

Title (en)
Security document comprising electronic security means

Title (de)
Sicherheitsdokument mit elektronischem Sicherheitsmittel

Title (fr)
Document de sécurité avec moyen de sécurité électronique

Publication
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Application
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Abstract (en)
According to the present invention, a security document, particularly a banknote comprises a substrate (1) and on-board power supply (7) for driving a new class of electronic security means utilising the on-board power supply. The advantage of having an on-board power supply is that all electronic means using electric energy can be considered as security devices, i. e. all electronic devices having appropriate functions allowing an identification and/or authentication of the banknote without the use of an external apparatus. It is a major aspect of the invention that the on-board power supply means is a photovoltaic cell means the electrical power of which is self-generating and self-sustaining. <IMAGE>

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Citation (applicant)
• US 4462866 A 19840731 - TOOTH ALAN J [GB], et al
• US 4652015 A 19870324 - CRANE TIMOTHY T [US]
• US 4943093 A 19900724 - MELLING RAYMOND J [GB], et al
• US 5161829 A 19921110 - DETRICK RICHARD W [US], et al
• DE 19630648 A1 19980205 - DIEHL GMBH & CO [DE]
• DE 19601358 A1 19960725 - FRAUNHOFER GES FORSCHUNG [DE]

Citation (search report)
• [A] EP 1134694 A1 20010919 - INFINEON TECHNOLOGIES AG [DE]
• [A] WO 0007151 A1 20000210 - SIEMENS AG [DE], et al
• [A] EP 1148440 A1 20011024 - HITACHI LTD [JP]

Cited by
EP1813439A1; EP1736323A1; AU2005284288B2; EP1813440A1; US7875338B2; US8387886B2; US10391807B2; EP1813438A1;
US8702005B2; WO2006029857A3; WO2006056089A3; US8212473B2; US9698802B2; US8253536B2; US9013272B2; EP2209653B2

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