Resistor:

Resistor:
Frequency:
100.430 Hz $Z_R = \frac{(4.003\angle 0 - 0.221\angle 0)V}{0.0039\angle 0\ A} = 975.49\ \Omega$

1005 Hz $Z_R = \frac{(4.005\angle 0 - 0.2216\angle 0)V}{0.0039\angle 0\ A} = 973.68\ \Omega$

10100 Hz $Z_R = \frac{(4.005\angle 0 - 0.2211\angle 0)V}{0.0039\angle 0\ A} = 976.01\ \Omega$

Inductor:

Frequency:

1003.2 Hz $Z_L = \frac{(4.01\angle 0 - 0.641\angle -57)V}{0.0112\angle -57\ A} = 137.77 + j300.274\ \Omega$

$L_1 = \frac{j300.274}{j(1003.2 \cdot 2 \cdot \pi)} = 0.04763\ H$

10001.2 Hz $Z_L = \frac{(3.195\angle 0 - 0.083\angle -87)V}{0.0015\angle -87\ A} = 89.0547 + j2659.68\ \Omega$

$L = \frac{j2659.68}{j(10001.2 \cdot 2 \cdot \pi)} = 0.04232\ H$

100001 Hz $Z_L = \frac{(3.998\angle 0 - 0.0085\angle -100)V}{0.0001\angle -100\ A} = -7027.45 + j39372.61\ \Omega$

$L_1 = \frac{j39372.61}{j(100001 \cdot 2 \cdot \pi)} = 0.06266\ H$

Series:

10018 Hz $Z_L = \frac{(4.013\angle 0 + 0.0686\angle -87)V}{0.0012\angle -87\ A} = 117.85 + j3339.59\ \Omega$

$L_1 = \frac{j3339.59}{j(10018 \cdot 2 \cdot \pi)} = 0.0531\ H$

Parallel:

10018 Hz $Z_L = \frac{(4.005\angle 0 - 0.484\angle -80)V}{0.0085\angle -80\ A} = 24.88 + j464.02\ \Omega$

$L_1 = \frac{j464.02}{j(10018 \cdot 2\pi)} = 0.00737\ H$

Capacitor:

Frequency:

1003 Hz $Z_{C1} = \frac{(4.008\angle 0 - 0.0697\angle 88)V}{0.0012\angle 84\ A} = 58.48 + -j3337.99\ \Omega$

$C_{C1} = \frac{1}{j - j3337.99 \cdot 1003 \cdot 2 \cdot \pi} = 47.54\ nF$

5007 Hz $Z_{C1} = \frac{(4.008\angle 0 - 0.3783\angle 84.2)V}{0.006\angle 84.2\ A} = 10.87 + -j664.58\ \Omega$

$C_{C1} = \frac{1}{j - j664.58 \cdot 5007 \cdot 2 \cdot \pi} = 47.83\ nF$

20013 Hz $Z_{C1} = \frac{(4.023\angle 0 - 1.299\angle 69)V}{0.0226\angle 69\ A} = 6.76 + -j166.19\ \Omega$

$C_{C1} = \frac{1}{j - j166.19 \cdot 20013 \cdot 2 \cdot \pi} = 47.85\ nF$

Series:

4997 Hz $Z_{C1} = \frac{(3.998\angle 0 - 0.1887\angle 87.4)V}{0.0033\angle 87.4\ A} = -2.22 + -j1210.27$

$C_{+} = \frac{1}{j - j1210.27 \cdot 4997 \cdot 2 \cdot \pi} = 26.32\ nF$

Parallel:

4994 Hz $Z_{C1} = \frac{(4.01\angle 0 - 0.746\angle 78.2)V}{0.0131\angle 78.2\ A} = 5.65 + -j299.64$

$C_{11} = \frac{1}{j - j299.64 \cdot 4994 \cdot 2 \cdot \pi} = 106.36\ nF$