



Texas Instruments

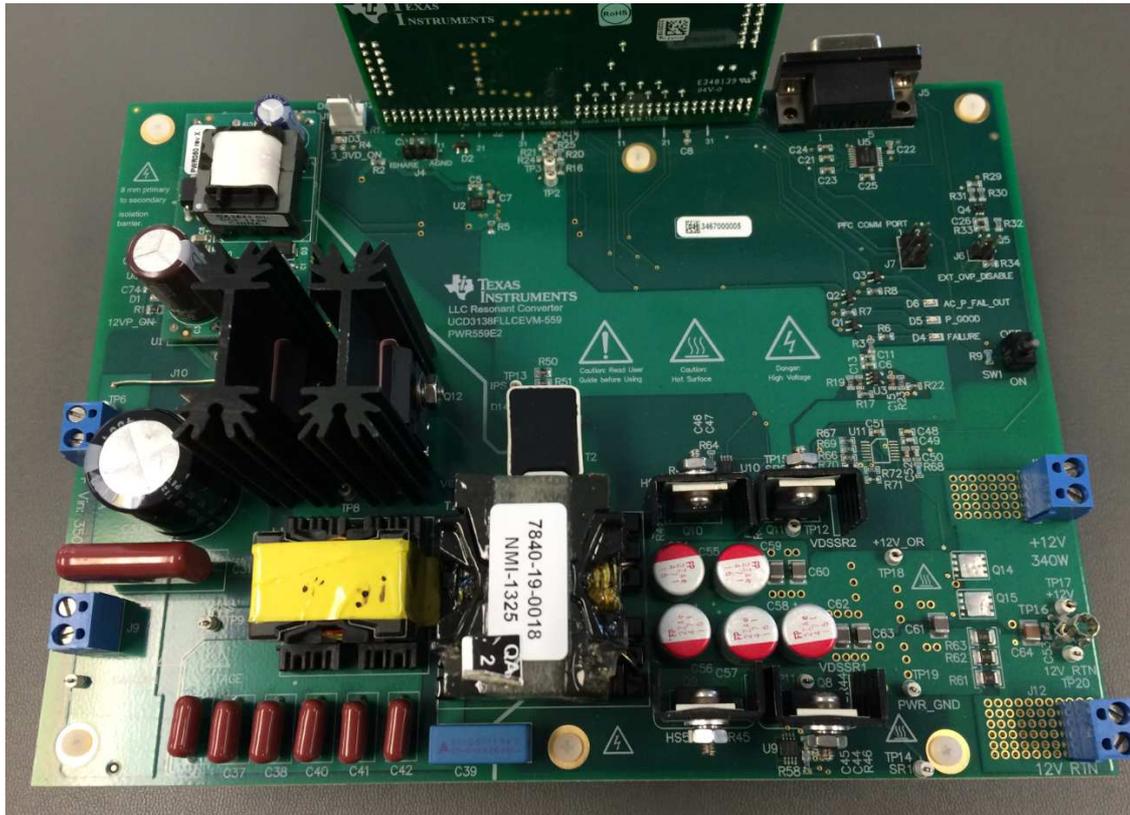
FB PS LLC Test Report

HVPS SYSTEM AND APPLICATION TEAM

REVA

12/05/2014

Board Photo



1.3 TEST EQUIPMENTS

Multi-meter:

AC Source: Chroma 61503

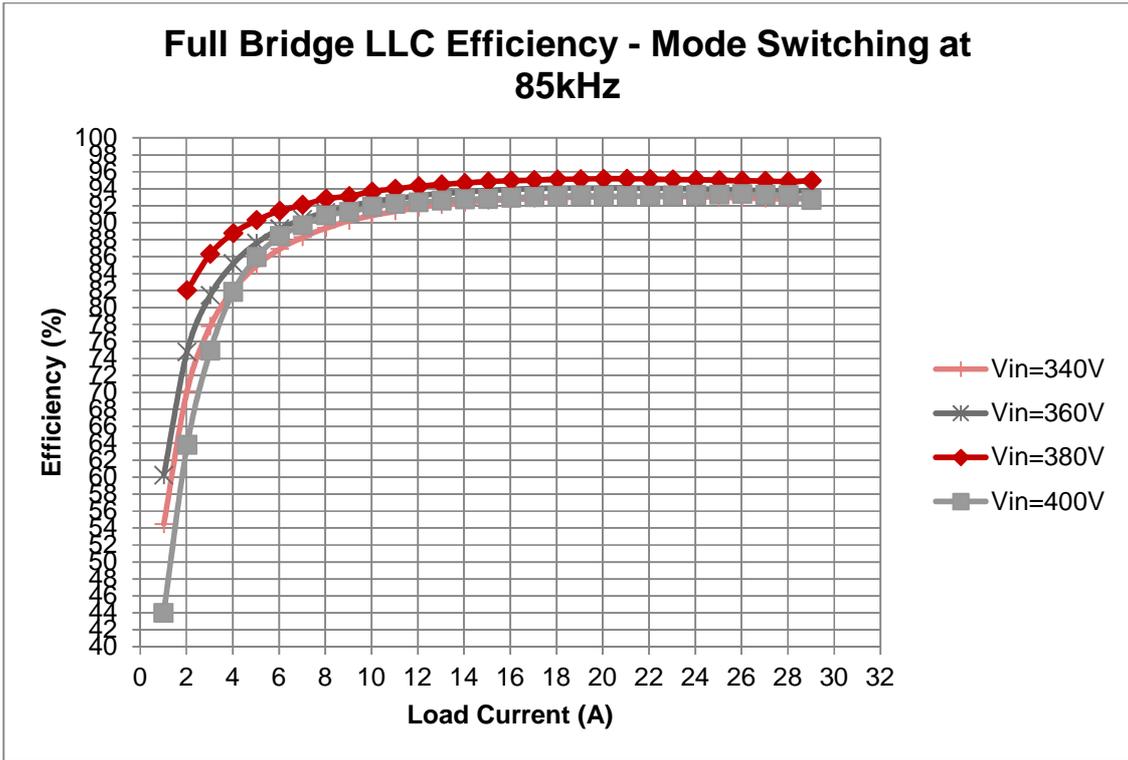
Load: Chroma 63202

Power Meter: WT210

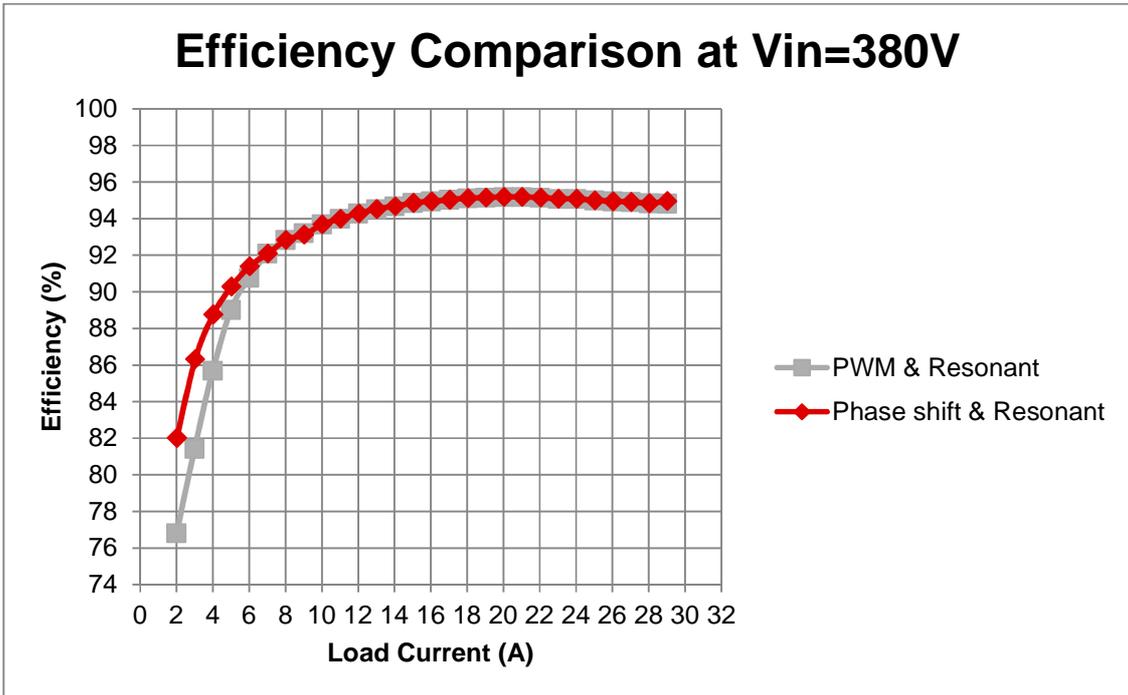
Ambient Temperature at 25DegC, with Fan cooling

2 INPUT & OUTPUT CHARACTERISTICS

2.1 Efficiency comparison

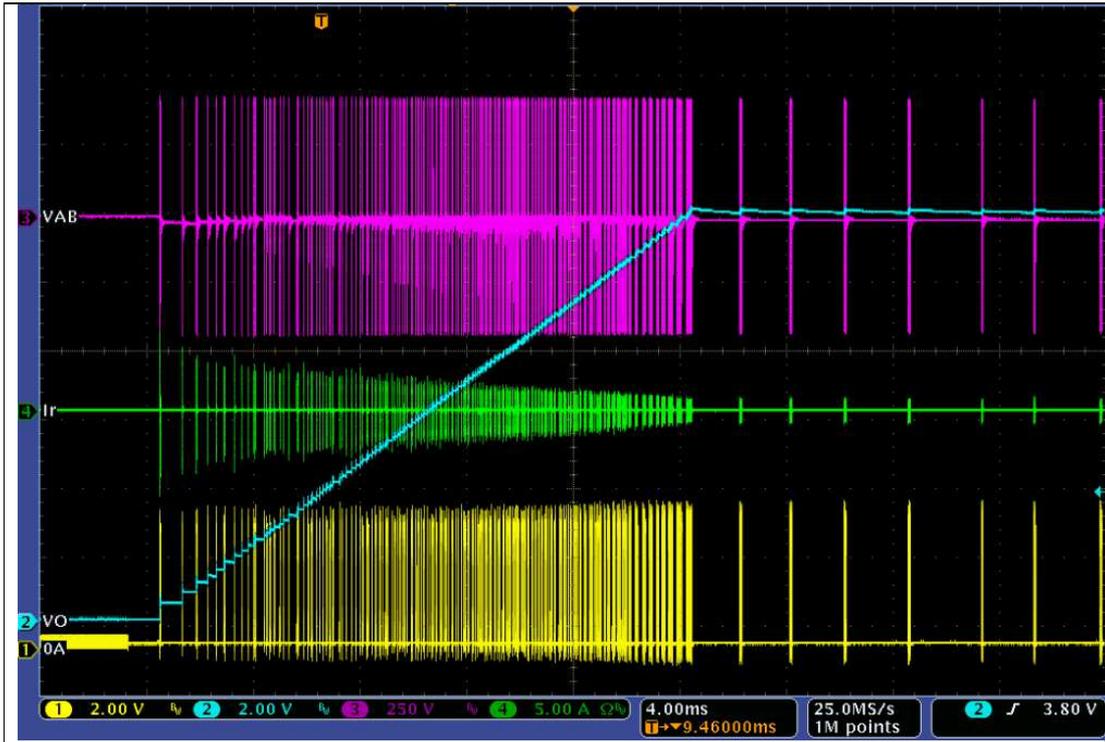


Full bridge LLC efficiency at different input voltage

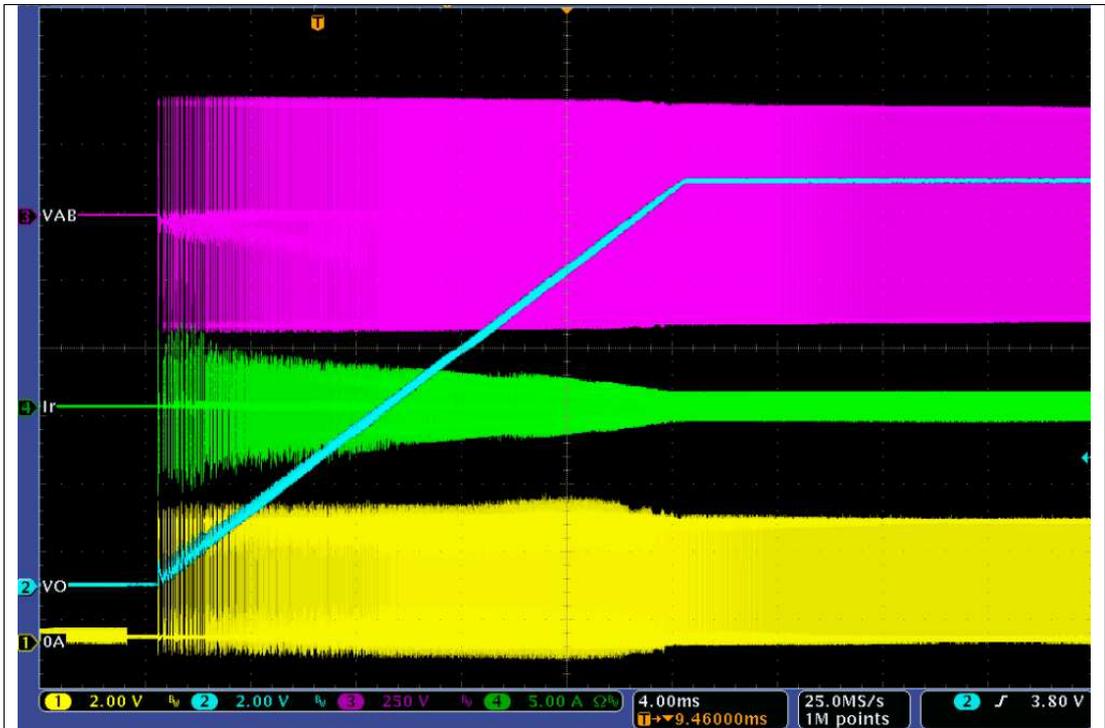


Efficiency comparison between PWM mode and Phase shift mode

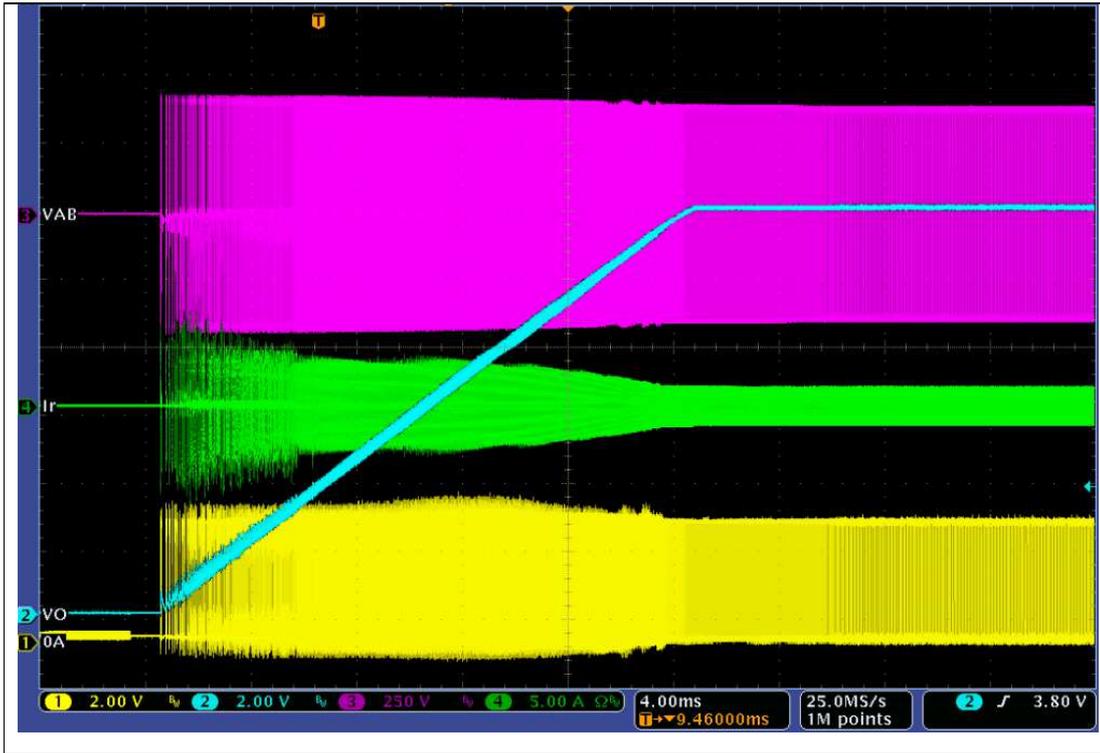
2.2 The ramp up waveform



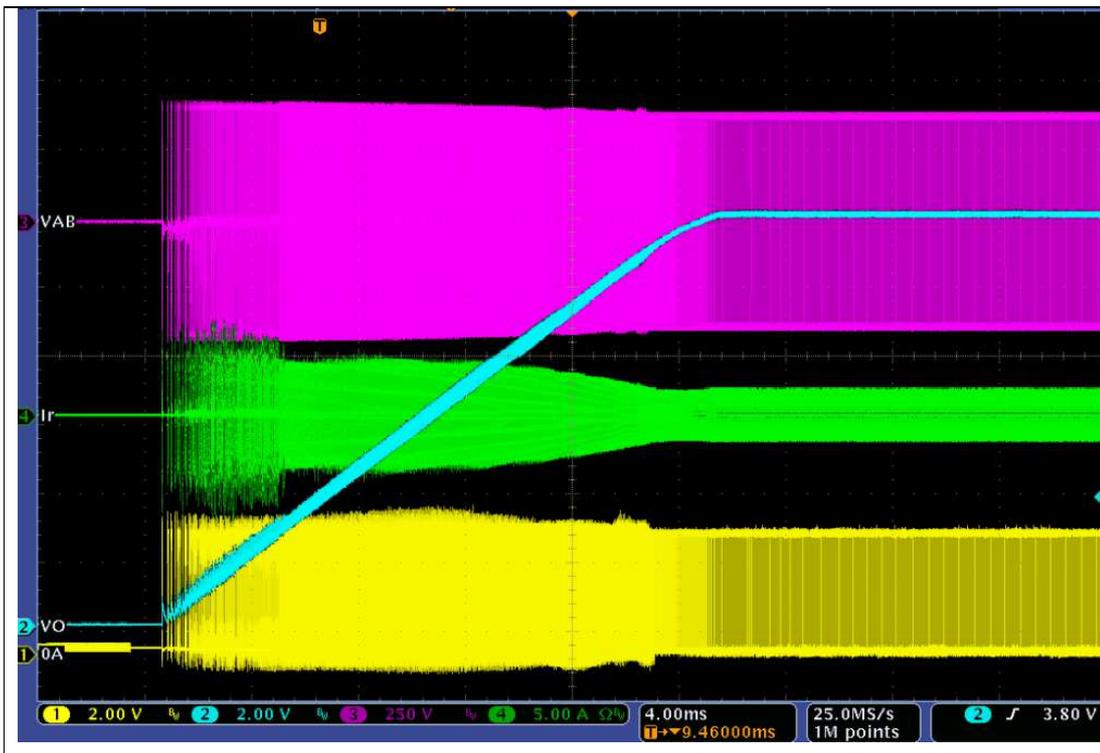
Vin=380Vdc, Vo=12V, Io=0A



Vin=380Vdc, Vo=12V, Io=10A



Vin=380Vdc, Vo=12V, Io=20A



Vin=380Vdc, Vo=12V, Io=30A

2.3 The mode switch waveforms



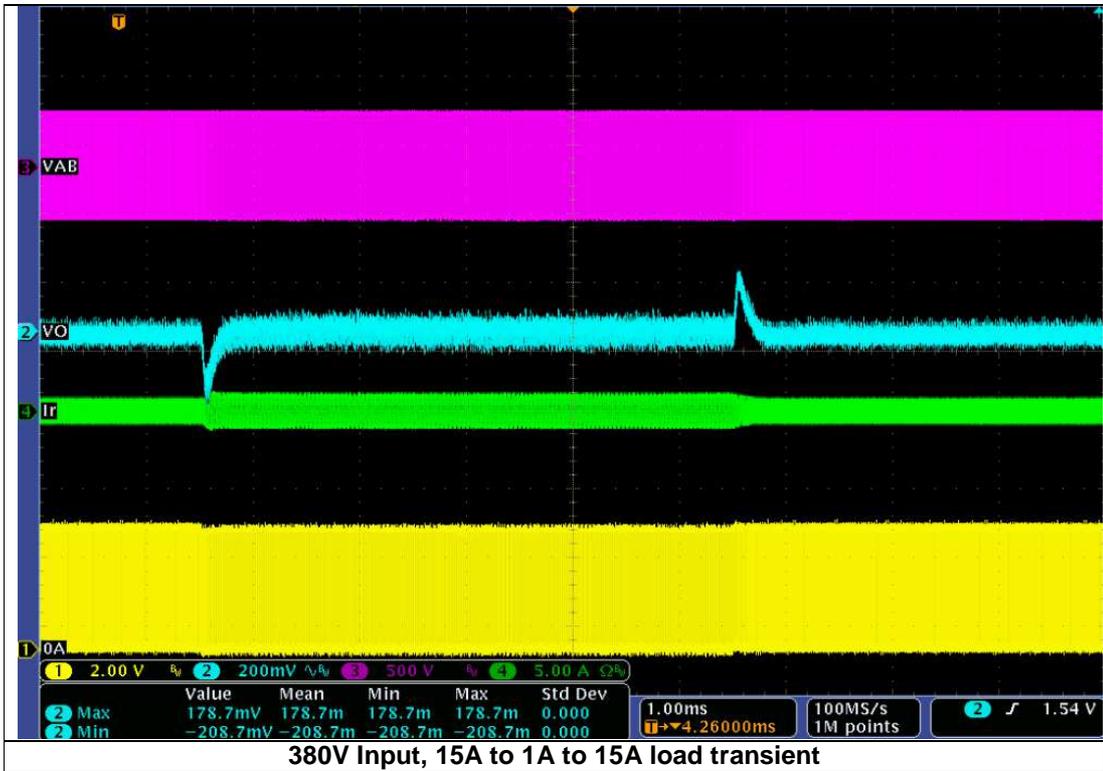
Phase shift mode in low output voltage. $V_{in}=380V_{dc}$, $V_o=12V$, $I_o=10A$
 Phase angle is very small, switch frequency is 150kHz (maximum switch frequency)

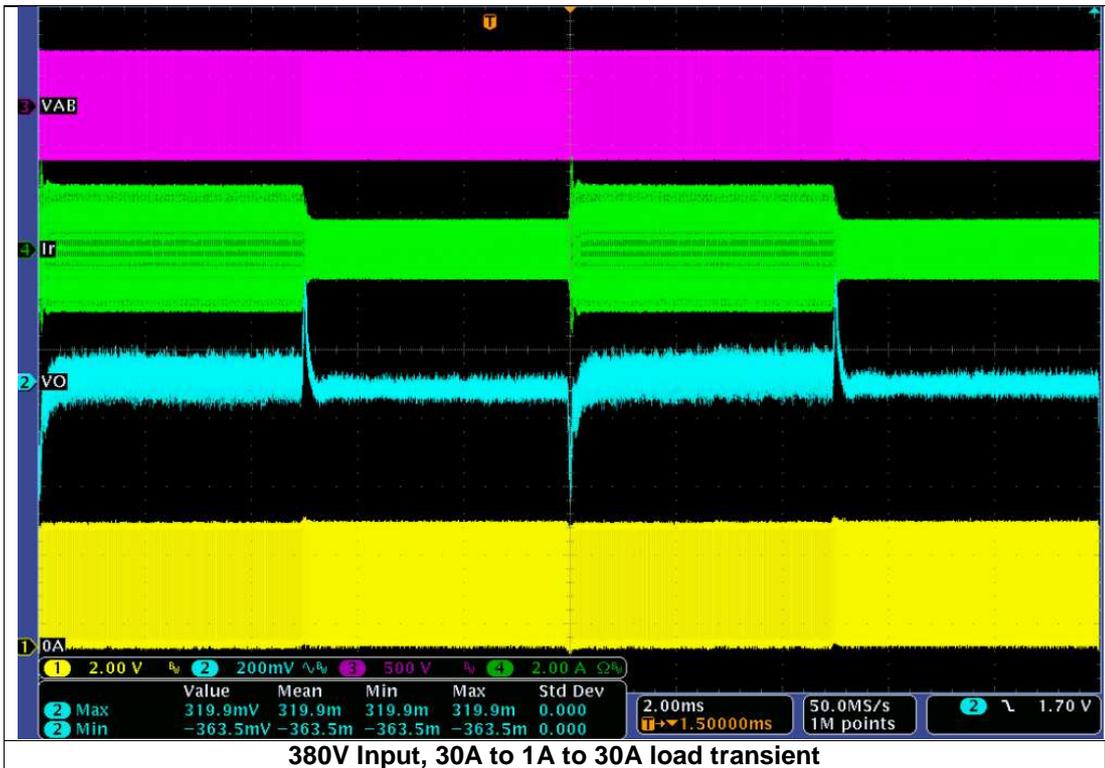
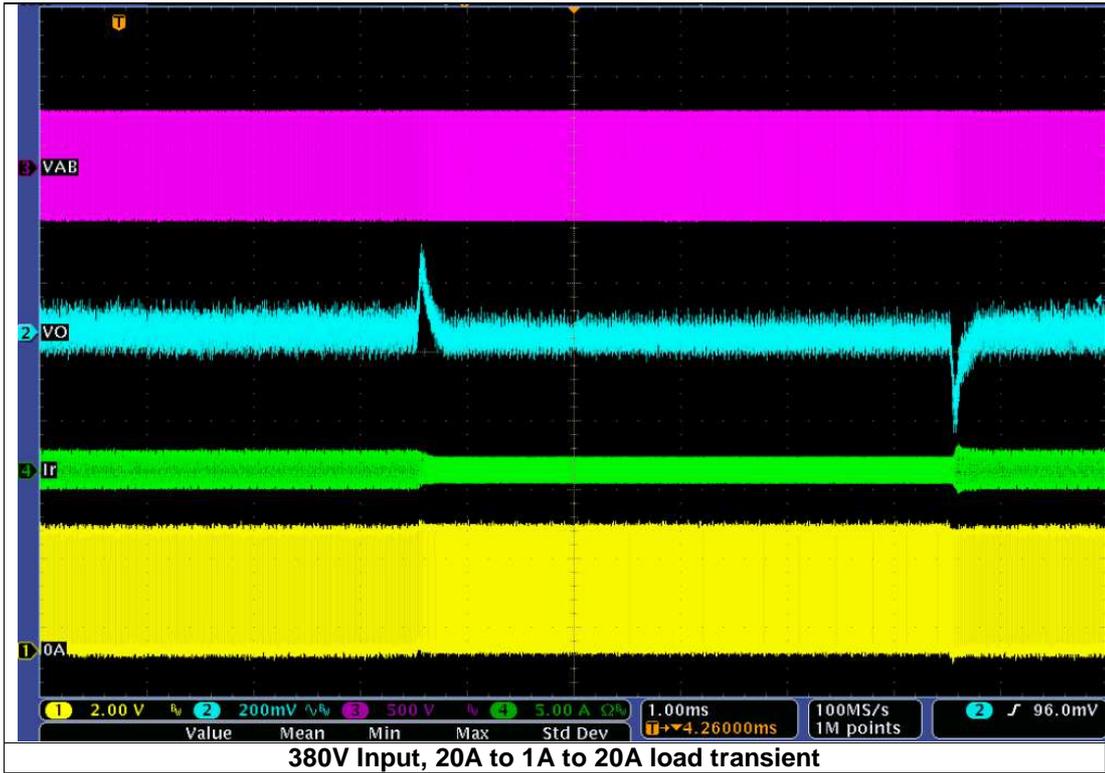


Phase shift mode in low output voltage. $V_{in}=380V_{dc}$, $V_o=12V$, $I_o=10A$
 Phase angle is increased, switch frequency is 150kHz (maximum switch frequency)

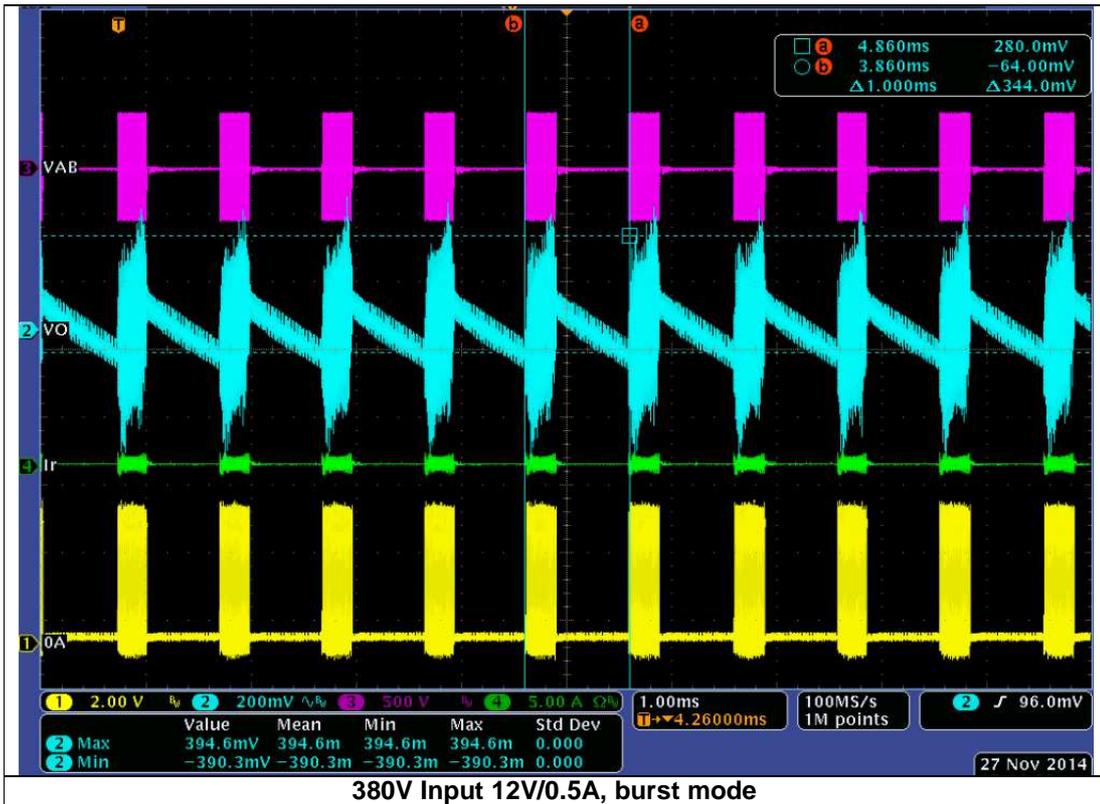
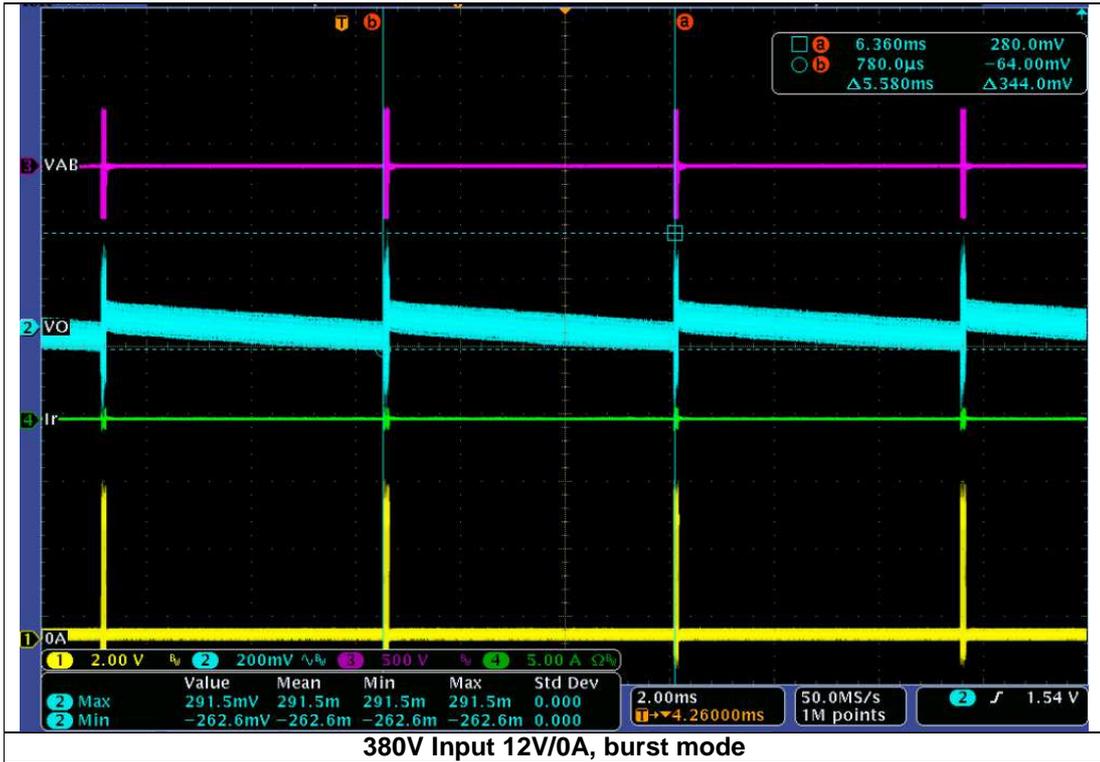


2.4 The load dynamic response Waveforms

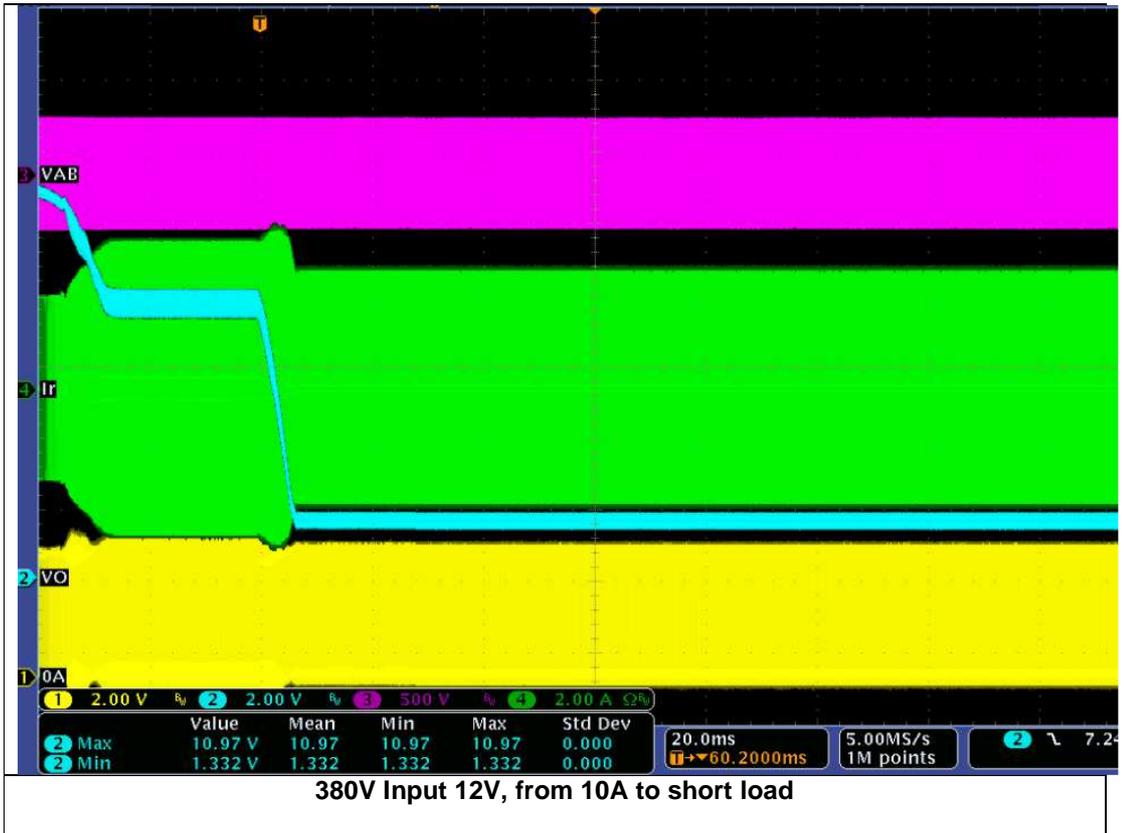
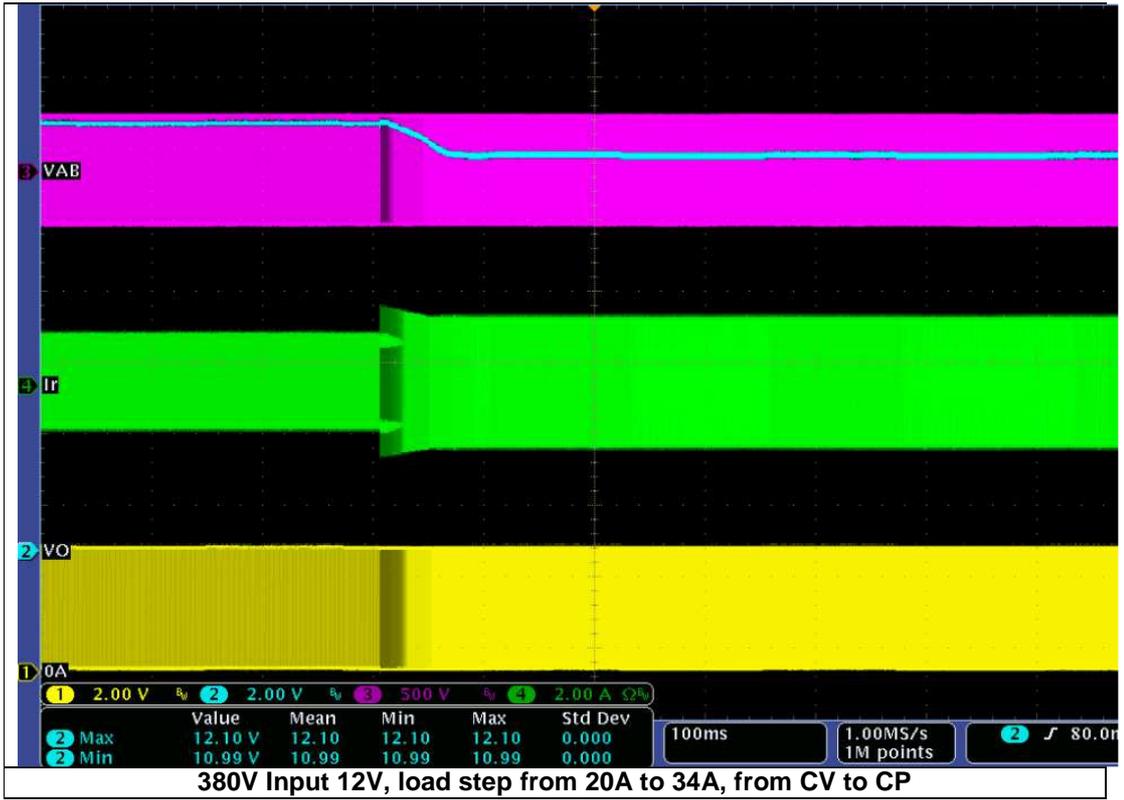


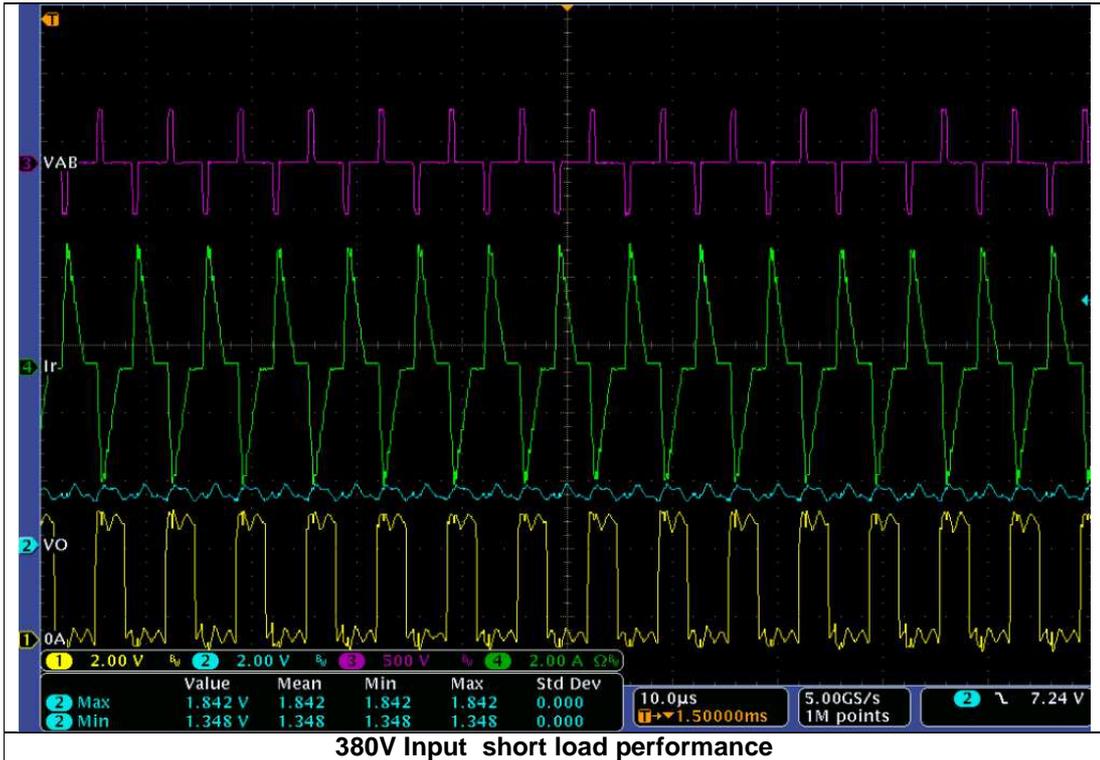


2.5 Burst mode in light load



2.6 CPCC and short load





380V Input short load performance

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