Tool info

Serial API:	1:1.0
Board:	Custom STM32F401RE thrustBoard v2
Firmware:	thrust++ : ChibiOS RT 7.1.0 : HAL 8.1.0
Commit:	[cbca101] : Apr 10 2023 - 16:52:42

Measurement info

Motor:	Dualsky ECO2814C V2
KV:	970
Magnet poles:	14
Propeler:	Graupner 10x6 fold
Blade count:	2
Note:	Battery 4S 2200mAh

Measurement Results 1:

Output [%]	Thrust [G] mean	std dev	Torque [G cm] mean	std dev	RPM [1/min] mean	std dev	Voltage [V] mean	std dev	Current [A] mean	std dev	Pin [W]	ThrustEff [G/W]
20	126.81	2.855	255.21	6.779	2835	30.2	16.734	0.0040	0.867	0.0273	14.513	8.737
30	244.14	2.077	470.87	6.685	3839	15.9	16.688	0.0042	1.768	0.0311	29.507	8.274
40	436.68	2.111	807.93	6.709	5047	33.0	16.608	0.0065	3.576	0.0399	59.387	7.353
50	656.98	2.596	1181.53	6.739	6143	36.7	16.477	0.0091	6.258	0.0427	103.116	6.371
60	910.06	2.759	1570.07	7.189	7055	46.3	16.295	0.0136	9.824	0.0536	160.086	5.685
70	1231.32	3.741	2127.45	6.973	8109	119.2	16.047	0.0159	14.966	0.0848	240.174	5.127
80	1625.36	7.978	2788.78	11.274	9218	41.1	15.704	0.0158	21.918	0.1483	344.211	4.722
90	1930.73	8.666	3334.07	15.797	10010	50.5	15.343	0.0178	29.128	0.1239	446.904	4.320
100	2172.78	16.138	3761.70	40.257	10582	49.2	14.973	0.0183	36.416	0.2186	545.273	3.985

Measurement Results 2:

Output [%]	Thrust [G] mean	std dev	Torque [G cm] mean	std dev	RPM [1/min] mean	std dev	Voltage [V] mean	std dev	Current [A] mean	std dev	Pin [W]	ThrustEff [G/W]
20	114.67	4.158	243.13	7.907	2788	28.9	16.379	0.0053	0.840	0.0306	13.761	8.333
30	224.91	3.717	453.79	7.646	3769	23.2	16.342	0.0061	1.708	0.0218	27.919	8.056
40	407.49	3.753	778.21	7.664	4961	38.1	16.266	0.0070	3.483	0.0414	56.651	7.193
50	628.00	3.740	1134.86	7.844	6043	52.6	16.147	0.0088	6.088	0.0646	98.303	6.388
60	876.44	4.864	1517.46	8.128	6955	38.7	15.986	0.0147	9.576	0.0538	153.080	5.725
70	1191.23	4.970	2060.64	7.774	8063	137.3	15.769	0.0131	14.630	0.0772	230.695	5.164
80	1571.13	6.994	2705.13	19.189	9103	45.5	15.477	0.0149	21.352	0.1301	330.459	4.754
90	1890.91	8.868	3238.99	16.803	9907	46.5	15.145	0.0202	28.566	0.1392	432.624	4.371
100	2108.79	14.816	3677.21	20.447	10479	57.7	14.773	0.0199	35.876	0.1861	529.992	3.979

Measurement Results 3:

Output [%]	Thrust [G] mean	std dev	Torque [G cm] mean	std dev	RPM [1/min] mean	std dev	Voltage [V] mean	std dev	Current [A] mean	std dev	Pin [W]	ThrustEff [G/W]
20	92.82	13.527	232.97	9.118	2740	31.4	16.031	0.0043	0.823	0.0218	13.190	7.037
30	205.08	13.424	440.08	9.015	3700	18.2	15.994	0.0044	1.653	0.0291	26.431	7.759
40	379.10	13.427	744.50	9.051	4850	32.0	15.922	0.0089	3.334	0.0454	53.089	7.141
50	591.78	13.457	1089.24	9.030	5909	31.1	15.812	0.0089	5.840	0.0566	92.340	6.409
60	829.22	13.515	1464.73	9.356	6826	41.3	15.660	0.0167	9.324	0.0690	146.010	5.679
70	1148.58	13.852	1999.21	9.057	7917	113.8	15.448	0.0145	14.230	0.0765	219.815	5.225
80	1510.17	13.639	2623.03	9.798	8971	41.1	15.179	0.0157	20.815	0.0927	315.944	4.780
90	1804.05	15.571	3142.46	14.099	9757	46.8	14.879	0.0161	27.781	0.1101	413.350	4.364
100	2057.69	15.205	3591.62	15.211	10358	50.8	14.554	0.0190	35.105	0.1552	510.936	4.027

Measurement Results 4:

Output	Thrust [G]		Torque [G cm]		RPM [1/min]		Voltage [V]		Current [A]		Pin [W]	ThrustEff
[%]	mean	std dev	mean	std dev	mean	std dev	mean	std dev	mean	std dev		[G/W]
20	86.92	12.437	233.23	7.414	2705	33.0	15.800	0.0062	0.800	0.0312	12.639	6.877
30	196.98	12.372	433.34	7.245	3653	19.2	15.769	0.0043	1.628	0.0289	25.677	7.672
40	366.68	12.380	727.45	7.337	4785	29.0	15.706	0.0047	3.212	0.0423	50.444	7.269
50	571.34	12.385	1060.80	7.401	5829	30.5	15.607	0.0094	5.696	0.0380	88.895	6.427
60	811.47	13.316	1436.89	7.544	6765	32.5	15.451	0.0115	9.130	0.0695	141.069	5.752
70	1119.22	12.835	1966.18	7.925	7866	110.0	15.253	0.0135	14.091	0.0866	214.932	5.207
80	1471.68	12.925	2568.98	9.459	8884	39.8	15.003	0.0178	20.430	0.0924	306.499	4.802
90	1770.53	15.093	3095.41	13.983	9669	42.1	14.725	0.0157	27.412	0.1205	403.654	4.386
100	2021.21	13.455	3542.58	12.976	10302	39.6	14.435	0.0159	34.564	0.1404	498.927	4.051

Measurement Results 5:

Output	Thrust [G]		Torque [G cm]		RPM [1/min]		Voltage [V]		Current [A]		Pin [W]	ThrustEff
[%]	mean	std dev	mean	std dev	mean	std dev	mean	std dev	mean	std dev		[G/W]
20	94.21	2.152	223.58	13.084	2671	31.6	15.571	0.0047	0.783	0.0342	12.197	7.724
30	200.55	1.694	415.27	12.945	3613	23.7	15.541	0.0054	1.598	0.0311	24.833	8.076
40	367.04	1.777	704.29	12.981	4725	33.2	15.485	0.0060	3.176	0.0384	49.187	7.462
50	565.59	1.910	1033.37	13.015	5756	29.8	15.391	0.0071	5.560	0.0408	85.577	6.609
60	797.97	2.500	1404.78	13.648	6700	35.6	15.263	0.0113	8.942	0.0577	136.479	5.847
70	1103.33	2.973	1922.43	13.070	7789	122.2	15.081	0.0108	13.819	0.0750	208.402	5.294
80	1457.86	4.910	2535.10	13.782	8813	39.4	14.846	0.0126	20.157	0.0854	299.238	4.872
90	1751.63	6.386	3041.45	16.211	9619	40.6	14.587	0.0147	26.965	0.1048	393.330	4.453
100	2010.34	5.797	3495.53	17.830	10238	45.2	14.303	0.0162	34.183	0.1339	488.932	4.112

Plots for Measurement Results: