WISE-1530

M2.COM Wi-Fi / BLE IoT Node

NEW

arm MBED · SRRC · CE · FCC · RoHS COMPLIANT 2002/95/EC

Features

- ARM Cortex-M4 Core Processor RAM 256 KB memory / 1MB Flash
- Integrated with 802.11 b/g/n and Bluetooth 4.1
- Rich interface for sensor and I/O control
- Support wide temperature -20 ~ 70 °C

Introduction

WISE-1530 is a wireless module integrated with ARM Cortex-M4 Processor and Wifi / BLE connectivity. This technology is the best solution for WIFI and BLE combo Applications. For example, we may use BLE to configure device and transfer mass data through wifi connectivity. You may choose the WIFI or BLE to submit your sensor data according to different scenario and purpose, such as the short range with low power consumption or mass data rate to complete the specific task.
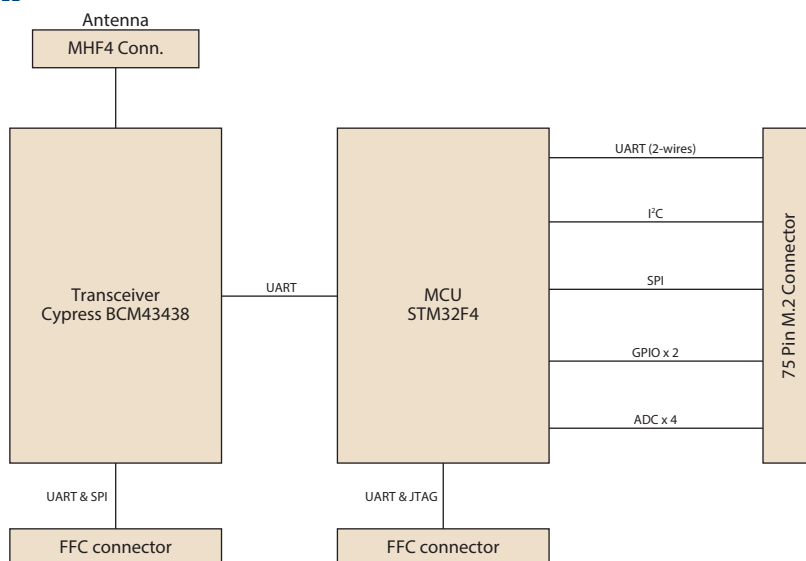
Your sensors or applications with low data rate requirement can be achieved years battery lifetime in short range communication BLE. Advantech WISE-1530 also provides multi-interfaces for sensor and I/O control.

With ThreadX v5.6 microprocessor operating system and add-on software stacks, it's convenient to build the application software or sensor algorithm over the OS. Data can be quickly and easily acquired and transformed into a different format to communicate with WISE-PaaS or other cloud services. Developer can build their application backbone faster and focus on their applications, value-added services.

Specifications

Processor System	CPU/MCU	STM32F4 ARM® 32-bit Cortex®-M4 CPU 100MHz
	RAM	256 KB
	Flash	1024 KB
Form Factor		M.2 TYPE 2230-D3-E
Wireless Network	Standard	IEEE 802.11b/g/n and Bluetooth 4.1
	Frequency Band	2.4000~2.4840 GHz for Wi-Fi 2.4000~2.4835 GHz for BLE
	Channels	13
	Topology	Star network
	Transmit Power	Typ. 14 dBm ± 2 at 802.11b CCK Mode 1M Typ. 12 dBm ± 2 at 802.11g OFDM Mode 54M Typ. 12 dBm ± 2at 802.11n OFDM Mode MCS0 Max 10 dBm ± 2 for BLE
	Receiver Sensitivity	Typ. -95 dBm at 1 Mbps Typ. -75 dBm at 54 Mbps Typ. -89 dBm at MCS0 Typ. -89 dBm for BLE
	RF Data Rate	Up to 65 Mbps
	Function	End node
	Antenna connector	MHF4 connector
Ethernet		-
Cellular		-
GPS		-
I/O Interface	UART	1 (2 wire support RTS/CTS)
	CANbus	-
	I²C	1
	I²S	1
	GPIO	2
	PWM	-
	SPI	1
	ADC	4
	USB	-

Block Diagram

Block diagram showing: Antenna → MHF4 Conn. → Transceiver Cypress BCM43438, connected via UART to MCU STM32F4. Transceiver connects to FFC connector via UART & SPI. MCU connects to FFC connector via UART & JTAG. MCU connects to 75 Pin M.2 Connector via UART (2-wires), I²C, SPI, GPIO x 2, ADC x 4.

Specifications Cont.

Programing Port		1, UART port 3
Debug Port		1 develop and debug with WISE-ED22 (CN1)
Watchdog Timer		-
Indicator and Button	LED	-
	Button	-
	Serial Port	-
	Switch	-
	SD Socket	-
	USB Port	-
Expansion	SIM Socket	-
	Mini PCIe Socket	-
Power	Power Supply Voltage	3.3V
	Power Consumption	TBC
Environment	Operational Temperature	-20 ~ 70 °C
	Operating Humidity	5% ~ 95% Relative Humidity, non-condensing
Mechanical	Dimensions (W x D)	22 x 30 mm
	Mounting	-
	Weight	3g
Operating System		Mbed OS 5.4/ThreadX v5.6, SDK 4.1.8
Certification		CE/FCC/IC/TELEC/SRRC//NCC

Ordering Information

Part No.	Description
WISE-1530ITB-SDA10	WISE-1530 M2.COM WIFI/BLE module

Optional Accessories

Part No.	Description
WISE-DB1500-0IA1E	M2.COM evaluation carrier board
1750008653-01	Antenna Cable RP-SMA to MHF4 L=200mm
1750007965-01	Antenna Cable R/P SMA (M) to MHF4, 300mm
1750007965-01	Antenna Cable R/P SMA (M) to MHF4, 300mm
1700015038	FPC Cable 10P-0.5mm 7.9cm
9696ED2200E	ASS'Y WISE-ED22 A101-1 M2.COM Daughter
1931000590	Screw M2.5x5L F/S D=5.3 H=0.8 (1+) ST Ni
1700023619-01	A cable USB-A 4P(M)/micro USB 5P(M) 1m
1700025876-01	M cable USB-A 4P(M)/Plug-in 2P-5.0 90CM