

## Beginning

In this instruction, we will introduce two ways to drive our Intel Wireless Card.

- Use **itlwm** and **HeliPort**
- Use **AirportItlwm**

The latest releases of **AirportItlwm** and **itlwm** can be found at the following link:

- <https://github.com/OpenIntelWireless/itlwm/releases>

The latest release of **HeliPort** can be found at the following link:

- <https://github.com/OpenIntelWireless/HeliPort/releases>

## How to Use

### Use itlwm and HeliPort

- First, turn off **Show Wi-Fi status** in menu bar in **SysPref - Network - Wi-Fi**.
- Then, unzip all the packs you downloaded and copy **itlwm.kext** to **/EFI/CLOVER/kexts/Other/** or **/EFI/OC/Kexts/**.
- If you are using OC, you need to add the following code to your **config.plist**:

```
<dict>
  <key>Arch</key>
  <string>x86_64</string>
  <key>BundlePath</key>
  <string>itlwm.kext</string>
  <key>Comment</key>
  <string>Intel Wi-Fi driver</string>
  <key>Enabled</key>
  <true/>
  <key>ExecutablePath</key>
  <string>Contents/MacOS/itlwm</string>
  <key>MaxKernel</key>
  <string></string>
  <key>MinKernel</key>
  <string>16.0.0</string>
  <key>PlistPath</key>
  <string>Contents/Info.plist</string>
</dict>
```

- Reboot, and move **HeliPort.app** to your **Applications** folder.
- Open **HeliPort.app** and done.
  - You need to allow software from any sources first.
  - Run **sudo spctl --master-disable** in **Terminal.app**.

### Use AirportItlwm

- First, make sure your macOS version **>= 10.15**.
- Remove **itlwm** and **HeliPort** and turn on **Show Wi-Fi status** in menu bar in **SysPref - Network - Wi-Fi**.
- Then, unzip the pack you downloaded and copy **AirportItlwm.kext** to **/EFI/CLOVER/kexts/Other** or **/EFI/OC/Kexts/**.

### For Clover users

- Open `/EFI/CLOVER/config.plist` and add the following code to `KernelAndKextPatches - ForceKextsToLoad`:

```
<key>ForceKextsToLoad</key>
<array>
  <string>\System\Library\Extensions\I080211Family.kext</string>
</array>
```

### For OpenCore users

- Open `/EFI/OC/config.plist` and change the following code:

```
<dict>
  <key>Arch</key>
  <string>x86_64</string>
  <key>BundlePath</key>
  <string>AirportItlwm.kext</string>
  <key>Comment</key>
  <string>Intel Wi-Fi driver</string>
  <key>Enabled</key>
- <false/>
+ <true/>
  <key>ExecutablePath</key>
  <string>Contents/MacOS/AirportItlwm</string>
  <key>MaxKernel</key>
  <string></string>
  <key>MinKernel</key>
  <string>19.0.0</string>
  <key>PlistPath</key>
  <string>Contents/Info.plist</string>
</dict>
```

- Also, change your `SecureBootModel` to allow loading immutablekernel. If your macOS version  $\geq$  macOS11 (KernelCollection), you don't need to do the following steps:

```
<key>DmgLoading</key>
- <string>Any</string>
+ <string>Signed</string>
```

```
<key>SecureBootModel</key>
- <string>Disabled</string>
+ <string>Default</string>
```

- If the above method does not work, reverse changes on `DmgLoading` and `SecureBootModel`, then force loading `I080211Family`. Open `/EFI/OC/config.plist` and change the following code:

```
<key>Force</key>
<array>
  <dict>
    <key>Arch</key>
    <string>Any</string>
    <key>BundlePath</key>
    <string>System/Library/Extensions/I080211Family.kext</string>
    <key>Comment</key>
    <string></string>
    <key>Enabled</key>
- <false/>
```

```
+      <true/>
      <key>Identifier</key>
      <string>com.apple.iokit.I080211Family</string>
      <key>ExecutablePath</key>
      <string>Contents/MacOS/I080211Family</string>
      <key>MaxKernel</key>
      <string>19.99.99</string>
      <key>MinKernel</key>
      <string></string>
      <key>PlistPath</key>
      <string>Contents/Info.plist</string>
    </dict>
  </array>
```

## Discussion

- If you have questions about the driver, please discuss them on <https://gitter.im/OpenIntelWireless/itlwm>
- If you want to report bugs, please use <https://github.com/OpenIntelWireless/itlwm/issues>

## Credits

- Thanks to OpenIntelWireless for providing AirportItlwm, HeliPort, and itlwm.