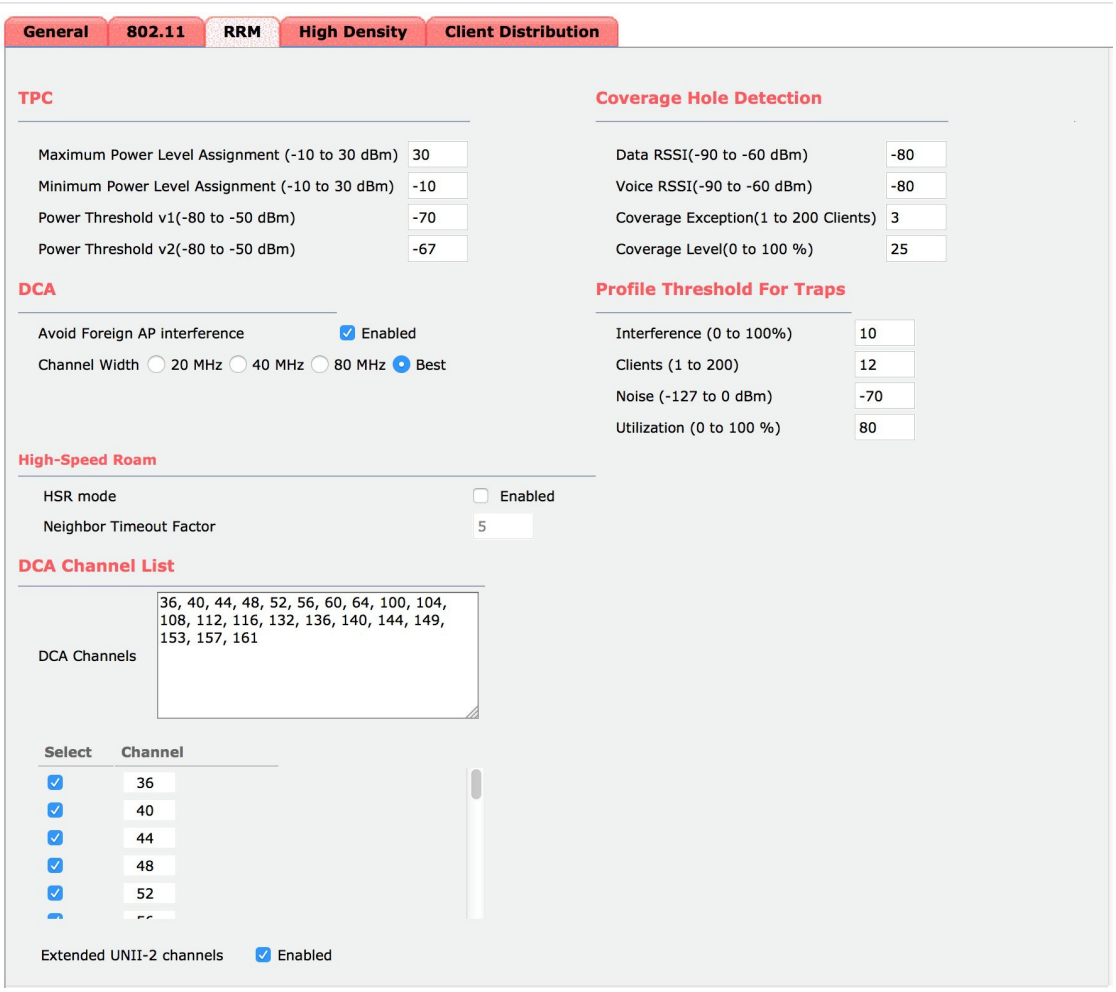
RF Profiles

Throughout this document RF profiles has been mentioned in association with the various algorithms and their functions. Lets take a few moments to run through RF Profiles and the rules for their use as it is important. First getting back to the hierarchy of control implemented in the system, there is the Global Level which encompasses functions that affect every AP attached to either the WLC or the RF group. Below that for RRM, is the RF Profile which inherits properties from the Global choices, but can limit or change the behavior against a group of Access points contained in an AP group. In order for an option to be available in or for an RF profile, in many cases it will need to be enabled first at the global level. We will discuss RF profiles in the context of RRM and its functions here.

Figure 1: RF Profile - RRM configuration Dialogue - WLC



TPC

You can assign a separate Minimum and Maximum TPC power level at the RF Profile level. This will affect only the AP's within the AP group the profile is assigned to. This approach makes it easy to raise or lower the power for a whole group of AP's at once simply by increasing or decreasing the value for either min or max TPC entries. While TPC itself does a fine job of adjusting and maintaining power levels at a correct level for normal installations - this can be very useful for tuning a new high density implementation where SNR will change as more users enter the venue.

You can also assign a different power Threshold's to be used for either TPCv1 or TPCv2. TPC version selection is only available at the Global RF group level and once decided is the same for the entire RF group. You cannot run a different TPC version from the global setting through an RF Profile, you can adjust the target

RSSI or Threshold to match the environments requirements. This is useful if your installation has some areas (a warehouse for instance) where the ceiling height is markedly higher than the rest. Increasing the TPC Power Threshold for a higher ceiling environment will allow achieving the desired coverage at the floor level.

DCA

You can select to enable or disable avoid foreign AP interference contribution to the DCA algorithm. This is particularly useful for areas where there are a high number of rogue interference sources.

You can also change the bandwidth selection that DCA will assign specifically for a group of AP's only. For instance, if you're preference is for 40 MHz channels in most of your installation, but you wind up with a use case in a specific area where you only want 20 MHz (high density deployment for instance) or 80 MHz (classroom with large files stored on a server) that you must support.

You can also modify the DCA channel list. Channels can be customized, however the channel must first be enabled at the global DCA algorithm at the RF group leader WLC as well as at the local WLC that will run the RF Profile (if different from the GL) in order to make it available in an RF profile. This has many practical uses:

1. Managing multi country deployments
2. Assigning groups of channels based on use case
3. Eliminating locally problematic channels (un avoidable interference for instance)
4. Allowing or disallowing UNii2e channels on a case by case basis

Coverage Hole Detection

Defining a coverage hole is very architecture dependent as it is intended to alert when a client is in trouble while in an intended coverage area. Coverage areas differ greatly by architecture. You can customize these values for differing architectures through an RF profile.

If using the Optimized Roaming feature, you can customize the threshold to match the density of the installation. Optimized roaming must be enabled at the global level for the threshold and feature to be applied through an RF Profile.

Profile Threshold for Traps

Trap thresholds for the metrics that RRM monitors may be customized as well through an RF profile. Note that Trap thresholds affect only generation of a trap and have no affect on RRM's operation.