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(54) Title: LIGHT GUIDE AND ELECTRONIC DEVICE USING LIGHT GUIDE

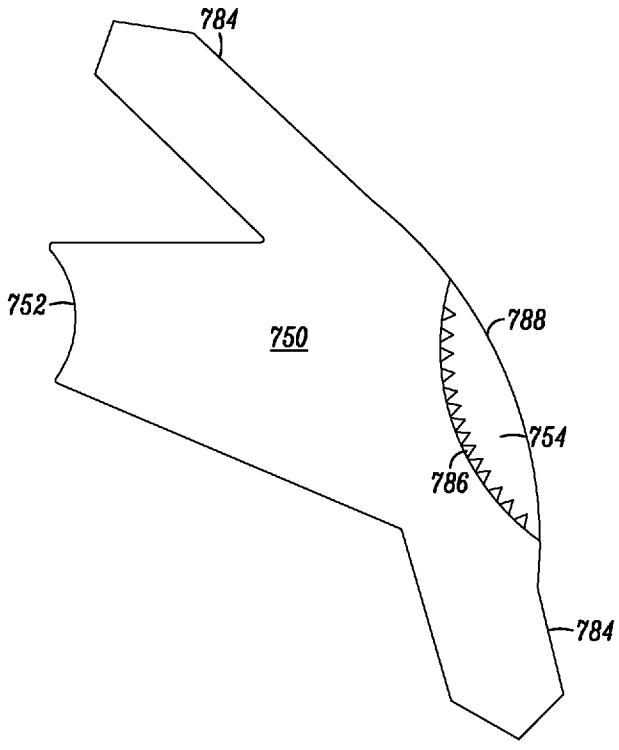


FIG. 7

(57) Abstract: Disclosed are a light guide (750) and an electronic device including a light guide for coupling ambient light to a light sensor. The light guide (750) that is a structure of light-transmitting material having an elongate shape including a first end (752) for receiving ambient light and a second end (754) for collecting ambient light to transmit to a light sensor. The first end (752) of the light guide has a concave shape and the second end (754) of the light guide also has a concave shape. An electronic device may support the light guide and a light sensor. The concave shape of the second end of the light sensor may disperse light toward the light sensor, rather than tightly focusing the light toward the light sensor. Accordingly, the light sensor may have a sensing area that forms a detection plane so that the detection plane is positioned adjacent to the second end.

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FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

H04B 1/40(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 8 H04B 1/40

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korea Utility models and applications for Utility Models since 1975

Japanese Utility Models and application for Utility Models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS(KIPO internal) "light guide, sensor, phone, concave"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007-0019433 A1 (Robert J. Lowles) 25 January 2007 See abstract; Figs 1, 2; Claims 1-13	1-14
A	US 6,592,234 B2 (Kenneth A. Epstein et al.) 15 July 2003 See abstract; Figs 1-12; Claims 1-25	1-14
A	US 2003-0034445 A1 (Gary T. Boyd et al.) 20 February 2003 See abstract; Figs 1-10; Claims 1, 25, 26	1-14
A	US 2007-0047262 A1 (Craig R. Schardt et al.) 01 March 2007 See abstract; Figs 1-11; Claims 1, 18, 21	1-14
A	KR 10-2006-0008624 A (LG ELECTRONICS INC.) 27 January 2006 See abstract; Figs 1-3; Claims 1-2	1-14

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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