Assignment

Day 13

Monday, 20 September 2023

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SV G2 / Intake #3

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1. Executive Summary

This report discusses each of the following topics:

1- Communication specs of SPI.

2. Communication specs of SPI

Serial peripheral interface (SPI) is one of the most widely used interfaces between microcontroller and peripheral ICs such as sensors, ADCs, DACs, shift registers, SRAM, and others. This article provides a brief description of the SPI interface followed by an introduction to Analog Devices' SPI enabled switches and muxes, and how they help reduce the number of digital GPIOs in system board design.

SPI is a synchronous, full duplex main-subnode-based interface. The data from the main or the subnode is synchronized on the rising or falling clock edge. Both main and subnode can transmit data at the same time. The SPI interface can be either 3-wire or 4-wire. This article focuses on the popular 4-wire SPI interface.

2.1. Specifications

- Medium: Wired
- Node to Node relation: SMMI (Single Master Multi Slave)
- Mode: Serial
- Direction: Full-duplex
- Synchronization: Sync
- Throughput: 100% (No Overhead)
- Ending: Single Ended

3. References

3.1. https://www.analog.com/en/analog-dialogue/articles/introduction-to-spi-interface.html