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(54) Title: ARTICLE AUTHENTICATION

(57) Abstract: The present invention relates to an advanced product security system comprising at least one up-converting material as a security marking and at least one authenticating equipment, in particular a reader. The authenticating equipment comprises at least one first source of electromagnetic radiation of at least one first preselected wavelength and at least one second source of at least one second preselected wavelength which are different from each other. The radiation of the first and of the second wavelength are selected such as to cause the up-converting material upon combined radiation with said first and second wavelength to release an emission spectrum. The electromagnetic emission spectrum of said up-converting material comprises radiation of at least one wavelength which is specific for the return of at least one electron from an energy level to which the electron is raised by the combined radiation of at least said first and said second wavelength.