

# WISE-DK1510 Starter Kit

Development Kit for M2.COM LoRa IoT  
Node WISE-1510

NEW



## Features

- Development kit for WISE-1510
- ARM Cortex-M4 processor
- RAM 64 KB memory / 256 KB Flash
- Compatible to support public LoRaWAN or LoRa private networks
- Support 1 UART, 1 I<sup>2</sup>C , 1 SPI, 8 GPIO, 1 PWM, 4 ADC, 1 USB
- 22 x 30 mm M.2 key E
- Build-in temperature and humidity sensor
- Cable & antenna included
- WISE-PaaS/RMM cloud solution ready
- SDK for development

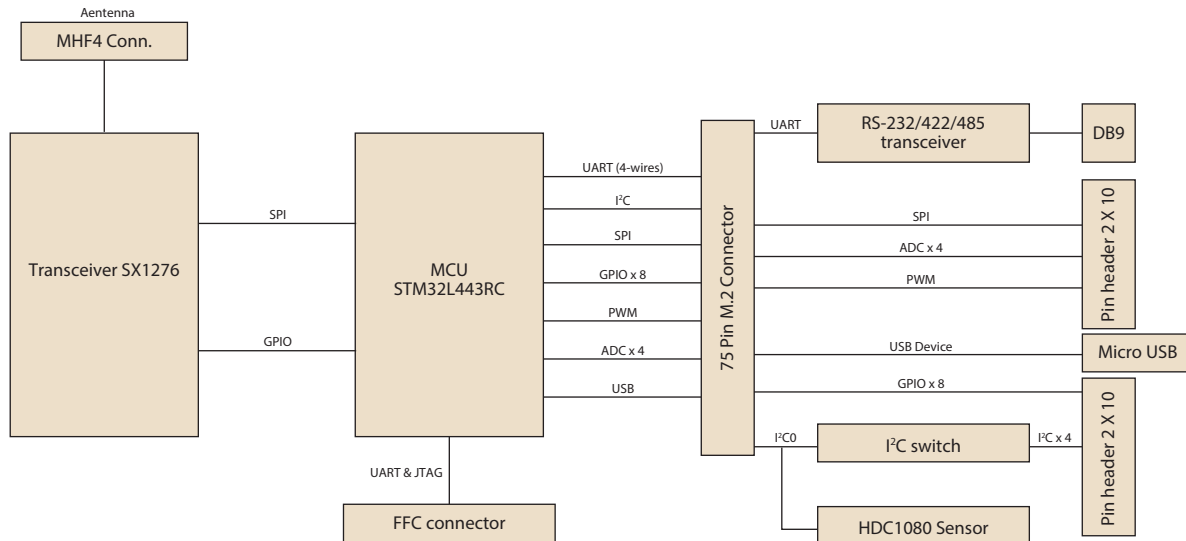
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## Specifications

|                      |                      |                                                                                                                                                                                                               |
|----------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor System     | CPU/MCU              | STM ARM Cortex-M4 Processor                                                                                                                                                                                   |
|                      | RAM                  | 64KB                                                                                                                                                                                                          |
|                      | Flash                | 256KB                                                                                                                                                                                                         |
| Form Factor          |                      | WISE-1510 Starter Kit                                                                                                                                                                                         |
| Wireless Network     | Standard             | LoRaWAN / LoRa Private Network (WISE-Link)                                                                                                                                                                    |
|                      | Frequency Band       | 863-870MHz for Europe (LoRaWAN / LoRa Private Network w/ WISE-3610)<br>902-928MHz for North America (LoRaWAN / LoRa Private Network w/ WISE-3610)<br>920-928MHz for Japan (LoRa Private Network w/ WISE-3610) |
|                      | Channels             | Spreading Factor: 7 ~ 12                                                                                                                                                                                      |
|                      | Topology             | Star network                                                                                                                                                                                                  |
|                      | Transmit Power       | Up to +18dBm                                                                                                                                                                                                  |
|                      | Receiver Sensitivity | Up to -136dBm at SF = 12 / 125KHz                                                                                                                                                                             |
|                      | RF Data Rate         | 50 kbps at FSK mode for Europe<br>21.9 kbps at SF7 mode for North America<br>5.47 kbps at SF7 mode for Japan                                                                                                  |
|                      | Function             | End node                                                                                                                                                                                                      |
|                      | Antenna connector    | MHF4 connector                                                                                                                                                                                                |
| Ethernet             |                      | -                                                                                                                                                                                                             |
| Cellular             |                      | -                                                                                                                                                                                                             |
| GPS                  |                      | -                                                                                                                                                                                                             |
| Programing Port      |                      | -                                                                                                                                                                                                             |
| Debug Port           |                      | 1 develop and debug with WISE-ED20                                                                                                                                                                            |
| Watchdog Timer       |                      | -                                                                                                                                                                                                             |
| Indicator and Button | LED                  | 2, Power LED, CB_PWR_ON LED                                                                                                                                                                                   |
|                      | Button               | 2, Reset, Wake Up                                                                                                                                                                                             |
|                      | Serial Port          | -                                                                                                                                                                                                             |
|                      | Switch               | 2, Re-configuration, RF disable                                                                                                                                                                               |
| I/O                  | UART                 | 1 RS-232/422/485 (by JUMPER setting)                                                                                                                                                                          |
|                      | SPI                  | 1                                                                                                                                                                                                             |
|                      | ADC                  | 4                                                                                                                                                                                                             |
|                      | PWM                  | 1                                                                                                                                                                                                             |
|                      | GPIO                 | 8                                                                                                                                                                                                             |
|                      | USB                  | 1 USB micro Type B (device only)                                                                                                                                                                              |
|                      | I <sup>2</sup> C     | 1 (with 1 to 4 port switch)                                                                                                                                                                                   |
|                      | Sensor               | 1 Humidity/Temperature sensor                                                                                                                                                                                 |
| Expansion            | SIM Socket           | -                                                                                                                                                                                                             |
|                      | Mini PCIe Socket     | -                                                                                                                                                                                                             |
| Power                | Power Supply Voltage | 5V                                                                                                                                                                                                            |
|                      | Power Consumption    | -                                                                                                                                                                                                             |

## Block Diagram



## Specifications Cont.

|                  |                         |                                            |
|------------------|-------------------------|--------------------------------------------|
| Environment      | Operational Temperature | -20 ~ 70° C                                |
|                  | Operating Humidity      | 5% ~ 95% Relative Humidity, non-condensing |
| Mechanical       | Dimensions (W x D)      | 100 x 72 mm                                |
| Operating System |                         | mbd OS                                     |
| Certification    |                         | CE/IC/TELEC/FCC Class B                    |

## Ordering Information

| Part No.          | Description                         |
|-------------------|-------------------------------------|
| WISE-DK1510-MBNAE | WISE-1510 LoRaWAN Starter Kit-NA915 |
| WISE-DK1510-MBEUE | WISE-1510 LoRaWAN Starter Kit-EU868 |
| WISE-DK1510-MBJPE | WISE-1510 LoRaWAN Starter Kit-JP923 |

## Packing List

| Part Number       | Part Description                                 |
|-------------------|--------------------------------------------------|
| 9696150000E       | ASS'Y WISE-DB1500 A101-1 M2.COM CARRIER          |
| 9696151011E       | ASS'Y WISE-1510 B101-1 M2.COM LoRa MODULE        |
| 9696WED200E       | ASS'Y WISE-ED20 A101-1 M2.COM Daughter Board     |
| XRISC-ADP-10HW-AG | ADP A/D 100-240V 10W 5V WM                       |
| 1653300100        | MINI JUMPER 2P 2.54mm 180D(F) 1132-040-02        |
| 1700015038        | FPC Cable 10P-0.5mm 7.9cm for DCU2.0             |
| 1700023619-01     | A cable USB-A 4P(M)/micro USB 5P(M) 1m ADAM-T212 |
| 1700025875-01     | A cable 1P-2.54*20/1P-2.54*20 20cm               |
| 1700025876-01     | M cable USB-A 4P(M)/Plug-in 2P-5.0 90CM          |
| 1750008569-01     | Antenna Cable SMA to MHF4 L=300mm                |
| 1750008598-01     | Sub G antenna Dipole L=195mm, 1dBi 902~928 MHz   |
| 1750008599-01     | Sub G antenna Dipole L=195mm, 1dBi 863~870 MHz   |
| 1931000590        | Screw M2.5x5L F/S D=5.3 H=0.8 (1+) ST Ni         |
| 193A231540        | POST F=M3*6L M=M3*6L D=5 d=2.88 B=5 H=15 Cu      |
| 968EMLSAP1        | SUSIAccess Pro V2.0 Package download card/flyer/ |