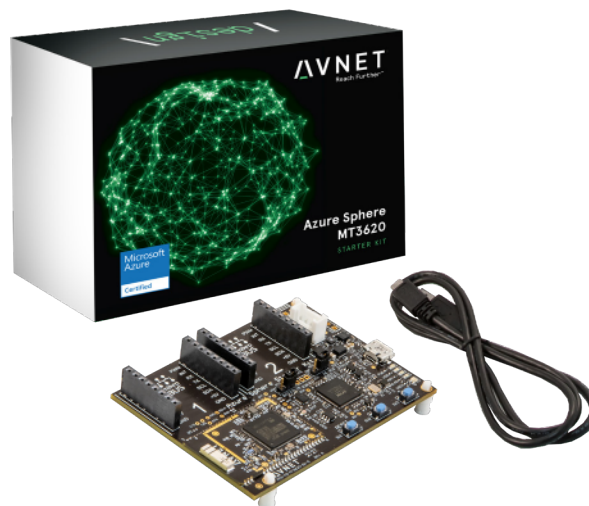# Azure Sphere
MT3620 Starter Kit

KIT DESCRIPTION

The Avnet Azure Sphere MT3620 Starter Kit supports rapid prototyping of highly secure, end-to-end IoT implementations using Microsoft's Azure Sphere. The small form-factor carrier board includes a production-ready MT3620 Sphere module with WiFi connectivity, along with multiple expansion interfaces for easy integration of off-the-shelf sensors, displays, motors, relays, and more. The downloadable getting started tutorial guides developers through the development steps from board setup to application coding.

The Avnet designed, production-ready Sphere MT3620 module is based on the MT3620 SoC, which includes built-in Microsoft security, WiFi connectivity and the combined versatility and power of an Arm® Cortex™-A7 processor with the low overhead and real-time guarantees of two Arm Cortex-M4F microcontrollers. 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. Up to 27 configurable GPIOs and three configurable serial ports (UART, I2C, or SPI) are provided as I/Os on the module.

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

User applications for the embedded Sphere controller are developed in C using Microsoft's Visual Studio IDE and the 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, and the production ready Sphere module delivers a powerful starting point for IoT developers interested in learning, prototyping, and deploying Azure Sphere based solutions.

To purchase this kit, visit: **http://avnet.me/mt3620-kit**

KIT INCLUDES

- Carrier board with Azure Sphere MT3620 module
- USB cable
- Quick start card

TARGET APPLICATIONS

- IoT edge devices
- Consumer appliances
- Smart retail
- Remote access
- Building automation
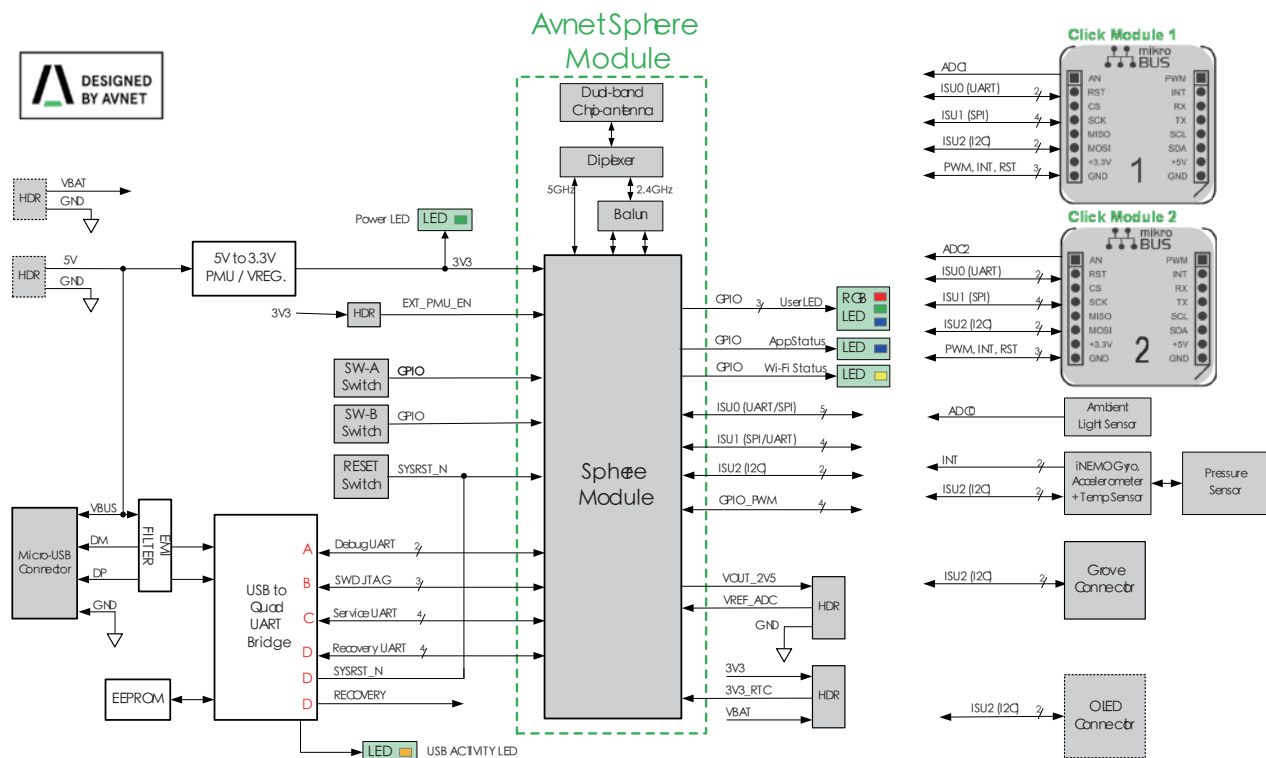- Factory automation

FEATURES

Carrier Board
- Two MikroE Click board expansion sockets
- Grove expansion connector (I2C)
- On-board sensors
    · 3-Axis accelerometer and gyro
    · Ambient light
    · Temperature
    · Pressure/Barometric
- Interface for optional OLED 128x64 display
- USB Interface
    · Supports debug, service & recovery UARTs, and JTAG
- User push switches and LEDs
- 5V to 3.3V Power regulation
- DC Supply Input:
    · USB 5V from host computer
    · Terminal foot prints for external 5VDC and VBAT supplies

Azure Sphere MT3620 Module
- MT3620AN SoC
- 3x ISU interfaces pre-configured for 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 VBAT supply)
- Dual-band 2.4/5GHz 802.11 a/b/g/n WiFi
- Dual-band 2.4/5GHz chip antenna

NOTE: Azure Sphere OS support for some MT3620 features has not yet been released by Microsoft.

BLOCK DIAGRAM

FEATURED SUPPLIERS

Microsoft   MikroElektronika   Pulse Electronics   molex   ST life.augmented   MPS   samtec

PARTS

Part Number	Description	Resale
AES-MS-MT3620-SK-G	Azure Sphere MT3620 Starter Kit	$75

RELATED PARTS

Part Number	Description	Resale
AES-MS-MT3620-M-G	Azure Sphere MT3620 Module with Chip Antenna	Contact Avnet
AES-MS-MT3620-UFL-M-G	Azure Sphere MT3620 Module with u.FL Connectors	Contact Avnet
1461530050	Molex 2.4GHz/5GHz Flexible Wi-Fi Antenna (50mm 50 ohm RF cable, U.FL connector)	Contact Avnet
MikroE Click boards	https://www.mikroe.com/click	Contact Avnet

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