ESE 381

Lab 9: Asynchronous Serial (RS232) Communication Over a LoraWAN Channel

4/18/2025

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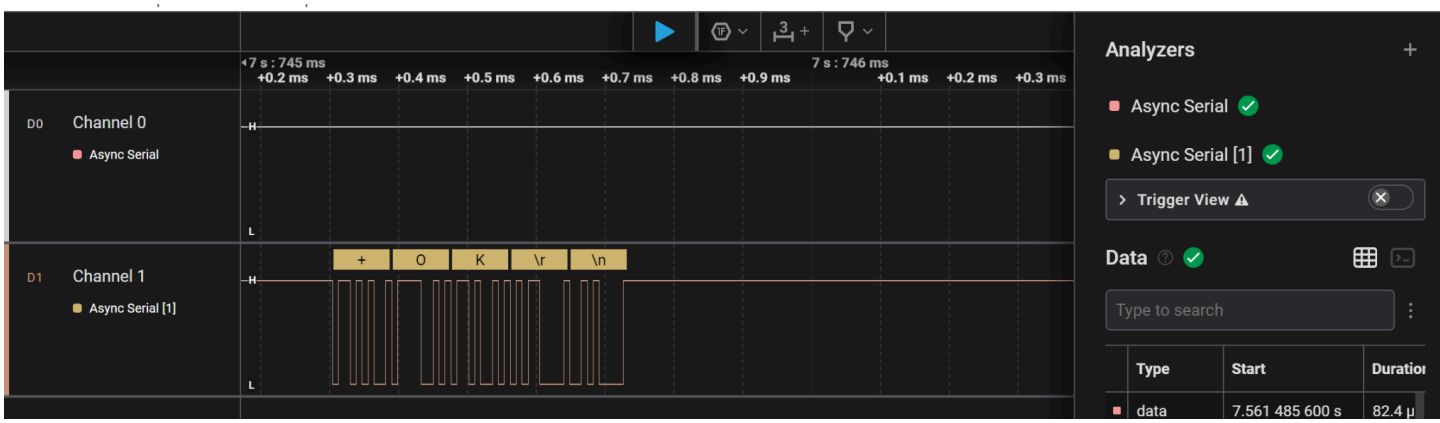
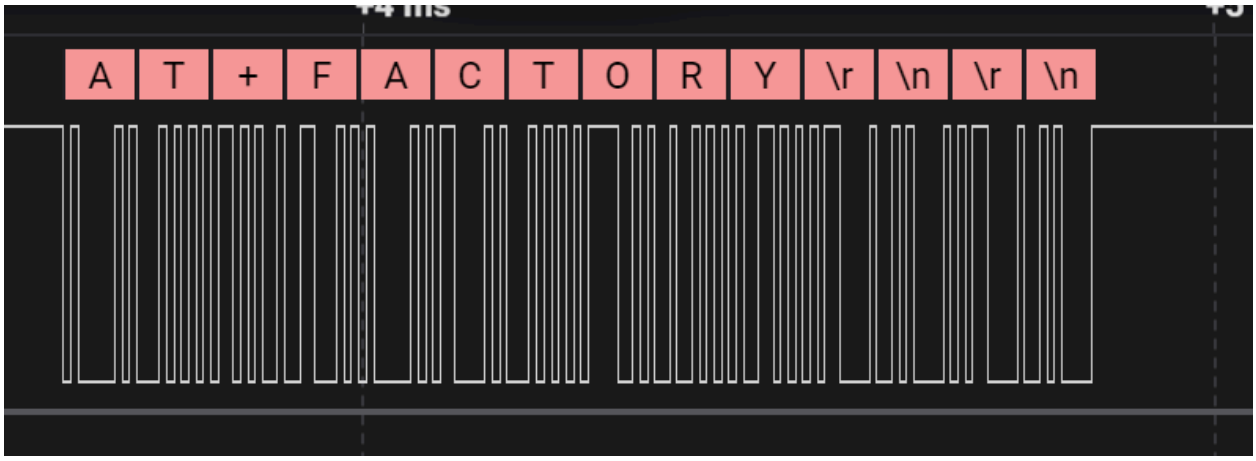
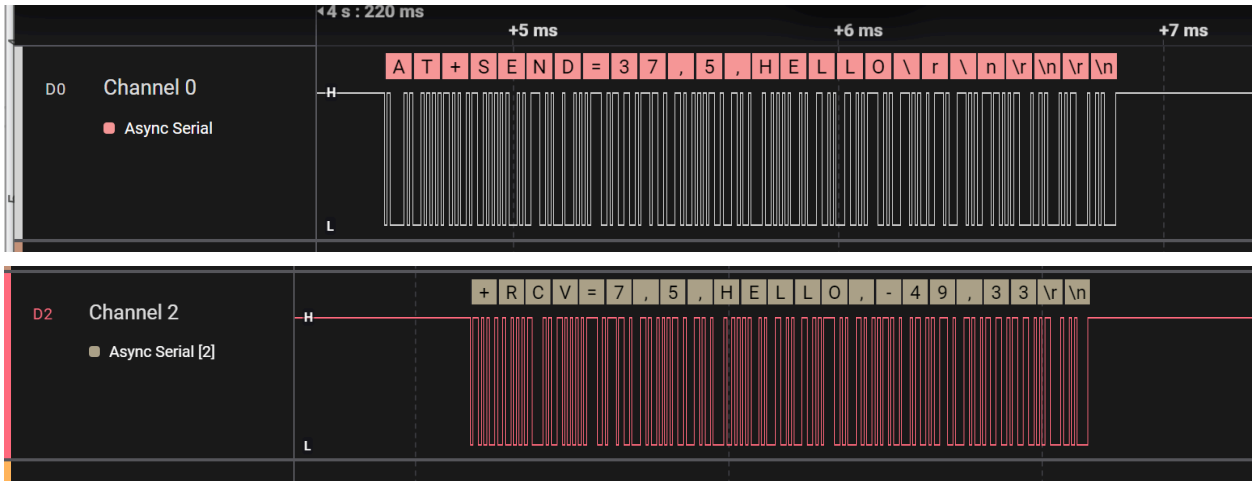
Section: L02 Bench 7

Task 1: Coolterm Verification





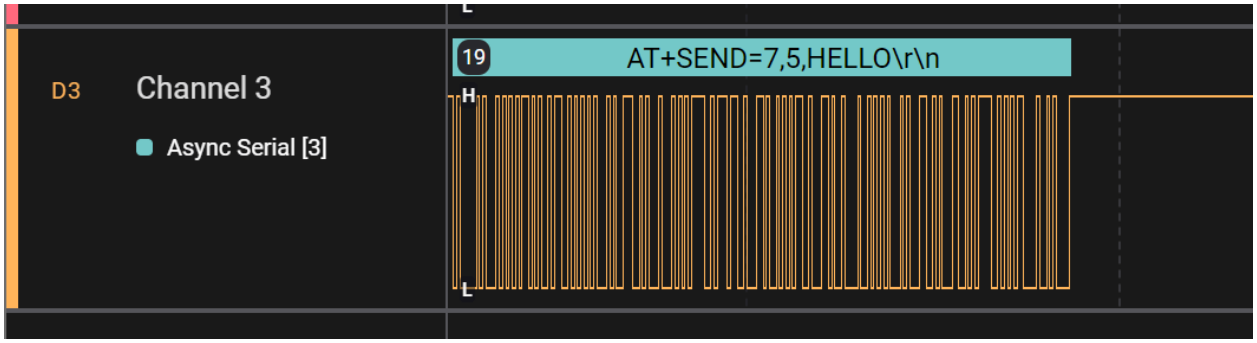
Task 2: Payload Extraction



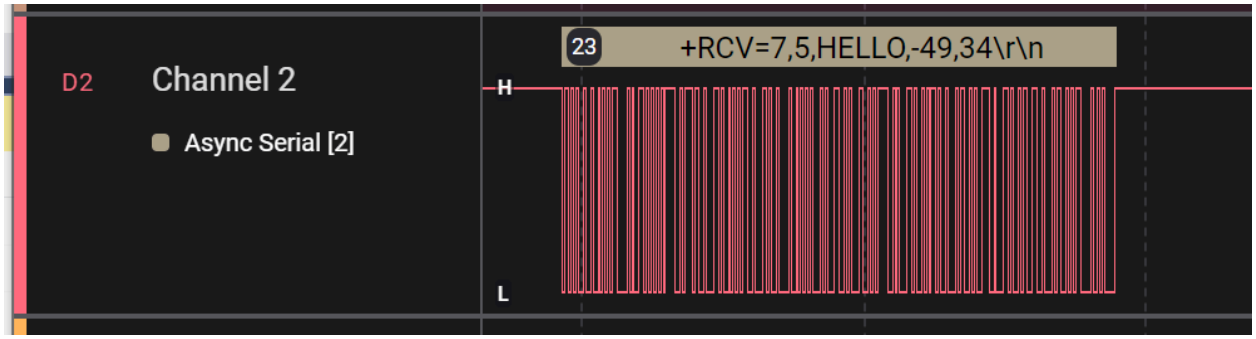
Task3: BiDirectional

PC receive from LW1:

Transmit from AVR to LW2



LW2 TO AVR:



ESE381 Lab 9 PostLab Question

1. Using the Saleae logic analyzer determine what the delay is between the start of a message being sent to LW2 and the start of the message being received at LW1. Also, determine the time duration of the message received compared to the time duration of the message sent.

   Answer:
   The delay between the start of the message sent to LW2 and the start of the message being received at LW1 was measured to be **35.205 ms** using the Saleae logic analyzer. The time duration of the message received was nearly **829.06ms** which was nearly the same as the time duration of the message sent. This could be due to how we placed our two LW devices in the breadboard.

Signature Confirmation

Inbox ×

B

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to me

4/18/2025 14:37:48,jiajun.lin@stonybrook.edu,Muhammad Sharjeel,115185427,Sig. 1: LT1 - Verify LW1 & LW2,100,

Signature Confirmation

Inbox ×

B

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to me

4/18/2025 16:00:23,dylan.wong@stonybrook.edu,Muhammad Sharjeel,115185427,Sig. 2: LT2 - receive_payload,100,

Signature Confirmation

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B

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to me

4/18/2025 16:34:01,dylan.wong@stonybrook.edu,muhammad sharjeel,115185427,Sig. 3: LT3 - bidirec_com,100,