Extreme Flight 48” Extra 300-EXP V2

Looking at the specs for the 48” model in the link you provided, they show a flying weight of between 44 and 48 ounces, depending on the battery used. On the Extreme flight website they call out their Torque 2814T/820 motor and a 12x6 prop for use on 4 cells. Their motor part number is a bit misleading because the 28 part of the motor number means that it has a 28mm stator but the 14T part means that it is a 14-turn wind, but the stator used in the motor is actually a 20mm length. Because of this, to get a direct comparison to one of our motors, you need to look for a 2820 motor with a Kv value around 820.

In our BadAss motor line, we have a BA-2820-780 and a BA-2820-910 among others available. With the BadAss motors, they are so efficient, and do not bog down as much under load, they act like motors with slightly higher Kv values.

Looking at the performance data for the BA-2820-780 motor on 4 cells with a 12x6-E prop you get the following full throttle performance numbers.

Volts – 14.8
Amps – 36.95
Watts – 547
RPM – 9288
Thrust – 89 ounces (5 pounds 9 ounces)
Speed – 53 MPH

This setup gets you very close to a 2 to 1 thrust to weight ratio and 200 watts per pound at a 45 ounce flying weight. If you want really good thrust, you could also run the APC 13x5.5-E prop on 4 cells and get these full throttle performance numbers.

Volts – 14.8
Amps – 39.3
Watts – 582
RPM – 9133
Thrust – 100 ounces (6 pounds 4 ounces)
Speed – 48 MPH

The Kv value of the BA-2820-910 motor is a bit too high for 4 cell operation and you would end up pulling over 51 amps on a 12x6 prop, and get 105 ounces of thrust, but that would be hard on your batteries. For this plane, the BA-2820-780 motor with either the 12x6 or 13x5.5 prop would be best. Our BadAss Wood electric 12x6 and 13x6 props would also work very well, and give similar performance to the two APC props, while looking awesome on the front of your plane! The BadAss wood props are lighter than the APC props, so you get crisper throttle response in a hover.

That motor is rated for up to 54 amps, so the BadAss Rebel V2 60-amp ESC would be a good match for it.

Here are links to the items described above.

BA-2820-780Kv Motor: https://innov8tivedesigns.com/badass-2820-780kv-brushless-motor.html

BadAss Rebel V2 60-Amp ESC: https://innov8tivedesigns.com/badass-rebel-v2-series-brushless-esc-60a.html

BadAss V2 ESC Programmer: https://innov8tivedesigns.com/badass-rebel-v2-series-brushless-esc-lcd-programmer.html

APC 12x6-E Propeller: https://innov8tivedesigns.com/apc-12x6e-propeller.html

APC 13x5.5-E Propeller: https://innov8tivedesigns.com/apc-13x5-5e-propeller.html

BadAss 12x6 Wood Propeller: https://innov8tivedesigns.com/badass-wood-electric-propeller-12x6.html

BadAss 13x6 Wood Propeller: https://innov8tivedesigns.com/badass-wood-electric-propeller-13x6.html