

90kHz calculations (Based on: "Designing A SEPIC Converter" snva168e):

$D_{min} = 46\%$

$D_{max} = 52\%$

$I_{L1} = I_{L2} = 667\text{mA}$

$I_{L1}(\text{peak}) = 131\text{mA}$

$I_{L2}(\text{peak}) = 120\text{mA}$

$I_{Q1}(\text{peak}) = 251\text{mA}$

$I_{Q1}(\text{rms}) = 151\text{mA}$

$P_{D_Q1}: I_G = 33\text{mA}$

$P_{D_Q1} = 3\text{mW}$

$V_{Rd1} = 11\text{V}$

$P_{D_d1} = 22\text{mW}$

$I_{Cs}(\text{rms}) = 104\text{mA}$

$\text{Diff_}V_{Cs} = 28\text{mV}$

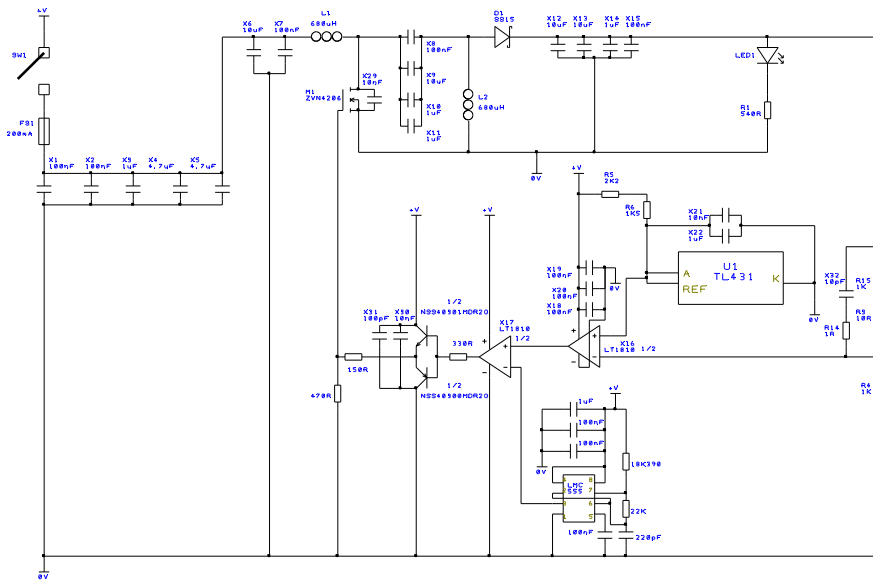
$I_{Cout}(\text{rms}) = 104\text{mA}$

$\text{ESR} \leq 100\text{m}\Omega$

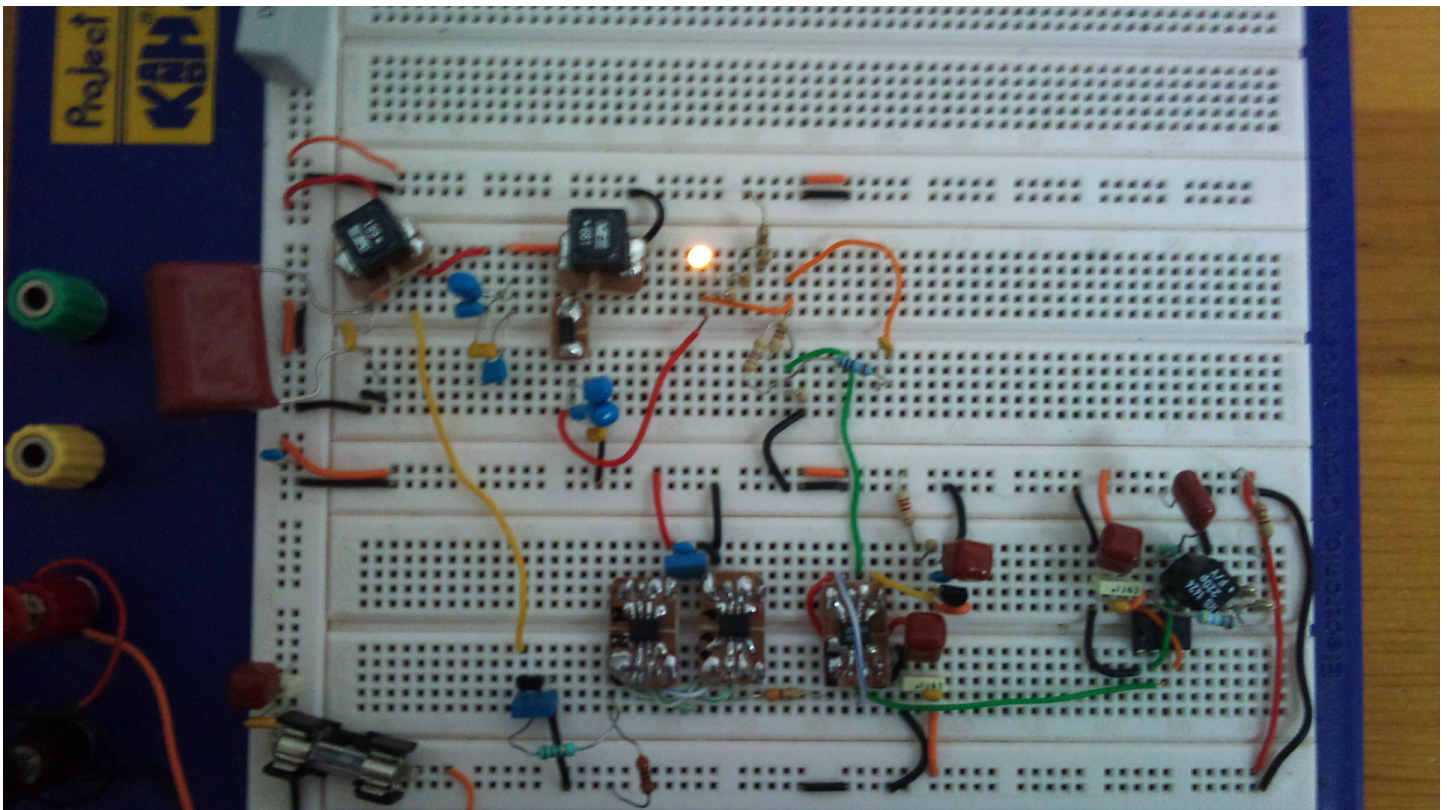
$C_{out} \geq 21\mu\text{F}$

$I_{Cin}(\text{rms}) = 12\text{mA}$

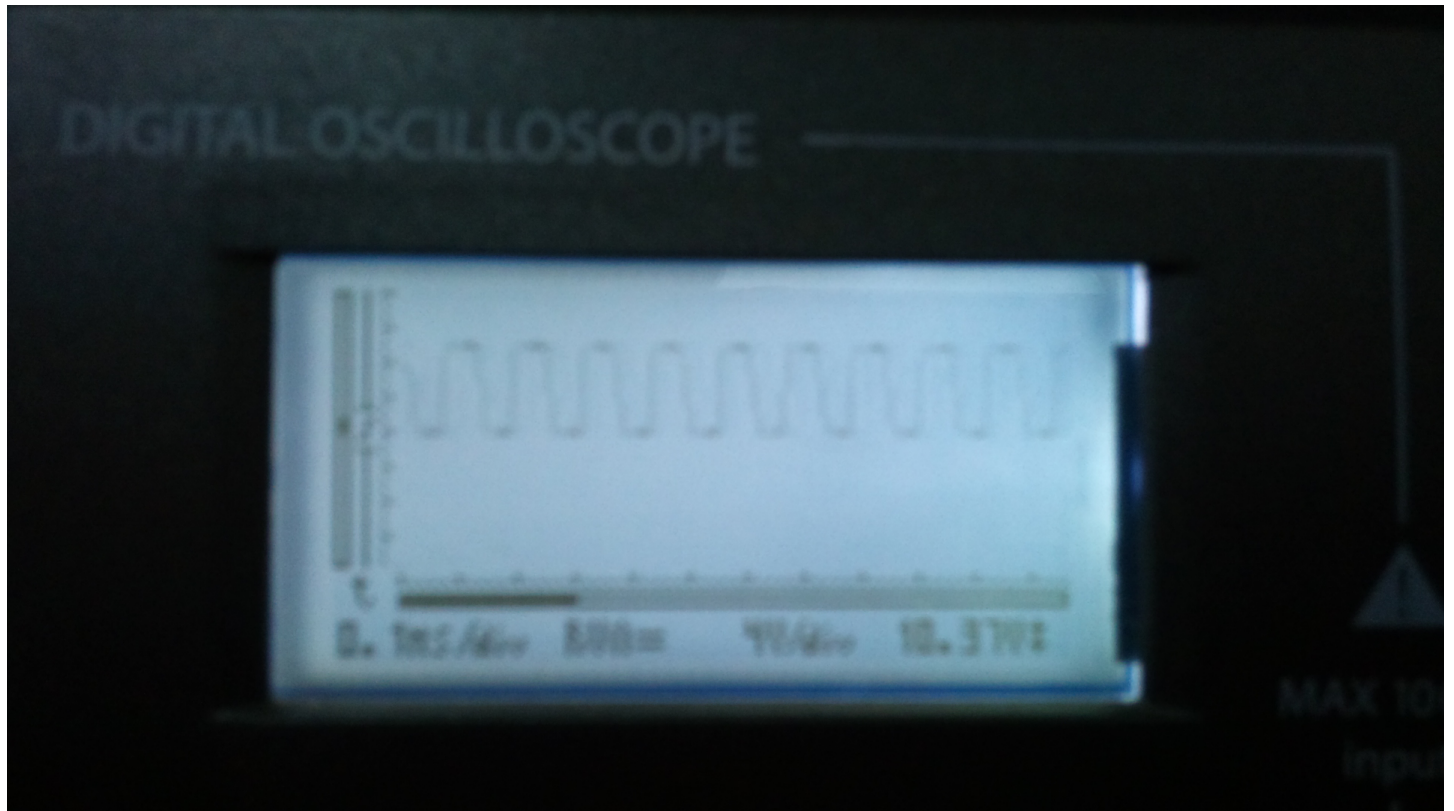
90kHz SEPIC schematic:



90kHz breadboard:



This is my hi-tech oscilloscope:



How I am measuring with osc probe:

