EXHIBIT 17

US011122504B1

(12) **United States Patent**
Vleugels et al.

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(45) **Date of Patent: *Sep. 14, 2021**

(54) **APPARATUS AND METHOD FOR INTEGRATING SHORT-RANGE WIRELESS PERSONAL AREA NETWORKS FOR A WIRELESS LOCAL AREA NETWORK INFRASTRUCTURE**

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(73) Assignee: **Ozmo Licensing LLP**, Round Rock, TX (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **17/322,492**

(22) Filed: **May 17, 2021**

Related U.S. Application Data

(60) Continuation of application No. 17/125,797, filed on Dec. 17, 2020, now Pat. No. 11,012,934, which is a (Continued)

(51) **Int. Cl.**
H04W 52/02 (2009.01)
H04W 88/08 (2009.01)
(Continued)

(52) **U.S. Cl.**
CPC ***H04W 52/0212*** (2013.01); ***H04W 28/06*** (2013.01); ***H04W 52/0216*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC H04W 52/0212; H04W 80/04; H04W 52/0216; H04W 84/12; H04W 88/085
See application file for complete search history.

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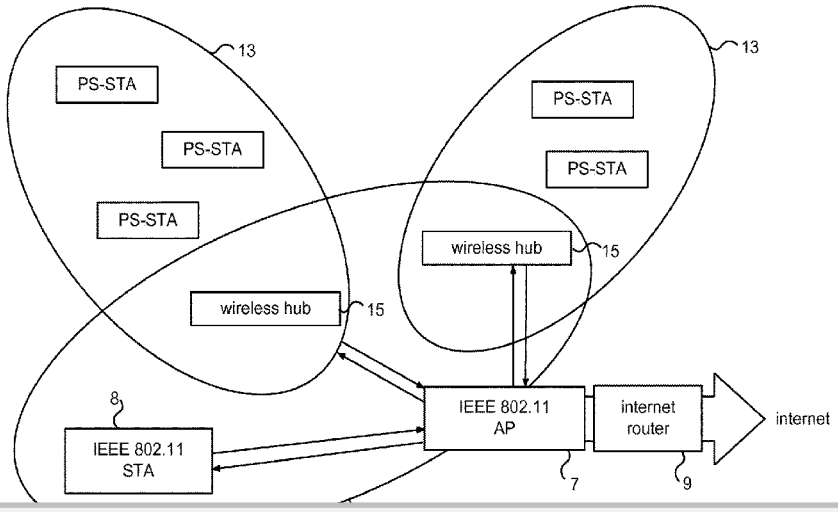
(57) **ABSTRACT**

A network system comprises a first logic block providing a link to a first network via an access point of a WLAN and a second logic block communicating with a node of a second network (such as a WPAN) and configured to provide a link between the node and the first network via the access point. The network system is configured to maintain continuous connections to both the access point and the node while receiving power. The second logic block can communicate with the node using a modified communication protocol that is only partially compliant with an 802.11x communications protocol. A wireless hub can integrate a WPAN with a WLAN including, in part, a wireless circuit compliant with the WLAN standard (such as an 802.11x standard), a processor, and a memory. The wireless circuit can connect to the WPAN without losing connectivity (such as association and synchronization) to the WLAN.

14 Claims, 12 Drawing Sheets



Related U.S. Application Data

continuation of application No. 16/912,262, filed on Jun. 25, 2020, now Pat. No. 10,873,906, which is a continuation of application No. 16/668,999, filed on Oct. 30, 2019, which is a continuation of application No. 14/990,203, filed on Jan. 7, 2016, now abandoned, which is a continuation of application No. 14/073,260, filed on Nov. 6, 2013, now Pat. No. 9,264,991, which is a continuation of application No. 13/560,917, filed on Jul. 27, 2012, now Pat. No. 8,599,814, which is a continuation of application No. 12/892,825, filed on Sep. 28, 2010, now abandoned, which is a division of application No. 11/422,945, filed on Jun. 8, 2006, now Pat. No. 7,826,408, which is a continuation of application No. 11/376,729, filed on Mar. 14, 2006, now abandoned.

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(51) **Int. Cl.**

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H04W 80/04	(2009.01)
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H04L 29/06	(2006.01)
H04L 29/08	(2006.01)
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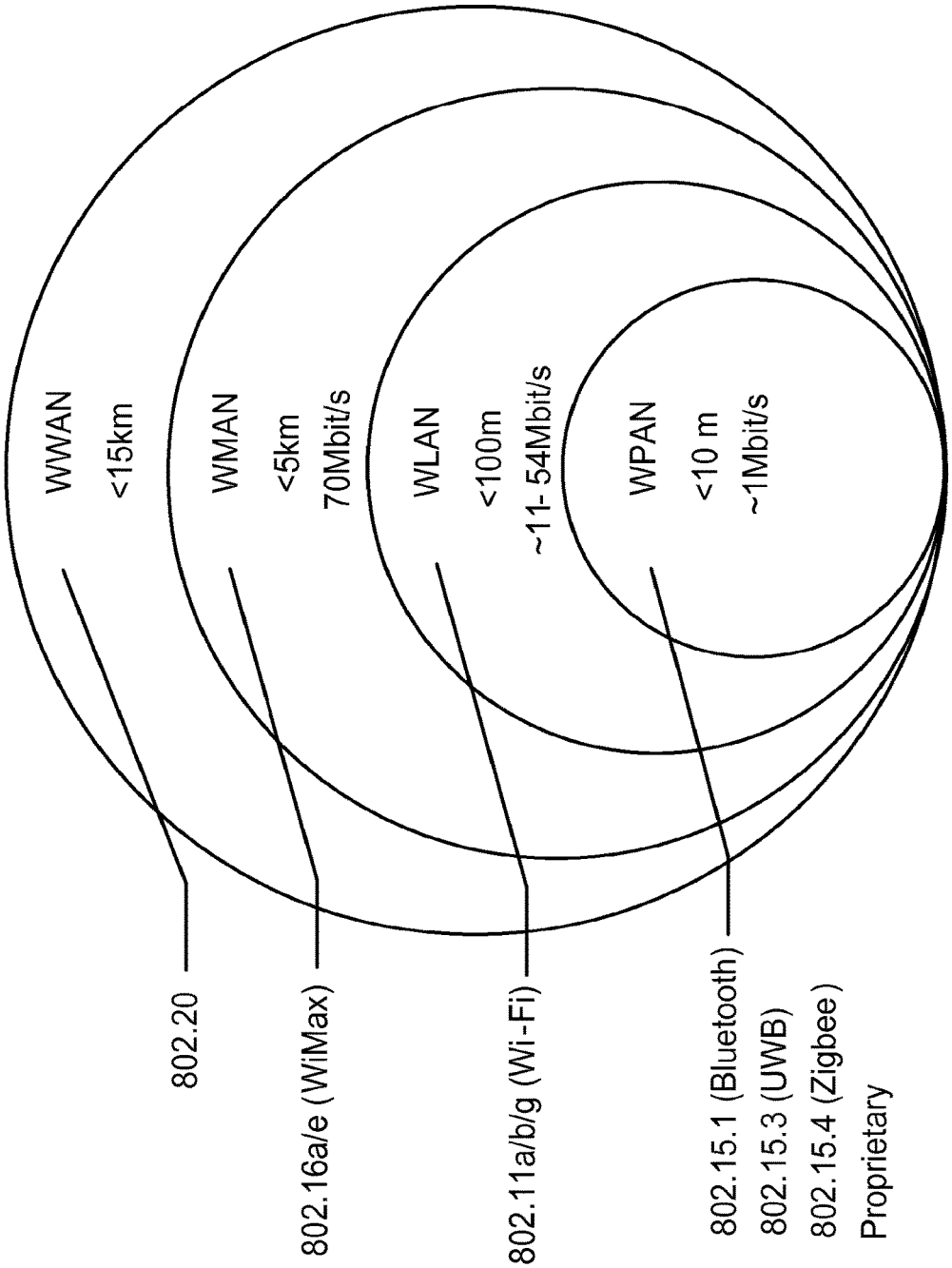

FIG. 1

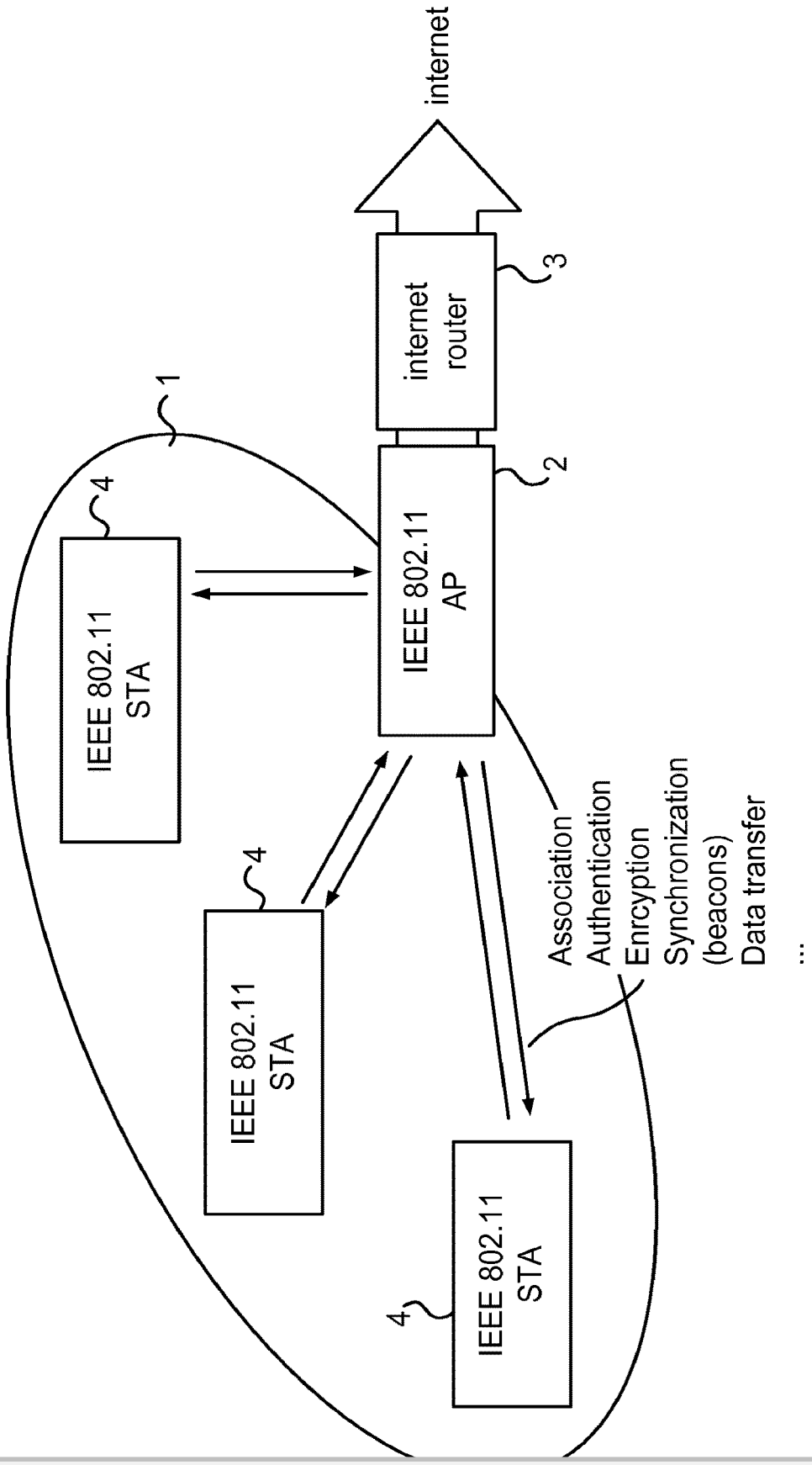

FIG. 2

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