

VZ20M User's Manual

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Preface

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Document Revision History

Revision	Date	Product Application
V1.0	03 October 2013	First edition of the VZ20M User Manual.

About this Document

Purpose and Scope

This user manual is intended for engineers who use the VZ20M to run various qualification tests in Verizon environment.

Who Should Read this User Manual

This document is intended for engineers who want to operate the evaluation kit based on the VZ20M module, for IOT and certification tests purposes.

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VZ20M Product Description

1.1 Product Features

The VZ20M is typically used as a test platform for conformance and certifications tests.

The VZ20M can be fitted into a PCI-SIG M.2 host connector in a tablet, ultrabook or laptop, or can be connected to a laptop with a USB port using a M.2 to USB connector.

1.2 Software Description

The VZ20M is a hostless device. All the required software is present in the device's Flash memory:

- LTE stack software
- Hardware configuration parameters
- Application software, including Linux openWrt kernel

This manual presents also the procedure to upgrade the firmware.

2 Installation Procedures

2.1 Prerequisites

2.1.1 Hardware

Sequans' VZ20M requires a Windows® PC, running Windows 8, Windows XP or Window7 with either a M.2 host connector or an USB 2.0 port. It can also be used with a computer running MAC OS or Linux.

2.1.3 Sequans Software Delivery

- Verizon_x.y.z-abcd.exe

This installs the host software providing access to the system with WebUI interface. You will connect the VZ20M to the PC when this installation completes. It is only required on Windows.

2.2 First Installation

2.2.1 Install the Host Software

Without plugging in the device, launch the Windows installer. It automatically installs the Sequans' VZ20M drivers on the PC.

Follow the procedure:

1. Launch the installer and confirm its execution. Click **Yes** button to start the installation process.
2. Click the **Next>** button.
3. Select the installation directory. The default directory can be changed by clicking the **Browse...** button. Click **Next** when the appropriate directory is selected.
4. Verify the installation directory and click **Install** if no change is required. You can update the installation directory by clicking the **Back** button at this stage.
5. Check the box to trust Sequans software and proceed with the installation process.
6. Click **Finish** to complete the installation process.

2.2.2 Install the DM Tool Software

This is an optional step. Please refer to DM tool' user manual.

2.3 VZ20M Board Connection

After the installation of the Host Software is completed, you can plug the device in an USB port. Three drivers should be installed:

- One composite driver,
- One serial over USB driver (SqnAcm) to control the device using AT commands
- One Ethernet over USB driver (SqnUsb) to transport the data traffic between the device and the PC

1. Plug the VZ20M on an USB port of your PC.
2. Wait for the automatic driver installation. It takes some time (a few dozens of seconds) before the evaluation kit is properly identified on the USB interface.
3. When the process is completed, the PC indicates that the device is ready to use.

You can launch a web browser and connect.

2.4 Firmware Upgrade

2.4.1 Upgrade Prerequisites

The firmware upgrade process requires:

- An operational VZ20M board connected to a PC with USB
- A web browser, launched and connected to the VZ20M at <http://192.128.15.1>.
- An upgrade package such as *.sfp.

2.4.2 Upgrade Execution

Execute the following steps of the upgrade procedure.

1. Click on **System** tab.
2. Click on **Backup / Flash Firmware** item.
3. In the **Flash new firmware image** frame, click the **Browse** button and navigate to select the sfp file that contains the upgrade.
4. Click the **Flash image...** button when you have selected the appropriate file.
5. Confirm the operation when the firmware checksum is verified, by clicking the **Proceed** button.
6. Do not disconnect or power the device off while the following screen is displayed.
7. The login screen is displayed when the automatic reboot operation has completed.

2.5 Software Uninstallation

Use Windows' uninstaller service.

3

General Procedures

3.1 Connect the VZ20M

For the first installation of the VZ20M on the PC, please follow the procedure described in Section 2. There is no other specific operation required for the later connections. Plug the VZ20M on a USB port of your PC and wait for the “Device ready” Windows message display. The VZ20M is then ready.

3.2 Launch the WebUI

Launch a web browser and connect to the following URL: `http://192.168.15.1`.

3.3 Disconnect the VZ20M

Use Windows standard `Eject device` procedure before physically disconnect the VZ20M.

3.4 Programming Instructions

See Applications Software Development Guide.

4 FCC Regulations

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE: FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device is intended only for OEM integrators under the following conditions:

1. The antenna must be installed such that 20 cm is maintained between the antenna and users, and
2. The transmitter module may not be co-located with any other transmitter or antenna,

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: “Contains FCC ID: **2AAGMVZ20M**”.

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user’s manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

Federal Communication Commission Interference Statement

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.

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 instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does 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 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.