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

ΣDiMAX
Technical Support

Introduction:

Wi-Fi wireless connection and security has been notoriously hard to configure for the consumers. As a posssible best solution, Wi-Fi Protected Setup is designed to help connect any Wi-Fi enabled devices (like the Laptop, game console, camera, smart phone, 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.
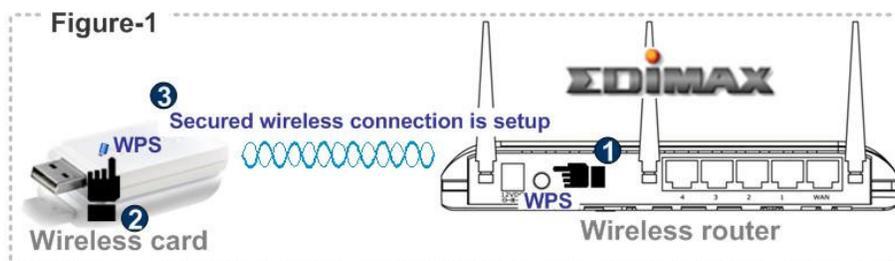
Figure-1

For those wireless router and cards without hardware WPS button, it requires users to push the WPS button (called PCB) in the software configuraiton page instead of a phsical 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 implemenation.

Figure-2
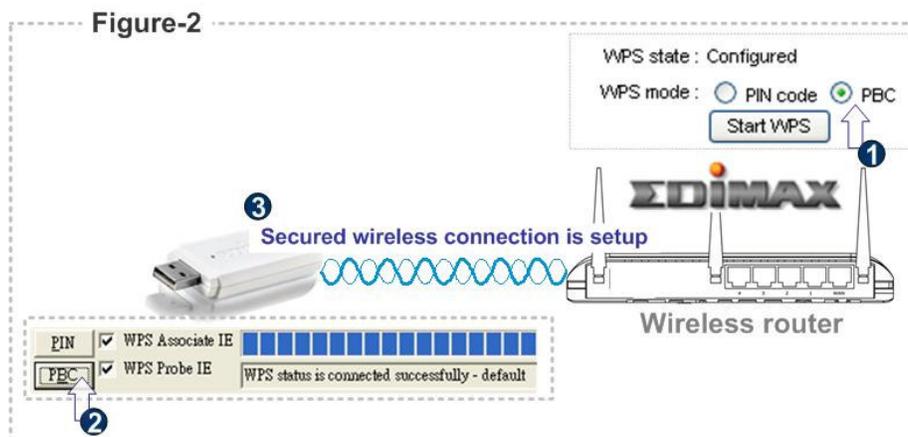
2. **Pin (Personal Identification Number) Method:**

   PIN is a unique number for differentiating wireless cards. PIN can be taken either from a sticker lable or from software configuration page. The following is an example of software configuraiton 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**).
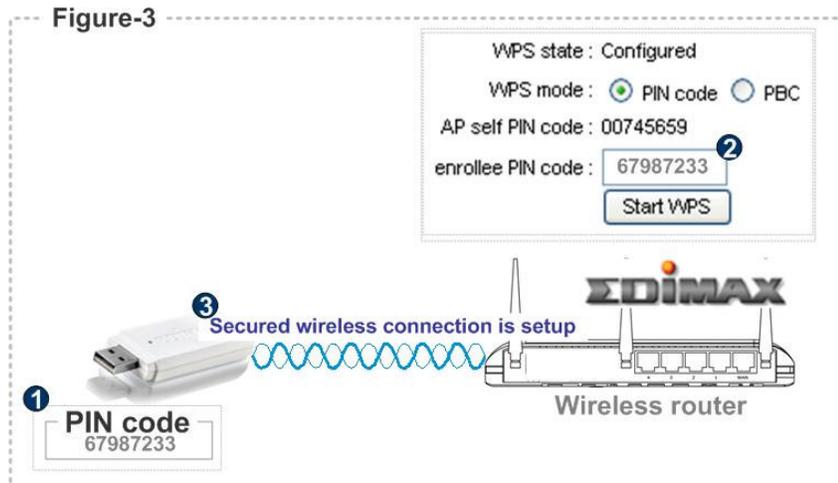
Case study:

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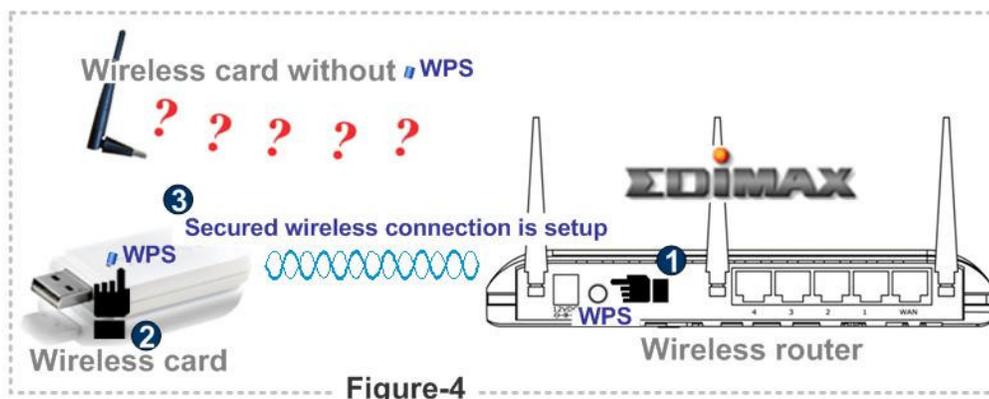
   The only solution for cards without WPS button to connect to a wireless router having WPS button turns back to conventional way, troublesome and time-consuming configuration steps like:

   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 windows 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 wirelss cards without WPS button connected, the said long 64-letter key must be copied and pasted into the wireless cards. This creates another toublesome job.

Figure-5

Home / General Setup / Wireless / WPS

☑ Enable WPS

• Wi-Fi Protected Setup Information

WPS Status:	Configured
Self PinCode:	16693845
SSID	default
Authentication Mode	WPA pre-shared key
Passphrase Key	aa85069487e509b6fdb57bbec10f00b836385c4a70de9f19e08c726aebb749b5

Router enable "WPS" security and set a key automatically
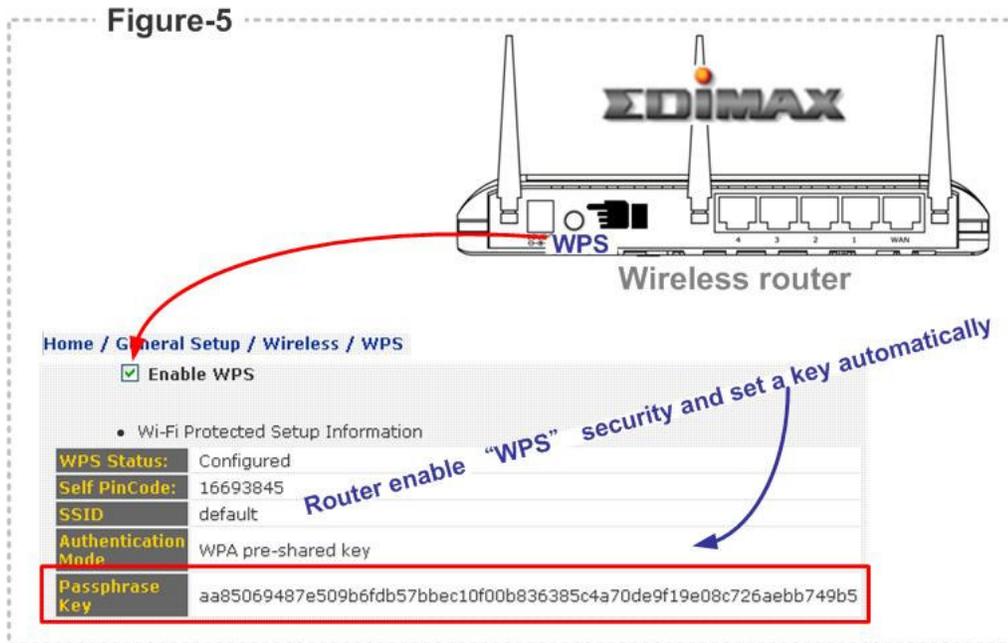
To avoid nusance of copying the long 64-letter key into the wireless cards, it's suggested an wireless WPA security key that can be be rembered is entered first. For example, an easy-to-remember key " MySecretKey" is set for protecting the wireless network (see the **Figure-6**). The wireless router will check the legal wireless cards having no WPS button by asking you to enter this key.

Figure-6

Home / General Setup / Wireless / Security Settings

Encryption :	WPA pre-shared key ▾
WPA Unicast Cipher Suite :	○ WPA(TKIP) ○ WPA2(AES) ● WPA2 Mixed
Pre-shared Key Format :	Passphrase ▾
Pre-shared Key :	MySecretKey

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.