Test Between Nanaimo and the Sunshine Coast

On July 4, 2021, Chris (VE7TOP) and Patrick (VA7FI) made a successful connection on 5.860 GHz (Ch. 172) between Nanaimo (49.227263, -123.975836) and Roberts Creek (49.45465, -123.64199): a distance of 35 km.

VA7FI's Setup

Patrick installed a Mikrotik LDF-5 (the n model, not the ac model) on a used TELUS satellite TV dish.

- The first task was to mount the LDF-5 to the dish roughly where the old receiver was. Unfortunately, the arm and the LDF-5 mounting bracket were both a bit too short so the LDF-5 was too close to the dish and too low:


- So a second arm was bolted on top of the first to raise the LDF-5 and move it a bit further away:


- Initially, the dish was mounted on a post with a 45° angle, but after field testing it, it was found to be unnecessary and a vertical post will be used next time.


- Here's Patrick's setup and the view from the dish. The red circle marks the spot where Chris is. The log periodic was for VHF communications between Chris and Patrick to perform the adjustments.


- Here are Patrick's settings:


- For the first test, Chris used a dish (Fix Me!: add details). After adjusting the dish's directions and elevations, the best signal strength received by Patrick was above -60dBm (which is pretty impressive!) with an SNR of over 35dB:


- For the second test, Chris switched to a 120° sector antenna (Fix Me!: add details). Here, the best signal strength received by Patrick was a bit above 80dBm with with an SNR of about 17dB:


These two tests show that it is possible to establish a connection between Nanaimo and the Sunshine Coast. The 120° sector antenna might be pushing it a little bit, but a 45° sector antenna would be enough to cover Gibsons

through Sechelt and would offer an additional 6dB of gain over the 120° sector antenna.