Power Budget Example

Team Number: 202
Project Name: Smart Trashcan
Team Member Names: Vedaa, Damian, Lia, Mohammmad
Version: #1

All Major Components	Component Name	Part Number	Supply Voltage Range	Qty.	Absolute Maximum Current (mA)	Total Current (mA)	Unit
	IR Sensor	OPB732	+3 - 24V	1	50	50	mA
	Curiosity Nano	PIC18F57Q43	+5V	1	500	500	mA
	Op-amp	MCP6004	+1.8 - 6V	1	2	2	mA

+5V Power Rail	Component Name	Part Number	Supply Voltage Range	Qty.	Absolute Maximum Current (mA)	Total Current (mA)	Unit
	IR Sensor	OPB732	+3 - 24V	1	50	50	mA
	Curiosity Nano	PIC18F57Q43	+5V	1	500	500	mA
	Op-amp	MCP6004	+1.8 - 6V	1	2	2	mA
						0	mA
					Subtotal	552	mA
					Safety Margin	25%	
					Total Current Required on +5V Rail	690	mA
Regulator	+5V Regulator	LM7805	+7 - 35V	1	1500	1500	mA
					Total Remaining Current Available on +5V Rail	810	mA

+9V Power Rail	Component Name	Part Number	Supply Voltage Range	Qty.	Absolute Maximum Current (mA)	Total Current (mA)	Unit
Regulator	+5V Regulator	LM7805	+7 - 35V	1	1500	1500	mA
					Total Remaining Current Available on 9V Rail	1500	mA

External Power Source 1	Component Name	Part Number	Supply Voltage Range	Output Voltage	Absolute Maximum Current (mA)	Total Current (mA)	Unit
Power Source 1 Selection	Plug-in Wall Supply	AC/DC Power Adapter	100-240VAC	+9V	3000	3000	mA
Power Rails Connected to External Power Source 1	+9V regulator	PJ-102AH	+24V	1	1000	1000	mA
	+5V Regulator	LM7805	+7 - 35V	1	1500	1500	mA
					Total Remaining Current Available on External Power Source 1	500	mA