

Power Budget

Team Number:	205
Project Name:	Smart Light
Team Member Names:	Sam B, Sam M, Ari
Version:	1

A. List ALL major components (active devices, integrated circuits, etc.) except for power sources, voltage regulators, resistors, capacitors, or passive elements							
All Major Components	Component Name	Part Number	SupplyVoltageRange	#	AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Unit
5v motor	FIT0467		5V	1	100	100	mA
H bridge	FAN8100N		2V to 9V	1	1500	1500	mA
5V regulator	UA7905CKCS		+5V	1	2100	2100	mA
B. Assign each major component above to ONE power rail below. Try to minimize the number of different power rails in the design.							
+5V Power Rail	Component Name	Part Number	SupplyVoltageRange	#	AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Unit
5v motor	FIT0467		5V	1	100	100	mA
H bridge	FAN8100N		2V to 9V	1	1500	1500	mA
					<i>Subtotal</i>	1600	mA
					<i>Safety Margin</i>	25%	
					<i>Total Current Required on +5V Rail</i>	2000	mA
c2. Regulator or Source Ch	+5V regulator	UA7905CKCS	+5V	1	2100	2100	mA
					<i>Total Remaining Current Available on +5V Rail</i>	100	mA
D. Power Supply							
External Power Source 1	Component Name	Part Number	SupplyVoltageRange	Output	AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Unit
Power Source 1 Selection	Plug-in Wall Supply	C/DC ADAPTOR 093	100-240VAC	+9V	3000	3000	mA
Power Rails Connected to External Power Source 1	+5V Regulator	UA7905CKCS	4.8-5.25VDC	1	2100	2100	mA
					<i>Total Remaining Current Available on External Power Source 1</i>	900	mA