

## Power Budget

<b>Team Number:</b>	204
<b>Project Name:</b>	Team 204 – Sensor Front End (Roshan)
<b>Team Member Names:</b>	Caleb Yuen, Roshan Roy Geoffrey Joe, Aaron Kiem, Quinn Maness
<b>Version:</b>	v1.0

All Major Components						
Component Name	Part Number	Supply Voltage Range	Qty.	Absolute Maximum Current (mA)	Total Current (mA)	Unit
Microcontroller Board	PIC18F57Q43 Curiosity Nano (DM182029)	+5V	1	60	50	mA
Distance sensor	GP2Y0A21YK0F	+5V	1	40	30	mA
Dual op amp	MCP6002	+5V	1	2	1	mA
Bias Network	RV1 10 k, R8 etc	+5V	1	5	2	mA
Debug LED	LED (Red) + 330 Ω	+5V	1	20	10	mA
5V Regulator	5V Regulator (500 mA available)	+8V to +24V → +5V	1	500	500	mA

+5V Power Rail						
Component Name	Part Number	Supply Voltage Range	Qty.	Absolute Maximum Current (mA)	Total Current (mA)	Unit
Microcontroller Board	PIC18F57Q43 Curiosity Nano (DM182029)	+5V	1	50	50	mA
Distance sensor	GP2Y0A21YK0F	+5V	1	40	30	mA
Dual op amp	MCP6002	+5V	1	2	1	mA
Bias Network	RV1 10 k, R8 etc	+5V	1	5	2	mA
Debug LED	LED (Red) + 330 Ω	+5V	1	20	10	mA
					<b>Subtotal</b>	<b>93 mA</b>
					<b>Safety Margin</b>	<b>25 %</b>
					<b>Total Current Required on +5V Power Rail</b>	<b>116.25 mA</b>
Regulator	Component Name	Part Number	Qty.	Absolute Maximum Current (mA)	Total Current (mA)	Unit
Regulator	+5V regulator	500 mA capable	1	500	500	mA
<b>Total Remaining Current Available on +5V Power Rail</b>					<b>383.75 mA</b>	