



2021 JOINT IEEE INTERNATIONAL SYMPOSIUM  
ON ELECTROMAGNETIC COMPATIBILITY,  
SIGNAL & POWER INTEGRITY & EMC EUROPE

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# BeNeLux - Chapter

BeNeLux PowerPoint Map



- Frank Leferink: Chair
- Davy Pissoort: Secretary
- Cees Keyer: Treasurer and DL coordinator
- Anne Roc'h: Liaison EMC-ESD association
- Tim Claeys: Social media manager

<http://sites.ieee.org/benelux-emcs/>

<https://www.linkedin.com/company/ieee-emcs-benelux-chapter/>

# Strengths of the BeNeLux Chapter

- Most activities are organised in collaboration with the Dutch EMC-ESD society
- As a result: administrative support by FHI
- IEEE DL lectures are often organised in collaboration with the German chapter to reduce travel costs (/event)
- Both a strong academic and industrial network
- IEEE EMC Benelux LinkedIn group. Example: events, dissemination of 7 Europeans ITNs (about 100 PhD researchers across EU...)
- Old tradition “*On Hold*”: Social event during EMC Europe



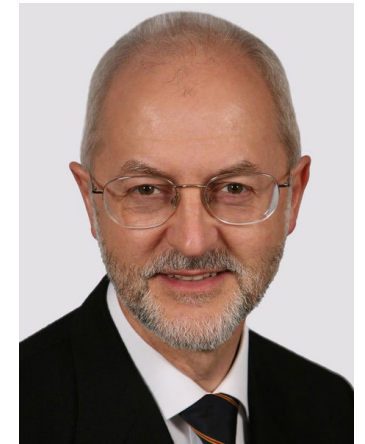
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# BeNeLux Chapter:(Be) Activities overview 2020

- Sep 11, 2020: Towards Vehicle Resilience (Webinar by A. Ruddle, Horiba-Mira)
  - With automated driving the automotive industry is embarking on a journey that will create some of the most intricate and complex super-systems on the planet. Major disasters in the recent past, such as Challenger and Columbia, are considered to have resulted from a failure to map, manage and mitigate risks appropriately. Thus, the adoption of more robust, risk-based systems engineering practices will be key to meeting the challenges of ensuring resilience in future vehicles.
- Sep 18, 2020: It's EMI, Jim, but not as we know it! (Webinar by K . Armstrong, CCC)
  - Human control is rapidly being replaced by automatic, even autonomous, control. Especially in safety-critical applications: automobiles, aircraft, surgery, etc. These developments totally depend on the use of advanced digital systems. Such digital system have so very many digital states that it is impossible to prove that their applications are safe enough by testing alone (which could take millions of years!) Digital technology is non-linear, so the safe behaviour of untested digital states cannot be inferred or interpolated from the behaviour of any number of tested states. In safety-critical applications, digital technologies can suffer errors, malfunctions and failures due to Electromagnetic Interference (EMI), that can lead to unacceptable safety risks. The possible effects of EMI are traditionally (and currently) only managed by testing. But it is even more impossible to prove automated/autonomous safety-critical systems are safe enough only by using EMI testing! he new safety-engineering discipline of 'Electromagnetic Resilience' has been developed to solve this problem. It is the only practical, cost-effective solution for ensuring that automatic/autonomous systems are safe enough as regards EMI. But it is very different from the EMI testing that everyone is used to!



# BeNeLux Chapter:(Be) Activities overview 2020

- Sep 22 2020: EEWISE Tutorial
  - EMC for RED. Tim Claeys, KU Leuven, Presentation + Open discussion
  - Exploring Optimal Test Plans For Wireless Coexistence, Naseef Mahmud, Rohde & Schwarz, video + live Q&A
- Dec 02 2020: keynote lecture about EMC for RED at the RF technology days of FHI Tim Claeys, KU Leuven
  - In recent years, more and more devices get connected to the internet -creating the so called Internet of Things- by using wireless modules. Using wireless modules in devices, originally not having a wireless connection, changes the main Electromagnetic Compatibility compliance requirement from the Electromagnetic Compatibility Directive to the Radio Equipment Directive. In this keynote, we present a workflow on how to tackle Electromagnetic Compatibility for Radio and Combined equipment according to the Radio Equipment Directive.



# BeNeLux Chapter: (NL) Plans for 2020 move to 2021/2022

- Invitation Distinguished Lecturer(s)
- More Online Lunch sessions
- EMC-ESD general event – November 23th 2021
- EMC on Tour (EMC mini lectures/demos with visits to Technical School of Higher Education)
- Likely shifted to 2022: “Kennismarket” - networking event between industry and academia
- Survey activities with EMC-ESD society and Hogeshool Amsterdam (dr. Cees Keyer) on conducted noise from laptop charger (EU vs. Asia) – *see slide 6*



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# BeNeLux Chapter: (NL) So far 2021

## Various online lunch sessions

- **March 25th:** VSL on the effects of EMC interference on static electricity meters
- **April 29th:** ABS Technics about Microwave absorbers in contemporary applications
- **May 27th:** Jeremy Smallwood on Static Electricity: It's a strange business!
- **June 22th:** KU Leuven on Risk-Based EMC and EM Resilience Necessary for safe and reliable electronic systems!



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# Comparison between European and Asian Imported Universal Laptop Chargers' noise on the Live Mains for the NEN-EN-55032 Standards

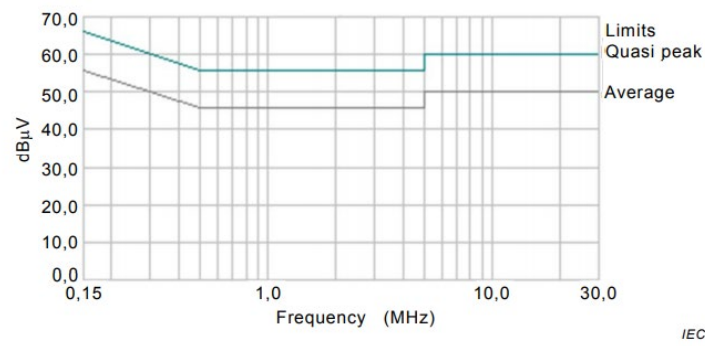
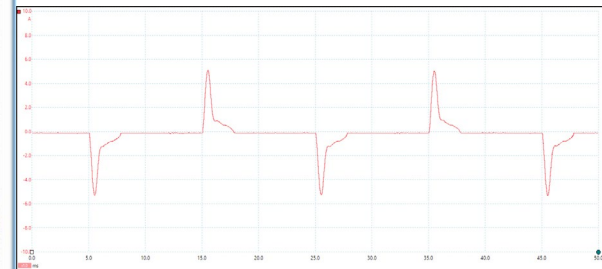
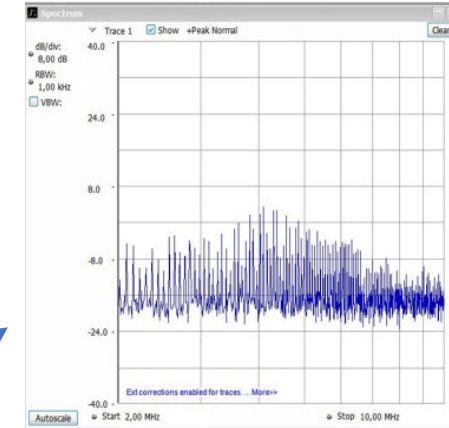
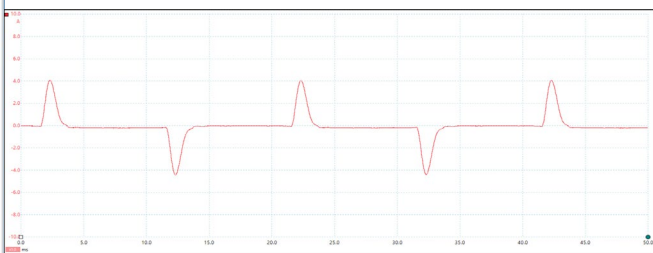
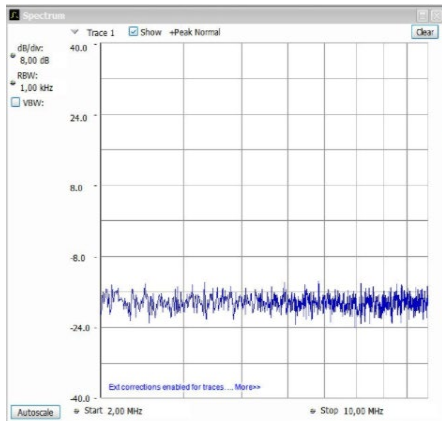
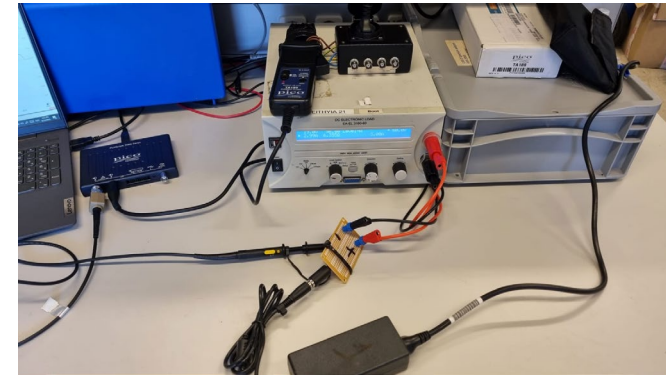
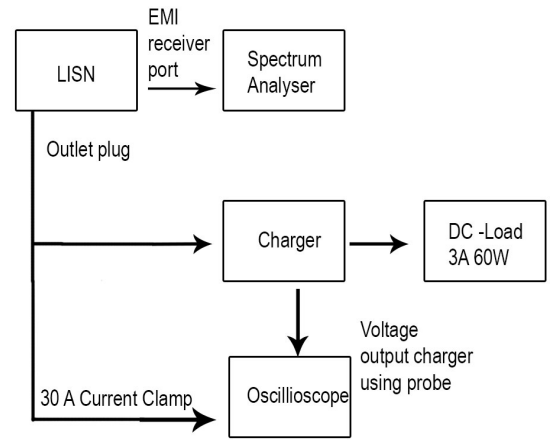


Figure A.1 – Graphical representation of the limits for the AC mains power port defined in Table A.10



Most Noise found on an European (Left) and Asian (Right) Charger





# BeNeLux dinner (2019)



Next time:  
EMC Europe  
2022!!



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