HF Noise

Over the past few days/weeks, I've been noticing a (local?) noise on HF (80m and 40m) that starts at 7pm and lasts all night until 1pm the next day.

To find the source, I used an RTL-SDR dongle with a mobile screwdriver antenna and Justine and I went for a drive:

- We went up and down Roberts Creek rd (North - South) and I noted where the noise was the strongest.
- We went up and down Lockyer rd / Hansen rd (East - West) and did the same thing.
- Looking at the map, we got a pretty good idea where the noise was coming from so we drove down their driveway and it looks like we found the house.

Here's what the noise looks like at my house on the SDR with the mobile antenna:

And here's what it looks like in front of their house:

Once we located the house, we drove back home and I walked back to introduce myself and explain the situation. They were very receptive and at first didn't really know what could be causing it. We exchanged numbers and I went back home. A few minutes later, I noticed that the noise stopped for a few minutes and restarted again, which I'd never seen do outside of the 7pm - 1pm schedule.

The next day, they contacted me to tell me that they think they found the issue:

> “< It appears to be us causing the interference, but we don't know what we can do about it. We are attempting to build an indoor garden for growing in the winter (based on the current global events), and so we picked up some growing equipment. [...] What we don't understand though is that it is one light and one ballast. How could that cause interference? [...] Any ideas? ”>

We coordinated a quick turn-off-and-back-on test and confirmed that it was indeed their growing equipment:

I offered to do a bit of research to see if the RFI could be filtered for their equipment. They told me they were using a Hilux Grow Light (AHS 1000) and a BCBallast (NL-HS1000/CGD2E) that I couldn't find any information about. The light is a High Pressure Sodium Bulb, and reading up a bit, it seems that cheaper ballasts are to blame for most of the RFI.

This site explained various experiments with filtering the input and output of the ballast and links to this set of filters that seems promising. Failing that, the Galaxy Ballasts seem to have very good filtering and low RFI.

After explaining how important it is to stop using their equipment until the RFI issue is resolved (and pointing them to the Radiocommunication Act), they agreed to keep their light off until they get a filter set.

After a few days, they told me that they didn't buy the filters because of the minimum order quantity of six.

However, they did get an “analog” ballast (not sure what that means), and happily, if it generates any noise, it's quieter than my regular noise floor. :D

I've been very impressed at how receptive they were to fixing a problem they can't really notice themselves. I'm grateful to have such neighbourly neighbours.