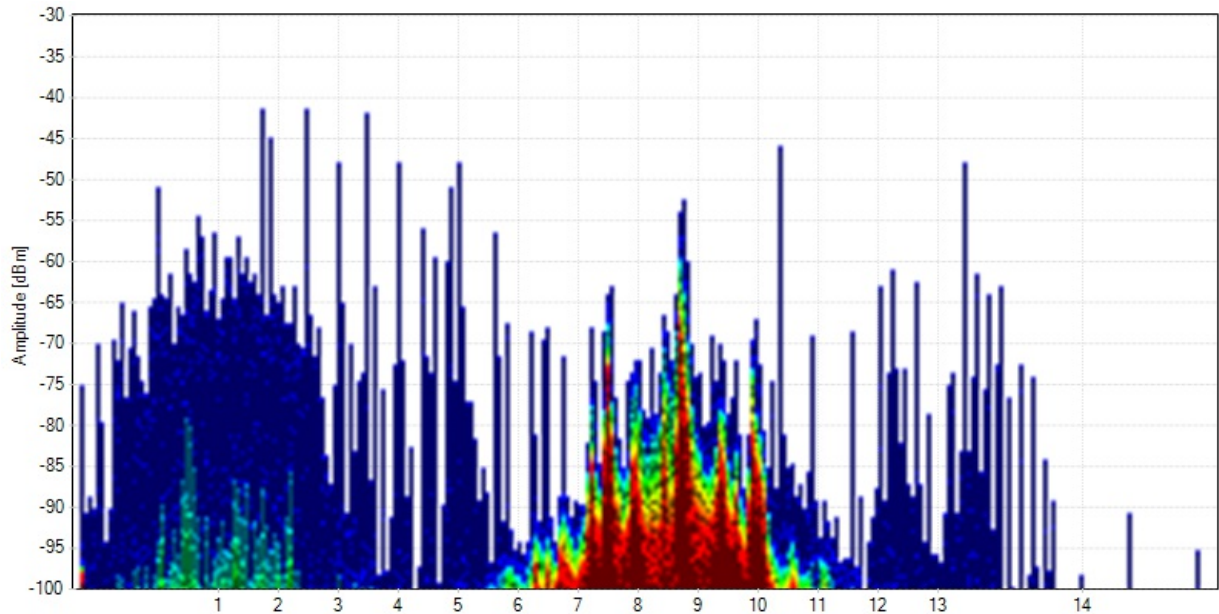




Sample Report

Date: 01/01/17 10:26:10AM

Example: How to Read the Overview Pane



The **Overview Pane** shows you what is currently happening in the spectrum around you. With **Color by Utilization** enabled, the intensity of the color shows how often a signal occurs. The more intense the color, the more often the spectrum is in use. This is called utilization, duty cycle, or airtime usage.

A blue spike is a short transmission, like a clap. A red spike is a long, continuous signal, like an air horn.

Blue - Less than 10 percent utilization

Green - 20 percent utilization

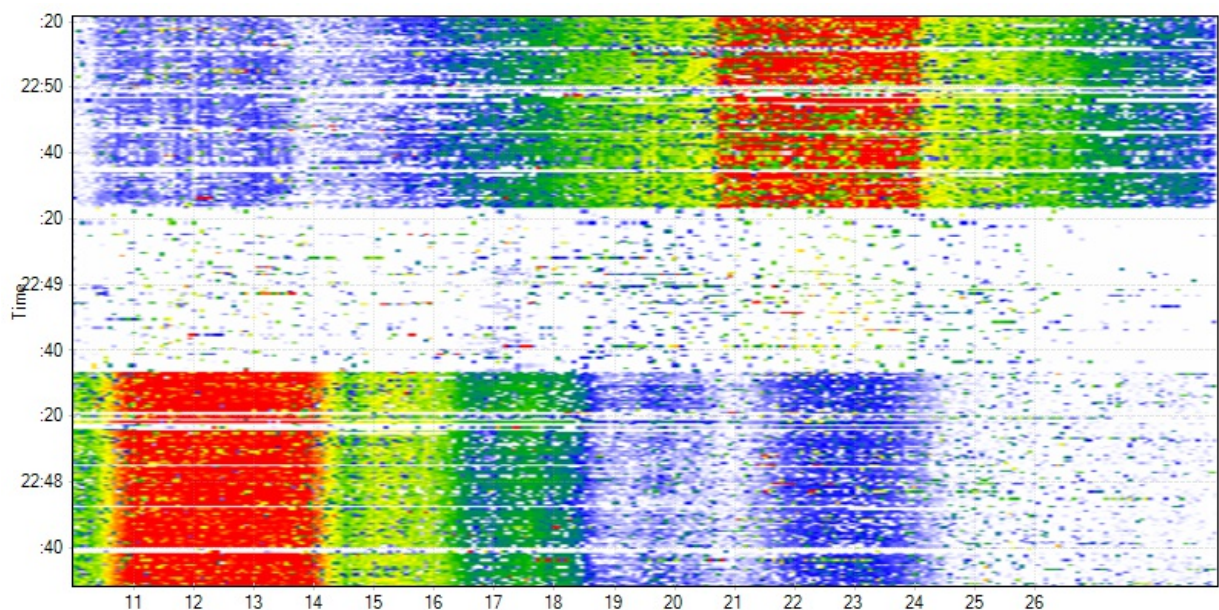
Yellow - 40 percent utilization

Red - Over 50 percent utilization

The height of each shape shows how loud it is.

In this example, we can see a non-Wi-Fi device near Wi-Fi channel 9 that is using at least 50 percent of the airtime. While this device (the known signature of a wireless video camera) is powered on, it's using up so much time on the air that Wi-Fi devices most likely won't get a chance to talk.

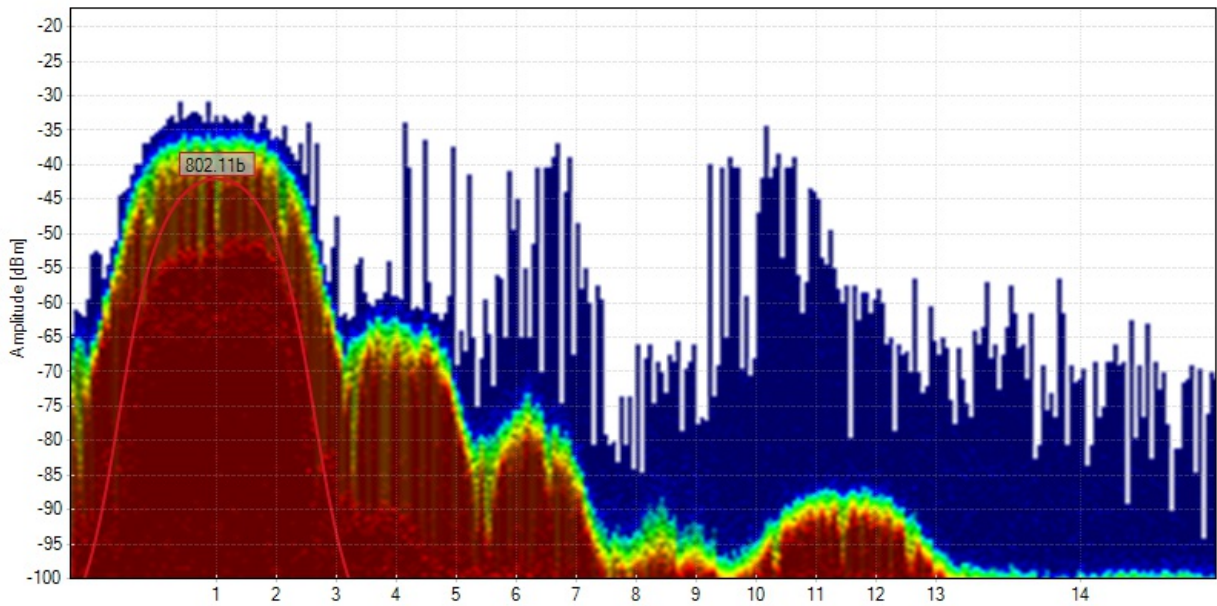
Example: How to Read the Waterfall View



The Waterfall Graph shows amplitude over time for each frequency in the in the band, much like a seismometer graphs earthquakes over time. The colors represent power levels in the spectrum with dark blue as low, and bright red as higher amplitude levels - much like a Doppler radar weather map.

In this example, a device started talking on Wi-Fi channel 1, and then stopped. After a pause, another device started talking on channel 11.

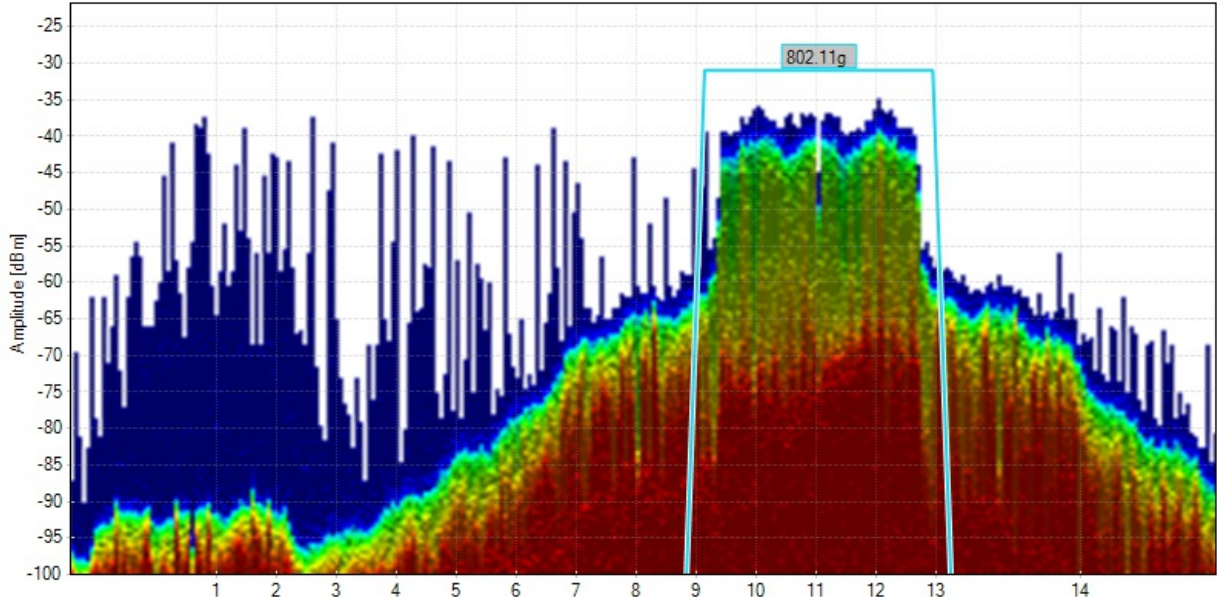
Example: 802.11b Signature



As 802.11b becomes less popular, this signature is becoming less common, but it's good to be familiar with it. This **curve shape with lobes on each side** is made by an **802.11b** network, or any 802.11g/n network running at legacy data rates like 1, 5.5, or 11 mbps. An 802.11g or 802.11n network will fall back to this shape from time to time, or when idling. To prevent this, legacy data rates can be disabled, which will improve network performance.

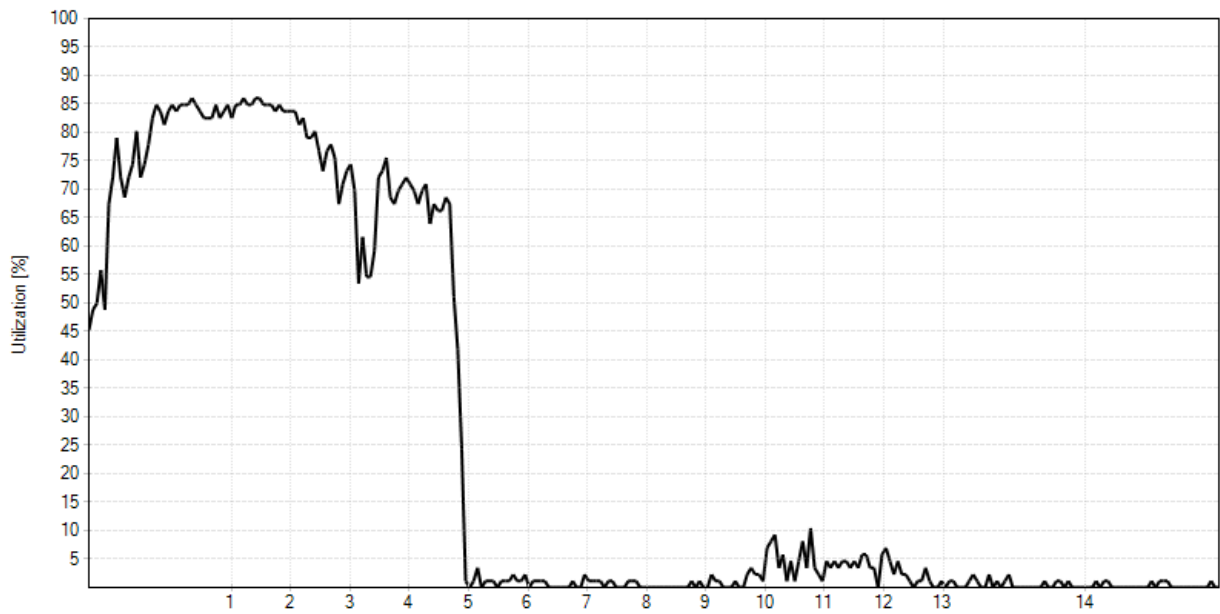
Chanalyzer draws a "curve" network shape (just like it's spectrum signature counterpart) to indicate that your wireless card has detected an 802.11b network, or a network using legacy data rates.

802.11g/n Signature



The Density View maps and displays how often a frequency/amplitude point is being used. The less trafficked frequency ranges will appear more transparent. The colors represent amplitude height with reds indicating higher signals and darker blues lower power levels. An important feature of this view is that it picks up device-specific signatures which enables analysis of what types of electronics are emitting RF energy in the area.

Utilization Graph



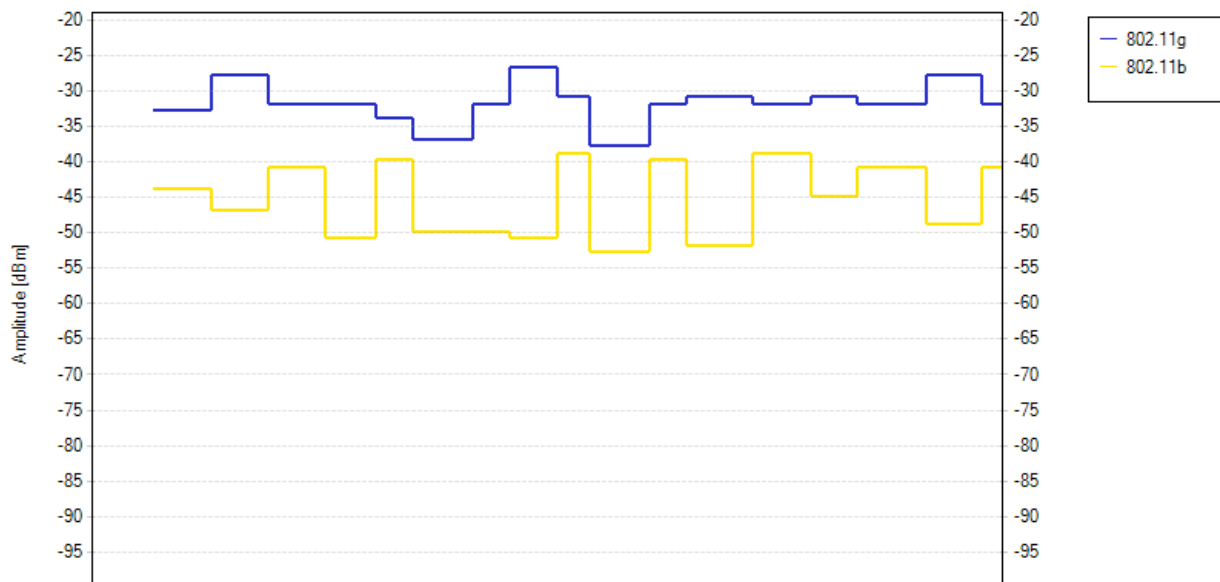
Utilization measures the percentage of activity above a defined amplitude threshold. Utilization is similar to **airtime usage** and **duty cycle**. The **Utilization Graph** gives more exact representations of utilization in the spectrum than the **Density View's** approximations.

Networks Table

ESSID	AP Alias	Channels	Signal Strength (dBm)	BSSID Count	Security	Max Rate (Mbps)	Vendors	802.11
802.11g		11	-32.0	1	WPA2-Personal	54.0	ARRIS Group, Inc.	b, g
802.11b		1	-41.0	1	WPA-Personal	11.0	Qsco-Linksys	b

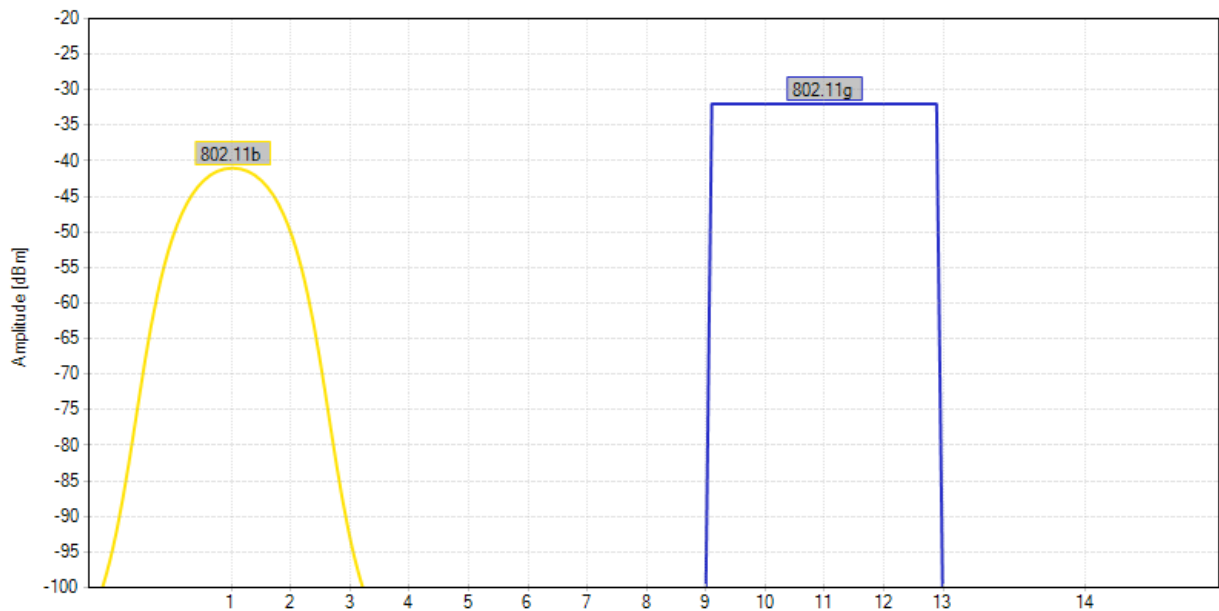
The **Networks Table** displays a snapshot of Wi-Fi access points that were visible from the computer's Wi-Fi card during the selected time period.

Networks Graph



The **Networks Graph** represents Wi-Fi signal strength over time, using data collected from the computer's Wi-Fi card. The signal strength represents amplitude levels of transmit beacons that were received by the card. Drops in signal strength indicate poor coverage, and can be referenced against the **Density** and **Waterfall** views to determine if interference is the problem.

Density Graph



The **Density View** maps and displays what is currently happening in the spectrum, so you can identify devices, see how loud they are, and see how often they are transmitting.

With **Color by Utilization** enabled, the height of the graph shows how loud devices are (amplitude), and the intensity of the color shows how often signals are occurring. The more intense the color, the more often the frequency is in use. This is called **utilization**, which is similar to **duty cycle** and **airtime usage**. For example, if a frequency has 40 percent utilization, it is only free for use by other transmitters for 60 percent of the time.

A blue spike or shape indicates a short signal, like a clap. A red spike or shape indicates a long, continuous signal, like an air horn.

Blue - Less than 10 percent utilization

Green - 20 percent utilization

Yellow - 40 percent utilization

Red - Over 50 percent utilization

Channels Table

Channel	Grade	Utilization	Average (dBm)	Current (dBm)	Max (dBm)	Noise Floor (dBm)	Access Points
1	0.0	78.0%	-42.0	-41.5	-37.0	-59.5	1
2	0.0	76.8%	-42.0	-41.5	-36.5	-61.5	0
3	0.0	68.0%	-44.0	-45.5	-38.0	-67.0	0
4	0.0	49.3%	-49.5	-51.5	-41.5	-75.5	0
5	0.0	31.4%	-62.5	-69.0	-45.0	-82.0	0
6	24.8	16.7%	-65.0	-73.5	-47.0	-87.5	0
7	56.1	1.6%	-69.0	-81.0	-50.0	-92.0	0
8	74.8	1.0%	-72.5	-85.0	-54.5	-94.5	0
9	90.3	1.8%	-72.0	-89.5	-54.5	-96.0	0
10	90.8	2.6%	-71.0	-78.0	-53.0	-95.5	0
11	90.2	2.8%	-70.5	-78.5	-52.5	-95.0	1
12	90.0	2.8%	-73.5	-78.0	-56.0	-95.5	0
13	92.0	1.8%	-74.5	-78.5	-56.0	-97.0	0
14	96.0	0.4%	-86.0	-98.0	-68.0	-101.0	0

The **Channels Table** grades each Wi-Fi channel based on the RF activity within the defined time span. This table is useful for making channel deployment decisions, because it considers all activity in each channel, and gives each one a relative grade of usability.