Input Filter Design:

The input filter on a switching power supply has two primary functions. One is to prevent electromagnetic interference, generated by the switching source from reaching the power line and affecting other equipment. The second purpose of the input filter is to prevent high frequency voltage on the power line from passing through the output of the power supply. A passive L-C filter solution has the characteristic to achieve both filtering requirements. The goal for the input filter design should be to achieve the best compromise between total performance of the filter with small size and cost.

It's an L-C filter designed with the following values:

L= 330 UH

C= 1000 UF

Output Filter Design:

Very low noise output filters can be implemented using baluns in both the input and output lines of DC/DC power converters. These are particularly effective where long lines or traces run from the power converter to the load. These filters use baluns of the types shown in Figures 8 and 10. Single output power converters use a two winding balun, with a three winding balun used for dual output converters. The balun leakage inductance is used for the DM filter. The CM filter is implemented first with a ceramic bypass capacitor which forms a capacitive divider with the primary to secondary interwinding capacitance. Secondly the balun forms a high frequency CM filter which works with the stray capacitance of the load side of the balun. This can be particularly effective where the load is on the other end of a pair of long wires.

It's a well damped filter designed with the following values:

L= 21 UH

C1= 4.7 UF

C2= 0.47 UF

C3= 470 UF

R= 3.9 ohm

Used a load resistor of 10 ohm to the output.