

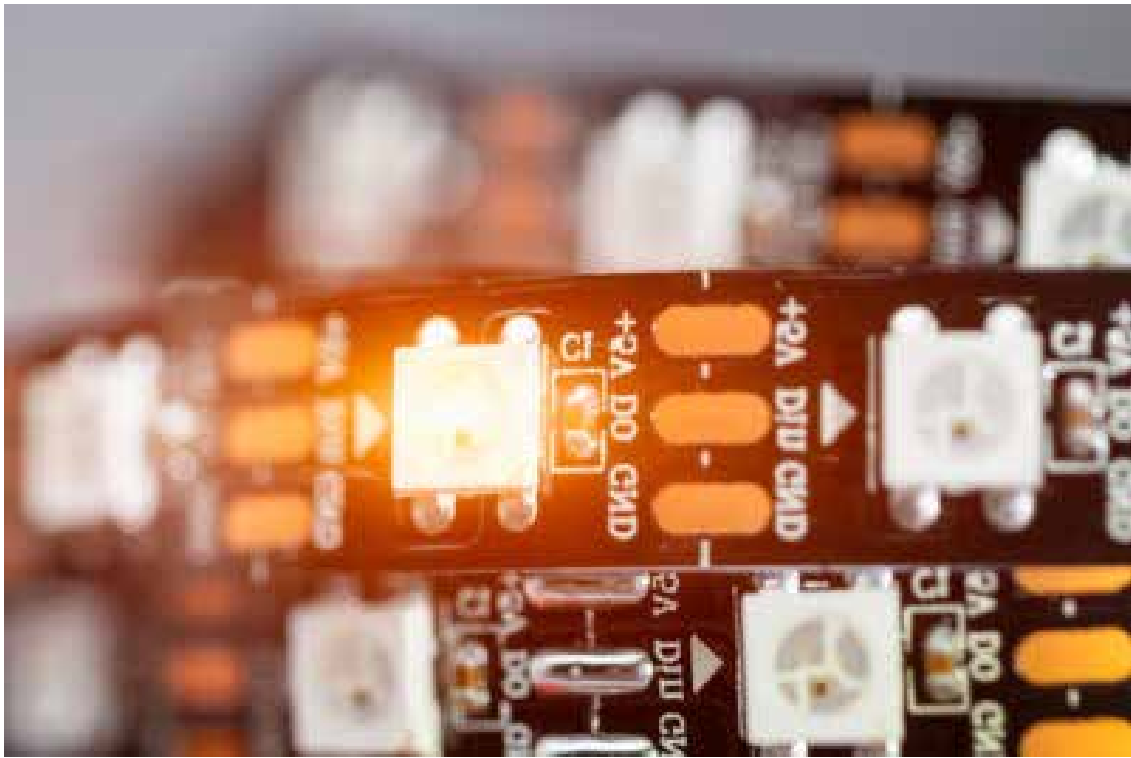
AEC-Q102 Certification in the Addressable RGB with Built-In IC: American Bright ensures reliability for automotive interior lighting features

The automotive industry has recognized the consumer appeal of both interior lighting and new electronic features throughout the vehicle. No longer minor peripheral accessories, LED lighting features have become the major driver of sales. As a result, the industry has seen a growing demand for more capable and reliable electronic components.

Among these components, the addressable RGB (Red-Green-Blue) with IC (Integrated Circuit) LED plays a central role in popular new ambient lighting applications, offering automotive designers vibrant colors and programable effects.

In order to gain widespread adoption, however, these new performance capabilities must prove long-term reliability in the context of harsh automotive environments.

The AEC-Q102 certification sets the benchmark for quality and endurance requirements for LEDs. This post takes a look at what the industry standard sets forth in terms of durability, functionality, and safety.



Setting the Standard for LEDs

IC-controlled LEDs — whether used as indicators, ambient illumination, or aesthetic enhancements—fall under the guidelines of AEC-Q102 stress test qualification. This engineering performance evaluation covers all opto-electronic semiconductors in automotive applications. These design guidelines include:

Optimal Functionality

AEC-Q102 certification focuses on functional aspects such as color accuracy, brightness control, dimming capabilities, and color mixing precision. By meeting these requirements, American Bright’s addressable RGB with built-in IC LED guarantees accurate and consistent lighting performance for aesthetic displays and user interfaces.

Benchmarks for Durability

Any consumer product that is reengineered as an automotive feature will require far more durability so it can withstand the challenging conditions encountered over the lifetime of a vehicle. With exposure to extreme temperatures, vibration, moisture, and mechanical stress, addressable RGB with built-in IC LEDs must demonstrate exceptional resilience.

Adhering to AEC-Q102 guidelines, American Bright can assure customers of their products’ ability to withstand these harsh conditions, reducing the risk of premature failure and ensuring long-term performance.

Addressing Safety

Safety is a universal concern in all automotive applications, where reliability and performance can affect entire systems. AEC-Q102 certification includes safety-related requirements to mitigate potential risks.

By meeting these safety criteria, American Bright demonstrates its commitment to delivering products that not only provide excellent lighting but also uphold the highest standards of safety.



Benefits of AEC-Q102 Certification for Manufacturers

For manufacturers looking to supply major automakers with new electronic products, selecting components that conform to industry standards provides a few immediate advantages:

Competitive Advantage

In the highly competitive automotive industry, manufacturers need to differentiate themselves by offering high-quality, reliable products. AEC-Q102 certificated parts serve as an endorsement of the supplier’s commitment to quality, positioning them as a trusted and preferred vendor in the automotive market.

Increased Customer Confidence

American Bright’s addressable RGB with IC LED has undergone comprehensive in-house testing to meet these stringent standards. Customers designing new products that may undergo their own compliance testing need to rely on lighting components that will not complicate the process. American Bright strives for long-lasting customer partnerships based on trusted engineering and consistent manufacturing.

Mitigation of Risk

Compliance with AEC-Q102 guidelines reduces the risk of product failures, recalls, and associated costs. By adhering to the certification’s rigorous testing and quality requirements, American Bright minimizes the likelihood of field failures and warranty claims on automotive features. The purpose of AEC-Q102 certification is to attenuate these potential risks in the marketplace.



Another Reason to Choose American Bright

The AEC-Q102 certification serves as assurance of the reliability, performance, and safety of American Bright’s addressable RGB with IC LED in [automotive interior lighting applications](#). By meeting the industry’s stringent standards for durability, functionality, and safety, American Bright demonstrates its commitment to delivering high-quality lighting solutions that are robust and reliable.

American Bright is proud to be a trusted partner to several major automotive suppliers. If you are designing future applications, [find out more](#) what American Bright can do for you.