Student Project Proposal

Project title: **USB 3.2 Push-Pull Connector**

Project type: **Master Thesis Project** (30 credits)

Faculty and Laboratory: STI, Microwaves and Antennas Group (MAG)

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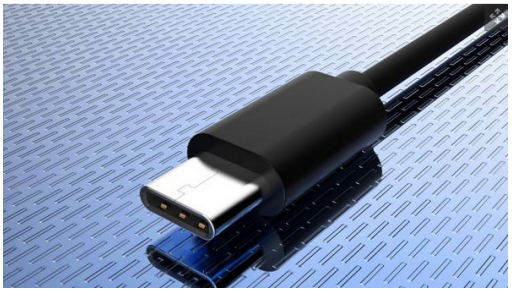
Project description

LEMO is a company specialized in push-pull connectors. They are interested in developing a new connector enabling the transmission of the USB 3.2 protocol. The USB connector should be integrated in a push-pull system having a diameter of 9 mm or 11 mm and withstand a power of 100 W.



Specification	Throughput	Previous Term	Technical Term	Marketing Term
USB 4	40 Gbps	N/A	USB 4.0	Not Announced
USB 3.2	20 Gbps	N/A	USB 3.2 Gen 2x2	SuperSpeed USB 20Gbps
USB 3.1	10 Gbps	USB 3.1 Gen 2	USB 3.2 Gen 2	SuperSpeed USB 10Gbps
USB 3.0	5 Gbps	USB 3.1 Gen 1	USB 3.2 Gen 1	SuperSpeed USB

Student tasks

In a first step, the student will familiarize him/herself with the frequency limitation of the existing connectors and their architecture. A new design will then be proposed using numerical simulation. If time permits, prototypes will be realized at LEMO and characterized.