Weight Subsystem Power Budget

Team Number:	202
Project Name:	Smart Trash Can
Team Member Names:	Damian, Vedaa, Lia, Mohammed
Version:	

All Major Components	Component Name	Part Number	SupplyVoltageRange		sistors, capacitors, or passive element AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Uni
	50kg Load Cell	SEN-10245	<= 10V	1	10		mA
	Operational Amplifier	AD620ANZ	-18V to 18V	1	2		mA
	Curiosity Nano	PIC18F57Q43	1.8V to 5.5V	1	500		mA
	Curiosity Ivalio	F IC10F3/Q43	1.67 (0 3.37	1	300		mA
							mA
						512	mA
Accient cook major com	and the same to ONE many	wasil balaw. Tracks resiminates the	a number of different new		the decision		<u> </u>
. Assign each major com -5V Power Rail	Component Name	r rail below. Try to minimize the Part Number	SupplyVoltageRange		AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Uni
3V Fower Rail	50kg Load Cell	SEN-10245	<= 10V	1	` '	· '	mA
	· ·				10		
	Operational Amplifier	AD620ANZ	-18V to 18V	1	2		mA.
	Curiosity Nano	PIC18F57Q43	1.8V to 5.5V	1	500		mA
							mA
						0	mA
					Subtotal	512	mA
					Safety Margin	25%	5
					Total Current Required on +5V Rail	640	mA
					•		
2. Regulator or Source Cl	5V Regulator	LM7805T	7V to 25V	1	1500	1500	mA
				Total Rem	naining Current Available on +5V Rail		mA
V Power Rail	Component Name	Part Number	SupplyVoltageRange		AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Unit
	Operational Amplifier	AD620ANZ	-18V to 18V	1	2	2	mA
	·						mA
						0	mA
							mA
					Subtotal		mA
					Safety Margin	25%	
					Total Current Required on 0V Rail	2.5	mA
2 Pagulator or Course Ct	v 5V Pogulator	I M7905T	7\/ +a 2E\/	4	4500	4500	l _m ^
3. Regulator or Source Cl	n ov Regulator	LM7805T	7V to 25V	Total Ba	1500	1500	
				ı otai Rei	maining Current Available on 0V Rail	1497.5	mA
For each newer rail abou	vo soloct a specific voltage	rogulator using the same pro	coce se for major compon	ont colocti	on. Confirm that the Total Remaining (Current Available on sach	rail
. I or each power rail and	re, serect a specific voltage	regulator using the same pro	cess as for major compone	ent Scietti	on. Commit that the Total Kellianning C	Juli ent Avallable off each	raii
D. Select a specific externa	l power source (wall suppl	y or battery) for your system, a	and confirm that it can sup	ply all of t	he regulators for all of the power rails	simultaneously. If you ne	ed
xternal Power Source 1	Component Name	Part Number	SupplyVoltageRange	Outpu	AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Uni
	Plug-in Wall Supply	AC/DC Power Adaptor	100-240VAC	+9V	3000	3000	mA
ower Source 1 Selection					4000		Ι.
	±12\/ regulator	D I 1024 L	24\/	- 1			
ower Rails Connected to	+12V regulator	PJ-102AH	24V	1	1000	1000	
ower Source 1 Selection ower Rails Connected to xternal Power Source 1	+12V regulator +5V Regulator	PJ-102AH LM7805T	7V to 25V	1	1000 1500 Available on External Power Source 1	1500	