### USING "EZCAST" TO WIRELESSLY CONNECT YOUR COMPUTER TO A TV OR A MONITOR



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# Web location for this presentation

### http://aztcs.org Click on "Meeting Notes"

### **SUMMARY**

"EZCast" is the only technology that can wirelessly connect your computer to a TV or a monitor AND display the entire monitor screen, for less than \$40.

### TOPICS

- "EZCast" Fundamentals
- Using "EZCast"
- Installing "EZCast"
- EZCast's Wireless Router
- Reconfiguring EZCast's Wireless Router
- Moving "EZCast" To A Different Wireless Network
- Problems With the "EZCast 5G" Model

 You can use the "EZCast" to wirelessly send either the enter screen or specific Web pages or specific online media or specific local media files FROM a "Windows.." computer, a Mac, an Android device, or an iOS device TO a TV or a monitor.

 If your "Windows.." or Mac "OS X" computer only has one monitor attached to it, "EZCast" cannot be used to connect your computer to this monitor.

 The "EZCast" is available in two models: An original 2.4 GHz model that is called "EZCast" and a dual band model that works in both the 2.4GHz Wi-Fi band and the 5 GHZ Wi-Fi band that is called "EZCast 5G"

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• The original 2.4 GHz model:



List Price: \$259,99 Price: \$17,98 & FREE Shipping You Save: \$242.01 (93%)

#### In Stock.

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ercast

Ships from and sold by FT-Deal.

Estimated Delivery Date: June 11 - 29 when you choose Standard at checkout. Pattern Name: Pattern1

- Software: feature EZCast
- UI:Standard UI
- CPU:Actions (600MHz/1GHz)
- DLNA:DMP:Display photo, audio and videos base on DLNA protocol Android/IOS
- Support: Windows/MacOS/Android/iOS by EZCast APP(sharing local and web file to tv screen)

FSee more product details

### Price: \$17.98 & FREE Shipping

 The newer "dual band" 2.45GHz / 5 GHz model is called "EZCast 5G". It just started shipping at the start of June 2015:



E ZCAST Dual Frequency 2.4GHz/5GHz 300Mbps 1080P HD Video Decoder WiFi Display Miracast HDMI TV Dongle



## 1 new from \$36.00

 The newer "dual band" model has so many improvements over the original 2.45 GHz model that we cannot recommend the 2.45 GHz model any more, despite the higher cost of the "dual band" model.

 In addition to manufacturing "EZCast" receiver dongles for TVs and monitors, the "EZCast" technology is licensed by many other manufacturers so their technology appears in many brands of receiver dongles.

- The chipset for our "EZCast 5G" receiver is manufactured by "Actions Microelectronics Company".
- All of the "EZCast" programs and apps can be downloaded here.
- <u>http://www.iezvu.com/</u>

• The box for the "dual band" "EZCast 5G" model looks like this:

## EZCast 55



ELCast Cas

#### **FEATURES**

- Mirrors the screen from any mobile device on your television. Stream and share music, video, images and other media from a smartphone, tablet or other mobile device on a big screen.
- Easy to use: one time set-up.
  No extensive software knowledge required.
- Compatible with all platforms (MacOS, iOS, Windows, Android).
- Supports numerous wireless display and audio standards, including DNLA, ezMirror, Miracast and Airplay.
- Sets up its own WiFi network.
  Use EZcast also when no WiFi network is around.

## EZCast 55

- Smart dual-band, supports 2.4GHZ and 5GHz frequency bands, and these two frequency bands wireless signal could be searchedat the same time.
- High anti- interference, working in 5GHz frequency band with strong anti-interference capacity, wireless tranmission will be fasterand more stable.
- High speed transmission, the transmission rate of 2.4GHz is 300Mbps and 300Mbps for 5GHz.





Wifi-5G

Dlna

AirPlay

Cloud

EPALAST

Miracast





### http://www.iezvu.com/ Q

### Browse the web or scan the QR code for download instruction

- Many of the "variants"/"clones" of "EZCast" have gone out of business. For example, see Visonicom's now defunct Web sites at <u>http://www.ezcastdongle.com/ezcast-</u>
  - dongle/ and

http://www.ezcast-WiFidisplay.com/

 "EZcast" provides you with a receiver that has to be attached to a HDMI port in your TV or monitor

- "EZcast" does not work when you use a HDMI-to-"DVI" adapter to connect it to an DVI port on a monitor or a TV.
- (Lots of monitors have DVI ports but very few TVs have DVI ports.)

 After you download and install the "EZCast" app or application into your computer, you will find an icon that looks like this in your computer:



 The "EZCast 5G" receiver consists of a Wi-Fi adapter dongle that connects to a main dongle. :

#### Micro USB plug of Y-cable plugs into micro USB jack of EZCast Receiver



**HDMI plug** of EZCast **USB** A plug receiver of Y cable plugs into plugs into TV or any USB monitor port or a **USB** power

**EZCast** Wi-Fi adapte and it's **Y-cable** 

suppy for power

- On the computer end, "EZCast" requires that you have a Wi-Fi adapter that is "enabled" and you have to install the appropriate "EZCast" program or app.
  - "EZcast" CLAIMS to be "WiDi" and "Miracast" compliant:

 Our HP "Envy" laptop running "Windows 8.1 Pro" did not find the "EZcast" when we told the laptop to scan for services.

 "EZCast" will work even if the wireless access point that you connect it to does not have a connection to the Internet. In this type of a situation, "EZCast" can only play music and videos that are on a local hard drive

 When you provide "EZCast" with a wireless access point that has Internet access, it acts as a router to provide the client computer, tablet, or cell phone with Internet access.

 Since "EZCast" does not rely on an existing wireless access point, AP isolation/client isolation is not an issue and "EZCast" works fine with Wi-Fi systems in public places.
### **"EZCAST" FUNDAMENTALS**

"EZCast" has music, video, and Web "player" applets inside their main program window. However these applets are buggy, so you might be better off with sharing your screen and then using the Web browsers and the media player applications that are already available in your computer.

### **"EZCAST" FUNDAMENTALS**

 After you install the "EZCast" receiver into your TV or monitor AND the "EZCast" app or program into your client computer, you will get the following default screen in your TV or monitor:



#### SSID: EZCast-BDBE8AA4

### Password: 77905254 A ---@-- A













### **"EZCAST" FUNDAMENTALS**

The initial diagram that "EZCast" displays • on your TV or monitor shows that you install their software or app from the Web into your computer which then connects to a the "EZCast" receiver which then connects to the TV or monitor AND the "EZCast" receiver then provides you with its own wireless router that connects you to your Internet service.

#### • Using Step 1:

Look at the top of the TV or monitor that the "EZCast" device and get the password for the "Wireless Access Point" of EZCast's internal "wireless router":



#### SSID: EZCast-BDBE8AA4

#### Deassword: 77905254

### • Using Step 2:

Access the network selection screen of the wireless Wi-Fi networking adapter of your computer This is usually done by clicking on the network icon in the "notification area":



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 Using Step 3: Click on EZCast's SSID in the configuration screen of the wireless Wi-Fi networking adapter of your computer:

NAC EL		
VVI-FI		
edimax_2.4G_0BB	Connected	all
TP-LINK_0269		all
EZCast-BDBE8AA4		all
belkin.97c.guests		201
belkin.97c		all
NETGEAR27		all
TP-LINK_Guest_0269		all
BS689		al
DG1670AD2		all
ORGV5		ail



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#### • Using Step 3:

Remove the checkmark from "Connect automatically":





### Using Step 4: Click on the "Connect" button:



#### Using Step 5: Click on "Connect using a security key instead":





#### • Using Step 6:

Type in the password that you obtained in "Step 1":





#### Enter the network security key





• Using Step 7: Click on the "Next" button:



• Using Step 8:

Click on "No, don't turn on sharing or connect to devices":





#### ...Il

Do you want to turn on sharing between PCs and connect to devices on this network?

No, don't turn on sharing or connect to devices For networks in public places

Yes, turn on sharing and connect to devices For home or work networks



### • Using Step 9:

Your list of wireless networks should now show that EZCast's SSID is "Connected":

Networks	
Wi-Fi	
EZCast-BDBE8AA4 Connected	.all
edimax_2.4G_0BBC2B	.atl
TP-LINK_0269	.atl
belkin.97c.guests	<b>%</b> 11
belkin.97c	.atl
DG1670AD2	.atl
NETGEAR27	.atl
TP-LINK_Guest_0269	.atl
BS689	.atl

### Connected


#### • Using Step 10:

Start up the "EZCast" app or program by double-clicking on it's icon on the desktop of your computer:



# • Using Step 11:

The "EZCast" app or program will display a "Network Selection" window:



#### • Using Step 12:

Double-click on the desired "Network Selection" button:



#### Using Step 13: The "Happy Casting" window will be displayed:



#### • Using Step 14:

Use the upper-left button to toggle between "Mirror On", "Mirror Off", and "Mirror Extension". "Mirror Extension" makes the monitor or TV that the "EZCast" receiver is connected operate independently of your regular computer monitor.

To make the monitor or TV that the • "EZCast" receiver is connected to operate as "Second screen only", select "Mirror On". Then use the configuration screens of your computer's operating system to select "Second screen only": In Windows 7/8/8.1/10, press Windows key + p and then select "Second screen only.







 Installing Step 1: Install the EZCast receiver device by connecting it's HDMI plug into one of the HDMI ports in to your TV or monitor.

#### HDMI plug of EZCast receiver plugs into TV or monitor

 Installing Step 2: Then connect EZCast's Wi-Fi adapter to the EZCast main receiver device. EZCast Wi-Fi adapter and it's Y-cable

Micro USB plug of Y-cable plugs into micro USB jack of EZCast Receiver

ezCast

#### • Installing Step 3:

Then connect a powered-up micro USB power cable to the EZCast Wi-Fi dongle.

**USB A plug** of Y cable plugs into any USB port or a USB power suppy for power



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Installing Step 4:

Go to <u>https://www.iezvu.com/</u> to download the appropriate "EZCast" app or program.

- You have to have a free "EZCast" account in order to download their software programs.
- You can create a free "EZCast" account at their Web site, if you do not already have one. 92

• Installing Step 5: Install the "EZCast" app or program into your computer or device

Installing Step 6:

Use your computer's wireless Wi-Fi adapter to connect your computer to the EZCast "Wireless Access Point".

#### • Installing Step 7:

When challenged for a pin, click on "Connect using a security key instead".

 The "EZCast" receiver provides a wireless router which provides a new Wi-Fi "Wireless Access Point" with it's own "SSID"

• "SSID" =

"Service Set Identifier" which is broadcast by a "Wireless Access Point" of a "wireless router

• When the "EZCast" app or program is actively "casting", EZCast's wireless router connects to an existing wireless router on your existing local network

• Before you run the "EZCast" app or program in your computer, your network configuration looks like this:



#### Wireless Wi-Fi Signal

(ທຸ່) Computer, tablet, or phone

# Windows 8 En erprise Evaluation Windows License valid for 85 days Build 9200 m Files \* \*



 After you run the "EZCast" app or program in your computer and the "EZCast" app or program starts "casting", your network configuration looks like this:





 When the "EZCast" app or application program is actively "casting", it automatically interjects it's wireless network router between your computer and the wireless router that you computer originally was communicating with:

 Instead of communicating with the SSID of your Internet-connected router, your computer is now networked to the SSID of EZCast's wireless router:

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#### EZCAST'S WIRELESS ROUTER

 When "EZCast" stops casting, your computer re-connects to the wireless access point of the wireless router that your computer was originally connected to:

#### EZCAST'S WIRELESS ROUTER

 When "EZCast" interjects it's router between your computer, tablet, or cell phone and your existing local network, any printers or files that your computer is/was sharing are blocked so that other computers on your local network cannot access the shared files or printers

#### EZCAST'S WIRELESS ROUTER

When "EZCast" interjects it's router between your computer, tablet, or cell phone and your existing local network, your Internet bandwidth for both downloads and uploads will decrease to below 50 percent of the Internet bandwidth that you will have it your computer, tablet, or cell phone were still connected directly to your original wireless router.

• You can re-configure EZCast's router so that it communicates with your computer, tablet, or cell phone through your original wireless router. This resolves any Internet and network slowdowns that would otherwise be caused by the wireless router that is provided by "EZCast":

 Before the re-configuration of EZCast's wireless router, your computer accesses the Internet through EZCast's wireless router, whenever "EZCast" is "casting":



 After the re-configuration of EZCast's wireless router, your computer accesses the Internet directly through the original wireless router in your local network:



 When you re-configure "EZCast" so that it communicates with your computer, tablet, or cell phone directly through your original wireless router, it resolves any network blockages and slowdowns that would otherwise be caused by the router that is provided by "EZCast":

This reconfiguration will only work if the original wireless router in your local network does NOT have "wireless isolation":

"wireless isolation" =

 "AP isolation"
 "Access Point isolation"
 "client isolation"



Computer, table ((j)) transmits V Iocal content "Chrome" We

# **"WIRELESS ISOLATION**" **CANNOT BE TURNED ON** IN THE ORIGINAL, **EXISTING WIRELESS** ROUTER

 In order to successfully reroute the client computer's path to access the "EZCast" receiver through an existing wireless router, the wireless router cannot have "wireless isolation" turned on:

- All "Public Wi-Fi" routers have "wireless isolation"
- All "home routers" default to no "wireless isolation"

 This means that you cannot use a public Wi-Fi service to for rerouting the wireless Wi-Fi connection of the computer that is running the "EZCast" app or program.

 "Wireless isolation" means that client computers cannot discover each other and they cannot share files/printers, even if "File and Printer Sharing" or "SMB", or "Samba" or "Homegroups" are enabled inside the client computers.

 "Public Wi-Fi" ("Public internet") has "wireless isolation": Starbucks' "ATTWiFi" **Barnes and Noble Public libraries** Panera Bread **McDonalds** Airports, etc.

 Home routers, by default, do not have "wireless isolation" (but some of them let you set up "wireless isolation" in their configuration screens).

• Reconfiguring Step 1: Start up the "EZCast" app or program by double-clicking on it's icon:



 Reconfiguring Step 2: The "EZCast" app or program will display a "Network Selection" window:



 Reconfiguring Step 3: Double-click on one of the displayed wireless network buttons:



• Reconfiguring Step 4: The "Happy Casting" window will be displayed:



• Reconfiguring Step 5: Click on the "Setting" button:





 Reconfiguring Step 6: The "EZCast" window in your computer will display a control button:



 Reconfiguring Step 7: The TV or monitor that the "EZCast" receiver is connected to will display a "Setting" screen:





Local Version:13715 for EZCast2.0 (Android EZCast 1.4.621+, iOS EZCast 1.4.0+, WinPhone 1.4.0.152+, Windows EZCast 1.4.0.2+, Mac EZCast 1.4.0+)



 Reconfiguring Step 8: In the "EZCast" window of the computer, click on the "Go Right" button 3 times:


Reconfiguring Step 9: In the TV or monitor that the "EZCast" receiver is connected to: The "Connection" rectangle will now be highlighted:





 Reconfiguring Step 10: In the "EZCast" window of the computer, click on the "Go Down" button once:



 Reconfiguring Step 11: In the TV or monitor that the "EZCast" receiver is connected to: A warning window will be displayed: Due to the streaming is from your phone t hrough router to TV, throughput is relatively s mall and playback may be choppy. Do you want to allow the connection to "T hrough Router" mode?



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• Reconfiguring Step 12: In the "EZCast" window of the computer, click on the "Go Left" button once:



 Reconfiguring Step 13: In the TV or monitor that the "EZCast" receiver is connected to: The "Yes" button should now be highlighted: Due to the streaming is from your phone t hrough router to TV, throughput is relatively s mall and playback may be choppy. Do you want to allow the connection to "T hrough Router" mode?



• Reconfiguring Step 14: In the "EZCast" window of the computer, click twice on the "OK" button:



 Reconfiguring Step 15: In the TV or monitor that the "EZCast" receiver is connected to: The "Connection" rectangle should now have a label that says: "Via Router Allowed"



 Reconfiguring Step 16: In the "EZCast" window of the computer, click twice on the "Go Left" button:



 Reconfiguring Step 17: In the "EZCast" window of the computer, click once on the "Return" button near the upper-left corner:





• Reconfiguring Step 18: The "EZCast" app or program will now be back at the "Happy Casting" window:



When you configure the EZCast wireless  $\bullet$ router to connect through an existing wireless router to your client computer, when EZCast screen on the monitor or TV is NOT connected to your computer, it will show you two ways that your client computer can connect to the "EZCast" receiver:



#### SSID: EZCast-BDBE8AA4

Dessword: 77905254



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- The top-most diagram represents connecting your client computer to EZCast's wireless router directly
- The bottom-most diagram represents connecting your client computer to the original wireless router and then having signals go from the client computer through the original wireless router to reach the EZCast receiver's wireless router

 At this point, the wireless Wi-Fi Adapter will still be attached to EZCast's wireless "SSID" so you will have to re-direct it to the original "SSID" of the wireless router that it was connected to before you installed the "EZCast":

# **USING "EZCAST"**

### • Reconfiguring Step 19:

Access the network selection screen of the wireless Wi-Fi networking adapter of your computer:

This is usually done by clicking on the network icon in the "notification area":



# Windows 8 Enterprise Evaluation Window: License valid for 59 days Build 9200 ogram Files \*

# **USING "EZCAST"**

 Reconfiguring Step 20: Click on the SSID of the regular "Wireless Access Point" of the "wireless router" of your local network (i.e. the SSID that your computer was connected to before you installed "EZCast":

### Networks

Wi-Fi

EZCast-BDBE8AA4	Connected	.atl
edimax_2.4G_0BBC2B		.atl
TP-LINK_0269		.atl
belkin.97c.guests		<b>%</b> 11
belkin.97c		atl
DG1670AD2		.atl
NETGEAR27		.atl
TP-LINK_Guest_0269		.atl
BS689		atl
pebble		.atl

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# **USING "EZCAST"**

• Reconfiguring Step 21: Place a checkmark for "Connect automatically":





## **USING "EZCAST"**

• Reconfiguring Step 22: Click on the "Connect" button:


# **USING "EZCAST"**

• R:

Your list of wireless networks should now show that EZCast's SSID is "Connected":

# Networks Wi-Fi edimax\_2.4G\_0BB... Connected ...1] EZCast-BDBE8AA4 .ull

 If the EZCast's wireless router is configured to let you access it through an existing wireless router AND your computer is connected to that existing wireless router:

After you start up the "EZCast" app or program, you will see two buttons in EZCast's "Network Selection" window: router:

- The top button is for connecting your client computer directly to EZCast's wireless router.
- The bottom button is for connecting to your existing wireless router and then using it as an intermediary to reach EZCast's wireless router:





 If you click on the top button of the "Network Selection" window, the EZCast app or program will disconnect your computer from the existing wireless router and then connect it to EZCast's wireless router

 If you click on the bottom button of the "Network Selection" window, it will leave your computer connected to the existing wireless router and then display the "Happy Casting" window for controlling the EZCast app or program



 If the EZCast's wireless router is configured to let you access it through an existing wireless router and your computer is connected to EZCast's wireless router:

After you start up the "EZCast" app or program, you will see only see a button that is for connecting your client computer directly to EZCast's wireless router:





In other words:

If the EZCast's wireless router is configured to let you access it through an existing wireless router, you must connect your computer to the existing wireless router BEFORE the "EZCast" app or program will let you access EZCast's wireless router by using the existing wireless router as an intermediary router:

• In other words:

Connect your computer, tablet, or cell phone to the original, existing wireless router of your local network (prior to running the "EZCast" app or program):

Existing Wireless **Router of** Your Local Network (SSID1) Computer, tablet, or phone transmits Web and local content from the "Chrome" Web browser

 After you have a solid wireless connection to your existing wireless router, start up the "EZCast" app or program use it to connect your computer, tablet, or cell phone to the TV or monitor:





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Unlike more expensive wireless lacksquarereceivers, the "EZCast" receiver does not have a reset button. Instead of doing a reset, you have to use the "EZCast" software in a client computer to wirelessly attach to a different "wireless access point" in order to re-configure "EZCast" receiver's "wireless router" to a different wireless "SSID".

 If you configure the "EZCast" receiver to connect to a specific SSID of a specific "wireless router" and you relocate the "EZCast" receiver to the vicinity of another "wireless router", you will have to re-configure the "EZCast" receiver as follows:

• Moving Step 1:

If the "EZCast" app or program is running in your computer, click on the "x" button in the "EZCast" window to close the "EZCast" app or program:

• Moving Step 2:

Connect your computer to the SSID of EZCast's wireless router



• Moving Step 3:

Start up the "EZCast" app or program by double-clicking on it's icon:



- Moving Step 4:
  - The "EZCast" app or program will display a "Network Selection" window:





 Reconfiguring Step 5: The "Happy Casting" window will be displayed:



Reconfiguring Step 6:

Click on the "Setting" button.




• Reconfiguring Step 7: The "EZCast" window in your computer will display a control button:



 Reconfiguring Step 8: The TV or monitor that the "EZCast" receiver is connected to will display a "Setting" screen:





Local Version:13715 for EZCast2.0 (Android EZCast 1.4.621+, iOS EZCast 1.4.0+, WinPhone 1.4.0.152+, Windows EZCast 1.4.0.2+, Mac EZCast 1.4.0+)



 Reconfiguring Step 9: In the "EZCast" window of the computer, click on the "Go Right" button:



 Reconfiguring Step 10: In the TV or monitor that the "EZCast" receiver is connected to: The "Internet" rectangle will now be highlighted:





 Reconfiguring Step 11: In the "EZCast" window of the computer, click on the "OK" button:



 Reconfiguring Step 12: In the TV or monitor that the "EZCast" receiver is connected to: A list of active Wi-Fi SSIDs of active wireless routers will be listed: Setting @ SSID: EZCast-BDBE8AA4



	Add network		
AP List Connect for Internet access!	DG1670AD2	~	7
	NETGEAR27		<b>P</b>
	belkin.97c		?
	ORGV5		<b>?</b>
	pebble		*
		~	1/2

 Reconfiguring Step 13: In the "EZCast" window of the computer, click on the "Go Down" and "Go Up" buttons to select the wireless access point that you wish to connect the EZCast receiver's wireless router to:



 Reconfiguring Step 14: In the TV or monitor that the "EZCast" receiver is connected to: Make sure that the desired wireless access point of the desired wireless router is selected:



 Reconfiguring Step 15: In the "EZCast" window of the computer, click on the "OK" button:



• Reconfiguring Step 16:

If you have never attached the EZCast receiver's wireless router to the selected wireless access point before, a blank password box will now be displayed in the TV or monitor that is attached to the EZCast receiver:



• Reconfiguring Step 17:

Use the keyboard of your computer to enter in the password for the selected wireless access point:



 Reconfiguring Step 18: In the "EZCast" window of the computer, click on the "OK" button:



 Reconfiguring Step 19: In the TV or monitor that the "EZCast" receiver is connected to: A list of active Wi-Fi SSIDs of active wireless routers will be listed: Setting @ SSID: EZCast-BDBE8AA4



	Add network		
AP List   Connect for Internet access!	DG1670AD2	~	P
	NETGEAR27		P
	belkin.97c		7
	ORGV5		P
	pebble	1 Participal	P
		~	1/2

 Reconfiguring Step 20: In the "EZCast" window of the computer, click once on the "Return" button near the upper-left corner:





 Reconfiguring Step 21: You will now be back at the "Happy Casting" window:



• Problem 1:

Unlike the original "EZCast" 2.45 GHz model, the "EZCast 5G" model has a reset button but this button does not work well:

 When you need to reset the "EZCast 5G", you have to use the button many times before it finally resets.

#### • Problem 2:

Unlike the original "EZCast" 2.45 GHz model, the "EZCast 5G" model defaults to 5 Gigahertz "WiFi" channels. It only uses the 2.45 Gigahertz "WiFi" channels when it does not find 2.45 Gigahertz "WiFi" channels.

• Problem 2 (continued)

However it's dangling "WiFi" adapter cannot communicate with "WiFi" "wireless access points" of wireless routers that are behind one or more walls.

#### • Problem 3:

We were unable to get "Belkin" USB "Wi-Fi" adapters to communicate with the "Wireless Access Point" that is provided by the "EZCast 5G" model. (However, we were able to get "Trendnet" USB "Wi-Fi" adapters to communicate

with the "Wireless Access Point" that is provided by the "EZCast 5G" model.)
## **Questions??**