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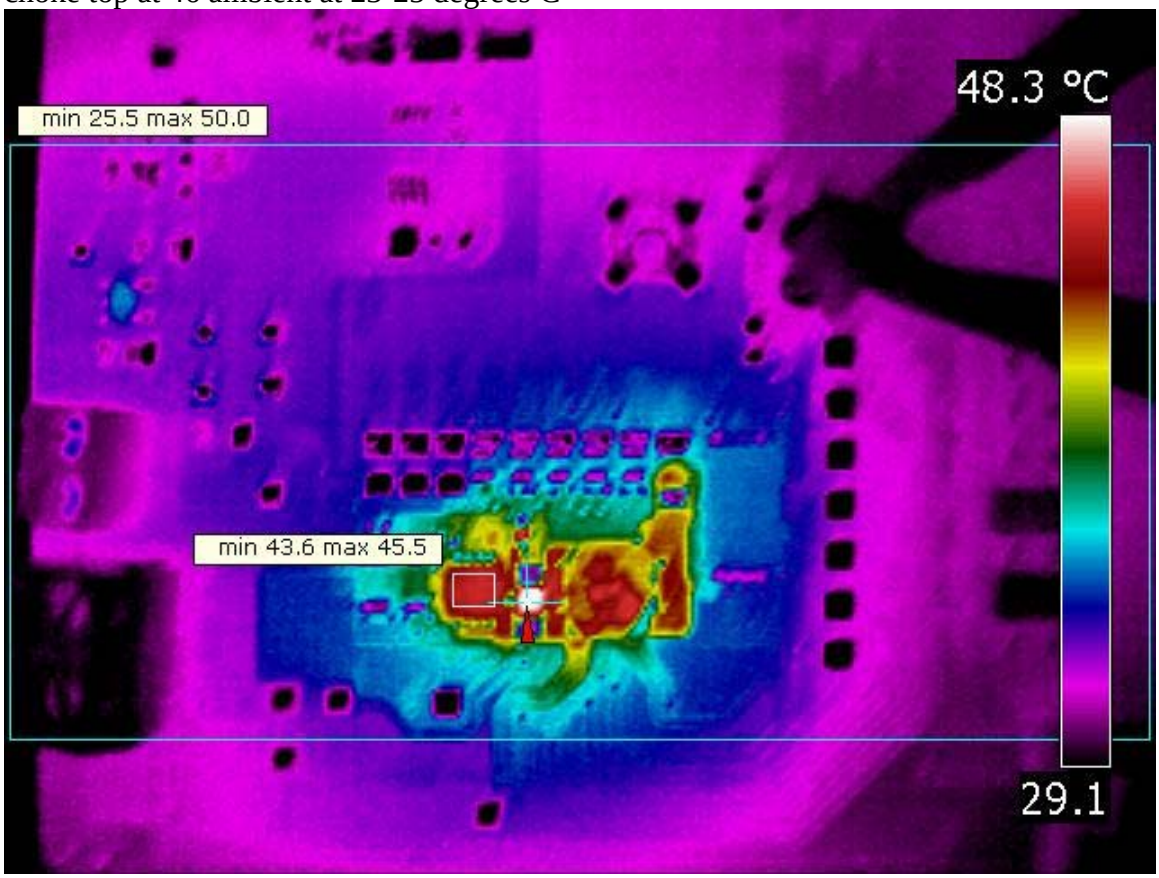
Note: Main switch Q1 CSD86330Q3D is actually rated to 25Vds, not 30Vds. Hence, operation off inputs above 15V is not recommended.

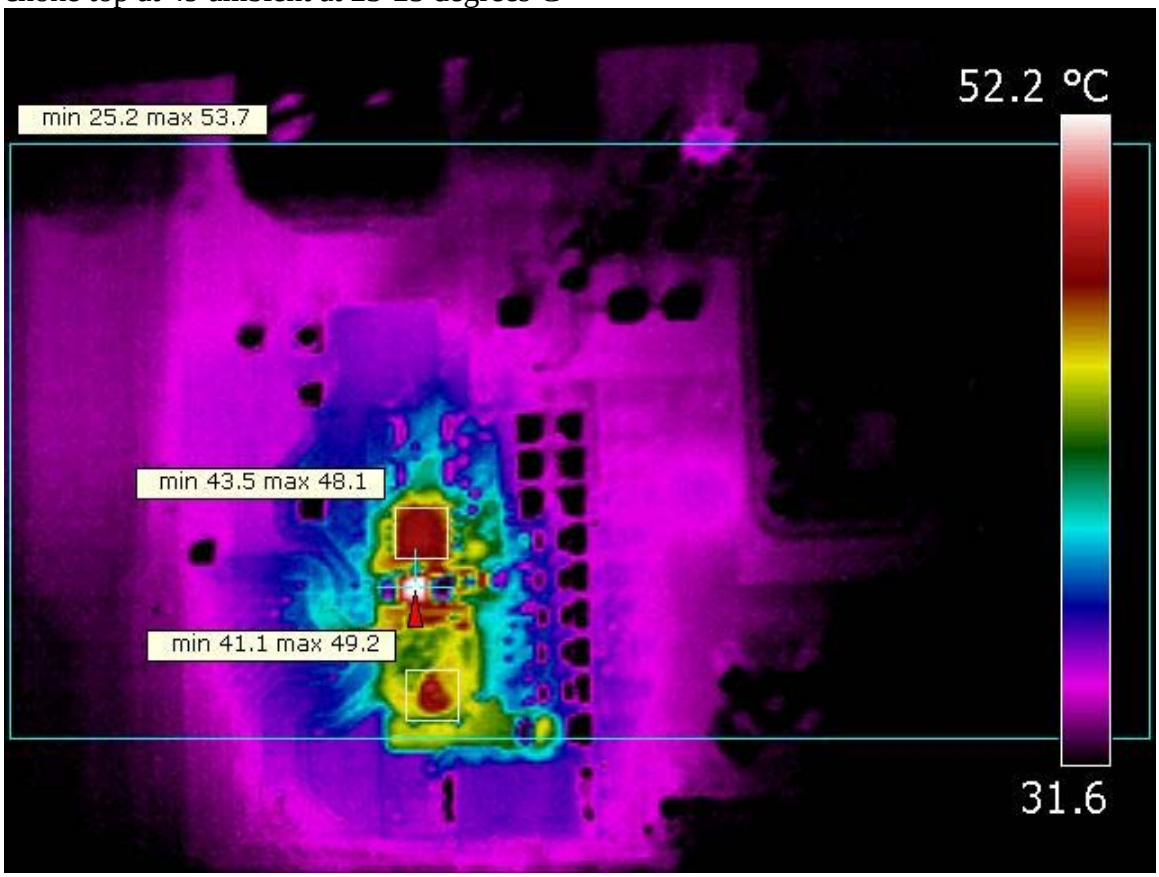
Thermal:

PMP5486: 14.14Vin 411mAin 0.965Vout 5.00A 500kHz
snubber hot at 50; dual FET CSD86330Q3 at 45.5
choke top at 46 ambient at 23-25 degrees C



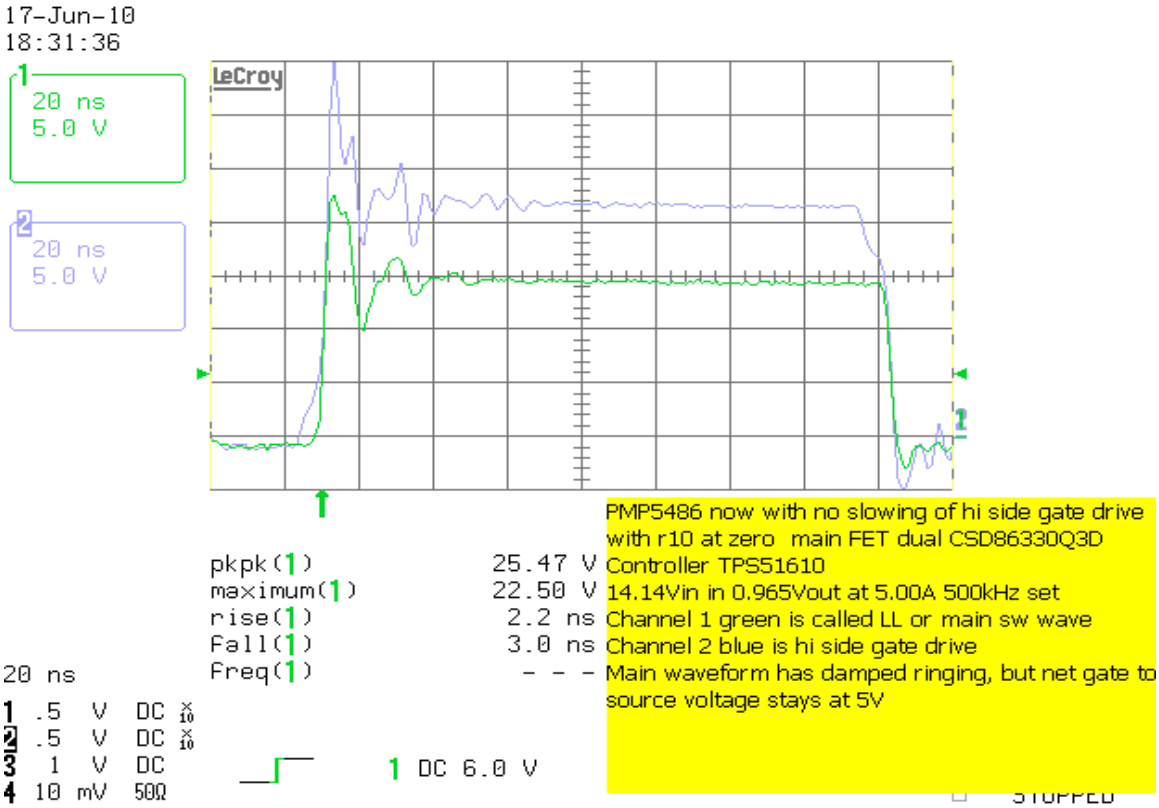
Qq
Qq

19Vin thermal model T3:
PMP5486: 19Vin 315mAin 0.969Vout 5.00A 500kHz model t3
snubber hot at 54; dual FET CSD86330Q3 at 48
choke top at 49 ambient at 23-25 degrees C

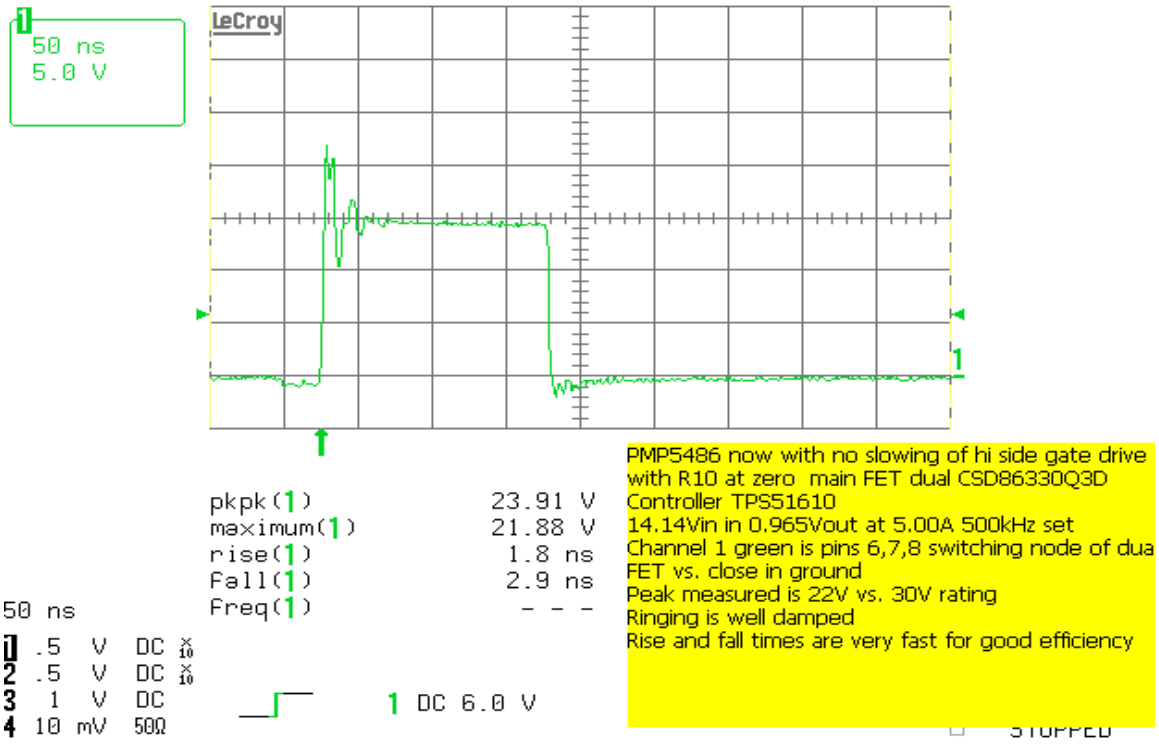


Qq
Note: Main switch Q1 CSD86330Q3D is actually rated to 25Vds, not 30Vds. Hence, operation off inputs above 15V is not recommended.

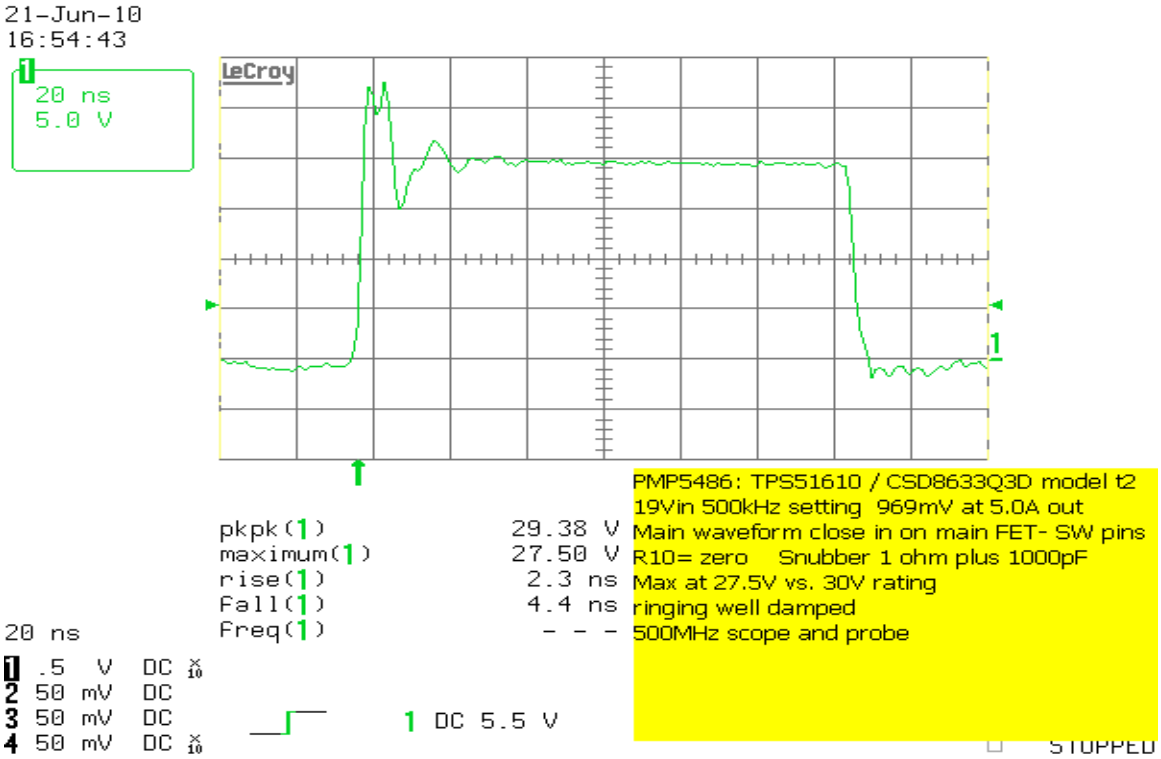
Main waveforms with 14Vin and 5A load: Model T1



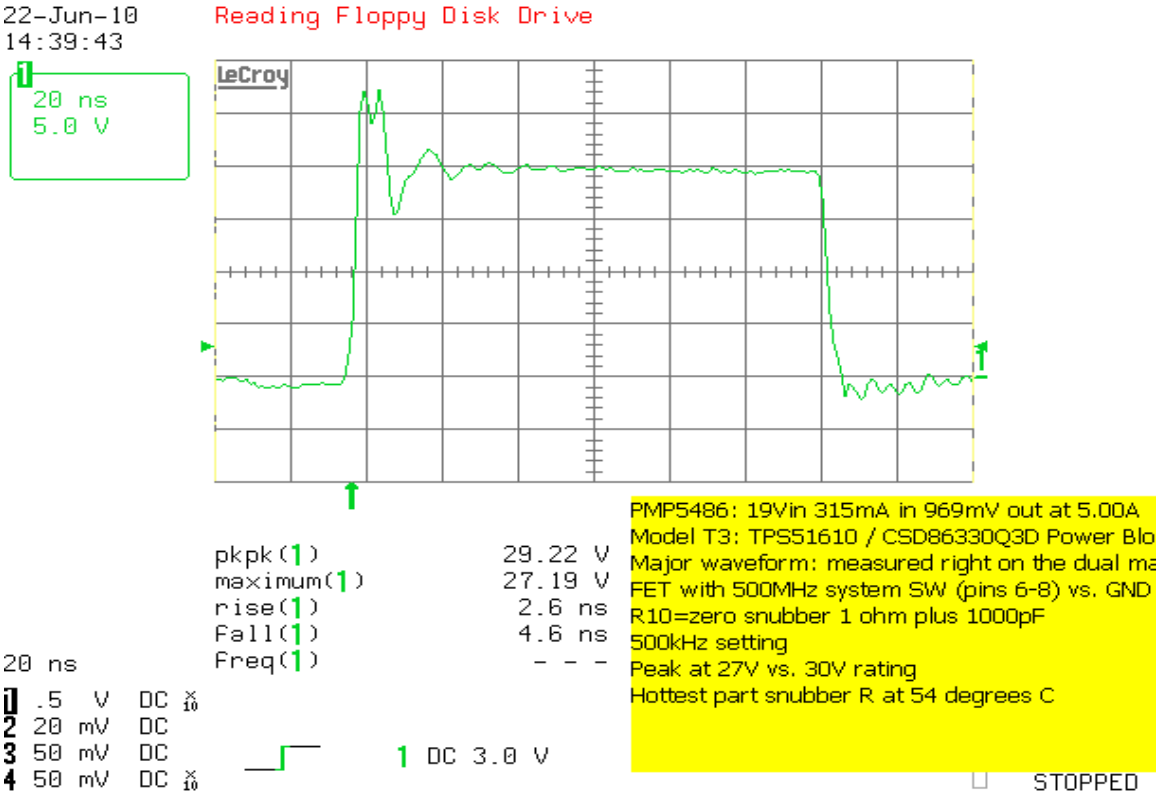
Now close in probe of just Vds of low side FET when hi side turns on:



Main waveform: 19Vin model T2

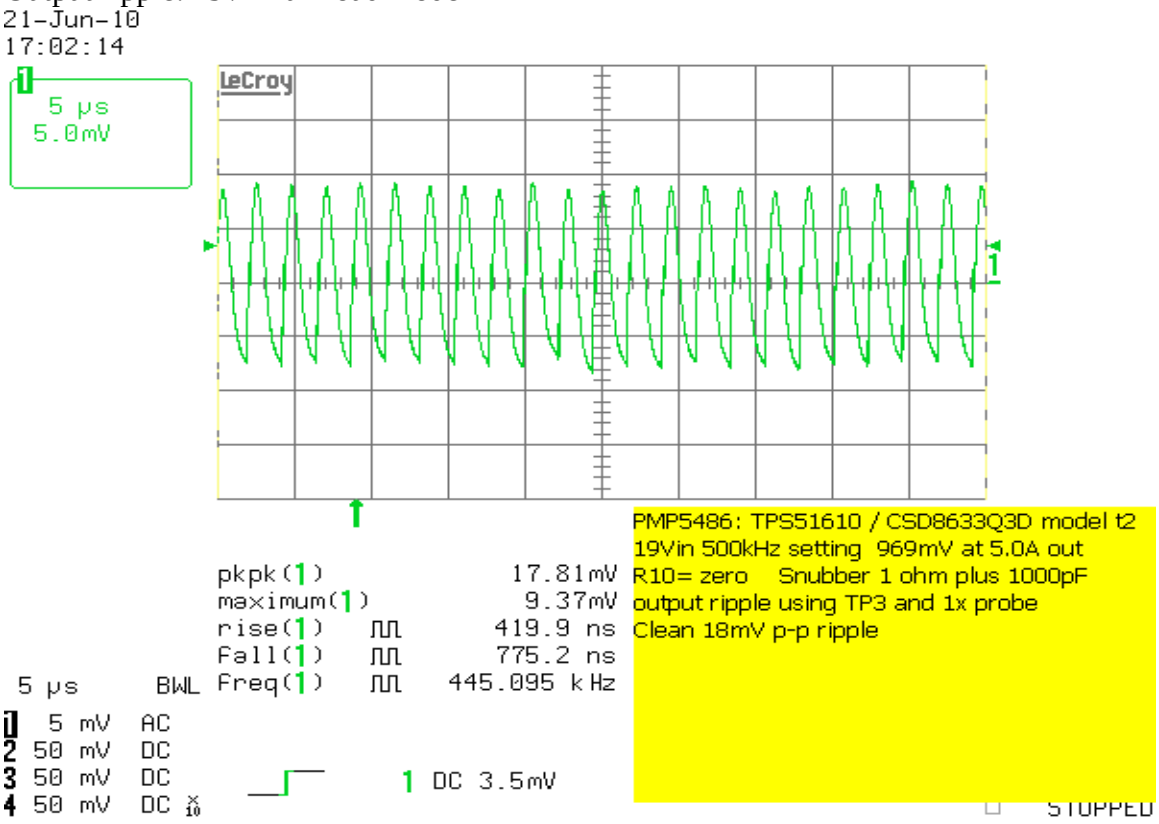


Same with model T3:

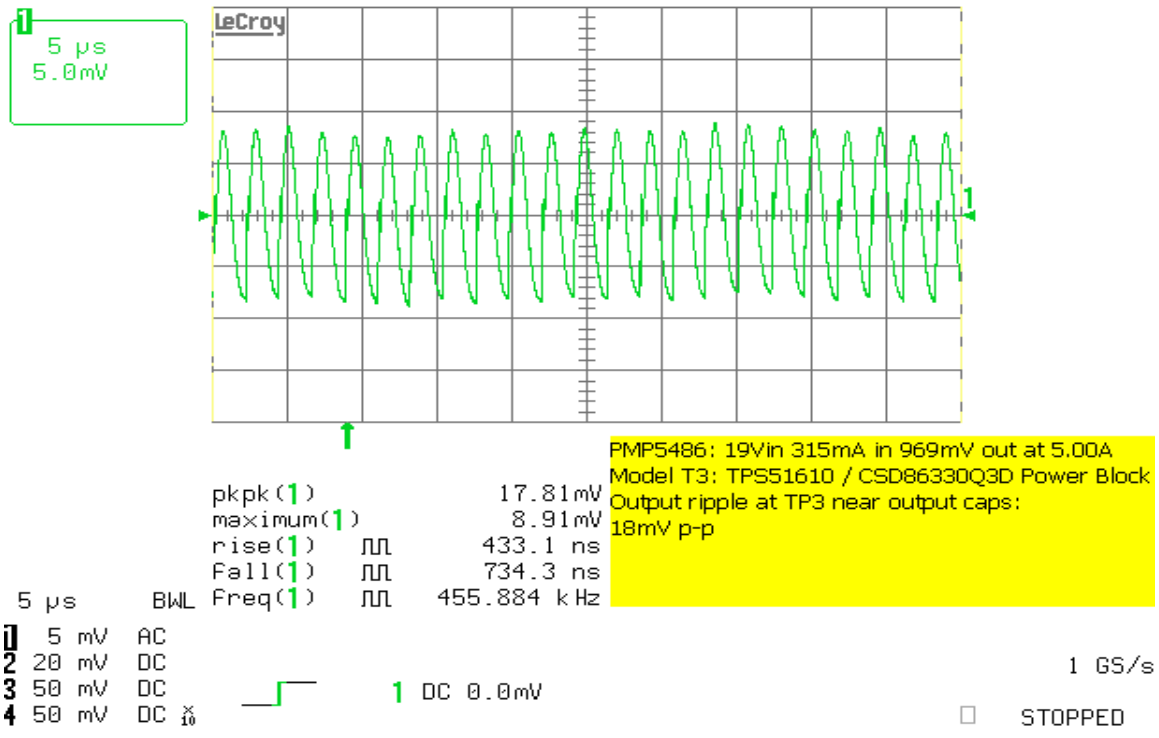


Qq

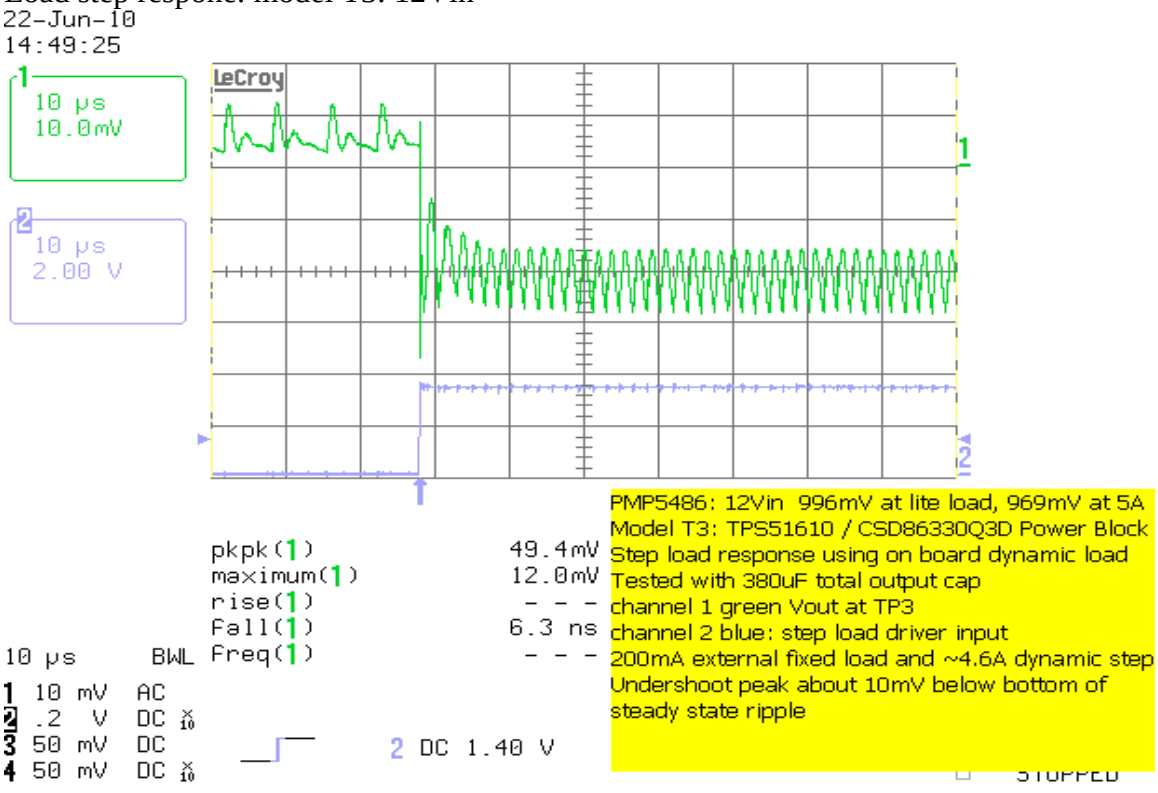
Output ripple: 19vin full load model T2



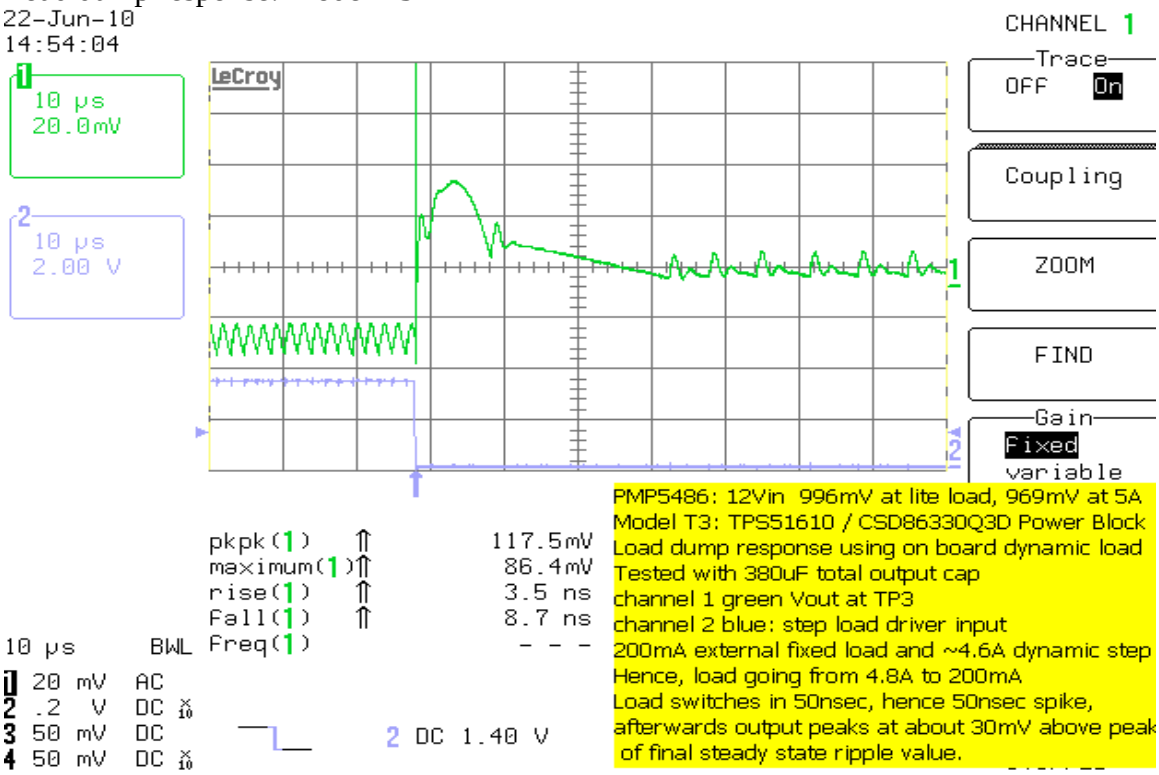
Same, but model T3:



Load step respone: model T3: 12Vin



Load dump response: Model T3



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