Team Number:	302
Project Name:	**NA**
Team Member Names:	**Enyinnaya Onyenso, Abner Oaxaca, Joaquin Jimenez, Panagiotis Levendis**
Version:	**1**

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

All Major Components	**Component Name**	**Part Number**	**Supply**	**#**	**Absolute**	**Total**	**Unit**
Wind Speed sensor	Adafruit 1733		0-3.3V	1		0	mA
Motor driver	IC HALF BRIDGE DRIVER 6A 12DS	IFX9201SGAUMA1	-0.3V - 40V	1	13	13	mA
PIC microcontroller	IC MCU 8BIT F46K42	PIC18F46K42	1.8V - 5.5V	1	350	350	mA
Temperature Sensor	Temperature Sensor	AT30TS74	0-3.3V	1	0.2	0.2	mA
DC Motor	12V DC Motor	ASJGB37-520-12V	6-18V	1	60	60	mA

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

+12V Power Rail	**Component Name**	**Part Number**	**Supply**	**#**	**Absolute**	**Total**	**Unit**
Motor driver	IC HALF BRIDGE DRIVER 6A 12DS	IFX9201SGAUMA1	-0.3V - 40V	1	13	13	mA
DC Motor	12V DC Motor	ASJGB37-520-12V	6-18V	1	60	60	mA
Wind Speed sensor			1	1		0	mA
						0	mA
						0	mA
					Subtotal	73	mA
					Safety Margin	25%	
					Total Current Required on +5V Rail	91.25	mA
c2. Regulator or Source Choice		LT3645	3.3V	1	500	500	mA
					Total Remaining Current Available on +5V Rail	408.75	mA
+3.3V Power Rail	**Component Name**	**Part Number**	**Supply**	**#**	**Absolute**	**Total**	**Unit**
Motor driver	IC HALF BRIDGE DRIVER 6A 12DS	IFX9201SGAUMA1	-0.3V - 40V	1	13	13	mA
PIC microcontroller	IC MCU 8BIT F46K42	PIC18F46K42	1.8V - 5.5V	1	350	350	mA
Temperature Sensor	Temperature Sensor	AT30TS74	0-3.3V	1	0.2	0.2	mA
						363.2	mA
					Safety Margin	25%	
					Total Current Required on +3.3V Rail	454	mA
c4. Regulator or Source Choice		LT3645	5V	1	500	500	mA
					Total Remaining Current Available on 3.3V Rail	46	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

External Power Source 1	**Component Name**	**Part Number**	**Supply**	**Output**	**Absolute**	**Total**	**Unit**
Power Source 1 Selection						0	mA
Power Rails Connected to External Power Source 1	+3.3V	LT3645	3.3V	1	500	500	mA
	+12V	LT3645	5V	1	500	500	mA
						0	mA
					Total Remaining Current Available on External Power Source 1	-1000	mA

E. Calculate Battery Life (if applicable). For each battery, also check the worst-case lifetime of the battery by

	Component Name	**Part Number**	**Supply**	**Capacity**	**Required**	
					1000	
				Battery Life	0	hours

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