

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SZ DJI Technology Co., Ltd.,
Petitioner

v.

Textron Innovations Inc.
Patent Owner.

IPR2023-01107

U.S. Patent No. 10,275,950

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT 10,275,950**

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EXHIBIT LIST

Exhibit	Reference
1001	U.S. Patent 10,275,950 to Girard et al. (“the ’950 patent”)
1002	File History for U.S. Patent 10,275,950
1003	Declaration of Dr. Charles Reinholtz in Support of Petition for <i>Inter Partes</i> Review of U.S. Patent 10,275,950
1004	CV of Dr. Charles Reinholtz
1005	U.S. Patent 9,563,580 to Warner, et al (“Warner”)
1006	U.S. Provisional Application 61/858,444 to Warner, et al (“Warner-Prov”)
1007	WO 2012/105083 to Wakutsu, et al (“Wakutsu”)
1008	U.S. Patent Publication 2011/0241902 to Shavit (“Shavit”)
1009	U.S. Patent 9,402,174 to Greubel (“Greubel”)
1010	U.S. Patent 9,141,830 to Uczekaj, et al (“Uczekaj”)
1011	U.S. Patent 6,278,913 to Jiang (“Jiang”)
1012	Infringement Contentions (Exhibit A) in <i>Textron Innovations Inc. v. SZ DJI Technology Co., Ltd.</i> , 2-22-cv-00351 (EDTX)
1013	Peters, et al, “ISR-Eagle: Unmanned Aerial Systems Competition Report”, Student Unmanned Aerial Systems (SUAS) Competition Journal Papers (May 23, 2011)
1014	Koh, “Digital Memory Card Market and Technology”, 2005 Conference on High Density Microsystem Design and Packaging and Component Failure Analysis (June 27-29, 2005)
1015	U.S. Department of Transportation, Federal Aviation Administration, AC No: 120-76B, “Guidelines for the Certification, Airworthiness, and Operational Use of Electronic Flight Bags”
1016	GE Intelligent Platforms, “ARINC Protocol Tutorial” (2010)
1017	SD Association, Press Release, “SD Association Adds Standardized Wireless Communication to Work-Leading SD Memory Card Standards” (January 9, 2012)

Exhibit	Reference
1018	U.S. Department of Transportation, Federal Aviation Administration, AC No: 120-82, “Flight Operational Quality Assurance” (April 12, 2004)
1019	SD Association, “SD Specifications Part 1: Physical Layer Simplified Specification”, Version 4.1 (January 22, 2013)
1020	Excerpt from IEEE Dictionary
1021	Gast, “802.11 Wireless Networks: The Definitive Guide”, O’Reilly (2002)
1022	O’Hara, et al, “IEEE 802.11 Handbook: A Designer’s Companion” (IEEE Press 1999)
1023	U.S. Patent 8,495,722 to McCusker
1024	U.S. Patent Publication 2007/0219831 to Ne’meth
1025	U.S. Patent 8,626,568 to Warkentin, et al.
1026	U.S. Patent Publication 2012/0194679 to Nehowig, et al.

I. Introduction

DJI Europe B.V. petitions for *inter partes* review (“IPR”) of U.S. Patent 10,275,950 (“the ’950 patent”; DJI-1001) claims 9-14 and 16.

II. Grounds For Standing

Petitioner certifies the ’950 patent is available for IPR and Petitioner is not barred or estopped from requesting IPR.

III. Identification Of Challenge

A. Prior Art

The ’950 patent was filed on July 26, 2013. Each applied reference was filed or published before July 26, 2013 or is entitled to priority benefit to a provisional filed before July 26, 2013.

1. **U.S. Patent 9,563,580 to Warner, et al** (“Warner”; DJI-1005), filed July 24, 2014, and claiming priority to Provisional 61/858,444 (“Warner-Prov”; DJI-1006) filed July 25, 2013, is prior art under 35 U.S.C. §102(a)(2). (*See* §V.A.1 (establishing priority to Warner-Prov).)

2. **WO 2012/105083 to Wakutsu, et al** (“Wakutsu”; DJI-1007), published August 9, 2012, is prior art under 35 U.S.C. §102(a)(1).

3. **U.S. Patent Publication 2011/0241902 to Shavit** (“Shavit”; DJI-1008), published October 6, 2011, is prior art under 35 U.S.C. §102(a)(1).

4. **U.S. Patent 9,402,174 to Greubel** (“Greubel”; DJI-1009), filed May 6, 2013, is prior art under 35 U.S.C. §102(a)(2).

5. **U.S. Patent 9,141,830 to Uczekaj, et al** (“Uczekaj”; DJI-1010), filed July 23, 2012, is prior art under 35 U.S.C. §102(a)(2).

6. **U.S. Patent 6,278,913 to Jiang** (“Jiang”; DJI-1011), published August 21, 2001, is prior art under 35 U.S.C. §102(a)(1).

B. Grounds For Challenge

		Claims	Combination
1	103	9-14, 16	Warner, Wakutsu, Shavit
2	103	9-14, 16	Warner, Wakutsu, Shavit, Greubel
3	103	9, 11-14, 16	Uczekaj, Jiang
4	103	9, 11-14, 16	Uczekaj, Jiang, Greubel

IV. '950 Patent

A. Overview

The '950 patent “relates generally to aircraft avionics systems.” (DJI-1001, 1:8-9.) The '950 patent’s system includes transmitter 303 with “wireless device 313 configured to transmit data to and from transceiver 305.” (DJI-1001, 3:5-6, 3:14-16, Figure 3 below.) Transceiver 305 “is a portable smartphone and/or tablet configured to receive data from transmitter 313 and relay the data to database 307” for storage. (DJI-1001, 3:20-32.) Database 307 “automatically populate[s] aircraft

and pilot logbooks with data received from the aircraft, e.g., flight hours, landings, and so forth.” (DJI-1001, 3:34-38.) Stored flight performance information can be reviewed, e.g., by a flight instructor, to “provide feedback based upon the flight performance data.” (DJI-1001, 4:43-48.)

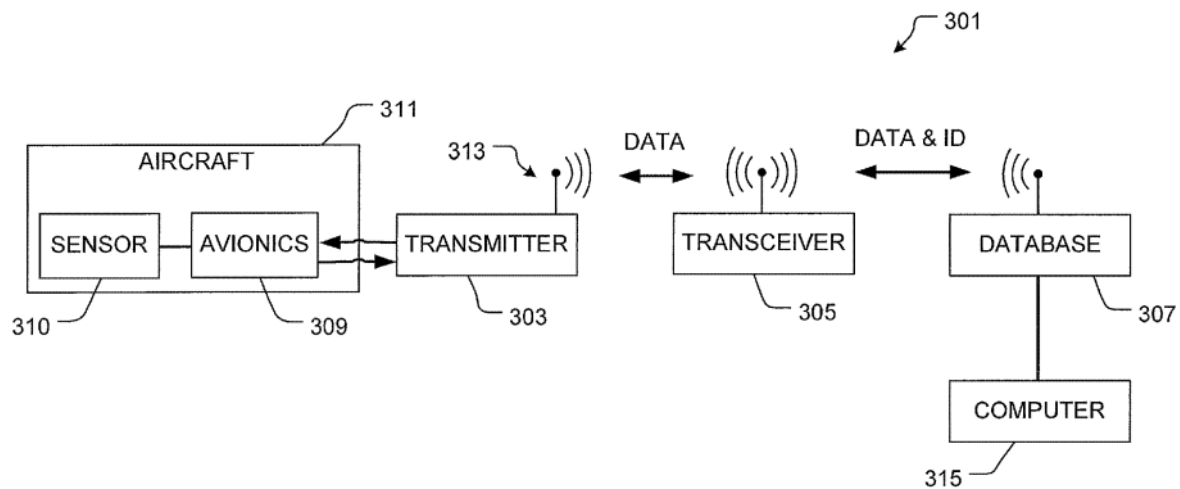


FIG. 3

'950 Patent, Figure 3

B. Level Of Ordinary Skill In The Art

A person of ordinary skill in the art (“POSITA”) would have had a bachelor’s degree or equivalent in the field of aeronautical, electrical, or mechanical engineering, computer science, or equivalent training and experience, and at least one year of experience in the field of avionics or electromechanical system analysis and/or design. A higher level of education or work experience might make up for less experience, and vice versa. (DJI-1003, ¶20.)

C. Prosecution History

The '950 patent prosecution involved multiple Office Actions and 7 substantive amendments to the independent claims. (*See* DJI-1003, ¶¶21-29; DJI-1002, 52-419.) In the final amendment, Applicant amended each independent claim to recite the wireless transmitter comprises a non-volatile memory card coupled to a memory card interface of the avionics system. (*See* DJI-1002, 400-410.) Following this amendment, the Examiner allowed the claims without comment. (*See* DJI-1002, 412-419.)

The use of a non-volatile memory card in electronic devices, including in avionics systems¹, was not novel before July 2013. Non-volatile memory cards, such as SD cards, were ubiquitous by 2013. (DJI-1014; *see also*, DJI-1003, ¶29.)

D. Claim Construction

Claim terms are typically given their ordinary and customary meanings as understood by a POSITA at the time of the invention. Petitioner does not believe it is necessary for the Board to expressly construe any term for the purpose of this

¹ In the co-pending district court litigation, Patent Owner (“PO”) takes a broad interpretation of this added limitation contending a UAV having both a wireless transmitter and a separate non-volatile memory card meets the limitation. (*See* DJI-1012, 20, 29.)

IPR proceeding. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

V. GROUND 1: Combination of Warner, Wakutsu, and Shavit renders claims 1-5, 7-14, and 16 obvious.

A. Combination Overview

1. Warner

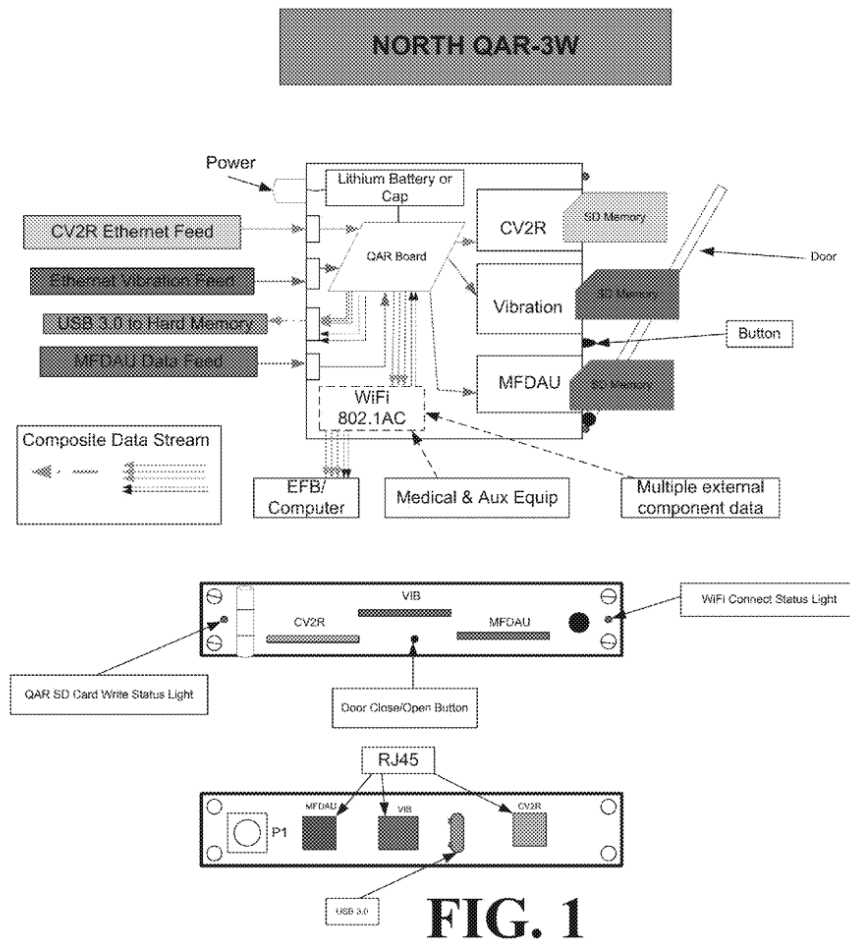
Warner discloses a system for collecting “sensor data onboard an aircraft” and transmitting the data to “a portable storage device such as a portable computer or electronic flight bag (EFB) by means including wireless transmission.” (DJI-1005, 1:29-36; DJI-1006, 1:24-27.)

Warner is entitled to priority to Warner-Prov, filed July 25, 2013. Under 35 U.S.C. §102(a)(2), a published patent application is prior art as of its effective filing date. An application is considered to have been effectively filed, with respect to any subject matter described in the application, as of the filing date of the earliest application describing the subject matter to which the application is entitled to claim a right of priority. 35 U.S.C. §102(d)(2); *See* IPR2022-00341, *Apple Inc. v. Telefonaktiebolaget LM Ericsson*, Paper 10, 16-22 (PTAB Sept. 14, 2022) (finding *Dynamic Drinkware* does not apply to post-AIA patents)). Warner was filed not later than 12 months after the filing date of Warner-Prov and contains a specific reference to Warner-Prov. (*See* DJI-1005, (22), (60), 1:9-11.) Petitioner

provides cross-cites to Warner-Prov throughout to demonstrate the subject matter relied upon from Warner is disclosed in the provisional².

Warner discloses exemplary apparatuses providing “automatic acquisition of data, analysis of the collected data, and preferably automatic wireless transmission of the collected data and/or analysis of the collected data to a destination for storage or analysis.” (DJI-1005, 2:44-48; DJI-1006, 2:27-29, claims 1, 30, Abstract.) A first apparatus, referred to as a Quick Access Recorder (QAR), illustrated in Figure 1 below, receives data from several data feeds. (DJI-1005, 4:49-51; DJI-1006, 4:15-17.) The QAR then wirelessly transmits a “composite data stream” to an EFB /computer. (DJI-1005, 5:5-9; DJI-1006, 4:28-30.)

² Should PO incorrectly contend *Dynamic Drinkware* applies to AIA patents, Petitioner’s expert demonstrates at least one claim of Warner is supported by Warner-Prov. (DJI-1003, ¶42.)



Warner, Figure 1

The second apparatus, referred to as a multi-function data acquisition unit (MFDAU), receives, for example, sensor data. (DJI-1005, 6:54-64, Figure 4 below; DJI-1006, 6:22-28, Figure 4 below.) A pilot tablet is connected to the MFDAU “via the WiFi Cabin antenna.” (DJI-1005, 6:13-15; DJI-1006, 5:29-31.)

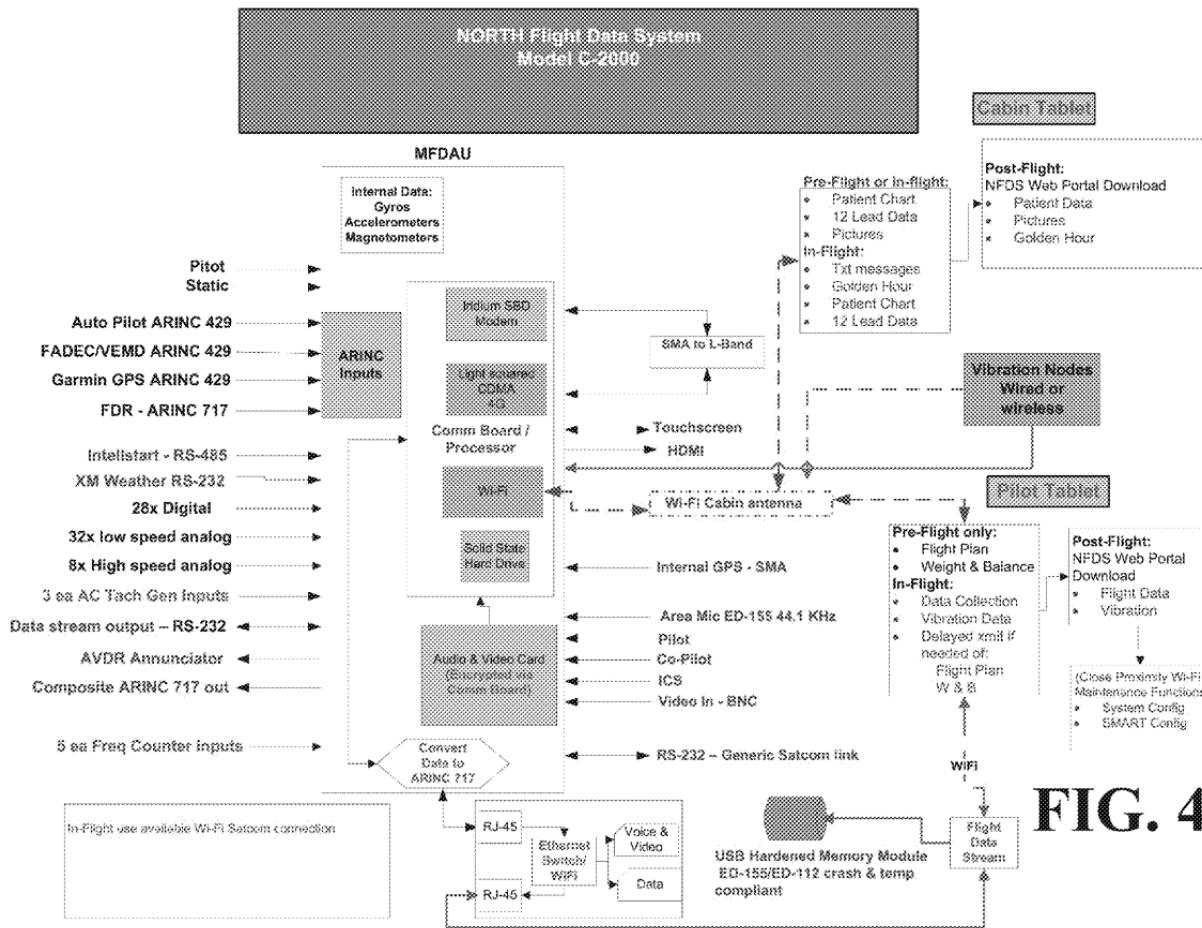


FIG. 4

Warner, Figure 4

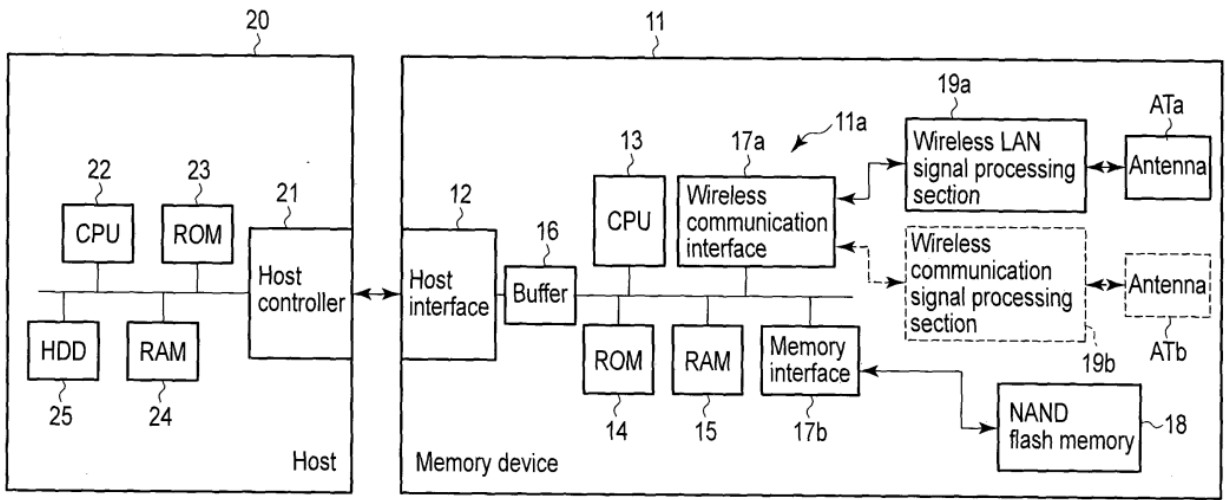
The apparatus (Figure 1's QAR or Figure 4's MFDAU) transmits data "to either a fixed or portable onboard storage device via wireless transmission." (DJI-1005, 7:16-18; DJI-1006, 7:7-8.) Warner uses the terms "portable computer", "portable electronic device", "EFB", and "pilot tablet" interchangeably to refer to the "portable storage device" receiving the collected data. (See DJI-1005, 1:34-36; DJI-1006, 1:25-27; *see also*, DJI-1005, Abstract, 2:57-59, 8:19-20 (QAR/MFDAU transmits data to "portable computer (i.e., EFB, tablet, semi fixed computer

device”), 9:38 (“EFB/Tablet Collection and Processing”), Figure 4 (“pilot tablet”); DJI-1006, Abstract, 3:3-4, 8:18-22, 10:10, Figure 4.) This usage is consistent with the Federal Aviation Administration’s (FAA) definition of an EFB as an “electronic display system intended primarily for flight deck use that includes the hardware and software necessary to support an intended function” including portable commercial off-the-shelf computers. (DJI-1015, 1-2.) Petitioner therefore refers to the device receiving data for storage as the “pilot tablet/EFB.”

Warner’s pilot tablet/EFB is a device that “wirelessly collects, encrypts, provides for critical near real time processing, and packages data for off load to a corporate data infrastructure for long time processing and preservation.” (DJI-1005, 7:43-48; DJI-1006, 7:25-28.) Warner’s QAR establishes a connection with the pilot tablet/EFB. (DJI-1005, 9:54-61; DJI-1006, 10:21-26; *see also*, DJI-1005, 5:44-47; DJI-1006, 5:8-9.) In parallel, the pilot tablet/EFB “creates at least four (4) primary files (MFDAU, Voice, Video, and Vibration) in which to store the received data.” (DJI-1005, 10:17-21; DJI-1006, 11:6-7; *see also*, DJI-1005, 5:49-50; DJI-1006, 5:10-11.) The QAR then “transmits all stored/buffered data and initiates the continuous flow of received data.” (DJI-1005, 9:61-64; DJI-1006, 10:25-27; *see also*, DJI-1005, 5:50-52; DJI-1006, 5:11-12.) The pilot tablet/EFB stores the received data in the designated file. (DJI-1005, 11:35-37; DJI-1006, 11:16-19; *see also*, DJI-1005, 5:54-57; DJI-1006, 5:14-15.)

2. Wakutsu

Wakutsu relates “to a memory system having a wireless communication function.” (DJI-1007, 1:14-15.) Wakutsu’s memory system includes “memory device 11 such as an SD card, and host 20.” (DJI-1007, 9:20-21, Figure 1 below.) Memory device 11 includes wireless LAN signal processing section 19a that “controls a wireless communication function based on, for example, Wi-Fi.” (DJI-1007, 10:21-24.)



Wakutsu, Figure 1

3. Shavit

Shavit relates to systems “for tracking flights, including in real-time, for analyzing the performance of the pilots of these flights, and/or for making suggestions for correcting the human errors made during these flights.” (DJI-1008, ¶2.) Shavit’s system includes data logger 202 that obtains and stores “location data

and other flight parameter data, and transmit[s] them to a ground-based server 203.” (DJI-1008, ¶39, Figure 2 below.) Ground-based server 203 “process[es] flight data transmitted from airborne data logger” and “store[s] it in a database such as an SQL database.” (DJI-1008, ¶56.)

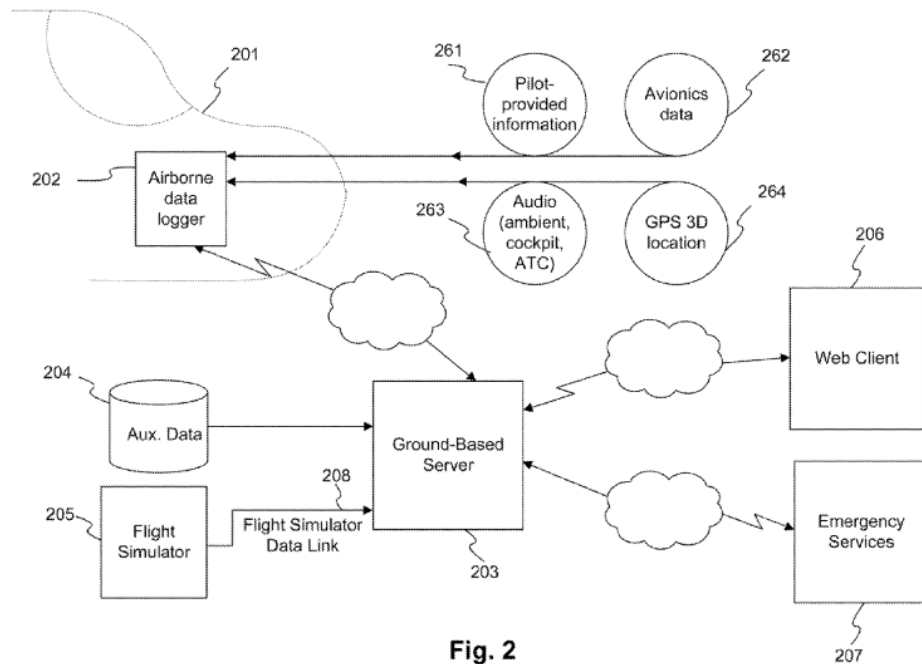


Fig. 2

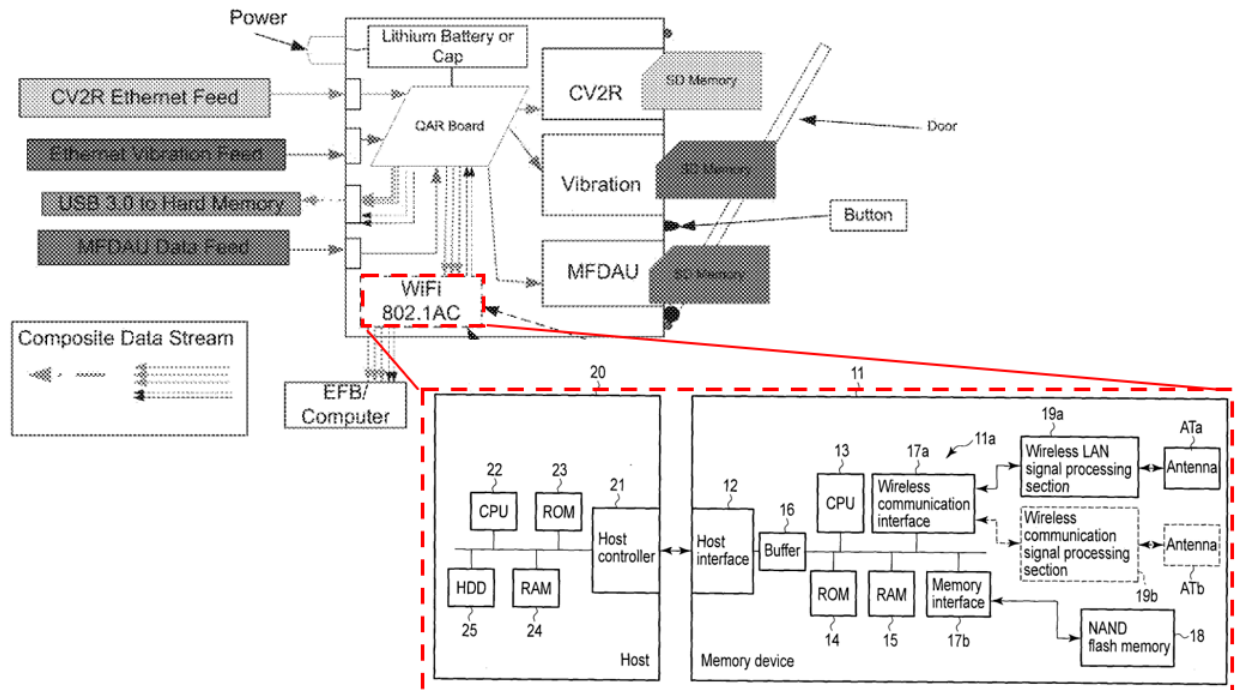
Shavit, Figure 2

4. Motivation to Combine

a. Warner and Wakutsu

A POSITA would have been motivated to combine Wakutsu’s WiFi SD card teachings with Warner’s QAR. (DJI-1003, ¶¶56-60.) Specifically, a POSITA would have been motivated to use Wakutsu’s WiFi SD card as the means for wireless transmission for the QAR and to incorporate Wakutsu’s host controller

and other electronic components necessary to support the SD card in Warner's QAR, as illustrated in the figure below. (*Id.*)



Warner, Figure 1 Excerpt; Wakutsu, Figure 1

A POSITA would have been motivated to make the above combination because Warner does not provide any detail regarding the wireless transmission means in its QAR other than it is accomplished using IEEE WiFi standards. (*See, e.g.,* DJI-1005, 4:38-43; DJI-1006, 4:10-11.) A POSITA would have therefore been motivated to search for techniques to implement wireless transmission and would have been led to Wakutsu which explicitly discloses a memory system for controlling wireless communications. (DJI-1003, ¶57.) Wakutsu is reasonably pertinent to a particular problem faced by the '950 patent, wireless transmission of

data. (*Id.*) In the '950 patent, “transmitter 303 is a Secure Digital (SD) or a non-volatile memory card that is configured to receive, store, and/or transmit data to and from avionics system 309.” (DJI-1001, 3:11-14.) Thus, Wakutsu’s WiFi memory card would have “logically commend[ed] itself” to an inventor’s attention in considering the problem addressed by the '950 patent. *See In re Icon Health and Fitness, Inc.*, 496 F.3d 1374, 1379-80 (Fed. Cir. 2007); DJI-1003, ¶57.

A POSITA would have been further motivated to combine Warner and Wakutsu to simplify QAR operation and maintenance. (DJI-1003, ¶58.) Although Warner describes transmission of data to a portable device during a flight, Warner stores flight data on one or more SD cards in the QAR for other uses. A POSITA would have understood using a wireless SD card for both the storage medium and wireless interface of Warner’s QAR would alleviate the need for an individual to retrieve the flight data from the QAR SD card after every flight for these other uses. (*Id.*) Instead, a POSITA would have been motivated to use the wireless capabilities of the SD card to transfer the data during flight to the pilot tablet/EFB and to other devices as needed post flight. (*Id.*)

Additionally, a POSITA would have been motivated to use a wireless SD card instead of embedded WiFi hardware in the QAR to simplify maintenance and upgrades to the QAR wireless capabilities. (DJI-1003, ¶59.) For example, a POSITA would have understood that updates or fixes to a removable wireless card

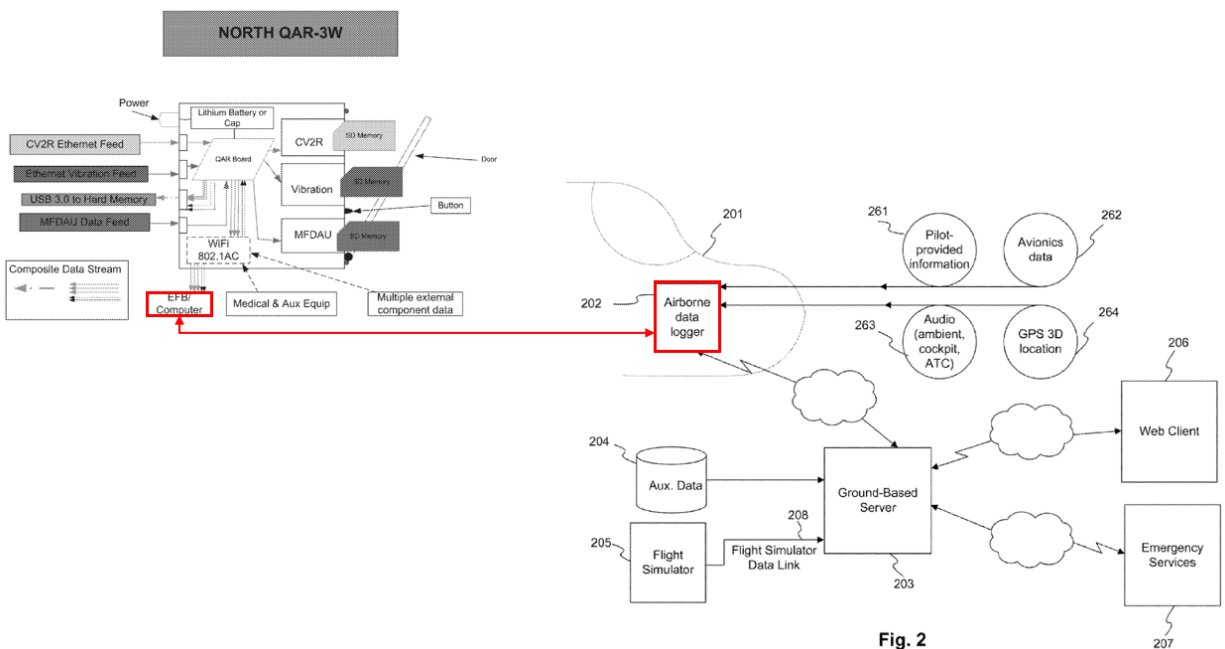
are made by replacing the SD card rather than replacing the entire QAR or taking the QAR out of service for an update. (*Id.*) Additionally, using a separate SD card to provide wireless capabilities allows a QAR manufacturer to implement a simpler more cost-effective device, increasing the market for the QAR product. (*Id.*) That is, the QAR merely needs to include an SD card interface and not an antenna and wireless communications hardware. (*Id.*)

Finally, the combination of Wakutsu's WiFi memory card with Warner is merely the substitution of one known element (Wakutsu's WiFi memory card) for another (Warner's WiFi module). (DJI-1003, ¶60.) The results of the combination would have been predictable and a POSITA would have had a reasonable expectation of success in the combination because wireless SD cards were known (even to undergraduate engineering students) and in use before the '950 patent. (*Id.*, *see also*, DJI-1003, ¶29.) For example, the SD Association announced a Wireless LAN SD standard in January 9, 2012, over a year before the '950 patent. (DJI-1017, 1.)

b. Warner, Wakutsu, and Shavit

A POSITA would have been motivated to A POSITA would have been motivated to combine Shavit's data logger teachings with the combined data collection system of Warner and Wakutsu. (DJI-1003, ¶¶61-65.) Specifically, as illustrated below, a POSITA would have been motivated to (1) implement Shavit's

data logger as an application on Warner’s pilot tablet/EFB and (2) use Shavit’s ground-based network (server, SQL database and web client) and associated applications as Warner’s “corporate data infrastructure for long time processing and preservation.” (See DJI-1005, 7:43-48; DJI-1006, 7:24-28.) Shavit and Warner are both from the same field as ’950 patent—aircraft data collection and monitoring. (DJI-1003, ¶61.)



Warner, Figure 1 (Left); Shavit, Figure 2 (Right)

Warner and Shavit both suggest the combination. (DJI-1003, ¶62.)

Specifically, Shavit’s data logger 202 (outlined in red in the above figure) “may also be implemented as a software application on a portable smartphone” or similar device “which is carried onboard an aircraft during flight.” (DJI-1008, ¶45, *see*

also, ¶108.) In Warner, “[d]uring aircraft operation (based upon customer selections) a data stream can be preferably accessed by **other applications running on the same EFB** which display, analyze and interact with customer commands (e.g., FOQA, Vibration Analysis, medical charting software).” (DJI-1005, 10:41-45; DJI-1006, 11:20-23; *see also*, DJI-1005, 8:43-45; DJI-1006, 9:3-4 (recorded data “is preferably made available to **other software programs** the customer wishes to run”).) Warner further suggests one desirable application is analyzing flight performance and flight crew performance. (DJI-1005, 2:10-13; DJI-1006, 2:20-23.) And one use disclosed for Shavit’s data logger application is “for a pilot’s self-improvement” which is consistent with Warner’s suggested use cases in flight and flight crew performance analysis. (DJI-1008, ¶108.) Thus, based on these suggestions, a POSITA would have been motivated to combine Shavit, Warner, and Wakutsu. (DJI-1003, ¶62.)

A POSITA would have further been motivated to combine Warner, Wakutsu, and Shavit based on the FAA’s EFB guidelines. (DJI-1003, ¶63, *citing* DJI-1015.) Specifically, an EFB “must be able to host Type A and/or Type B software applications.” (DJI-1015, 2.) Type A applications include “aircraft flight log and servicing records”, “pilot flight and duty-time logs”, “flight crew qualification logs”, and “aircraft captain’s logs.” (DJI-1015, Appendix 1.) Type B applications include “master flight plan/updating.” (DJI-1015, Appendix 2.) A

POSITA would have therefore been motivated to incorporate Shavit's data logger application to provide at least the log applications set forth in the FAA EFB guidelines. (DJI-1003, ¶63.)

A POSITA would have further been motivated to incorporate Shavit's data logger application and ground-based network teachings, including pilot performance monitoring, with Warner and Wakutsu to improve flight safety. (DJI-1003, ¶64.) Shavit suggests the combination describing an FAA study that “demonstrated that most airplane accidents are the result of human errors.” (DJI-1008, ¶4.) The FAA confirmed the need for a system using flight data to improve safety in its 2004 circular regarding the development, implementation, and operation of a Flight Operational Quality Assurance (FOQA) program which is “a voluntary safety program that is designed to make commercial aviation safer by allowing airlines and pilots to share de-identified aggregate information with the FAA.” (DJI-1018, 1.) Warner teaches support for FOQA. (*See* DJI-1005, 7:23-27, 7:57-63; DJI-1006, 7:12-17, 8:2-6.) A POSITA would have therefore understood and been motivated to incorporate Shavit's data logger application and ground-based performance analysis capabilities with Warner to track pilot performance, identify errors and areas for improvement, and to improve flight safety. (DJI-1003, ¶64.)

Finally, the combination is merely the use of a known technique (Shavit's data logger application and performance monitoring system) to improve similar devices (Warner's pilot tablet/EFB and corporate infrastructure) in the same way (provide pilot performance analysis) and applying a known technique (Shavit's data logger application and performance monitoring system) to a known device (Warner's pilot tablet/EFB and corporate infrastructure) ready for improvement. (DJI-1003, ¶65.) The results of the combination would have been predictable to a POSITA and a POSITA would have had a reasonable expectation of success because Shavit's data logger application is a software application running on a computer device and Shavit's performance monitoring system uses standard database technology and web applications. (*Id.*) Software applications running on devices such as tablets were well-known by 2013 and a POSITA would have understood how to implement and integrate such applications on Warner's pilot table/EFB. (*Id.*)

B. Independent Claim 9

1. Preamble [9P]

The combination of Warner, Wakutsu, and Shavit discloses an “*aircraft flight performance monitoring system*” [9P]. (DJI-1003, ¶¶119-122.) Warner's system performs “automatic acquisition of data, analysis of the collected data, and preferably automatic wireless transmission of the collected data and/or analysis of

the collected data to a destination for storage or analysis.” (DJI-1005, 2:44-52; DJI-1006, 2:27-32.) Analyses contemplated by Warner include support for the FAA’s voluntary Flight Operation Quality Assurance (FOQA) program. (DJI-1005, 7:25-27; DJI-1006, 7:13-14.) Shavit similarly provides systems “for tracking flights, including in real-time, for analyzing the performance of the pilots of these flights, and/or for making suggestions for correcting the human errors made during these flights.” (DJI-1008, ¶2.)

2. “Wireless Transmitter” Limitations [9A]

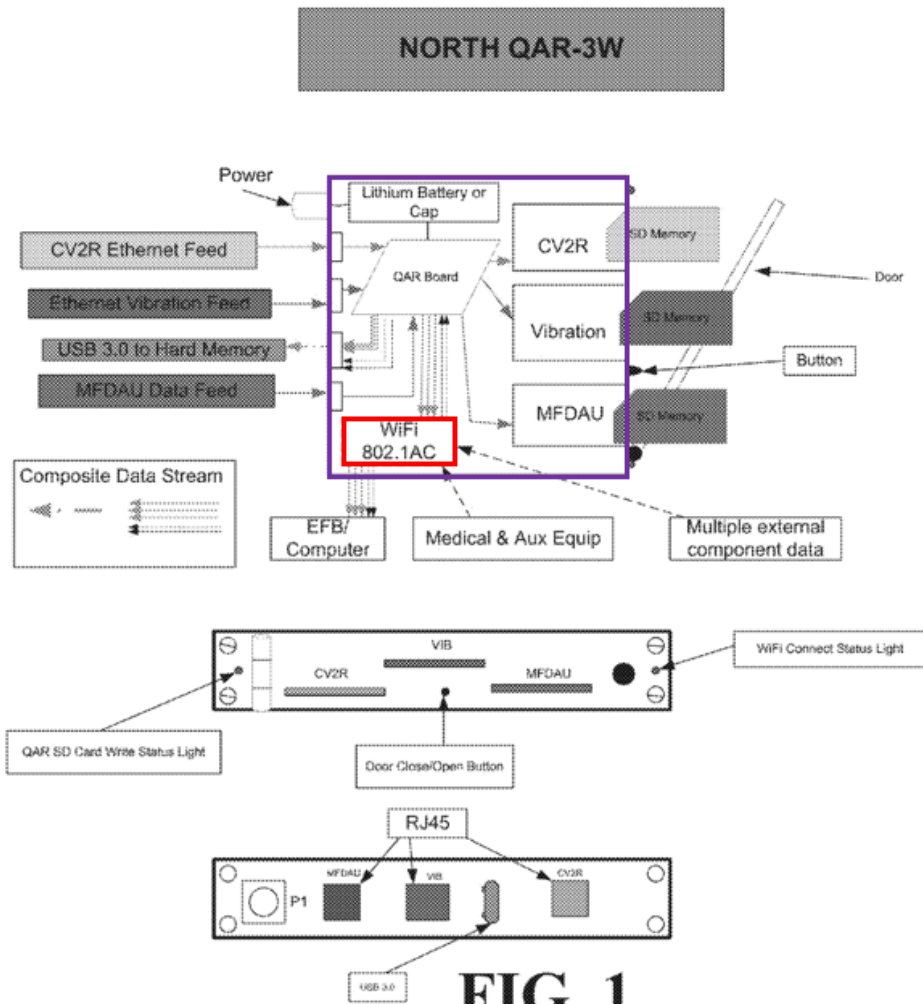
Claim 9 recites a set of limitations directed to a “*wireless transmitter*”:

[9A] *a wireless transmitter having memory,*

[9A.1] *the wireless transmitter in data communication with an avionics system of an aircraft,*

[9A.2] *the avionics system comprising a memory card interface and the wireless transmitter comprising a non-volatile memory card coupled to the memory card interface of the avionics system*

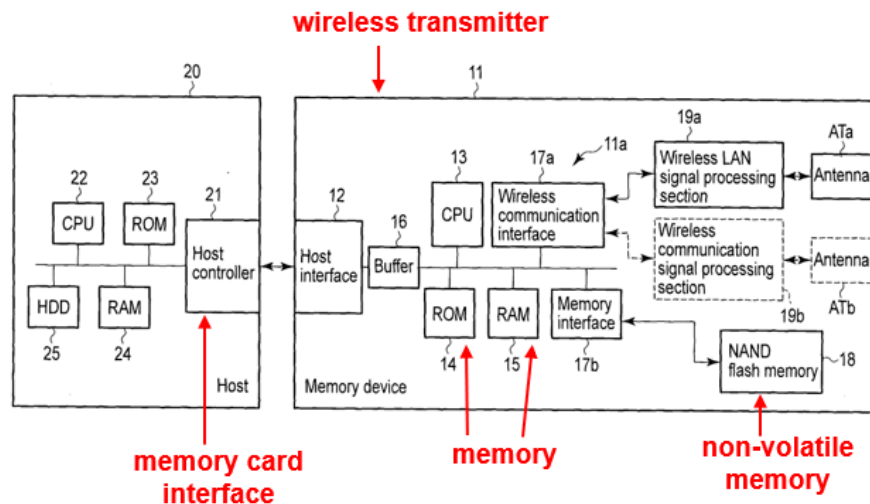
Warner’s system, illustrated in Figure 1 below, includes a QAR, highlighted by a purple box. Warner’s QAR is part of the aircraft’s “*avionics system*” because it is an electronic component used on an aircraft. (DJI-1003, ¶¶124, 71.)



Warner, Annotated Figure 1

Warner’s QAR includes “at least one slot for receiving a storage medium to record data.” (DJI-1005, 4:34-39; DJI-1006, 4:6-9.) The storage medium “is preferably a Secure Digital (SD) memory card.” (DJI-1005, 4:45-46; DJI-1006, 4:12-13, claim 6.) An SD card has a physical form factor and interface contacts defined by the SD card standards. (See DJI-1003, ¶¶125, 75, *citing* DJI-1019, 11-13.) From the perspective of the SD card, the QAR is a host device. (DJI-1003,

¶¶125, 76.) The host controller 11 in the host device (Warner’s QAR) “carries out interface processing between itself and the memory device 11” and “issues various commands.” (DJI-1007, 12:27-13:3, Figure 1 below.) The physical slot in the QAR receiving the SD memory card and the host controller are each a “*memory card interface*.” (DJI-1003, ¶¶125, 76.) Thus, the combination of Warner, Wakutsu, and Shavit discloses “*the avionics system*” comprises “*a memory card interface*” [9A.2]. (*Id.*)



Wakutsu, Annotated Figure 1

Wakutsu’s card 11 (above) includes wireless LAN signal processing section 19a connected to wireless communication interface 17a and antenna (ATa).” (DJI-1007, 10:8-13.) Card 11 further includes read only memory (ROM) 14 and random access memory (RAM) 15. (DJI-1007, 10:3-4.) Card 11 is therefore “*a wireless transmitter having memory*” [9A]. (DJI-1003, ¶¶123, 92.)

The QAR (“*avionics system*”) receives data from various feeds, including an MFDAU Data Feed, from an MFDAU which is also part of the avionics of the aircraft. (DJI-1005, 4:49-66; DJI-1006, 4:2-5.) In the combination, the “QAR board preferably directs a composite data stream to the EFB” using the WiFi SD card taught by Wakutsu. (DJI-1005, 5:5-6; DJI-1006, 4:28-29; *see* §V.A.4.) Thus, the combination of Warner, Wakutsu, and Shavit discloses “*the wireless transmitter in data communication with an avionics system of the aircraft*” [9A.1]. (DJI-1003, ¶¶124, 93-94.)

Wakutsu’s WiFi card 11 further includes NAND flash memory 18 which is non-volatile memory. (DJI-1003, ¶¶126, 95.) The “*wireless transmitter*” therefore comprises “*a non-volatile memory card.*” (*Id.*) The combination of Warner, Wakutsu, and Shavit therefore discloses that when the SD card is inserted into the card slot “*the wireless transmitter comprising a non-volatile memory card coupled to the memory card interface of the avionics system*” [9A.2]. (*Id.*)

3. “*Database*” Limitations [9B]

The combination of Warner, Wakutsu, and Shavit discloses two storage devices meeting the “*database*” limitations of claim 9—a database in the pilot tablet/EFB and a ground-based database. (DJI-1003, ¶¶127-130, 78-84.)

a. “Database” in the Aircraft

The data collected by Warner’s QAR is “combined into a combined data stream” which “is preferably transferred to either a fixed or portable onboard storage device via wireless transmission.” (DJI-1005, 5:5-7; DJI-1006, 4:29-30.) Specifically, after a wireless connection to the pilot tablet/EFB is established, the QAR “transmits all stored/buffered data and initiates the continuous flow of received data.” (DJI-1005, 9:61-64; DJI-1006, 10:25-27.) This data is then provided by the pilot tablet/EFB “to the EFB memory.” (DJI-1005, 8:25-29; DJI-1006, 8:25-27.) To store the received data, the pilot tablet/EFB “creates at least four (4) primary files (MFDAU, Voice, Video, and Vibration).” (DJI-1005, 10:18-26; DJI-1006, 11:6-15.) The structured information stored in a file structure of the pilot tablet/EFB is a “*database*.” (DJI-1003, ¶¶128-129, 79, *citing* DJI-1020, 304.)

Similarly, in Shavit, the flight data collected by the data logger (which is the pilot table/EFB in the combination) is “stored in a **persistent database** on the airborne data logger 202, together with the time of data collection.” (DJI-1008, ¶62.) Thus, Shavit confirms that the file structure of the EFB is a “*database*” in the combination. (DJI-1003, ¶¶128-129, 80.) Because the QAR (“*avionics system*”) transmits the data to the pilot tablet/EFB, the combination of Warner and Shavit discloses “*a database in data communication with the avionics system*” [9B]. (DJI-1003, ¶¶128-129, 79-81.)

The data collected by the QAR and stored in the internal database includes aircraft, state, component data, and vibration information collected during flight. (See, e.g., DJI-1005, 4:61-66, claims 8, 15; DJI-1006, 4:20-24, claims 23, 41.) This information is “*information relating to ... flight performance of the aircraft during flight.*” (DJI-1003, ¶¶130, 82.)

In the combination of Warner, Wakutsu, and Shavit, the pilot “types in or selects his name, the name of the co-pilot if any, and the aircraft’s serial number” into the pilot tablet/EFB running the data logger, as taught by Shavit. (DJI-1008, ¶108; see also, ¶66.) This information is “*information relating to a pilot flying the aircraft.*” (DJI-1003, ¶¶130, 83.) The pilot information is subsequently transmitted to the ground-based server after the flight concludes and therefore is stored in the internal “*database*” of the pilot tablet/EFB after entry by the pilot. (See, DJI-1008, ¶¶46-50; DJI-1003, ¶¶130, 84.)

The combination of Warner, Wakutsu, and Shavit therefore discloses the “*database being configured to store information relating to a pilot flying the aircraft during flight and the flight performance of the aircraft during flight*” [9B.1]. (DJI-1003, ¶¶130, 78-84.)

b. “Database” external to the aircraft.

In Warner, the pilot tablet/EFB receives data from the wireless transmitter and packages it “for off load to a corporate data infrastructure for long time

processing and preservation.” (DJI-1005, 7:43-48; DJI-1006, 7:25-28.) In the combination of Warner, Wakutsu, and Shavit, Shavit’s data logger functionality (running as an application on Warner’s pilot tablet/EFB) “collects location information and other flight-related data” and “relays it to ground-based server 203.” (DJI-1008, ¶45.) Ground-based server 203 “process[es] flight data transmitted from airborne data logger” and “store[s] it in a database such as an SQL **database**.” (DJI-1008, ¶56.) Thus, in the combination of Warner, Wakutsu, and Shavit, the WiFi SD card receives flight data from the QAR (“*avionics system*”) and communicates the data to the pilot tablet/EFB running the data logger which, in turn, relays the data to the ground-based server which stores the data in a database. (DJI-1003, ¶¶128, 86.) The combination of Warner, Wakutsu, and Shavit therefore discloses “*a database in data communication with the avionics system*” [9B]. (DJI-1003, ¶¶128, 85-86.)

Shavit’s ground-based server maintains the stored data as Time-Stamped Flight Data (TSFD), shown in Figure 5 below. The TSFD includes “avionics data 263 (e.g., data from the aircraft's on-board avionics systems, such as airspeed, pitch and bank angles, engine RPM and manifold pressure, and piston and oil temperatures).” (DJI-1008, ¶58.) This stored TSFD data is “*information relating to ... flight performance of the aircraft during flight.*” (DJI-1003, ¶¶130, 87, 89.) The TSFD data also includes “pilot-provided information 261 (e.g., pilots' names

and the aircraft's tail number)” (DJI-1008, ¶¶48, 58) and “cockpit and air traffic control (ATC) audio 262 (e.g., cockpit conversations, ambient cockpit audio, as well as external radio communications)” (DJI-1008, ¶¶50, 58) which are each an example of “*information relating to a pilot flying the aircraft*” (DJI-1003, ¶¶130, 88-89.)

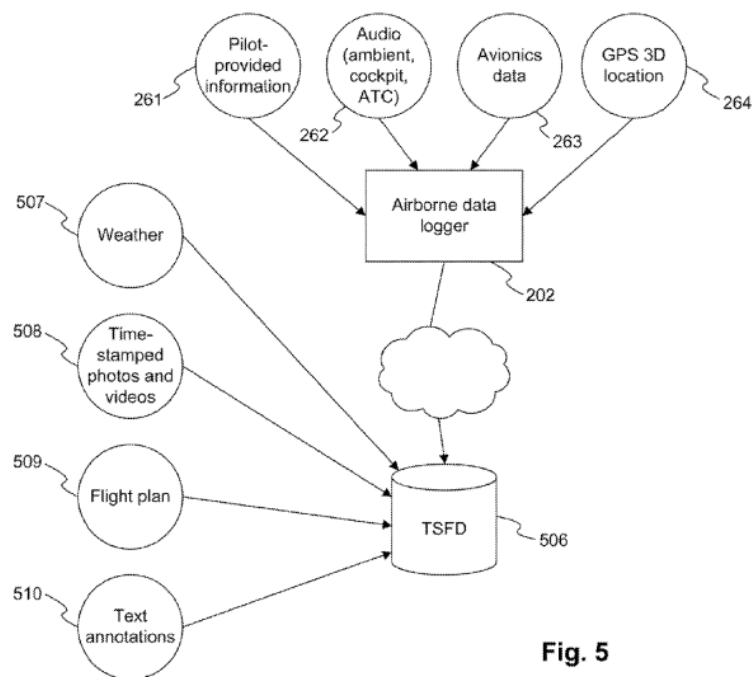


Fig. 5

Shavit, Figure 5

Thus, the combination of Warner, Wakutsu, and Shavit discloses an external “*database being configured to store information relating to a pilot flying the aircraft during flight and flight performance of the aircraft during flight*” [9B.1]. (DJI-1003, ¶¶130, 87-90.)

4. “*Transceiver*” Limitations

Claim 9 recites a set of limitations directed to “*a transceiver*”:

[9C] *a transceiver comprising an input device,*

[9C.1] *the transceiver having a transceiver identity associated with pilot identification information,*

[9C.2] *the transceiver being configured for receiving information relating to sensed flight performance from the wireless transmitter, for associating the thus received information with the pilot identification information associated with the transceiver identity, and for transmitting the received information with the thus associated pilot identification information to the database;*

...

[9F] *wherein the pilot identification information is entered directly into the input device of the transceiver.*

a. “*Transceiver*”

In Warner, collected data, sensed by the sensors associated with the QAR “is automatically wirelessly **transmitted to** the EFB or other portable electronic device carried by the pilot or other crew member onto the aircraft, then automatically wirelessly **downloaded from** the EFB or other portable electronic device”. (DJI-1005, 3:21-29, 7:49-55; DJI-1006, 7:29-8:1.) Shavit similarly discloses the device running the data logger application provides a **bi-directional** data-link, implemented using wireless data communication, to ground-based server

203. (DJI-1008, ¶45.) Thus, the pilot tablet/EFB is configured to both transmit and receive data—i.e., it includes a “*transceiver*.” (DJI-1003, ¶¶131, 97-98.)

b. “*Transceiver comprising an input device*” [9C], “*Pilot identification information is entered directly*” [9F].

The pilot tablet/EFB running the data logger application includes an “*input device*” permitting a user to input data and configuration settings into the device. (DJI-1003, ¶¶131, 99.) For example, in Shavit, using this interface, the pilot “types in or selects his name, the name of the co-pilot if any, and the aircraft’s serial number.” (DJI-1008, ¶108; *see also*, ¶66 (“pilot enters an aircraft serial number into airborne data logger 202”).) Additionally, the FAA EFB guidelines specify the requirements for the user “input devices” of an EFB, confirming that Warner’s pilot tablet/EFB also includes an “*input device*.” (DJI-1015, 17; DJI-1003, ¶¶131, 99.) Thus, the combination of Warner, Wakutsu, and Shavit discloses “a *transceiver comprising an input device*” [9C]. (DJI-1003, ¶¶131, 99.)

The name of the pilot entered into the pilot tablet/EFB is “*pilot identification information*.” (DJI-1003, ¶100; DJI-1008, ¶¶131, 108.) Thus, the combination of Warner, Wakutsu, and Shavit discloses “*pilot identification information is entered directly into the input device of the transceiver*” [9F]. (*Id.*)

c. ***“Transceiver having a transceiver identity”*** [9C.1]

The combination of Warner, Wakutsu, and Shavit teaches or at least suggests “*the transceiver having a transceiver identity.*” (DJI-1003, ¶¶131, 101-105.) The ’950 patent mentions a transceiver identity once: “The method also allows the data to be associated with the pilot/user via the transceiver 305 identity.” (DJI-1001, 4:32-36.) The ’950 patent does not disclose the “transceiver identity” or the steps required to associate data with the transceiver identity. The specification however does indicate “wireless communications is occurring through a **standardized** and controlled **interface.**” (DJI-1001, 4:28-30.) A POSITA would have therefore understood that the “*transceiver identity*” in the ’950 patent encompasses data associated with the standardized communications protocol being used. (DJI-1003, ¶¶131, 101.)

A POSITA would have understood that a WiFi networking device, such as Warner’s pilot tablet/EFB, includes a MAC address assigned by the manufacturer. (DJI-1003, ¶¶131, 103.) Warner and Wakutsu both disclose wireless communication using the IEEE 802.11 standard. (DJI-1005, 4:41-43; DJI-1006, 4:10-11; DJI-1007, claims 10, 20.) A POSITA would have understood that the IEEE 802.11 wireless LAN protocol used by Warner and Wakutsu includes a networking device’s MAC address in the MAC sublayer in each transmitted message. (DJI-1003, ¶¶131, 102-103, citing DJI-1021, 40-41, DJI-1022, 31-43; *see*

also, DJI-1009, 7:16-19 (MAC address is provided at a physical location (e.g., inside a battery cover) on the portable device).) Accordingly, because the pilot tablet/EFB of Warner, Wakutsu, and Shavit wirelessly receives and transmits data using the standardized IEEE 802.11 protocol, the MAC address of the device is its “*transceiver identity*.” (DJI-1003, ¶¶131, 103-105.)

The “*pilot identification information*” is stored in the “*database*” of the pilot tablet/EFB. (DJI-1003, ¶¶131, 83, 88-89; *See* §V.B.3.) By storing the “*pilot identification information*” in the pilot tablet/EFB having a “*transceiver identity*” (MAC address), the “*transceiver identity [is] associated with pilot identification information*.” (DJI-1003, ¶¶131, 106.)

The “*pilot identification information*” is subsequently transmitted with the flight performance data to the ground-based server using the 802.11 protocol. (*See* DJI-1005, 4:41-43; DJI-1006, 4:10-11; DJI-1008, ¶¶46-50.) Should PO argue that Shavit does not explicitly disclose an embodiment that transmits “*pilot identification information*” with the flight performance data, a POSITA would have understood that Shavit teaches such transmission. (DJI-1003, ¶¶131, 108.) Shavit’s ground-based TSFD stores flight data and pilot identification information. (*See* DJI-1008, ¶¶56-58; DJI-1003, ¶52.) Shavit further discloses that a pilot accesses her flight data from the TSFD database via web client 206. (*See* DJI-1008, ¶88.) A POSITA would have therefore understood that flight performance data

would be transmitted with the pilot identification information to provide the necessary information for the received data to be associated with the proper record(s) in the TSFD. (DJI-1003, ¶¶131, 108.) Accordingly, a POSITA would have understood that Shavit discloses transmitting “*pilot identification information*” with the flight performance data. (*Id.*) Alternatively, a POSITA would have been motivated to communicate flight performance data with pilot identification information to enable the association of flight performance data with a pilot record via the pilot identification information in the ground-based database. (*Id.*) Therefore, if PO argues this limitation is not explicitly disclosed by Shavit, Shavit renders this limitation obvious. (*Id.*)

By transmitting the “*pilot identification information*” in a wireless message that includes the MAC address of the pilot tablet/EFB in the MAC sublayer, the combination of Warner, Wakutsu, and Shavit discloses the “*transceiver identity associated with pilot identification information*” [1C.1]. (DJI-1003, ¶¶131, 107-109.)

d. “*Transceiver being configured for ...*” [9C.2]

The sensor data collected by the QAR is “automatically transmit[ed]” by WiFi SD card (“*wireless transmitter*”) inserted into the physical memory card interface to a pilot tablet/EFB. (DJI-1005, Abstract, 2:44-48; DJI-1006, Abstract, 2:27-3:4, claims 1, 30; *see also*, DJI-1005, 5:7-9; DJI-1006, 4:29-30.) Thus, the

combination of Warner, Wakutsu, and Shavit discloses “*the transceiver being configured for receiving information relating to sensed flight performance from the wireless transmitter*” [9C.2]. (DJI-1003, ¶¶131, 110-111.)

As discussed above, the pilot tablet/EFB associates received flight performance data with the “*pilot identification information*” which is associated with the transceiver identity. This data is then transmitted by the “*transceiver*” of the pilot tablet/EFB to the “*database*” of the pilot tablet/EFB for storage in the pilot’s files (log). (See §V.B.3; DJI-1003, ¶¶131, 112.) The received data is further “automatically wirelessly downloaded” from the pilot tablet/EFB to the external database when the “device is removed from the aircraft.” (DJI-1005, 3:21-31; DJI-1006, Abstract, claim 35; *see also* DJI-1005, 7:43-48 (pilot tablet/EFB “packages data for off load to a corporate data infrastructure for long time processing and preservation”); DJI-1006, 7:25-28.) The data transmitted to ground-based server 203 in the combination includes “pilot-provided information 261, such as pilot and co-pilot names, and aircraft serial number” (DJI-1008, ¶48) and avionics data 262 from the aircraft's digital avionics systems “including airspeed, altitude, bank and pitch angles, engine RPM, various engine temperatures, and manifold pressure” (DJI-1008, ¶50; V.B.4.c.)

Thus, the combination of Warner, Wakutsu, and Shavit discloses “*the transceiver being configured ... for associated the thus received information with*

the pilot identification information associated with the transceiver identity, and for transmitting the received information with the thus associated pilot identification information to the database” [9C.2]. (DJI-1003, ¶¶131, 112.)

5. “Only Accessible” [9D]

The “*sensed flight performance*” data is stored in at least two locations in the combined system of Warner, Wakutsu, and Shavit: the local “*database*” of the pilot tablet/EFB and the external ground-based server “*database.*” (See §V.B.3.) In both storage locations, “*the stored sensed flight performance is only accessible with the associated pilot identification information*” [9D]³. (DJI-1003, ¶¶132, 114-117.)

Warner’s pilot tablet/EFB contains “a governing application which drives ... security.” (DJI-1005, 10:25-28; DJI-1006, 11:11-13.) Specifically, the “application will preferably have a set up function that will store security settings and customer driven options within nonvolatile memory.” (DJI-1005, 10:29-32; DJI-1006, 11:13-15.) Although Warner does not explicitly disclose the security settings used in the pilot tablet/EFB, a POSITA would have understood that the pilot tablet/EFB

³ The ’950 patent does not provide written description support for this limitation. Petitioner reserves the right to challenge this limitation under 35 U.S.C. §112 in another forum.

is protected using a common access security mechanism such as the pilot's log-in and password. (DJI-1003, ¶¶132, 115, *citing* DJI-1023, 8:5-7.) Indeed, Shavit teaches the use of a user's credentials to control access to stored data. (*See* DJI-1008, ¶87.) The combination of Warner, Wakutsu, and Shavit therefore teaches or at least suggests the “*the stored sensed flight performance [in the database of the pilot tablet/EFB] is only accessible with the associated pilot identification information*” [9D]. (DJI-1003, ¶¶132.)

After the flight data is stored in the external database, ground-based server 203 “communicate[s] with at least one web client 206” which “display[s] data and analysis related to at least one flight, according to a user's request and authorization.” (DJI-1008, ¶40.) The log-in for the user “allow[s] the user to access information based on the user's credentials, as determined by the web client 206 software running on the workstation.” (DJI-1008, ¶87.) The user credential for a pilot includes “*pilot identification information.*” (DJI-1003, ¶¶132, 116.) For example, web client 206 “allow[s] access to flight data only to the pilots of the flight and permit these pilots to share any of the data of their flights with others, either manually (per-flight) or automatically (e.g., a student pilot may setup an automatic share of all his flights with his instructor).” (DJI-1008, ¶88, *see also*, DJI-1008, claim 33 (“establishing a secure connection with a remote database based on user credentials”).) Accordingly, in the combination of Warner, Wakutsu,

and Shavit, “*the stored sensed flight performance [in the ground-based database] is only accessible with the associated pilot identification information*” [9D]. (DJI-1003, ¶¶132, 116-117.)

6. Data Flow limitation [9E]

As discussed in §V.B.2 above, in Warner, flight performance data is collected by the QAR (“*avionics system*”). (See DJI-1005, 2:44-48; DJI-1006, 2:27-29.) The collected data “is automatically wirelessly transmitted” to the communication component included in the pilot tablet/EFB by means for wireless communication (WiFi module) (“*wireless transmitter*”). (DJI-1005, 3:21-25; DJI-1006, Abstract, claims 1, 30.) The data is then transmitted by the communication component in the pilot tablet/EFB to the local “*database*” in the pilot tablet/EFB for storage. After the pilot tablet/EFB “is removed from the aircraft”, the stored flight data is “automatically wirelessly downloaded” from the pilot tablet/EFB and stored in the ground-based “*database.*” (DJI-1005, 3:25-31; DJI-1006, claims 1, 30; DJI-1008, ¶¶45, 56.)

Thus, for these reasons and the reasons discussed in §§V.B.2-4, the combination of Warner, Wakutsu, and Shavit discloses “*the wireless transmitter is configured to receive and transmit flight performance data from the avionics system to the transceiver, which in turn is transmitted to the database*” [9E]. (DJI-1003, ¶¶133-134.)

C. Independent Claim 13

1. Preamble [13P]

For the reasons discussed in §V.B.1, the combination of Warner, Wakutsu, and Shavit also discloses a “*method to monitor aircraft flight performance data*” [13P]. (DJI-1003, ¶¶136, 119-122.)

2. “*Providing an avionics system*” [13A], “*Sensing*” [13B] and “*providing a wireless transmitter*” [13C]

Claim 13 recites two limitations directed to “providing” structural elements—“*an avionics system*” and “*a wireless transmitter.*” The combination of Warner, Wakutsu, and Shavit discloses these limitations.

As discussed in §V.B.2, Warner describes an QAR that performs the “automatic acquisition of data, analysis of the collected data, and preferably automatic wireless transmission of the collected data and/or analysis of the collected data to a destination for storage or analysis.” (DJI-1005, 2:44-48; DJI-1006, 2:27-29, claims 1, 30, Abstract.) Warner’s QAR is “*an avionics system*” because it is an electronic component used on an aircraft. (DJI-1003, ¶¶138, 124, 71; See §V.B.2.) Thus, Warner discloses “*providing an avionics system*” [13A]. (DJI-1003, ¶138.)

Warner discloses “a process of collecting data” including “**internal** and external data that may include data acquired from an **analog or digital sensor.**” (DJI-1005, 7:8-12; DJI-1006, 7:4-5.) The internal sensors, which are also

electronic components in an aircraft, are part of the aircraft's "*avionics system*." (DJI-1003, ¶¶139-140.) Thus, the combination of Warner, Wakutsu, and Shavit discloses "*providing an avionics system*" [13A] comprising "*a sensor for sensing flight performance data*" [13A.1] and "*sensing flight performance data with the sensor*" [13B]. (DJI-1003, ¶¶139-141.)

As discussed in §V.B.2, the combination of Warner, Wakutsu, and Shavit discloses that the QAR ("*avionics system*") includes a "*memory card interface*" [13A.2]. (DJI-1003, ¶¶142, 125, 76.)

For the reasons as discussed in §V.B.2, the combination of Warner, Wakutsu, and Shavit discloses "*providing a wireless transmitter comprising: memory; and a non-volatile memory card configured for coupling to the memory card interface of the avionics system*" [13C]. (DJI-1003, ¶143, 123, 126, 92, 95.)

3. "*Transmitting the sensed flight performance data to a transceiver ...*" [13D].

Limitation [13D] recites overlapping subject matter with limitations [9C.1] ("*transceiver identity*") and [9E] ("*transmit[ting] flight performance data ... to the transceiver*"). For the same reasons as discussed in §§V.B.4.a, c, V.B.6, the combination of Warner, Wakutsu, and Shavit discloses "*transmitting the sensed flight performance data to a transceiver having a transceiver identity associated*

with pilot identification information” [13D]. (DJI-1003, ¶¶144, 131, 97-98, 101-105, 133-134.)

4. “*Entering the pilot identification information directly on the transceiver*” [13E].

Limitation [13E] is substantially the same as limitation [9F]. Accordingly, for the reasons discussed in §V.B.4.b, the combination of Warner, Wakutsu, and Shavit discloses “*entering the pilot identification information directly on the transceiver*” [13E]. (DJI-1003, ¶¶145, 131, 99, 108.)

5. “*Associating, by the transceiver, the sensed flight performance data ...*” [13F].

As discussed in §V.B.4.d, the combination of Warner, Wakutsu, and Shavit discloses “*the transceiver [is] configured ... for associating the thus received information with the pilot identification information associated with the transceiver identity*” [9C.2]. The received information includes “*sensed flight performance data.*” (See §V.B.2.) For the reasons discussed in §§V.B.2, V.B.4.d, the combination of Warner, Wakutsu, and Shavit discloses “*associating, by the transceiver, the sensed flight performance data received from the wireless transmitter with the pilot identification information associated with the transceiver identity*” [13F]. (DJI-1003, ¶¶146, 131, 112-113.)

6. “Transmitting, by the transceiver, the received sensed flight performance data ...” [13G].

The combination of Warner, Wakutsu, and Shavit discloses “*the transceiver [is] configured ... for transmitting the received information with the thus associated pilot identification information to the database*” [9C.2]. For the reasons discussed in §V.B.4.d, the combination of Warner, Wakutsu, and Shavit discloses “*transmitting, by the transceiver, the received sensed flight performance data with the associated pilot identification information to a database*” [13G]. (DJI-1003, ¶¶147, 131, 112)

7. “Allowing access to the received sensed flight performance data ...” [13H].

Limitation [13H] is substantially the same as limitation [9D]. Accordingly, for the reasons discussed in §V.B.5, the combination of Warner, Wakutsu, and Shavit discloses “*allowing access to the received sensed flight performance data only with the associated pilot identification information*” [13H]. (DJI-1003, ¶¶148, 132, 114-117.)

D. Dependent Claims

1. Claims 10 and 16

As discussed in §V.B.2, Wakutsu’s WiFi SD card is a “*wireless transmitter*” and a “*non-volatile memory card.*” Wakutsu’s memory card 11 “is also called an **SD card.**” (DJI-1007, 9:21-22.) Because the WiFi SD card is inserted into the

QAR memory card slot, the combination of Warner, Wakutsu, and Shavit discloses “*the wireless transmitter removably attaches to the avionics system*” [10], and “*the non-volatile memory card is an SD card*” [16]. (DJI-1003, ¶156.)

2. Claim 11

As discussed in §V.B.4, Wakutsu’s WiFi SD card wirelessly transmits the acquired data from the QAR to the pilot tablet/EFB. (DJI-1005, 5:45-47; DJI-1006, 5:7-9.) Thus, for the reasons discussed in §V.B.4, the combination of Warner, Wakutsu, and Shavit discloses “*the transceiver is configured to wirelessly receive information from the wireless transmitter.*” (DJI-1003, ¶162.)

3. Claim 12

Warner does not explicitly teach the pilot tablet/EFB is implemented as a “*smartphone.*” Shavit discloses its data logger is “a software application on a portable smartphone, such as an iPhone, which is carried onboard an aircraft during flight.” (DJI-1008, ¶45.) A POSITA would have been motivated to use a smartphone for the pilot tablet/EFB running Shavit’s data logger in the combination as suggested by Shavit. (DJI-1003, ¶151.) Use of smartphones was common by 2013 and as such would not have required any special aviation or other training to operate. (*Id.*) A POSITA would have understood that use of a smartphone would be more convenient for the pilot because it would eliminate the need for a special purpose device for data logging. (*Id.*) Smartphones were also

lightweight and designed to fit within a pocket or bag, i.e., easily portable by the pilot. (*Id.*) Additionally, a POSITA would have understood that the availability of over the air updates for smartphones would have simplified updates and maintenance of the data logger application, further motivating the combination. (*Id.*) Thus, the combination of Warner, Wakutsu, and Shavit teaches or at least suggests “*the transceiver is a smartphone*” [12]. (*Id.*)

4. Claim 14

In Warner, the collected data is “automatically **wirelessly downloaded** from the EFB”. (DJI-1005, 3:21-29, 7:49-55; DJI-1006, 7:29-8:1, claims 1, 30, Abstract.) Shavit similarly discloses the device running the data logger application provides a bi-directional datalink, implemented using **wireless data communication**, to ground-based server 203. (DJI-1008, ¶45.) Thus, the combination of Warner, Wakutsu, and Shavit discloses “*transmitting by the transceiver of the associated sensed flight performance data and pilot identification information includes wirelessly transmitting the associated sensed flight performance data and pilot identification information to the database.*” (DJI-1003, ¶¶163-164.)

VI. GROUND 2: Combination of Warner, Wakutsu, Shavit, and Greubel renders claims 9-14 and 16 obvious.

Independent claims 9 and 13 each recite the limitation: “*transceiver having a transceiver identity associated with pilot identification information*” [9C.1]/[13D].

The claims do not specify the component performing the association of the transceiver identity with the pilot identification information or when such an association occurs. Should PO argue this limitation requires association of the transceiver identity with pilot identification information after the flight performance data is transmitted to the database so pilot privacy is maintained⁴,

Petitioner disagrees because the independent claims explicitly recite the “*transceiver*” transmits “*received information*” to the database “***with*** the thus associated pilot identification information to the database” [9C.1]/[13D].

Accordingly, no pilot confidentiality exists in this message. (DJI-1003, ¶165.)

Regardless, should this interpretation be applied, Greubel discloses remote association of vehicle operator identification information with a transceiver identifier.

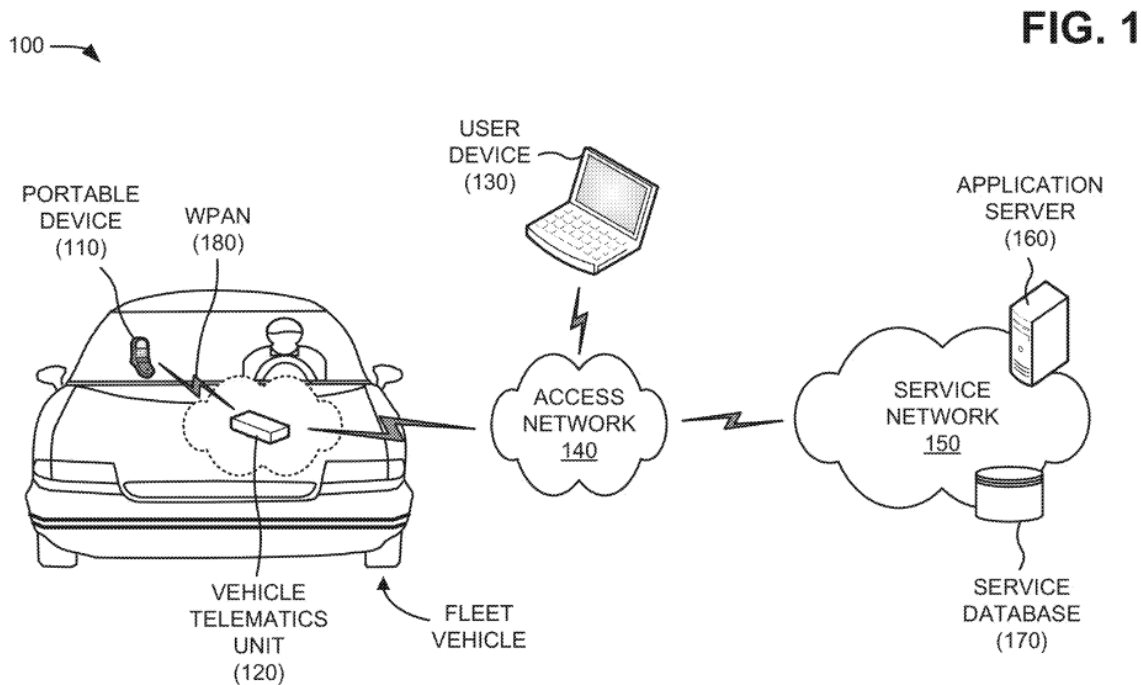
⁴ Applicant argued during prosecution the “claimed system allows pilot’s data to remain private by tying the data with a unique identifier on the transceiver.” (DJI-1002, 202-204.)

A. Combination Overview

1. Greubel

In Greubel, a portable device's MAC address is "registered with a fleet management system to associate a driver with the portable device." (DJI-1009, 1:57-60.) In one embodiment, the MAC address is "manually obtained by accessing a settings screen on portable device 110 or by viewing the MAC address from a physical location (e.g., inside a battery cover) on portable device 110." (DJI-1009, 7:16-19.) In another embodiment, another device discovers the portable device's MAC address via the wireless protocol. (*See* DJI-1009, 7:20-21.)

Greubel's application server 160 provides "a web page to manage registration and storage of MAC addresses (or other unique identifiers) that are associated with a portable device 110 and/or a fleet vehicle driver." (DJI-1009, 4:12-16, Figure 1 below.) For example, application server 160 provides a web-based application "to submit the MAC addresses of portable devices and the vehicle driver identifiers." (DJI-1009, 4:17-21.) When vehicle performance data is subsequently received by the remote network, the application server "match[es] the MAC address" provided in the message "to a driver identifier." (DJI-1009, 8:11-12.) The server then "log[s] the MAC address and/or driver identifier in service database 170 with additional vehicle data." (DJI-1009, 8:13-15.)



Greubel, Figure 1

2. Motivation to Combine

A POSITA would have been motivated to combine Greubel's teachings regarding associating a MAC address with a vehicle operator identity as a selectable mode of operation in the combined system of Warner, Wakutsu, and Shavit. (DJI-1003, ¶¶171-176.) For example, a POSITA would have been motivated to add an option that associates the MAC address of the pilot tablet/EFB carried by the pilot with pilot identification information in the ground-based server, as taught by Greubel. (DJI-1003, ¶171.) When this option is selected, data is transmitted from the pilot tablet/EFB to the ground-based server with the pilot identification information removed or obscured (e.g., encrypted). (*Id.*) A database

at the ground-based server which stores MAC address/pilot identifier associations is subsequently queried to associate the pilot information with the received flight data, as taught by Greubel. (*Id.*)

A POSITA would have been motivated to make the above combination to meet confidentiality goals set forth by the FAA as part of the FOQA program. (DJI-1003, ¶172.) Specifically, “[d]ata that could be employed to determine flight crewmember identity are removed from view in the electronic record as part of the initial processing of the airborne data.” (DJI-1018, 8; *see also* DJI-1024, ¶¶14-15.) In the FOQA, the only person with the ability to associate the flight data with an individual is a “gatekeeper” designated by the pilot union’s flight safety team. (DJI-1018, 4, 8, 31; DJI-1024, ¶15.) Thus, a POSITA would have been motivated to make the above combination to improve the confidentiality and privacy of sensitive pilot data. (DJI-1003, ¶172.) A POSITA would have further recognized that enhanced pilot confidentiality would improve pilot perception of FOQA which is a voluntary safety program and would increase adoption of the program. (*Id.*)

A POSITA would have been motivated to combine Greubel with Warner and Shavit because Greubel is in the same general field of endeavor as the ’950 patent—monitoring and analysis of vehicle and operator performance. (DJI-1003, ¶173.) Greubel is also reasonably pertinent to the problem addressed in the ’950 patent—improved techniques for monitoring and analyzing vehicle performance

data. (*See* DJI-1001, Abstract, 2:11-13, 3:1-41 (“It will be appreciated that the features of system 301 discussed herein are hereby incorporated in ... other similarly suitable aircraft and/or vehicles”).) For example, the ’950 patent describes use of its system to provide feedback to a pilot including a “safety score” for a particular flight. (*See* DJI-1001, 4:54-64.) Greubel’s system, used in fleet management, similarly associates vehicle data with the driver. (*See, e.g.*, DJI-1009, 8:11-19.) These fleet management systems are designed to evaluate vehicle operator performance. (DJI-1003, ¶174, *citing* DJI-1025, 1:14-22, DJI-1026, ¶65.) Additionally, like air travel, regulatory agencies have an interest in obtaining trip/vehicle data and monitoring drivers to improve safety. (*See* DJI-1003, ¶¶173-175, *citing* DJI-1025, 1:23-31; DJI-1026, ¶65.)

Finally, the combination of Greubel with the Warner, Wakutsu, and Shavit is simply the use of a known technique (associating a MAC address with a vehicle operator) to improve similar devices (the flight performance monitoring system of Warner, Wakutsu, and Shavit) in the same way (associating pilot information with device identifier) and applying a known technique (associating pilot information with device identifier) to a known device (a flight performance monitoring system). (DJI-1003, ¶176.) Applying the known technique would have resulted in an improved system that provided added confidentiality for pilots, as discussed above. (*Id.*) The results of the combination would have been predictable and a

POSITA would have had a reasonable expectation of success because the combination merely stores the MAC address and vehicle operator information in a database, a concept which was well-known before the '950 patent. (*Id.*)

B. Independent Claims

The combination of Warner, Wakutsu, Shavit, and Greubel discloses “*the transceiver having a transceiver identity associated with pilot identification information*” [9C.1]/[13D]. For the reasons discussed in §V.B, the combination of Warner, Wakutsu, Shavit, and Greubel discloses the remaining independent claim limitations.

As discussed in §V.B.4.c, a MAC address is an identifier assigned to a networking device, such as the portable device in the combination of Warner, Wakutsu, Shavit, and Greubel, and is therefore a “*transceiver identity*.” In the combination, the MAC address of an pilot tablet/EFB is stored in a database to associate a vehicle operator (pilot) with the pilot tablet/EFB, as taught by Greubel. (*See* DJI-1009, 1:57-60.) Subsequently, when data is received from the pilot tablet/EFB, the database “match[es] the MAC address” to the pilot identifier and logs the MAC address and/or driver identifier in the database with the flight data, as taught by Greubel. (*See* DJI-1009, 8:11-15.)

Thus, the combination of Warner, Wakutsu, Shavit and Greubel discloses the “*transceiver having a transceiver identity associated with pilot identification information*” [9C.2]/[13D]. (DJI-1003, ¶¶177-179.)

C. Dependent Claims

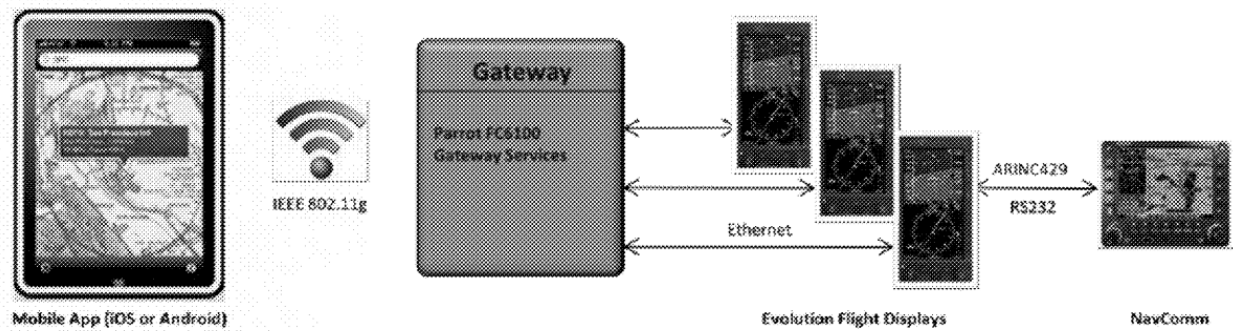
The combination of Warner, Shavit, and Greubel discloses the subject matter of dependent claims 10-12, 14, and 16 for the reasons discussed in §V.D.

VII. GROUND 3: Combination of Uczekaj and Jiang Renders Claims 9, 11-14, and 16 Obvious.

A. Combination Overview

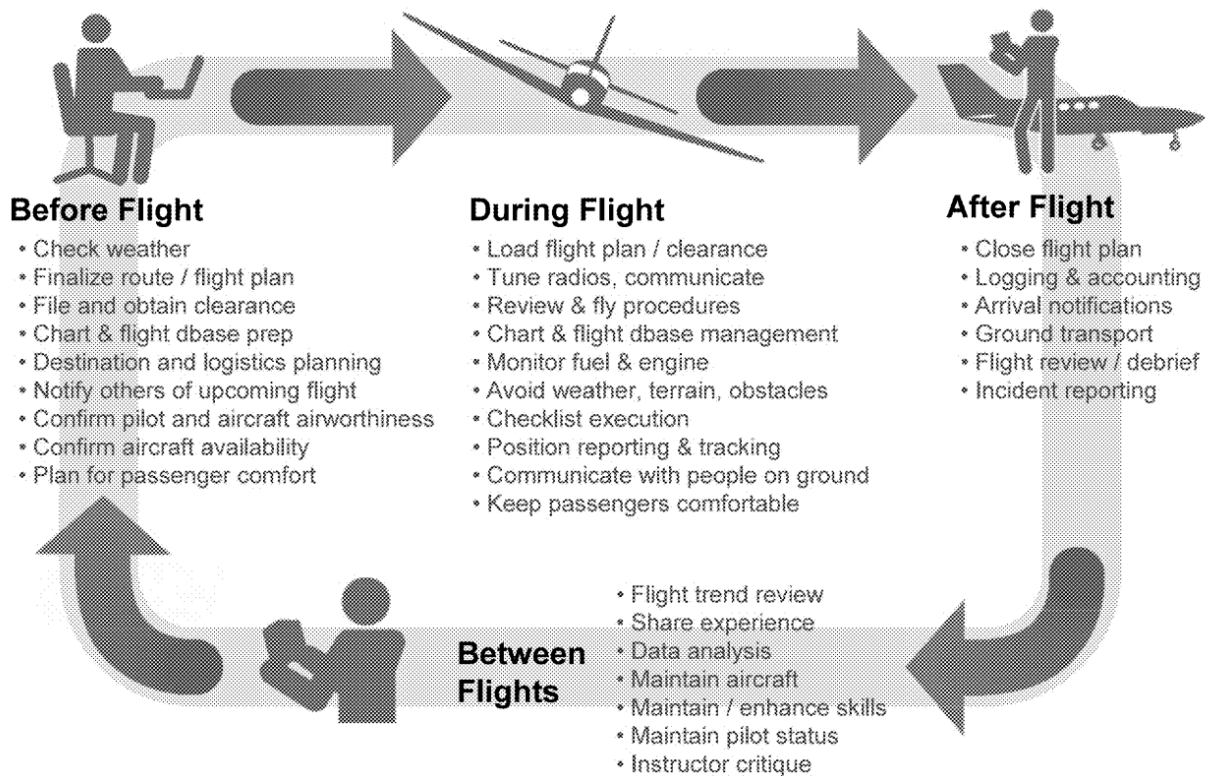
1. Uczekaj

Uczekaj “provides an electronic gateway interface module designed to provide telecommunications connectivity between cockpit avionics and mobile devices (i.e., between FAA-certified and non-certified devices).” (DJI-1010, 4:43-47; *see also*, 1:19-22.) The gateway “provides a hardwire telecommunications link to FAA-certified devices” and “a wireless link to non-certified devices via WiFi (IEEE 802.11a/b/g/n).” (DJI-1010, 4:57-59, Figure 1 below.)



Uczekaj, Figure 1

The non-certified device and gateway provide applications for use before, during and after a flight, as shown in Figure 2 below. For example, before a flight, a pilot uses a non-certified device for flight planning and, after a flight, for flight log entry and to “analyze data, maintain aircraft, maintain and enhance skills, maintain pilot status, and critique instructor.” (DJI-1010, 5:23-48.)

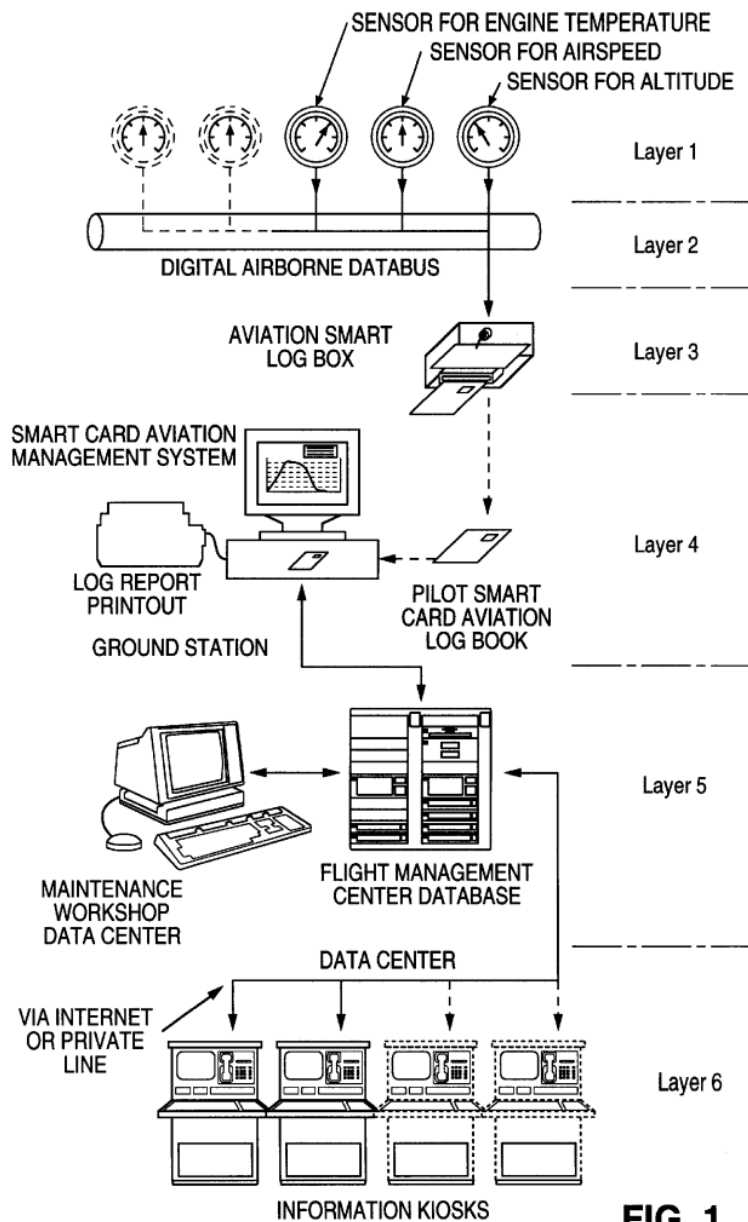


Uczekaj, Figure 2

2. Jiang

Jiang discloses techniques “for collecting flight data and producing pilot log reports from that data.” (DJI-1011, 1:6-10.) The recorded flight data is subsequently “used to evaluate pilot performance and monitor the operation of the aircraft.” (DJI-1011, Abstract.) In Jiang’s system, “each pilot has their own Pilot Log Card which is a portable, self-protected secure memory device.” (DJI-1011, 4:37-38, Figure 1.) A pilot “insert[s] his Pilot Log Card into the aviation smart log box (layer 3) before flying the aircraft.” (DJI-1011, 4:50-52.) During a flight, flight parameter data “obtained from sensors located within the aircraft” by the smart log

box is “continuously stored on the memory device” (the Pilot Log Card). (DJI-1011, 4:54-55, 5:24-26.)



Jiang, Figure 1

After the flight, “the pilot withdraws the Pilot Log Card” and “passes it to Ground Station personnel (layer 4).” (DJI-1011, 5:53-55.) The recorded data is

uploaded to the Flight Management Center Database (layer 5) and “used for flight planning, flight analysis, fleet maintenance scheduling, and tracking of pilot performance, among other purposes.” (DJI-1011, 6:4-13.)

3. Motivation to Combine

A POSITA would have also been motivated to combine Jiang’s pilot logbook and flight performance monitoring teachings with Uczekaj. (DJI-1003, ¶¶199-204.) Specifically, a POSITA would have been motivated to implement functionality of Jiang’s pilot logbook, including the file structure for storing pilot and flight performance data, in the pilot logbook application executing on Uczekaj’s non-certified device. (DJI-1003, ¶199.) A POSITA would further be motivated to use Jiang’s ground-based system for analysis and storage of recorded pilot logbook data to provide continued pilot and aircraft performance monitoring. (*Id.*)

Uczekaj explicitly suggests the combination, teaching a flight logbook application. (DJI-1010, 10:56-11:6; DJI-1003, ¶200.) However, Uczekaj does not provide detail regarding the information required by a pilot logbook application or a means for storing such information on its non-certified device. Based on Uczekaj’s suggestion, a POSITA would have been motivated to search for logbook applications and would have been led to Jiang which discloses both an electronic logbook and pilot and aircraft performance analysis applications. (*Id.*)

Additionally, both Jiang and Uczekaj are in the same field of endeavor as the '950 patent—aircraft data collection and monitoring. (*Id.*)

A POSITA would have been motivated to use Uczekaj's logbook application to implement Jiang's pilot log card to simplify the process of acquiring data and transferring the data to the ground station. (DJI-1003, ¶201.) Jiang's system requires a pilot to carry a separate smart card onto the plane, insert the card into the log box, retrieve the card, and then carry the card to a ground station employee. (*See, e.g.*, DJI-1011, 4:51-55, 5:53-57.) The ground station employee must then insert the smart card into a reader to download the data. (*See*, DJI-1011, 15:15-17.) In addition to requiring manual handling of a small memory device by multiple individuals, this process delays transmission of the flight data until the pilot provides the smart card to ground personnel. (DJI-1003, ¶201.) In the combined system of Uczekaj and Jiang, data is wirelessly downloaded from the non-certified device without requiring manual intervention of a ground employee to remove the card, improving security and ensuring proper data transfer. (DJI-1003, ¶¶201, 204.)

A POSITA would have been motivated to combine Jiang's pilot performance and aircraft performance monitoring teachings, including integrating Jiang's ground-based flight management center database and access computers, with Uczekaj to improve flight safety. (DJI-1003, ¶202.) Jiang suggests the combination noting that an automated pilot logbook is "used to evaluate a pilot's

performance, monitor an aircraft's operation during a flight, and assist in identifying mechanical problems or other **safety concerns**.” (DJI-1011, 2:34-37; 3:66-4:2; DJI-1003, ¶202.) A POSITA would have been further motivated to integrate operation safety measures into the system of Uczekaj based on the FAA’s FOQA which is “designed to make commercial aviation safer by allowing airlines and pilots to share de-identified aggregate information with the FAA.” (DJI-1018, 1, 82; DJI-1003, ¶202.) Finally, Uczekaj also suggests the combination teaching its non-certified devices support functionality for maintaining/enhancing pilot skills. (DJI-1010, 5:43-48, Figure 2.)

Finally, the combination of Jiang with Uczekaj is simply the combination of prior art elements according to known methods to yield predictable results. (DJI-1003, ¶204.) A POSITA would have combined the elements as claimed by known methods because the combination uses Jiang’s file storage structure with Uczekaj’s software application executing on well-known commercial off-the-shelf devices and uses Jiang’s ground-based analysis application and database. (*Id.*) A POSITA would have therefore had a reasonable expectation of success in the combination because the combination involves integration of software logic and database file storage structures which would have been well-known and within the capability of a POSITA. (*Id.*) Additionally, each element performs the same function in the combination as it does in the reference. (*Id.*) For example, Jiang’s ground-based

analysis application and database processes and stores the flight data in the same manner in the combination as it does separately. (*Id.*) And Uczekaj’s gateway collects and wirelessly transmits data to the non-certified device for used and storage by a logbook application, like it does separately. (*Id.*)

B. Independent Claim 9

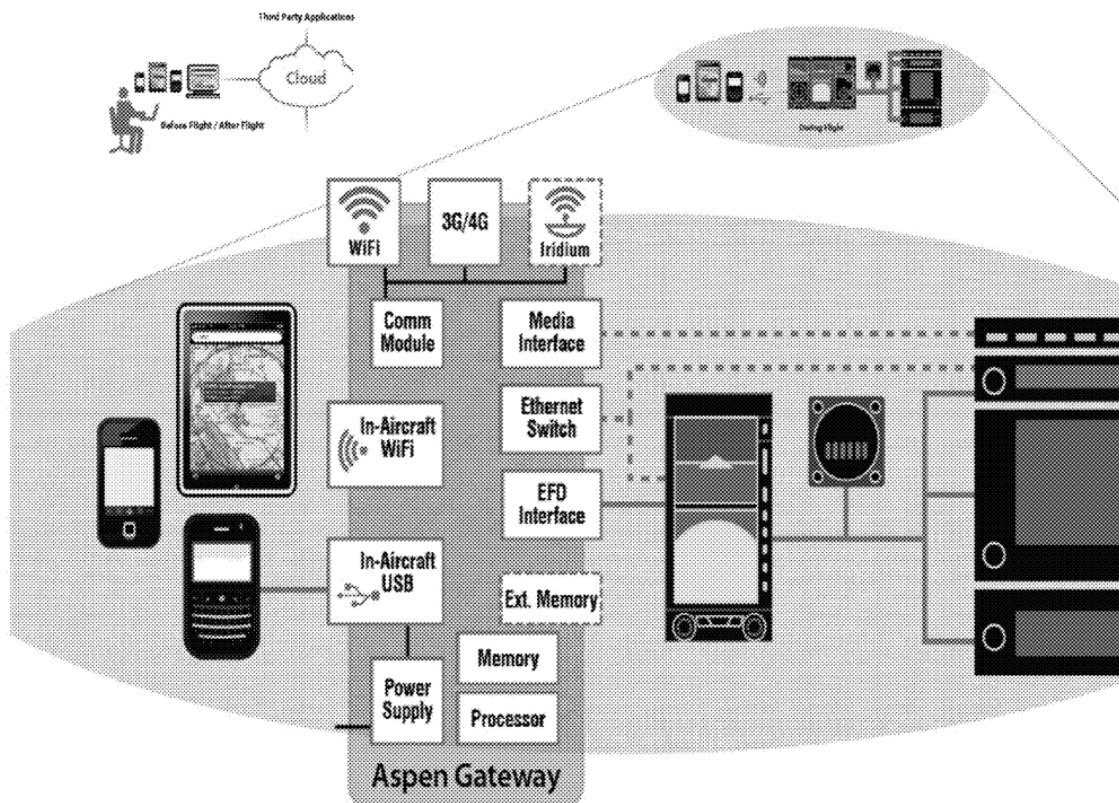
1. Preamble [9P]

The combination of Uczekaj and Jiang discloses an “*aircraft flight performance monitoring system*” [9P]. (DJI-1003, ¶¶244-245.) Applications executing on Uczekaj’s non-certified devices “allow users to interface with an aircraft’s FAA-certified devices via the gateway.” (DJI-1010, 3:13-14.) During operation of the logbook application, the gateway receives aircraft data from an FAA-certified device and “forwards it on to the non-certified device for storage.” (DJI-1010, 11:1-6.) Jiang similarly discloses a pilot logbook application directed to the analysis of “flight parameter data generated during the flight of an aircraft” and used to “evaluat[e] the performance of a pilot, the operation of the aircraft, and identify[] potential mechanical or safety problems.” (DJI-1011, 3:60-7:5.)

2. “Wireless Transmitter” [9A]

The combination of Uczekaj and Jiang discloses a “*wireless transmitter having memory*” [9A]. (DJI-1003, ¶¶247, 223-225.) Uczekaj “provides an electronic gateway interface module designed to provide telecommunications

connectivity between cockpit avionics and mobile devices (i.e., between FAA-certified and non-certified devices).” (DJI-1010, 4:43-47.) Uczekaj’s gateway includes “a communication module that provides in-aircraft telecommunications connectivity” such as WiFi. (See DJI-1010, 6:28-30, Figure 4 below.) Thus, Uczekaj’s gateway acts as a “*wireless transmitter*” [9A]. (DJI-1003, ¶¶247, 223.) The gateway further includes “memory storage” as well as an “additional external memory interface (e.g., a memory card).” (DJI-1010, 6:34-37.) Uczekaj therefore discloses “*a wireless transmitter having memory*” [9A]. (DJI-1003, ¶¶247, 223.)



Uczekaj, Figure 4

Uczekaj's gateway provides a link to FAA-certified devices such as an EFD or "a navigation system, via an ARINC429 (RS-232) connection." (DJI-1010, 4:51-54.) These FAA-certified devices are individually and collectively "*an avionics system*" because they are electronics in the aircraft. (DJI-1003, ¶¶248, 209.) The combination of Uczekaj and Jiang discloses "*the wireless transmitter in data communication with an avionics system of an aircraft*" [9A.1]. (DJI-1003, ¶¶248, 223.)

Uczekaj's gateway includes two external memory card slots (SDx) such as SD card slots "for internal data storage." (DJI-1010, 7:4-8, 7:21-22, Figure 5 below.) The cards store, for example, application data and flight logs. (DJI-1010, 7:22-26.) Uczekaj's memory card is "*non-volatile memory*." (DJI-1003, ¶¶250, 224.) Therefore, the gateway (the "*wireless transmitter*") comprises "*a non-volatile memory card*." (*Id.*)

In Uczekaj, the gateway may be "part of [a] FAA-certified device." (DJI-1010, 4:64-67.) A POSITA would have been motivated to implement the gateway as part of the FAA-certified device. (DJI-1003, ¶211.) In Uczekaj's FAA-certified device integrating gateway functionality, the slots for external memory cards (e.g., SD cards) are integrated into the FAA-certified device ("*avionics system*"). Therefore, the combination of Uczekaj and Jiang discloses "*the avionics system comprising a memory card interface*." (DJI-1003, ¶¶249, 210-211.) When an

memory card is inserted into the slot, the combination of Uczekaj and Jiang discloses the “*wireless transmitter comprising a non-volatile memory card coupled to the memory card interface of the avionics system*” [9A.2]. (DJI-1003, ¶¶250, 224-225.)

3. “Database” Limitations [9B]-[9B.1]

The combination of Uczekaj and Jiang discloses two storage devices meeting the “*database*” limitations—a database in the non-certified device and a ground-based database.

a. “Database” in the aircraft.

The non-certified user device in the combination of Uczekaj and Jiang includes a “*database*” [9B] “*configured to store information relating to a pilot flying the aircraft during flight and flight performance of the aircraft during flight*” [9B.1]. (DJI-1003, ¶¶252-254, 214-219.) During operation of the logbook application, Uczekaj’s gateway forwards aircraft performance data “to the non-certified device for storage.” (DJI-1010, 11:4-6.) The logbook application then “records pilot hours and aircraft performance data.” (DJI-1010, 10:62-63.)

In the combination of Uczekaj and Jiang, pilot information and flight performance data is stored by the pilot logbook application in the file structure disclosed by Jiang and illustrated in Figure 10 below. (DJI-1011, 14:30-15:10.) The structured logbook information stored in the non-certified device using Jiang’s

file structure is a “*database*.” (DJI-1003, ¶¶252-254, 215-216, *citing* DJI-1020, 304 (database is “collection of logically related data stored together in one or more computerized files”).) The aircraft performance data is collected from the sensors by the FAA-certified devices (“*avionics system*”) and gateway. (See §VII.B.2.) The gateway transmits the data to the non-certified device for storage and therefore the “*database*” is “*in data communication with the avionics system*” [9B]. (DJI-1010, 5:31-39, Figure 2; DJI-1003, ¶¶252-254, 216.)

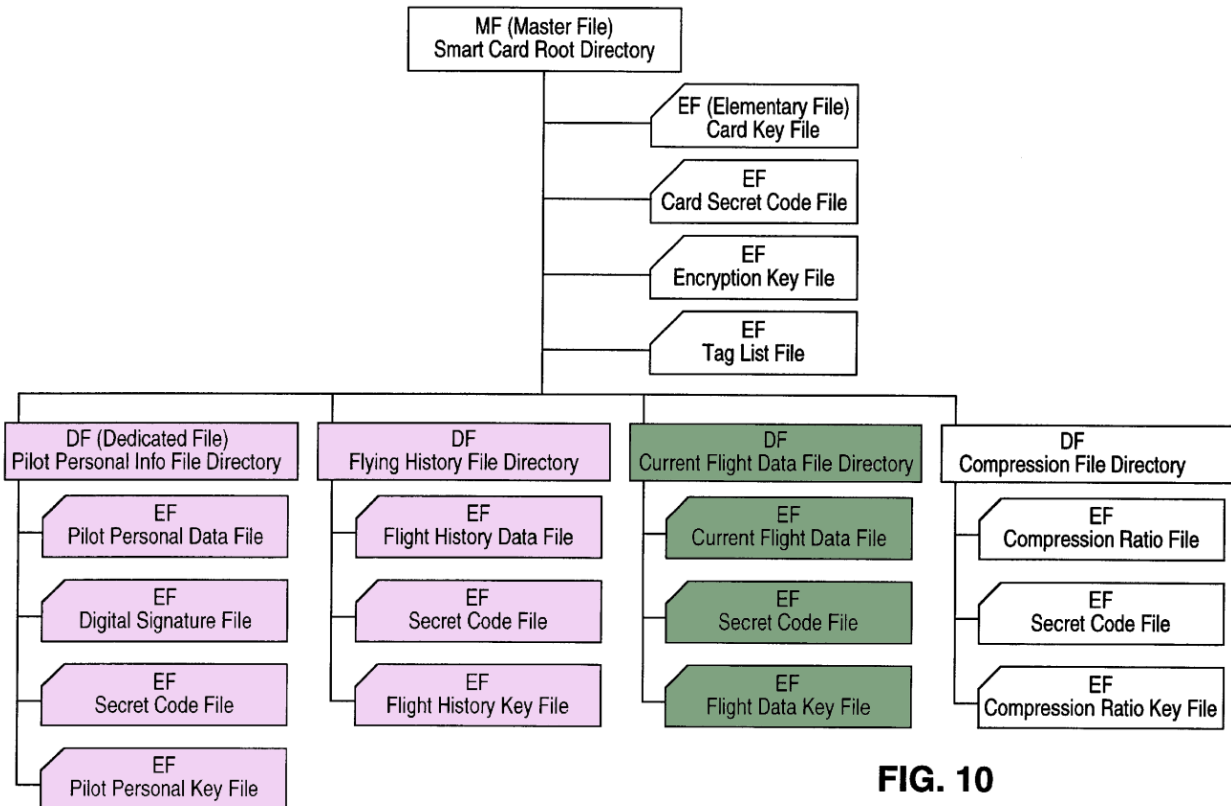


FIG. 10

Jiang, Figure 10

The logbook in the combination of Uczekaj and Jiang stores “pilot’s relevant personal information, flying history, current flight record, keys for data encryption,

and initial data compression ratio (as well as any other relevant or user configurable information).” (DJI-1011, 13:15-16.) As shown in Figure 10, for a pilot, the stored data includes the pilot’s personal information data file [shaded pink] and the pilot’s flight history data file [shaded pink] which are “*information relating to a pilot flying the aircraft during flight.*” (DJI-1003, ¶¶252-254, 218.) The stored data also includes the current flight data file [shaded green] which is “*flight information of the aircraft during flight.*” (*Id.*)

Thus, the combination of Uczekaj and Jiang discloses the aircraft includes a “*database*” that is “*configured to store information relating to a pilot flying the aircraft during flight and flight performance of the aircraft during flight*” [9B.1]. (DJI-1003, ¶¶252-254, 218-219.)

b. “*Database*” external to the aircraft.

In the combination of Uczekaj and Jiang, after termination of the flight, the data “recorded in the memory device is then downloaded” from the non-certified device “to a Ground Station processing station,” as taught by Jiang. (DJI-1011, 5:53-57.) In Jiang, the downloaded raw data “is then uploaded to the Flight Management Center Database”. (DJI-1011, 6:4-5, 16:11-15 (“The reports (and if desired, the raw data) are then sent to the flight management center database”).) The information is subsequently “used for flight planning, flight analysis, fleet maintenance scheduling, and tracking of pilot performance, among other

purposes.” (DJI-1011, 6:10-13.) Thus, the raw data stored in the logbook on the non-certified device is transmitted to the ground station and uploaded to the Flight Management Center Database. (DJI-1003, ¶¶252-254, 221.) Because the uploaded raw data includes the data stored in the pilot log which was downloaded from the non-certified device which acquired the data from the gateway coupled to the FAA-certified devices, the Flight Management Center Database is therefore also “*a database in data communication with the avionics system*” [9B] and is “*configured to store information relating to a pilot flying the aircraft during flight and flight performance of the aircraft during flight*” [9B.1]. (*Id.*)

4. “Transceiver” Limitations [9C]/[9D]-[9F]

a. “Transceiver”

Uczekaj’s gateway “provides a wireless link to non-certified devices via WiFi (IEEE 802.11 a/b/g/n).” (DJI-1010, 4:57-59; *see also*, DJI-1010, 1:50-54 (identifying smart phones and laptops as exemplary non-certified devices).) The non-certified device both transmits information to and receives information from the gateway device (“*the wireless transmitter*”). (*See* DJI-1010, 8:9-9:41 (data exchange during flight planning application), 10:52-11:6 (data exchange during logbook application).) Accordingly, the non-certified device is a “*wireless transceiver*.” (DJI-1003, ¶¶255, 227.)

b. “Transceiver comprising an input device” [9C], “Pilot identification information is entered directly” [9F].

In Uczekaj, the user (e.g., pilot) enters data through a user input device on the non-certified device. (See, e.g., DJI-1010, 5:25-48, Figure 2.) For example, during the pilot logbook application, the user “initiates logging via a software application” on the device. (DJI-1010, 10:56-58, Figure 13 (referencing non-certified device’s graphical user interface).) In the flight planning application, the pilot “perform[s] standard flight planning activities on an application running on a non-certified device.” (DJI-1010, 8:9-11.) Thus, Uczekaj discloses “*a transceiver comprising an input device*” [9C]. (DJI-1003, ¶¶255, 228.)

Jiang’s pilot log contains the pilot’s **personal identification data**, the pilot’s authorization codes, and flight history data. (See DJI-1011, 4:6-13; 14:27-15:10.) Jiang does not explicitly disclose how the personal identification data stored in the pilot log is entered into the device. A POSITA would have understood the non-certified device includes the capability to enter pilot identification information via the user interface on the non-certified device and at a minimum would have been motivated to include such a capability if not expressly part of the device and application. (DJI-1003, ¶¶255, 229-230.) Because the pilot log application tracks the pilot carrying the device acting as the pilot log, a POSITA would have been motivated to provide the pilot with the ability to enter and modify the personal

identification data stored in the log via the user interface of the device. (DJI-1003, ¶¶255, 230.) Additionally, the process of entering personal data into a portable device such as a smartphone or laptop was well-known and understood by 2013, even by a layperson. (*Id.*) Thus, the combination of Uczekaj and Jiang teaches or at least suggests “*pilot identification information is entered directly into the input device of the transceiver*” [9F]. (*Id.*)

c. “*Transceiver having a transceiver identity*” [9C.1]

The combination of Uczekaj and Jiang discloses a “*transceiver identity associated with pilot identification information*” [9C.1]. (DJI-1003, ¶¶255, 231-232.) A POSITA would have understood that a WiFi (802.11) networking device, such as non-certified device, includes a MAC address assigned by the manufacturer. (DJI-1003, ¶¶255, 231.) Uczekaj utilizes the fact that a mobile device has a unique MAC address in its security features. (DJI-1010, 11:60-62.) A POSITA would have understood that the IEEE 802.11 wireless LAN protocol used by Uczekaj includes a networking device’s MAC address in the MAC sublayer in each transmitted message. (*See* DJI-1021, 40-41; DJI-1022, 31-43; DJI-1003, ¶¶255, 231.) Accordingly, because the non-certified device of Uczekaj wirelessly receives and transmits data using the standardized IEEE 802.11 protocol, the device has a MAC address which is its “*transceiver identity.*” (DJI-1003, ¶¶255, 231.)

The “*pilot identification information*” is stored in the “*database*” on the non-certified device for storage. (See §VII.B.3.a.) By storing the “*pilot identification information*” in the non-certified device having a “*transceiver identity*” (MAC address), the “*transceiver identity [is] associated with pilot identification information.*” (DJI-1003, ¶¶255, 232.) The “*pilot identification information*” is subsequently transmitted with flight performance data to the ground station. (See §VII.B.3.b.) By transmitting the “*pilot identification information*” in a wireless message with the MAC address of the non-certified device in the MAC sublayer, the “*transceiver identity associated with pilot identification information.*” (DJI-1003, ¶¶255, 232.)

d. “*Transceiver being configured for ...*” [9C.2]

During operation of the logbook application, the gateway (“*wireless transmitter*”) receives “aircraft and/or engine status (or other information to be logged)” from the sensors associated with one or more FAA-certified devices and “forwards it on to the non-certified device for storage.” (DJI-1010, 11:1-6.) Uczekaj’s gateway (“*transceiver*”) communicates to non-certified devices via WiFi (IEEE 802.11a/b/g/n). (See DJI-1010, 4:57-59.) The combination of Uczekaj and Jiang therefore discloses “*the transceiver being configured for receiving information relating to sensed flight performance from the wireless transmitter*” [9C.2]. (DJI-1003, ¶¶255, 233-236.)

In the combination of Uczekaj and Jiang, the received flight data is transmitted to the logbook files on the non-certified device. (See DJI-1011, 4:54-55; See §VII.B.3.) The pilot logbook data structure stores “personal identification data” for the pilot and current flight data. (See DJI-1011, 14:30-15:10; §VII.B.3.a.) As discussed in §§VII.B.4.c-d, the pilot identification information is associated with the transceiver identity. Through the process of transmitting the flight data to the database for storage in the pilot’s record, the transceiver associates the received flight data with the pilot identification information. (DJI-1003, ¶¶255, 234.) For example, the transceiver must identify the pilot record (by identification information) in the database write (transmission) of the associated flight data. (*Id.*) Thus, the combination of Uczekaj and Jiang discloses that “*the transceiver*” is configured “*for associating the thus received information with the pilot identification information associated with the transceiver identity, and for transmitting the received information with the thus associated pilot identification information to the database*” [9C.2]. (*Id.*)

Additionally, should an argument be made that the preamble is not limiting, the combination of Uczekaj and Jiang discloses these limitations for another reason. In Jiang, after termination of the flight, the data “recorded in the memory device is then downloaded by an authorized person to a Ground Station processing station.” (DJI-1011, 5:53-57.) Thus, in the combination of Uczekaj and Jiang, the

non-certified device downloads the data stored in the file structure to the ground-based system including the “*pilot identification information*” and flight data. (DJI-1003, ¶¶255, 235.)

The combination of Uczekaj and Jiang therefore discloses that, for the external database, “*the transceiver*” is configured “*for receiving information relating to sensed flight performance from the wireless transmitter*” [9C.2]. (DJI-1003, ¶¶233-236.)

5. “*Only Accessible*” [9D]

The “*sensed flight performance*” data is stored in at least two locations in the combined system of Uczekaj and Jiang: the local “*database*” of the non-certified device and the external ground-based database. In both storage locations, “*the stored sensed flight performance is only accessible with the associated pilot identification information*” [9D].

Jiang “provides controls on the personnel authorized to access” the data recorded in the pilot log. (DJI-1011, 4:2-3.) Specifically, “[a]ccess to data or files contained on the smart card can be controlled by use of a multi-level authorization scheme.” (DJI-1011, 13:23-24.) The data access “is protected by different access keys or codes” and “[o]nly when the correct keys or codes are presented, will the corresponding rights be authorized.” (DJI-1011, 14:14-19.) The pilot’s secret codes

and encryption keys are part of the identification information for a pilot. (DJI-1003, ¶¶256, 238.)

Accordingly, the combination of Uczekaj and Jiang discloses “*the stored sensed flight performance [in the local “database”] is only accessible with the associated pilot identification information*” [9D]. (DJI-1003, ¶¶256, 237-239.)

Uczekaj also suggests this limitation. Uczekaj teaches a “security key feature.” (DJI-1010, 5:50-52.) Specifically, “each mobile device is issued a unique security key” so that the “security key feature is **specific to each user.**” (DJI-1010, 5:56-59.) If the user does not have a key or the security key is deactivated, “that user can no longer access the gateway.” (DJI-1010, 5:52-54.) Thus, Uczekaj suggests limiting user access to functionality unless the proper user credentials are presented. (DJI-1003, ¶¶256, 240.) Based on Uczekaj’s suggestion and the general knowledge in the art, a POSITA would have been motivated to implement similar security on the non-certified device to limit access to the non-certified device and logbook application to only an individual with the proper user credential (e.g., username and password). (*Id.*) Indeed, such security protections for smartphones and laptops were commonplace long before the ’950 patent. (*Id.*)

In the combination of Uczekaj and Jiang, the pilot log data including the pilot identification information and associated flight data is stored in ground-based system database for subsequent access to, e.g., evaluate pilot performance. (*See*

DJI-1011, 6:10-13, 16:22-67.) Jiang does not explicitly disclose the security settings used for its ground-based database. However, a POSITA would have understood that data records in the database are protected by an access security technique or alternatively would have been motivated to protect the data records stored in the database using an access security mechanism such as the pilot's log-in and password. (DJI-1003, ¶¶256, 241.) As one example, U.S. Patent 8,495,722 to McCusker discloses that a “user logs into a portable electronic device or an application thereof using one or more credentials (e.g., a username and password combination).” (DJI-1023, 8:5-7.) Jiang teaches the use of such a security mechanism stating that a desirable feature is “the ability to limit access to the data to authorized users.” (DJI-1011, 6:60-65.) Furthermore, limiting access to stored data based on entry of a user identifier and password would have been known and understood by even a layperson long before the '950 patent. (DJI-1003, ¶¶256, 241.)

Thus, in the combination of Uczekaj and Jiang, “*the stored sensed flight performance [in the ground-based database] is only accessible with the associated pilot identification information*” [9D]. (DJI-1003, ¶¶256, 237-242.)

6. Data Flow limitation

During operation of the logbook application, the gateway (“*wireless transmitter*”) receives “aircraft and/or engine status (or other information to be

logged)” from the sensors associated with one or more FAA-certified devices and “forwards it on to the non-certified device for storage.” (DJI-1010, 11:1-6.) Upon receipt of the data, the non-certified device transmits the data to its internal “*database*” for storage in Jiang’s file structure. Additionally, the data is uploaded to the Flight Management Center Database” (the external “*database*”. (See DJI-1011, 6:4-5, 16:11-15 (“The reports (and if desired, the raw data) are then sent to the flight management center database”).)

Thus, for these reasons and the reasons discussed in §§VII.B.2-4, the combination of Uczekaj and Jiang discloses “*the wireless transmitter is configured to receive and transmit flight performance data from the avionics system to the transceiver, which in turn is transmitted to the database*” [9E]. (DJI-1003, ¶257.)

C. Independent Claim 13

1. Preamble [13P]

For the reasons discussed in §VII.B.1, the combination also discloses a “*method to monitor aircraft flight performance data*” [13P]. (DJI-1003, ¶¶259, 206-207.)

2. “*Providing an avionics system*” [13A], “*Sensing*” [13B] and “*providing a wireless transmitter*” [13C]

Uczekaj’s gateway provides a link to FAA-certified devices such as EFD or “navigation system, via an ARINC429 (RS-232) connection.” (DJI-1010, 4:51-54.) These FAA-certified devices are individually and collectively “*an avionics*

system.” (DJI-1003, ¶261; *See* §VII.B.2.) Sensor data is “obtained directly from sensors connected to the gateway.” (DJI-1010, 13:36-37.) Jiang similarly discloses sensors, located within the aircraft or on its surface, that “detect parameters such as engine temperature, airspeed, aircraft altitude, aircraft heading, fuel level, etc.” to provide flight data during operation of the aircraft. (DJI-1011, 4:55-61.) The sensors, communicatively connected to the gateway, are also part of the aircraft’s “*avionics system.*” (DJI-1003, ¶262.) Thus, the combination of Uczekaj and Jiang discloses “*providing an avionics system*” [13A], “*a sensor for sensing flight performance data*” [13A.1] and “*sensing flight performance data with the sensor*” [13B]. (DJI-1003, ¶¶261-263.)

As discussed in §VII.B.2, the combination of Uczekaj and Jiang discloses the avionics system includes a “*memory card interface*” [13A.2]. (DJI-1003, ¶¶264, 210-211.)

For the same reasons discussed in §VII.B.2, the combination of Uczekaj and Jiang discloses “*providing a wireless transmitter comprising: memory; and a non-volatile memory card configured for coupling to the memory card interface of the avionics system*” [13C]. (DJI-1003, ¶¶265, 223-225.)

3. “Transmitting the sensed flight performance data to a transceiver ...” [13D].

Limitation [13D] recites overlapping subject matter with limitations [9C.1] (“transceiver identity”) and [9E] (“transmit[ting] flight performance data ... to the transceiver”). For the same reasons as discussed in §§VII.B.4.a, c, VII.B.6, the combination of Uczekaj and Jiang discloses “transmitting the sensed flight performance data to a transceiver having a transceiver identity associated with pilot identification information” [13D]. (DJI-1003, ¶¶266, 255, 227, 231-232, 257.)

4. “Entering the pilot identification information directly on the transceiver” [13E]

Limitation [13E] is substantially the same as limitation [9F]. Accordingly, for the reasons discussed in §VII.B.4.b, the combination of Uczekaj and Jiang discloses “entering the pilot identification information directly on the transceiver” [13E]. (DJI-1003, ¶¶267, 255, 228-230.)

5. “Associating, by the transceiver, the sensed flight performance data ...” [13F]

As discussed in §VII.B.4.d, the combination of Uczekaj and Jiang discloses “the transceiver [is] configured ... for associating the thus received information with the pilot identification information associated with the transceiver identity” [9C.2]. The received information includes “sensed flight performance data.” (See §VII.B.2.) For the reasons discussed in §§VII.B.2, VII.B.4.d, the combination of Uczekaj and Jiang discloses “associating, by the transceiver, the sensed flight

performance data received from the wireless transmitter with the pilot identification information associated with the transceiver identity” [13F]. (DJI-1003, ¶¶268, 255, 233-236.)

6. “Transmitting, by the transceiver, the received sensed flight performance data ...” [13G]

The combination of Uczekaj and Jiang discloses “*the transceiver [is] configured ... for transmitting the received information with the thus associated pilot identification information to the database*” [9C.3]. For the reasons discussed in §VII.B.4.d, the combination of Uczekaj and Jiang discloses “*transmitting, by the transceiver, the received sensed flight performance data with the associated pilot identification information to a database*” [13G]. (DJI-1003, ¶¶269, 255, 233-236.)

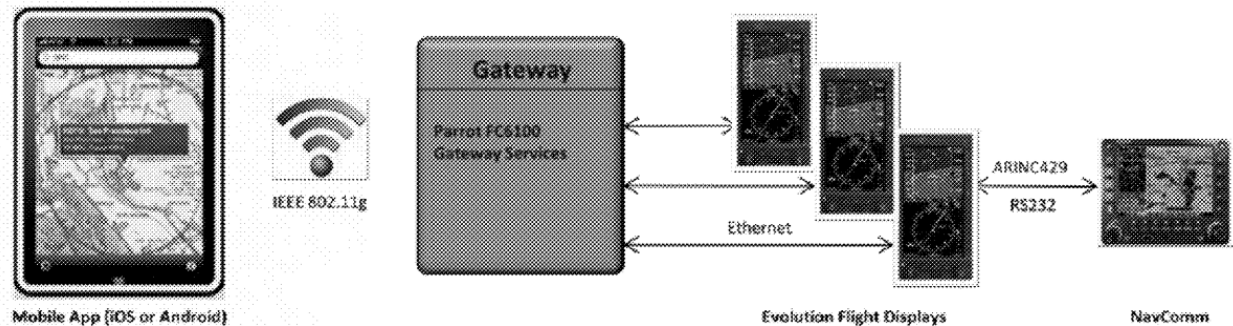
7. “Allowing access to the received sensed flight performance data ...” [13H]

Limitation [13H] is substantially the same as limitation [9D]. Accordingly, for the reasons discussed in §VII.B.5, the combination of Uczekaj and Jiang discloses “*allowing access to the received sensed flight performance data only with the associated pilot identification information*” [13H]. (DJI-1003, ¶¶270, 256, 237-242.)

D. Dependent Claims

1. Claim 11

Uczekaj's gateway ("*the wireless transmitter*") provides "a wireless link to non-certified devices via WiFi (IEEE 802.11a/b/g/n)." (DJI-1010, 4:57-59, Figure 1 below.) Thus, the combination of Uczekaj and Jiang discloses "*the transceiver is configured to wirelessly receive information from the wireless transmitter.*" (DJI-1003, ¶278.)



Uczekaj, Figure 1

2. Claim 12

The combination of Uczekaj and Jiang renders claim 12 obvious. Uczekaj's non-certified devices ("*transceiver*") include, but are not limited to, "cell phones, smart phones, BLACKBERRY mobile communications devices, IPADs, IPODs, IPHONEs, laptops, table PCs, and similar mobile computing platforms." (DJI-1010, 1:50-54.) Thus, Uczekaj discloses "*the transceiver is a smartphone*" [12]. (DJI-1003, ¶272.)

3. Claim 14

In Jiang, after termination of the flight, the pilot log data is downloaded to a Ground Station processing station. (DJI-1011, 5:53-57.) In the combination of Uczekaj and Jiang, the logbook data is downloaded from Uczekaj's non-certified device to the ground station of Jiang. Uczekaj's non-certified devices include "any mobile communications device" such as "cell phones, smart phones, BLACKBERRY mobile communications devices, IPADs, IPODs, IPHONEs, laptops, tablet PCs, and similar mobile computing platforms. Indeed, non-certified mobile devices." (DJI-1010, 1:50-54.) The wireless connectivity of the non-certified device "is provided via a WiFi network (e.g., 802.11 a/b/g/n), 3G/4G mobile telecommunications network, iridium satellite telecommunications network, BLUETOOTH, or similar." (DJI-1010, 3:22-28.) A POSITA would have therefore understood that the download of logbook data is performed via the wireless connectivity of the non-certified device. (DJI-1003, ¶280.)

Thus, the combination of Uczekaj and Jiang discloses "*transmitting by the transceiver of the associated sensed flight performance data and pilot identification information includes wirelessly transmitting the associated sensed flight performance data and pilot identification information to the database.*" (DJI-1003, ¶280.)

4. Claim 16

Uczekaj discloses that the gateway includes an “additional external memory interface (e.g., a memory card).” (DJI-1010, 6:34-37.) In an exemplary preferred embodiment, illustrated in Figure 5 below, in the combination of Uczekaj and Jiang “the gateway includes two SD card slots for internal data storage.” (DJI-1010, 7:21-22.) A POSITA would have been motivated to use an SD card as the external memory interface of Uczekaj’s gateway because SD cards were well-known and standardized long before the ’950 patent. (DJI-1003, ¶282; *See also*, DJI-1019.) Thus, the combination of Uczekaj and Jiang discloses “*the non-volatile memory card is an SD card*” [16]. (DJI-1003, ¶282.)

VIII. GROUND 4: Combination of Uczekaj, Jiang and Greubel renders claims 9, 11-14 and 16 obvious.

Petitioner established the combination of Uczekaj and Jiang discloses every limitation of independent claims 9 and 13 and dependent claims 11-12, 14 and 16. Should PO argue the limitation “*transceiver having a transceiver identity associated with pilot identification information*” [9C.2]/[13D] requires association of the transceiver identity with pilot identification information after the flight performance data is transmitted to the database so pilot privacy is maintained, this interpretation is disclosed by Greubel. An overview of Greubel is provided in §VI.A.1.

A. Motivation to Combine

A POSITA would have been motivated to incorporate Greubel's teachings regarding associating a MAC address with a vehicle operator identifier as a selectable mode of operation in the combination of Uczekaj and Jiang. (DJI-1003, ¶¶284-287.) For example, a POSITA would have been motivated to add an option that associates the MAC address of the non-certified device with the pilot identification information in the ground station, as taught by Greubel. (DJI-1003, ¶284.) When this option is selected, data is transmitted from the non-certified device to the ground station with the pilot identification information removed or obscured (e.g., encrypted). (*Id.*) A database at the ground station storing MAC address/pilot identifier associations is subsequently queried to associate the pilot information with the received flight data, as taught by Greubel. (*Id.*)

A POSITA would have been motivated to combine Greubel's teachings with Uczekaj and Jiang to meet confidentiality goals set forth by the FAA at part of the voluntary FOQA program. (DJI-1003, ¶285.) Specifically, "[d]ata that could be employed to determine flight crewmember identity are removed from view in the electronic record as part of the initial processing of the airborne data." (DJI-1018, 8; *see also* DJI-1024, ¶¶14-15.) A POSITA would have been motivated to make the above combination to improve the confidentiality and privacy of sensitive data. (DJI-1003, ¶285.) A POSITA would have further recognized that enhanced pilot

confidentiality would improve pilot perception of FOQA and would, in turn, increase adoption of the program. (*Id.*)

A POSITA would have been motivated to combine Greubel with Uczekaj and Jiang because Greubel is in the same general field of endeavor as the '950 patent—monitoring and analysis of vehicle and operator performance. (DJI-1003, ¶286.) Greubel is also reasonably pertinent to the problem addressed in the '950 patent—improved techniques for monitoring and analyzing aircraft flight performance data. (*See* DJI-1001, Abstract, 2:11-13.) 273.) Greubel's system, used in fleet management, similarly associates vehicle data with the driver. (*See, e.g.,* DJI-1009, 8:11-19.) These fleet management systems are designed to evaluate driver performance. (DJI-1003, ¶287, *citing* DJI-1025, DJI-1026.)

B. Independent Claims

The combination of Uczekaj, Jiang, and Greubel discloses “*the transceiver having a transceiver identity associated with pilot identification information*” limitation of the independent claims as discussed below. For the reasons discussed in §VII.B, the combination of Uczekaj, Jiang, and Greubel discloses the remaining limitations of the independent claims.

As discussed in §VI.A.1, in Greubel, the MAC address of a portable device is “registered with a fleet management system to associate a driver with the portable device.” (DJI-1009, 1:57-60.) The MAC address, assigned to a

networking device by the manufacturer, is a “*transceiver identity*.” (DJI-1003, ¶231.) In the combination, the MAC address of the removable hardware component is registered to associate the pilot with the component in a database, as taught by Greubel. (See DJI-1009, 1:57-60.) Subsequently, when data is downloaded from the pilot log to the ground station, the ground station “match[es] the MAC address” to the pilot identifier and logs the MAC address and/or pilot identifier in the database with the flight data, as taught by Greubel. (See DJI-1009, 8:11-15.)

Thus, the combination of Uczekaj, Jiang, and Greubel discloses the “*transceiver having a transceiver identity associated with pilot identification information*.” [9C.3]/[13D]. (DJI-1003, ¶f.)

C. Dependent Claims

The combination of Uczekaj, Jiang, and Greubel renders dependent claims 11-12, 14, and 16 obvious for the reasons discussed in §§VII.D.

IX. Discretionary Denial Is Not Appropriate

A. 35 U.S.C. §325(d)

Discretionary denial under 35 U.S.C. § 325(d) is not appropriate in this proceeding. None of the prior art grounds in this Petition were considered or evaluated by the Patent Office during prosecution. Shavit is the only reference applied during prosecution. (See, e.g., DJI-1002, 93-106.) Furthermore, the

Petition's grounds, specifically Wakutsu and Uczekaj, teach a “*wireless transmitter comprising a non-volatile memory card coupled to the memory card interface of the avionics system*”, the feature added by PO to obtain allowance of the '950 patent. (See DJI-1002, 401-405, 412-417.) The Petition's grounds are therefore not cumulative to the grounds considered during prosecution. For these reasons, the first part of the *Advanced Bionics* framework is not satisfied. *Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) (precedential).

Moreover, the Examiner have the benefit of Petitioner's Expert, Dr. Charles Reinholtz and the supported extrinsic evidence, submitted herewith. Thus, there is no (or very minimal) overlap between arguments made during examination and the manner in which Petitioner relies on the prior art because no arguments were made on the record related to Warner, Wakutsu, Greubel, Uczekaj, and Jiang and no arguments were made on the record related to Shavit in combination with Warner and Wakutsu and/or Greubel/Uczekaj. Therefore, even if the second part of the *Advanced Bionics* framework is considered, the evidence and facts presented in the Petition warrant consideration by the Office. *Advanced Bionics*, 9-11.

B. 35 U.S.C. §314(a)

The Board should reach the merits in this proceeding because the Petition presents a compelling unpatentability challenge. (See Interim Procedure for

Discretionary Denials, 4-5.) As set forth herein, the evidence presented in this Petition, “if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.” (Interim Procedure, 4.) The purported novelty of the ’950 patent is the use of a wireless transmitter having a non-volatile memory card. However, non-volatile memory cards were well-known long before the ’950 patent and wireless non-volatile memory cards were known and in use in avionics before the ’950 patent. (*See* DJI-1003, ¶57.)

Should PO raise discretionary denial under *Fintiv* in its preliminary response, Petitioner reserves the right to offer a stipulation at that time to mitigate or foreclose *Fintiv* discretionary denial.

X. Mandatory Notices

A. Real Party In Interest

The real parties-in interest are DJI Europe B.V. (Petitioner), SZ DJI Technology Co., Ltd., DJI Technology, Inc., iFlight Technology Company Limited, SZ DJI Baiwang Technology Co. Ltd., and DJI Research LLC.

B. Related Matters

To the best of DJI’s knowledge, the ’950 patent has been involved in the following district court litigations:

Textron Innovations Inc. v. SZ DJI Technology Co., Ltd.,

2-22-cv-00351 (EDTX)

C. Notice Of Counsel And Service Information

Pursuant to 37 C.F.R. §§ 42.8(b)(3), 42.8(b)(4) and 42.10(a), Petitioner appoints **Lori A. Gordon** (Reg. No. 50,633) at the address of Perkins Coie LLP, 700 Thirteenth Street, N.W., Suite 800, Washington, DC 2005-3960, phone number 202-654-6200, as its lead counsel; and **Zane Bi** (Reg. No. 79,130), at the above address, as its backup counsel.

Petitioner consents to electronic service by email at the email addresses: gordon-ptab@perkinscoie.com and bi-ptab@perkinscoie.com.

XI. Conclusion

Inter partes review of the challenged claims is respectfully requested.

Respectfully submitted,

/Lori A. Gordon/

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PERKINS COIE LLP
700 Thirteenth Street, NW, Suite 800
Washington, DC 2005

Date: July 27, 2023

CERTIFICATE OF WORD COUNT UNDER 37 CFR §42.24(d)

Pursuant to 37 C.F.R. §42.24(a), DJI hereby certifies that portions of the above-captioned Petition for *Inter Partes* Review of U.S. Patent No. 10,275,950, in accordance with and reliance on the word count provided by the word-processing system used to prepare this Petition, that the number of words in this paper is 13,977. Pursuant to 37 C.F.R. §42.24(a), this word count is in compliance and excludes the table of contents, table of authorities, mandatory notices under §42.8, certificate of service, certificate of word count, appendix of exhibits, and any claim listing. This word count was prepared using Microsoft Word.

Respectfully submitted,

/Lori A. Gordon/

Lori A. Gordon
Attorney for Petitioner

Date: July 27, 2023

CERTIFICATE OF SERVICE

The undersigned certifies that true copies of the Petition for *Inter Partes* Review of U.S. Patent 10,275,950 and exhibits were served via overnight delivery on the Patent Owner at the correspondence address of record as listed on PAIR:

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Respectfully submitted,

/Lori A. Gordon/

Lori A. Gordon
Attorney for Petitioner

Date: July 27, 2023

Appendix A: Listing of Independent Claims

[9P] An aircraft flight performance monitoring system, comprising:

[9A] a wireless transmitter having memory,

[9A.1] the wireless transmitter in data communication with an avionics system of an aircraft,

[9A.2] the avionics system comprising a memory card interface and the wireless transmitter comprising a non-volatile memory card coupled to the memory card interface of the avionics system;

[9B] a database in data communication with the avionics system,

[9B.1] the database being configured to store information relating to a pilot flying the aircraft during flight and flight performance of the aircraft during flight;

[9C] a transceiver comprising an input device;

[9C.1] the transceiver having a transceiver identity associated with pilot identification information,

[9C.2] the transceiver being configured for receiving information relating to sensed flight performance from the wireless transmitter, for associating the thus received information with the pilot identification information associated with the transceiver identity, and for transmitting the received information with the thus associated pilot identification information to the database;

[9D] wherein the stored sensed flight performance is only accessible with the associated pilot identification information;

[9E] wherein the wireless transmitter is configured to receive and transmit flight performance data from the avionics system to the transceiver, which in turn is transmitted to the database; and

[9F] wherein the pilot identification information is entered directly into the input device of the transceiver.

Appendix A: Listing of Independent Claims

[13P] A method to monitor aircraft flight performance data, comprising:

[13A] providing an avionics system comprising:

[13A.1] a sensor for sensing flight performance data; and

[13A.2] a memory card interface,

[13B] sensing flight performance data with the sensor;

[13C] providing a wireless transmitter comprising:

[13C.1] memory; and

[13C.2] a non-volatile memory card configured for coupling to the memory card interface of the avionics system;

[13D] transmitting the sensed flight performance data to a transceiver having a transceiver identity associated with pilot identification information;

[13E] entering the pilot identification information directly on the transceiver;

[13F] associating, by the transceiver, the sensed flight performance data received from the wireless transmitter with the pilot identification information associated with the transceiver identity;

[13G] transmitting, by the transceiver, the received sensed flight performance data with the associated pilot identification information to a database; and

[13H] allowing access to the received sensed flight performance data only with the associated pilot identification information.