Requirements on Ultrasonic sensor Driver

Team X

Contents:

Introduction:

The AVR SPI (Serial Peripheral Interface) Driver is designed to provide communication capabilities between devices using the SPI protocol. This document outlines the software and hardware requirements, functionalities, and interfaces for both the transmitter and receiver modules of the AVR SPI Driver

Scope of document:

This document specifies requirements on the module SPI communication protocol Driver.

Functional overview:

3.1. Initialization.

3.2. Data Transmission

3.3. Data Reception

Requirement specifications:

Functional Requirements:

1- **[SRS_SPI_111] The driver should provide an initialization function to configure the SPI mode.**

Type:	**Valid**
Description:	▪ The driver should provide an initialization function to configure the SPI module. ▪ The initialization function should allow setting the clock frequency, data order, and operating mode.
Rationale:	The driver should configure the SPI prepheral
Use cases	--
Dependencies	--
Supporting material	--

2- [SRS_SPI_112] It should provide a function to send data to reciever.

Type:	**Valid**
Description:	• The driver should provide a function to send data from the transmitter to the receiver using the SPI protocol. • The function should handle both single and multiple byte transmissions. • It should ensure proper synchronization between the master and slave modules.
Rationale:	Basic functionality
Use cases	Sending data from transmitter to reciever
Dependencies	[SRS_SPI_111]
Supporting material	--

3- [SRS_SPI_113] It should provide a function to recieve data from transmitter..

Type:	Valid
Description:	The driver should provide a function to receive data from the receiver to the transmitter using the SPI protocol The function should handle single byte recieving It should ensure proper synchronization between the master and slave modules.
Rationale:	Basic functionality
Use cases	Recieving data from transmitter to reciever
Dependencies	[SRS_SPI_111]
Supporting material	--