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Mr. Kevin Bowden,  
Director of Product Technology  
O-Two Medical Technologies Inc.  
7575, Kimbel Street, Mississauga  
Ontario, CANADA  
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Dear Kevin,

I am writing to confirm the measurements we made recently on your CAREvent® MRI Automatic Transport Ventilator (O-Two Medical Technologies Inc. Part # 01CV7000).

These tests were performed on our GE Signa 3 Tesla MRI system. This system has a high-power CVI gradient set, with a maximum strength of 40mT/m, and a maximum slew rate of 150T/m/s. The maximum RF transmitter power on this system is 8 kW. The unit is equipped with a wide range of software options and all common types of MR imaging sequences, including spiral EPI, are available.

The ventilator unit was positioned next to the MR patient table, no more than 30 cm from the magnet aperture, in a position identical to the normal operating position.

The unit itself experienced no significant attractive forces in the static magnetic field.

To test for any influence of the unit on magnetic field homogeneity, a standard spectroscopy sequence was performed using the head coil and the standard spectroscopy head phantom. The results were compared to those obtained without the ventilator unit in place, as described above. There was no change in the spectral pattern, line width, or signal-to-noise ratio with the unit in place and operating in its various modes. Typical spectra are shown in Figure 1(a) without the unit in place, and in Figure 1(b) with the unit in place.

To test whether the unit caused any increase in radiofrequency noise, a diffusion tensor image set (DTI) was acquired on a spherical head phantom. Experience has shown this sequence to be extremely sensitive to spike noise. The imaging results showed no evidence of any spike noise, nor was there any change in the noise floor level. Results are shown in Figure 2, although DTI never produces pretty images.

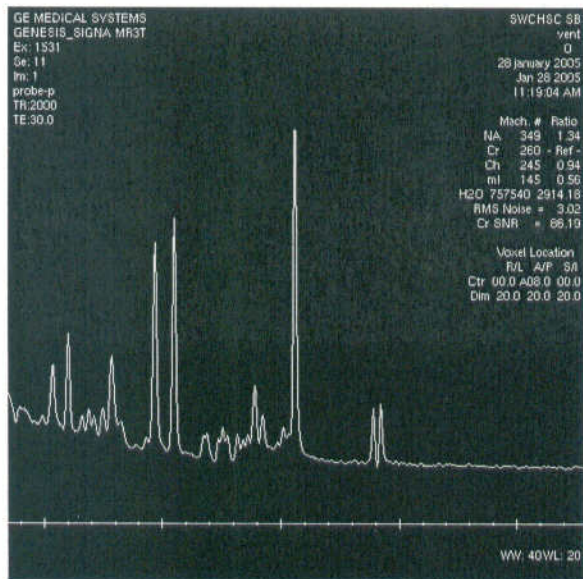


Figure 1(a). Spectrum with no ventilator

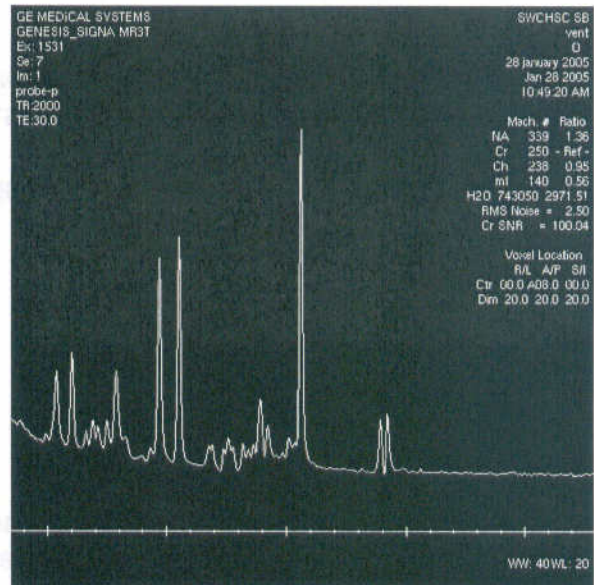


Figure 1(b). Spectrum with ventilator



Figure 2(a) DTI with no ventilator



Figure 2(b) DTI with ventilator

During both tests the ventilator was operated in all of its major clinical modes. The device functioned to specification during the testing and the MRI system had no affect on the ventilation parameters. Concurrently, the ventilator had no influence on MRI performance, and specifically caused no degradation in image quality.

Full images from the tests are available, if required.

Yours sincerely,

A handwritten signature in blue ink that reads "Mike." with a horizontal line underneath the name.

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