

Zimbra

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**NFC reader ST25R3916B****From :** George Stern <gstern@mbari.org>

Thu, Mar 21, 2024 03:30 PM

**Subject :** NFC reader ST25R3916B

📎 2 attachments

**To :** Alana Sherman <alana@mbari.org>

If this is another prototype, consider using the pre-built module (X-NUCLEO-NFC08A1) and just updating the components to tune an antenna; if this is a more final design, it should incorporate the NFC reader chip, ST25R3916B <https://www.st.com/en/nfc/st25r3916b.html> , natively. The module interface is power and either I2C or SPI bus. For the final card, I would copy the demo board schematic pretty closely: [https://www.st.com/resource/en/schematic\\_pack/x-nucleo-nfc08a1-schematic.pdf](https://www.st.com/resource/en/schematic_pack/x-nucleo-nfc08a1-schematic.pdf) I don't think he is using the auto-tuning features so you can probably skip those.

I tuned the RF front end for the antenna I made and harnessing he assumed he needed. If either of those need to change much, it will need to be re-tuned. NFC stuff is relatively low frequency (13.56MHz) so it isn't incredibly sensitive but definitely keep it away from noisier things during placement. You can probably use any cheap ideally 3pin connector to attach the antenna. Shield is connected to the board ground.

The techs didn't have some of the components I needed for ideal tuning on the dock build but what they had was good enough. This is what was used and the marked up module schematic shows what should be used for a new design:



