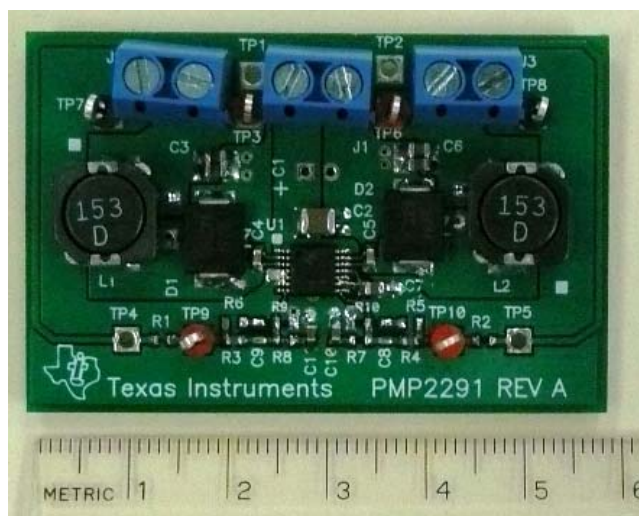


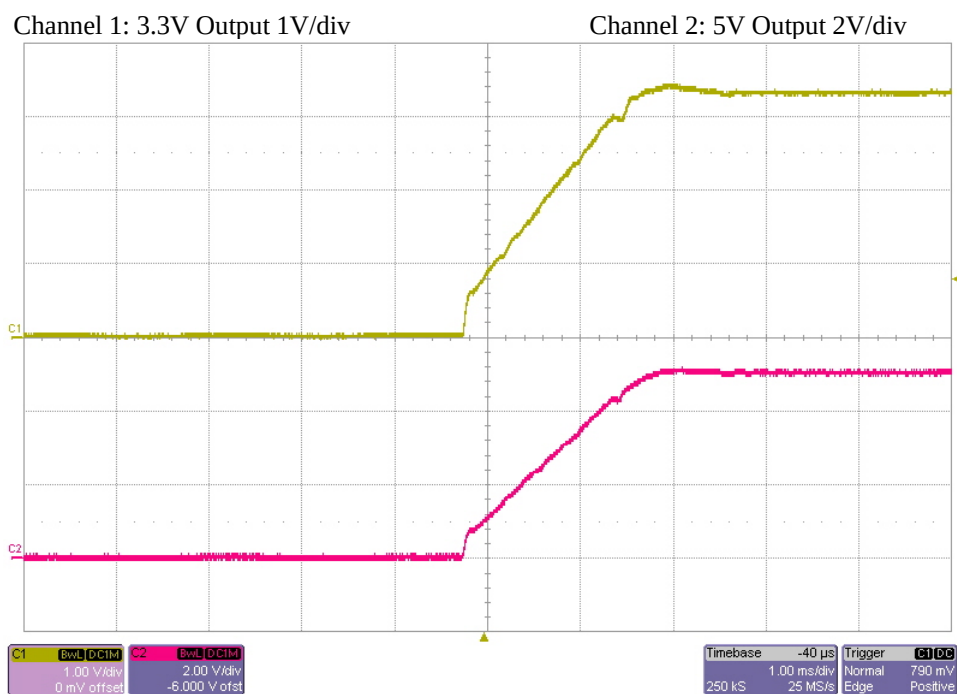
1 Photo

The photograph below shows the PMP4961 Rev B demo board. The circuit is built on a PMP2291 Rev A PWB.



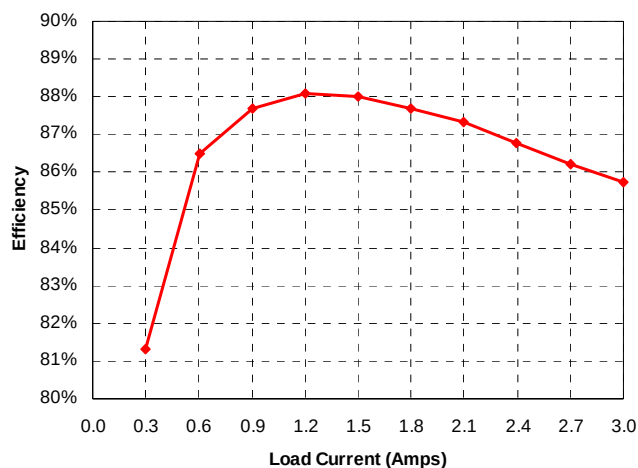
2 Startup

The output voltages at startup are shown in the image below. The input voltage was 12V, and both outputs were unloaded.



3 Efficiency: 3.3V output

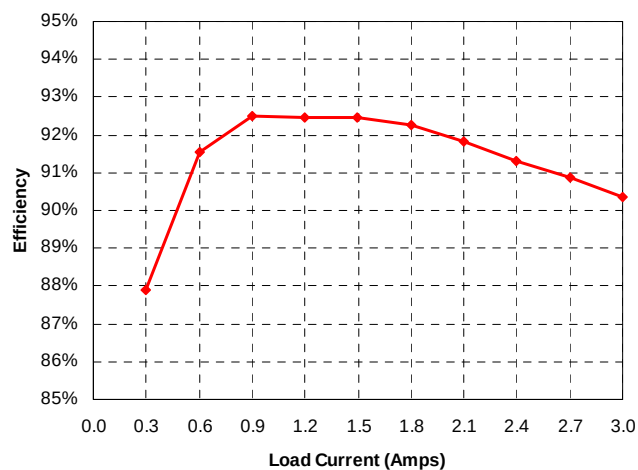
The efficiency data is shown in the table and graph below.



I _{out}	V _{out}	V _{in}	I _{in}	P _{out}	Losses	Efficiency
0.000	3.361	12.01	0.012	0.00	0.144	0.0%
0.302	3.361	12.00	0.104	1.02	0.233	81.3%
0.604	3.362	11.98	0.196	2.03	0.317	86.5%
0.901	3.363	12.00	0.288	3.03	0.426	87.7%
1.203	3.363	11.99	0.383	4.05	0.546	88.1%
1.501	3.364	11.98	0.479	5.05	0.689	88.0%
1.800	3.365	11.97	0.577	6.06	0.850	87.7%
2.100	3.366	11.99	0.675	7.07	1.025	87.3%
2.399	3.367	12.01	0.775	8.08	1.230	86.8%
2.701	3.368	11.99	0.880	9.10	1.454	86.2%
3.000	3.369	11.98	0.984	10.11	1.681	85.7%

4 Efficiency: 5V Output

The efficiency data is shown in the table and graph below.



I _{out}	V _{out}	V _{in}	I _{in}	P _{out}	Losses	Efficiency
0.000	5.04	12.01	0.012	0.00	0.144	0.0%
0.299	5.04	11.99	0.143	1.51	0.208	87.9%
0.600	5.04	12.01	0.275	3.02	0.279	91.6%
0.900	5.04	11.99	0.409	4.54	0.368	92.5%
1.200	5.04	12.00	0.545	6.05	0.492	92.5%
1.497	5.05	11.99	0.682	7.56	0.617	92.5%
1.800	5.05	12.00	0.821	9.09	0.762	92.3%
2.098	5.05	11.98	0.963	10.59	0.942	91.8%
2.400	5.05	12.00	1.106	12.12	1.152	91.3%
2.699	5.05	11.98	1.252	13.63	1.369	90.9%
3.001	5.05	11.99	1.399	15.16	1.619	90.3%

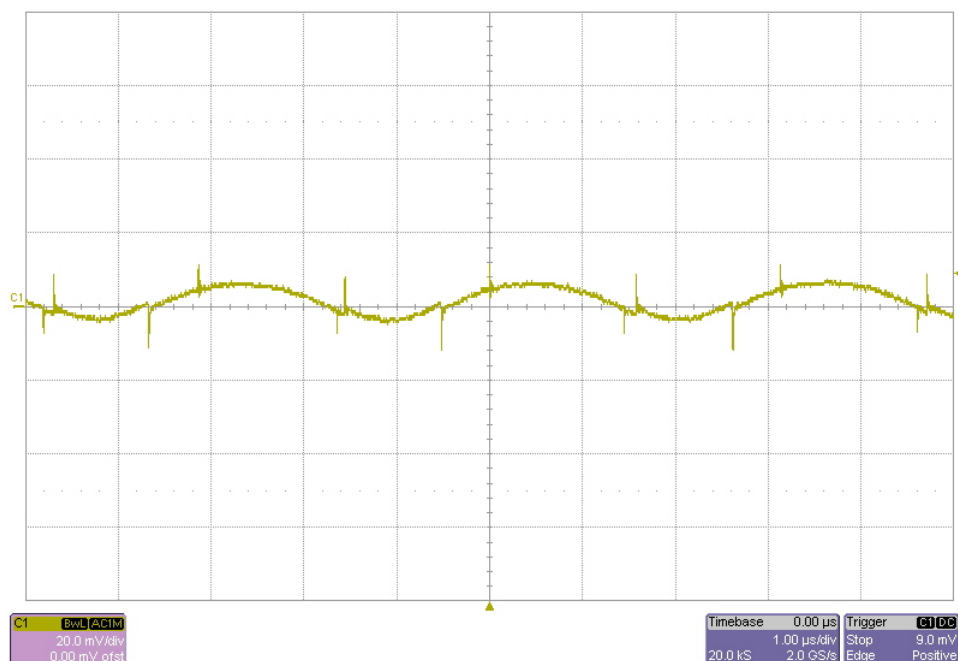
5 Thermal Image

A thermal image of the top side of the board is shown with a 3A load on both outputs. The ambient temperature was 27°C, with no forced air flow. The controller was the hottest component on the board and measured 79.6°C.



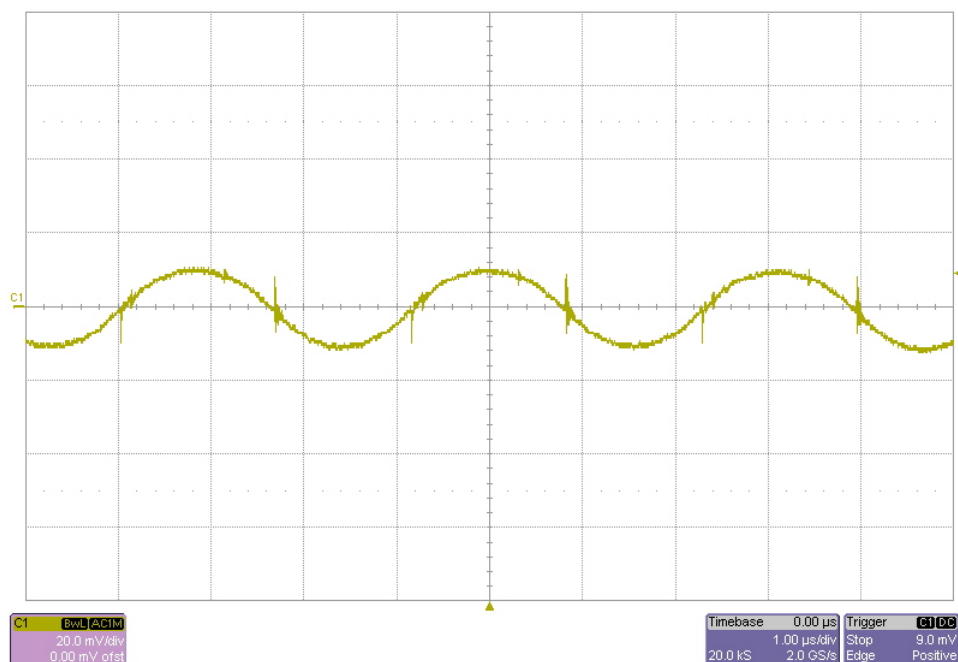
6 Output Ripple Voltage: 3.3V Output

The output ripple voltage of the 3.3V output is shown in the plot below. The input was set to 12V. The load was set to 3A.



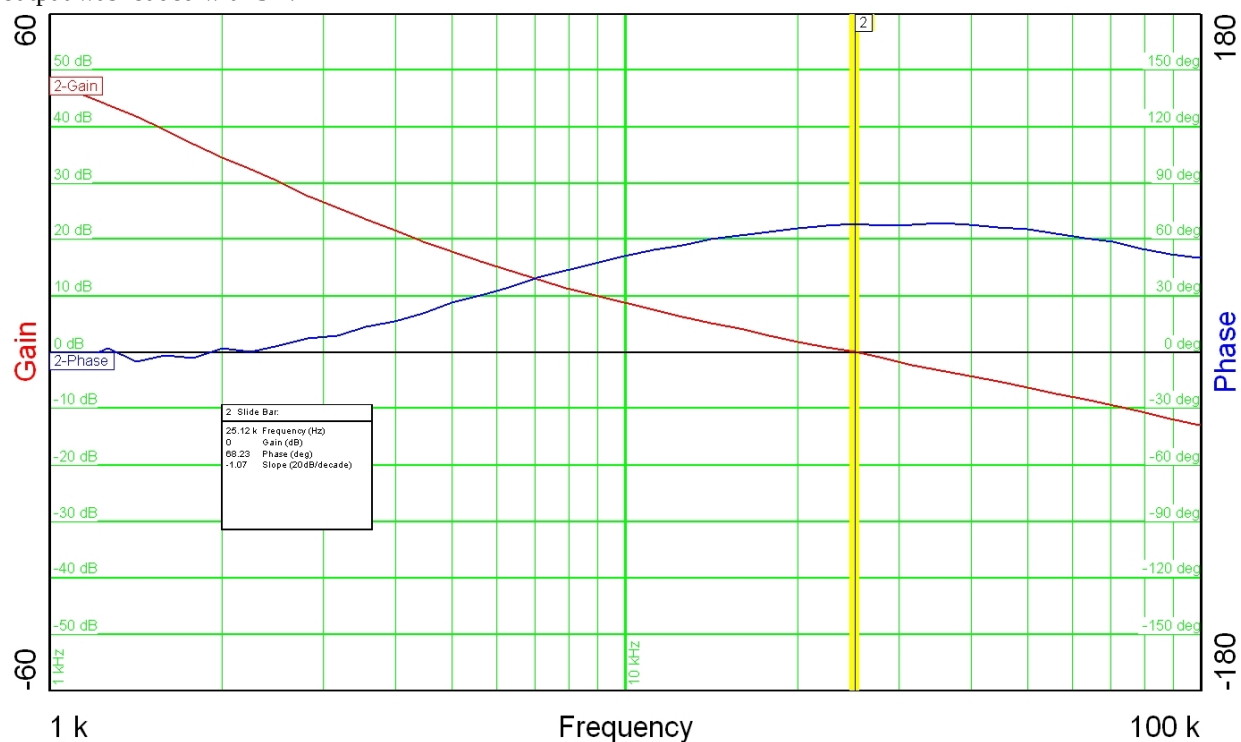
7 Output Ripple Voltage: 5V Output

The output ripple voltage of the 5V output is shown in the plot below. The input was set to 12V. The load was set to 3A.



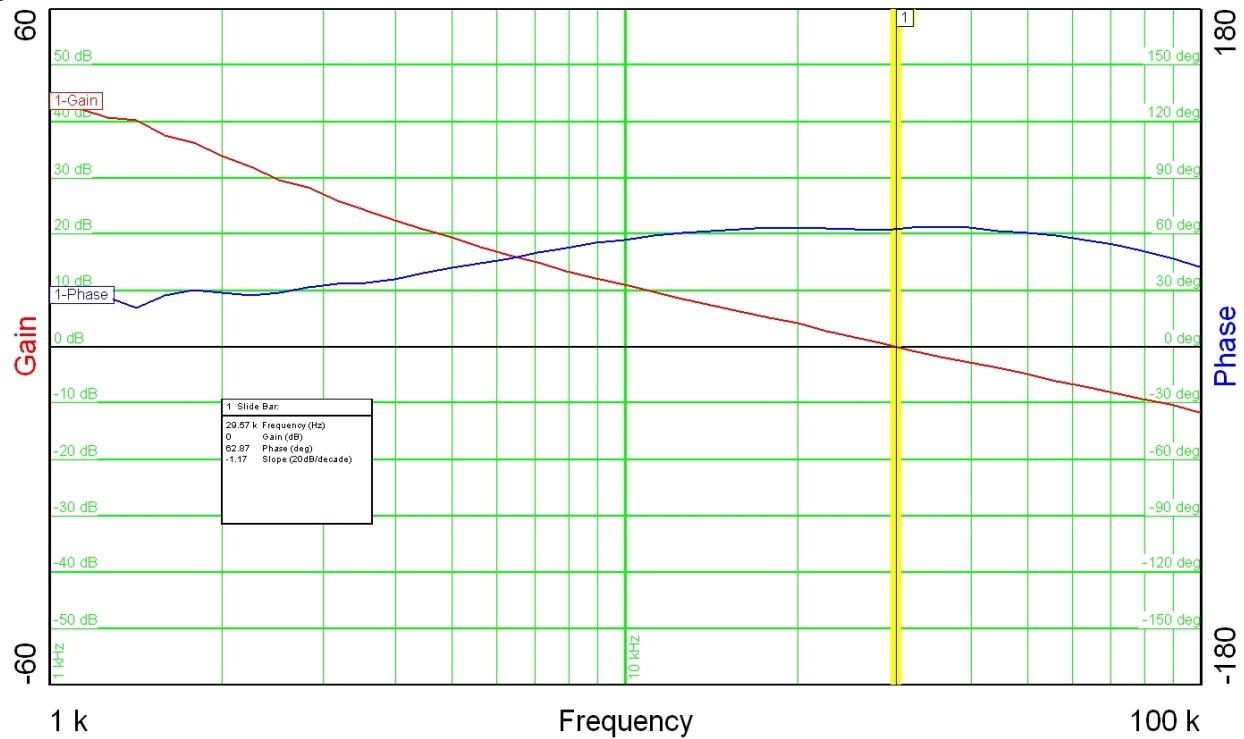
8 Frequency Response: 3.3V Output

The frequency response of the 3.3V converter feedback loop is shown in the image below. The input was set to 12V, and the output was loaded with 3A.



9 Frequency Response: 5V Output

The frequency response of the 5V converter feedback loop is shown in the image below. The input was set to 12V, and the output was loaded with 3A.

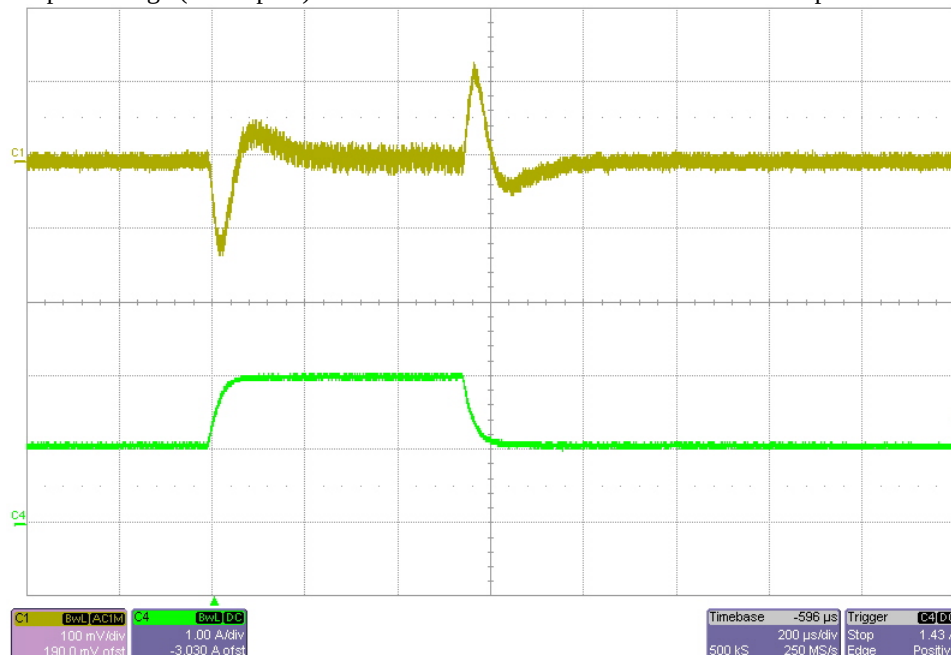


10 Load Transients: 3.3V Output

The image below shows the response of the 3.3V converter to a 1A to 2A load transient. The input voltage was set to 12V.

Channel 1: 3.3V Output Voltage (ac coupled) 100mV/div

Channel 4: 3.3V Output Current 1A/div

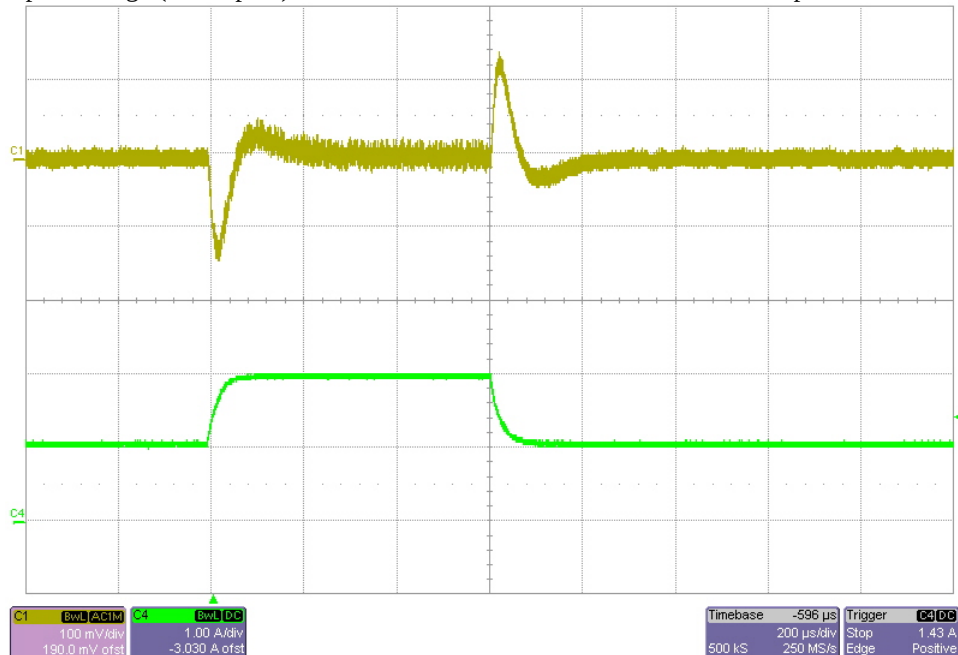


11 Load Transients: 5V Output

The image below shows the response of the 5V converter to a 1A to 2A load transient. The input voltage was set to 12V.

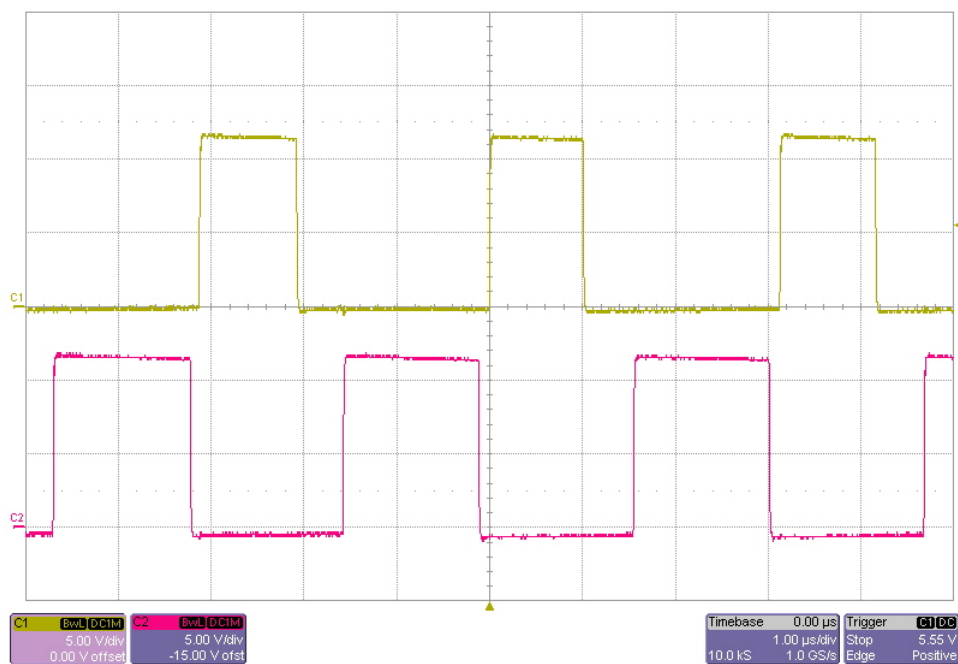
Channel 2: 5V Output Voltage (ac coupled) 100mV/div

Channel 4: 5V Output Current 1A/div



12 Switching Waveforms

The image below shows the voltage on the SW pins of the two converters. The 3.3V switching waveform is shown on Channel 1, and the 5V waveform is on Channel 2.



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