



Case Study: GORE® Thermal Insulation in a Smartphone

Making a Cool Smartphone even Cooler with GORE® Thermal Insulation



? CHALLENGE

FCNT LIMITED discovered that their new flagship phone arrows 5G F-51A, generated too much heat, becoming a safety concern to many customers and a difficult problem for the OEM. The current design was not properly distributing the heat evenly and as a result, the performance was throttled to counteract the high temperatures.

“Our client’s new smartphone features radio frequency modules that transmit or receive radio signals. This generates a constant high temperature and can lead to hot spots in the device.”

Tsutomu Shirai, Field Sales Associate in Japan



The arrows 5G F-51A model is the flagship model of 5G smartphone manufactured by FCNT LIMITED, made in Japan. It is known for its support of ultra-high-speed communications. Quickly uploading data to social media, launching apps, or completing cashless payments takes just a few seconds.



Case Study: GORE® Thermal Insulation in a Smartphone

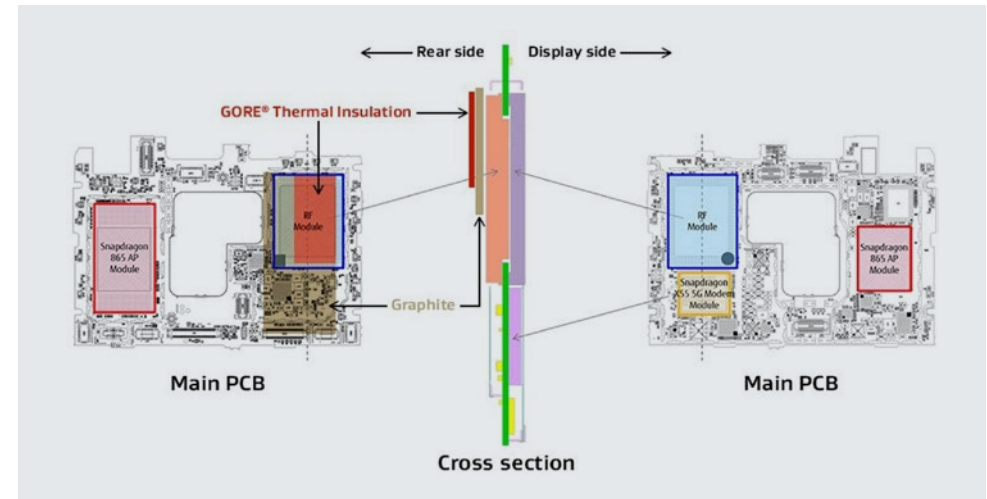
Making a Cool Smartphone even Cooler with GORE® Thermal Insulation



SOLUTION

While some manufacturers insert air into the device as insulation, FCNT LIMITED, formerly known as Fujitsu Connected Technologies Limited, selected our GORE® Thermal Insulation technology for its flagship smartphone “arrows 5G F-51A”.

Once our client outlined their requirements, Gore engineers offered GORE® Thermal Insulation which can maximize the part to fit into the available space within the device. This product also can contribute to maintaining high performance for a longer time compared to the air gap.



Cross section of arrows 5G F-51A

ABOUT GORE® THERMAL INSULATION

The solution offered to the customer here was GORE® Thermal Insulation. It is available with **6 different insulation thicknesses**, reaching from 0.10 mm to 0.53 mm. While delivering **good electrical insulation**, GORE® Thermal Insulation has a **low conductivity** with 0.020 W/m·K.

Click here for more information on GORE® Thermal Insulation

gore.com/thermal-fcnt-story



Case Study: GORE® Thermal Insulation in a Smartphone

Making a Cool Smartphone even Cooler with GORE® Thermal Insulation



RESULTS

The Gore team was able to help the client resolve several issues. The wins:

- Reduce the surface temperature by 1 °C on top of other solutions already designed in the phone for a safer consumer experience.
- Enable longer high performance before needing to throttle.
- Maximize the GORE® Thermal Insulation component to fit into the available space.
- Find the right solution for their new design concept and saved them critical time before launch.
- Set the bar for future projects in terms of design, development and production processes.

“With our understanding of the FCNT’s thermal challenges and our proven insulation technology, we quickly helped our client find the right solution for their new design concept and saved them critical time before launch.”

Tsutomu Shirai, Field Sales Associate in Japan

WANT TO KNOW MORE?

Learn more about GORE® Thermal Insulation on our website:
www.gore.com/products/thermal

Or find out more about our experience from exciting projects:
gore.com/mestories



Why Choose GORE® Thermal Insulation?

Leading OEMs trust in GORE® Thermal Insulation because they know our product quality and expertise can help accelerate their development of innovative and differentiated devices in fast-paced, highly competitive markets.



GLOBAL MOBILE SUPPLIER

Decades as a preferred venting partner of global top OEMs in a wide range of applications — from smartphones and smart watches to tablets, earphones, Bluetooth speakers and to cameras.



FAST RESPONSE DESIGNS

Gore supports the need of the mobile electronics industry with quick turnaround of designs and prototypes, to ensure that engineering teams can meet their project timelines.



RELIABLE PERFORMANCE

Every Gore product must meet the highest standards of quality, performance and reliability. Through a deep understanding of end-use applications and demands, our products deliver what we promise.



SUPPLY SECURITY

Years of experience in the challenging field of mobile electronics have made us experts at supplying high-volume, fast-ramp products with the timing and quality required for success.

Interested in Testing our Products or Talking to our Experts?

For additional assistance, please contact a Gore representative.

INTERNATIONAL CONTACTS

Australia +61 2 9473 6800
Benelux +49 89 4612 2211
China +86 21 5172 8299
France +33 1 5695 6565
Germany +49 89 4612 2211

India +91 22 6768 7000
Italy +39 045 6209 240
Japan +81 3 6746 2570
Korea +82 2 393 3411
Mexico +52 81 8288 1283

Scandinavia +46 31 706 7800
Singapore +65 6733 2882
South America +55 11 5502 7800
Spain +34 93 480 6900
Taiwan +886 2 2173 7799

United Kingdom +44 1506 460123
USA +1 410 506 7812

W. L. Gore & Associates, Inc

401 Airport Road • Elkton, MD 219221 • USA
Phone: +1 410 506 7812 (USA) • Toll free: +1 800 523 4673
Fax: +1 410 506 8749 • Email: portableelectronics@wlgore.com
gore.com/portableelectronics

FOR INDUSTRIAL USE ONLY. Not for use in food, drug, cosmetic or medical device manufacturing, processing, or packaging operations

All technical information and advice given here is based on Gore's previous experiences and/or test results. Gore gives this information to the best of its knowledge, but assumes no legal responsibility. Customers are asked to check the suitability and usability in the specific application, since the performance of the product can only be judged when all necessary operating data are available. The above information is subject to change and is not to be used for specification purposes.

Gore's terms and conditions of sale apply to the sale of the products by Gore. GORE, *Together, Improving Life* and designs are trademarks of W. L. Gore & Associates.

© 2022 W. L. Gore & Associates, Inc

Together, improving life

