

## ECE 342 Electronics I

### Optical Link Final Report

Design Team ID#: \_\_\_\_\_

Design Team Members: \_\_\_\_\_

- A. Abstract (with block diagram)
- B. Performance Summary of the Optical Link

Table 1. Specifications and performance of the optical link project

Parameter	Specified Value	Measured Value	Reference
Transmission distance (in feet) <sup>1</sup>	> 50'		
Signal Frequency	20 kHz $\pm$ 5%		
Duty cycle of signal	50% $\pm$ 5%		
LED Peak drive current	<200 mA		
Transmitter Power Consumption	-		
Receiver Power Consumption	-		
Frequency sensitivity to capacitor tolerance in ring oscillator (simulation)	-		

<sup>1</sup>The maximum transmission distance is the distance at which the signal-to-noise ratio, as measured with the spectrum analyzer on the *Analog Discovery* unit, drops down to 6 dB.

- C. Summary of the Optical Link comparing simulated and actual results
- D. Appendices
  - a. Schematic and photograph of the Optical Link Transmitter and Receiver Circuits
  - b. Lab 1 report
  - c. Lab 2 report
  - d. Lab 3 report
  - e. Lab 4 report
  - f. Lab 5 report

**Note:** Page limit, excluding the appendices, is two pages. Appendices should begin on page 3 and be combined in the same PDF file as Sections A, B, and C.