Test protocol
PC Communication

Description

The communication test is performed to verify that the communication between the Soundlie device and a PC. The test will check if the uart communication functions as well as the modified SREC protocol is correctly implemented. The test is divided into two tests where the serial communication is verified. The second part tests that the SoundlieUserInterface can communicate with the board.

Equipment

- Nexsys 4 board with implemented design and software running on LEON3.
- Speakers or headphones
- Music source
- USB to UART cable with small patch cables to connect to the Nexys 4 board pin holes.
- PC with USB running the SoundlieUserInterface and Putty Serial as well. This PC should have MATLAB as well or all functionalities cannot be tested.

Setup

Program the Nexys board with the design and load the software. Setup the speakers and music source and play music through the system. Connect the USB to UART cable to LEON3 and a PC. In the first part Putty is used to send messages manually to LEON3 while in the second part SoundlieUserInterface is used to communicate.

Result

Part One:
We could successfully send SREC messages manually with Putty over the USB UART to Soundlie and configure parameters.

Part Two:
Using the SoundlieUserInterface worked well. Communication works and responses are received from Soundlie. The interface is a prototype and has bugs related to stability and such as some messages sent are not valid SREC and if the PC does not have MATLAB some commands may crash the software or produce errors.

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