

## **Design of high voltage and high frequency pulse generator by using DC choke**

### **Abstract**

Pulsed Electric Field (PEF) processing has demonstrated a high potential for various applications ranging from extraction of valuable components from different biological objects to water treatment. Therefore, high voltage and high frequency pulse generator design is essential in order to fulfill the requirement of a PEF processing system. A high voltage and high frequency pulse generator using DC choke is proposed in this work as a solution to increase the pulse train amplitude. The DC choke was verified using a function generator to identify its operating frequency and voltage. Results showed that the operating frequency of the DC choke was between 24 kHz to 35 kHz and that it was able to retain the pulse shape of the input pulse train. These results show the ability of the DC choke as a potential solution to increase the pulse amplitude of a pulse train while retaining its shape and duty cycle by cascading it with other power topologies to produce high voltage and high frequency pulse generator for various applications.