

V was measured by measuring the amplitude from the signal generator using an oscilloscope. I added a potential divider to the input of the circuit as the signal generates lowest amplitude setting still caused distortion.

$$\therefore V_{in} = \frac{VR_2}{R_1 + R_2} = \frac{192mv \times 10\Omega}{1k\Omega + 10\Omega} = 1.9mv$$

Vout was measured using channel 2 of the oscilloscope using its cursor function. The probe and oscilloscope were on the x1 setting.

| Frequency (Hz) | Vin (v) | Vout (v) | Vout/Vin   | Gain     |
|----------------|---------|----------|------------|----------|
| 10             | 0.0019  | 0.0228   | 12         | 21.58362 |
| 20             | 0.0019  | 0.0516   | 27.1578947 | 28.67792 |
| 40             | 0.0019  | 0.105    | 55.2631579 | 34.84871 |
| 100            | 0.0019  | 0.2      | 105.263158 | 40.44553 |
| 200            | 0.0019  | 0.266    | 140        | 42.92256 |
| 400            | 0.0019  | 0.294    | 154.736842 | 43.79187 |
| 1000           | 0.0019  | 0.302    | 158.947368 | 44.02507 |
| 2000           | 0.0019  | 0.304    | 160        | 44.0824  |
| 4000           | 0.0019  | 0.304    | 160        | 44.0824  |
| 10000          | 0.0019  | 0.29     | 152.631579 | 43.67289 |
| 20000          | 0.0019  | 0.294    | 154.736842 | 43.79187 |
| 40000          | 0.0019  | 0.29     | 152.631579 | 43.67289 |
| 100000         | 0.0019  | 0.272    | 143.157895 | 43.11631 |
| 200000         | 0.0019  | 0.226    | 118.947368 | 41.5071  |
| 400000         | 0.0019  | 0.153    | 80.5263158 | 38.11876 |
| 1000000        | 0.0019  | 0.071    | 37.3684211 | 31.45009 |

