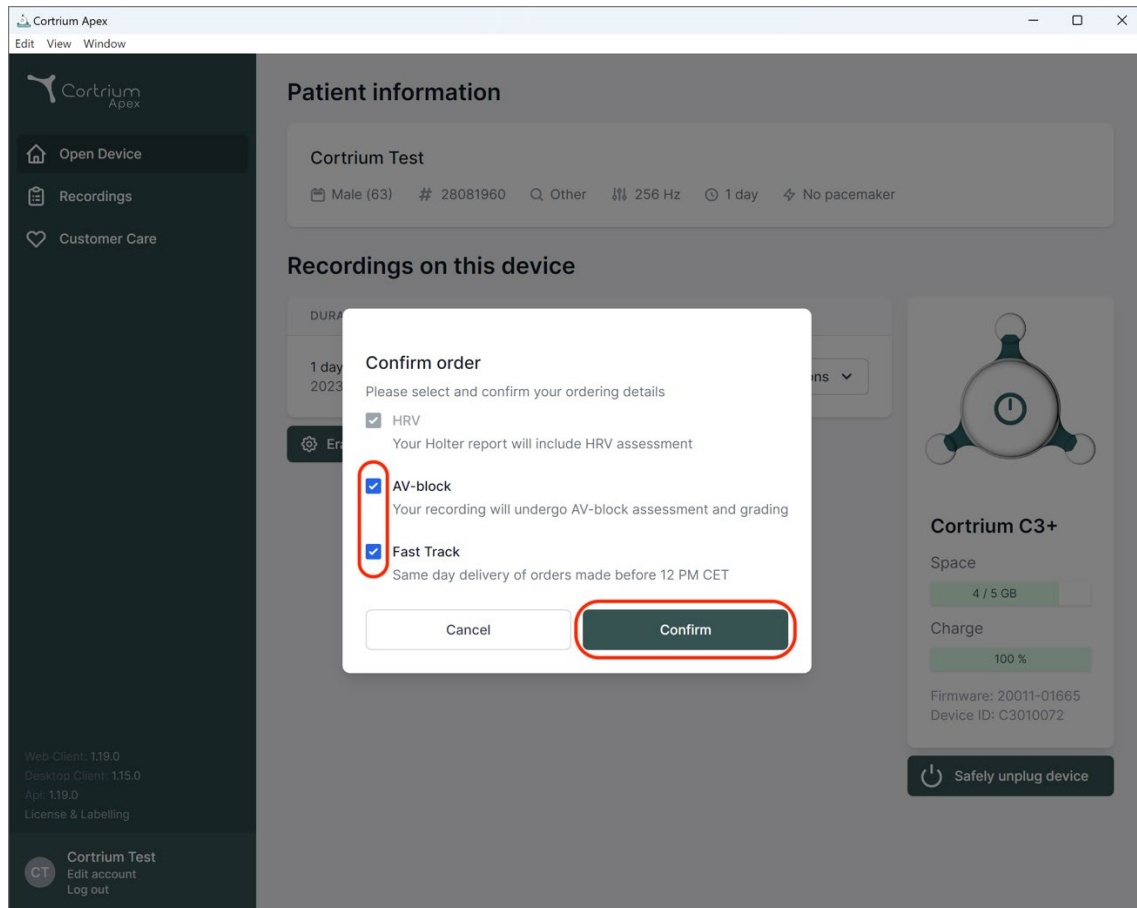
Cortrium Apex allows you to send recordings for analysis and download the Holter report as soon as it is available. When a device is returned with a recording, click on the “Open device” button and select your next steps using the "Actions" button. By default, you have the following two options:

- Order Holter report
- Upload and export as EDF



To order the Holter report, click on the "Actions" button and then on “Order Holter report”.

You will be met by a form allowing you to confirm your order or choose additional options for your analysis.



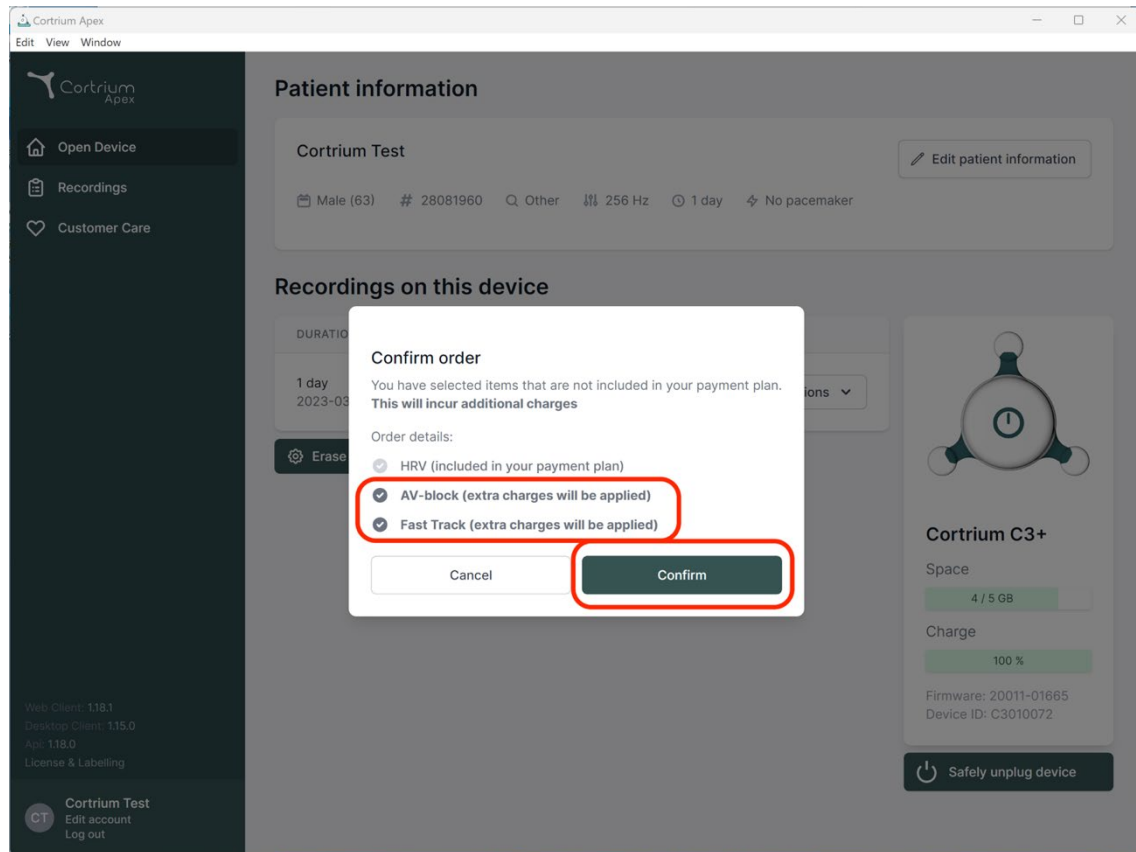
Your add-on options are:

- **HRV:** Your Holter report will include heart rate variability (HRV) assessment
- **AV-Block:** Assessment and grading of AV-Block by a senior specialist
- **Fast Track:** Same day delivery of orders made before 12pm CET

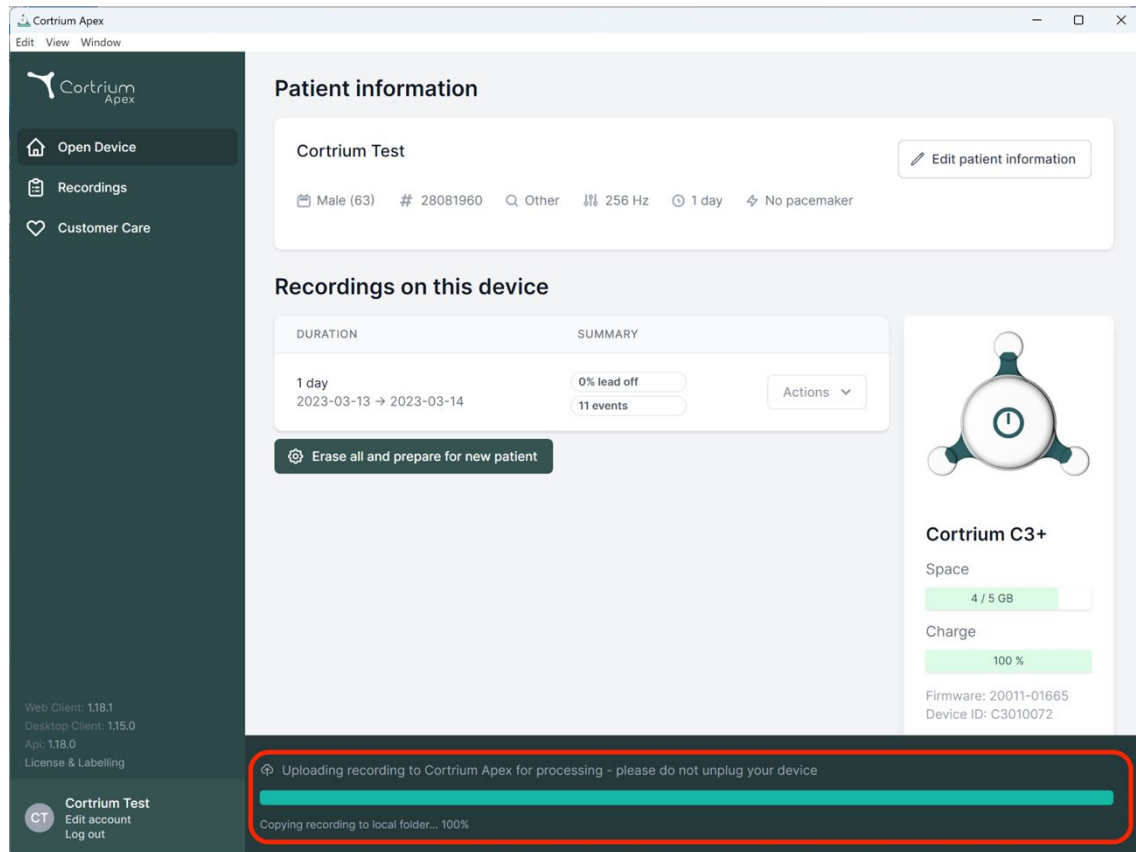
When you are satisfied with your choice of analysis options you can click “Confirm” to continue.

In case you have chosen add-ons to your analysis you will be prompted with a message informing if your selections will incur additional charges.

To continue click on “Confirm”.



The recording is now uploading.



After uploading the recording, the Holter report will be made available when analysed. The device can already be prepared for a new patient as soon as the recording has been uploaded.

Depending on your account settings you will be informed via email when the Holter report is ready to view. Apex also presents newly completed reports with a red dot for easy identification.

The next section explains how to view the Holter report as soon as it is analysed and how to view the entire recording right after upload.

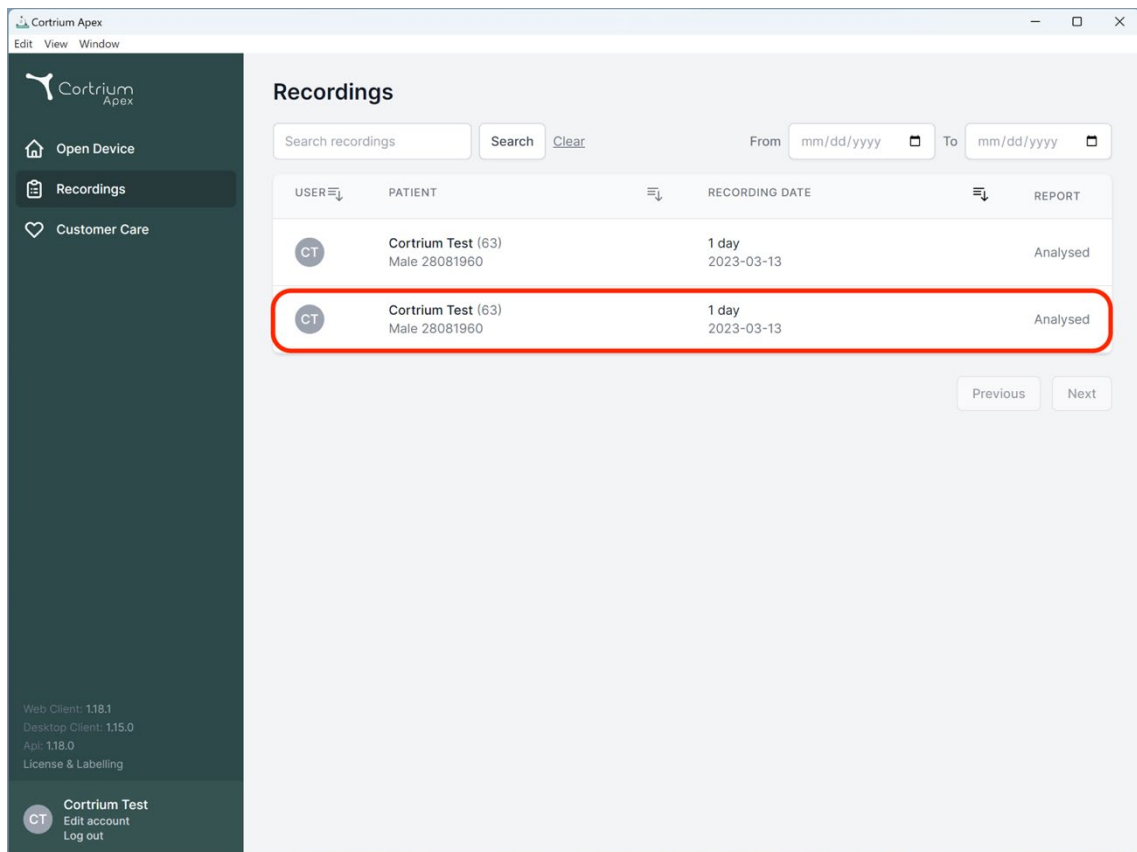
6. View Holter reports and the entire recording

In Cortrium Apex you can view the Holter reports as PDF, and you can view the entire recording right after uploading it for analysis. How to view the Holter reports is described below and how to use the "Recording viewer" is explained in section 6.2.

6.1 View Holter reports

Once a recording has been analysed, you can view the Holter report as a PDF.

To do this, go to the menu item "Recordings" and click on the respective patient. You can then view the PDF report in the last line under Holter report. The Holter report will open in your web browser.



The screenshot shows the Cortrium Apex web application interface. On the left is a dark sidebar with the Cortrium Apex logo and menu items: "Open Device", "Recordings" (highlighted), and "Customer Care". At the bottom of the sidebar, it lists version information: "Web Client: 1.18.1", "Desktop Client: 1.15.0", "Api: 1.18.0", and "License & Labelling". Below this is a user profile for "Cortrium Test" with options to "Edit account" and "Log out".

The main content area is titled "Recordings". It features a search bar with the text "Search recordings", a "Search" button, and a "Clear" link. To the right of the search bar are date pickers for "From" and "To", both set to "mm/dd/yyyy". Below the search bar is a table with the following columns: "USER", "PATIENT", "RECORDING DATE", and "REPORT".

USER	PATIENT	RECORDING DATE	REPORT
CT	Cortrium Test (63) Male 28081960	1 day 2023-03-13	Analysed
CT	Cortrium Test (63) Male 28081960	1 day 2023-03-13	Analysed

At the bottom right of the table, there are "Previous" and "Next" buttons. The second row of the table is highlighted with a red border.

Cortrium Apex

Edit View Window



Open Device

Recordings

Customer Care

Web Client: 1.18.1

Desktop Client: 1.15.0

App: 1.18.0

License & Labelling

CT

Cortrium Test

Edit account

Log out

Recording details

Delete recording

Cortrium Test

Edit

Male 1960-08-28 (63) # 28081960 Other

Uploaded By

Cortrium Test Cortrium Internal > Cortrium 2024-01-30 12:31

Recording Summary

1 day

11 events

No pacemaker

0.0% lead off

2023-03-13 11:54

256 Hz

C3100175

View recording

View

Download recording in .EDF format

Download

Holter Reports

Order Holter report

Ordered: 2024-02-16 07:36

Delivered: 2024-02-16 13:00

Features ordered:

☒ HRV

☐ AV-block

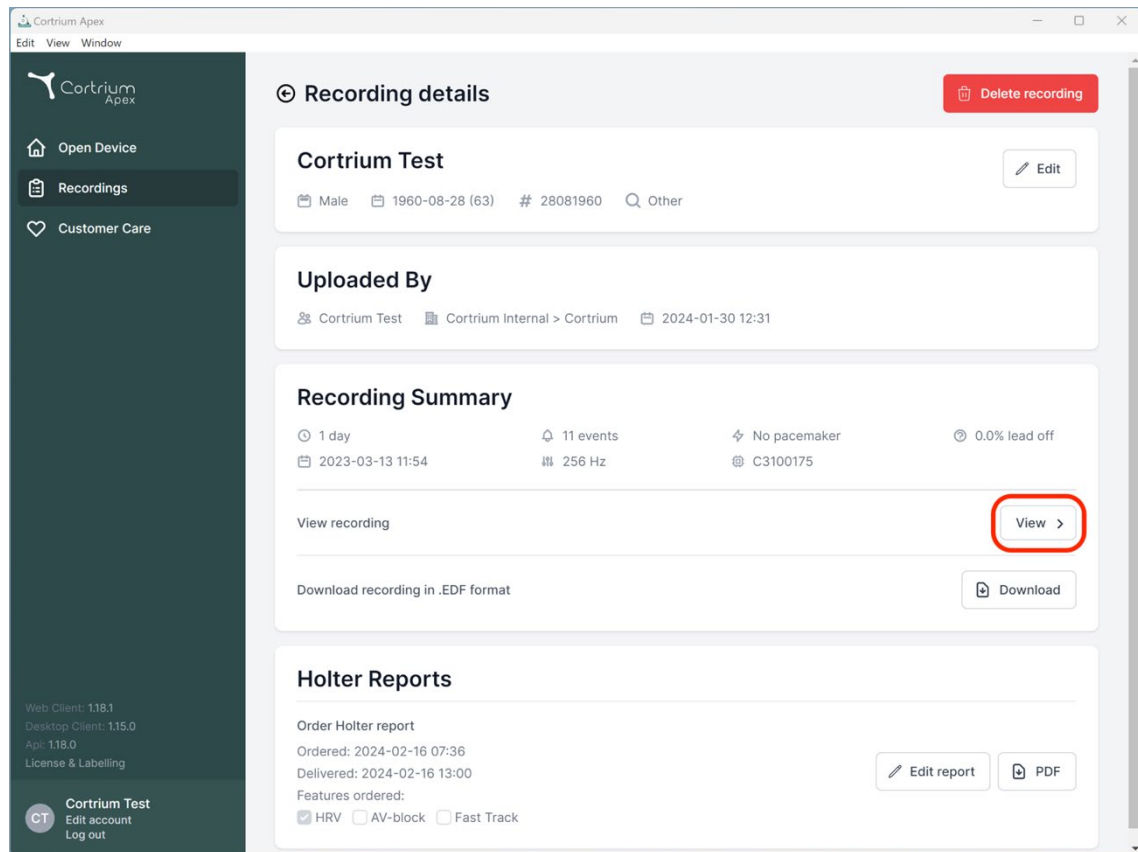
☐ Fast Track

Edit report

PDF

6.2 Recording viewer

To view the entire recording after upload, click on recordings and select the patient whose recording you want to view (see first screenshot in section 6.1). Now you can use the Recording viewer by pressing the "View" button.

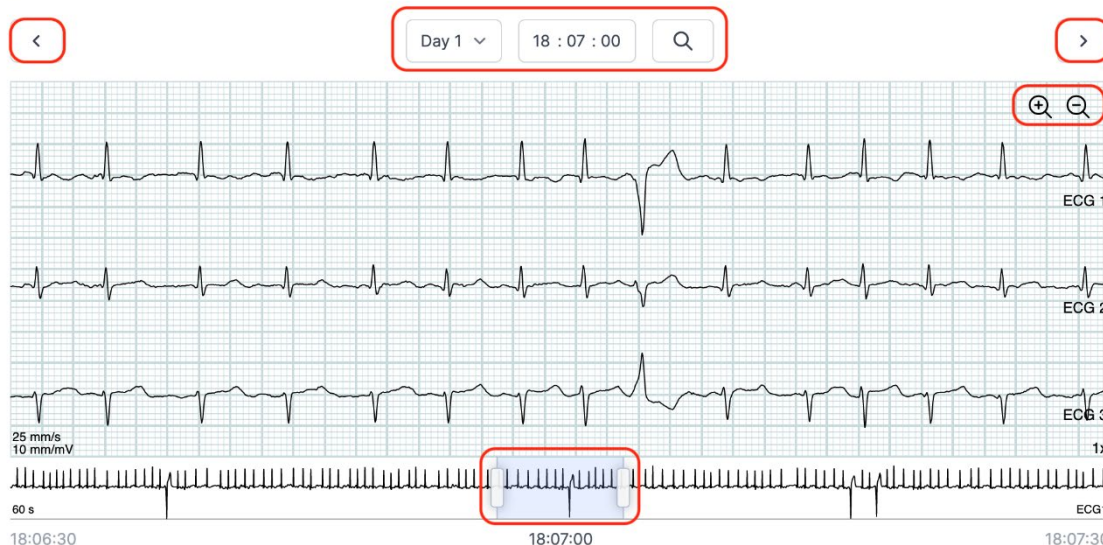


The recording viewer opens.

- The viewer loads 1 minute of data and shows 7 seconds of ECG at a time.
- With the highlighted interactive features, you can choose the day, hour, minute, and second you would like to view in the recording. Select the time and click on the search icon to confirm the setting.
- By holding and dragging the light blue bar on the bottom of the viewer you can view the 60 seconds surrounding the chosen timepoint.
- By clicking on the navigation arrows or dragging the view to the edge, you can move forwards and backwards in the recording.
- Additionally, if the signal amplitude is low, you can increase it by using the zoom functionality.

Recording viewer

2023-03-13 11:54 → 2023-03-14 11:55 1 day



To close the Recording viewer, click on the "x" in the top right corner.

6.3 Summary editor

After receiving your report, you have the option of editing the summary if you have specific wording or information you would like to include.

To do this, click on recordings and select the patient whose report summary you would like to edit.

Now you can use the Summary editor by pressing the "Edit report" button in the last line under Holter report.

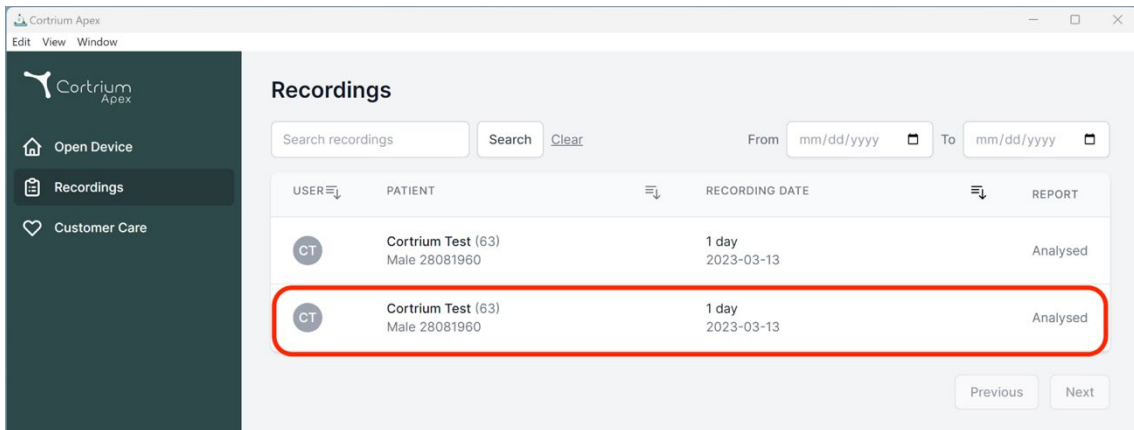
7. Edit patient details and view details of recordings

After selecting the menu item "Recordings", you can click on a recording to open a summary with the related details.

The summary of the recordings contains details such as:

- Duration of the recording
- Start date and time
- Lead off, i.e., periods when the electrodes were not in contact with the body
- Events, when the patient pressed the button to indicate symptoms or an event
- Sampling frequency of the ECG signal

- Information about pacemaker if noted when the device was prepared for a new patient



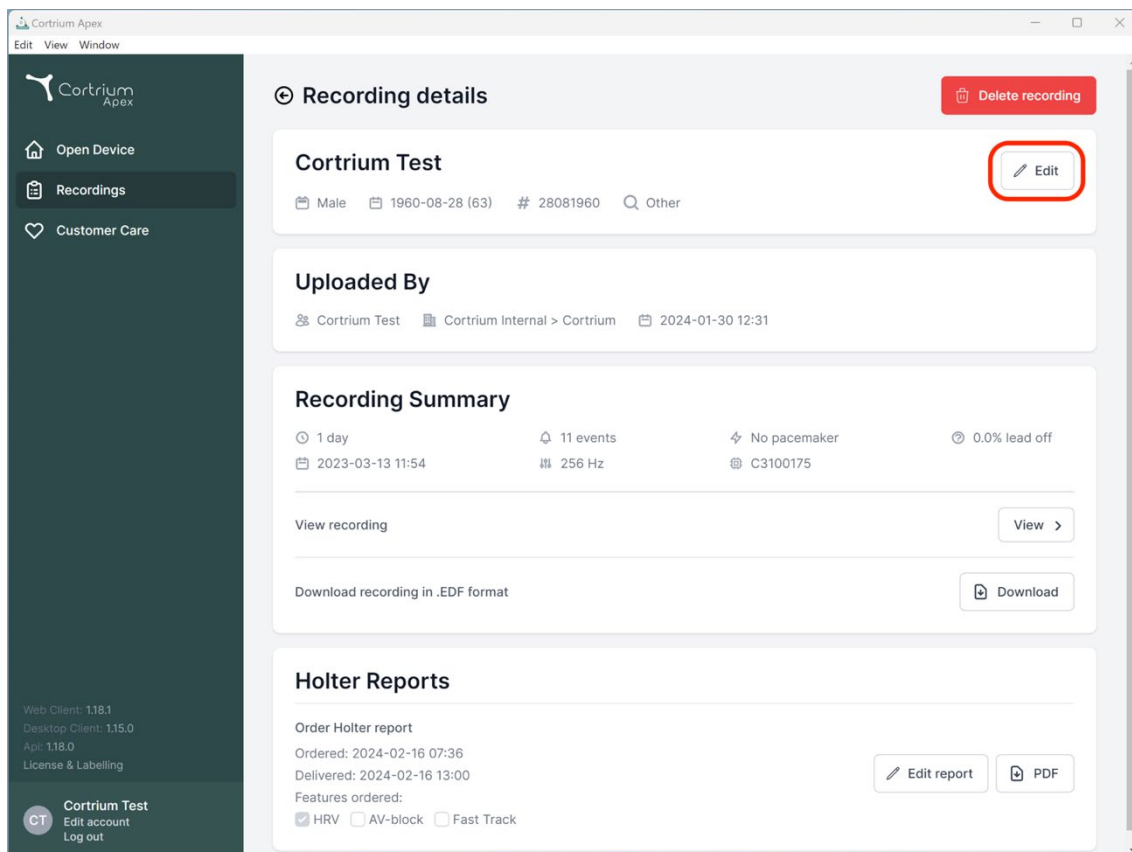
Recordings

Search recordings Search [Clear](#) From To

USER	PATIENT	RECORDING DATE	REPORT
CT	Cortrium Test (63) Male 28081960	1 day 2023-03-13	Analysed
CT	Cortrium Test (63) Male 28081960	1 day 2023-03-13	Analysed

Previous Next

The patient information can be edited by clicking on the "Edit" button.



Recording details [Delete recording](#)

Cortrium Test [Edit](#)

Male 1960-08-28 (63) # 28081960 Other

Uploaded By

Cortrium Test Cortrium Internal > Cortrium 2024-01-30 12:31

Recording Summary

1 day 11 events No pacemaker 0.0% lead off
2023-03-13 11:54 256 Hz C3100175

View recording [View >](#)

Download recording in .EDF format [Download](#)

Holter Reports

Order Holter report
Ordered: 2024-02-16 07:36
Delivered: 2024-02-16 13:00
Features ordered:
☒ HRV ☐ AV-block ☐ Fast Track [Edit report](#) [PDF](#)

The adjustments can be saved by clicking on the "Save" button.

Cortrium Apex
Edit View Window

Cortrium Apex

Open Device

Recordings

Customer Care

Recording details

Cortrium Test Edit

Male 1960-08-28 (63) # 28081960 Other

Patient

Patient ID: 28081960 Date of birth: 08/28/1960

First name: Cortrium Last name: Test

Gender: ☐ Female ☒ Male ☐ Other Reason for recording: Other

Notes

Notes on patient or recording

Cancel Save

Web Client: 118.1
Desktop Client: 115.0
App: 118.0
License & Labelling

Order Holter report

Ordered: 2024-02-16 07:36
Delivered: 2024-02-16 13:00

Features ordered:
☒ HRV ☐ AV-block ☐ Fast Track

Edit report PDF

0.0% lead off

View >

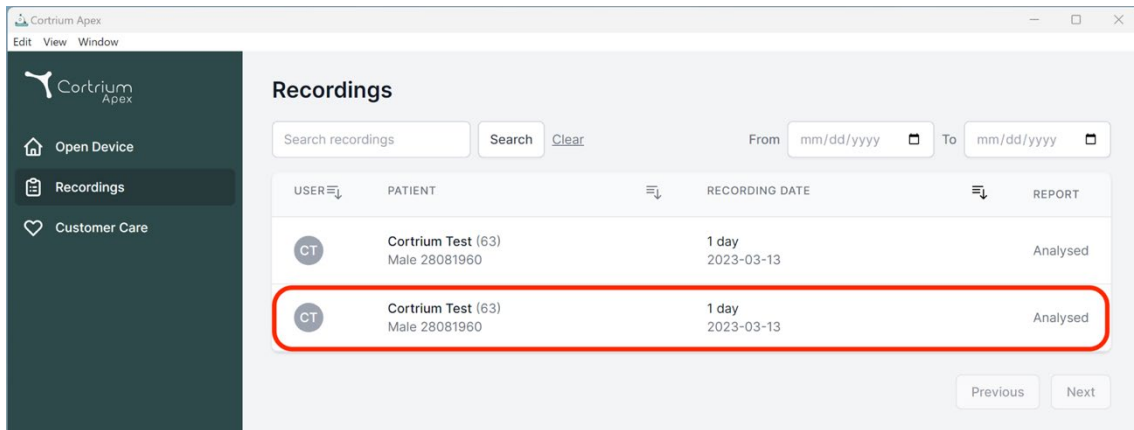
Download

Cortrium Test
Edit account
Log out

8. Delete a recording

To delete a recording, open the “Recordings” section and click on the recording you want to delete.

Now click on “Delete recording” in the top right corner. After typing in the patient name the deletion must be confirmed by pressing “Delete”.

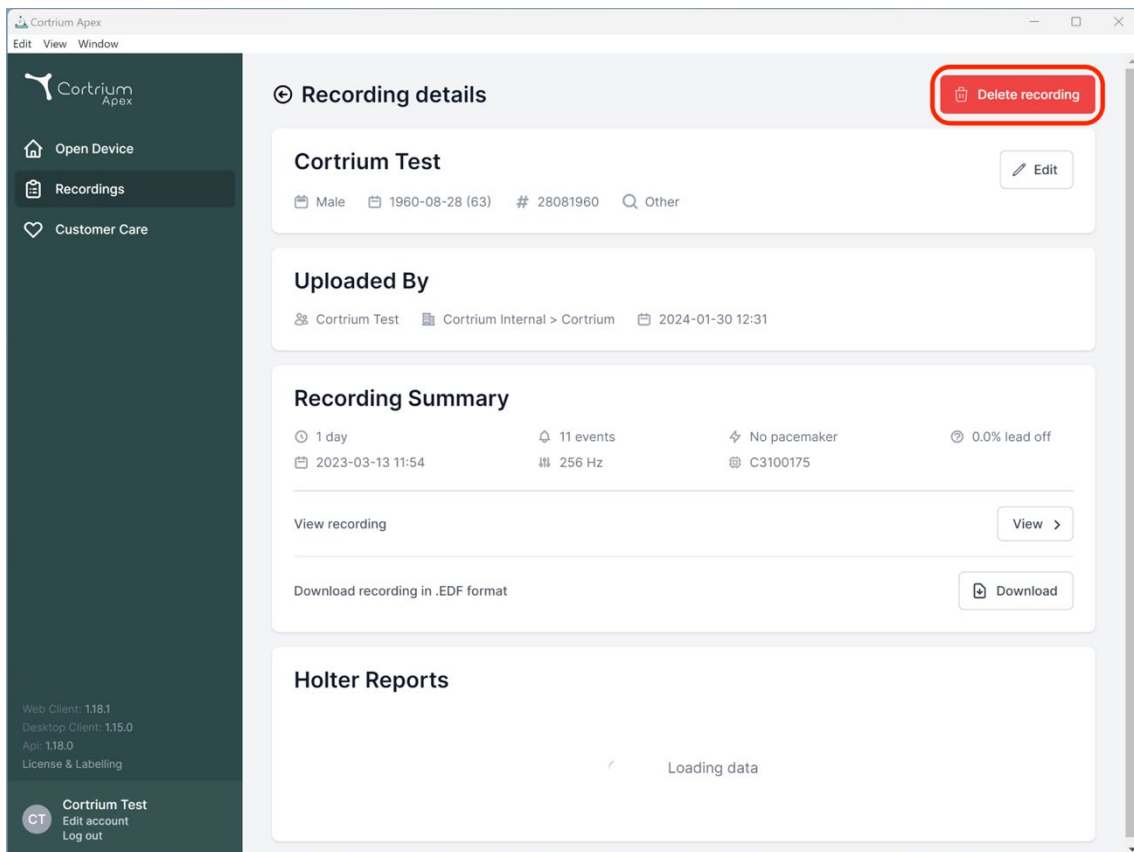


Recordings

Search recordings Search [Clear](#) From To

USER	PATIENT	RECORDING DATE	REPORT
CT	Cortrium Test (63) Male 28081960	1 day 2023-03-13	Analysed
CT	Cortrium Test (63) Male 28081960	1 day 2023-03-13	Analysed

Previous Next



Recording details [Delete recording](#)

Cortrium Test [Edit](#)

Male 1960-08-28 (63) # 28081960 [Other](#)

Uploaded By

Cortrium Test Cortrium Internal > Cortrium 2024-01-30 12:31

Recording Summary

1 day 11 events No pacemaker 0.0% lead off
2023-03-13 11:54 256 Hz C3100175

View recording [View >](#)

Download recording in .EDF format [Download](#)

Holter Reports

Loading data

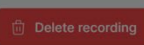
Cortrium Apex
Edit View Window

 Cortrium Apex

 Open Device

 Recordings

 Customer Care

Recording details 

Cortrium Test 

 Male  1960-08-28 (63)  # 28081960  Other

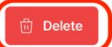
Uploaded By

 Cortrium Test  Cortrium Internal > Cortrium  2024-01-30 12:31

Confirm delete

You are removing Cortrium Test

To confirm delete, please write 'Cortrium Test' in the input field

 Download recording in .EDF format 

Holter Reports

Loading data

Web Client: 1.18.1
Desktop Client: 1.15.0
App: 1.18.0
License & Labelling

 Cortrium Test
Edit account
Log out

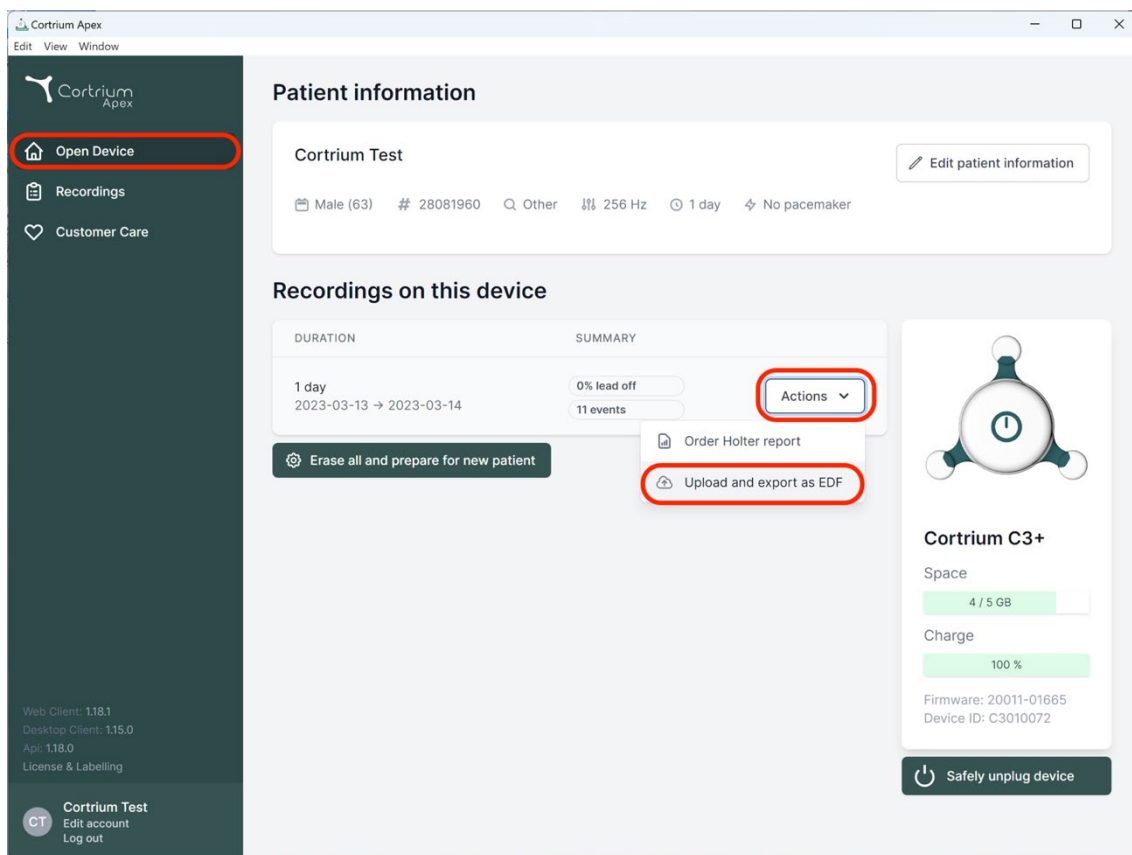
9. Download EDF file

The EDF file can be downloaded before ordering the Holter report or after. The two different cases are described in the next sections.

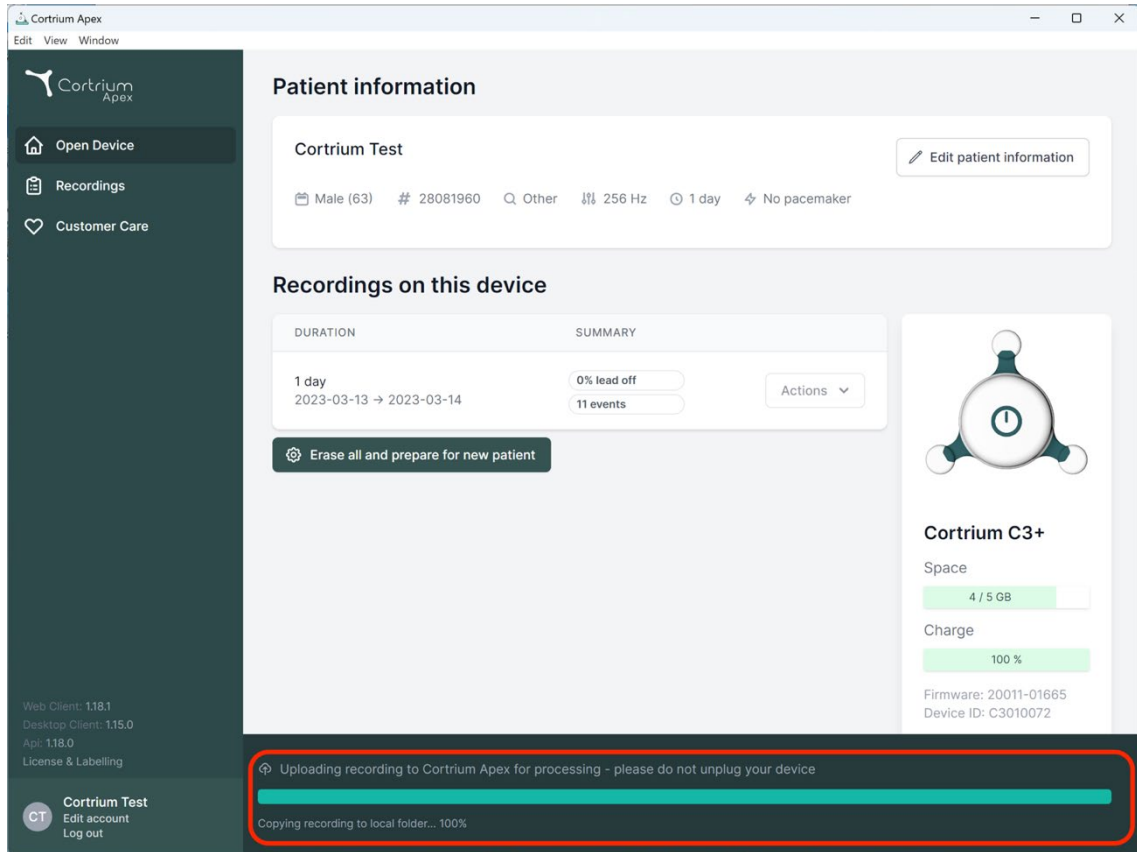
9.1 How to download EDF file before ordering the Holter report

Follow these steps to convert a recording to EDF format:

- Connect the C3w/C3+ Holter monitor to the computer and press the “Open Device” button in the left menu.
- Click on the "Actions" button and select "Upload and export as EDF".



- The recording is transferred to Apex.
- When the transfer is complete, the "Actions" button changes to "View".



Cortrium Apex
Edit View Window

Patient information

Cortrium Test [Edit patient information](#)

Male (63) # 28081960 Q Other 256 Hz 1 day No pacemaker

Recordings on this device

DURATION	SUMMARY	
1 day 2023-03-13 → 2023-03-14	0% lead off 11 events	Actions

[Erase all and prepare for new patient](#)

Cortrium C3+

Space: 4 / 5 GB

Charge: 100 %

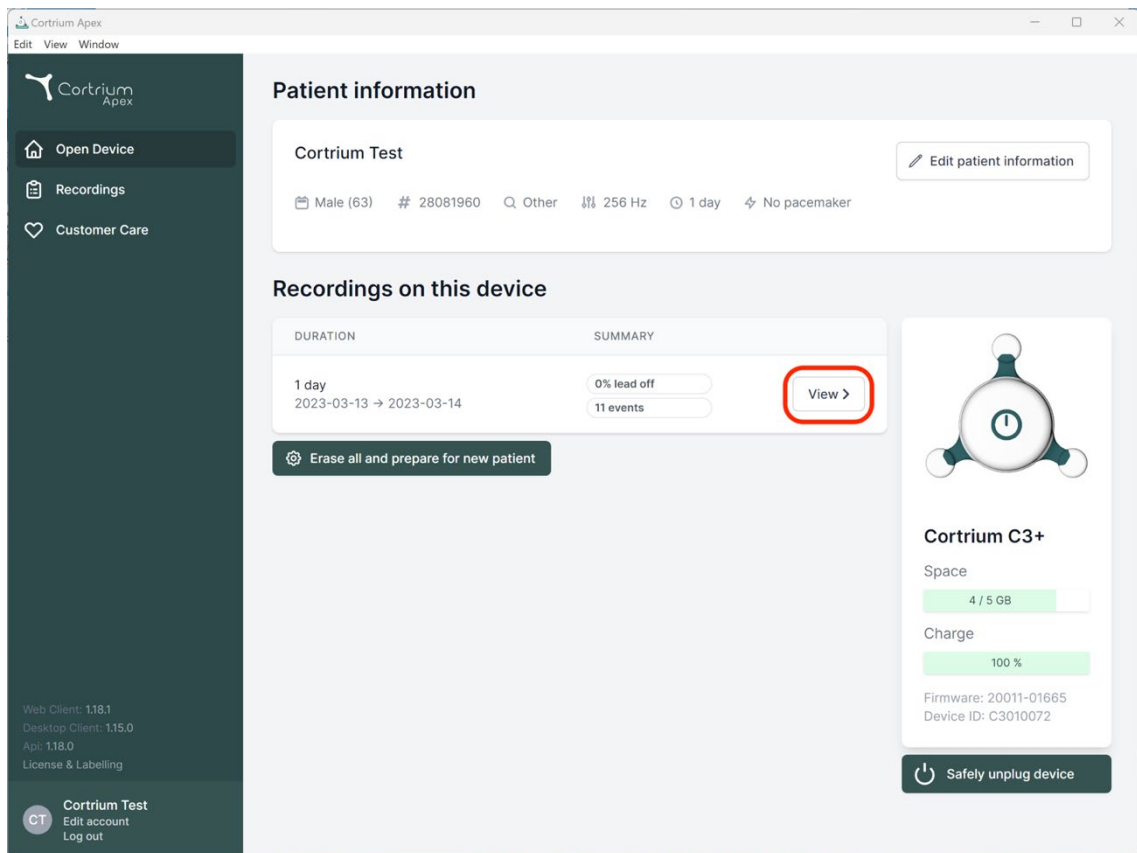
Firmware: 20011-01665
Device ID: C3010072

Uploading recording to Cortrium Apex for processing - please do not unplug your device

Copying recording to local folder... 100%

Web Client: 118.1
Desktop Client: 115.0
App: 118.0
License & Labelling

Cortrium Test
Edit account
Log out



Cortrium Apex
Edit View Window

Patient information

Cortrium Test [Edit patient information](#)

Male (63) # 28081960 Q Other 256 Hz 1 day No pacemaker

Recordings on this device

DURATION	SUMMARY	
1 day 2023-03-13 → 2023-03-14	0% lead off 11 events	View >

[Erase all and prepare for new patient](#)

Cortrium C3+

Space: 4 / 5 GB

Charge: 100 %

Firmware: 20011-01665
Device ID: C3010072

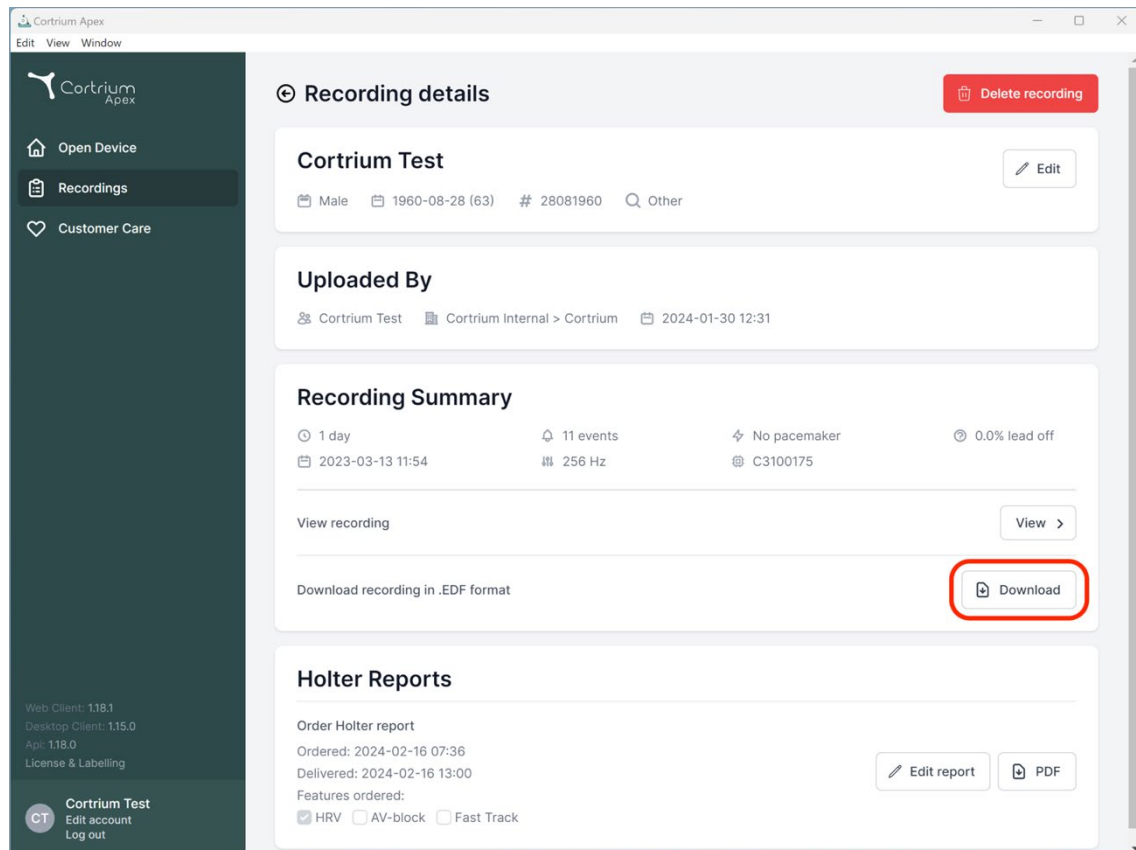
[Safety unplug device](#)

Web Client: 118.1
Desktop Client: 115.0
App: 118.0
License & Labelling

Cortrium Test
Edit account
Log out

- Click on the "View" button to see the recording overview.

- The sub-item "Download report in EDF format" shows the following information:
 - While the recording is being converted, the progress is displayed
 - When the EDF file is ready, click the "Download" button to save the EDF file on your computer



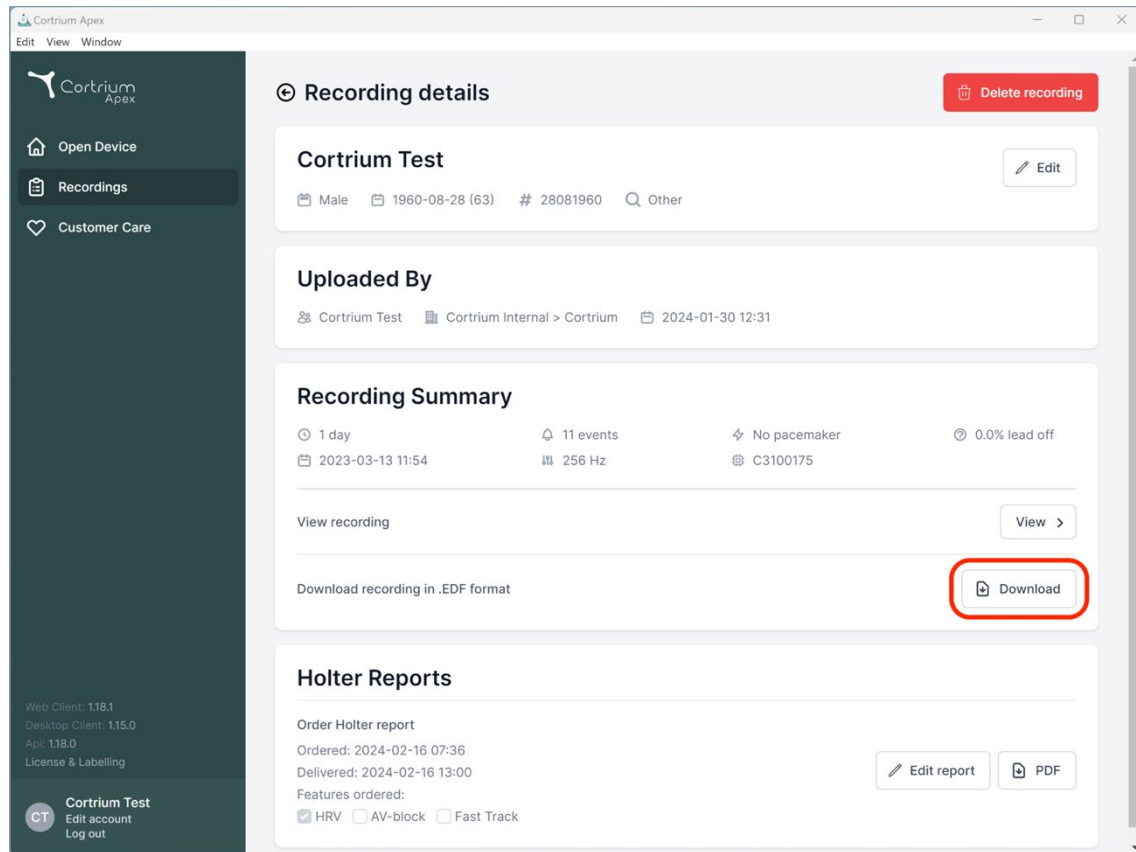
9.2 How to download EDF file after ordering a report

If you have just ordered a report of a recording and now want to download the recording in EDF format, proceed as follows:

- When the device is connected, click on the menu item "Open device", then click on the "View" button next to the recording.
- In the "Recording details" screen, click on "Download" to download the EDF file.

If you want to download a previous recording in EDF format:

- Click on the menu item "Recordings"
- Click on the recording you want to download in EDF format
- And then click on "Download" as illustrated below



10. Log out of Cortrium Apex

It is important to remember to log out of the application by clicking on the "Log out" button in the bottom left corner.

Cortrium Apex will automatically log out of your user account after an extended period of inactivity.

If your institution has multiple users with separate accounts for Cortrium Apex, but the users are working from the same computer, please ensure you log out of Cortrium Apex when you have finished your tasks.

11. Software-Updates

When started, the application automatically checks for available updates and installs them immediately.

12. Minimum technical requirements

The minimum requirements for the operation of Cortrium Apex are:

- Windows 10 or MacOS 11 Big Sur (Intel).

- 1280 x 960 Pixel screen resolution.
- 4 GB RAM.
- 5 GB free hard disk space.
- Internet connection.

Cortrium Apex requires an internet connection. The upload speed of the connection determines the time it takes to upload a recording when you order a report or convert the recording to another format. The download speed determines the time it takes to download a converted recording.

Downloading and viewing a report usually takes only a few seconds on a 10 Mbps internet connection.

13. Troubleshooting

13.1 "The device seems to be set up for a patient..."

If you see the warning: "*Warning. The device appears to be set up for a patient, but we cannot find the patient data in the system. Please set up a patient for the records*", simply click the "Add Patient Information" button to set up the device for use with Cortrium Apex. This will not remove the records on the device.

13.2 Recording summary shows "n/a lead off" or "n/a events"

If the recording summary shows "n/a lead off" or "n/a events", this is because the firmware on the connected C3w/C3+ unit is a version that does not support immediate lead off or event summary. However, the recording is still valid.

13.3 The internet connection was interrupted.

If you see the message "Cortrium Apex is having trouble accessing the Internet", your internet connection may have been interrupted or lost. Please contact your facility's IT support or your internet service provider for assistance in restoring your internet connection.

- Cortrium Apex automatically tries to connect to the Internet again. A message indicates

when the next connection attempt will be made

- If there is no internet connection when Cortrium Apex is started, a message will be displayed indicating that you appear to be offline
- If you were transferring a recording when the internet connection was lost, you may need to restart the transfer when the connection is restored

13.4 Apex is newly installed but does not open

This issue may occur due to a firewall blocking the Cortrium Apex application. In case Apex does not start due to a firewall, please ensure that the URL links in section 16 “Infrastructure statement” are unblocked or “whitelisted” in the firewall. Please contact your facility’s IT for support.

14. Security information

User management

- Every user of Cortrium Apex must use their own account.
You can create and delete as many user accounts as you need at <https://apex.cortrium.com>
It is important that you are able to determine and regulate who has access to the sensitive data of your patients.

Passwords

- Ensure that you are using a safe password
- Do not share your login and/or password with others
- Avoid using the same password for multiple accounts
Re-using the same password could result in that an adversary may be able to gain access to all your systems and computers, if just one password is compromised.
- Remember to log out of Cortrium Apex
If you remain logged in, other users actions in the system will appear to be yours

Encryption and additional protection

Before installing Cortrium Apex on a computer we recommend you:

- Enable disk encryption
In case the computer is lost or stolen sensitive data on the computer will not be readable
- Enable automatic system updates
Increases the chance that the computer stays up-to-date with security updates

- Enable built-in security software (e.g. Windows Security) if available
- Firewall, anti-malware, anti-phishing and anti-virus protection are built into Windows. We highly recommend you enable it.

15. Labelling and symbols

The following is a representation of the labelling and symbols found in Cortrium Apex:



Cortrium Apex UDI:(01)05745000379033(8012)1.15.0

Example of label

Symbol	Name	Requirement / note
	Date of Manufacture	ISO 15223-1
	Refer to instruction manual/booklet	ISO 7000 - 1641
	Caution sign	ISO 7000 - 0434A
	CE approved device with notifying body identification number	MDR (EU/745/2017)
	Medical Device	ISO 15223-1:2021

16. Infrastructure statement

Cortrium ApS declares that its product, Cortrium Apex is deployed in the Microsoft Azure cloud computing service. Some of the URLs are dependent on the location where the product is being used. The table below contains addresses used by the system:

URL	Description
api.apex.cortrium.com	Cortrium Apex API.
viewer.apex.cortrium.com	Cortrium Recording Viewer API.
apex.cortrium.com	Cortrium Apex administrator interface.
client.apex.cortrium.com	Cortrium Apex web client.
login.cortrium.com	Auth0 login endpoint.
assets.apex.cortrium.com	Assets downloads, such as Desktop Client.
support.cortrium.com	Support website.
cortriumukrecordingapex.blob.core.windows.net	Recordings blob storage (UK South).
cortriumfrecordingapex.blob.core.windows.net	Recordings blob storage (France Central).
cortriumeurecordingapex.blob.core.windows.net	Recordings blob storage (Germany West Central).
cortriumaurecordingapex.blob.core.windows.net	Recordings blob storage (Australia East).
rt.services.visualstudio.com dc.services.visualstudio.com	Used by Microsoft Azure Application Insights (telemetry).

Port 443 (HTTPS) needs to be opened for all the URL's above. The first 7 rules of this list can be simplified by whitelisting the whole Cortrium domain (*.cortrium.com). This also reduces the risk of needing to make future adjustments, when this list changes.

Appendix I

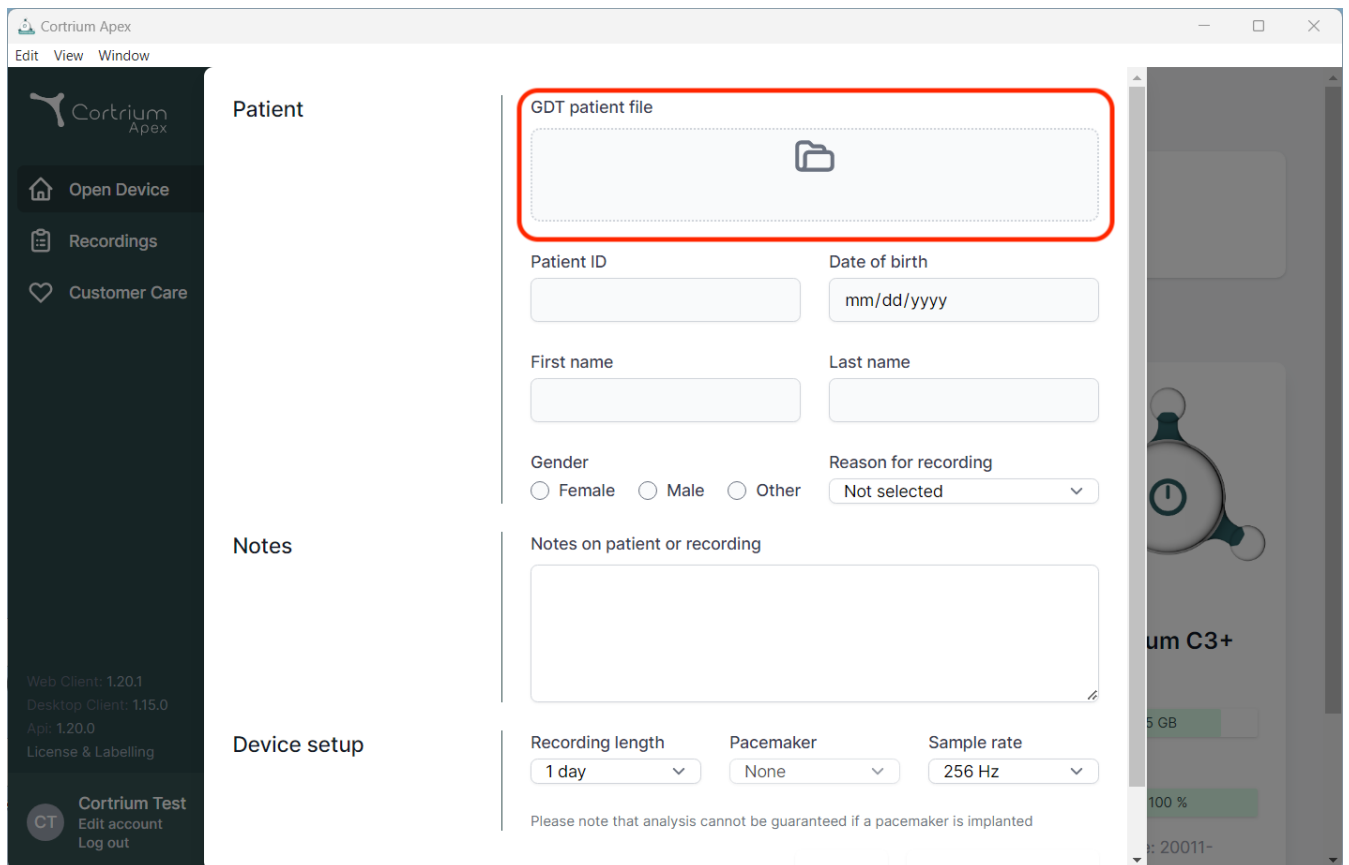
i. Available Integrations

The following integrations are country-specific and therefore not enabled for all customers:

- **GDT Patient File**
Enables Apex to set up a patient using a GDT patient file.
- **DICOM Encapsulated Report**
Enables Apex to download a report encapsulated in DICOM-formatted patient information.
- **CPR Patient Lookup**
Enables Apex to set up a patient using a Danish CPR number lookup.
- **Patient Referral**
The Patient Referral process allows healthcare professionals to attach and manage referral documents when ordering a recording. This ensures that relevant patient information is available for review or billing purposes during the analysis and reporting process.
- **Report Approval Flow**
The Report Approval Flow ensures that reports undergo a structured review by a third-party approver within the process before being delivered to the requester.
- **Nereida patient lookup & report delivery**
This integration allows for patient lookup and automatic report retrieval from 3-party Nereida Patient system.

ii. GDT Patient File

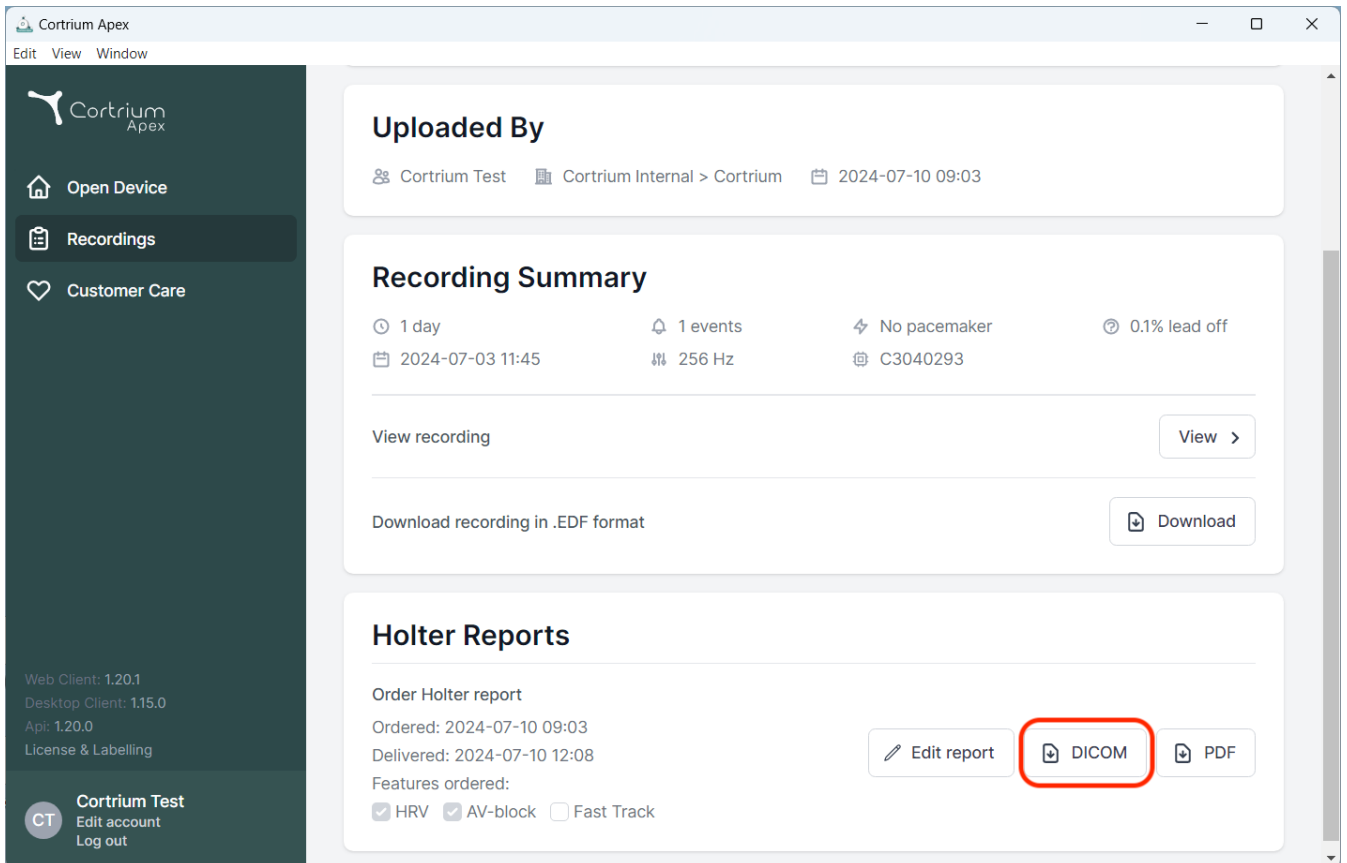
- Click to select or drag the GDT patient file onto the GDT input field in Apex.
- Once the file has been loaded the patient information is filled out.
- Loaded information cannot be edited.



The screenshot displays the Cortrium Apex web application interface. The left sidebar contains navigation links: "Open Device", "Recordings", and "Customer Care". Below these are version details: "Web Client: 1.20.1", "Desktop Client: 1.15.0", and "Api: 1.20.0". At the bottom of the sidebar is a "Cortrium Test" section with "Edit account" and "Log out" options. The main content area is divided into three sections: "Patient", "Notes", and "Device setup". The "Patient" section contains a "GDT patient file" input field, which is highlighted with a red rectangle. Below this are fields for "Patient ID", "Date of birth" (with a "mm/dd/yyyy" placeholder), "First name", and "Last name". There are also radio buttons for "Gender" (Female, Male, Other) and a dropdown for "Reason for recording" (currently "Not selected"). The "Notes" section has a text area labeled "Notes on patient or recording". The "Device setup" section includes dropdowns for "Recording length" (set to "1 day"), "Pacemaker" (set to "None"), and "Sample rate" (set to "256 Hz"). A disclaimer at the bottom of the "Device setup" section states: "Please note that analysis cannot be guaranteed if a pacemaker is implanted".

iii. DICOM Encapsulated Report

- To download DICOM Encapsulated Report click the download button in the Holter report section under the selected patient.
- Once the button is clicked the file is downloaded, the file ending is .DCM



The screenshot displays the Cortrium Apex web application interface. On the left is a dark sidebar with navigation options: 'Open Device', 'Recordings' (highlighted), and 'Customer Care'. The main content area is divided into three sections. The top section, 'Uploaded By', shows 'Cortrium Test' and 'Cortrium Internal > Cortrium' with a timestamp of '2024-07-10 09:03'. The middle section, 'Recording Summary', lists details: '1 day' duration, '2024-07-03 11:45' start time, '1 events', '256 Hz' sampling rate, 'No pacemaker', and '0.1% lead off'. It includes 'View recording' and 'Download' buttons. The bottom section, 'Holter Reports', shows 'Order Holter report' details: 'Ordered: 2024-07-10 09:03', 'Delivered: 2024-07-10 12:08', and 'Features ordered: HRV, AV-block, Fast Track'. At the bottom right of this section, three buttons are visible: 'Edit report', 'DICOM' (highlighted with a red rectangle), and 'PDF'. The bottom of the sidebar contains version information and a user profile for 'Cortrium Test'.

- Station name defaults to the machine/computer name. This can be custom-set in the individual user profile under Edit Account.

Cortrium Apex

Edit View Window



Open Device

Recordings

Customer Care

Web Client: 1.23.0

Desktop Client: 1.23.0

Api: 1.23.0

License & Labelling

CT

Cortrium Test

Edit account

Log out

Account information

Account information

If you change your email address you need to confirm the new address

Title

Initials

CT

First name

Cortrium

Last name

Test

Email address

testreports@cortrium.onmicrosoft.com

Reset password

Account preferences

Here you change preferences for your account

Set preferences

☐

Notify when a Holter report is ready

You will receive a notification by email when a Holter report is ready.

DICOM report preferences

Here you can change preferences for the DICOM report integration

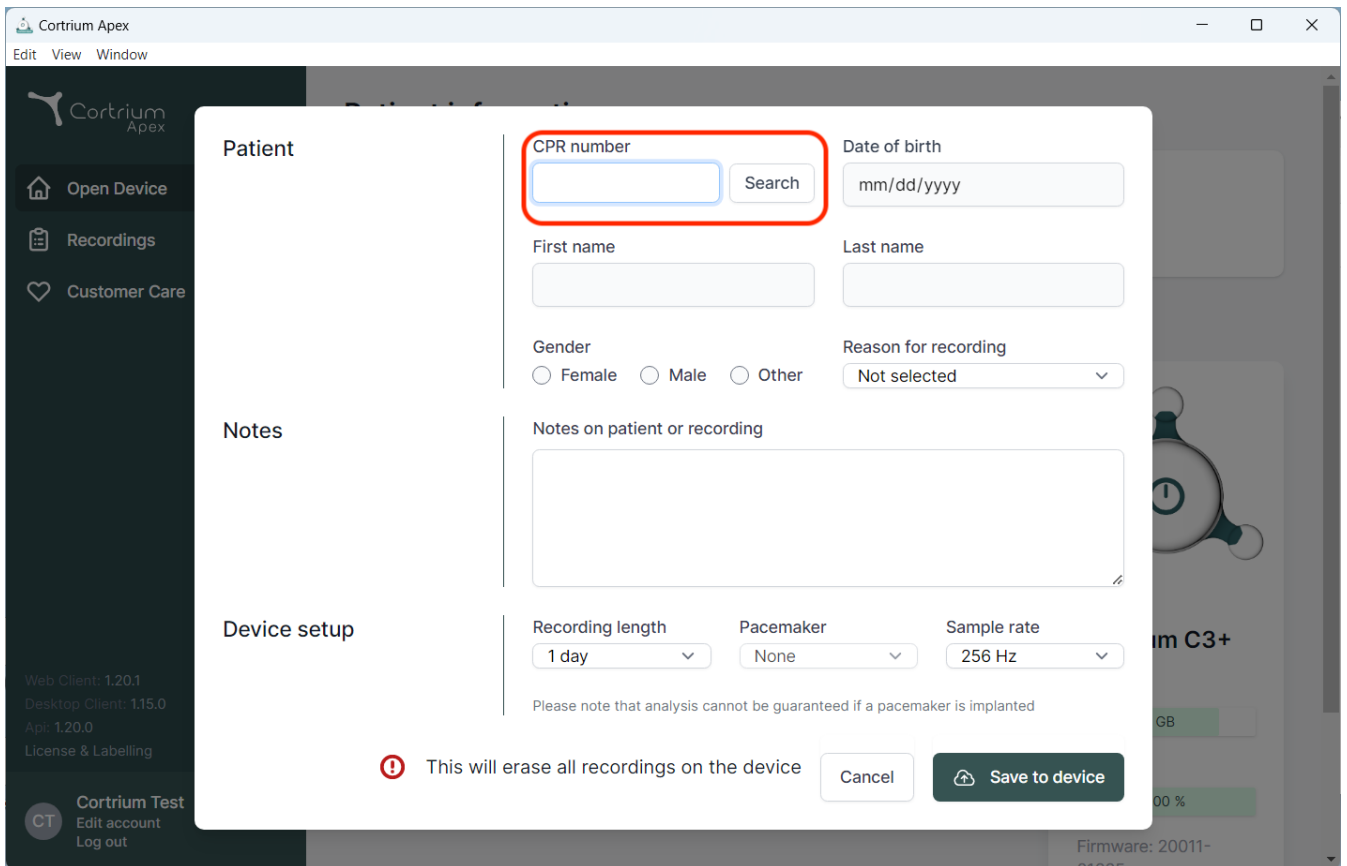
Station name

Leave blank to use computer name

Save changes

iv. CPR Patient Lookup

- Enter the patient's Danish CPR into the field and press “Search.”
- The patient information is retrieved from the CPR register.
- The retrieved information is filled into the patient information fields.
- Loaded information cannot be edited.



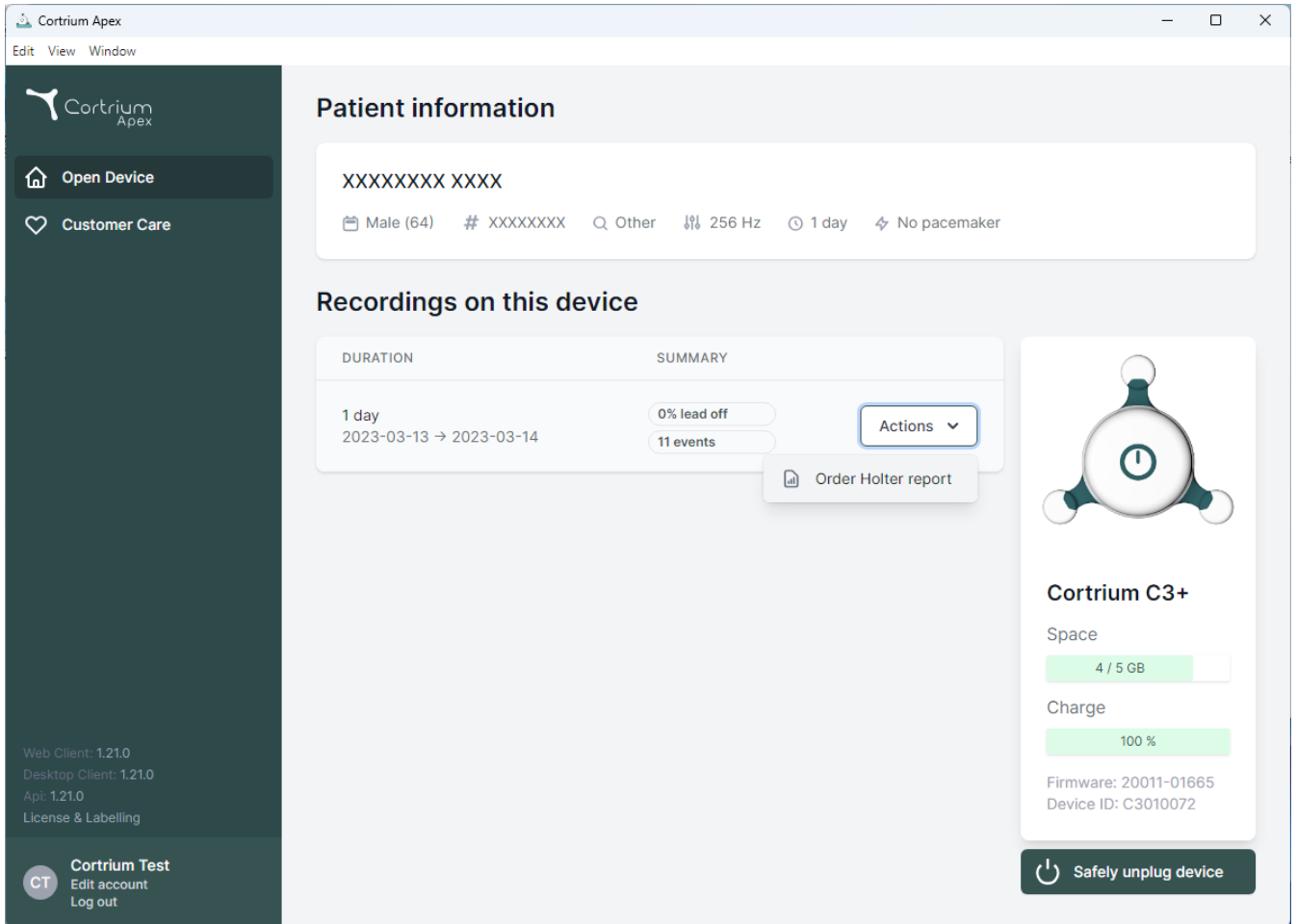
The screenshot shows the Cortrium Apex software interface with a 'Patient' dialog box open. The dialog box has a sidebar on the left with 'Patient', 'Notes', and 'Device setup' sections. The 'Patient' section contains the following fields:

- CPR number:** A text input field with a red border and a 'Search' button next to it.
- Date of birth:** A text input field with a placeholder 'mm/dd/yyyy'.
- First name:** A text input field.
- Last name:** A text input field.
- Gender:** Radio buttons for 'Female', 'Male', and 'Other'.
- Reason for recording:** A dropdown menu with 'Not selected'.
- Notes on patient or recording:** A large text area.
- Device setup:** A section with three dropdown menus: 'Recording length' (set to '1 day'), 'Pacemaker' (set to 'None'), and 'Sample rate' (set to '256 Hz').

Below the device setup section, there is a warning message: "Please note that analysis cannot be guaranteed if a pacemaker is implanted". At the bottom of the dialog box, there is a red warning icon and the text "This will erase all recordings on the device", followed by 'Cancel' and 'Save to device' buttons.

v. Uploader Only Role

- Once enabled for a user, the user can only upload and order reports without seeing patient information or reports.



The screenshot displays the Cortrium Apex web application interface. The top navigation bar includes 'Edit', 'View', and 'Window' options. The left sidebar contains the Cortrium Apex logo and two main menu items: 'Open Device' (with a house icon) and 'Customer Care' (with a heart icon). Below these, version information is listed: 'Web Client: 1.21.0', 'Desktop Client: 1.21.0', 'Api: 1.21.0', and 'License & Labelling'. At the bottom of the sidebar, a 'Cortrium Test' section includes a 'CT' icon, 'Edit account', and 'Log out' links.

The main content area is titled 'Patient information' and shows a patient record for 'XXXXXXXX XXXX'. Below the name, patient details are listed: 'Male (64)', '# XXXXXXXX', 'Other', '256 Hz', '1 day', and 'No pacemaker'. The 'Recordings on this device' section features a table with two columns: 'DURATION' and 'SUMMARY'. The table contains one entry for '1 day' (2023-03-13 → 2023-03-14) with a summary of '0% lead off' and '11 events'. An 'Actions' dropdown menu is visible next to the recording, with an option to 'Order Holter report'. On the right side, a device status card for 'Cortrium C3+' shows 'Space' at 4 / 5 GB, 'Charge' at 100%, and firmware/device ID information. A 'Safely unplug device' button is located at the bottom of this card.

DURATION	SUMMARY
1 day 2023-03-13 → 2023-03-14	0% lead off 11 events

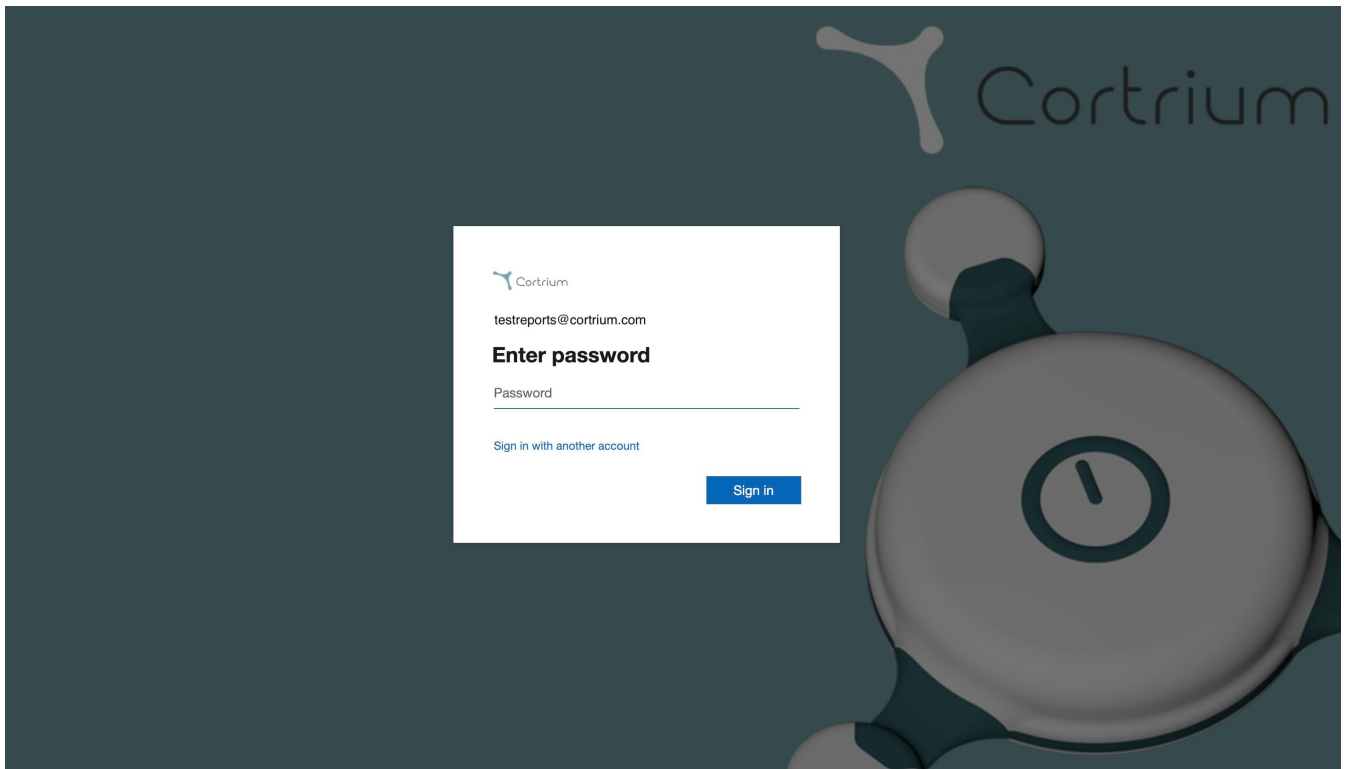
Web Client: 1.21.0
Desktop Client: 1.21.0
Api: 1.21.0
License & Labelling

Cortrium Test
Edit account
Log out

Cortrium C3+
Space: 4 / 5 GB
Charge: 100 %
Firmware: 20011-01665
Device ID: C3010072
Safely unplug device

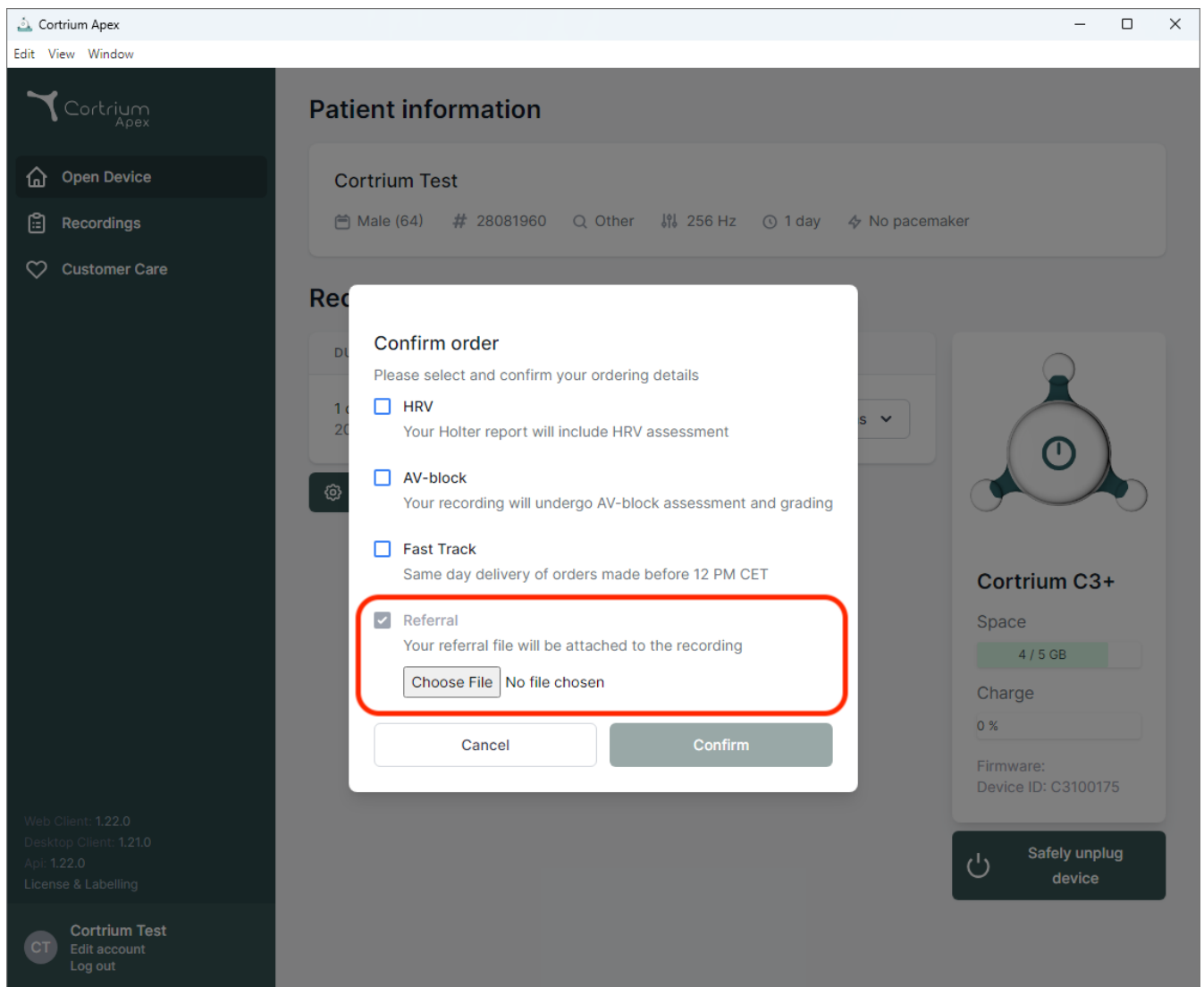
vi. Active Directory Integration

- Once enabled for an organization, the login screen will display a custom single sign-on login screen for that organization. Below is Cortrium's login screen; the actual login prompt may appear different.



vii. Patient Referral

- If Referral Integration is active, the option to upload a Referral PDF File will appear.
- Click Select File and choose the appropriate patient Referral PDF from your computer.
- The Referral PDF is automatically attached to the Patient Recording upon upload.



- If Referral Integration is active and a recording has been ordered, the referral can be accessed under recording details.



[Open Device](#)

[Recordings](#)

[Customer Care](#)

Web Client: 1.22.0

Desktop Client: 1.21.0

Api: 1.22.0

License & Labelling

CT

Cortrium Test
Edit account
Log out

Recording details

Delete recording

Test Patient

Male

1950-10-01 (74)

12345678

Afib screening

Edit

Uploaded By

Test User 03

Distributor 01 > Approver Organisation > Test Clinic

2025-02-12 10:41

2025-02-12 10:41

Referral

Recording Summary

32 minutes

0 events

No pacemaker

0.0% lead off

2020-01-16 11:31

256 Hz

C3020195

View recording

View >

Convert to Cardioline format

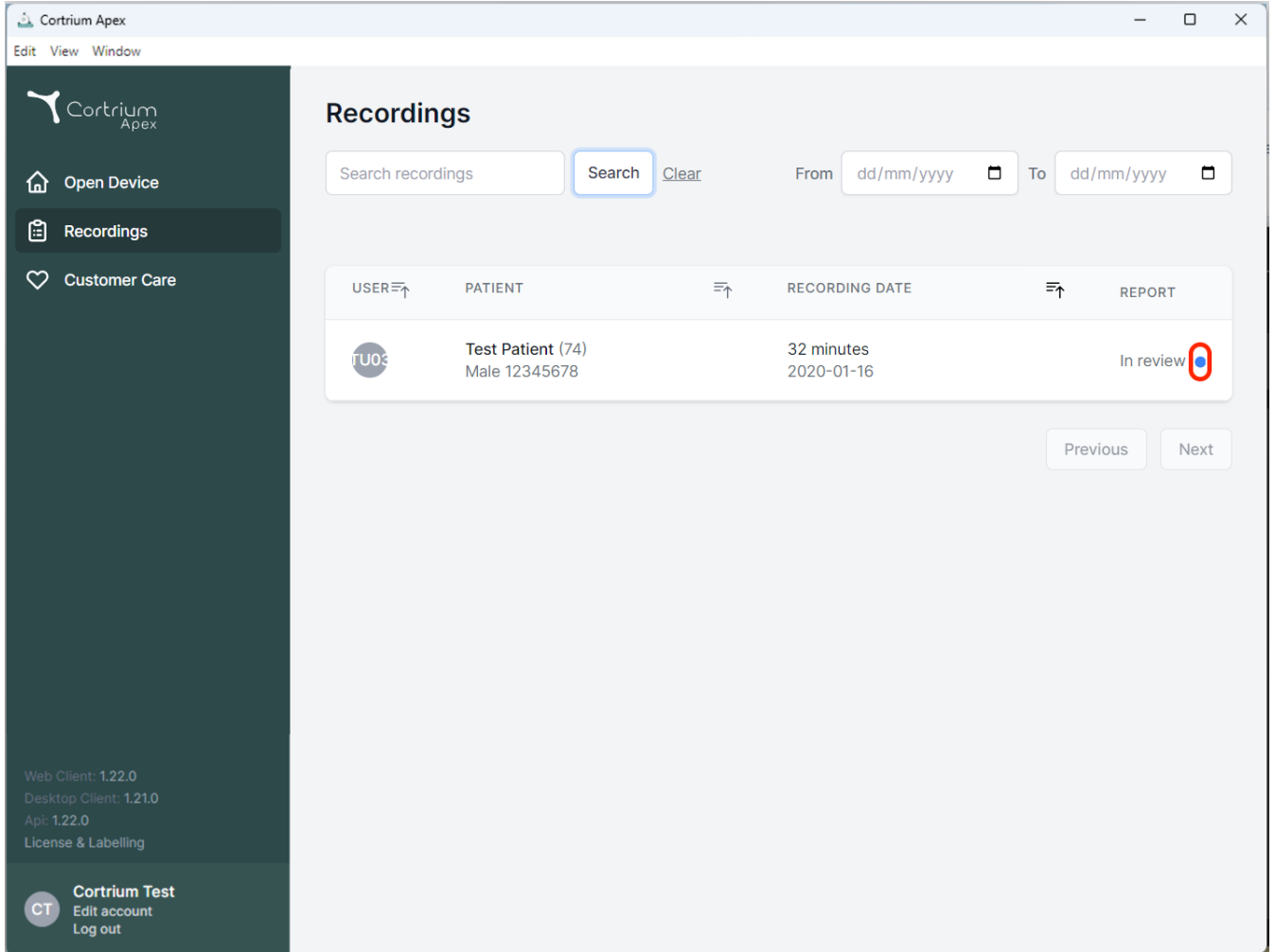
Convert >

Holter Reports

Order Holter report

Ordered: 2025-02-12 10:41

- A blue dot on a recording in the "Recordings" view indicates that an attached referral has not yet been downloaded or viewed for the specific report.



Recordings

Search recordings [Clear](#) From To

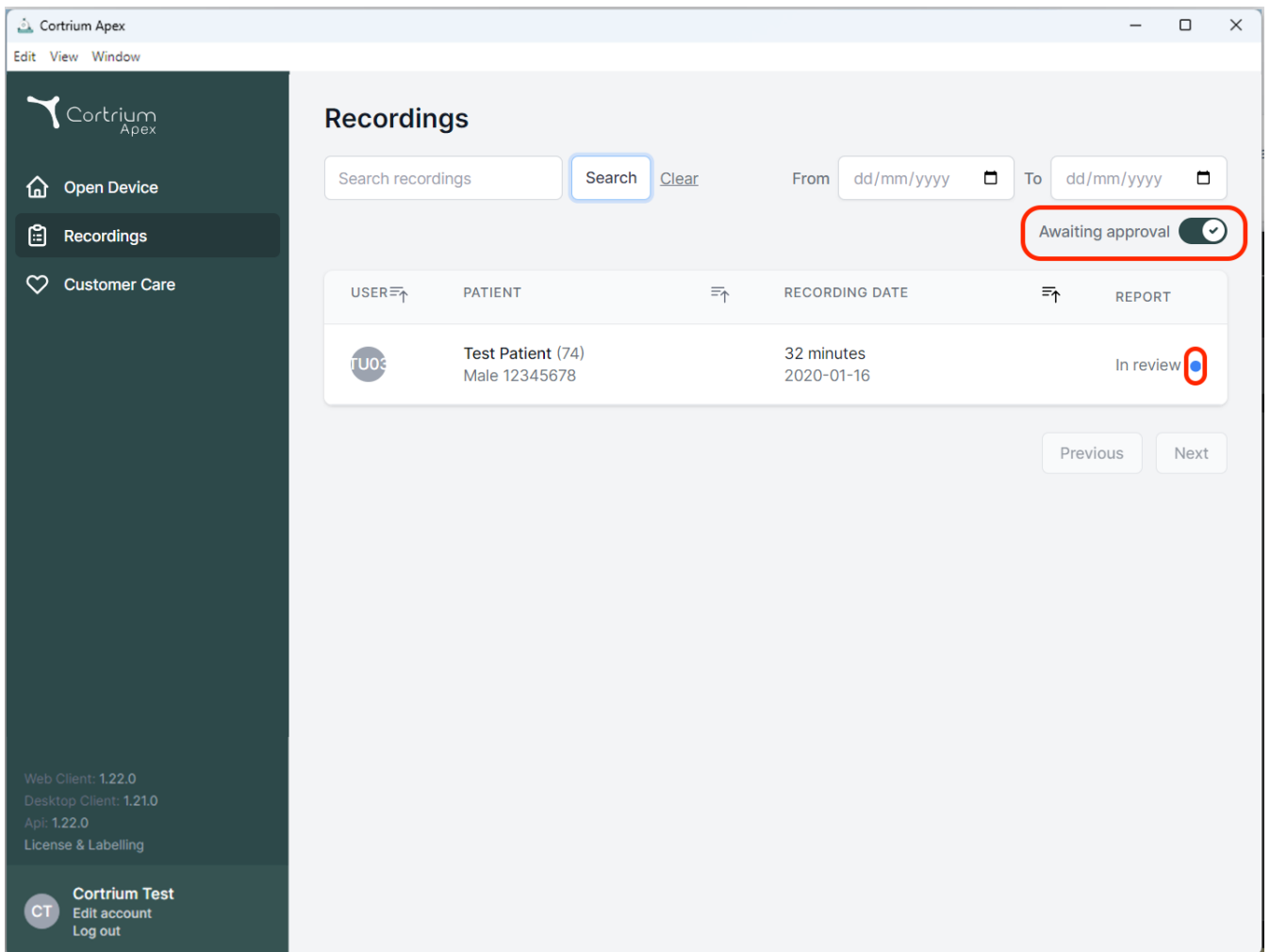
USER	PATIENT	RECORDING DATE	REPORT
TU03	Test Patient (74) Male 12345678	32 minutes 2020-01-16	In review 

Web Client: 1.22.0
Desktop Client: 1.21.0
Api: 1.22.0
License & Labelling

Cortrium Test
Edit account
Log out

viii. Report Approval Flow

- If Approval Integration is active and a recording has been ordered, the report will be available for an organization member with approval rights after analysis.
- Reports awaiting approval can be viewed by selecting "Awaiting Approval".
- If Referral Integration is active, a blue dot on a recording in the "Recordings" view indicates that an attached referral has not yet been downloaded or viewed for the specific report.



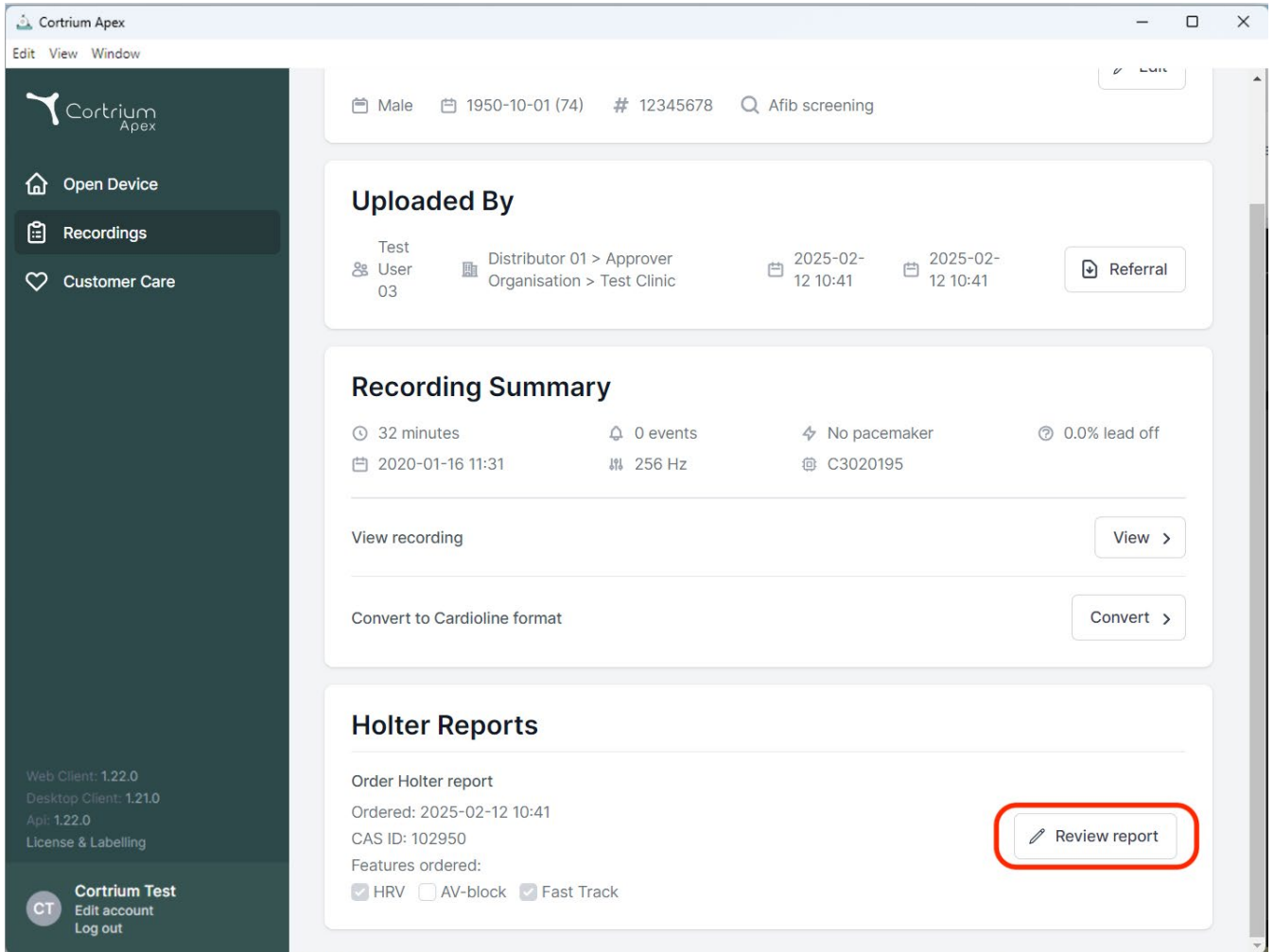
The screenshot shows the Cortrium Apex web application interface. On the left is a dark sidebar with navigation links: "Open Device", "Recordings" (highlighted), and "Customer Care". Below these are version details (Web Client: 1.22.0, Desktop Client: 1.21.0, Api: 1.22.0, License & Labelling) and a user profile section for "Cortrium Test" with options to "Edit account" and "Log out".

The main content area is titled "Recordings". It features a search bar with a "Search" button and a "Clear" link. To the right of the search bar are date pickers for "From" and "To" (both set to "dd/mm/yyyy"). A toggle switch labeled "Awaiting approval" is turned on, highlighted with a red circle. Below this is a table with the following columns: USER, PATIENT, RECORDING DATE, and REPORT.

USER	PATIENT	RECORDING DATE	REPORT
TU03	Test Patient (74) Male 12345678	32 minutes 2020-01-16	In review ●

At the bottom right of the table are "Previous" and "Next" buttons. The blue dot in the "In review" status is also highlighted with a red circle.

- Reports that are awaiting review can be accessed and reviewed by an organization member with approval rights by accessing the recording details and selecting "Review report".

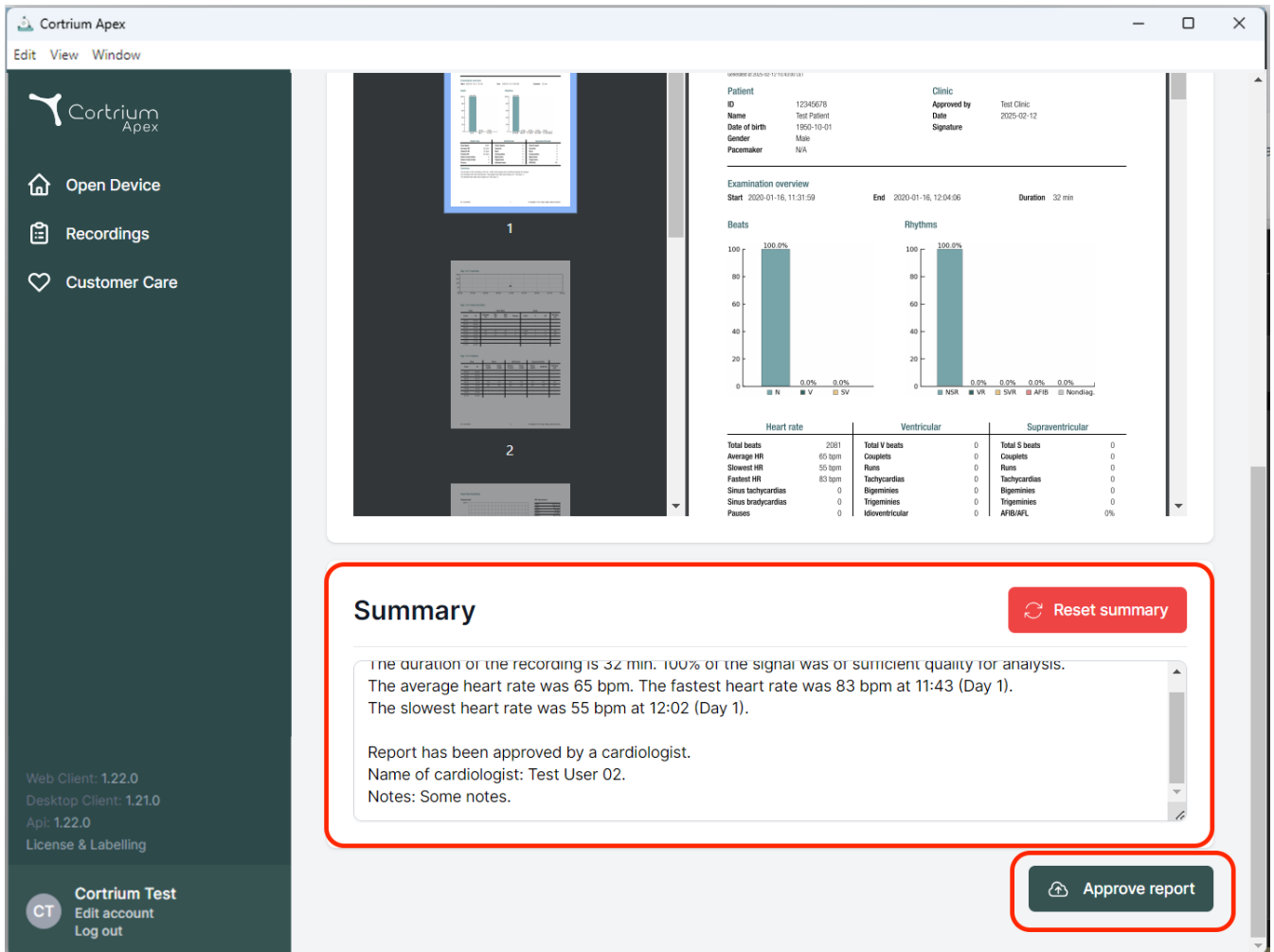


The screenshot displays the Cortrium Apex web application interface. The top navigation bar includes 'Edit', 'View', and 'Window' options. The left sidebar contains navigation links for 'Open Device', 'Recordings', and 'Customer Care'. The main content area is divided into several sections:

- Header Information:** Patient details including 'Male', '1950-10-01 (74)', '# 12345678', and 'Afib screening'.
- Uploaded By:** A section showing the test user 'User 03', the distributor 'Distributor 01 > Approver Organisation > Test Clinic', and the upload dates '2025-02-12 10:41'. A 'Referral' button is also present.
- Recording Summary:** A section providing key recording metrics: '32 minutes', '0 events', 'No pacemaker', and '0.0% lead off'. It also includes the recording date '2020-01-16 11:31', frequency '256 Hz', and ID 'C3020195'. Action buttons for 'View recording' and 'Convert to Cardioline format' are available.
- Holter Reports:** A section for managing holter reports. It shows the 'Order Holter report' status, the order date '2025-02-12 10:41', and the CAS ID '102950'. Under 'Features ordered', 'HRV' and 'Fast Track' are selected, while 'AV-block' is not. A 'Review report' button, highlighted with a red rectangle, is located in the bottom right corner of this section.

The bottom left corner of the interface displays version information: 'Web Client: 1.22.0', 'Desktop Client: 1.21.0', 'Api: 1.22.0', and 'License & Labelling'. A 'Cortrium Test' section with 'Edit account' and 'Log out' links is also visible.

- The approver will have the option to review the report and findings and add to the report summary.
- When the report summary is displayed, information about the approver is added to the summary, along with the option to add supporting notes for the report.
- Once the report has been reviewed, it can be approved by clicking "Approve report".
- When the report is approved, it will be delivered to the requester.
- If a report cannot be approved, please contact Cortrium Customer Care with the CAS ID (listed under Holter report on the recording details).



Cortrium Apex
Edit View Window

Open Device
Recordings
Customer Care

Web Client: 1.22.0
Desktop Client: 1.21.0
Api: 1.22.0
License & Labelling

Cortrium Test
Edit account
Log out

Patient
ID: 12345678
Name: Test Patient
Date of birth: 1950-10-01
Gender: Male
Pacemaker: N/A

Clinic
Approved by: Test Clinic
Date: 2025-02-12
Signature:

Examination overview
Start: 2020-01-16, 11:31:59
End: 2020-01-16, 12:04:06
Duration: 32 min

Beats
100.0%
0.0% 0.0% 0.0%

Rhythms
100.0%
0.0% 0.0% 0.0% 0.0% 0.0%

Heart rate		Ventricular		Supraventricular	
Total beats	2081	Total V beats	0	Total S beats	0
Average HR	65 bpm	Couplets	0	Couplets	0
Slowest HR	55 bpm	Runs	0	Runs	0
Fastest HR	83 bpm	Tachycardias	0	Tachycardias	0
Sinus tachycardias	0	Bigeminy	0	Bigeminy	0
Sinus bradycardias	0	Trigeminy	0	Trigeminy	0
Pauses	0	Idioventricular	0	AFIB/AFI	0%

Summary Reset summary

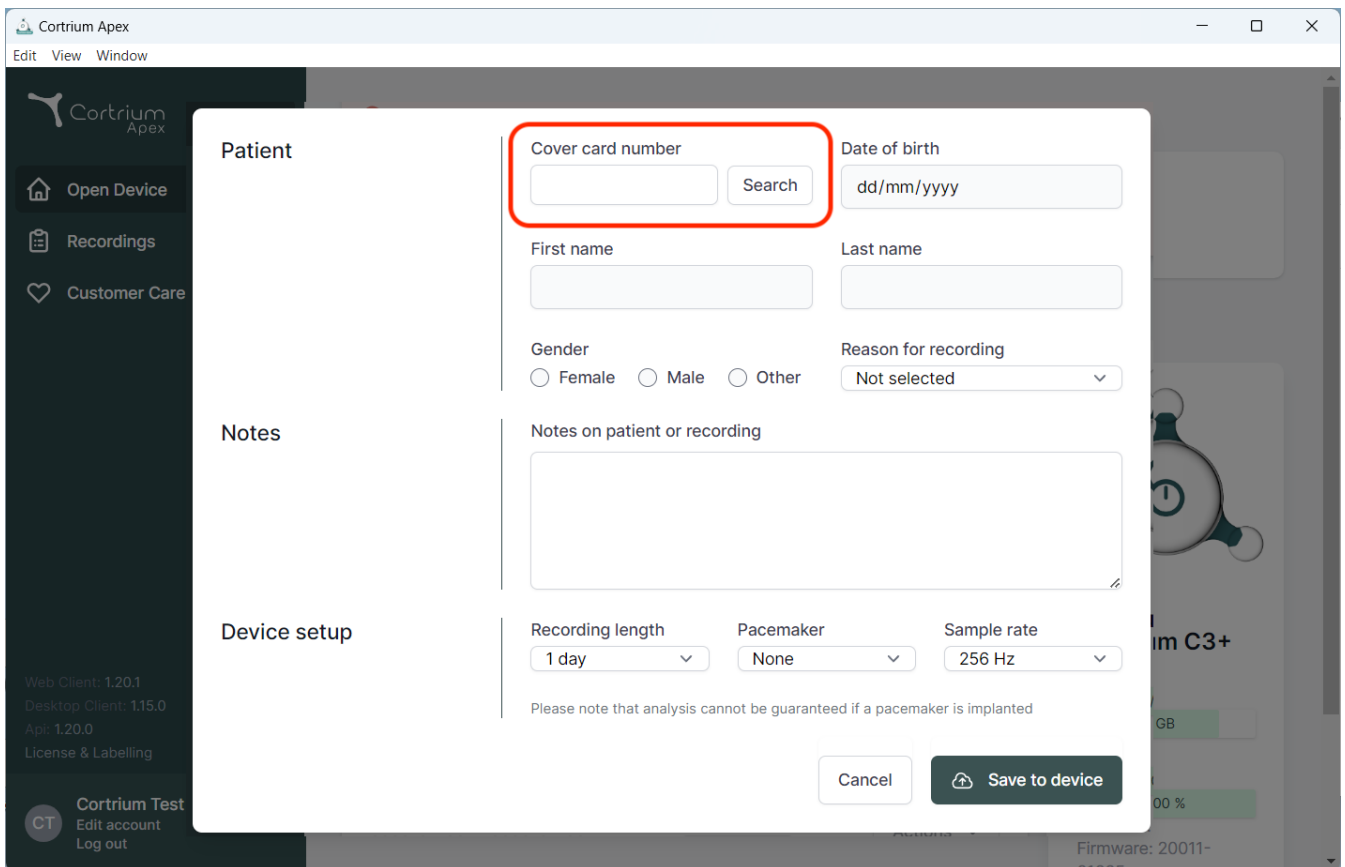
The duration of the recording is 32 min. 100% of the signal was of sufficient quality for analysis.
The average heart rate was 65 bpm. The fastest heart rate was 83 bpm at 11:43 (Day 1).
The slowest heart rate was 55 bpm at 12:02 (Day 1).

Report has been approved by a cardiologist.
Name of cardiologist: Test User 02.
Notes: Some notes.

Approve report

ix. Nereida patient lookup & report delivery

- If Nereida Patient Lookup is enabled, entering the cover card number will perform a patient lookup and populate the Apex Device Setup with the patient information.
- If Nereida automatic report delivery is activated, completed reports will be available for automatic retrieval.



The screenshot displays the Cortrium Apex software interface. A modal window titled "Patient" is open, allowing for patient lookup and device setup. The form is divided into three main sections: Patient, Notes, and Device setup.

Patient Section:

- Cover card number:** A text input field with a "Search" button next to it. This field is highlighted with a red rectangle.
- Date of birth:** A text input field with a placeholder "dd/mm/yyyy".
- First name:** A text input field.
- Last name:** A text input field.
- Gender:** Radio buttons for "Female", "Male", and "Other".
- Reason for recording:** A dropdown menu currently showing "Not selected".

Notes Section:

- Notes on patient or recording:** A large text area for entering notes.

Device setup Section:

- Recording length:** A dropdown menu showing "1 day".
- Pacemaker:** A dropdown menu showing "None".
- Sample rate:** A dropdown menu showing "256 Hz".

Below the Device setup section, there is a note: "Please note that analysis cannot be guaranteed if a pacemaker is implanted".

At the bottom right of the modal, there are two buttons: "Cancel" and "Save to device".

The background interface shows a sidebar with options: "Open Device", "Recordings", and "Customer Care". The bottom left corner displays version information: "Web Client: 1.20.1", "Desktop Client: 1.15.0", "Api: 1.20.0", and "License & Labelling". The bottom right corner shows "Cortrium Test", "Edit account", "Log out", and "Firmware: 20011-01655".



02/2025

Cortrium ApS • Erik Husfeldts Vej 7 • DK-2630 Taastrup • Denmark
Email: info@cortrium.com • Website: www.cortrium.com

Cortrium Apex UDI(01)05745000379033

CE
0123
47 / 47