Create a Spectrum Analysis (and Air Monitor) AP Group

Enter the Controller from the CLI

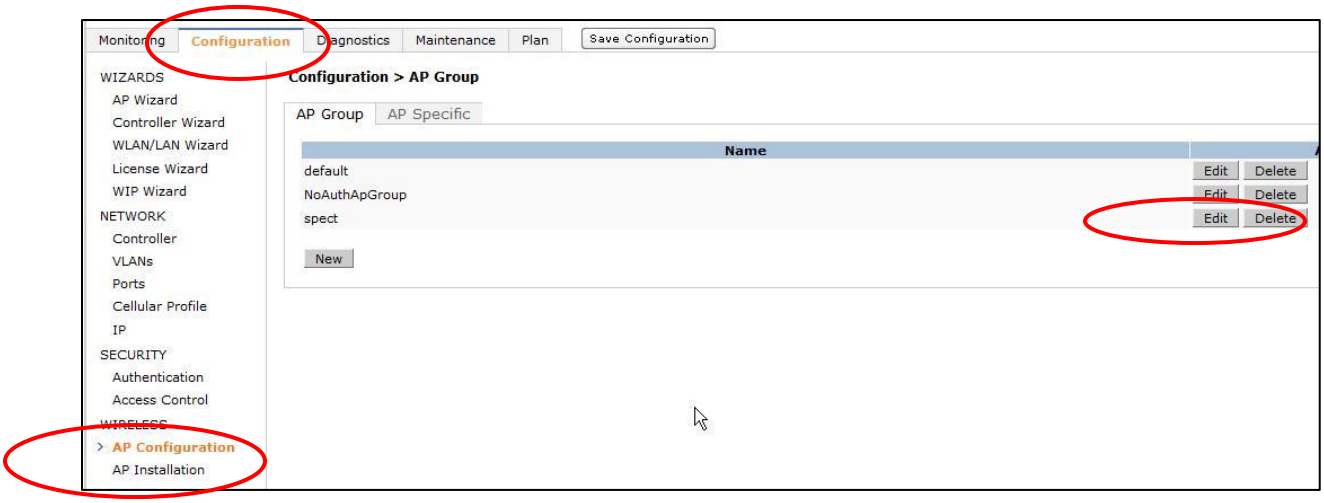
Configure a new AP-Group from CLI (clone the default ap group settings)

(Aruba3200) #configure t
Enter Configuration commands, one per line. End with CNTL/Z
(Aruba3200) (config) # ap-group *spect (name)*
(Aruba3200) (AP group "spect") #clone default (clones the configuration of the current default AP group)

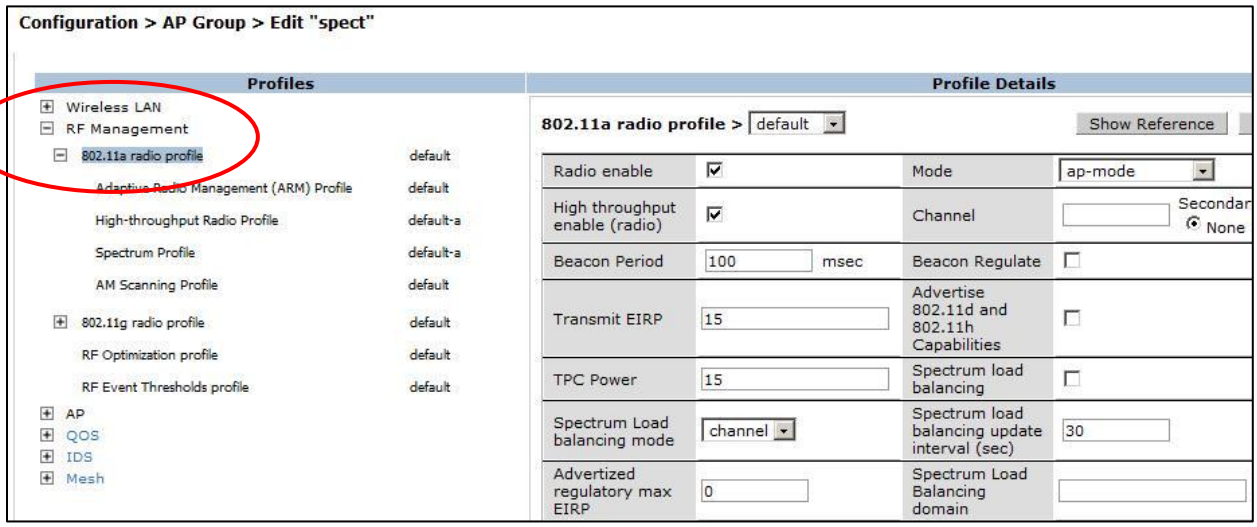
Exit the configuration mode – "wr mem" to save the configuration

Enter the Controller from the GUI

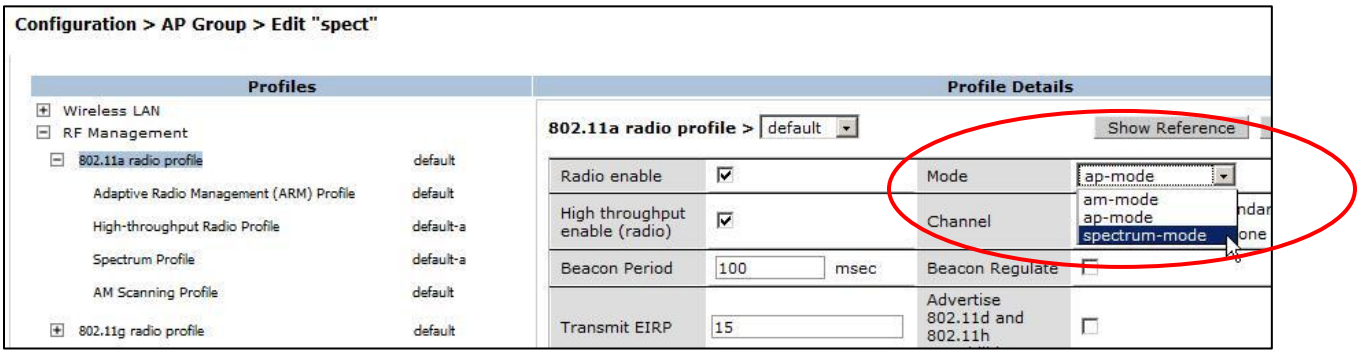
Go to
"Configuration" > "Wireless" > "AP Configuration"
Edit the new AP Group created (this example "spect")



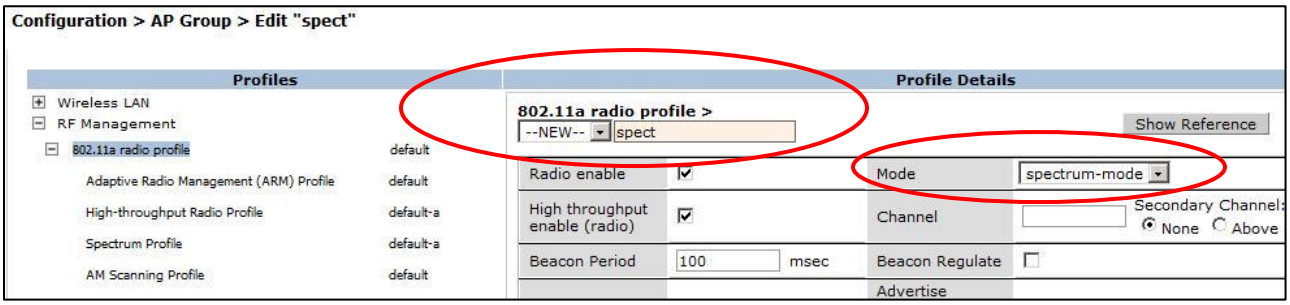
Go to and open
"RF Management" and open "802.11a radio profile"



Find and pull down the “MODE” and select “spectrum-mode”



Select the “SAVE AS” button and enter the name of the new mode(in this example “**spect**”).

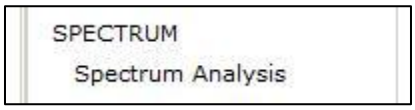


When completed select the “**APPLY**” button at the bottom of the page

“Save Configuration”

Repeat these steps for the “802.11g radio profile”

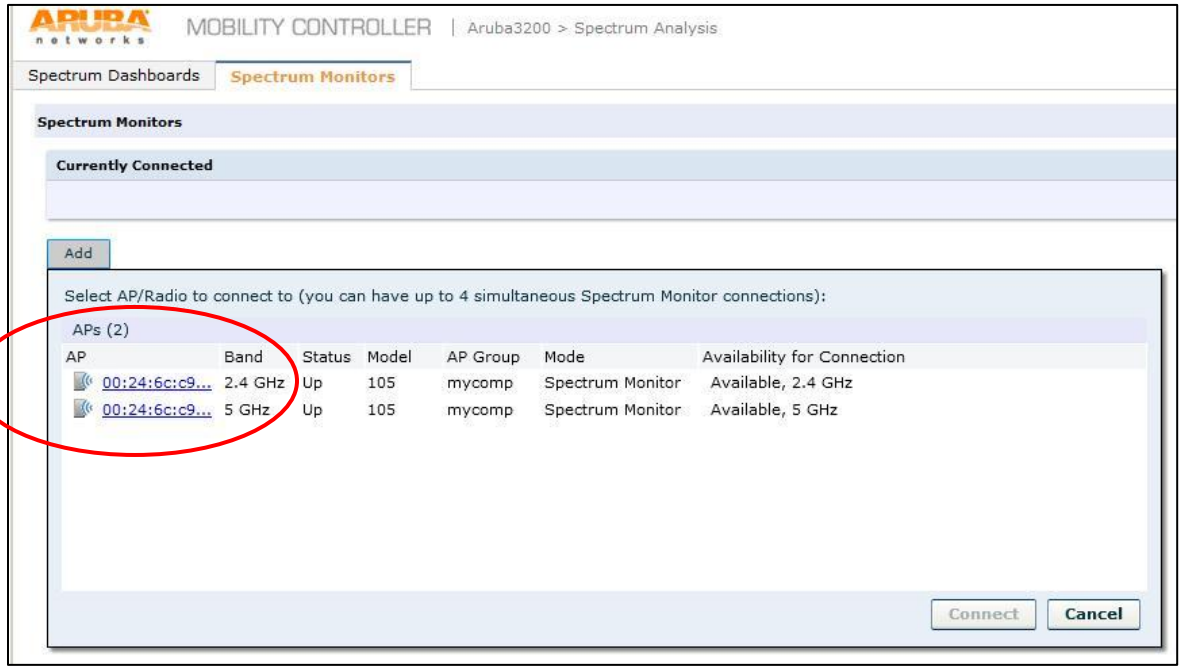
When the changes have taken at the AP go to the “Monitoring” tab and select “Spectrum Analysis”



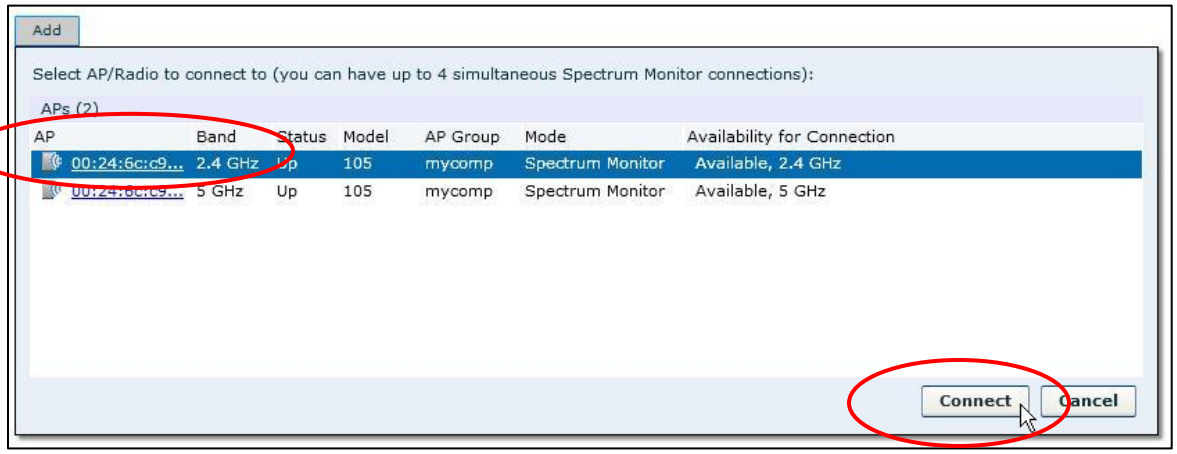
You will be presented with a new browser window
Click ‘here’ to add the AP and begin the Spectrum Analysis

Select “ADD”

You will be presented with the names of the AP’s that have been placed in the AP Group ‘spect’.

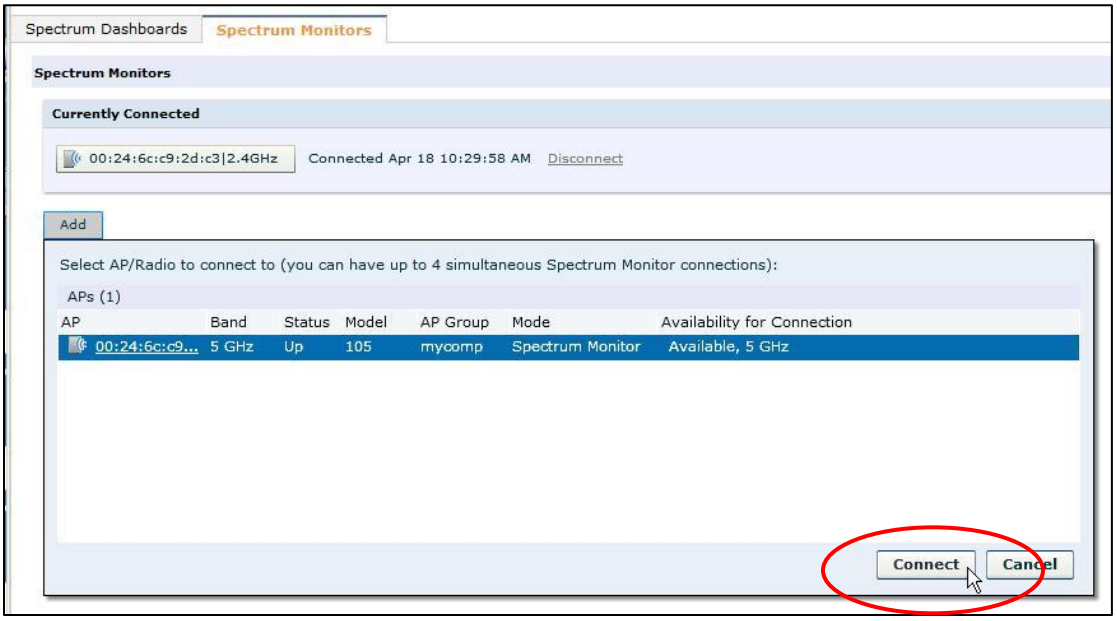


Click on and highlight the AP name for the 2.4 GHz band and select ‘Connect’

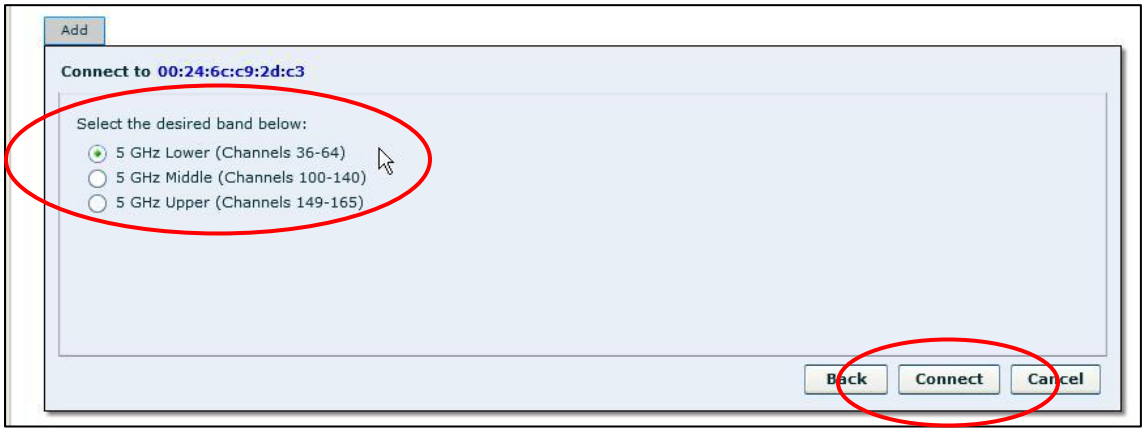


You should now see the Spectrum Monitor now currently connected to the AP select.

Select “ADD” on the current screen to select and connect an AP for the 5GHz band Spectrum Monitor.



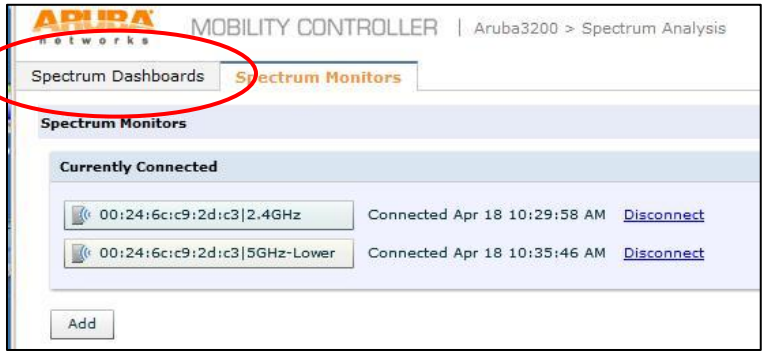
Select a 5GHz channel range to monitor and select “Connect”



There is now one AP with the 2.4 GHz and 5 GHz radio band that is connected as a Spectrum Analyzer

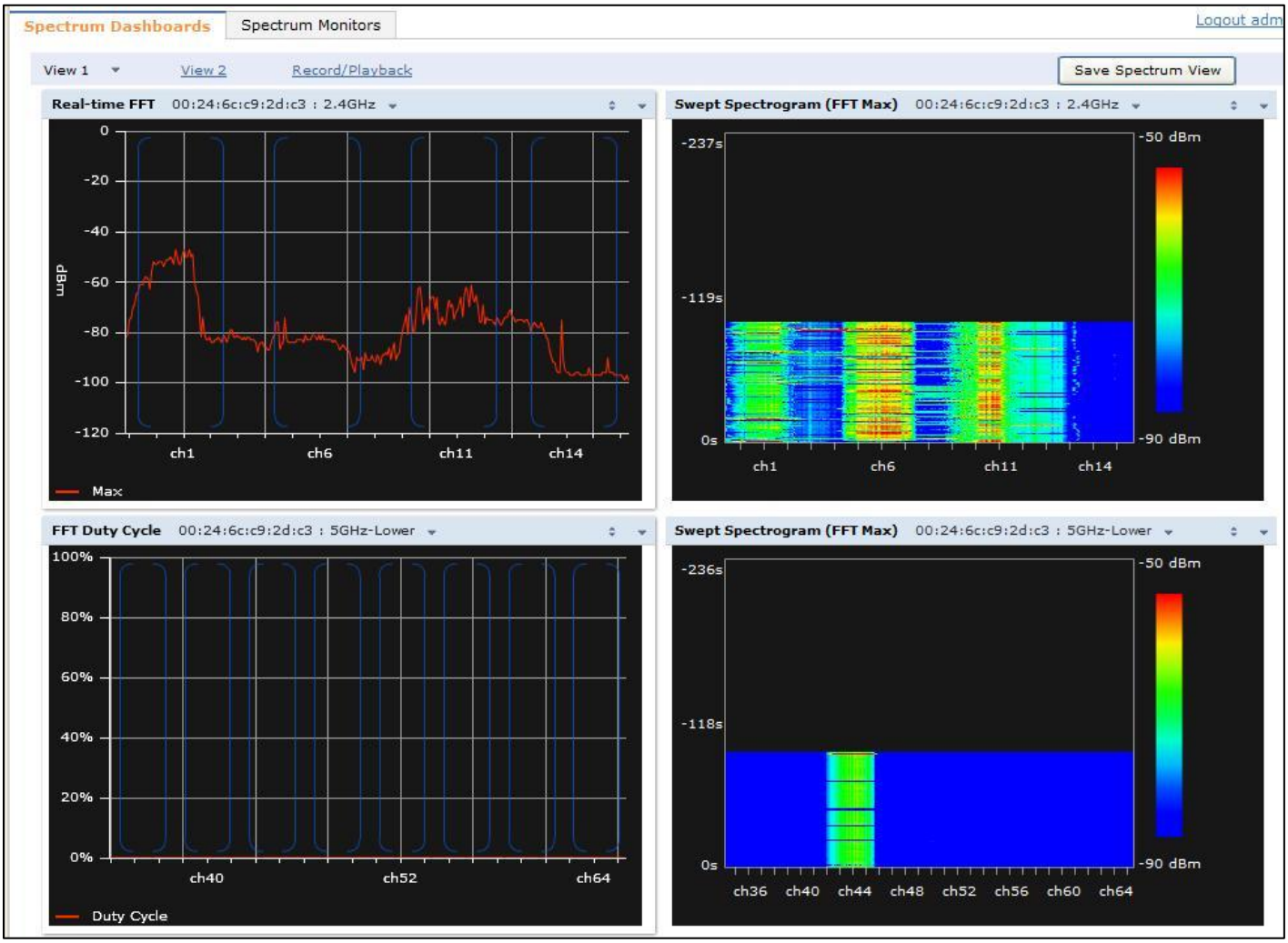
You can place and add additional AP's to/ from your 'spectrum' AP Group as necessary depending on the spectrum coverage needed within the environment.

Now select the "Spectrum Dashboards" tab to display the spectrum windows

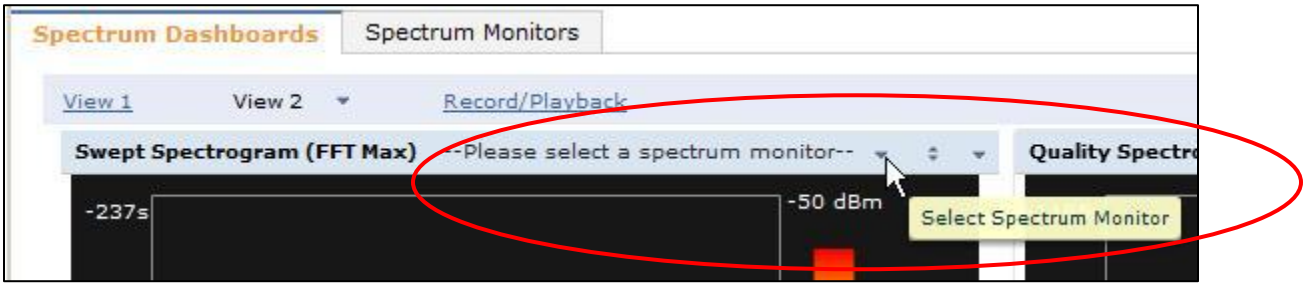


Spectrum Window Display

Once the spectrum window is opened it is **required** to select a specific spectrum analyzer for display in each window before actually seeing the spectrum display.

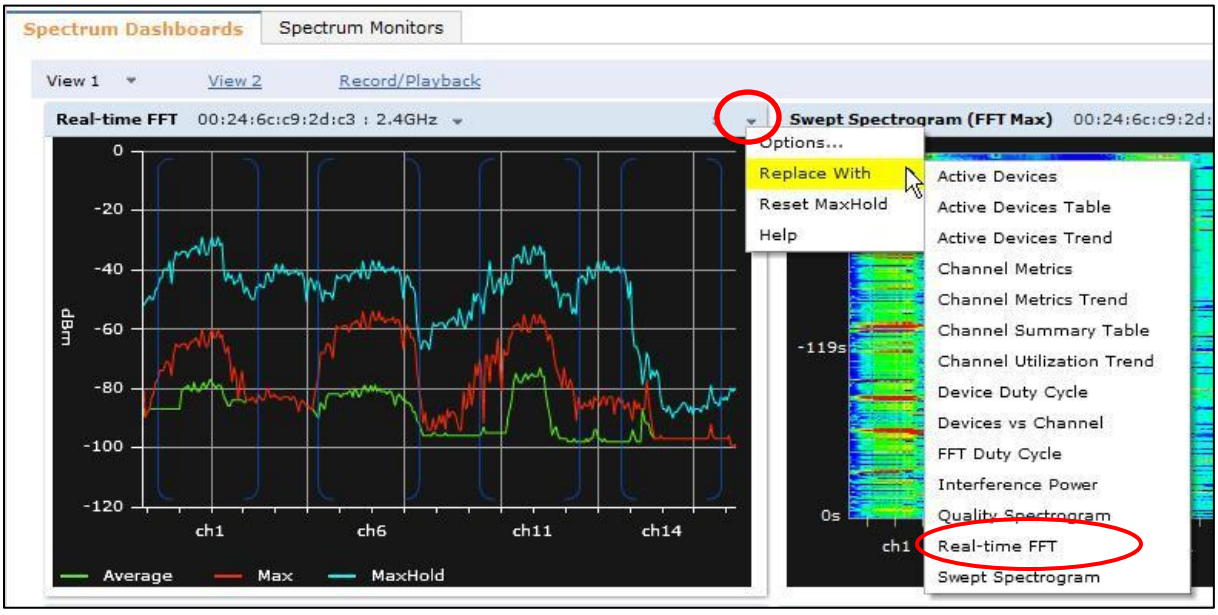


Once the spectrum window is opened it is **required** to select a specific spectrum analyzer for display in each window. Use the pull down next to the “Please select a spectrum monitor” to assign an existing spectrum AP to that particular display.



Here the pull down was used to select the AP set as the spectrum analyzer. In this example AP name 00:24:6c:c9:2d:c3 is selected to display the 2.4GHz band.

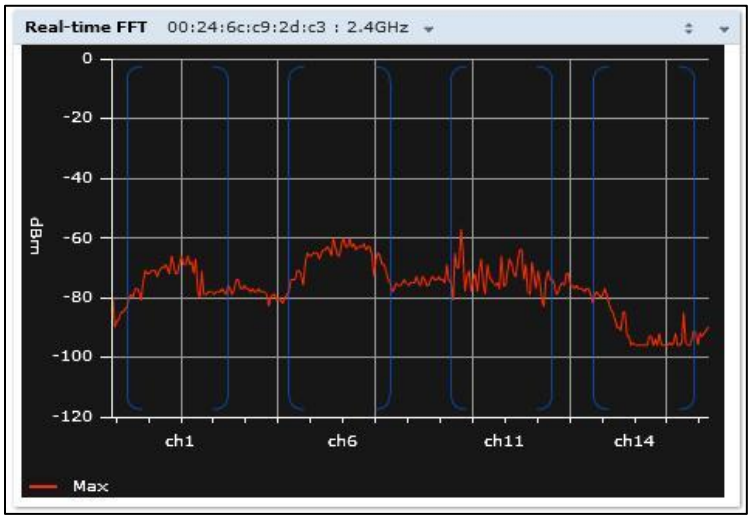
Note that other menu options are available to change the spectrum display. The display selected below is showing “Real Time FFT” per 2.4GHz band channel.



Menu Options are available, selected and set per individual display window. Go through the menu options to display the variety of display examples available.

Display Examples

Use the HELP menu for descriptions of each windows display function.

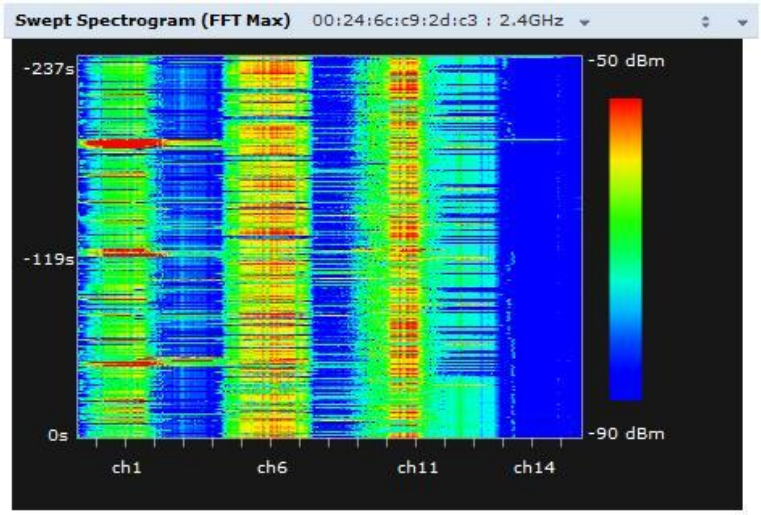


Real-time FFT

The Real-time FFT chart displays the instantaneous Fast Fourier Transform (FFT) signature of the RF signal seen by the radio. The Fast Fourier Transform (FFT) converts a RF signal from time domain to frequency domain. The frequency domain representation divides RF signals into discrete frequency bins; small frequency ranges whose width depends on the resolution bandwidth of the spectrum monitor (i.e., how many Hz are represented by a single signal strength value). Each frequency bin has a corresponding signal strength value. Since there may be a large number of FFT signatures received by the radio every second, an algorithm selects one FFT sample to display in the Real-time FFT chart every second.

Good for showing 802.11 and non-802.11 noise and noise floor

Additional Real-time FFT information is displayed and available under the HELP section.



Swept Spectrogram

A spectrogram is a chart that shows how the density of the quantity being plotted varies with time. The spectrum analysis Swept Spectrogram chart plots real-time FFT Maximums, real-time FFT Averages or the FFT Duty Cycle. In this swept spectrogram, the x-axis represents frequency or channel and the y-axis represents time. Each line in the swept spectrogram corresponds to the data displayed in the Real-Time FFT or FFT Duty Cycle chart.

Additional Swept Spectrogram information is displayed and available under the HELP section.

FFT Duty Cycle

The amount of time the channel is in use

Below 20% - normal

20 – 40% - lower edge of possible issues (maybe affect throughput tests, large transfers?)

AIR MONITOR

You can use the same steps to create an AP group for air monitor in the same way – when in the RF Management > Radio Profiles just select the MODE pull down to "am-mode" and SAVE AS "airmon"(or whatever name you choose).

You now have an AP group for spectrum analysis and air monitor to put AP's in.