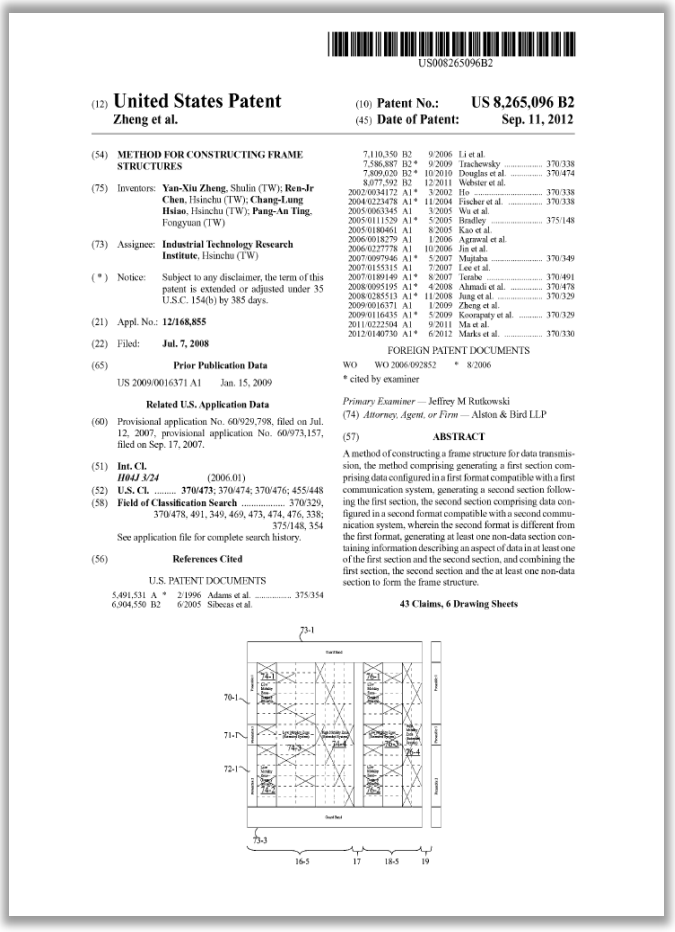
EXHIBIT 12

U.S. Patent No. 8,265,096 – Toyota Products - IEEE 802.11ac and 802.11ax



US008265096B2

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

(10) **Patent No.: US 8,265,096 B2**
(45) **Date of Patent: Sep. 11, 2012**

(54) **METHOD FOR CONSTRUCTING FRAME STRUCTURES**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 385 days.

(21) Appl. No.: **12/168,855**

(22) Filed: **Jul. 7, 2008**

(65) **Prior Publication Data**

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Related U.S. Application Data

(60) Provisional application No. 60/929,798, filed on Jul. 12, 2007, provisional application No. 60/973,157, filed on Sep. 17, 2007.

(51) **Int. Cl.**
H04J 3/24 (2006.01)

(52) **U.S. Cl.** **370/473**; 370/474; 370/476; 455/448

(58) **Field of Classification Search** 370/329, 370/478, 491, 349, 469, 473, 474, 476, 338; 375/148, 354

See application file for complete search history.

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(57) **ABSTRACT**

A method of constructing a frame structure for data transmission, the method comprising generating a first section comprising data configured in a first format compatible with a first communication system, generating a second section following the first section, the second section comprising data configured in a second format compatible with a second communication system, wherein the second format is different from the first format, generating at least one non-data section containing information describing an aspect of data in at least one of the first section and the second section, and combining the first section, the second section and the at least one non-data section to form the frame structure.

43 Claims, 6 Drawing Sheets

Title: METHOD FOR CONSTRUC
FRAME STRUCTURES

Priority Date of all Asserted Claim
12, 2007

Filing Date: Jul. 7, 2008

Issue Date: Sept. 11, 2012

Expiration Date: Jul. 27, 2029

Inventors: Yan-Xiu Zheng; Ren-Jr C
Chang-Lung Hsiao; Pang-An Ting

Asserted Claim: 8

Asserted Claim

Claim 8

A method of constructing a frame structure for data transmission, the method comprising:
generating a first section comprising data configured in a first format compatible with a first communication system usi
generating a second section following the first section,
the second section comprising data configured in a second format compatible with a second communication system usir
wherein the first communication system's symbols and the second communication system's symbols co-exist in one tran
scheme and
wherein the second communication system has pilot symbols that are denser than those in the first communication syste
generating at least one non-data section containing information describing an aspect of data in at least one of the first se
second section; and
combining the first section, the second section and the at least one non-data section to form the frame structure.

The Accused Instrumentalities include at least the following:

Products	
2022 Toyota Tundra	2023 Toyota RAV4 Hybrid
2022 Toyota Tundra Hybrid	2023 Toyota RAV4 Prime
2023 Toyota bZ4X	2023 Toyota Sequoia Hybrid
2023 Toyota Corolla	2023 Toyota Crown
2023 Toyota Corolla Hybrid	2023 Toyota Tundra
2023 Toyota Corolla Cross	2023 Toyota Tundra Hybrid
2023 Toyota Corolla Cross Hybrid	2023 Toyota Venza Hybrid
2023 Toyota Corolla Hatchback	2024 Toyota Corolla
2023 Toyota Highlander	2024 Toyota Corolla Hybrid
2023 Toyota Highlander Hybrid	2024 Toyota Corolla Hatchback
2023 Toyota Mirai	2024 Toyota Grand Highlander
2023 Toyota Prius	2024 Toyota Grand Highlander Hybrid
2023 Toyota Prius Prime	2024 Toyota Tundra
2023 Toyota RAV4	2024 Toyota Tundra Hybrid

The Accused Instrumentalities include at least the following:

The Accused Instrumentalities are all configured to operate on or with the IEEE 802.11ac wireless local area netw standard. For example, Toyota discloses IEEE 802.11ac in the Owner's Manual (OM43E83U) for the following ex product. https://assets.sia.toyota.com/publications/en/omnav-s/OM42E83U/pdf/OM42E83U.pdf?_gl=1*1ezc1lz*_tmna_ga*NDUwODg3NTE0LjE2OTQ0NDc2Njc.*_tmna_ga_EP43E5EFVZ*MTY Y2Ny4xLjEuMTY5NDQ0ODczMi4zNy4wLjA.

TOYOTA RAV4 PRIME 2023

Establishing a connection to Wi-Fi® Hotspot

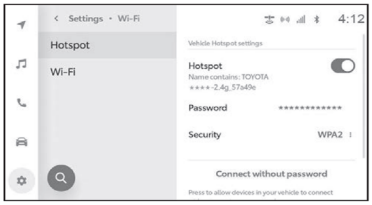
The Wi-Fi® Hotspot function can be used to set the Wi-Fi® access point and connect to a Wi-Fi® device.

1 **Turn on the Wi-Fi® function of the Wi-Fi® device.**

2 **Touch [⚙] from the main menu.**

3 **Touch [Wi-Fi] from the sub menu.**

4 **Touch [Hotspot] from the sub menu.**



5 **Turn on [Hotspot] in the main area.**

A message may be displayed depending on the multimedia system settings. Perform the operation according to the screen guidance.

6 **Connect to Wi-Fi® Hotspot of the multimedia system from the Wi-Fi® device.**

Connecting to a network using Wi-Fi®

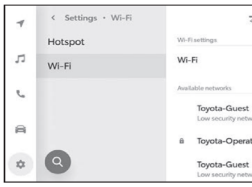
The multimedia system can be connected to the Internet b ing to a Wi-Fi® network.

1 **Touch [⚙] from the main menu.**

2 **Touch [Wi-Fi] from the sub menu.**

3 **Touch [Wi-Fi] from the sub menu.**

4 **Set [Wi-Fi] in the main area to on.**



- A message may be displayed depending on the multimedia system settings. Perform the operation according to the screen guidance.
- Turning on [**Wi-Fi**] will display nearby networks that are availa- ble.

Compatible Wi-Fi® communica- tion protocols

IEEE 802.11b/g/n (2.4GHz)

IEEE 802.11a/n/ac (5GHz)

Owner's Manual

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