Communication buses
Lab-noter

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Take one step at the time. Don't code everything before testing.

Write status on the UART. Check for error codes and write them to the UART.

Remember to enable interrupt on Rx FIFO not empty in the SPI slave and master.

Check that RST is not connected on SPI slave or SPI master. If it is, nothing works.

Take care of the size of the variables, when you bitshift. Shifting an 8 bit results in an 8 bit (not 16 bits).

Consider where you set breakpoints. If you step through code, the I2C communication will time out.

Figure out how to convert the 2's complement number before you go to lab.

Temperature	Digital Output	
	Binary	Hex
+125°C	0 1111 1010	0FAh
+25°C	0 0011 0010	032h
+0.5°C	0 0000 0001	001h
0°C	0 0000 0000	000h
–0.5°C	1 1111 1111	1FFh
–25°C	1 1100 1110	1CEh
–55°C	1 1001 0010	192h

When I write:

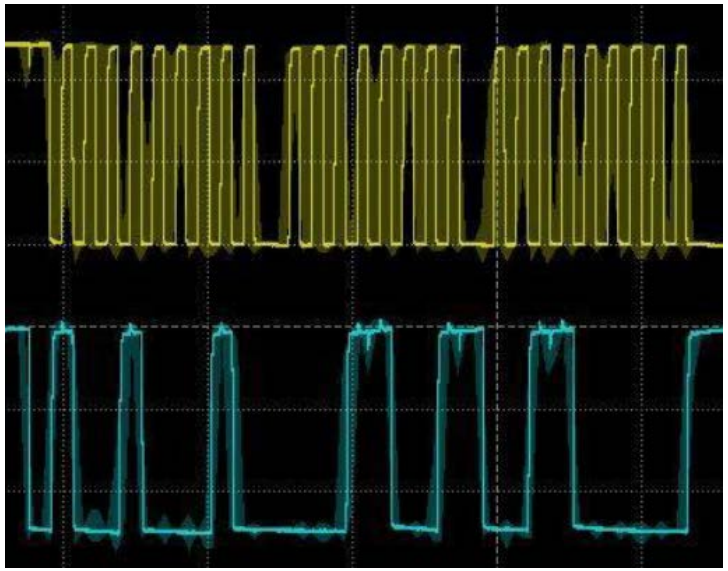
”Measure with the oscilloscope”

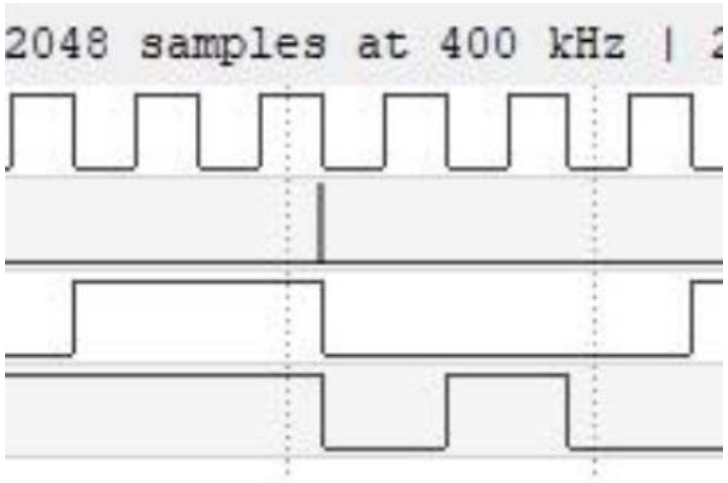
I mean:

”Measure with the oscilloscope”

Not ”use the logic analyser”...

(it’s fine to use the logic analyser *and* measure with the oscilloscope)





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References and image sources