February 2024 **Volume 02-2024**

Nacogdoches Amateur Radio Club

2024 CLUB OFFICERS

Pres: Mark Phillips – KI5POH

Vice Pres: Darrell Thornton – KI5PYQ

Sec/Treas: Army Curtis - AE5P

Visit our web site at

https://w5nac.com/

MISSION STATEMENT

The Mission of the Nacogdoches Amateur Radio Club is to support and promote Amateur Radio by public service, offering training to unlicensed interested parties and licensed Amateurs, mutual support of other Amateurs, engaging events that promote Amateur radio to the general public and other Amateur radio operators, and continuing fellowship by regularly scheduled organized meetings and events and having fun.

JANUARY MINUTES

The January business meeting of the Nacogdoches Amateur Radio Club (NARC) was held on December 27, 2023, on the club's 146.84 repeater. Eight club members checked into the net.

New Business:

Mike AA5HH invited all NARC members to join DETARC for Winter Field Day Feb 27 noon till 8:00 at the Fire Station on Hwy 69 South.

Aaron KI5FIQ reminded everyone the next Fox Hunt is Jan 20 from 10:00 until noon. Call up on 146.84 repeater.

Andy KE5EXX announced the ARRL January VHF Contest is scheduled for Jan. 20-21. Andy and the Beasley Family Justin KJ5DHA, Charles KJ5IDR and Westin KJ5IDS will participate on Saturday.

Net was closed by President Mark KI5POH at 8:09p.m.

The regular January meeting of the Nacogdoches Amateur Radio Club was held as scheduled on January 3 at the City/County EOC. President Mark KI5POH opened the meeting at 7:00 p.m. with 18 members and guests. Introductions were made by all present. Minutes of the previous meeting were approved as

published. Treasurer's report was read.

Club Foxhunt Jan. 20. Instructions at 10:00 on the 146.84 repeater.

January VHF Contest Jan. 20-21.

WK5F internment Sunday Jan. 7, 11:00 a.m.

The NARC Business Meeting net on the 146.84 repeater is cancelled due to lack of participation. Effective February there will be one meeting on the first Monday as we used to do.

Motion made to stream our meetings using Zoom or similar. Aaron KI5FIQ and Andy in charge of making this happen.

Meeting closed at 7:37

Program: Jim N5JGE presented an excellent program on learning Morse Code and CW operations.

2024 DUES ARE DUE
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FROM THE PRESIDENT

Wow, January weather was very interesting to say the least! I hope everyone weathered the cold and torrential rains. Some good news from ARRL on student membership. Full time students 21 and under will receive an associate membership at no charge.

We have a great program for this month's club meeting. We will also have this month's club meeting available via Zoom, for those that are unable to attend. I hope to see everyone at this month's meeting.

Up coming Hamfests:

March 1st-2nd - Greater Houston Hamfest, Rosenberg, TX

I am thankful for each of you for being a Ham and being part of our club!

73, Mark KI5POH

KI5POH21@gmail.com

FROM THE VP CHAIR

Didn't I just write one of these newsletter articles yesterday? January is gone. Hello February.

This month's program will be on repeaters. This will be an option discussion about current club repeaters and maybe someone will chime in with what the previous repeaters were and what they looked like. I will bring the DMR repeater to the program. For some of you more experienced hams, this will be known knowledge. For us less experienced hams, it will be fun to look at and understand how repeaters work.

Here is an update on my shack relocation project. So far, I have a computer, monitors (2), power supply and radio in the spare room. Next part is to purchase and install a Comet GP-15 tri-band vertical. It will give me the 2m, 70cm and

6m bands. I have a tower to install, I just need to figure out what I want to put on top of it. I want to cover 10m though 80m for sure. Not sure how many antennas I will want/need to cover that. I've never played with 160m but might stick a wire out there just for that. Still have some more research to do.

We had a really fun fox hunt. AE5P, KI5POH and myself (KI5PYQ) searched for a fox that Aaron (KI5FIQ) hid for use. Mark (KI5POH) and I usually team up. It took us 36 minutes to find it. Afterwards we all enjoyed some Kinfolks lunch.

73, KI5PYQ
Darrell Thornton

NOTES FROM OUR EC

Cold and Wet, followed by cold and more wet and false spring, January has been well, January in Texas.

There may have been some record lows this month, I haven't had the chance to look over the data. I'm sure some coffee pots put in some over time. I hope everyone fared well. And, yes, it did rain. The mill recorded just shy of 10 inches during that last rain spell, total for the month 13.25 inches. I'm sure many of our members who have weather stations had similar readings.

Okay, enough about the weather let's do some ARES stuff.

How is everyone coming on your taks book. Any headway on the ICS material?

When was the last time you ran some digital other than FT8? Any RTTY, PSK maybe or CW? Is your TNC still working? Are the big batteries, if you are using any, still in good condition? Let's close this out with a little fun.

The next eclipse will be Monday Apriil 4th. It crosses Texas not very far from us. How maybe planning a road trip to the line of total darkness. I have seen more than a few events being planned for that day. Sadly, there will be more than a few of us who won't be able to go, have to work. If you can tear yourself away from your welding goggles or your pin hole viewing device, maybe you can make a short contact or two. Probably not going to happen, too much going on tracking the sun. It should be a really neat time.

It's a short one, trying to get my mind set adjusted again. So, time to close this one down. Thanks to all of our net control operators and those of you who checkin.

If you would like to try it, let me know, the preambles for both nets can be found

on the website.

73 and see you on the nets
de John Chapman KC5MIB
kc5mib@arrl.net

VE TESTING

We had two applicants for the January VE test session. Congratulations to Justin KJ5DHA on upgrading to Extra and to Charles KJ5IDR on upgrading to General.

Many thanks to VE's, **Mike AA5HH, Ralph N6RH, Robert KD5FEE, Rusty KD5GEN** and **Army AE5P**.

Remember that we give in-person VE tests the third Wednesday of **EVERY** month. For the latest information always check the club website at:

https://w5nac.com/ve-testing/

73 de AE5P.

email: ae5p@arrl.net

TWO METER CLUB NETS

Please join us each week for the two-meter nets sponsored by NARC. All stations are welcome to check into the nets.

Each **MONDAY** is the **NARC ARES/RACES** net, at 8:00 p.m. on the club's 146.84 repeater (PL 141.3).

Second, on **THURSDAY** evenings at 8:00 p.m. is the **Deep East Texas Skywarn Emergency Weather Net** on the 147.32 repeater (PL 141.3).

Please join us for one or both.

HAMLIST

Are you on Hamlist? Check it out and join at:
https://w5nac.com/about/email-reflectors/

NEXT MEETING

Remember that effective with the February meeting, we will no longer have a separate business meeting on the 146.84 repeater.

The next regular NARC meeting will be Wednesday February 7th at the Nacogdoches City/County EOC. Meeting begins at 7:00; doors open at 6:30. Come early for socializing before the meeting. After a short business meeting, we will have what promises to be a most interesting program by Darrell KI5PYQ on repeaters.

Hope to see ya'll there.

UPCOMING EVENTS OF NOTE

Mark your calendars for the following events coming up in the next few months. Full information on these events and much more can be found at https://www.contestcalendar.com//contestcal.html

Shuttle Columbia Special Event Station K5C
Feb. 2-4, 2024
w5nac.com

CQ WPX RTTY
Feb. 10-11, 2024
http://www.cqwpxrtty.com/rules.htm

ARRL International DX Contest CW
Feb. 17-18, 2024
http://www.arrl.org/arrl-dx

NAQP RTTY
Feb. 24-25, 2024
http://www.ncjweb.com/NAQP-Rules.pdf

ARRL International DX Contest SSB
March 2-3, 2024
http://www.arrl.org/arrl-dx

North American Sprint – RTTY
March 10, 2024
http://ncjweb.com/Sprint-Rules.pdf

BARTG HF RTTY
March 16-18, 2024
http://www.bartg.org.uk/

CQ WPX SSB
March 30-31, 2024
http://www.cqwpx.com/rules.htm

San Jacinto Day Special Event Station K5T
April 26-28, 2024
w5nac.com

7th Call Area QSO Party
May 4-5, 2024
http://7qp.org

New England QSO Party
May 4-5, 2024
https://neqp.org/rules/

Volta WW RTTY
May 11-12, 2024
http://www.contestvolta.com/rules.pdf

CQ WW WPX CW
May 25-26, 2024
http://www.cqwpx.com/rules.htm

ARRL International Digital Contest (No RTTY)
June 1-2, 2024
https://contests.arrl.org/dig/

ARRL June VHF Contest
June 8-10, 2024
http://www.arrl.org/june-vhf

ARRL Field Day
June 22-23, 2024
http://www.arrl.org/field-day

Check out the many contests listed on the Contest Calendar link shown here. There are many State QSO parties and 'Parks-On-The-Air' events that may be just right for you. Check 'em out.

Antenna Interactions

Jim Edmondson, N5JGE

If you have listened to Dave Casler on YouTube or read his column in QST, you probably know his first rule of antennas: "everything affects everything". I recently had an eye-opening, learning experience when installing a couple of 80M wire antennas. While I thought that there could be some interaction between the antennas, I never thought that it would be so dramatic. First, some background information….

When I installed my tower, my plan was to use wire antennas for 80M and 60M. The wires would be suspended from a sidearm off of the tower at about 56' with the other end(s) tied to trees. I purchased an Alpha Delta 80M dipole and added a 60M element below the main wire. I used 6" pieces of PEX tubing as spacers between the elements. I also have an 80M EFHW (End-Fed Half-Wave) that can tune 80M through 6M with a wide-range antenna tuner. I planned to use this as a less directional antenna (than the beams) for 40M through 6M in addition to being an 80M and 60M antenna. My initial plan was to mount one wire in the north-south direction and the other in the east-west direction. However, after measuring the SWR curves when they were mounted separately, I later decided to mount them both north-south.

Figure 1 on page 8 shows the SWR curve for the 80M EFHW when initially mounted by itself. It looks pretty good for voice operations with a 3:1 SWR bandwidth from just over 3.6 MHz to just under 4.0 MHz. However, I have been doing a lot of CW and digital operating and this antenna was not ideal for those modes (3.5 MHz to 3.6 MHz). My internal auto-tuner would not tune the lower end of the band and even with tuning, the power losses would be substantial. Lengthening the antenna is possible, but by introducing a splice, the mechanical strength might be reduced. So, I took the EFHW down thinking that the dipole would give better band coverage.

Figure 2 on page 8 shows the 80M dipole SWR curve after some trimming of the original length. Alpha Delta supplies the dipole with 67' of wire for each leg. After initial testing, I folded back about 20" of each leg to generate Figure 2 below. This antenna shows a 3:1 bandwidth from just below the band up to about 3.8 MHz. This is a good match for CW, digital and lower Extra-class voice modes. The two antennas complement one another almost perfectly to cover the entire band. For this reason, I decided to mount the EFHW next to the dipole. The feedpoints would only be

about 2' apart, but the antennas run from the tower at slightly different angles and they get farther apart away from the tower. Also, since one antenna is an end-fed, it is only close to one leg of the dipole. I thought that this might be enough to prevent interactions, but boy was I wrong!

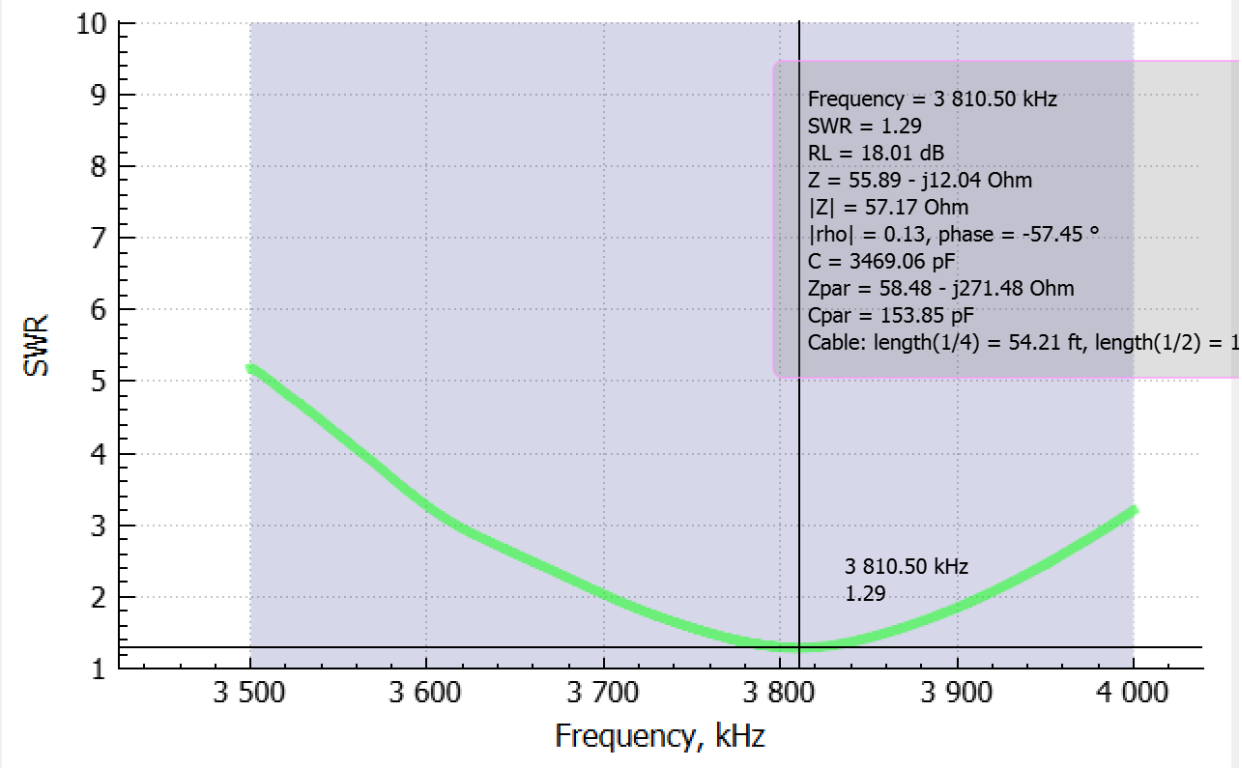

Figure 1: SWR curve for 80M EFHW

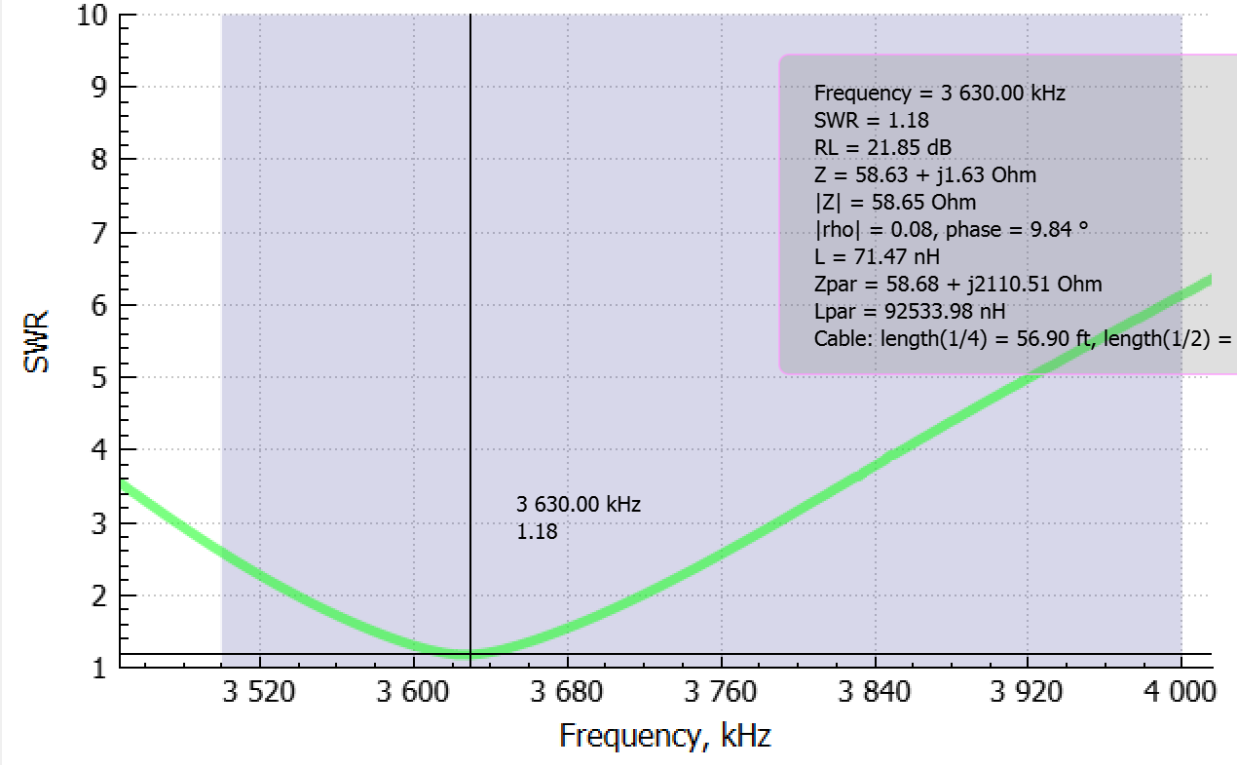

Figure 2: SWR curve for trimmed 80M Dipole

Figures 3 and 4 (page 10) show the new SWR curves with both antennas mounted on the tower sidearm and support trees. Those graphs show quite a different picture, especially for the EFHW. The EFHW graph has basically been inverted with the previous minimum SWR around 3.80 MHz replaced by a local maximum SWR at about 3.75 MHz. Changes to the dipole are less dramatic but also in a detrimental direction. The SWR minimum is now almost 2:1 instead of 1.18:1 and at a slightly higher frequency. The 3:1 bandwidth is much narrower at about 200kHZ instead of over 300 kHz. Based on these results, I took the EFHW down and left the dipole up to enable CW, digital and lower Extra voice operations on 80M with 60M capabilities as well.

After thinking about this some more, I decided to try the original idea of running the antennas perpendicular to each other. When I ran the antenna analyzer on the dipole (see Figure 5), I was encouraged that this was the answer. However, the EFHW behaved very strangely. No matter how much I changed the wire length, the SWR curve did not change! I suspected that maybe the balun was defective in some way and tried a different EFHW with the same results. At that point, I took the EFHW down again and decided to operate with only the 80M / 60M dipole.

I suspect that because the high impedance point is at the feedpoint and near the tower, that the tower is interacting with the EFHW in some way. To test this, I will have two ideas: 1.) reverse the antenna so that the feedpoint is at the end away from the tower (near the tree); and 2.) mount the antenna so that it runs directly away from the tower (not across two of the legs). These tests will be the subject of another article.

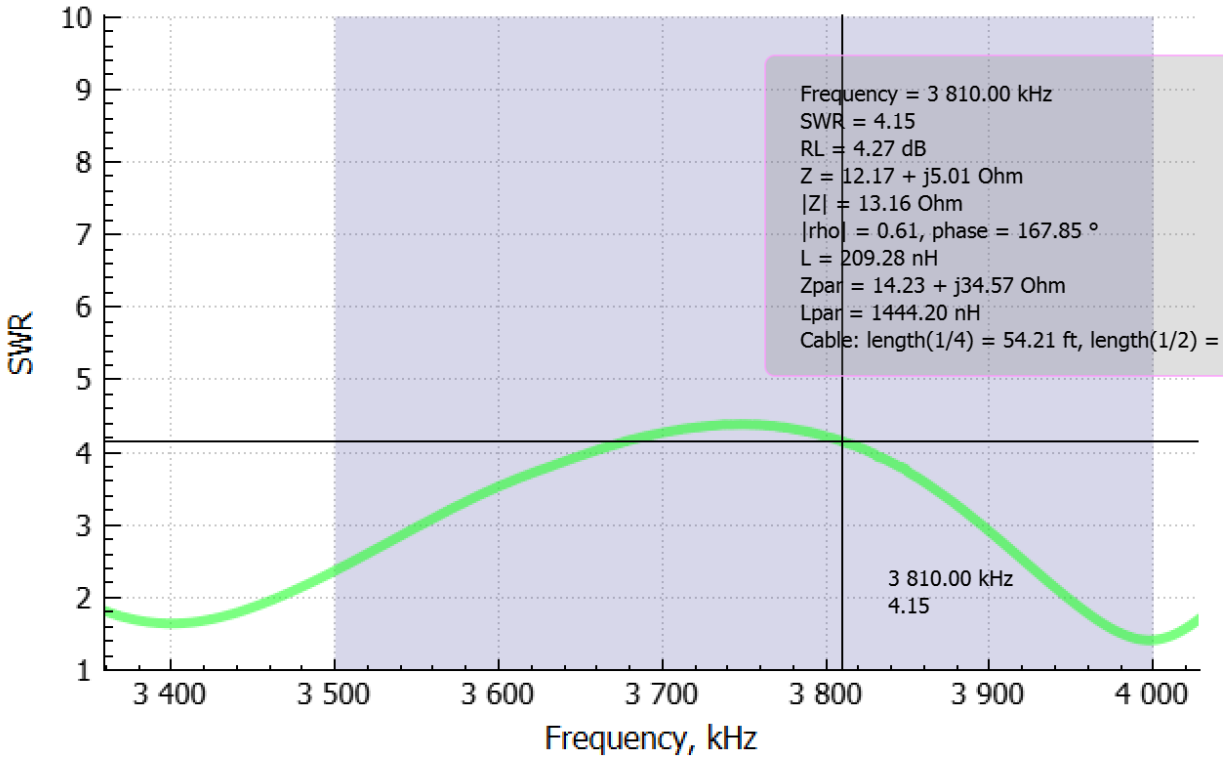

Figure 3: SWR curve for 80M EFHW mounted with 80M dipole

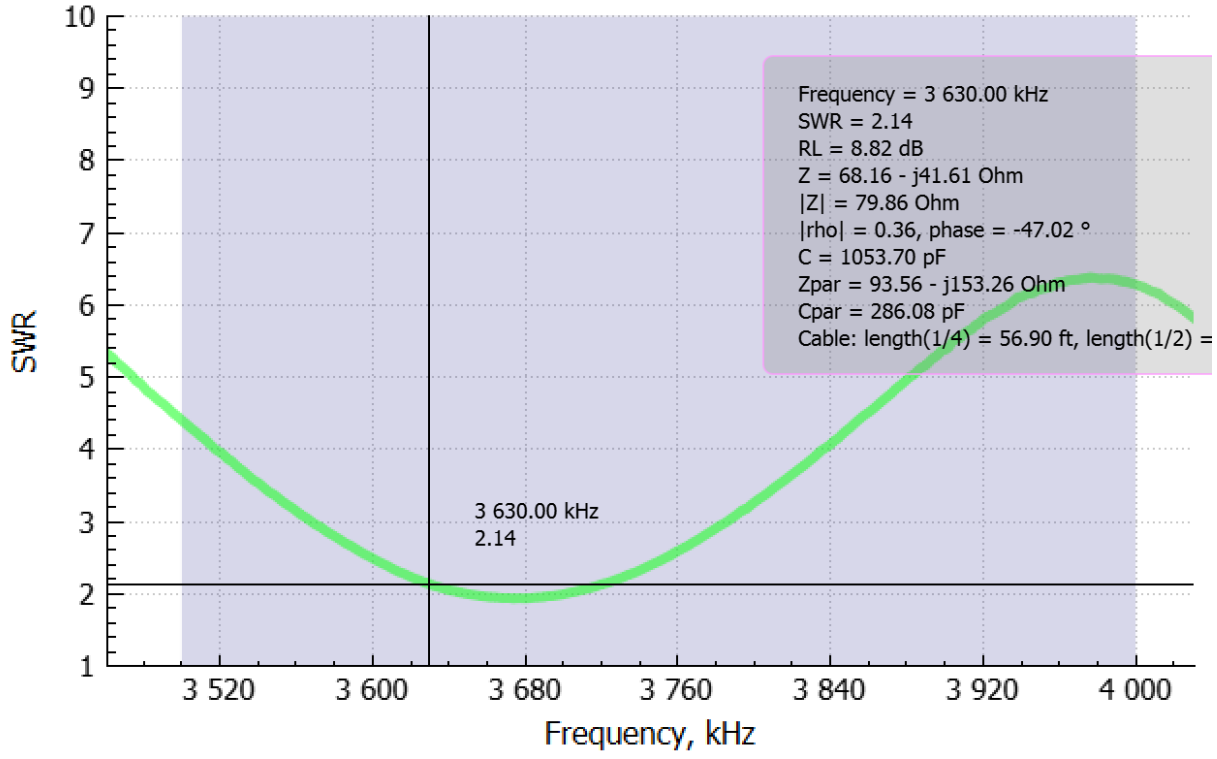

Figure 4: SWR curve for trimmed 80M Dipole mounted with 80M EFHW

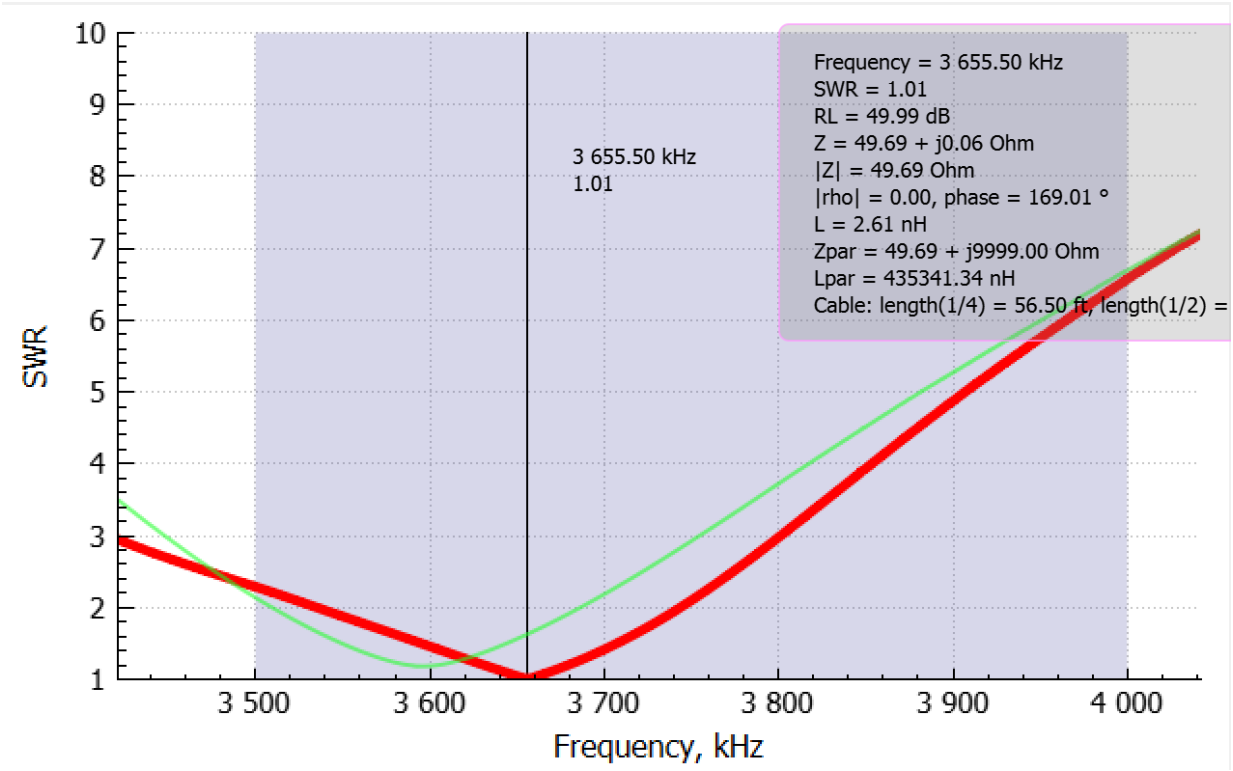

Figure 5: SWR curve for trimmed 80M Dipole mounted without 80M EFHW and with perpendicular 80M EFHW