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:	Dualsy ECO2814C V2
KV:	970
Magnet poles:	14
Propeler:	Aeronaut 12x6.5 fold
Blade count:	2
Note:	Battery 3S 2600mAh

Measurement Results 1:

Output [%]	Thrust [G] mean	Thrust [G] std dev	Torque [G cm] mean	Torque [G cm] std dev	RPM [1/min] mean	RPM [1/min] std dev	Voltage [V] mean	Voltage [V] std dev	Current [A] mean	Current [A] std dev	Pin [W]	ThrustEff [G/W]
20	59.31	8.986	208.45	8.912	1785	14.7	12.575	0.0041	0.697	0.0290	8.764	6.767
30	168.32	8.977	457.15	7.870	2628	13.1	12.547	0.0056	1.644	0.0307	20.633	8.158
40	348.32	9.029	813.93	7.891	3522	20.8	12.497	0.0058	3.582	0.0385	44.763	7.782
50	509.91	8.996	1183.19	7.984	4232	20.4	12.425	0.0066	6.220	0.0409	77.290	6.597
60	740.48	9.059	1635.48	8.086	5012	31.5	12.315	0.0070	10.130	0.0414	124.746	5.936
70	1063.86	9.615	2213.96	8.381	5892	60.7	12.161	0.0086	15.580	0.0699	189.466	5.615
80	1388.62	10.477	2810.67	13.374	6630	73.1	11.965	0.0116	22.281	0.1080	266.585	5.209
90	1677.19	11.467	3316.42	15.563	7159	52.1	11.754	0.0119	29.241	0.1126	343.709	4.880
100	1878.25	11.467	3699.81	18.408	7617	56.8	11.534	0.0126	36.166	0.1458	417.153	4.503

Measurement Results 2:

Output [%]	Thrust [G] mean	Thrust [G] std dev	Torque [G cm] mean	Torque [G cm] std dev	RPM [1/min] mean	RPM [1/min] std dev	Voltage [V] mean	Voltage [V] std dev	Current [A] mean	Current [A] std dev	Pin [W]	ThrustEff [G/W]
20	51.69	3.702	200.58	9.003	1756	16.2	12.328	0.0046	0.654	0.0267	8.063	6.411
30	160.49	3.665	447.27	8.938	2591	13.5	12.305	0.0043	1.619	0.0321	19.923	8.056
40	324.64	3.662	782.63	8.955	3445	21.5	12.258	0.0040	3.442	0.0451	42.191	7.694
50	480.30	3.684	1134.97	9.098	4147	22.0	12.191	0.0070	6.014	0.0413	73.315	6.551
60	717.76	3.841	1596.56	9.113	4947	42.3	12.088	0.0108	9.941	0.0544	120.174	5.973
70	1023.37	4.327	2145.18	9.272	5781	57.9	11.938	0.0083	15.275	0.0931	182.349	5.612
80	1320.48	5.546	2700.01	11.956	6527	63.8	11.771	0.0085	21.548	0.1007	253.645	5.206
90	1597.55	9.991	3174.79	14.013	7066	41.2	11.590	0.0096	28.387	0.1526	329.009	4.856
100	1819.52	7.444	3562.70	27.919	7506	41.6	11.377	0.0145	35.180	0.2512	400.257	4.546

Measurement Results 3:

Output [%]	Thrust [G] mean	Thrust [G] std dev	Torque [G cm] mean	Torque [G cm] std dev	RPM [1/min] mean	RPM [1/min] std dev	Voltage [V] mean	Voltage [V] std dev	Current [A] mean	Current [A] std dev	Pin [W]	ThrustEff [G/W]
20	42.19	4.016	192.50	10.229	1733	15.8	12.112	0.0044	0.662	0.0220	8.024	5.258
30	151.61	3.279	429.83	10.191	2548	13.3	12.091	0.0046	1.576	0.0305	19.059	7.954
40	314.06	3.275	754.32	10.202	3381	21.5	12.045	0.0059	3.369	0.0408	40.577	7.740
50	461.55	3.318	1100.71	10.356	4081	21.8	11.974	0.0076	5.912	0.0485	70.789	6.520
60	697.86	3.488	1549.63	10.962	4881	47.5	11.859	0.0120	9.699	0.0419	115.030	6.067
70	991.18	3.691	2067.04	10.330	5705	38.6	11.710	0.0112	14.856	0.0755	173.958	5.698
80	1284.10	5.222	2608.27	11.528	6394	64.4	11.539	0.0112	21.074	0.0769	243.165	5.281
90	1562.92	12.790	3073.25	16.340	6937	43.2	11.351	0.0110	27.685	0.1143	314.260	4.973
100	1773.03	11.975	3472.19	19.036	7401	39.8	11.161	0.0096	34.504	0.1526	385.120	4.604

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	45.08	9.061	182.76	21.920	1701	18.4	11.908	0.0034	0.621	0.0322	7.393	6.098
30	152.67	9.029	413.19	21.911	2503	14.9	11.888	0.0034	1.539	0.0391	18.294	8.345
40	309.17	9.026	727.26	21.907	3331	13.0	11.846	0.0052	3.284	0.0278	38.908	7.946
50	458.16	9.050	1072.62	21.967	4025	17.0	11.782	0.0059	5.756	0.0387	67.816	6.756
60	691.33	9.089	1513.43	22.014	4813	45.6	11.685	0.0098	9.500	0.0372	111.010	6.228
70	978.82	9.360	2029.14	22.191	5648	42.4	11.554	0.0080	14.652	0.0780	169.301	5.782
80	1258.78	10.555	2558.39	22.983	6329	59.7	11.391	0.0100	20.680	0.0801	235.563	5.344
90	1532.22	10.660	3018.51	23.566	6888	42.4	11.219	0.0098	27.179	0.1266	304.935	5.025
100	1752.52	10.935	3415.19	26.647	7331	44.4	11.032	0.0085	34.087	0.1785	376.066	4.660

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	53.87	3.155	173.93	26.317	1680	19.5	11.744	0.0041	0.608	0.0193	7.146	7.538
30	154.02	3.122	397.68	26.302	2468	14.4	11.724	0.0048	1.493	0.0384	17.503	8.800
40	303.39	3.109	703.59	26.304	3284	16.3	11.685	0.0047	3.175	0.0351	37.103	8.177
50	453.39	3.144	1049.07	26.336	3977	18.4	11.622	0.0052	5.635	0.0460	65.490	6.923
60	680.97	3.417	1481.48	26.371	4761	37.1	11.527	0.0107	9.300	0.0509	107.204	6.352
70	972.40	3.617	1995.60	26.369	5605	49.1	11.404	0.0077	14.441	0.0554	164.687	5.905
80	1250.51	7.157	2504.09	27.354	6283	53.4	11.259	0.0076	20.298	0.0867	228.527	5.472
90	1518.97	8.163	2949.94	28.310	6836	44.2	11.099	0.0075	26.714	0.1299	296.512	5.123
100	1718.87	8.685	3337.84	27.439	7304	46.5	10.930	0.0092	33.434	0.0807	365.432	4.704

Plots for Measurement Results: