

### WiFi Analyzer User Guide

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# **Terms You Should Know**

Access point (AP): Generally, this is your router. A device that creates a wireless local area network.

**WPA2, WPA, WEP:** Security protocols for wireless networks. WPA2 being the strongest encryption protocol, and WEP being the weakest.

**SSID:** The name of your wireless network.

**MAC address:** Unique 12-character identifier (e.g. 00:00:00:00:00:0X) for a specific piece of network hardware.

**Frequency:** There are three frequency bands available to use when setting up a WiFi network. There are: 2.4GHz 5GHz 6GHz.

**Channel:** Each frequency band is divided into a number of smaller bands, known as channels. These are similar to television channels.

**Signal strength:** The power of the received signal. The higher the better. Example: -65 dBm is better than -90 dBm.

# **Channel Graph**



Real-time graph of nearby access points. Currently connected AP will have a separate color (Red).

## **Time Graph**



Shows the signal strength of each access point overtime. Currently connected AP will have a separate color (Red). Time Graph shows you how your device loses or gains signal strength by moving into different locations around the house.

### **Best Channels**



Shows the best channels to use for a new access point or the currently connected AP, more stars means better channel.

Choose "New AP" to show the best channels for a new network that you are not currently connected to.

Choose "Connected AP" to show the best channels for the network that your device is currently connected to.

### **Access Points**

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Mac: 10:b2:e5:c5:e1:0f Freq: 5180MHz CH 36 F[ESS]	82m		-85 dBm
HolidayInn Mac: 5c:83:8f:a2:65:1f Freq: 5180MHz CH 36 r [ESS]	58m		-82 dBm
HolidayInn Mac: f0:b2:e5:c0:d4:af Freq: 5220MHz CH 44 r [ESS]	81m		-75, dBm
Orange Wi-Fi Mac: 2c:36:f8:b6:b0:38 Freq: 5180MHz CH 36 r][ESS]	58m		-64 dBm
(HiddenSSID) Mac: 5c:83:8f:57:88:1d Freq: 5220MHz CH 44 ≩[ESS]	72m		-69 dBm
(HiddenSSID) Mac: 5c:83:8f:57:88:1e Freq: 5220MHz CH 44	91m		-72 5

Shows detailed information about each nearby access point (including access points with hidden SSID) such as: SSID, MAC address, Distance, Frequency, Channel, Capabilities and RSSI. Currently connected AP will have a WiFi icon next to its SSID.

#### **Copy MAC address**

Press and hold the access point.

#### Connect to open access point

Click on the access point.

# **Premium Tools**

Y.	Troubleshoot WiFi issues as simple as it gets! It tells you exactly what changes should be made in order to get the best out of your WiFi router.
0	Shows all devices that are connected to your router, it usually takes around 2 minutes to get a full list of connected devices.
£~}	Allows you to start an Internet Speed Test that measures your Download Speed, Latency, Jitter. Once the test is finished all test data gets saved automatically.
<b>(b)</b>	Helps you locate WiFi devices using its signal strength. It blinks and vibrates more frequently as you move closer to the WiFi emitting device (APs).
\$	Includes many Advanced Settings, such as Filter, Aliases, Scan Interval, Coloring, Units and more.
	Opens your WiFi router's settings page. After logging in, you can block unwanted devices, change your WiFi channel, SSID, Password, etc.

## **Advanced Settings**

(Premium version)

Settings (BETA)			
Filter Access Points			
Select APs: OLGOR.COM			•
Scan Interval			
Refresh Rate:	5000	Millise	cond.
Graph Coloring			
Color By: Random		•	
Minimum Signal Stre	ngth		
Hide APs Weaker Than:		- 80	dBm
Measurement Unit		Metr	ic US
Signal Strength Unit		dBn	n %
Enable Aliases Double Tap the AP from Acce	ess Points	to set alia	as.
Display Channel Widt Display channel width on Cha	t <b>h</b> Innel Grap	h.	
Enable Pinch to Zoon Use two fingers to zoom in/o	<b>n</b> ut Channe	Graph.	

#### **Filter Access Points**

Only display selected APs and hide the others.

#### Scan Interval

Change the WiFi scan interval. (1 Second = 1000 Millisecond)

#### **Graph Coloring**

Change how the app color graphs.

#### **Minimum Signal Strength**

Hide APs with a signal strength lower than the value set.

#### **Measurement Unit**

Switch between US and Metric measurements.

#### Aliases

Create an alias to an AP's SSID.



#### Example:

Der	ore		
<u>1.111</u>	$\approx$	**	0
Image: wide wide wide wide wide wide wide wide	5-1-9 192.16 01:23:6d 1m (20MHz) CH CMP] 130Mbp	8.1.101 <b>8</b> os	-40 dBm
wl-tfl-mt84-2 MAC: 58:2a:f7:3 Freq: 2417MHz fl[WPA-PSK-TK	2-1 9:48:d0 124m (20MHz) CH P+CCMP]	2	-82 dBm
wl-tfl-mt82-2 MAC: 9c:c1:72:3 Freq: 2427MHz	2-1 8e:d4:a8 88m (40MHz) CH P+CCMP]	4	-79 dBm

### After

<u>ultit</u>	$\approx$	**	0
중 Front Desk MAC: c4:71:54:0 Freq: 2447MHz ☐ [WPA2-PSK-CC	(192.168.1.101 1:23:6d 1m (20MHz) CH 8 CMP] 130Mbps		-40 dBm
Main Hall MAC: 58:2a:f7:39 Freq: 2417MHz freq: 2417MHz	9:48:d0 <b>124m</b> (20MHz) <b>CH 2</b> P+CCMP]		-82 dBm
Reception MAC: 9c:c1:72:3 Freq: 2427MHz f[WPA-PSK-TKII	e:d4:a8 <mark>88m</mark> (40MHz) <b>CH 4</b> P+CCMP]		-79 dBm

# FAQ

#### **Q:** How to choose the best channel for my router?

A: Open "Best Channels" graph, if you are connected to your router select "Connected AP". The app will show you the rating of each channel, Now open your router settings by typing its IP Address in your browser (Most routers are manufactured to use a default address like 192.168.0.1, 192.168.1.1, or 192.168.2.1) from there go to WiFi/Wlan settings and change the channel.

#### Q: How to know if my WiFi is suffering from interference?

A: If you have WiFi Analyzer Premium you can check the interference percentage from the WiFi Diagnostics tool. If not you can monitor and check interference from "Channel Graph".

#### Q: Why is my WiFi connection unstable?

A: Many things can ruin your WiFi connection, but most of the time it is interference caused by either nearby WiFi networks or radio emitting devices. Make sure your router is away from devices such as microwaves, surveillance cameras, and so on. Then trying to change the channel to a better uncrowded one will help solve interference and increase internet speed.

# Q: Could my neighbor be jamming my WiFi? How could I detect it?

A: Yes, "Channel Graph" and "Time Graph" will help you detect if some AP is jamming your WiFi. If the signal strength of your neighbor's WiFi is very high (>-20 dBm) then there is a high chance that your WiFi is being jammed.

#### Q: Why when I move my router to the best channel the app rates it as the worst one (lowest no. of stars)? A: This is because you are selecting Best Channel for "New AP"

rather than "Connected AP".

New AP will calculate the best channel for a new router (A router that your Android device is not connected to).
Connected AP will show the best channels for a connected router (A router that your Android device is currently connected to).

# Q: Why does WiFi Analyzer sometimes recommend 2.4GHz channels instead of the non-overlapping channels 1, 6, 11?

A: The 1, 6, 11 channel recommendation does not apply to all circumstances, especially in non-corporate settings! In moderately congested neighborhoods, one stands a very good chance to benefit from not sticking to the proposed 1, 6, 11 channel scheme. The benefits of not sticking to the 1-6-11 channel scheme.

# Wi-Fi Throttling

Starting Android 9, bandwidth throttling is greatly limiting the apps that measure WiFi signal and need more than four scans every 2 minutes.

There is a workaround in Android 10 however! Follow the steps below to **disable throttling** as it will help WiFi Analyzer improve WiFi scan accuracy.

First, you'll need to activate developer options:

Go to Settings > About phone > Software information > Build number (or just Settings > About phone > Build number).

After you activated developer settings, you can toggle the throttling off for local testing purposes:

Go to Settings > Developer options > find "Wi-Fi scan throttling" > disable it (or Settings > System > Advanced > Developer options).

There is some useful information on WiFi scan throttling here:

https://developer.android.com/guide/topics/connectivity/wifi-scan

# **Video Resources**



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