Using laser diodes as the pump source, an efficient self-mode-locked green and red visible laser with average output powers of more than 0.68 W and 1.44 W are demonstrated in this work, which are believed to be the highest average output power for mode locked Pr:YLF lasers operating in visible wavelength region [1,2,3,4,5,6,7]. Moreover, Mechanism of the self-mode-locked Pr:YLF visible lasers is, for the first time, analyzed theoretically.

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