

Moisture Sensor Power Budget

Team Number:	201
Project Name:	Garden Buddy
Team Member Names:	Isaiah Johnston
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)	Total Current (mA)	Unit
	Curiosity Nano	PIC18F57Q43	1.8V-5.5V	1	20	20	mA
	Op-amp buffer	MCP6022-I/P	2.5V - 5.5V	1	5	5	mA
	Inductor	AIUR-06-331K	N/A	1	1300	1300	mA
	Schottky clamp diode	BAT85S-TAP	N/A	1	0	0	mA
	5V buck regulator	LM2575-5.0WT	+4V- 40V	1	1000	1000	mA
	8-pin IDC connector	215570-8	N/A	1	0	0	mA
	AC/DC WALL MOUNT	WSU090-0800	+90V-264V	1	800	800	mA

+5V Power Rail	Component Name	Part Number	Supply Voltage Range	#	Absolute Maximum Current (mA)	Total Current (mA)	Unit
	Curiosity Nano	PIC18F57Q43	1.8V-5.5V	1	20	20	mA
	Op-amp buffer	MCP6022-I/P	2.5V - 5.5V	1	5	5	mA
						Subtotal	mA
						25	mA
						25%	
						Total Current Required on +5V Rail	
c2. Regulator or Source Choice	5V buck regulator	LM2575-5.0WT	+4V- 40V	1	1000	31.25	mA
						Total Remaining Current Available on +5V Rail	
						1000	mA
						968.75	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 them here.	Component Name	Part Number	Supply Voltage Range	Output	Absolute Maximum Current (mA)	Total Current (mA)	Unit
External Power Source 1							
Power Source 1 Selection	Battery pack	WSU090-0800	+90V-264V	+9V	800	1768.75	mA
Power Rails Connected to External Power Source 1	5V buck regulator	LM2575-5.0WT	+4V- 40V	5V	1000	1000	mA
						768.75	mA