Title: NARROWBAND INTERFERENCE SUPPRESSION IN AN ULTRA-WIDE BAND RECEIVER

Abstract: A system, method, and computer program product for removing "narrowband" interference from a broader spectrum containing a Ultra Wide Band (UWB) signal, in a receiver of the UWB signal. The Radio Frequency Interference (RFI) is extracted from a broader spectrum to remove interference from the UWB signal, by employing an impulse response in a radio front-end of the UWB receiver that is matched with an incoming wavelet employed as part of a UWB signal to be received, matching the impulse response to the wavelet and its time-shifted and inverted versions, passing the wavelet unscathed through the receiver, and excising narrowband signals (continuous tones). Exemplary embodiments for the RFI extraction mechanism include a transmission line circuit, an active transmission line circuit, and an adaptable, controllable phase delay circuit.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04B1/69

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 H04B

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

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, INSPEC, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tr>
<td>A</td>
<td>MILLER T ET AL: &quot;RFI SUPPRESSION FOR ULTRA WIDEBAND RADAR&quot; IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS, IEEE INC. NEW YORK, US, vol. 33, no. 4, 1 October 1997 (1997-10-01), pages 1142-1156, XP000726070 ISSN: 0018-9251 paragraphs '0001!-'0III!; figures 1-6; table 1</td>
<td>1-77</td>
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<td>A</td>
<td>US 5 426 618 A (CHEN HONG-BIN ET AL) 20 June 1995 (1995-06-20) abstract column 9, line 6 -column 28, line 59; claims 1-17; figures 1-3</td>
<td>1-77</td>
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X Further documents are listed in the continuation of box C. X Patent family members are listed in annex.

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Date of the actual completion of the international search 4 June 2002
Date of mailing of the international search report 11/06/2002

Name and mailing address of the ISA European Patent Office, P.B. 5816 Patentlaan 2 NL-2280 HJ Rijswijk Tel. (+31-70) 340-2048, Tx. 31 651 epc nl, Fax. (+31-70) 340-3016
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<td>US 5426618 A 20-06-1995</td>
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