

# Student Contest 2021

Sponsored by the German Chapter of the IEEE EMC Society

Start date: 01.03.2021

End date: 30.11.2021

## Eligible participants:

Students of Electrical Engineering and Information Technology or similar subjects with Bachelor degree or below

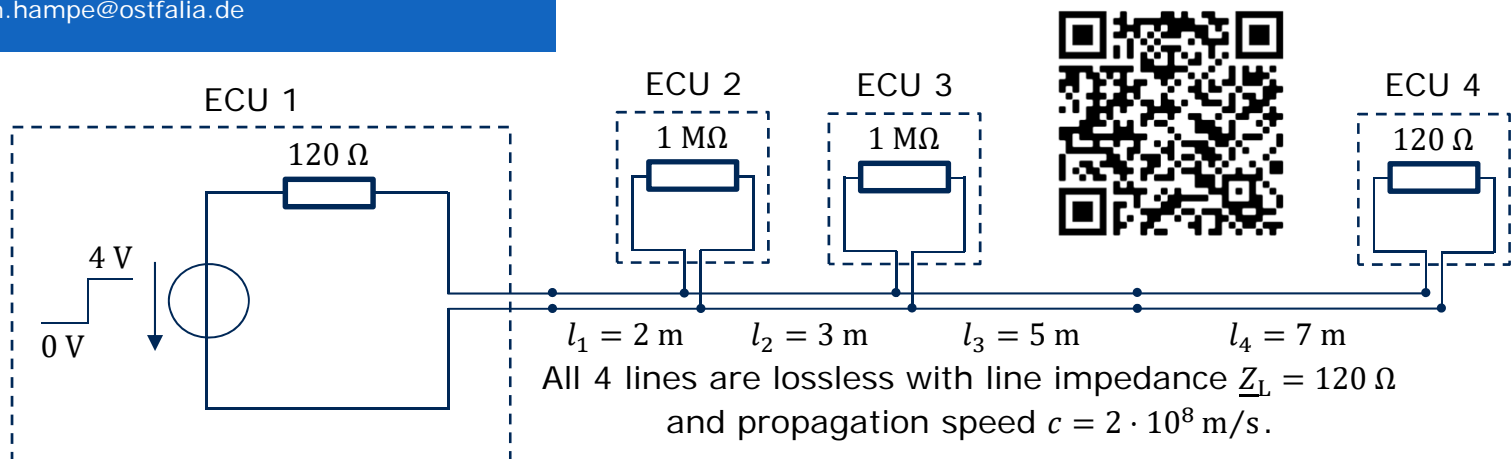
## Contact:

Send the completed solution sheet via email to: Prof. Dr.-Ing. Matthias Hampe, [m.hampe@ostfalia.de](mailto:m.hampe@ostfalia.de)

## Find the **WORST** network from a Signal Integrity perspective!

**The best solution is simple...**

The picture below shows the best possible network with 4 Electronic Control Units (ECUs) connected in series, the so called daisy chain.



## Find the **WORST** network: precise task and rules.

1. Rearrange the network above in a way that the settle time of the new network is maximum.
2. A network is settled if all ECU signals have reached their static mean with tolerance  $\pm 2 \%$ .
3. All 4 ECUs must be connected to each other somehow.
4. All 4 lines may be used, but do not have to.
5. Any two ECUs must be separated by at least one line.
6. Any beginning and end of a line may be connected to any number of other lines.

## What is there to win, besides fame and honor of course.

**1st price:** winner certificate and EMC book voucher 200 €, IEEE EMC Society Membership 1 year

**2nd price:** certificate and EMC book voucher 100 €

**3rd price:** certificate and EMC book voucher 50 €



# Solution Sheet 2021

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**Participants, up to 3 students:**

**Email address of contact person:**

**Settle time of your worst network:**

**Please insert a sketch of your worst network below.**

**How was the solution obtained and why is the proposed network particularly bad?**