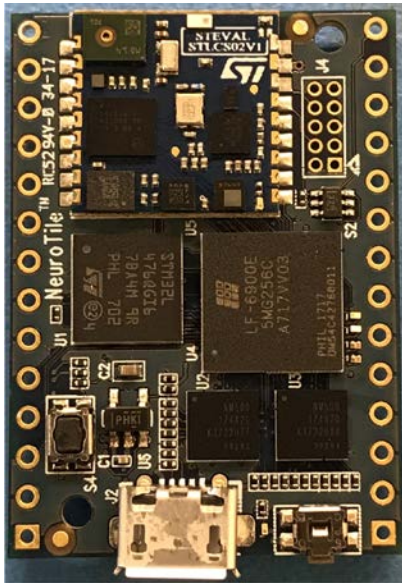


NEUROTILE

Intelligence for Wearable and IoT devices

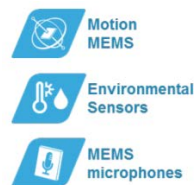


NeuroMem digital neural network (choice of 1 or 2 NM500 chip)
ST low-power microcontroller STM32L476 32-bit 80MHz with FPU and 1 Mbyte Flash
Lattice FPGA X03
Bluetooth Low Energy
6-axis combo sensor with accelerometer and gyroscope
6-axis combo sensor with accelerometer and magnetometer
Pressure sensor
Microphone
14 GPIO lines (SPI, I2C and digital lines)
MicroSD card for data collection (raw or filtered)
MicroUSB for serial communication and sketch upload
Battery-charging circuitry (PMIC)
Up to 800mAh Li-Ion battery
Regulated 3.3 volt power output

NeuroTile is a unique combination of sensors, microcontroller, FPGA and a NeuroMem® neuromorphic chip in a miniature module perfect for wearable and low-power IoT applications.

Thanks to NeuroMem's capabilities to learn and recognize, sensors' signal can be collected and matched with expected data on the module, so decision can be taken immediately. Bluetooth Low-Energy (BLE) transmission can occur only when an event of interest is detected. Storage of the data on the SD card can become selective too. The NeuroMem network is trainable on-the-go or off-line. The multiplicity of onboard sensors including accelerometer, gyroscope, pressure, and audio allows you to create plenty of imaginative projects for wearable, home and building automation and IoT smart things.

NeuroTile can be programmed using the Arduino IDE. Hence, breakthrough AI applications can be built using the NeuroMem network to learn and recognize motions, pressure, sounds and other connected sensors without any requirement for connectivity and cloud-based software. Support external Li-Ion battery to power portable and wearable for rapid prototyping.



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