



ThingSpace

Amazon kit

Getting Started Guide

Important—Please Read

Verizon Confidential & Proprietary.

© 2018 Verizon. All rights reserved.

Restricted and Controlled Distribution. Not to be used, copied, reproduced in whole or in part, nor its contents revealed in any manner to others without the express written permission of Verizon.

All information herein is subject to change without notice. The information provided was considered accurate at the time the document(s) were developed, and Verizon disclaims and makes no guaranty or warranty, express or implied, as to the accuracy or completeness of any information contained or referenced herein.

VERIZON DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

Verizon does not guarantee or warrant the availability of the network nor the compatibility of a network with any device, service or product. Verizon disclaims liability for any damages or losses of any nature whatsoever whether direct, indirect, special or consequential resulting from the use of or reliance on any information contained or referenced herein.

Technical data contained in this document may be subject to U.S. and international export, re-export, or transfer ("export") laws. Diversion contrary to U.S. and international law is strictly prohibited.

Verizon and Verizon logos are trademarks of Verizon. Other product and brand names may be trademarks or registered trademarks of their respective owners.

Contents

Overview.....	3
STMicroelectronics	3
Verizon Connectivity.....	3
Amazon IoT.....	4
Getting started.....	4
Component Documentation.....	5
Support	8
Hardware	8
Application and cloud	8
Connectivity software.....	8
Open source licenses	8

Overview

Internet of Things (IoT) sensors and solutions may be largely self-sufficient, but they don't develop themselves. Putting an IoT solution together right can be challenging. You need to combine the hardware with onboard software and infrastructure outside of the device itself. Plus, you need a network to connect it all. Verizon ThingSpace can help you develop your solution, Verizon has teamed up with cloud providers like Amazon Web Services (AWS) to simplify your path to all the benefits IoT can offer.

STMicroelectronics

The ThingSpace Cloud Partners program gives you access to a Verizon-certified STMicroelectronics developer kit. ST, a leader in chip manufacturing and IoT components, has put together hardware—including processor, modem, antenna and multiple sensors—with software to help you jump-start your device development.

Using the kit helps you ensure that your hardware and software work together, so you can focus your development time on making your devices perform the job you need them to. The kit can be activated on the Verizon CAT M1 network.

The developer kit includes embedded support for the Amazon Free Real Time Operating System (FreeRTOS) for microcontrollers, enabling superior machine-to-machine communications.

Verizon Connectivity

Select the plan that's right for your development stage and easily manage your devices from the ThingSpace portal. When you're ready to commercialize upgrade to our scalable enterprise-grade connectivity solution.

Amazon IoT

The ST developer kit uses Amazon FreeRTOS. The operating system makes small, low-power edge devices easy to program, deploy, secure, connect and manage. It is based on the FreeRTOS kernel, a popular open-source operating system for microcontrollers.

Amazon has extended the operating system with software libraries that make it easy to securely connect your small, low-power devices to AWS cloud services.

Getting started

1. Sign up with our developer connectivity plans [here](#) .
2. Get more information on the STMicroelectronics [here](#).
3. Download the Verizon-Amazon IoT Cellular SDK package [here](#).
4. Get more information on the Amazon IoT platform [here](#) .

Component Documentation

Here is a list of documents for your reference.

Item	Hardware	Partner	Description	Link
1	IoT Discovery Board (B-L475E-IOT01A)	ST	Quick view description	https://www.st.com/content/st_com/en/products/evaluation-tools/product-evaluation-tools/mcu-eval-tools/stm32-mcu-eval-tools/stm32-mcu-discovery-kits/b-l475e-iot01a.html
		ST	Product Specification	https://www.st.com/resource/en/data_brief/x-nucleo-stmoda1.pdf
		ST	Technical Note TN1235	https://www.st.com/resource/en/technical_note/dm00290229.pdf
		ST	User Manual	https://www.st.com/resource/en/user_manual/dm00347848.pdf
		ST	Gerber File	https://www.st.com/resource/en/board_manufacturing_specification/b-l475e-iot01ax_gerber.zip
		ST	Bill of Material	https://www.st.com/resource/en/bill_of_materials/b-l475e-iot01ax_bom.zip
		ST	Schematics	https://www.st.com/resource/en/schematic_pack/b-l475e-iot01ax_sch.zip
2	Adaptation Board (X-NUCLEO-STODA1)	ST	Product Specification	https://www.st.com/resource/en/user_manual/dm00496233.pdf
		ST	User Manual	https://www.st.com/resource/en/user_manual/dm00496233.pdf
		ST	Gerber File	https://www.st.com/resource/en/board_manufacturing_specification/x-nucleo-stmoda1_gerber.zip

		ST	Bill of Material	https://www.st.com/resource/en/bill_of_materials/x-nucleo-stmoda1_bom.pdf
		ST	Schematics	https://www.st.com/resource/en/schematic_pack/x-nucleo-stmoda1_schematic.pdf
3	LTE Modem (B-CELL- LTENB1)	ST	Bill of Material	https://www.st.com/resource/en/bill_of_materials/p-l496g-cell0x_bom.zip
		ST	Manufacturing MB1329B Assembly, Gerber, Mechanical	https://www.st.com/resource/en/board_manufacturing_specification/p-l496g-cell0x_manufacturing.zip
		ST	Manufacturing MB1329B Board design project files	https://www.st.com/resource/en/board_manufacturing_specification/p-l496g-cell0x_bdp.zip
		ST	Schematics	https://www.st.com/resource/en/schematic_pack/mb1261-b01_schematic.pdf
4	LTE Antenna (TG-08-0113)	Taoglas	Datasheet	http://cdn.taoglas.com/datasheets/TG.08.0113.pdf
			3D Model	https://www.taoglas.com/wp-content/uploads/2015/04/TG.08.0113.step

Item	Software	Partner	Description	Link
1	Verizon- Amazon IoT Cellular SDK package	Verizon	Software Integration Overview	https://core.thingspace.verizon.com/portal /ui/resources/guides
2	Amazon IoT platform	Amazon	Operating System Overview	https://aws.amazon.com/freertos/?nc2=type_a

Download the complete zip package https://github.com/verizonlabs/vz_aws_st.

Support

Hardware

For hardware support visit: <https://www.arrow.com/en/support/contact-support/contact-arrow> .

Application and cloud

For application and cloud support visit: <http://aws.amazon.com/support> .

Connectivity software

For connectivity software support visit: <https://thingspaceportal.verizon.com/ccapp/#/help> .

Open source licenses

For information about open source licenses visit: <https://thingspace.verizon.com/legal> .