1. **Scope**

This data sheet describes the mechanical design and performance of Tadiran high power lithium organic cell model TLM-1520HP.

2. **Characteristics**

   2.1. **Physical**

   2.1.1. Length: 20 -1 mm.
   2.1.2. Diameter: 14.8 ±0.3 mm.
   2.1.3. Weight: 9 gr. max.

   2.2. **Electrical**

   2.2.1. Open Circuit Voltage
   (for batteries stored at RT for 1 year or less) 3.95 to 4.07 V

   2.2.2. Closed Circuit Voltage (at 0.1 sec) at 0.25 A load 3.78 minimum

   2.2.3. Discharge
   - Discharge capacity at 12 mA @ RT to 2.8 V 135 mAh
   - Discharge capacity at 125 mA @ RT to 2.8 V 125 mAh
   - Maximum discharge current
     - Continuous to 2.8 V: 1.25 A
     - 1 second pulse to 3 V: 3.5 A

   2.3. **Operating Temperature Range:** -40 °C to 85 °C

   2.4. **Accumulated Capacity Loss***:

<table>
<thead>
<tr>
<th>Storage Temperature</th>
<th>22 °C</th>
<th>55 °C</th>
<th>72 °C</th>
<th>85 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Time [Y]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3 %</td>
<td>6 %</td>
<td>10 %</td>
<td>TBD</td>
</tr>
<tr>
<td>5</td>
<td>7 %</td>
<td>22 %</td>
<td>40 %</td>
<td>N/A</td>
</tr>
<tr>
<td>10</td>
<td>11 %</td>
<td>32 %</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>15</td>
<td>15 %</td>
<td>42 %</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>20</td>
<td>18 %</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

   * When tested at RT under 12 mA to 2.8 V

   2.5. **Cell impedance:** Less than 250 mOhm @ 1kHz at room temperature.
2.6. Performance Data:

**Discharge capability at RT**

![Discharge capability graph]

**Pulse capability at RT**

![Pulse capability graph]
Discharge capability @ 0.25A at several temperatures

* Performance at 85°C is close to that at 72°C

Pulse capability @ 0.25A at several temperatures

* Performance at 85°C is close to that at 72°C
2.7. End of life indication:
OCV measurements can provide a good estimation for the remaining capacity of the cell as shown below.

**Capacity vs. OCV**

2.8. Safety tests:

The cell has successfully passed the following safety tests:

- Short circuit at RT and at 55°C
- Oven at 150°C
- Impact
- Nail penetration
- Over charge and over discharge