

# inSSIDer for Office

quick start guide

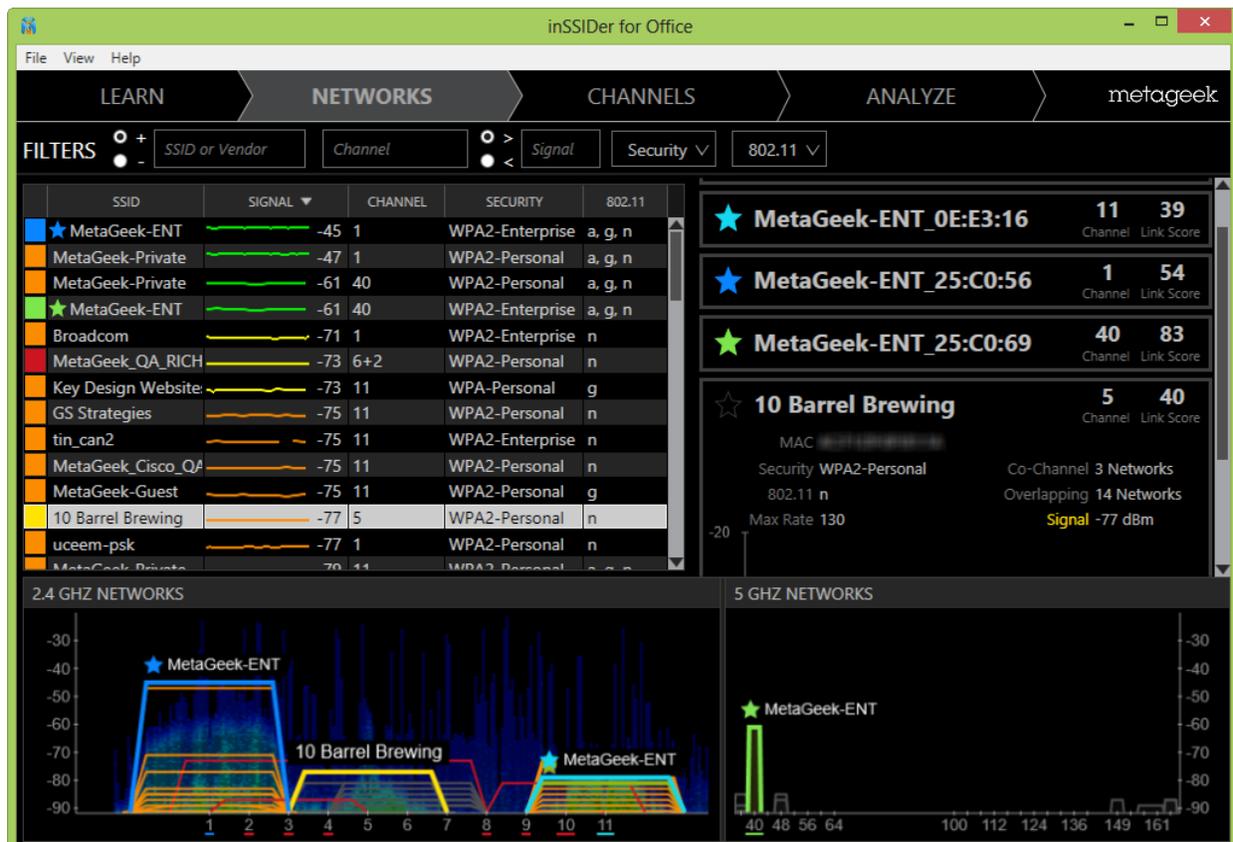


Thanks for purchasing inSSIDer for Office!

**The first step to increasing your network performance is understanding your wireless environment.**

With inSSIDer for Office, you'll be able to discover poor channel placement, low signal strength, and excessive channel power as you walk around your office building.

Simply plug in your Wi-Spy, select your SSIDs, and survey the areas you would like Wi-Fi coverage.



**inSSIDer for Office includes the Wi-Spy Mini**, which is used to collect information about RF activity in the 2.4 GHz band.

Data from the Wi-Spy also allows inSSIDer to more accurately calculate the Link Score. The closer your link score is to 100, the better performance you can expect from your network.

**In addition, inSSIDer for Office allows you to:**

- Track up to 8 SSIDs
- Compare channel measurements in the Channels Tab
- Find expert tips tailored for your networks in the Analyze Tab

**To Get Started: Connect your Wi-Spy, Launch inSSIDer for Office, and Follow these Steps:**

1. Choose your network(s) in the **Networks Table**. On the right, click the star next to their names in the "Selected Network" pane. The colors in the Networks Table and Channel Graph will change to show which networks share or overlap your current channel.
2. In each area where there will be many users, reference the **Channels Graph** and **Network Details** to make sure at least one of your SSIDs has a higher signal than the Co-Channel and Overlapping networks.
3. Open the **Analyze Tab** to see each of your SSIDs and any alerts that may come up.
4. Walk around all of the areas where you expect there to be wireless coverage, spending more time in the areas experiencing problems.
5. Adjust your AP to its optimal settings as directed by the alerts in the **Analysis Tab**.

## LEARN TAB



When you open inSSIDer for Office, you'll start on the Learn Tab.

*To the right*, you'll find our education section where you'll find the User Guide, Wi-Fi Lessons, Additional Tools, and Webinars. This tab will also include Wi-Fi News, where you'll find tips & tricks for improving Wi-Fi performance.

*To the left*, you'll be able to see the Wi-Fi Adapter that is currently in use. You'll find a convenient contact form, in case you have suggestions for improvements or other feedback.

# NETWORKS TAB



Clicking over to the Networks tab, you'll see graphs for the 2.4 GHz and 5 GHz bands.

Locate the networks you want to optimize, and click the star in the selected network pane. inSSIDer for Office allows you to star 8 networks simultaneously. Note: if you are associated with a wireless network when launching inSSIDer, that network will display a "connected" icon, and be automatically starred for optimization.

## NETWORKS TABLE

If you click on another network in the Networks Table, its information will show up in a box below your starred network(s) as seen here.

SSID	SIGNAL	CHANNEL	SECURITY	802.11
★ MetaGeek-ENT	-65	40	WPA2-Enterprise	a, g, n
MetaGeek-ENT	-71	6	WPA2-Enterprise	a, g, n
MetaGeek_Aurora_QA	-71	6	WPA2-Enterprise	n
MetaGeek-Private	-71	6	WPA2-Personal	a, g, n
MetaGeek-Guest	-73	6	WPA2-Personal	g
Key Design Websites	-73	11	WPA-Personal	g
GS Strategies	-73	11	WPA2-Personal	n
tin_can2	-77	11	WPA2-Enterprise	n
MetaGeek_QA_RICH_TESTA	-77	6+2	WPA2-Personal	n
Broadcom	-77	1	WPA2-Enterprise	n
10 Barrel Brewing	-77	5	WPA2-Personal	n
JLB	-79	1	WPA2-Personal	g
uceem-psk	-79	1	WPA2-Personal	n
dlink	-79	5	Open	n
McMillen	-79	10	WPA2-Personal	n
ryan-3500	-79	11	WPA2-Enterprise	n
hpsetup	-81	6	Open	g

**MetaGeek-ENT** 40 83  
Channel Link Score

**MetaGeek-ENT** 1 60  
Channel Link Score

☆ **10 Barrel Brewing** 5 43  
Channel Link Score

MAC [redacted]  
Security WPA2-Personal  
802.11 n  
Co-Channel 3 Networks  
Overlapping 19 Networks  
Signal -77 dBm  
Max Rate 130

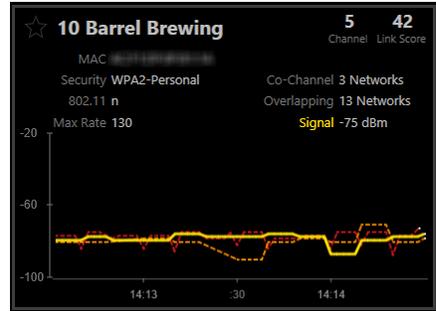
You can return to your starred network details at any time by clicking the collapsed box. Looking at two networks at the same time makes it easy to compare signal strengths and other network data at a glance.

## NETWORK DETAILS PANE

In a starred network's details pane, you'll find more information about the network. This includes the number of co-channel and overlapping networks, signal strength comparison graphs, level of security, type of wireless broadcast, maximum rate of transmission, and MAC Address.

Click on a row in the Networks Table to populate the **Selected Network** pane on the right of the screen.

You can also navigate the Networks Table functions with keyboard shortcuts: 'J' and 'K' navigate up and down the list, and 'S' toggles the star for the highlighted row.



### Choosing Networks

Next to the SSID in the Selected Network pane is a star. Clicking the star marks the network in the Networks Table, and will adjust the Channels Graph as seen below. In order to deselect a network, simply click the star again.

### Link Score

In the upper right corner you will find the Link Score. As mentioned above, the closer the score is to 100, the better performance you can expect from your network. Your score is affected by Wi-Spy measurements, low signal strength, and large numbers of Co-Channel and Overlapping networks and their relative signal strength.

The *Wi-Spy Mini's* readings of RF congestion play a significant role in determining a network's Link Score. These measurements allow the Link Score calculation to be much more accurate than what you would find in inSSIDer for Home.

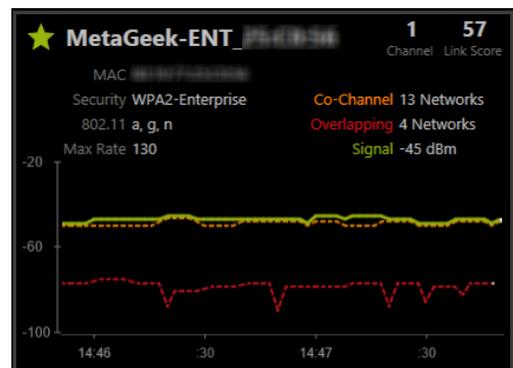
Without a Wi-Spy, inSSIDer is unable to account for actual Wi-Fi use or non-Wi-Fi transmissions, meaning you can't be sure if a channel is busy or not.

### Signal Strengths Over Time

Below the network information is a graph with line representations of signal strengths over time.

The network you have selected will appear as yellow in the graph. After you star the network, its line color will change to match.

The orange dashed line represents the signal strength of any network that is currently sharing your channel.



Similarly, the strongest signal strength of any network on a channel that overlaps yours will be graphed with a dashed red line. Ideally, the colored line of your starred network will be above both of these other lines in the graph.

## FILTERS

Above the networks table, you'll find the filter bar.

Filters are great for helping you find the data you need. You have the ability to filter by **SSID**, **Channel**, **RSSI**, **Security**, and **802.11 Network Type**.

There are two options for applying filters: The plus (+) option will display only the APs that match the criteria, and the minus (-) option will hide the matching Access Points.

Simply type in the data you wish to filter by, and hit the enter key to apply the filter. Clicking the X next to your filter will remove it.

Note: Filters are only applied to the Networks Tab (not the Channels or Analyze tabs), and they do not exclude co-channel and overlapping networks from the network details pane.



## NETWORKS TABLE TERMS

Familiarize yourself with a few acronyms and technical terms that inSSIDer for Office uses:

**Access Point** - This is the hardware that Wi-Fi devices wirelessly connect to. Sometimes these will function as a router, and are often referred to as a wireless router.

**Channel** - Each wireless network operates on a specific Wi-Fi channel. Channels 1-14 are in the 2.4 GHz frequency range, while channels 36-165 are in the 5 GHz range. For best performance in the 2.4 GHz band we recommend channels 1, 6, and 11.  
[Learn more](#)

**Co-Channel Network** - Every access point on the same channel cooperates and negotiates opportunities to transmit. This can slow down performance for every connected device.

**Link Score** - A grade for each network calculated by its signal strength, Channel Power, and number of networks competing for airtime. The accuracy of the link score will improve with a Wi-Spy plugged into inSSIDer for Office.

**MAC Address** - This is a unique identifier for a wireless network or BSSID.

**Overlapping Network** - Stations and access points on an overlapping channels talks over each other on overlapping frequencies. This causes transmission corruption and slow performance for connected devices. Overlapping networks have a more severe impact on performance than co-channel networks.

**Security** – inSSIDer will display networks utilizing the following standard security settings: Open (Unsecured), WEP, WPA-Personal, WPA-Enterprise, WPA2-Personal, and WPA2-Enterprise.

**Signal** - The amplitude level of the wireless network as seen by your computer's wireless adapter, also known as RSSI or "Received Signal Strength Indication". inSSIDer provides a line graph representing the signal strength over time.

**SSID** - Abbreviation of "Service Set Identifier", which is the name an 802.11 wireless network uses to identify itself.

## CHANNELS GRAPH

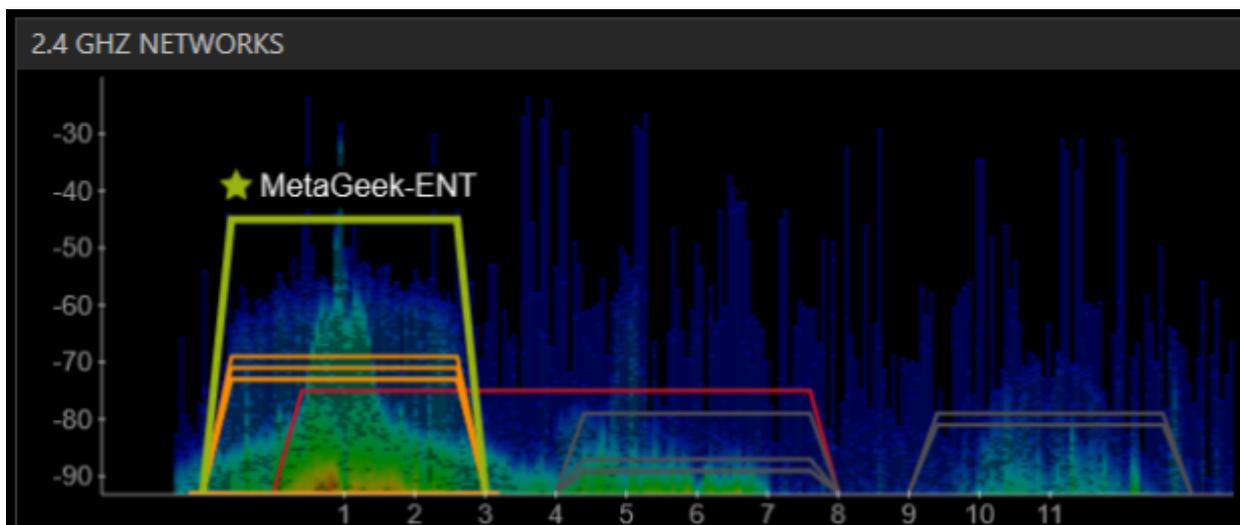
The shapes of the graphs correspond to the maximum supported rates of the APs being detected.

**802.11b network** (max rate of 2 or 11 Mbps) will be drawn with a curved top.  
**802.11 a/g/n networks** will be drawn with a flat top.

Colored lines in the Channels Graph will change depending on selections in the table above:

- Orange** - Networks that share a starred network's channel
- Red** - Networks that overlap the channel of a starred network
- Yellow** - The currently selected (but unstarred) network

The networks you have starred will be drawn in that same color, and include the SSID name.



When your Wi-Spy is plugged in, you'll notice more colors behind the line graphs. These colors represent **RF spectrum data**. Blue represents short, bursting transmissions, while red indicates saturation on a Wi-Fi channel. Spectrum data that appears tall and red is indicative of interference!

# CHANNELS TAB



The Channels Table is useful for performing a pre-site survey.

**Walk around the areas you expect your Wi-Fi deployment to cover.** Try turning on all wireless electronics to create the worst possible environment when evaluating a new location.

**Keep an eye on the Channels Table to see if any of the values spike.** This will help you to determine which channels may be adversely affected by non-Wi-Fi devices.



## CHANNELS TABLE

The table in the Channels Tab uses RF measurements from the Wi-Spy to calculate the channel power, and information from the Wi-Fi adapter to calculate the number of networks on, or overlapping, each channel.

With this information, you'll be able to gauge the health of each channel at every location in the office. This table will help you to determine which channels may be experiencing high levels of noise or congestion.

### Channel Power

Channel Power calculations requires a Wi-Spy Mini, 2.4x, or DBx.

Channel Power includes traffic from all devices on the channel, as well as non-Wi-Fi transmitters using the same frequencies as the Wi-Fi channel.

A line graph representing the current level of noise on the channel will be displayed in this column.

Non-Wi-Fi devices such as wireless audio systems, wireless mice, bluetooth, and gaming systems can all create spikes in Channel Power.

Due to Wi-Fi's "bursting" nature, seeing some spikes in the Channel Power graph is totally normal, but ideally you'll want this graph to be as low as possible.

### **Max On-Channel / Overlapping RSSI**

inSSIDer for Office aggregates the Signal Strength of the networks on the channel.

A high Max RSSI of On-Channel and Overlapping Networks is undesirable. Lower signal strength of other networks is an indication of an unused channel, but pay attention to the Channel Power column. There may be a reason that networks are not using that channel!

### **Channel Details**

Click on a channel to view the Channel Power over time.

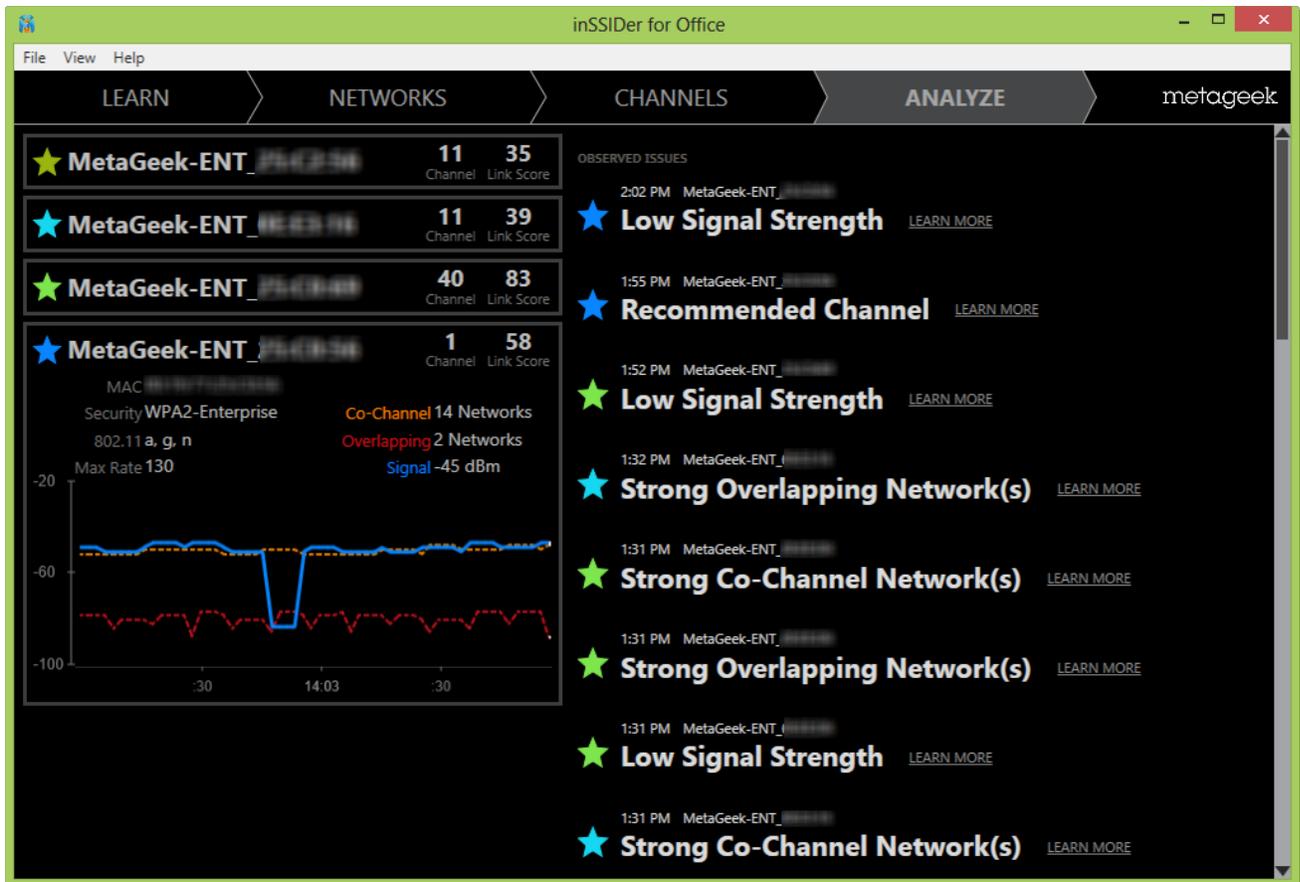
The tables on the right hand side will display the networks on the same channel and those that overlap.

## **ANALYZE TAB**



*On the left side,* you will find the network details of each SSID you selected to optimize.

*To the right,* inSSIDer for Office will alert you about potential issues affecting your starred networks. The notifications will have a colored star that corresponds to a network you have selected for optimization.



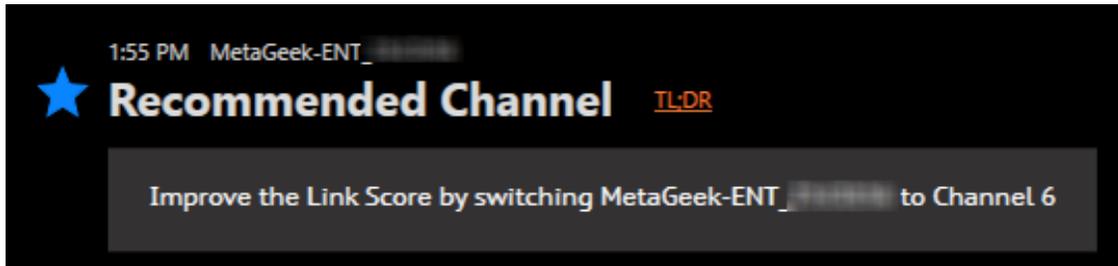
As you walk around, inSSIDer will build a list of discovered issues for each SSID such as:

- **Low Signal Strength**
- **Excessive Co-Channel & Overlapping Networks**
- **Non-Standard Channel Use**
- **Weak Security**
- **Poor Channel Placement**

## CHANNEL RECOMMENDATIONS

The Analyze Tab will display a recommendation for a new channel if inSSIDer for Office's grading algorithm deems it appropriate.

In order for inSSIDer to determine if you should change your channel, it is important to physically walk near your access point(s) so data can be gathered from the AP's perspective.



### inSSIDer for Office will display a recommendation if:

- Selected BSSID is strongest of all starred networks RSSI is over -65 dBm
- Link Score of recommended channel is 10+ higher than current Link Score
- Once a recommendation has been made, the algorithm will use this newly-recommended channel for this BSSID when considering future channel recommendations for other networks.

## WRAP UP

**inSSIDer for Office** is a great Wi-Fi discovery tool that will give you the information you need to make the right decision about the proper channel for your wireless network. With the help of inSSIDer for Office, you'll have all the help you need for improving your existing network, estimating coverage for an additional access point, and troubleshooting network issues.

[metageek.net/inssider-for-office](http://metageek.net/inssider-for-office)

