Power Budget Example

Team Number:	201
Project Name:	**Surveyor Robot**
Team Member Names:	**Kelton, Jacob, Austin, Hafsa, Isaac, K, Levi, Michael, Neel, and Seth**
Version:	**V1.0**

A. List ALL major components (active devices, integrated circuits, etc.) except for power sources, voltage regulators,

All Major Components	Component Name	Part Number	yVoltageRan	#	aximumCurre	alCurrent(mA)	Unit
	IC TEMP SENSOR	TMP1075DSGR	1.7V ~ 5.5V	1	0.1	0.1	mA
	ESP32	ESP32-S3-WROOM-1-N4	3V ~ 3.6V	1	500	500	mA
							mA
							mA
							mA
							mA

B. Assign each major component above to ONE power rail below. Try to minimize the number of different power rails in the

+3.3V Power Rail	Component Name	Part Number	yVoltageRan	#	aximumCurre	alCurrent(mA)	Unit
	IC TEMP SENSOR	TMP1075DSGR	1.7V ~ 5.5V	1	0.1	0.1	mA
	ESP32	ESP32-S3-WROOM-1-N4	3V ~ 3.6V	1	500	500	mA
						0	mA
						0	mA
					Subtotal	500.1	mA
					Safety Margin	25%	
					Total Current Required on +3.3V Rail	625.125	mA
c4. Regulator or Source Ch	IC REG BUCK 3.3V 1.5A	SC189ZSKTRT	+3.3V - 5.5V	1	1.5	1.5	A
					Total Remaining Current Available on 3.3V Rail	874.875	mA

D. Select a specific external power source (wall supply or battery) for your system, and confirm that it can supply all of the

External Power Source 1	Component Name	Part Number	yVoltageRan	Outpu	aximumCurre	alCurrent(mA)	Unit
Power Source 1 Selection	Plug-in Wall Supply	YU0905	9VAC	+9V	5000	5000	mA
Power Rails Connected to External Power Source 1						0	mA
						0	mA
	IC REG BUCK 3.3V 1.5A	SC189ZSKTRT	+3.3V - 5.5V	1	1500	1500	mA
					Total Remaining Current Available on External Power Source 1	3500	mA

Notes

External Supply Voltage should be determined by the dropout voltage for highest-voltage regulator (e.g., +14V for a +12V regulator).
If you have multiple units in your design (e.g., a base unit and remote unit) then you need a separate power budget for each unit