

GPS: every 60 seconds, API: 1 point per payload

	mcu - simple delay module - on	mcu - sleep module - on	mcu - deep sleep module - on	mcu - simple delay module - low power mode	mcu - simple delay module - off		
Power (mWh)	286	196	187	298	530		
Time (s)	2110s	1674s	1544s	1932s	3453s		
# GPS Points	34	27	25	32	44		
# API Posts	34	27	25	32	44		
Power (mWh) per hour	487.962085308057	421.505376344086	436.010362694301	555.27950310559	552.562988705474		
Power (mWh) per day	11711.0900473934	10116.1290322581	10464.2487046632	13326.7080745342	13261.5117289314		
Seconds Per GPS Point	62s 59ms	62s	61s 760ms	60s 375ms	78s 477ms		
Seconds Per Post	62s 59ms	62s	61s 760ms	60s 375ms	78s 477ms		
gps_refresh_period (ms)	60000	60000	60000	60000	60000	60000	60000
api_num_gps_points_in_payload	1	1	1	1	1	1	1
First Point in API	03/11/2023 4:01:58 PM	03/11/2023 4:39:57 PM	03/11/2023 5:11:57 PM	03/11/2023 5:41:22 PM	03/11/2023 2:59:59 PM		
Last Point in API	03/11/2023 4:37:08 PM	03/11/2023 5:07:51 PM	03/11/2023 5:37:41 PM	03/11/2023 6:13:34 PM	03/11/2023 3:57:32 PM		
	2110s	1674s	1544s	1932s	3453s	0	0

GPS: 1min vs 10min per point, API: 1 point per payload

	mcu - simple delay module - on every 1min	mcu - simple delay module - on every 10min	mcu - simple delay module - low power mode every 1min	mcu - simple delay module - low power mode every 10min	mcu - simple delay module - off every 1min	mcu - simple delay module - off every 10min
Power (mWh)	286	1586	298	2786	530	944
Time (s)	2110s	16309s	1932s	29021s	3453s	19957s
# GPS Points	34	28	32	42	44	33
# API Posts	34	28	32	42	44	33
Power (mWh) per hour	487.962085308057	350.088907964927	555.27950310559	345.59801523035	552.562988705474	170.286115147567
Power (mWh) per day	11711.0900473934	8402.13379115825	13326.7080745342	8294.3523655284	13261.5117289314	4086.86676354161
Seconds Per GPS Point	62s 59ms	582s 464ms	60s 375ms	690s 976ms	78s 477ms	604s 758ms
Seconds Per Post	62s 59ms	582s 464ms	60s 375ms	690s 976ms	78s 477ms	604s 758ms
gps_refresh_period (ms)	60000	600000	60000	600000	60000	600000
api_num_gps_points_in_payload	1	1	1	1	1	1
First Point in API	03/11/2023 4:01:58 PM	03/11/2023 6:32:56 PM	03/11/2023 5:41:22 PM	03/11/2023 11:09:26 PM	03/11/2023 2:59:59 PM	03/12/2023 7:16:28 AM
Last Point in API	03/11/2023 4:37:08 PM	03/11/2023 11:04:45 PM	03/11/2023 6:13:34 PM	03/12/2023 7:13:07 AM	03/11/2023 3:57:32 PM	03/12/2023 12:49:05 PM
	2110s	16309s	1932s	29021s	3453s	19957s

GPS: 1min vs 10min per point, API: 1 point per payload

	mcu - deep sleep module - off every 1s	mcu - deep sleep module - off every 10min	mcu - deep sleep module - off every 20min	mcu - deep sleep module - off every 30min	mcu - deep sleep module - off every 40min	mcu - deep sleep module - off every 50min	mcu - deep sleep module - off every 60min
Power (mWh)	173	346	560	298	367	530	1020
Time (s)	949s	10652s	22382s	0	17235s	0	58249s
# GPS Points	14	18	19	32	8	44	17
# API Posts	14	18	19	32	8	44	17
Power (mWh) per hour	656.269757639621	116.935786706722	90.0723795907426		76.6579634464752		63.0397088362032
Power (mWh) per day	15750.4741833509	2806.45888096133	2161.73711017782		1839.7911227154		1512.95301206888
Seconds Per GPS Point	73s	626s 588ms	1243s 444ms	0	2462s 143ms	0	3640s 563ms
Seconds Per Post	73s	626s 588ms	1243s 444ms	0	2462s 143ms	0	3640s 563ms
Power (mWh) per point	12.3571428571429	19.2222222222222	29.4736842105263	9.3125	45.875	12.0454545454545	60
gps_refresh_period (ms)	1000	600000	1200000	180000	2400000	300000	3600000
api_num_gps_points_in_payload	1	1	1	1	1	1	1
First Point in API	03/14/2023 7:23:09 PM	03/13/2023 2:20:58 PM	03/13/2023 8:00:48 AM		03/14/2023 9:37:40 AM		03/13/2023 5:22:30 PM
Last Point in API	03/14/2023 7:38:58 PM	03/13/2023 5:18:30 PM	03/13/2023 2:13:50 PM		03/14/2023 2:24:55 PM		03/14/2023 9:33:19 AM
	949s	10652s	22382s	0	17235s	0	58249s
Notes	This is about as fast as the module can turn on and off. The MCU is not sleeping because the pre-nap and post-nap values are larger than the 1 second.						This is heading towards the board limit of 0.0107A x 5.088V = 54.4mWh. The 0.0107A draw is when the module is off and the mcu is in deep sleep.

zero percent voltage = 3.3V, max battery voltage = 4.2V, gps refresh = 1s

time (ms)	time (mins)	adc value	voltage	percent
3733971	0	2626	4.20	99.99
4398088	10.0686166666667	2608	4.17	96.79
4942536	20.14275	2596	4.15	94.65
5546759	30.2131333333333	2591	4.14	93.77
6150977	40.2834333333333	2581	4.13	91.99
6755275	50.3550666666667	2567	4.11	89.50
7359442	60.4245166666667	2563	4.10	88.79
7963807	70.4972666666667	2560	4.09	88.26
8567980	80.5668166666667	2550	4.08	86.48
9172149	90.6363	2533	4.05	83.46
9776385	100.7069	2538	4.06	84.35
10380688	110.778616666667	2527	4.04	82.39
10984908	120.84895	2519	4.03	80.97
11589015	130.9174	2521	4.03	81.33
12193348	140.989616666667	2510	4.01	79.37
12797510	151.058983333333	2500	4.00	77.59
13401637	161.127766666667	2492	3.99	76.17
14014781	171.346833333333	2478	3.96	73.69
14617805	181.397233333333	2479	3.96	73.86
15221919	191.4658	2472	3.95	72.62
15826203	201.5372	2468	3.95	71.91
16430384	211.606883333333	2461	3.94	70.66
17034715	221.679066666667	2448	3.92	68.35
17638904	231.748883333333	2450	3.92	68.71
18243068	241.818283333333	2444	3.91	67.64
18847200	251.88715	2431	3.89	65.33
19451292	261.95535	2432	3.89	65.51
20055552	272.02635	2421	3.87	63.56
20659769	282.096633333333	2409	3.85	61.42
21263974	292.166716666667	2407	3.85	61.07
21868171	302.236666666667	2406	3.85	60.89
22472413	312.307366666667	2396	3.83	59.11
23076903	322.3822	2394	3.83	58.76
23681105	332.452233333333	2384	3.81	56.98
24285249	342.5213	2376	3.80	55.56
24889374	352.59005	2376	3.80	55.56
25493543	362.659533333333	2370	3.79	54.49
26097682	372.728516666667	2358	3.77	52.36
26701981	382.800166666667	2363	3.78	53.25
27306114	392.86905	2360	3.77	52.72
27910351	402.939666666667	2341	3.74	49.34
28514556	413.00975	2349	3.76	50.76
29118708	423.07895	2350	3.76	50.94
29722823	433.147533333333	2343	3.75	49.69
30326998	443.217116666667	2350	3.76	50.94
30931164	453.28655	2344	3.75	49.87
31535420	463.357483333333	2342	3.75	49.52
32139619	473.427466666667	2342	3.75	49.52
32743844	483.497883333333	2345	3.75	50.05
33348034	493.567716666667	2345	3.75	50.05
33952316	503.639083333333	2341	3.74	49.34
34556829	513.7143	2335	3.73	48.27
35161465	523.791566666667	2326	3.72	46.67
35765616	533.86075	2323	3.72	46.14
36369763	543.929866666667	2323	3.72	46.14
36974054	554.001383333333	2318	3.71	45.25
37579636	564.094416666667	2310	3.69	43.83
38183852	574.164683333333	2304	3.68	42.76
38789290	584.255316666667	2292	3.67	40.63
39393443	594.324533333333	2295	3.67	41.17
39997810	604.393983333333	2286	3.66	39.57
40601782	614.463516666667	2274	3.64	37.43
41205935	624.532733333333	2281	3.65	38.68
41810131	634.602666666667	2273	3.64	37.26
42414322	644.672516666667	2266	3.62	36.01
43018504	654.742216666667	2260	3.61	34.95
43622720	664.812483333333	2256	3.61	34.23
44226949	674.882966666667	2253	3.60	33.70
44831075	684.951733333333	2257	3.61	34.41
45435211	695.020666666667	2250	3.60	33.17
46039324	705.089216666667	2246	3.59	32.46
46643532	715.15935	2245	3.59	32.28
47247984	725.23355	2240	3.58	31.39
47852141	735.302833333333	2235	3.57	30.50
48456353	745.373033333333	2230	3.57	29.61
49060496	755.442083333333	2226	3.56	28.90
49664608	765.510616666667	2227	3.56	29.08
50268772	775.580016666667	2220	3.55	27.84
50872968	785.64995	2217	3.55	27.30
51477189	795.7203	2208	3.53	25.70
52081345	805.789566666667	2202	3.52	24.64
52685577	815.8601	2206	3.53	25.35
53289765	825.9299	2196	3.51	23.57
53894061	836.0015	2193	3.51	23.04
54498232	846.071016666667	2187	3.50	21.97
55102678	856.145116666667	2183	3.49	21.26
55706849	866.214633333333	2174	3.48	19.66
56311126	876.285916666667	2175	3.48	19.84
56915309	886.355633333333	2166	3.46	18.24
57519495	896.4254	2155	3.45	16.29
58123688	906.495283333333	2150	3.44	15.40
58727817	916.5641	2147	3.43	14.86
59332249	926.637966666667	2136	3.42	12.91
59936392	936.707016666667	2116	3.38	9.36
60540535	946.776066666667	2083	3.33	3.49
61144732	956.846016666667	2058	3.29	0.00
61748999	966.917133333333	2065	3.30	0.29
62353182	976.98685	2061	3.30	0.00

