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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Writer: Binh Phan** | | | | | | | | | | | | | | | |
| **Test Case Name:** | | | | Intercom Functional Test #1 | | | | | | | **Test ID #:** | INTER-FT-01 | | |
| **Description:** | | | | Verify the clock with the Si3000 audio codec and the STM32-L053R8 microprocessor. | | | | | | | **Type:** | Black Box  White Box | | |
| **Tester Information** | | | | | | | | | | | | | | | |
| **Name of Tester:** | | | |  | | | | | | | **Date:** | |  | |
| **Hardware Ver:** | | | | 1.0 | | | | | | | **Time:** | |  | |
| **Setup:** | | | | Connect MCLK to pin PA\_8 and SCLK to SPI2\_SCK between the audio codec and microprocessor. Connect the USRBTN (Talk Button) to the processor. Connect mic (microphone) and SPKR (speaker) to codec. Power the audio codec and microprocessor. Load software to microprocessor. | | | | | | | | | | |
| **Step** | **VDD/VD** | **VSSA/VA** | **Clock** | **Expected Result** | **Pass** | **Fail** | | **N/A** | | **Comments** | | | |
| 1 | 3.3 V / 3.3 V | 0 V / 5.0 V | 8 MHz | 8 MHz clock signal from MCLK. |  |  | |  | |  | | | |
| 2 | 3.3 V / 3.3 V | 0 V / 5.0 V | 8 MHz | 8 MHz clock signal from SCLK. |  |  | |  | | Talk button needs to be pressed for SCLK to generate a clock signal. | | | |
| **Overall test result:** | | | | |  |  |  | |  | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Writer: Binh Phan** | | | | | | | | | |
| **Test Case Name:** | | Intercom Integration Test #1 | | | | | **Test ID #:** | INTER-INT-01 | |
| **Description:** | | Verify User Buttons, LEDs, Microphones, and Speakers. | | | | | **Type:** | Black Box | |
| **Tester Information** | | | | | | | | | |
| **Name of Tester:** | |  | | | | | **Date:** | |  |
| **Hardware Ver:** | | 1.0 | | | | | **Time:** | |  |
| **Setup:** | | Connect MCLK to pin PA\_8 and SCLK to SPI2\_SCK between the audio codec and microprocessor. Connect all the user buttons and the LEDs to the processor. Connect mic (microphone) and SPKR (speaker) to codec. Power the audio codec and microprocessor. Load software to microprocessor. | | | | | | | |
| **Step** | **Action** | **Expected Result** | **Pass** | **Fail** | **N/A** | **Comments** | | | |
| 1 | Press user USRBTN\_(1-5) button(s) | LED(s) lights up on both sender and receiver board. |  |  |  | Test each button and combination of buttons. | | | |
| 2 | Press user button(s) (2nd Time) | LED(s) turns off on both sender and receiver boards |  |  |  |  | | | |
| 3 | Hold USRBTN\_6 (talk button) | SDO line of the sender starts receiving data and the speaker of the receiver turns on. |  |  |  | Mic always on. | | | |
| 4 | Talk into mic | Receive voice from the receiver speaker. |  |  |  |  | | | |
| 5 | Release USRBTN\_6 (talk button) | Stop receiving information from SDO line and turn off speaker from the receiver. |  |  |  |  | | | |
| **Overall test result:** | | |  |  |  |  | | | |