

**CONSUMER
TECHNOLOGY**



MAKING THE CONNECTION
INTEROPERABILITY TESTING
FOR CONSUMER TECHNOLOGY PRODUCTS



RAISING 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 wireless 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.

TECHNOLOGY LEADERS

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.

REAL WORLD TESTING

UL tests products the way customers actually use them.

UNPARALLELED EXPERIENCE

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

FLEXIBLE AND RESPONSIVE

We will design a testing solution that delivers on your objectives with measurable results.

GLOBAL SOLUTION

UL brings interoperability services to all the major international markets. Whether in Asia, the Americas or Europe – UL industry recognized experts are there to support you.

WHY INTEROPERABILITY MATTERS



Consumers expect “out of box” functionality. They want interoperability, which encompasses multiple devices and settings, with little or no extra configurations. If your product’s performance relies on wireless connectivity, UL can help you ensure the best possible interoperability. To test early is to avoid a loss of sales or reputation farther down the line.

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 test your product with a line up of companion devices which are likely to be encountered during real world usage – double-checking 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 to create better product reviews, loyal customers and increased sales.

GLOBAL INTEROPERABILITY SOLUTION

Since bringing the National Analysis Center (NAC) on board, UL has expanded its IOP services portfolio and continues to move into global emerging markets. Whether in Asia, the Americas or Europe, UL performs all IOP testing and services in-house, so customers can be sure wherever they are that the results are constant and the expertise is always the highest standard.

This focus on providing a full range of solutions for interoperability across the globe sets UL at the forefront of the industry.

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 wireless products



ENHANCING CUSTOMER SATISFACTION



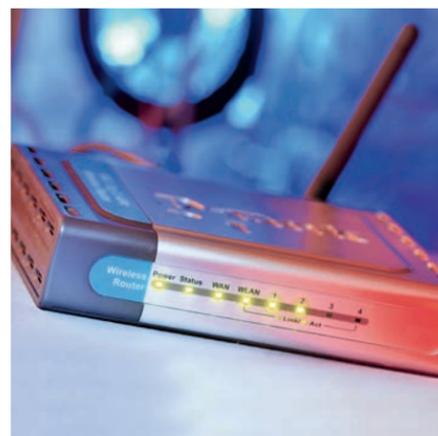
SMOOTH DEVICE UPDATES

OUT OF THE BOX FUNCTIONALITY

REAL WORLD TESTING



SEAMLESS CONNECTIONS ACROSS MULTIPLE TECHNOLOGIES



HOW DO WE GET STARTED?

Effective interoperability testing requires a good plan. At UL we create a custom made 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.

RESOLVE

UL helps you resolve problems that may adversely affect user experience or cause product returns.

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.

GLOBALY 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

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