# Lazy Sloper Antenna Wire
# (CHA LZ Sloper Wire)
# Operator's Manual

Nevada - USA
WWW.CHAMELEONANTENNA.COM

***VERSATILE – DEPENDABLE – STEALTH – BUILT TO LAST***

Rev. 9/29/2024

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⚠ WARNING! Never mount this, or any other antenna near power lines or utility wires! Any materials: ladders, ropes, or feedlines that contact power lines can conduct voltages that kill. Never trust insulation to protect you. Stay away from all power lines.

⚠ WARNING! Never operate this antenna where people could be subjected to high levels of RF exposure, especially above 10 watts or above 14 MHz. Never use this antenna near RF sensitive medical devices, such as pacemakers.

- Photographs and diagrams in this manual may vary slightly from current production units due to manufacturing changes that do not affect the form, fit, or function of the product.

- All information on this product and the product itself is the property of and is proprietary to Chameleon Antenna™. Specifications are subject to change without prior notice.

## Introduction

Thank you for purchasing and using the Chameleon Antenna™ Lazy Sloper Antenna Wire (CHA LZ Sloper Wire) – part of the Modular Portable Antenna System (MPAS) family of portable antennas and components. Using a building block approach, MPAS enables operators to tailor the antenna configuration based on propagation characteristics, site conditions, and other influencing factors. This unsurpassed antenna component flexibility ensures optimal performance across diverse scenarios and conditions. Additional MPAS components can be purchased to extend the capabilities of your antenna. Incremental upgrades enable you to configure your antenna in more ways to meet new operating requirements or hobby interests and avoid operational obsolescence. Look for the MPAS READY Logo MPAS READY for compatible products.

The CHA LZ Sloper Wire, see plate (1), is 60 feet long and made from 26-Gauge braided copper wire, ensuring excellent conductivity and durability. Reinforced with Kevlar fiber, this wire offers exceptional strength and flexibility, capable of withstanding harsh environmental conditions. The wire is encased in a PTFE sleeve, providing robust protection against wear and tear while maintaining flexibility.

**Plate (1). LZ Sloper Wire.**

The CHA LZ Sloper Wire is easy to install. Equipped with a brass alligator clip, the CHA LZ Sloper Wire will quickly attach to your existing Modular Portable Antenna System (MPAS) SS17 or SS25 Telescoping Whip. This feature ensures a secure connection and simplifies the setup process and eliminates the need for a mast.

The Lazy Inverted "L" configuration of the CHA LZ Sloper Wire significantly improves the radiation pattern of the CHA SS17 vertical antenna. By providing a low take-off angle, this setup is particularly advantageous for DX (long-distance) communication, ensuring stronger and clearer signals over vast distances. On 10 MHz and below, the CHA LZ Sloper enables Near Vertical Incidence Skywave (NVIS) propagation.

The addition of the 60-foot wire also helps to broaden the bandwidth of your antenna system, making it more effective across a wide range of frequencies. This is especially beneficial for amateur radio operators who need to operate across multiple bands without frequent adjustments.

When used in conjunction with the CHA Hybrid Mini/Micro, the CHA LZ Sloper Wire aids in better impedance matching. This reduces the Standing Wave Ratio (SWR), minimizing power loss and ensuring that more of your transmitted power is radiated by the antenna. The longer radiator provides markedly improved performance on 80 through 30 meters. When used with the Basic Vertical (CHA BV), it extends resonant coverage to the 60, 75, and 80 meter bands (one band at a time).

The Inverted Lazy "L" configuration offers some directional properties, allowing you to focus the radiation pattern towards desired directions. This feature can be particularly useful in specific communication scenarios where directional transmission and reception are required.

The CHA LZ Sloper Wire is an indispensable accessory for the CHA SS17 or SS25 telescoping vertical whip antennas - delivering improved signal performance, enhanced efficiency, and broad operational flexibility. Its robust construction, ease of installation, and superior engineering make it the perfect choice for amateur radio operators looking to achieve optimal communication capabilities. Upgrade your MPAS with the CHA LZ Sloper Wire and experience the difference in your radio communications.

The CHA LZ Sloper Wire by Chameleon Antenna™ sets a new standard for adaptability and performance in portable antennas. With its versatile modular design and high-quality components, operators can confidently deploy the CHA LZ Sloper and other MPAS Ready components in a variety of environments and operational conditions, ensuring reliable and efficient communication. Please read this operator's manual so that you may maximize the utility you obtain from your CHA LZ Sloper Wire.

## Parts of the Antenna

The CHA LZ Sloper Wire is comprised of the following components, refer to plate (2):

**A. Antenna Wire.** The Antenna Wire is 60 feet of 26-gauge braided copper wire, reinforced with Kevlar fiber, and encased in a PTFE sleeve, for flexibility and durability.

**B. Line Winder**. The Line Winder is used to store the Antenna Wire when not in use and enables rapid deployment and recovery of the Antenna Wire.

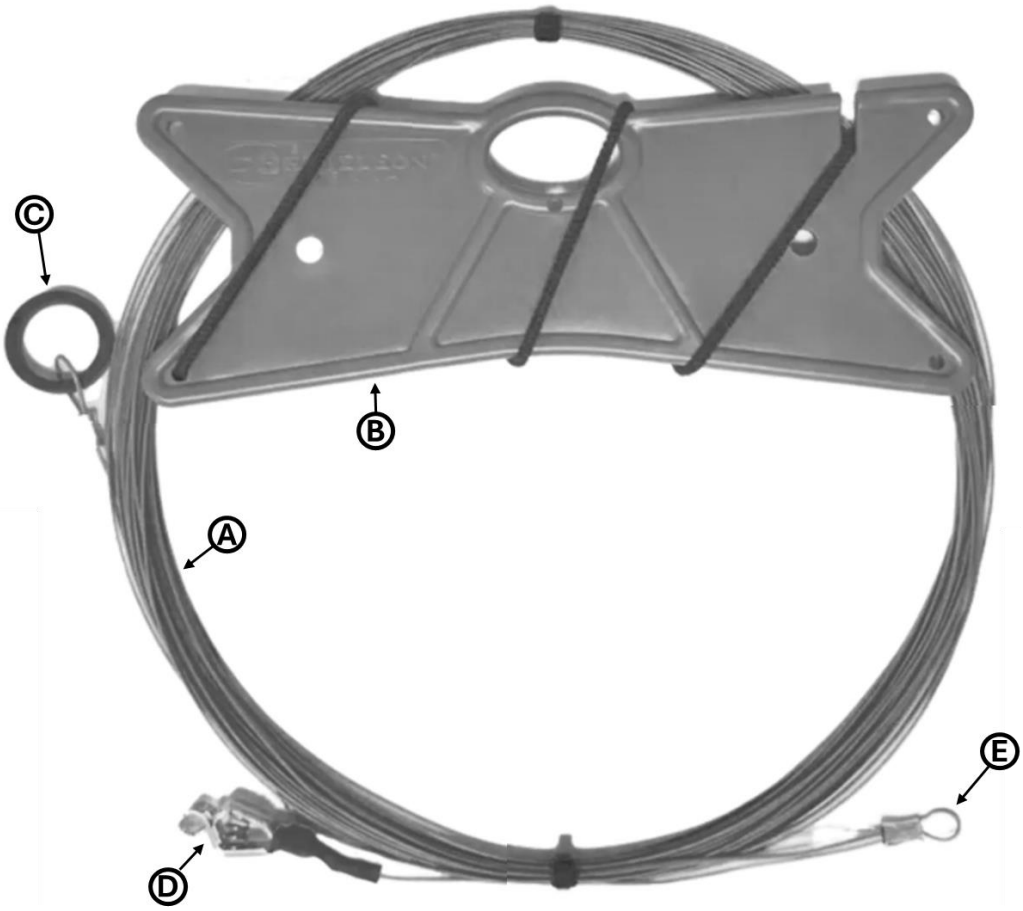



**Plate 2. LZ Sloper Wire Components.**

**C. Isolation Ring.** The Isolation Ring is located at the end of the Antenna Wire.

**D. Alligator Clip**. The large Alligator Clip is used to electrically connect the Antenna Wire to the top of the CHA SS17 or SS25 Telescopic Whip.

**E. Strain Relief Loop.** The Strain Relief Loop mechanically attaches the Antenna Wire to the top of the CHA SS17 or SS25 Telescopic Whip.

## Inverted Lazy "L" Antenna

The CHA LZ Sloper Wire Inverted Lazy "L" configuration is predominantly bi-directional broadside to the sloping wire from 80 to 30 meters and more bi-directional in a two-lobed "V" shape in the direction of the sloping wire on 20 meters and above (see figures [2] and [3]).

To install and operate the CHA LZ Sloper Wire as an Inverted Lazy "L" antenna, perform the following procedure. Refer to figure (1) during assembly.

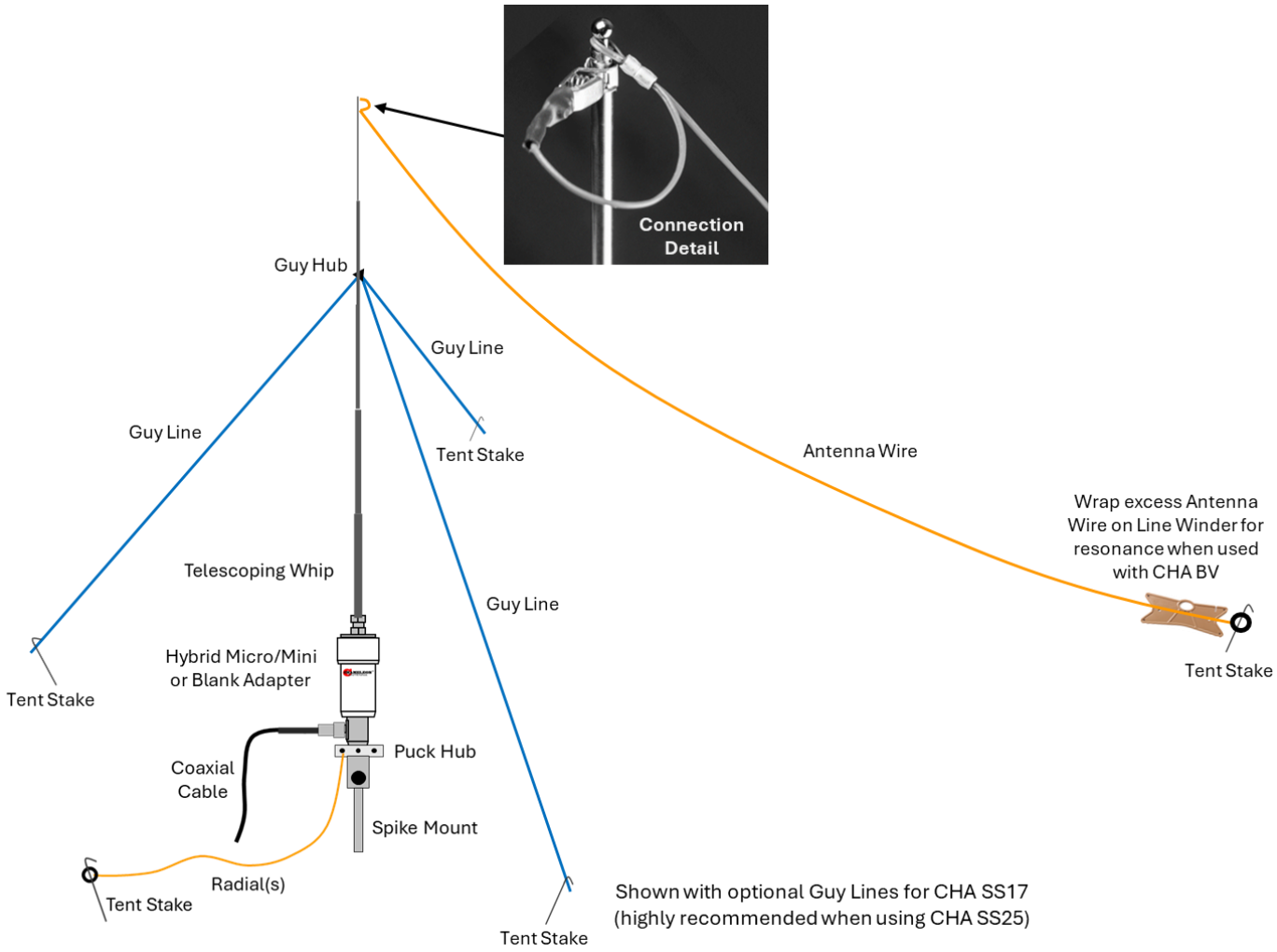



**Figure 1. Inverted Lazy "L" Configuration.**

1. Select a location to deploy the CHA LZ Sloper Wire antenna in an Inverted Lazy "L" configuration. The best location would be a mostly clear area with around 62 feet of space.
2. About 10 feet from the edge of the selected area, drive the Spike Mount into the ground using a rubber or plastic mallet.

3. Attach the Puck Hub to the Hybrid Mini/Micro or Blank Adapter. The side with the indentation goes up. Tighten hand tight.
4. Attach the Hybrid Mini/Micro or Blank Adapter to the Spike Mount. Tighten hand tight.
5. Extend the top section of the Telescoping Whip.
6. Position the Antenna Wire Strain Relief Loop (E) over the Corona Ball at the top of the Telescopic Whip.
7. Clip the Antenna Wire Alligator Clip (D) to the top section of the Telescoping Whip. *The Alligator Clip can be fastened to the Corona Ball, if desired.*
8. If used, install guy lines.

   ***Note: Guying is optional for the CHA SS17, but is highly recommended when using the CHA SS25.*** *Guying the Telescoping Whip counterbalances the lateral stress caused by the LZ Sloper Wire. The Universal Guying System (CHA UGS) is designed for this purpose and is available for purchase from Chameleon Antenna™ or your local dealer.*
9. Fully extend the Telescoping Whip.
10. Unwind the Antenna Wire (A) from the Line Winder (B) and extend it in the direction where it will be installed.
11. Ensure there is plenty of sag in the Antenna Wire and secure the end to the ground using a Tent Stake through the Isolation Ring (C).

    *Note: A short length of micro-paracord can be used to secure the end of the Antenna Wire to a tree, fence post, or other support in place of a Tent Stake. Elevating the end of the Antenna Wire to around 3 feet can improve the SWR.*

    *Caution: Avoid over-stressing the Telescoping Whip and Antenna Wire.*
12. Connect the Radials to the Puck Hub using a Banana Plug. *You can also connect the Radials to the Ground Thumb Screw on the Spike Mount.*
13. Extend the Radials in opposite directions and fix them to the ground using Tent Stakes.
14. Connect the Coaxial Cable to the Coaxial Connector.
15. When using the CHA LZ Sloper Wire with the CHA BV, you can reduce the length of the Antenna Wire when tuning for resonance by wrapping turns around the Line Winder and securing them with attached Shock Cord or a Bongo Tie.
16. Connect the Coaxial Cable to the Transceiver and perform an operational test.

## Recovery Procedure

To recover the LZ Sloper Wire, perform the following steps:

1. Collapse the Telescoping Whip, one section at a time, starting from the bottom.
2. Unclip the Alligator Clip from the Telescoping Whip.
3. Remove the Strain Relief Loop from the Telescoping Whip.
4. Remove dirt from antenna components and inspect them for signs of wear.
5. Wind the Antenna Wire onto the Line Winder.
6. Store the LZ Sloper Wire with the other MPAS components, so they will be together and ready for next deployment.

## Troubleshooting

1. Ensure the antenna components are assembled correctly according to assembly instructions and diagrams.
2. Ensure the Alligator Clip is securely attached to the Telescoping Whip.
3. Inspect antenna components for signs of breakage, strain, wear, corrosion, or excessive dirt.
4. If still not operational, following Troubleshooting steps for the MPAS.

## Accessories

The following accessories are recommended for use with your antenna. They are available from www.chameleonantenna.com or your great dealer.

- **Universal Guying System.** The Universal Guying System (CHA UGS) provides the support needed for the Telescoping Whip to reduce stress when using it with LZ Sloper Wire. Guying is optional with the CHA SS17, but is highly recommended when using the CHA SS25.

## Specifications

- Frequency:
  - CHA Hybrid Micro/Mini: 1.8 - 54.0 MHz.
  - CHA BV with Blank Adapter: 3.5 - 10.15 MHz (SS17); 3.5 - 7.3 MHz (SS25), in addition to frequency coverage provided solely by the Telescopic Whip and Medium Loading Coil.
- SWR:
  - CHA Hybrid Micro/Mini: Typically, less than 3.5:1, but subject to frequency, configuration, and location. Requires tuner on some bands. See figure (4) for measured SWR graph using one 25-foot Radial.

- CHA BV with Blank Adapter: less than 2.0:1 at resonance. See figure (5) for 80m measured SWR graph.

- Length: 60 ft. (maximum)
- Weight: Approximately 1 lbs.
- Personnel Requirements and Setup Time: one trained operator, less than 10 minutes.

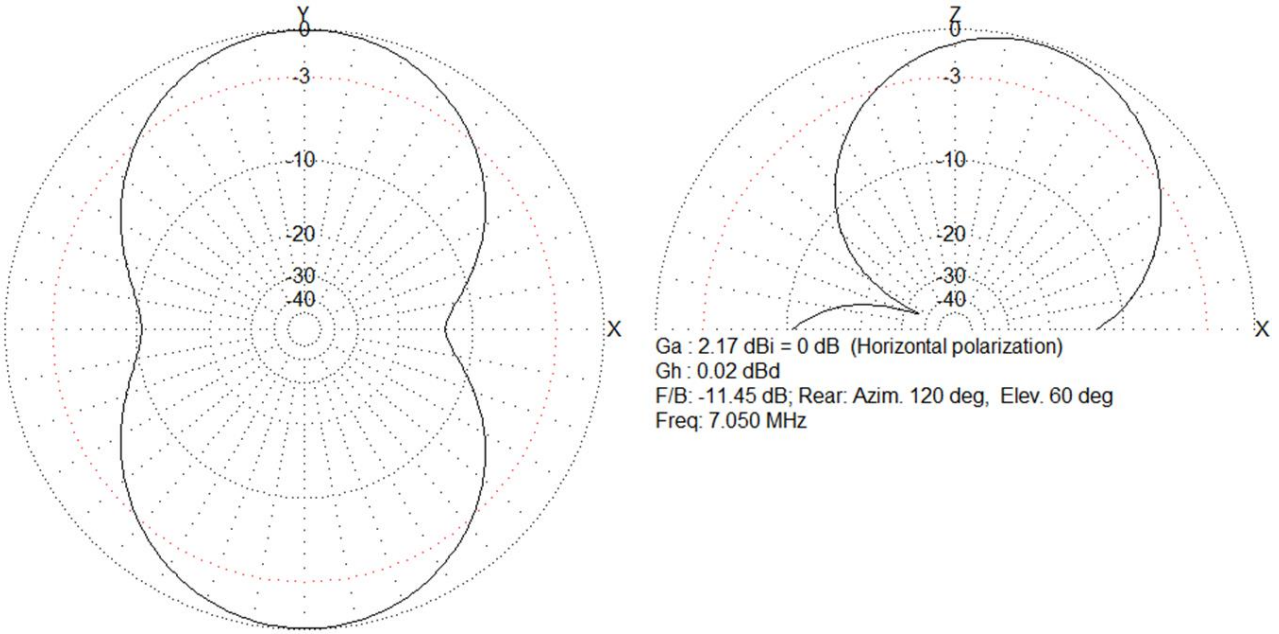



**Figure 2. Far Field Plot (7 MHz).**

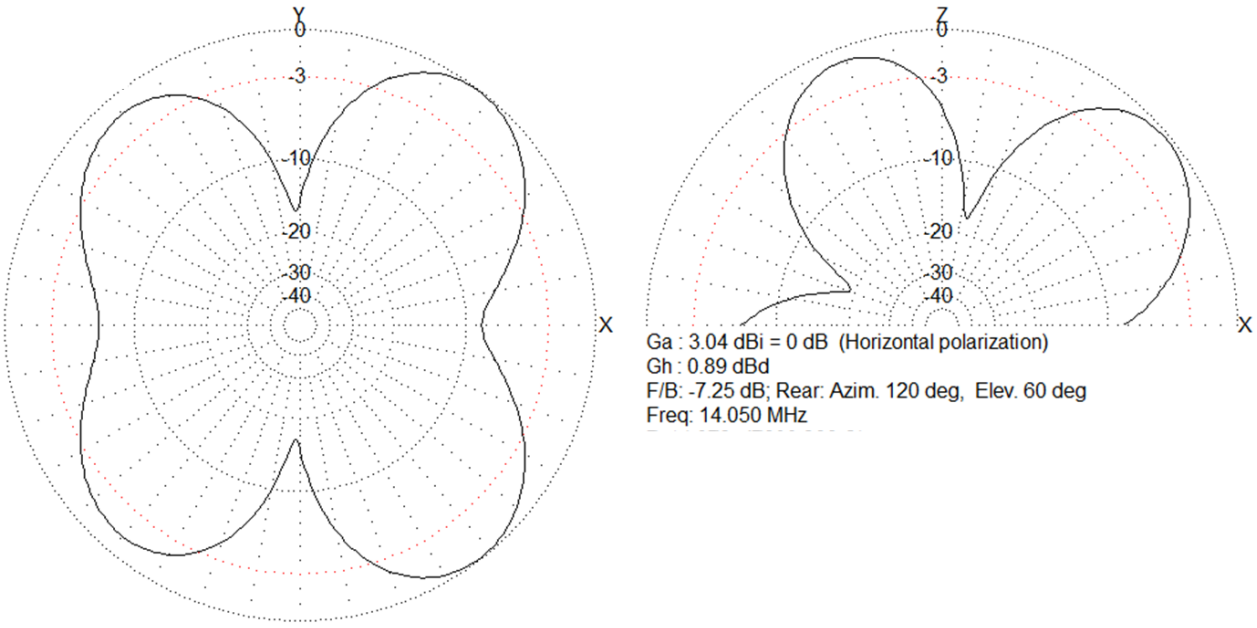



**Figure 3. Far Field Plot (14 MHz).**

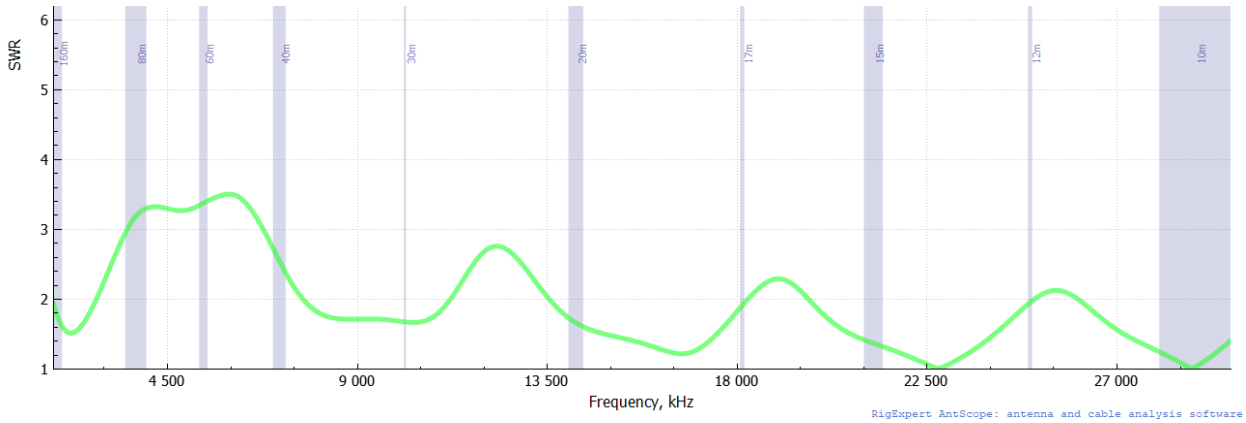



**Figure 4. SWR Graph (CHA Hybrid Micro/Mini).**

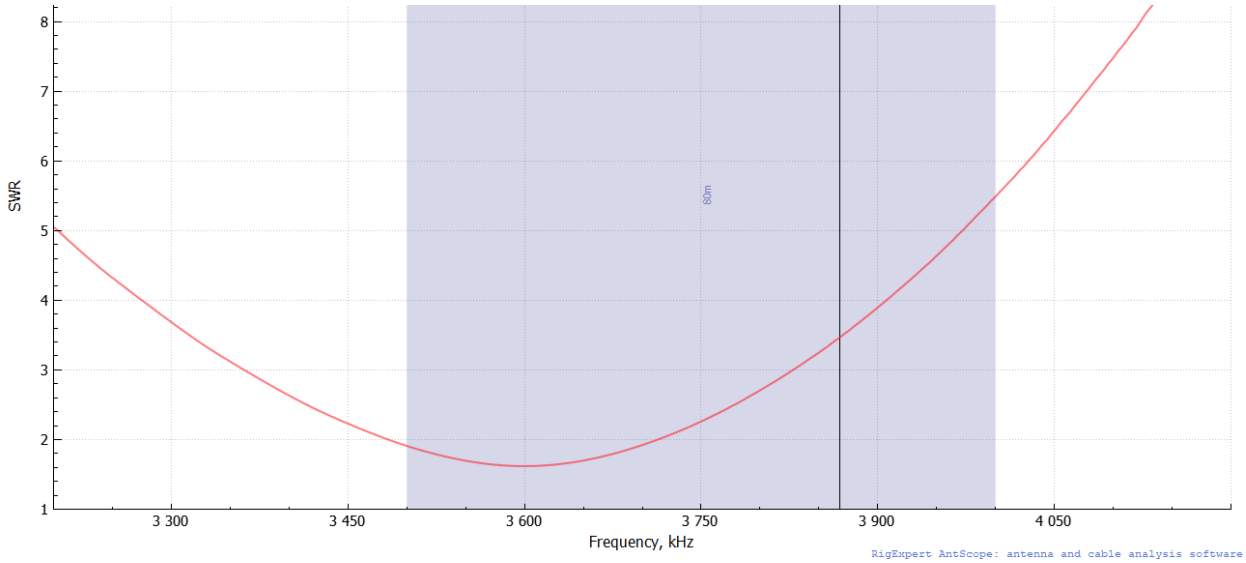



**Figure 5. SWR Graph (CHA BV, 80m).**

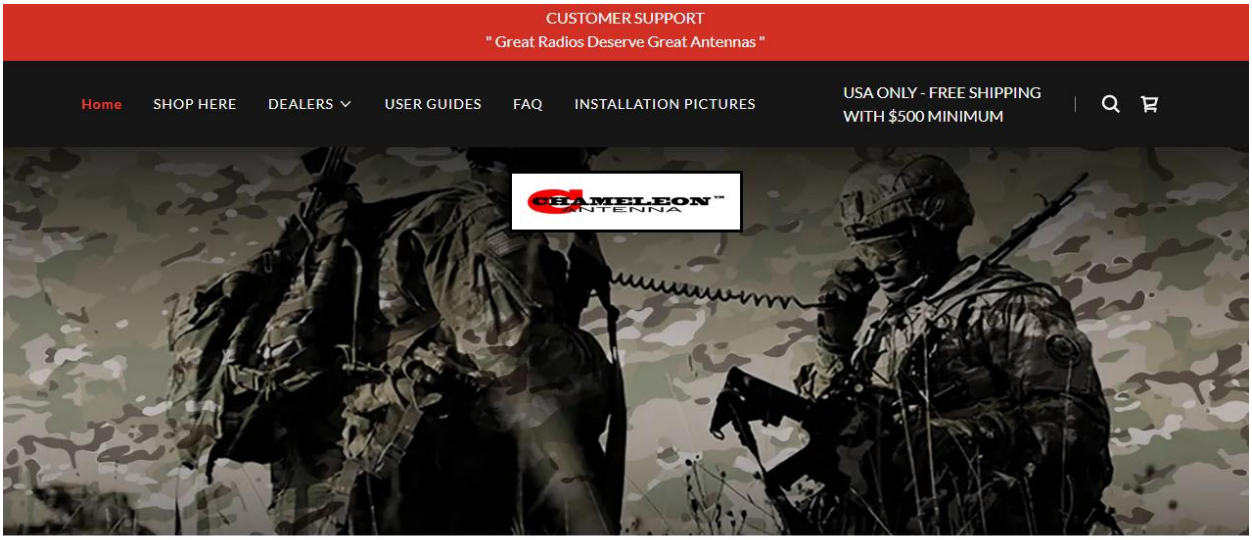
## References

1. Silver, H. Ward (editor), 2013, *2014 ARRL Handbook for Radio Communications*, 91st Edition, American Radio Relay League, Newington, CT.
2. 1987*, Tactical Single-Channel Radio Communications Techniques (FM 24-18)*, Department of the Army, Washington, DC.
3. Turkes, Gurkan, 1990, *Tactical HF Field Expedient Antenna Performance Volume I Thesis*, U.S. Naval Post Graduate School, Monterey, CA.

## Chameleon Antenna™ Products

Go to http://chameleonantenna.com for information about quality antenna products available for purchase from Chameleon Antenna™ – The Portable Antenna Pioneer.

Warranty information is available at http://chameleonantenna.com.

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