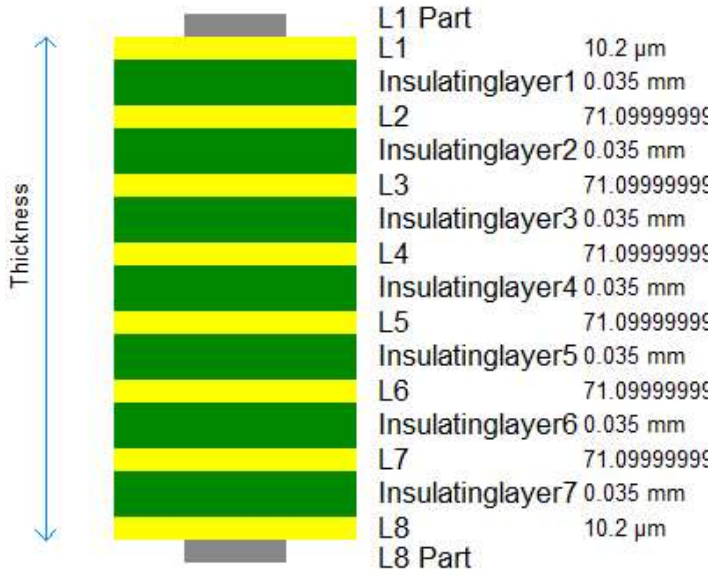
PICLS analysis report

Title ThermalSim1
User name jordo
Date of use 2024/05/26 11:43:25
Version 20200319

1. Size and Constitution

Size
Size of X-direction 80 mm
Size of Y-direction 80 mm
Thickness 0.692 mm
Constitution
No. of layers 8



Material
Insulating layer 0.3 [W/(m*K)]
Wiring 398 [W/(m*K)]

2. Environment

Ambient temperature 60 ?
Expected temperature rise 10 ?
Type of cooling system
Natural air cooling

Horizontal
Orientation
L1:Top side

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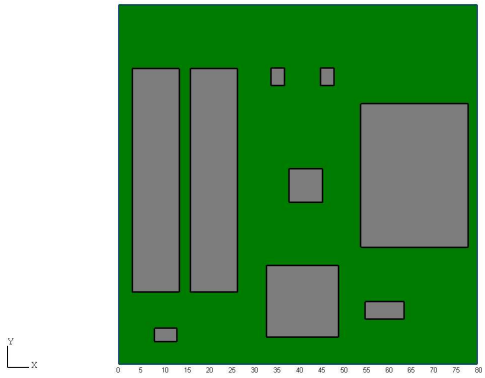
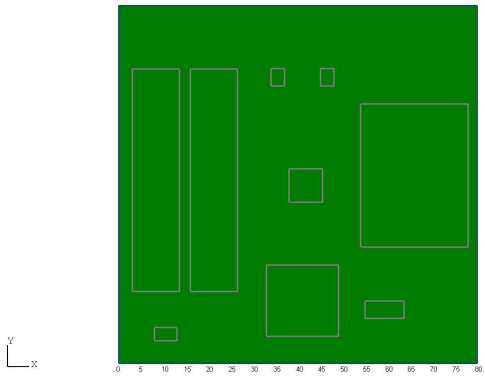
3. Part information

Part name	Allocation	Heat source[W]	Size X[mm]	Size Y[mm]	thickness[mm]	Position X[mm]	Position Y[mm]
Battery1	L1	0.15	10.5	49.8	10.5	8.25	40.9
Battery2	L1	0.15	10.5	49.8	10.5	21.25	40.9
Microcontroller	L1	0	7.5	7.5	1	41.75	39.75
Xbee	L1	0	24	32	5	66	42
GPS	L1	0.09900000000000001	16	16	3	41	14
Converter1	L1	0	3	4	1.5	35.5	64
Converter2	L1	0	3	4	1.5	46.5	64
RS233	L1	0.00198	5	3	1	10.5	6.5
RS485	L1	0.00198	8.65	3.9	1	59.325	11.95



Layout of parts(L1)



Layout of parts(L2)

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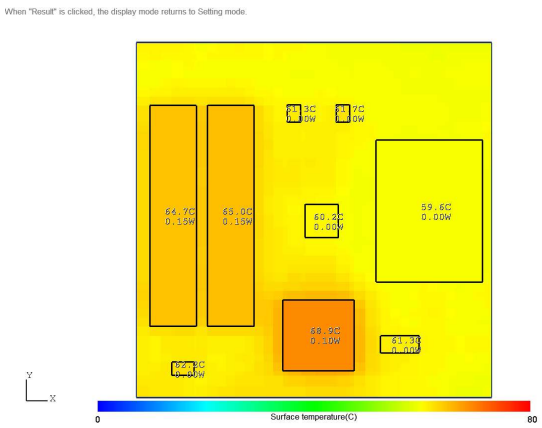
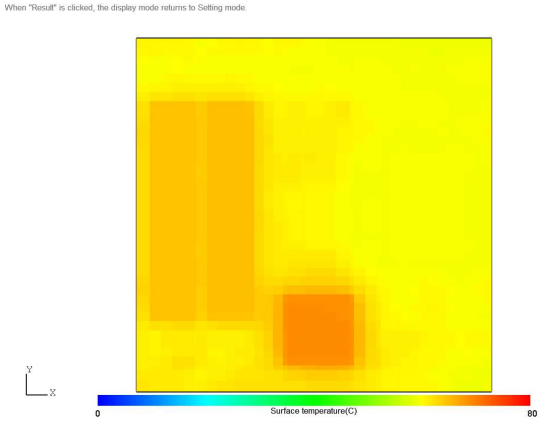
4. Temperature information

Part name	Allocation	Heat source[W]	Max[C]	Top[C]	Bottom[C]
Battery1	L1	0.150000	64.728514	64.643360	64.641102
Battery2	L1	0.150000	64.989601	64.946015	64.942639
Microcontroller	L1	0.000000	60.247332	60.247245	60.247332
Xbee	L1	0.000000	59.604444	59.604392	59.577441
GPS	L1	0.099000	68.854918	68.792341	68.809055
Converter1	L1	0.000000	61.334041	61.334018	61.240597
Converter2	L1	0.000000	61.669292	61.669257	61.507562
RS233	L1	0.001980	62.210806	62.210657	62.195553
RS485	L1	0.001980	61.277075	61.143290	61.074253



Temperature distribution(L1)



Temperature distribution(L8)