CLAIMS

1. A wireless communications system (200) for communicating with user equipment (201) located inside a physical structure (202), comprising:
   - a node (203) having at least two antenna ports and being adapted for wireless communication with said user equipment (201), and
   - at least one leaky cable (204) having two ends (205,206),

   characterized in that

   each end (205,206) of said at least one leaky cable (204) is connected to one of said antenna ports of said node (203), wherein said at least one leaky cable (204) is provided at least partially inside said physical structure (202) and being adapted for wireless communication over a radio channel (207) with said user equipment (201).

2. The wireless communication system (300) according to claim 1, further comprising:
   - a first signal divider (301) having at least two signal divider antenna ports and at least one signal divider node port connected to one of said at least two antenna ports of said node (302);
   - a second signal divider (303) having at least two signal divider antenna ports and at least one signal divider node port connected to one of said at least two antenna ports of said node (302);

   wherein each end (304,305) of said at least one leaky cable (306) is connected, via one of said signal divider antenna ports of one of said first signal divider (301) and said second signal divider (303), to one of said antenna ports of said node (302).

3. The wireless communication system (400) according to claim 2, wherein both ends (401,402) of a first leaky cable (403) is each connected to one of said signal divider antenna ports of said first signal divider (404), while both ends (405,406) of a second leaky cable (407) is each connected to one of said signal divider antenna ports of said second signal divider (408).

4. The wireless communication system (500) according to claim 2, wherein one end (501) of a first leaky cable (502) is connected to one of said signal divider antenna ports of said first signal divider (503) while the other end of said first leaky cable (504) is connected to one of said signal divider antenna ports of said second signal divider (505), and
one end (506) of a second leaky cable (507) is connected to one of said signal divider antenna ports of said first signal divider (503) while the other end of said of said second leaky cable (508) is connected to one of said signal divider antenna ports of said second signal divider (505).

5. The wireless communication system (200) according to any of previous claims, is adapted for wireless multiple-input multiple-output communication with said user equipment (201).

6. A method (600) for providing wireless communication between a node (203) and user equipment (201) located inside a physical structure (202), the method comprising:
- configuring (601) said node (203), having at least two antenna ports, for wireless communication with said user equipment (201),
- configuring (602) at least one leaky cable (204), having a first end (205) and a second end (206), for wireless communication,

characterized by
- connecting (603) each end (205,206) of said at least one leaky cable (204) to one of said antenna ports of said node (203),
- providing (604) said at least one leaky cable (204) at least partially inside said physical structure (202), and
- configuring (605) said at least one leaky cable (204) for wireless communication for over a radio channel (207) with said user equipment (201).

7. The method (600) according to claim 6, further comprising:
- connecting (701) a first signal divider (301) having at least two signal divider antenna ports and at least one signal divider node port to one of said at least two antenna ports of said node (302);

- connecting (702) a second signal divider (303) having at least two signal divider antenna ports and at least one signal divider node port connected to one of said at least two antenna ports of said node (302); and
- connecting (703) each end (304,305) of said at least one leaky cable (306), via one of said signal divider antenna ports of one of said first signal divider (301) and said second signal divider (303), to one of said antenna ports of said node (302).

8. The method (600) according to claim 7, further comprising:
   - connecting (801) both ends (401,402) of a first leaky cable (403) to each of one of said signal divider antenna ports of said first signal divider (404); and
   - connecting (802) both ends (405,406) of a second leaky cable (407) to each of one of said signal divider antenna ports of said second signal divider (408).

9. The method (600) according to claim 7, further comprising:
   - connecting (901) one end (501) of a first leaky cable (502) to one of said signal divider antenna ports of said first signal divider (503),
   - connecting (902) the other end of said first leaky cable (504) to one of said signal divider antenna ports of said second signal divider (505), and
   - connecting (903) one end (506) of a second leaky cable (507) to one of said signal divider antenna ports of said first signal divider (503), and
   - connecting (904) the other end of said of said second leaky cable (508) to one of said signal divider antenna ports of said second signal divider (505).

10. The method (600) according to any of claims 6-9, further comprising:
    - adapting said node, said first and second signal dividers and said at least one leaky cable for wireless multiple-input multiple-output communication with said user equipment (201).

11. The method (600) according to any of claims 8-9, further comprising:
- providing said first leaky cable and said second leaky cable (203) in said physical structure (202) such that they are deployed in parallel to each other to provide essentially the same indoor coverage.

12. The method (600) according to any of claims 8-9, further comprising:
- providing said first leaky cable (613) and said second leaky cable (614) in said physical structure (617) such that they are deployed to provide indoor coverage of two separate areas (615,616) in said physical structure (617).

AMENDED CLAIMS

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1. A wireless communications system (200) for communicating with user equipment (201) located inside a physical structure (202), comprising:

- a node (203) having at least two antenna ports and being adapted for wireless communication with said user equipment (201), and
- at least one leaky cable (204) having two ends (205,206),

each end (205,206) of said at least one leaky cable (204) is connected to one of said antenna ports of said node (203), wherein said at least one leaky cable (204) is provided at least partially inside said physical structure (202) and being adapted for wireless communication over a radio channel (207) with said user equipment (201)

characterized in that

the wireless communication system (200, 300) further comprises:

- a first signal divider (301) having at least two signal divider antenna ports and at least one signal divider node port connected to one of said at least two antenna ports of said node (203, 302);
- a second signal divider (303) having at least two signal divider antenna ports and at least one signal divider node port connected to one of said at least two antenna ports of said node (203, 302);

wherein each end (205, 206, 304,305) of said at least one leaky cable (204, 306) is connected, via one of said signal divider antenna ports of one of said first signal divider (301) and said second signal divider (303), to one of said antenna ports of said node (203, 302).

2. The wireless communication system (400) according to claim 1, wherein both ends (401,402) of a first leaky cable (403) is each connected to one of said signal divider antenna ports of said first signal divider (404), while both ends (405,406) of a second leaky cable (407) is each connected to one of said signal divider antenna ports of said second signal divider (408).

3. The wireless communication system (500) according to claim 1, wherein one end (501) of a first leaky cable (502) is connected to one of said signal divider antenna ports of said first signal divider (503) while the other end of said first leaky cable (504) is connected to one of said signal divider antenna ports of said second signal divider (505), and one end (506) of a second leaky cable (507) is connected to one of said signal divider antenna ports of said first signal divider (503) while the other end of said of said second leaky cable (508) is connected to one of said signal divider antenna ports of said second signal divider (505).

4. The wireless communication system (200) according to any of previous claims, is adapted for wireless multiple-input multiple-output communication with said user equipment (201).

5. A method (600) for providing wireless communication between a node (203) and user equipment (201) located inside a physical structure (202), the method comprising:

- configuring (601) said node (203), having at least two antenna ports, for wireless communication with said user equipment (201),
- configuring (602) at least one leaky cable (204), having a first end (205) and a second end (206), for wireless communication,
- connecting (603) each end (205,206) of said at least one leaky cable (204) to one of said antenna ports of said node (203),
- providing (604) said at least one leaky cable (204) at least partially inside said physical structure (202),
- configuring (605) said at least one leaky cable (204) for wireless communication for over a radio channel (207) with said user equipment (201),

characterized by.

- connecting (701) a first signal divider (301) having at least two signal divider antenna ports and at least one signal divider node port to one of said at least two antenna ports of said node (302);
- connecting (702) a second signal divider (303) having at least two signal divider antenna ports and at least one signal divider node port connected to one of said at least two antenna ports of said

node (302); and

- connecting (703) each end (304,305) of said at least one leaky cable (306), via one of said signal divider antenna ports of one of said first signal divider (301) and said second signal divider (303), to one of said antenna ports of said node (302).

6. The method (600) according to claim 5, further comprising:

- connecting (801) both ends (401,402) of a first leaky cable (403) to each of one of said signal divider antenna ports of said first signal divider (404); and

connecting (802) both ends (405,406) of a second leaky cable (407) to each of one of said signal divider antenna ports of said second signal divider (408).

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7. The method (600) according to claim 5, further comprising:

- connecting (901) one end (501) of a first leaky cable (502) to one of said signal divider antenna ports of said first signal divider (503),
- connecting (902) the other end of said first leaky cable (504) to one of said signal divider antenna ports of said second signal divider (505), and
- connecting (903) one end (506) of a second leaky cable (507) to one of said signal divider antenna ports of said first signal divider (503), and
- connecting (904) the other end of said of said second leaky cable (508) to one of said signal divider antenna ports of said second signal divider (505).

8. The method (600) according to any of claims 5-7, further comprising:

- adapting said node, said first and second signal dividers and said at least one leaky cable for wireless multiple-input multiple-output communication with said user equipment (201).

9. The method (600) according to any of claims 6-7, further comprising:

- providing said first leaky cable and said second leaky cable (203) in said physical structure (202) such that they are deployed in parallel to each other to provide essentially the same indoor

coverage.

10. The method ~~(600)~~ according to any of claims 6-7, further comprising:

- providing said first leaky cable ~~(613)~~ and said second leaky cable ~~(614)~~ in said physical structure ~~(617)~~ such that they are deployed to provide indoor coverage of two separate areas ~~(615,616)~~ in said physical structure ~~(617)~~.