Gecho

Imagine and create your own spectrometer

including RF chain

(0.5 – 650 MHz)







SEE THE DIFFERENCE.

Hardware specifications

The system includes a complete RF chain

(Spectrometer Cameleon4[™] + amplifiers + pre-amplifiers) **assembled in a single box.** The Gecho is a versatile system where one can add parts on request, such as a shim card or a gradient card.

Cameleon4

- Latest FPGA SoC technology
- 0.5 mHz frequency resolution
- Embedded Linux on dual core ARM processor
- 3 Transmitters (Tx) + Lock
- 4 Receivers (Rx)

Amplification

3 options:

- **High-field**: 200 650 MHz, 100 W (15 W CW), duty cycle 20%, pulse width 300 ms max
- **Medium-field**: 5 310 MHz, 300 W (30 W CW), duty cycle 20%, pulse width 300 ms max
- Low-field: 0.5 150 MHz, 250 W (50 W CW), duty cycle 20%, pulse width 100 ms max

Software

- SPINit license
- Build-up setup
- Unlimited data processing users' license

Shim option

• 16 channel ± 1 A

Gradient option

• Gradient channel ± 10 A

Sweep option

• 32 k to - 32 k amplitude ± 10 V

Pre-amplification

- T/R switch board
- Pre-amp board, 3 channels







Stand-alone Gecho

- Cameleon4[™] module
- 1 GPIO
- Power supply
 » Additional gradient amplifier

Gecho amp options

- Cameleon4[™]module
- 1 GPIO
- Power supply
 - » 1 High-field amp, 200 650 MHz
 - » 1 Medium-field amp, 5 310 MHz
 - » 1 Low-field amp, 0.5 150 MHz

Gecho shim options

- Cameleon4[™]module
- 1 GPIO
- Power supply
 - » 1 additional shim module (16 shims channel)



Configurations

Gradient Gecho

- Cameleon4™ module
- 1 GPIO
- Power supply
 - » Additional gradient amplifier

Gecho pre-amp options

- Cameleon4[™]module
- 1 GPIO
- Power supply
 - » T/R switch board (no pre-amp board)
 - » 1 pre-amp board, 3 channels

Gecho sweep options

- Cameleon4[™] module
- 1 GPIO
- Power supply
 - » Z/B0 board, direct output
 - » Shim power supply Z/B0 internal field



Applications

The Gecho has 4 transmit and 4 receive channels with LNA and TR switch for each channel. The adjustment and adaptation of the probes are integrated with a directional coupler on each transmission channel. The system is delivered with an unlimited number of licenses of RS²D acquisition and processing software: SPINit. If you wish to keep your acquisition software, we also provide access to SPINIab Driver.

It allows a link between your software and ours.

For an overview of the software, download SPINit from our website - RS2D.com



- » Real-time data fitting
- » Triggering of microwaves frequency / power sweep
- Relaxometry
 - » Time domain NMR for T_1 and T_2
- Low-field NMR
 - » For basic low-field applications

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