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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AXON ENTERPRISE, INC. AND DEDRONE HOLDINGS, INC.
Petitioners,

V.

AIRSPACE DEFENSE, INC.
Patent Owners

Case No. IPR2025-00525
Patent 10,713,959

HIGHLY CONFIDENTIAL

REMOTE ORAL / REALTIMED DEPOSITION OF

NIKOLAOS PAPANIKOLOPOULOS, Ph.D.

FEBRUARY 27, 2026

Stenographically Reported By:

Pat English-Arredondo, CSR(TX), RMR, CRR, CLR

Job No: 620989

HIGHLY CONFIDENTIAL
Transcript of Nikolaos Papanikolopoulos, Ph.D.
Conducted on February 27, 2026

2

1 REMOTE ORAL / REALTIMED DEPOSITION of
2 NIKOLAOS PAPANIKOLOPOULOS, Ph.D., produced as a
3 witness at the instance of the Petitioner, and duly
4 sworn, was taken in the above-styled and numbered
5 cause on Friday, the 27th day of February, 2026,
6 from 9:01 a.m. to 11:47 a.m., before
7 Pat English-Arredondo, CSR (TX), RMR, CRR, CLR, in
8 and for the State of Texas, reported by machine
9 shorthand to remote realtime translation, with
10 Reporter being located in Houston, Texas; Witness
11 being located in Bloomington, Minnesota with
12 Patent Owner Counsel, pursuant to the PTAB Rules;
13 that the Witness will read the deposition.

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A P P E A R A N C E S

(All via Zoom Video Communications)

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15		Ph.D., In Support of Patent Owner's	
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18		Application for the '959 patent titled	
19		"Low-Altitude Aircraft Identification	
20		System," 42 pages	
21			
22			

(REPORTER'S NOTE: All quotations from exhibits are reflected in the manner in which they were read into the record and do not necessarily denote an exact quote from the document.)

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Conducted on February 27, 2026

6

1 (Following commenced at 9:01 a.m.)

2 THE REPORTER: We're going on the
3 record at 9:01 a.m., taking this pursuant to Federal
4 Rules.

5 Sir, will you go ahead and raise your
6 right hand to be administered the oath?

7 NIKOLAOS PAPANIKOLOPOULOS, Ph.D.,
8 being called as a witness, and having been duly
9 sworn, testified as follows:

10 THE WITNESS: I do.

11 THE REPORTER: Please state your
12 appearances for the record.

13 MR. WALTERS: For Petitioner,
14 Chad Walters of Baker Botts. My colleague,
15 Ellyar Barazesh, is also on, as is a client
16 representative, Jake MacKay.

17 MS. L'ESPERANCE: For the patent
18 owner, Amanda L'Esperance of Prince Lobel Tye, and
19 my colleague, Suhrid Wadekar, also Prince Lobel Tye.

20 THE REPORTER: Thank you. You may
21 proceed.

22 EXAMINATION

HIGHLY CONFIDENTIAL
Transcript of Nikolaos Papanikolopoulos, Ph.D.
Conducted on February 27, 2026

7

1 BY MR. WALTERS:

2 Q. Good morning, Mr. Papanikolopoulos.

3 A. Good morning.

4 Q. Could you state your full name for the
5 record, please?

6 A. I'm Nikolaos Papanikolopoulos.

7 Q. Where are you physically located right
8 now?

9 A. I'm in Bloomington, Minnesota.

10 Q. And is there anyone in the room with you?

11 A. Dr. Suhrid Wadekar.

12 Q. Anyone else?

13 A. No.

14 Q. Is there any reason you cannot testify
15 truthfully today?

16 A. To the best of my knowledge, no.

17 Q. What did you do to prepare for today's
18 deposition?

19 A. I reviewed my declaration and some of the
20 patent itself, some of the prior art referenced in
21 there.

22 Q. Did you review anything else?

1 A. I tried to go through some of the Board
2 decisions. The Board decision, basically.

3 Q. Anything else?

4 A. No, that's all.

5 Q. Which prior art references did you
6 review?

7 A. I reviewed the provisional application
8 for the patent in question, the Beard-Provisional.
9 And --

10 Q. And -- sorry.

11 A. That's it, basically.

12 Q. Did you meet with anyone to prepare for
13 today's deposition?

14 A. With Dr. Suhrid.

15 Q. Did you meet with anyone else?

16 A. No. Sorry. Just to be complete, we
17 talked with Amanda as well.

18 Q. When were those meetings?

19 A. Some meetings took place as part of my
20 overall preparation for the three depositions in the
21 middle of February. And we discussed, in
22 particular, this '959 patent yesterday for a few

1 hours.

2 Q. How long did you meet in mid-February?

3 A. 20 hours total for all of them, 20,
4 30 hours.

5 Q. Do you have any documents in front of
6 you?

7 A. I have this document (indicating). It is
8 my declaration, the patent, provisional and the
9 application. And there are no marks.

10 Q. Those are clean copies?

11 A. Yes.

12 Q. Do you have access to any electronic
13 documents on the computer in front of you?

14 A. Yes, I have access to the dockets.

15 Q. Anything else?

16 A. No.

17 Q. I would like to turn to your declaration.

18 A. Yes. Just give me a minute.

19 Q. This is Exhibit 2014.

20 (Marked was Exhibit No. 2014.)

21 A. That's correct. I'm there.

22 Q. (By Mr. Walters) Specifically at

1 Paragraph 104.

2 A. Let me go there. I'm there.

3 Q. The last sentence of that paragraph,
4 which is on Exhibit Page -- well, let's just call it
5 Page 46, states --

6 A. Okay. Sorry.

7 Q. Yeah. So the last sentence
8 of Paragraph 104 is what I would like to look at.

9 A. Yeah.

10 Q. It states, "I acknowledge the Board's
11 preliminary construction of 'secure identifier.'"

12 Do you see that?

13 A. I see it.

14 Q. And that construction was provided in the
15 Board's Institution Decision?

16 A. That's correct.

17 Q. I would like to look at the Institution
18 Decision, which is Paper No. 13 in the IPR.

19 (Marked was Paper No. 13.)

20 A. Give me a minute.

21 Q. (By Mr. Walters) Sure.

22 A. I'm there. Where do you want me to go?

1 Q. Page 10.

2 A. Yes, I'm there.

3 Q. At the bottom of Page 10, the Board
4 construes "secure identifier" as the credential that
5 can be used to securely verify the identity of a
6 device, such as an airborne object or ground-based
7 transmitter.

8 Do you see that?

9 A. I see that.

10 Q. Do you agree with the Board's
11 construction of "secure identifier"?

12 A. I acknowledge and I believe what is
13 described in my declaration is consistent.

14 Q. Do you believe that the Board's
15 construction of "secure identifier" is the correct
16 construction of the term?

17 A. I'm going to repeat my answer. I believe
18 that the Board is guiding us, and what I'm saying is
19 consistent with the Board and with my declaration.

20 Q. Well, would you construe "secure
21 identifier" differently than the Board construes it
22 here?

1 A. I think, given the fact there is a
2 footnote, any determination, no matter how
3 designated in this Institution Decision, is
4 preliminary and nonbinding.

5 And also, there are other areas where the
6 patent -- the Board and the Board's response, I
7 will -- I will state that I'm consistent with this
8 construction.

9 Q. What do you mean, you're consistent with
10 this construction?

11 A. The plain and ordinary meaning of the
12 word "consistent."

13 Q. I'm not sure what you mean by you're
14 consistent with the construction.

15 A. That the "secure identifier" description
16 in my declaration is a credential that can be used
17 to securely verify the identity of a device, such as
18 an airborne object, which is -- in our case, we
19 don't deal with a ground-based transmitter.

20 Q. You wouldn't construe "secure identifier"
21 differently?

22 MS. L'ESPERANCE: Objection, asked

1 and answered.

2 A. I just have to repeat my answer that I'm
3 consistent.

4 Q. (By Mr. Walters) How would you construe
5 "secure identifier"?

6 A. I think -- should we go to my
7 declaration? Because I explained, based on the
8 record, the secure identifier.

9 Q. Feel free to look at whatever you would
10 like. I'm interested in the answer to my question,
11 which is how you would construe "secure identifier."

12 A. Let me go to my declaration.
13 (Reviewing.)

14 So let me go to Paragraph 56 of my
15 declaration.

16 Q. Okay.

17 A. So, "Accordingly, the sole proposed
18 substitute claim 22 recites that a radio
19 communication module is configured to utilize a
20 secure identifier, wherein, utilizing the secure
21 identifier comprises transmitting the secure
22 identifier to the remote portable detection system

1 for cross-verifying the secure identifier and
2 transmitted identification information, to verify
3 authenticity of the transmitted identification
4 information."

5 Q. Is that your definition of "secure
6 identifier"?

7 A. This comes from the substitute claim,
8 which describes how the security identifier is used.

9 Q. Can you look at Paragraph 105 of your
10 declaration?

11 A. Sure. Yes.

12 Q. In Paragraph 105 you state, "In proposed
13 substitute claim 22, 'utilize secure identifier' is
14 defined in a manner that is consistent with the
15 Board's interpretation."

16 Do you see that?

17 A. Yes.

18 Q. When you say "is defined in a manner
19 consistent," are you referring to the definition
20 that you just provided from Paragraph 56 discussing
21 substitute claim 22?

22 A. Let me go to Paragraph 89.

1 Q. Can you answer my question?

2 A. Yes, I'm trying to answer your question
3 because I provide -- there is another point where I
4 provide an answer --

5 Q. Okay.

6 A. -- to your question. Just give me a
7 minute.

8 So in 89, I'm saying that the
9 '406 application and the '153 provisional both teach
10 that the ground station cross-check/cross-verifies
11 two identifiers; the code, for example, the
12 transmitted identification information, which can be
13 transmitted through RF, and another similar code,
14 the security identifier.

15 And I analyze this in my discussion of
16 Element 22.i, which describes cross-verification of
17 transmitted identification information and the
18 security code.

19 Q. How does that relate to your definition
20 of "secure identifier"?

21 A. I'll just repeat.

22 We have a code -- we have basically the

1 ground station cross-checking and cross-verifying
2 two identifiers; one is the code, which is
3 transmitted -- they are transmitting identification
4 information, which can be transmitted through RF;
5 and another similar code, that is the security
6 identifier.

7 Q. If the Board asked what is your
8 definition of "secure identifier," what would you
9 say?

10 MS. L'ESPERANCE: Objection, asked
11 and answered.

12 A. I think Paragraph 89 describes it.

13 Q. (By Mr. Walters) Let's go back to
14 Paragraph 105.

15 A. Sure.

16 Q. We discussed this sentence earlier. In
17 Paragraph 105 you state, "In proposed substitute
18 claim 22, 'utilize secure identifier' is defined in
19 a manner that is consistent with the Board's
20 interpretation."

21 What definition is provided?

22 MS. L'ESPERANCE: Objection, asked

1 and answered.

2 A. My definition or the Board's
3 interpretation?

4 Q. (By Mr. Walters) It's your statement
5 stating that "utilize secure identifier" is defined
6 in a manner.

7 So what did you mean by the definition
8 there?

9 A. I just explained the utilization of
10 "secure identifier" in the 89 paragraph.

11 Q. So the definition that you're referring
12 to in Paragraph 105 is provided in Paragraph 89 of
13 your declaration?

14 A. That's correct.

15 Q. I would like to look at the application
16 for the '959 patent, which is Exhibit 2015.

17 (Marked was Exhibit No. 2015.)

18 A. Give me one minute. One minute. Can you
19 please repeat the exhibit number?

20 Q. (By Mr. Walters) 2015.

21 A. Yes, I'm there.

22 Q. I would like to look at Exhibit Page 5.

1 It has a 4 at the bottom of the page.

2 A. Just a minute. (Reviewing.)

3 Yes, I'm there.

4 Q. There is a section heading, "Ground
5 Identification Device."

6 Do you see that?

7 A. That's correct.

8 Q. And then the paragraph starting at
9 Line 14 says, "The example implementation..."

10 Do you see that?

11 A. That's correct.

12 Q. Okay. I'm going to read that.

13 It says, "The example implementation
14 includes a remote; e.g., ground device to assist the
15 aircraft identification. Since the electronic
16 identification box relies on visual information, the
17 ground device is equipped with a camera, lens and
18 image processing algorithms to capture the color
19 sequence.

20 "In addition, this device has an RF
21 receiver capable of receiving the identification box
22 RF signal to connect both information sources and to

1 verify the authenticity."

2 My question is, what are -- when it says
3 "both information sources," what does that refer to?
4 What are the information sources to which that's
5 referring?

6 A. I think it has two examples. One is the
7 visual signal, the source that produced the visual
8 signal.

9 And another one is the RF transmitter.

10 Q. When you refer to the visual signal,
11 you're referring to the color sequence in the
12 sentence before?

13 A. That's correct. But the way I read it,
14 since it connects or cross-check -- you can find a
15 similar sentence in the provisional patent where it
16 says -- just to be accurate, just a minute.
17 (Reviewing.)

18 This can be two information signals. And
19 if we go back to information theory, X signal,
20 information signal, is a pattern for a set of
21 characters that carry some information, which can be
22 transmitted to receive it.

1 And it's very important here that
2 connects these two information sources and to verify
3 the authenticity.

4 Q. This section we're discussing is in the
5 section describing the ground identification device.
6 Correct?

7 A. Yes, the embodiment we're
8 discussing -- the example implementation we're
9 discussing involves the ground device.

10 Q. I would like to look at the preceding
11 page, which is Exhibit Page 4. There is a 3 at the
12 bottom of the page.

13 A. Sure.

14 Q. Specifically at Lines 14 to 15.

15 A. I'm there.

16 Q. There is a sentence that states, "The
17 transponder may transmit a code similar to the one
18 generated (e.g., blinked) by the light arrays, but
19 through the RF frequency."

20 Do you see that?

21 A. I see this.

22 Q. The code that -- it says the transponder

1 is transmitting a code. Correct?

2 A. That's correct.

3 Q. And the code that is similar to the code
4 transmitted by the transponder is one generated by
5 light arrays. Is that a sequence of blinking
6 lights?

7 A. It's one possibility. But we have also a
8 code that is the identification code, which if we go
9 to the patent, for example -- let me go to the
10 patent. Please bear with me a minute.

11 So if we go to the patent, Column 5,
12 Row 17 -- we start it at 15. "The identification
13 box 1 also has a radio antenna 5 connected to an RF
14 module 16 shown in Figure 2 as being connected to RF
15 antenna 12, that transmits the same code or a
16 modified version of the code through a radio
17 signal."

18 So we have -- and there are some
19 embodiments which are described here. We have the
20 identification information for the aircraft, which
21 is -- and then we have this RF signal, which
22 transmits the same code or a modified version of

1 this code.

2 We have the transponder, which sends a
3 similar code. And this is authenticated or is used
4 for authentication. And I explained this in my
5 declaration, especially in support of the element --
6 Paragraph 96, claim element 22.i.

7 Q. I would like to go back to Exhibit 2015,
8 Page 4, that we were just discussing.

9 A. Sure.

10 Q. 2015 from that sentence stated that, "The
11 transponder may transmit a code similar to one
12 generated (e.g., blinked) by the light arrays."

13 That's referring to -- in that sentence,
14 it's referring to a code that is blinked by the
15 light arrays?

16 A. That's correct in this instance.

17 Q. What makes an identifier secure?

18 A. I think I gave -- in Paragraph 89.

19 Q. Paragraph 89 of your declaration
20 describes what makes an identifier secure?

21 A. Just let me make sure. We discussed this
22 earlier. Just... (reviewing.)

1 So in Paragraph 89 I'm saying (as read):
2 "Thus, the '406 application and the '153 provisional
3 both teach that the ground station
4 cross-checks/cross-verifies two identifiers  the
5 code that is the transmitted identification
6 information, which can be transmitted through RF,
7 and another similar code that is the security
8 identifier."

9 Q. Do you know what an SSID is?

10 A. Yes.

11 Q. What is an SSID?

12 A. I believe -- I believe it's the older
13 secure circuit protocol. And there is a new
14 protocol.

15 Q. Is an SSID an identifier?

16 A. Yes.

17 Q. Would an encrypted SSID be a secure
18 identifier?

19 A. Possibly, but not as strong as the one
20 I'm analyzing here.

21 Q. Why is that?

22 A. Because you can spoof the -- also the

1 protocol that you're going to use in order to do the
2 encryption.

3 Q. So encrypting an identifier would not
4 make it a secure identifier, in your opinion?

5 A. Not as strong as the one that involves
6 cross-checking and two -- and the scheme I just
7 mentioned in 89.

8 Q. Are you suggesting that to make an
9 identifier secure, it must be cross-checked?

10 MS. L'ESPERANCE: Objection,
11 mischaracterizes.

12 A. No. What I said is actually that the
13 analysis I provide and the cross-checking of the two
14 identifiers that I mentioned in 89 makes a stronger
15 secure identifier. Or --

16 Q. (By Mr. Walters) Can you -- go ahead.
17 I'm sorry.

18 A. No, sorry. Please.

19 Q. Can you look at limitation 22.i of
20 substitute claim 22? It's printed just above
21 Paragraph 96 of your declaration.

22 A. Just one minute. Yes, I'm there.

1 Q. The middle of that limitation states,
2 "For cross-verifying the secure identifier."

3 Do you see that?

4 A. Yes, I do.

5 Q. That suggests that the identifier is
6 already secure before it is cross-verified.
7 Correct?

8 A. So what it says here, it says (as read):
9 "Utilizing the secure identifier comprises
10 transmitting the secure identifier" -- in the
11 discussion we had prior, this is the similar
12 code -- "to the remote portable detection for
13 cross-verifying the secure identifier and the
14 transmitted identification information."

15 If you recall, I mentioned earlier the
16 same code, which is transmitted, to verify -- and I
17 referenced the patent, to verify the authenticity of
18 the transmitted identification information.

19 So I transmit the identification
20 information through RF. I transmit a secure
21 identifier and then the remote portable detection
22 system can use -- can use the secure identifier for

1 cross-verifying the secure identifier and the
2 transmitted information to verify the authenticity.

3 Q. The secure identifier already exists
4 before it is cross-verified. Correct?

5 A. It is a signal. But the signal by
6 itself -- we need to see how the signal is used. So
7 the signal is used in order to basically -- because
8 don't forget, we said when we have an information
9 signal, for information theory, something that -- it
10 needs to say something meaningful about the system,
11 about the world, it needs to be -- and, actually, it
12 can be sent or received.

13 So the identifier in this case, the
14 secure identifier, it needs to be cross-verified
15 with the transmitted identification information in
16 order to verify the authenticity of the transmitted
17 identification information.

18 In other words, if I'm saying I'm Drone 1
19 of John -- I think this is an example I have used
20 previously -- I'm sending this information.

21 Then the ground station, a transponder is
22 something that responds -- think of a transponder as

1 a device that we use when we cross tolls. So it's
2 pinged and the response with the secure identifier.

3 The ground station can use the secure
4 identifier in order to cross-verify the information
5 I said, that actually "I'm Drone 1 of John" and
6 verify the authenticity. So --

7 Q. And -- I'm sorry.

8 A. Let me -- so we have a far stronger, I
9 believe, secure mechanism because we have the
10 information that -- the same code, "I'm Drone 1 of
11 John," and I have basically a similar code that is
12 cross-verified by the ground station in order to
13 verify the authenticity.

14 Q. If an encrypted SSID were cross-verified
15 in the manner required by 22.i, would that make it
16 stronger?

17 A. Let me think a little bit. Can you --
18 just to make sure that I -- can you repeat your
19 question?

20 Q. If an encrypted SSID were cross-verified
21 in the manner required by 22.i, would that make it
22 stronger?

1 A. But this is one ID. You need a second
2 identifier. Which -- so this is -- let's suppose
3 that this is the second identifier. Which will be
4 your first identifier?

5 Q. The -- the encrypted SSID would be the
6 secure identifier.

7 A. But we need two. We need basically the
8 identification -- the transmitted identification
9 information and the secure ID in order to have the
10 cross-verification.

11 Q. Correct.

12 If an encrypted SSID was cross-verified
13 with other transmitted identification information,
14 would that make -- would that make the encrypted
15 SSID stronger under 22.i?

16 A. Let me give you one example of where I
17 will be skeptical of this. If we go to
18 Beard-Provisional -- I don't recall the number. Do
19 you have it handy?

20 Q. No, I don't.

21 A. May I have a minute to check?

22 Q. Sure.

1 A. (Reviewing.)

2 The Beard-Provisional is exhibit -- if
3 I'm correct, it's Exhibit 1009.

4 (Marked was Exhibit No. 1009.)

5 Q. (By Mr. Walters) Okay.

6 A. So let me -- let me actually say
7 something here. Let me find -- bear with me.

8 I need to find a situation that is what
9 you described or maybe partially what you described.

10 So if you go -- if you go at Exhibit
11 Page No. 19, do you see where it says the RID will
12 transmit at a minimum the SUAS registration number
13 and position data, latitude, longitude, altitude of
14 the SUAS, and optionally a TLS, which is the newer
15 protocol, transport layer security protocol. And
16 the SSL Aeromart drone, I'm not sure that can be
17 used for source validation.

18 So here we have two problems. One is the
19 registration number refers to the owner, not the
20 particular. So if we use a code that refers to the
21 owner, we have a problem.

22 The second thing is actually we don't

1 have cross -- even if we have it encrypted, we don't
2 have the cross-verification. So there are two
3 problems here.

4 So we need -- that's why I asked you, you
5 may have a secure -- an encrypted one as a secure,
6 but we need to have code No. 1 as well being not the
7 owner number.

8 And then we need the cross-verification.

9 Q. Is that your complete answer?

10 A. Yes.

11 Q. Let's look at 22.i again.

12 A. Give me a minute.

13 Q. Sure.

14 A. You want me to go to Paragraph 96?

15 Q. Wherever you would like to reference
16 22.i.

17 A. Yeah, let's go to Paragraph 96.

18 Q. 22.i starts, "Wherein, utilizing the
19 secure identifier comprises..."

20 Do you see that?

21 A. I see that.

22 Q. The secure identifier must exist before

1 it is utilized. Correct?

2 MS. L'ESPERANCE: Objection, form.

3 A. It's a possibility.

4 Q. (By Mr. Walters) It's not required?

5 MS. L'ESPERANCE: Objection, asked
6 and answered.

7 A. Give me a minute. (Reviewing.)

8 I think the answer to this lies in the
9 support in the specification. For example, if you
10 look at -- on the support in the specification, it
11 says (as read): "Supra element 22.e, security
12 identifier comprises a code that is 'similar' to the
13 code that is the transmitted identification
14 information and the RF module transmits the similar
15 code, the security identifier."

16 Q. (By Mr. Walters) That portion answers
17 the question of whether the secure identifier must
18 exist before it is utilized in 22.i?

19 A. Yes, because it refers to the similarity
20 that we need to have in order to have the
21 authentication.

22 Q. Is the answer "yes" or "no" to the

1 question?

2 MS. L'ESPERANCE: Asked and answered.

3 A. I just used the -- that we need to have a
4 code that is similar to the code that is the
5 transmitted identification information. And the RF
6 module transmits the similar code, the security
7 identifier.

8 Q. (By Mr. Walters) And I guess I'm just
9 unclear on whether your position is yes or no. And
10 the Board might be interested as well in your
11 opinion on whether utilizing the secure identifier
12 requires the secure identifier to exist before it is
13 utilized.

14 MS. L'ESPERANCE: Objection, asked
15 and answered.

16 A. I will repeat the same one because
17 specification disclosure is very clear here.

18 Q. (By Mr. Walters) Do you know what a MAC
19 address is?

20 A. Yes.

21 Q. What is a MAC address?

22 A. Let me -- I have it.

1 It's media access control.

2 Q. Is a MAC address an identifier?

3 A. Yes.

4 Q. Is an encrypted MAC address a secure
5 identifier?

6 A. By itself, no, because, again, we go back
7 to the 89. We need two identifiers, second one
8 being -- and then cross-verification to verify the
9 authenticity.

10 Q. So an encrypted MAC address would not be
11 a secure identifier because it has not yet been
12 cross-verified?

13 MS. L'ESPERANCE: Objection,
14 mischaracterizes.

15 A. What I said is actually we need two.
16 Again, we need transmitted identification
17 information. We need the secure ID. We need the
18 cross-verification to verify the authenticity.

19 Q. (By Mr. Walters) Sure.

20 So in my example would -- you said you
21 need a secure ID. Correct?

22 A. Yes.

1 Q. So would an encrypted MAC address be a
2 secure ID?

3 A. By itself, as I mentioned earlier, may
4 not be as strong because I can spoof it.

5 Q. Would a periodically updated SSID be a
6 secure identifier?

7 A. It's a hypothetical that depends on many
8 things, including the frequency. And even if you
9 are sure of this, you don't get to the root of the
10 issue, I mentioned earlier.

11 Q. Is it possible that a periodically
12 updated SSID could be a secure identifier?

13 A. If you do it in the way I suggested,
14 where we have two IDs, one being the secure ID.

15 And we have the cross-verification in
16 order to verify authenticity, which I think it is
17 consistent with what I mentioned here.

18 Q. Right. So one being the secure ID that
19 needs to be cross-verified with other information.
20 Correct?

21 A. But the other information should be
22 identification information.

1 Q. Right.

2 A. Like what I describe in Beard.

3 Q. Okay. So my question is, you need -- you
4 need a secure ID first. Correct?

5 MS. L'ESPERANCE: Objection,
6 mischaracterizes, form.

7 A. You need basically to have transmitter
8 identification information. So something that says,
9 "Drone 1 of John."

10 And then you need a secure ID.

11 Q. (By Mr. Walters) Could the periodically
12 update MAC address or periodically updated SSID be
13 the secure SSID?

14 MS. L'ESPERANCE: Objection, asked
15 and answered, compound.

16 A. Without having to -- and the
17 cross-verification to verify authenticity, no.

18 Q. (By Mr. Walters) Would an encrypted UAV
19 identifier be a secure identifier?

20 MS. L'ESPERANCE: Objection, asked
21 and answered.

22 A. By itself, no, because it requires two

1 and the cross-verification.

2 Q. (By Mr. Walters) You need two secure
3 identifiers?

4 A. You need --

5 MS. L'ESPERANCE: Objection,
6 mischaracterizes.

7 A. -- one transmitted identification
8 information. You need a secure ID and the
9 cross-verification of the transmitted identification
10 information with a secure identifier to verify
11 authenticity.

12 Q. (By Mr. Walters) What does it take to
13 make an ID -- strike that.

14 What does it take to make an identifier
15 secure under the term "secure" -- under the term
16 "secure identifier"?

17 MS. L'ESPERANCE: Objection,
18 mischaracterizes.

19 A. As I mentioned, we need transmitted
20 identification information. So identifier No. 1,
21 secure ID, cross-verification to verify authenticity
22 of the transmitted identification information.

1 Q. (By Mr. Walters) Is that consistent with
2 the Board's construction of "secure identifier"?

3 MS. L'ESPERANCE: Objection, asked
4 and answered.

5 A. As I stated, yes.

6 Q. (By Mr. Walters) Can you turn to
7 Paragraph 89 of your declaration?

8 A. Just give me a minute. (Reviewing.)
9 Paragraph 89?

10 Q. Yes.

11 A. Yes, I'm there.

12 Q. At the end of the sentence at
13 Paragraph 89, you have -- you use the word "similar"
14 and put it in quotes.

15 Do you see that?

16 A. That's correct.

17 Q. Why did you put that in quotes?

18 A. You see on the table above?

19 Q. Yes.

20 A. This -- after -- part of the
21 Paragraph 88, if you look at support in the
22 specification, Exhibit -- this is the application,

1 Exhibit 2015 at Column 3, 4 to 5, states, "The
2 electronic identification box has a position logger
3 and a transponder."

4 At Column 3, Lines 14 until 16, it says,
5 "The transponder may transmit a code similar" --
6 that's what I want to view -- "to the one
7 generated..."

8 So I want to highlight "a code similar."

9 Q. So when you're quoting the word "similar"
10 in Paragraph 89, you're quoting from the sentence in
11 the application, Exhibit 2015, "The transponder may
12 transmit a code similar to the one generated (e.g.,
13 blinked) by the light arrays"?

14 A. Yes.

15 Q. We've been going about an hour. It would
16 be a good time to take a break.

17 A. Fine with me.

18 Q. You understand, Dr. Nikos, that the IPR
19 rules prohibit you from discussing the substance of
20 your testimony with your counsel during breaks?

21 A. That -- I do.

22 MR. WALTERS: We can go off the

1 record.

2 THE REPORTER: We are off the record
3 at 10:00 a.m.

4 (Recess taken at 10:00 a.m., resuming
5 at 10:10 a.m.)

6 THE REPORTER: We're back on the
7 record at 10:10.

8 Q. (By Mr. Walters) Welcome back,
9 Dr. Nikos.

10 A. Thank you.

11 Q. I would like to turn to Paragraph 82 of
12 your declaration, Exhibit 2014.

13 A. Just give me a minute.

14 Q. Sure.

15 A. I'm there.

16 Q. Paragraph 82 discusses limitation 22.b.

17 A. That's correct.

18 Q. And limitation 22.b recites, among other
19 things, "A radio communication module that is
20 configured to transmit identification information."

21 Do you see that?

22 A. That's correct.

1 Q. I would like to look at Paragraph 88.
2 Actually, you can just go to Paragraph 96.

3 A. 96?

4 Q. Yes. Let's go back to 88, just to
5 provide the context.

6 A. Sure. Do you want to go back to the --

7 Q. Limitation 22.e discussed in
8 Paragraph 88.

9 A. Sure.

10 Q. So 22.e requires that the radio
11 communication module be configured to utilize a
12 secure identifier. Correct?

13 A. It's configured, yes.

14 Q. So let's go to 96, Paragraph 96, which
15 discusses limitation 22.i.

16 A. Yes.

17 Q. This limitation states, "Wherein,
18 utilizing the secure identifier comprises
19 transmitting the secure identifier..."

20 Do you see that?

21 A. That's correct.

22 Q. Is it fair that claim 22 requires that

1 the radio communication module transmit both
2 identification information and the secure
3 identifier?

4 A. Can you repeat your question?

5 Q. Is it fair that claim 22 requires that
6 the radio communication module transmit both
7 identification information and the secure
8 identifier?

9 A. Yes, because it's -- it's the unit that
10 communicates through RF and through other means with
11 the external world.

12 Q. What is the difference between
13 identification information and the secure
14 identifier?

15 A. Let's go again to the 89 and the
16 discussion we had earlier. Identification
17 information is information that says, "This is
18 Drone 1 of John."

19 And then we can have the secure
20 identifier. We can call it a blue identifier, a
21 green identifier or whatever you want to call it.

22 But this one needs to be cross-verified

1 with the transmitted information in order to verify
2 the authenticity of the transmitted identification
3 information.

4 Q. The secure identifier needs to be
5 cross-verified with the identification information?

6 A. Yes. We need to have the transmission of
7 the identification information to the device that is
8 going to do the authentication. We need to have the
9 secure identifier transmitted to this remote
10 portable detection system for cross-verifying the
11 secure identifier and the transmitted identification
12 information in order to verify the authenticity of
13 the transmitted identification information.

14 In our example, that is Drone 1 of John.

15 Q. The secure identifier must exist before
16 it's transmitted. Correct?

17 MS. L'ESPERANCE: Objection, asked
18 and answered.

19 A. I'm going to state what I read earlier,
20 which is -- if we look at Paragraph 96, support in
21 the specification, the secure identifier comprises a
22 code that is similar to the code that is the

1 transmitted identification information. And the RF
2 module transmits the similar code.

3 Q. (By Mr. Walters) Are you stating that
4 the secure identifier must exist before it's
5 transmitted, or it does not need to exist before
6 it's transmitted?

7 MS. L'ESPERANCE: Objection, asked
8 and answered.

9 A. Sorry, but I have to just repeat my
10 previous answer.

11 The security identifier, as disclosed in
12 the specification, comprises a code that is similar
13 to the code that is the transmitted identification
14 information.

15 And the RF module transmits the similar
16 code.

17 Q. (By Mr. Walters) The identification
18 information must be transmitted by the radio
19 communication module in the claim. Correct?

20 A. As it's stated in 22 -- let me -- let me
21 go there. Identification information. Give me a
22 minute. (Reviewing.)

1 Yes, as stated in Paragraph 82, claim
2 element 22.b, "A radio communication module coupled
3 to the radio frequency communication antenna and
4 configured to transmit identification information
5 associated with the low-altitude aircraft."

6 Q. Must the identification information exist
7 before it was transmitted in 22.b?

8 A. Give me a minute. (Reviewing.) Let me
9 check the specification.

10 Q. Do you think the plain language of 22.b
11 requires that the identification information exists
12 before it is transmitted in 22.b?

13 A. I think as long as it's something that
14 identifies the aircraft, I think a question of when
15 this information is created is unrelated. In fact,
16 if we have this information laying around, we
17 increase -- so there are multiple scenarios.

18 But I will say we want to have this
19 identification information transmitted. And the
20 important part is actually to have a secure
21 identifier.

22 And that's this cross-verification of

1 the -- the identification information and the secure
2 identifier.

3 Q. So I feel like I'm asking a very plain
4 yes-or-no question.

5 And the question is, do you think the
6 plain language of 22.b requires that the
7 identification information exists before it is
8 transmitted in 22.b?

9 MS. L'ESPERANCE: Objection, asked
10 and answered.

11 A. I think the interest, if -- if we look at
12 the claim language, what it states, it doesn't
13 really care when this information was created. It
14 says it needs to be identification information that
15 is transmitted.

16 So it can be used with a secure
17 identifier in order to cross-verify the information
18 with the secure identifier.

19 Q. (By Mr. Walters) Let me ask it a
20 different way.

21 Could the identification information that
22 is transmitted in 22.b be created after it is

1 transmitted in 22.b?

2 A. I don't think anyone would do that.

3 Q. Could the secure identifier that is
4 transmitted in 22.i be created after it is
5 transmitted in 22.i?

6 A. Then what do you transmit?

7 Q. Is the answer no?

8 A. After doesn't make any sense.

9 Q. So it must exist before it's transmitted?

10 MS. L'ESPERANCE: Objection,
11 mischaracterizes.

12 A. What I'm saying is actually it's -- if we
13 go until the time of transmission, it doesn't matter
14 when it was created as long as one is the
15 identification information and the other one is the
16 secure identifier that is cross-verified in order to
17 check the authenticity.

18 Q. (By Mr. Walters) Does encrypting an
19 identifier using a secure hash function make the
20 identifier secure?

21 A. Not in the way that -- or not -- I'm
22 going to go back to 89. Again, we need to have the

1 information and the identifier and the
2 cross-verification.

3 Q. It's not yet a secure identifier because
4 it hasn't yet been cross-verified?

5 A. And also we don't have the identification
6 cross-verified.

7 Q. To make the identifier secure, it must be
8 cross-verified with the other identification
9 information?

10 A. I'll repeat again.

11 In my Paragraph 89, I'm saying both the
12 application and the provisional, both teach that the
13 ground station cross-checks/cross-verifies the
14 identifiers, the code. So we need to have code.

15 The transmitted identification
16 information, which can be transmitted through RF,
17 and another similar code that is the security
18 identifier.

19 Q. Did you start your answer with "yes"?

20 A. I started my answer that unless we have
21 all these elements that I mentioned in 89, it won't
22 be --

1 Q. It won't be a secure identifier?

2 A. It won't be a secure identifier based on
3 the way that I explained it in my declaration.

4 Q. Let's turn to your declaration at
5 Paragraph 84.

6 A. Just give me a minute.
7 I'm there.

8 Q. This paragraph discusses limitation 22.c.
9 Do you see that?

10 A. That's correct.

11 Q. In 22.c, just above the paragraph states,
12 "Wherein the radio communication module is
13 configured to receive a radio signal and store the
14 received information in a storage."

15 Do you see that?

16 A. That's correct.

17 Q. I'm interested in the phrase "store the
18 received information."

19 What is "the received information"
20 referring to in the claim?

21 A. Give me a minute.

22 So if we go at -- at the application,

1 Exhibit 2015, support in the specification, we see
2 that RF module 16 can receive the RF signal from
3 identification boxes nearby installed in other
4 aircrafts and save this information in the
5 nonvolatile storage module 15 that is connected to
6 the memory card installed in the memory card slot 7.

7 And then continues at -- on Page 9,
8 Rows 18 through 21, "The RF receiver and transmitter
9 16 and 37 in both the identification box 1 and the
10 ground device 21 creates a duplex communication.
11 Therefore, the identification box 1 and ground
12 device 21 together can exchange information through
13 light or RF. This feature allows other
14 applications. One example application may be to
15 send data to a UAV through light and RF."

16 If you go to 85 -- Paragraph 85, I'm
17 saying that both the application and the
18 provisional, each teaches that the RF module of the
19 identification box can receive information from the
20 respective identification boxes of the nearby
21 aircraft and can also receive data from a ground
22 device.

1 The information received via RF signal is
2 stored in a storage module memory. Accordingly,
3 both the application of the provisional teaches
4 claim element 22.c.

5 Q. You're reading directly from your
6 declaration?

7 A. That's correct.

8 Q. Do you understand the concept of
9 antecedent basis when discussing patent claims?

10 A. The use of "the" and "a"?

11 Q. Yes.

12 A. Yes. Or I think I understand.

13 Q. It sounds like you might. You understand
14 that when the term "the" is used, it's referring to
15 something earlier in the claim?

16 A. Yes, which is something that may have the
17 "a" in front. Am I right? I'm not lawyer, so I
18 want to be accurate.

19 Q. It could. It might or it might not.

20 So my question is about this particular
21 claim language in 22.c, where it says, "Store the
22 received information."

1 What is the received information
2 referring to earlier in the claim language?

3 A. So my understanding -- again, I'm not a
4 lawyer. My understanding is that the communication
5 module is configured not only to send messages, RF
6 signals, but also to receive.

7 So when it receives "a," it receives it
8 as your signal, stores this particular signal in a
9 storage.

10 Q. So it's your opinion that store the
11 received information -- strike that.

12 It's your opinion that the received
13 information that is stored is the radio signal
14 that's received in limitation 22.c?

15 A. At least this is -- this is the plain --

16 MS. L'ESPERANCE: Just --

17 THE WITNESS: Sorry.

18 MS. L'ESPERANCE: Go ahead,
19 Dr. Nikos. Sorry.

20 A. This is the plain meaning. But, again, I
21 want to say that I'm not lawyer. I'm just...

22 Q. (By Mr. Walters) Okay. Can you look at

1 limitation 22.c that is in your chart?

2 A. Do you want me to look at the support
3 that I have?

4 Q. No, the left-hand column that shows the
5 amendments to the claim.

6 A. Yes.

7 Q. You see the brackets denote that the word
8 "received" was deleted and then the underline
9 denotes that the word "received" was added at a
10 later spot?

11 A. I see two brackets. The word "received"
12 inside two brackets and the word "received"
13 underlined.

14 Q. Do you understand that the brackets
15 indicate that the word was removed?

16 A. To be honest with you, yeah...
17 (reviewing.)

18 Q. The brackets --

19 A. It was mentioned, but I forgot about
20 this. I just -- my attention was most on the
21 "received," the underlined "received."

22 Q. Sure.

1 You can see that underlined "received"
2 was added because it now appears at the same
3 location at the top of the page where 22.c is
4 written?

5 A. Yes, I can see that.

6 Q. And you can see that the word "received,"
7 where it's located in brackets, was removed from the
8 limitation at that location?

9 A. I see it inside two brackets. I
10 don't -- I'm not sure exactly about the legal
11 meaning of having two brackets.

12 But I believe what you are telling me,
13 so...

14 Q. So why was the word "received" removed in
15 the amendment before the words "radio signal"?

16 A. I don't know. I mean, I was not part of
17 the discussions. So I was given amended claims and
18 I was asked to express an opinion. I didn't opine
19 in any deletion or addition of words.

20 Q. Okay. Let's assume that the word
21 "received" was still there as it existed in the
22 patent.

1 Actually, let's just -- let's just look
2 at the patent.

3 A. The exhibit -- which exhibit?

4 Q. 1001.

5 A. Okay. Yeah.

6 (Marked was Exhibit No. 1001.)

7 A. Where do you want me to go?

8 Q. (By Mr. Walters) Claim 21.

9 A. Yes. Sure.

10 Q. Column 18, Line 5. This is in claim 21.

11 A. Sure.

12 Q. It states, "Wherein the radio
13 communication module is configured to receive a
14 received radio signal."

15 A. That's correct.

16 Q. What does that mean, "to receive a
17 received radio signal"?

18 A. To me it looks redundant. But, again,
19 I'm just -- I have not looked at this particular
20 claim 21 because I was given the substitution ones.

21 So to me it looks redundant.

22 Q. Is it unclear to you what it means to

1 receive a received radio signal?

2 MS. L'ESPERANCE: Objection, scope.

3 A. No. To me it's just it receives a signal
4 and stores the information in a storage.

5 We had this discussion earlier about
6 information signals and what is a signal.
7 Carries -- it's a pattern that carries information
8 and this information -- information can be
9 transmitted or received.

10 Q. (By Mr. Walters) When --

11 A. And this would be meaningful information.
12 So...

13 Q. When it says it's configured to receive a
14 received radio signal, does that suggest to you that
15 it is receiving a radio signal that's already been
16 received somewhere?

17 MS. L'ESPERANCE: Objection, scope.

18 A. I don't think so, based on what I know
19 about the spec, because it's a radio signal.

20 So there is only -- if you go to
21 Figure -- let me show you. If you go to
22 Figure -- bear with me one minute.

1 If we go to Figure 4, element 37,
2 RF -- the RF module is the one that
3 communicates -- transmits and receives RF signals.

4 Q. (By Mr. Walters) Do you have anything
5 else to add?

6 A. No.

7 Q. I asked you whether the language that the
8 module is configured to receive a received radio
9 signal, if that suggested that it is receiving a
10 radio signal that's already been received somewhere.
11 And you said you don't think so based on what you
12 know about the spec.

13 So does that mean that this language
14 configured to receive a received radio signal is
15 inconsistent with what the spec is suggesting?

16 MS. L'ESPERANCE: Objection, scope.

17 A. That's not what I said. I said basically
18 I think this is excluded, the scenario suggested I
19 think is excluded based on the spec and the figures.

20 For example, I mentioned the example of
21 Figure 4.

22 Q. (By Mr. Walters) The scenario suggested

1 is based on what the claim language says, to receive
2 a received radio signal?

3 A. To be more accurate, the scenario
4 suggested based on the interpretation of the claim
5 language.

6 Q. Is excluded by the spec?

7 MS. L'ESPERANCE: Objection, form,
8 mischaracterizes.

9 A. The plain and ordinary meaning -- again,
10 I have not studied this extensively.

11 But to me, "received a received signal"
12 is a redundant statement that says I'm receiving a
13 signal, RF signal, and I'm storing this information,
14 information containing the signal in the storage.

15 Q. (By Mr. Walters) Is it fair to
16 you -- strike that.

17 Is it fair to say that you believe the
18 language "to receive a received radio signal" means
19 the same thing as "to receive a radio signal"?

20 MS. L'ESPERANCE: Objection, asked
21 and answered.

22 A. Can you repeat your question?

1 Q. (By Mr. Walters) Sure.

2 Is it fair to say -- and I'm asking the
3 question from the idea that you said that the word
4 was redundant.

5 So is it fair to say that you believe the
6 language "to receive a received radio signal" means
7 the same thing as "to receive a radio signal"?

8 A. Yes, that's my -- that's my
9 interpretation. That's what -- by using the words,
10 use the plain or ordinary meaning, that's what I'm
11 understanding.

12 Q. Let's turn to your declaration at
13 Paragraph 105.

14 A. Give me a minute.

15 I'm there.

16 Q. In Paragraph 105, you state your opinion
17 that the Beard-Provisional is not prior art?

18 A. That's correct.

19 Q. Let's look at Beard Exhibit 1008.

20 (Marked was Exhibit No. 1008.)

21 A. Just give me a minute. Yes,
22 Beard-Provisional. I'm there.

1 Do you want me to go to the provisional
2 or you want me to go to the -- because my opinion is
3 about the provisional.

4 Q. (By Mr. Walters) Sure. I would like to
5 look at both.

6 A. Okay.

7 Q. So Beard 1008 at Column 3, Line 39.

8 A. Just give me a minute. Column 3?

9 Q. Actually, Line 30.

10 A. Yes.

11 Q. It states, "The receiver device includes
12 a memory for storing the decoded identifier and
13 position data along with displayable maps."

14 And there is a parenthetical. Then it
15 says, "And cryptographic keys for verifying digital
16 signatures encoded into the identifier signals."

17 Do you see that?

18 A. That's correct.

19 Q. Let's go to the Beard-Provisional, which
20 I believe is 1009.

21 (Marked was Exhibit No. 1009.)

22 A. Yes.

1 Q. (By Mr. Walters) Page 7.

2 A. Page 7 of the exhibit or Page 7 of the
3 document?

4 Q. Page 7 of the document. So this is
5 Exhibit Page 21.

6 A. Yes.

7 Q. This is Section 5.1.2.1.

8 A. Yes.

9 Q. Can you read that?

10 A. Do you want me --

11 Q. You don't have to read it out loud. Just
12 read it to yourself.

13 A. Okay.

14 Q. The first few sentences.

15 A. (Reviewing.)

16 Yes.

17 Q. This describes making available data
18 received in an RAD -- RID transmission including, at
19 a minimum, the FAA registration ID, digital
20 signature, and position information of the SUAS.

21 A. Yes.

22 Q. If you would turn to Exhibit Page 25.

1 There is an 11 for the provisional page.

2 A. Yes, I'm there.

3 Q. In the middle of that page, there is a
4 discussion about anti-spoofing digital signature?

5 A. That's correct.

6 Q. I would like to go back to the
7 Institution Decision.

8 A. Do you want me to go to the Board?

9 Q. Yes.

10 A. Just a minute.

11 Yes.

12 Q. About two-thirds of the way down the
13 page, when discussing limitation 21.e --

14 A. Excuse me. Can you tell me which page of
15 the --

16 Q. I'm sorry. Page 18.

17 A. (Reviewing.)

18 Yes.

19 Q. There is a sentence that starts,
20 "Petitioner further contends..." about two-thirds of
21 the way down the page.

22 A. Yes.

1 Q. That states, "Petitioner further contends
2 that Beard's identification information is encoded
3 with cryptographic keys, creating an anti-spoofing
4 digital signature that allows the identity of the
5 transmitter" --

6 A. Sorry. Sorry. Just let me -- because I
7 lost -- sorry. After petitioner 34? Am I right?

8 Q. Yes.

9 A. Okay. Can you please read again?

10 Q. Sure.

11 "Petitioner further contends that Beard's
12 identification information is encoded with
13 cryptographic keys creating an anti-spoofing digital
14 signature that allows the identity of the
15 transmitting UAS to be verified.

16 "In support of this contention,
17 petitioner cites disclosures from Beard that
18 describes the use of cryptographic keys for
19 verifying the identity of a transmitting UAS."

20 A. That's correct.

21 Q. And then if you go to Page 20, the Board
22 states at the top of the page, "Beard clearly

1 teaches a UAV that encrypts data using such a
2 digital signature."

3 Do you see that?

4 A. Which page are you on?

5 Q. 20.

6 A. For which limitation?

7 Q. It's the same limitation we were
8 discussing on Page 18. It's limitation 21.e.

9 A. Okay.

10 Q. The limitation is "the radio
11 communication module is configured to utilize a
12 secure identifier."

13 A. So on Page 10 -- or on Page 20, where do
14 you want me to go?

15 Q. At the top.

16 A. Yes.

17 Q. The Board states, in the second line --

18 A. Uh-huh.

19 Q. -- "Beard clearly teaches a UAV that
20 encrypts data using such a digital signature."

21 A. I read it.

22 Q. Do you agree with that conclusion by the

1 Board?

2 A. Yes, given the fact that under the
3 assumption that there was -- based on the owner
4 response and the other data and with respect to the
5 initial claims.

6 So my argument that I made, if we go back
7 to my declaration -- let me read.

8 In proposed substitute claim 22, utilize
9 secure identifiers defined in the manner that is
10 consistent with the Board's interpretation that is
11 fully supported by both the '406 application and
12 the '153 provisional.

13 All other limitations of proposed
14 substitute claim 22 are also fully disclosed by both
15 the '406 application and the '153 provisional.
16 Therefore, in my opinion, proposed substitute
17 claim 22 is entitled to claim priority.

18 So I'm saying that all of this discussion
19 we had today about the utilization of a secure
20 identifier, first of all, is consistent with the
21 Board.

22 And the Board's opinion you just read is

1 based on a different set of information that was
2 provided. I was not part of this discussion and I'm
3 expressing the opinion, first of all, that the
4 utilization of the secure identifier is consistent
5 with the Board interpretation for the reasons we
6 discussed earlier.

7 And also, if we go back -- because you
8 had me read some sections from the provisional. Let
9 me tell you why the provisional fails to meet. If
10 we go back -- if we go back, this is
11 provisional 009.

12 Given my declaration, Paragraph 105,
13 parameters -- the -- what you read to me, this will
14 include all parameters determined to be appropriate
15 for the RID transmission including, at a minimum,
16 the FAA regulation, digital signature and position
17 information.

18 The position information, for reasons
19 that I have explained in the other deposition, is
20 not -- it's not an identifier because you may have
21 several of them, several drones just going through
22 the same position, even if we have a time scale.

1 The digital signature, for similar
2 reasons, is not -- and if you look, the FAA
3 registration, again, I don't see any one of them.
4 FAA registration, I believe, is associated with the
5 owner. And I don't see any cross-verification in
6 the distant.

7 So that's why I have the opinion in 105.

8 MR. WALTERS: I will pass the
9 witness.

10 (Following commenced at 10:58 a.m.)

11 THE WITNESS: Can we take a
12 five-minute break?

13 MR. WADEKAR: I was -- I was trying
14 to stay in the frame. I'm moving closer to the
15 witness, so -- because we are sharing a microphone.
16 And I was just going to make the same request.

17 Maybe a five-minute break.

18 THE WITNESS: Yeah.

19 MR. WADEKAR: Five minutes, ten
20 minutes? Sorry.

21 THE WITNESS: Five minutes, I'm fine.

22 MR. WADEKAR: Okay. Five-minute

1 break, then. Yeah. Can we take a five-minute
2 break, please?

3 MR. WALTERS: Sure.

4 THE REPORTER: We are off the record
5 at 10:58.

6 (Recess taken at 10:58 a.m., resuming
7 at 11:06 a.m.)

8 THE REPORTER: Back on the record at
9 11:06.

10 EXAMINATION

11 BY MR. WADEKAR:

12 Q. Let us start with Paper 13, the Board
13 decision. And let us go to Page 10.

14 A. Give me one minute. Let me bring my
15 laptop closer.

16 I'm there.

17 Q. So you recall that you stated that the
18 definition of secure identifier that you provided is
19 consistent with the definition -- or the preliminary
20 construction that the Board provided.

21 Do you recall that?

22 A. That's correct.

1 Where do you want me to go on Page 10?

2 Q. Page 10, almost the bottom of Page 10.

3 It's the last paragraph on Page 10.

4 A. Sure.

5 Q. Now, if you go to -- let me pause.

6 Did you read the Board's preliminary
7 construction?

8 A. That's correct.

9 Q. And it is still your opinion that your
10 definition is consistent?

11 A. Yes.

12 Q. But is it exactly the same as what the
13 Board stated?

14 A. Not word by word.

15 Q. Let's go to Page 9, bottom of Page 9.

16 A. Where?

17 Q. Of the same -- same paper, 13.

18 A. Yes.

19 Q. Would you mind reading the very last
20 paragraph on Page 9?

21 A. The one that starts, "Patent owner..."?

22 Q. Yes.

1 A. "Patent owner does not appear to dispute
2 the secure identifier is information used to
3 securely verify the identity of a device, such as an
4 airborne object or ground-based transmitter."

5 Q. So do you see that the Board describes
6 that a secure identifier is information?

7 Do you see those words?

8 A. That's correct.

9 Q. And in your opinion and during your
10 testimony today, if I understand correctly, you have
11 stated that secure identifier, as it is used in the
12 substitute claim, that can be codes similar or
13 similar code. Is that correct?

14 A. Let me go back and -- to my declaration.
15 Bear with me.

16 Q. If it would help, you have referred to
17 Paragraph 89 a few times.

18 A. Yes, 89. I'm saying, thus, the
19 '406 application and the '153 provisional both teach
20 that the ground station cross-checks/cross-verifies
21 two identities, the code, that is the transmitted
22 identification information, which can be transmitted

1 through RF, and another similar code that is the
2 secure identifier.

3 Q. And is this just a typo, when it says
4 "security identifier" it means "secured identifier,"
5 as stated in the claim?

6 A. Yes, it's a typo.

7 Q. And do you recall also the discussion
8 about -- the counsel asked you why you put the word
9 "similar" in quotation marks?

10 Do you remember that discussion?

11 A. That's correct.

12 Q. And if I -- if I remember correctly, you
13 cited to the table above and quoted language from
14 the specification that used the words "code
15 similar"?

16 A. That's correct.

17 Q. Okay. So now turning back to Paper 13,
18 Page 9, the paragraph that you just read, is it fair
19 to say that "code similar" is an example of
20 information?

21 A. Let me think. Yes.

22 Q. And then you have repeatedly said that

1 the secure identifier is used for cross-checking,
2 cross-verifying -- different words but similar
3 meaning -- cross-checking and cross-verifying to
4 verify authenticity. Is that correct?

5 A. That's correct.

6 Q. And is that -- does that language appear
7 in the proposed substitute claim itself?

8 A. Paragraph 96, claim element 22.i, it
9 says, "Wherein, utilizing the secure identifier
10 comprises transmitting secure identifier to the
11 remote portable detection system for cross-verifying
12 the secure identifier and the transmitted
13 identification information, to verify authenticity
14 of the transmitted identification information."

15 Q. So now if we go back to the Board's
16 decision and the paragraph that we have been
17 discussing.

18 So we already discussed that the secure
19 identifier can be called -- well, it's
20 described -- you give the example of "code similar"
21 and that is information.

22 And now the claim language itself says

1 that it is used to verify identity -- or let me read
2 the language exactly. It says, "Verify authenticity
3 of the transmitted identification information." Is
4 that correct?

5 A. That's correct.

6 Q. Okay. Does it say that that means that
7 it verifies the -- verifies the security, verifies
8 the identity of the device? Does the plain language
9 say that?

10 A. (Reviewing.)

11 To verify authenticity of the transmitted
12 identification information -- let me go...
13 (reviewing.)

14 If we go to the 22 preamble, it says,
15 Paragraph 78 of my declaration, "A device configured
16 to communicate identification information associated
17 with a low-altitude aircraft, the device
18 comprising..."

19 And then we go to 22.a, "A radio
20 frequency communication module coupled to the radio
21 frequency communication antenna and configured to
22 transmit identification information associated with

1 the low-altitude aircraft through a transmitted
2 radio signal."

3 And then 22.c, "Wherein the radio
4 communication module is configured to receive a
5 radio signal and store the received information in a
6 storage."

7 22.d, "Wherein the radio frequency
8 communication antenna is coupled to the low-altitude
9 aircraft."

10 And it continues.

11 Q. So let me ask my question again.

12 So does the -- does the proposed
13 substitute claim use the words "verify the identify
14 of a device"?

15 A. Give me one minute.

16 Can you repeat your question?

17 Q. Yes.

18 My question is, does the proposed
19 substitute claim include -- include the words
20 "verify the identity of a device"? Does the
21 language of the claim include those words?

22 A. The word "device" is used, a device

1 configured to communicate identification associated
2 with the low altitude.

3 So the device does this identification
4 and it's configured to communicate this -- so -- but
5 the identification is the identification of the low
6 aircraft, low-altitude aircraft.

7 Q. So just to be clear, so the words exactly
8 as they are here in -- on Page 9, exact same words,
9 are they in the claim language or are they not in
10 the claim language?

11 I'm not asking about the meaning. I'm
12 saying literally, are the words there?

13 A. The words are there, yes.

14 Q. In the claim language? The words "verify
15 the identity of a device," these words are in the
16 claim language?

17 A. Exact words, no.

18 Q. Okay. Thank you. So that's all my
19 question was, the exact words are not there.

20 But I think you just -- if I understand
21 correctly, you seem to think that that is what the
22 proposed claim is describing?

1 A. Yes.

2 Q. So then my question is why? Why do you
3 think that? Why is that?

4 A. Because I have provided all the support
5 tables that indicate where in the spec we have
6 evidence of this.

7 Q. So then just so that I understand
8 clearly, so if you go to -- if you go to claim
9 element 22.i.

10 A. Just a minute.

11 Q. This is Paragraph 96.

12 A. Yeah. Bear with me. (Reviewing.)

13 Yes.

14 Q. So you see at the -- at the end of the
15 claim there, the language, "verify authenticity of
16 the transmitted identification information"?

17 A. That's correct.

18 Q. How is that related to what the -- what
19 the Board said, "verify the identity of a device"?
20 How is that related?

21 A. Well, verifying this is indeed the UAV
22 that it claims it is. So this is the device.

1 Q. UAV is the device?

2 A. Yes.

3 Q. And how is the transmitted identification
4 information related to the UAV?

5 A. If we go to 10 -- let me go to the Board
6 decision.

7 Q. No, I mean -- I mean from the -- not from
8 the Board's decision. I mean from the claims.

9 A. From the claims?

10 Q. Yes.

11 A. The device is connected to this whole
12 mechanism with this transmitted identification
13 information.

14 Q. Okay. Thank you.

15 Staying on the Board decision, continuing
16 on to -- so this discussion starts on the last
17 sentence on Page 9 and continues on to Page 10.

18 A. Uh-huh, yes.

19 Q. Do you see that the Board is saying here
20 that -- but back on the sites, various embodiments
21 from the specific position to argue that a secure
22 identifier must also identify -- excuse me -- a

1 connection for extending information between a UAV
2 and a remote portable system and must change
3 predictably to avoid spoofing or cloning.

4 Now, in the definition that you have in
5 the declaration and that is in the specification,
6 there is no discussion of a connection for -- I'm
7 not talking -- the question is not about the
8 specification. Just about the claim.

9 The claim is not talking about a
10 connection for identifying exchanged information
11 when it is describing utilize secure identifier. Is
12 that correct?

13 MR. WALTERS: Objection, leading.

14 MR. WADEKAR: Excuse me?

15 MR. WALTERS: Objection, leading.

16 Q. (By Mr. Wadekar) Let me rephrase that.

17 If you read claim 22.i, does claim
18 limited 22.i describe the language that is quoted
19 here that starts with the words, "Identify the
20 connection for exchanging information..."?

21 A. (Reviewing.)

22 Yes, for -- with respect to the

1 connection part.

2 Q. Can you please explain how?

3 A. Because we have the RF module. But,
4 again, we're talking about different embodiments.
5 The embodiments here that we're talking is actually
6 spoofing and a connection for exchanging
7 information.

8 I'm using the specification in order
9 to -- I'm using a different embodiment from the
10 specification that supports the secure identifier
11 based on the identification information, the secure
12 identifier, and the cross-verification.

13 So I'm not relying on all the
14 embodiments. I'm relying on the embodiment in the
15 pattern, which is supported by the provisional and
16 the patent application. Basically, it has these
17 components that I mentioned earlier.

18 Q. Okay. Do you recall that during your
19 testimony you described -- you said -- you could
20 call the secure identifier, you could call it "green
21 identifier" or "blue identifier"?

22 Do you recall that?

1 A. That's correct.

2 Q. Could you please elaborate on what you
3 mean by that?

4 A. Because the important stuff, the
5 important information is not how we call it, but the
6 components we have and interaction between the
7 components.

8 And, again, I'm going to 22.i. "Wherein,
9 utilizing the secure identifier comprises" -- and I
10 want to underline comprises -- "transmitting the
11 secure identifier to the remote portable detection
12 system for cross-verifying the secure identifier and
13 then transmitting the identification information to
14 verify authenticity of the transmitted
15 identification information."

16 So what I'm saying, I can say wherein
17 utilizing the green identifier comprises transmitted
18 the green identifier to -- so I can change the label
19 "secure" to green.

20 But the importance is how? We have two
21 of them and the identification information and the
22 secure identifier, cross-verification for

1 authenticity.

2 Q. Okay. So are you saying that the word
3 "secure" is just a label that describes the
4 identifier? Like you said -- in your earlier --

5 A. It's a label, yes.

6 Q. Okay. So let's go to Exhibit 1001, which
7 is the patent.

8 A. Yes.

9 Q. And let us go to claim 21, which starts
10 in Column 17 and then continues on to Column 18.

11 A. Give me a minute.

12 Q. Okay.

13 A. (Reviewing.)

14 Yes, I'm there.

15 Q. If you look at Line 9 -- unfortunately,
16 this claim is not split into separate elements.

17 But if you -- if you look at Line 9,
18 Line 9 at some point -- at some point in time
19 states, "The radial communication module is
20 configured to utilize a secure identifier."

21 Do you see that?

22 A. Yes.

1 Q. So based on your example, if I were to
2 change the words here, if I were to say that the
3 radio communication module is configured to utilize
4 a green identifier, would that make sense to you?

5 A. Let me read it. Just a minute. Let me
6 refresh my memory. (Reviewing.)

7 No, because it doesn't have the other
8 elements I mentioned.

9 Q. So are you then saying that -- describing
10 the word "secure" as a label makes sense because you
11 just quoted the language from 22.i, which -- which
12 defines what utilizing the secure identifier means?
13 You mentioned it comprises and then the language.

14 MR. WALTERS: Objection, leading.

15 Q. (By Mr. Wadekar) Let me rephrase the
16 question.

17 A. Yeah.

18 Q. You just stated that in the -- in the
19 claim that is in the patent as issued, claim 21,
20 saying green -- green identifier would not make
21 sense.

22 A. But --

1 Q. But in 22.i, that is the example you
2 gave?

3 A. Yeah. The difference is here it says to
4 utilize a secure identifier and the radio
5 communication module is configured.

6 If we go to 22.i, it says, "Wherein,
7 utilizing the secure identifier comprises..."

8 So discloses what this utilization means,
9 which is not here.

10 Q. Okay. Let us go to claim element 22.c,
11 which I believe is Paragraph 84.

12 A. 84?

13 Q. Uh-huh.

14 A. Yes.

15 Q. So in the claim element, do you see the
16 words "receive a radio signal"?

17 A. Can you repeat the question?

18 Q. In claim element 22.c, do you see the
19 words "receive a radio signal"?

20 A. Yes. I see also the "received" inside
21 brackets.

22 Q. Yes.

1 And do you recall that counsel informed
2 you that the words that are in double brackets are
3 considered deleted? They are removed, I believe he
4 used the word?

5 A. Yes.

6 Q. Okay. So then assuming that the
7 words -- or the word in the double brackets is
8 removed, is it correct that this claim element
9 states "receive a radio signal"?

10 A. Yes.

11 Q. Okay. And then it -- is it also correct
12 that it says "store the received information"?

13 A. That's correct. As I mentioned earlier,
14 signals cut information about the environment, about
15 the system, through a pattern, through characters.
16 And this information is transmitted or received.

17 Q. Let's go back to the Board's decision and
18 let's go to Page 20.

19 A. Page?

20 Q. 20.

21 A. Yes. Where do you want me to go?

22 Q. Give me one second.

1 So do you recall that we discussed -- on
2 Page 20, we discussed the second sentence that
3 states here, "Clearly teaches UAV that encrypts data
4 using such digital signature..."?

5 A. That's correct. Yes, as I recall.

6 Q. And do you also recall that this
7 discussion, the Board's discussion, is provided in
8 the context of claim element 22.e?

9 A. 22?

10 Q. 22.e. And if you want to refresh your
11 memory, you can go to Page 18.

12 A. 22 are the amended claims.

13 Q. I'm sorry. 21.e. My mistake.

14 A. 20?

15 Q. 21.e.

16 A. Yes. Where do you want me to go there?

17 Q. If you see the first line here, you see
18 that the first line -- the first sentence, rather,
19 it says, "The communication module is configured to
20 receive" -- sorry. My mistake. Scratch that.

21 The communication -- the radio
22 communication module is configured to utilize a

1 secure identifier.

2 Do you see that?

3 A. That's correct.

4 Q. And so then if you continue on to Page 20
5 where VR -- so this is the claim element the Board
6 is addressing.

7 Do you understand that?

8 A. Yes.

9 Q. And the Board states that Beard clearly
10 teaches a UAV that encrypts data using a digital
11 signature.

12 Do you see that statement by the Board?

13 A. Page 20?

14 Q. Page 20, yes.

15 A. Yes.

16 Q. In your declaration, and I believe that
17 it's Paragraph 105 --

18 A. Uh-huh. Yes.

19 Q. You have said that -- the last sentence,
20 you have said that the proposed substitute claim is
21 entitled to claim priority to the '153 provisional.
22 Therefore, the Beard-Provisional is not prior art.

1 Do you see that?

2 A. That's correct.

3 Q. But if I remember correctly, today during
4 your testimony you mentioned that Beard-Provisional
5 does not teach the secure identifier as stated in
6 claim Element 22.i. Is that correct?

7 A. Because 22.i is the amended -- the
8 substitute claim where utilize secure identifier has
9 all of these other components. The transmitted
10 identification information, transmitting a similar
11 code, and doing cross-verification in order to have
12 the authenticity.

13 Q. And are you saying that the
14 Beard-Provisional does not disclose these
15 limitations?

16 A. That's correct.

17 Q. Give me just one second. Just give me
18 one more second.

19 A. Sure.

20 Q. Do you recall that you answered some
21 questions about whether the identification
22 information must exist before it is transmitted?

1 A. Yes, I recall.

2 Q. Do you also -- do you also recall some
3 questions about whether a secure identifier must
4 also exist before it is transmitted?

5 A. Yes.

6 Q. And do you also recall that you said that
7 it wouldn't make sense any other way?

8 MR. WALTERS: Objection, leading.

9 MR. WADEKAR: I am simply stating
10 what the witness said. But I --

11 A. So what I said, I was asked -- and
12 correct me if I'm wrong, counsel.

13 I was asked if we can create the
14 identifier, the identification information or the
15 secure after the signal is transmitted.

16 And I say then what do we transmit? I
17 paraphrased what I said.

18 Q. (By Mr. Wadekar) So let us go back to
19 Paragraph 89 of your report -- or declaration.

20 A. Which one? Paragraph?

21 Q. Paragraph 89.

22 A. Give me a minute. Yes.

1 Q. So do you -- do you see that you
2 mentioned here that the ground station cross-checks
3 or cross-verifies two identifiers?

4 A. Yes.

5 Q. And then you say that the code, that is
6 the transmitted identification information.

7 So based on what you said, would you need
8 to have the code or create the code before you
9 transmit identification information?

10 A. The code is the transmitted
11 identification information.

12 Q. Okay. And when would the code be
13 created? So first of all, what does it mean
14 by -- scratch that.

15 What does it mean by creating the code
16 for transmission?

17 A. For example, I may have something which
18 says that identification information for Drone 1 of
19 John is the code 10001.

20 Q. Okay. And so once you have made that
21 code, are you saying that the code is transmitted?

22 A. We can transmit it through RF to the

1 ground station.

2 The ground --

3 Q. And then -- and then what is similar
4 code?

5 A. For example, I can flip all the -- all
6 the even -- so, for example, the new code will be
7 11011. So this is something similar.

8 Q. And that is a secure identifier?

9 A. That is a secure identifier. I may have
10 messed the digits, but 1 is the -- 10001. The other
11 is I flip the even digits in the sequence.

12 Q. Okay. And is that the only way to make a
13 similar code?

14 A. No, there are -- I can become --

15 Q. I'm sorry, I could not hear.

16 A. We could become very fancy.

17 MR. WADEKAR: With that, I would like
18 to pass the witness.

19 (Following commenced at 11:45 a.m.)

20 FURTHER EXAMINATION

21 BY MR. WALTERS:

22 Q. Hi, Dr. Nikos. Can you hear me?

1 A. Yes, I can hear you.

2 Q. Does the phrase as it's written, "receive
3 a received radio signal," makes sense to you?

4 A. Can you repeat your question?

5 Q. Does the phrase as it's written, "receive
6 a received radio signal," make sense to you?

7 A. As I mentioned --

8 MS. L'ESPERANCE: Objection, asked
9 and answered.

10 A. It sounds to me redundant.

11 MR. WALTERS: No further questions.

12 (Following commenced at 11:46 a.m.)

13 MR. WADEKAR: Sorry. I have no
14 further questions either.

15 THE REPORTER: Please state your
16 orders for the record.

17 MR. WALTERS: I would like the
18 transcript. If we do this in three days, that would
19 be Wednesday. Could he turn it around Thursday?

20 THE REPORTER: I show the final due
21 Monday.

22 MR. WALTERS: Yeah, I'm not sure we

1 need it that soon.

2 THE WITNESS: Can we make it Tuesday?
3 That at least gives me two days.

4 MR. WALTERS: That's fine. Tuesday.

5 THE REPORTER: Amanda, your order,
6 please?

7 MS. L'ESPERANCE: Yeah. We'll take a
8 rough today and then the final on Tuesday is fine.

9 THE REPORTER: Mr. Wadekar?

10 MR. WADEKAR: Amanda and I are with
11 the same firm.

12 THE REPORTER: Okay. Thank you.

13 Mr. Walter, you wanted a rough draft
14 as well.

15 MR. WALTERS: Yes, please.

16 Nothing else here.

17 (Proceedings concluded at 11:47 a.m.)

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1 AXON ENTERPRISE, INC. AND DEDRONE
2 HOLDINGS, INC. V. AIRSPACE DEFENSE, INC.
3 CHANGES AND SIGNATURE
4 REMOTE ORAL / VIDEOTAPED DEPOSITION OF
5 NIKOLAOS PAPANIKOLOPOULOS, Ph.D.
6 FEBRUARY 27, 2026

	PAGE	LINE	CHANGE	REASON
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1 CERTIFICATE OF CERTIFIED SHORTHAND REPORTER

2 I, Pat English-Arredondo, CSR(TX), RMR, CRR,
3 CLR, Certified Reporter within and for the State of
4 Texas do hereby certify:

5 That NIKOLAOS PAPANIKOLOPOULOS, Ph.D., the
6 witness whose deposition is hereinbefore set forth,
7 was duly sworn by me before the commencement of such
8 deposition and that such deposition was taken before
9 me and is a true record of the testimony given by
10 such witness.

11 I further certify that the adverse party,
12 Patent Owner, was represented by counsel at the
13 deposition.

14 I further certify that the deposition of
15 NIKOLAOS PAPANIKOLOPOULOS, Ph.D., occurred remotely
16 with the witness present with Counsel at respective
17 office of the Witness in Bloomington, Minnesota on
18 Friday, the 27th day of February, 2026, commencing
19 at 9:01 a.m. and concluding at 11:47 a.m.

20 I further certify that I am not related to
21 any of the parties to this action by blood or
22 marriage, I am not employed by or an attorney to any

1 of the parties to this action, and that I am in no
2 way interested, financially or otherwise, in the
3 outcome of this matter.

4 IN WITNESS WHEREOF, I have hereunto set my
5 hand this 2nd day of March, 2026.

6

7

8

Pat English-Arredondo

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22 Job No: 620989

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Transcript of Nikolaos Papanikolopoulos, Ph.D.
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Amanda L'Esperance, Esquire
Prince Lobel Tye LLP (Boston)
One International Place Suite 3700
Boston, MA 02110

Re: Deposition of **Nikolaos Papanikolopoulos, Ph.D.**

Date: 2/27/2026

Case: Axon Enterprise, Inc., et al. -v- Airspace Defense, Inc. (PTAB)

Dear Sir/Madam,

The above-referenced transcript has been finalized for review. If applicable, signature is required within 30 days from the date of receipt of this letter.

In accordance with the disposition of signature at the deposition or the pertinent jurisdictional rules, the deponent should follow these instructions to complete the Errata Sheet:

- (1) Read the transcript and indicate any corrections or changes in ink on the enclosed Errata Sheet. Please include page and line numbers. If more space is needed for corrections, please use a blank sheet of paper. If no corrections or changes are necessary, please indicate "no corrections" or "no changes" on the Errata Sheet.
- (2) Sign and date the Errata Sheet and Acknowledgement of Deponent/Affiant pages.
- (3) Please return the executed Errata Sheet and Acknowledgement pages to the address indicated below, submit via fax (888-503-3767) or email (transcripts@planetdepos.com).

A copy of this letter and the returned signature pages, if any, will be distributed to counsel.

Sincerely,

Production Department
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Suite 400
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No. 620989

Re: Deposition of **Nikolaos Papanikolopoulos, Ph.D.**

Date: 2/27/2026

Case: Axon Enterprise, Inc., et al. -v- Airspace Defense, Inc. (PTAB)

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Page	Line	Correction / Change and Reason
14	8	"security" s/b "secure" (transcription error)
15	10	"cross-check" s/b "cross-checks" (transcription error)
15	14	"security" s/b "secure" (transcription error)
15	18	"security" s/b "similar" (transcription error)
16	5	"security" s/b "secure" (transcription error)
19	18	"two" s/b "two-way" (transcription error)
19	20	"for" s/b "or" (transcription error)
19	22	"to receive it" s/b "received" (transcription error)
23	23	"identifiers ? the" s/b "identifiers – the" (transcription error)
23	7	"security" s/b "secure" (transcription error)
23	13	"secure circuit" s/b "service set ID"
24	6	"cross-checking and two -- and" s/b "cross-checking the two identifiers, and" (transcription error)
27	2	"with" s/b "is" (transcription error)
29	16	"SSL Aeromart drone" s/b "SSL AirMap drone ID" (transcription error)
29	20	"particular" s/b "particular drone" (transcription error)
31	11	"security" s/b "secure" (transcription error)
31	15	"security" s/b "secure" (transcription error)
32	6	"security" s/b "secure" (transcription error)
33	8	"being –" s/b "being secure" (transcription error)

March 6, 2026

(Date)



(Signature)

Re: Deposition of **Nikolaos Papanikolopoulos, Ph.D.**

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Page	Line	Correction / Change and Reason
34	10	“issue, I” s/b “issue, as I” (transcription error)
35	16	“to –” s/b “two IDs” (transcription error)
35	22	“two” s/b “two IDs” (transcription error)
43	11	“security” s/b “secure” (transcription error)
47	14	“have code” s/b “have the conde” (transcription error)
47	17	“security” s/b “secure” (transcription error)
50	3	“of” s/b “and” (transcription error)
50	3	“teaches” s/b “teach” (transcription error)
55	4	“in a storage” s/b “in storage” (transcription error)
66	6	“distant” s/b “disclosure” (transcription error)
69	21	“identities” s/b “identifiers” (transcription error)
70	4	“secured” s/b “secure” (transcription error)
70	13	“cited to the” s/b “cited the” (transcription error)
76	20	“back on the sites” s/b “Patent Owner cites” (transcription error)
76	21	“specific position” s/b “specification” (transcription error)
78	15	“pattern” s/b “patent” (transcription error)
79	6	“and interaction” s/b “and the interaction” (transcription error)
80	19	“radial” s/b “radio” (transcription error)
83	14	“cut” s/b “contain” (transcription error)
85	5	“VR –” s/b “we are” (transcription error)

_____ March 6, 2026 _____
 (Date)

_____  _____
 (Signature)

No. 620989

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Page	Line	Correction / Change and Reason
89	6	“even –” s/b “even bits” (transcription error)

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ACKNOWLEDGMENT OF DEPONENT

I, Nikolaos Papanikolopoulos, Ph.D., do
hereby acknowledge that I have read and examined the
foregoing testimony, and the same is a true, correct
and complete transcription of the testimony given by
me and any corrections appear on the attached Errata
sheet signed by me.

March 6, 2026

(Date)



(Signature)

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