Lab 6 – Black Box Design

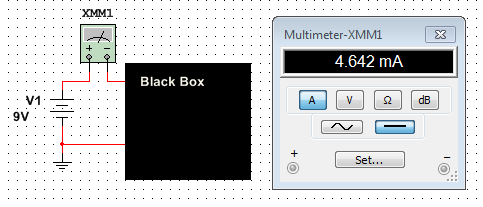
Names: ­­­­­­­­­­­­­­­­Bianca Shafer, ­­­­­­­­­­­­­­­­Nathaniel Paulus

Date: 28 September 2017

The purpose of this lab is to:

Learn about parallel circuits

The voltage applied to a Black Box is 9V and the measured current draw is 4.6 mA. Design a 2 resistor parallel circuit that meets the voltage and current requirements using “standard” resistor value.



Equipment needed:

1 – Digital Multimeter

1 – Elvis II

3 – Standard Resistors

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Design | Measured | Calculated | Simulated |
| V1 = | 9V | 9.002V | 9V | 9V |
| IT = | 4.6mA | 4.4095mA | 4.6mA | 4.615mA |
| RT = | 1.957kΩ | 1.940kΩ | 1.957kΩ | 1.95kΩ |
| R1 = | 3.913kΩ | 3.886kΩ | 3.913kΩ | 3.9kΩ |
| R2 = | 3.913kΩ | 3.874kΩ | 3.913kΩ | 3.9kΩ |

Observations: There are no standard resistors values that would perfectly satisfy the assignment. The closes resistors have a nominal value of 3.9kΩ.