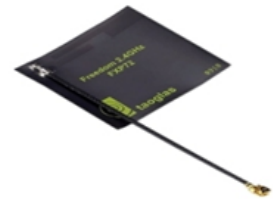


## Smart Meter Embedded Antennas

### Taoglas' new FXP "Freedom Series", Smart Meter Antenna Range Offers Utility Companies Flexible Circuit Antennas with Highest Performance and Reliability

Taoglas, the leading M2M antenna provider, today launched the first smart meter embedded antennas with over 60% efficiency designed specifically for the utility market. Called the FXP "Freedom" series, this range of six off-the-shelf flexible circuit antennas, works on three Industrial, Scientific and Medical (ISM) bands; 868 MHz, 915 MHz and 2.4 GHz. This range of antennas will enable metering companies to read smart meters in remote locations where wireless antennas previously did not work, such as basements, car parks and underground cavities. The FXP freedom series antennas are mechanically robust, able to withstand extreme temperature and humidity and have proven long lifetimes. They will also enable consumers and organizations to both conserve and cut the costs of energy.



The FXP antenna series is a super-thin 0.1 mm flexible circuit antenna. Similar to a piece of adhesive, it can be stuck directly to the housing or embedded into any metering device. Each design can be characterized and optimized for a meter and can even be integrated into existing meters that are being retrofitted for wireless functionality. The presence of metal in many meters hinders larger FR4 type antennas, whereas the flexible antenna enables a greater clearance to be achieved. Unlike current market offerings that can take months to produce, Taoglas offers a customized antenna at any frequency that can be produced in three to four weeks or, an off-the-shelf solution for immediate use at the price that is lower than traditional antenna solutions. With existing mobile phone antenna efficiency at about 30%, the FXP smart meter antenna at over 60% efficiency transforms current meters into intelligent wireless devices.

"While the utility industry currently measures antenna performance using "gain", at Taoglas, we think this is an outdated way of rating antenna performance. Antenna gain only measures performance in one direction in specific environments. Due to the wide variety of meter designs, housings and installation environments such as a wall, rail, roof, or pit, it is impossible to predict what direction an antenna is facing in relation to the base station. Therefore, we take and apply mobile phone technology and specify "efficiency" for our antennas which gives metering companies an antenna performance over 360 degrees – a much better performance indicator," said Dermot O'Shea, Director, Taoglas. We are delighted to launch the first range of smart meter embedded antennas with high efficiencies to the utility market. Increasing efficiency increases range and reduces power consumption by eliminating dropped calls and enables receiving or transmitting information on the first attempt." Flexible antennas are a proven technology for cellular and have been integrated into mobile phones, tracking devices and medical devices. Antennas in the FXP Freedom series include the:

- FXP70 (27x25x0.1mm) - Suitable for general devices where an antenna can be stuck directly onto the device housing where the cable routing does not affect the performance.
- FXP72 (27x25x0.1mm) - A ground-coupled antenna for devices that lack space. The FXP72 can be placed directly above or under the battery or main PCB of the device design.
- FXP73 (47x7x0.1mm) - A narrow rectangular antenna suitable for all devices. Ideally, it is mounted in the side of the housing at right angles to the main device PCB, where other antennas normally cannot fit.