

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2017/035232

A. CLASSIFICATION OF SUBJECT MATTER
Int. Cl. H01Q23/00 (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)
Int. Cl. H01Q23/00

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

Published examined utility model applications of Japan	1922-1996
Published unexamined utility model applications of Japan	1971-2017
Registered utility model specifications of Japan	1996-2017
Published registered utility model applications of Japan	1994-2017

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Z. TONG, A. FISCHER, X. WANG, A. STELZER, L. MAURER, Wideband Differential Antenna in Package with Superstrate Structure at 77GHz, 2012 IEEE Asia-Pacific Conference on Antennas and Propagation, IEEE, 2012, 4 pages	1-11
Y	M. H. AWIDA, A. E. FATHY, Design guidelines of substrate-integrated cavitybacked patch antennas, IET Microwaves, Antennas & Propagation, vol. 6, no. 2, IET, 2012, pp. 151-157	1-11
Y	WO 2008/108413 A1 (KYOCERA CORP.) 12 September 2008, description, page 4, line 1 to line 7, fig. 1 & US 2010/0059244 A1, (ITARU ISHII) 11 March 2010, paragraphs [0016], [0017], fig. 1	1-11

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	“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
“A” document defining the general state of the art which is not considered to be of particular relevance	“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
“E” earlier application or patent but published on or after the international filing date	“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
“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)	“&” document member of the same patent family
“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	

Date of the actual completion of the international search @@@o8.11.2017	Date of mailing of the international search report 05.12.2017
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Name and mailing address of the ISA/ Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan	Authorized officer Telephone No.
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2016/067969 A1 (MURATA MFG. CO., LTD.) 06 May 2016 & CN 107078406 A & US 2017/0229769 A1	1-11
A	WO 2013/080560 A1 (PANASONIC CORP.) 06 June 2013 & CN 103650132 A & CN 103703610 A & US 2014/0126168 A1 & US 2014/0140031 A1 & US 2014/0145316 A1 & WO 2013/084479 A1 & WO 2013/084496 A1	1-11
A	JP 2007-243448 A (TOSHIBA CORP.) 20 September 2007 (Family: none)	1-11
A	WO 2007/049376 A1 (MURATA MFG. CO., LTD.) 03 May 2007 & US 2008/0191956 A1	1-11
A	US 5629241 A (MEHRAN MATLOUBIAN, Perry A. MACDONALD, David B. RENSCH, Lawrence E. LARSON) 13 May 1997 (Family: none)	1-11