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Technical News

18 years old PulsesPlus™ batteries show very high capacity proving an unmatched, real life storage performance of Tadiran's lithium PulsesPlus™ battery technology

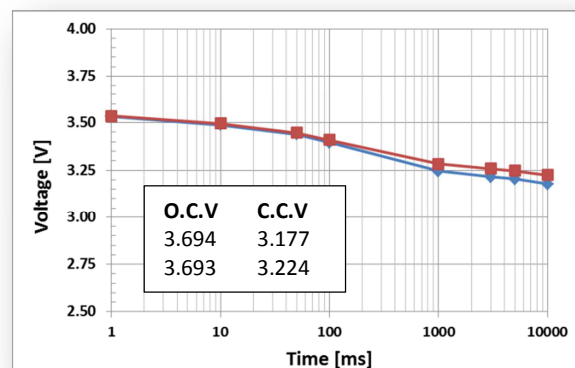
Back in 1998, the PulsesPlus™ battery was developed in Tadiran Batteries. This battery combines a primary bobbin type Li/SOCl₂ cell with an hybrid layer capacitor called HLC. The HLC is hermetically sealed battery like a capacitor, its electrodes consists of lithium intercalated compounds and has organic type solvent mixture.

The PulsesPlus™ battery, a unique combination of high energy density and high rate pulse capability, is capable to operate at wide operating temperature range from -40 °C to +85 °C, it has high operating voltage of 3.6 to 3.9 volts, very long shelf life with very low self-discharge rate (micro Amper level), free from any passivation and voltage delay problem and extremely safe as bobbin type Li/SOCl₂ cell.

Due to the above superior mentioned characteristics, it was offered as a power source, for many long lasting applications like energy meters, gas meters and water meters with communication capabilities (Smart Meters).

Back in 1998, Tadiran Batteries R&D department connected an **AA 3.6V** cell to an HLC-1550 and kept it on the shelf until recently (2016, **about 18 years**) after which it was tested for Open Circuit Voltage (O.C.V), at a **1 A, 10 sec pulse** (C.C.V Voltage). The chart shows the unmatched excellent results of 2 such batteries.

Both cells showed an excellent OCV value of more than 3.69 V. This level of OCV is very close to the OCV value of Li Thionyl Chloride cell after 18 years stored at RT condition and therefore, is a good indication that the self-discharge of the HLC is less than 0.2 μA (or < 1%/yr)!



Leading the standard for very long life applications, Tadiran's PulsesPlus™ batteries show very high capacity left after many years of storage.