

Microfluidic MRI: Artist's Conception

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Abstract—A visualization of a miniature MRI receiver.

I. MINIATURE MRI

Fig. 1 shows the system in question. A microchannel substrate 2.2-mm deep, 16-mm wide, and 95-mm is available from Micralyne Inc. for US\$ 220 a sample (for 2+ samples). The trench itself is about 50- μm wide and 20- μm deep. These systems are designed for capillary electrophoresis. I do not know exactly how to get the liquid into the channel and have it be imaged by the MRI machine.

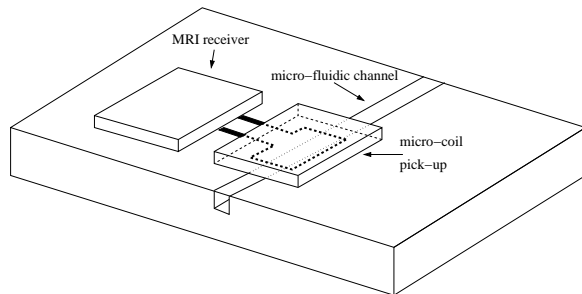


Fig. 1. An impression of a miniaturized MRI receiver.

As shown, the receiver chip and detector coil can be flip-chip bonded to the microchannel substrate and joined by a short transmission line (also on the microchannel substrate).

How exactly the sampling blocks will be interfaced to the receiver chip is uncertain at the moment.