



AGH UNIVERSITY OF SCIENCE
AND TECHNOLOGY

Wireless and Power Supply group



Wireless and power supply group

- the group consists of 5 core members + students
- specializes in RF technologies and power supplies
- cooperates with many industrial partners in application development, component design, measurement and consulting
- successfully realized several R&D grants and industrial projects
- has several patents (pending)
- is focused on practical realizations and deployments

RF branch

The group specializes in industrial low-power RF systems, working in harsh environmental conditions (e.g. underground coal mines) under severe ATEX, EMC and RTT&E constraints.

Applications include:

- real-time communication systems
- radio identification (RFID)
- wireless sensor networks

Technologies involved:

- software defined radio (based on GNU Radio)
- ultra low power FPGAs
- embedded microcontrollers and DSPs





RF branch

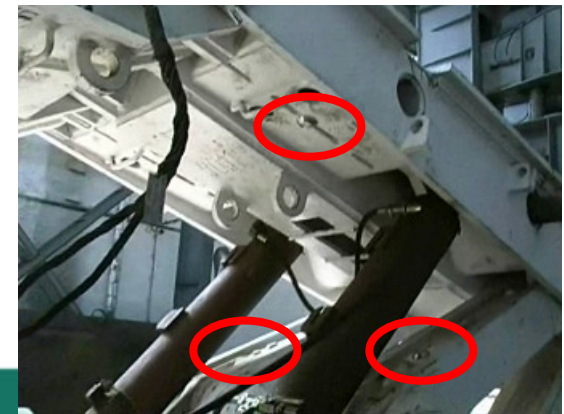


The group has access to wide range of professional measuring equipment, including:

- own EMC chamber for pre-compliance testing
- spectrum and network analyzers up to 6GHz
- precise RF generators and oscilloscopes
- reference antennas etc.

Teaching:

- EMC
- radio communication systems
- professional CAD/CAM





Power supply branch

The team is also experienced in designing, modelling and testing special power supplies and power convertes, with unique characteristics, such as:

- ultra-low EM emissions,
- wireless energy transfer,
- very high efficiencies
- intristical safety
- wide input and output parameter range.

The technology is mainly based on

resonant power converting





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