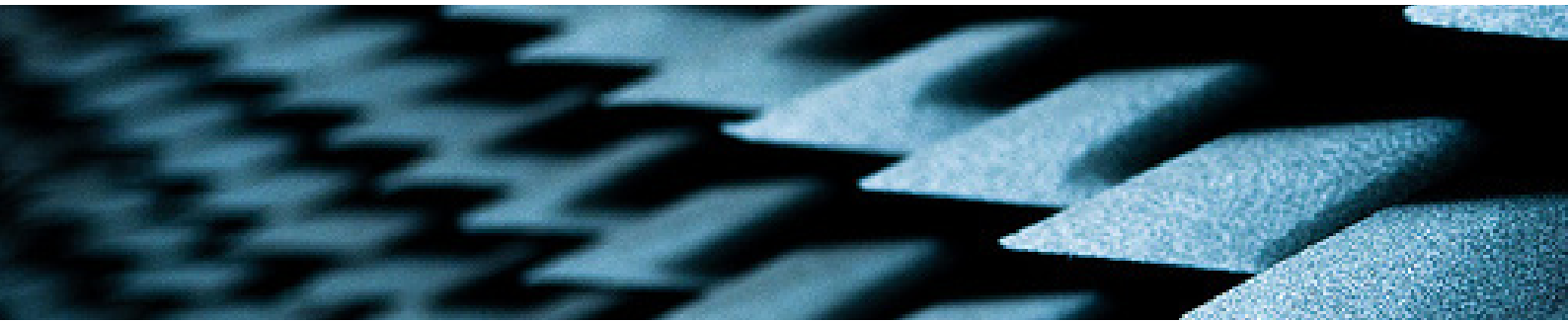


# CSA.33L

## LTE Device Radiated Spurious Emissions Testing for Europe



Service name:

### CSA.33L LTE Device Radiated Spurious Emissions Testing for Europe

#### Deliverables

RSE Compliance Report

#### Duration:

2-3 Weeks

#### Items

- A. Test in anechoic chamber – Active-mode RSE test per EN 301 511
- B. Test in anechoic chamber – Idle-mode RSE test per EN 301 511
- C. If fail consult with the Noise Control Division



#### What is the problem or concern we are addressing?

Post-integration verification of active-mode Radiated Spurious Emissions compliance per European regulatory limits. Per the R&TTE directive, all cellular transmitters must comply with EN 301 511; in some cases, cellular modular integrations are required to re-test RSE per this standard.

Testing these emissions levels early in the design cycle can reduce risk of certification failure and costly design and tooling changes late in the design cycle. The best way to test RSE is through completing the real testing in a real chamber.

Taoglas will only perform radiated emissions measurements. Full R&TTE compliance may require more testing, such as conducted emissions, safety testing, SAR, etc.

#### The Processes

##### Part 1

- Taoglas will setup your device in our chamber and power the device as per your instructions.
- A base station emulator will be used to establish a call or test-mode connection with the device.
- The automated test system will perform the active-mode RSE measurements of the harmonics of the middle channels of required cellular bands. Only harmonics will be measured.
- The automated test system will disconnect the call or test-mode connection and perform idle-mode RSE measurements below 1GHz.
- Taoglas will complete the test report detailing the setup and results.

#### What does Taoglas need?

In all cases Taoglas will require the following:

- Two (2) complete devices, with all the bits and pieces. The devices need to be functional enough to enable the cellular modem and enable AT command access to the modem. The devices should be built-up as much as possible, the closer to the final assembly the more accurate the results. Batteries, displays, and metallic sub-assemblies will impact the test results and should be included.

- One complete set of any support devices such as spare battery packs, battery charger, interface cables, etc.
- Instructions on how to connect the device, power on the device, and connect to the AT command interface. If the battery will need to be charged or replaced, include instructions on how to do so.
- For devices with a SIM, Taoglas will need access to the SIM card, or, for an embedded SIM, a 3GPP test profile configured on the SIM.
- For devices using primarily GPRS/EGPRS packet-switch connection, the device needs to automatically perform a GPRS attach and leave the connection attached; testing may take an hour or more and the device will not receive an IP address or see a real server.

## Part 2

Taoglas engineering will determine if the measured emissions levels are compliant to R&TTE requirements. If RSE levels are out of compliance, Taoglas will perform simple debugging on-site, such as checking the test setup, moving the antenna (for external antennas), and removing unnecessary external cables. If the emissions levels are still out of compliance, Taoglas sales and Noise Control Division engineering can provide guidance or can engage in a design certification readiness review, an ISA.20.

## Deliverables

Taoglas will compile a report on the RSE measurements, including:

- Device test setup picture.
- Spurious emissions plots from all measurements performed

