

Designing High Efficient Solar Powered OLED Lighting Systems. - DTU Orbit (09/11/2017)

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OLEDs used in solar powered lighting applications is a market of the future. This paper reports the development of electronic Three-Port-Converters for PV OLED product integration in the low-power area respectively for 1-10 Wp and 10-50 Wp with a peak efficiency of 97% at 1.8 W of PV power for the 10 Wp version. Furthermore, we present measurements of state-of-the-art commercial available OLED with regards to the luminous flux, luminous efficacy, luminance homogeneity, temperature dependency and IV characteristic of the OLED panels. In addition, solar powered OLED product concepts are proposed.

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