


# Band Plan With SWR

A few weeks ago my external tuner kicked the bucket and the portion of the HF spectrum that I can now use  shrank to what my internal tuner can handle under a 3:1 SWR. I got my RigExpert antenna analyzer out and started hand writing the SWR on my printed copy of the [RAC HF Band Plan](#) when I thought of my next Python project: Recreate the Band using matplotlib and overlay the SWR from the RigExpert asd files.

After a few days of reading about matplotlib and playing with a few examples, I managed to put all the pieces of the puzzle together and created my first (incomplete) graph. It's got all the essential elements, but I just need to finish re-creating the band plans, annotate them properly, tweak a few things here and there, and clean up the code. Here's the [output of my G5RV and GP9](#):

- The top of the band plan graph corresponds to  $\text{SWR} = 1:1$ , where the first dotted horizontal line is.
- For HF, I also added a horizontal line at  $\text{SWR} = 3:1$ , which is where my internal tuner can reach.
- And the top of the graph is at  $\text{SWR} = 10:1$ , which is where most external tuners can reach.

I'll post an update and publish the code when it's done.