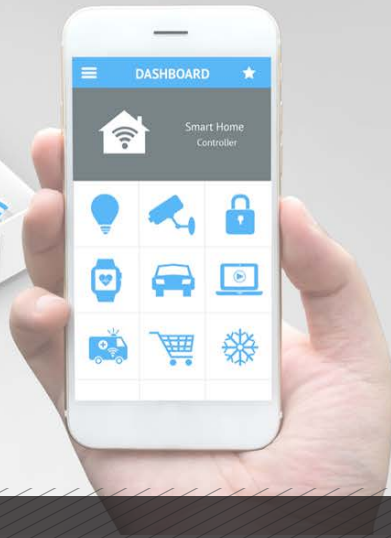


INTERNET OF THINGS



Internet of Things (M2M) Consulting, Testing and Compliance Services For Lighting Companies

Internet of Things (IoT) and LED is enabling a new digital lighting revolution

The lighting marketplace is facing unprecedented change. The Internet of Things (IoT) and the new digital LED light source are enabling lighting eco-systems providing true benefits of digital control and intelligence. Technology, which for 100 years has been based on a the on/off switch and 'glass bulbs and metal housings', is now rapidly changing into semiconductor electronics and software connected via IoT and cloud based storage and analytics.

Lighting is the most pervasive and ubiquitous powered device in our built environment - it is everywhere and always connected to a wired power supply and therefore is the obvious choice to use as the backbone for the roll out of new IoT based products and services to improve our way of life.

Smart digital lighting will drive a rapid roll out of IoT as end users require more sophisticated controls and data acquisition to improve energy efficiency and enable a more productive, safe and healthy home and working environment.

An independent, trusted source of testing and advice is imperative

A key challenge is to seamlessly integrate the IoT smart elements into digitally enabled Lighting using LEDs, electronic controls, wireless or wired networks and smart sensors and driver technologies. Communications involving radio frequencies is present in more and more products and needs careful consideration in terms of the regulatory requirements.

Lighting manufacturers and their supply chains have not traditionally been involved in the creation of new digital systems and thus the skill sets necessary to rapidly transform to remain competitive with emerging new companies is paramount.

Due to the rapid development of new technology entering the mainstream - technological complexity and supply chain uncertainty increases exponentially. Widespread confusion and mistrust of data is prevalent. Regulations, standards and compliance requirements are in a constant state of flux - **A trusted independent source of advice becomes imperative!**

We help to reduce the cost, risk and time taken to demonstrate compliance. That's why our customers return time and time again.

Consulting,
Testing and
Compliance
Management
Services for
Smart Lighting
enabled through
IoT (M2M)
connectivity.

Independent
accredited
laboratories expert
in Digital and LED
Lighting
Technologies

EMC/Radio
Interoperability
Protocol Evaluation
Software Security



Our clear and unambiguous guidance enables our clients to become more knowledgeable

- LUX-TSI has in house experts and industry partners to provide guidance in best practise and support your journey to enabling smart features in your lighting products with IoT connectivity
- We can manage the whole product certification process from initial evaluation to full market access - this could be safety, EMC, Radio, RoHS, performance, interoperability or software security
- Our experts are flexible, responsive and attuned to the needs of companies both large and small.
- We can offer a one-stop-shop for all product certification and testing needs.

Consultancy and Market Access Support

- Compliance Gap analysis
- Expert advice on wide ranging aspects of IoT compliance
- Global Market Access Compliance Roadmaps
- Checking of Certifications and Test Reports on Imported Products

Key EMC/Radio Standards & Regulations for Lighting & IoT

- EMC Directive 2014/30/EU
- CISPR 15 / EN 55015 Emissions
- IEC / EN 61547 - Immunity
- IEC / EN 61000 - Harmonics/Flicker
- FCC Part 15 / ICES Compliance
- Radio Equipment Directive (RED) 2014/53/EU

Accredited EMC/Radio Testing
Delivered in partnership with
Hursley EMC - worldwide EMC
experts



Independent Software Security
Evaluation and Certification Partner

CYBER CCLAB

Trusted route to Software Security Certification

Product Testing and Design Verification

- Early Stage Design Concept Compliance Verification at any level of development
- EMC Pre Compliance Testing including solving problems to provide fixes for emissions and immunity test failures
- EMC Accredited Compliance Testing via UKAS (ILAC) and FCC accredited laboratory
- Protocol Choice and Approvals
- Flicker and Stability Assessment in networked operation
- Software Security Vulnerability, Evaluation and Certification



Key IoT Building Blocks & Requirements

- Networking Protocols and Interoperability Guidance
- Example protocols considered via our partner network as follows :



Current Networked Lighting Control
Systems



DMX 512



About LUX-TSI

We understand that each customer has individual needs and individual concerns. That's why we tailor our support to meet the needs of manufacturers, importers, distributors and retailers in locations which span the world. With over 150 years of experience in the performance testing of products, LUX-TSI has a deep-seated understanding of the regulatory requirements across multiple territories, enabling us to identify the most cost-effective, low-risk path to market access.

Our Services

Consulting, Testing, Certification, Systems, Global Market Access

Markets

Electrical, Lighting, Household, Medical, Light and Heavy machinery

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