"WYZE CAM"

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Web location for this presentation:

http://aztcs.apcug.org

Click on "Meeting Notes"

SUMMARY

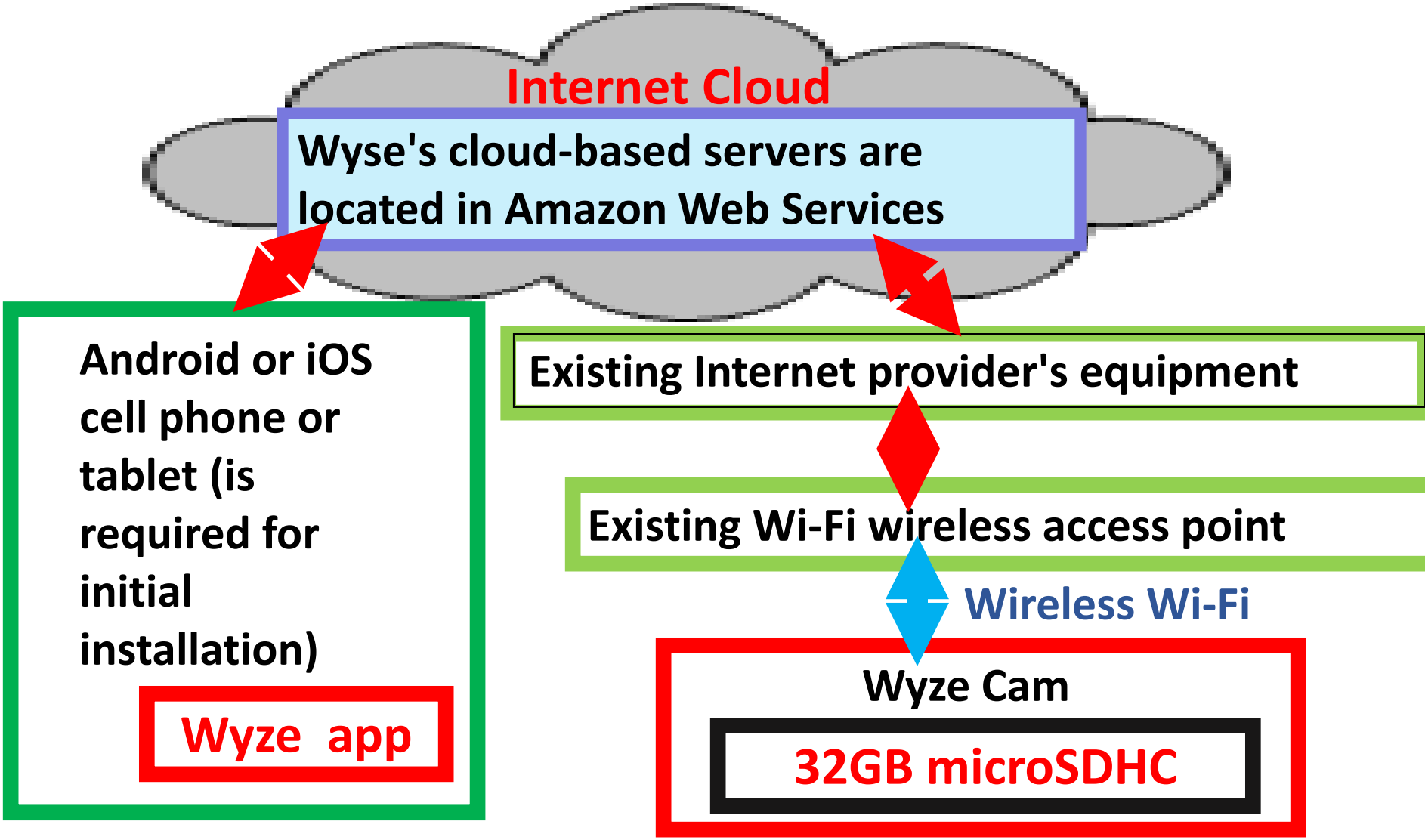
- The "Wyze Cam" is the lowest-cost security motion-detection camera that is currently available. It provides free cloud storage for video clips of motion detection events for the life of the camera. An optional but highly-recommended slot for adding in a 32-GB microSDHC module provides the camera with 24-hour recording capability.

TOPICS

- Wyze Cam models: Versions 1, 2, and 3
- Actual Hardware Manufacturer of "Wyze Cam"
- Installing Requires a Smart Cell Phone or Tablet
- When Using After Installing, You Can Also Use a Windows.. or macOS computer by running "Bluestacks"

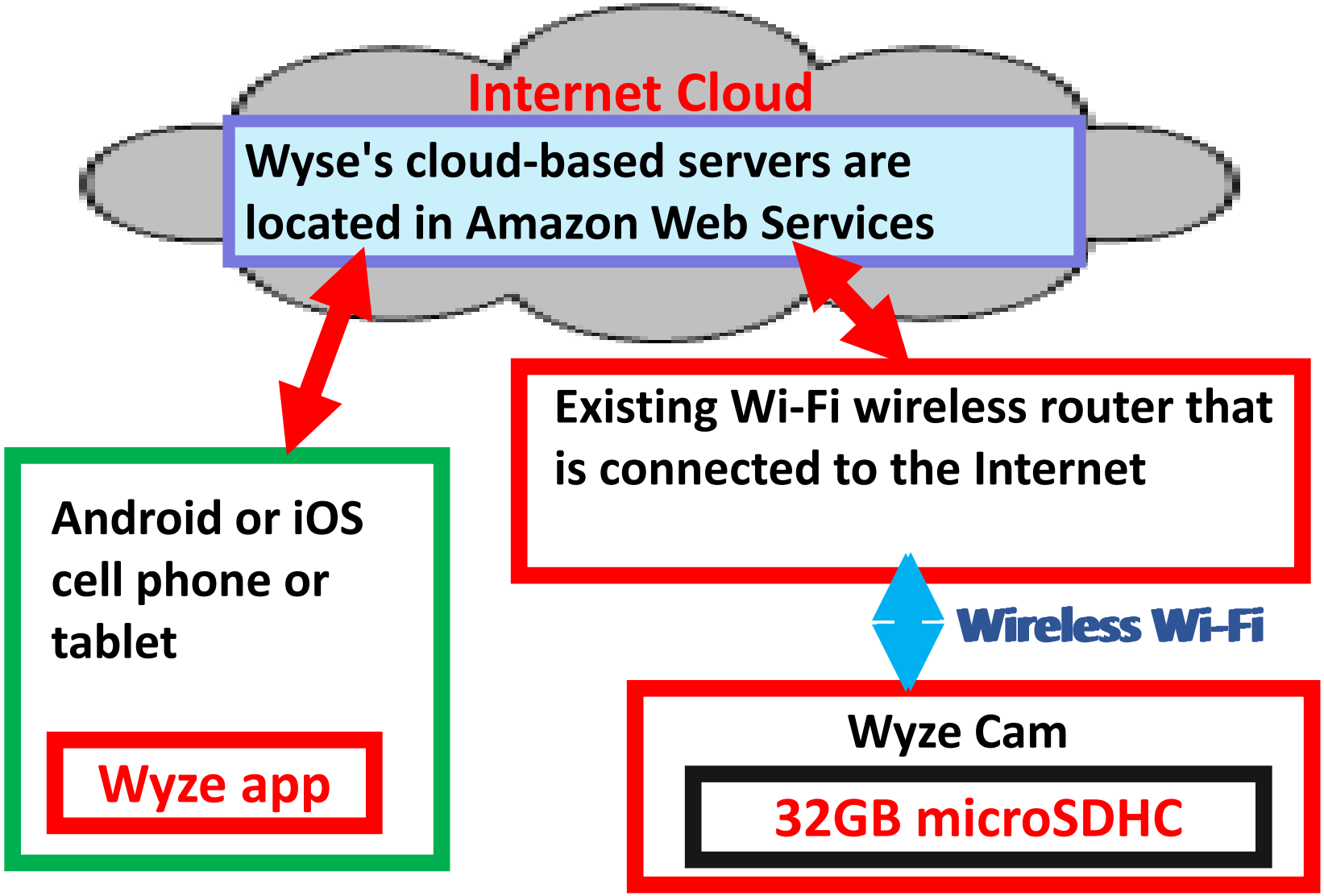
INSTALLATION OF A NEW "WYZE CAM"

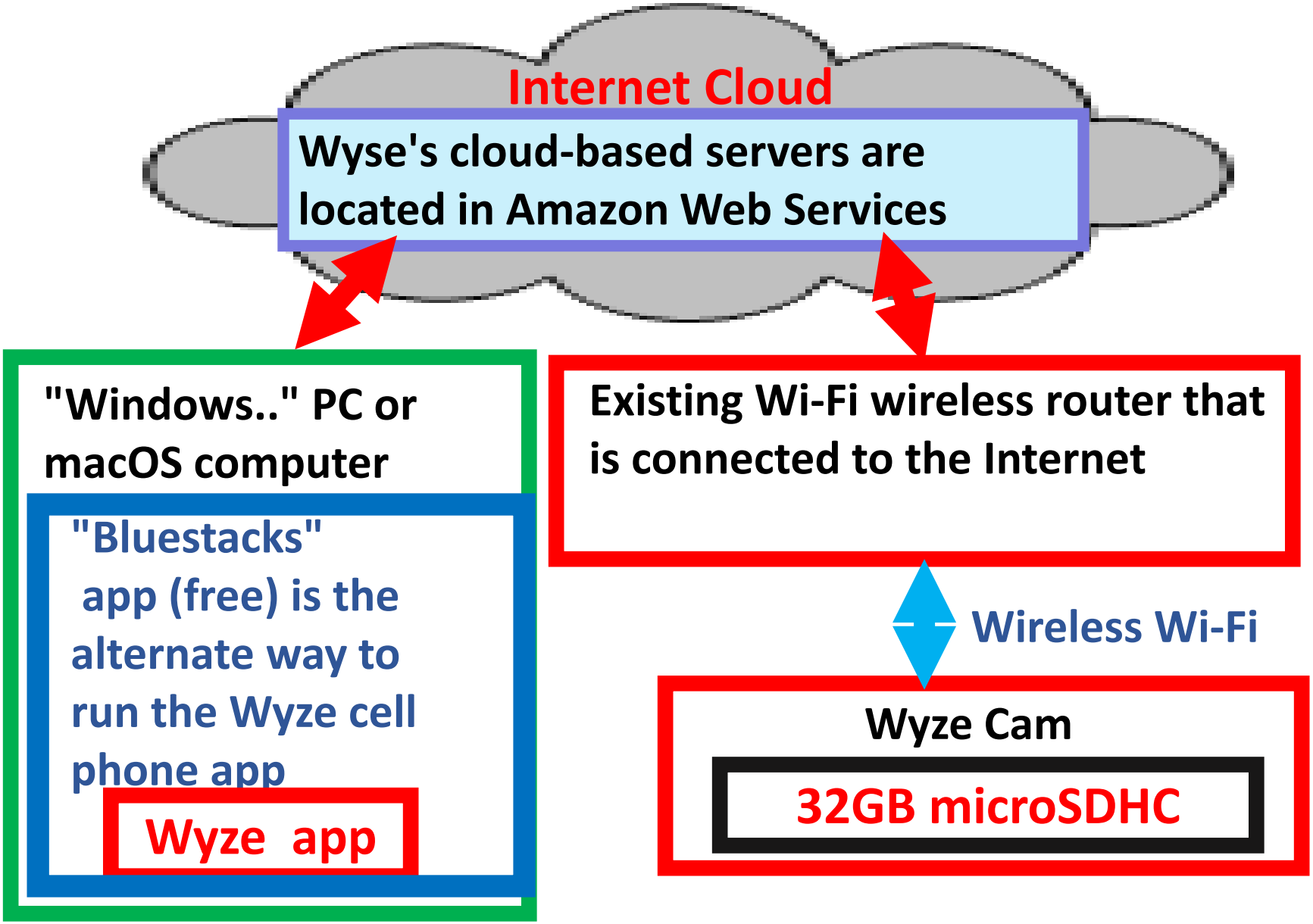
- To install a new "Wyze Cam", you (or your computer tech) have to have an Android cell phone, an Android tablet, an Apple "iPhone", or an Apple "iPad
- If your cell phone or tablet does not already have the "Wyze" app installed in it, you have to get the "Wyze" app installed into it by finding the "Wyze" in the "Play Store" or the "App Store".


Internet Cloud
Wyse's cloud-based servers are located in Amazon Web Services
Android or iOS cell phone or tablet (is required for initial installation)
Wyze app
Existing Internet provider's equipment
Existing Wi-Fi wireless access point
Wireless Wi-Fi
Wyze Cam
32GB microSDHC

USING A "WYZE CAM"

- After you complete the installation of a "Wyze Cam", you can use the "Wyze" app to access and manage a Wyze cam using either:
  "Wyze" app in an Android or iOS cell phone or tablet
  OR
  "Wyze" app running inside the "Bluestacks" or "Nox" ANDROID EMULATOR running inside a Windows.. computer or a macOS computer or a Linux computer


Internet Cloud
Wyse's cloud-based servers are located in Amazon Web Services
Existing Wi-Fi wireless router that is connected to the Internet
Wireless Wi-Fi
Android or iOS cell phone or tablet
Wyze app
Wyze Cam
32GB microSDHC


Internet Cloud
Wyse's cloud-based servers are located in Amazon Web Services
"Windows.." PC or macOS computer
"Bluestacks" app (free) is the alternate way to run the Wyze cell phone app
Wyze app
Existing Wi-Fi wireless router that is connected to the Internet
Wireless Wi-Fi
Wyze Cam
32GB microSDHC

"WYZE CAM" VERSIONS

- 2017-10: Wyze Cam version 1
- 2018-02: Wyze Cam version 2
- 2021-01: Wyze Cam version 3

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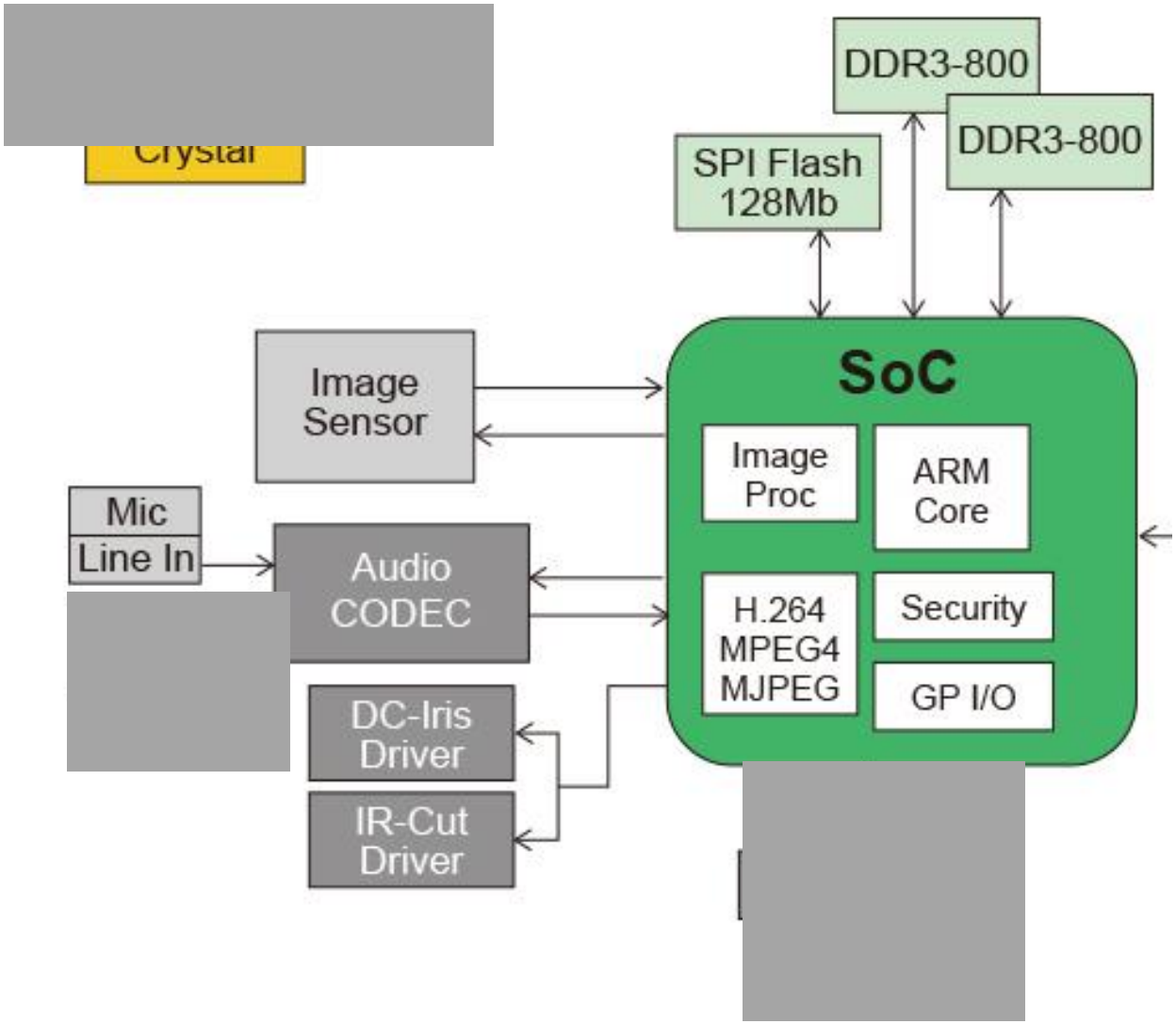
"WYZE CAM" VERSIONS

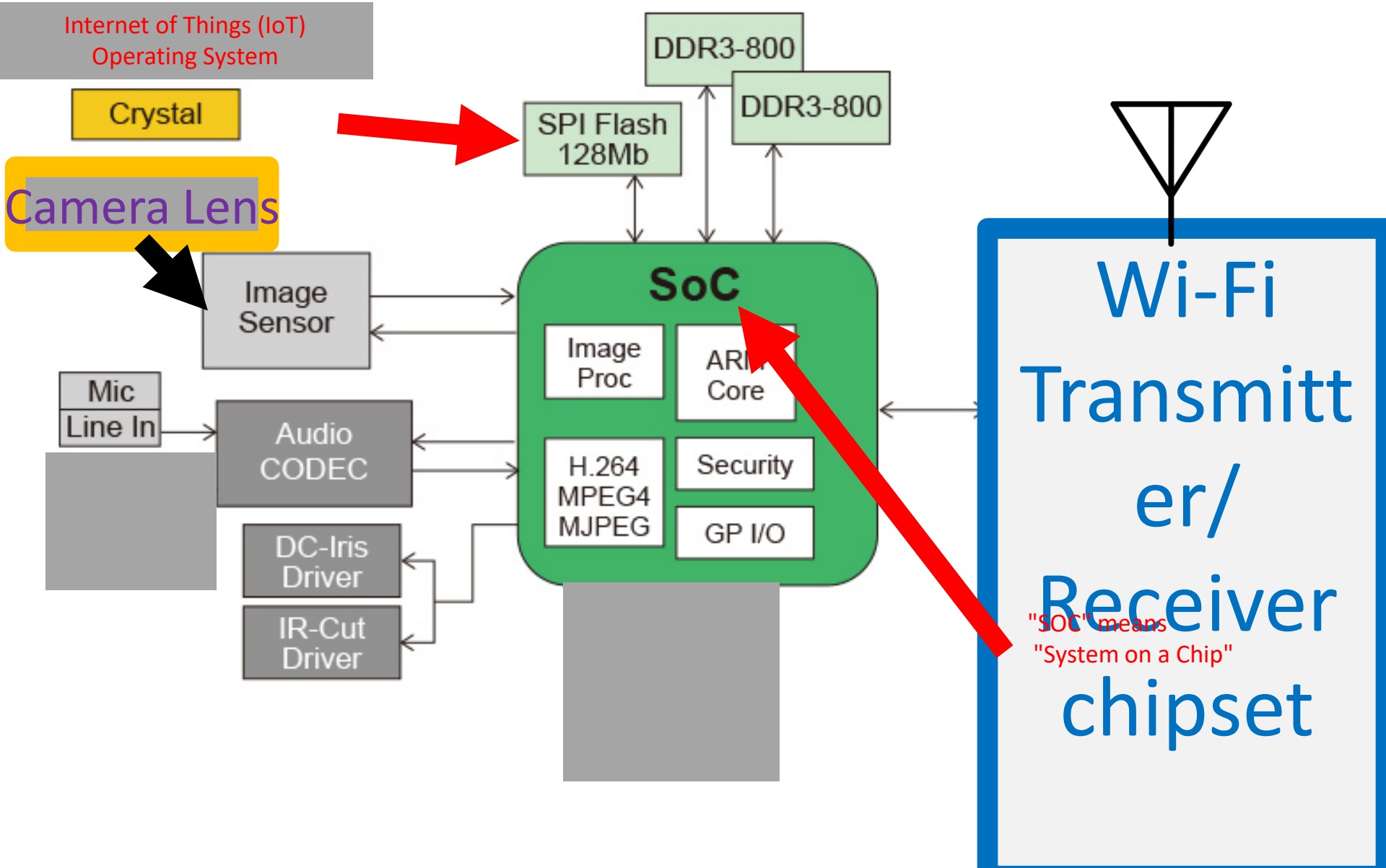
- Wyze Cam 2 improvements are illustrated at https://wyzelabs.zendesk.com/hc/en-us/articles/360031482951-What-is-the-difference-between-Wyze-Cam-and-Wyze-Cam-Pan-
- Wyze Cam 3 improvements are illustrated at https://wyze.com/wyze-cam.html

CLOUD-BASED WEB-CAM DIAGRAM

- The following diagram shows all the parts inside a cloud-based Webcam:

-


Crystal
DDR3-800
DDR3-800
SPI Flash
128Mb
SoC
Image
Sensor
Image
Proc
ARM
Core
Mic
Line In
Audio
CODEC
H.264
MPEG4
MJPEG
Security
GP I/O
DC-Iris
Driver
IR-Cut
Driver


Internet of Things (IoT)
Operating System
Crystal
Camera Lens
SPI Flash
128Mb
DDR3-800
DDR3-800
Image
Sensor
SoC
Image
Proc
ARM
Core
Mic
Line In
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MPEG4
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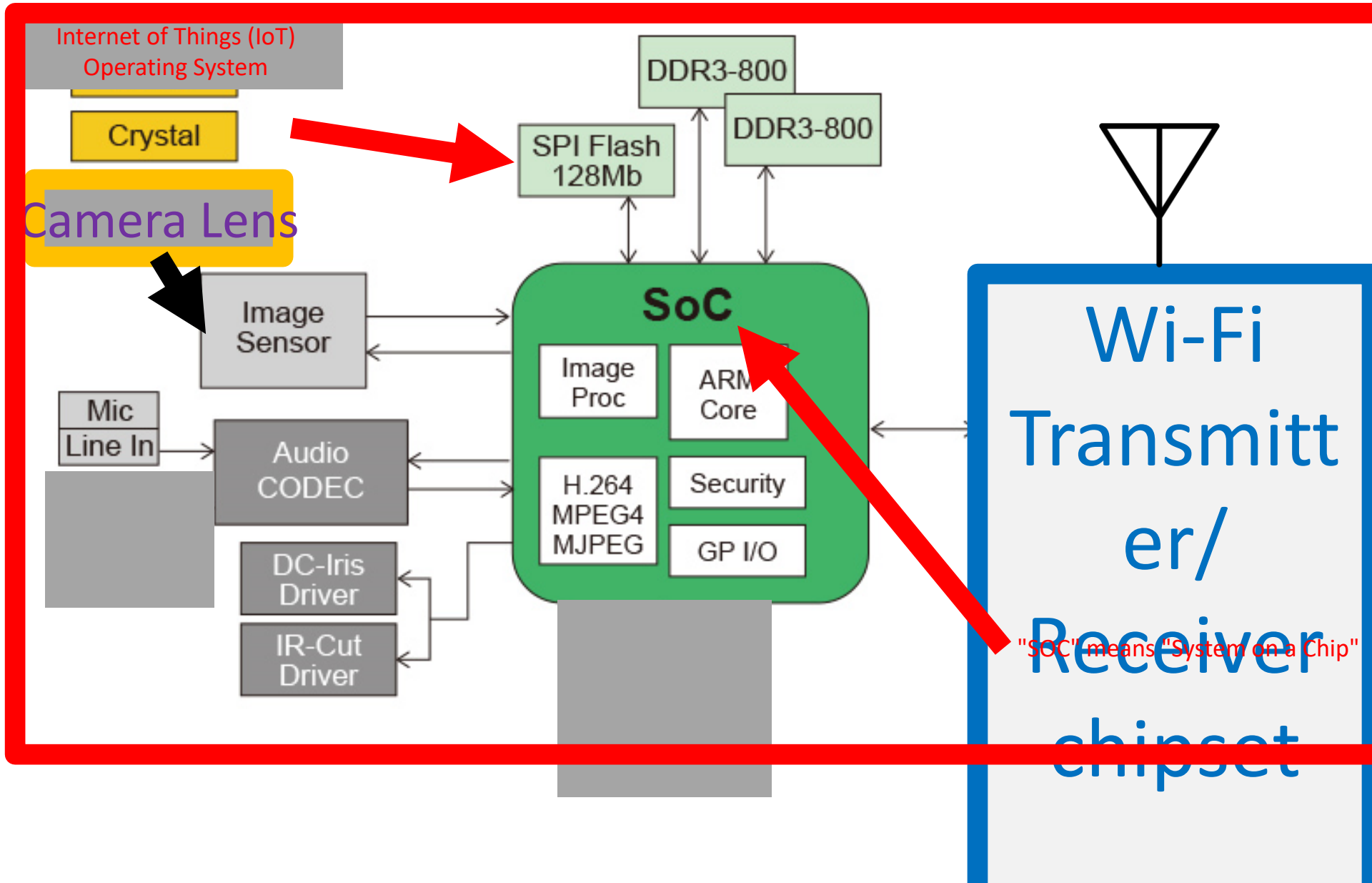
Security
GP I/O
DC-Iris
Driver
IR-Cut
Driver
Wi-Fi
Transmitt
er/
Receiver
chipset
"SOC" means
"System on a Chip"


Internet of Things (IoT)
Operating System
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DDR3-800
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Driver
IR-Cut
Driver
Wi-Fi
Transmitt
er/
Receiver
chipset
"SOC" means "System on a Chip"

CLOUD-BASED WEB-CAM DIAGRAM

- Reference for the previous three slides: https://www.avnet.com/wps/portal/apac/solutions/reference-solutions/industrial-solutions/nuvoton-ip-camera-platform/

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CLOUD-BASED WEB-CAM DIAGRAM

- Firmware inside a Wyze cam uses an "Internet of Things" "Operating System" that has a Linux kernel that has been modified by the software engineers that work for Wyze:

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Wyze Cam v3:

Name	Version	License	Source Code
U-Boot	2013.07 (modified)	GPLv2	Link
Linux	3.10.14 (modified)	GPLv2	Link
uClibc	0.9.33.2	LGPLv2.1	Link
libgcc	4.7.2	GPLv3 Runtime	

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libgcc	4.7.2	GPLv3 Runtime	

Linux	3.10.14 (modified)	GPLv2

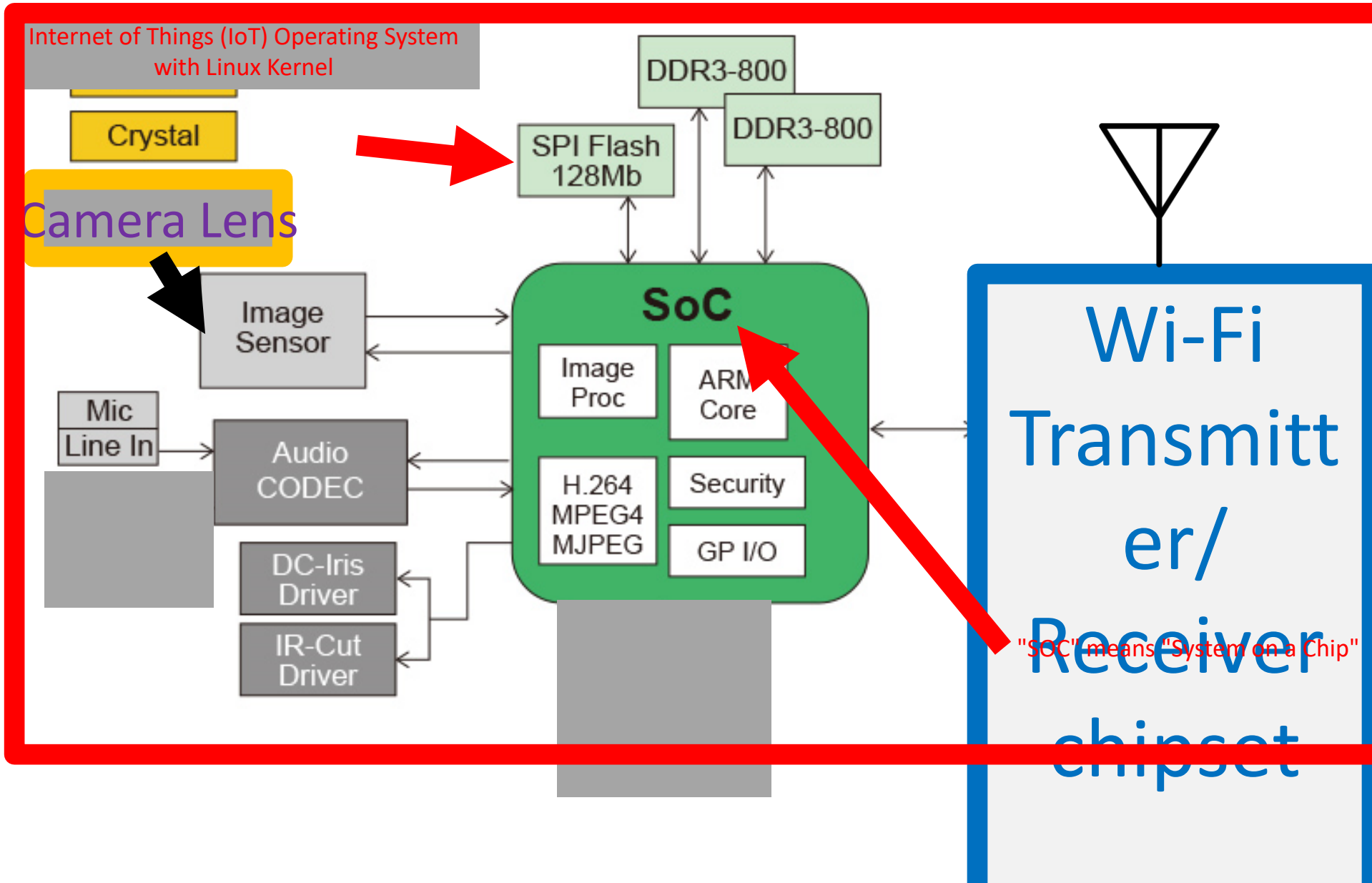
Wyze Cam v2:

Name	Version	License	Source Code
U-Boot	2013.07 (modified)	GPLv2	Link
Linux	3.10.14 (modified)	GPLv2	Link
uClibc	0.9.33.2	LGPLv2.1	Link
libgcc	4.7.2	GPLv3 Runtime Exception	

Wyze Cam v2:

Name	Version	License	Source Code
U-Boot	2013.07 (modified)	GPLv2	Link
Linux	3.10.14 (modified)	GPLv2	Link
uClibc	0.9.33.2	LGPLv2.1	Link
libgcc	4.7.2	GPLv3 Runtime Exception	

Linux 3.10.14 (modified) GPLv2


Internet of Things (IoT) Operating System
with Linux Kernel
Crystal
Camera Lens
SPI Flash
128Mb
DDR3-800
DDR3-800
Image
Sensor
SoC
Image
Proc
ARM
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Driver
IR-Cut
Driver
Wi-Fi
Transmitt
er/
Receiver
chipset
"SOC" means "System on a Chip"

CLOUD-BASED WEB-CAM DIAGRAM

- References for the previous two slides:
- https://wyzelabs.zendesk.com/hc/en-us/articles/360012546832-Open-Source-Software
- https://en.wikipedia.org/wiki/Linux_kernel_version_history
-

ACTUAL HARDWARE MANUFACTURER OF WYZE CAM

- The actual manufacturer of the "Wyze Cam" is TianJin HuaLai Technology per https://twitter.com/wyzecam/status/992169302114512896?lang=en

ACTUAL HARDWARE MANUFACTURER OF WYZE CAM (continued)

- TianJin HuaLai Technology sells the same hardware camera to Wyze, Xiaomi, Neos, and Yi Cam

ACTUAL HARDWARE MANUFACTURER OF WYZE CAM (continued)

- The firmware from any of these three actual camera sellers will not run inside any camera that is not actually made by the actual camera seller: Wyze firmware will not run inside Xiaomi camera or a Neos camera or a Yi Cam camera
and vice versa

ACTUAL HARDWARE MANUFACTURER OF WYZE CAM (continued)

- The "Neos SmartCam" is not a good deal as shown at https://www.amazon.com/Neos-SmartCam-Security-Camera-Warranty/dp/B07JY7K3SZ/ref=sr_1_4?dchild=1&keywords=neos+cam&qid=1617489967&sr=8-4

ACTUAL HARDWARE MANUFACTURER OF WYZE CAM (continued)

- The "Xiaomi Mijia Xiaofang" camera is not compatible with any cloud-based servers in the U.S.A. as explained at https://www.ebay.com/itm/Original-Xiaomi-Mijia-Xiaofang-1S-110-DegreeF2-0-8X-1080P-Digital-Zoom-Smart-Cam/163681198200?_trkparms=ispr%3D1&hash=item261c28e078:g:YIcAAOSw8KRc0pwv&amdata=enc%3AAQAFAAACcBaobrjLl8XobRIiIML1V4Imu%252Fn%252BzU5L90Z278x5ickkfOCvCjTOBWK8pwriaolq5sd%252B3MjIeYzq6X0Mhs7fUQEyJM3XIUqSfWyOOsSg%252Fg99qdmTuknrsRXaUzUYWIvu2Z%252BvG0xOTj%252BqkwUAp18o5%252Fjy6te2tlZg0DbQBMQaqTRhm4kht0JtHfUaMRNF6rwV0DOFVDJunz2ry9W0gBbYHBvgcUDbBE4j7W3nTQBuivjBt0MmPB2dxMPtZWphD66Ldymw3NbQWyY944Ai0kgVD7COqm9sZllgAehQo1BH8Kwkltrt%252FQY7uWMJVNW7n%252FTFR5u8b6GD0pGuWTgni4yNQawLV0dIVuEGt%252FaYTvHkpt7Asc4uACWIui9J4pXKCiVkfbyv03umvAqp%252Bd2tG0P2DGgDbDGuZnv5QZx62xJYDPfm9Yke6Zcv5aP6BQGtS3KY0ZlbuOaR%252BIw3OGP%252B%252FqUlVkCcuJCPZZe1CRxMGSwU1g7dgghb%252BchqjZIPSYdJTxdqZWfXAyhghp9iaGo8Eg%252FvAW08AHwdX%252B1tqUPZJNbecu8LsX%252F3yx4fl5VsVznsPobllinwJ%252BJprcNoG405ba766gq60dJCWxT6ttgM%252FVJ4dLuAWtYypIPzeXzdfajeGPZqlQ%252FDxi4xaoYQOHCuDRIO8St%252B31aes4Ad%252BIP5k48j4RSnX82hFw2ao%252FhnkZiJp0jSVhg90OYR8HrzNMrPJ42ol62cDCDxBdUmHsKZ3XU2YPBmZhroFfsMEA2OQ905lp%252FyDn%252BYIWwRg536ofCEA5sYV7tZGQ0kioQUlCwM6YM8IOG7lJG%252BnXqDuGJpnfPGUAktew%253D%253D%7Ccksum%3A163681198200494 2c07341de4477a71a9d1efc9810fe%7Campid%3APL_CLK%7Cclp%3A2334524

DEFAULT FREE CLOUD STORAGE FOR "WYZE CAM"

- 12-second recording when motion is detected
- 5-minute "Cool Down Period" after motion is detected
- 12-second clips are stored for 14 days
- Inadequate for use by police detectives and prosecuters

DEFAULT FREE CLOUD STORAGE FOR "WYZE CAM" (continued)

- Most crimes take longer than 12 seconds for the perpetrator to perform
- 24-hour optional 32-Gigabyte microSDHC module is required for use after a crime is recorded
- When an optional 32-Gigabyte microSDHC module is inserted into a Wyze Cam, the recording of video is continuous, even when your Internet connection is not working

WYZE "CAM PLUS"

- Optional, not-free "Cam Plus" service allows for unlimited recording of motion events
- See https://services.wyze.com/detail/camplus

PREVENTING GLARE FROM WINDOW GLASS

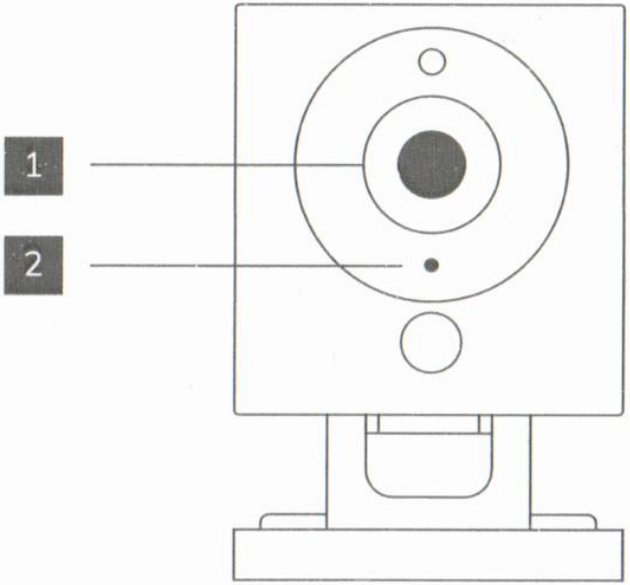
- https://www.youtube.com/watch?v=s1UDgI3M9Vo

REPAIRING A FAILED WYZE CAM

- https://www.youtube.com/watch?v=vzu5aNePOz8

STEPS FOR INSTALLING A NEW "WYZE CAM"

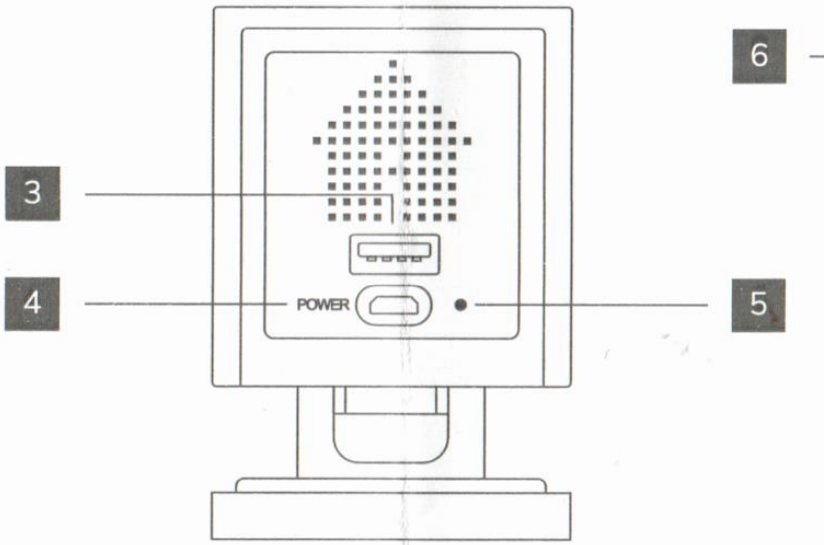
- Here are the steps for initial installation of a new Wyze Cam using an Android cell phone or an iPhone:



FRONT

1 Lens

2 Microphone

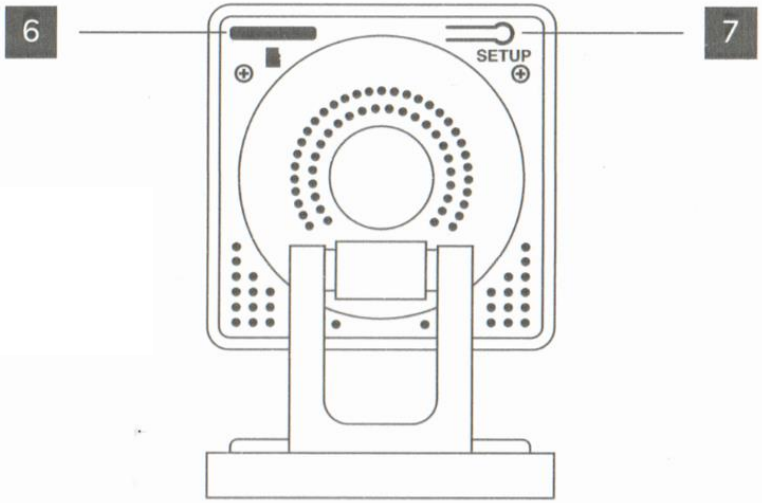


BACK

3 USB Output

4 Power Input

5 Status Light



BOTTOM

6 MicroSD Slot
(SD card not included)

7 SETUP Button

SETUP

1

Download the Wyze app
and create an account

App Store

Google Play

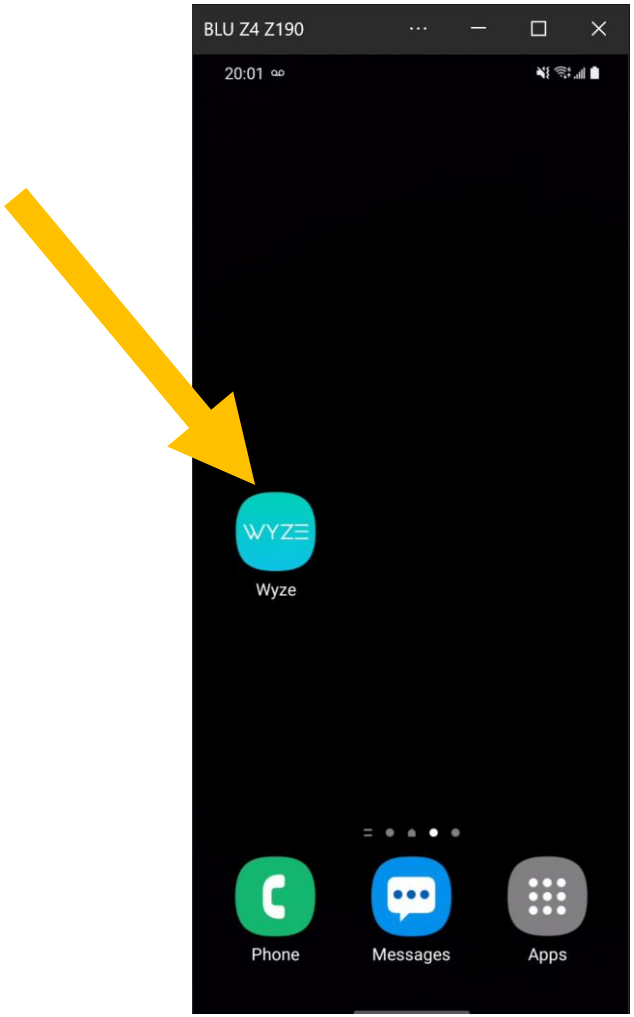
STEPS FOR INSTALLING A NEW "WYZE CAM" (continued)

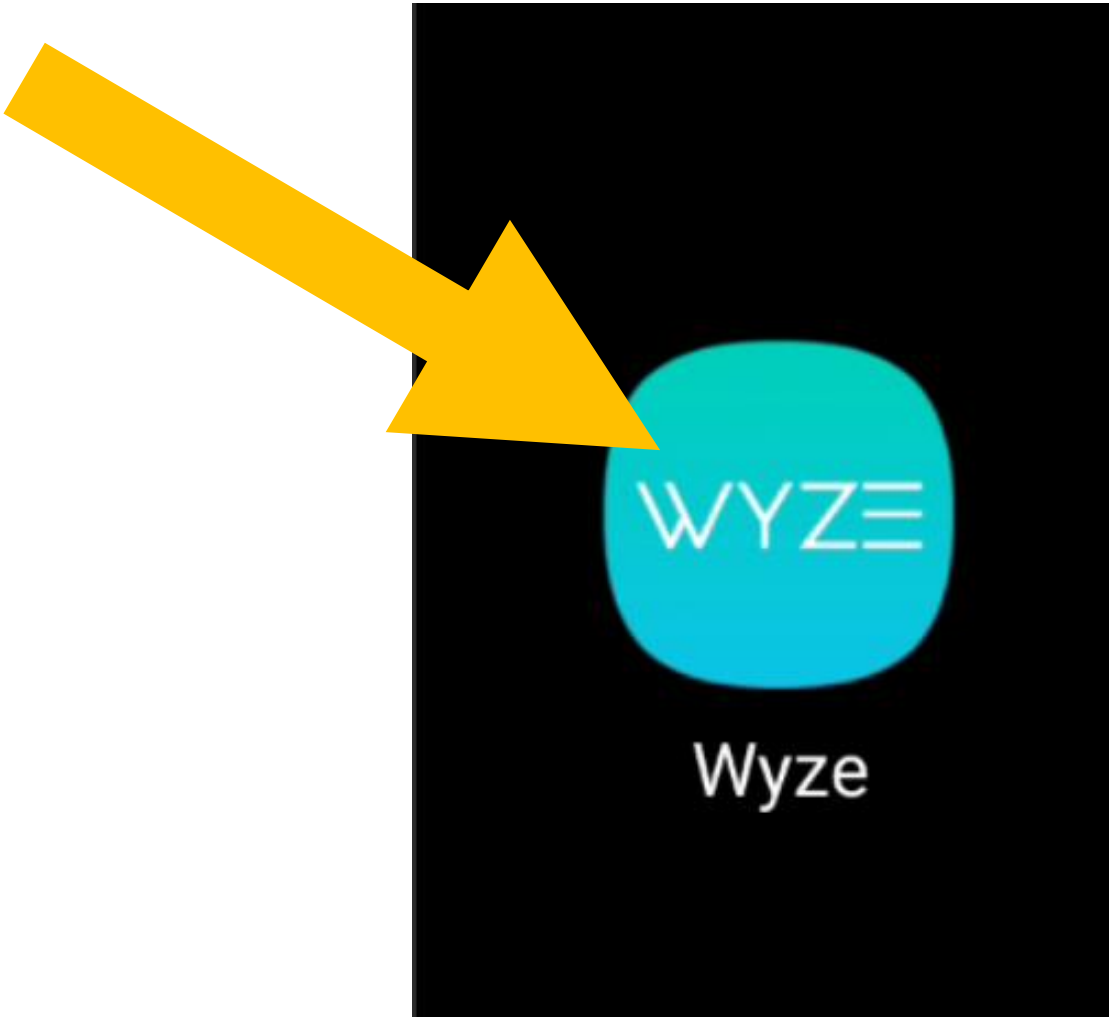
- For initial installation, you (or the tech that you hire) has to run the Wyze app from either an Android cell phone or an iPhone.
  (The Wyze app will run inside "Bluestacks" inside a Windows.. computer or a macOS computer but you cannot install a new Wyze Cam when you are running the Wyze app from inside "Bluestacks".)

STEPS FOR INSTALLING A NEW "WYZE CAM" (continued)

- From inside your cell phone, make sure that the Wyze app is running:

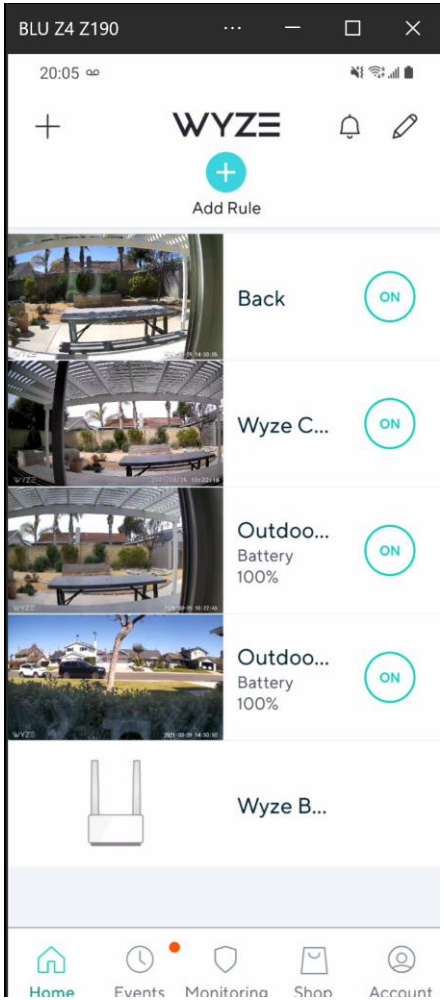
BLU Z4 Z190
20:01
WYZE
Wyze
Phone
Messages
Apps


BLU Z4 Z190
20:01
WYZE
Wyze
Phone
Messages
Apps


WYZE
Wyze

2

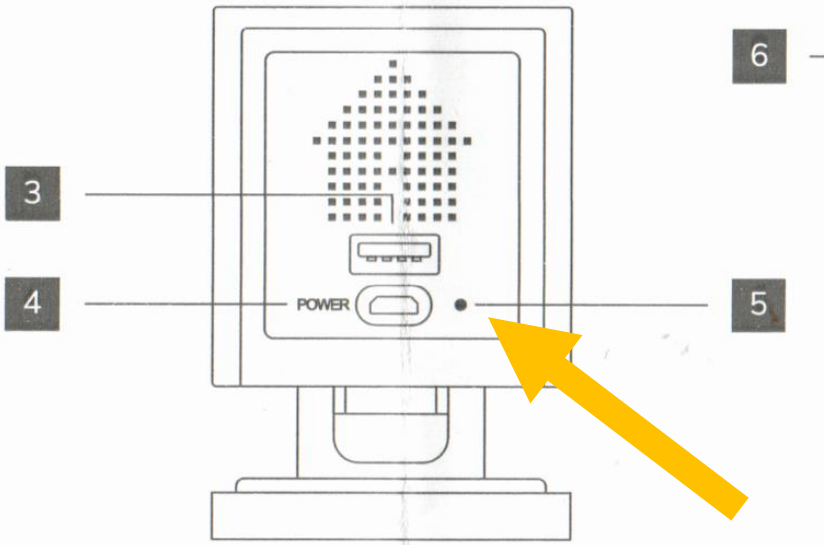
Connect the camera to a power outlet and wait for 20 seconds until the yellow status light flashes


BLU Z4 Z190
20:05
WYZE
Add Rule
Back
ON
Wyze C...
ON
Outdoo...
Battery
100%
ON
Outdoo...
Battery
100%
ON
Wyze B...
Home
Events
Monitoring
Shop
Account

4

Follow the Wyze app to finish setup

Wyze



BACK

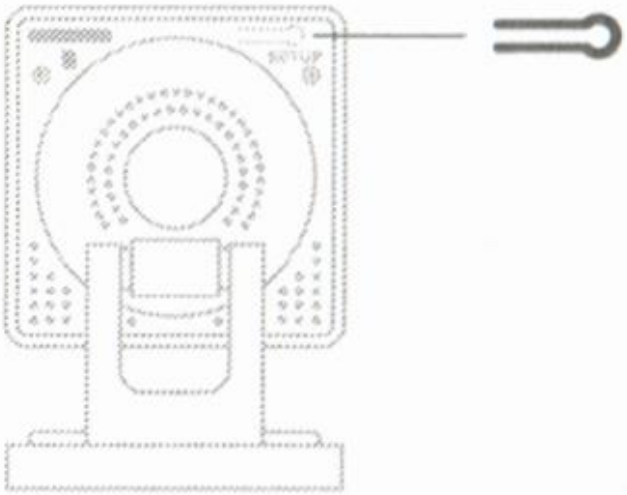
3 USB Output

4 Power Input

5 Status Light

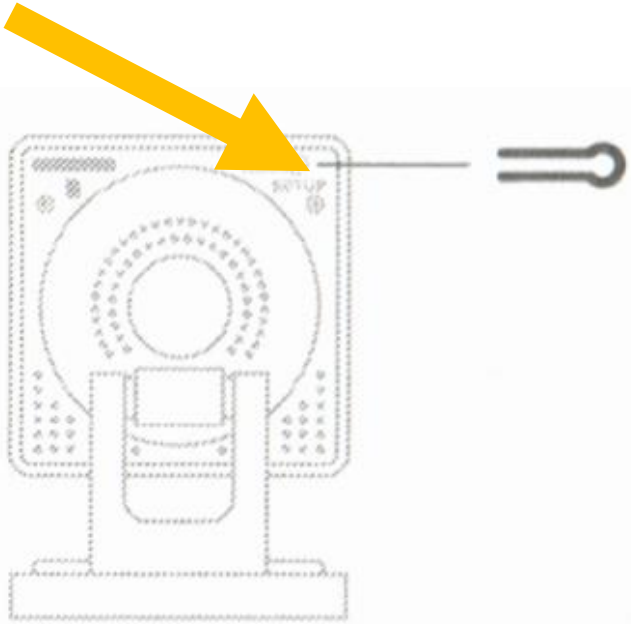
3

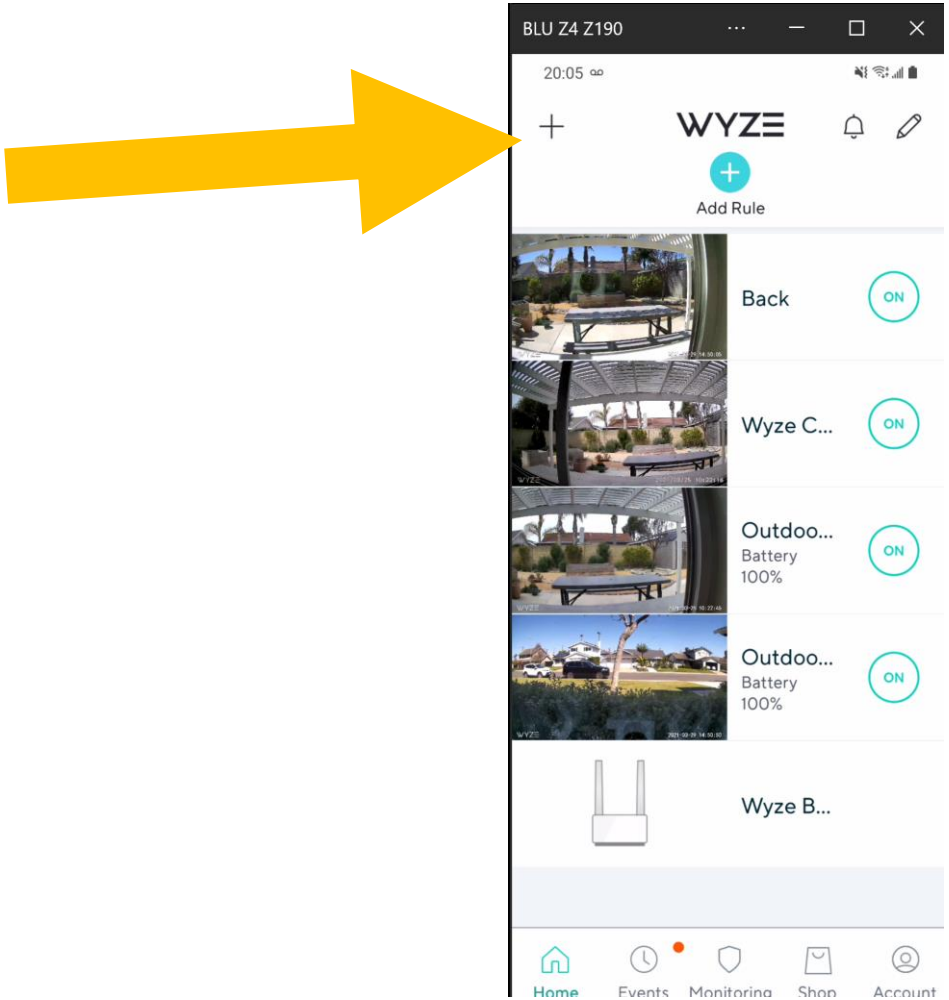
Press the SETUP button for 3 seconds until you hear a voice prompt

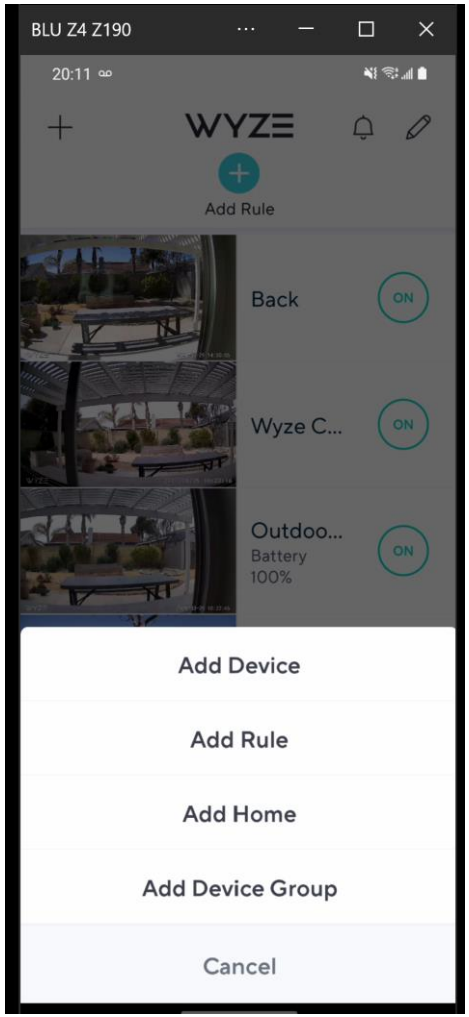


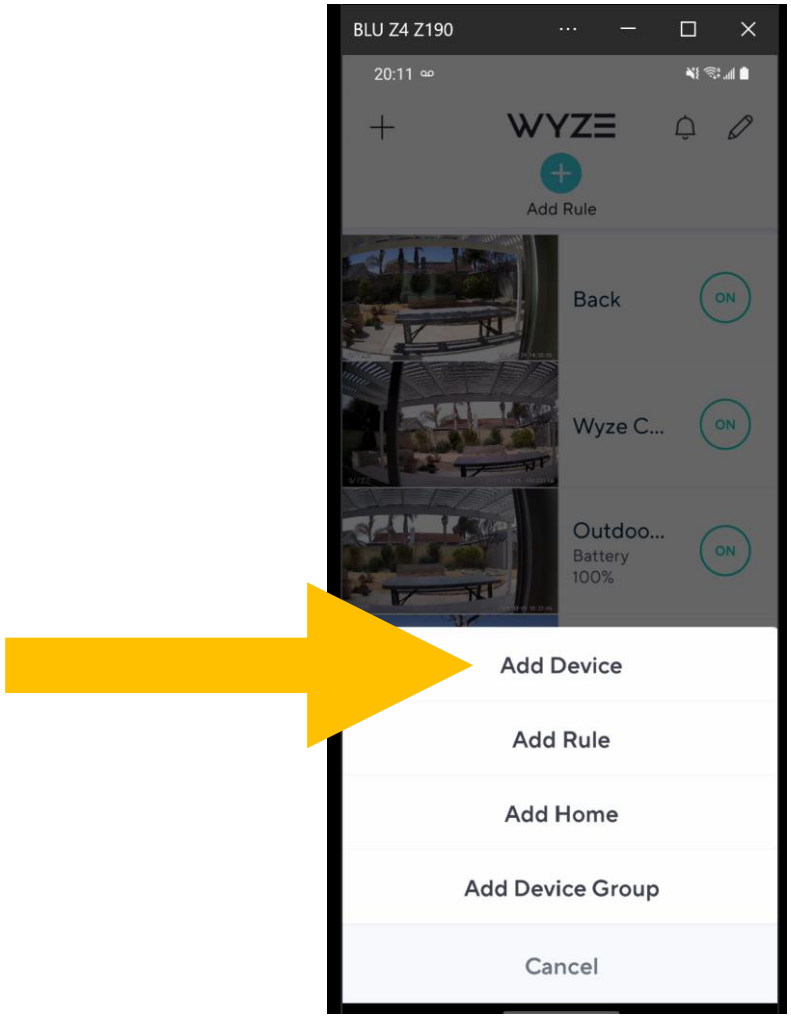
3

Press the SETUP button for 3 seconds until you hear a voice prompt




BLU Z4 Z190
20:05
WYZE
Add Rule
Back
ON
Wyze C...
ON
Outdoo...
Battery
100%
ON
Outdoo...
Battery
100%
ON
Wyze B...
Home
Events
Monitoring
Shop
Account


BLU Z4 Z190
20:11
WYZE
Add Rule
Back
ON
Wyze C...
ON
Outdoo...
Battery
100%
ON
Add Device
Add Rule
Add Home
Add Device Group
Cancel


BLU Z4 Z190
20:11
WYZE
Add Rule
Back
ON
Wyze C...
ON
Outdoo...
Battery
100%
ON
Add Device
Add Rule
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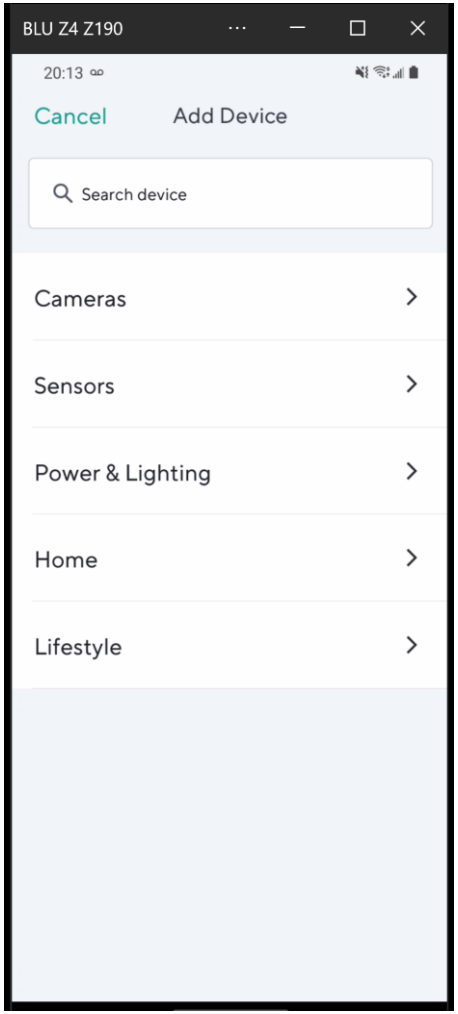
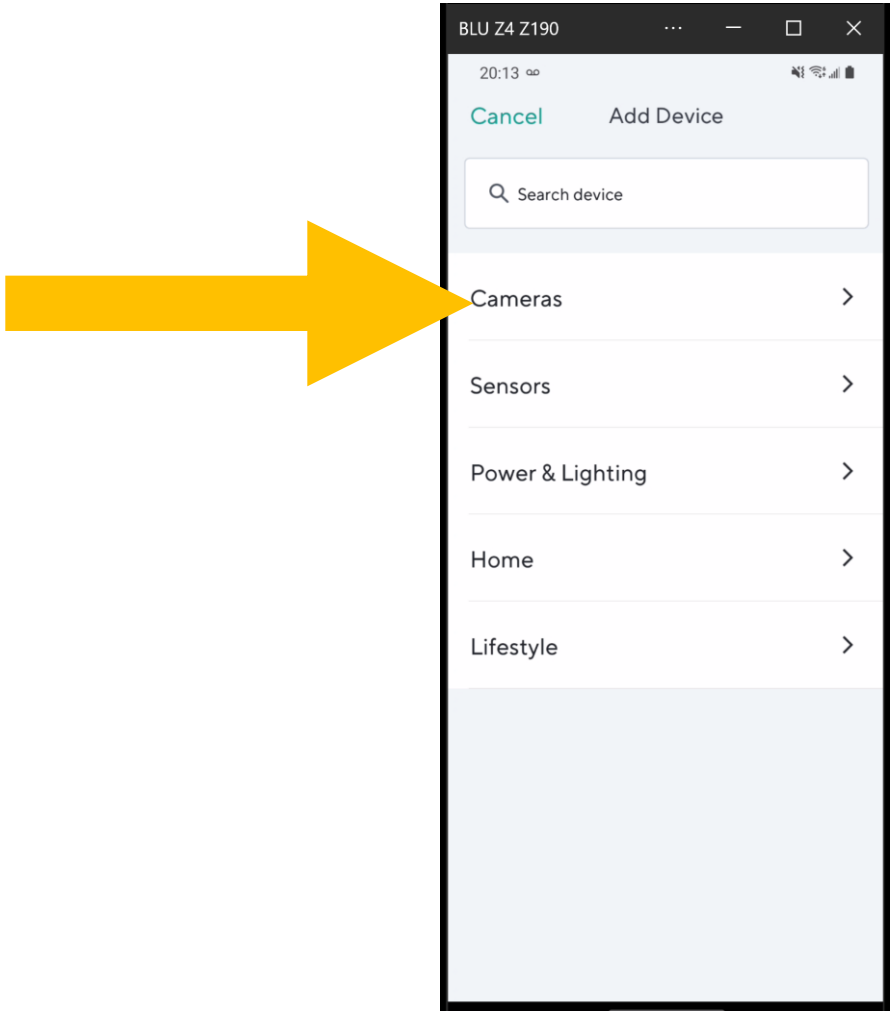
Add Device Group
Cancel


BLU Z4 Z190
20:13
Cancel
Add Device
Search device
Cameras
Sensors
Power & Lighting
Home
Lifestyle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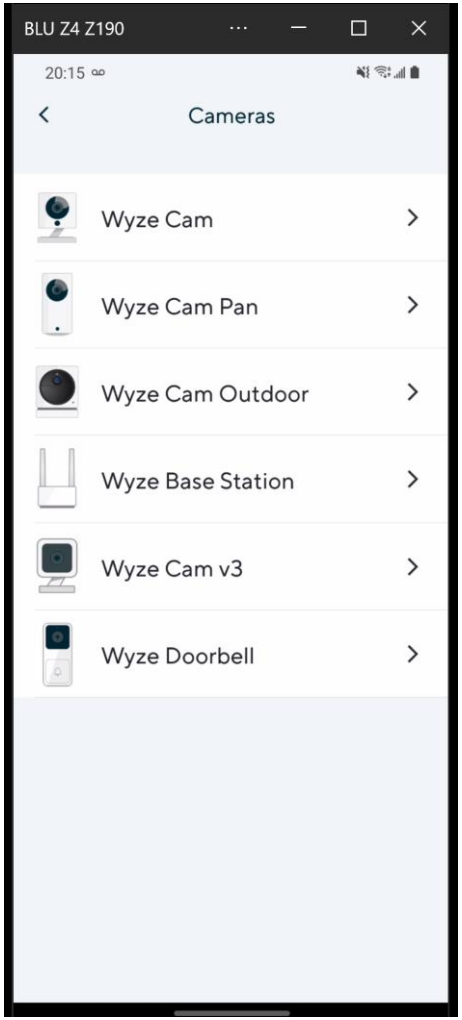
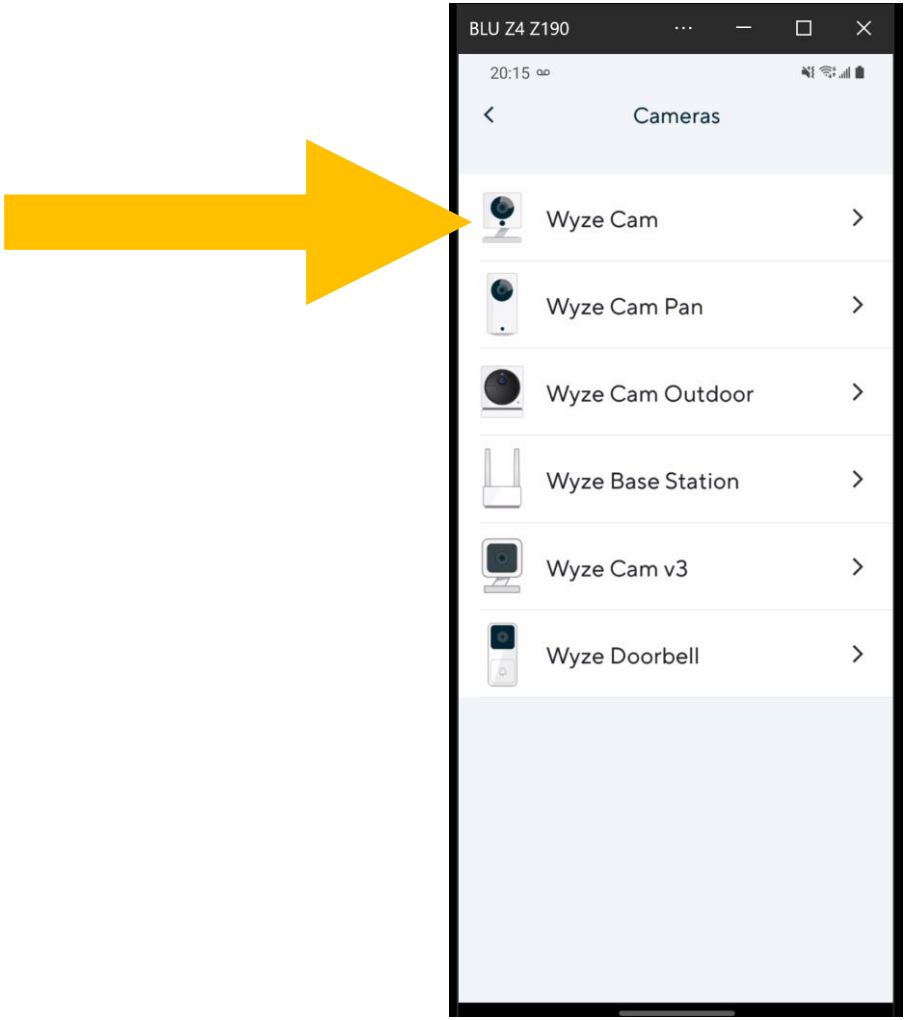
Cancel
Add Device
Search device
Cameras
Sensors
Power & Lighting
Home
Lifestyle


BLU Z4 Z190
20:15
Cameras
Wyze Cam
Wyze Cam Pan
Wyze Cam Outdoor
Wyze Base Station
Wyze Cam v3
Wyze Doorbell


BLU Z4 Z190
20:15
Cameras
Wyze Cam
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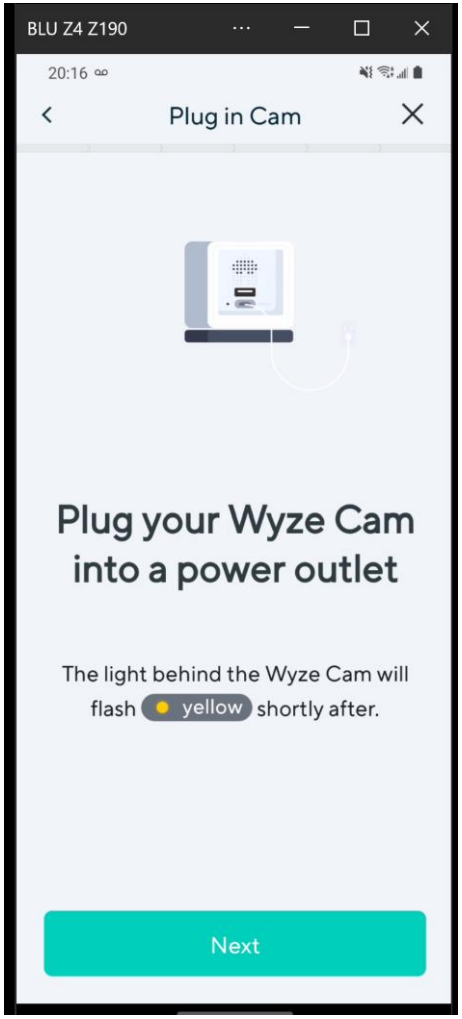
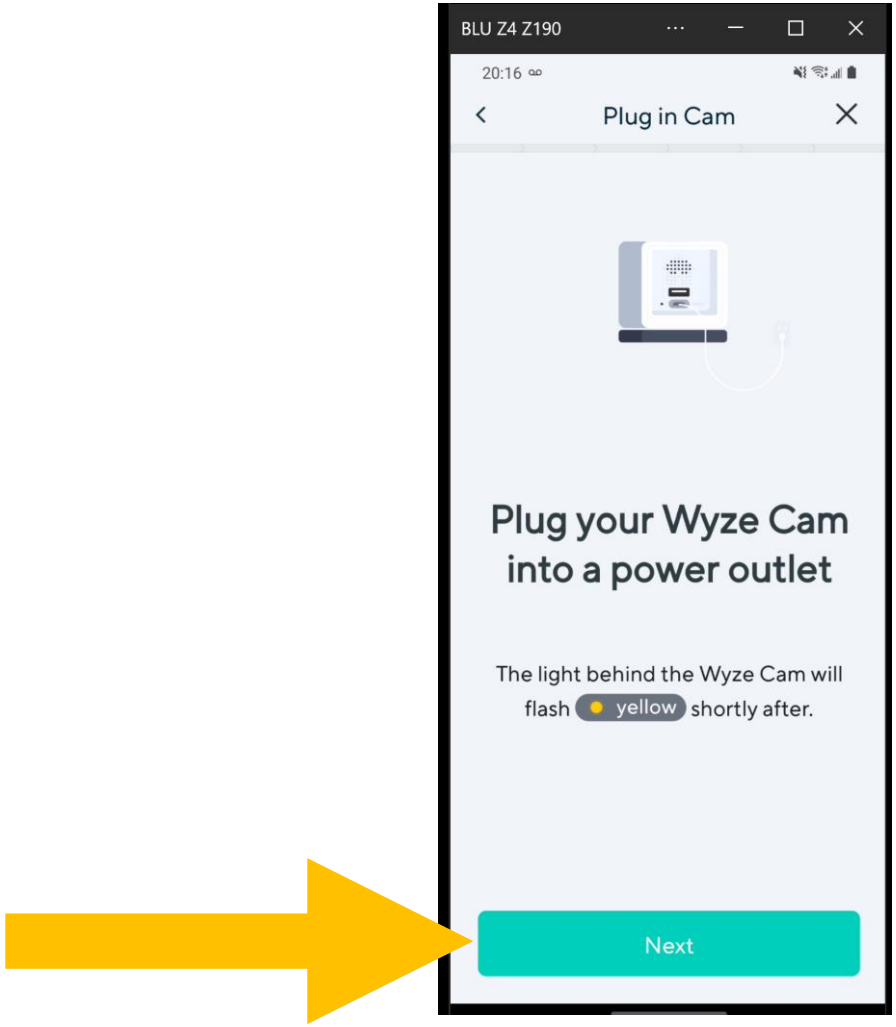
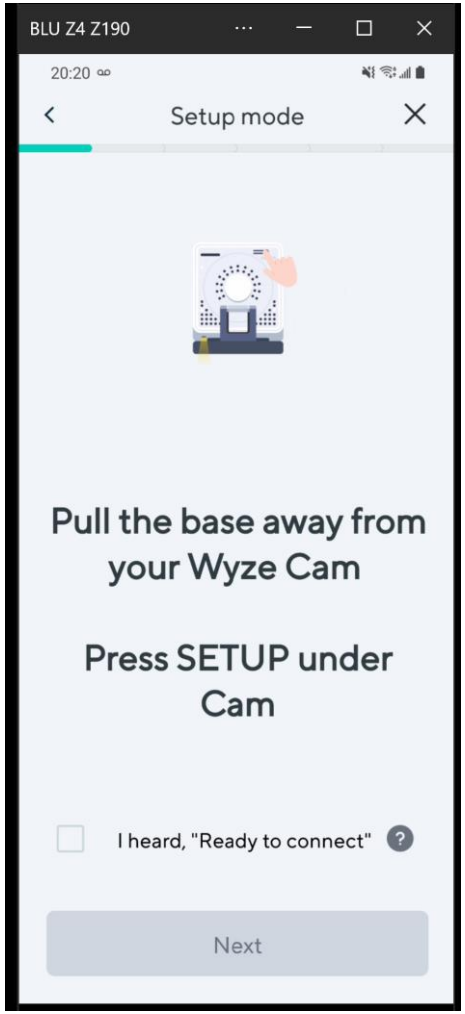
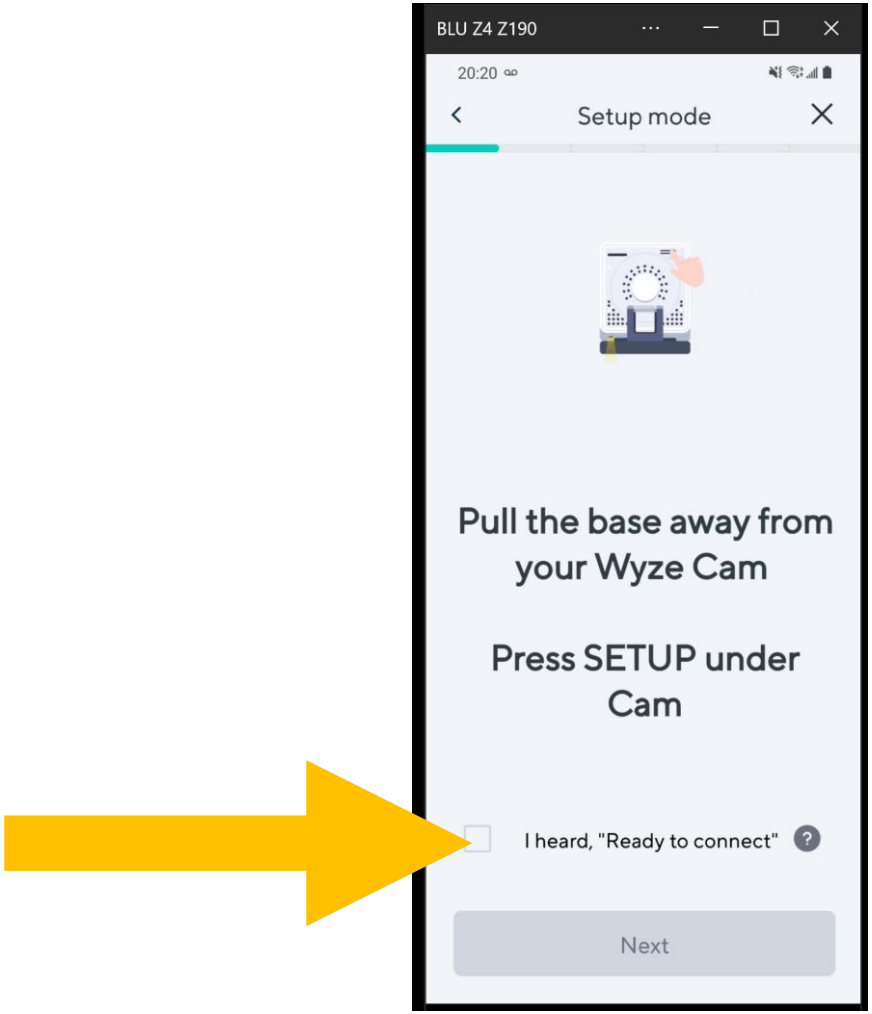
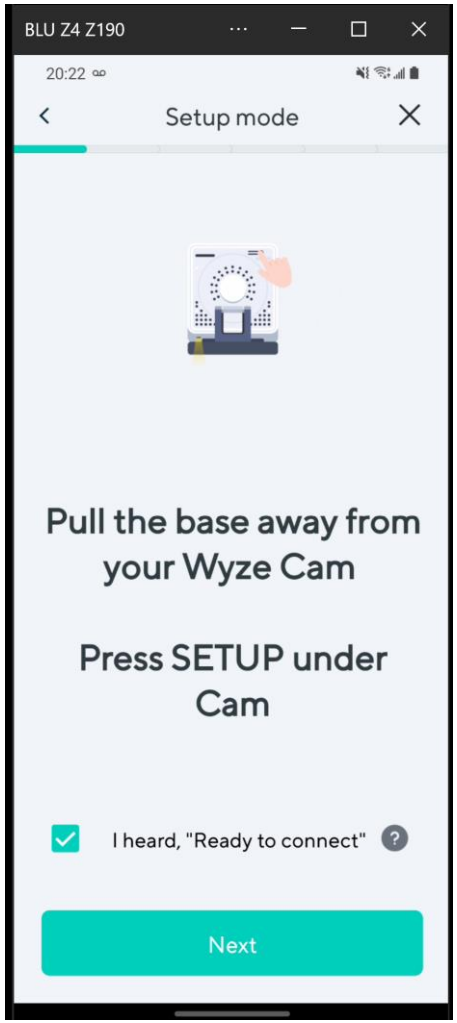
Wyze Cam Outdoor
Wyze Base Station
Wyze Cam v3
Wyze Doorbell

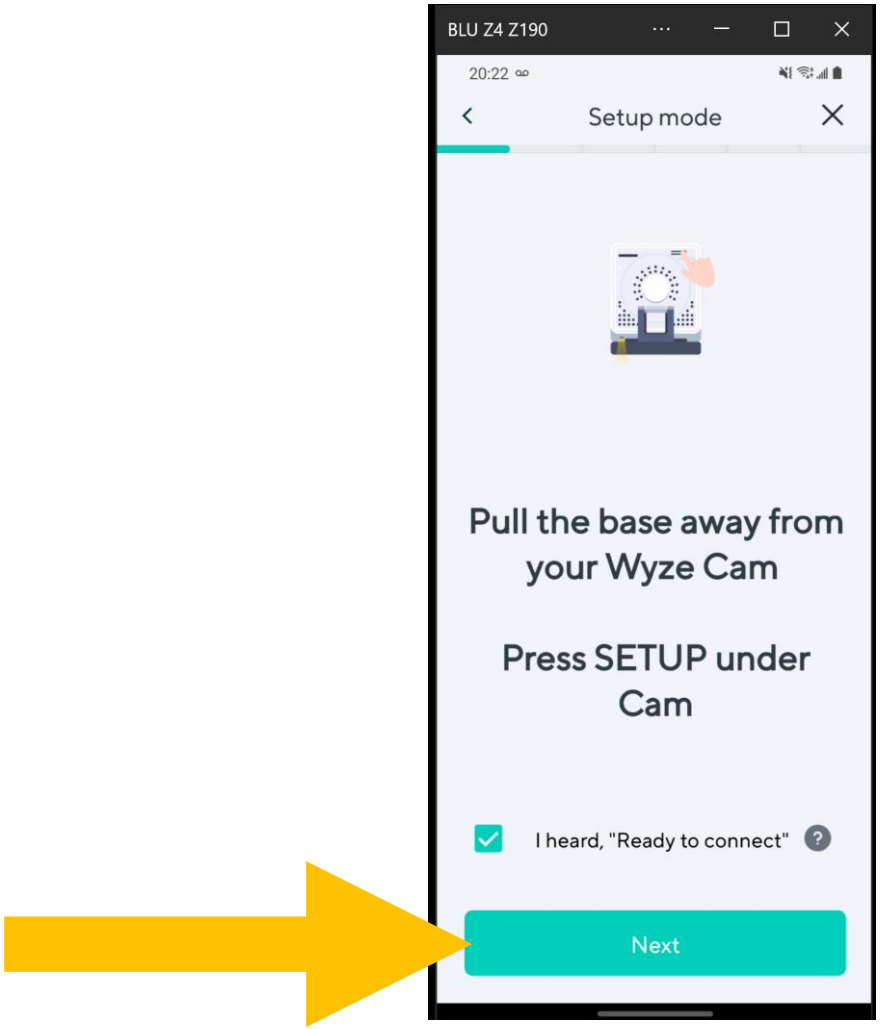

BLU Z4 Z190
20:16
Plug in Cam
Plug your Wyze Cam into a power outlet
The light behind the Wyze Cam will flash yellow shortly after.
Next

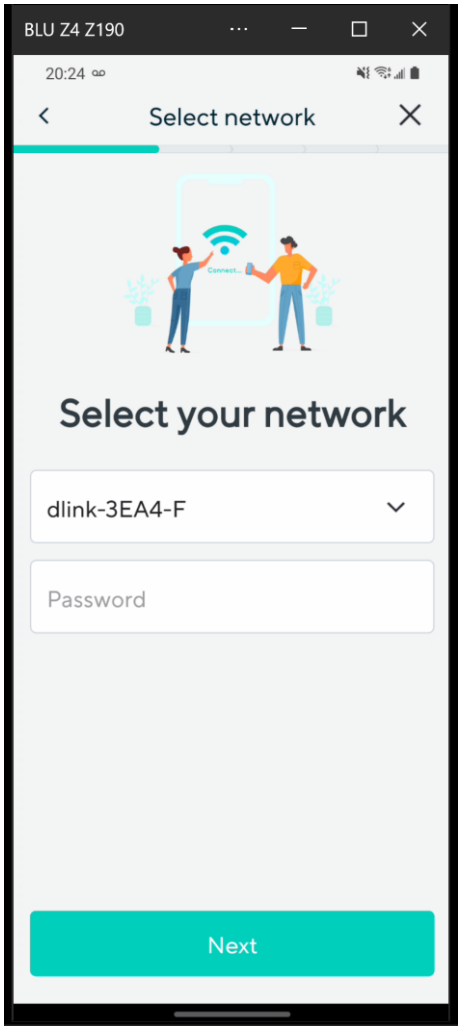

BLU Z4 Z190
20:16
Plug in Cam
Plug your Wyze Cam into a power outlet
The light behind the Wyze Cam will flash yellow shortly after.
Next

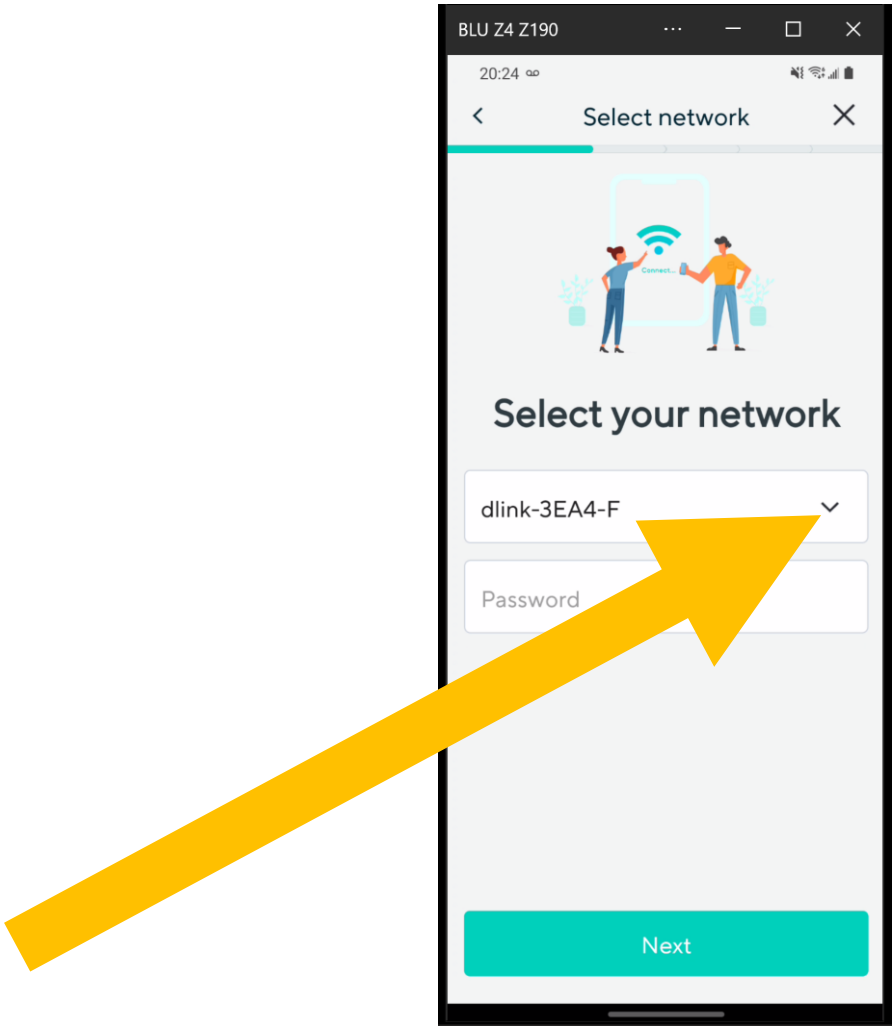

BLU Z4 Z190
20:20
Setup mode
Pull the base away from your Wyze Cam
Press SETUP under Cam
I heard, "Ready to connect"
Next

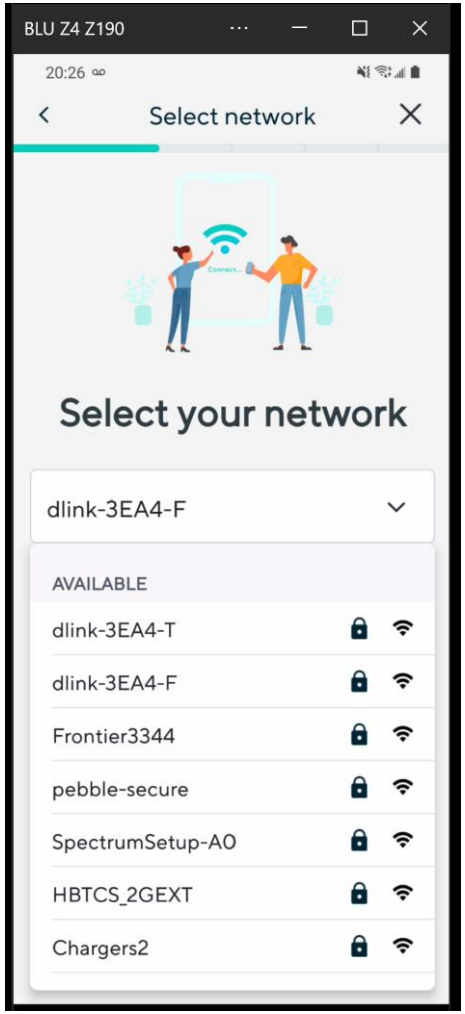

BLU Z4 Z190
20:20
Setup mode
Pull the base away from your Wyze Cam
Press SETUP under Cam
I heard, "Ready to connect"
Next


BLU Z4 Z190
20:22
Setup mode
Pull the base away from your Wyze Cam
Press SETUP under Cam
I heard, "Ready to connect"
Next


BLU Z4 Z190
20:22
Setup mode
Pull the base away from your Wyze Cam
Press SETUP under Cam
I heard, "Ready to connect"
Next

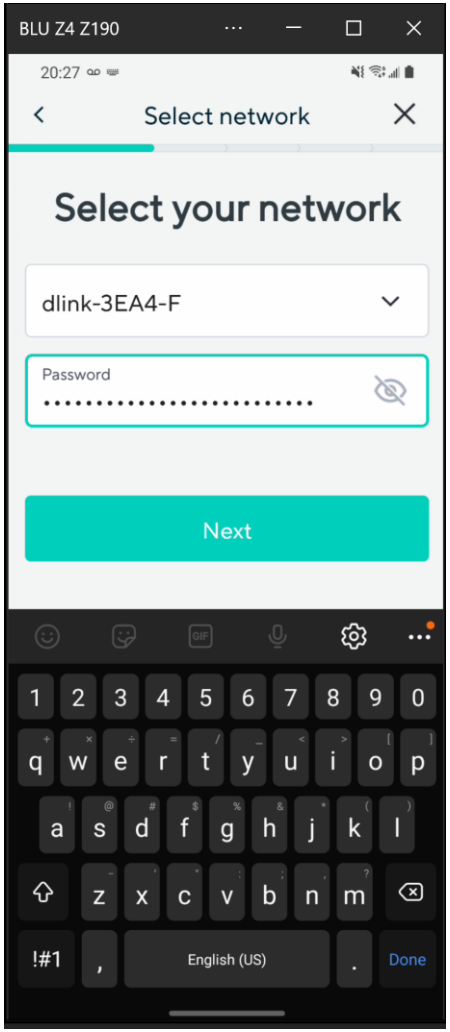

BLU Z4 Z190
20:24
Select network
Select your network
dlink-3EA4-F
Password
Next

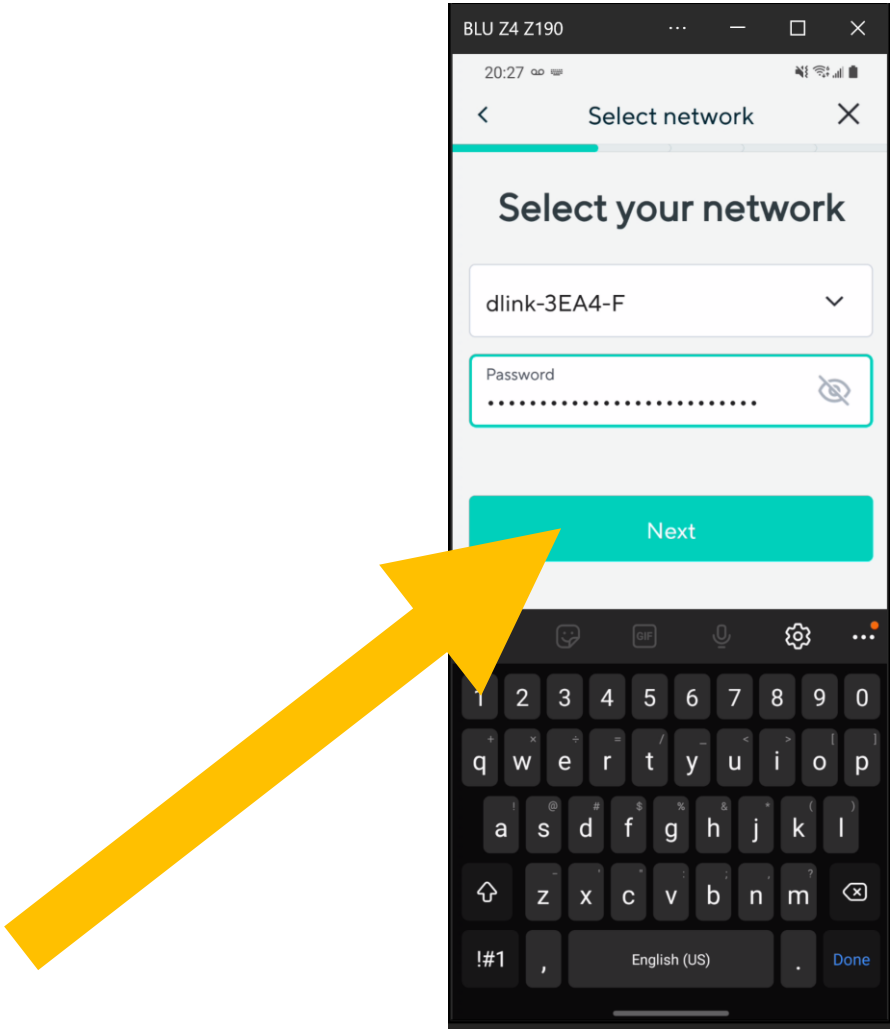

BLU Z4 Z190
20:24
Select network
Select your network
dlink-3EA4-F
Password
Next

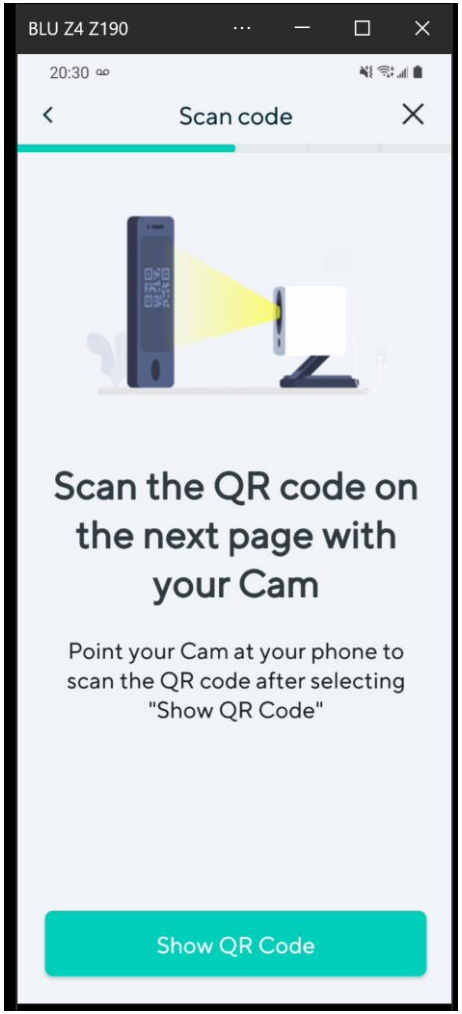

BLU Z4 Z190
20:26
Select network
Select your network
dlink-3EA4-F
AVAILABLE
dlink-3EA4-T
dlink-3EA4-F
Frontier3344
pebble-secure
SpectrumSetup-A0
HBTCS_2GEXT
Chargers2

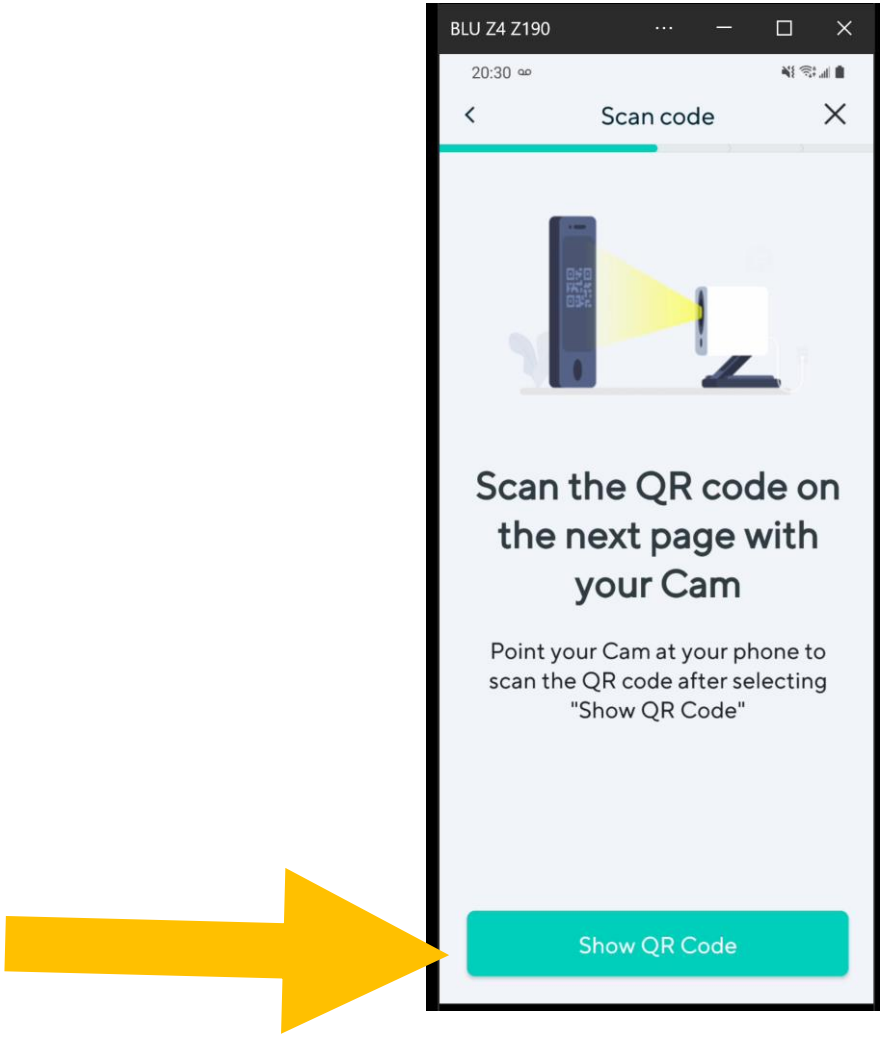
STEPS FOR INSTALLING A NEW "WYZE CAM" (continued)

- Select a Wi-Fi "Wireless Access Point" that operates at the 2.45 Gigahertz radio band. Wyze Cams cannot operate at the 5 Gigahertz and 6 Gigahertz radio bands.

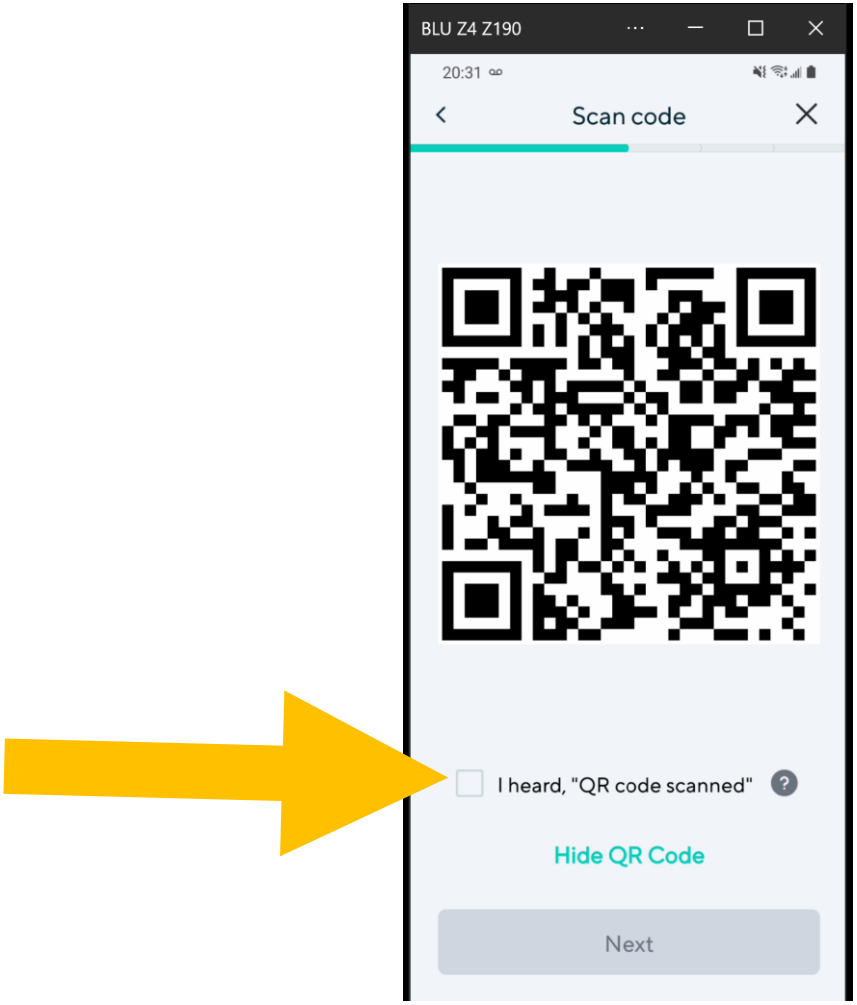

BLU Z4 Z190
20:27
Select network
Select your network
dlink-3EA4-F
Password
Next
English (US)
Done


BLU Z4 Z190
20:27
Select network
Select your network
dlink-3EA4-F
Password
Next
English (US)
Done

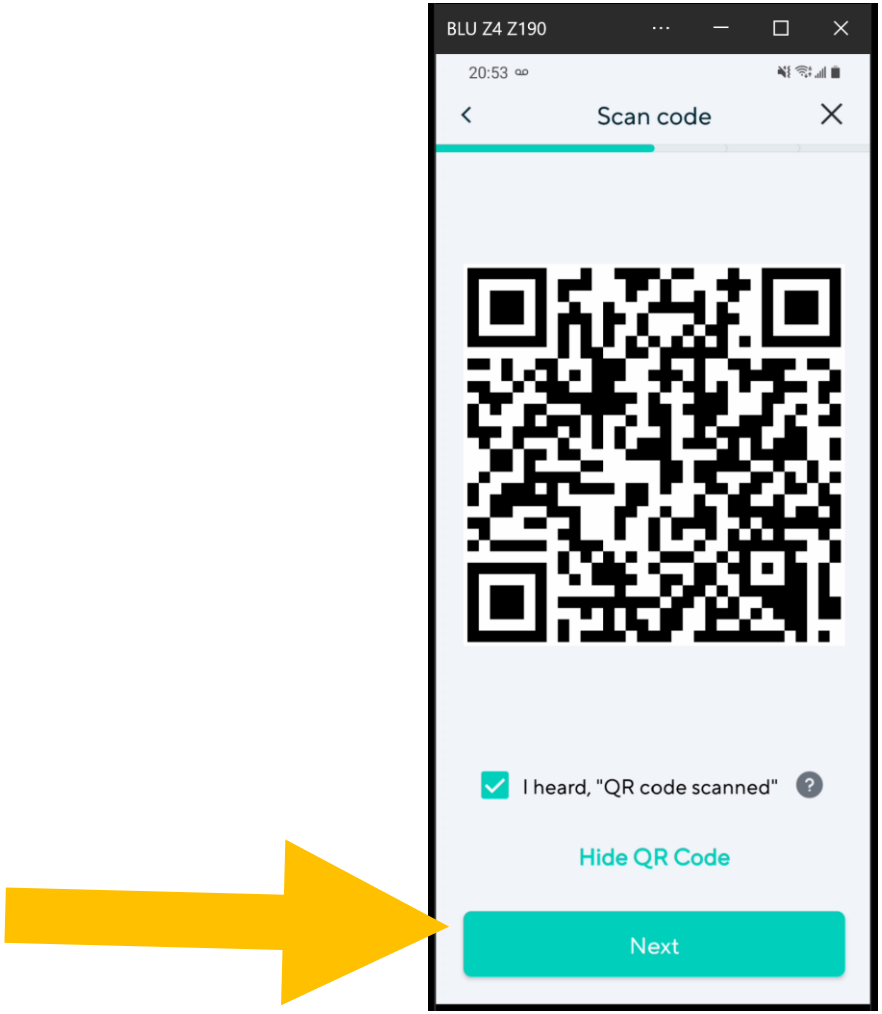

BLU Z4 Z190
20:30
Scan code
Scan the QR code on the next page with your Cam
Point your Cam at your phone to scan the QR code after selecting "Show QR Code"
Show QR Code

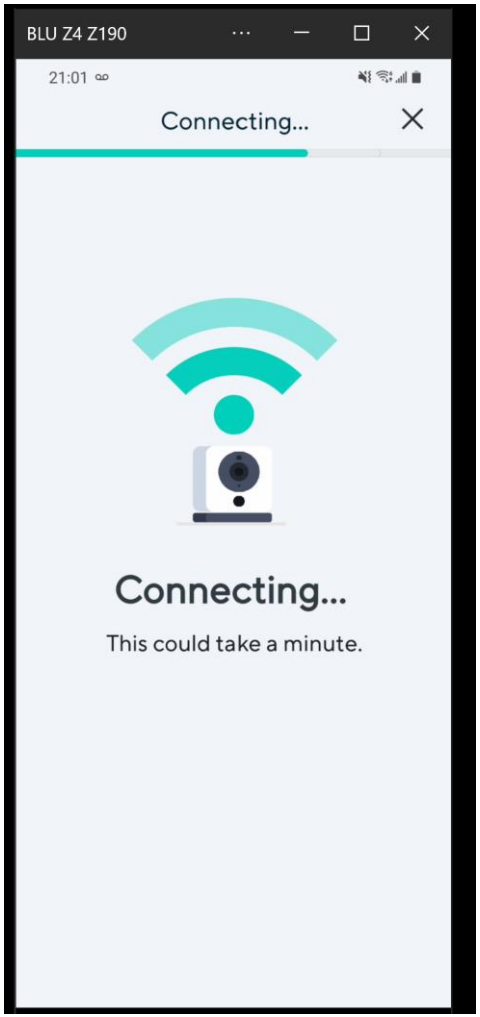

BLU Z4 Z190
20:30
Scan code
Scan the QR code on the next page with your Cam
Point your Cam at your phone to scan the QR code after selecting "Show QR Code"
Show QR Code

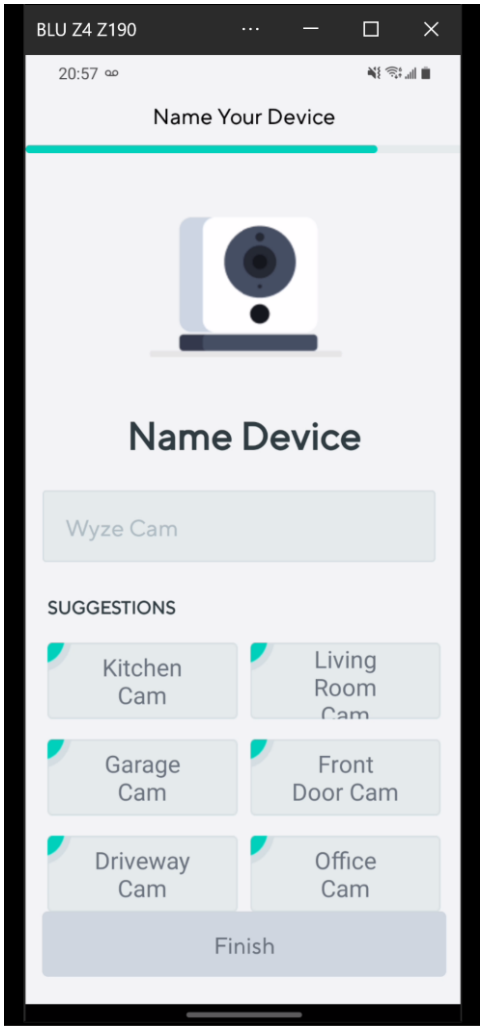
BLU Z4 Z190
20:31
Scan code
I heard, "QR code scanned"
Hide QR Code
Next

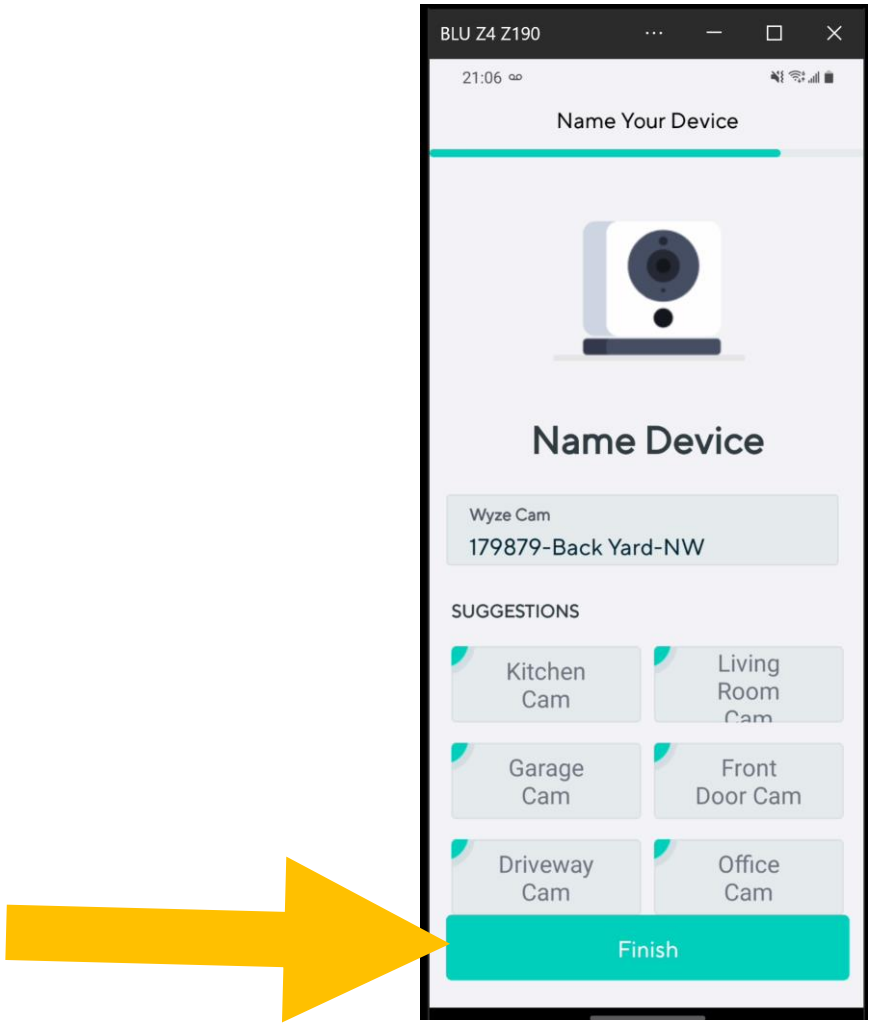

BLU Z4 Z190
20:31
Scan code
I heard, "QR code scanned"
Hide QR Code
Next

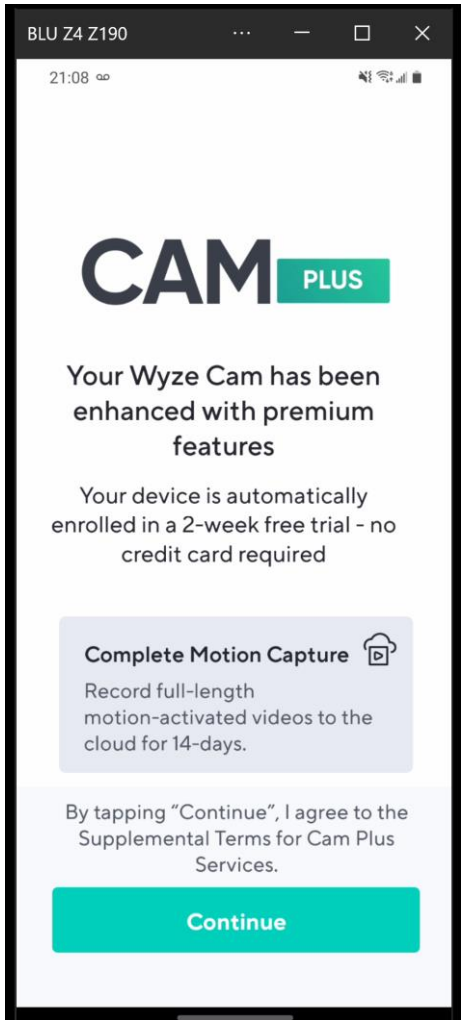
BLU Z4 Z190
20:53
Scan code
I heard, "QR code scanned"
Hide QR Code
Next

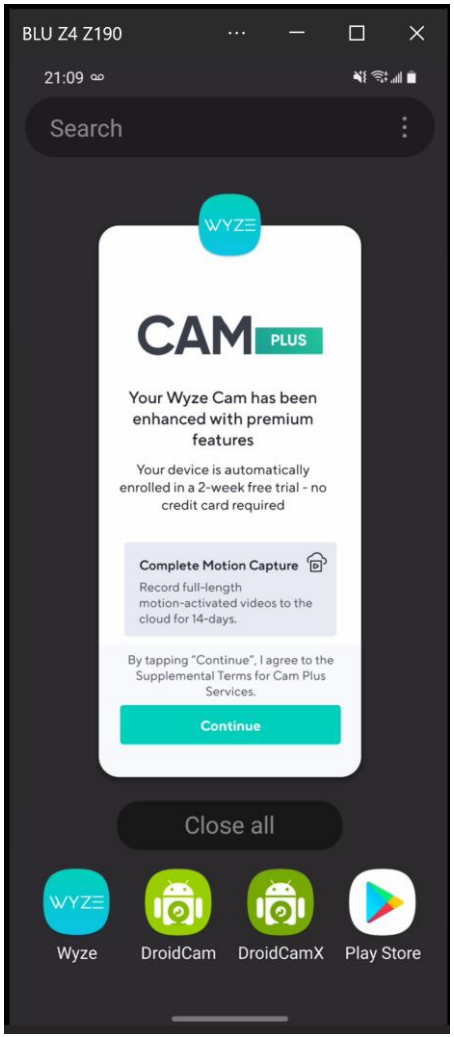

BLU Z4 Z190
20:53
Scan code
I heard, "QR code scanned"
Hide QR Code
Next

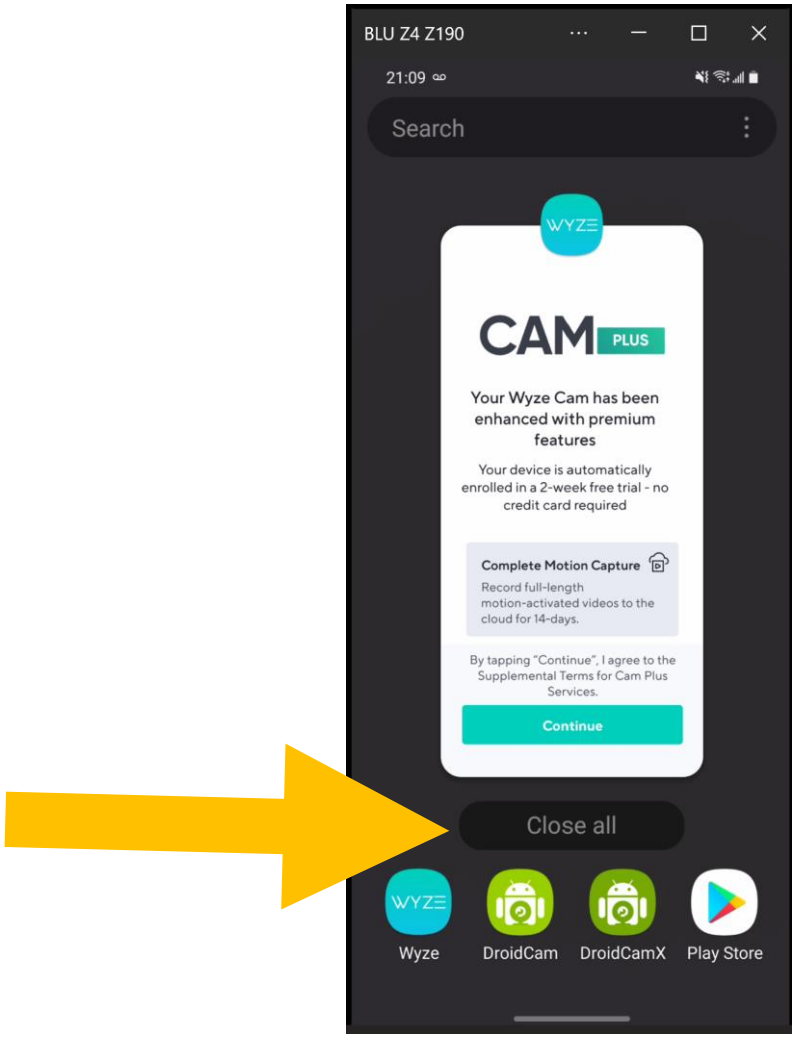

BLU Z4 Z190
21:01
Connecting...
Connecting...
This could take a minute.

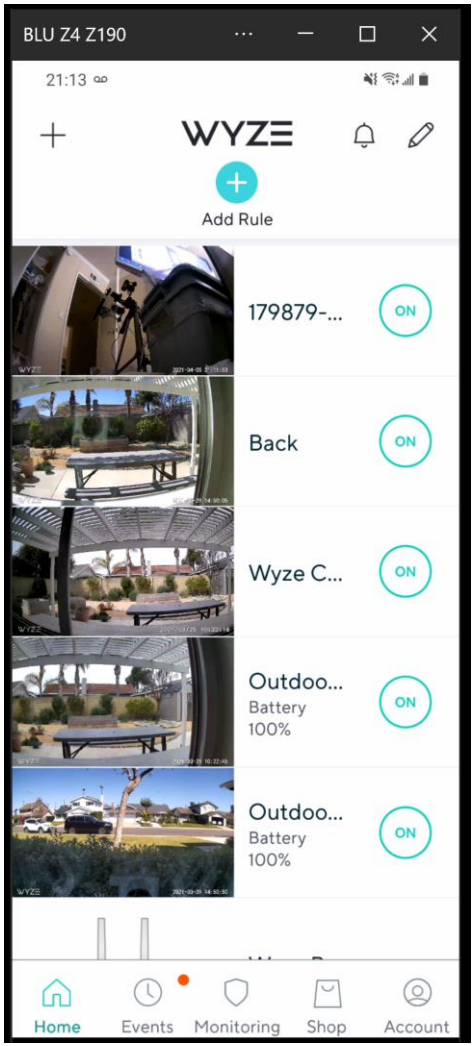

BLU Z4 Z190
20:57
Name Your Device
Name Device
Wyze Cam
SUGGESTIONS
Kitchen Cam
Living Room Cam
Garage Cam
Front Door Cam
Driveway Cam
Office Cam
Finish

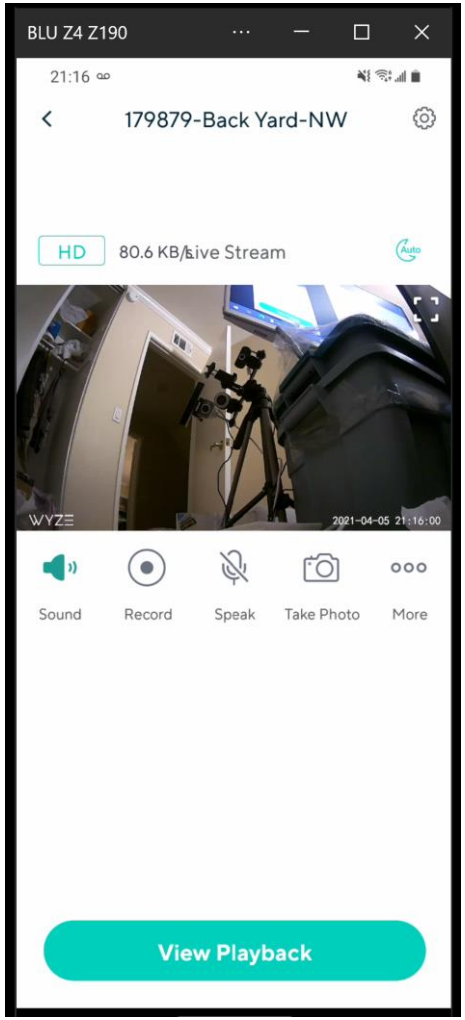

BLU Z4 Z190
21:06
Name Your Device
Name Device
Wyze Cam
179879-Back Yard-NW
SUGGESTIONS
Kitchen Cam
Living Room Cam
Garage Cam
Front Door Cam
Driveway Cam
Office Cam
Finish


BLU Z4 Z190
21:08
CAM PLUS
Your Wyze Cam has been enhanced with premium features
Your device is automatically enrolled in a 2-week free trial - no credit card required
Complete Motion Capture
Record full-length motion-activated videos to the cloud for 14-days.
By tapping "Continue", I agree to the Supplemental Terms for Cam Plus Services.
Continue


BLU Z4 Z190
21:09
Search
WYZE
CAM PLUS
Your Wyze Cam has been enhanced with premium features
Your device is automatically enrolled in a 2-week free trial - no credit card required
Complete Motion Capture
Record full-length motion-activated videos to the cloud for 14-days.
By tapping "Continue", I agree to the Supplemental Terms for Cam Plus Services.
Continue
Close all
Wyze
DroidCam
DroidCamX
Play Store


BLU Z4 Z190
21:09
Search
WYZE
CAM PLUS
Your Wyze Cam has been enhanced with premium features
Your device is automatically enrolled in a 2-week free trial - no credit card required
Complete Motion Capture
Record full-length motion-activated videos to the cloud for 14-days.
By tapping "Continue", I agree to the Supplemental Terms for Cam Plus Services.
Continue
Close all
Wyze
DroidCam
DroidCamX
Play Store


BLU Z4 Z190
21:13
WYZE
Add Rule
179879-...
ON
Back
ON
Wyze C...
ON
Outdoo...
Battery
100%
ON
Outdoo...
Battery
100%
ON
Home
Events
Monitoring
Shop
Account


BLU Z4 Z190
21:16
179879-Back Yard-NW
HD
80.6 KB/Live Stream
Auto
WYZE
2021-04-05 21:16:00
Sound
Record
Speak
Take Photo
More
View Playback

STEPS FOR TEMPORARILY CONVERTING A "WYZE CAM VERSION 2" TO A USB WEBCAM (FOR USE WITH "ZOOM")

- https://www.techhive.com/article/3535271/how-to-turn-your-wyze-cam-into-a-webcam.html
- https://wyzelabs.zendesk.com/hc/en-us/articles/360041605111-Webcam-Firmware-Instructions

STEPS FOR TEMPORARILY CONVERTING A "WYZE CAM VERSION 2" TO A USB WEBCAM.. (continued)

- https://wyzelabs.zendesk.com/hc/en-us/articles/360041676711-How-do-I-revert-my-webcam-back-to-a-Wyze-Cam-v2-

ADDITIONAL INFORMATION

- https://www.youtube.com/c/Wyzelabs/videos
- https://forums.wyzecam.com/t/maximum-number-of-cameras/4607
- https://www.cnet.com/home/security/how-to-install-your-wyze-cam-security-camera-in-your-home/

ADDITIONAL INFORMATION (continued)

- https://www.security.org/security-cameras/wyze/review/
- https://www.cnet.com/home/security/wyze-cam-v3-review/