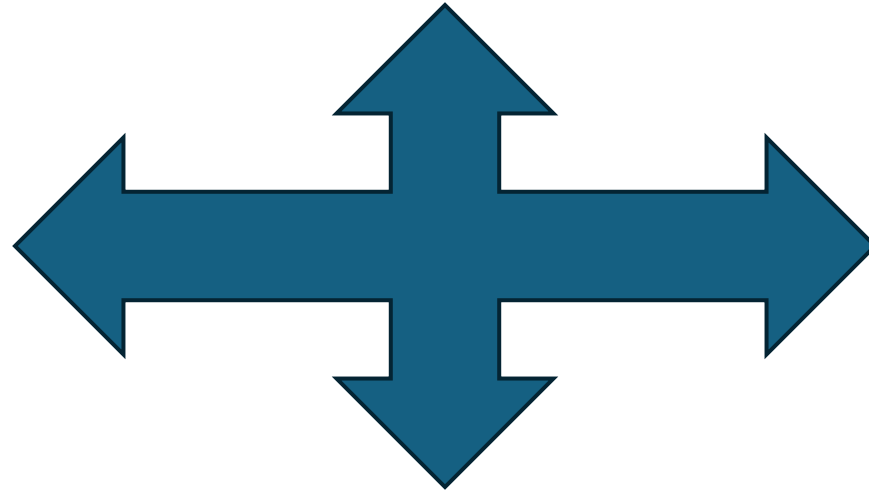


Your Router: Organises your own intranet and its communications with broadband



- DHCP Server: this is the service that assigns IP (Internet Protocol) addresses,
 - ADSL Modem: to negotiate a connection to the ISP (Internet Service Provider)
 - *Firewall* : to filter incoming and outgoing connections,
 - Inbound and outbound NAT (Network Address Translation) device: to share the single IPv4 address allocated by the ISP for all the devices on the home network,
 - Router,
 - WiFi Antenna,
 - Web Server
 - In more modern routers, allocates Wifi frequency (2.4GHz or 5GHz) "BT Hub2"
- (After 7 years subscribing to our ISP, while locking us in to a new contract, I was offered a new router as new ones are better and the firewall is more secure)

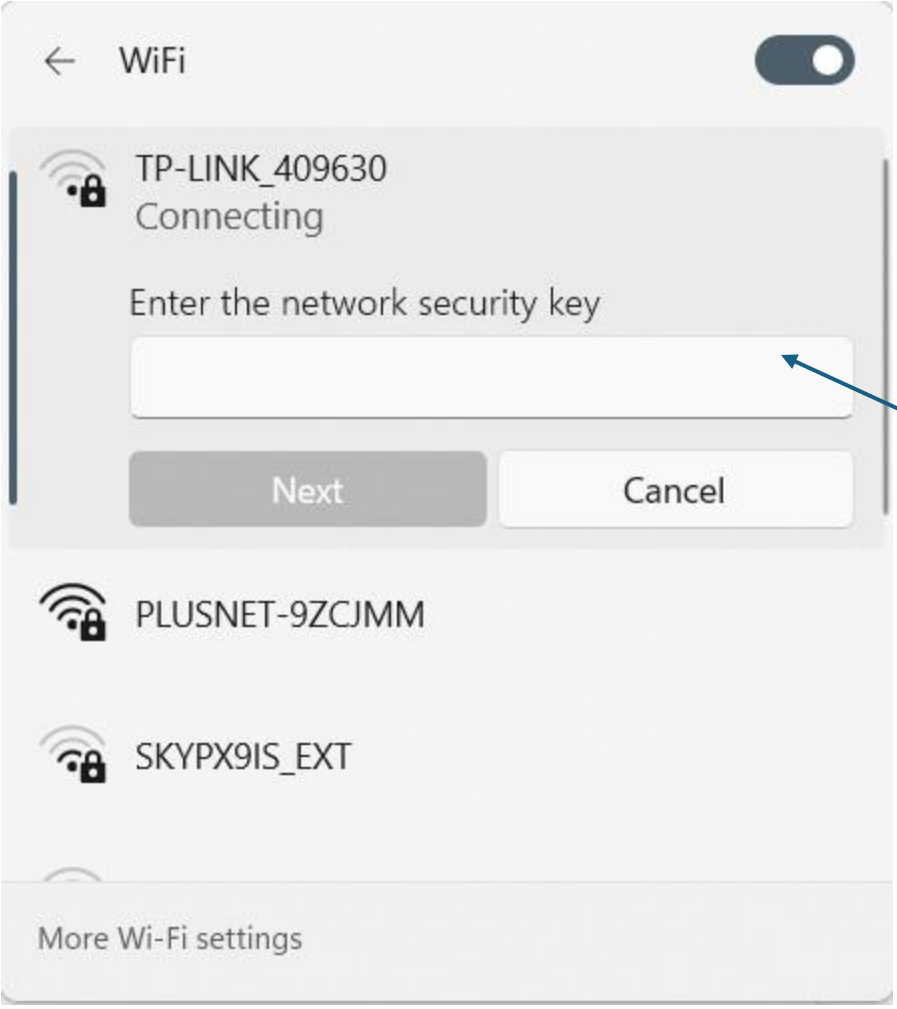


Is the strength of the WiFi signal, at the device end, good enough for purpose?

Position of device relative to router

Other usages (eg smart devices, other web users) will affect signal strength too

WiFi "amplifiers" available eg TP Link



← WiFi



TP-LINK_409630
Connecting

Enter the network security key

Next

Cancel



PLUSNET-9ZCJMM



SKYPX9IS_EXT



More Wi-Fi settings

You'll find this under a flap on the router somewhere.

My neighbour's wifi

And 7 others!



WPS Button searches for new devices, pairs them (links into the intranet) without having to input a password for the WiFi system

Ethernet port links our TP mains cable extenders to the router

Your Router console is a webpage... type the IP address into your webpage address box on your laptop/tablet
(generic address for BT/PlusNet is 192.168.1.254)













The screenshot displays the Plusnet Hub Two Manager interface. At the top left is the Plusnet logo, and at the top right is the title "Plusnet Hub Two Manager". Below the title is a navigation bar with "Home" highlighted. The main content area consists of several dark red panels with white text and icons:

- Status:** Information icon, "Broadband status: Connected".
- Wireless:** Signal icon, "2.4 GHz status: On", "5 GHz status: On", "Network name: PLUSNET-9ZCJMM".
- My devices:** Network icon, "Ethernet: 2", "Wireless: 2.4 GHz: 1, 5 GHz: 3", "USB: 0".
- Help:** Question mark icon, "Wizards", "FAQs".
- Hub light control:** Lightbulb icon, "Status: On", "Brightness: 100%", "Schedule: Off".
- Broadband performance test:** Speedometer icon.
- Restart the Hub:** Refresh icon.
- Advanced settings:** Wrench and screwdriver icon.

Device Off/On?
UNRELIABLE

Device Image
UNRELIABLE

Frequency as a guide
to location?
UNRELIABLE

	asusvivo	Private IP address: 192.168.1.94 (DHCP) MAC address: D4:54:8B:3C:77:60	↑ 751.1MB ↓ 5.7GB
	Chris-s-A54	Private IP address: 192.168.1.109 (DHCP) MAC address: 8E:9D:E5:24:EB:4A	↑ 365.5MB ↓ 3.8GB
	EPSON04AC03	Private IP address: 192.168.1.232 (DHCP) MAC address: A4:D7:3C:04:AC:03	↑ 5.1MB ↓ 0.2MB
	HUAWEI_MediaPad_T5-74...	Private IP address: 192.168.1.146 (DHCP) MAC address: E4:FD:A1:46:AE:B2	↑ 57.7MB ↓ 1.7GB
	jbllink-409f38f4fa95	Private IP address: 192.168.1.194 (DHCP) MAC address: 40:9F:38:F4:FA:95	↑ 9.8MB ↓ 625.9MB
	LAPTOP-9OEFHI2B	Private IP address: 192.168.1.122 (DHCP) MAC address: EC:5C:68:35:96:E7	↑ 2.5GB ↓ 20.2GB
	SarahLewis-PC	Private IP address: 192.168.1.128 (DHCP) MAC address: 94:DE:80:D5:EC:B1	↑ 0.0MB ↓ 0.0MB
	unknown_06:E2:B2:23:7E...	Private IP address: 192.168.1.181 (DHCP) MAC address: 06:E2:B2:23:7E:BC	↑ 258.0MB ↓ 2.2GB
	unknown_10:63:C8:36:E0:...	Private IP address: 192.168.1.85 (Static) MAC address: 10:63:C8:36:E0:AD	↑ 809.2MB ↓ 7.7GB
	unknown_50:75:F1:EB:17:...	Private IP address: 192.168.1.216 (Static) MAC address: 50:75:F1:EB:17:F0	↑ 55.2MB ↓ 783.1MB
	unknown_5A:37:1A:05:79:...	Private IP address: 192.168.1.213 (DHCP) MAC address: 5A:37:1A:05:79:D0	↑ 0.6MB ↓ 3.5MB
	unknown_72:7A:81:43:37:...	Private IP address: 192.168.1.197 (DHCP) MAC address: 72:7A:81:43:37:DC	↑ 0.0MB ↓ 0.0MB

USEFUL:

Data uploaded and
Downloaded since the router
was last rebooted:
IDENTIFIES
laptops and well-used, high
data download devices

(Once device identified, can change name from
"Unknown xx.xx.xx.xx.xx" to something useful.)

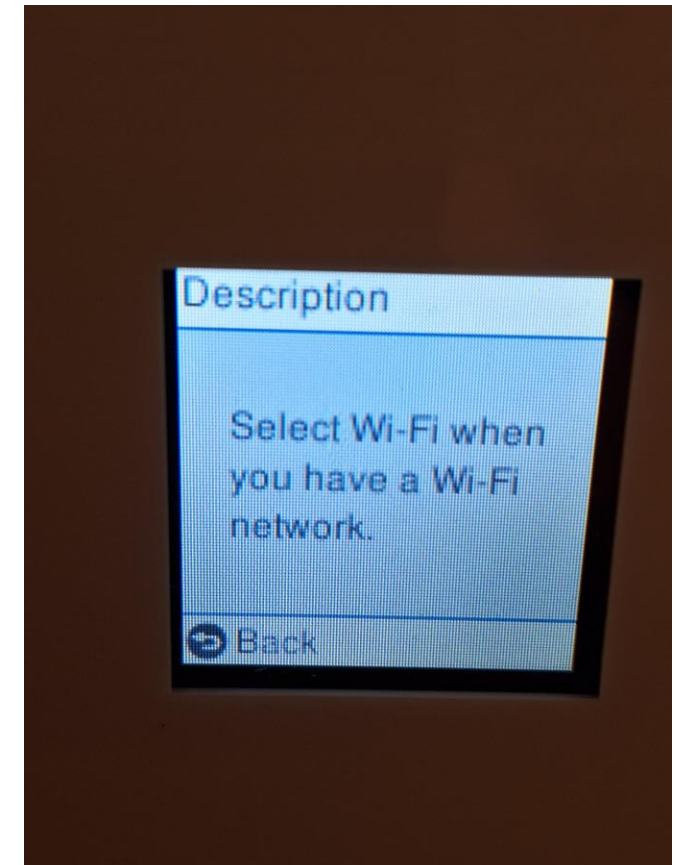
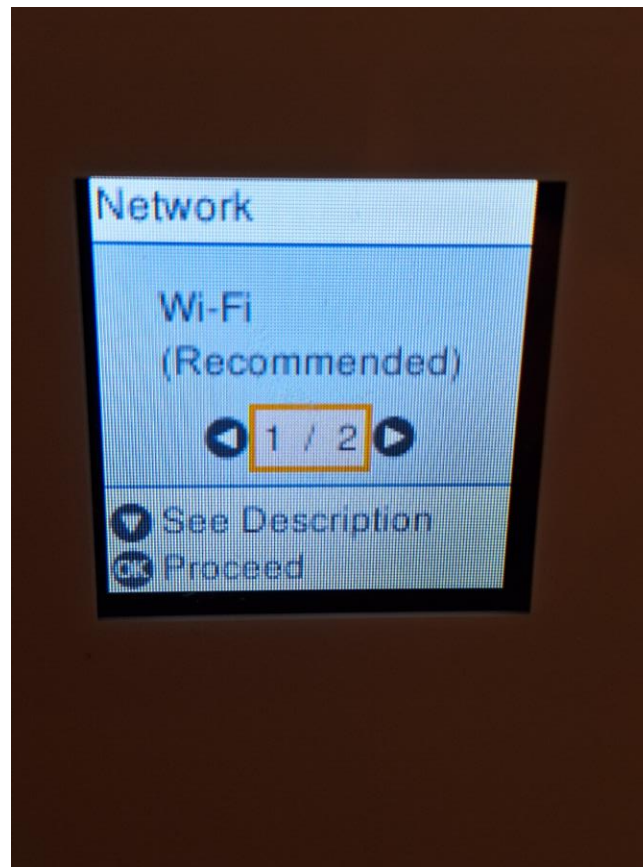
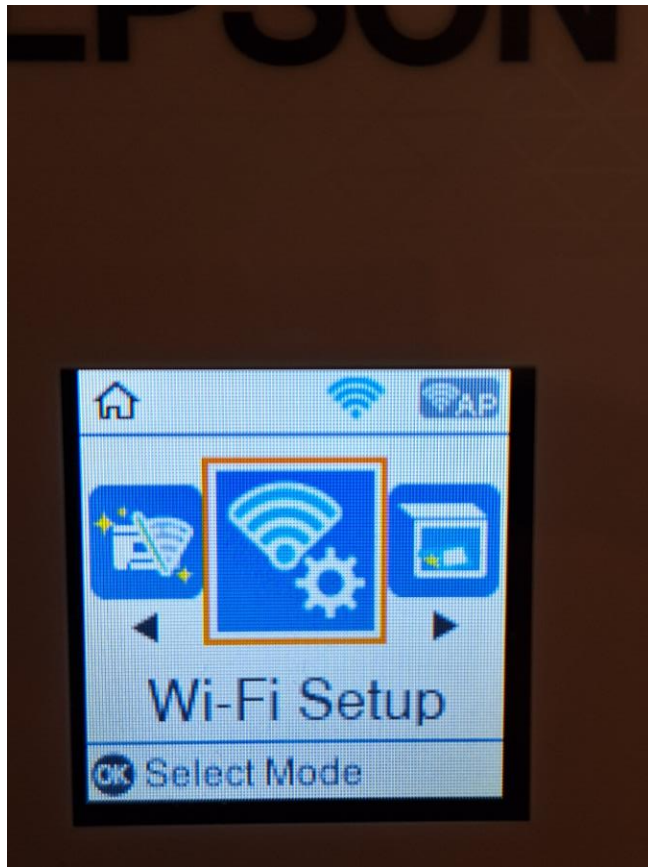
10 minutes after Rebooting the router & printing 1 page: Download/ Upload data helps identify devices in use now.

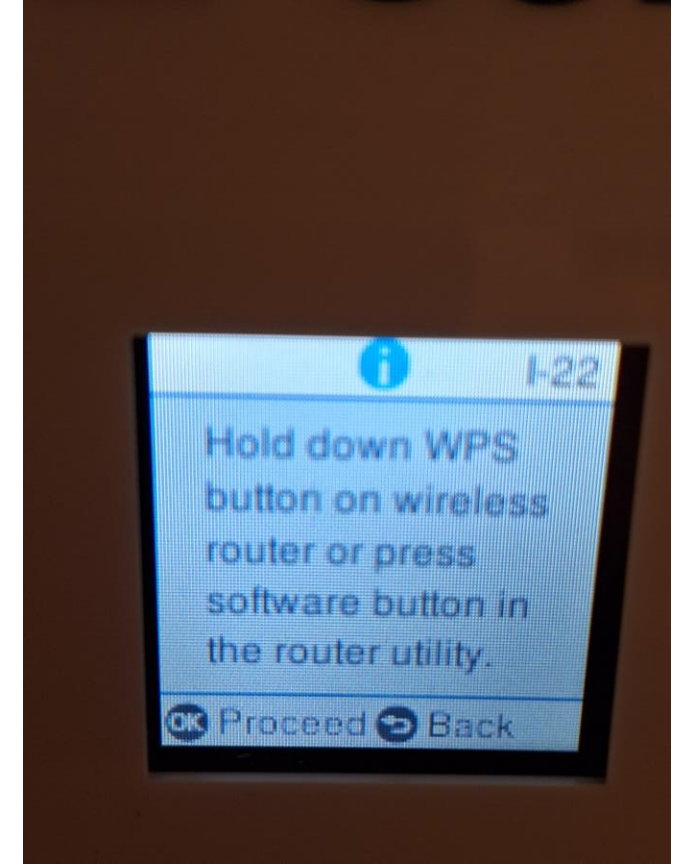
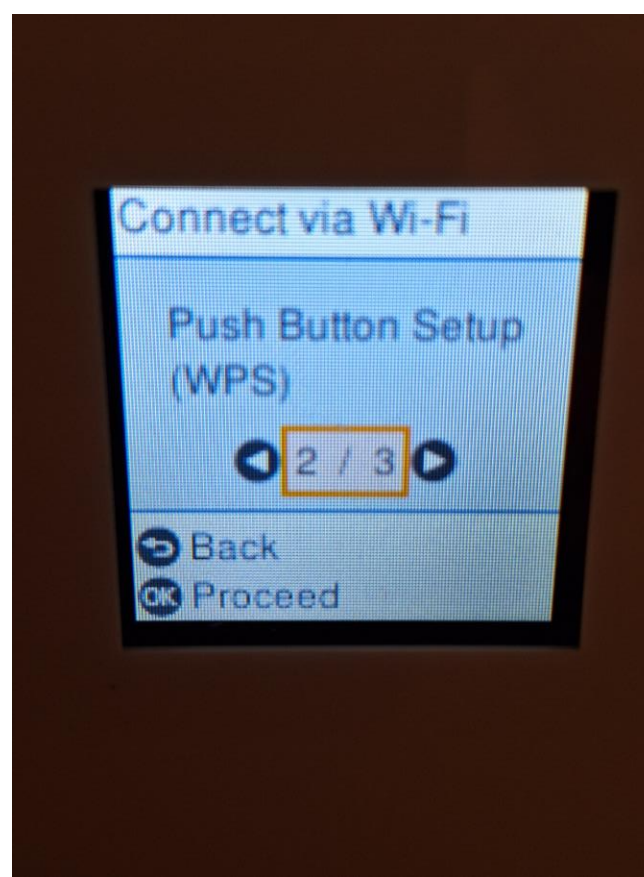
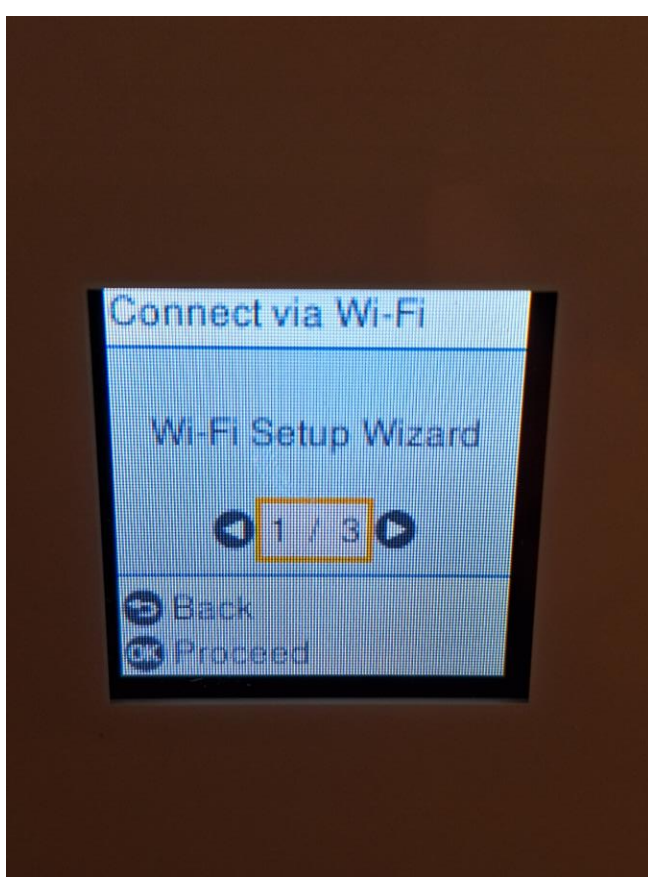
	asusvivo  5GHz	Private IP address: 192.168.1.94 (DHCP) MAC address: D4:54:8B:3C:77:60	 2.6MB  24.7MB	Remove
	Chromebook 10:63:C8:36:...  Port 1	Private IP address: 192.168.1.85 (DHCP) MAC address: 10:63:C8:36:E0:AD	 3.2MB  54.0MB	Remove
	EPSON04AC03  2.4GHz	Private IP address: 192.168.1.232 (DHCP) MAC address: A4:D7:3C:04:AC:03	 0.1MB  0.0MB	Remove
	Gs Motorola 06:E2:B2:23:...  5GHz	Private IP address: 192.168.1.181 (DHCP) MAC address: 06:E2:B2:23:7E:BC	 0.0MB  0.0MB	Remove
	TP network 50:75:F1:EB:1...  Port 1	Private IP address: 192.168.1.216 (Static) MAC address: 50:75:F1:EB:17:F0	 13.1MB  530.2MB	Remove
	unknown_5A:37:1A:05:79...  2.4GHz	Private IP address: 192.168.1.213 (DHCP) MAC address: 5A:37:1A:05:79:D0	 0.0MB  0.0MB	Remove
	unknown_72:7A:81:43:37:...  Port 1	Private IP address: 192.168.1.197 (DHCP) MAC address: 72:7A:81:43:37:DC	 0.0MB  0.0MB	Remove

Printer identified

Most Used: TP Link (Port 1)

Setting up a printer – fairly modern Epson one. (Can also be done via the Epson app on a phone)

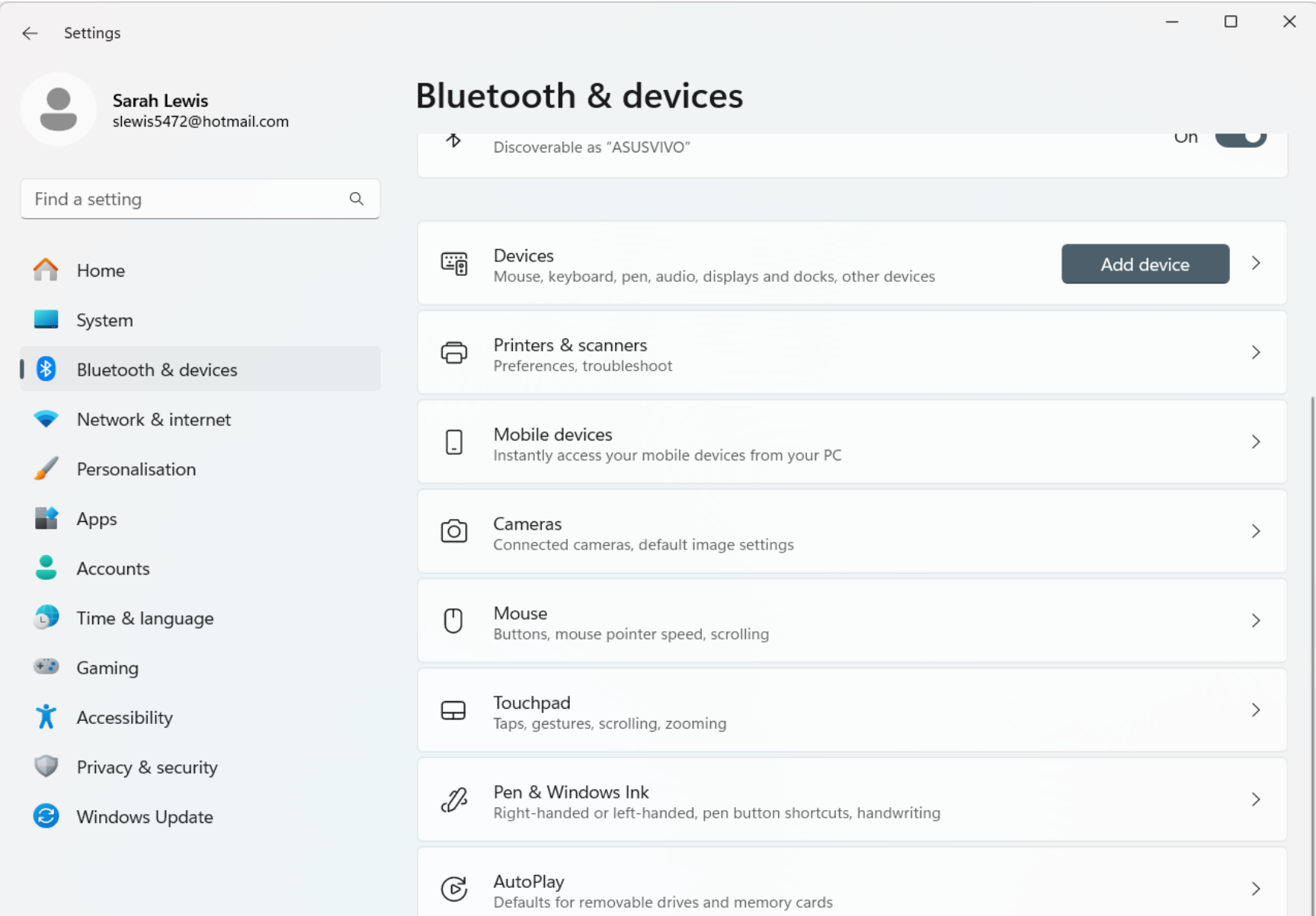


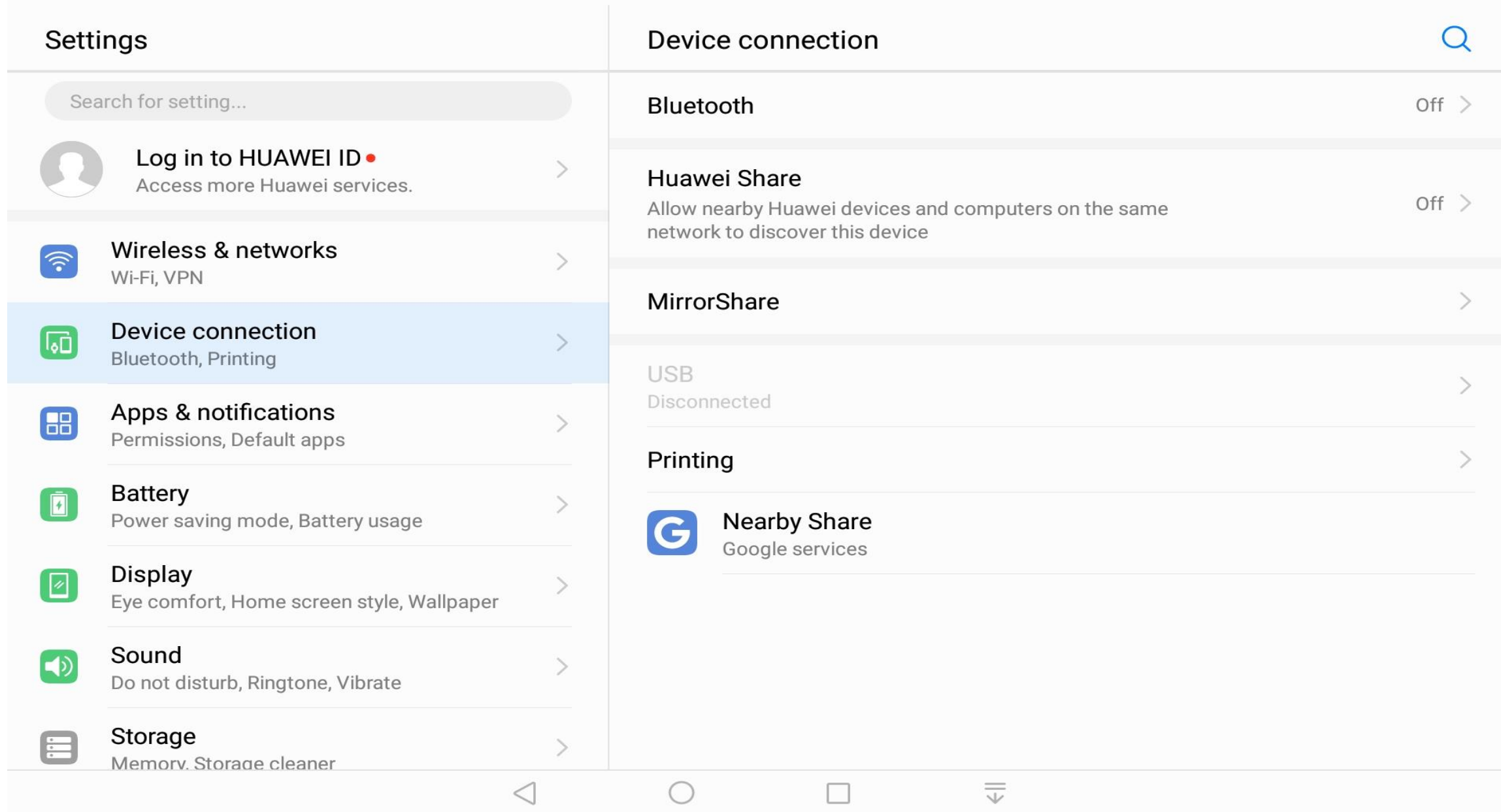


Finally – check WiFi strength icon on the Home Led screen

If, after adjusting your device and router positions, rebooting, reconnecting etc the Wifi signal is still poor, check upload and download speeds & latency at broadbandtest.which.co.uk or similar site
Streaming (downloading) a high definition TV programme uses approx 5 Mbps on top of the other data demands.

Connecting Devices via Blue Tooth – limited range and speeds (only 1/20th to 1/1000th of wifi)
OK for low quality audio, casting a screen, but not for video etc Often used for initial pairing.





On a Huawei tablet. "Share" apps are far more efficient than bluetooth – much faster (uses wifi)



This is a smart speaker but can also be linked by bluetooth.





Add a device



Add a device

Choose the kind of device that you want to add.

 **Bluetooth**
Audio devices, mice, keyboards, phones, pens, controllers, and more

 **Wireless display or dock**
Wireless monitors, TVs or PCs that use Miracast or wireless docks

 **Everything else**
Xbox controllers with Wireless Adaptor, DLNA and more


Cancel

Add a device

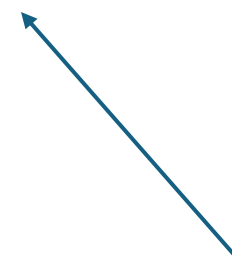


Add a device

Make sure that your device is turned on and discoverable. Select a device below to connect.

 ET-2820 Series

 Utility speaker



Cancel


Adding a Smart Device to Wifi.

- Choose a device with your favoured chatbot software installed ie Google Assistant, Alexa, Siri.... (some other commercial chatbots available eg JBL speakers)
- (I read that): Some devices offer two major chatbots, so you have an option to change later.
- It will require an app for the linking – downloadable from appropriate app store eg Google Nest (Google Home), Smart Life (Apple),
- (My experience): set it up on the phone/tablet/laptop that share the same (gmail) address. The smart device will only recognise one Google account ID and won't function at all if it is confused!

Devices



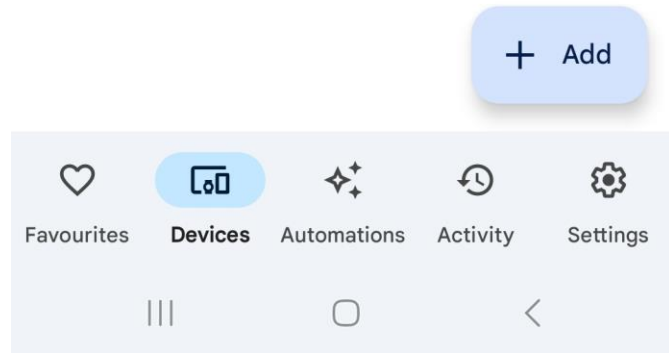
Utility

Utility speaker 
Offline






Choose "Devices" from the taskbar within the app

Power up your device!



Choose a device

-  **Matter-enabled device**
Add devices with the Matter logo
-  **Google Nest or partner device**
Add Nest devices, Chromecast, Google Assistant-enabled devices or partner devices labelled 'Seamless Setup with the Google Home app'
-  **Works with Google Home**
Link existing devices or services labelled 'Works with Google Home'

Look for the logo on your device





Choose a home

You will be able to control the devices and services in this home

Home
Plomer Hill, High Wycombe, UK

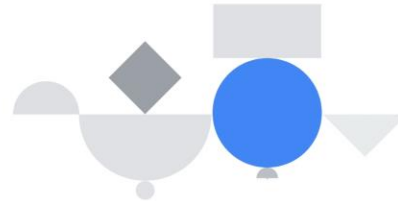
Add another home

Give a name to your main Wifi network. Add another (via the app) for any other regularly used wifi network.

Next



Looking for devices...



Cancel



Matter-enabled device

Blinds

Bridge

Chromecast/Google TV

Camera

Display

Doorbell

Light

Not now



Other linking systems for devices – peculiar to them:

Screencasting:

Chromecast (Android/Google) uses a Chromecast dongle & Wifi

Miracast (Android/Google) - for monitors/screens that support the software. Not dependent on Wifi and is part of inbuilt software.

Apple Airplay (uses wifi)

Quality Audio

Earbuds often have their own software eg Sony app on the phone/tablet (no wifi needed)

(All support fairly large data transfer)

Home control and security devices - see earlier presentations by Alan and Elaine:

Smart Doorbells

Smart Televisions

Which? Tech articles that I can scan and send or photocopy – let me know your particular interest & email address

Date	Topic title
Apr '24	Smarter Sounds(smart speakers reviewed)
Oct '23	Streaming, casting and mirroring (both audio and screen contents)
Dec '22	How to get brilliant broadband (router positioning, device demand)
Oct '22	Improve your computer's audio
Aug '22	Top 5 printer problems and how to fix them (incl wifi connections)
Jun '22	Unpacking Smart TVs (incl TV Streaming boxes that modify any TV)
Feb '22	Wireless speakers to make listening a breeze (review of models)