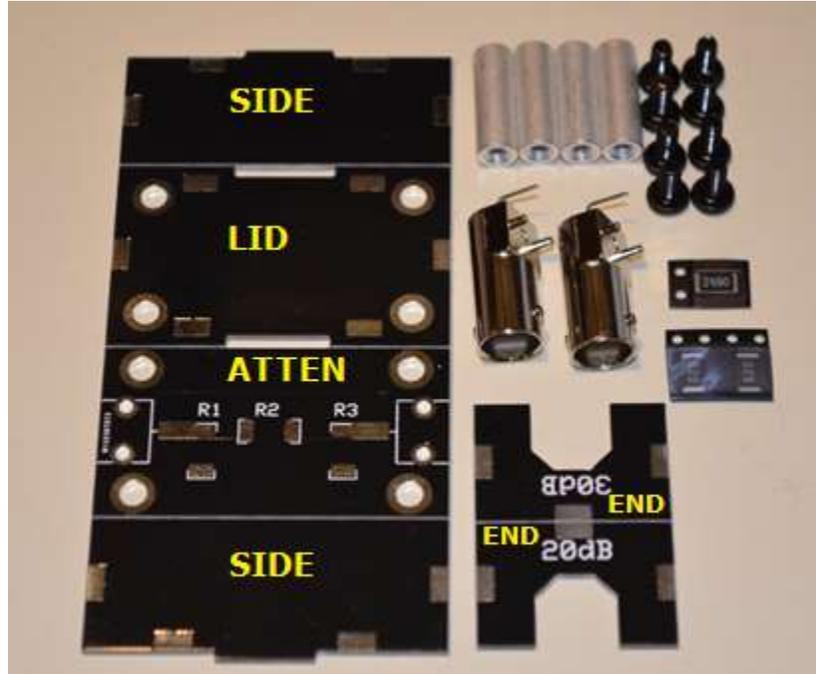


4S-1W RF Attenuator

Designed by David Cripe, NMØS

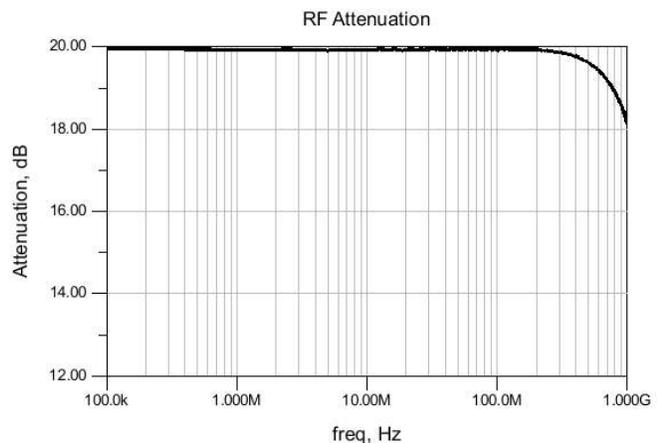
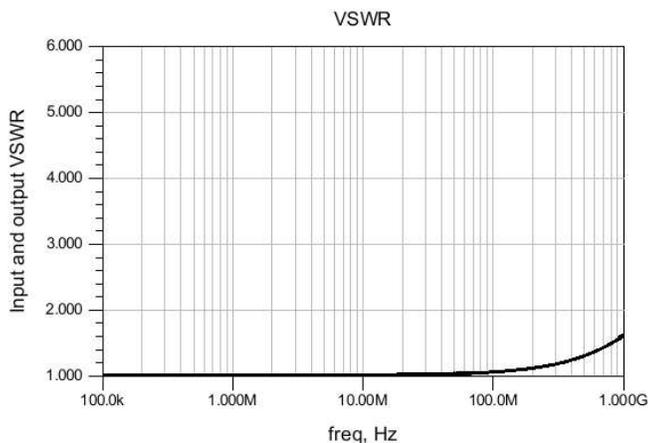
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Four State QRP Group



Introduction

Thank you for purchasing the 4S-1W RF Attenuator kit. The 1W SMT resistors included in the kit will provide 20dB of attenuation from DC to approximately 450MHz. A hand-solderable SMT PC Board, SMT Resistors, BNC connectors and PCB case have been provided for an easy building experience. Note that it is possible to build the kit with attenuation from 1dB to over 30 dB utilizing user-supplied resistors for the PI attenuator. The kit can even be built using leaded resistors Pittsburg-style with good results. Many websites exist to calculate the pi-attenuator resistor values, try the search term "pi rf attenuator calculator" in your favorite search engine.

Measured Data



Assembly

1. Inventory the parts. Refer to the photo above to identify items in the instructions below. The text in yellow is for identification purposes and not printed on the PCBs.
2. Break the 2 PC boards into 6 pieces. Sand any rough edges lightly.
3. Identify the 2 BNC Connectors. Solder them to the "ATTN" PCB, clipping the connector signal lead flush with the PWB surface before soldering. Use at least a 30W soldering iron and be careful as the connector bodies become **very** hot.
4. Identify the two 62 ohm SMT resistors and solder one into the R1 and one into the R3 shunt positions.
5. Identify the 249 ohm SMT resistor and solder into series R2 position.
6. Install the 4 sliver round posts with 4 black screws to the inside of the case "LID". The "inside" side has the 6 solder points near the board edges.
7. Using a spacer (such as a folded sheet of paper) between the posts and a "SIDE" PCB, solder the "SIDE" PCB to the "LID" PCB. Make sure the two boards are at 90 degrees to each other. Utilize the 2 solder pad locations on the boards.
8. Repeat the procedure for the other "SIDE" PCB.
9. Install the "END" PCBs by holding them flush to the silver posts and soldering the adjacent tabs from the outside of the case. The "ENDS" can be installed with the text "20dB" or "30dB" facing inside or outside of the case. If building the kit with the provided SMT resistors, install the "END" with "20dB" so it faces outside the case, and install the "30dB" "END" so it faces inside the case.
10. Using the remaining 4 black screws, install the "ATTEN" PCB to the case to complete the assembly.

