ICEYE

Flight Software Engineer - technical task

The Task

Propose an interface for a driver of L9733 integrated circuit, in form of a C header file.

- No actual implementation of the driver is needed. Write just the header file. The header should contain function prototypes and whatever other items you consider necessary to interact with the chip.
- Write a C language header; assume the compiler can handle C99 standard. Don't use C++.
- Assume the driver will be used on 32-bit microcontrollers, in bare-metal and RTOS applications.
- Strive for "flight grade" quality of your design and code. Assume it is intended to actually fly on a spacecraft.
- If you need it, you can assume there is a `spi.h` header available, and it contains a `spi_t` type, which represents the SPI controller of the MCU, and allows you to perform operations on it. If you need any symbol names from `spi.h` (functions, types, constants) just invent them.
- We will not use your code in any actual application. Anything you write will be used solely for the purpose of the recruiting process.
- Assume that somebody else will use your header file to write different applications. Add comments to your code to guide the application writer on how to use your data structures and functions. If you have special remarks about the limitations of your interfaces, add them into the comments too.

Resources

- L9733 datasheet: https://www.st.com/resource/en/datasheet/l9733.pdf

How and when to submit the task

- Your deliverable for this task is a single header file, named `<your_name>.h`. Send it to us by email, or publish it on any public code hosting service.
- Do not put the name "iceye" in the file name, file content, or anywhere in the repo.
- The task can be implemented at home, in your own time.
- If you have any questions about the nature of the task, don't hesitate to contact us.
- The task should be completed within 7 work days of receiving the instructions. If there are mediating circumstances that cause a delay, please contact us and inform us in advance of the deadline as possible.
- We will confirm receipt of your submission and then review it in the next couple of days.

Have fun coding and good luck!
ICEYE Flight Software Team