

WISE-1570

M2.COM NB-IoT Sensor Node

NEW



Features

- ARM Cortex-M4 Core Processor
- Compliant with 3GPP R14 NB-IoT standard
- Integrated with WISE-PaaS/RMM & MBED Cloud Service
- Rich interface for sensor and I/O control
- Support wide temperature -40 ~ 85 °C

arm MBED



Introduction

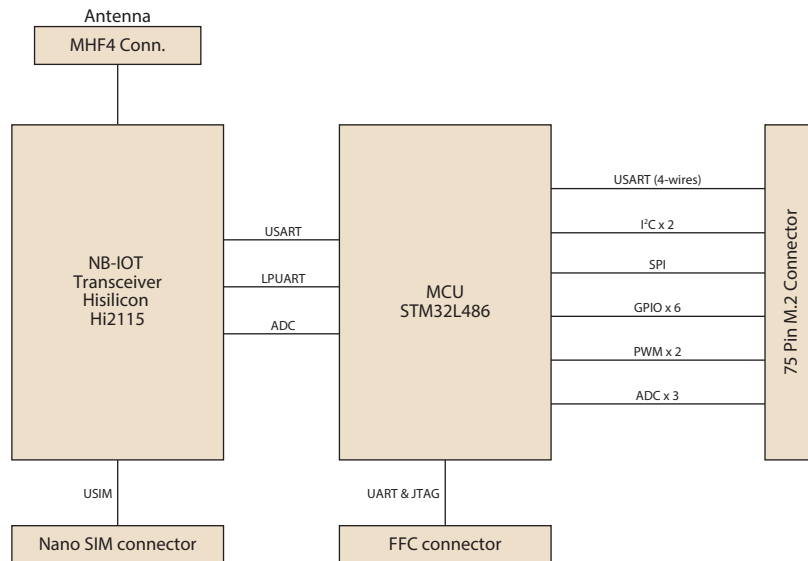
WISE-1570 is M2.COM standardized IoT Sensor Node integrated with ARM Cortex-M4 Processor and NB-IoT or LTE-M technologies. 3GPP (3rd Generation Partnership Project) has defined NB-IoT (CAT-NB1) and LTE-M (CAT-M1 or eMTC) in release 14th. The purpose of new standard is to fulfill the demand of IoT growth. NB-IoT and LTE-M focus on LPWA market with wide coverage, more connections, lower data rate and better power consumption. Telecoms will be easier to build NB-IoT or LTE-M network with existing LTE infrastructure. This new standard expedites the penetrations of internet-of-thing in China, Asia, Europe and Untied States.

Advantech WISE-1570 also provides multi-interfaces for sensor and I/O control. With Arm mbed embedded microprocessor operating system and add-on software stacks, it's convenient to support IoT communication protocols including LWM2M, CoAP and MQTT-SN to NB-IoT or LTE-M service network offered by telecom companies. Data can be quickly and easily acquired and transformed into a different format to communicate with WISE-PaaS, Mbed Cloud or other cloud services. Developer can build their application backbone faster and focus on their applications, value-added services.

Specifications

Processor System	CPU/MCU	STM ARM Cortex-M4 Processor
	RAM	128 KB
	Flash	1024 KB
Form Factor		M.2 TYPE 2230-D3-E
Wireless Network	Standard	3GPP R14 NB-IoT
	Frequency Band	B1: 2100MHz; B3: 1800MHz; B5: 850MHz; B8: 900MHz ; B20: 800MHz; B28: 700MHz
	Channels	TBC
	Topology	Star Network
	Transmit Power	Up to +23 dBm
	Receiver Sensitivity	TBD
	RF Data Rate	100 kbps
	Function	End node
Antenna connector	MHF4 connector	
Ethernet		-
Cellular		-
GPS		-
I/O Interface	UART	UART 1 (4-wire, support RTC/CTS)
	CANbus	-
	I ² C	2
	I ² S	-
	GPIO	6
	PWM	2
	SPI	1
	ADC	3
USB	-	
Programing Port		-
Debug Port		1 develop and debug with WISE-ED22
Watchdog Timer		-

Block Diagram



Specifications Cont.

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	-40 ~ 85 °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 5.5	
Certification	CE/SRRC/TELEC/NCC (support later)	

Ordering Information

Part No.	Description
WISE-1570	WISE-1570 M2.COM NB-IoT Sensor Node

Optional Accessories

Part No.	Description
WISE-DB1500-01A1E	M2.COM evaluation carrier board
1750008303-01	Antenna LTE Full Band 700 ~ 960 MHz; 1710 ~ 2700 MHz
1750008761-01	Antenna Band 699~960 MHz
1750008569-01	Antenna Cable SMA to MHF4 L=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