ESHARE USER GUIDE

Version 7.3

September, 2022

EShare Technology Co., Ltd.

Version History

Version	Date	Notes	Document Name
v1.0	Apr. 4, 2016	First release.	EShare User Guide v1
v2.0	Sep. 20, 2018	Add the feature description of multi screens.	EShare User Guide v2
V3.0	Sep. 27, 2018	Add the feature description of display group.	EShare User Guide V3
V4.0	Apr. 23, 2019	Add the new feature descriptions	EShare User Guide V4
V7.0	Nov. 26, 2019	Add the feature description of moderator control.	EShare User Guide V7
V7.1	Oct. 25, 2020	Add descriptions for the new features on EShare Pro V7.1	EShare User Guide V7.1
V7.2	Dec. 15, 2021	Add guides for the latest WebCast feature.	EShare User Guide V7.2
V7.3	Sep. 6, 2022	Add the non-app casting guides for AirPlay, Miracast, Chromecast.	EShare User Guide V7.3

CONTENTS

1. About EShare 1
1.1 Key Features 1
1.2 Device Requirements 2
1.3 Network Requirements 2
1.3.1 Ports 2
1.3.2 Bandwidth Requirements 3
2. EShare App 4
2.1 Download EShare App 4
2.2 Guide for Android/iOS 4
2.2.1 Connect to the Large Display 4
2.2.2 File Sharing 5
2.2.3 Share Screen 6
2.2.4 Full-Screen 7
2.2.5 TV Mirror 7
2.2.6 Wireless Annotations 8
2.2.7 Camera 8
2.2.8 Remote Control 9
2.2.9 Share Files from Other Apps to Large Display 9
2.3 Guide for Windows/macOS/Chrome OS/Ubuntu 10
2.3.1 Connect to the Large Display 10
2.3.2 Share Screen 10
2.3.3 Desktop Shortcut for Quick Screen Sharing 11
2.3.4 TV Mirror 12
2.3.5 Wireless Annotations 12
2.3.6 Full Screen 13
2.3.7 Invitation for Mirroring 13
3. ESharePro Receiver 15
3.1 Key Features 15
3.2 Settings 15
3.3 Multiple Screens 16
3.3.1 Multiple Screens Setting 16
3.3.2 Multiple Screens Display 16
3.3.3 Switch the Audio Source 17
3.3.4 Full-Screen or Multiple Screens 17
3.4 Display Group 18
3.4.1 Options for Duplicate Displays 18
3.4.2 Options for Invitation 19

3.5 Moderator Control Center 20
3.5.1 Options for “Share Screen” 20
3.5.2 Options for “View, Control and Wireless Annotation” 21
3.5.3 Other Options in Moderator Control Center 21
3.6 WebCast 23
3.6.1 Enable WebCast 23
3.6.2 Guide for WebCast 24
3.6.3 Offline Mode 26
4. NON-APP Casting 27
4.1 AirPlay 27
4.1.2 Guide for iPhone Screen Mirroring 27
4.1.3 Guide for MacBook Screen Mirroring 28
4.2 Miracast 29
4.2.1 Guide for Windows Laptops 29
4.2.2 Guide for Android Phones 30
4.3 Chromecast 30
4.3.1 Preconditions to Use Chromecast 30
4.3.2 Guide for Chromecast 30

1. About EShare

EShare is a full-featured multi-screen interactive software designed for casting, wireless display and remote control between mobile devices (such as phones, tablets, laptops, etc.) and large displays.

1.1 Key Features

Feature Description	
Mirroring	Mirror client device screens (supporting iPhone, iPad, Android, MacBook, Chromebook, Windows and Ubuntu, etc.) to large display, and touch on the large display to control client devices without any cables.
File casting	Share any files (such as audio, video, photo, office document, PDF, etc.) from mobile phones or tablets to large displays
Remote Control	Support wireless control via wireless mouse, air mouse, keyboard, touchpad and remote controller, etc.
Camera	Cast the camera or microphone to a large display in real-time.
Wireless Annotations	Annotate the large display with client Apps in real-time.
TV Mirror	Mirror the large display to multiple client devices, and multi-touch to control the large display wirelessly from laptop/phone.
Multiple Screens	Cast multiple device screens to a large display simultaneously and the large display screen will be split automatically.
Display Group	Duplicate the main large display or the casting screen to all grouped displays.
Moderator Mode	The moderator can determine what client devices to do mirroring, TV Mirror, annotations, etc.
AirPlay	Compatible with AirPlay feature of Apple devices.
DLNA	Supports any Apps compatible with DLNA protocol.
Miracast	Supports screen casting and touch feedback for Windows laptops or Android phones that are compatible with the Miracast protocol
Chromecast	Supports Google Chrome browser, ChromeOS devices, Youtube App and Android phones to cast screen
WebCast	With WebCast enabled, users can share screens through a web browser on the laptop without installing any Apps.

1.2 Device Requirements

Please ensure the sender/client devices meet the following requirements.

- Android 5.0 or later
- Mac OS 10.9 or later
- iOS 9.0 or later
- Windows 7/8/10/11
- Chrome OS
- Ubuntu 12.04 or later

1.3 Network Requirements

1.3.1 Ports

This info can be useful for an advanced setups, enterprise networks, or troubleshooting.

EShare on your network use the following ports.

Port	Type	Service or Protocol	Used By
80/443	TCP	Hypertext Transfer Protocol (HTTP, HTTPS) **Destination:** casts.app gw.casts.app h1.ee-share.com	WebCast
1900	UDP	Simple Service Discovery Protocol (SSDP)	Bonjour
51010-51060	TCP	EShare Proprietary	EShare Apps, AirPlay
8121, 57395, 8080, 52025, 8600	TCP	EShare Proprietary	EShare Apps
48689	UDP	Device Discovery	EShare Apps
5353	UDP	Multicast DNS (MDNS)	Bonjour, AirPlay
10000-65535	UDP	DTLS **Destination:**	WebCast

Port	Type	Service or Protocol	Used By
		DNS: *.casts.app IPV4: 3.124.195.37 54.169.2.51 64.64.232.232 119.28.92.194 106.55.235.101	
8008, 8009	TCP	GoogleCast Proprietary	ChromeCast

1.3.2 Bandwidth Requirements

Mirroring (from Laptop or Phone to Large Display)

Maximum bitrate can be as high as 30Mbps, but average bitrates will be significantly lower. To get a reliable user experience, it is recommended to connect the large display using Ethernet and the laptop/phone using 5GHz Wi-Fi band.

TV Mirror and Display Group

The average bitrates of each TV Mirror or Display Group connection are 4 Mbps, the bandwidth should be reserved accordingly. For example, in case there are 40 Pads or Laptops in the classroom using TV Mirror, it requires 40 * 4Mbps = 160Mbps local traffic bandwidth.

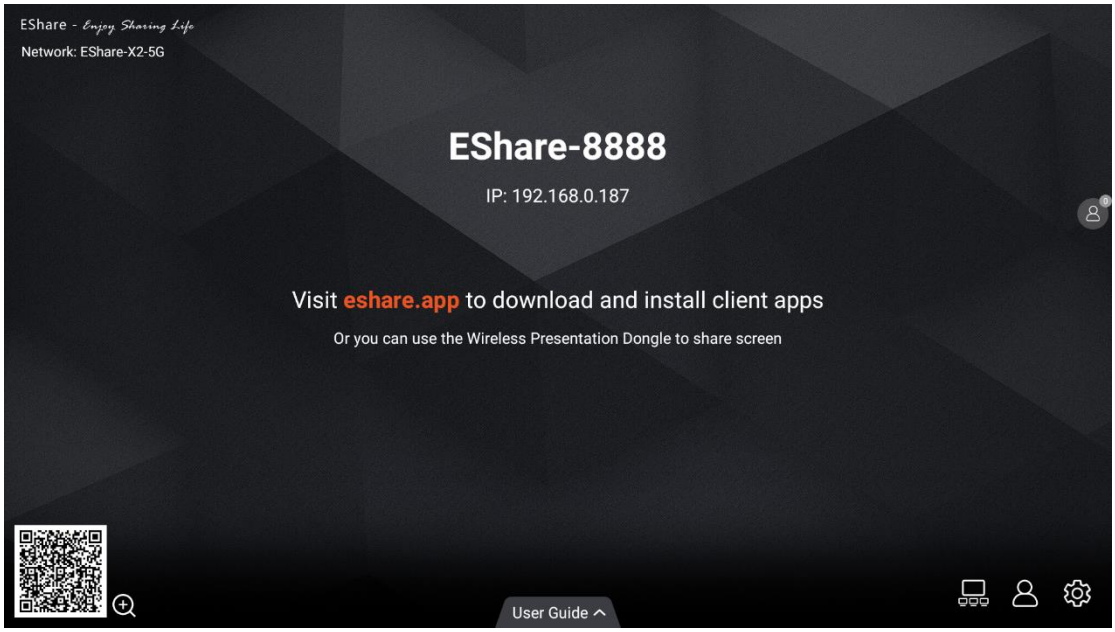
WebCast

The average bitrates of each WebCast connection are 4~5 Mbps. It's recommended to reserve a steady 5Mbps bandwidth for each WebCast Mirroring.

2. EShare App

2.1 Download EShare App

Please ensure that your client device and the large display are connected to the same network, and then launch “ESharePro”. Next, scan QR-code or visit “eshare.app” to download the EShare app.

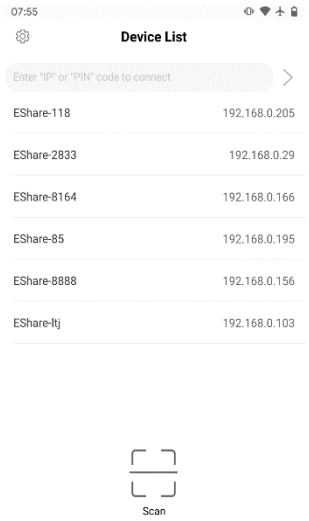


2.2 Guide for Android/iOS

2.2.1 Connect to the Large Display

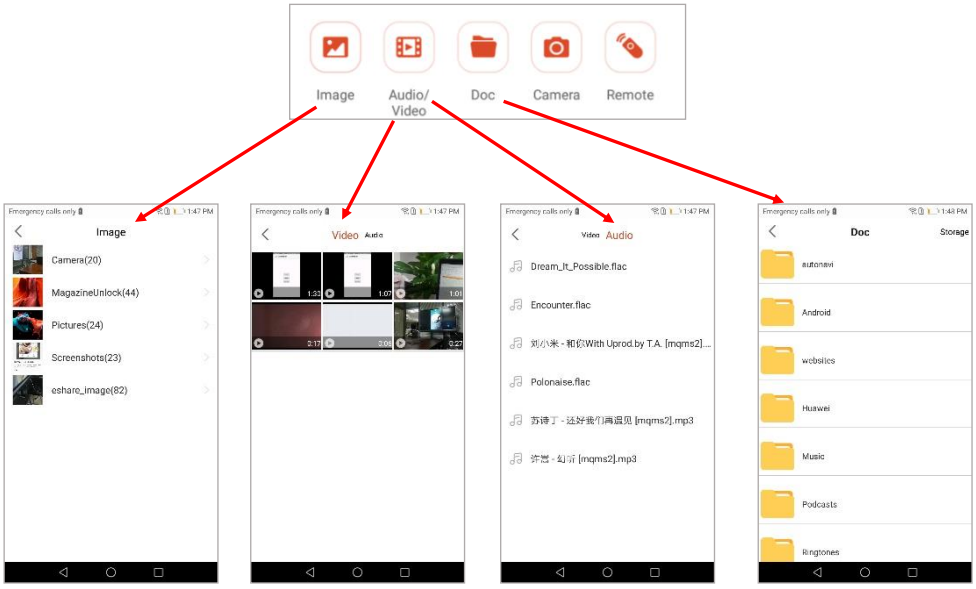
Please ensure that your client device and the large display are connected to the same network. There are four connection modes as follows.

- **Set “Device Name” as the connection mode (default setting):** launch the EShare app, and EShare will automatically discover the large display devices in the same network, and then select a device in the device list to connect to the large display.
- **Set “PIN Code (6 digits)/PIN code (8 characters)” as the connection mode:** launch the EShare app and enter the PIN code to connect to the large display.
- **Enter IP to connect** enter the IP address of the receiver device to connect to the large display.
- **Scan QR-code to connect** launch EShare app and scan the QR code to connect to the large display.

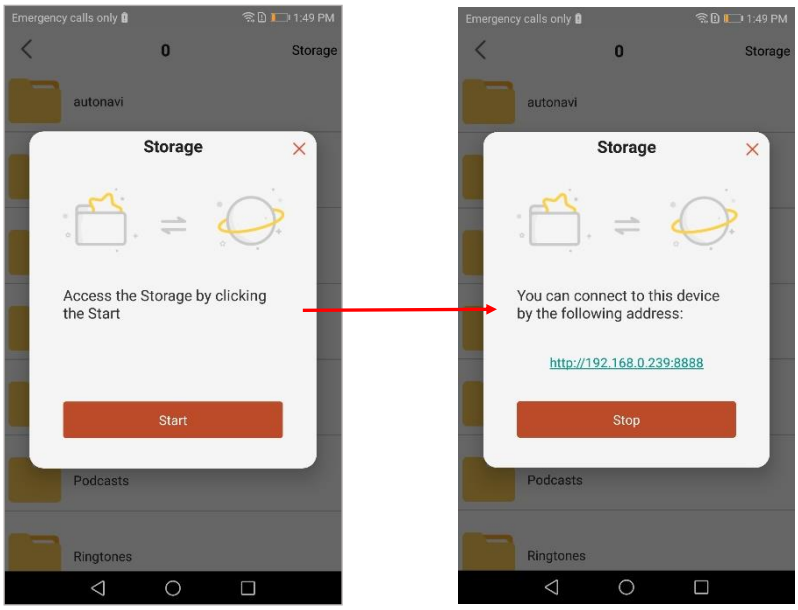


2.2.2 File Sharing

- **Image:** select any image to share it to the large display.
- **Audio/Video:** select any audio/video to share it to the large display.
- **Doc:** select any document (Word, PPT, Excel, TXT, etc.) to share it to the large display.

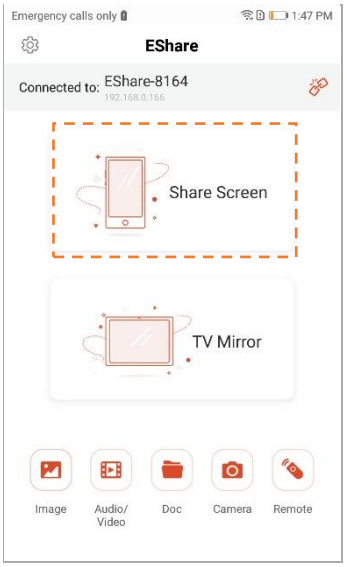


- **Storage:** tap “Storage” in the top right corner of Doc sharing page to start the wireless storage, and visit the URL showed on phone devices to upload files to the storage or download the files from it.

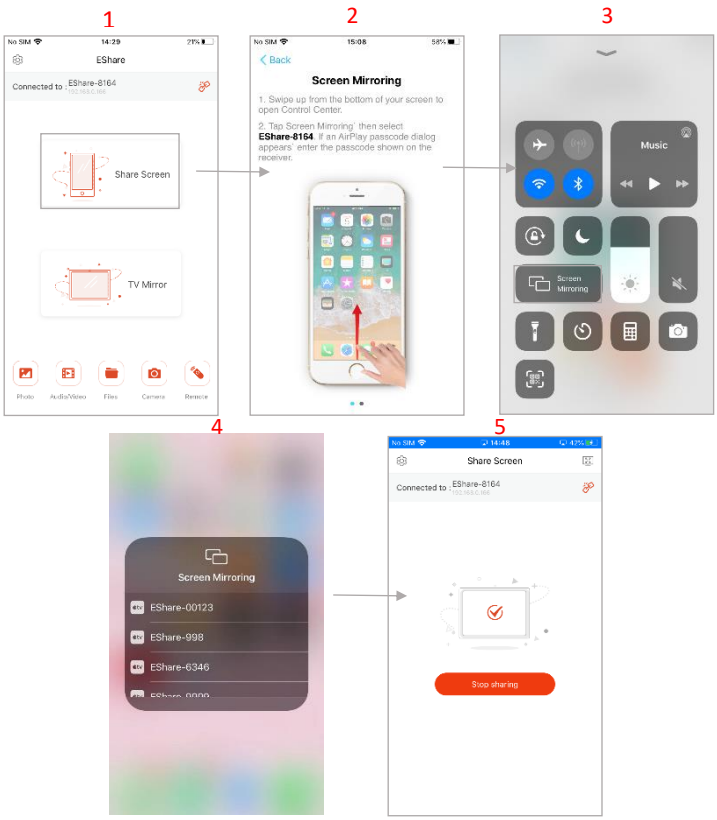


2.2.3 Share Screen

- **Android devices:** tap "Share Screen" to share screen to the large display.

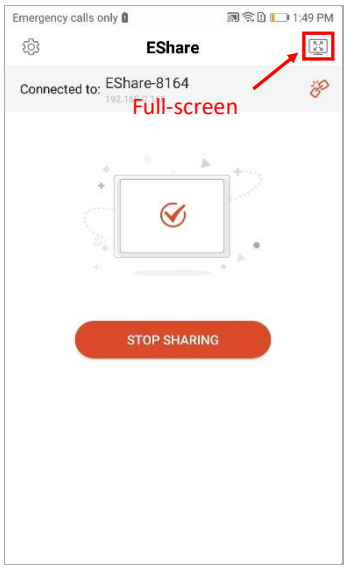


- **iOS devices:** tap "Share Screen" and follow the iOS screen sharing guide to share screen to the large display.



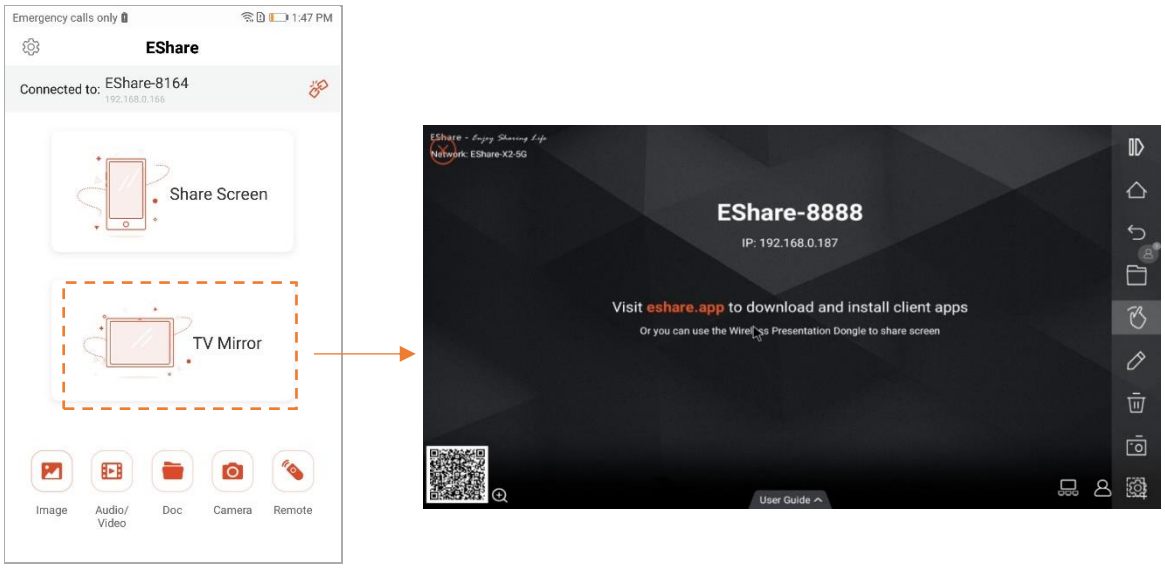
2.2.4 Full-Screen

Tap the full-screen button to display your screen exclusively on the large display, if two or more client devices are sharing the screen.



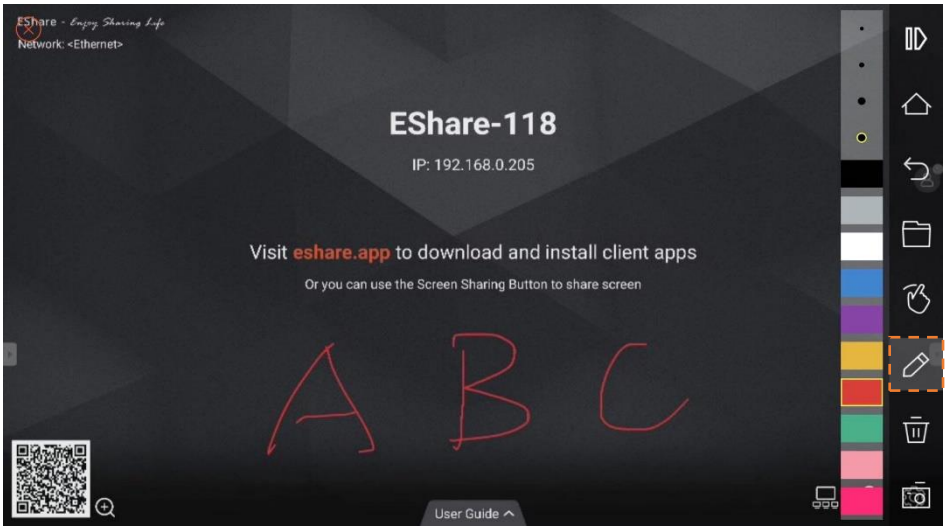
2.2.5 TV Mirror

Tap “TV Mirror” to mirror the screen of the large display to your phone and touch the phone to control the large display.



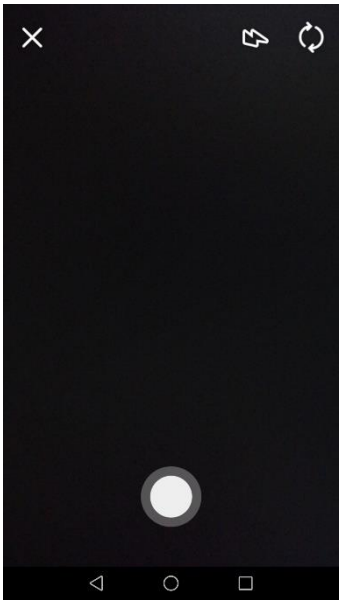
2.2.6 Wireless Annotations

Tap "TV Mirror", and then tap the writing pen button in the sidebar to start wireless annotations on the large display.



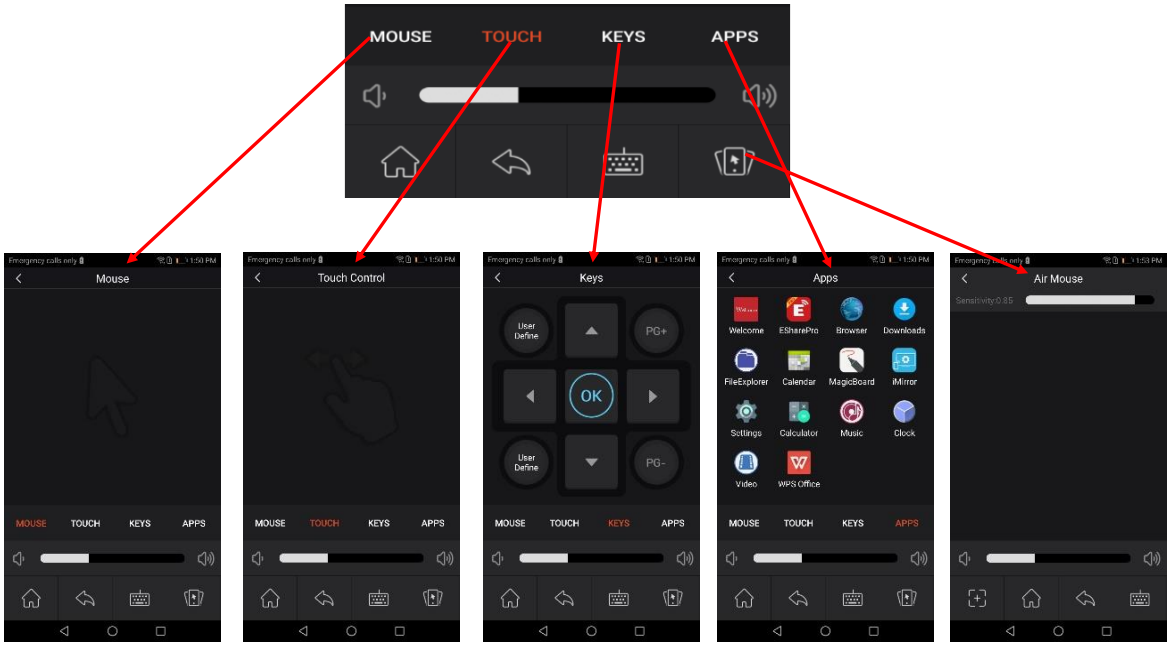
2.2.7 Camera

Tap “Camera” to share the photos or audio from your phone camera or microphone to the large display in real-time.



2.2.8 Remote Control

Tap “Remote” to act your phone as a wireless mouse, remote controller, keyboard, air mouse, etc.



2.2.9 Share Files from Other Apps to Large Display

In email, browser, file manager, and other applications, you can share files to the large display through EShare App.

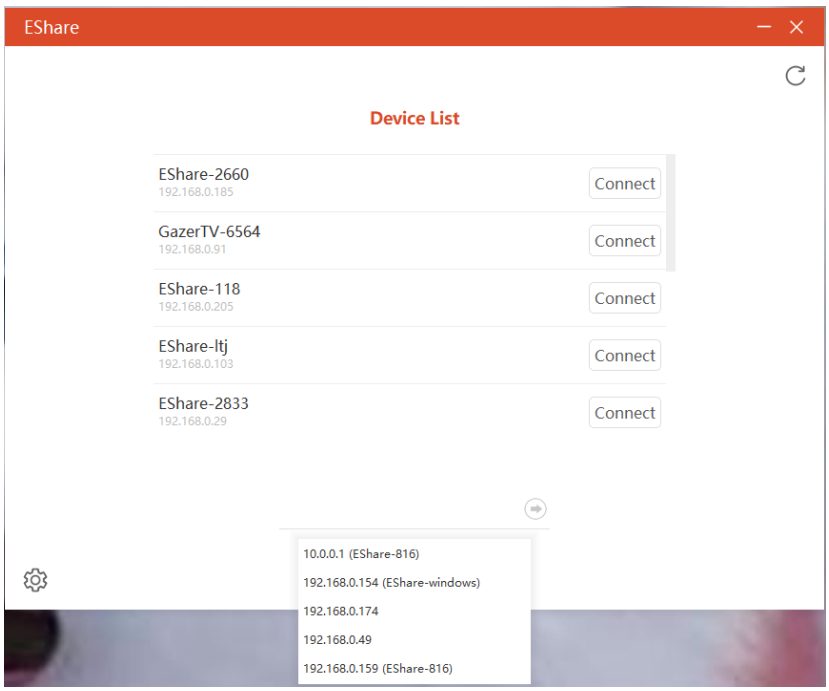
Or you can share files to the large display with other apps supporting DLNA.

2.3 Guide for Windows/macOS/Chrome OS/Ubuntu

2.3.1 Connect to the Large Display

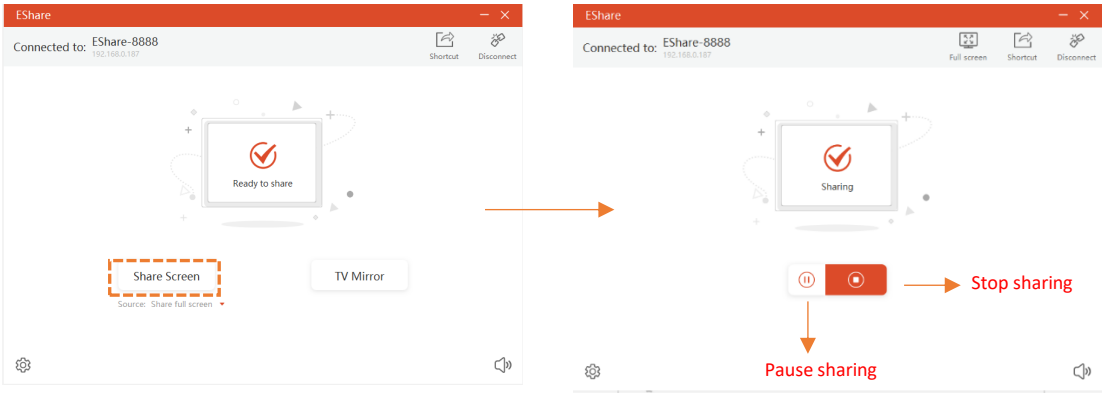
Please ensure that your Windows/macOS/Chrome OS/Ubuntu client devices and large display are connected to the same network. There are four connection modes as follows.

- **Set "Device Name" as the connection mode (default setting):** launch the EShare app, and EShare will automatically search for large display devices in the same network, and then select the device in the device list to connect to the large display.
- **Set "PIN Code (6 digits)/PIN code (8 characters)" as the connection mode:** launch the EShare app and enter the PIN code to connect to the large display.
- **Enter IP to connect:** enter the IP address of the receiver device to connect to the large display.
- **Select the device in the history list to connect:** click the input box "Enter IP or PIN code to connect" and you will see the history list (if any). Select the device to connect with to large display.

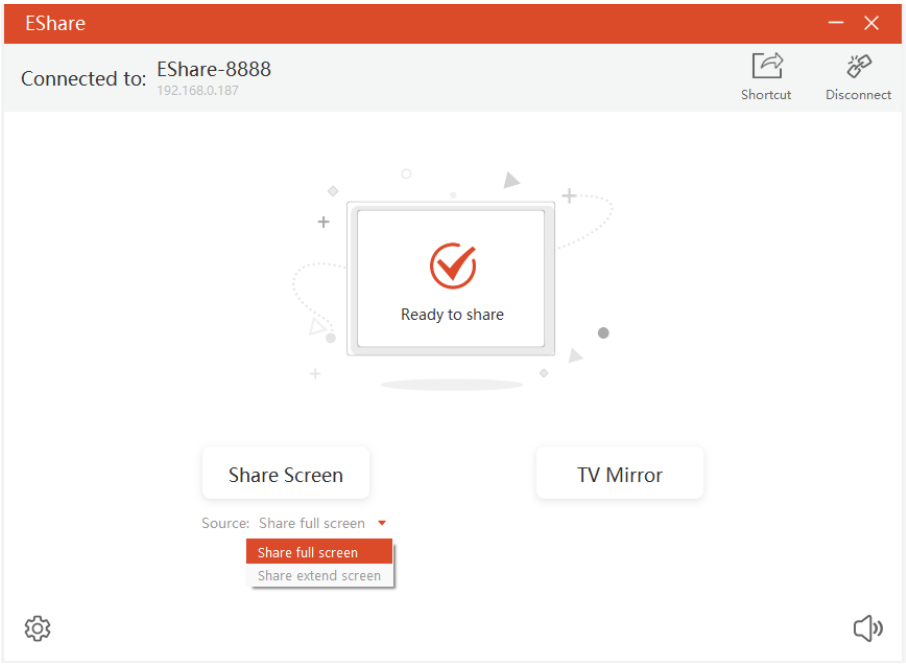


2.3.2 Share Screen

Tap "Share Screen" to share your PC screen to the large display, and touch to control client devices from the large display.

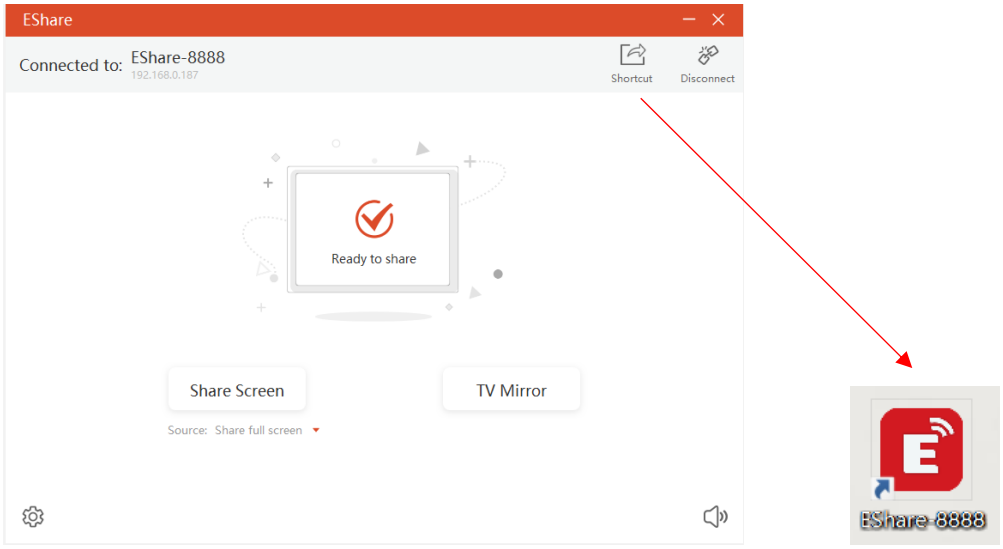


- **Share extend screen (for Win 10 1607 or later):** for Windows users, you can click “Source” to select “Share extend screen” to just share your extend screen to the large display.



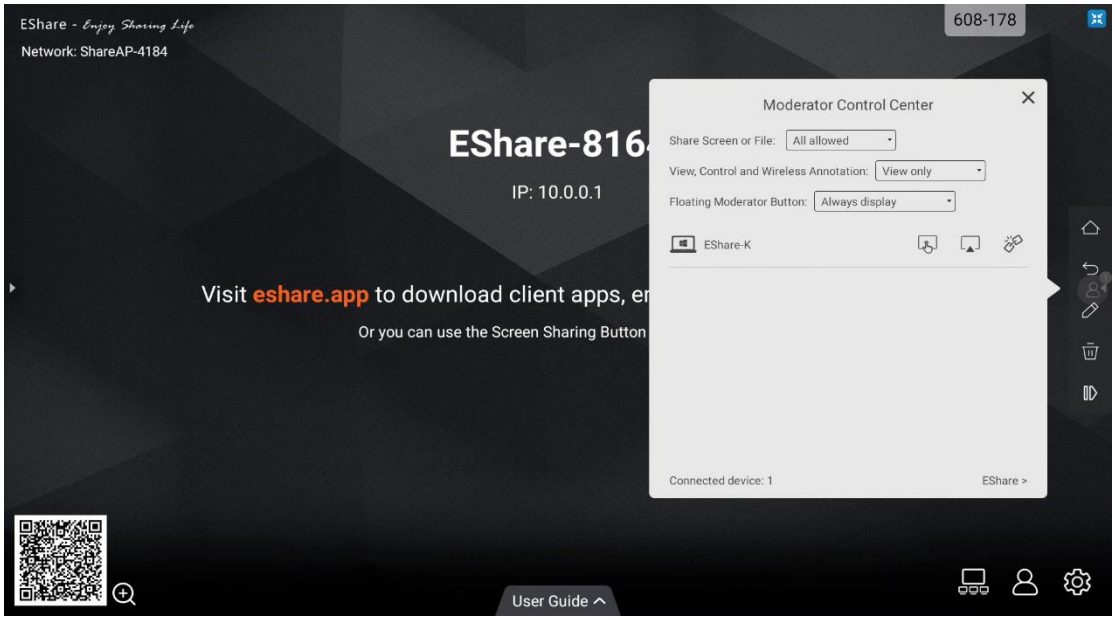
2.3.3 Desktop Shortcut for Quick Screen Sharing

After connecting with the receiver device, click the "Shortcut" button (only for Windows) to create a shortcut named as the receiver device name. Run this shortcut on the desktop to quickly share the screen to the specific large display.



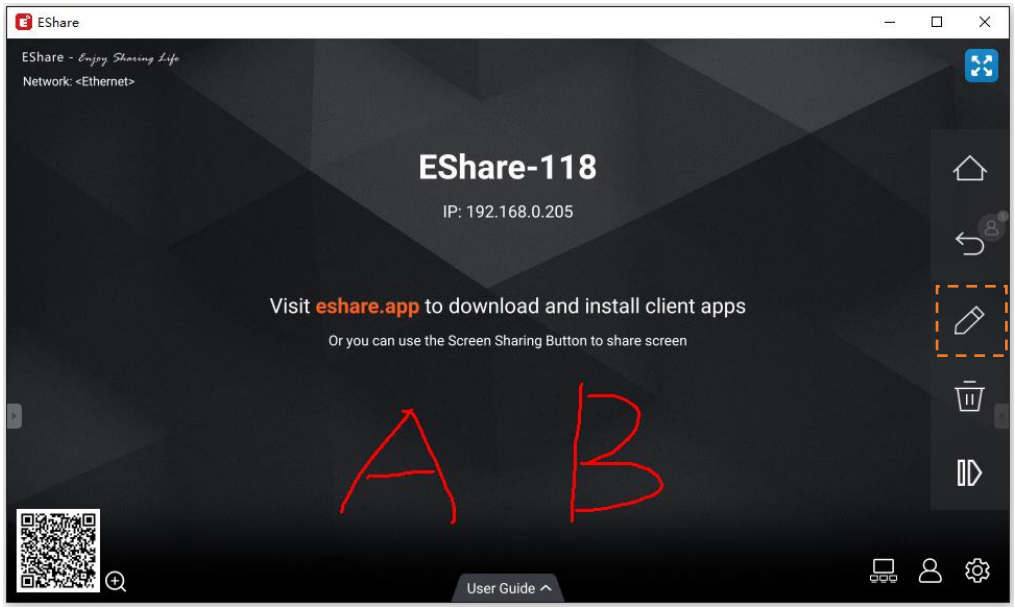
2.3.4 TV Mirror

Tap “TV Mirror” to mirror the screen of the large display to your PC, and control the large display on the PC side.



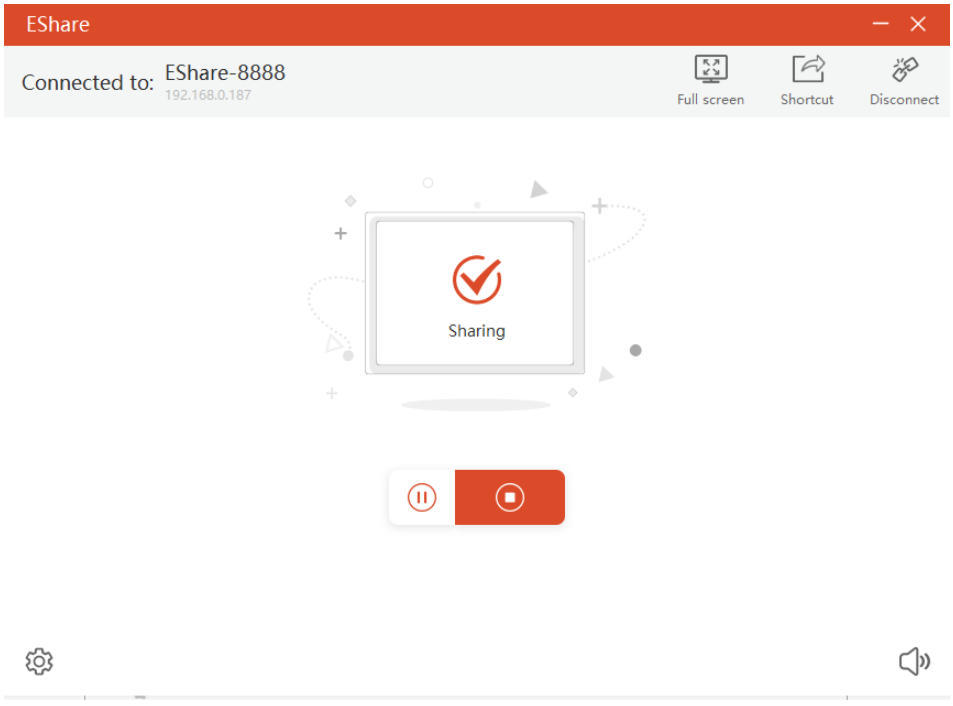
2.3.5 Wireless Annotations

Tap "TV Mirror", and tap the writing pen button in the sidebar to start wireless annotations on the large display from the PC.



2.3.6 Full Screen

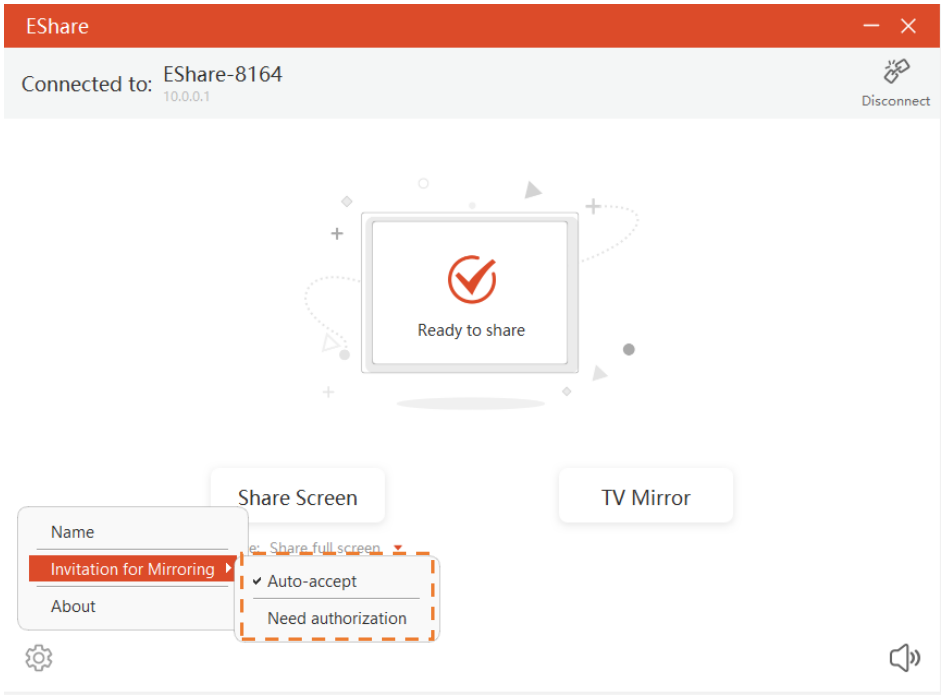
You can click the full-screen button to display your screen exclusively on the large display, even if two or more client devices are sharing the screen.



2.3.7 Invitation for Mirroring

Click “Invitation for Mirroring” in Settings and there are two following options for you:

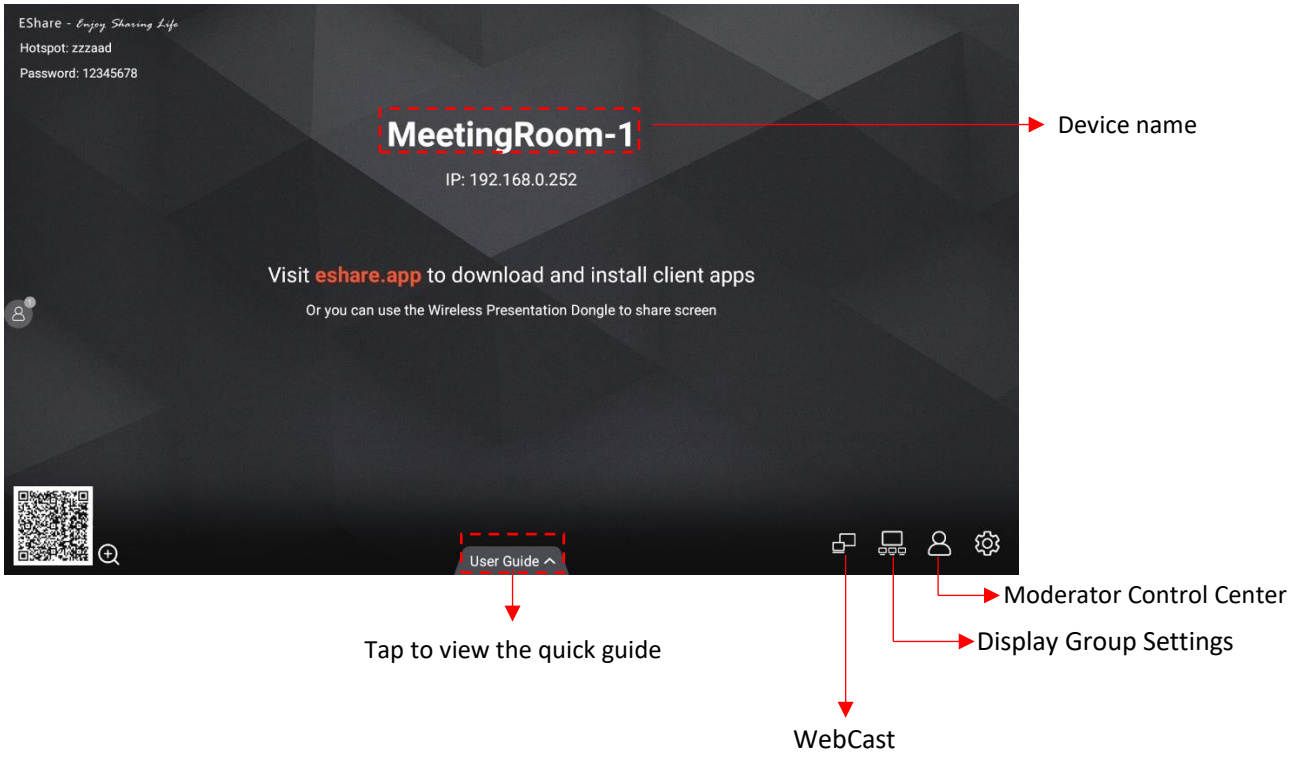
- **Auto-accept:** accept the moderator's invitation for screen sharing automatically. When the moderator taps the button "Share Screen" in Moderator Control Center, your PC screen will be displayed on the large display.
- **Notify me:** when the moderator taps the button "Share Screen" in Moderator Control Center, your PC screen won't be displayed on the large display until you accept the invitation.



3. ESharePro Receiver

3.1 Key Features

As shown in the figure below, the main page of ESharePro receiver will show the network name, QR-code, device name, IP address, quick guide and so on. In the bottom right, three main options of the Display Group, Moderator Control Center and Settings are designed.



3.2 Settings

In the Settings page of ESharePro, you can customize the device name, connection mode, multiple screens and so on.



Show Device Name on Screen: if the switch is ON, the client device name will be shown on the top left of the receiver device.

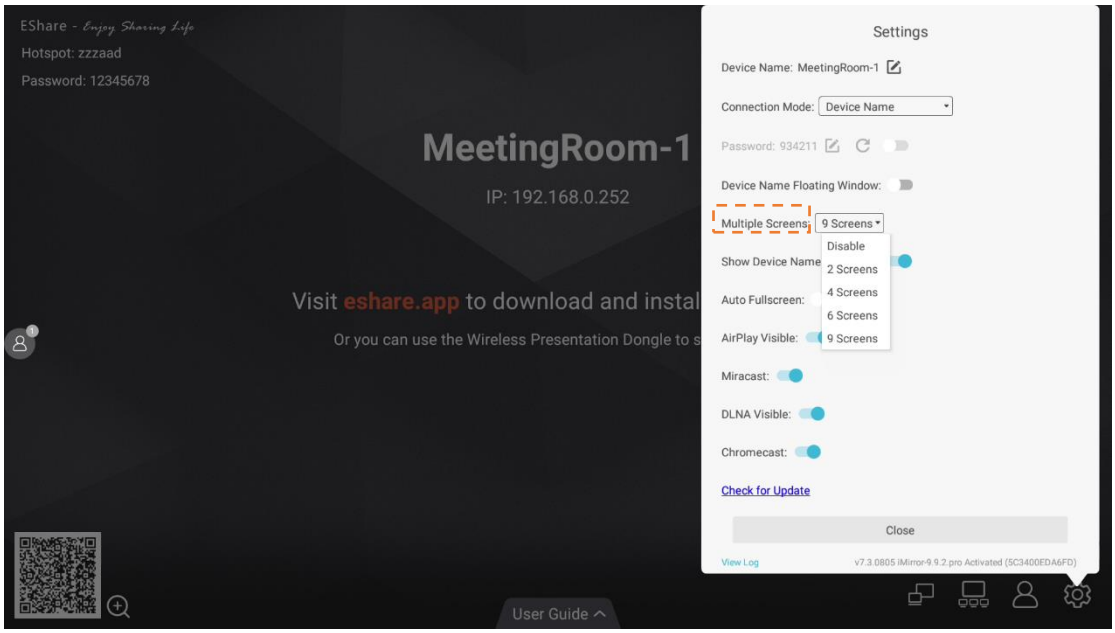
Auto Fullscreen: if the switch is ON, the client screen will cover the full screen automatically even though the screen aspect ratio of the client and the receiver device is different (the screen may be a little distorted)

AirPlay Visible: if the switch is ON, iOS and macOS device can share screen with AirPlay instead of installing any Apps. If OFF, users have to use the EShare client Apps to share screen.

3.3 Multiple Screens

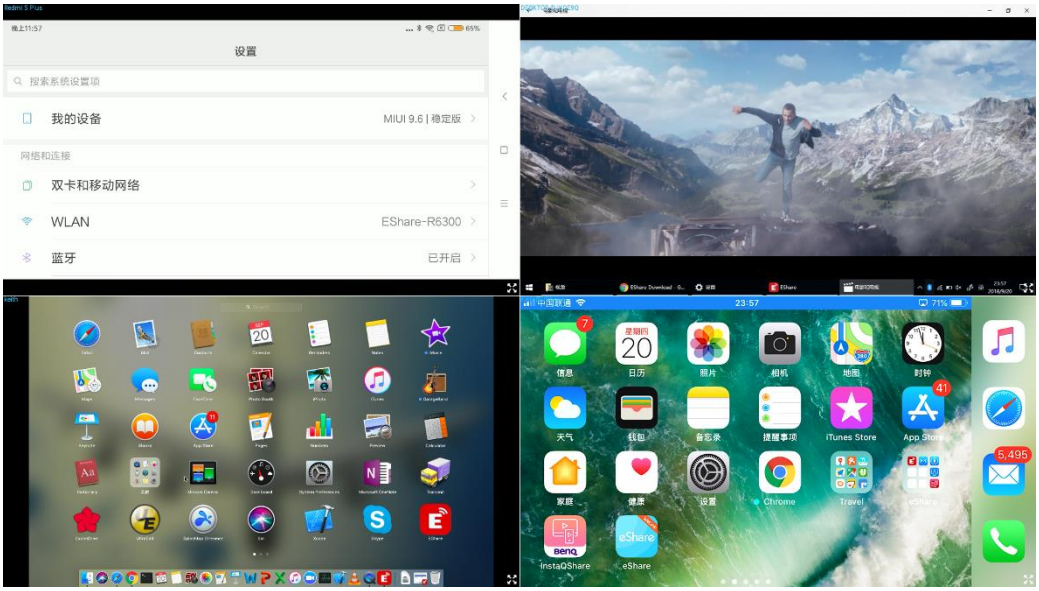
3.3.1 Multiple Screens Setting

Launch EShare Pro on the large display, tap the “Settings” button in the bottom right to set multiple screens. 9 split screens can be set at most.



3.3.2 Multiple Screens Display

Multiple client device screens can be shared to the receiver at the same time, and the receiver screen will be split automatically.



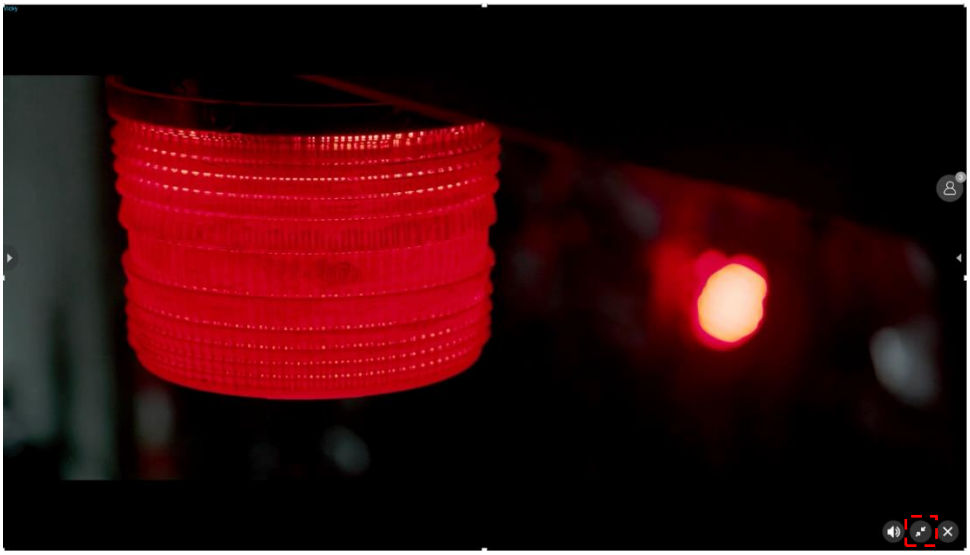
3.3.3 Switch the Audio Source

The audio of the last sharing device will be output by default from the large display on multi-screen mode. You can tap any one of the split windows on the large display to select the audio output source.

Notes: For Android phones with Android 10.0 or later, audio can be casted to the large display while mirroring, and the audio casting only works if the other Apps allow their audio to be recorded. It should be noted that for Android OS 9.0 or before, the audio cannot be cast as Google doesn't share the API needed for audio casting. The audio of those Android phones while screen sharing will be output just from phones.

3.3.4 Full-Screen or Multiple Screens

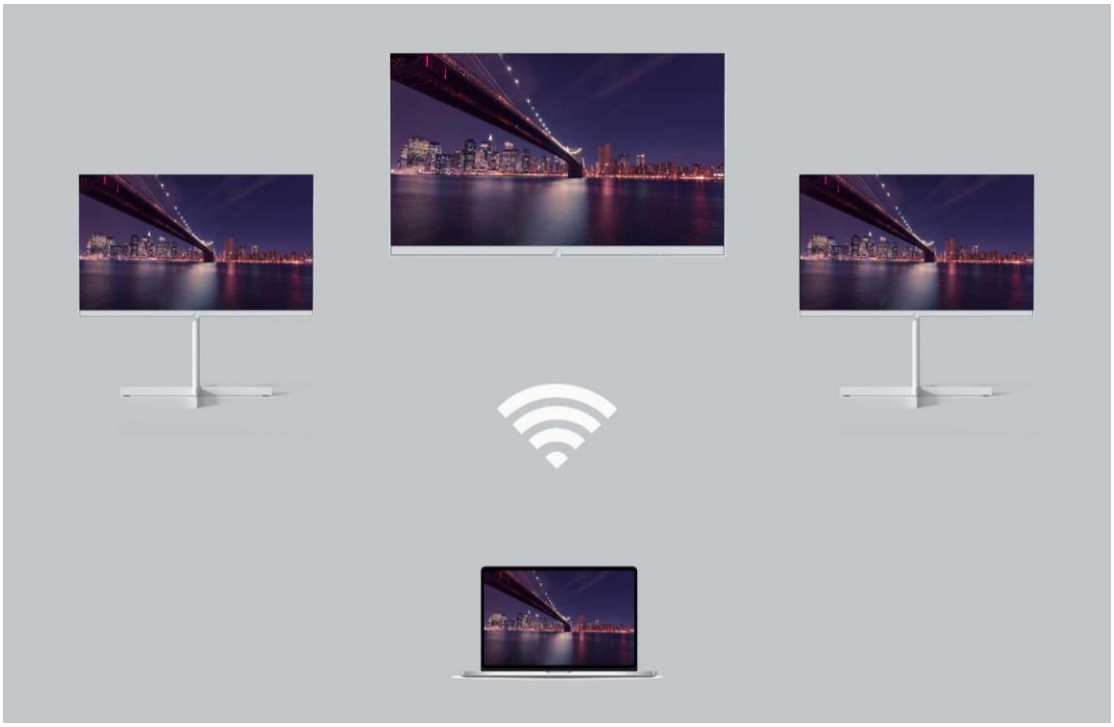
Tap the Full-Screen icon at the bottom right of the large display on multi-screen mode to full-screen it. Click the icon again to exit the full-screen and go back to multiple screens.



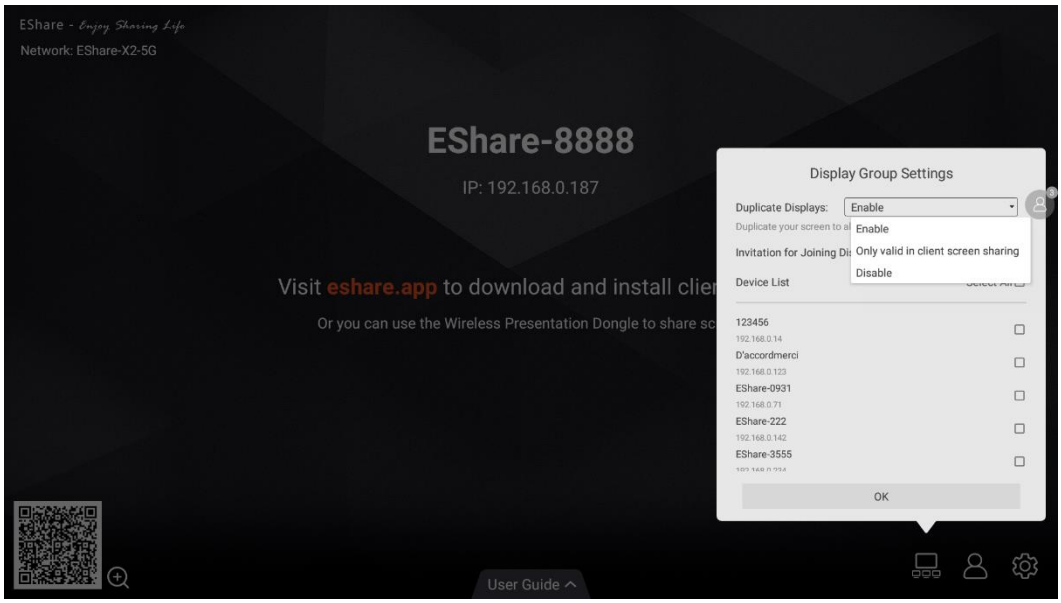
3.4 Display Group

Precondition: ESharePro is installed and activated, and the receiver devices are in the same Local Area Network (LAN).

Feature description: the main screen can be duplicated to multiple large displays simultaneously, and the client device can also be mirrored to multiple receiver displays.

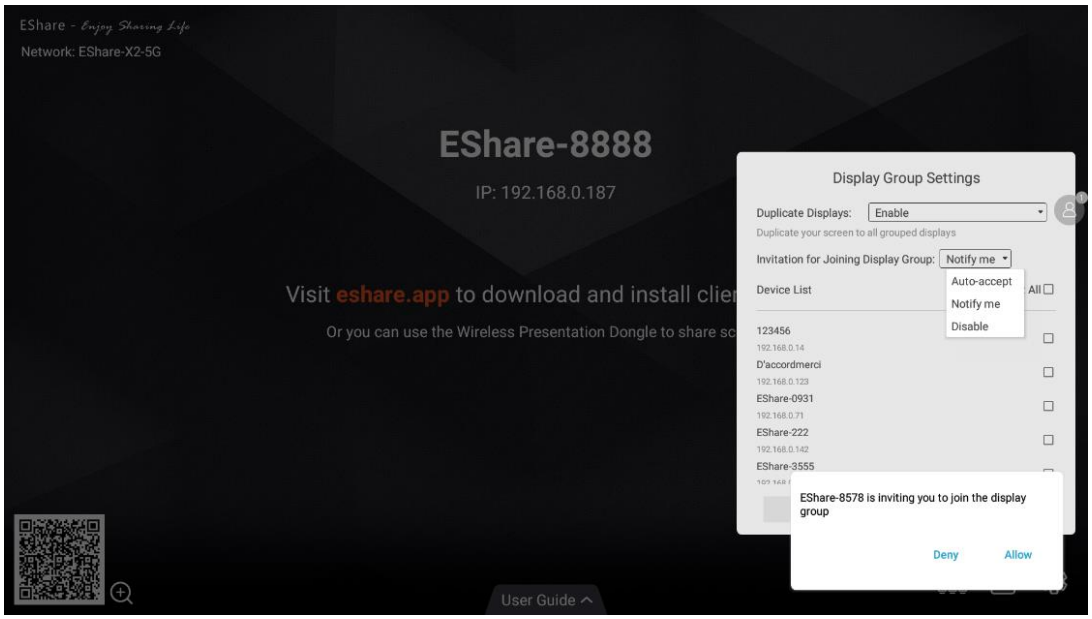


3.4.1 Options for Duplicate Displays



- **Enable:** You will see the other ESharePro preinstalled display in the same network (if any) are listed. Next, select a display to join in the display group, and click “OK” to apply the settings.
- **Only valid in client screen sharing:** Only when the sender is casting a screen, will the devices in the display group be synchronized to display
- **Disable:** Disable the display group feature.

3.4.2 Options for Invitation

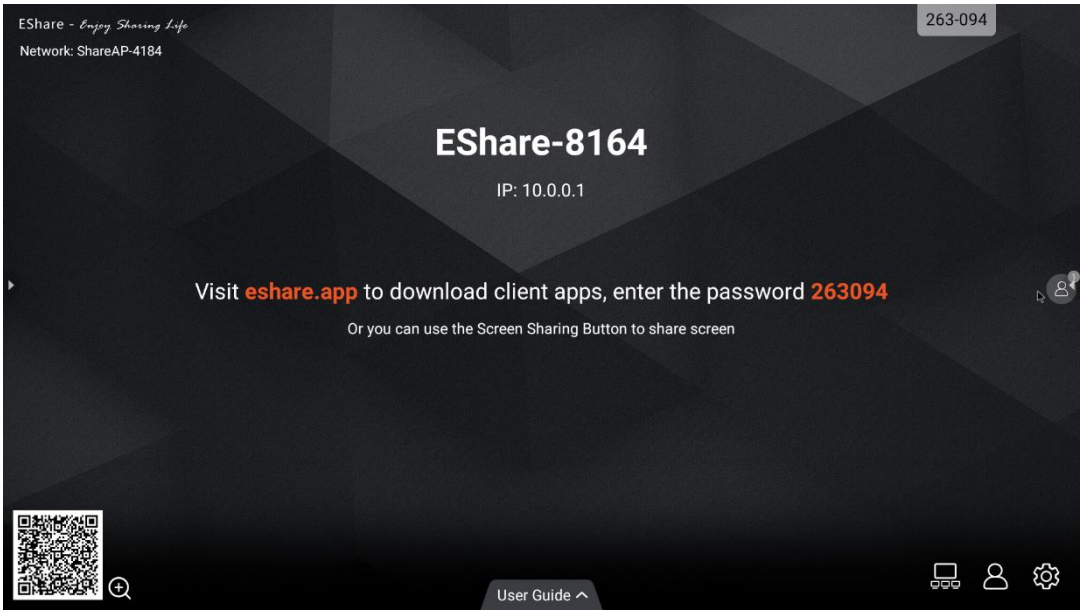


- **Auto-accept:** other displays can share their screen to this display without any permissions.

- **Notify me:** you will see a dialog when your screen is invited to join the group, and other displays can share their screen to this display only when you allow the invitation.
- **Disable：** All display group invitations will be automatically rejected.

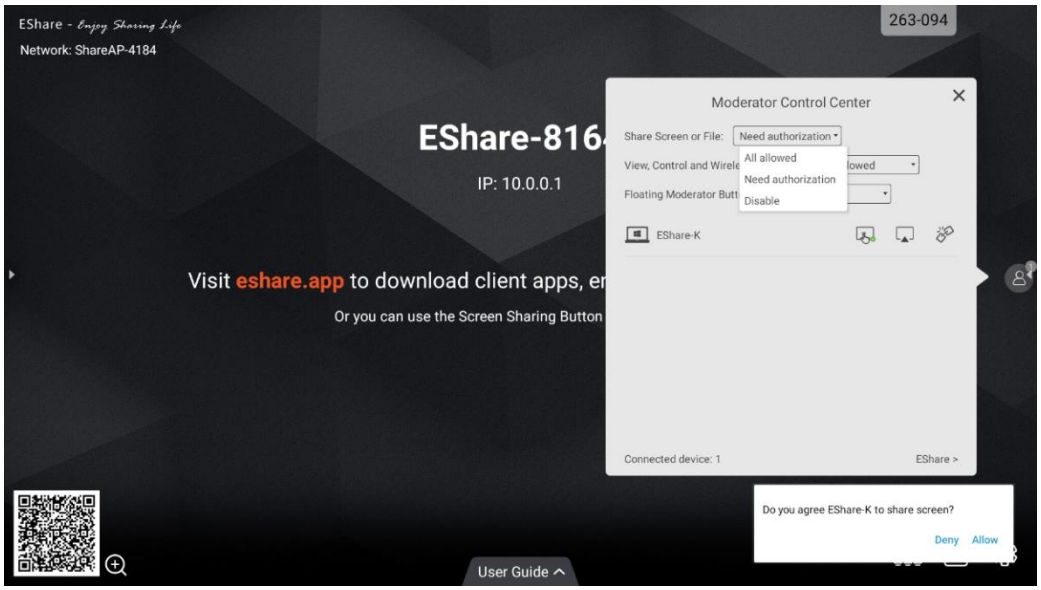
3.5 Moderator Control Center

Launch "EShare Pro" and click the moderator control button in the bottom right corner to enter the moderator control center. You can also enter the moderator control center by tapping the floating moderator button.



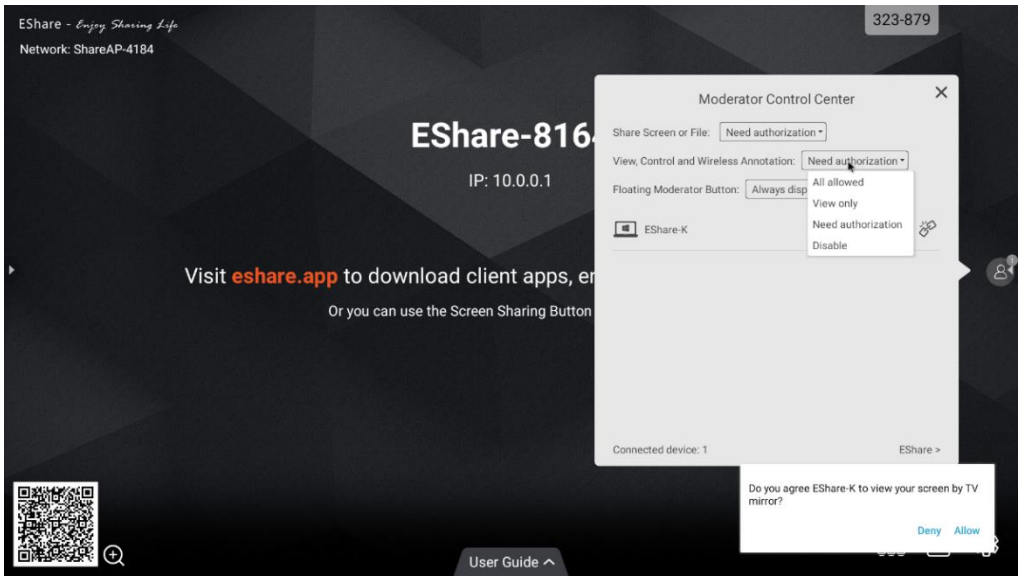
3.5.1 Options for “Share Screen”

- **Allowed:** client devices can share screen or share images/audio/videos/files to the large display. The client app for iOS or Android can also share the camera to the large display in real-time.
- **Need authorization:** client devices can share screen or share images /audio/videos/files/camera to the large display only when the option “Allow” is selected in the authorization dialog for sharing screen.
- **Disable:** any client devices cannot share images/audio/videos/files/camera shot if the option of “Share Screen or File” is set as “Disable”.



3.5.2 Options for “View, Control and Wireless Annotation”

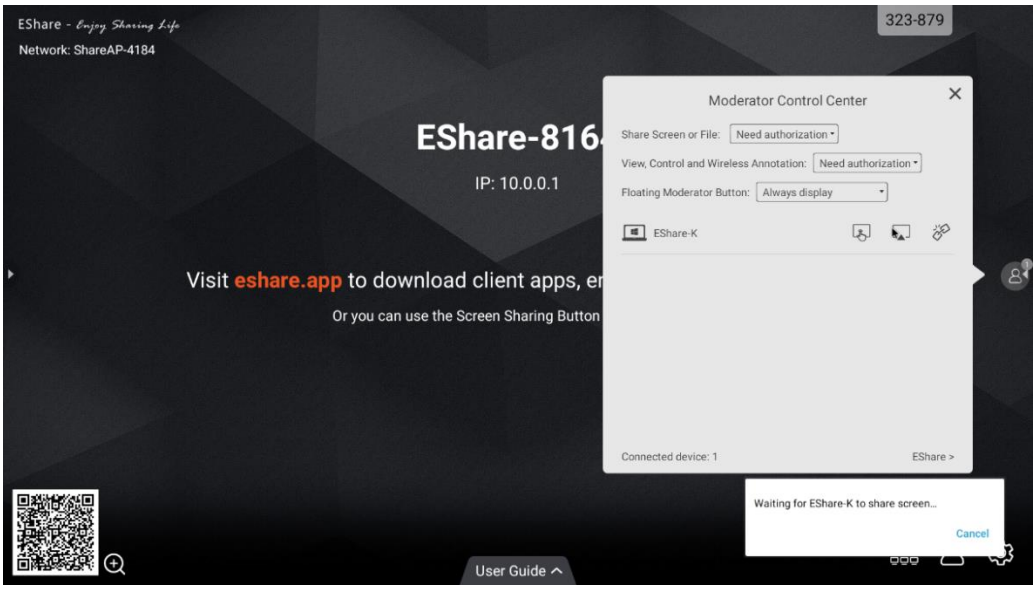
- **Allowed:** client devices can view and control the large display, can do annotations in TV Mirror or Remote Control.
- **Need authorization:** client devices can view and control the large display and can do annotations in TV Mirror or Remote Control only when the option “Allow” is selected in the authorization dialog.
- **View only:** client devices can only view the large display in TV Mirror but cannot control the large display or do annotations.
- **Disable:** any client devices cannot view, control the large display in TV Mirror or Remote Control, or do annotations.



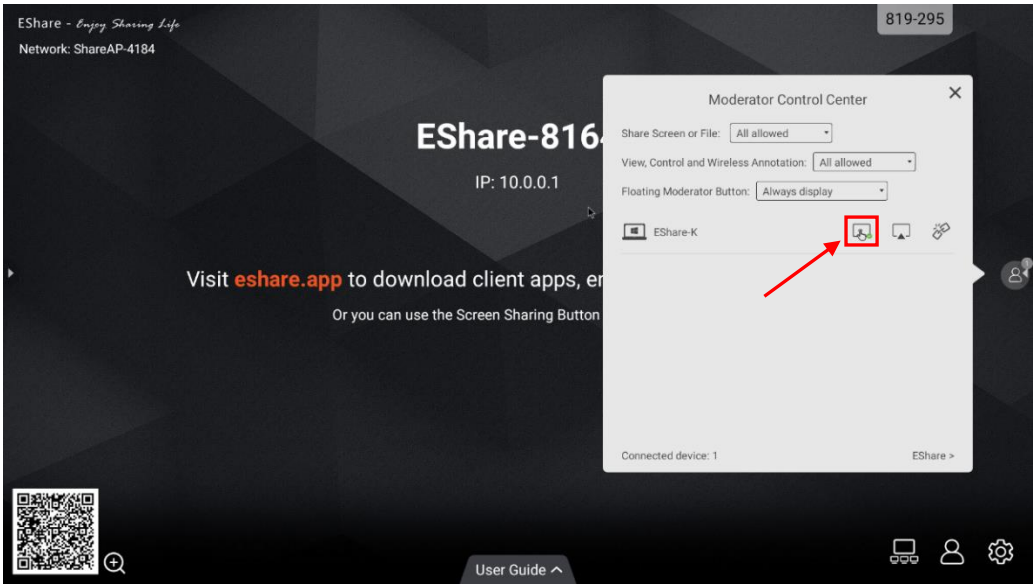
3.5.3 Other Options in Moderator Control Center

Precondition: the client device is connected to the large display.

- **Invite the client device to share screen:** select any one client device in the moderator control center, and click the button  to invite the client device to share screen, and tap this button to stop sharing when the client device is sharing screen.



- **Allow the client device to control the large display:** tap the screen control button  to enable or disable the client's control permission for the large display. If this button is marked with a small green tick, it shows the client can control the large display.



- **Disconnect the client device:** tap the "disconnect" button  , and select "OK" in the dialog to disconnect the client device.



3.6 WebCast

With the latest WebCast feature, you can cast the screen by entering the ID in the browser without downloading and installing the app. It also supports Internet-based remote screen casting without network domain restrictions.

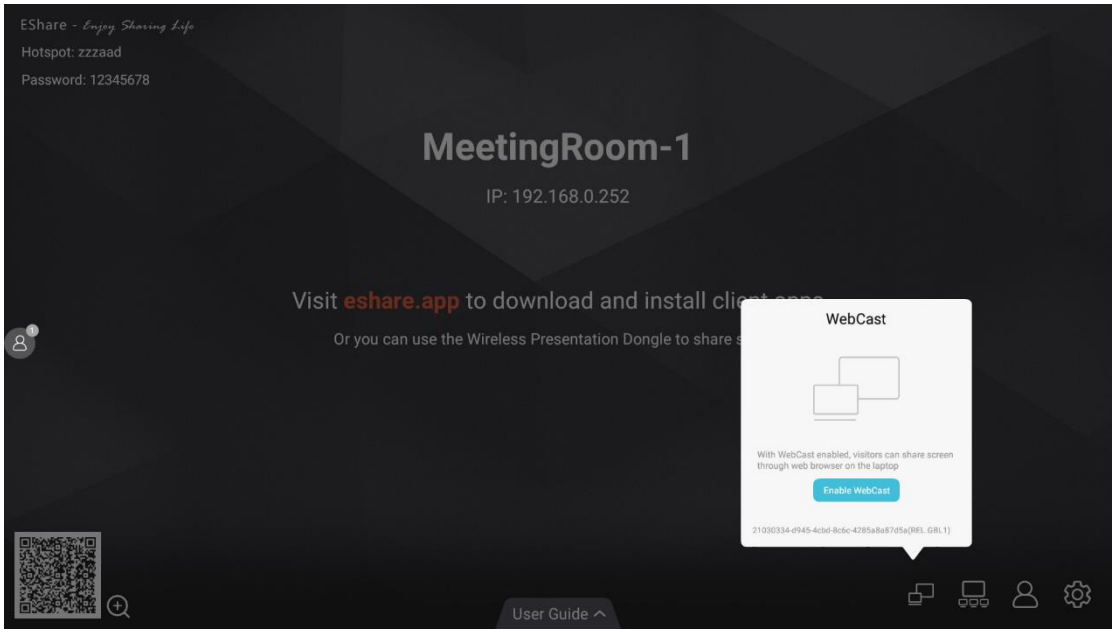
It is compatible with Windows, macOS, Ubuntu, Chrome OS, and more. Recommended browsers for various OS are as below.

- Windows: Google Chrome, Microsoft Edge,
- macOS 10.15 and later: Apple Safari, Google Chrome
- Chrome OS: Google Chrome
- Ubuntu: FireFox, Google Chrome

Note: WebCast doesn’t work with phone browsers. The touch feedback doesn’t work with WebCast.

3.6.1 Enable WebCast

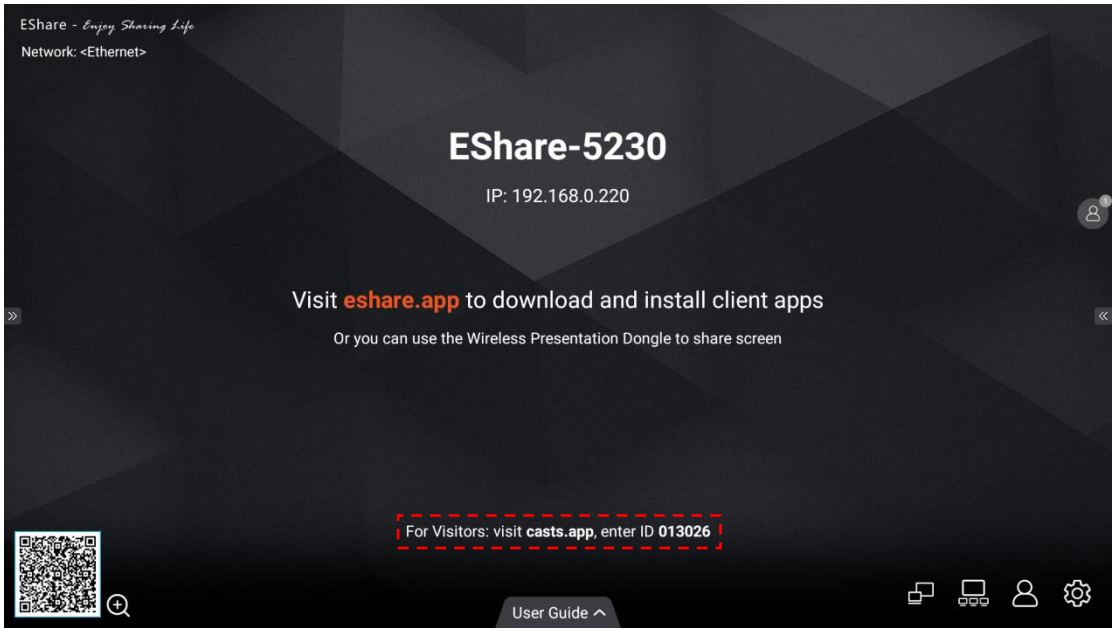
Tap the button “Enable WebCast” to start the WebCast service.

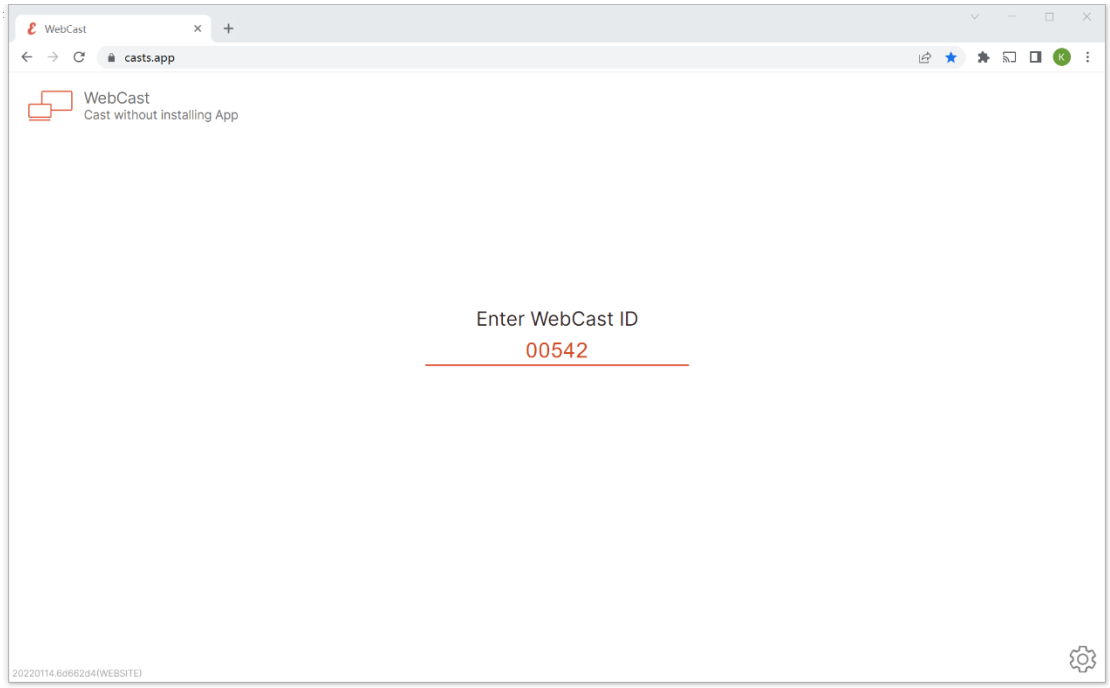


3.6.2 Guide for WebCast

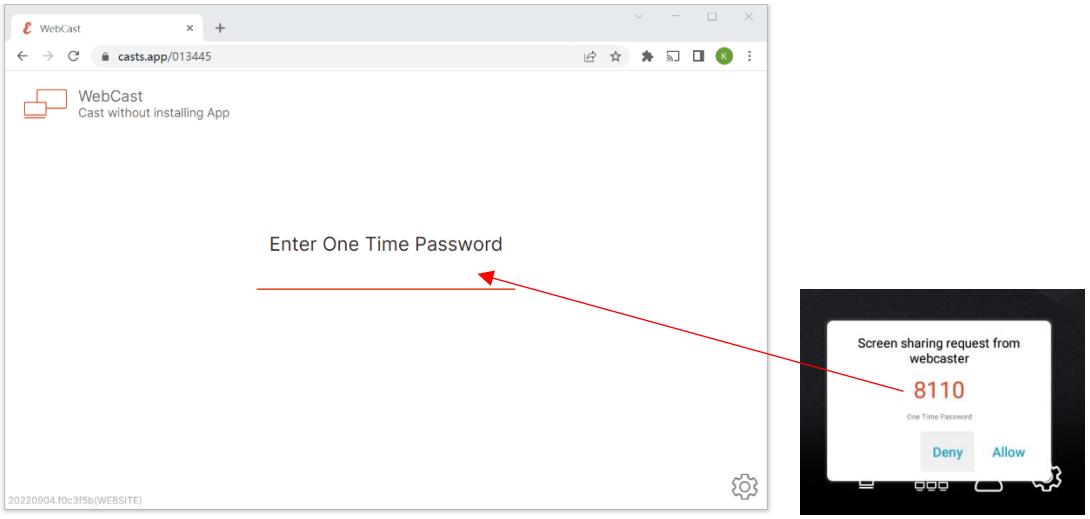
WebCast will work in online mode if your display has Internet access, and you can cast your screen by following the steps.

1) Visit "casts.app" with the web browser on your laptop and enter WebCast ID.

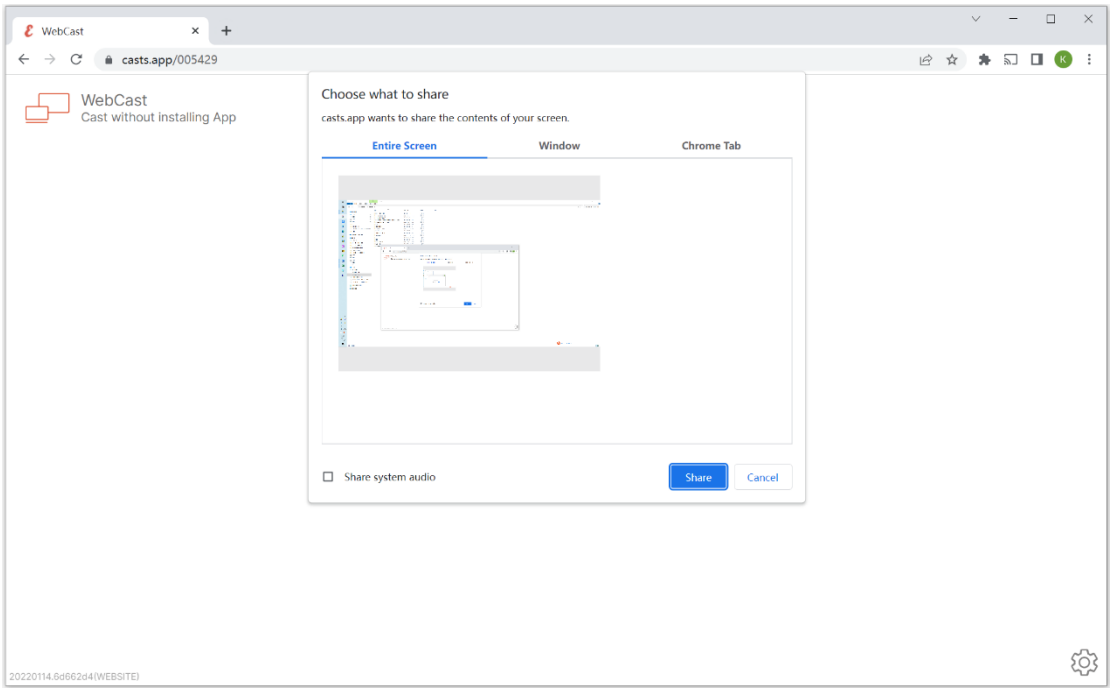


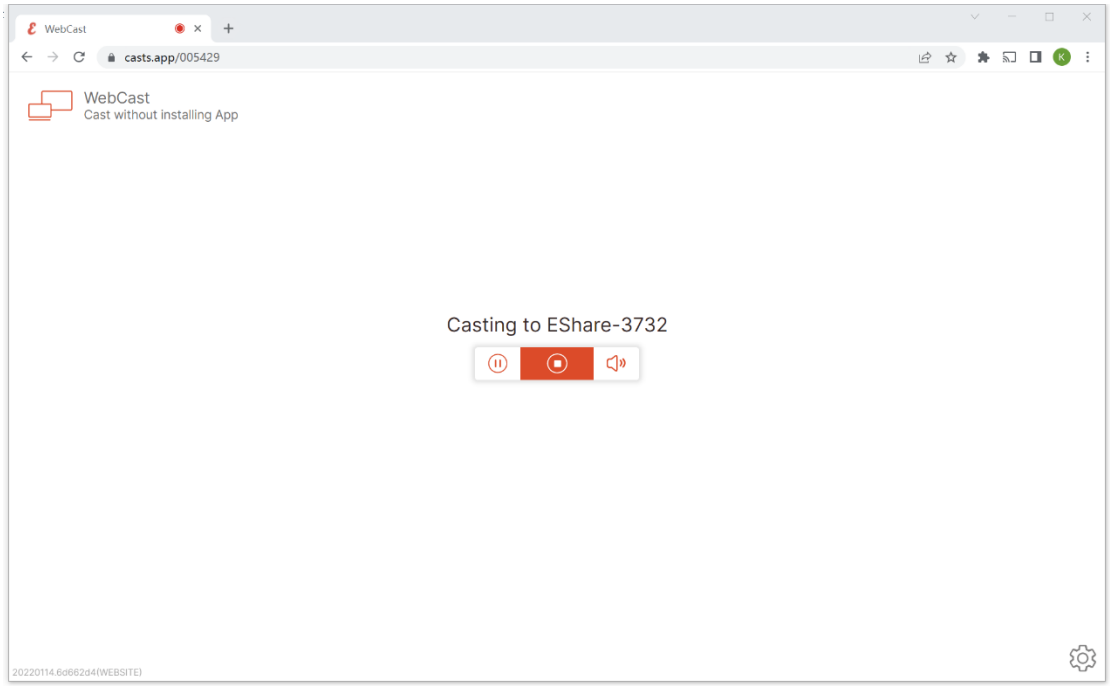


2) Enter the one-time password that pops up on the large display (or tap "Allow" button on it) to establish a WebCast connection. The moderator can allow or deny your WebCast casting request.



3) The screen share content selection dialog will pop up, you can choose "Entire Screen", "Window" or "Chrome Tab", and check the “Share system audio” option. Then click the "Share" button to start casting.

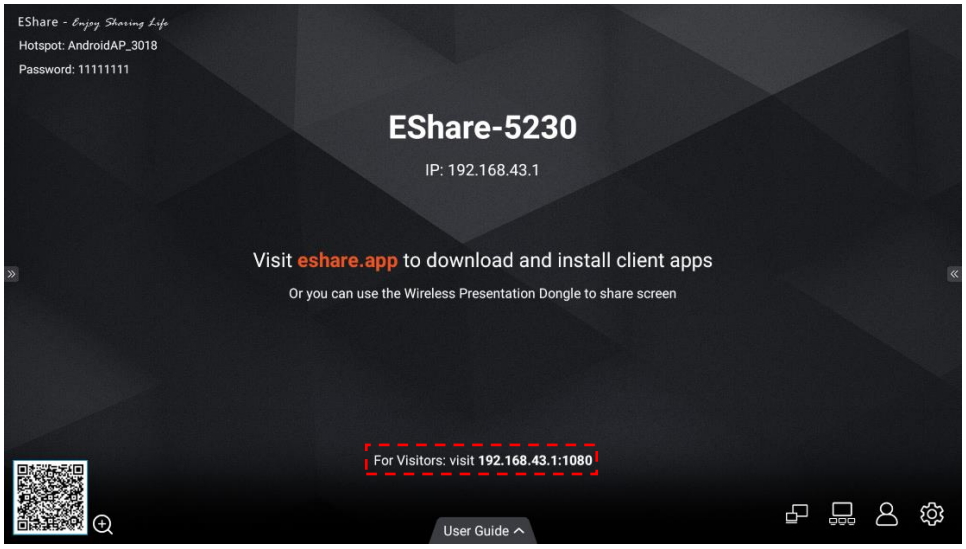




3.6.3 Offline Mode

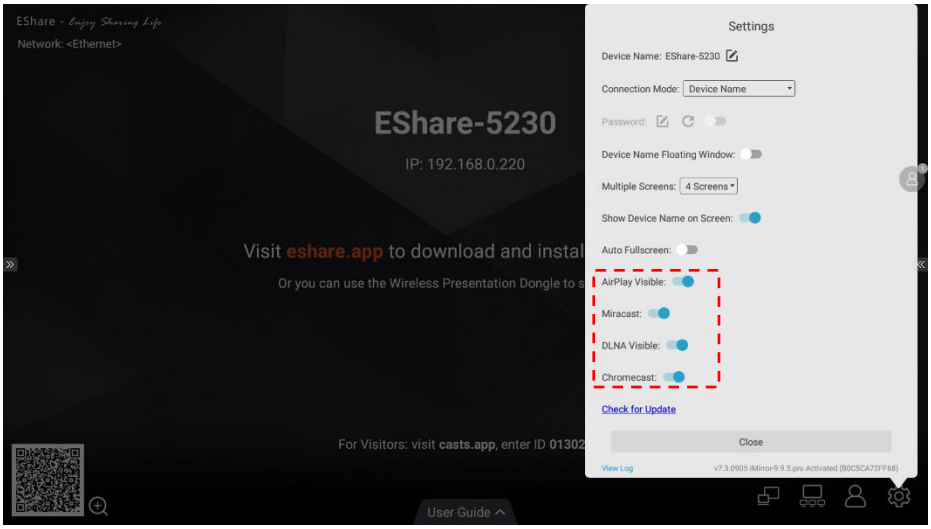
WebCast will work in offline mode if the large display cannot access the internet. The WebCast link will be created using the LAN IP address of the large display with port 1080.

Tips: You may get a message "NET::ERR_CERT_AUTHORITY_INVALID" on the web browser, please ignore it and tap the Advance button, then choose "Proceed to [the LAN IP address of large display]" to enter the WebCast page.



4. NON-APP Casting

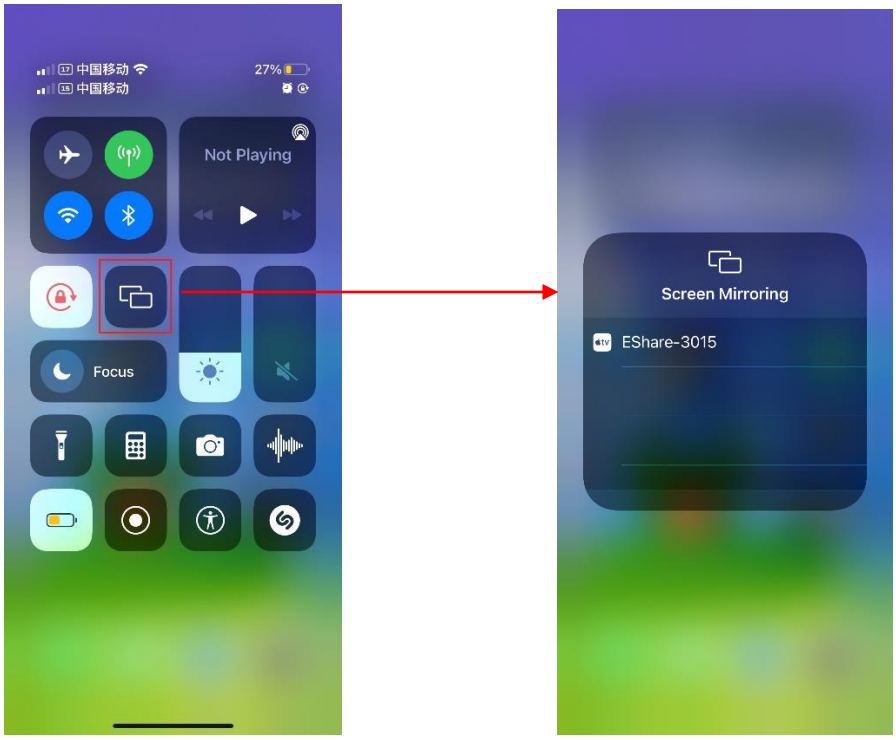
If the iMirror, Miracast, Chromecast and DLNA Apps are pre-installed on the display, you can find the corresponding switches on the EShare Pro settings page.



4.1 AirPlay

With the AirPlay Visible enabled, the Apple devices (such as iPhone/iPad/MacBook/iMac) can cast screen to the large display with the Screen Mirroring function in iOS.

4.1.2 Guide for iPhone Screen Mirroring



4.1.3 Guide for MacBook Screen Mirroring





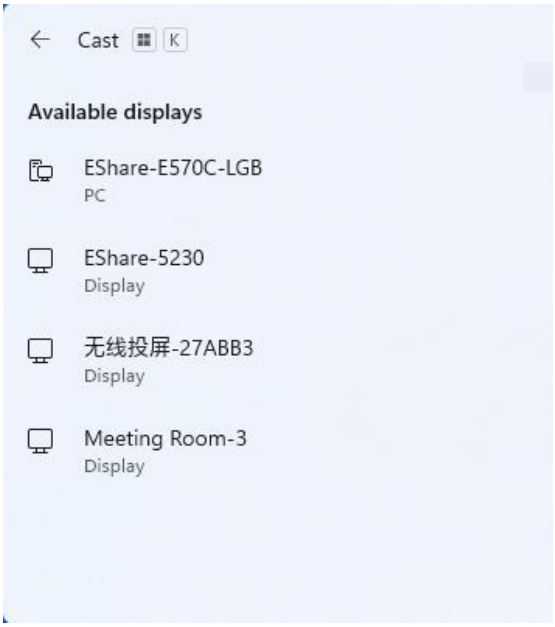
Tips: If the AirPlay Visible is disabled, users need to install EShare App to share screen.

4.2 Miracast

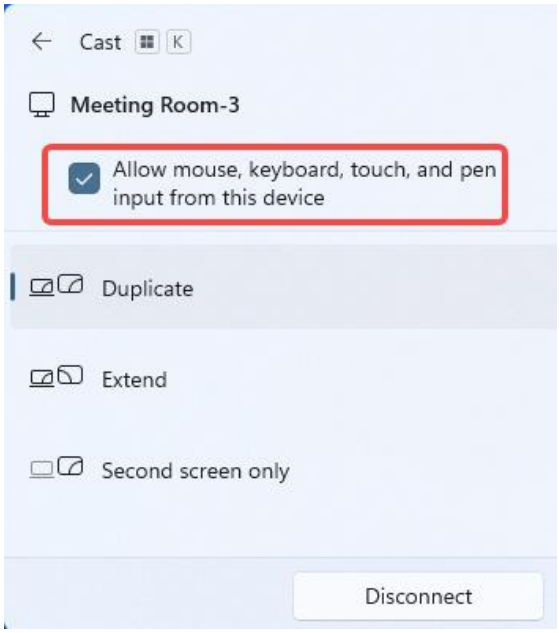
With the Miracast switch enabled, Windows laptops or Android phones that support the Miracast can discover the large display, and select it to cast the screen.

4.2.1 Guide for Windows Laptops

1) Press Win + K and select the device to cast to.



2）Check the option “Allow mouse, keyboard, touch, and pen input from the device” to enable touch feedback feature.



4.2.2 Guide for Android Phones

Open Cast/SmartView/Wireless Projection… on Android phones (different brands may name differently for this function), select a device to cast screen.

Miracast feature depends on the Wi-Fi direct transmission (P2P) of the hardware, so the performance and stability have a lot to do with the Wi-Fi of the large display.

4.3 Chromecast

4.3.1 Preconditions to Use Chromecast

1) The switch “ChromeCast” in ESharePro settings is enabled.
2) The client and receiver devices are in the same network.
3) The date of the large display is accurate.

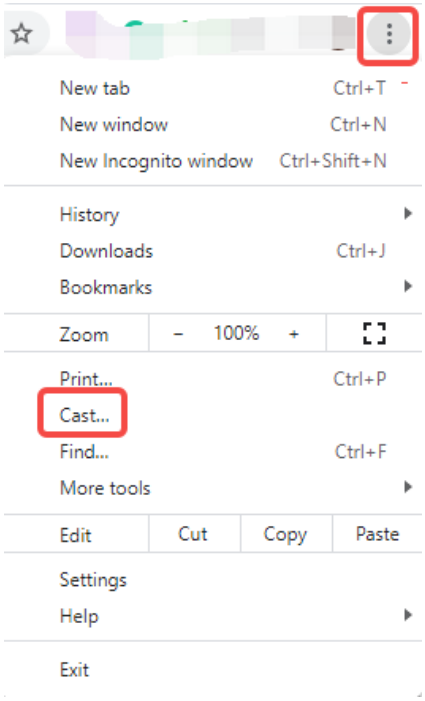
4.3.2 Guide for Chromecast

1) Android phones

Open Cast/SmartView/Projection… (different phone manufacturers may name differently for this function), select a large display to cast screen.

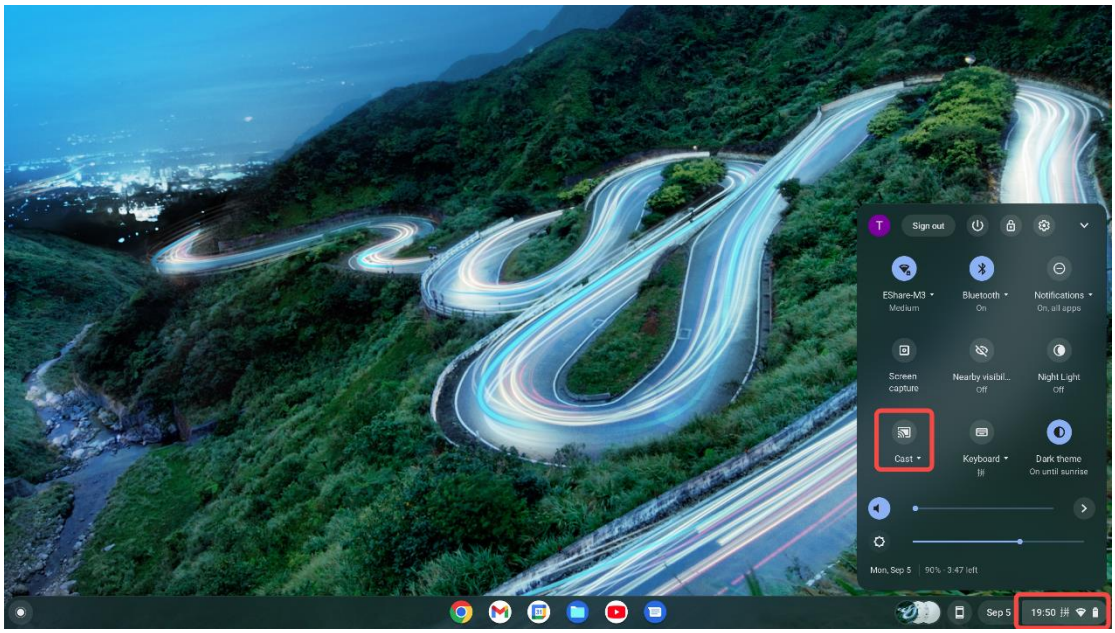
2) Chrome browser

Click the "More" icon ⋮ in the top right corner of the Chrome browser, find the “cast” option, and then select a large display device to cast screen.



3) Chromebooks

Click the system clock in the bottom right corner, open “cast”, and select a large display to start casting.



4) YouTube

Play a video, click the Cast icon and select a large display to cast the video.

