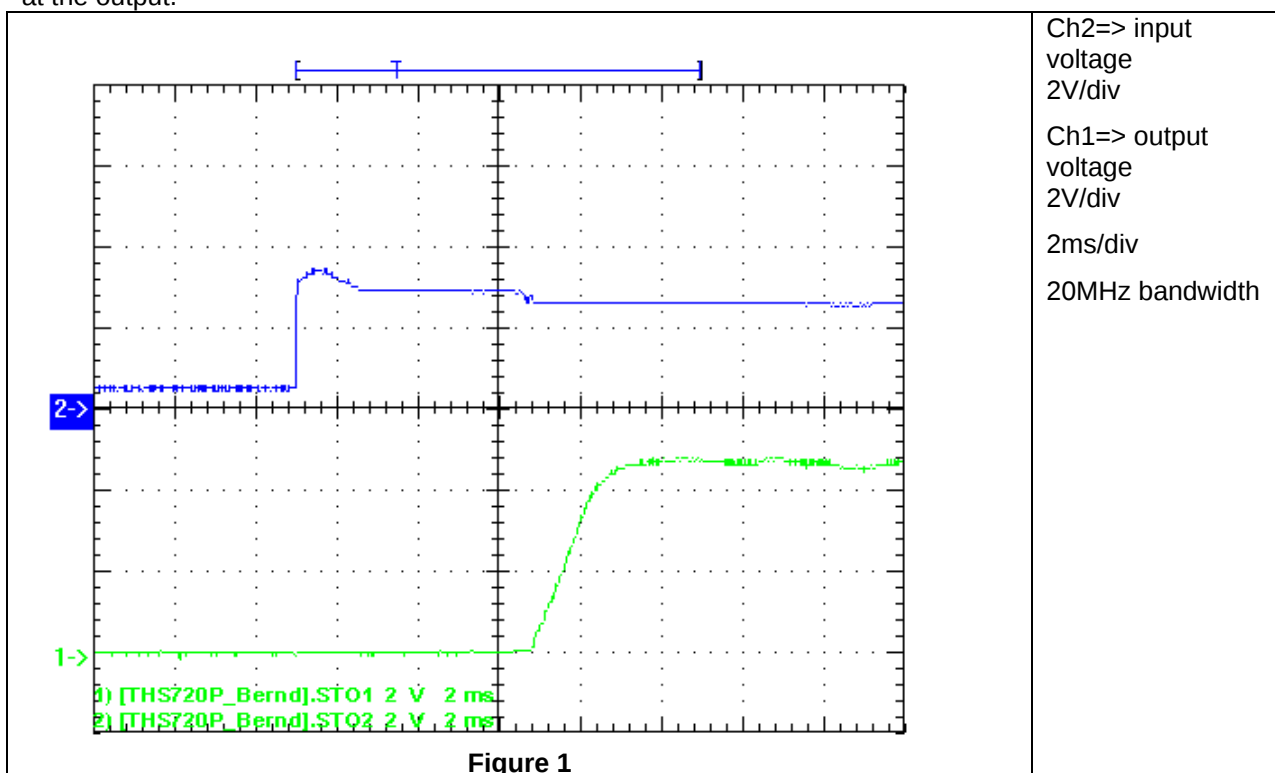


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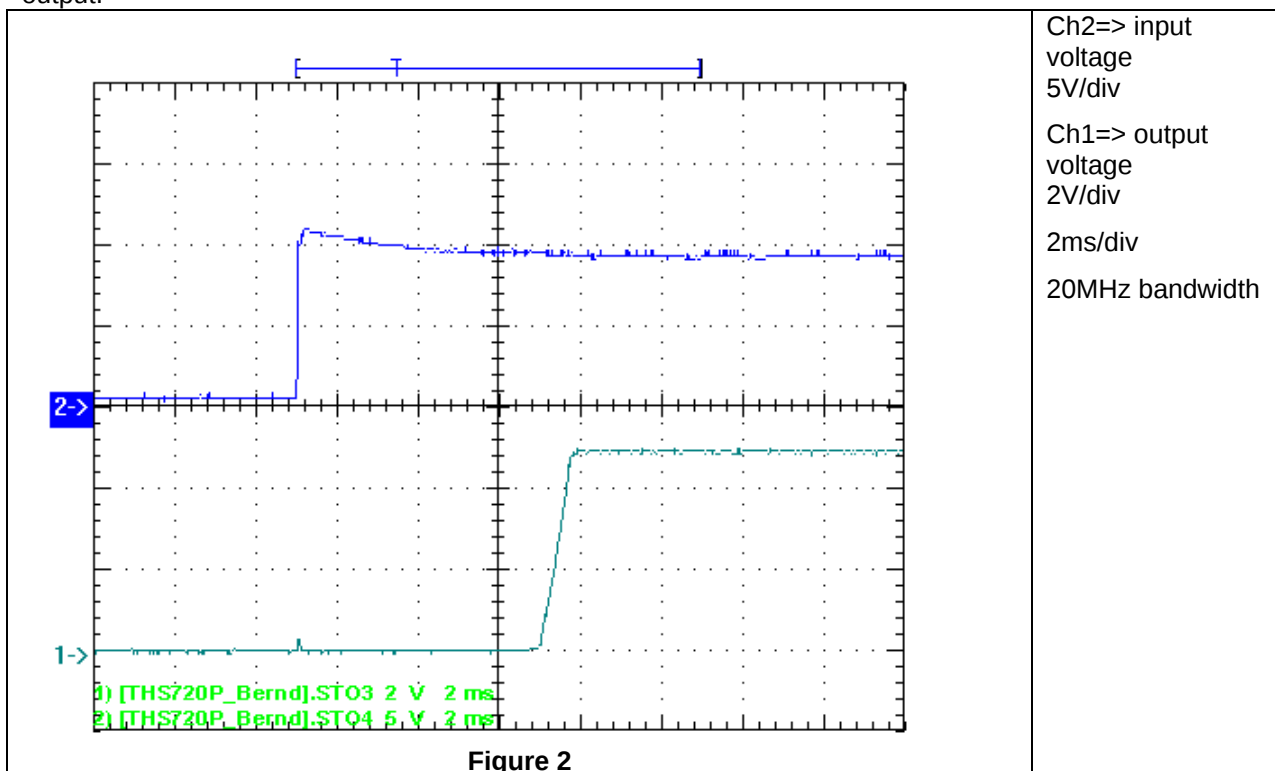
1	Startup.....	2
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1 Startup

The startup waveform is shown in the Figure 1. The input voltage was set at 2.9V, with 0.8A load at the output.

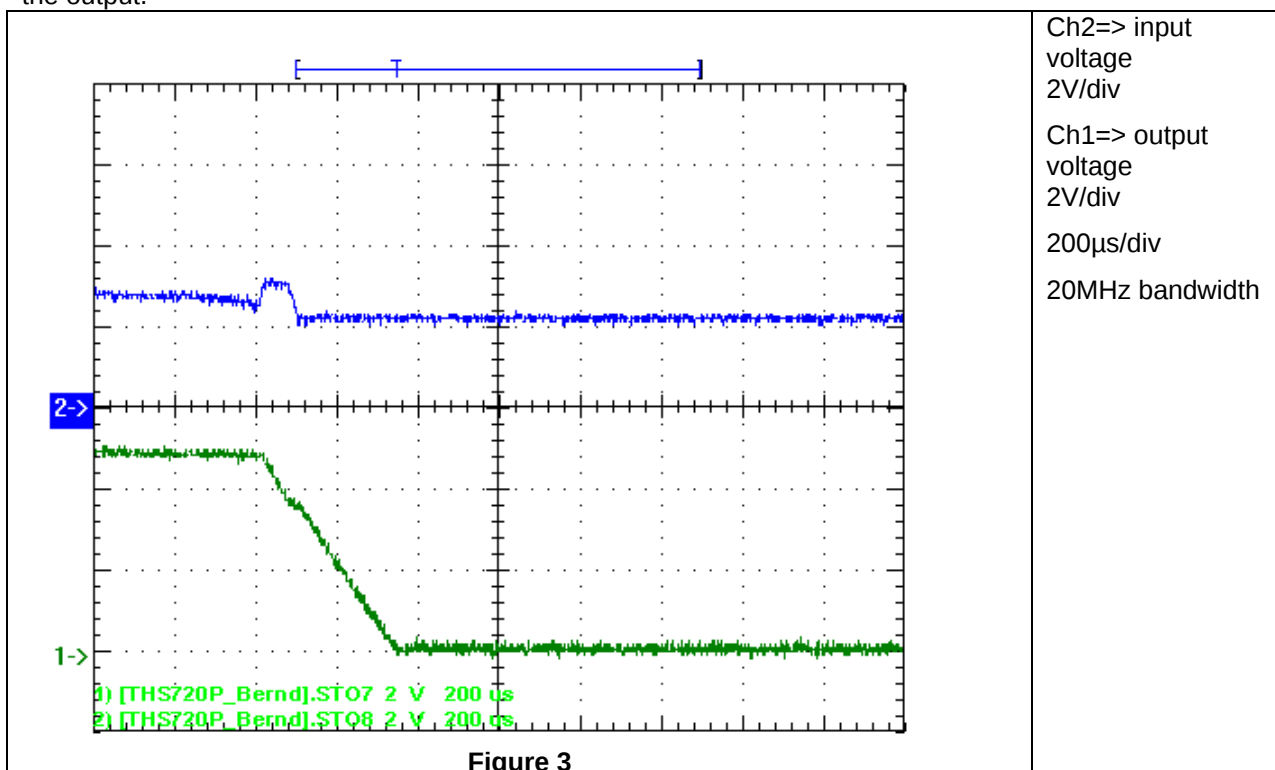


The startup waveform with 9.6V input voltage shown in the Figure 2; with 0.8A load at the output.

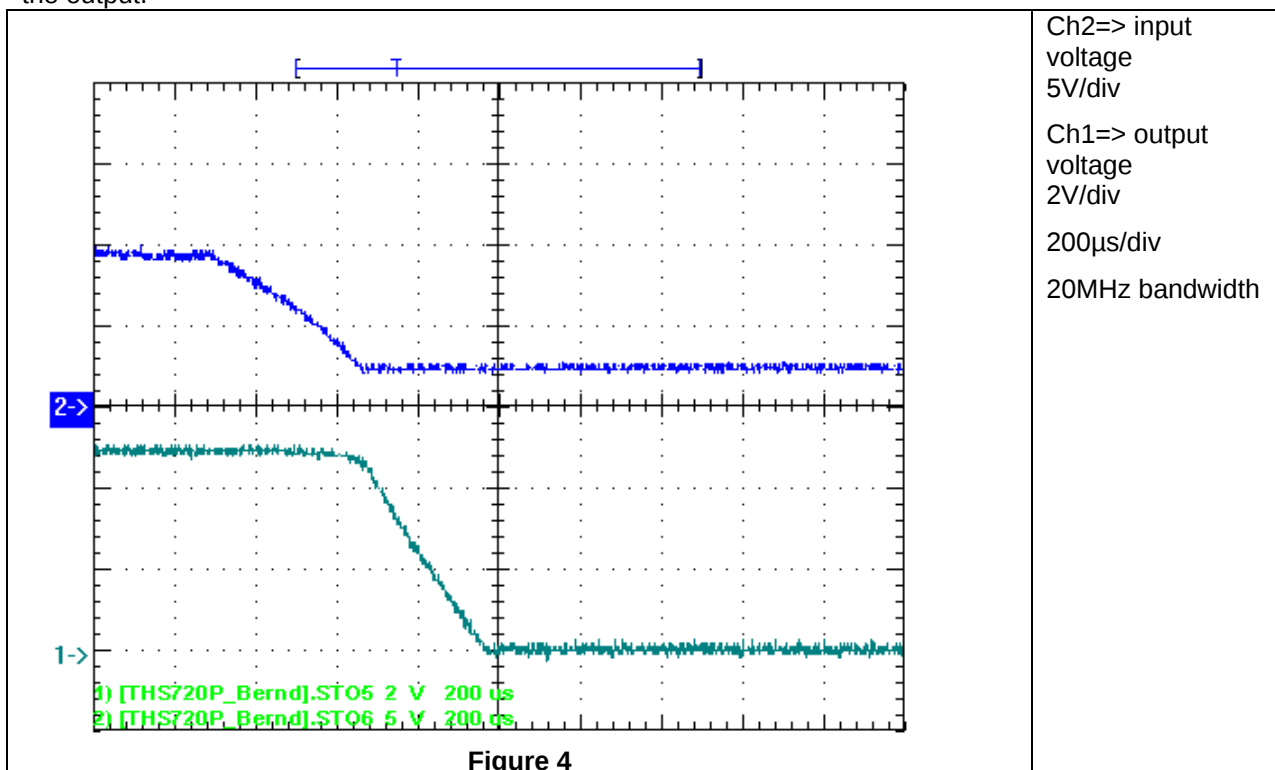


2 Shutdown

The shutdown waveform is shown in the Figure 3 at 2.9V input voltage. With 0.8A load applied at the output.



The shutdown waveform is shown in the Figure 4 at 9.6V input voltage. With 0.8A load applied at the output.



3 Efficiency

The efficiency is shown in the Figure 5 below. The input voltages were adjusted to 2.9V, 5V and 9.6V respectively.

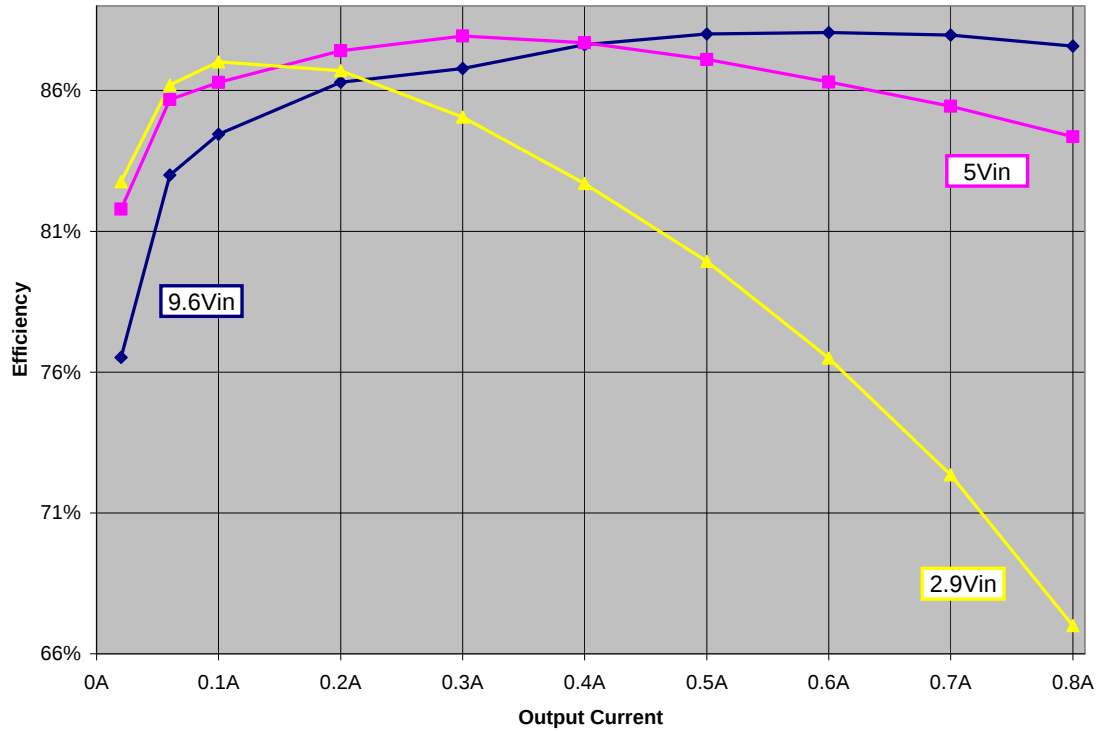


Figure 5

4 Load regulation

The load regulation for 2.9V, 5V and 9.6V input voltage is shown in Figure 6.

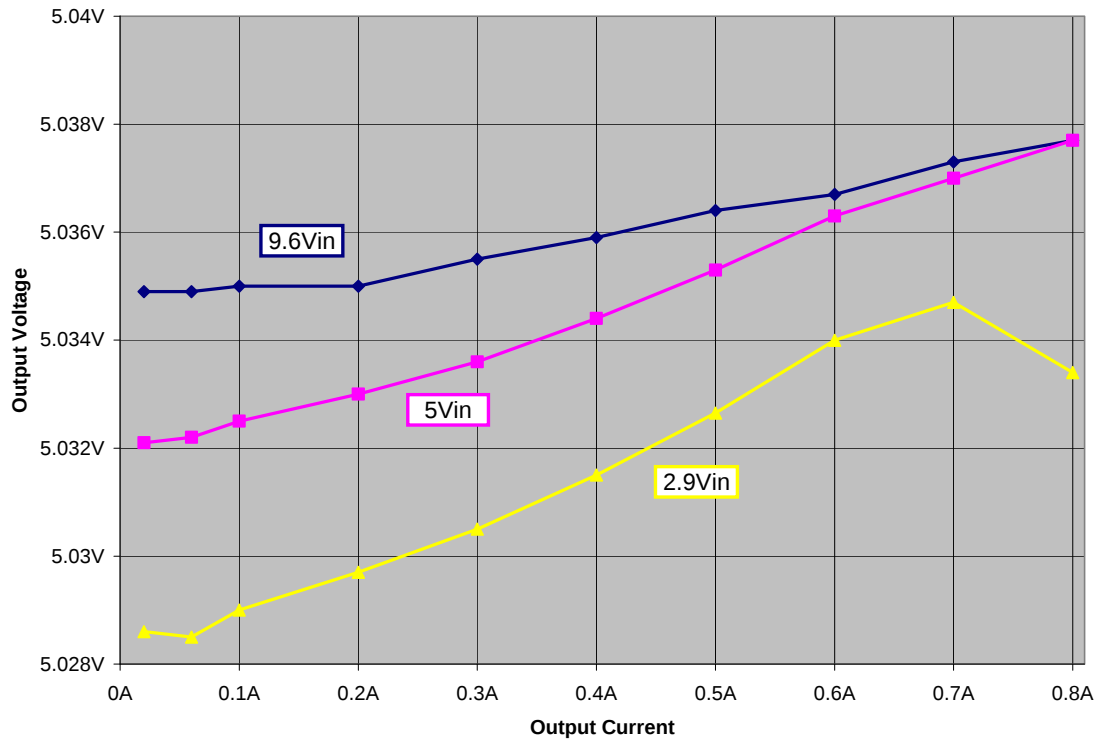


Figure 6

5 Line Regulation

The line regulation at 0.8A output current is shown in Figure 7

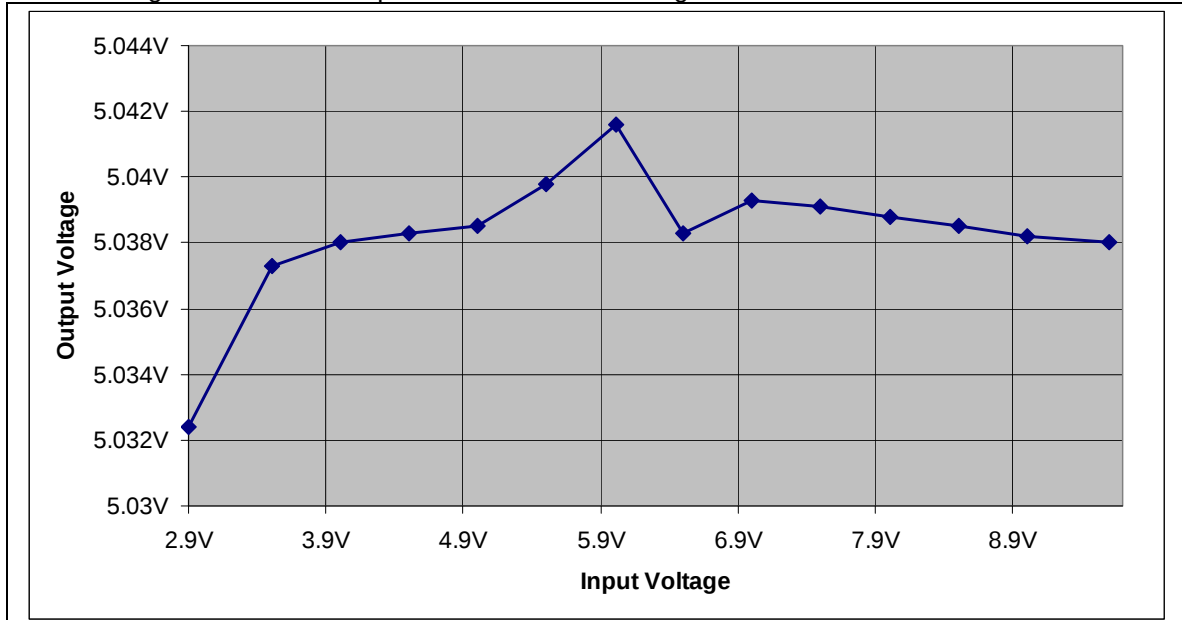


Figure 7

With the same measurement setup the efficiencies are shown in Figure 8.

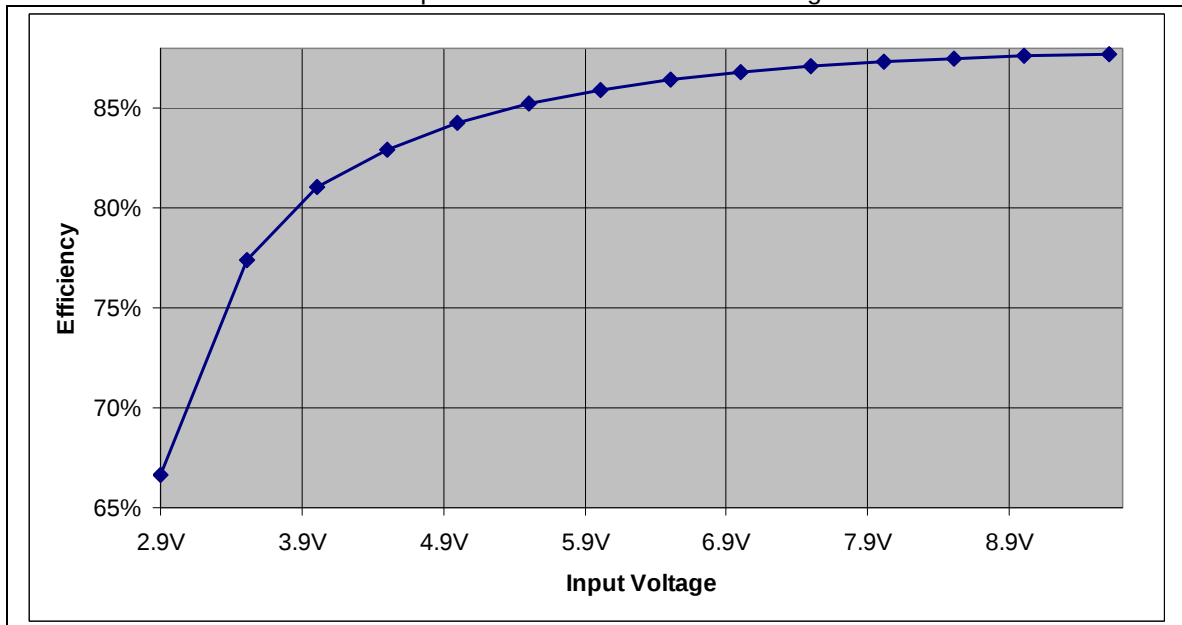


Figure 8

6 Control Loop Frequency Response

Figure 9 shows the loop response. 0.8A-load applied. The input voltages were set to 2.9V and 9.6V.

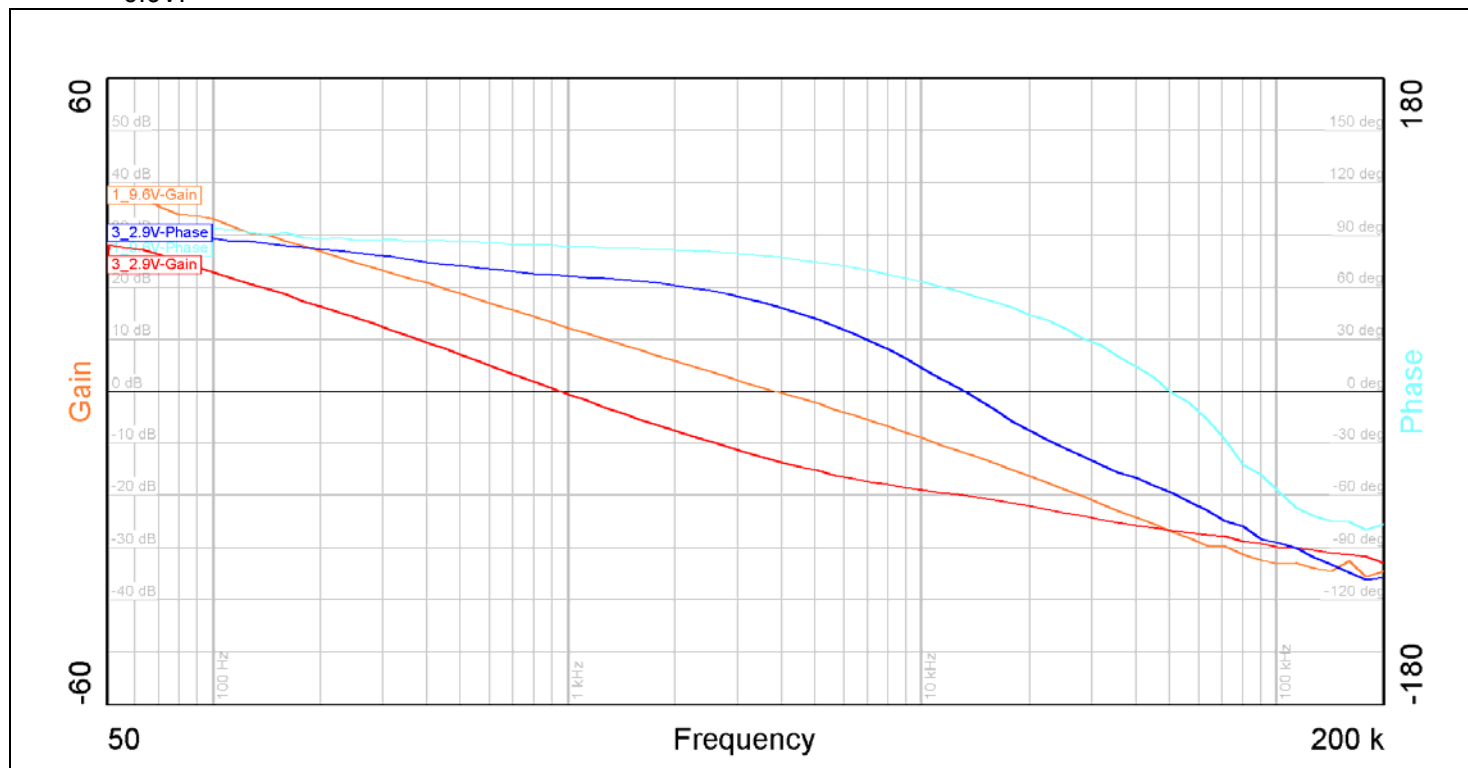


Figure 9

Table 1 summarizes the results from Figure 9

Vin	2.9V	9.6V
Bandwidth (kHz)	0.953	3.87
Phase margin	66.8°	77.5°
slope (20dB/decade)	-1.24	-1.04
gain margin (dB)	-20	-26.8
slope (20dB/decade)	-0.508	-1.45
freq (kHz)	13.14	49.9

Table 1

7 Switch Node Waveform

With 0.8A load results in the waveforms shown in Figure 10 and Figure 11. 2.9V were applied to the input.

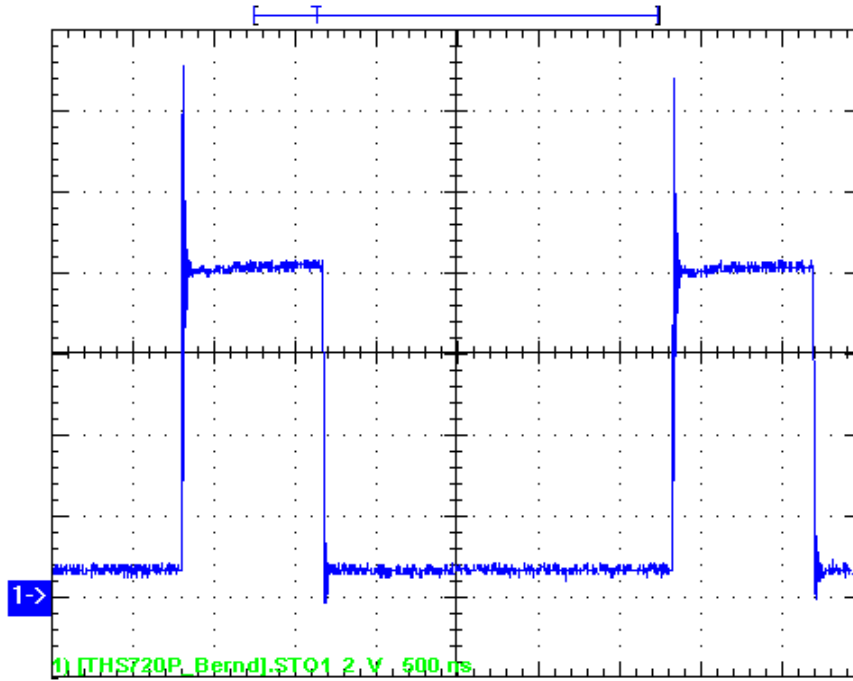


Figure 10

Ch1 =>
switchnode
primary
2V/div
500ns/div
full
bandwidth

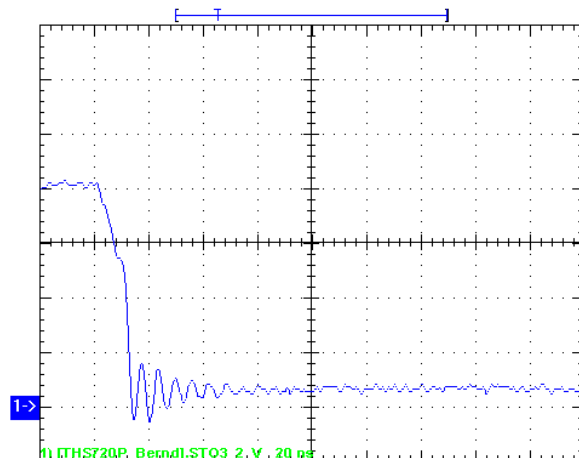
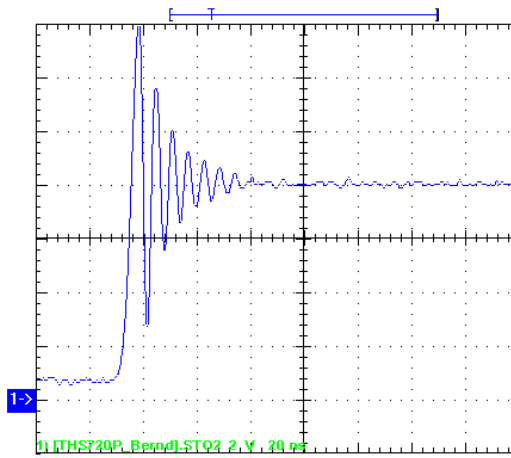


Figure 11

Ch1 =>
switchnode
2V/div
20ns/div
full
bandwidth

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With 0.8A load results in the waveforms shown in Figure 10 and Figure 11. 9.6V were applied to the input.

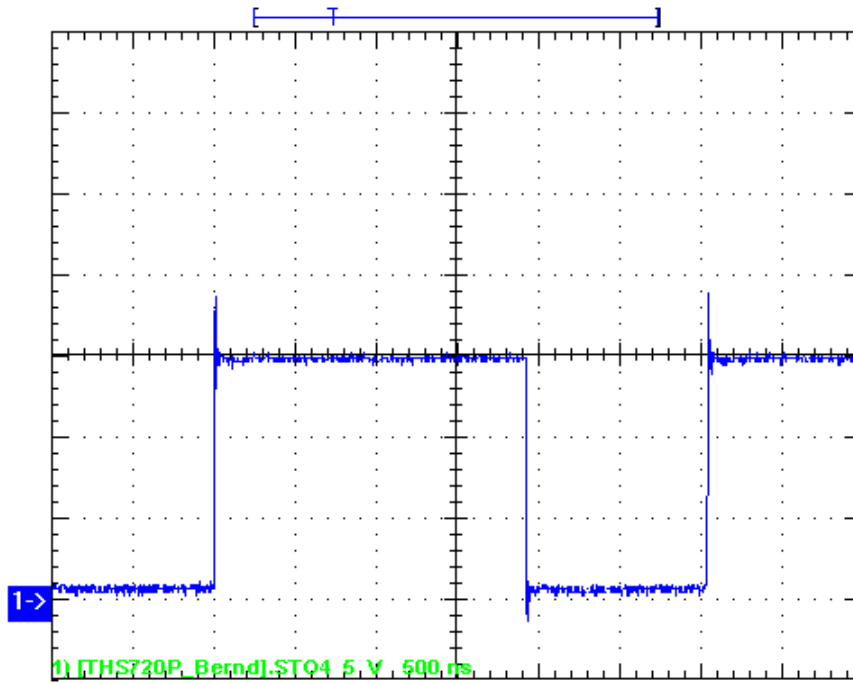


Figure 12

Ch1 =>
switchnode
5V/div
500ns/div
full
bandwidth

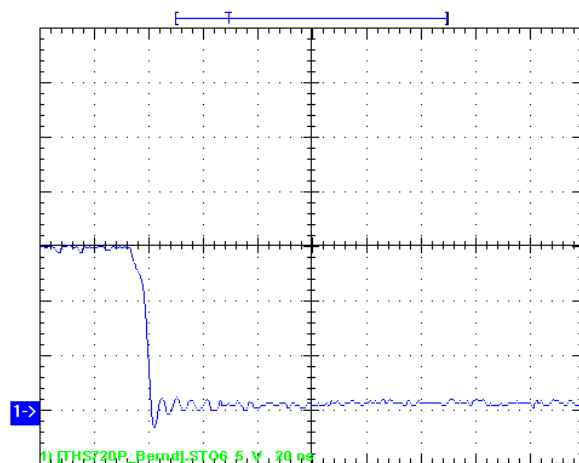
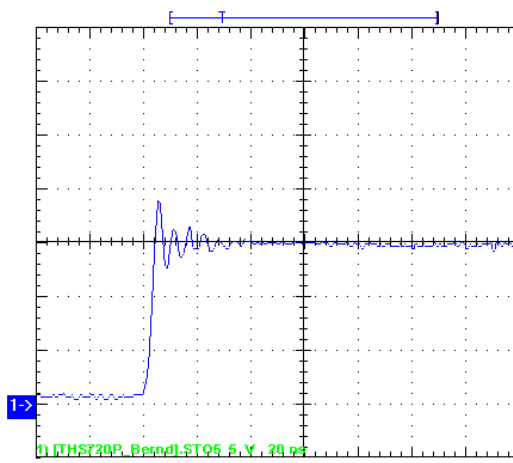


Figure 13

Ch1 =>
switchnode
primary
10V/div
20ns/div
full
bandwidth

8 Ripple Voltages

The output ripple voltage is displayed in Figure 14. The input voltage was set to 9.6V and 2.9V with output current 0.8A.

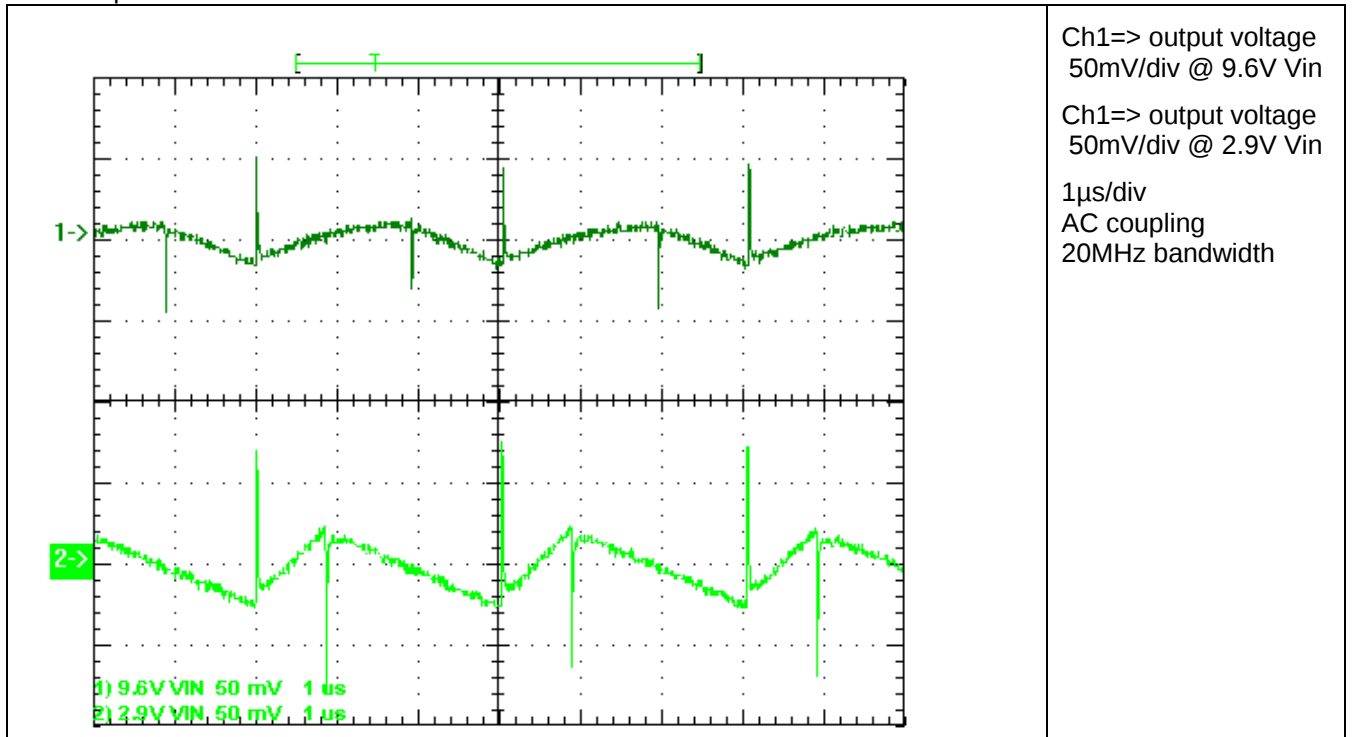


Figure 14

The input ripple voltage is displayed in Figure 15. The input voltage was set to 9.6V and 2.9V with output current 4A.

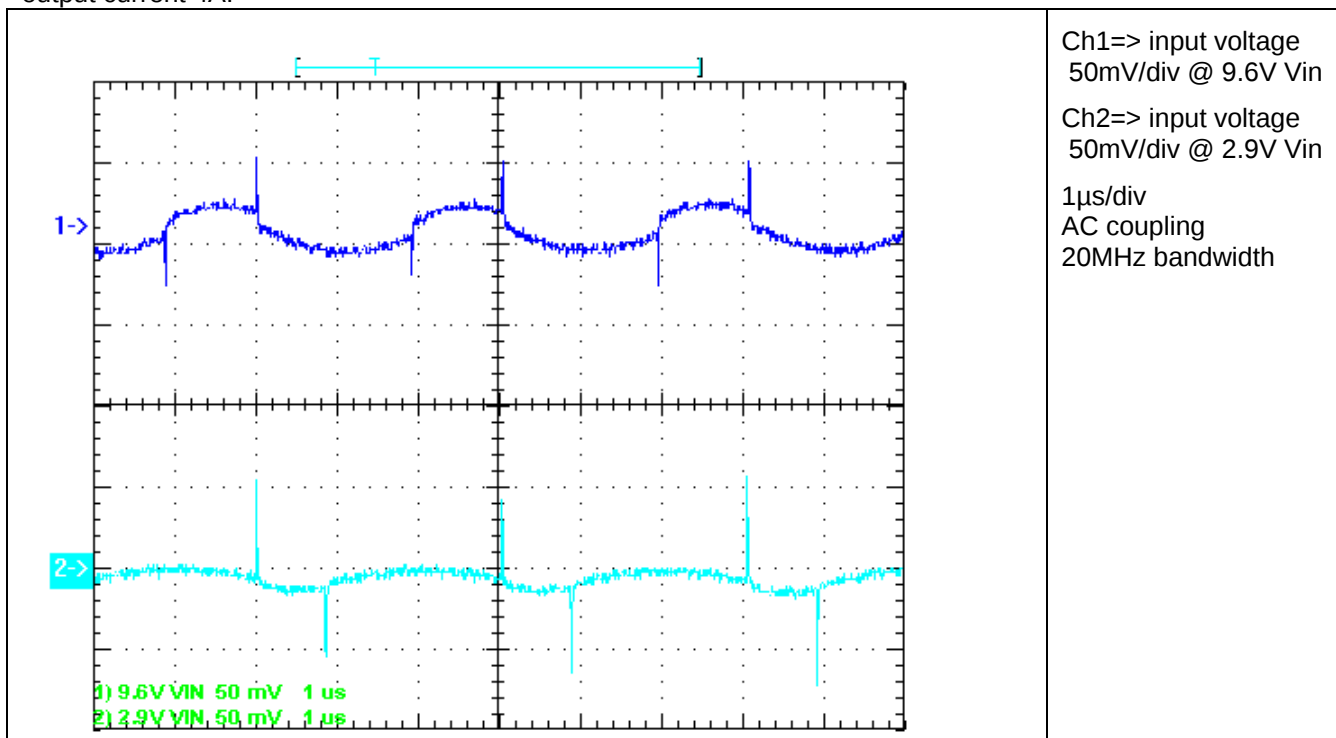


Figure 15

9 Load Transients

A output current change from 0.4A to 0.8A results in following Figure 16. The input voltage was set to 2.9V

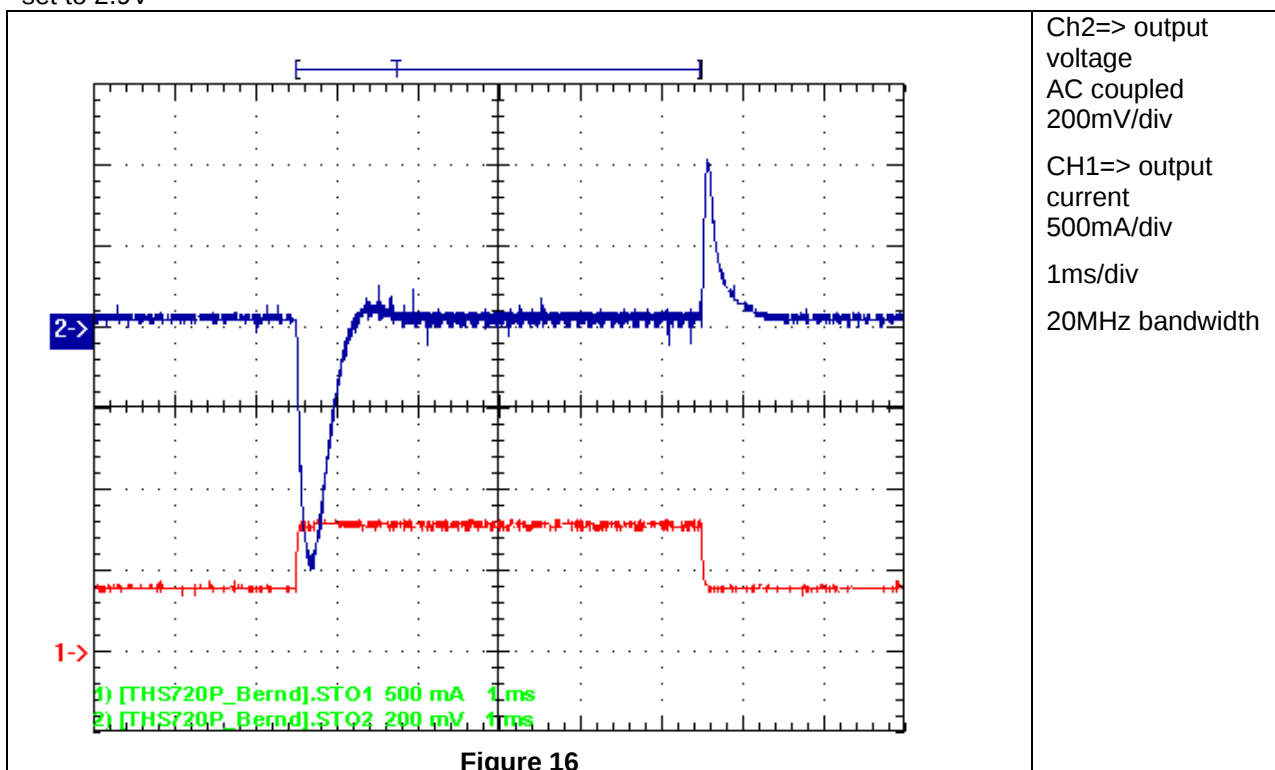


Figure 16

A output current change from 0.4A to 0.8A results in following Figure 17. The input voltage was set to 9.6V.

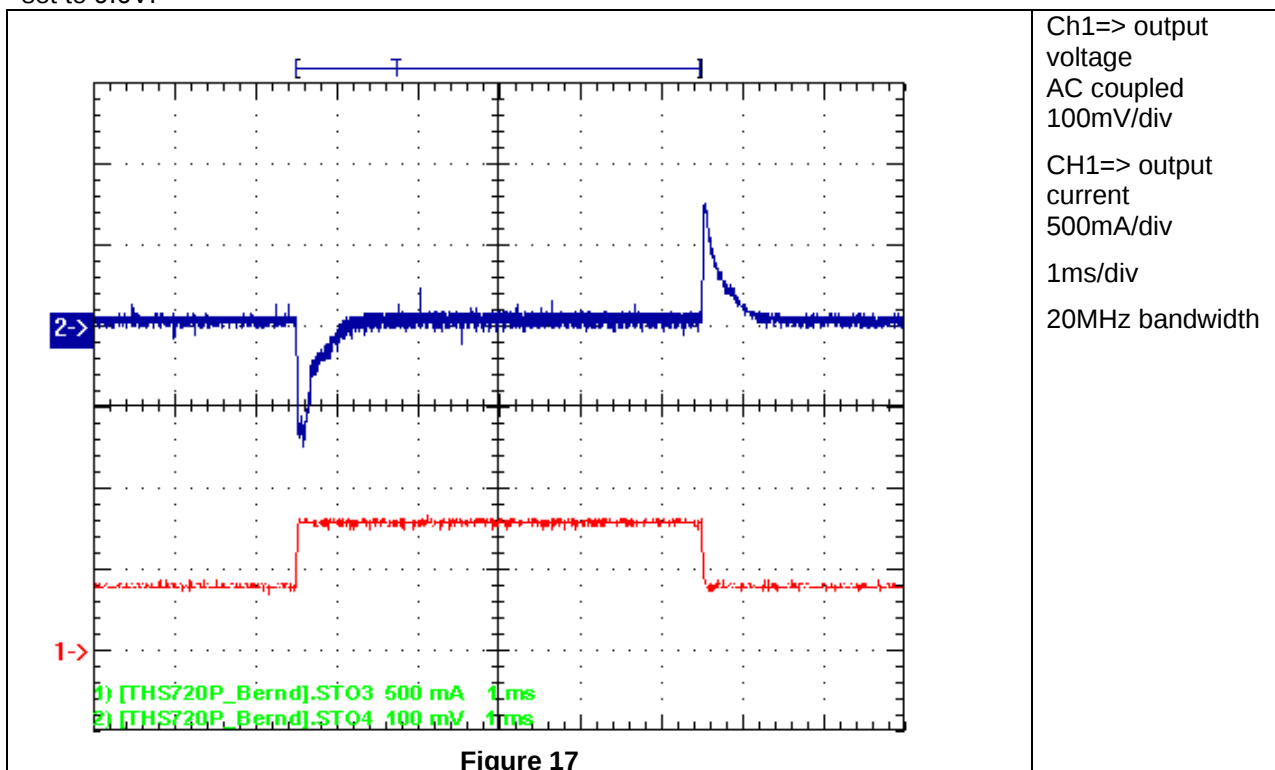


Figure 17

10 Thermal Image

The following two pictures show the thermal image at 0.8A output current. Figure 18 is the photo taken with 2.9V input voltage and Figure 19 9.6V input.

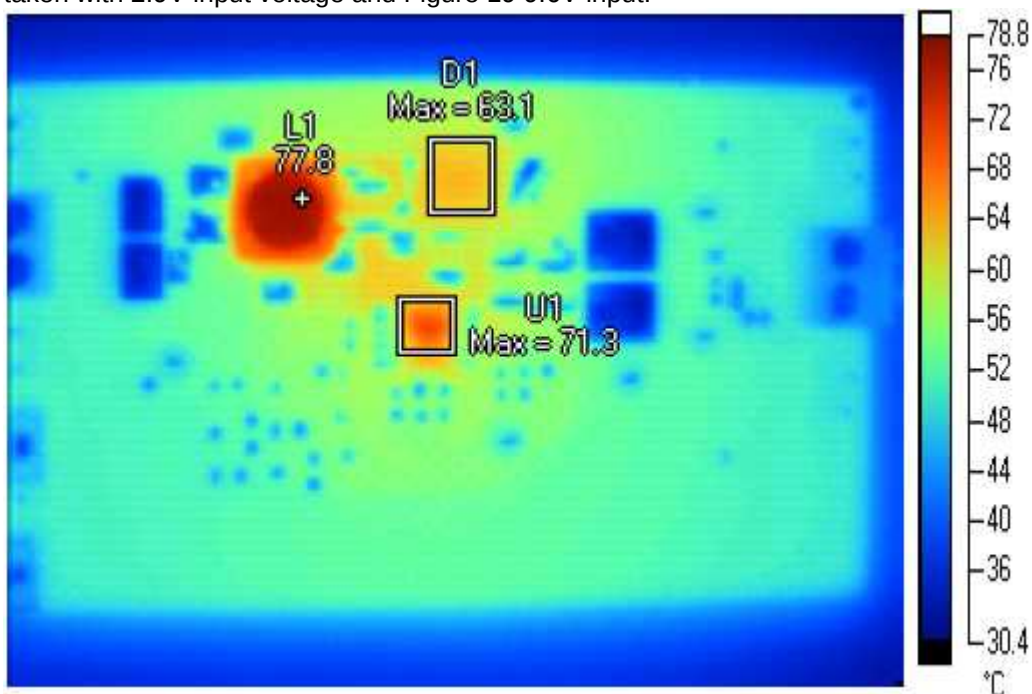


Figure 18

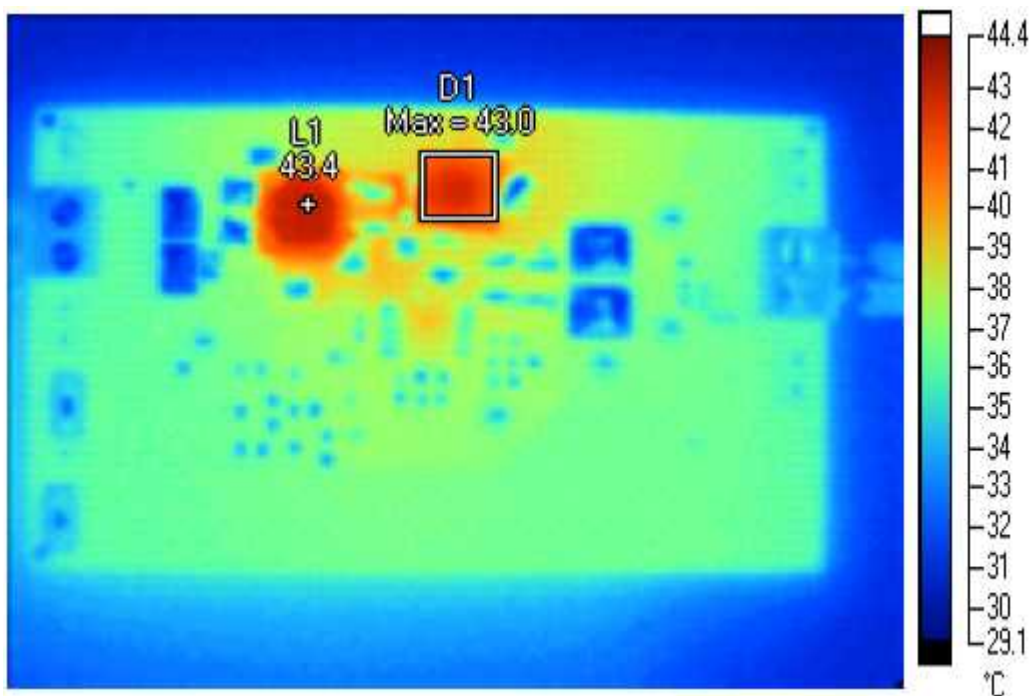


Figure 19

PMP5517RevA1 Test Results

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