



Case Study: Gore Venting Solutions for IP69 Smartphones

IP69 Smartphone Waterproofing with Gore Venting Technology

? CHALLENGE

For years, high-level water protection was exclusive to premium and high-end smartphones. However, as manufacturing costs decline and consumer expectations rise, even **mid- and economy-tier smartphone brands must integrate higher IP-rated protection to enhance product durability, reduce failure rate and remain competitive.**

A leading Chinese smartphone manufacturer set out to bring IP69-rated waterproofing to their devices – a significant leap from previous ratings as low as IP53, and far beyond the current industry-standard IP68. Achieving this level of protection while **maintaining cost efficiency and acoustic quality** presented a serious challenge:

“Water protection often trade-off the acoustic quality of a device, plus IP69 is very new in the market, our customer relies on Gore’s innovative material and deep expertise to set the new benchmark.”

Kelvin TF Wei, Application Engineer



With more than 65 years of expertise in waterproofing technology and material engineering, Gore was the perfect partner to overcome these challenges with.





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SOLUTION

Understanding the manufacturer's need for a high-performance, cost-effective waterproofing solution, Gore proposed a tailored approach using **GORE® Acoustic Vents** and **GORE® Pressure Vents**. From the outset, Gore's engineering team worked closely with the manufacturer's design team to ensure seamless integration of the venting solutions.

Given the aggressive development timeline, **the teams collaborated intensively, addressing key design and assembly challenges at every stage**. Gore's expertise in IP69 compliance proved invaluable, allowing the

THE TECHNOLOGIES BEHIND THE SOLUTION: GORE® ACOUSTIC VENTS AND GORE® PRESSURE VENTS

Combining superior water protection with astonishing audio quality is a demanding task, in which the combination of **GORE® Acoustic Vents** and **GORE® Pressure Vents** excels. A few key benefits of the solution include:

- Achieving highest IP standards for particle and immersion protection
- Maintaining exceptional levels of acoustic performance
- Providing optimum airflow for fast pressure equalization

For specifications and more detailed information on installation, please visit

gore.com/pressure-vents or gore.com/acoustic-vents.

customer to optimize material selection, assembly techniques, and testing procedures to meet stringent protection standards.

Early testing revealed integration challenges. Gore responded with rapid prototyping capabilities, **enabling quick iterations and delivery of updated samples within days**. This agility, rooted in Gore's stable supply chain and localized technical support, kept the project on track.

Beyond waterproofing, Gore's engineers maintained the smartphone's acoustic integrity. Maximizing water resistance often compromise sound transmission, but **Gore's innovative membrane technology delivered on both**. Through meticulous material optimization, our solution provided IP69-rated protection while preserving high-quality sound with less than 1 dB of insertion loss.

"A reliable supply chain is of key importance in the industry. Our global teams enable us to provide agile and robust support to the China brand smartphone customer. With Gore, they gained access to a safe source for materials and on time delivery."

Eric ZZ Chu, Field Sales Associate



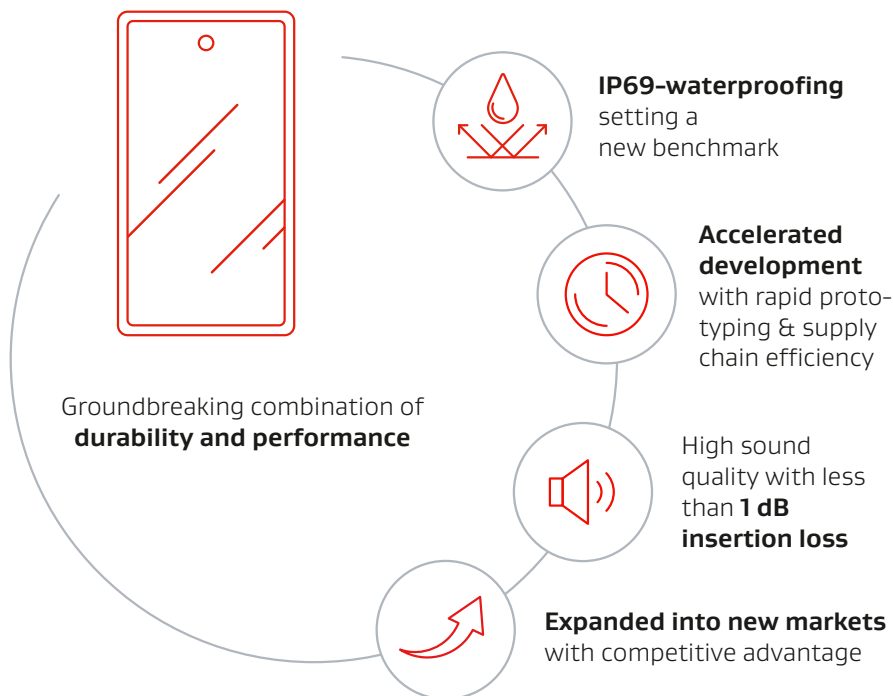


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★ RESULTS

With Gore's expertise, the OEM successfully launched their first waterproof smartphone – delivering a groundbreaking combination of durability and performance for mid-tier devices. These are the additional achievements of the project:



WANT TO KNOW MORE?

To learn more, visit our website: gore.com/portableelectronics

Or check out more of our case studies: gore.com/mestories

"Gore's quick response to waterproofing solutions in the product development phase, immediate delivery of materials, localized technical support and the desire for in-depth communication were very critical factors in the project's success."

Client's Acoustic Manager



Why Choose GORE® Portable Electronic Vents for Your Electronic Devices?

Leading OEMs have purchased over 10 billion GORE® Portable Electronic Vents because they know our products and services can help accelerate their development of innovative and differentiated devices in fast-paced, highly competitive markets.

PRODUCT AND APPLICATION LEADERSHIP

Grounded in a deep understanding of material science and acoustics, Gore can provide the optimum venting solution. We balance trade-offs between diverse problems such as adverse operating environments, immersion events and acoustic performance.

RELIABLE PERFORMANCE

To ensure products are “fit for use”, every Gore product must adhere to the highest standards of quality, performance and reliability. Through a comprehensive understanding of end-use applications and requirements, our products do what they say they will do.

FAST DEVELOPMENT

The mobile electronics industry develops and releases new products quickly. Our fast response to customer requests during the development process sets us apart. Gore supports this need for quickness with designs and prototypes to ensure engineering teams can meet their project timelines and their application requirements.

SUPPLY SECURITY

Leading OEMs specify Gore because we have consistently proven our ability to quickly ramp up to supply vents for projects of over 10 million devices per year and to continue to supply high quality products on-time without disruption.

MATERIAL SCIENCE

Gore is a global materials science company dedicated to transforming industries and improving lives. Gore develops materials with microporous structures that provide desirable attributes and performance characteristics to engineer vents and other products used in a variety of markets and industries.

GLOBAL SUPPORT

Our global teams of sales associates, application engineers, manufacturing engineers, and research personnel enable us to provide agile and robust support to customers around the world.

Interested in Testing Our Products or Talking to Our Experts?

For additional assistance, please contact a Gore representative.

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