Spectralink Versity Smartphone

# LTE Carrier Interoperability

## Interoperability Guide: Version 4

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**Warranty**

The *Product Warranty and Software License and Warranty* and other support documents are available at http://support.spectralink.com.

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# Contents

# About This Guide

LTE is the 4<sup>th</sup> Generation wireless technology (4G) that delivers fast connection for a mobile internet experience. It is the globally-accepted 4G wireless standard. This interoperability guide explains how Versity LTE models support 4G technology and how to implement Versity as an LTE smartphone.

This document also explains how specific carrier service requirements can vary and the accommodations Spectralink has made to allow Versity smartphones to use LTE 4G with carriers that certify Versity smartphones.

## *Product Support*

Spectralink wants you to have a successful installation. If you have questions, please contact the Customer Support Hotline at 1-800-775-5330.

The hotline is open Monday through Friday, 6 a.m. to 6 p.m. Mountain Time.

For Technical Support: [mailto:technicalsupport@Spectralink.com](mailto:technicalsupport@Spectralink.com)

For Knowledge Base: [http://support.Spectralink.com](http://support.Spectralink.com)

For Return Material Authorization: [mailto:nalarma@Spectralink.com](mailto:nalarma@Spectralink.com)

# Chapter 1: Deploying LTE Models

LTE is a type of 4G carrier technology that delivers fast data connection for a mobile internet experience. It is the globally-accepted 4G wireless standard. LTE offers speeds up to 10 times faster than 3G. To use LTE, both the phone and the carrier must support it. However, not all areas and carriers offer LTE phones and services. It is important to determine the level of service in your area for LTE phones.

Versity is a standard, albeit ruggedized, Android smartphone running Spectralink software currently based on Android 10. Versity comes in four models, two of which---9640 and 9653---support LTE 4G cellular technology in addition to facility-centric VoWLAN calling.

## *Dialers and Phone Applications*

With two calling modalities, Versity ships with two different phone applications aka "dialers". The ability to use LTE calling technology is managed by the choice of app used to make the call.

- The Biz Phone app from Spectralink is used for calls that utilize the Wi-Fi network installed in the facility.

- The Google Phone app that comes as a standard phone application in Android phones is typically used by a cell phone carrier.

Versity LTE models can be programmed to make both types of calls available. When both types of calling are fully enabled, when you place an outgoing call from a phone number link you may be given the choice of which dialer to use.

## *Phone numbers*

The two dialers have separate phone numbers. When you place a call, the Caller ID that is displayed to the recipient depends on which app was used to initiate the call.

- The Spectralink Biz Phone dialer uses the Wi-Fi network in the facility. Biz Phone rings when your internal extension is called. This is your business phone number that has been assigned by the facility using an on-premise SIP PBX or cloud SIP service..

- The LTE carrier manages a network connection to a phone through a SIM card. The carrier provides a unique phone number for each phone device. When that number is called, it rings on the Google Phone dialer.

- Outgoing calls can use direct dialing through the carrier network connection 2G, 3G, VoLTE or use Wi-Fi calling that places calls through a Wi-Fi network. "Wi-Fi calling" or "VoWi-Fi" calls can be made on a Wi-Fi network installed at home or business facility or at a café or library, provided these are able to connect to the carrier network. It's like any

other phone call and uses the carrier-assigned number and the Google Phone app but is distinct from a Biz Phone Wi-Fi call.

# Emergency Calls Using LTE

On all Versity models that support LTE, tapping EMERGENCY on a locked screen opens a Google Dialer where the emergency number can be entered manually. The number entered will be checked against the list of pre-programmed emergency numbers in the Biz Phone app, if any. If it is on the list, and if Biz Phone is configured, and if Wi-Fi calling is enabled, the call will be placed by the Biz Phone app.

For LTE models, if the manually-entered number is not listed in the Biz Phone app, then it will be checked against the emergency numbers listed by the SIM or Android. If the number is available, the call will be placed by the Google dialer, if there is a cellular connection.

If emergency calls should be placed through the carrier cellular network, the number SHOULD NOT BE entered in the Biz Phone app. The number must be manually entered in the Google dialer when the emergency call feature opens, and it will be checked as above and go through on the cellular network. Instruct your cellular users about what number to dial in an emergency.

# Versity LTE Certifications

Along with global regulatory compliance, Versity has certification from the following industry organizations:

- PTCRB offers certification of wireless devices according to standards developed by the CTIA organization. It is a U.S. organization.

- GCF is an independent global certification organization that offers certifications to help ensure global interoperability between mobile devices and networks. It is a global organization.

- Carriers: Versity is an unlocked device. With PTCRB and GCF certification most carriers will allow Versity on their network. Some carriers certify phones and approve them for functionality on their network. See Carriers for carrier-specific information.

# Versity Channels

- GSM: 850/900/1800/1900UMTS: B1/2/4/5/8

- LTE-FDD: B1/2/3/4/5/7/8/12/13/20/25/26/28/66

- LTE-TDD: B38DL

- 2CA(Cat6):1A-3A, 1A-7A, 1A-8A, 1A-20A,2A-2A, 2A-4A, 2A-5A, 2A-12A, 2A-13A, 2A-66A, 3A-3A, 3C, 3A-7A, 3A-8A, 3A-20A, 3A-28A,4A-4A, 4A-5A, 4A-12A, 4A-13A, 5A-5A,

5B, 5A-66A, 7C, 7A-20A, 7A-28A, 12A-66A, 13A-66A, 25A-25A, 25A-26A, 38C, 66A+66A, 66B, 66C

# Carrier Technologies

Carrier technologies have advanced along a timeline that began before 1993. The below table outlines the technologies that are supported by Versity and their development timeline. Carriers that use these technologies also support Versity.

| 1993 | 2000 | | | | | 2018 |
|---|---|---|---|---|---|---|
| Second Gen | Third Gen | | | | | Fourth Gen |
| GSM GPRS | EDGE | | | | | |
| | UMTS | HSDPA | HSUPA | HSPA+ R7 | HSPA+ R8 | |
| | | | | | LTE FDD TDD | LTE Advanced |

Versity supports all of the above technologies and can function in an environment that does not support 4G LTE in its entirety. Options include:

- LTE: Voice and data
- Data: 3G
- Voice: GSM circuit switch
- Voice: VOIP-LTE or OTT

# Chapter 2: SIM Card Instructions

LTE phones use a "SIM" card to store user information. A carrier will provide a SIM card for their service and this card must be installed on Versity before it can connect to the carrier's network.

**SIM card size**

The Versity SIM card port supports a "micro" size SIM card. An adapter is provided in the Versity box for adapting a "nano" card to the micro size. Consult with your carrier to get the nano SIM card.

> ⚠️ **Caution: Use provided micro adapter**
>
> Spectralink has found that SIM card thickness varies and these variations can affect performance. For this reason, Spectralink provides a nano to micro adapter with every Versity model supporting LTE. This adapter meets our exact specifications.
>
> For best results, use a nano card from your carrier and use the nano to micro adapter that is provided with the Versity smartphone as described here. Do this even if the carrier offers a micro SIM card.

This photo shows a nano to micro adapter:



**SIM card location**

The SIM card is inserted into a slot at the top of the battery compartment. The slot is protected by a flap that must be pried open. Pry it from the right and rotate it into a vertical position as shown here.
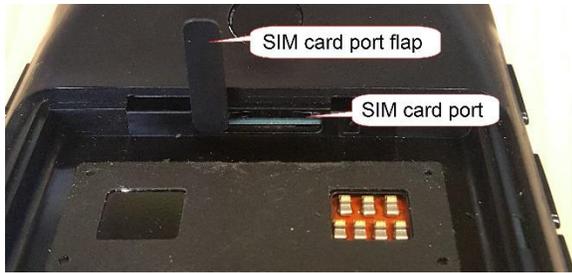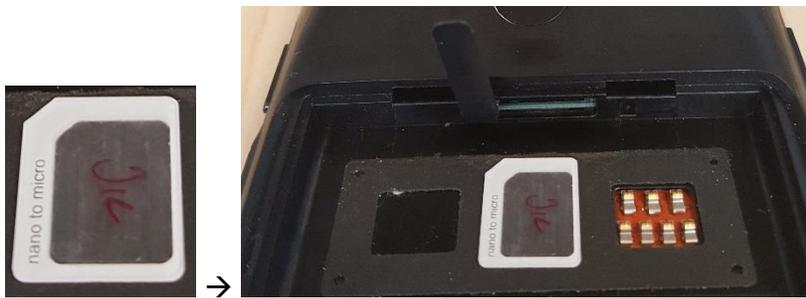
## Inserting the SIM card

| 🔑 | **Admin Tip: Tool may be required** |
|---|---|
| | In order to insert the SIM card into the slot, you may need to use a tool such as tweezers. |

**1**    Remove the battery and open the SIM card port flap.

**2**    Position the SIM card as shown in the picture below. The angled edge is at the top left.



**3**    Position the nano card in the adapter in the area as shown and insert the adapter into the port.

| 🔍 | **Tip: Nano card positioning** |
|---|---|
| | The position of the SIM card in the adapter is "down" when placed into the port. Although the nano SIM fits snugly into the adapter and is unlikely to fall out, please keep a good hold on the adapter assembly with the included tweezers as you insert it into the port. |

**4**    Close the flap, being careful to snug it tight.

**5**    Install the battery and turn on the phone.

## Removing the SIM card

**1**    Open the flap by prying it from the right side and swiveling it up.

**2**    Push on the SIM card, it will pop out part way and then pull the SIM card out of the port using a tool such as tweezers. Pull it straight out. Do not bend or twist the adapter.

**3**    Remove the nano card from the adapter.

**4**    Reposition the flap to the closed position.

# Chapter 3: Carriers

## *Implementation Specifics*

The Spectralink 96 Series smartphone can be either an LTE or a Wi-Fi device.

When using LTE, you will use the Android Phone app, not Spectralink Biz Phone. Take the following steps to set up the 96 Series smartphone for LTE calling.

**Wi-Fi calling (option for LTE only)**

In order to deploy Versity (models 9640/9653) using Spectralink tested carriers as listed below:

    **1**    Insert the carrier's SIM card (see instructions in Chapter 1).

    **2**    If you want to use Wi-Fi calling, navigate to Android Settings and search on "Wi-Fi calling" or navigate to Network settings.

    **3**    Enable Wi-Fi calling. Reboot the phone for the settings to take effect.

Android Call settings
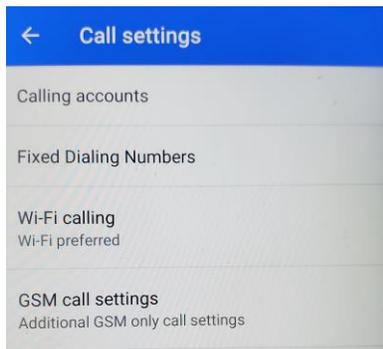


This activation allows the phone to make and receive calls using LTE and Wi-Fi calling (when a configured SSID is available). The Spectralink app Biz Phone can also be used where the connection is available.

# *Tested Carriers as of Versity R2.9*

| Country | Carrier |
|---|---|
| Australia | Optus |
| Australia | Telstra |
| Australia | Vodafone |
| Denmark | TDC |
| Denmark | Telenor |
| Denmark | Telia |
| Netherlands | KPN |
| Netherlands | Vodafone |
| Norway | Telenor |
| Norway | Telia |
| Sweden | Telia |
| Switzerland | TDC |

# Appendix A: Spectralink References

All Spectralink documents are available at https://spectralink.my.site.com.
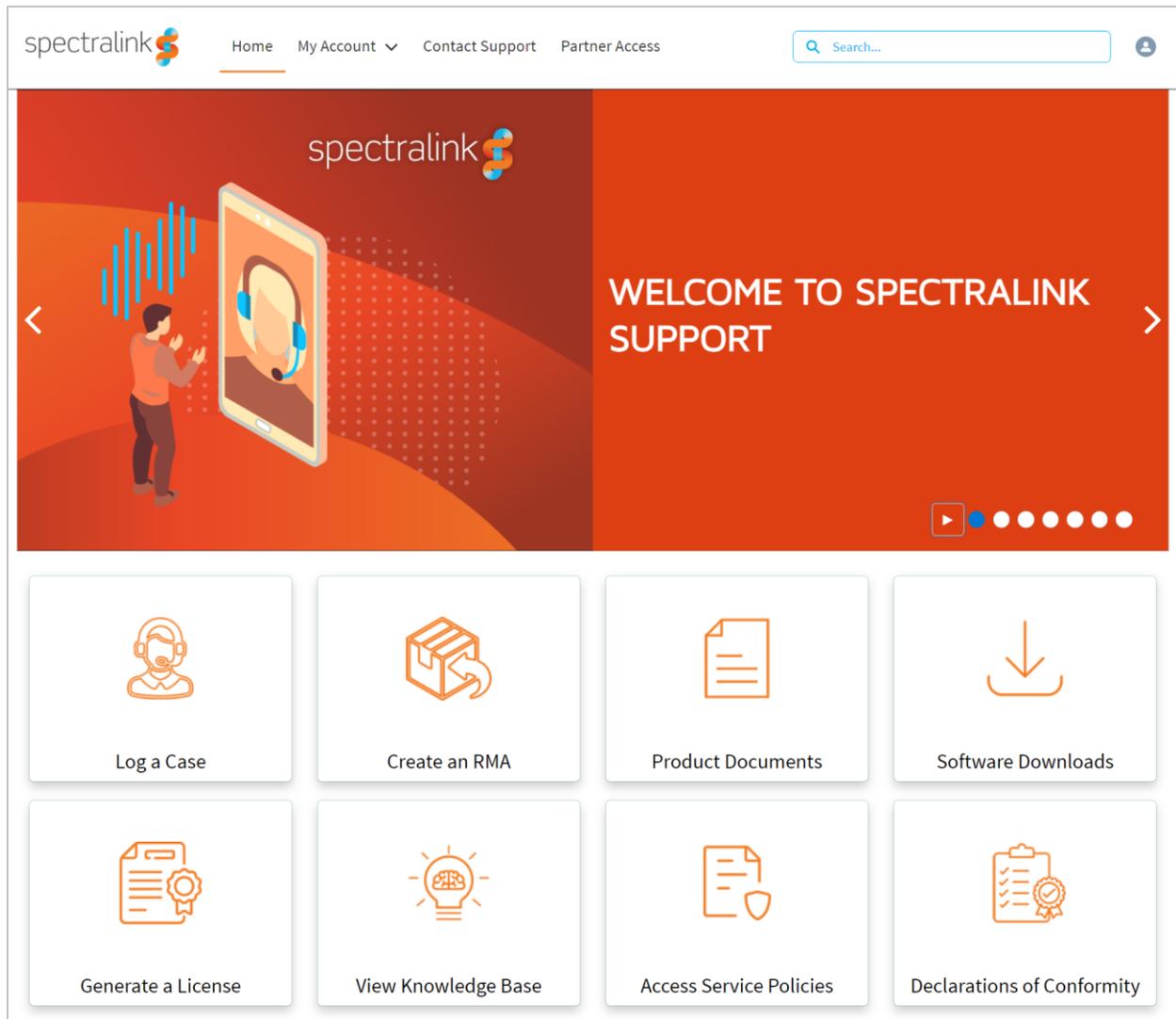


**Specific Documents**

Spectralink Versity 95/96 software and support documents on the Spectralink support site.

Spectralink SAM software and support documents on the Spectralink support site.

*Release Notes* accompany every software release and provide the new and changed features and resolved issues in the latest version of the software. Please review these for the most current information about your software.

*Spectralink Versity Deployment Guide* provides a high-level overview of the deployment process for Spectralink Versity smartphones. This includes the interface with an EMM, the method for getting Versity connected to the wireless LAN, and the interface with the Spectralink Application Management (SAM) server.

*Spectralink Applications Management Guide*   The Spectralink Applications Management (SAM) Guide provides information about every setting and option for the Spectralink applications that are available to the administrator on the SAM server. Time-saving shortcuts, troubleshooting tips and other important maintenance instructions are also found in this document.

The *Spectralink Versity User Guide* offers comprehensive instructions for using each of the Spectralink Applications deployed on the handsets.

For information on IP PBX and soft switch vendors, see the *Spectralink Call Server Interoperability Guide.*

Technical Bulletins and Feature Descriptions explain workarounds to existing issues and provide expanded descriptions and examples.

AP Configuration Guides explain how to correctly configure access points and WLAN controllers (if applicable) and identify the optimal settings that support Spectralink Versity smartphone. You can find them on the *VIEW Certified* webpage.

# Conventions Used In This Document

## Typography

A few typographic conventions, listed next, are used in this guide to distinguish types of in-text information.

| Convention | Description |
|---|---|
| **Bold** | Highlights interface items such as menus, softkeys, file names, and directories. Also used to represent menu selections and text entry to the handset. |
| *Italics* | Used to emphasize text, to show example values or inputs, and to show titles of reference documents available from the Spectralink Support Web site and other reference sites. |
| <u>Underlined blue</u> | Used for URL links to external Web pages or documents. If you click text in this style, you will be linked to an external document or Web page. |
| Bright orange text | Used for cross references to other sections within this document. If you click text in this style, you will be taken to another part of this document. |
| `Fixed-width-font` | Used for code fragments and parameter names. |

This guide also uses a few writing conventions to distinguish conditional information.

| Convention | Description |
|---|---|
| *<MACaddress>* | Indicates that you must enter information specific to your installation, handset, or network. For example, when you see *<MACaddress>*, enter your handset's 12-digit MAC address. If you see *<installed-directory>*, enter the path to your installation directory. |
| **>** | Indicates that you need to select an item from a menu. For example, **Settings > Basic** indicates that you need to select **Basic** from the **Settings** menu. |

*****END OF DOCUMENT*****