

Three Simplex Tests in Alachua County in 2023

Three VHF simplex tests have been conducted in Alachua county during the latter half of 2023.

Test number one (organized by Mike Martell KK4KRZ)

The first Simplex test was conducted from the Waldo EOC with a 2meter (146.550 Mhz) 50-watt transmitter connected to the Waldo Repeater antenna. At a specific time transmissions were started at Waldo EOC. Local hams were asked to listen in at the specific time and report back if they could hear/communicate with Waldo EOC. Results were that no one heard the transmission even with switching radios and trying a 2 meter yagi antenna pointed at the Alachua EOC (city of Gainesville area).

However, one result was that several hams in the Gainesville area were able to hear and, in some cases, communicate with each other.

Test number two (organized by Lorilyn Roberts KO4LBS, and Mike Martell KK4KRZ)

The second test was announced to happen 30 minutes before the 7:00 PM Friday NVIS net. This test used the 146.820 repeater to start the test. Hams were asked to transmit and others to record if they heard their transmission. This test was conducted in the greater Gainesville area. Lorilyn set up a google spreadsheet so Hams could record their results. Results were that there was a lot of confusion and call signs were not always understood. Lesson learned was that we needed to only test a smaller area.

This meant that only hams within that area would transmit. All other would record if they could hear these transmissions.

Test number three (organized by Lorilyn Roberts KO4LBS, and Mike Martell KK4KRZ)

The third test was announced to also happen 30 minutes before the 7:00 PM Friday NVIS net. This test also used the 146.820 repeater to start the test. This time the testing area was limited to the southwest quadrant of Gainesville, (bordered by University / Newberry road and Main street). A ham from that quadrant was chosen to conduct the test. Hams outside the area were asked to only record if they heard a station. We had a mobile ham on I-75 get involved which made it interesting. We also had a person transmit from Donnellan using an antenna that was very high up. Results were a little better than the second test. However there needs to be more structure to the conduct of the test.

Suggestions for a better test

1. Need to identify hams who will be transmitting during the test.
2. Need to designate a specific time when a ham should transmit or announce the start.
of a specific ham via the 146.820 repeater and have them report back via the 146.820 repeater when their 30 seconds of transmission ends.
3. It would be good to have a list of hams and the order (and times if possible) they will be transmitting. This list should be available to all hams listening to the test.
4. Need to write down what the test controller should say when conducting the test.
5. Provide instructions to the hams who are scheduled to transmit. (what to say and do).
6. Hams listening to the test should also have instructions on where to report their results and how to record the results.
7. Hams who are transmitting should be from a specific area to limit the number of folks transmitting and not make the test last too long. Other areas will be done at a different date until all areas are covered.

Other suggestions

1. Station simplex testing is dependent on a lot of variables (a) transmission power, (b) antenna type, (c) height of antenna, (d) elevation of the station, (e) feed line type, (f) frequency, (g) trees, and (h) building obstructions.
If data (a) thru (h) are collected on the more successful stations this may give others the chance to improve their stations.

2. It was suggest by Karyn Shander KQ4JBR that during an emergency, simplex transmissions should be given a time (top of the hour etc.) so people who need to conserve their batteries can listen for any information or transmit requests at a specific times.
3. If the VHF simplex testing can result in hams knowing who they can communicate with using simplex during an emergency it should be expanded to include other forms of communication (GMRS, FRS, CB etc.).
4. Hams in neighbors who have the capability to monitor other forms of radio (GMRS, FRS, CB etc.) could act as a gateways to HF, Winlink etc.
5. Lorilyn Roberts KO4LBS suggested creating a map showing station locations. This map would give new hams an idea of who they might communicate with. There may be some concerns about privacy.
6. Regular simplex testing should be conducted maybe four times a year with each quadrant testing at a different time and everyone listing.
7. Establish a simplex emergency frequency with back-up.
8. Test simplex at 70 cm for a limited area to see if it is possible to communicate
9. If simplex testing is successful (hams know they can communicate using simplex and who they know they can communicate with) than this should be included in any EOC testing and/or added to emergency plan.
10. It would be good to man the EOC during each test to see what can be heard. The EOC should be included in their area of testing.
11. Some hams may need to be at an alternate location. Hams who need to stay at a parent's house or church etc. (during an emergency) should be included in the test of that area.
12. Some folks can do their own testing. Dave Dockus KO4GGZ and I used telephone to assist in attempting Simplex testing in the first test. Lorilyn Roberts KO4LBS and I used this in other tests. We can suggest that other hams may want to make phone contact with neighboring hams to conduct their own tests (one on one).

Summary

It is important to write a test plan to include some if not all suggestions presented in this document. Also once the plan is written I think it should be tested with a few hams to see if it works before opening it up for a wide area. This test could be conducted in person on a table top to see if it makes sense. Once a plan is ready it should be given to GARS / ARES group to see if they understand it.

Taking the GARS / ARES inputs will help to make it more understandable.

After being involved in the three tests I have learned a lot. It is not as simple as it may seem. I also believe there will be more lessons learned as we move forward. The goal is to provide hams with simplex connection when phone, internet, and repeaters are down. Hopefully, we will not lose our repeaters but it's great to be prepared. Also simplex can help keep traffic down on the repeaters. It can also help connect neighbors who may have GMRS, FRS, CB etc. and need help.

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