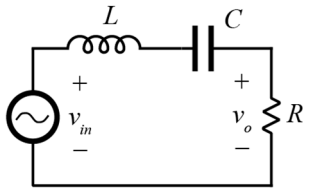
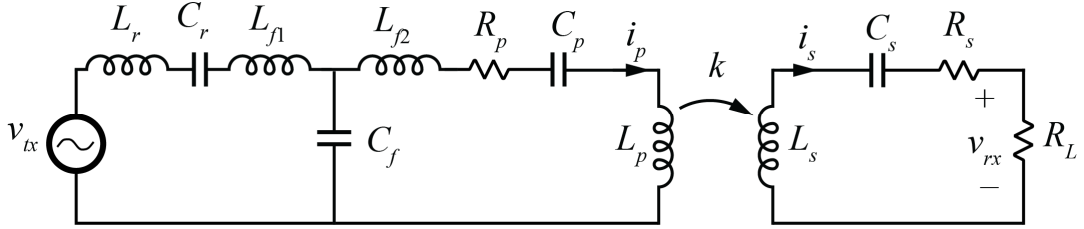
Reactance and Resonance

Phasor Superposition

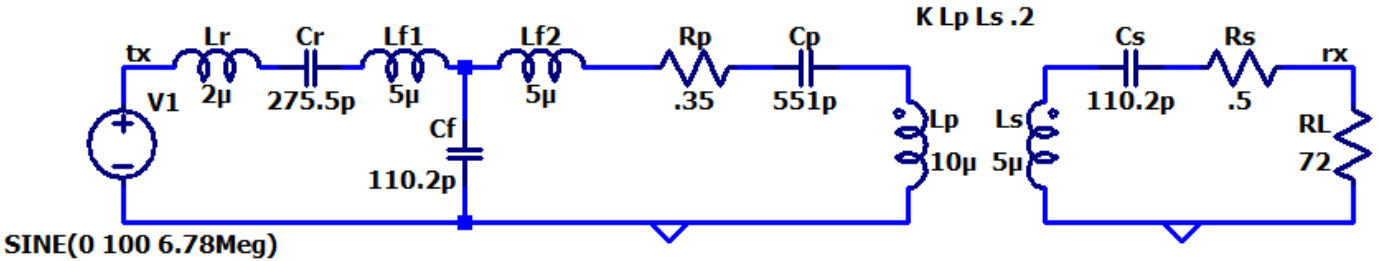


Find $v_o(t)$ for $v_{in}(t) = 10\cos(\omega t) + 10\cos(2\omega t) + 10\cos(0.5\omega t)$
and $\omega = 2\pi 100$ kHz, $R = 10\ \Omega$, $L = 10\ \mu$H, and $C = 253$ nF

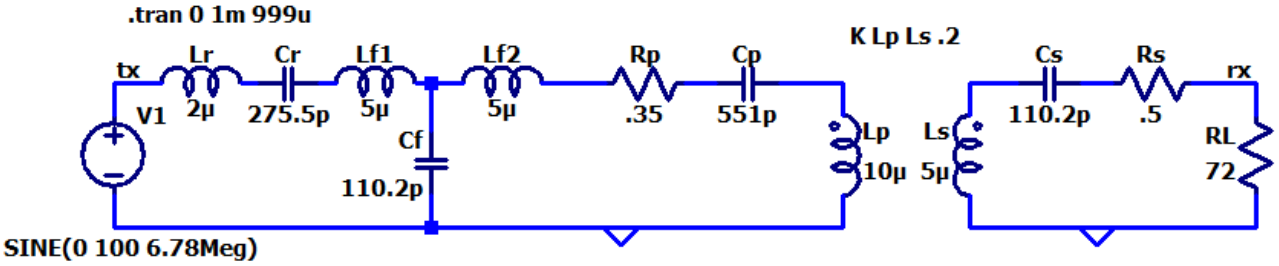
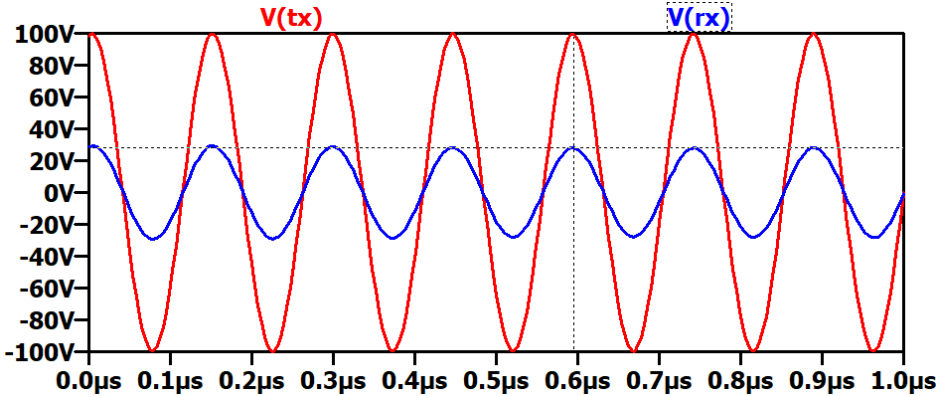
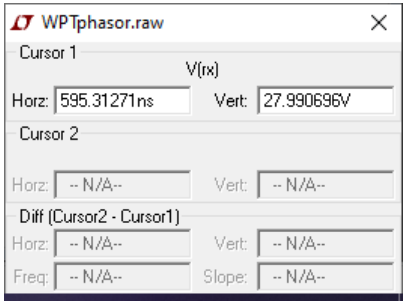
Example: WPT Problem



Numerical Example



mag =
28.0892

phase =
-90.0000

Circuit Simulation