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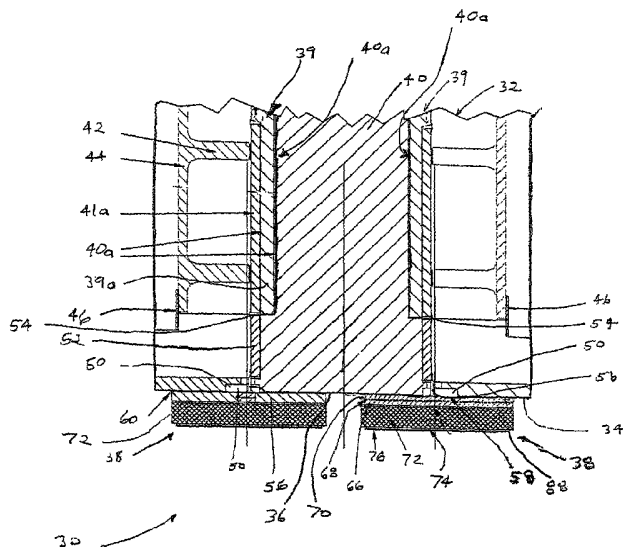
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Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,

[Continued on next page]

(54) Title: PHASED ARRAY ANTENNA HAVING STACKED PATCH ANTENNA ELEMENT WITH SINGLE MILLIMETER WAVELENGTH FEED AND MICROSTRIP QUADRATURE-TO-CIRCULAR POLARIZATION CIRCUIT



(57) Abstract: A phased array antenna includes an antenna housing having a subarray assembly that supports beam forming network modules and an array face defining a ground plane substantially orthogonal to the subarray assembly. A plurality of millimeter wavelength patch antenna elements are positioned on the array face and each positioned adjacent a respective subarray assembly. The millimeter wavelength patch antenna elements each include a driven antenna element having a front and rear side and a parasitic antenna element positioned forward of the front side of the driven antenna element. A microstrip quadrature-to-circular polarization circuit is positioned rearward of the rear side of the driven antenna element and operatively connected to the driven antenna element.



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- KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
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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 7 H01Q		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
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C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	LOEFFLER D ET AL: "RF INTERCONNECTS BASED ON ELECTROMAGNETIC COUPLING FOR THE TRANSITION BETWEEN COMPONENTS IN HIGHLY INTEGRATED SAR-SYSTEMS ELEKTROMAGNETISCH GEKOPPELTE HF-UEBERGAENGE FUER DIE VERBINDUNG VONKOMPONENTEN IN HOCHINTEGRIERTEN SAR-SYSTEMEN" FREQUENZ, SCHIELE UND SCHON GMBH. BERLIN, DE, vol. 53, no. 7/8, July 1999 (1999-07), pages 146-150, XP000920020 ISSN: 0016-1136	1
A	the whole document	5,8
Y	EP 0 542 595 A (DASSAULT ELECTRONIQUE) 19 May 1993 (1993-05-19)	1
A	the whole document	5,8
-/--		
☒ Further documents are listed in the continuation of box C. ☒ Patent family members are listed in annex.		
* Special categories of cited documents : 'A' document defining the general state of the art which is not considered to be of particular relevance 'E' earlier document but published on or after the international filing date 'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) 'O' document referring to an oral disclosure, use, exhibition or other means 'P' document published prior to the international filing date but later than the priority date claimed 'T' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention 'X' document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone 'Y' document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. '&' document member of the same patent family		
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