

Before the  
**Federal Communications Commission**  
Washington DC 20554

In the Matter of	)	
	)	
Modification of Parts 2 and 15 of the	)	ET Docket No. 03-201
Commission's Rules for Unlicensed	)	
Devices and Equipment Approval	)	

**COMMENTS OF VOCOLLECT, INC. AND  
VOCOLLECT HEALTHCARE SYSTEMS, INC.**

Vocollect, Inc. and Vocollect Healthcare Systems, Inc. file these joint comments in response to the above-captioned Further Notice of Proposed Rule Making.<sup>1</sup>

**A. ABOUT VOCOLLECT, INC. AND VOCOLLECT HEALTHCARE SYSTEMS**

Since 1987, Vocollect, Inc. has improved productivity, accuracy, cost reduction, and job satisfaction for hundreds of thousands of mobile employees on six continents. Vocollect Voice literally talks people through their daily tasks, replacing cumbersome lists and traditional data capture methods with hands-free, personal voice dialogs using wireless, wearable mobile computers. Vocollect is a private company headquartered in Pittsburgh, Pa., with offices in the Americas, Europe, and Asia. The company holds several FCC certifications. For more information, see [www.vocollect.com](http://www.vocollect.com).

Vocollect Healthcare Systems, Inc., a wholly-owned subsidiary of Vocollect, Inc., was founded by independent entrepreneurs as Adherence Technology Corporation. Acquired by Vocollect in March of 2006, Vocollect Healthcare Systems has become the leading provider of voice-assisted care for the long-term care industry. The company's flagship offering

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<sup>1</sup> *Modification of Parts 2 and 15 of the Commission's Rules for Unlicensed Devices and Equipment Approval*, 22 FCC Rcd 11383 (2007) ("Notice").

AccuNurse® has been commercially available for over a year. For more information, see [healthcare.vocollect.com](http://healthcare.vocollect.com).

### ***About Vocollect Technology***

Wireless data communications and automated data capture are critical to Vocollect's products. Our wireless, wearable mobile computers interact with server-based information management systems and convert the information flow to voice dialogs. This real time, intuitive interaction with information management system allows mobile workers to become more productive and more accurate. In a typical environment, such as a warehouse, dozens, or even hundreds, of workers with wireless mobile computers may be working in close proximity. The radios are low power (typically 20dBm or less) and use industry standard protocols.

These radios often share spectrum with unrelated devices such as cordless phones or proprietary narrowband radios. With an installed base of over 500 sites, we have needed to actively manage interference between unrelated devices in fewer than 1% of our locations. Even then, a one-time RF site survey and reallocation or reconfiguration of equipment usually solves the problem. At the vast majority of locations, workers use their equipment on an ad-hoc basis without noticing any change in performance, while the underlying protocols manage the wireless communications.

Vocollect is developing a set of product offerings that employ wearable RFID readers compliant to UHF EPC Class 1 Generation 2 specifications. Maximum transmitter power is 27 dBm, and the maximum data rate is 640 Kb/s. The readers operate in the 902-928 MHz band and use FHSS techniques in accordance with applicable specifications. Tests show that the

readers can operate effectively even when used at arm's length from more powerful fixed RFID readers.

Vocollect Healthcare plans to develop a derivative product using a 902-928 MHz ZigBee radio for wireless data communications. The indoor propagation characteristics of this band, combined with ZigBee mesh networking capabilities, make this an ideal solution for use in assisted living, skilled nursing, transitional care, and similar settings.

**C. THE COMMISSION SHOULD CAREFULLY LIMIT THE APPLICABILITY OF A SPECTRUM ETIQUETTE.**

Vocollect and Vocollect Healthcare take no position on whether a spectrum etiquette is necessary to prevent interference in the ISM bands.

But if the Commission decides to adopt an etiquette, Vocollect and Vocollect Healthcare -- like other parties to the proceeding -- urge that it do so as narrowly as possible, being careful to exclude devices that are not part of the problem to be solved. The Commission should, further, draw the boundary between etiquette and non-etiquette devices so as to minimize the marginal cases. Where reasonable questions arise at the margin, the Commission should resolve them against imposing the etiquette.

As one possible boundary, the Commission could impose an etiquette only as to devices:

- operating in the 902-928 MHz band; and
- certified pursuant to Section 15.247; and
- capable of operation at data speeds in excess of 1 Mbps.

We emphasize that an etiquette may be unnecessary even for many of the devices that meet these criteria. In particular, the Commission proposes duty cycle limitations on all

transmitters operating at over 0 dBm.<sup>2</sup> We note, however, that consumer and industrial devices with powers 10 to 20 dB higher have been operating in vast numbers with no systematic interference problems.

### **CONCLUSION**

The Part 15 rules have been a fruitful basis for innovation. Unless it is designed and administered with the greatest care, a spectrum etiquette threatens to shut off this source of economic growth. The Commission should identify the categories of device that need additional controls (if indeed any do) as narrowly as possible, and should set up an etiquette that entails a minimum of restraint on those devices. The scope of the solution should not exceed that of the problem.

Respectfully submitted,

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<sup>2</sup> Notice at para. 22.

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