

Power Budget Team 202

Team Number:	203						
Project Name:	String Machine 2 Way wifi						
Team Member Names:	Brendan Keeter						
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	Supply Voltage Range	#	Absolute Maximum Current (mA) [1]	Total Current (mA)	Unit
	ESP32-WROOM	ESP32-DEVKITC-32UE	3.0-3.6V	1	250	250	mA
	LED Display	SM1204RGB	2.1-5.0V	2	100	200	mA

B. Assign each major component above to ONE power rail below. Try to minimize the number of different power rails in the design. Add additional power rails or change the power rail voltages if needed.

+7.5V Power Rail	Component Name	Part Number	Supply Voltage Range	#	Absolute Maximum Current (mA)	Total Current (mA)	Unit
	3.3 V regulator	296-34972-6-ND	4.5-28V	1	1700	1700	mA
						Subtotal	1700 mA
						Safety Margin	25%
						Total Current Required on +7.5V Rail	2125 mA
+3.3V Power Rail	Component Name	Part Number	Supply Voltage Range	#	Absolute Maximum Current (mA)	Total Current (mA)	Unit
	ESP32 Module	ESP32-DEVKITC-32UE	3.0-3.6V	1	250	250	mA
	LED's	SM1204RGB	2.1-5.0V	2	100	200	mA
						Subtotal	450 mA
						Safety Margin	25%
						Total Current Required on +3.3V Rail	562.5 mA
c2. Regulator or Source Choice	+3.3V Regulator	296-34972-6-ND	(range)	1	1700	1700	mA
						Total Remaining Current Available on +3.3V Rail	1137.5 mA

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 simultaneously. If you need multiple power sources, list each separately below and indicate which regulators will be connected to each supply. Confirm that the Total Remaining Current Available on each power source below is not negative.

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	AC/DC 7.5V 24W Wall mount	237-2218-ND	7.5V	+7.5V	3200	3200	mA
Power Rails Connected to External Power Source 1	7.5V Rail		7.5V DC	+7.5V	954.13	2125	
	3.3V Rail		3.3V DC	+3.3V	771.44	1137.5	mA
						Total Remaining Current Available on External Power Source 1	-62.5 mA

[1] For inductive loads (e.g., motors, solenoids) this is often called "stall current" on the data sheet