EMC Immunity

Flexible and efficient testing facilities. A broad variety of tests and phenomena can be generated from our testing equipment. RF immunity tests from 10kHz to 8GHz. Commercial and professional appliances. Maritime and land-based telecom, radio and wireless equipment. Subsea process and production equipment related to oil and gas. Maritime navigation equipment. Fire detection and alarm systems equipment. Automotive equipment. Military equipment.

Test scope

- Electrostatic discharges (ESD)
- Radiated RF disturbance
- Electric fast transients (EFT)
- High energy surges
- Conducted RF disturbance
- Power frequency magnetic fields
- Pulsed magnetic fields
- Supply voltage dips and interruptions
- Supply voltage variations
- Supply frequency variations
- Conducted LF disturbance
- Ring waves
- Harmonics and interharmonics
- Ripples

Services

- Pretesting and consultancy
- Qualification tests
- On-site tests

Susceptibility risk issues

Any electromagnetic disturbance, natural or man-made, is potentially a hazard to other susceptible electronic equipment in that environment. The susceptibility may cause damages or malfunctions to the device, and may even end up in hazardous and unintended operation.

Susceptibility to EMC represents a risk and a safety hazard to any user or people in the vicinity of the equipment during operation. There are numerous examples of equipment running uncontrolled, causing dangerous situations and hazard to users and values.

In order to maintain proper operation of electronic equipment in their intended environment, it is necessary for them to have a certain level of immunity towards disturbances normally present in that environment.

Where risks are not accepted

Manufacturers of industrial, maritime or medical equipment know their environment, and are required to make sure their appliances can operate safely during its lifetime. Critical components in main systems for control, navigation, monitoring, alarms, communication, patient monitoring or surgery MUST have an electromagnetic immunity which ensures the intended performance at all time.

What is the origin of these disturbances?

In the home or office environment, you may have experienced some of them in everyday life:

Electrostatic discharges are one example: Everybody has experienced these electric “sparks” zapping from your fingers to the doorframe when you get out of your car.

Imagine such sparks going into the electronics of electrical equipment when you touch a button or a keyboard.
Your cell phone is also a source of strong electromagnetic fields – at short range – especially when you receive or make a phone call. They are usually detectable in the speakers of audio equipment.

Electrical transients in the AC power network are even more common phenomena. Natural causes like lightning strikes are well known, but even your refrigerator, freezer or washing machine may cause severe transients, which can knock out, damage or disturb other electronic equipment in the vicinity.

More powerful components in the distribution network of your power provider and from industrial plants can cause all sorts of transients, voltage dips and variations, ring waves and ripples which can influence the intended operation of your appliances.

Source URL: https://www.nemko.com/product-testing/emc-testing/emc-immunity