ROACH Typical Power Dissipation Estimate

Item #		Power Dissipation (W)	# Of items	Total	Comments
1	LT1963AEQ	0.500	4	2.000	P(max) = 1.5A x (5V - 3.3V) + (0.08A x 5V)
2	AT84AD001BCTD	1.400	2	2.800	Stated nominal power dissipation
3	Virtex 5 SX95	40.000	1	40.000	Worst Case
4	AMCC 440EPC	2.660	1	2.660	Stated on datasheet for 533MHz clock and
5	XC2C256	1.347	1	1.347	Calculated @33MHz with full resource usag
6	DP83865	1.641	1	1.641	1.641 Calculated
7	K7S3218T4C-FC40	1.710	2	3.420	1.710 Calculated
8	S29AL032D	0.105	1	0.105	0.105 Calculated
9	PTH05T210WAD	4.465	1	4.465	F. Kapp Calculations
10	PTH08T230WAD	1.475	1	1.475	F. Kapp Calculations
11	PTH08T240WAD	2.539	1	2.539	F. Kapp Calculations
12	PTH08T220WAD	4.438	1	4.438	F. Kapp Calculations
13	AFS600	0.660	1	0.660	General Design Example
14	DIMM Memory Module	6.000	2	12.000	General Approximation Based on Micron P
15a	TPS74401RGWT	0.877	1	0.877	Calculated maximum using all MGT resourc
15b	TPS74401RGWT	1.607	1	1.607	Calculated maximum using all MGT resourc
15c	TPS74401RGWT	1.330	1	1.330	Calculated maximum using all MGT resourc
15d	TPS74401RGWT	0.183	1	0.183	Calculated from general design example of
16	FJD3076TM	2.500	1	2.500	Switches 1.5V on AFS600 @ 500mA (max
17	Power Supply	120.000	1	120.000	Based on the absolute maximum rating of a
				206.047	

but total load only 1/3 divided between 2 regulators

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DDR2 memory
ge

ower Calculator
ces
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ces
0.66W for device load
power rating 10W @2A)
all the components for 1x Roach and 2x iADC (see previous power calculation) – 116.18W