Abstract:

Some demonstrative embodiments include apparatuses, devices, systems and methods of beamforming. For example, a first wireless station may be configured to communicate a plurality of Sector Level Sweep (SLS) frames with a second wireless station over a first channel; and to communicate a plurality of Beam Refinement Protocol (BRP) frames with the second wireless station over a bonded channel comprising the first channel and at least a second channel.

Title: APPARATUS, SYSTEM AND METHOD OF BEAMFORMING

Figure 4
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

H04B 7/06(2006.01)i, H04B 7/04(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)

H04B 7/06; H04L 1/00; H04W 28/20; H04B 7/04

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: Sector Level Sweep (SLS) frames, first channel, Beam Refinement Protocol (BRP) frames, second channel, bonded channel, reservation frame, RTS, CTS, duplicate, training field, Golay sequence, length, 2.16 GHz channel, Direction Multi-Gigabit (DMG)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<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>Y</td>
<td>THOMAS NITSCHET et al., &quot;IEEE 802.11: Direct i onal 60 GHz Communi cation for Multi-Gbps Wi-Fi&quot;, In: IEEE Communications Magaz ine, Volume: 52, Issue: 12, Page(s): 132-141, 11 December 2014</td>
<td>1-3, 10-18, 23-25</td>
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<td>A</td>
<td>US 2014-0177543 AI (CARLOS CORDEIRO) 26 June 2014 See paragraphs [0031], [0041], [0061H0081]; claim 7; and figures 6A-8.</td>
<td>1-3, 10-18, 23-25</td>
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<td>A</td>
<td>WO 2014-074894 AI (INTERDIGITAL PATENT HOLDINGS, INC.) 15 May 2014 See paragraphs [0081]- [0113]; and figure 3.</td>
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<td>US 2014-0185551 AI (WILIOCTY LTD.) 3 July 2014 See paragraphs [0032]- [0053]; and figure 4.</td>
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<td>A</td>
<td>ALIREZA TARIGHATET al., &quot;Framework for NG60 Channel Bonding&quot;, IEEE 802.11-150335r2, 9 March 2015 See s i des 2-5</td>
<td>1-25</td>
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Further documents are listed in the continuation of Box C.

* 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 application or patent but published on or after the international filing date
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  *"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

Date of the actual completion of the international search

05 January 2017 (05.01.2017)

Date of mailing of the international search report

13 January 2017 (13.01.2017)

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