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	#	AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Uni
•	50kg Load Cell	SEN-10245	<= 10V	1	10	10	mΑ
	Operational Amplifier	INA33AIDGKR	1.8V to 5V	1	2		mΑ
	Curiosity Nano	PIC18F57Q43	1.8V to 5.5V	1	500		mΑ
	carresity rians	11010107 Q 10	2.07 to 3.57	-	300		mΑ
							mΑ
						~	mΑ
						312	111/
Assign each major com	ponent above to ONE powe	r rail below. Try to minimize th	ne number of different pow	er rails in 1	the design.		
5V Power Rail	Component Name	Part Number	SupplyVoltageRange	#	AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Un
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	50kg Load Cell	SEN-10245	<= 10V	1	10	· /	mΑ
	Operational Amplifier	INA333AIDGKR	1.8V to 5V	1	2		mΑ
	Curiosity Nano	PIC18F57Q43	1.8V to 5.5V	1	500		mΑ
	Curiosity Nano	FIC18137Q43	1.87 to 3.37	-	300		mA
							mA
					Subtotal		mA
					Safety Margin	25%	1 .
					Total Current Required on +5V Rail	640	mA
. Regulator or Source Ci	b. EV Bogulator	LM7805T	7V to 25V	1	1500	1500	m 1
z. Regulator or Source Ci	n 50 Regulator	LIVI7 603 I		Total Bom	naining Current Available on +5V Rail	1500 860	
V Power Rail	Component Name	Part Number	SupplyVoltageRange	#	AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Uni
r oner Run	Operational Amplifier	INA333AIDGKR	1.8V to 5V	1	2		mA
	operational / implinior	IIVASSAIDGKI	1.07 10 07	-	2		mΑ
							mΑ
							mΑ
					Subtotal		mA
					Safety Margin	25%	
					Total Current Required on 0V Rail	2.5	mA
			=>// 0=>/		4-00		
3. Regulator or Source Cl	n 5V Regulator	LM7805T	7V to 25V	1	1500	1500	
				Total Rei	maining Current Available on 0V Rail	1497.5	mA
For sook nower reil abo	vo soloot a openific voltage	regulator vaing the same pro	and as for major compan	ant calcati	on. Confirm that the Total Remaining (Current Aveilable on each	roil
Tor each power rail and	ve, serect a specific voltage	regulator using the same pro	cess as for major compone	ent Selection	on. Commit that the Total Nemanning C	Carrent Available oil each	ıaıı
. Select a specific externa	al power source (wall suppl	y or battery) for your system,	and confirm that it can sup	ply all of t	he regulators for all of the power rails	simultaneously. If you nee	ed
xternal Power Source 1	Component Name	Part Number	SupplyVoltageRange		AbsoluteMaximumCurrent (mA)	TotalCurrent(mA)	Un
ower Source 1 Selection	Plug-in Wall Supply	AC/DC Power Adaptor	100-240VAC	+9V	3000	3000	mA
		D I 400AII	24V	1	1000	1000	mΛ
ower Baile Connected to	±0\/ regulator						
		PJ-102AH		4			
ower Rails Connected to xternal Power Source 1	+9V regulator +5V Regulator	LM7805T	7V to 25V	1	1500 Available on External Power Source 1	1500 500	mΑ