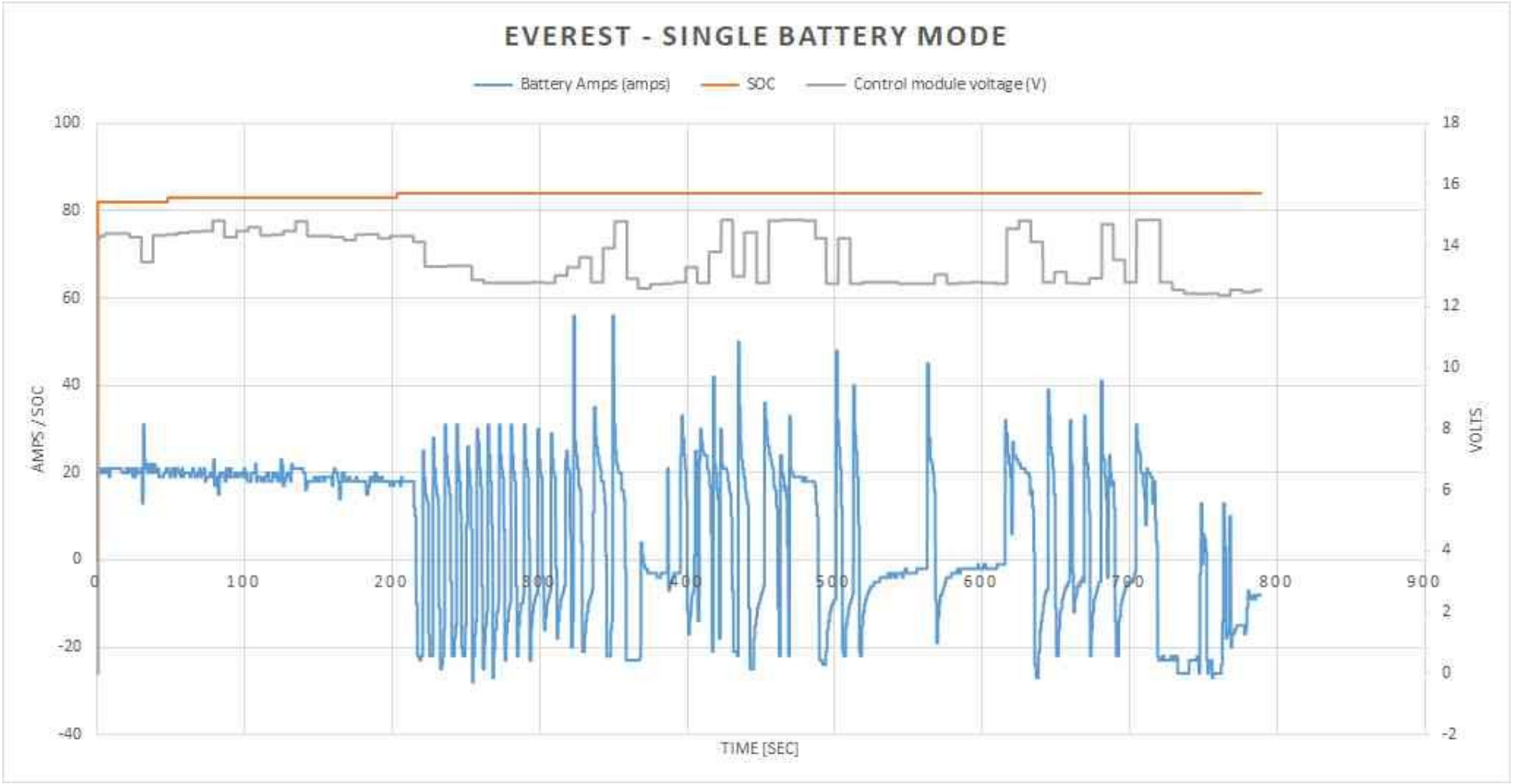
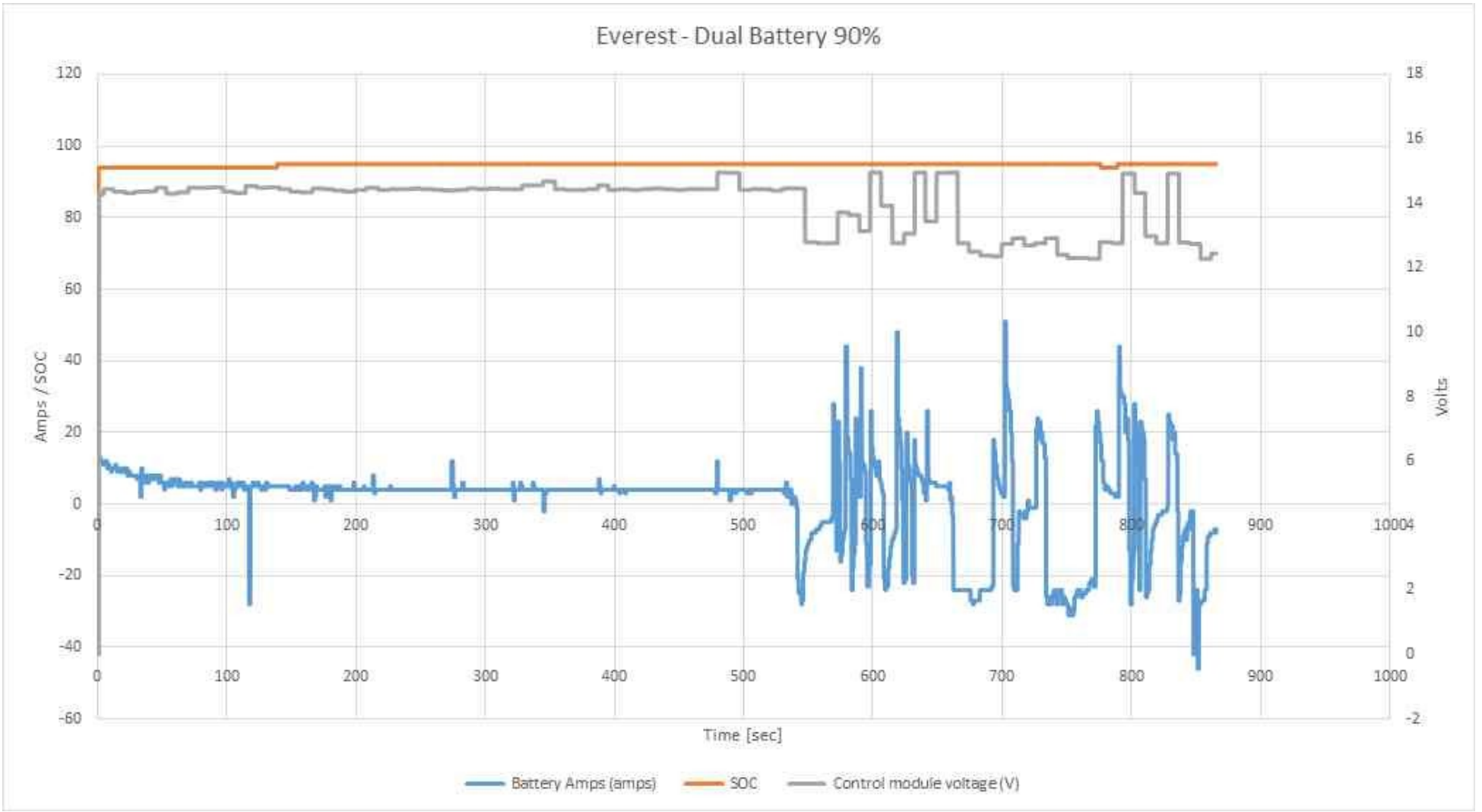
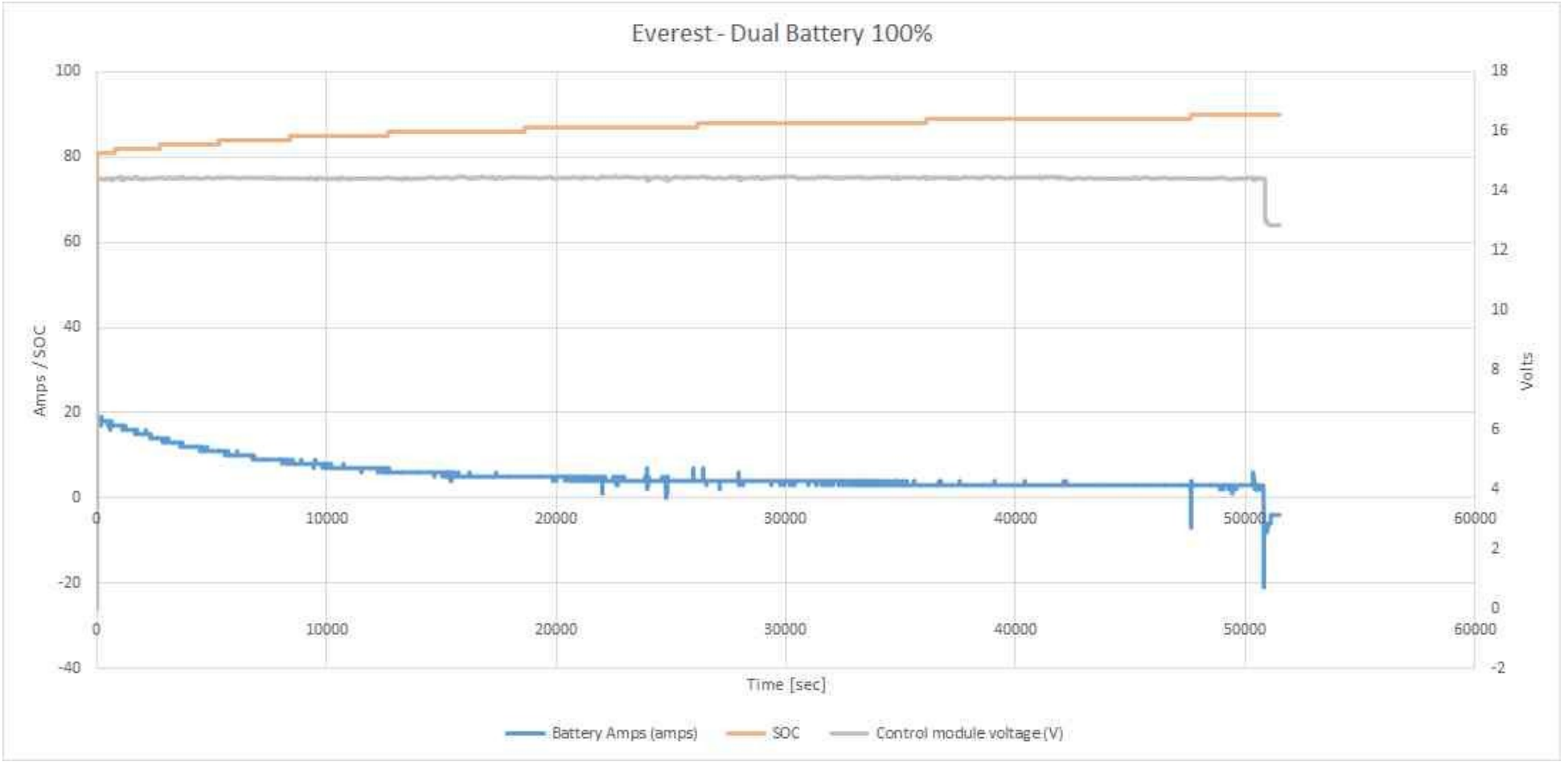
Here are some readings from my 2018 Ford Everest [same electricals as PX Ranger]

So.... I've run some tests measuring Volts, Amps & SOC for Single Battery, 90% Dual Battery & 100% Dual Battery - See attached output




Everest - Dual Battery 90%
Amps / SOC
Volts
Time [sec]
120
100
80
60
40
20
0
-20
-40
-60
18
16
14
12
10
8
6
4
2
0
-2
0
100
200
300
400
500
600
700
800
900
1000
Battery Amps (amps)
SOC
Control module voltage (V)


Everest - Dual Battery 100%
Amps / SOC
Volts
Time [sec]
100
80
60
40
20
0
-20
-40
18
16
14
12
10
8
6
4
2
0
-2
0
10000
20000
30000
40000
50000
60000
Battery Amps (amps)
SOC
Control module voltage (V)

Single battery charges to around 85% SOC and then the alternator starts to cut in and out with charge fluctuating [+ -] 20 Amps in a very erratic manner. Is this normal? - have others experienced this erratic charging behaviour? I would have expected a smoother response from the alternator.

Dual Battery 90% has a similar behaviour - but charging to about 95%. It would appear that the BCM is monitoring the SOC and cutting the alternator voltage when the target SOC is reached.

Full Dual Battery 100% Shows much smoother charging with a constant 24/7 14.4 Volts & Amps slowly reducing as the battery slowly reaches maximum charge as you would expect. It did not reach 100% SOC this run - bit over 90%, but it did before & I expect with constant 14.4 V charging it will eventually reach 100% again.