How to improve the quality of wireless connection? (For Intel® Dual Band Wireless-AC 3160 / 7260)
NOTE: This FAQ is for the model with Intel® Dual Band Wireless-AC 3160 / 7260, some of the content may not be applicable for other WLAN adapters.

I. WLAN Adapter Driver & Router Firmware Update

The WLAN adapter driver and the router firmware update may be helpful for improving the compatibility between the WLAN adapter and some certain router (more details), stability and the performance of the Wireless connection.

1. Download and install the latest WLAN driver from MSI/Intel official website.
2. Check if there is new firmware update for your router.

II. Disable the Power Saving Functions

To turn off the power saving related functions can prevent unexpected disconnecting, sudden connection speed drops issues and keep the WLAN adapter working at its maximum performance.

1. Set the power saving settings:
   Go to “Control Panel” >> “Hardware and Sound” >> “Power Options” >> Set the “High performance” and apply to default settings. (Check the “Change plan settings” >> “Change advanced power settings” >> Wireless adapter settings >> Power Saving Mode and make sure both “On battery” and “Plugged in” are set to “Maximum Performance”.)
2. Set the advanced settings of WLAN adapter:
Right click on Windows icon and choose “Device Manager” >> “Network adapters” >> “Intel® Dual Band Wireless-AC 7260 / AC 3160”, and right-click and select “Properties”.

- Select “Advanced” page to set the value of “U-APSD support” to “Disabled”. (Find more details about U-APSD [here](#))
- Check the value of “Transmit Power” and make sure it’s set to “5. Highest”.

III. Optimize the Wireless Network.
Find the optimized wireless connection settings between the WLAN adapter and the router. By choosing the settings which suits the network environment and the router, you can have a better connection quality and more stable connection.
For example, I’m using a GE60 2PE (with Intel AC 3160 WLAN) to connect with a 802.11b/g/n router (supports both 2.4GHz and 5.2GHz) and by using the “WifiInfoView” program, it shows the wireless connection environment around (it shows the band and the channel every routers/wireless devices are using).

Choose and set the band and the channel for the wireless connection for your router and the WLAN adapter. Choose 2.4GHz (Eventhough there are less devices using 5.2GHz band, we choose 2.4GHz band since my mobile phone, tablet and other devices which only support the 2.4GHz band) and the channel 11. (Channel 11 has the least overlapping area which can reduce the signal interference)

PS: It’s recommended to use 2.4GHz band for better penetration capabilities which improves the connection signal if there are walls or other solid objects blocking between the router and the notebook.

Next, change the WLAN adapter’s advanced settings in order to match the settings with the router.

- Set the “Wireless Mode” to “802.11 a/b/g”. (Choose the wireless mode according to the support mode of your router)
- Set the “Preferred Band” to “Prefer 2.4GHz band”.

- Set the “HT Mode” to “HT Mode” for 802.11n compatibility.
  (VHT Mode is for 802.11ac compatibility)
Set the “802.11n Channel Width for 2.4GHz” to limited “20MHz”.

PS: 20MHz has smaller bandwidth than 40MHz, but it has better penetration capabilities which improves the connection signal.

Furthermore, if there is no Bluetooth devices need to connect with, then it’s recommended to turn OFF the Bluetooth function in SCM control panel. The wireless and bluetooth combo card share the same bandwidth and the antenna, so by turning off the bluetooth function can let the wireless connection has the entire usage of bandwidth and the antenna. if choosing 2.4GHz band, then turning off the Bluetooth can also decrease the signal interference since Bluetooth devices use the same band.

PS: Except the Bluetooth devices, a working microwave will cause the signal interference of the wireless connection(microwave is also also using 2.45GHz band). Thus, to keep the microwave away from the router and the notebook can give you a better connection quality.
Lastly, set up these two properties can improve the quality of the wireless connection.

- Set the value of “Roaming Aggressiveness” to “Lowest”.
- Set the value of “Ad Hoc QoS Mode” to “WMM Disabled.”