# ONDAS MERCURY PLATFORM

ONDAS NETWORKS

| RADIO SPECIFICATIONS | |
|---|---|
| Frequency Range | 100 MHz to 1 GHz |
| Channel Sizes | 1 kHz to 50 kHz |
| Throughput | Up to 150 kbps |
| TX Power | 25 dBm |
| Rx Sensitivity | @ 12.5 kHz: -125 dBm<br>@ 25 kHz: -122 dBm<br>@ 50 kHz: -119 dBm |
| Waveform | OFDMA |
| Modulation | QPSK, 16-QAM, 64-QAM |
| FEC in downlink direction | Convolutional Coding (CC) with rates 1/2, 2/3, & 3/4 |
| FEC in uplink direction | Convolutional Turbo Coding (CTC) with rates 1/2, 2/3, 3/4, 5/6 |
| Duplex Method | TDD |
| Topology | Point to MultiPoint |
| Air interface protocol | Band AMC 1X6 as per IEEE 802.16s for Channel bandwidth > 12.5 kHz |
| Modulation Coding Scheme selection | Dynamically Adjusted |
| QOS | Best effort, Real time polling service |
| Encryption | Standard: AES128 |
| **CONNECTORS / INTERFACES** | |
| DC Input | Multipin Hirose – IP67/68 |
| Grounding Post | 10x32 Threaded |
| Serial Data | Multipin Hirose – IP67/68 |
| Ethernet | Harting RJ45 – IP65/67 |
| RF 50Ω | Sealed SMA Female |
| GPS Antenna | Sealed SMA Female |
| **PHYSICAL CHARACTERISTICS** | |
| RF Antenna | 50Ω |
| GPS Antenna | 50Ω Active 5 VDC |
| Power Input | 9 to 60 VDC |
| Data interface | 100 Base T, RS232 |
| Power Consumption | < 10 Watts |
| Indicators | Power on & Error, Link Status |
| Dimensions | 5.9” x 4.5” x 2.2” (150mm x 115mm x 55mm) |
| Weight | 2lbs 8 oz (1.14 kg) |
| Enclosure | IP 65 rated environmental sealing |
| Operating Temperature | -40 degree C to +75 degree C |


The **Mercury** Software Definable Radio **(SDR)** is an ultra-compact, low-cost, endpoint radio for mission critical data applications including industrial field area devices. The Mercury endpoint radio, with its superior receiver sensitivity and support for narrower transmit channels, ensures maximum range from a FullMAX Base Station and support for challenging RF environments. Furthermore, Mercury’s low power consumption and outdoor IP65 rating greatly increase its ability to deployed in harsh environments with battery and solar backup.

**Very small Form Factor (150mm x 115mm x 55mm), light weight, IP65 enclosure with up to 25dBm (0.25 Watts) TX Power**

The Mercury radio operates in a wide range of licensed frequencies (100 MHz to 1 GHz) with configurable channel bandwidths between 1 kHz and 50 kHz. Mercury employs a single IEEE802.16s Band AMC1X6 subchannel to communicate with FullMAX Base Stations in standard narrow channel sizes.

When connected to a FullMAX Base Station, the Mercury radio serves as an Ethernet bridge with QoS support from FullMAX Base Stations. The Mercury radio enables the deployment of low data rate, multi-protocol intelligent devices including support for SCADA RTUs, IEDs, Fault Circuit Indicators, Capacitor Bank controls and backhaul of low range sensor networks based on WiFi, BLE, LoRa, Sigfox, etc. Mercury Endpoint radios can be deployed at massive scale in a FullMAX network with 1000’s of radios operating on a single Base Station.

**Complies with new IEEE 802.16s**

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*Specifications subject to change, please confirm before deployment*