



Training Course

Radio Spectrum Usage Control - Electromagnetic Compatibility (EMC) Assessment and On-site Radio Equipment Inspection



This two-day training program is designed to strengthen the skills and practical capabilities of spectrum monitoring engineers, EMC experts, and mid-level managers from national spectrum administrations and regulatory authorities.

Delivered in English, the course combines lectures, demonstrations, case studies, and on-site practical exercises to provide a comprehensive understanding of spectrum usage control, including the regulatory framework, electromagnetic compatibility (EMC) assessments, and on-site inspection procedures.

The training course will be held in person at Eksporta street 5, Riga, Latvia. It will take place in spring 2026, with participants able to select their preferred dates in the application form.

After this training program, you will be able to:

- Understand and apply international spectrum management and EMC regulations.
- Conduct professional on-site EMC assessments and radio equipment inspections.
- Operate spectrum monitoring and direction-finding instruments effectively.
- Plan and optimize inspection routes using automated tools.
- Analyze, document, and report findings in accordance with international standards.

Training Course Program

Electronic
Communications
Office of Latvia



Day 1

Fundamentals of Spectrum Management and EMC Assessments

● Spectrum Management Framework and Regulatory Environment

- Structure of national spectrum management and key operational modules
- Legal and regulatory instruments governing spectrum use
- National Frequency Allocation Table (NFAT) and its implementation
- Radio Equipment Directive (RED 2014/53/EU) and Electronic Communications Law
- International coordination and cooperation mechanisms
- Role of ITU, CEPT, and regional coordination groups
- Cross-border frequency coordination principles

This module introduces the theoretical and legal foundations of spectrum management. Participants will learn how national and international frameworks interconnect, how spectrum allocation plans are implemented, and how coordination mechanisms operate at regional and global levels.

● Electromagnetic Compatibility (EMC) – Concepts and Compliance

- Core concepts of EMC: interference, immunity, and compatibility criteria
- Classification of interference sources and inter-equipment compatibility
- Conformity assessment and technical documentation
- CE marking, manufacturer and importer obligations
- Role of accredited laboratories in testing and certification
- Expected documentation formats and compliance reports

This module provides an overview of EMC fundamentals and their relevance in spectrum control. It highlights how emission limits, immunity standards, and conformity procedures ensure coexistence of radio systems. Case examples of real interference due to EMC non-compliance will be discussed.

Technical Inspection and Expert Assessment Workflow

- Analysis of an inspection or expert evaluation task
- Defining the scope and objectives
- Identifying the target area (coordinates, coverage, access constraints)
- Preparation and planning
- Selection of measurement equipment and tools
- Preparing mobile laboratory and planning field routes
- On-site procedures
- Step-by-step measurement sequence
- Real-time documentation of anomalies and interference
- Reporting and data management
- Structuring inspection reports and conclusions
- Archiving results in monitoring databases (e.g. SKUDRA system)
- Cooperation with license holders and clients

This module explains the end-to-end process of conducting spectrum inspections and EMC expert assessments. It covers preparation, execution, documentation, and follow-up procedures, ensuring traceability and quality in inspection workflows.

Measurement Equipment and Automated Route Planning

- Mobile monitoring laboratories – equipment, configuration, and operational use cases
- Use of drones for spectrum monitoring and site inspection
- Monitoring software solutions (e.g. SKUDRA platform, power and bandwidth analysis)
- Automated route planning and optimisation
- Objectives and benefits of automated route generation
- Resource optimization (fuel, staff load, coverage area)
- Prioritization criteria (licensed stations, interference zones, high utilisation areas)
- Software examples and practical demonstration

This module introduces tools and methods for efficient fieldwork planning and spectrum control. Participants will explore route optimisation software integrated with monitoring databases and real-time data sources, supported by a live demonstration of automated route creation.

Preparation and Equipment Configuration

- Pre-deployment planning and equipment verification
- Practical configuration of instruments before field operation
- Setting up mobile laboratory or transportable monitoring station

This module covers the practical aspects of preparing for fieldwork. Participants will configure measurement receivers, antennas, and data acquisition systems to ensure readiness for real inspection tasks.

Pre-field Interference Investigation

- Detection of unidentified emissions or interference sources
- Direction finding using mobile monitoring vehicles
- Portable DF and handheld monitoring receivers with directional antennas

Participants will perform short-range interference hunting exercises prior to formal inspection. This session develops hands-on skills in using direction-finding equipment to locate sources of unwanted emissions.

On-site EMC and Radio Equipment Inspection

- Performing electromagnetic compatibility assessments in multi-equipment environments
- Identifying mutual interference and analysing signal interactions
- Measuring noise floor levels and external interference
- Gathering technical evidence and documenting non-compliances
- Verifying transmitter compliance on-site
- Checking operational parameters against licence data
- Visual and technical inspection of antenna systems
- Measurement of emission characteristics and bandwidth
- Preparation of inspection reports and non-compliance documentation

This comprehensive practical module focuses on field measurements and radio equipment verification at installation sites. Participants will use spectrum analysers and direction-finding tools to evaluate transmitter parameters and assess EMC within real operational environments.

Summary Exercise and Course Conclusion

- Review of measured results and field data interpretation
- Discussion of practical challenges and lessons learned
- Group presentation of findings and expert feedback
- Final wrap-up and certificate presentation

This module consolidates the training outcomes through data analysis, reflection, and discussion. Participants present their results, receive feedback from instructors, and summarise recommendations for improving spectrum control procedures in their respective administrations.



Reserve Your Spot

Fee: 2190 EUR (including VAT).

It includes:

- A comprehensive 2-day in person training program;
- Expert lectures, demonstrations, case studies;
- On-site practical experience;
- Access to necessary professional equipment;
- Digital training materials;
- Coffee breaks.

About Electronic Communications Office of Latvia.

(in Latvian - SIA "Elektroniskie sakari").

Electronic Communications Office of Latvia is a state-owned capital company that manages a strategically important national resource – the radio frequency spectrum and numbering. The company ensures a reliable and secure radio communications environment, which is essential for national security, defense, and critical infrastructure.

It maintains and develops modern technical infrastructure, carries out radio frequency spectrum planning and monitoring, and provides electromagnetic compatibility and other professional services.

Electronic Communications Office of Latvia cooperates with state institutions, industry organizations, and international bodies (ITU, CEPT, EC RSC, RSPG, ETSI), providing innovative solutions for both civil and defense needs.

Competencies & Advantages

Engineering capacity

Highly qualified and experienced radio communications engineers with specialized knowledge in radio frequency management (planning and monitoring) and in the development and maintenance of specialized information systems.

Modern infrastructure

A technological base that meets modern requirements, which is essential for effective radio frequency spectrum management and includes appropriate solutions that allow for accurate radio frequency spectrum planning, monitoring and providing quality services to customers.

International representation

Regular participation in the work of international radiocommunications institutions (ITU, CEPT, RSPG, ETSI, etc.) and in the development of regulations, recommendations and technical documents, ensuring access to spectrum resources and defending the interests of Latvian frequency users.

Techritory Partnership Network

A broad and trusted network of contacts within the Techritory platform, connecting policymakers, industry, academia and security structures, facilitating information exchange and partnership building, including in the field of defense communications



[Reserve Your Spot](#)

For additional information, please contact the service manager:

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