Test Data
For PMP9480
11/05/2014

Contents

1. Design Specifications

Vin Minimum	**10V**
Vin Maximum	**72V**
Vout1	**5.5V**
Iout 1	**0.35A**
Vout2	**5V**
Iout 2	**0.150A**
Approximate Switching Frequency	**540 KHz Approx**

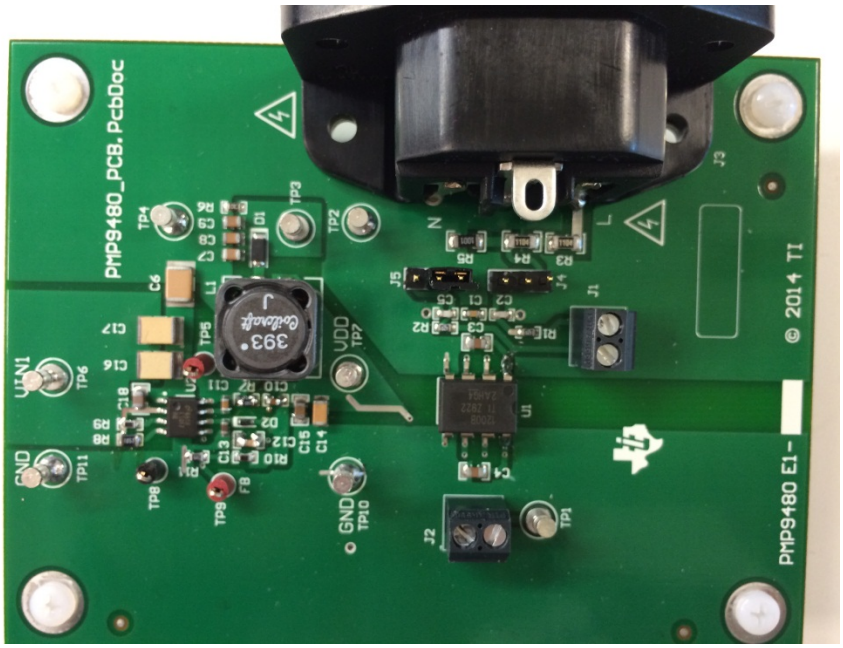
Vout 1 and Vout 2 are isolated power rails. Vout1 is reference to Input Supply's Ground

2. Circuit Description and PCB details

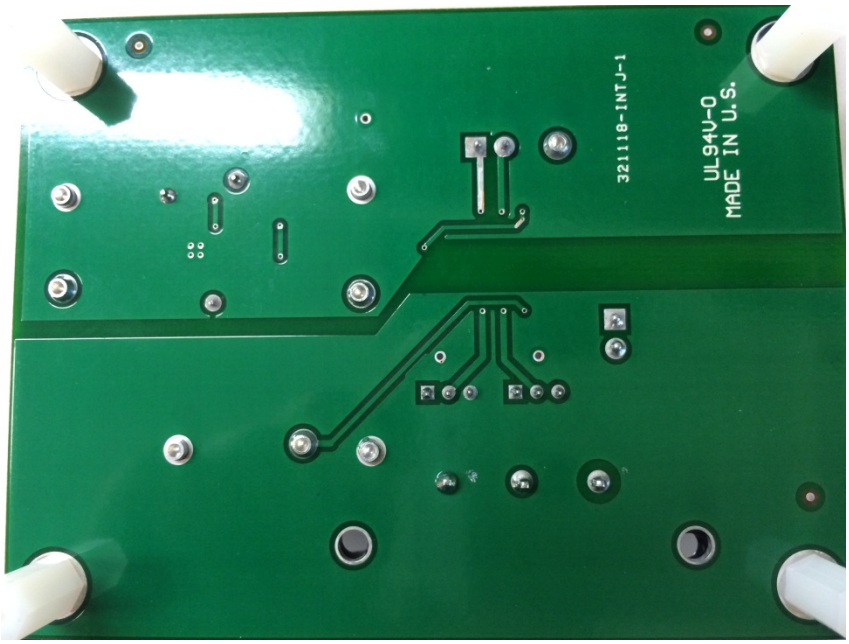
PMP9480 is a dual output Flybuck Converter as well as Isolated amplifier combo solution that can not only be used for sensing Line voltage or Line current but also provide Aux Bias power to complete Industrial systems . The design accepts very Wide input voltage of 10 Vin to 72Vin DC(Work on any Batteries such as 12V/24V or 48V or any available Industrial DC bus) and provides Isolated outputs of 5V@350mA(Primary Bias Supply for Controller , Amplifiers ,Interfaces, etc) and 5V@150mA(Secondary Isolated Bias for Isolated Amplifiers , Isolated communication etc) . It features a small size and is an inexpensive and more efficient solution to using Flyback or Pushpull converters .

Isolated Amplifier AMC1200 used in this design is a precision isolation amplifier with an output separated from the input circuitry by a silicon dioxide (SiO2) barrier that is highly resistant to magnetic interference. This barrier has been certified to provide galvanic isolation of up to 4000 VPEAK according to UL1577 and IEC60747-5-2. Used in conjunction with isolated power supplies, this device prevents noise currents on a high common-mode voltage line from entering the local ground and interfering with or damaging sensitive circuitry.

3. PMP9486 Board Photos

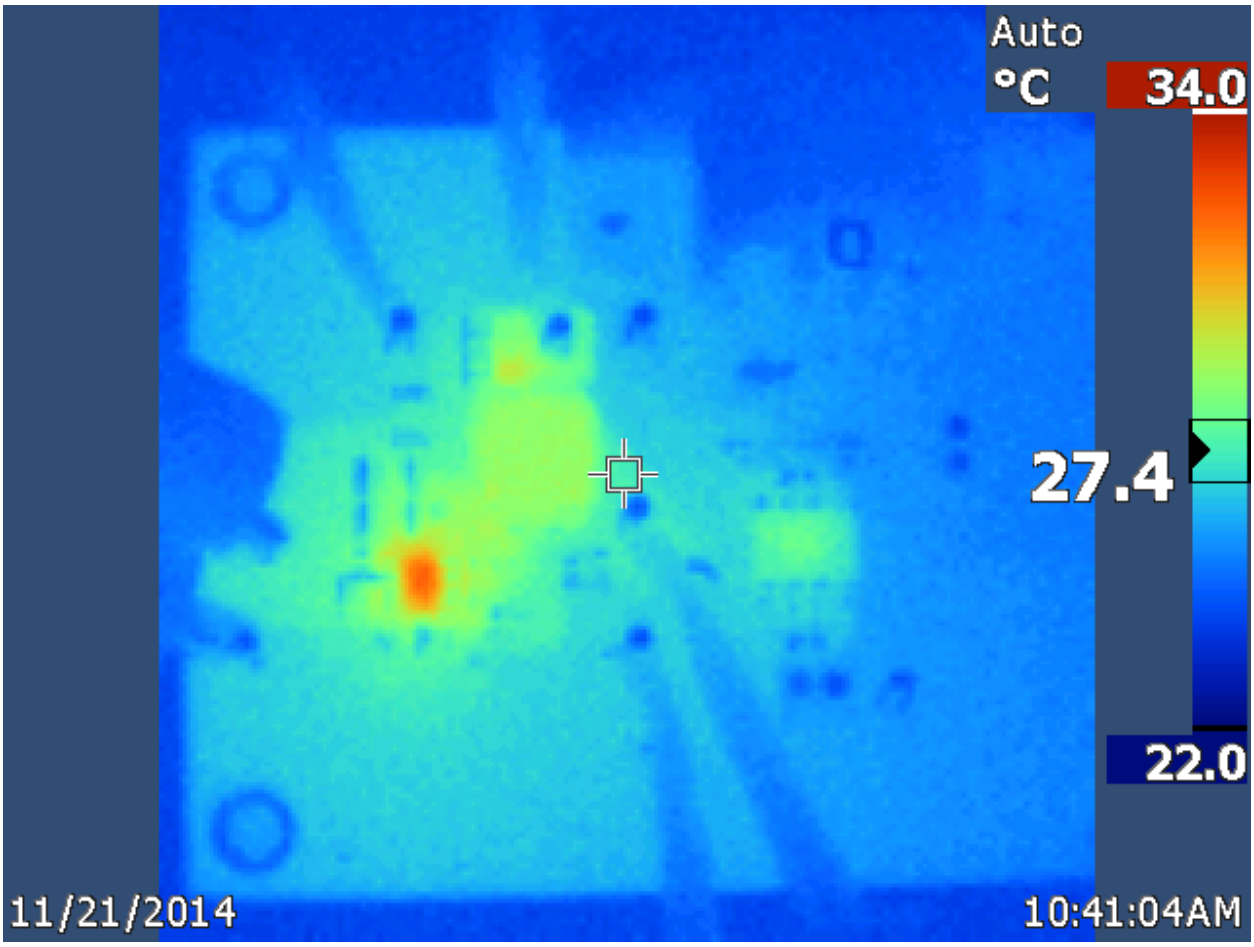


Board Photo (Top)



Board Photo (Bottom)

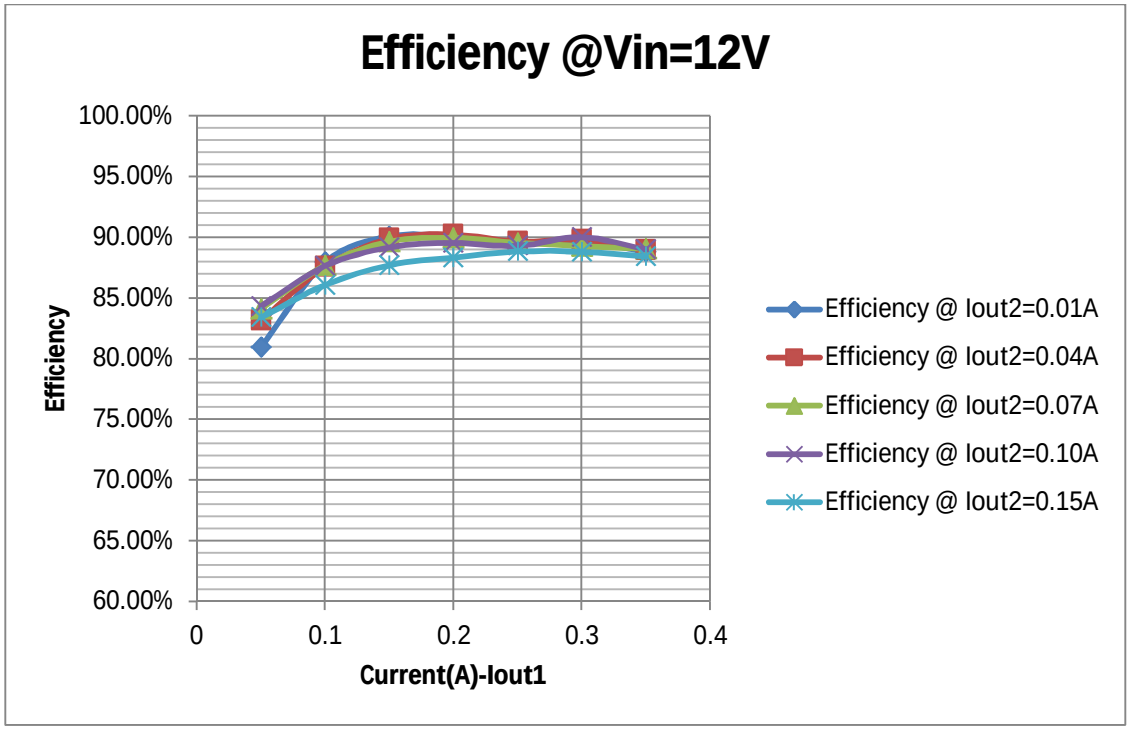
4. Thermal Data

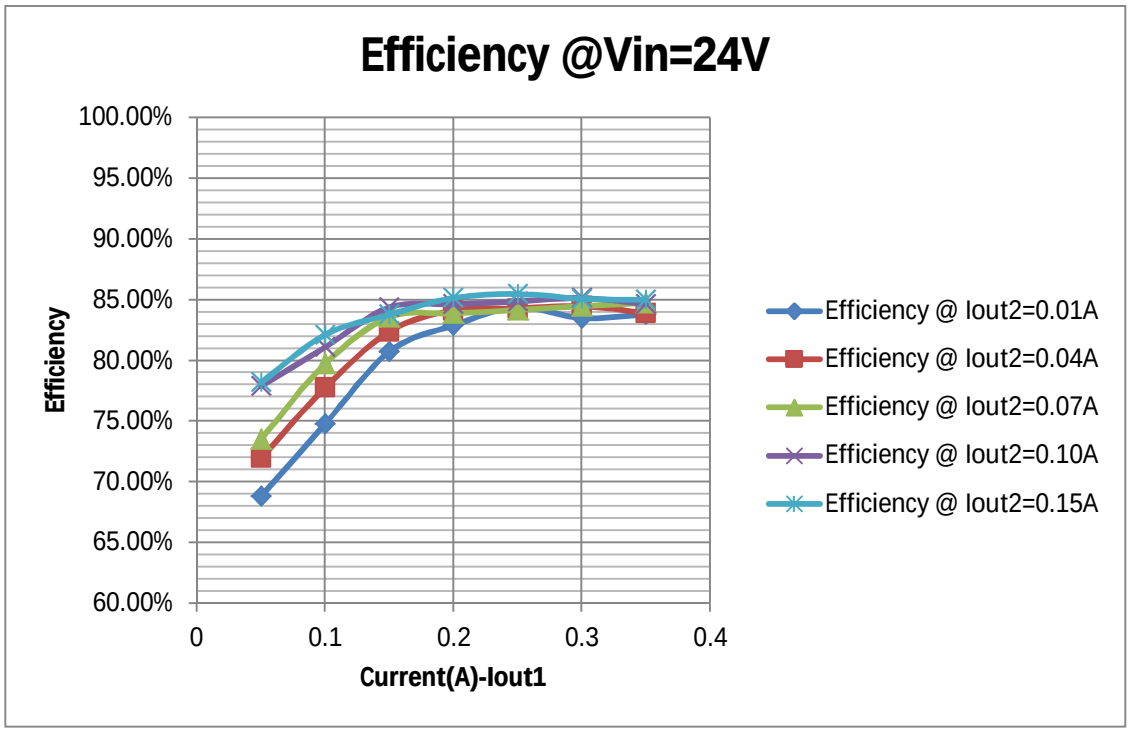


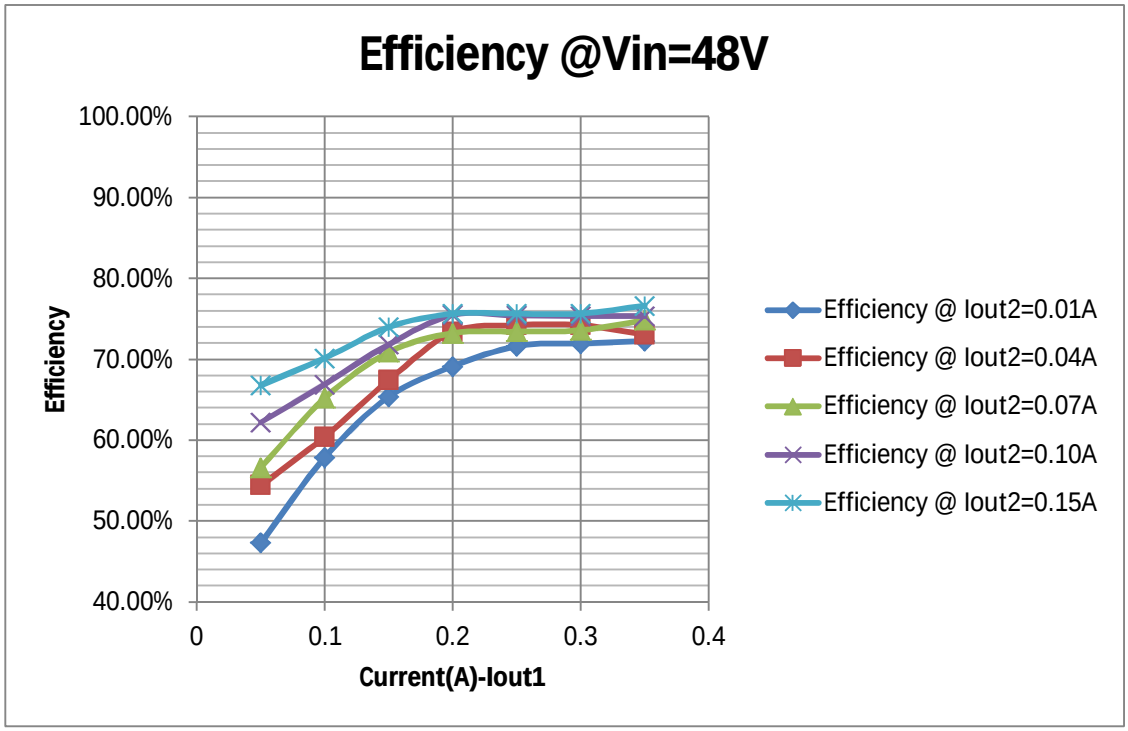
IR thermal image taken at steady state with 30Vin and 150mA load (no airflow)

5. Efficiency

5.1 Efficiency Chart






Efficiency @Vin=48V
100.00%
90.00%
80.00%
70.00%
60.00%
50.00%
40.00%
Efficiency
0
0.1
0.2
0.3
0.4
Current(A)-Iout1
Efficiency @ Iout2=0.01A
Efficiency @ Iout2=0.04A
Efficiency @ Iout2=0.07A
Efficiency @ Iout2=0.10A
Efficiency @ Iout2=0.15A

5.2 Efficiency Data

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
11.869	0.0617	5.4731	0.05	4.8915	0.07	0.732317	0.61606	84.12%	-5.93%	-2.27%
11.733	0.0865	5.4629	0.1	4.915	0.07	1.014905	0.89034	87.73%	-5.48%	-2.45%
11.591	0.112	5.4517	0.15	4.9468	0.07	1.298192	1.164031	89.67%	-4.87%	-2.65%
12.141	0.132	5.4585	0.2	5.004	0.07	1.602612	1.44198	89.98%	-3.77%	-2.53%
12.129	0.158	5.4546	0.25	5.039	0.07	1.916382	1.71638	89.56%	-3.10%	-2.60%
12.114	0.184	5.4508	0.3	5.073	0.07	2.228976	1.99035	89.29%	-2.44%	-2.66%
12.102	0.21	5.4473	0.35	5.105	0.07	2.54142	2.263905	89.08%	-1.83%	-2.73%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
12.117	0.033	5.463	0.05	5.057	0.01	0.399861	0.32372	80.96%	-2.75%	-2.45%
11.893	0.057	5.453	0.1	5.107	0.01	0.677901	0.59637	87.97%	-1.79%	-2.62%
11.755	0.082	5.446	0.15	5.1405	0.01	0.96391	0.868305	90.08%	-1.14%	-2.75%
11.607	0.109	5.4399	0.2	5.191	0.01	1.265163	1.13989	90.10%	-0.17%	-2.86%
12.142	0.13	5.4472	0.25	5.2702	0.01	1.57846	1.414502	89.61%	1.35%	-2.73%
12.128	0.155	5.4439	0.3	5.3519	0.01	1.87984	1.686689	89.73%	2.92%	-2.79%
12.115	0.182	5.4406	0.35	5.4341	0.01	2.20493	1.958551	88.83%	4.50%	-2.85%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
11.948	0.0475	5.4667	0.05	4.964	0.04	0.56753	0.471895	83.15%	-4.54%	-2.38%
11.816	0.072	5.456	0.1	4.9906	0.04	0.850752	0.745224	87.60%	-4.03%	-2.57%
11.676	0.097	5.4482	0.15	5.0218	0.04	1.132572	1.018102	89.89%	-3.43%	-2.71%
12.149	0.118	5.4536	0.2	5.072	0.04	1.433582	1.2936	90.24%	-2.46%	-2.61%
12.136	0.144	5.45	0.25	5.11	0.04	1.747584	1.5669	89.66%	-1.73%	-2.68%
12.123	0.169	5.446	0.3	5.147	0.04	2.048787	1.83968	89.79%	-1.02%	-2.75%
12.11	0.196	5.4427	0.35	5.1823	0.04	2.37356	2.112237	88.99%	-0.34%	-2.81%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
11.791	0.076	5.4788	0.05	4.8195	0.1	0.896116	0.75589	84.35%	-7.32%	-2.16%
11.651	0.101	5.4682	0.1	4.8474	0.1	1.176751	1.03156	87.66%	-6.78%	-2.35%
12.147	0.121	5.4692	0.15	4.9058	0.1	1.469787	1.31096	89.19%	-5.66%	-2.34%
12.136	0.146	5.4632	0.2	4.9405	0.1	1.771856	1.58669	89.55%	-4.99%	-2.44%
12.123	0.172	5.4593	0.25	4.9744	0.1	2.085156	1.862265	89.31%	-4.34%	-2.51%
12.109	0.196	5.4555	0.3	5	0.1	2.373364	2.13665	90.03%	-3.85%	-2.58%
12.096	0.224	5.4518	0.35	5.036	0.1	2.709504	2.41173	89.01%	-3.15%	-2.65%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
11.653	0.101	5.4877	0.05	4.7149	0.15	1.176953	0.98162	83.40%	-9.33%	-2.01%
12.148	0.121	5.4894	0.1	4.7762	0.15	1.469908	1.26537	86.08%	-8.15%	-1.98%
12.136	0.145	5.4818	0.15	4.809	0.15	1.75972	1.54362	87.72%	-7.52%	-2.11%
12.124	0.17	5.4738	0.2	4.8418	0.15	2.06108	1.82103	88.35%	-6.89%	-2.25%
12.11	0.195	5.4677	0.25	4.8734	0.15	2.36145	2.097935	88.84%	-6.28%	-2.36%
12.096	0.221	5.4641	0.3	4.9026	0.15	2.673216	2.37462	88.83%	-5.72%	-2.43%
12.083	0.248	5.4602	0.35	4.929	0.15	2.996584	2.65042	88.45%	-5.21%	-2.50%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
48.114	0.019	5.712	0.05	5.306	0.04	0.914166	0.49784	54.46%	2.04%	2.00%
48.074	0.027	5.719	0.1	5.324	0.04	1.297998	0.78486	60.47%	2.38%	2.13%
48.04	0.033	5.7078	0.15	5.336	0.04	1.58532	1.06961	67.47%	2.62%	1.93%
48.003	0.039	5.7989	0.2	5.365	0.04	1.872117	1.37438	73.41%	3.17%	3.55%
47.962	0.046	5.6905	0.25	5.386	0.04	2.206252	1.638065	74.25%	3.58%	1.62%
47.92	0.054	5.6828	0.3	5.416	0.04	2.58768	1.92148	74.25%	4.15%	1.48%
47.877	0.063	5.6762	0.35	5.4549	0.04	3.016251	2.204866	73.10%	4.90%	1.36%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
48.137	0.015	5.72	0.05	5.589	0.01	0.722055	0.34189	47.35%	7.48%	2.14%
48.096	0.0225	5.7184	0.1	5.495	0.01	1.08216	0.62679	57.92%	5.67%	2.11%
48.06	0.029	5.714	0.15	5.4577	0.01	1.39374	0.911677	65.41%	4.96%	2.04%
48.022	0.036	5.705	0.2	5.467	0.01	1.728792	1.19567	69.16%	5.13%	1.88%
47.9882	0.043	5.6934	0.25	5.505	0.01	2.063493	1.4784	71.65%	5.87%	1.67%
47.94	0.051	5.6847	0.3	5.5236	0.01	2.44494	1.760646	72.01%	6.22%	1.51%
47.898	0.059	5.6788	0.35	5.5603	0.01	2.825982	2.043183	72.30%	6.93%	1.41%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
48.091	0.024	5.722	0.05	5.2549	0.07	1.154184	0.653943	56.66%	1.06%	2.18%
48.055	0.03	5.7182	0.1	5.2712	0.07	1.44165	0.940804	65.26%	1.37%	2.11%
48.019	0.036	5.7055	0.15	5.2891	0.07	1.728684	1.226062	70.92%	1.71%	1.88%
47.983	0.043	5.6969	0.2	5.315	0.07	2.063269	1.51143	73.25%	2.21%	1.73%
47.94	0.051	5.688	0.25	5.3393	0.07	2.44494	1.795751	73.45%	2.68%	1.57%
47.897	0.059	5.6819	0.3	5.373	0.07	2.825923	2.08068	73.63%	3.33%	1.46%
47.854	0.066	5.6757	0.35	5.4094	0.07	3.158364	2.365153	74.89%	4.03%	1.35%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
48.07	0.027	5.7284	0.05	5.2144	0.1	1.29789	0.80786	62.24%	0.28%	2.29%
48.096	0.034	5.7184	0.1	5.2299	0.1	1.635264	1.09483	66.95%	0.57%	2.11%
48.002	0.04	5.7016	0.15	5.2499	0.1	1.92008	1.38023	71.88%	0.96%	1.81%
47.962	0.046	5.6955	0.2	5.271	0.1	2.206252	1.6662	75.52%	1.37%	1.71%
47.922	0.054	5.6881	0.25	5.3049	0.1	2.587788	1.952515	75.45%	2.02%	1.57%
47.877	0.062	5.6815	0.3	5.3393	0.1	2.968374	2.23838	75.41%	2.68%	1.46%
47.835	0.07	5.6762	0.35	5.3739	0.1	3.34845	2.52406	75.38%	3.34%	1.36%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
48.038	0.033	5.7306	0.05	5.154	0.15	1.585254	1.05963	66.84%	-0.88%	2.33%
48.003	0.04	5.7156	0.1	5.1754	0.15	1.92012	1.34787	70.20%	-0.47%	2.06%
47.967	0.046	5.6978	0.15	5.1897	0.15	2.206482	1.633125	74.01%	-0.20%	1.75%
47.929	0.053	5.6935	0.2	5.2226	0.15	2.540237	1.92209	75.67%	0.43%	1.67%
47.887	0.061	5.6872	0.25	5.2563	0.15	2.921107	2.210245	75.66%	1.08%	1.56%
47.844	0.069	5.682	0.3	5.2898	0.15	3.301236	2.49807	75.67%	1.73%	1.46%
47.8	0.076	5.6778	0.35	5.3215	0.15	3.6328	2.785455	76.68%	2.34%	1.39%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
24.103	0.02	5.5942	0.05	5.207	0.01	0.48206	0.33178	68.83%	0.13%	-0.10%
24.031	0.034	5.5879	0.1	5.24	0.01	0.817054	0.61119	74.80%	0.77%	-0.22%
23.963	0.046	5.5803	0.15	5.29	0.01	1.102298	0.889945	80.74%	1.73%	-0.35%
23.892	0.059	5.5762	0.2	5.342	0.01	1.409628	1.16866	82.91%	2.73%	-0.42%
23.814	0.072	5.5717	0.25	5.387	0.01	1.714608	1.446795	84.38%	3.60%	-0.51%
23.736	0.087	5.5677	0.3	5.4033	0.01	2.065032	1.724343	83.50%	3.91%	-0.58%
23.658	0.101	5.5643	0.35	5.437	0.01	2.389458	2.001875	83.78%	4.56%	-0.64%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
24.06	0.028	5.5946	0.05	5.129	0.04	0.67368	0.48489	71.98%	-1.37%	-0.10%
23.992	0.041	5.5868	0.1	5.157	0.04	0.983672	0.76496	77.77%	-0.83%	-0.24%
23.923	0.053	5.5797	0.15	5.195	0.04	1.267919	1.044755	82.40%	-0.10%	-0.36%
23.85	0.066	5.576	0.2	5.227	0.04	1.5741	1.32428	84.13%	0.52%	-0.43%
23.774	0.08	5.5725	0.25	5.252	0.04	1.90192	1.603205	84.29%	1.00%	-0.49%
23.697	0.094	5.569	0.3	5.278	0.04	2.227518	1.88182	84.48%	1.50%	-0.55%
23.616	0.109	5.5657	0.35	5.312	0.04	2.574144	2.160475	83.93%	2.15%	-0.61%

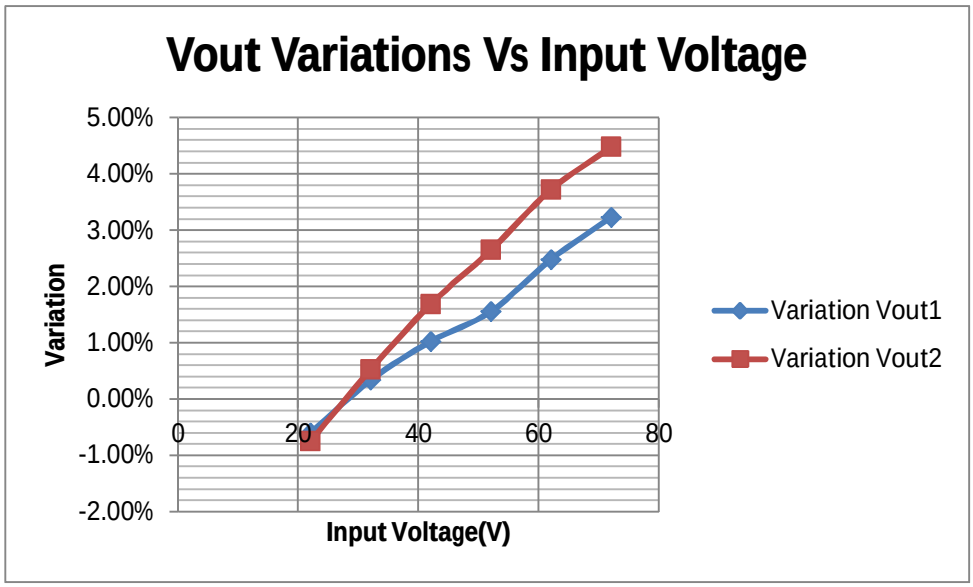
Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
24.019	0.036	5.5993	0.05	5.083	0.07	0.864684	0.635775	73.53%	-2.25%	-0.01%
23.952	0.048	5.5885	0.1	5.1147	0.07	1.149696	0.916879	79.75%	-1.64%	-0.21%
23.883	0.06	5.5816	0.15	5.147	0.07	1.43298	1.19753	83.57%	-1.02%	-0.33%
23.809	0.074	5.5788	0.2	5.1754	0.07	1.761866	1.478038	83.89%	-0.47%	-0.38%
23.732	0.088	5.5754	0.25	5.2	0.07	2.088416	1.75785	84.17%	0.00%	-0.44%
23.653	0.102	5.5718	0.3	5.23	0.07	2.412606	2.03764	84.46%	0.58%	-0.50%
23.573	0.116	5.568	0.35	5.26	0.07	2.734468	2.317	84.73%	1.15%	-0.57%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
23.98	0.042	5.601	0.05	5.045	0.1	1.00716	0.78455	77.90%	-2.98%	0.02%
23.912	0.055	5.5913	0.1	5.076	0.1	1.31516	1.06673	81.11%	-2.38%	-0.16%

6. Cross Regulation

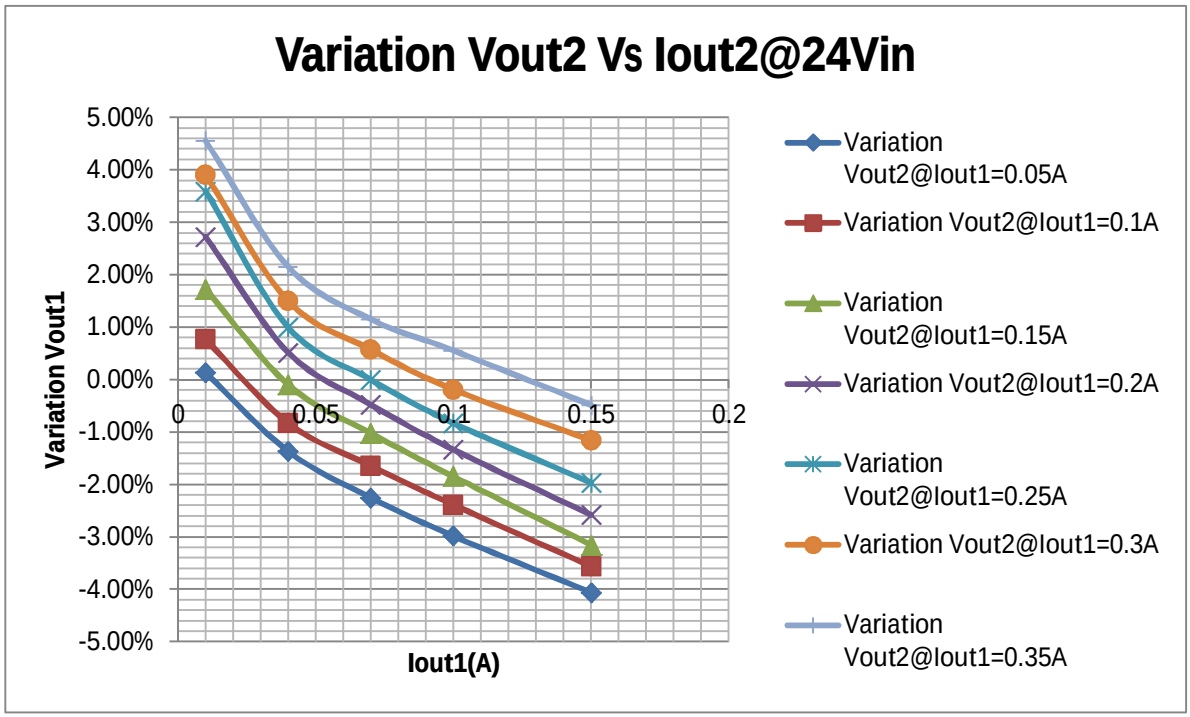
The Cross regulation was tested by Sweeping Vin(keeping Load Constant) or Output Load(Keeping Vin Constant)

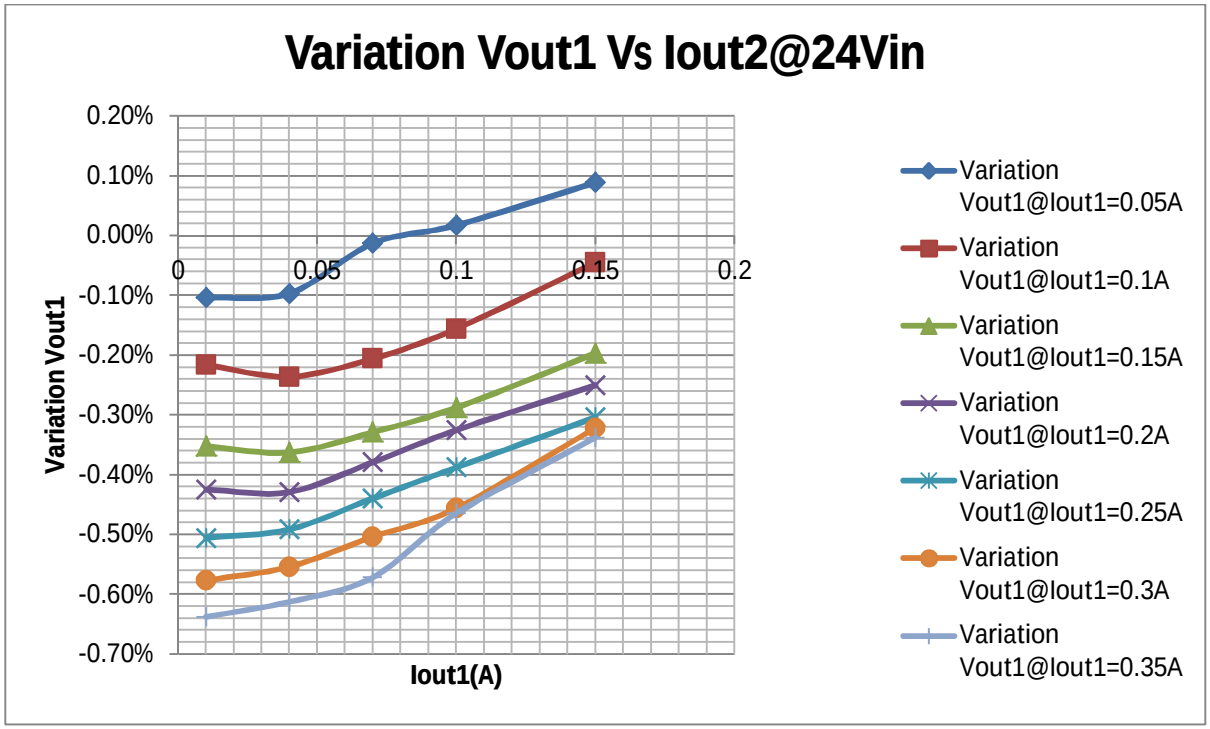
6.1 Vin Sweep Response

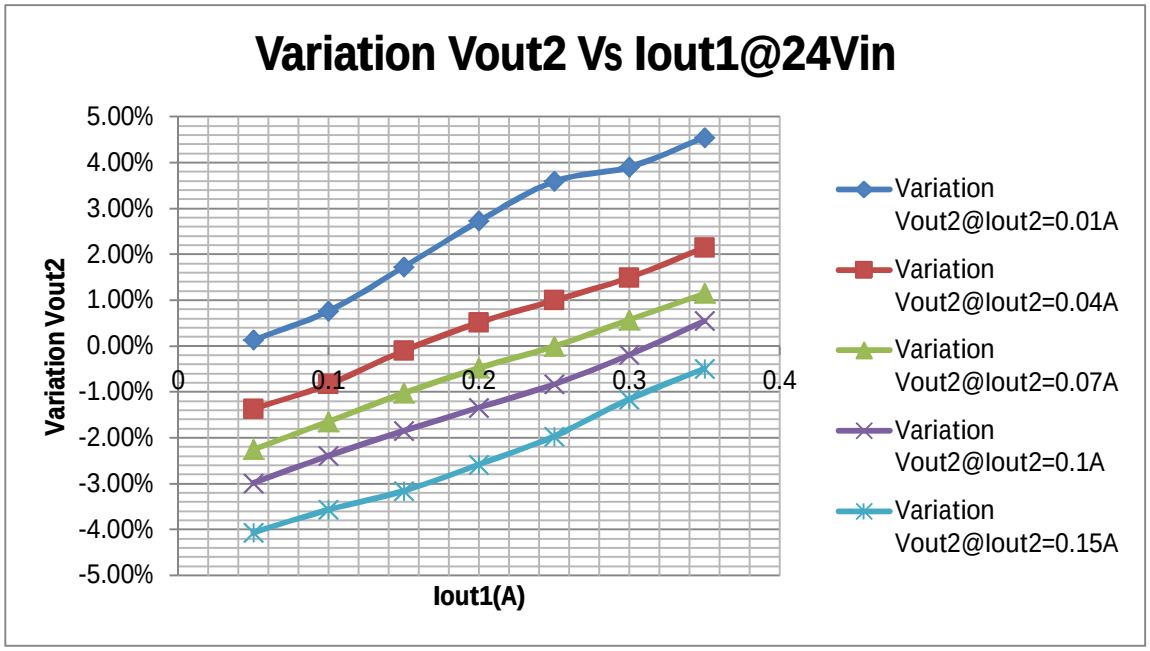


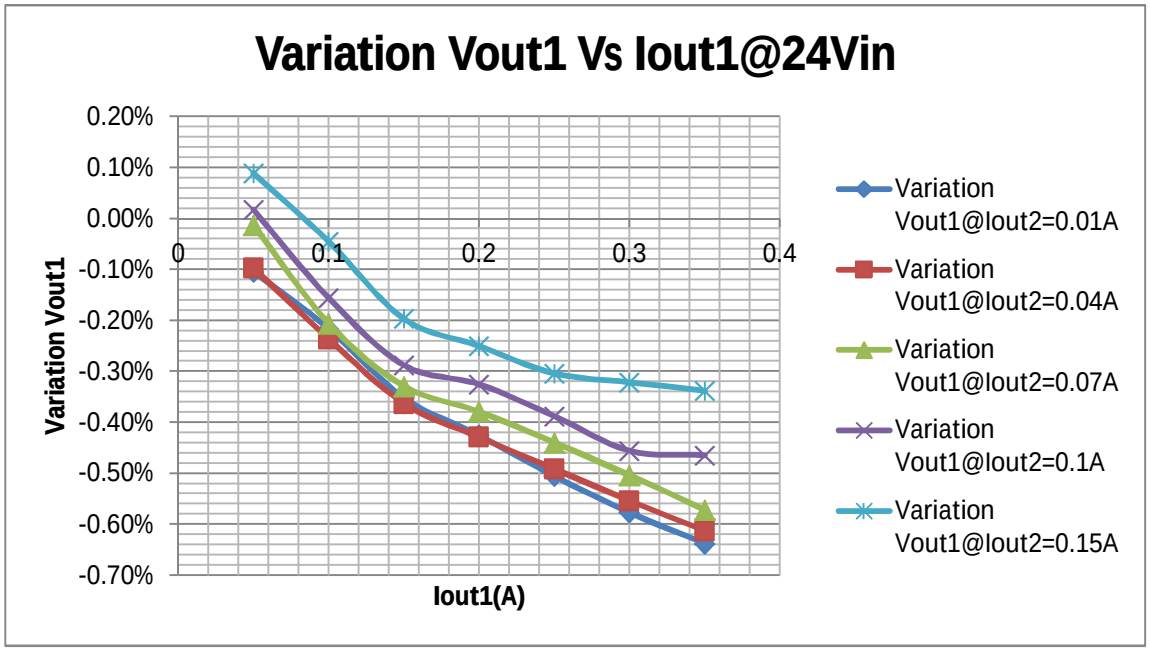
Vin(V)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Variation Vout1	Variation Vout2
72	5.7813	0.35	5.433	0.15	3.24%	4.48%
62	5.7392	0.35	5.3937	0.15	2.49%	3.72%
52	5.6874	0.35	5.3378	0.15	1.56%	2.65%
42	5.6575	0.35	5.2879	0.15	1.03%	1.69%
32	5.6191	0.35	5.2275	0.15	0.34%	0.53%
22	5.5664	0.35	5.161	0.15	-0.60%	-0.75%
12	5.4589	0.35	4.9319	0.15	-2.52%	-5.16%

6.2 Output Load Sweep Response






Variation Vout2 Vs Iout1@24Vin
5.00%
4.00%
3.00%
2.00%
1.00%
0.00%
-1.00%
-2.00%
-3.00%
-4.00%
-5.00%
Variation Vout2
0
0.1
0.2
0.3
0.4
Iout1(A)
Variation Vout2@Iout2=0.01A
Variation Vout2@Iout2=0.04A
Variation Vout2@Iout2=0.07A
Variation Vout2@Iout2=0.1A
Variation Vout2@Iout2=0.15A


Variation Vout1 Vs Iout1@24Vin
0.20%
0.10%
0.00%
-0.10%
-0.20%
-0.30%
-0.40%
-0.50%
-0.60%
-0.70%
Variation Vout1
0
0.1
0.2
0.3
0.4
Iout1(A)
Variation Vout1@Iout2=0.01A
Variation Vout1@Iout2=0.04A
Variation Vout1@Iout2=0.07A
Variation Vout1@Iout2=0.1A
Variation Vout1@Iout2=0.15A

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
24.103	0.02	5.5942	0.05	5.207	0.01	0.48206	0.33178	68.83%	0.13%	-0.10%
24.06	0.028	5.5946	0.05	5.129	0.04	0.67368	0.48489	71.98%	-1.37%	-0.10%
24.019	0.036	5.5993	0.05	5.083	0.07	0.864684	0.635775	73.53%	-2.25%	-0.01%
23.98	0.042	5.601	0.05	5.045	0.1	1.00716	0.78455	77.90%	-2.98%	0.02%
23.913	0.055	5.605	0.05	4.989	0.15	1.315215	1.0286	78.21%	-4.06%	0.09%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
24.031	0.034	5.5879	0.1	5.24	0.01	0.817054	0.61119	74.80%	0.77%	-0.22%
23.992	0.041	5.5868	0.1	5.157	0.04	0.983672	0.76496	77.77%	-0.83%	-0.24%
23.952	0.048	5.5885	0.1	5.1147	0.07	1.149696	0.916879	79.75%	-1.64%	-0.21%
23.912	0.055	5.5913	0.1	5.076	0.1	1.31516	1.06673	81.11%	-2.38%	-0.16%
23.844	0.067	5.5975	0.1	5.0148	0.15	1.597548	1.31197	82.12%	-3.56%	-0.04%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
23.963	0.046	5.5803	0.15	5.29	0.01	1.102298	0.889945	80.74%	1.73%	-0.35%
23.923	0.053	5.5797	0.15	5.195	0.04	1.267919	1.044755	82.40%	-0.10%	-0.36%
23.883	0.06	5.5816	0.15	5.147	0.07	1.43298	1.19753	83.57%	-1.02%	-0.33%
23.842	0.067	5.5839	0.15	5.1041	0.1	1.597414	1.347995	84.39%	-1.84%	-0.29%
23.775	0.08	5.589	0.15	5.036	0.15	1.902	1.59375	83.79%	-3.15%	-0.20%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
23.892	0.059	5.5762	0.2	5.342	0.01	1.409628	1.16866	82.91%	2.73%	-0.42%
23.85	0.066	5.576	0.2	5.227	0.04	1.5741	1.32428	84.13%	0.52%	-0.43%
23.809	0.074	5.5788	0.2	5.1754	0.07	1.761866	1.478038	83.89%	-0.47%	-0.38%
23.769	0.081	5.5818	0.2	5.1307	0.1	1.925289	1.62943	84.63%	-1.33%	-0.32%
23.702	0.093	5.586	0.2	5.066	0.15	2.204286	1.8771	85.16%	-2.58%	-0.25%

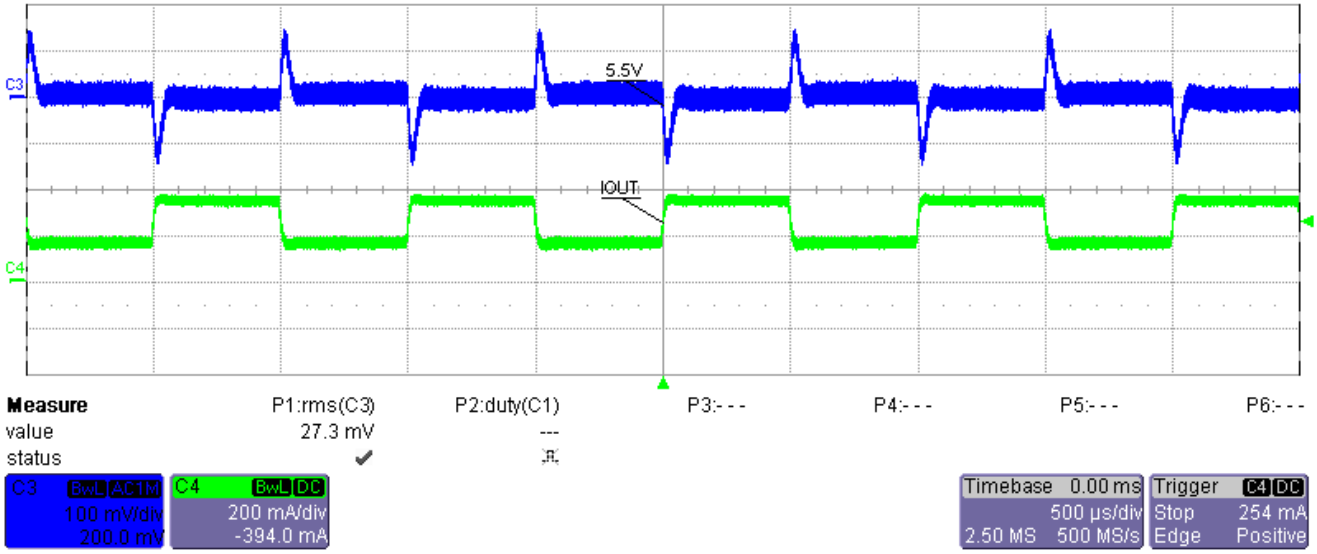
Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
23.814	0.072	5.5717	0.25	5.387	0.01	1.714608	1.446795	84.38%	3.60%	-0.51%
23.774	0.08	5.5725	0.25	5.252	0.04	1.90192	1.603205	84.29%	1.00%	-0.49%
23.732	0.088	5.5754	0.25	5.2	0.07	2.088416	1.75785	84.17%	0.00%	-0.44%
23.691	0.095	5.5783	0.25	5.157	0.1	2.250645	1.910275	84.88%	-0.83%	-0.39%
23.624	0.107	5.583	0.25	5.098	0.15	2.527768	2.16045	85.47%	-1.96%	-0.30%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
23.736	0.087	5.5677	0.3	5.4033	0.01	2.065032	1.724343	83.50%	3.91%	-0.58%
23.697	0.094	5.569	0.3	5.278	0.04	2.227518	1.88182	84.48%	1.50%	-0.55%
23.653	0.102	5.5718	0.3	5.23	0.07	2.412606	2.03764	84.46%	0.58%	-0.50%
23.612	0.109	5.5745	0.3	5.1903	0.1	2.573708	2.19138	85.14%	-0.19%	-0.46%
24.153	0.119	5.582	0.3	5.14	0.15	2.874207	2.4456	85.09%	-1.15%	-0.32%

Vin(V)	Iin(A)	Vout1(V)	Iout1(A)	Vout2(V)	Iout2(A)	Pin(W)	Pout(W)	Efficiency(%)	Variation Vout2	Variation Vout1
23.658	0.101	5.5643	0.35	5.437	0.01	2.389458	2.001875	83.78%	4.56%	-0.64%
23.616	0.109	5.5657	0.35	5.312	0.04	2.574144	2.160475	83.93%	2.15%	-0.61%
23.573	0.116	5.568	0.35	5.26	0.07	2.734468	2.317	84.73%	1.15%	-0.57%
24.152	0.121	5.574	0.35	5.229	0.1	2.922392	2.4738	84.65%	0.56%	-0.46%
24.145	0.133	5.5811	0.35	5.1749	0.15	3.211285	2.72962	85.00%	-0.48%	-0.34%

7. SMPS Waveforms

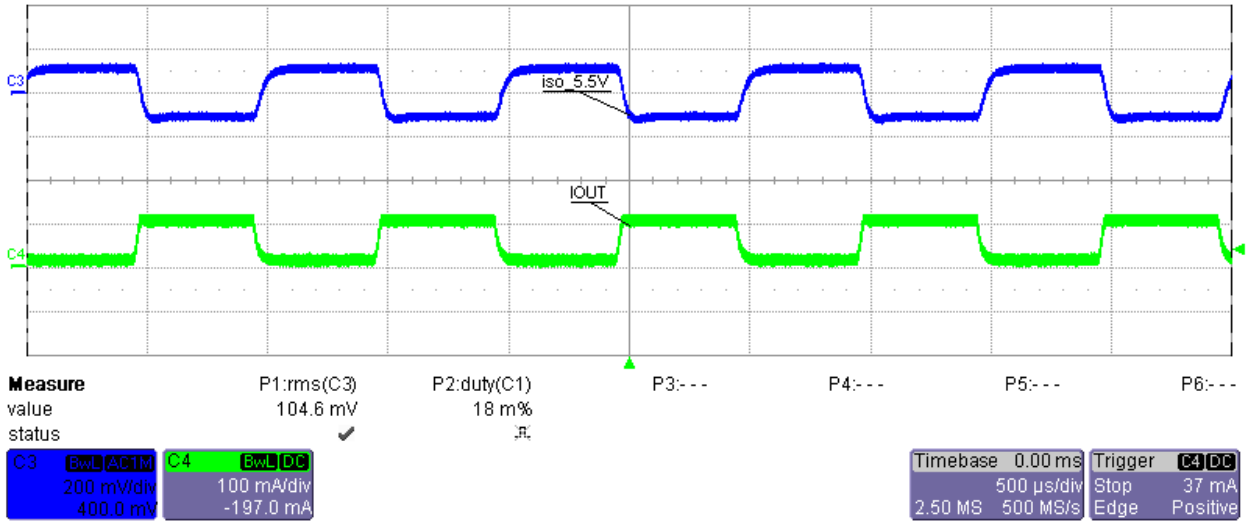
7.1 Load Transient Response



Load Transient Response at 12Vin and 50%-to-100% (175mA-to-350mA) Load Step on 5.5V Output Vout1 (Load were no connected to other isolated output)

Ch3 – Vout1 (AC coupled)

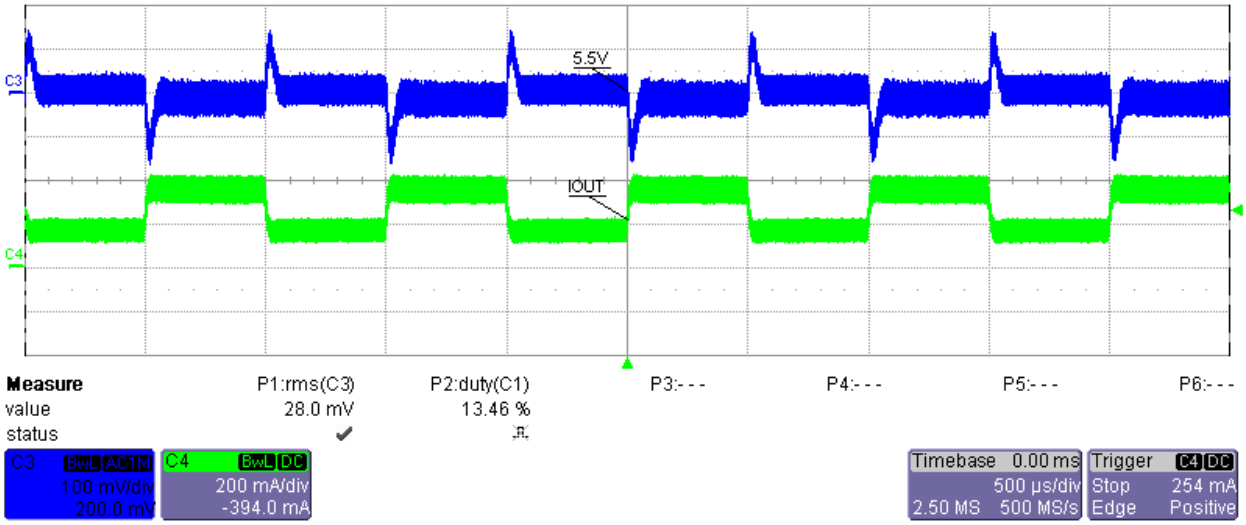
Ch4- Iout 1



Load Transient Response at 12 Vin and 0%-to-100% (0mA-to-100mA) Load Step on 5V Output Vout2 (Load were no connected to other output)

Ch3 – Vout2 (AC coupled)

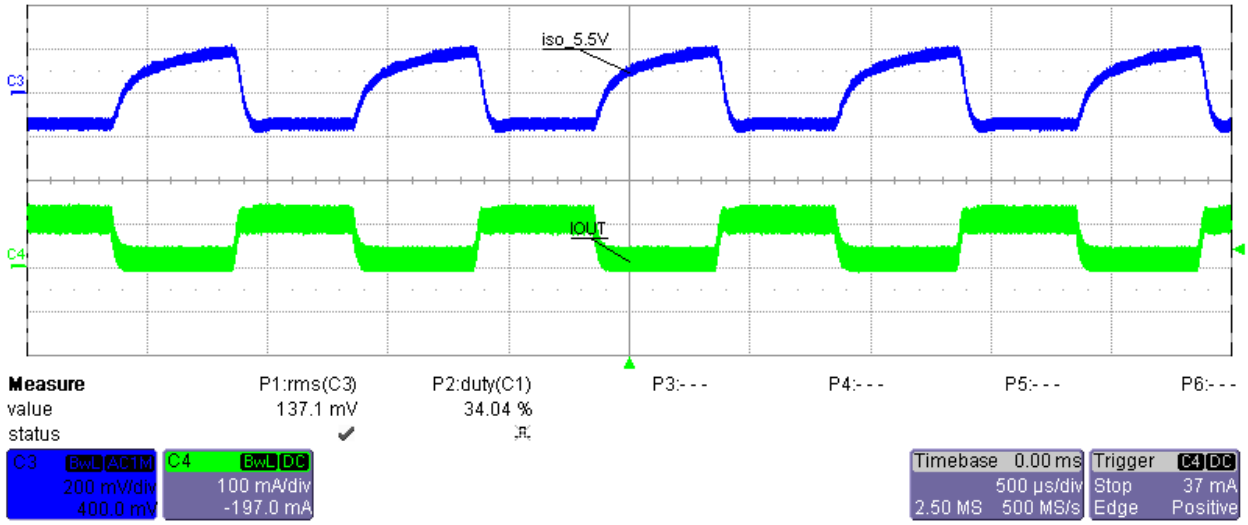
Ch4- Iout 2



Load Transient Response at 48Vin and 50%-to-100% (175mA-to-350mA) Load Step on 5.5V Output Vout1 (Load were no connected to other isolated output)

Ch3 – Vout1 (AC coupled)

Ch4- Iout 1

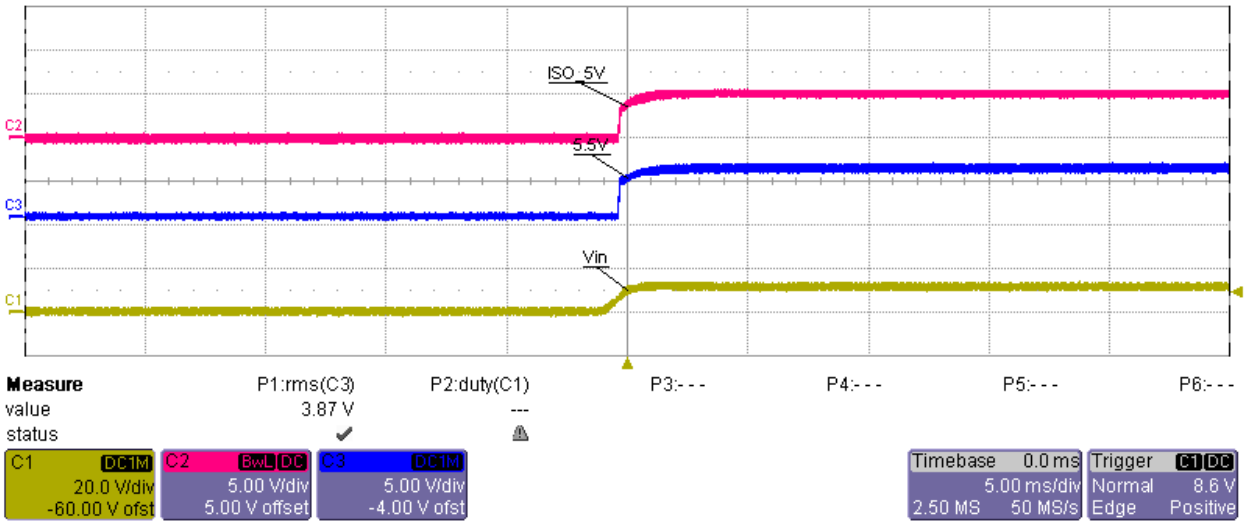


Load Transient Response at 48 Vin and 0%-to-100% (0mA-to-100mA) Load Step on 5V Output Vout2 (Load were no connected to other output)

Ch3 – Vout2 (AC coupled)

Ch4- Iout 2

7.2 Startup

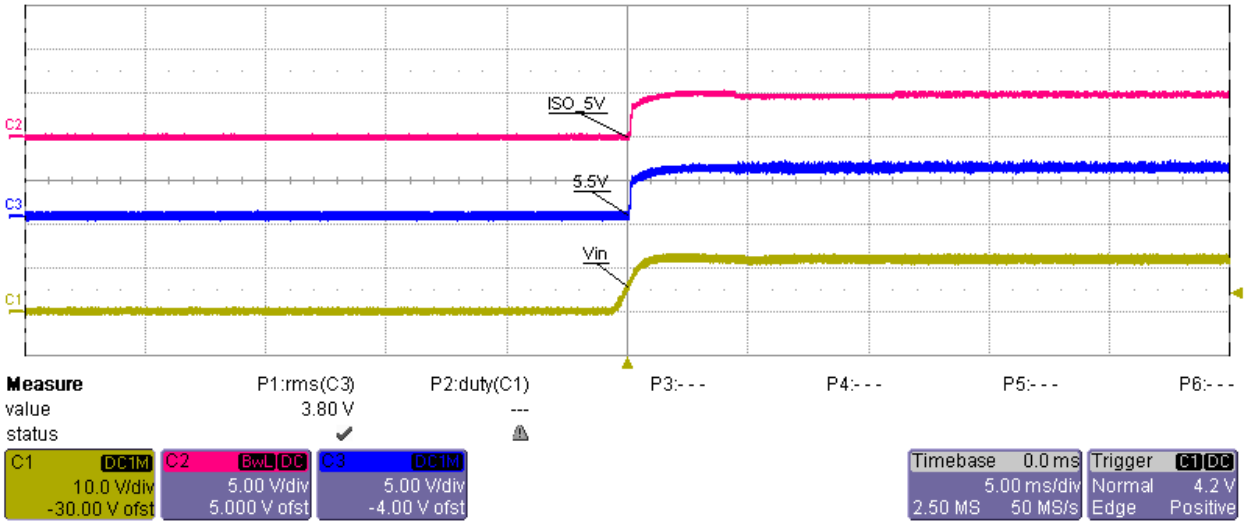


Startup into No Load at 12 Vin

Ch1-Vin

Ch3-Vout 1

Ch2-Vout 2

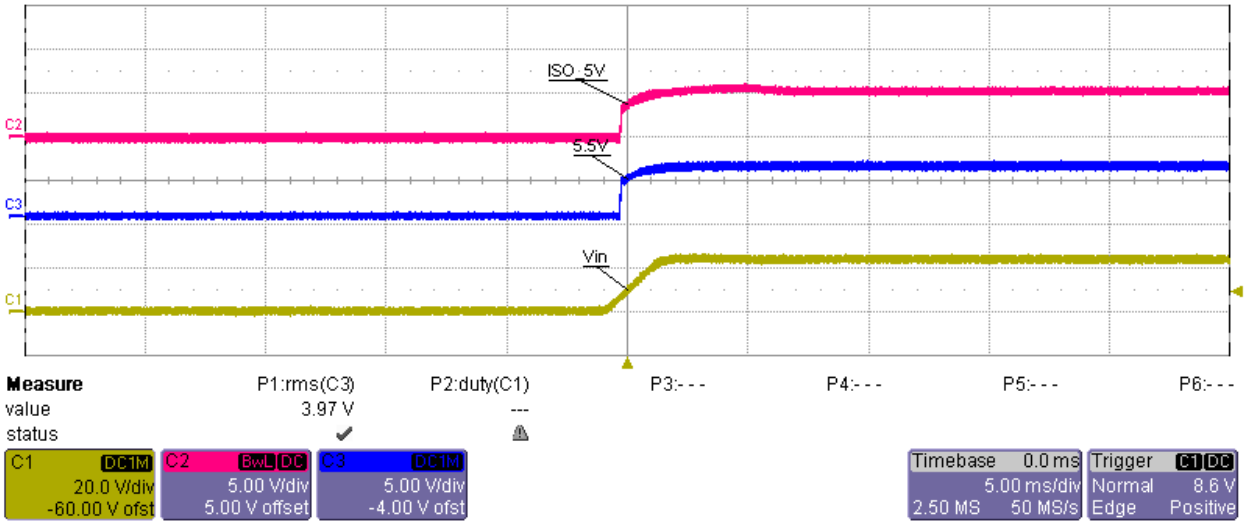


Startup into Full Load at 12 Vin

Ch1-Vin

Ch3-Vout 1

Ch2-Vout 2

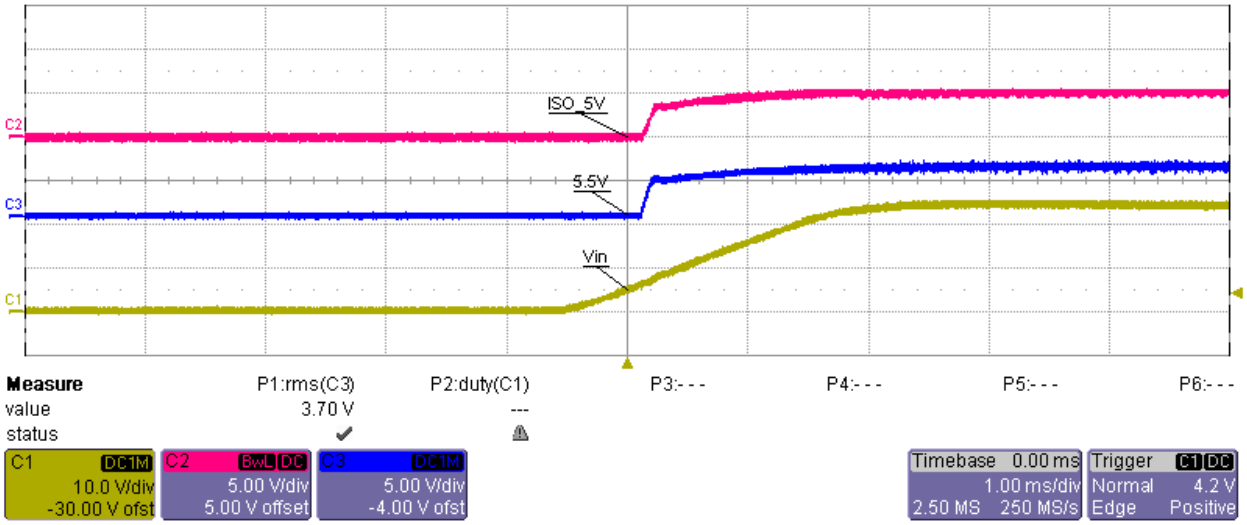


Startup into No Load at 24 Vin

Ch1-Vin

Ch3-Vout 1

Ch2-Vout 2

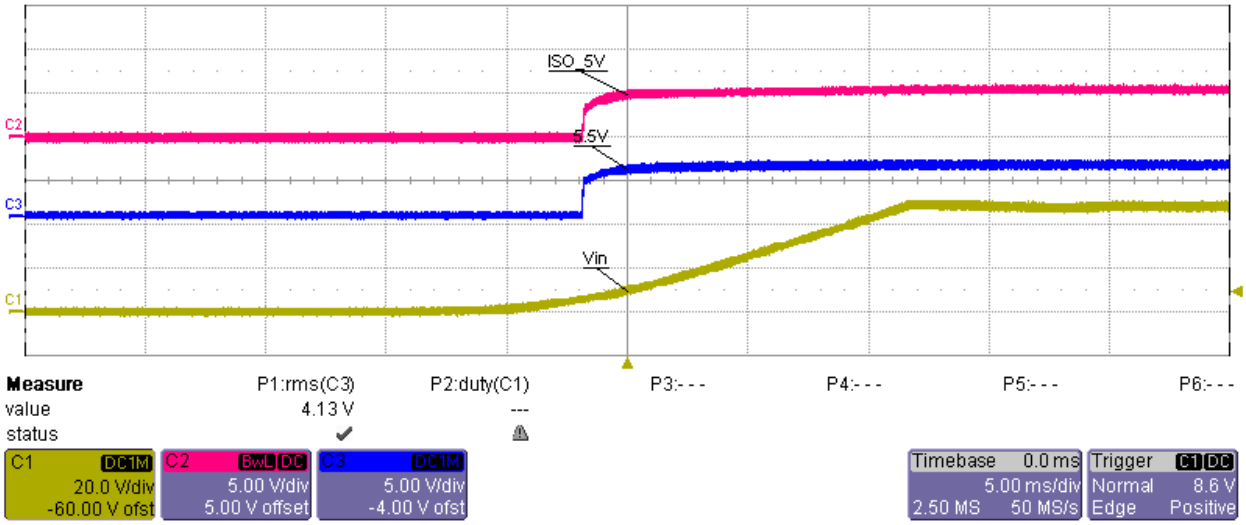


Startup into Full Load at 24 Vin

Ch1-Vin

Ch3-Vout 1

Ch2-Vout 2

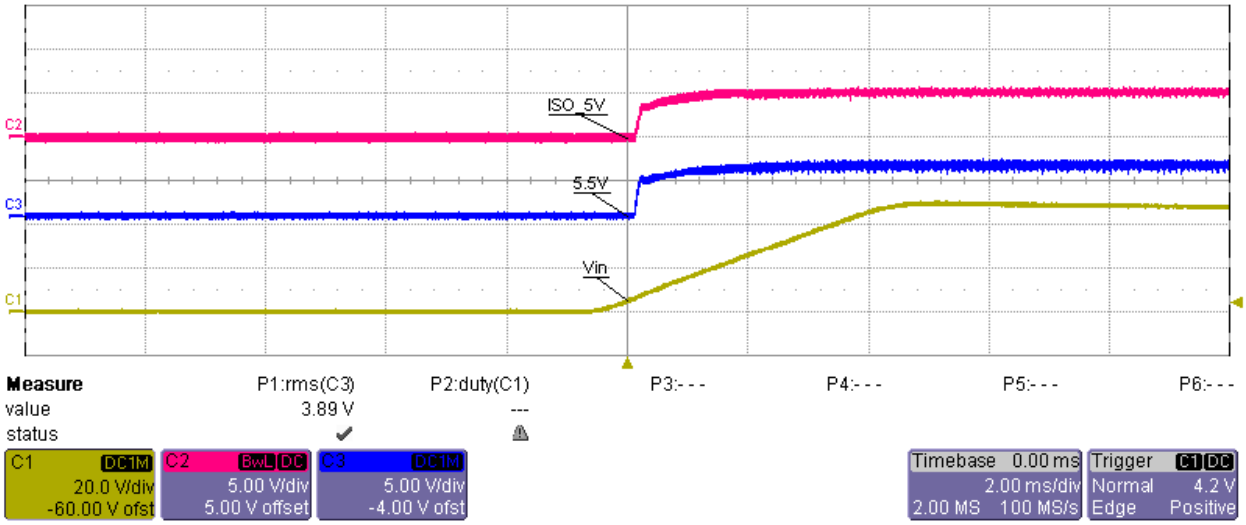


Startup into No Load at 48 Vin

Ch1-Vin

Ch3-Vout 1

Ch2-Vout 2



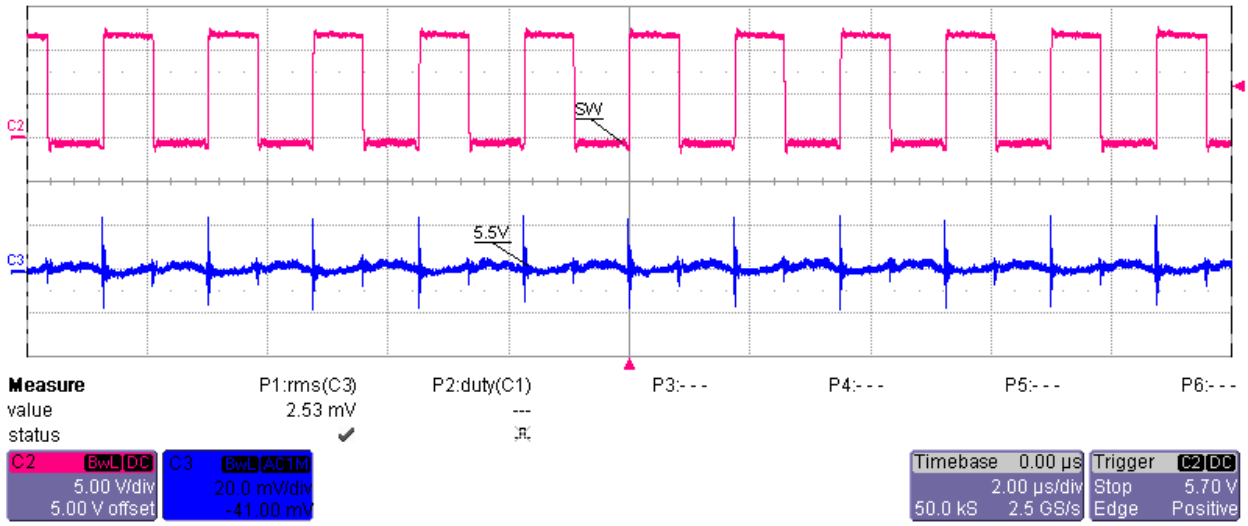
Startup into Full Load at 48 Vin

Ch1-Vin

Ch3-Vout 1

Ch2-Vout 2

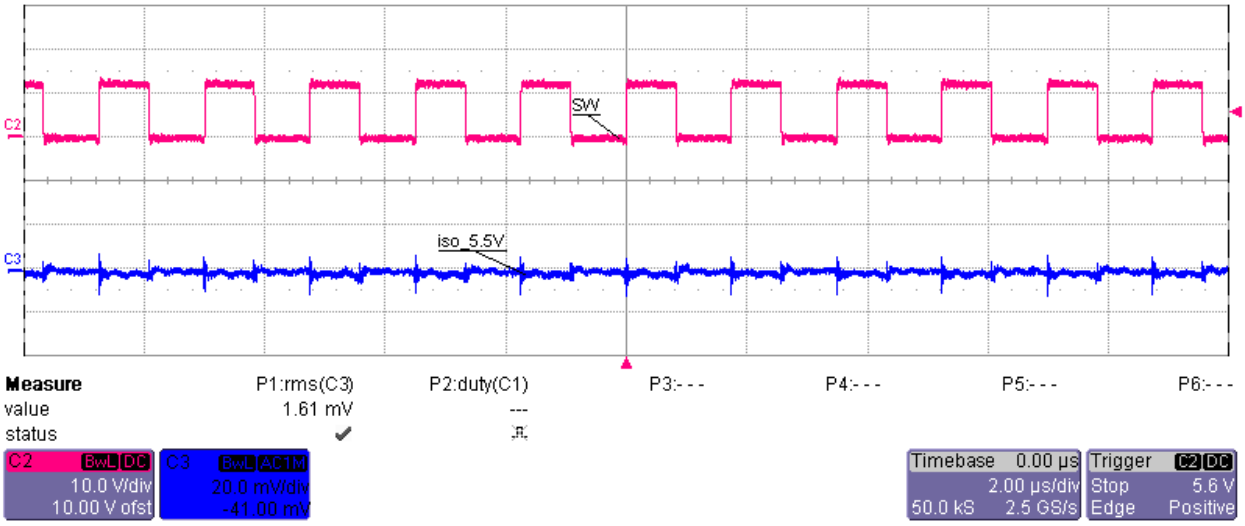
7.3 Output Voltage Ripple and Switch Node Voltage



Switch Node Voltage and Output Voltage Ripple at 12 Vin and Full Load on both the outputs

Ch3-Vout1 (AC Coupled)

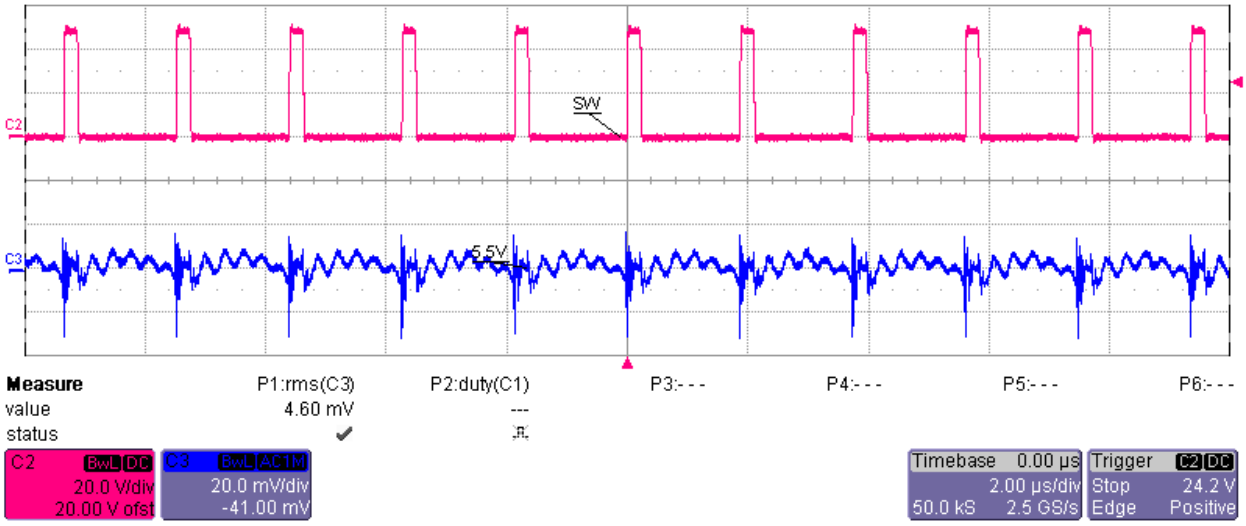
Ch2-Switching Waveform



Switch Node Voltage and Output Voltage Ripple at 12 Vin and Full Load on both the outputs

Ch3-Vout2 (AC Coupled)

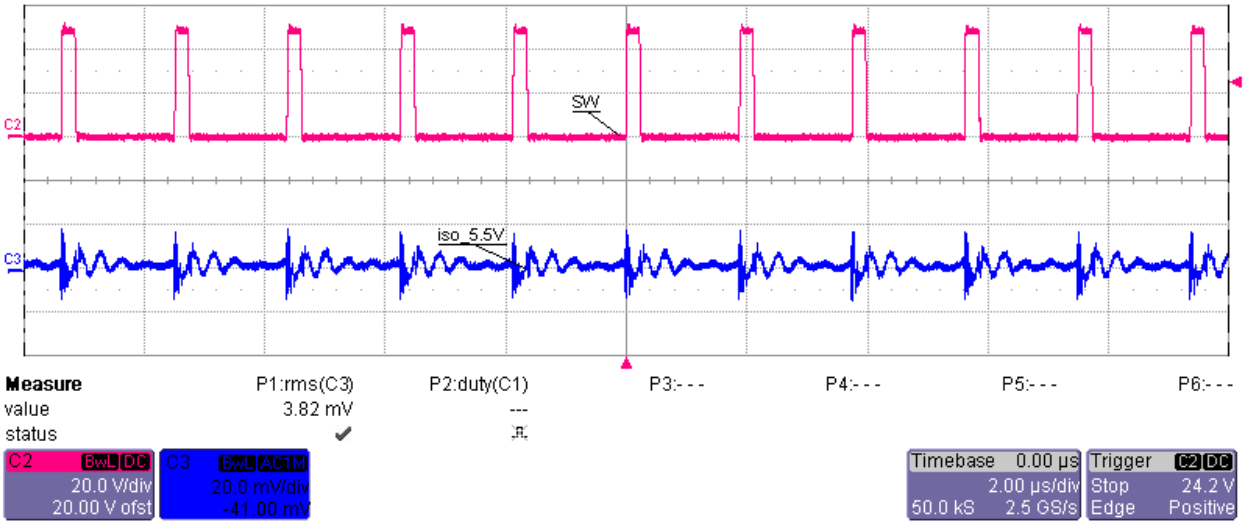
Ch2-Switching Waveform



Switch Node Voltage and Output Voltage Ripple at 48 Vin and Full Load on both the outputs

Ch3-Vout1 (AC Coupled)

Ch2-Switching Waveform



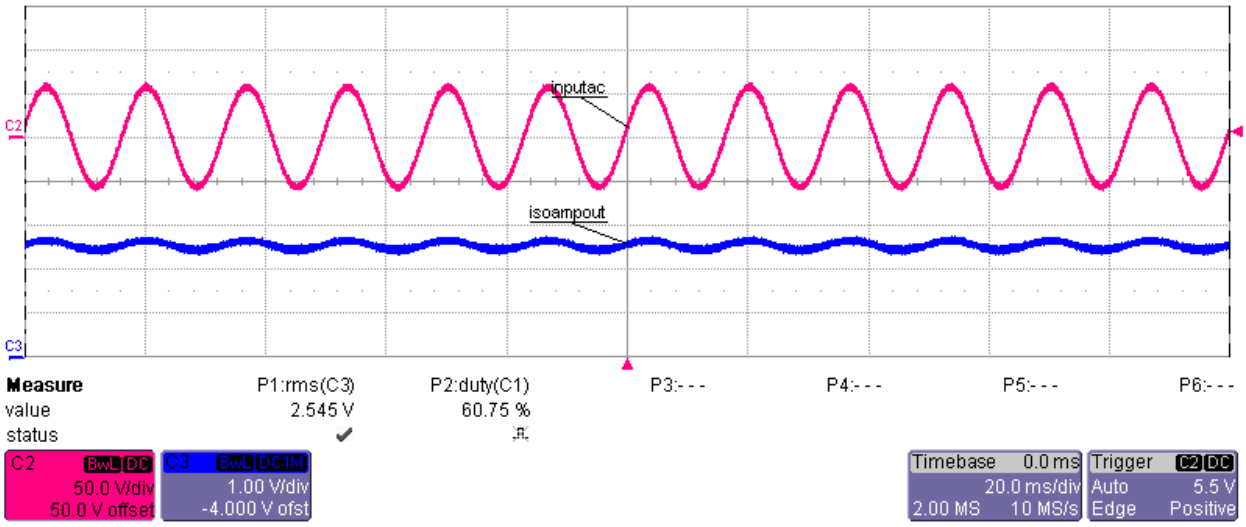
Switch Node Voltage and Output Voltage Ripple at 48 Vin and Full Load on both the outputs

Ch3-Vout2 (AC Coupled)

Ch2-Switching Waveform

8. Isolated Amplifier Waveforms

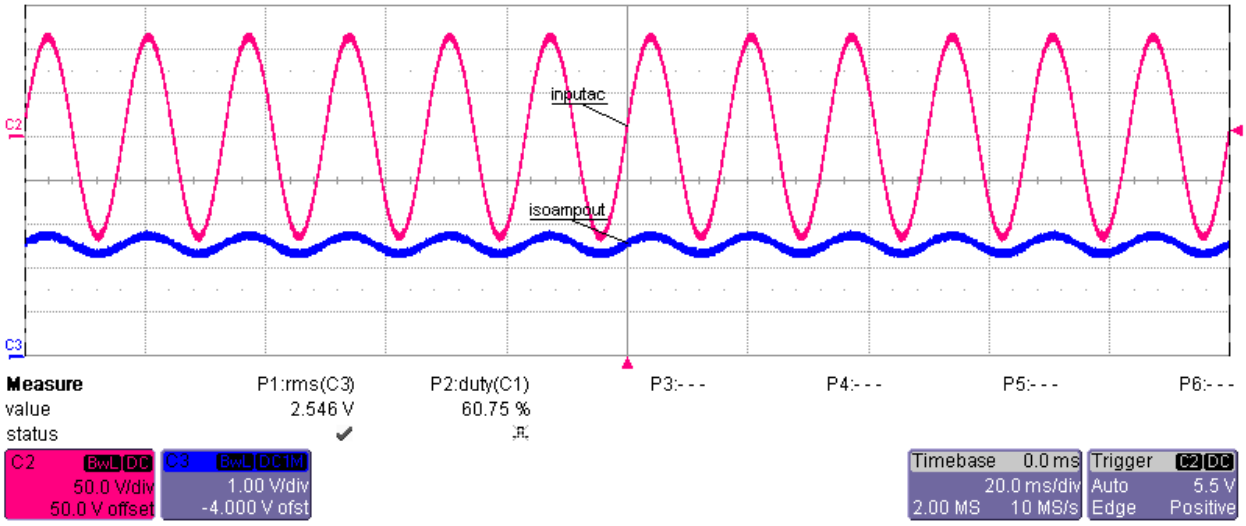
Isolated Amplifier Output Waveforms at Various applied AC input Voltage (Refer to Schematic)



AC Voltage Applied-40 VAC and Isolated Amplifier Output

Ch2-AC Voltage

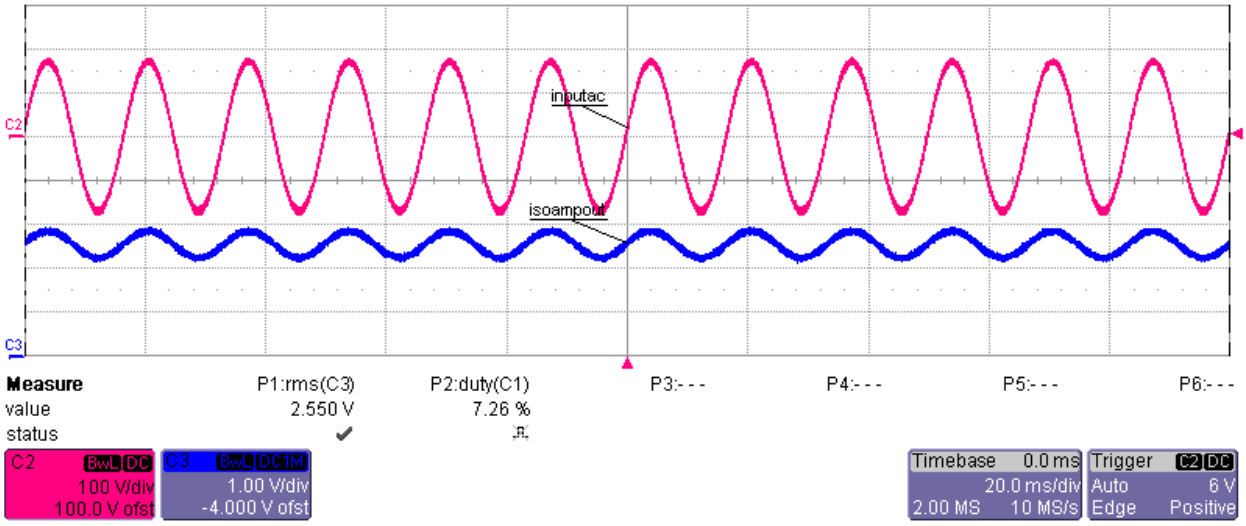
Ch3-Isoltaed Amp output



AC Voltage Applied-80 VAC and Isolated Amplifier Output

Ch2-AC Voltage

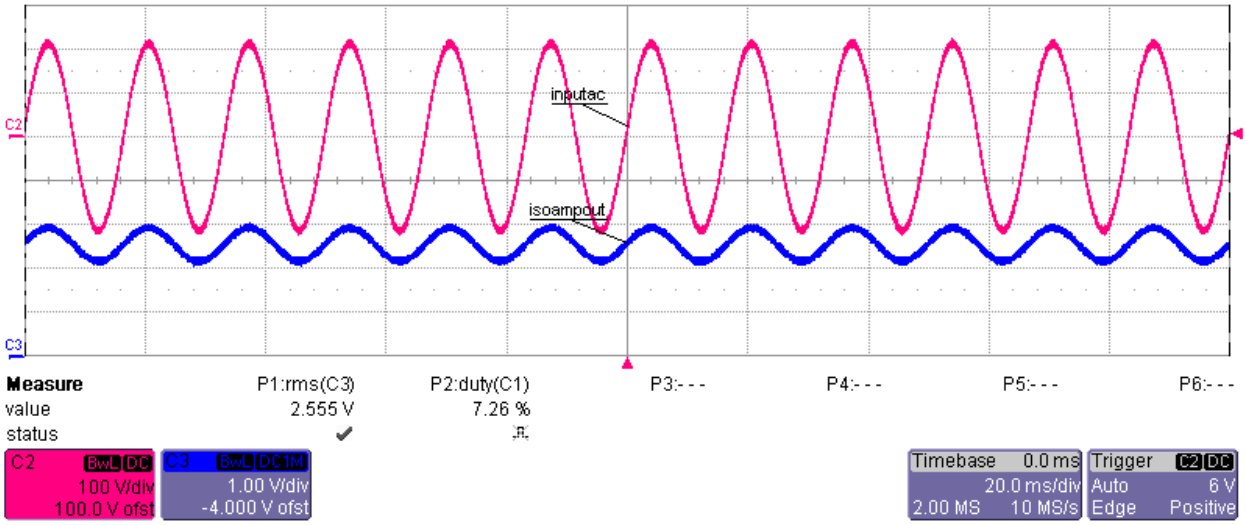
Ch3-Isoltaed Amp output



AC Voltage Applied-120 VAC and Isolated Amplifier Output

Ch2-AC Voltage

Ch3-Isoltaed Amp output



AC Voltage Applied-140 VAC and Isolated Amplifier Output

Ch2-AC Voltage

Ch3-Isoltaed Amp output

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