ESE 381

Lab 11: Air Monitoring System II - Sensirion Driver Operation of SCD41 CO2, Humidity, and
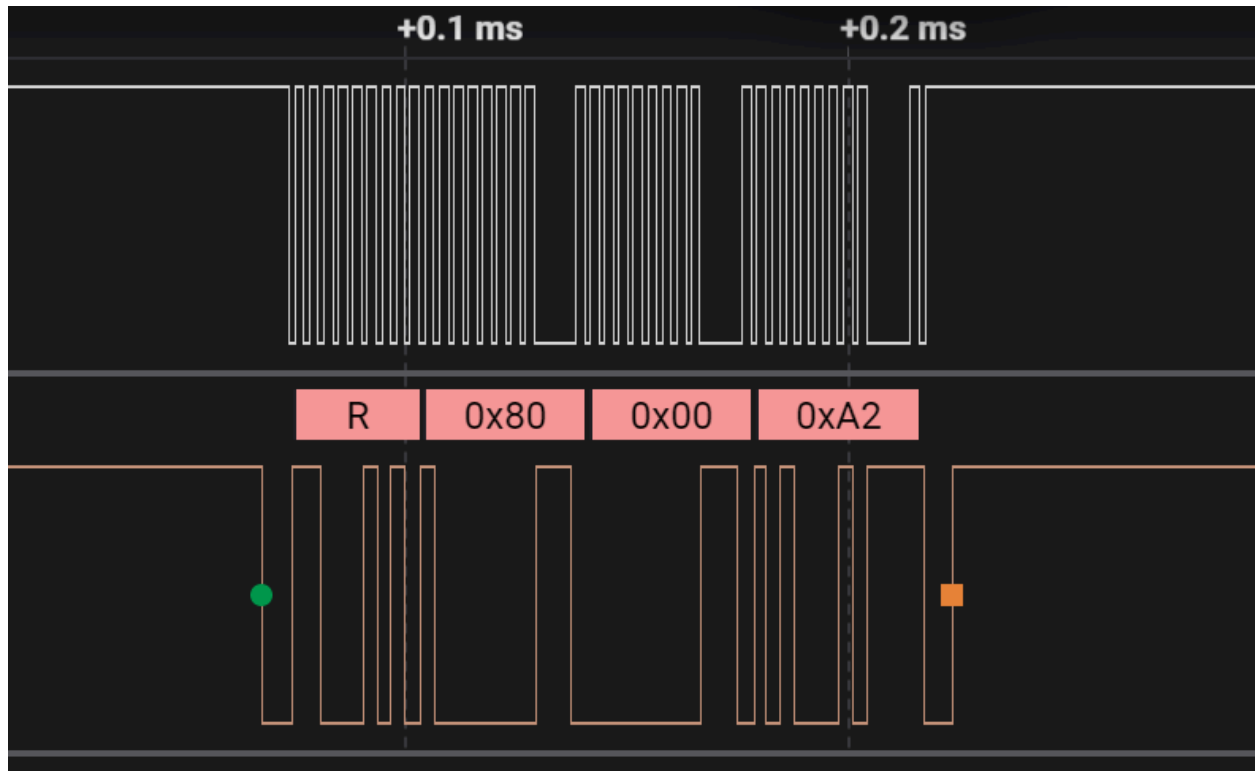
Temperature Sensor

5/1/2025

Muhammad Sharjeel and Naafiul Hossain
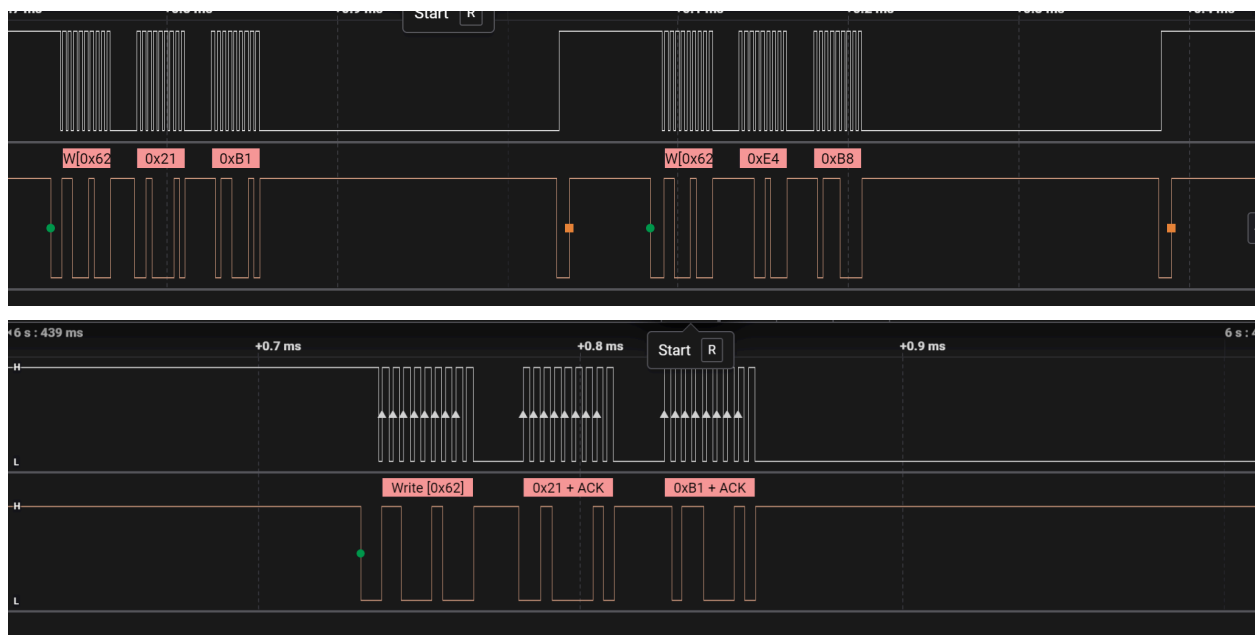
115185427

115107623

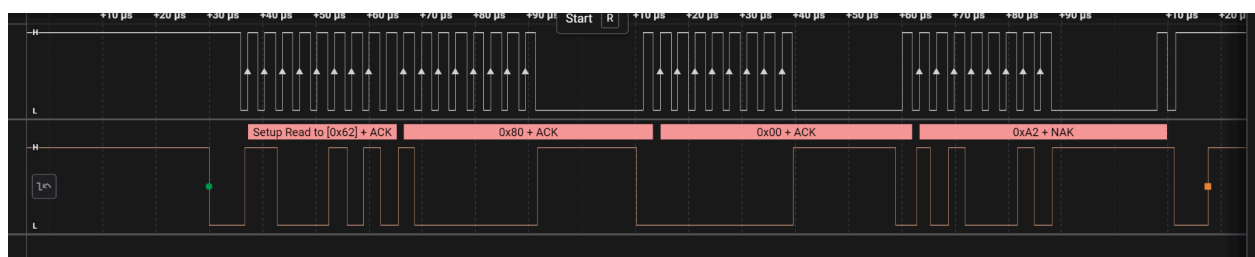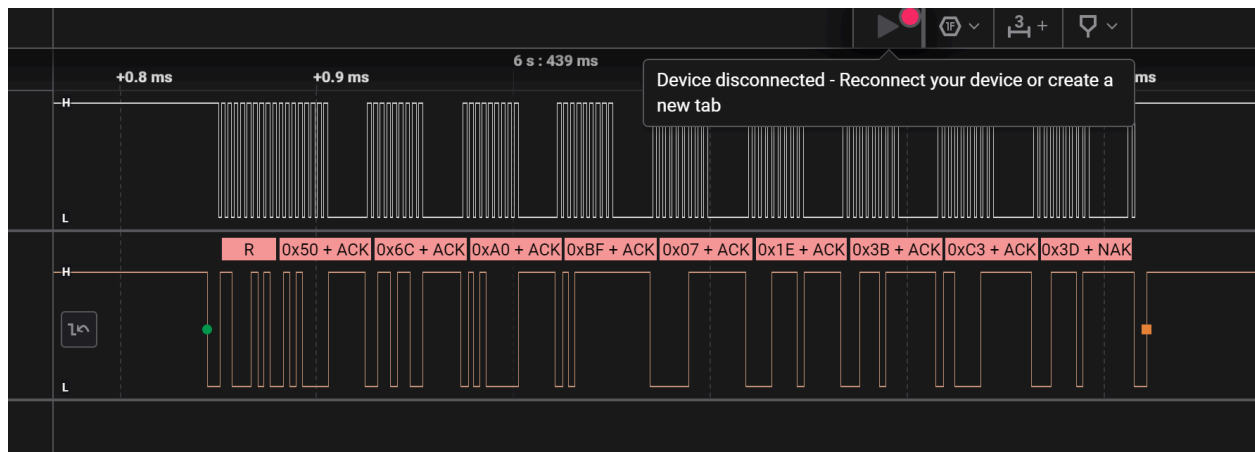Section: L02 Bench 7

Task1-Polling Driven Code Waveforms

Read [0x62] 0x80 + ACK 0x00 + ACK 0xA2 + NAK

Write [0x62] 0xE4 + ACK 0xB8 + ACK

Setup Read to [0x62] + ACK 0x80 + ACK 0x00 + ACK 0xA2 + NAK

Task2-Interrupt Driven Code WaveForms

Panel 1 (top):

+0.1 ms   Start [R]   +0.2 ms

Write [0x62]   0xE4 + ACK   0xB8 + ACK

Panel 2 (middle):

6 s : 439 ms

Device disconnected - Reconnect your device or create a new tab

+0.8 ms   +0.9 ms

R | 0x50 + ACK | 0x6C + ACK | 0xA0 + ACK | 0xBF + ACK | 0x07 + ACK | 0x1E + ACK | 0x3B + ACK | 0xC3 + ACK | 0x3D + NAK

Panel 3 (bottom):

+10 µs +20 µs +30 µs +40 µs +50 µs +60 µs +70 µs +80 µs +90 µs Start [R] +10 µs +20 µs +30 µs +40 µs +50 µs +60 µs +70 µs +80 µs +90 µs +10 µs +20 µ

Setup Read to [0x62] + ACK | 0x80 + ACK | 0x00 + ACK | 0xA2 + NAK
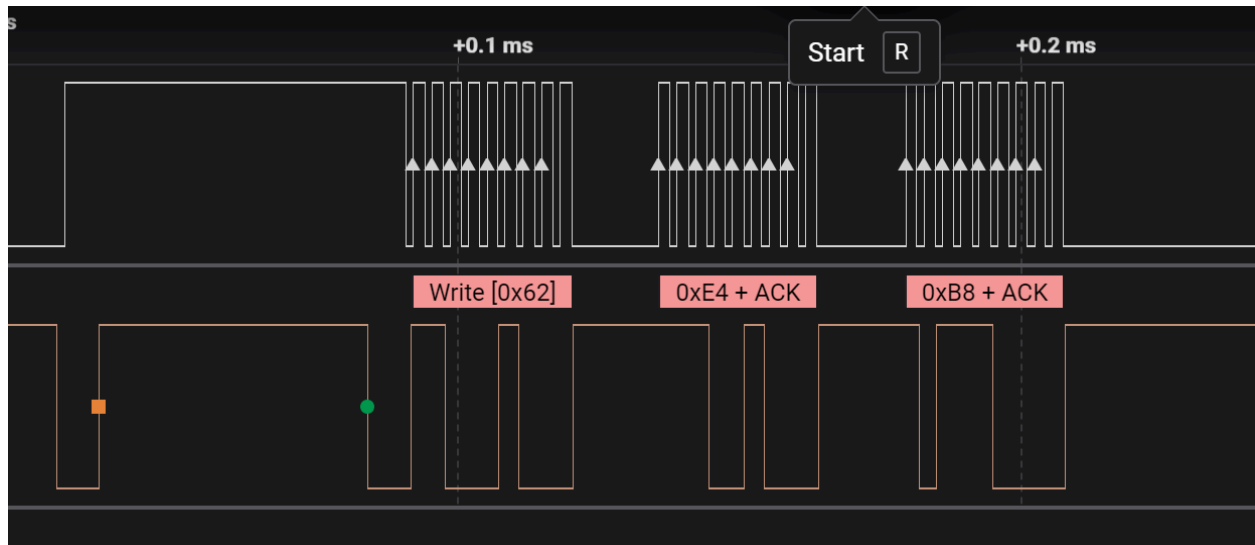
Signature Confirmation   Inbox ×

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to me ▾

5/2/2025 15:32:41,harsh.raithatha@stonybrook.edu,Muhammad Sharjeel,115185427,Sig. 1: LT1 - Polled Drivers,100,

Signature Confirmation   Inbox ×

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to me ▾

5/2/2025 15:50:55,harsh.raithatha@stonybrook.edu,Muhammad Sharjeel,115185427,Sig. 2: LT2 - Interrupt Drivers,100,