

**CONSUMER
TECHNOLOGY**



MAKE THE CONNECTION
INTEROPERABILITY TESTING
FOR CONSUMER TECHNOLOGY PRODUCTS



SETTING THE BAR FOR PRODUCT-TO-PRODUCT PERFORMANCE

UL is an independent safety science company with more than a century of expertise in standards development, testing and certification. As a well-respected third-party organization present in over 100 countries, UL has unprecedented expertise in product performance and safety compliance – as individual products as well as operating in a system with one or more other products.

For virtually any product using Wi-Fi or Bluetooth technology, UL offers interoperability services that range from testing to inspecting and advising. We provide the knowledge and experience that help our customers to navigate the growing complexities of manufacturing products that depend on optimal connectivity.



BENEFITS OF WORKING WITH UL

KNOWLEDGEABLE ADVISERS

Through our work in product compliance across the whole range of consumer technologies, we know how to connect the essential dots for optimal interoperability.

LEADING MARKET KNOWLEDGE

UL is an active member in many key standards committees, so we are often instrumental in developing the very standards your products will need to fulfill.

SOLID REPUTATION

UL is respected around the world for leading expertise in launching new products.

UNPARALLELED EXPERIENCE

We draw on over 100 years of research and development in consumer technology.

ENGAGED AND RESPONSIVE

We value a close relationship with our clients, and tailor testing to your needs.

WHY INTEROPERABILITY MATTERS



Consumers today not only expect safety, they also demand “out of box” functionality. They want technology to operate as promised and with little or no extra configurations. If a product fails to live up to expectations, the impact can be costly, detracting from sales and damaging your brand’s reputation.

If your product’s performance relies on Wi-Fi or Bluetooth technology, you need to ensure the best possible interoperability.

HOW UL CAN HELP

By providing a series of pre-launch testing, UL can help mitigate the risk of launching a product which falls short in the “real-world”. Interoperability tests – or product-to-product testing – help ensure products work together. To do that, we take products out of the lab and test them with a variety of devices, providers and scenarios to double-check that they not only work for engineers, but also potential customers.

Testing for interoperability can not only save significant resources in the long term, it can also help you bring your product to market faster and with greater confidence.

WHAT CHALLENGES LIE AHEAD

With an almost unlimited range of wireless devices and accessories, as well as different connections and usage scenarios, you can never be 100% sure your device will not encounter any interoperability issues. However, much can be done.

UL offers years of experience creating tailored test plans for manufacturers. We can help provide you with the peace of mind that your products will work with the broadest range of devices possible and in the most common scenarios.

UL is also at the cutting edge of new developments, including emerging wireless standards such as “thread” and interoperability for wireless charging. Tell us your challenges, we very likely already know what to do.

INTEROPERABILITY TESTING WITH UL

UL provides a range of tests for products using Wi-Fi and Bluetooth



OUT OF BOX – SO THE PRODUCT CONNECTS EVERY TIME

Tests that the default settings from various provider skins don't hinder device set-up, thereby help ensuring initial connection

THROUGHPUT – FOR SMOOTH DEVICE UPDATING

Checks that the device won't be blocked by frequent software updates

24-HOUR SATURATION – FOR ROUND-THE-CLOCK CONNECTIVITY

Checks that the product withstands continuous connection

ROAMING – FOR UNINTERRUPTED ROAMING BETWEEN ROUTERS

Tests connection and automatic connection between routers or devices



LINK LOSS MEASUREMENT – SO THE DEVICE AUTOMATICALLY RECONNECTS

Tests for automatic reconnection also when devices come and go into range

HOW DO WE GET STARTED?

Effective interoperability testing requires a good plan. At UL we create a bespoke blueprint for testing to meet each product's specific qualities. Our approach is based on the following steps:

LISTEN

We want to hear what your expectations are for the product, asking questions like, "What environments will the end product find itself in? How should it perform in each environment?"

ADVISE

UL has seen and tested many consumer technology devices over the decades and uses this experience to create scenarios and configurations you might not have thought of. This allows us to address the widest possible range of expectations and aim for ultimate performance of device.

DEVELOP

We provide continuous updates, pinpointing areas where your device is susceptible, and rate the ease of use for each function. The goal is to provide essential real world data to further improve product confidence.

HIGHLIGHT

We highlight problems so that you can see what occurred and how. Working alongside you, UL can devise unique test cases or provide access to a host of test cases within our portfolio.

REGULATORY COMPLIANCE ACROSS THE BOARD

Did you know that UL can help you get your products market-ready right from the first phase of design? UL's leading expertise in safety and global regulations compliance will help ensure you make the right decisions from step one.

From EMC testing to SAR compliance, UL has got the field of compliance testing covered. Contact us to find out how we can help you get faster market access for your consumer technology products.

GLOBALLY RECOGNIZED

In the fields of product safety, wireless interoperability, energy efficiency, biocompatibility and medical, UL's laboratories are recognized by the leading global regulatory organizations and their requirements including:

- IEC / IECCE
- American National Standards Institute (ANSI)
- FCC
- Wi-Fi Alliance
- Bluetooth SIG
- A2LA
- CTIA
- Qi / PMA / A4WP Wireless Power Charging Certification
- Qualcomm Quick Charge 2.0
- ENERGY STAR®
- California Energy Commission (CEC)
- UKAS
- SCC

EUROPE

DENMARK

T: +45.44.85.65.65
E: customerservice.dk@ul.com

FRANCE

T: +33.1.60.19.88.00
E: customerservice.fr@ul.com

GERMANY

T: +49.69.489810.0
E: customerservice.de@ul.com

UL TTC

T: +49.2151.5370.370
E: ttc@ul.com

ITALY

T: +39.02.92.52.65.00
E: customerservice.it@ul.com

POLAND

T: +48.22.336.33.00
E: info.pl@ul.com

SPAIN

T: +34.93.368.13.00
E: customerservice.es@ul.com

SWEDEN

T: +46.8.795.4370
E: customerservice.se@ul.com

THE NETHERLANDS

T: +31.26.376.4800
E: customerservice.nl@ul.com

UNITED KINGDOM

T: +44.125.631.2123
E: consumertechnology.eu@ul.com

AMERICAS

ARGENTINA

T: +54.11.4316.8210
E: customerservice.ar@ar.ul.com

BRAZIL

T: +55.11.3049.8300
E: info.br@ul.com

CANADA

T: +1.866.937.3ULC, 1.866.937.3852
E: customerservice@ulc.ca

MEXICO

T: +52.55.3000.5400
E: customerservice.mx@mx.ul.com

UNITED STATES

T: +1.510.771.1098
E: ConsumerTechinfo@ul.com

ASIA PACIFIC

AUSTRALIA

T: +61.3.9846.2751
E: customerservice.anz@ul.com

CHINA

E: customerservice.cn@ul.com

Beijing

T: +86.10.8527.7100

Guangzhou

T: +86.20.3213.1000

Shanghai

T: +86.21.6137.6300

Suzhou

T: +86.512.6808.6400

Dubai

T: +971.4.558.5900
E: ULMiddleEast@ul.com

HONG KONG

T: +852.2276.9898
E: customerservice.hk@ul.com

INDIA

T: +91.80.4138.4400
E: sales.in@ul.com

INDONESIA

T: +65 6274 0702
E: sales.sg@ul.com

JAPAN

E: consumertechnology.jp@ul.com

Ise

T: +81.596.24.6735

Tokyo

T: +81.3.5293.6200

KOREA

T: +82.2.2009.9000
E: customerservice.kr@ul.com

MALAYSIA

T: +603.5632.5922
E: sales.sg@ul.com

NEW ZEALAND

T: +64.9.415.3355
E: customerservice.anz@ul.com

PHILIPPINES

T: +65 6274 0702
E: sales.sg@ul.com

SINGAPORE

T: +65.6274.0702
E: sales.sg@ul.com

TAIWAN

T: +886.2.7737.3168
E: customerservice.tw@ul.com

THAILAND

T: +66.2207.2594
E: sales.sg@ul.com

VIETNAM

T: +65.6274.0702
E: sales.sg@ul.com

Work with the experts who care

For more information, please contact us via

E-mail: consumertechnology.eu@ul.com

Telephone: **+44 (0)1256 312123**

Web: europe-ul.com/ctech/

