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Strengths and Linewidths of Two Photon 5s – 6s Hyperfine Transitions of Rb SETH ORSON, CARSON MCLAUGHLIN, US Air Force Academy, MARK LINDSAY, Lindsay Enterprises Incorporated LLC, RANDY KNIZE, US Air Force Academy — Using a single frequency tapered amplifier diode laser scanning around 993 nm in a Rb cell, we have measured the four ΔF=0 hyperfine lines of the Doppler free two photon 5s – 6s transition in ^{85}Rb and ^{87}Rb. We have confirmed a two photon transition by measuring the signal strength vs laser power squared and observing a linear relationship. We are currently measuring the transition linewidth dependence on laser power. We will also measure the transition linewidth dependence on an external DC electric field.

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