Chirped pulse Fourier transform microwave (CP-FTMW) spectroscopy has become a ubiquitous technique in the high-resolution molecular spectroscopy community. Unfortunately, many components of CP-FTMW spectrometers are extremely expensive. Here we report of the development of an inexpensive microwave circuit and we present spectra of tetrahydrofuran and methanol collected between 8-16 GHz. Possible applications in remote sensing will also be discussed.