

Abstract: This letter discusses the integration of a mode-locked quantum dot (QD) laser and an antenna. A brief theory of operation for the reconfigurable mode-locked QD laser is first presented, and the design of the antenna as well as the matching network used to connect the photonic source to the antenna are explained and discussed. The ultimate goal is to achieve a compact RF/photonic chip that can radiate from 10 to 100 GHz. Here, we present the initial proof of concept and the challenges associated with integrating the antenna with the QD mode-locked laser.