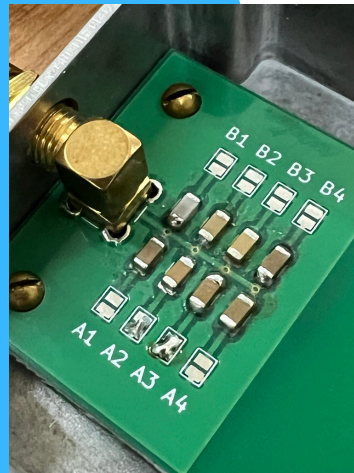


SHIELDED SURFACE RF COIL

The RF circuit and coil are housed inside an aluminum enclosure - thus providing electromagnetic shielding and mechanical protection. Ideal for low-field applications using our low-field NMR spectrometer. This RF coil has a track record of over 10 years, demonstrating consistent success through rigorous testing and real-world application.

SPECIFICATIONS:

- Connection: SMA connector
- Tuned frequency: 40 kHz (in stock) 1-125 kHz (custom)
- High Impedance operation
- Paralle circuit
- Detection range: +/-10% of center frequency
- customization available upon request



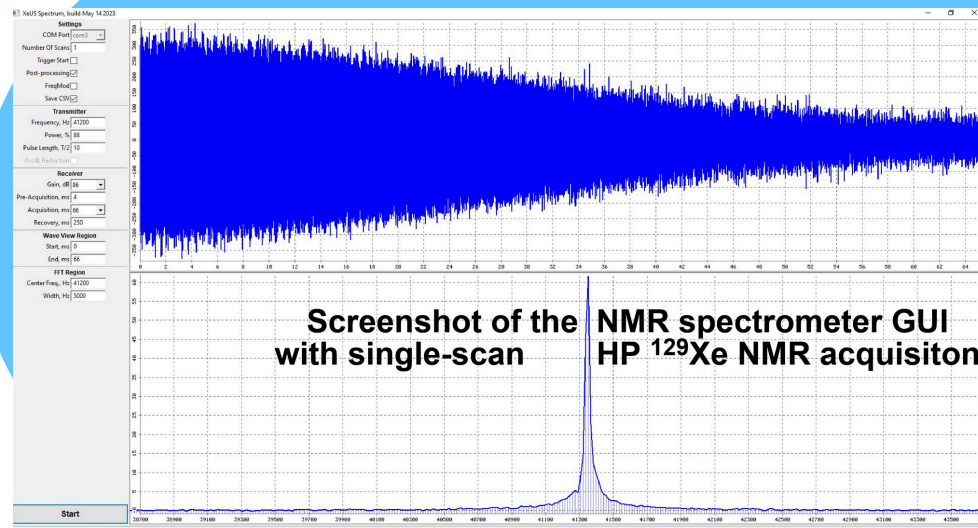
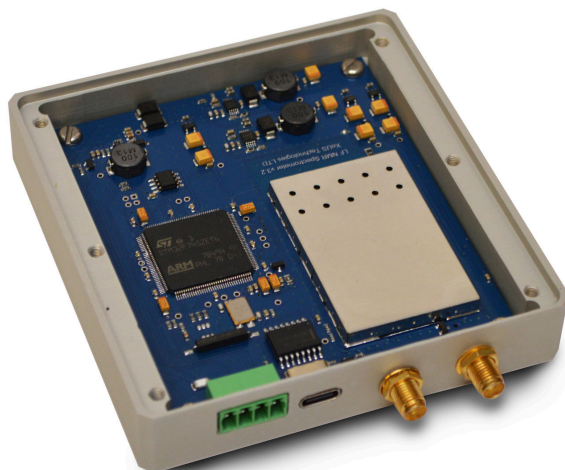
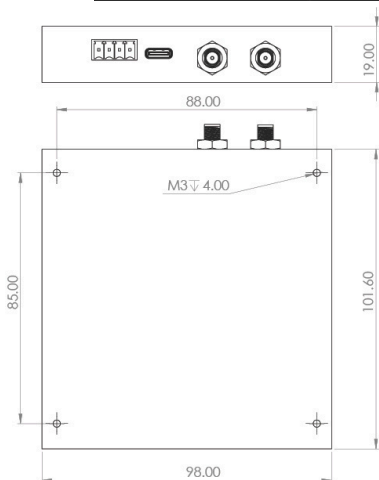
LOW-FIELD NMR SPECTROMETER & SHIELDED SURFACE RF COIL

EURO €1,700 * (substantial volume discount: up to 50%)
* price is subject to change w/o notice **AVAILABLE FROM STOCK**

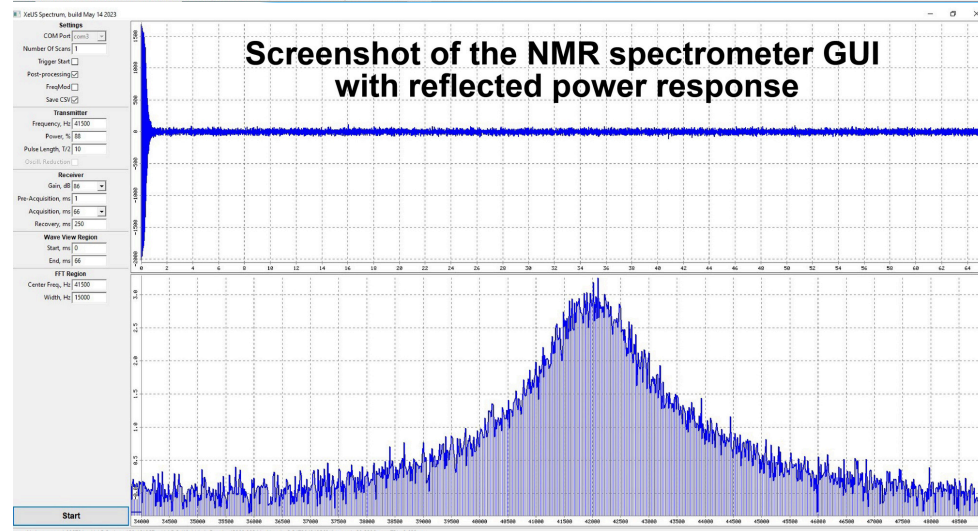
LOW-FIELD NMR SPECTROMETER

This NMR spectrometer employs ARM-based chip, which we use on our Xenon-129 hyperpolarizer and polarimetry station. This spectrometer is ideal for low-field applications and has been used to detect Proton, Carbon-13, and Xenon-129 for a wide range of hyperpolarized media applications.

PC Interface:	Full speed USB 2.0
User interface:	MS Windows based software (included)
Digital I/O:	RS485, 1 TTL trigger input (SMA)
Receiver:	<i>Number of receivers: 1 (SMA)</i> <i>Operating range: 1 to 125 kHz</i> <i>Gain: +74 to +98 dB, digitally controlled in 12 dB steps</i> <i>Input impedance: 1 MΩ</i> <i>Sample rate: 250 ksp/s</i> <i>Resolution: 24-bit</i> <i>Sweep Width: 124 kHz</i> <i>Filtering: digital post processing</i> <i>Signal averaging: yes</i>
Internal RF amplifier:	<i>Number of amplifiers: 1</i> <i>Output power: up to 180 mW in 100 steps</i> <i>RF pulse duration: up to 2 ms in 256 half-period steps</i> <i>Clock step: 1 Hz</i> <i>Frequency stability: 10 ppm</i> <i>Frequency range: 1 – 125 kHz</i> <i>Modulation capabilities: phase synchronization</i> <i>Phase control: on demand</i>
Power Supply:	Can be powered either by: USB-C connection to PC (included) Or via External 24 VDC (optional)
Data Output	.csv file
Dimensions:	<i>Size: 102 × 98 × 19 mm in full aluminum enclosure</i> <i>Weight: 370 g or 0.8 pound</i>
Notes:	<i>The spectrometer can be supplied with custom high-impedance RF coil tuned to ~40 kHz;</i> <i>other RF coils can be made on demand;</i> <i>custom electromagnet systems can be made on demand;</i>



Screenshot of the NMR spectrometer GUI with single-scan HP ¹²⁹Xe NMR acquisition



Screenshot of the NMR spectrometer GUI with reflected power response

DETAILS:

- Operation via MS Windows Software (USB) or RS485
- USB MS Windows: intuitive graphical software
- RS485 on-board data processing: FFT, integration, etc.
- 2025 upgrade: 2X faster CPU and 4X more memory

For more details, read our 2024 paper:

Chowdhury MR, Ahmed F, Oladun C, Adelabu I, Abdurraheem A, Nantogma S, Birchall JR, Gafar AT, Chekmenev YA, **Nikolaou P**, Barlow MJ, Goodson BM, Shcherbakov A, Chekmenev EY. Low-Cost Purpose-Built Ultra-Low-Field NMR Spectrometer. *Anal Chem.* **2024**;96:16724–16734.

EURO €4,000 * (substantial volume discount: up to 50%)

* price is subject to change w/o notice **AVAILABLE FROM STOCK**