

Specification Number	Customer Need Number	Design Specification	Importance	Unit of Measure	Marginal Value	Ideal Value
Physical Design Requirements						
1	6	Overall platform weight	5	lb	<8	<6
2	6	Circuit Board Size	4	inches	<10.25x8.5	x
Deliverables						
3	8	Fully Functional Ground Tested Unit	5	Quantity	2	2
4	12	Platform Ground Impact Tested	3	Quantity	>1	x
5	9	Flight (From Geneseo Airport) of redesigned platform using a burst balloon and if possible a zero pressure balloon of at least 60k feet	4	Number of Launches	1	2
Radio						
6	3	Digital data link uses 2m amateur band	5	MHz	144-148	144.39
7	3	Digital data link power output	4	W	>1	5
8	3	Video transmitter uses 70cm amateur band	5	MHz	430-450	439.25
9	4	TV signal uses NTSC format	5	x	x	x
10	3	TV transmitter power output	4	W	>1	5
11	3	Transmittable range - Line of Sight	3	km	>500	>700
Hardware						
12	2	Equipment operating temperature range	5	deg C	0 to 40	-30 to 70
13	2	Equipment operating pressure range	3	atm	.01 to 1	x
14	2	Watchdog Timer for fault tolerance	4	Quantity	1	x
15	1	Power Supply efficiency	3	%	x	>85
16	1	Redesign printed circuit board using surface mount technology	3	x	x	x
17	11	Platform Lifetime	4	hours	>4	>5
18	1	Input Voltage	3	Volts	>17	>18
19	3	Internal Temperature Sensors	5	Quantity	4	4
20	3	Internal Temperature Sensors Measurement	5	deg C	-20 to 40	-30 to 70
21	3	External Temperature Sensors	5	Quantity	4	4
22	3	External Temperature Sensors Measurement	5	deg C	-20 to 40	-30 to 70
23	3	Pressure Sensors	5	Quantity	2	2
24	3	Pressure Range	4	atm	.01 to 1	x
25	4	External Cameras	4	Quantity	>4	8
26	3	Environmental & GPS Information Resolution	3	minutes	<1	x
27	3	GPS System	5	Quantity	1	1
28	5	Non-volatile Environmental Data Storage	2	kb	>64	x
29	5	Non-volatile Video Data Storage	2	Gb	>1	x
30	1,10	LED Efficiency	2	%	>72	x
31	10	Low-Power Beacon Lifetime	5	hours	>24	x
32	1	Disconnect force of electrical connectors	1	newton	>1	x
Software						
33	1	Programming Language	5	Type	x	C, ASM
Management/Budgetary/Legal						
34	7	Meet all FCC and FAA regulatory requirement and RIT Policies and Procedures	5	x	x	x
35	1	Assess the inventory of all parts of the instrumentation platform	2	x	x	x
36	6	Limit the budget	4	USD	5,000	x
37	1	Create an IP manufacturing, assembly, and ground testing manual	4	Quantity	1 each	x