

Connection 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 (: 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 (: 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.

