Nemko

90 YEARS

Making the World a safer place

EMC and Radio Pre-Compliance

Version 1

Importance of Pre-Compliance

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1. Pre-compliance testing is an essential step in the product development plan. It helps identify and address design issues early in the process, preventing inconvenient redesigns, delays, and added costs.

2. Pre-compliance testing mitigates risks by turning unknowns into familiar elements.

3. Incorporating pre-compliance testing into the development process greatly increases the chances that your product will pass the formal evaluation.

The Value of Pre-Compliance

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1. Many companies lack sufficient internal resources and expertise dedicated to regulatory approvals.

2. Identifying the requirements.

3. Access to our lab test engineers and market access experts, who can provide guidance.

4. A higher success rate of passing the formal testing, thus adhering to your timelines.

Additional Benefits of Pre-Compliance

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1. It can be significantly cheaper to resolve problems when caught early in the design cycle.

2. Pre-compliance testing is generally cheaper than formal compliance testing. Nemko offers engineering time in half-day and full-day bookings.

3. Avoid unnecessary mitigation costs from over-engineering.

Pre-Compliance Considerations

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1. Pre-compliance testing involves simulating the formal testing or evaluation process.

2. Developing essential test plans tailored to serve the client needs.

3. Defining the product's intended environment of use: home, commercial, industrial or other.

4. Prioritizing critical tests for potential risks.

Pre-Compliance Considerations, continued

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4. Products with integrated RF modules.

5. Conducting threshold testing to ascertain product failure points or margins from the established limits.

6. Radio pre-compliance

Do-It-Yourself Pre-Compliance

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Factors to consider when establishing your own pre-compliance laboratory.

1. Equipment needs
   - Emissions: Spectrum Analyzer/Receiver, Antennas, Line Impedance Stabilization Network (LISN), Current Clamps
   - Immunity Transient Simulators (ESD, Surge, EFT)
   - Other tools, Scope, RF cables, Near field probes, attenuators

2. List Standards
   - FCC, eCFR :: 47 CFR Part 15 -- Radio Frequency Devices
   - ICES, Interference-Causing Equipment Standards (canada.ca), Radio Standards Specifications (canada.ca)
   - CE/IEC Standards, IEC - CISPR Dashboard> Scope (need to purchase standards)

Pre-Compliance Conclusion

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1. Integrating pre-compliance testing early improves product development outcomes
2. Reduces risks, costs and potential delays
3. Ensures a smoother path to market entry

Q&A

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- Open floor for questions and discussion

Thank you!

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