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Rev B updates:

Resistor values adjusted to better center 1.0V, 3.3V and 2.5V outputs:

On the 1.0V, 3.3V and 2.5V switchers; the voltage divider resistor going from Vout to FB with nominal value of 765mV adjusted to better center Vout around target output of 1.000V, 3.300V and 2.500V respectively.
The 10k resistor from VFB (pin 2 of the TPS54325) to ground in all cases was left at 10k (1% tolerance). For the other resistor, only values from the standard E96 series used for 1% tolerance resistors were considered. Allowing this 10k resistor to vary would complicate Bill of Material and would only slightly allow getting closer to target Vout.

Center value of Vout will be 765mV * (Rxx + 10k) / 10k with Rxx the resistor going from Vout to the VFB pin 2 of the TPS54325.

1.00V: R7 (for U4) changed from 3.01k to 3.09k to increase center of Vout from 995mV to 1001mV.

3.3V: R13 (for 3.3V setting of U5 converter) and R15 (for U6 fixed at 3.3V) changed from 34k to 33.2k to decrease center of Vout from 3.366V to 3.305V.

2.5V: R12 (for 2.5V setting of U5 converter) changed from 23.2k to 22.6k to decrease center of Vout from 2.540V to 2.494V.

1.8V: R10 (for 1.8V setting of U5 converter) and R3 (for U2 fixed at 1.8V) left at 13.7k to give center of Vout at 1.813V . Next lower standard E96 value of 13.3k would give 1.782V which is further from 1.800V than 1.813V is.

The linear outputs were also loaded with resistor strings to target specified full loading.

Correction of reference and power input of 0.75V VTT regulator U8:

One issue with design was found and a trace cut / jumper was needed to change the input going to the 0.75V VTT regulator U8 TPS51206 from 1.8V to 1.5V. A thick wire was needed here to minimize error due to drop in the wire when VLDOIN is loaded with a 1 A load off VTT to ground. Target is less than 5 mV drop for 1 A.

This error can be eliminated by bring a separate wire to the VDDQSNS pin of the TPS51206, but would have been too much rework with present layout (PCB PMP8251A).

DC and AC data:

1.00V: U4 R7 updated to 3.09k

		Model T1	Model T2	Model T3
5Vin / no load	VDC out	1.003	1.005	1.003
5V / 3A load	VDC out	0.992	0.994	0.992
5V / 3A load	p-p ripple mV	9	9	9
5V / 3A load	Sw. freq. kHz	823	776	800
12Vin / no load	VDC out	1.007	1.008	1.006
12V / 3A load	VDC out	0.997	0.997	0.996
12V / 3A load	p-p ripple mV	10	11	11
12V / 3A load	Sw. freq. kHz	809	800	800

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1.8V: U2 R3 at 13.7k (unchanged)

		Model T1	Model T2	Model T3
5Vin / no load	VDC out	1.813	1.820	1.802
5V / 3A load	VDC out	1.800	1.806	1.789
5V / 3A load	p-p ripple mV	15	12	14
5V / 3A load	Sw. freq. kHz	657	700	700
12Vin / no load	VDC out	1.816	1.823	1.806
12V / 3A load	VDC out	1.804	1.811	1.795
12V / 3A load	p-p ripple mV	17	14	15
12V / 3A load	Sw. freq. kHz	760	770	790

Q

3.3V: U6 R15 at 33.2k

		Model T1	Model T2	Model T3
5Vin / no load	VDC out	3.300	3.310	3.298
5V / 3A load	VDC out	3.273	3.284	3.269
5V / 3A load	p-p ripple mV	19	17	16
5V / 3A load	Sw. freq. kHz	643	600	620
12Vin / no load	VDC out	3.323	3.335	3.318
12V / 3A load	VDC out	3.307	3.318	3.305
12V / 3A load	p-p ripple mV	26	28	28
12V / 3A load	Sw. freq. kHz	714	705	712

Q

3.3V setting: U5 R13 at 33.2k

		Model T1	Model T2	Model T3
5Vin / no load	VDC out	3.296	3.302	3.311
5V / 3A load	VDC out	3.267	3.274	3.279
5V / 3A load	p-p ripple mV	22	23	24
5V / 3A load	Sw. freq. kHz	635	600	637
12Vin / no load	VDC out	3.324	3.329	3.333
12V / 3A load	VDC out	3.305	3.311	3.316
12V / 3A load	p-p ripple mV	40	35	45
12V / 3A load	Sw. freq. kHz	706	700	706

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2.5V setting: U5 R12 at 22.6k

		Model T1	Model T2	Model T3
5Vin / no load	VDC out	2.502	2.488	2.493
5V / 3A load	VDC out			
12Vin / no load	VDC out	2.512	2.498	2.502
12V / 3A load	VDC out			

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1.8V setting: U5 R10 at 13.7k unchanged

		Model T1	Model T2	Model T3
5Vin / no load	VDC out	1.812	1.819	1.816
5V / 3A load	VDC out	1.796	1.803	
12Vin / no load	VDC out	1.816	1.822	1.820
12V / 3A load	VDC out	1.803	1.810	

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U1 linear TLV70218 with 10 ohm load: It is powered off 3.3V, not Vin; hence only tested here at 5Vin: model t1 at 1.802V; model t2 at 1.803V and model t3 at 1.799V

U3 shunt REF1112A with 249 ohm load: It is powered off 1.8V, not Vin; hence only tested here at 5Vin: model t1 at 1.248V; model t2 at 1.250V and model t3 at 1.243V

U7 TPS74201 to generate the VDDQ for memory with 1.85 ohm load: It is powered off 1.8V, not Vin; hence only tested here at 5Vin: model t1 at 1.495V; model t2 at 1.497V and model t3 at 1.493V. Adding the ~1A of U8 for VTT did not affect these values:

U8 VTT target 0.75V off 1.5V with thick wire from the 1.5V to VLDOIN and VDDQSNS

		Model T1	Model T2	Model T3
1.5V input	VDC	1.495	1.497	1.493
VTT open	VDC	0.749	0.750	0.746
VTT with 0.75 ohm to gnd	VDC	0.727	0.728	0.725
VTT with 0.75 ohm to 1.5V	VDC	0.763	0.767 but with 0.75 ohm to 1.8V	0.764
VTTREF no load off VTT	VDC		0.748	
VTTREF with 1A to gnd off VTT	VDC	0.745	0.745	0.744

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