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- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,

CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

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(54) **Title:** DUAL-BAND SERIES-ALIGNED COMPLEMENTARY DOUBLE-V ANTENNA, METHOD OF MANUFACTURE AND KITS THEREFOR

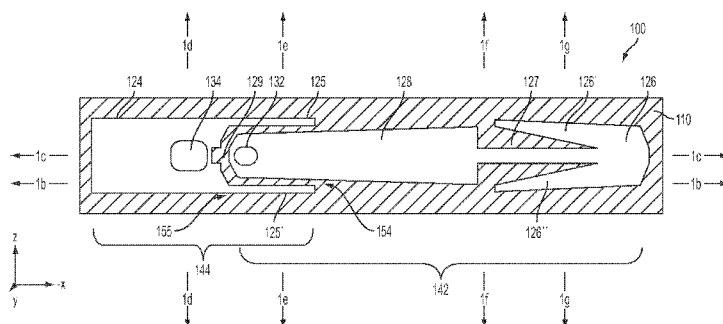


FIG. 1A

(57) **Abstract:** A planar monopole antenna for dual-band Wi-Fi application is disclosed. The antenna has a ground copper and a radiation copper. The radiation copper is adhered to a substrate and has an arrowhead-shaped pattern connected to a long-wide pattern. The arrowhead and long-wide patterns are aligned along the longitudinal direction of the antenna. The ground copper is adhered to the substrate and has a rectangularly-shaped pattern with an opening at one end thereof for the reception of the base of the long-wide pattern of the radiation copper in the longitudinal direction. Reception of the radiation copper into the opening of the ground copper forms an U-shaped separation that is approximately 0.6 mm wide. The antenna has a gross span of approximately 45 mm and a width of approximately 7 mm.

A. CLASSIFICATION OF SUBJECT MATTER***H01Q 5/00(2006.01)i, H01Q 1/24(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)

H01Q 5/00; H01Q 1/22; H01Q 13/10; H01Q 9/04; H01Q 1/24

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: planar, substrate, ground, insulation, opening, layer, dual band

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003-0112188 A1 (MIKA BORDI et al.) 19 June 2003 See paragraphs [0021]-[0023] and figure 4b	1-28
A	US 2008-0266189 A1 (JUNG TAI WU) 30 October 2008 See abstract, paragraphs [0022]-[0024] and figure 4A	1-28
A	US 2004-0169611 A1 (KORVA HEIKKI) 02 September 2004 See abstract, paragraphs [0016]-[0018] and figures 2,3	1-28



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

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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