

Power Budget Example

Team Number:	201
Project Name:	Power Budget
Team Member Names:	Marcus Perez
Version:	1

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

All Major Components	Component Name	Part Number	SupplyVoltageRange	#	aximumCurrent	alCurrent(mA)	Unit
	ESP32-S3-WROOM1	1965-ESP32-S3-WROOM-1-N4CT-ND	3V ~ 3.6V	1	355	355	mA
	LED	475-LBT64G-AACB-59-Z484-20-R33-ZCT-ND	3V	1	20	20	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 design.

+3.3V Power Rail		Component Name	Part Number	Supply Voltage Range	#	Maximum Current	Current (mA)	Unit
		ESP32-S3-WROOM1	1965-ESP32-S3-WROOM-1-N4CT-ND	3V ~ 3.6V	1	355	355	mA
		LED	475-LBT64G-AACB-59-Z484-20-R33-ZCT-ND	3V	1	20	20	mA
							0	mA
							0	mA
						Subtotal	375	mA
						Safety Margin	25%	
						Total Current Required on +3.3V Rail	468.75	mA
c4. Regulator or Source		3.3V Regulator	LM3671MF-3.3/NOPBCT-ND	2.5-5.5V	1	1500	1500	mA
						Total Remaining Current Available on 3.3V Rail	1031.25	mA

C. For each power rail above, select a specific voltage regulator using the same process as for major component selection. Confirm that the Total Remaining

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

External Power Source 1	Component Name	Part Number	Supply Voltage Range	Output Voltage	Maximum Current	Current (mA)	Unit
Power Source 1 Selection	Plug-in Wall Supply	(full part number)	110VAC	+24V	5000	5000	mA
Power Rails Connected to External Power Source 1							mA
							mA
	+3.3V low-dropout regulator	KA78RM33RTF	+5V - 20V	1	500	500	mA
Total Remaining Current Available on External Power Source 1						4500	mA