

$R_L(\Omega)$	Corriente medida (mA)	Voltaje medido (V)	Potencia calculada experimentalmente (W)	Potencia calculada teóricamente (W)
220	10.6	2.32	0.02454	0.02453
470	8.98	4.22	0.03791	0.03791
680	7.98	5.43	0.04328	0.04328
820	7.43	6.09	0.04521	0.04521
1000	6.82	6.82	0.04648	0.04648
1500	5.56	8.33	0.04629	0.04629
1800	5	9	0.045	0.045
2200	4.41	9.71	0.04282	0.04281
3900	2.94	11.5	0.03373	0.03373
4700	2.54	11.9	0.03037	0.03037

Potencia calculada experimentalmente

$$P = \left(\frac{V_{TH}}{R_{TH} + R_L} \right)^2 \times R_L$$

Para $R_L(\Omega)=220$

$$P = 0.02454$$

Para $R_L(\Omega)=470$

$$P = 0.03791$$

Para $R_L(\Omega)=680$

$$P = 0.04328$$

Para $R_L(\Omega)=820$

$$P = 0.04521$$

Para $R_L(\Omega)=1000$

$$P = 0.04648$$

Para $R_L(\Omega)=1500$

$$P = 0.04629$$

Para $R_L(\Omega)=1800$

$$P = 0.045$$

Para $R_L(\Omega)=2200$

$$P = 0.04282$$

Para $R_L(\Omega)=3900$

$$P = 0.03373$$

Para $R_L(\Omega)=4700$

$$P = 0.03037$$

Potencia calculada teóricamente

Para $R_L(\Omega)=220$

$$R_t = 1420\Omega$$

$$I_t = \frac{15}{1420} = 0.01056 \text{ A}$$

$$V_{RL} = 0.01056 \times 220 = 2.3232 \text{ V}$$

$$P = V \times I = 2.3232 \times 0.01056 = 0.02553 \text{ W}$$

Para $R_L(\Omega)=470$

$$R_t = 1670\Omega$$

$$I_t = \frac{15}{1670} = 8.982 \times 10^{-3} \text{ A}$$

$$V_{RL} = 8.982 \times 10^{-3} \times 470 = 4.2215 \text{ V}$$

$$P = V \times I = 0.03791 \text{ W}$$

Para $R_L(\Omega)=680$

$$R_t = 1880\Omega$$

$$I_t = \frac{15}{1880} = 7.9787 \times 10^{-3} \text{ A}$$

$$V_{RL} = 7.9787 \times 10^{-3} \times 680 = 5.4255 \text{ V}$$

$$P = V \times I = 0.04328 \text{ W}$$

Para $R_L(\Omega)=820$

$$R_t = 2020\Omega$$

$$I_t = \frac{15}{2020} = 7.4257 \times 10^{-3} \text{ A}$$

$$V_{RL} = 7.4257 \times 10^{-3} \times 820 = 6.0890 \text{ V}$$

$$P = V \times I = 0.04521 \text{ W}$$

Para $R_L(\Omega)=1000$

$$R_t = 2200\Omega$$

$$I_t = \frac{15}{2200} = 6.8181 \times 10^{-3} \text{ A}$$

$$V_{RL} = 6.8181 \times 10^{-3} \times 1000 = 6.8181 \text{ V}$$

$$P = V \times I = 2.3232 \times 0.01056 = 0.04648 \text{ W}$$

Para $R_L(\Omega)=1500$

$$R_t = 2700\Omega$$

$$I_t = \frac{15}{2700} = 5.5555 \times 10^{-3} \text{ A}$$

$$V_{RL} = 5.5555 \times 10^{-3} \times 1500 = 8.3333 \text{ V}$$

$$P = V \times I = 8.3333 \times 5.5555 \times 10^{-3} = 0.04629 \text{ W}$$

Para $R_L(\Omega)=1800$

$$R_t = 3000\Omega$$

$$I_t = \frac{15}{3000} = 5 \times 10^{-3} \text{ A}$$

$$V_{RL} = 5 \times 10^{-3} \times 1800 = 9 \text{ V}$$

$$P = V \times I = 9 \times 5 \times 10^{-3} = 0.045 \text{ W}$$

Para $R_L(\Omega)=2200$

$$R_t = 3400\Omega$$

$$I_t = \frac{15}{3400} = 4.4117 \times 10^{-3} \text{ A}$$

$$V_{RL} = 4.4117 \times 10^{-3} \times 2200 = 9.7058 \text{ V}$$

$$P = V \times I = 9.7058 \times 4.4117 \times 10^{-3} = 0.04281 \text{ W}$$

Para $R_L(\Omega)=3900$

$$R_t = 5100\Omega$$

$$I_t = \frac{15}{5100} = 2.9411 \times 10^{-3} \text{ A}$$

$$V_{RL} = 2.9411 \times 10^{-3} \times 3900 = 11.4705 \text{ V}$$

$$P = V \times I = 11.4705 \times 2.9411 \times 10^{-3} = 0.03373 \text{ W}$$

Para $R_L(\Omega)=4700$

$$R_t = 5900\Omega$$

$$I_t = \frac{15}{5900} = 2.5423 \times 10^{-3} \text{ A}$$

$$V_{RL} = 2.5423 \times 10^{-3} \times 4700 = 11.9491 \text{ V}$$

$$P = V \times I = 11.9491 \times 2.5423 \times 10^{-3} = 0.03037 \text{ W}$$

Calculo de error

Para $R_L(\Omega)=220$

$$e\% = \frac{V_t - V_e}{V_t} \times 100 = \frac{0.02454 - 0.02453}{0.02454} * 100 = 0.004\%$$

Para $R_L(\Omega)=470$

$$e\% = \frac{V_t - V_e}{V_t} \times 100 = 0\%$$

Para $R_L(\Omega)=680$

$$e\% = \frac{V_t - V_e}{V_t} \times 100 = 0\%$$

Para $R_L(\Omega)=820$

$$e\% = \frac{V_t - V_e}{V_t} \times 100 = 0\%$$

Para $R_L(\Omega)=1000$

$$e\% = \frac{V_t - V_e}{V_t} \times 100 = 0\%$$

Para $R_L(\Omega)=1500$

$$e\% = \frac{V_t - V_e}{V_t} \times 100 = 0\%$$

Para $R_L(\Omega)=1800$

$$e\% = \frac{V_t - V_e}{V_t} \times 100 = 0\%$$

Para $R_L(\Omega)=2200$

$$e\% = \frac{V_t - V_e}{V_t} \times 100 = \frac{0.04282 - 0.04281}{0.04282} * 100 = 0.002\%$$

Para $R_L(\Omega)=3900$

$$e\% = \frac{V_t - V_e}{V_t} \times 100 = 0\%$$

Para $R_L(\Omega)=4700$

$$e\% = \frac{V_t - V_e}{V_t} \times 100 = 0\%$$