

Vocera Device Safety and Regulatory Guide

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Introduction

This section introduces you to the details covered in this document, the product applicability, and the related documentation.

About This Guide

This document describes the safety and regulatory information for your B-series, V-series Smartbadges, and C1000 Minibadge. It captures safety details for electrical, magnetic, radio, wireless, chemical, single-bay charger (for B-series), 8-Bay chargers, along with your power supply safety. You can also refer to this document for details on cleaning instructions.

Product Applicability

This section describes the applicable products, the supported firmware releases, and the supported Vocera Software.

Supported Badge	Vocera Firmware	Supported Vocera Software
B3000, B3000n, V5000, and C1000	Firmware 4.0.1 or later Firmware 5.0.0 or later Firmware 5.1.0 or later Firmware 1.2.284	Up to Vocera Voice Server 5.7.0 and Vocera Platform 6.5.0

Related Documentation

The documents supporting the Vocera Device Safety and Regulatory Guide is listed in this topic.

The following documents support the Vocera Device Safety and Regulatory Guide:

- [Vocera Infrastructure Planning Guide](#)—Specifies the recommended configuration of infrastructure to support Vocera.
- [Vocera Device Configuration Guide](#)—Specifies how to configure badges by using the Badge Properties Editor and the Badge Configuration Utility. It also provides details of the updates to the badge properties and firmware.
- [Vocera B-Series Badge User Guide](#)—Specifies the badge features and commands.
- [Vocera V-Series Smartbadge User Guide](#)—Specifies the Smartbadge features and commands.
- [Vocera C-Series Minibadge User Guide](#)—Specifies the Minibadge features and commands.
- [Vocera Voice Commands Reference Guide](#)—Specifies the details of the voice commands that you can use on your Vocera device and smartphones to communicate.
- [Vocera Device Safety and Regulatory Guide](#)—Specifies the safety details for electrical, magnetic, radio, wireless, chemical, chargers, along with your power supply safety.

Regulatory Notices

This section provides details regarding the regulatory compliance of C1000 Minibadge, V-Series Smartbadges and B-series Badges.

Regulatory Notices for C1000 Minibadge

This section provides details regarding the regulatory compliance of C1000 Minibadge.

Vocera C1000 Minibadge Regulatory Notices

This section describes the regulatory notices for different regions.

Regulatory Conformance Marks



FCC Compliance for United States Users

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Caution: Changes or modifications not expressly approved by Vocera could void the FCC compliance and negate your authority to operate the product.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

French Translation

Conformité aux normes FCC Cet équipement a été testé et trouvé conforme aux limites pour un dispositif numérique de classe B, conformément à la Partie 15 des règlements de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Cet équipement génère, utilise et peut émettre des fréquences radio et, s'il n'est pas installé et utilisé conformément aux instructions du fabricant, peut causer des interférences nuisibles aux communications radio. Rien ne garantit cependant que l'interférence ne se produira pas dans une installation particulière. Si cet équipement provoque des interférences nuisibles à la réception radio ou de télévision, qui peut être déterminé en comparant et en l'éteignant, l'utilisateur est encouragé à essayer de corriger les interférences par une ou plusieurs des mesures suivantes:

1. Réorienter ou déplacer l'antenne de réception
2. Augmenter la distance entre l'équipement et le récepteur
3. Branchez l'appareil dans une prise sur un circuit différent de celui auquel le récepteur est connecté
4. Consultez votre revendeur ou un technicien radio / TV pour assistance

Précaution : Les changements ou modifications à cet appareil sans expressément approuvée par la partie responsable de conformité pourraient annuler l'autorité de l'utilisateur de faire fonctionner cet équipement.

Son fonctionnement est soumis aux deux conditions suivantes:

1. Ce dispositif ne peut causer des interférences, et
2. Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

European Union Declaration of Conformity (DoC)

Standards:

B3000 Version CCO

- EN 300-328
- EN 301-489-1
- EN 301-489-17
- EN 60950-1
- EN 50383
- 2011/65/EU

Responsible Party:

Responsible Party contact information is available at www.vocera.com/legal/regulatory.aspx.

CE Mark Restrictions:

- United Kingdom: System provider for third-party traffic may require a Wireless Telegraphy and/or Telecommunications Act License.
- France: French regulations require that you do not use this device outdoors.

English

Hereby, Vocera, Inc. declares that all CE Marked Vocera products incorporating Radio and Telecoms Terminal Equipment functionality are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Français

Par la présente, Vocera, Inc. déclare que tous les produits Vocera incorporant la fonctionnalité d'Équipement terminal Radio et télécommunications et marqués du symbole CE sont conformes aux exigences essentielles et autres dispositions pertinentes de la Directive 1999/5/EC.

Notice to Canada Users

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme à l'exposition aux rayonnements IC RSS-102 des limites définies pour un environnement non contrôlé.

This device complies with the RSS-247 requirement for 5 GHz radios. This device operates in the 5150–5250 MHz band and is only for indoor use to reduce potential harmful interference to co-channel mobile satellite systems.

Notice: The Industry Canada regulations provide that changes or modifications not expressly approved by Vocera, Inc. could void your authority to operate this equipment.

Avis: Dans le cadre des réglementations d'Industry Canada, vos droits d'utilisation de cet équipement peuvent être annulés si des changements ou modifications non expressément approuvés par Dell Inc. y sont apportés.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Canada Safety Code 6 Guidelines for Exposure to Radio Waves

THIS DEVICE MEETS HEALTH CANADA SAFETY CODE 6 GUIDELINES FOR EXPOSURE TO RADIO WAVES.

CET APPAREIL EST CONFORME AUX DIRECTIVES DU CODE 6 DE SÉCURITÉ DE LA SANTÉ CANADA POUR L'EXPOSITION AUX ONDES RADIO.

Your Minibadge device is a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) recommended by international guidelines. The guidelines were developed by Health Canada and include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

Votre appareil Minibadge est un émetteur-récepteur radio. Il est conçu pour ne pas dépasser les limites d'exposition aux ondes radio (champs électromagnétiques de fréquence radio) recommandées par les directives internationales. Les lignes directrices ont été élaborées par Santé Canada et comprennent une marge de sécurité importante destinée à assurer la sécurité de toutes les personnes, indépendamment de l'âge et de la santé.

The radio wave exposure guidelines use a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit for radio devices is 1.6W/kg.

Les lignes directrices pour l'exposition aux ondes radio utilisent une unité de mesure appelée Débit d'Absorption Spécifique, ou DAS. La limite DAS pour les appareils radio est 1,6W/kg.

Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands.

Les tests de DAS sont effectués en utilisant des positions standards de fonctionnement quand l'appareil fonctionne à son niveau de puissance maximum certifié dans toutes les bandes de fréquences testées.

During use, the actual SAR value for this device may be well below the value stated above. In general, the lower the power output by the device, the lower its SAR value.

En cours d'utilisation, la valeur de DAS réel de ce dispositif peut être bien inférieure à la valeur indiquée cidessus. En général, plus la puissance de sortie par le dispositif, plus sa valeur DAS.

The World Health Organization has stated that present scientific information does not indicate the need for any special precautions for the use of mobile devices. They recommend that if you are interested in further reducing your exposure then you can easily do so by limiting your usage or simply using a handsfree kit to keep the device away from the head and body.

L'Organisation mondiale de la Santé (OMS) a déclaré que l'information scientifique actuelle n'indique pas la nécessité de prendre des précautions particulières pour l'utilisation de dispositifs radio. Ils recommandent que si vous êtes intéressé à réduire encore davantage votre exposition, vous pouvez facilement le faire en limitant votre consommation ou tout simplement en utilisant un kit mains-libres pour maintenir le dispositif éloigné de la tête et du corps.

IC RSS-Gen, Sec. 8.4

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Notice to Australia and New Zealand Users

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to the Australian/New Zealand standard AS/NZS CISPR22: 2009 (Class B) set out by the Australian Communications and Media Authority and Radio Spectrum Management Agency.

New Zealand telecommunication statement (for products fitted with Telepermit approved modems):

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment shall not be set up to make automatic calls to the Telecom `111' Emergency Service.



Important: Under power failure conditions, this telephone may not operate. Make sure that a separate telephone, not dependent on local power, is available for emergency use.

Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecoms specifications:

1. There shall be no more than 10 calls to the same number within any 30-minute period for any single manual call initiation, and
2. The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next attempt.

The equipment shall be set to make sure that automatic calls to different numbers are spaced such that there is no less than 5 seconds between the end of one call attempt and the beginning of another.

The equipment shall be set to make sure that calls are answered between 3 and 30 seconds of receipt of ringing.

Oman and Qatar Labels

Oman and Qatar labels for shipping and compliance.

Oman - TRA
Dealer No.
Certificate No.

<p>ictQATAR Type Approval reg. No.: nnnnnn</p> <p>Importer No: xxxxxxxxx</p>
--

New Zealand-Only Radio Label

New Zealand-only radio label for shipping and compliance.



Electrical Standards and FCC Regulations

This section describes the electrical and FCC regulations for C-series devices. It also describes the compliance information for Vocera Minibadge 8-bay Battery Charger.

General

Our products emit radio frequency energy in the 2.4 and 5.0 GHz spectrum bands for which licensing by the U.S. and other regulatory authorities is not required, provided that the products conform to certain requirements. For example maximum power output and tolerance of interference from other devices sharing that spectrum band. We subject our products to testing by independent testing laboratories for compliance with the relevant standards issued by various U.S. and international bodies, including the EU (concerning CE), the International Electrotechnical Commission, the Australian Communications and Media Authority, Underwriters Laboratories, and CSA International.

US and California Regions

The Vocera Minibadge 8-bay Battery Charger complies with the performance parameters of Section 1605.3(w) paragraphs 2 and 4 for Battery Backup and Uninterruptible Power Supplies per the CEC-400-2017-002 standard Section 1605.3(w) Table W-2 Standards for Small Battery Charger Systems.

National Safety Statement of Compliance – CE Marking

This section describes the national safety statement of compliance for Vocera C1000 Minibadge.

EN 60950 Statement:

This is to certify that the Vocera C1000 Minibadge chassis and components installed within the chassis comply with the requirements of EN 60950 by the Low Voltage Directive. Additional national differences for all European Union countries have been evaluated for compliance. Some components installed within the Vocera C1000 Minibadge chassis may use a nickel-metal hydride (NiMH) and lithium-ion battery. The NiMH and lithium-ion batteries are long-life batteries, and it is possible that you will never need to replace them. However, if you need to replace them, refer to the individual component manual for directions on replacement and disposal of the battery.

Wireless Safety—SAR

This section describes information related to the safety of Wi-Fi technology used in Vocera C1000 Minibadge.

THIS MINIBADGE MEETS THE FCC REQUIREMENTS FOR EXPOSURE TO RADIO FREQUENCY ENERGY (SAR).

Various organizations and countries have developed standards for exposure to radio frequency energy. These standards recommend safe levels of exposure for both the general public and for workers. In the United States, the Federal Communications Commission (FCC) has issued safety guidelines for RF environmental exposure since 1985. In Canada, Industry Canada (IC) likewise establishes these safety guidelines for RF environmental exposure.

The FCC guidelines for human exposure to RF electromagnetic fields are derived from the recommendations of two expert organizations, the National Council on Radiation Protection and Measurements (NCRP) and the Institute of Electrical and Electronics Engineers (IEEE). In both cases, the recommendations were developed by scientific and engineering experts drawn from industry, government, and academia after extensive reviews of the scientific literature related to the biological effects of RF energy.

The Vocera Communications Devices meet the FCC and IC requirements for human exposure to radio frequency energy. For further information on RF Emissions Safety, refer to the following sites:

- www.fcc.gov
- www.fda.gov

Your wireless Minibadge is a radio transmitter and receiver. It uses low-power Wi-Fi wireless technology in the 2.4 GHz and 5 GHz spectrum and is subject to wireless safety and operating standards established by the US Federal Communications Commission (FCC), Industry Canada (IC), and the European Commission (EC.) It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy.

All Vocera Minibadge designs have been tested by independent laboratories and are certified to meet all relevant standards and guidelines established by these regulatory bodies. These standards provide specific guidelines and limits for the amount of wireless radio frequency (RF) energy that can be absorbed safely by the human body and include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The quantity used to measure the amount of RF energy absorbed by the body is called the SAR (Specific Absorption Rate.)

The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions, as applicable to this device, specified by the FCC. The standard incorporates a substantial margin of safety to give additional protection to the public and to account for any variations in measurement. Before a Minibadge is available for sale to the public, sample units must be tested by a certified regulatory lab to verify that they do not exceed the limit established by the government-adopted requirement for safe exposure.

The Vocera C1000 Minibadge in normal operating conditions has a SAR rating of 0.410 W/Kg when worn on the body and 1.281 W/Kg when used in handset mode.

In all cases, SAR ratings are well below the limits of 1.6 W/Kg defined by the FCC for use in the US, and the ICRSS for use in Canada, and the 2.0 W/Kg limit for use in the EU and Australia.

Vocera is committed to maintaining the safety of our users and regularly tests and certifies all its products to meet required regulatory and safety guidelines.

USE ONLY APPROVED ACCESSORIES

RF exposure (SAR) tests have been performed on the Minibadge when it is being worn correctly and used with the approved accessories. The SAR test results show that the Minibadge complies with all FCC exposure requirements. When a properly-oriented Minibadge is operated with the appropriate accessories recommended by Vocera, the level of RF exposure is well below the FCC limit of 1.6W/Kg.

Therefore, to ensure compliance with FCC RF exposure guidelines when wearing the Minibadge, the user should only use Vocera approved accessories. For example, lanyard or universal clip. Accessories that have not been tested for RF exposure compliance with this product may not comply with the FCC RF exposure safety guidelines and should not be used.

To ensure RF exposure compliance of the Minibadge when using the lanyard, position and maintain the call button, the speaker, and the antenna facing away from the body. The Minibadge and lanyard attachment has been designed specifically to maintain proper orientation during normal usage. Additionally, the lanyard clip can be secured to clothing to provide additional stability. Wearing the Minibadge with the antenna facing the body may result in non-compliance with FCC RF exposure guidelines and must be avoided.

Use only the internal antenna, which is part of this product. Any use of unauthorized antennas, any modifications to the supplied antenna, or any use of unauthorized attachments could damage the Minibadge, violate FCC regulations, and void the authority of the user to operate the product.

Vocera C1000 Minibadge Safety

This section describes information related to the safety of the Vocera C1000 Minibadge device.

- Conforms To UL STDS 60950-1 & 62368-1
- Certified To CSA STD C22.2 # 60950-1 & 62368-1

Regulatory Notices for V-Series Smartbadge

This section provides details regarding the regulatory compliance of V5000 Smartbadge.

Vocera V5000 Smartbadge Regulatory Notices

This section describes the regulatory notices for different regions.

Regulatory Conformance Marks



FCC Compliance for United States Users

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Caution: Changes or modifications not expressly approved by Vocera could void the FCC compliance and negate your authority to operate the product.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

French Translation

Conformité aux normes FCC Cet équipement a été testé et trouvé conforme aux limites pour un dispositif numérique de classe B, conformément à la Partie 15 des règlements de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Cet équipement génère, utilise et peut émettre des fréquences radio et, s'il n'est pas installé et utilisé conformément aux instructions du fabricant, peut causer des interférences nuisibles aux communications radio. Rien ne garantit cependant que l'interférence ne se produira pas dans une installation particulière. Si cet équipement provoque des interférences nuisibles à la réception radio ou de télévision, qui peut être déterminé en comparant et en l'éteignant, l'utilisateur est encouragé à essayer de corriger les interférence par une ou plusieurs des mesures suivantes:

1. Réorienter ou déplacer l'antenne de réception
2. Augmenter la distance entre l'équipement et le récepteur
3. Branchez l'appareil dans une prise sur un circuit différent de celui auquel le récepteur est connecté

4. Consultez votre revendeur ou un technicien radio / TV pour assistance

Précaution : Les changements ou modifications à cet appareil sans expressément approuvée par la partie responsable de conformité pourraient annuler l'autorité de l'utilisateur de faire fonctionner cet équipement.

Son fonctionnement est soumis aux deux conditions suivantes:

1. Ce dispositif ne peut causer des interférences, et
2. Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

European Union Declaration of Conformity (DoC)

Standards:

B3000 Version CCO

- EN 300-328
- EN 301-489-1
- EN 301-489-17
- EN 60950-1
- EN 50383
- 2011/65/EU

Responsible Party:

Responsible Party contact information is available at www.vocera.com/legal/regulatory.aspx.

CE Mark Restrictions:

- United Kingdom: System provider for third-party traffic may require a Wireless Telegraphy and/or Telecommunications Act License.
- France: French regulations require that you do not use this device outdoors.

English

Hereby, Vocera, Inc. declares that all CE Marked Vocera products incorporating Radio and Telecoms Terminal Equipment functionality are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Français

Par la présente, Vocera, Inc. déclare que tous les produits Vocera incorporant la fonctionnalité d'Équipement terminal Radio et télécommunications et marqués du symbole CE sont conformes aux exigences essentielles et autres dispositions pertinentes de la Directive 1999/5/EC.

Notice to Canada Users

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme à l'exposition aux rayonnements IC RSS-102 des limites définies pour un environnement non contrôlé.

This device complies with the RSS-247 requirement for 5 GHz radios. This device operates in the 5150–5250 MHz band and is only for indoor use to reduce potential harmful interference to co-channel mobile satellite systems.

Notice: The Industry Canada regulations provide that changes or modifications not expressly approved by Vocera, Inc. could void your authority to operate this equipment.

Avis: Dans le cadre des réglementations d'Industry Canada, vos droits d'utilisation de cet équipement peuvent être annulés si des changements ou modifications non expressément approuvés par Dell Inc. y sont apportés.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Canada Safety Code 6 Guidelines for Exposure to Radio Waves

THIS DEVICE MEETS HEALTH CANADA SAFETY CODE 6 GUIDELINES FOR EXPOSURE TO RADIO WAVES.

CET APPAREIL EST CONFORME AUX DIRECTIVES DU CODE 6 DE SÉCURITÉ DE LA SANTÉ CANADA POUR L'EXPOSITION AUX ONDES RADIO.

Your Smartbadge device is a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) recommended by international guidelines. The guidelines were developed by Health Canada and include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

Votre appareil Smartbadge est un émetteur-récepteur radio. Il est conçu pour ne pas dépasser les limites d'exposition aux ondes radio (champs électromagnétiques de fréquence radio) recommandées par les directives internationales. Les lignes directrices ont été élaborées par Santé Canada et comprennent une marge de sécurité importante destinée à assurer la sécurité de toutes les personnes, indépendamment de l'âge et de la santé.

The radio wave exposure guidelines use a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit for radio devices is 1.6W/kg.

Les lignes directrices pour l'exposition aux ondes radio utilisent une unité de mesure appelée Débit d'Absorption Spécifique, ou DAS. La limite DAS pour les appareils radio est 1,6W/kg.

Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands.

Les tests de DAS sont effectués en utilisant des positions standards de fonctionnement quand l'appareil fonctionne à son niveau de puissance maximum certifié dans toutes les bandes de fréquences testées.

During use, the actual SAR value for this device may be well below the value stated above. In general, the lower the power output by the device, the lower its SAR value.

En cours d'utilisation, la valeur de DAS réel de ce dispositif peut être bien inférieur à la valeur indiquée cidessus. En général, plus la puissance de sortie par le dispositif, plus sa valeur DAS.

The World Health Organization has stated that present scientific information does not indicate the need for any special precautions for the use of mobile devices. They recommend that if you are interested in further reducing your exposure then you can easily do so by limiting your usage or simply using a handsfree kit to keep the device away from the head and body.

L'Organisation mondiale de la Santé (OMS) a déclaré que l'information scientifique actuelle n'indique pas la nécessité de prendre des précautions particulières pour l'utilisation de dispositifs radio. Ils recommandent que si vous êtes intéressé à réduire encore davantage votre exposition, vous pouvez facilement le faire en limitant votre consommation ou tout simplement en utilisant un kit mains-libres pour maintenir le dispositif éloigné de la tête et du corps.

IC RSS-Gen, Sec. 8.4

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Notice to Australia and New Zealand Users

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to the Australian/New Zealand standard AS/NZS CISPR22: 2009 (Class B) set out by the Australian Communications and Media Authority and Radio Spectrum Management Agency.

New Zealand telecommunication statement (for products fitted with Telepermit approved modems):

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment shall not be set up to make automatic calls to the Telecom `111' Emergency Service.



Important: Under power failure conditions, this telephone may not operate. Make sure that a separate telephone, not dependent on local power, is available for emergency use.

Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecoms specifications:

1. There shall be no more than 10 calls to the same number within any 30-minute period for any single manual call initiation, and
2. The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next attempt.

The equipment shall be set to make sure that automatic calls to different numbers are spaced such that there is no less than 5 seconds between the end of one call attempt and the beginning of another.

The equipment shall be set to make sure that calls are answered between 3 and 30 seconds of receipt of ringing.

Electrical Standards and FCC Regulations

This section describes the electrical and FCC regulations for V-series devices. It also describes the compliance information for Vocera 8-bay Badge Battery Charger.

General

Our products emit radio frequency energy in the 2.4 and 5.0 GHz spectrum bands for which licensing by the U.S. and other regulatory authorities is not required, provided that the products conform to certain requirements. For example maximum power output and tolerance of interference from other devices sharing that spectrum band. We subject our products to testing by independent testing laboratories for compliance with the relevant standards issued by various U.S. and international bodies, including the EU (concerning CE), the International Electrotechnical Commission, the Australian Communications and Media Authority, Underwriters Laboratories, and CSA International.

US and California Regions

The V5000-8 of Vocera 8-bay Badge Battery Charger complies with the performance parameters of Section 1605.3(w) paragraphs 2 and 4 for Battery Backup and Uninterruptible Power Supplies per the CEC-400-2017-002 standard Section 1605.3(w) Table W-2 Standards for Small Battery Charger Systems.

National Safety Statement of Compliance – CE Marking

This section describes the national safety statement of compliance for Vocera V5000 Smartbadge

EN 60950 Statement:

This is to certify that the V5000 Smartbadge chassis and components installed within the chassis comply with the requirements of EN 60950 by the Low Voltage Directive. Additional national differences for all European Union countries have been evaluated for compliance. Some components installed within the V5000 Smartbadge chassis may use a nickel-metal hydride (NiMH) and lithium-ion battery. The NiMH and lithium-ion batteries are long-life batteries, and it is possible that you will never need to replace them. However, if you need to replace them, refer to the individual component manual for directions on replacement and disposal of the battery.

Wireless Safety—SAR

This section describes information related to the safety of Wi-Fi technology used in Vocera V5000 Smartbadge.

THIS SMARTBADGE MEETS THE FCC REQUIREMENTS FOR EXPOSURE TO RADIO FREQUENCY ENERGY (SAR).

Various organizations and countries have developed standards for exposure to radio frequency energy. These standards recommend safe levels of exposure for both the general public and for workers. In the United States, the Federal Communications Commission (FCC) has issued safety guidelines for RF environmental exposure since 1985. In Canada, Industry Canada (IC) likewise establishes these safety guidelines for RF environmental exposure.

The FCC guidelines for human exposure to RF electromagnetic fields are derived from the recommendations of two expert organizations, the National Council on Radiation Protection and Measurements (NCRP) and the Institute of Electrical and Electronics Engineers (IEEE). In both cases, the recommendations were developed by scientific and engineering experts drawn from industry, government, and academia after extensive reviews of the scientific literature related to the biological effects of RF energy.

The Vocera Communications Devices meet the FCC and IC requirements for human exposure to radio frequency energy. For further information on RF Emissions Safety, refer to the following sites:

- www.fcc.gov
- www.fda.gov
- <http://www.fda.gov/cellphones/qa.html#3a>

Your wireless Smartbadge is a radio transmitter and receiver. It uses low-power Wi-Fi wireless technology in the 2.4 GHz and 5 GHz spectrum and is subject to wireless safety and operating standards established by the US Federal Communications Commission (FCC), Industry Canada (IC), and the European Commission (EC.) It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy.

All Vocera Smartbadge designs have been tested by independent laboratories and are certified to meet all relevant standards and guidelines established by these regulatory bodies. These standards provide specific guidelines and limits for the amount of wireless radio frequency (RF) energy that can be absorbed safely by the human body and include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The quantity used to measure the amount of RF energy absorbed by the body is called the SAR (Specific Absorption Rate.)

The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions, as applicable to this device, specified by the FCC. The standard incorporates a substantial margin of safety to give additional protection to the public and to account for any variations in measurement. Before a Smartbadge is available for sale to the public, sample units must be tested by a certified regulatory lab to verify that they do not exceed the limit established by the government-adopted requirement for safe exposure.

The Vocera V5000 Smartbadge in normal operating conditions has a SAR rating of 0.410 W/Kg when worn on the body and 1.281 W/Kg when used in handset mode.

In all cases, SAR ratings are well below the limits of 1.6 W/Kg defined by the FCC for use in the US, and the ICRSS for use in Canada, and the 2.0 W/Kg limit for use in the EU and Australia.

Vocera is committed to maintaining the safety of our users and regularly tests and certifies all its products to meet required regulatory and safety guidelines.

USE ONLY APPROVED ACCESSORIES

RF exposure (SAR) tests have been performed on the V5000 Smartbadge when it is being worn correctly and used with the approved accessories. The SAR test results show that the Smartbadge complies with all FCC exposure requirements. When a properly-oriented Smartbadge is operated with the appropriate accessories recommended by Vocera, the level of RF exposure is well below the FCC limit of 1.6W/Kg.

Therefore, to ensure compliance with FCC RF exposure guidelines when wearing the Smartbadge, the user should only use Vocera approved accessories. For example, lanyard or universal clip. Accessories that have not been tested for RF exposure compliance with this product may not comply with the FCC RF exposure safety guidelines and should not be used.

To ensure RF exposure compliance of the Smartbadge when using the lanyard, position and maintain the call button, the speaker, and the antenna facing away from the body. The Smartbadge and lanyard attachment has been designed specifically to maintain proper orientation during normal usage. Additionally, the lanyard clip can be secured to clothing to provide additional stability. Wearing the Smartbadge with the antenna facing the body may result in non-compliance with FCC RF exposure guidelines and must be avoided.

Use only the internal antenna, which is part of this product. Any use of unauthorized antennas, any modifications to the supplied antenna, or any use of unauthorized attachments could damage the Smartbadge, violate FCC regulations, and void the authority of the user to operate the product.

Vocera V5000 Smartbadge Safety

This section describes information related to the safety of the Vocera V5000 Smartbadge device.

- Conforms To UL STDS 60950-1 & 62368-1
- Certified To CSA STD C22.2 # 60950-1 & 62368-1

Regulatory Notices for B-Series Badge

This section provides details regarding the regulatory compliance of B3000 and B3000n badges.

B3000n Regulatory Notices

This section describes the regulatory notices for different regions.

FCC Compliance for United States Users

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Changes or modifications not expressly approved by Vocera could void the FCC compliance and negate your authority to operate the product.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

French Translation

Conformité aux normes FCC Cet équipement a été testé et trouvé conforme aux limites pour un dispositif numérique de classe B, conformément à la Partie 15 des règlements de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Cet équipement génère, utilise et peut émettre des fréquences radio et, s'il n'est pas installé et utilisé conformément aux instructions du fabricant, peut causer des interférences nuisibles aux communications radio. Rien ne garantit cependant que l'interférence ne se produira pas dans une installation particulière. Si cet équipement provoque des interférences nuisibles à la réception radio ou de télévision, qui peut être déterminé en comparant et en l'éteignant, l'utilisateur est encouragé à essayer de corriger les interférence par une ou plusieurs des mesures suivantes:

1. Réorienter ou déplacer l'antenne de réception
2. Augmenter la distance entre l'équipement et le récepteur
3. Branchez l'appareil dans une prise sur un circuit différent de celui auquel le récepteur est connecté
4. Consultez votre revendeur ou un technicien radio / TV pour assistance

Précaution : Les changements ou modifications à cet appareil sans expressément approuvée par la partie responsable de conformité pourraient annuler l'autorité de l'utilisateur de faire fonctionner cet équipement.

Son fonctionnement est soumis aux deux conditions suivantes:

1. Ce dispositif ne peut causer des interférences, et
2. Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

Specific Absorption Rate (SAR) Exposure Guidelines

THIS BADGE MEETS THE FCC REQUIREMENTS FOR EXPOSURE TO RADIO FREQUENCY ENERGY (SAR).

Your wireless badge is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of a set of comprehensive guidelines that establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The exposure standard for wireless communications devices employs a unit of measurement known as the Specific Absorption Rate (SAR). The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions, as applicable to this device, specified by the FCC. The standard incorporates a substantial margin of safety to give additional protection for the public and to account for any variations in measurement. Before a Badge is available for sale to the public, sample units must be tested by a certified regulatory lab to verify that they do not exceed the limit established by the government-adopted requirement for safe exposure.

USE ONLY APPROVED ACCESSORIES

RF exposure (SAR) tests have been performed on the Vocera Badge when it is being worn correctly and used with the approved accessories. The SAR test results show that the badge complies with all FCC exposure requirements. When a properly-oriented badge is operated with the appropriate accessories, as directed in the [Vocera Badge User Guide](#), the level of RF exposure is well below the FCC limit of 1.6 W/Kg.

Therefore, to ensure compliance with FCC RF exposure guidelines when wearing the Vocera badge, the user should only use Vocera approved accessories. For example: Lanyard or universal clip. Accessories that have not been tested for RF exposure compliance with this product may not comply with the FCC RF exposure safety guidelines and should not be used.

To ensure RF exposure compliance of the badge when using the lanyard, position and maintain the call button, the speaker, and the antenna facing away from the body, as illustrated in [Getting Started with a Badge](#) section of the [Vocera Badge User Guide](#). The badge and lanyard attachment have been designed specifically to maintain proper orientation during normal usage. Additionally, the lanyard clip can be secured to clothing to provide additional stability. Wearing the Vocera badge with the antenna facing the body may result in non-compliance with FCC RF exposure guidelines and must be avoided.

Use only the internal antenna which is part of this product. Any use of unauthorized antennas, any modifications to the supplied antenna, or any use of unauthorized attachments could damage the badge, violate FCC regulations, and void your authority to operate the product.

European Union Declaration of Conformity (DoC)

Standards:

B3000n Version ©©

- EN 300-328
- EN 301-489-1
- EN 301-489-17
- EN 60950-1
- EN 50383

- 2011/65/EU

Responsible Party:

Responsible Party contact information is available at www.vocera.com/legal/regulatory.aspx.

CE Mark Restrictions:

- United Kingdom: System provider for third-party traffic may require a Wireless Telegraphy and Telecommunications Act License or one of the two.
- France: French regulations require that you do not use this device outdoors.

English

Hereby, Vocera, Inc. declares that all CE Marked Vocera products incorporating Radio and Telecoms Terminal Equipment functionality are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Français

Par la présente, Vocera, Inc. déclare que tous les produits Vocera incorporant la fonctionnalité d'Équipement terminal Radio et télécommunications et marqués du symbole CE sont conformes aux exigences essentielles et autres dispositions pertinentes de la Directive 1999/5/EC.

Notice to Canada Users

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme à l'exposition aux rayonnements IC RSS-102 des limites définies pour un environnement non contrôlé.

Notice: The Industry Canada regulations provide that changes or modifications not expressly approved by Vocera, Inc. could void your authority to operate this equipment.

Avis: Dans le cadre des réglementations d'Industrie Canada, vos droits d'utilisation de cet équipement peuvent être annulés si des changements ou modifications non expressément approuvés par Dell Inc. y sont apportés.

This Class B digital apparatus complies with Canadian ICES-3.

Cet appareil numérique de la classe B est conforme à la norme NMB-3 du Canada.

Canada Safety Code 6 Guidelines for Exposure to Radio Waves

THIS DEVICE MEETS HEALTH CANADA SAFETY CODE 6 GUIDELINES FOR EXPOSURE TO RADIO WAVES.

CET APPAREIL EST CONFORME AUX DIRECTIVES DU CODE 6 DE SÉCURITÉ DE LA SANTÉ CANADA POUR L'EXPOSITION AUX ONDES RADIO.

Your B3000n device is a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) recommended by international guidelines. The guidelines were developed by Health Canada and include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

Votre appareil B3000n est un émetteur-récepteur radio. Il est conçu pour ne pas dépasser les limites d'exposition aux ondes radio (champs électromagnétiques de fréquence radio) recommandées par les directives internationales. Les lignes directrices ont été élaborées par Santé Canada et comprennent une marge de sécurité importante destinée à assurer la sécurité de toutes les personnes, indépendamment de l'âge et de la santé.

The radio wave exposure guidelines use a unit of measurement known as the Specific Absorption Rate (SAR). The SAR limit for radio devices is 1.6 W/kg.

Les lignes directrices pour l'exposition aux ondes radio utilisent une unité de mesure appelée Débit d'Absorption Spécifique, ou DAS. La limite DAS pour les appareils radio est 1,6W/kg.

Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands.

Les tests de DAS sont effectués en utilisant des positions standards de fonctionnement quand l'appareil fonctionne à son niveau de puissance maximum certifié dans toutes les bandes de fréquences testées.

During use, the actual SAR value for this device may be well below the value stated above. In general, the lower the power output by the device, the lower its SAR value.

En cours d'utilisation, la valeur de DAS réel de ce dispositif peut être bien inférieur à la valeur indiquée cidessus. En général, plus la puissance de sortie par le dispositif, plus sa valeur DAS.

The World Health Organization has stated that present scientific information does not indicate the need for any special precautions for the use of mobile devices. They recommend that if you are interested in further reducing your exposure then you can easily do so by limiting your usage or simply using a handsfree kit to keep the device away from the head and body.

L'Organisation mondiale de la Santé (OMS) a déclaré que l'information scientifique actuelle n'indique pas la nécessité de prendre des précautions particulières pour l'utilisation de dispositifs radio. Ils recommandent que si vous êtes intéressé à réduire encore davantage votre exposition, vous pouvez facilement le faire en limitant votre consommation ou tout simplement en utilisant un kit mains-libres pour maintenir le dispositif éloigné de la tête et du corps.

IC RSS-Gen, Sec. 7.1.3

This device complies with Industry Canada license-exempt RSS standards. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IC statement: From RSS-GEN 7.1.2

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser gain) approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner seulement avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

IC statement: From RSS-210, Annex 9 (6)

Operation in the 5150-5250MHz band is for indoor use only to reduce potential for harmful interference to co-channel mobile satellite systems.

Les dispositifs fonctionnant dans la bande 5 150-5 250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

IC statement: From RSS-210, Annex 9 (7)

Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350MHz and 5650-5850MHz and that these radars could cause interference and damage to LE-LAN devices or one of the two.

De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5 250-5 350 MHz et 5 650-5 850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs de réseaux locaux exempts de licence (LE-LAN).

Notice to Australia and New Zealand Users

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to the Australian/New Zealand standard AS/NZS CISPR22: 2009 (Class B) set out by the Australian Communications and Media Authority and Radio Spectrum Management Agency.

New Zealand telecommunication statement (for products fitted with Telepermit approved modems):

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment shall not be set up to make automatic calls to the Telecom '111' Emergency Service.

Important: Under power failure conditions, this telephone may not operate. Make sure that a separate telephone, not dependent on local power, is available for emergency use.

Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecom specifications:

1. There shall be no more than 10 calls to the same number within any 30-minute period for any single manual call initiation, and
2. The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next attempt.

The equipment shall be set to make sure that automatic calls to different numbers are spaced such that there is no less than 5 seconds between the end of one call attempt and the beginning of another.

The equipment shall be set to make sure that calls are answered between 3 and 30 seconds of receipt of ringing.

Notice to Singapore Users

Complies with IDA Standards DA101094

Notice to Brazil Users



B3000 Regulatory Notices

FCC Compliance for United States Users

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help



Caution: Changes or modifications not expressly approved by Vocera could void the FCC compliance and negate your authority to operate the product.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

French Translation

Conformité aux normes FCC Cet équipement a été testé et trouvé conforme aux limites pour un dispositif numérique de classe B, conformément à la Partie 15 des règlements de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Cet équipement génère, utilise et peut émettre des fréquences radio et, s'il n'est pas installé et utilisé conformément aux instructions du fabricant, peut causer des interférences nuisibles aux communications radio. Rien ne garantit cependant que l'interférence ne se produira pas dans une installation particulière. Si cet équipement provoque des interférences nuisibles à la réception radio ou de télévision, qui peut être déterminé en comparant et en l'éteignant, l'utilisateur est encouragé à essayer de corriger les interférence par une ou plusieurs des mesures suivantes:

1. Réorienter ou déplacer l'antenne de réception
2. Augmenter la distance entre l'équipement et le récepteur
3. Branchez l'appareil dans une prise sur un circuit différent de celui auquel le récepteur est connecté
4. Consultez votre revendeur ou un technicien radio / TV pour assistance

Précaution : Les changements ou modifications à cet appareil sans expressément approuvée par la partie responsable de conformité pourraient annuler l'autorité de l'utilisateur de faire fonctionner cet équipement.

Son fonctionnement est soumis aux deux conditions suivantes:

1. Ce dispositif ne peut causer des interférences, et
2. Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

Specific Absorption Rate (SAR) Exposure Guidelines

THIS BADGE MEETS THE FCC REQUIREMENTS FOR EXPOSURE TO RADIO FREQUENCY ENERGY (SAR).

Your wireless badge is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of a set of comprehensive guidelines that establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The exposure standard for wireless communications devices employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg. Tests for SAR are conducted using standard operating positions, as applicable to this device, specified by the FCC. The standard incorporates a substantial margin of safety to give additional protection for the public and to account for any variations in measurement. Before a badge is available for sale to the public, sample units must be tested by a certified regulatory lab to verify that they do not exceed the limit established by the government-adopted requirement for safe exposure.

USE ONLY APPROVED ACCESSORIES

RF exposure (SAR) tests have been performed on the Vocera badge when it is being worn correctly and used with the approved accessories. The SAR test results show that the badge complies with all FCC exposure requirements. When a properly-oriented badge is operated with the appropriate accessories, as directed in the [Vocera Badge User Guide](#), the level of RF exposure is well below the FCC limit of 1.6W/Kg.

Therefore, to ensure compliance with FCC RF exposure guidelines when wearing the Vocera badge, the user should only use Vocera approved accessories (e.g., lanyard or universal clip). Accessories that have not been tested for RF exposure compliance with this product may not comply with the FCC RF exposure safety guidelines and should not be used.

To ensure RF exposure compliance of the badge when using the lanyard, position and maintain the call button, the speaker, and the antenna facing away from the body, as illustrated in Getting Started with a Badge section of the [Vocera Badge User Guide](#). The badge and lanyard attachment have been designed specifically to maintain proper orientation during normal usage. Additionally, the lanyard clip can be secured to clothing to provide additional stability. Wearing the Vocera badge with the antenna facing the body may result in non-compliance with FCC RF exposure guidelines and must be avoided.

Use only the internal antenna which is part of this product. Any use of unauthorized antennas, any modifications to the supplied antenna, or any use of unauthorized attachments could damage the badge, violate FCC regulations, and void the user's authority to operate the product.

European Union Declaration of Conformity (DoC)

Standards:

B3000 Version ©©

- EN 300-328
- EN 301-489-1

- EN 301-489-17
- EN 60950-1
- EN 50383
- 2011/65/EU

Responsible Party:

Responsible Party contact information is available at www.vocera.com/legal/regulatory.aspx.

CE Mark Restrictions:

- United Kingdom: System provider for third-party traffic may require a Wireless Telegraphy and/or Telecommunications Act License.
- France: French regulations require that you do not use this device outdoors.

English

Hereby, Vocera, Inc. declares that all CE Marked Vocera products incorporating Radio and Telecoms Terminal Equipment functionality are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Français

Par la présente, Vocera, Inc. déclare que tous les produits Vocera incorporant la fonctionnalité d'Équipement terminal Radio et télécommunications et marqués du symbole CE sont conformes aux exigences essentielles et autres dispositions pertinentes de la Directive 1999/5/EC.

Notice to Canada Users

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme à l'exposition aux rayonnements IC RSS-102 des limites définies pour un environnement non contrôlé.

Notice: The Industry Canada regulations provide that changes or modifications not expressly approved by Vocera, Inc. could void your authority to operate this equipment.

Avis: Dans le cadre des réglementations d'Industrie Canada, vos droits d'utilisation de cet équipement peuvent être annulés si des changements ou modifications non expressément approuvés par Dell Inc. y sont apportés.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Canada Safety Code 6 Guidelines for Exposure to Radio Waves

THIS DEVICE MEETS HEALTH CANADA SAFETY CODE 6 GUIDELINES FOR EXPOSURE TO RADIO WAVES.

CET APPAREIL EST CONFORME AUX DIRECTIVES DU CODE 6 DE SÉCURITÉ DE LA SANTÉ CANADA POUR L'EXPOSITION AUX ONDES RADIO.

Your B3000 device is a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) recommended by international guidelines. The guidelines were developed by Health Canada and include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

Votre appareil B3000 est un émetteur-récepteur radio. Il est conçu pour ne pas dépasser les limites d'exposition aux ondes radio (champs électromagnétiques de fréquence radio) recommandées par les directives internationales. Les lignes directrices ont été élaborées par Santé Canada et comprennent une marge de sécurité importante destinée à assurer la sécurité de toutes les personnes, indépendamment de l'âge et de la santé.

The radio wave exposure guidelines use a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit for radio devices is 1.6W/kg.

Les lignes directrices pour l'exposition aux ondes radio utilisent une unité de mesure appelée Débit d'Absorption Spécifique, ou DAS. La limite DAS pour les appareils radio est 1,6W/kg.

Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands.

Les tests de DAS sont effectués en utilisant des positions standards de fonctionnement quand l'appareil fonctionne à son niveau de puissance maximum certifié dans toutes les bandes de fréquences testées.

During use, the actual SAR value for this device may be well below the value stated above. In general, the lower the power output by the device, the lower its SAR value.

En cours d'utilisation, la valeur de DAS réel de ce dispositif peut être bien inférieur à la valeur indiquée cidessus. En général, plus la puissance de sortie par le dispositif, plus sa valeur DAS.

The World Health Organization has stated that present scientific information does not indicate the need for any special precautions for the use of mobile devices. They recommend that if you are interested in further reducing your exposure then you can easily do so by limiting your usage or simply using a handsfree kit to keep the device away from the head and body.

L'Organisation mondiale de la Santé (OMS) a déclaré que l'information scientifique actuelle n'indique pas la nécessité de prendre des précautions particulières pour l'utilisation de dispositifs radio. Ils recommandent que si vous êtes intéressé à réduire encore davantage votre exposition, vous pouvez facilement le faire en limitant votre consommation ou tout simplement en utilisant un kit mains-libres pour maintenir le dispositif éloigné de la tête et du corps.

IC RSS-Gen, Sec. 7.1.3

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Notice to Australia and New Zealand Users

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to the Australian/New Zealand standard AS/NZS CISPR22: 2009 (Class B) set out by the Australian Communications and Media Authority and Radio Spectrum Management Agency.

New Zealand telecommunication statement (for products fitted with Telepermit approved modems):

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment shall not be set up to make automatic calls to the Telecom `111' Emergency Service.



Important: Under power failure conditions, this telephone may not operate. Make sure that a separate telephone, not dependent on local power, is available for emergency use.

Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecoms specifications:

1. There shall be no more than 10 calls to the same number within any 30-minute period for any single manual call initiation, and
2. The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next attempt.

The equipment shall be set to make sure that automatic calls to different numbers are spaced such that there is no less than 5 seconds between the end of one call attempt and the beginning of another.

The equipment shall be set to make sure that calls are answered between 3 and 30 seconds of receipt of ringing.

Notice for Singapore Users

Complies with IDA Standards DA101094

Notice for Brazil Users



Notice for Bahrain

Notice for Kuwait

Notice for Oman

Notice for Qatar

Notice for Saudi Arabia

Notice for UAE

Notice for Malaysia

Electrical Standards and FCC Regulations

This section describes the electrical and FCC regulations for V-series devices. It also describes the compliance information for Vocera 8-bay Badge Battery Charger.

General

Our products emit radio frequency energy in the 2.4 and 5.0 GHz spectrum bands for which licensing by the U.S. and other regulatory authorities is not required, provided that the products conform to certain requirements. For example maximum power output and tolerance of interference from other devices sharing that spectrum band. We subject our products to testing by independent testing laboratories for compliance with the relevant standards issued by various U.S. and international bodies, including the EU (concerning CE), the International Electrotechnical Commission, the Australian Communications and Media Authority, Underwriters Laboratories, and CSA International.

US and California Regions

The V5000-8 of Vocera 8-bay Badge Battery Charger complies with the performance parameters of Section 1605.3(w) paragraphs 2 and 4 for Battery Backup and Uninterruptible Power Supplies per the CEC-400-2017-002 standard Section 1605.3(w) Table W-2 Standards for Small Battery Charger Systems.

8-bay Charger Adaptor FCC Regulation

This section describes the FCC regulations for B3000n 8-bay charger adaptor.

This device complies with part 15 of the FCC Rules. The operation is subject to the following two conditions: (1) this device may not cause harmful interferences, and (2) this device must accept any interference received, including interference that may cause undesired operation.



Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does not cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC - Information for user (FCC section 15.21)

The user is cautioned that any changes or modifications not expressly approved by APX Technology, Inc. could void the user's authority to operate the equipment.

National Safety Statement of Compliance – CE Marking

This section describes the national safety statement of compliance for Vocera badge.

EN 60950 Statement:

This is to certify that the Vocera B3000n and B3000 chassis and components installed within the chassis are in compliance with the requirements of EN 60950 in accordance with the Low Voltage Directive. Additional national differences for all European Union countries have been evaluated for compliance. Some components installed within the Vocera B3000n and B3000 chassis may use a nickel-metal hydride (NiMH) and lithium-ion battery or one of the two. The NiMH and lithium-ion batteries are long-life batteries, and it is very possible that you will never need to replace them. However, if you need to replace them, refer to the individual component manual for directions on replacement and disposal of the battery.

Wireless Safety – SAR

This section describes information related to safety of Wi-Fi technology used in Vocera B3000-series badges.

THIS BADGE MEETS THE FCC REQUIREMENTS FOR EXPOSURE TO RADIO FREQUENCY ENERGY (SAR).

Your wireless badge is a radio transmitter and receiver. It uses low power Wi-Fi wireless technology in the 2.4GHz and 5GHz spectrum and are subject to wireless safety and operating standards established by the US Federal Communications Commission (FCC), Industry Canada (IC) and the European Commission (EC). It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy.

All Vocera badge designs have been tested by independent laboratories and are certified to meet all relevant standards and guidelines established by these regulatory bodies. These standards provide specific guidelines and limits for the amount of wireless radio frequency (RF) energy that can be absorbed safely by the human body and include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The quantity used to measure the amount of RF energy absorbed by the body is called the **Specific Absorption Rate** or **SAR**.

The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The SAR limit set by the FCC is 1.6W/kg. Tests for SAR are conducted using standard operating positions, as applicable to this device, specified by the FCC. The standard incorporates a substantial margin of safety to give additional protection for the public and to account for any variations in measurement. Before a badge is available for sale to the public, sample units must be tested by a certified regulatory lab to verify that they do not exceed the limit established by the government-adopted requirement for safe exposure.

SAR values are measured when the radio is transmitting at full power, or what is referred to as a 100% duty cycle. In normal operation, the B3000 series badges only operate at 5% duty cycle and the energy emitted is closer to 5% of the SAR value measured, further reducing the SAR rating. For example: 5% of 1.4W/Kg = 0.07W/Kg

- Maximum permitted SAR value in North America and Canada is 1.6W/Kg
- B3000/B3000n SAR value in wearable mode (during typical operation) is 0.01W/Kg
- B3000/B3000n SAR value in handset mode (during typical operation) is 0.07W/Kg

The Vocera B3000 badge in normal operating conditions has a SAR rating of 0.564 W/Kg when worn on the body and 1.4 W/Kg when used in handset mode.

The Vocera B3000n badge contains a dual band radio (2.4GHz and 5GHz) and has the following SAR ratings:

- 0.59 W/Kg as a wearable and 1.4W/Kg when used as handset in the 2.4GHz mode
- 0.213 W/Kg as a wearable and 0.811 W/Kg when used as handset in the 5GHz mode

In all cases SAR ratings are well below the limits of 1.6 W/Kg defined by the FCC for use in the US, and the ICRSS for use in Canada, and the 2.0 W/Kg limit for use in the EU and Australia.

Vocera is committed to maintaining the safety of our users and regularly tests and certifies all its products to meet required regulatory and safety guidelines.

USE ONLY APPROVED ACCESSORIES

RF exposure (SAR) tests have been performed on the Vocera badge when it is being worn correctly and used with the approved accessories. The SAR test results show that the badge complies with all FCC exposure requirements. When a properly-oriented badge is operated with the appropriate accessories, as directed in the [Vocera Badge User Guide](#), the level of RF exposure is well below the FCC limit of 1.6W/Kg.

Therefore, to ensure compliance with FCC RF exposure guidelines when wearing the Vocera badge, the user should only use Vocera approved accessories. For example: lanyard or universal clip. Accessories that have not been tested for RF exposure compliance with this product may not comply with the FCC RF exposure safety guidelines and should not be used.

To ensure RF exposure compliance of the badge when using the lanyard, position and maintain the call button, the speaker, and the antenna facing away from the body, as illustrated in [Getting Started with a Badge](#) section of the [Vocera Badge User Guide](#). The badge and lanyard attachment have been designed specifically to maintain proper orientation during normal usage. Additionally, the lanyard clip can be secured to clothing to provide additional stability. Wearing the Vocera badge with the antenna facing the body may result in non-compliance with FCC RF exposure guidelines and must be avoided.

Use only the internal antenna which is part of this product. Any use of unauthorized antennas, any modifications to the supplied antenna, or any use of unauthorized attachments could damage the badge, violate FCC regulations, and void the user's authority to operate the product.

Third-Party Software Agreements

This section provides information about third-party software agreements and system specifications for each Vocera badge version.

Third-Party Software Agreements

Certain portions of Vocera products are derived from software licensed to Vocera by the third parties.

All portions of Vocera products are subject to the notices and restrictions.

For information on third party legal documents, refer to <https://www.vocera.com/about-us/legal/third-party-products-legal-documents>.

For information on other legal documents refer to: <https://www.vocera.com/legal>.

System Specifications

This section provides details regarding the badge, network, electrical, environmental, storage, specifications for B-Series and V-Series badges.

System Specifications for C1000 Minibadge

This section describes the Minibadge specifications, network specifications, electrical specifications, environmental specifications, storage specifications, and drop specification for your Vocera Minibadge.

C1000 Minibadge Specifications

Specifications	Details
Dimensions	2.4 x 2.0 x 0.6 in. (6.2 x 5.2 x 1.7 cm)
Weight	2.1 oz. (62 g), with standard battery
LED Indicators	Tri-color LED State indicator
Controls	Call button Hold/Do Not Disturb (DND) button Volume Control Emergency Call Button
Wired Headset Support	USB C headset port

Network Specifications

Specifications	Details
Network Standard	IEEE 802.11a, 802.11b, 802.11g, 802.11n, and 802.11ac IEEE 802.11w, 802.11k, 802.11d, 802.11h, and 802.11r
Frequency Band	2400–2483.5 MHz, 5180–5835 MHz
Data Rates Supported	1, 2, 5.5, 11, 6, 9, 12, 18, 24, 36, 48, 54 Mbps, MCS0-MCS9
Wireless Medium	Direct Sequence Spread Spectrum (DSSS) Orthogonal Frequency Division Multiplexing (OFDM) Single Input Single Output (SISO) HT40 and VHT80 support, at 5 GHz only
Media Access Protocol	Carrier sense multiple access with collision avoidance (CSMA/CA)
Modulation 2.4 GHz	DBPSK at 1 Mbps DQPSK at 2 Mbps CCK at 5.5 and 11 Mbps

Specifications	Details
	BPSK at 6 and 9 Mbps
	QPSK at 12 and 18 Mbps
	16-QAM at 24 and 36 Mbps
	64-QAM at 48 and 54 Mbps
Modulation 5GHz (HT20)	BPSK at 6.5 and 7.2 Mbps
	QPSK at 13, 14.4, 19.5, and 21.7 Mbps
	16-QAM at 26, 28.9, 39, and 43.3 Mbps
	64-QAM at 52, 57.8, 58.5, 65, and 72.2 Mbps
Modulation 5GHz (HT40 and VHT80 only at 5GHz)	MCS0-MCS9, 13.5, 15, 27, 30, 40.5, 45, 54, 60, 81, 90, 108, 120, 121.5, 135, 150, 180, and 200
Operating Channels (2.4GHz)	11 channels (FCC)
	13 channels (ETSI)
Operating Channels (5 GHz)	25 channels HT20 (FCC)
	12 channels HT40 (FCC)
	6 channels VHT80 (FCC)
	56 channels ETSI (Varies by country)
Roaming	IEEE 802.11a compliant
	IEEE 802.11b compliant
	IEEE 802.11g compliant
	IEEE 802.11k compliant
	IEEE 802.11n compliant
	IEEE 802.11r compliant
Authentication	Open
	PSK
	PEAP
	EAP-FAST
	EAP-TLS
	LEAP
Encryption	64-bit WEP
	128-bit WEP
	TKIP-WPA
	AES-CCMP

Electrical Specifications

Specifications	Details
RF Output Power (2.4 GHz)	+17.5 dBm maximum at 802.11b
	+15 dBm maximum at 802.11g
RF Output Power (5 GHz)	+15 dBm maximum at 802.11a
	+15 dBm maximum at 802.11n
	+12 dBm maximum at 802.11ac

Specifications	Details
RF Receive Sensitivity (2.4 GHz)	-90 dBm at 11 Mbps
	-78 dBm at 54 Mbps
	-76 dBm at HT20 MCS7
RF Receive Sensitivity (5 GHz)	-76 dBm at 6 Mbps
	-73 dBm at 54 Mbps
	-70 dBm at HT20 MCS7
	-61 dBm at HT40 MCS7
Microphone Frequency Range	350 Hz to 3.75 KHz
Microphone Directionality	Quad MEMS Microphone array
Speaker Frequency Range	500 Hz to 3.75 KHz
Peak Speaker Loudness	87 dB SPL at 10 cm
Batteries	
Battery Type	Lithium-ion Polymer
Battery Life	3 hours talk time, with display active (U-APSD enabled); 41 hours of standby time.



Note: Results for RF output power (2.4 GHz and 5 GHz) and RF Receive Sensitivity (2.4 GHz and 5 GHz) is based on a controlled test environment. For information on network design guidelines, refer to [Vocera Infrastructure Planning Guide](#).

Environmental Specifications

Specifications	Details
Temperature Range	32° to 104° F (0° to 40° C)
Humidity Range	5% to 95% relative humidity, non-condensing
Ingress Protection	IP54

Storage Specifications

Specifications	Details
Temperature Range	-4° to 104° F (-20° to 40° C)
Humidity Range	5% to 95% relative humidity, non-condensing

Drop Specifications

Specification	Details
Drop	1.2 meters onto linoleum

System Specifications for V5000 Smartbadge

This section describes the Smartbadge specifications, network specifications, electrical specifications, environmental specifications, storage specifications, and drop specification for your Vocera Smartbadge.

V5000 Smartbadge Specifications

Specifications	Details
Dimensions	4.0 x 2.0 x 0.7 in. (10 x 5.2 x 1.7 cm)

Specifications	Details
Weight	3.1 oz. (89 g), with standard battery
LED Indicators	Tri-color LED State indicator
Display screen	2.4 in. color TFT display with touch screen Dragontrail cover lens
Controls	Call button Hold/Do Not Disturb (DND) button Volume Control Emergency Call Button
Wired Headset Support	USB C headset port

Network Specifications

Specifications	Details
Network Standard	IEEE 802.11a, 802.11b, 802.11g, 802.11n, and 802.11ac IEEE 802.11w, 802.11k, 802.11d, 802.11h, and 802.11r
Frequency Band	2400–2483.5 MHz, 5180–5835 MHz
Data Rates Supported	1, 2, 5.5, 11, 6, 9, 12, 18, 24, 36, 48, 54 Mbps, MCS0-MCS9
Wireless Medium	Direct Sequence Spread Spectrum (DSSS) Orthogonal Frequency Division Multiplexing (OFDM) Single Input Single Output (SISO) HT40 and VHT80 support, at 5 GHz only
Media Access Protocol	Carrier sense multiple access with collision avoidance (CSMA/CA)
Modulation 2.4 GHz	DBPSK at 1 Mbps DQPSK at 2 Mbps CCK at 5.5 and 11 Mbps BPSK at 6 and 9 Mbps QPSK at 12 and 18 Mbps 16-QAM at 24 and 36 Mbps 64-QAM at 48 and 54 Mbps
Modulation 5GHz (HT20)	BPSK at 6.5 and 7.2 Mbps QPSK at 13, 14.4, 19.5, and 21.7 Mbps 16-QAM at 26, 28.9, 39, and 43.3 Mbps 64-QAM at 52, 57.8, 58.5, 65, and 72.2 Mbps
Modulation 5GHz (HT40 and VHT80 only at 5GHz)	MCS0-MCS9, 13.5, 15, 27, 30, 40.5, 45, 54, 60, 81, 90, 108, 120, 121.5, 135, 150, 180, and 200
Operating Channels (2.4GHz)	11 channels (FCC) 13 channels (ETSI)
Operating Channels (5 GHz)	25 channels HT20 (FCC) 12 channels HT40 (FCC) 6 channels VHT80 (FCC) 56 channels ETSI (Varies by country)

Specifications	Details
Roaming	IEEE 802.11a compliant
	IEEE 802.11b compliant
	IEEE 802.11g compliant
	IEEE 802.11k compliant
	IEEE 802.11n compliant
	IEEE 802.11r compliant
Authentication	Open
	PSK
	PEAP
	EAP-FAST
	EAP-TLS
Encryption	LEAP
	64-bit WEP
	128-bit WEP
	TKIP-WPA AES-CCMP

Electrical Specifications

Specifications	Details
RF Output Power (2.4 GHz)	+17.5 dBm maximum at 802.11b
	+15 dBm maximum at 802.11g
RF Output Power (5 GHz)	+15 dBm maximum at 802.11a
	+15 dBm maximum at 802.11n
	+12 dBm maximum at 802.11ac
RF Receive Sensitivity (2.4 GHz)	-90 dBm at 11 Mbps
	-78 dBm at 54 Mbps
	-76 dBm at HT20 MCS7
RF Receive Sensitivity (5 GHz)	-76 dBm at 6 Mbps
	-73 dBm at 54 Mbps
	-70 dBm at HT20 MCS7
	-61 dBm at HT40 MCS7
Microphone Frequency Range	350 Hz to 3.75 KHz
Microphone Directionality	Quad MEMS Microphone array
Speaker Frequency Range	500 Hz to 3.75 KHz
Peak Speaker Loudness	87 dB SPL at 10 cm
Batteries	
Battery Type	Lithium-ion Polymer
Battery Life	4 hours talk time, with display active (U-APSD enabled); 40 hours of standby time.



Note: Results for RF output power (2.4 GHz and 5 GHz) and RF Receive Sensitivity (2.4 GHz and 5 GHz) is based on a controlled test environment. For information on network design guidelines, refer to [Vocera Infrastructure Planning Guide](#).

Environmental Specifications

Specifications	Details
Temperature Range	32° to 104° F (0° to 40° C)
Humidity Range	5% to 95% relative humidity, non-condensing
Ingress Protection	IP54

Storage Specifications

Specifications	Details
Temperature Range	-4° to 104° F (-20° to 40° C)
Humidity Range	5% to 95% relative humidity, non-condensing

Drop Specifications

Specification	Details
Drop	1.2 meters onto linoleum

System Specifications for B3000n Badge

This section describes the badge specifications, network specifications, electrical specifications, environmental specifications, storage specifications, and drop specification for the Vocera B3000n badge.

Badge Specifications

Dimensions	3.9 x 1.4 x 0.7 in. (9.8 x 3.6 x 1.8 cm)
Weight	1.9 oz. (53.5 g), with standard battery
LED Indicators	Bi-color LED, illuminated halo
Display screen	80 x 82 OLED bit-mapped display Supports 5 lines of text, 9-16 characters per line, up to 150 characters per message (font dependent)
Controls	Call button Hold/Do Not Disturb (DND) button Volume and Menu Selection buttons
Headset Support *	2.5 mm TRS headset jack

Network Specifications

Network Standard	IEEE 802.11a, 802.11b, 802.11g, and 802.11n IEEE 802.11w, and 802.11r
Frequency Band	2400–2483.5 MHz, 5180–5805 MHz

Data Rates Supported	1, 2, 5.5, 11, 6, 9, 12, 18, 24, 36, 48, 54 Mbps, MCS0-MCS7
Wireless Medium	Direct Sequence Spread Spectrum (DSSS)
	Orthogonal Frequency Division Multiplexing (OFDM)
	Single Input Single Output (SISO) HT40 support, at 5GHz only
Media Access Protocol	Carrier sense multiple access with collision avoidance (CSMA/CA)
Modulation 2.4GHz	DBPSK at 1 Mbps
	DQPSK at 2 Mbps
	CCK at 5.5 and 11 Mbps
	BPSK at 6 and 9 Mbps
	QPSK at 12 and 18 Mbps
	16-QAM at 24 and 36 Mbps
	64-QAM at 48 and 54 Mbps
Modulation 5GHz (HT20)	BPSK at 6.5 and 7.2 Mbps
	QPSK at 13, 14.4, 19.5, and 21.7 Mbps
	16-QAM at 26, 28.9, 39, and 43.3 Mbps
	64-QAM at 52, 57.8, 58.5, 65, and 72.2 Mbps
Modulation 5GHz (HT40 Only at 5GHz)	MCS0-MCS1, 13.5, 15, 27, 30, 40.5, 45, 54, 60, 81, 90, 108, 120, 121.5, 135, and 150 Mbps
Operating Channels (2.4GHz)	11 channels (FCC)
	13 channels (ETSI)
Operating Channels (5 GHz)	20 channels HT20 (FCC)
	9 channels HT40 (FCC)
	56 channels ETSI (Varies by country)

Roaming	IEEE 802.11a compliant
	IEEE 802.11b compliant
	IEEE 802.11g compliant
	IEEE 802.11k compliant
	IEEE 802.11n compliant
	IEEE 802.11r compliant
Authentication	Open
	PSK
	PEAP
	EAP-FAST
	EAP-TLS
	LEAP
Encryption	64-bit WEP
	128-bit WEP
	TKIP-WPA
	AES-CCMP

Electrical Specifications

RF Output Power (2.4 GHz) *	+16 dBm maximum at 802.11b
	+18 dBm maximum at 802.11g
	* Results based on a controlled test environment. For information on network design guidelines, refer to Vocera Infrastructure Planning Guide .
RF Output Power (5 GHz) *	+16 dBm maximum at 802.11a
	+16 dBm maximum at 802.11n
	* Results based on a controlled test environment. For information on network design guidelines, refer to Vocera Infrastructure Planning Guide .
RF Receive Sensitivity (2.4 GHz) *	-85 dBm at 11 Mbps
	-71 dBm at 54 Mbps
	-69 dBm at HT20 MCS7
	* Results based on a controlled test environment. For information on network design guidelines, refer to Vocera Infrastructure Planning Guide .

RF Receive Sensitivity (5 GHz) *	-90 dBm at 6 Mbps
	-73 dBm at 54 Mbps
	-70 dBm at HT20 MCS7
	-68 dBm at HT40 MCS7
* Results based on a controlled test environment. For information on network design guidelines, refer to Vocera Infrastructure Planning Guide .	
Microphone Frequency Range	350 Hz to 3.75 KHz
Microphone Directionality	Quad MEMS Microphone array
Speaker Frequency Range	500 Hz to 3.75 KHz
Peak Speaker Loudness	85 dBSPL at 10 cm
Batteries	
Battery Type	Lithium-ion Polymer
Battery Life	Standard: 3 hours talk time (U-APSD enabled); 45 hours of standby time.
	Extended: 5 hours of talk time (U-APSD enabled); 60 hours of standby time.

Environmental Specifications

Operating Specifications	
Temperature Range	32° to 104° F (0° to 40° C)
Humidity Range	5% to 95% relative humidity, non-condensing

Storage Specifications

Storage Specifications	
Temperature Range	-4° to 104° F (-20° to 40° C)
Humidity Range	5% to 95% relative humidity, non-condensing

Drop Specifications

Drop Specification	1.5 meters onto concrete
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System Specifications for B3000 Badge

This section describes the badge specifications, network specifications, electrical specifications, environmental specifications, storage specifications, and drop specification for the Vocera B3000 badge.

Badge Specifications

Dimensions	3.9 x 1.4 x 0.7 in. (9.8, 3.6, 1.8 cm)
Weight	1.9 oz. (53.5 g), with battery
LED Indicators	Two indicators: green, amber
Display screen	80 x 82 OLED bit-mapped display Supports 5 lines of text, 9-16 characters per line, up to 150 characters per message (font dependent)
Controls	Call button
	Hold/Do Not Disturb (DND) button
	Volume and Menu Selection buttons
Headset Support *	2.5 mm headset jack

Network Specifications

Network Standard	IEEE 802.11b
	IEEE 802.11g
Frequency Band	2400–2483.5 MHz
Data Rates Supported	1, 2, 5.5, 11, 6, 9, 12, 18, 24, 36, 48, 54 Mbps
Wireless Medium	Direct Sequence Spread Spectrum (DSSS)
	Orthogonal Frequency Division Multiplexing (OFDM)
Media Access Protocol	Carrier sense multiple access with collision avoidance (CSMA/CA)
Modulation	DBPSK at 1Mbps
	DQPSK at 2Mbps
	CCK at 5.5 and 11Mbps
	BPSK at 6 and 9Mbps
	QPSK at 12 and 18 Mbps
	64-QAM at 48 and 54 Mbps
Operating Channels	11 channels (FCC)
	13 channels (ETSI)
Roaming	IEEE 802.11b compliant
	IEEE 802.11g compliant
Authentication	PSK

	PEAP EAP-FAST EAP-TLS LEAP
Encryption	64-bit WEP 128-bit WEP TKIP-WPA AES-CCMP

Electrical Specifications

RF Output Power *	+16 dBm maximum
	* Results based on a controlled test environment. See the Vocera Infrastructure Planning Guide for network design guidelines.
RF Receive Sensitivity *	-82 dBm at 11 Mbps
	-65 dBm at 54 Mbps
	* Results based on a controlled test environment. See the Vocera Infrastructure Planning Guide for network design guidelines.
Microphone Frequency Range	350 Hz to 3.75 KHz
Microphone Directionality	Quad MEMS Microphone array
Speaker Frequency Range	500 Hz to 3.75 kHz
Peak Speaker Loudness	85 dBSPL at 25 cm
Batteries	
Battery Type	Lithium-ion Polymer
Battery Life	Standard: 3 hours talk time (U-APSD enabled); 45 hours of standby time. Extended: 5 hours of talk time (U-APSD enabled); 60 hours of standby time.

Environmental Specifications

Operating Specifications	
Temperature Range	32° to 104° F (0° to 40° C)
Humidity Range	5% to 95% relative humidity, non-condensing

Storage Specifications

Storage Specifications	
Temperature Range	-4° to 104° F (-20° to 40° C)

Humidity Range	5% to 95% relative humidity, non-condensing
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Drop Specifications

Drop Specification	1.5 meters onto concrete
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Important Safety Instructions

Here are some important safety instruction related to your Vocera badge.

The Vocera badge including its battery component and the Vocera battery charger are electronic devices. Ensure that you take appropriate care while using these electronic devices in order to minimize the possibility of injury such as electric shock and damage from fire.

In addition, the Vocera badge is a wireless communication device that works by generating radio frequency (RF) signals. These signals, although generally lower in strength than a typical cellular telephone, can interfere with other electronic devices that are not appropriately shielded against RF signals. Using the Vocera badge in proximity to sensitive electronic devices may cause interference that could result in serious consequences. In such cases, you must consult with the manufacturer of any such device in order to determine whether the Vocera badge can be safely operated in proximity to such device.

In order to ensure comfortable use of the badge and to avoid possible damage to hearing, do not bring the speaker within close proximity of the ear while the badge is powered on.

References below to the “badge” refer to the Vocera badge, including its battery component, while references to the “product” refer to the badge and the Vocera battery charger.

In addition to other basic safety precautions appropriate to the use of wireless electronic devices, follow the safety instructions provided in this document.

Warning Definition



Warning: This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

Waarschuwing: Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijke letsels kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen.

Varoitus: Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista.

Attention: Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents.

Warnung: Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewusst.

Avvertenza: Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti.

Advarsel: Dette varselsymboler betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du være oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlige praksis når det gjelder å unngå ulykker.

Aviso: Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes.

iAdvertencia! Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes.

Varning! Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador.

Badge and Battery Charger Safety

1. ENSURE THAT YOU READ, UNDERSTAND, AND FOLLOW ALL WARNINGS AND INSTRUCTIONS IN THE PRODUCT DOCUMENTATION AND ON THE PRODUCT ITSELF.
2. A damaged battery may pose a risk of personal injury. Damage may include impact or shock that dents or punctures the battery, exposure to a flame, or other deformation. Do not disassemble the battery. Handle a damaged or leaking battery pack with extreme care. If the battery is damaged, electrolyte may leak from the cells or fire may result which may cause personal injury.
Une batterie endommagée peut présenter un risque de blessures corporelles. Les dégâts peuvent résulter d'impacts ou de chocs provoquant des bosses ou des perforations de la batterie, de l'exposition au feu ou d'autres déformations. Ne démontez pas la batterie. Manipulez les batteries endommagées ou percées avec d'extrêmes précautions. Si une batterie est endommagée, de l'électrolyte peut s'échapper des cellules ou la batterie peut prendre feu, ce qui risque de provoquer des blessures corporelles.
3. Keep the battery away from children.
Conservez la batterie hors de portée des enfants.
4. Do not expose (store or place) your badge or battery pack to a heat source such as a radiator, fireplace, stove, electric heater, or other heat-generating appliance or otherwise expose it to temperatures in excess of 65°C (149°F). When heated to excessive temperatures, battery cells could vent or explode that could pose risk of fire.
N'exposez pas (ni ne rangez ou laissez) votre ordinateur ou batterie près d'une source de chaleur, telle qu'un radiateur, une cheminée, un poêle, un chauffage électrique ou tout autre appareil générateur de chaleur et ne l'exposez pas à des températures supérieures à 65 °C (149 °F). Lorsque les batteries atteignent une température excessive, les cellules de la batterie peuvent imploser ou exploser, représentant alors un risque d'incendie.
5. Do not carry a battery pack in your pocket, purse, or other container where metal objects (such as keys) could short-circuit the battery terminals. The resulting excessive current flow can lead to extremely high temperatures and may cause damage to the battery pack or surrounding materials, or personal injury, such as burns.

Ne transportez pas de batterie dans votre poche, sac à main ou autre conteneur où des objets métalliques (comme des clés) pourraient court-circuiter les bornes de la batterie. L'excès de courant qui en résulterait pourrait entraîner des températures extrêmement élevées et endommager la batterie, ou les matériels à proximité, ou provoquer des blessures comme des brûlures.

6. Do not put anything other than a Vocera badge or Vocera battery into a Vocera charger slot, as other objects may touch dangerous voltage points or may short out parts, both of which conditions could result in fire or electric shock.



Important: The B3000n and B3000 badges cannot be placed into the charger.

7. Do not place the product on an unstable surface, as the product may fall and suffer serious damage.
8. Do not operate the charger in a cabinet or other enclosure unless proper ventilation is provided.
9. Do not position the badge or battery charger near any source of water such as a sink, wash bowl, or toilet. Do not spill liquid of any kind on the product, as doing so may short out parts, causing damage to the product and creating the risk of fire or electric shock.
10. Take the badge or charger to a qualified service provider in these circumstances:
 - If liquid is spilt onto the badge or charger, or if rain or water has touched the badge or charger.
 - If the badge or charger does not operate normally after you follow the operating instructions.
 - If the badge or charger has been dropped or damaged.
 - If the badge or charger exhibits a distinct degradation in performance.
 - If the power cord or plug on the charger is damaged or frayed.
11. Unplug the charger from the wall outlet before cleaning. To clean or disinfect the badge and charger, wipe with a cloth dampened with germicidal solution or isopropyl alcohol. Use of any other cleaners may damage the badge and void your warranty.
12. Use the battery charger indoors only.
13. Do not allow anything to rest on the power cord of the charger. Do not place the charger where the cord is likely to be damaged or may cause someone to trip. Keep the power cord away from operating machinery.
14. Do not overload outlets or extension cords, because this may cause a fire or electrical shock.
15. Operate the charger only with a Vocera-approved power adapter.

Utilisez le chargeur seulement avec un adaptateur de puissance approuvé par Vocera.
16. Use only the batteries supplied with the product or Vocera-approved replacements.
17. Do not use the battery with any device other than the Vocera badge.
18. Charge the battery only in its Vocera charger and according to the instructions provided in this document. These instructions are also included with the charger.
19. In limited circumstances, the badge may power off without any prior low battery warning or indication.
20. Do not charge the battery in a place where static electricity is generated or let the battery touch any object that is statically charged.
21. The battery can be stored at temperatures between -4° F and 104° F (between -20° C and 40° C), and can be charged or operated at temperatures between 32° F and 104° F (between 0° C and 40° C).
22. Do not put the battery into a microwave oven, conventional oven, dryer, or high-pressure container, or dispose of the battery in a fire. If you do so, the battery might explode.
23. Do not open or puncture the battery or subject the battery to strong physical shock.
24. Stop using the battery if it exhibits abnormal heat, odor, color, deformation, or is in an abnormal condition.

25. If you detect leakage or a foul odor, it is especially important to keep the battery away from fire. If battery liquid leaks onto your skin or clothes, immediately wash well with clean water. If liquid leaking from the battery gets into your eyes, do not rub your eyes. Instead, immediately rinse your eyes well with clean water, and consult a doctor.
26. If the contact points on a B3000n or B3000 battery or badge are damaged, the badge screen may display the following error: "Battery Communication Error." If this happens, do the following to determine whether the battery or badge is damaged:
- Try using the battery on other badges that are working properly. If the "Battery Communication Error" message always appears on other badges, the battery is damaged and must be replaced.
 - Try using the badge with other batteries that are working properly. If the "Battery Communication Error" message always appears, the badge is damaged and must be replaced.
27. Handle batteries with care to avoid shorting the battery with conducting materials, such as rings, bracelets, and keys. If the battery shorts, it may overheat and burn you.
28. **Battery Disposal:** Dispose of used batteries properly. After Vocera batteries have reached the end of their useful life, we recommend recycling them at a recycling center in your community or by sending them to Vocera (or a designated Vocera partner for your locale) for an earth-friendly disposal. For Vocera recycling policy and instructions, search for "recycling" in Vocera Technical Support Portal Content. If you choose to dispose of batteries yourself, consult the regulations that are in force in your locale.
29. When recycling or discarding the battery, make it non-conductive by applying vinyl tape to the terminals. On B3000n and B3000 batteries, apply tape to the top edge.



FAILURE TO FOLLOW THE FOREGOING INSTRUCTIONS COULD RESULT IN (A) DAMAGE TO EQUIPMENT, VOIDING YOUR WARRANTY AND/OR (B) PROPERTY DAMAGE AND/OR SERIOUS PERSONAL INJURY, INCLUDING DEATH.

ATTENTION: SI LES INSTRUCTIONS CI-DESSOUS NE SONT PAS SUIVIES, VOUS VOUS EXPOSEZ AUX RISQUES SUIVANTS: A) DOMMAGE À L'ÉQUIPEMENT, ANNULANT VOTRE GARANTIE, B) DOMMAGES À LA PROPRIÉTÉ ET/OU RISQUES DE BLESSURES SÉRIEUSES, INCLUANT PERTE DE VIE.

Battery Safety Caution

CAUTION: Using an incompatible battery may increase the risk of fire or explosion. Replace the battery only with a compatible battery purchased from Vocera that is designed to work with your badge. Do not use a battery from other devices with your Vocera B3000/B3000n/v5000/c1000. Dispose of used batteries properly. See Battery Disposal in this document.

PRÉCAUTION : L'utilisation d'une batterie non compatible peut accroître le risque d'incendie ou d'explosion. Remplacez la batterie uniquement par une batterie compatible achetée auprès de Vocera, conçue pour fonctionner avec votre Vocera B3000n/B3000/v5000/c1000. N'utilisez pas de batterie provenant d'un autre périphériques. Évacuez les batteries usagées conformément à la réglementation. Reportez-vous à la section Mise au rebut de la batterie de ce document.

Vocera Batteries

As part of our commitment for continual product improvement, Vocera recently introduced the B3000 Series Badge battery as a replacement for the B3000 Standard and B3000 extended batteries that were initially introduced with the Vocera B3000 Badge.

B-Series Batteries

With the introduction of the new B3000 series battery, the following are the significant improvements:

- Increased mechanical strength in the battery casing to provide greater resilience to drops and damage.
- Improved latch and locating pin design to provide more resilience.
- Increased resistance to dust and water ingress (IP54).
- Greater resistance to cleaning agents commonly found in healthcare.
- An ability to track discharge and recharge cycles, in conjunction with firmware update to better measure when a battery is in need of replacement.
- Unique identification of batteries through a serial number.

The new B3000 series battery is fully compatible with both B3000 and B3000n Badges. These areas of improvement are in addition to the existing attention paid to electrical safety standards which deliver high immunity to Electro Static Discharge. These are all unique features to the batteries manufactured for Vocera B3000 Series Badges.

For seamless introduction of the new B3000 series battery, the new battery is fully compatible with all B3000 Desktop and 8-bay chargers, including the operation of the battery health indicators in these chargers.



Note: Vocera is the sole manufacturer of batteries that are designed specifically for, and in conjunction with the B3000 and B3000n Vocera Badges. Vocera has no partnership with any third-party vendors.

Vocera customers are encouraged not to use third-party batteries that have not been tested and designed specifically to be used with the Vocera Badge.

Minibadge Batteries

The Vocera C1000 Minibadge uses custom lithium polymer batteries. These small, lightweight batteries snap into the back of the Minibadge. Vocera batteries are recommended to be charged in a Vocera eight-bay Battery Charger. The eight-bay charger is suited for group use as it can simultaneously charge eight batteries using only one power adaptor.



Note: Vocera highly recommends using the Vocera C1000 Minibadge batteries and chargers. The Vocera Minibadge warranty does not cover damage caused by third-party batteries, and the use of a third-party battery may void the Vocera warranty. When to Charge

CAUTION

REPLACE ONLY WITH VOCERA APPROVED BATTERIES. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS PROVIDED BY VOCERA. DO NOT USE IF VISIBLY DAMAGED. USING INCORRECTLY REPLACED OR DAMAGED BATTERIES CAN CAUSE OVERHEATING, FIRE AND INJURY.

MISE EN GARDE

N'UTILISEZ QUE DES BATTERIES APPROUVÉES PAR VOCERA. JETEZ LES BATTERIES USAGÉES SELON LES INSTRUCTIONS FOURNIES PAR VOCERA. N'UTILISEZ PAS LES BATTERIES SI ELLES SONT VISIBLEMENT ENDOMMAGÉES. L'UTILISATION DE BATTERIES ENDOMMAGÉES OU INADÉQUATES POURRAIT ENTRAÎNER UN RISQUE DE SURCHAUFFE, D'INCENDIE OU DE BLESSURES.

Lithium Ion Battery

This section describes the general guidance on care and expected lifetime of the Lithium Ion Battery used with the Vocera Badge. Vocera batteries can be used for approximately 18 months after which it should be replaced.

A key reason for replacement is due to the charge capacity of the cells diminishing over time as they undergo discharge and recharge cycles, resulting in a battery not being able to support powering a badge for a full work shift. Another factor is the 24x7 operation of Vocera badges where batteries are frequently moved between many badges during their operational life. The continual handling of the batteries introduces a much higher likelihood of physical damage that may occur to the batteries.

Batteries are consumable items and as with most Lithium Ion batteries used in mobile electronics, the structure of the Lithium Ion cell inside the battery pack degrades over time. Consequently, metal impurities in the cell can cause the cell to be more susceptible to internal shorts. If an internal short occurs, the Lithium Ion cell may experience thermal runaway creating heat and releasing gases that can cause the plastic enclosure of the battery pack to melt.

The gases caused by the thermal runaway event could contain oxides of carbon, aluminum, lithium and copper. Although these gases are released in small quantities, they may be toxic and should not inhaled.

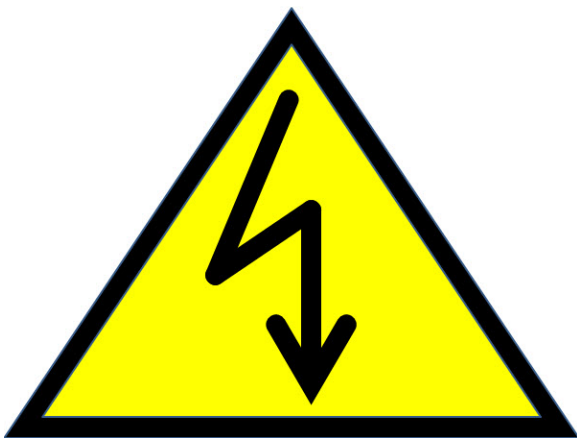
The gases released and the visible damage to a battery pack during a thermal runaway are expected and do not indicate that the battery has caught fire. However, among the gases that might be emitted is Hydrogen and if exposed to a spark or naked flame, this may cause combustion. To mitigate this, Vocera battery chargers are built using flame resistant PC-ABS and each battery slot is isolated from adjacent slots. These events may be alarming if you are not familiar with the characteristics of Lithium-Ion batteries. These events will usually occur only when a Lithium-Ion battery has been in operation for far longer than its intended lifetime.

As a general guideline, Lithium-Ion batteries should be replaced every 18 months, and no Lithium-Ion battery should be in service after 3 years of use. Any battery that displays physical damage should be discarded to avoid the battery cell getting damaged and triggering a thermal runaway event.

To understand the health of batteries, Vocera battery chargers use LEDs in the charging slots. If the charging LED is blue or flashing blue, it indicates that the charge capacity of the battery is down to 60% and the battery should be replaced soon. If the charging LED is red, it indicates that the battery did not recharge completely within its allocated timeframe. In this case, Vocera recommends removing and reinserting the battery to check if the battery completes its charge cycle. If the LED returns to a red state, the battery should be removed from use.

For any incident of a battery displaying signs of thermal runaway or damage while in a battery charger, contact the Vocera Technical Support team to RMA the battery and battery charger to investigate the incident.

Product Disposal Warning



Warning: Ultimate disposal of this product should be handled according to all national laws and regulations.

Waarschuwing: Dit produkt dient volgens alle landelijke wetten en voorschriften te worden afgedankt.

Varoitus: Tämän tuotteen lopullisesta hävittämisestä tulee huolehtia kaikkia valtakunnallisia lakeja ja säännöksiä noudattaen.

Attention: La mise au rebut définitive de ce produit doit être effectuée conformément à toutes les lois et réglementations en vigueur.

Warnung: Dieses Produkt muß den geltenden Gesetzen und Vorschriften entsprechend entsorgt werden.

Avvertenza: L'eliminazione finale di questo prodotto deve essere eseguita osservando le normative italiane vigenti in materia.

Advarsel: Endelig disponering av dette produktet må skje i henhold til nasjonale lover og forskrifter.

Aviso: A descartagem final deste produto deverá ser efectuada de acordo com os regulamentos e a legislação nacional.

Advertencia: El desecho final de este producto debe realizarse según todas las leyes y regulaciones nacionales.

Varning: Slutlig kassering av denna produkt bör skötas i enlighet med landets alla lagar och föreskrifter.

Important Information About Use in Certain Areas

1. Turn your badge OFF in facilities when any posted notices instruct you to turn off all devices that emit a radio frequency. To turn the badge OFF, press the Hold/DND button for 5 seconds or remove the battery. If the rules of your facility limit use of RF-emitting devices in certain areas, you must familiarize yourself with these rules and follow them strictly.
2. If you have any reason to suspect that the badge is interfering with sensitive equipment, turn the badge OFF immediately.
3. Turn your badge OFF and do not use the charger when you are in any area with potentially explosive materials in the atmosphere. Sparks in such areas could cause an explosion or fire, resulting in bodily injury or death. Areas with potentially explosive atmospheres include: fueling areas; transfer or storage facilities for fuel or chemicals; facilities with equipment using liquefied petroleum gas, such as propane or butane; and areas where the air contains chemicals or particles, such as grain, dust, or metal powders.



FAILURE TO FOLLOW THE FOREGOING INSTRUCTIONS COULD RESULT IN (A) DAMAGE TO EQUIPMENT, VOIDING YOUR WARRANTY AND/OR (B) PROPERTY DAMAGE AND/OR SERIOUS PERSONAL INJURY, INCLUDING DEATH.

ATTENTION: SI LES INSTRUCTIONS CI-DESSOUS NE SONT PAS SUIVIES, VOUS VOUS EXPOSEZ AUX RISQUES SUIVANTS: A) DOMMAGE À L'ÉQUIPEMENT, ANNULANT VOTRE GARANTIE, B) DOMMAGES À LA PROPRIÉTÉ ET/OU RISQUES DE BLESSURES SÉRIEUSES, INCLUANT PERTE DE VIE.

Magnetic Safety

This section provides information about the magnetic fields generated in Vocera Devices. It includes information about their compatibility with implantable devices such as pacemakers and defibrillators.


Vocera Devices enable hands-free voice communication and make use of a speaker to deliver the audio capability. The speaker in the B3000n badge is located at the front of the device, just behind the grill. On the Vocera Smartbadge, it is located on the lower left-side if you are holding the device facing you.

Consistent with the speakers in most audio devices, the speakers in Vocera Devices contain a small magnet that emits a magnetic field. There is a possibility that a clinician wearing a Vocera Device would be caring for a patient fitted with an Adjustable CSF Shunt, which may include an implantable programmable valve. These programmable valves can be affected by magnetic fields. If the Vocera Badge is within 1-2 inches of the implanted device (the Badge and implant site do not have to be physically touching), there is a possibility of impacting the programmed settings in the valve. The field strength of the magnet in B3000n badges is high enough for adjustments in the implantable programmable valve when it is in direct contact with the valve. However, magnetic fields decrease very rapidly with distance.

The following table details the magnetic field strength of the Vocera Devices at various distances from the speaker.

Product	Direct Contact with Speakers	1" (25mm) from Speaker	2" (50mm) from Speaker
B3000n	310 gauss	9.3 gauss	3.7 gauss
V5000	57 gauss	2 gauss	1 gauss
C1000	260 gauss	8.4 gauss	2.8 gauss

All the values with at least 1" (25mm) of distance are well below the indicated level required for adjustment.

 **Note:** To increase the safety of patients fitted with implantable programmable valves like Medtronic Strata™ II valves, Vocera recommends that Vocera Devices are not brought closer than 2" (50mm) to the implanted programmable valve. This recommendation is in line with the guidance provided by Medtronic for their range of Strata™ II valves and the FDA.

Due to the flexibility of the wearable Vocera Devices, it may be worn anywhere in the upper torso area and still preserve audio quality. Clinicians must select the best location that reduces the likelihood that the Vocera Devices come near implanted devices. Possible alternative locations include mounting on the upper arm or close to the clavicle of the wearer. Alternatively, remove the Vocera Devices while in close proximity to a patient with an implantable programmable valve.