How to set up the Secured Wireless Connection using WPS (Wi-Fi Protected Setup)

Introduction:
Wi-Fi wireless connection and security has been notoriously hard to configure for the consumers. As a possible best solution, Wi-Fi Protected Setup is designed to help connect any Wi-Fi enabled devices (like the Laptop, game console, camera, smartphone, IPod) to the wireless network in a painless and secure way.

WPS can be enabled using the following 2 choices:

1. Hardware WPS button:
   This method makes wireless connection as simple as pushing a button on the Wi-Fi enabled device and the wireless router.
   Take Edimax wireless router as an example, simply pushing the WPS button for 5 seconds and clicking the WPS button of the wireless card completes the wireless connection setup (see the Figure-2). That’s it. Anybody with a finger can do it. With the arrival of Wi-Fi WPS technology, put the impression about how hard it is to use the wireless network behind.

   ![Figure-1](image1)

For those wireless router and cards without hardware WPS button, it requires users to push the WPS button (called PCB) in the software configuration page instead of a physical WPS button. The following is Edimax configuration page (Figure-2) on both wireless router and card. PBC (Push button Configuration) is another way of the WPS implementation.

![Figure-2](image2)
2. Pin (Personal Identification Number) Method:

PIN is a unique number for differentiating wireless cards. PIN can be taken either from a sticker label or from software configuration page. The following is an example of software configuration page. Entering this PIN code of the wireless card and clicking the “Start WPS” button in the wireless router completes the setup of a wireless security connection (see Figure-3).

Case study:

Yes, wireless connection is so easy using hardware WPS button connects to wireless router. I have succeeded connecting the card having WPS button. However, what about other wireless cards without such button (see Figure-4).

The only solution for cards without WPS button to connect to a wireless router having WPS button turns back to conventional way, troublesome and time-consuming configuration steps like:

Step 1. Configure a wireless security key in the wireless router
Step 2. Enable the wireless card software
Step 3. Ask the wireless card software to survey the neighboring wireless router.
Step 4. Connect preferred wireless router
Step 5. A window pops up, requesting you to enter password.
One thing is worth keeping in mind. When WPA button of the router is clicked, the router enabled wireless security and set a key for you automatically. This key is a long 64-letter key as shown in the Figure-5. At this stage, to allow other wireless cards without WPS button connected, the said long 64-letter key must be copied and pasted into the wireless cards. This creates another troublesome job.

To avoid nuisance of copying the long 64-letter key into the wireless cards, it’s suggested an wireless WPA security key that can be be remembered is entered first. For example, an easy-to-remember key “MySecretKey” is set for protecting the wireless network (see the Figure-6). The wireless router will check the legal wireless cards having no WPS button by asking you to enter this key.

The same key is also used for wireless cards having WPS button to form a wireless security connection. But the difference is that wireless router will not ask such key.