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## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2016/054286****A. CLASSIFICATION OF SUBJECT MATTER****H04L 25/03(2006.01)i, H04L 25/02(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)

H04L 25/03; H04B 1/44; H04L 27/06; H04B 1/10; H04B 1/56; H03F 1/26; H04L 5/14; H04B 7/04; H04L 25/02

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) &amp; Keywords: joint, delay, tap, filter, full, duplex, self, interference, cancellation

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                        | Relevant to claim No. |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X         | US 9252831 B2 (QUALCOMM INCORPORATED) 02 February 2016<br>See column 1, lines 8-12; column 5, line 25 - column 6, line 18;<br>column 6, line 55 - column 7, line 13; column 9, line 61 - column 10, line 7;<br>column 10, lines 33-47; and figures 8, 14. | 1,3-5                 |
| A         |                                                                                                                                                                                                                                                           | 2,6-25                |
| A         | US 7733996 B2 (HUAN WU et al.) 08 June 2010<br>See column 3, line 28 - column 11, line 61; and figures 1-3, 9.                                                                                                                                            | 1-25                  |
| A         | US 6172565 B1 (JIUNN-TSAIR CHEN et al.) 09 January 2001<br>See column 3, line 33 - column 8, line 25; and figures 2A-3.                                                                                                                                   | 1-25                  |
| A         | US 2015-0318976 A1 (THE REGENTS OF THE UNIVERSITY OF CALIFORNIA)<br>05 November 2015<br>See paragraphs [0020]-[0042]; and figures 1-5.                                                                                                                    | 1-25                  |
| A         | US 2013-0301487 A1 (AMIR KEYVAN KHANDANI) 14 November 2013<br>See paragraphs [0047]-[0062]; and figures 1-7.                                                                                                                                              | 1-25                  |



Further documents are listed in the continuation of Box C.



See patent family annex.

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"&amp;" document member of the same patent family

Date of the actual completion of the international search

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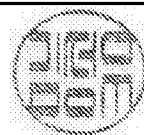
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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

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