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Initial testing Thermal summary:

PMP6505 as built Channel 1 only 500kHz

UCD7231+CSD86350Q5D 13.26Vin 1.633Ain 1.194Vout 15.08A

Hottest is MPT730 470nHy choke at 68 deg C; dual FET at 53.5

Snubber R at 57; ambient 23-25 deg. Celsius

PMP6505 as built Channel 2 only 500kHz

UCD7231+CSD86330Q3D 13.21Vin 1.327Ain 1.190Vout 12.08A

Hottest is MPT730 470nHy choke at 58 deg C; dual FET at 51.4

Snubber R at 52; ambient 23-25 deg. Celsius

problem: Vds on FET too high!!!

Input, output data and efficiency: (room ambient temperature)**Channel 1: UCD7231 plus CSD86350Q5D + MPT730-R47M1 500kHz operation****Power drawn by UCD9244 and Test interface (50mA off 12Vin and 47mA off 13.2Vin) not included**

Vin Volts	Iin A	Vout Volts	Iout A	% Efficiency	Losses in W
12.00	1.504	1.013	15.00	84.2	2.853
12.02	1.392	1.013	14.005	84.8	2.545
12.03	1.282	1.013	13.01	85.5	2.243
12.01	1.178	1.013	12.00	85.9	1.992
12.02	1.072	1.013	11.00	86.5	1.742
12.03	0.969	1.013	10.00	86.9	1.527
12.01	0.8695	1.013	9.00	87.3	1.326
12.02	0.770	1.013	8.00	87.6	1.151
12.00	0.675	1.013	7.00	87.5	1.009
12.01	0.5785	1.013	6.00	87.5	0.870
12.02	0.484	1.013	5.00	87.1	0.753
12.02	0.3915	1.013	4.00	86.1	0.654
12.00	0.301	1.013	3.00	84.1	0.573
12.01	0.211	1.013	2.00	79.9	0.508
12.02	0.123	1.013	1.00	68.5	0.465
12.02	0.080	1.013	0.50	52.7	0.455
12.01	0.0375	1.013	0	0.0	0.450
13.26	1.586	1.194	15.08	85.6	3.025
13.20	1.253	1.194	12.08	87.2	2.116
13.23	0.929	1.194	9.08	88.2	1.449
13.22	0.623	1.194	6.08	88.1	0.977
13.25	0.328	1.194	3.08	84.6	0.668
13.20	0.1765	1.194	1.48	75.8	0.563
13.21	0.039	1.194	0	0.0	0.515

Note: Main choke is largest contributor to overall losses.

Initial testing Thermal summary:

PMP6505 as built Channel 1 only 500kHz

UCD7231+CSD86350Q5D 13.26Vin 1.633Ain (47mA drawn when off included) 1.194Vout 15.08A

Hottest is MPT730 470nHy choke at 68 deg C; dual FET at 53.5

Snubber R at 57; ambient 23-25 deg. Celsius

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