

C-S2: Standard battery for the Blackberry Curve 8520

Type: Li-ion

Volts: 3.7 V

Weight: 23 g

Capacity: 1150 mAh

Dimensions: 55 x 34 x 5.5 mm

Question calculate:

- 1. the battery capacity in Wh**
- 2. the volumetric energy density in Wh/cm³**
- 3. the gravimetric energy density in Wh/kg.**

1. The battery capacity in Wh we can find from the battery capacity in mAh and its voltage:

$$P = UI = 3.7V * 1150 * 10^{-3}A = 4.255Wh$$

2. The volumetric energy density we will find using the battery capacity in Wh and its volume:

$$W = \frac{P}{V} = \frac{P}{a * b * c} = \frac{4.255Wh}{5.5cm * 3.4cm * 5.5cm} = 0.414Wh/cm^3$$

3. The gravimetric energy density we will find using the battery capacity in Wh and its volume:

$$W = \frac{P}{M} = \frac{4.255Wh}{0.023kg} = 185Wh/kg$$