

# Project Apex Race Report - Race Event

## Executive Summary

The race showcased distinct performance tiers, with BMW emerging as the clear leader, followed closely by Aston Martin and Ford in a competitive top tier. The midfield was tightly contested by Cupra, McLaren, and Porsche, while Honda struggled to maintain average pace. Mercedes-AMG, despite strong optimal lap potential, and particularly Hyundai, Toyota, and Audi, faced significant performance deficits, primarily due to tire management and pit stop inefficiencies. BMW demonstrated exceptional overall pace, ranking first among manufacturers, with cars like #39 (CarBahn with Peregrine racing) showing remarkable consistency (0.438s STDEV) and strong average green flag pace (1:58.879). Aston Martin, while third in overall pace, recorded the fastest optimal lap time (1:55.756) and exhibited excellent tire management, with car #46 (Team TGM) having a very low degradation coefficient (0.003195). Ford maintained a strong second position in manufacturer pace, with car #59 (KOHRS MOTORSPORTS) showing good average pace and tire wear. Mercedes-AMG's car #57 (Winward Racing) achieved a very competitive optimal lap (1:56.044) but suffered from the second-highest tire degradation (0.07225 deg\_coeff\_a) and inconsistent driver performance (1.304s delta), dragging down its average pace. This highlights a critical area for improvement. The struggling manufacturers, Hyundai, Toyota, and especially Audi, faced fundamental performance issues. Audi consistently ranked last in both overall pace and tire wear. Their cars, notably #56 (Baker Racing) and #7 (Precision Racing LA), displayed alarmingly high tire degradation coefficients (0.362937 and 0.953903 respectively). Furthermore, Audi teams dominated the bottom of the pit cycle efficiency ranking, with #10 (Rockwell Autosport Development) losing over 324 seconds per stop on average. This, combined with significant driver deltas across several Audi cars, points to systemic issues in car setup, tire strategy, and pit execution. The biggest strategic differentiator in this race was undoubtedly tire management and pit stop efficiency, which severely impacted the overall race performance of several manufacturers, particularly those at the back of the field.

## Tactical Insights

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