

Power Budget Example

Team Number:	207
Project Name:	Trash Canner
Name:	Riley Franco
Version:	2

All Major Components		Component Name	Part Number	SupplyVoltageRange	#	AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Unit
		H-bridge	FAN8100N	+2.2V-9V	1	65	65	mA
		Brushed DC motor	Pololu 4754	+12V	1	2500	2500	mA
		Curisoity nano microcontroller	PIC18F57q43	+1.8V - 5.5 V	1	50	50	mA
		Test LED	Built-in-LED	+3V-3.6V	1	20	20	mA
		5V regulator	LM7805T	+7V - 35V	1	1000	1000	mA
+12V Power Rail								
		Component Name	Part Number	SupplyVoltageRange	#	AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Unit
		Brushed DC motor	Pololu 4754	+12V	1	2500	2500	mA
		5V regulator	LM7805T	+7V - 35V	1	1000	1000	mA
Subtotal							3500	mA
Safety Margin							25%	
Total Current Required on +12V Rail							4375	mA
c1. Regulator or Source Choice	+12V power supply	ALITOVE 12V Power Supply	+12V - 35V	1	5000	5000	mA	
	Total Remaining Current Available on +12V Rail					625	mA	
+5V Power Rail								
		Component Name	Part Number	SupplyVoltageRange	#	AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Unit
		H-bridge	FAN8100N	+2.2V-9V	1	65	65	mA
		Curisoity nano microcontroller	PIC18F57q43	+1.8 - 5.5 V	1	50	50	mA
		Test LED	Built-in-LED	+3-3.6V	1	20	20	mA
Subtotal							135	mA
Safety Margin							25%	
Total Current Required on +5V Rail							168.75	mA
c2. Regulator or Source Choice	+5V Regulator	LM7805T	+7V-35V	1	1000	1000	mA	
	Total Remaining Current Available on +5V Rail					831.25	mA	
External Power Source 1		Component Name	Part Number	SupplyVoltageRange	Output Voltage	AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Unit
Power Source 1 Selection		Plug-in Wall Supply		120VAC	+24V	15000	15000	mA
Power Rails Connected to External Power Source 1	+12V power supply	ALITOVE 12V Power Supply	+12V - 35V	1	5000	5000	mA	
	+5V Regulator	LM7805T	+7V-35V	1	1000	1000	mA	
	Total Remaining Current Available on External Power Source 1						9000	mA