Power Budget							
Team Number:	301						
Project Name:							
Team Member Names:	Amy, Sam, Sivanee, Jaden, Hyoyu						
Version:							

All Major Components	Component Name	Part Number	Supply Voltage Range	#	Absolute Maximum Current (mA) [	Total Current (mA)	Unit
	Microchip Module	PIC24FJ64GA702	2V ~ 3.6V	1	200	200	mA
	Temperature Sensor	TC74A4-3.3VCTTR	2.7V ~ 5.5V	1	0.2	0.2	mA
	Wifi transceiver	ESP32	+1.8 - 3.3V	1	350	350	mA
	Stepper motor	1597-114090046-ND	6 ~ 12VDDC	1	300	300	mA
	Light Sensor	TMD26721	2.6V ~ 3.6V	1	-1	20	mA
	Humidity Sensor	HDC3022	1.6V ~ 5.5V	1	21.95	91.89	mA

+6V Power Rail	Component Name	Part Number	Supply Voltage Range	#	Absolute Maximum Current (mA)	Total Current (mA)	Unit
	Stepper motor	1597-114090046-ND	6 ~ 12VDDC	1	300	300	mA
						0	mA
						0	mA
					Subtotal	300	mA
					Safety Margin	25%	
			Total Current Required on +12V Rail			375	mA
c1. Regulator or Source C	+3.3V regulator	LM2575T	+4.75V - 40V	1	1000	1000	mA
			Total Remaining Current Available on +12V Rail			625	mA

+3.3V Power Rail	Component Name	Part Number	Supply Voltage Range	#	Absolute Maximum Current (mA)	Total Current (mA)	Unit
	Microchip Module	PIC24FJ64GA702	2V ~ 3.6V	1	200	200	mA
	Temperature Sensor	TC74A4-3.3VCTTR	2.7V ~ 5.5V	1	0.2	0.2	mA
	Wifi transceiver	ESP32	+1.8 - 3.3V	1	350	350	mA
	Humidity Sensor	HDC3022	1.6V ~ 5.5V	1	21.95	91.89	mA
	Light Sensor	TMD26721	2.6V ~ 3.6V	1	-1	20	mA
					Subtotal	642.09	mA
					Safety Margin	25%	
			Total Current Required on +3.3V Rail			802.6125	mA
c4. Regulator or Source C	+3.3V regulator	LM2575T	+4.75V - 40V	1	1000	1000	mA
			Total Remaining Current Available on 3.3V Rail			197.3875	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	VER12US120-JA	90-264V	+12V	1000	1000	mA
Power Rails Connected to External Power Source 1	+3.3V regulator	LM2575T	+5V - 20V	1	500	500	mA
			Total Remaining Current Available on External Power Source 1			500	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

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