26-08-2024

Dear reviewer,

We truly appreciate the time and energy you dedicated in carefully reviewing our manuscript.

Your comments were highly helpful. We really appreciate your attention and comments on our manuscript. Our replies are listed as follows:

Comments 1. Line64： Explain what is μ and ω.

Response 1: Thank you for your careful review of the manuscript. μ represents the magnetic permeability of the medium, and ω represents the angular frequency of the electromagnetic wave. We have added in the paper.

Comments 2. Line 89: Is a 24-bit precision really necessary given the measurement and the errors induced by the acquisition system?

Response 2: Thank you so much for your comment. 24-bit resolution is necessary because, in practical use, the amplitude of the electromagnetic field signal can sometimes be only a few tens of microvolts, making 16-bit accuracy insufficient.

Comments 3. Line94: Do not confuse GNSS receiver with GPS; there are other constellations besides GPS. This remark applies to the entire article.

Response 3: Thank you for your careful review of the manuscript. We have replaced GPS with GNSS in the paper.

Comments 4. Line 118: Is there an interface for remote operation of the system? If so, could we have an example?

Response 4: Thank you for your suggestions. We have added the interface of the remote operating system to the paper. The modified image is shown below:
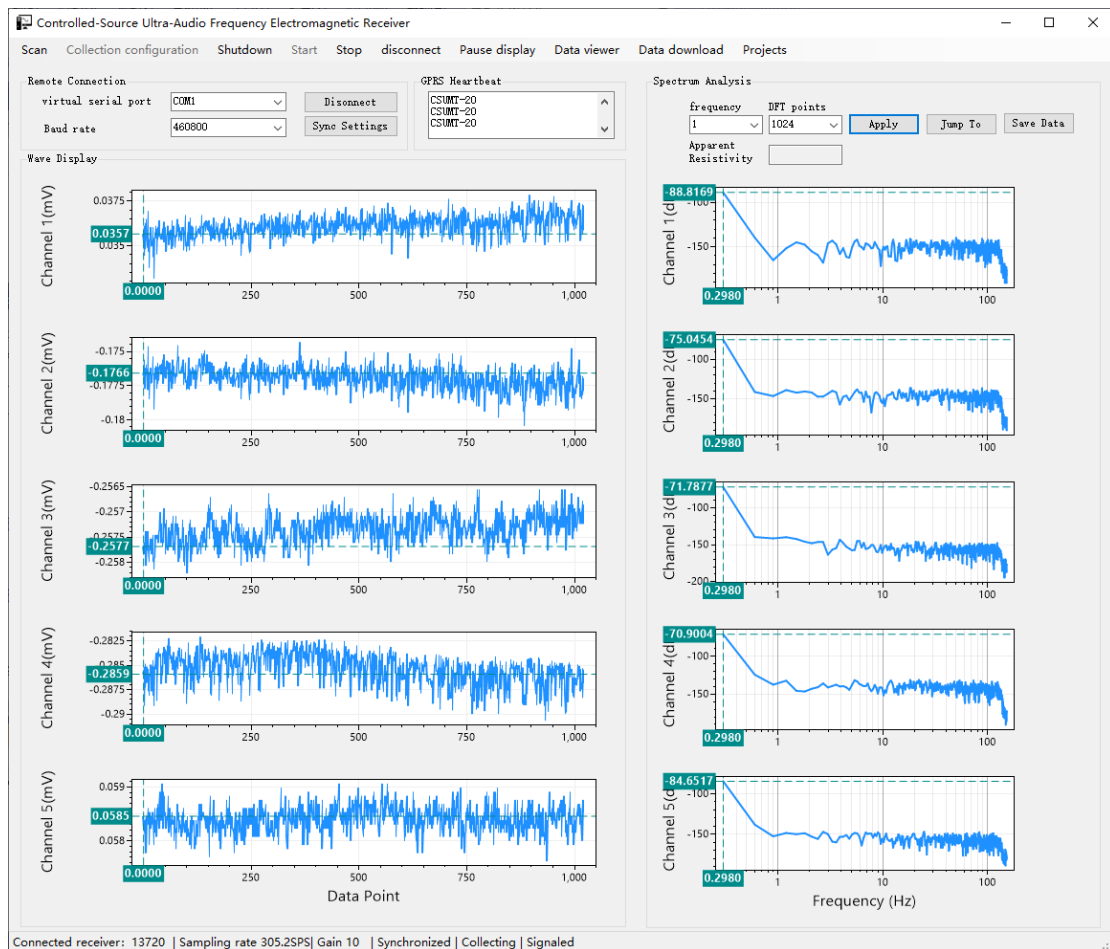
Fig1. Interface of the remote operating system

Comments 5. Line 201: Possibility of integrating embedded computations to limit bandwidth and energy consumption?

Response 5: Thank you for your suggestions. It is possible to transmit only the processed results, but we usually also pay attention to the raw data collected.

Comments 6. Line 203: For monitoring in constrained locations, is it feasible for the system to operate on battery power?

Response 6: Thank you for your comment. Yes, the entire system can be powered by a 12V lithium battery.