

How To Set Up Your SharkRF Openspot / TPLink Nano Router and iPhone7 For Portable HotSpot Operation

Gary KE2YK 4/17 (With Credit To Rob AK7RM)

Hardware you will need to leverage this document:

[TPLink Nano Router Model TL-WR802N\(US\)](#)

[SharkRF OpenSpot Hotspot](#)

iPhone 7 in Personal Hotspot Mode

Recommended Hardware For Portable Use:

[Gatcepot 24000mAh 5.5A 3-Port High Capacity Power Bank](#)

[DMR HT](#) (with a code plug configured to work with OpenSpot Hotspot)

iPhone Personal Hotspot Setup:

On your iPhone Choose:

Settings / Personal Hotspot / Enable

Write down the name of your iPhone which is listed in the **Now Discoverable** section of the page.

Note:

Be sure there are **no special characters** in the name selected for your iPhone. The name of the iPhone becomes the SSID of the device selected in the TPLink router Client configuration. From personal experience, I can say any special character will cause the configuration of the TPLink router to fail.

Create a WIFI Password and write it down.

Configure The TPLink for Client Mode:

“The OpenSpot is connected to your TL-WR802N via the Ethernet port and the TPLink router in Client mode causes the router to act as a Gateway between the OpenSpot and the iPhone in Personal Hotspot mode.”

Power on and connect to the TPLink from your pc.


Wait until the router shows up in your list of network devices.

Select the TPLink Router in your list of network devices and select Connect.

The default wireless password requested is listed on the bottom of your TPLink router. My default password began with 1818....

The factory url of <http://tplinkwifi.net> did not work for me. I used the ip address of 192.168.0.1 in the browser address bar to connect to the router.

Log into the TPLink device as admin/admin.



The image shows a screenshot of the TPLink login interface. It features two input fields: the first is for the username, containing the text 'admin', and the second is for the password, represented by six dots. Below these fields is a prominent green button labeled 'Login'. At the bottom of the page, there is a copyright notice: 'Copyright © 2015 TP-LINK Technologies Co., Ltd. All rights reserved.'

Choose the Quick Setup option and click next.



The screenshot shows a web interface for a router's configuration. On the left is a vertical navigation menu with the following items: Status, Quick Setup (highlighted in green), WPS, Network, Wireless, DHCP, Forwarding, Security, Parental Control, and Access Control. The main content area has a green header bar labeled "Quick Setup". Below the header, the text reads: "The quick setup will tell you how to configure the basic network parameters. To continue, please click the **Next** button. To exit, please click the **Exit** button." At the bottom of the main area are two buttons: "Exit" and "Next".

Choose Client Option and click Next:



The screenshot shows the "Quick Setup - Operation Mode" screen in a TP-LINK router's web interface. The top of the page features the TP-LINK logo in a green bar. On the left is a vertical navigation menu with the following items: Status, Quick Setup, WPS, Operation Mode (highlighted in green), Network, Wireless, DHCP, Forwarding, Security, Parental Control, Access Control, Advanced Routing, Bandwidth Control, IP & MAC Binding, Dynamic DNS, System Tools, and Logout. The main content area has a green header bar labeled "Quick Setup - Operation Mode". Below the header, the text reads: "During Travel" followed by two radio button options: "Wireless Router(Default)" and "Hotspot Router". Below that is the "At Home" section with three radio button options: "Access Point", "Range Extender", and "Client" (which is selected with a black dot). A descriptive text below the "Client" option reads: "Act as a 'Wireless Adapter' to connect your wired devices (e.g. Blu-ray player, smart TV) to existing Wi-Fi". At the bottom of the main area are two buttons: "Back" and "Next".

Choose the option that matches the name of your iPhone and click Next:

AP Count: 29

ID	BSSID	SSID	Signal	Channel	Security	Choose
1	F4-F2-6D-BB-0F-A6	abc	75dB	4	WPA2-PSK	<input checked="" type="checkbox"/>
2	F6-F2-6D-2F-A4-D4	onhub	66dB	11	WPA2-PSK	<input type="checkbox"/>
3	50-C7-BF-01-88-20	7200_2.4G	64dB	1	WPA-PSK/WPA2-PSK	<input type="checkbox"/>
4	A4-2B-80-DD-48-17	KK2.4	62dB	11	WPA2-PSK	<input type="checkbox"/>
5	EC-08-6B-9F-BD-2B	Smart Home	59dB	11	WPA-PSK/WPA2-PSK	<input type="checkbox"/>
6	18-A6-F7-2D-CA-76	EAP_TEST	59dB	1	WPA2-PSK	<input type="checkbox"/>
7	EC-08-6B-D4-E9-BD	EAP320	56dB	11	WPA2-PSK	<input type="checkbox"/>
8	50-C7-BF-07-90-2B	EAP320	50dB	9	WPA2-PSK	<input type="checkbox"/>
9	00-0A-EB-16-E2-A4	EAP320	47dB	11	WPA2-PSK	<input type="checkbox"/>
10	50-C7-BF-0B-BE-00	EAP320	47dB	8	WPA2-PSK	<input type="checkbox"/>
11	EC-08-6B-D4-E3-A8	AP300	46dB	1	WPA2-PSK	<input type="checkbox"/>
12	60-E3-27-58-24-08	841NV11	45dB	8	WPA2-PSK	<input type="checkbox"/>
13	50-E3-27-29-D9-0E	EAP320	44dB	11	WPA2-PSK	<input type="checkbox"/>
14	00-0A-EB-13-7A-FF	TP-LINK_TAFF	44dB	1	WPA-PSK/WPA2-PSK	<input type="checkbox"/>
15	E8-94-F6-79-B1-E0	TP-LINK_2.4GHz_H5R	40dB	1	WPA-PSK/WPA2-PSK	<input type="checkbox"/>
16	CC-7B-35-48-80-84	ChinaNet-MLh	37dB	6	WPA-PSK/WPA2-PSK	<input type="checkbox"/>

Set SSID and MAC Manually

Choose the Security Mode (WPA/WPA2-PSK) and enter the password (case sensitive) that you created in the Personal Hotspot section of your iPhone and press Next:

Quick Setup - Wireless Setting

Client Mode Setting:

Wireless Name of Root AP: (also called SSID)
MAC Address of Root AP:
Region:
Warning: Ensure you select a correct country to conform local law. Incorrect settings may cause interference.

Wireless Security Mode:
All security settings, for example the wireless password should match the Root AP.

Root AP Wireless Password:
You can enter ASCII or Hexadecimal characters. For Hexadecimal, the length should be between 8 and 64 characters; for ASCII, the length should be between 8 and 63 characters. For good security it should be of ample length and should not be a commonly known phrase.

Client Configuration Confirmation:

On the Client Mode confirmation Page you have the option to save the configuration you created into a text file on your PC.

Note: The screen below shows a **FINISH** Button but in the newer router hardware the **FINISH** button is replaced with a **REBOOT** button. ***Be sure to select*** the **REBOOT** button and wait for the **REBOOT** process to complete.

Note: You will not be able to log into the router after changing the router to Client Mode.

Note: In the case of a connectivity problem, the router can be reset to default mode by using the blunt end of a paperclip. Hold the reset button in for at least 10 seconds.

The screenshot shows the TP-Link web interface. On the left is a navigation menu with the following items: Status, Quick Setup, WPS, Operation Mode, Network, Wireless, DHCP, Forwarding, Security, Parental Control, Access Control, Advanced Routing, Bandwidth Control, IP & MAC Binding, Dynamic DNS, System Tools, and Logout. The main content area has a green header with the TP-LINK logo. Below the header, a message reads: "Congratulations! This device is now connecting you to the Internet. For detailed settings, please click other menus if necessary." A red note below says: "Changing working mode configuration will not take effect until this device is rebooted." A confirmation message follows: "Confirm the configuration you have set. If anything is wrong, please go Back to reset. It's recommended to take a note of these settings that you'll need later for reference." The settings are divided into two sections: "Wireless Settings" and "Network Settings".

Wireless Settings	
Operation Mode:	Client
Wireless Name of Root AP(SSID):	abc
MAC Address of Root AP(BSSID):	F4-F2-ED-BB-0F-A6
Wireless Security Mode:	Most Secure(WPAWPA2-PSK)
Root AP Wireless Password:	12345678

Network Settings	
Default Access:	http://tplinkwifi.net
Login UserName:	admin
Login Password:	admin
LAN Type:	Smart IP(DHCP)

Save these settings as a text file for future reference

Final Steps:

Now power on and plug your OpenSpot into the Ethernet port on the TPLink Gateway and in about 10 seconds, the Status LED will display solid **GREEN**.

Once the above steps are complete, and you have the Personal Hotspot enabled on your iPhone, you should will see a **BLUE BAR** at the top of your iPhone screen that displays *Personal Hotspot: 1 Connection* and the light on your TPLink Gateway should be solid green.

You are now on the air with your OpenSpot using the TPLink as a Gateway to your iPhone in Hotspot mode.

Have fun going portable!
73, Gary KE2YK