AZURE SPHERE MT3620 STARTER KIT V2

The Azure Sphere MT3620 Starter Kit V2 is an enhanced version of Avnet's popular Azure Sphere Starter Kit. It supports rapid prototyping of highly secure, end-to-end IoT implementations based on Microsoft Azure Sphere. This small form-factor carrier board includes a production-ready MT3620 Sphere module with WiFi connectivity, along with multiple expansion interfaces facilitating easy integration of sensors, displays, motors, relays and more. Key features of this version are its ability to support a wired Ethernet network connection (requires MikroE ETH click adapter to be fitted) as well as more flexibility in how ISUs can be used. Downloadable documentation and tutorials guide developers through all steps, from board setup to application coding.

The Avnet-designed, production-ready, certified Azure Sphere MT3620 module is based on the MT3620 SoC, which includes built-in Microsoft security, WiFi connectivity plus the versatility and power of an Arm ® Cortex™-A7 processor and two real-time Arm Cortex-M4F microcontroller cores. A suite of on-chip peripherals, real-time clock, Flash and RAM are also available. In addition to the MT3620, the 33 x 22 mm module includes a dual-band WiFi chip antenna and system clock source. Up to 27 configurable GPIOs and three configurable serial ports (UART, I2C or SPI) are accessible on the module pinout.

The carrier board connects the Sphere module I/Os to two MikroE Click sockets, an I2C Grove connector, a connector supporting the addition of an optional 128 x 64 OLED graphical display, a 3D accelerometer, 3D gyro, temperature sensor and ambient light sensor. Debugging is accomplished through a USB-to-UART interface, which also provides 5V power to the board.

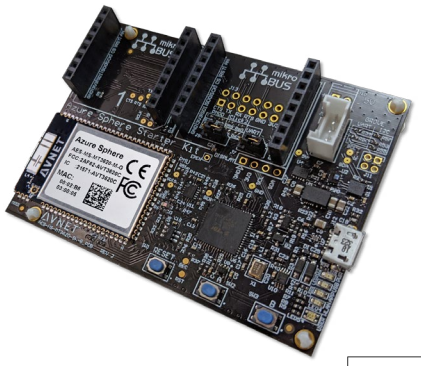
User applications for the embedded Sphere controller are developed in C using Microsoft's Visual Studio IDE and Azure Sphere SDK. Visual Studio provides a powerful yet easy-to-use development environment for compiling and debugging application code. The combination of Visual Studio, the versatile carrier card plus the production-ready Sphere module delivers a powerful starting point for IoT developers interested in learning, prototyping and deploying Azure Sphere-based solutions.

Kit includes

- Carrier board 2.0 with Azure Sphere MT3620 module
- USB 2.0 cable (type-A to type-B)
- Quick start card

Target apps

- IoT appliances and devices
- Remote access
- Smart city
- Smart agriculture
- Building automation
- Factory automation



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Features

Carrier Board

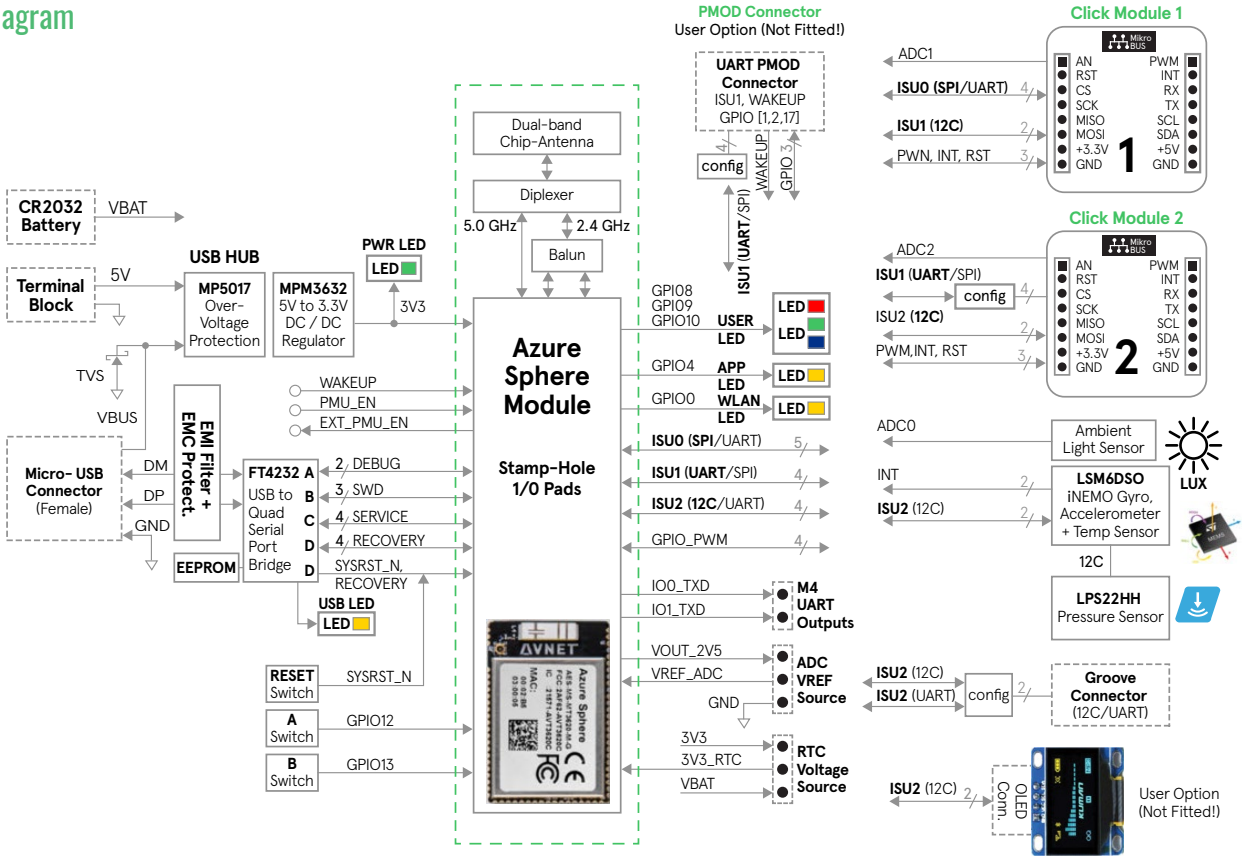
- Azure Sphere MT3620 Module (dual-band WiFi)
- Two MikroE click board expansion sockets
- Grove expansion connector (configured as I2C)
- On-board sensors
  - 3-axis accelerometer and gyro
  - Ambient light sensor
  - Temperature (die not ambient)
  - Pressure/barometric sensor
- Interface for optional OLED 128x64 display
- USB-based program/debug & recovery interfaces
- User push button switches and LEDs
- 5V to 3.3V power regulation
- DC supply inputs:
  - USB 5V from host computer
  - External 5V via terminal-block
  - VBAT supply from optional coin-cell battery

Azure Sphere MT3620 Module

- MT3620AN SoC multicore device
- 1x 500MHz Arm Cortex A7, 4MB SRAM
- 2x 200MHz Arm Cortex M4F, 64KB SRAM
- 3x ISU interfaces (configured as UART, SPI, I2C)
- ADC/GPIO: 3x 12-bit ADC inputs (or 3 GPIOs)
- PWM/GPIO: 9x PWM outputs (or up to 24 GPIOs)
- RTC: Requires coin cell battery for VBAT voltage
- Wi-Fi: Dual-band 2.4/5GHz 802.11 b/g/n radio
- Antenna: Dual-band 2.4/5GHz chip antenna

For more information on the Azure Sphere MT3620 Starter Kit, visit: avnet.me/azure-sphere-family
To purchase this kit: avnet.me/mt3620-kit

Block diagram



Featured manufacturers

Microsoft MIKROE Pulse a YAGEO company molex life.augmented MPS Power Solutions Experts samtec

Parts

Part number	Description	Price and availability
AES-MS-MT3620-SK-G-2	Azure Sphere MT3620 Starter Kit V2	avnet.me/mt3620-kit

Related parts

Part number	Description	Price and availability
AES-MS-MT3620-M-G-3	Azure Sphere MT3620 Module Version 3	avnet.me/mt3620-module-pdp
	MikroE Click Boards	mikroe.com/click

Countries available for purchase: Americas

Contact information

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