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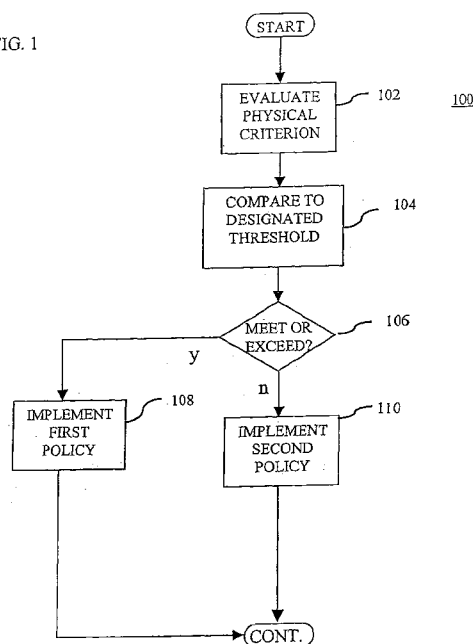
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Declarations under Rule 4.17:

[Continued on next page]

(54) Title: WIRELESS DEVICE CO-EXISTENCE

FIG. 1



(57) Abstract: Methods and apparatus for compensating for the effects of interference between multiple wireless communication apparatus. In one embodiment, the method comprises providing a first wireless communication apparatus operating in a first band and a second wireless communication apparatus operating at least partly in the first band, where the second wireless communication apparatus operates according to a different communication protocol than the first wireless communication apparatus. Interference is compensated for between the first wireless communication apparatus and the second wireless communication apparatus by selecting and operating according to one of a plurality of operational protocols, the operational protocols being policies or criteria based on which the operation changes. Said operational protocols are selected based on e.g. the electrical isolation between antennas, or they reply the selection of an operating mode, implementing power control, etc. In another embodiment, the first wireless communication apparatus and the second wireless communication apparatus operate in a closed-loop relationship to cooperatively compensate for communication interference.



— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2009/000128

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04W16/14

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)
H04W

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, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/224936 A1 (DESAI PRASANNA [US]) 27 September 2007 (2007-09-27) abstract paragraphs [0003], [0004], [0006] - [0013], [0026], [0036], [0039], [0046], [0049], [0052], [0059] figures 2A, 2B	1-21
X	US 6 978 121 B1 (LANE MARK [US] ET AL) 20 December 2005 (2005-12-20) abstract column 1, line 18 - line 37 column 2, line 40 - column 3, line 27 column 5, line 58 - column 6, line 26 column 5, line 57 - line 63 column 9, line 7 - line 27 column 10, line 48 - column 13, line 36 tables 1-3 figures 1-3, 5-8	1, 12

☐ Further documents are listed in the continuation of Box C.

☒ See patent family 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

Date of the actual completion of the international search

20 April 2009

Date of mailing of the international search report

10/07/2009

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/000128

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-21

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-21

Mitigating/reducing interference among multiple wireless communication apparatus (claim 1) and between a first and a second wireless interface comprised (co-located) in a portable computerized apparatus (claim 12).

2. claims: 22,23

Test apparatus to evaluate (and simulate) the isolation of one or more antenna systems (in case of two substantially co-located air interfaces).

3. claims: 24-27

Portable computerized device comprising a first and second wireless interfaces to optimize at least one aspect of the operation of at least one of said first and second interfaces.

4. claim: 28

Evaluation and optimization of a (customer) device comprising at least two wireless interfaces based at least in part on a basis (e.g. type of environment in which the device will be used), and configured according to a required configuration, for the evaluation of operation of at least one of said at least two interfaces.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/000128

Patent document cited in search report	Publication date	Patent family member(s)	Publication date		
US 2007224936	A1	27-09-2007	CN	101043237 A	26-09-2007
			EP	1838040 A2	26-09-2007

US 6978121	B1	20-12-2005	NONE		
