

# Product Description

The product is a hand held data measurement probe radio communications board. When used in conjunction with a data measurement probe it wirelessly communicates and downloads data to a handheld device for data viewing and storage. In particular, as part of an AP2 the unit measures air velocity and temperature and in the case of a RP2 the unit measures humidity and temperature. The targeted market is commercial/industrial for the purpose of collecting data such as humidity, temperature, air speed, and pressure.

When combined with the Universal Handheld test instrument (UHH) for data download and viewing they comprise a single data measurement instrument. The wireless communication protocol is Zigbee operating at 2.4GHz on the IEEE 802.15.4 physical radio specification. The transmission technology is Direct Sequence Spread Spectrum (DSSS) with 250 kbps Offset-Quadrature Phase Shift Keying (OQPSK), which is used to build a mesh network incorporating the device and its associated wireless sensor probes. The antenna is a soldered electronic component surface mounted to the printed circuit board internal to the device. It cannot be removed without de-soldering tools. No other antennas are required for the device to operate. Device is powered via an internal rechargeable battery.

## **Modular approval information:**

The WP0082011 radio probe board is seeking FCC modular approval. The circuit board is a sub-assembly that is added to a data measurement probe to give it wireless functionality. The data measurement probe consists of a sensor assembly, a sensor main board and a cable used to plug into the data collection device. When the WP0082011 is added to the data measurement probe it replaces the cable and becomes the interface to the data collection device. The sensor main board plugs directly into the WP0082011 and passes the data measured to the radio probe board which then transmits the data to the data collection device. The radio probe board can only be used with Dwyer developed data measurement probes such as the AP2, thermo anemometer air velocity and temperature probe or the RP2, thermo hygrometer humidity and temperature probe. Therefore, the WP0082011 radio probe board is exclusive to the Dwyer product line and consequentially tightly controlled by Dwyer Instruments.

The interface between the sensor main board and the radio probe board is a simple serial and power connection that is consistent for all sensor assemblies that accept the radio probe board. The unique form factor of the radio probe board is only compatible with Dwyer designed and manufactured data measurement probes and therefore cannot be utilized in products not manufactured by Dwyer Instruments. Only the Dwyer Instruments data collection device (UHH) can communicate with the firmware on board the radio probe board to gather the data captured by the data measurement probe. Thusly, the radio probe board is only functional in a Dwyer Instruments designed and manufactured system or device.

The module will only be installed in Dwyer AQTIP pro series products.