

## AC5 MATERIALS LIST

Part Number	Description	Shape	No. Used (Per Satellite)	Material	Dia or Width (m)	Length (m)	Height (m)	Area (m*m)	Wall/Core Thickness (m)	Face Sheet Thickness (m)	Mass ea. (grams)	Mass ea. (kg)	Area/mass (m*m/kg)
AC5-4201-1	Battery Bracket	Box	2	6061-T6	<b>0.09</b>	<b>0.013</b>	<b>0.026</b>	0.001282667			12.2	<b>0.012</b>	<b>0.105</b>
AC5-2201-1	Reaction Wheel Block	Box	1	6061-T6	<b>0.028</b>	<b>0.028</b>	<b>0.029</b>	0.000802667			15.0	<b>0.015</b>	<b>0.054</b>
AC4-7003-1	Antenna	Plate	2	Copper/Ceramic	<b>0.05</b>	<b>0.04</b>	<b>0.003</b>	0.000756667			16.1	<b>0.016</b>	<b>0.047</b>
18650/CR123A	Batteries	Cylinde	1	SS	<b>0.018</b>	<b>0.065</b>	-	0.00117			45.0	<b>0.045</b>	<b>0.026</b>
AVO	Beacon	Cylinde	1	varies	<b>0.026</b>	<b>0.04</b>	<b>0.025</b>	0.000896667			22.7	<b>0.023</b>	<b>0.040</b>
PSSC2-3300-1	Circuit Boards	Plate	1	FR4	<b>0.056</b>	<b>0.056</b>	<b>0.002</b>	0.00112			30	<b>0.030</b>	<b>0.037</b>
ADIS16488	ADIS	Box	1	varies	<b>0.044</b>	<b>0.047</b>	<b>0.014</b>	0.001114			48.5	<b>0.049</b>	<b>0.023</b>
AC5-1101-1	Lids	Plate	1	6061-T6	<b>0.105</b>	<b>0.096</b>	<b>0.004</b>	0.003628			85.8	<b>0.086</b>	<b>0.042</b>
AC5-4001-1	Payload Interface Plate	Plate	1	6061-T6	<b>0.097</b>	<b>0.097</b>	<b>0.006</b>	0.003524333			92.3	<b>0.092</b>	<b>0.038</b>
AC5-2700-1	STIM	Box	1	6061-T6 and other materials	<b>0.053</b>	<b>0.048</b>	<b>0.026</b>	0.001723333			110	<b>0.110</b>	<b>0.016</b>
AC5-5000-1	Pea Placer	Cylinde	1	6061-T6/Vespel/Stainless	<b>0.043</b>	<b>0.037</b>	-	0.001591			117.2	<b>0.117</b>	<b>0.014</b>
AC5-3000-1	EM Assembly	Box	1	FR4	<b>0.078</b>	<b>0.089</b>	<b>0.047</b>	0.004930333			275	<b>0.275</b>	<b>0.018</b>
AC5-4000-1	Payload Assembly	Box	1	FR4/ 6061-T6/Glass	<b>0.097</b>	<b>0.097</b>	<b>0.092</b>	0.009085667			573	<b>0.573</b>	<b>0.016</b>
AC5-2001-1	Body Structure	Box	1	6061-T6	<b>0.105</b>	<b>0.105</b>	<b>0.165</b>	0.015225			582.0	<b>0.582</b>	<b>0.026</b>
CSTT-1	CSTT cover	Plate	1	Varies	<b>0.1</b>	<b>0.083</b>	<b>0.006</b>	0.0042			20.0	<b>0.020</b>	<b>0.210</b>
AC5-5100-1	Pea	Cylinde	10	Brass/Glass	<b>0.008</b>	<b>0.013</b>	-	0.0001068			1.2	<b>0.001</b>	<b>0.089</b>
CSTT-2	Tether	Cylinde	1	Mylar	<b>0.08</b>	<b>12</b>	-	0.3136			18.0	<b>0.018</b>	<b>17.422</b>

## Instructions

1. Lump together identical items (like circuit boards, batteries, antenna, lids)
2. Get smallest area from the L, W, H dimensions (this is the worst case orientation)
3. For tether collision assesemnt, Use AC5 body and one end and Tether cover (8x8x0.5cm, 20 grams) as other (tether is 75mm wide, by like 0.1mm thick and 12 meters long)

## NOTES:

1. Headings for subassemblies are in BOLD
2. Purchased items are in shaded Part Number cells.