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To: Federal Communications Commission
445 12th Street SW
Washington, DC 20554
Subject: Vocera Communications STA Application,
Public Exhibit I
Date: 5 March 2007

Gentlemen,

An STA is being sought for the "Beta" testing of a IEEE802.11 B/G "VOIP" communication system.

This is the second generation of a current product already certified with the FCC under FCC ID: QGZ-B1000A

Testing of the product within the engineering labs at Vocera Communications has been completed. In order to further the development of the product and verify its performance in a "real world" environment, Vocera Communications is seeking an STA to allow it to conduct verification tests outside of the engineering lab environment.

The necessity for an STA is not expected to be longer than 6 months. This document addresses some of the Commissions concerns regarding experimental licenses / STAs.

If additional information / clarification is required, please do not hesitate to contact me.
Regards,

A handwritten signature in black ink, appearing to read "David Waitt".

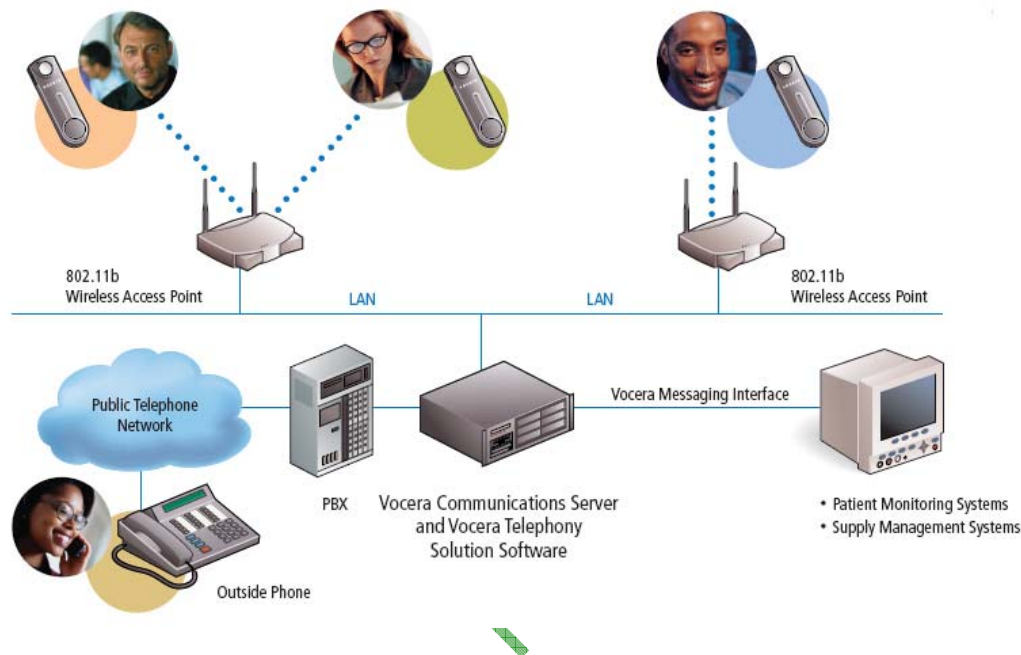
David Waitt
Consultant Representing Vocera Communications
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Company Background

Vocera Communications,® Inc., has developed a wireless voice communication system to enhance customer service, productivity, and teamwork throughout organizations. The company, headquartered in Cupertino, Calif., was founded in March 2000 by a team of technology professionals with years of experience designing complex network-based software and hardware systems.

Overview / Applications of the Vocera Communications system.

Vocera Communications Network Diagram



The Vocera Communications System enables instant, wireless voice communication that users control with naturally spoken commands. This easy-to-use system is ideal for hospitals, hotels, retail stores, and other in-building environments where mobile workers need to stay in contact to perform their jobs. The Vocera Communications System provides wearable, voice-controlled communication via an 802.11b wireless LAN.

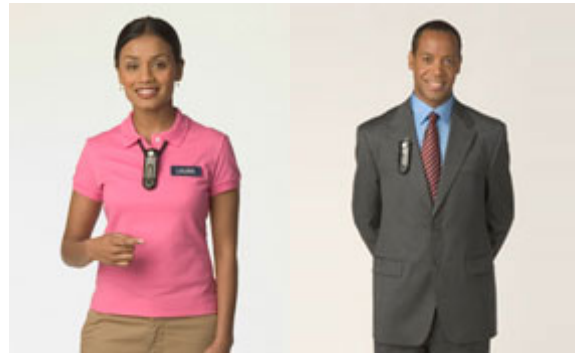
Using voice prompts, Vocera instantly connects users to the people they need, thereby reducing phone tag, overhead paging, or the need to physically search for a person



The Vocera Communications Badge

The communications badge is a lightweight, wearable, voice-controlled device that operates over an 802.11b/g wireless LAN infrastructure. It enables instant, handsfree conversation. The badge interfaces with the Vocera Server, where the system's intelligence is housed. The system can also connect to the PBX in order to place and receive calls through the public telephone network. Together the Vocera System Software and Vocera Communications Badge allow people to instantly communicate with others throughout a building or campus environment.

The Vocera Communications Badge



Typical user placement of the communications badge, lanyard or clip

Reason for Experiment

Complete program of research and experimentation proposal including description of equipment and theory of operation:

Second generation badges will be distributed at several campuses that are already using the first generation of the Vocera system. This will allow users who are very familiar with the performance to judge the performance of the new badges.

Applicable Rules and Standards

The proposed system meets the requirements of FCC Part 15.247 ("Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz." The product will be FCC certified under this rule part. The certification effort will begin approximately halfway through the Beta test period.

Specific Objectives sought to be accomplished:

The main objective of the proposal is to verify acceptable performance of the Vocera communication system in multiple "typical" business / educational / health care environments. And to attempt to quantify the relative improvements over the previous generation of product

How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of the radio art, or is along the line not already investigated:

The Vocera Communications System enables instant, wireless voice communication that users control with naturally spoken commands. Advancements in available RF products and components have enabled improvements within the communications badge. The successful Beta test of the Vocera communications Badge will, in part, validate and verify these advancements, thus allowing and encouraging these new RF products to be used in a wider range of communications products.

Additionally, of course, a successful Beta test program will result in improved Vocera Communications devices being available for hospitals, assisted living facilities, schools, libraries and other public institutions.

Location and Recovery of Test Radios

The location of the beta test locations and quantity of badges in use at each location is considered Vocera confidential. Please see Confidential Exhibit I for a list of proposed locations.

The specific campuses in which the test will be conducted were chosen based for a variety of reasons including:

- o Willingness of the staff to participate in the program and provide feedback to Vocera
- o Building type, floors, floor plan...
- o Usage of the products (typically “heavy”)
- o Density of supporting 802.11 infrastructure

...and other variables in order to characterize system performance in a wide variety of environments.

Upon completion of the Beta experiments, all of the Beta test units will be returned to Vocera Communications in California.

Labeling of Units:

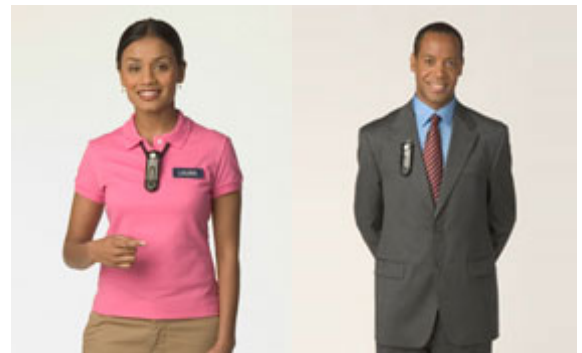
The text shown will appear on a label that will be affixed to the outside of the unit in a conspicuous location per FCC Part 2.803. XXXXXX will be replaced by the issued experimental license number

This device has not been authorized as required by the rules of the Federal Communications Commission. This device is not, and may not be, offered for sale or lease, or sold or leased, until authorization is obtained. Exp Lic: XXXXXXXX

“Portable” use of the badges:

The communications badge is classified by the FCC as a portable device and as such and given its expected transmit power requires SAR testing for FCC certification. SAR testing will NOT have been conducted by the time the Beta units are fielded for trial.

Certainly RF exposure must be assessed during the Beta testing. Vocera regulatory engineering has determined that the RF exposure of the Beta participants will be the same as those using the generation I badge.



The SAR value of the Generation I badge was found to be well under the FCC limit (1.6W/Kg averaged over 1 Gr). Given the RF transmit power of the generation 1 badge and the Generation 2 badge, the expected SAR value of the Generation 2 badge is calculated below

Measured SAR, Gen 1:	0.0535 W/kg (1gr)	(FCC ID QGZ-B1000A)
Measured EIRP, Gen 1:	16.7 dBm	
Assumed EIRP, Gen 2:	16 dBm	
Calculated SAR, Gen 2:	0.0455 W/kg (1gr)	(Calc from Gen 1 results)
FCC SAR Limit:	1.6 W/kg averaged over 1gr	

The persons testing the Generation 2 badges will be made aware that RF exposure has not yet been tested on these devices, however the expected difference in RF exposure between the two versions of the device is minimal and well below the FCC limits.

Possibility of Harmful Interference

The possibility of harmful interference from the Beta devices is no greater than the possibility of interference due to the generation 1 devices. There have been no complaints of harmful interference due to the prior generation of products, thus, is no reason to believe the Beta device will cause any harmful interference

Proposed Certification Procedure

The Beta testing will help refine the Vocera Communications product, and allow it to move forward with FCC Certification and bring this product to market as soon as possible. It is anticipated that the system validation experiment will last for approximately 30 - 60 days. Assuming that no major flaws are uncovered during the course of the experiment Vocera Communications will begin the FCC certification process approximately mid-way through the Beta testing.

Technical Summary

Modulation:	CCK/OFDM
Operating Band:	2400 - 2483.5 MHz ISM band
802.11 - B Bandwidth:	Approx 17 MHz
802.11 - G Bandwidth:	Approx 27 MHz
Number of channels:	11 (#1 - 11)
Channel Spacing:	5 MHz
Operating Frequency Range:	2412 - 2462 MHz
Integrated Transmit Power(PK):	Approx 16 dBm MAX (AVG)
Antenna gain:	2.66dBi

Also see included 802.11 module specification sheet