

# Patent Owner's Demonstrative Exhibits

*Nokia of America Corp., Ericsson Inc., and T-Mobile USA, Inc.  
v. General Access Solutions, Ltd.*

January 14, 2025

Oral Argument

U.S. Patent No. 6,947,477 | Case No. IPR2023-01416

SKIERMONT DERBY  
LLP

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

1

# **'477 Patent**

# '477 Patent

US0069477B2

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

(10) Patent No.: US 6,947,477 B2  
(45) Date of Patent: Sep. 20, 2005

(54) APPARATUS AND METHOD FOR CREATING SIGNAL AND PROFILES AT A RECEIVING STATION

(75) Inventors: Paul F. Struhsaker (US)  
Russell C. McKown (US)

(73) Assignee: Raze Technology, Inc. (US)

(\*) Notice: Subject matter of this patent is claimed in U.S.C. 101.

(21) Appl. No.: 09/839,770

(22) Filed: Apr. 20, 2001

(65) Prior Publication Data  
US 2002/0097085 A1 Jul. 25, 2002

(60) Related U.S. Application Data  
Provisional application No. 60/262,827, filed on Jan. 19, 2001, provisional application No. 60/262,825, filed on Jan. 19, 2001, provisional application No. 60/262,826, filed on Jan. 19, 2001, provisional application No. 60/262,826, filed on Jan. 19, 2001, provisional application No. 60/262,951, filed on Jan. 19, 2001, provisional application No. 60/262,824, filed on Jan. 19, 2001, provisional application No. 60/263,101, filed on Jan. 19, 2001, provisional application No. 60/263,097, filed on Jan. 19, 2001, provisional application No. 60/262,758, filed on Jan. 19, 2001, provisional application No. 60/273,689, filed on Mar. 5, 2001, provisional application No. 60/273,757, filed on Mar. 5, 2001, provisional application No. 60/270,378, filed on Feb. 21, 2001, provisional application No. 60/270,385, filed on Feb. 21, 2001, and provisional application No. 60/270,400, filed on Feb. 21, 2001.

(51) Int. Cl.<sup>7</sup> H04B 1/38; H04L 5/16

20 Claims, 5 Drawing Sheets

IPR2023-01416  
Petitioners' Ex. 1001  
Ex.1001.00001

Ex. 1001 at Cover.

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

(10) Patent No.: US 6,947,477 B2  
(45) Date of Patent: Sep. 20, 2005

(54) **APPARATUS AND METHOD FOR CREATING SIGNAL AND PROFILES AT A RECEIVING STATION**

(75) Inventors: Paul F. Struhsaker, Plano, TX (US);  
Russell C. McKown, Richardson, TX (US)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# '477 Patent

The '477 patented invention increases “the speed and accuracy by which bursts of burst data signals are operated upon, when received at the receiving station”:

US 6,947,477 B2

(12) United States Patent  
Struhsaker et al.

(10) Patent No.: US 6,947,477 B2  
(45) Date of Patent: Sep. 20, 2005

(54) APPARATUS AND METHOD FOR CREATING SIGNAL AND PROFILES AT A RECEIVING STATION

(75) Inventors: Paul F. Struhsaker, Plano, TX (US); Russell C. McKown, Richardson, TX (US)

(73) Assignee: Raze Technologies, Inc., Plano, TX (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 801 days.

(21) Appl. No.: 09/839,719

(22) Filed: Apr. 20, 2001

(65) Prior Publication Data  
US 2002/0097085 A1 Jul. 25, 2002

(60) Related U.S. Application Data  
Provisional application No. 60/262,827, filed on Jan. 19, 2001, provisional application No. 60/262,712, filed on Jan. 19, 2001, provisional application No. 60/262,685, filed on Jan. 19, 2001, provisional application No. 60/262,626, filed on Jan. 19, 2001, provisional application No. 60/262,524, filed on Jan. 19, 2001, provisional application No. 60/263,101, filed on Jan. 19, 2001, provisional application No. 60/263,097, filed on Jan. 19, 2001, provisional application No. 60/262,955, filed on Jan. 19, 2001, provisional application No. 60/262,758, filed on Jan. 19, 2001, provisional application No. 60/273,689, filed on Mar. 5, 2001, provisional application No. 60/273,757, filed on Mar. 5, 2001, provisional application No. 60/270,378, filed on Feb. 21, 2001, provisional application No. 60/270,385, filed on Feb. 21, 2001, and provisional application No. 60/270,430, filed on Feb. 21, 2001.

(51) Int. Cl.<sup>7</sup> H04B 1/38; H04L 5/16

20 Claims, 5 Drawing Sheets

ABSTRACT

Apparatus, and an associated method, for creating a profile associated with burst data signals communicated to a base station of a fixed wireless access communication system. The profile is created to facilitate receive operations performed upon subsequent bursts of the burst data signal. The profile is stored at a storage device and retrieved when subsequent bursts of the burst data signal are received at the base station.

FIG. 3

FIG. 3 is a block diagram of a receiving station 300. The station includes an IF/RX RECEIVER 306, a BURST PROCESSED BY MODEM B 304, a BURST PROCESSED BY MODEM A 302, and a CONTROLLER 314. The IF/RX RECEIVER 306 receives a TDD RADIO UPLINK FOR FRAME N 204, which contains a CONTENTION 214 and bursts SUB 1, SUB 2, ..., SUB N. The bursts are processed by MODEM B 304 and MODEM A 302. MODEM B 304 outputs BURST W (1), T1 and BURST W (3), T3. MODEM A 302 outputs BURST W (2), T2 and BURST W (N), TN. The bursts are then processed by a SUB WEIGHT (1) 320, SUB WEIGHT (2) 320, SUB WEIGHT (3) 320, ..., SUB WEIGHT (N) 320. The weights are then processed by a QUEUE MANAGEMENT \*SCHEDULING \*MODEM CONTROL 316. The controller 314 manages the weights and scheduling. The controller 314 also receives a RECOVERED DATA PACKET 404 and outputs a PACKET DATA [N] 404. The controller 314 also receives a SUBSCRIBER (N-1) BURST 204-N-1 and outputs a SUBSCRIBER (N-1) BURST 204-N-1. The controller 314 also receives a SUBSCRIBER (3) BURST 204-3 and outputs a SUBSCRIBER (3) BURST 204-3. The controller 314 also receives a SUBSCRIBER (2) BURST 204-2 and outputs a SUBSCRIBER (2) BURST 204-2. The controller 314 also receives a SUBSCRIBER (1) BURST 204-1 and outputs a SUBSCRIBER (1) BURST 204-1. The controller 314 also receives a SUBSCRIBER (N) BURST 204-N and outputs a SUBSCRIBER (N) BURST 204-N. The controller 314 also receives a SUBSCRIBER (3) BURST 204-3 and outputs a SUBSCRIBER (3) BURST 204-3. The controller 314 also receives a SUBSCRIBER (2) BURST 204-2 and outputs a SUBSCRIBER (2) BURST 204-2. The controller 314 also receives a SUBSCRIBER (1) BURST 204-1 and outputs a SUBSCRIBER (1) BURST 204-1. The controller 314 also receives a SUBSCRIBER (N) BURST 204-N and outputs a SUBSCRIBER (N) BURST 204-N.

IPR2023-01416  
Petitioner's Ex. 1001  
Ex.1001.00001

Ex. 1001 at Cover, Figure 3, 5:60-67.

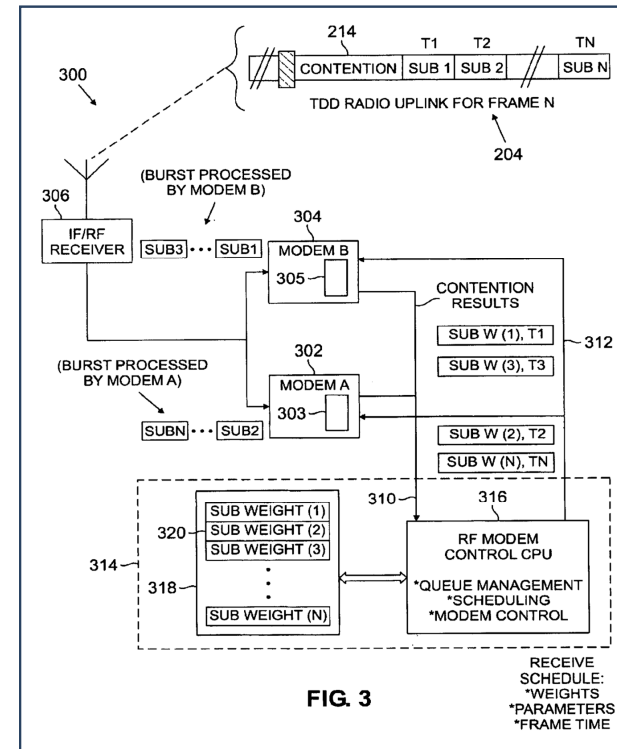


FIG. 3

RECEIVE SCHEDULE:  
\*WEIGHTS  
\*PARAMETERS  
\*FRAME TIME

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# **The '477 Instituted Claims**

# The '477 Instituted Claims: Claim 1

## Claim 1 recites:

What is claimed is:

1. Profile-creating apparatus for creating at least a first profile associated with transmission upon at least a first channel of at least a first burst-data signal transmitted in bursts to a receiving station, said profile-creating apparatus comprising:

- a profile parameter determiner coupled to receive an indication of an initial burst of the first burst data signal transmitted upon the first channel to the receiving station, said profile parameter determiner for determining a value of at least one signal-related parameter and at least one channel-related parameter, wherein the signal-related and channel-related parameters are collectively representative of communication of the first burst data signal over the first channel to the receiving station; and
- a profile parameter storage device coupled to said profile parameter determiner, said profile parameter storage device for storing values representative of the at least one signal-related parameter and the at least one channel-related parameter determined by said profile parameter determiner, the values stored at said profile parameter storage device to be used to facilitate receive operations performed at the receiving station on subsequent bursts of the first burst data signal.

Ex. 1001 at 12:62-13:18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## The '477 Instituted Claims: Claim 16

### Claim 16 recites:

16. A method for creating at least a first profile associated with transmission upon at least a first channel of at least a first burst data signal in bursts to a receiving station, said method comprising:

responsive to reception at the receiving station of an initial burst of the first burst data signal transmitted upon the first channel, determining a value of at least one signal-related parameter and at least one channel-related parameter, wherein the signal-related and channel-related parameters are collectively representative of communication of the first burst data signal over the first channel to the receiving station;

storing values representative of the at least one signal-related parameter and the at least one channel-related parameter determined during said operation of determining; and

using the values stored during said operation of storing to facilitate receive operations performed at the receiving station upon at least one subsequent burst of the first burst data signal.

Ex. 1001 at 14:22-42.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## The '477 Instituted Claims: Claims 2 and 18

### Claim 2 recites:

**2.** The apparatus of claim **1** wherein the receiving station is operable in a communication system in which communication protocols include a contention period and wherein the initial burst of the first burst data signal, responsive to which said profile parameter determiner determines the at least one parameter, is communicated during the contention period.

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### Claim 18 recites:

**18.** The method of claim **16** wherein the receiving station is operable in a communication system in which communication protocols include a contention period and wherein the initial burst of the first burst data signal responsive to which the at least one signal-related parameter and the at least one channel-related parameter are determined is transmitted to the receiving station during the contention period.

Ex. 1001 at 13:19-24, 14:22-42.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# Genossar

## Genossar Summary

1

Genossar does not disclose a “profile parameter storage device ***coupled to*** [a] profile parameter determiner”.

2

Genossar does not disclose a “profile parameter storage device” that stores the signal-related parameter ***and*** channel-related parameter.

POR at 16-24, 27-30; Sur-Reply at 3-13.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## Genossar Summary

1

Genossar does not disclose a “profile parameter storage device ***coupled to*** [a] profile parameter determiner”.

2

Genossar does not disclose a “profile parameter storage device” that stores the signal-related parameter ***and*** channel-related parameter.

POR at 16-24, 27-30; Sur-Reply at 3-13.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# Genossar Does Not Disclose the Claimed “Profile Parameter Storage Device”

The Petition did not allege that Genossar discloses a “profile parameter storage device coupled to [a] profile parameter determiner”:

## Claim 1:

a profile parameter storage device coupled to said profile parameter determiner, said profile parameter storage device for storing values representative of the at least one signal-related parameter and the at least one channel-related parameter determined by said profile parameter determiner, the values stored at said profile parameter storage device to be used to facilitate receive operations performed at the receiving station on subsequent bursts of the first burst data signal.

## Petition does not allege the claimed coupling:

iv. *Claim 1, [1.C]: a profile parameter storage device coupled to said profile parameter determiner, said profile parameter storage device for storing values representative of the at least one signal-related parameter and the at least one channel-related parameter determined by said profile parameter determiner,*

Genossar discloses Claim [1.C]. Ex. 1003, ¶77. Genossar teaches that the determined parameter values including “the equalizer coefficients can be stored for each terminal station 14 separately, and then reused when that terminal station 14 is transmitting again.” Ex. 1005, 11:22-65. Genossar expressly teaches that these determined parameter values can be stored in the “stored memory” (i.e., profile parameter storage device) of the base station. *Id.*, 13:37-45, 18:41-67. Thus, Genossar discloses Claim [1.C]. Ex. 1003, ¶77; *see also* Ex. 1011, 20-21.

Ex. 1001 at Claim 1; Petition at 20; POR at 15-24.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# Petitioner's Reply Improperly Tries to Find a "Coupled To" Allegation in its Analysis of a Different Claim Element

**Petitioner argues that the Board should find its "coupled to" allegation in the analysis of an element without this claim limitation:**

Petitioners' original Petition stated that "Genossar teaches that equalizer controller 56, forming part of the receive portion 28 (as shown in Figure 2), 'stores the values for the equalizer coefficients and then reuses these values as an initial estimate when a new signal is received' from the same terminal station" (Paper 1, p. 17 (discussing limitation 1.A)). Dr. van der Weide further set forth that the relevant values "are transferred from the equalizer controller to the stored memory" (Ex. 1003 ¶ 77). These disclosures are clearly relevant to the "coupled to" limitation, as shown by the citation to them in the Institution Decision (Institution Decision at 24).

**This argument is inconsistent with Petitioner's prior argument with respect to the "coupled to" limitation:**

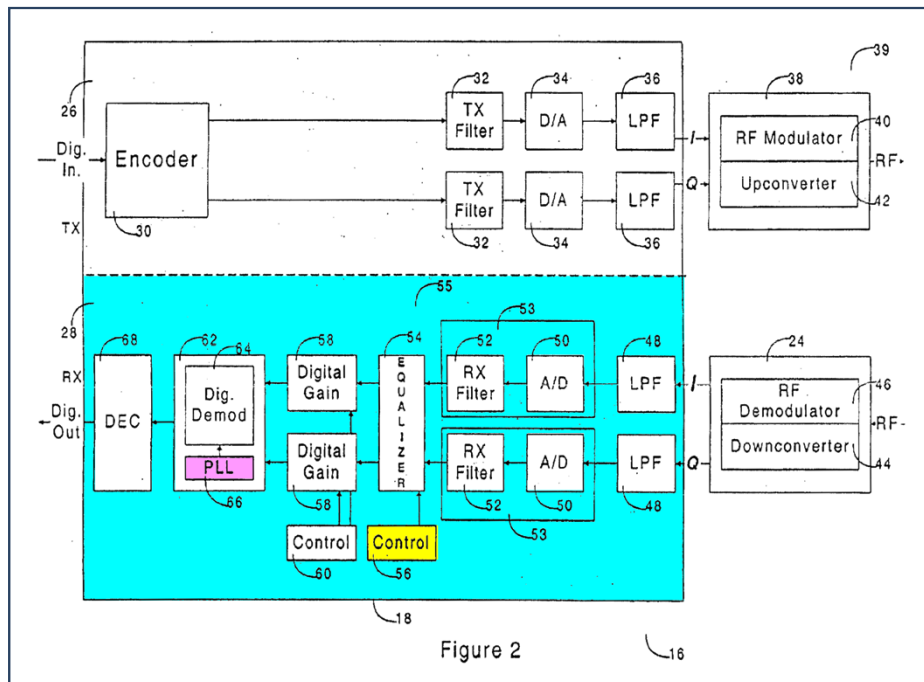
Not true. Nowhere do Genossar or the Petition state that the channel-related parameters (e.g., equalizer coefficients) must be stored *within* equalizer controller 56 and similarly, that the signal-related parameters (e.g., carrier frequency offset) must be stored *within* PLL 66. Rather, like the '477 Patent, Genossar teaches the general process of determining and storing parameters for use in processing subsequently received signals. Ex. 1005, Abstract, 11:27-30 ("equalizer controller

Sur-Reply at 3-12; Reply at 14; Paper 10 at 1-2.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## A Component May Not Be “Coupled To” Itself

The newly-alleged “profile parameter storage” is contained within the “profile parameter determiner”:



PLL 66

Equalizer controller 56

Alleged “profile parameter determiner”

POR at 16-24; Sur-Reply at 3-12; Ex. 1005 at Figure 2.

- “It goes beyond the plain meaning of ‘coupled’ to say that a sub-component (e.g., an engine in a car) is ‘coupled to’ the component as a whole (e.g., the car).”

*Cutsforth, Inc. v. MotivePower, Inc.*, 643 F. App’x 1008, 1012–13 (Fed. Cir. 2016)

- “It would be illogical to regard one unit as being ‘attached’ to itself.”

*In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1280 (Fed. Cir. 2015) (quotation omitted)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## Genossar Summary

1

Genossar does not disclose a “profile parameter storage device *coupled to* [a] profile parameter determiner”.

2

Genossar does not disclose a “profile parameter storage device” that stores the signal-related parameter **and** channel-related parameter.

POR at 16-24, 27-30; Sur-Reply at 3-13.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# Genossar Does Not Disclose a “Profile Parameter Storage Device” that Stores the Signal-Related Parameter and Channel-Related Parameter

## Claim 1:

a profile parameter storage device coupled to said profile parameter determiner, said profile parameter storage device for storing values representative of the at least one signal-related parameter and the at least one channel-related parameter determined by said profile parameter determiner, the values stored at said profile parameter storage device to be used to facilitate receive operations performed at the receiving station on subsequent bursts of the first burst data signal.

Petition does not identify a “profile parameter storage device” that stores the “signal-related parameter” and the “channel-related parameter”:

- iv. *Claim 1, [1.C]: a profile parameter storage device coupled to said profile parameter determiner, said profile parameter storage device for storing values representative of the at least one signal-related parameter and the at least one channel-related parameter determined by said profile parameter determiner,*

Genossar discloses Claim [1.C]. Ex. 1003, ¶77. Genossar teaches that the determined parameter values including “the equalizer coefficients” can be stored for each terminal station 14 separately, and then reused when that terminal station 14 is transmitting again.” Ex. 1005, 11:22-65. Genossar expressly teaches that these determined parameter values can be stored in the “stored memory” (i.e., profile parameter storage device) of the base station. *Id.*, 13:37-45, 18:41-67. Thus, Genossar discloses Claim [1.C]. Ex. 1003, ¶77; *see also* Ex. 1011, 20-21.

Petition at 20; Ex. 1001 at claim 1; POR at 27-30; Sur-Reply at 12-13.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# Petitioner Does Not Allege a “Profile Parameter Storage Device” that Stores a Signal-Related Parameter and Channel-Related Parameter in Genossar

## Petitioner alleges in claim [1.A] analysis that Genossar stores equalizer coefficients in equalizer controller 56:

In addition, Genossar further discloses that the receive portion 28 (i.e., “profile parameter determiner”) determines and stores certain parameter values (e.g., equalizer coefficients) for the signals received from each terminal station. Ex. 1005, 11:27-43. For example, Genossar teaches that equalizer controller 56, forming part of the receive portion 28 (as shown in Figure 2), “stores the values for the equalizer coefficients” and then reuses these values as an initial estimate when a new signal is received” from the same terminal station. *Id.* Thus, Genossar discloses Claim [1.A]. Ex. 1003, ¶¶72-73; *see also* Ex. 1011, 8-16.

## Petitioner denies this allegation in subsequent briefing:

Not true. Nowhere do Genossar or the Petition state that the channel-related parameters (e.g., equalizer coefficients) must be stored *within* equalizer controller 56 and similarly, that the signal-related parameters (e.g., carrier frequency offset) must be stored *within* PLL 66. Rather, like the '477 Patent, Genossar teaches the general process of determining and storing parameters for use in processing subsequently received signals. Ex. 1005, Abstract, 11:27-30 (“equalizer controller

Petition at 17-18, 20; POR at 27-30; Sur-Reply at 12-13; Paper 10 at 1-2.

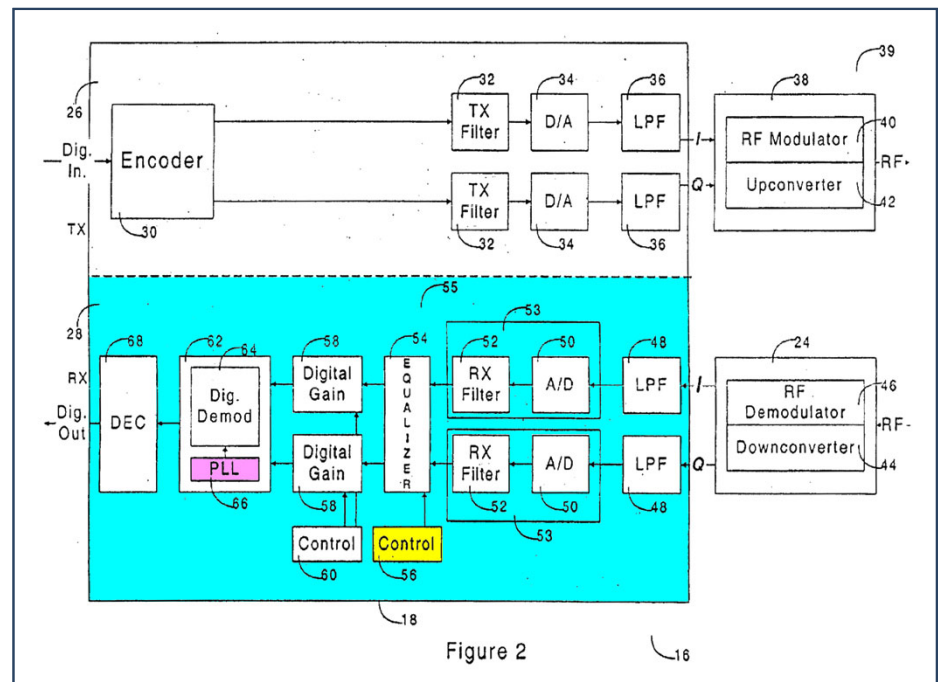
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## Petitioner Does Not Allege a “Profile Parameter Storage Device” that Stores a Signal-Related Parameter and Channel-Related Parameter in Genossar

The Petition is silent as to where Genossar stores the carrier frequency offset (alleged signal-related parameter), but Genossar states this occurs in PLL 66:

quickly. By contrast, as shown below in more detail with reference to FIGS. 5A and 5B, PLL 66 at base station modem 18 does store and reuse the values for carrier frequency offset, such that the process of convergence at the beginning of a burst is able to occur much more quickly.

The Petition does not allege that Genossar’s PLL and Equalizer controller are the claimed “profile parameter storage device”:



PLL 66

Equalizer controller 56

Alleged “profile parameter determiner”

Petition at 20; POR at 27-30; Sur-Reply at 12-13; Ex. 1005 at 11:61-65.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# Barratt '470

## Barratt '470 Summary

1

The Petition does not identify the component in Barratt '470 that is the “profile parameter storage device”.

2

The Petition did not allege that Barratt '470 discloses a “profile parameter storage device ***coupled to*** [a] profile parameter determiner”.

3

Petitioner did not allege that Barratt '470 discloses a “profile parameter storage device” that stores signal-related ***and*** channel-related parameters.

4

Petitioner cannot identify Barratt '470's alleged “profile parameter storage device” on Reply.

Petition at 47-48; POR at 38-47; Reply at 15-18; Sur-Reply at 14-21; Ex. 1003 at ¶¶ 134-135.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## Barratt '470 Summary

1

The Petition does not identify the component in Barratt '470 that is the “profile parameter storage device”.

2

The Petition did not allege that Barratt '470 discloses a “profile parameter storage device *coupled to* [a] profile parameter determiner”.

3

Petitioner did not allege that Barratt '470 discloses a “profile parameter storage device” that stores signal-related *and* channel-related parameters.

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Petitioner cannot identify Barratt '470's alleged “profile parameter storage device” on Reply.

Petition at 47-48; POR at 38-47; Reply at 15-18; Sur-Reply at 14-21; Ex. 1003 at ¶¶ 134-135.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## Barratt '470 Does Not Disclose the Claimed “Profile Parameter Storage Device”

The Petition did not allege that Barratt '470 discloses a “profile parameter storage device coupled to [a] profile parameter determiner”:

### Claim 1:

a profile parameter storage device coupled to said profile parameter determiner, said profile parameter storage device for storing values representative of the at least one signal-related parameter and the at least one channel-related parameter determined by said profile parameter determiner, the values stored at said profile parameter storage device to be used to facilitate receive operations performed at the receiving station on subsequent bursts of the first burst data signal.

Ex. 1001 at Claim 1; Petition at 47-48; POR at 38-47.

Petition does not allege the component in Barratt '470 that is the “profile parameter storage device”:

#### iv. Claim 1, [1.C]

Barratt '470 discloses Claim [1.C]. *Id.*, ¶145. As discussed for Claim [1.B], Barratt '470 teaches that the base station maintains various parameter values (e.g., antenna weights, frequency offset, time alignment, etc.) for each subscriber station. *Id.*; See also Ex. 1007, 8:48-62, 16:17-43, 16:44-17:7, 18:8-20, 18:39-45. For example, Barratt '470 discloses that for each signal of interest “the method involves a recursive loop repeated every frame . . . On an ongoing basis, one starts the loop [for the current frame] with starting estimate of  $w_r$  and of the alignment and frequency offset obtained from the processing of the same signal on the previous frame.” Ex. 1006, 16:32-17:7. Thus, Barratt '470 discloses that the base station necessarily includes a “profile parameter storage device” for storing these parameter values from one frame to next for each signal of interest, as required by Claim [1.C]. Ex. 1003, ¶145; see also Ex. 1011, 20-21.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# Barratt '470 Does Not Disclose the Claimed “Profile Parameter Storage Device”

The Petition did not allege that Barratt '470 discloses a “profile parameter storage device coupled to [a] profile parameter determiner,” or that this storage device stores a signal-related parameter and channel-related parameter:

Petitioner argues that this allegation:

*iv. Claim 1, [1.C]*

Barratt '470 discloses Claim [1.C]. *Id.*, ¶145. As discussed for Claim [1.B], Barratt '470 teaches that the base station maintains various parameter values (*e.g.*, antenna weights, frequency offset, time alignment, etc.) for each subscriber station. *Id.*; *See also* Ex. 1007, 8:48-62, 16:17-43, 16:44-17:7, 18:8-20, 18:39-45. For example, Barratt '470 discloses that for each signal of interest “the method involves a recursive loop repeated every frame . . . On an ongoing basis, one starts the loop [for the current frame] with starting estimate of  $w_r$  and of the alignment and frequency offset obtained from the processing of the same signal on the previous frame.” Ex. 1006, 16:32-17:7. Thus, Barratt '470 discloses that the base station necessarily includes a “profile parameter storage device” for storing these parameter values from one frame to next for each signal of interest, as required by Claim [1.C]. Ex. 1003, ¶145; *see also* Ex. 1011, 20-21.

Ex. 1001 at Claim 1; Petition at 47-48; Reply at 15; Sur-Reply at 14-21.

Inherently meant this:

a profile parameter storage device coupled to said profile parameter determiner, said profile parameter storage device for storing values representative of the at least one signal-related parameter and the at least one channel-related parameter determined by said profile parameter determiner, the values stored at said profile parameter storage device to be used to facilitate receive operations performed at the receiving station on subsequent bursts of the first burst data signal.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## Barratt '470 Summary

1

The Petition does not identify the component in Barratt '470 that is the “profile parameter storage device”.

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The Petition did not allege that Barratt '470 discloses a “profile parameter storage device **coupled to** [a] profile parameter determiner”.

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Petitioner cannot identify Barratt '470's alleged “profile parameter storage device” on Reply.

Petition at 47-48; POR at 38-47; Reply at 15-18; Sur-Reply at 14-21; Ex. 1003 at ¶¶ 134-135.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## The Petition Did Not Allege that Barratt '470 Discloses a “Profile Parameter Storage Device Coupled to [a] Profile Parameter Determiner”:

**Petitioner did not allege that the inherent profile parameter storage device is inherently coupled to a profile parameter determiner:**

*iv. Claim 1, [1.C]*

Barratt '470 discloses Claim [1.C]. *Id.*, ¶145. As discussed for Claim [1.B], Barratt '470 teaches that the base station maintains various parameter values (*e.g.*, antenna weights, frequency offset, time alignment, etc.) for each subscriber station. *Id.*; *See also* Ex. 1007, 8:48-62, 16:17-43, 16:44-17:7, 18:8-20, 18:39-45. For example, Barratt '470 discloses that for each signal of interest “the method involves a recursive loop repeated every frame . . . On an ongoing basis, one starts the loop [for the current frame] with starting estimate of  $w_r$  and of the alignment and frequency offset obtained from the processing of the same signal on the previous frame.” Ex. 1006, 16:32-17:7. Thus, Barratt '470 discloses that the base station necessarily includes a “profile parameter storage device” for storing these parameter values from one frame to next for each signal of interest, as required by Claim [1.C]. Ex. 1003, ¶145; *see also* Ex. 1011, 20-21.

Petition at 47-48; POR at 38-47; Reply at 15; Sur-Reply at 14-21.

**There is no inherent coupling within the claimed apparatus:**

- No alleged profile parameter storage device apparatus to be coupled;
- Storage device could be external to alleged profile-creating apparatus, such as in the cloud;
- Storage device could be a component within alleged profile-creating apparatus.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## Barratt '470 Summary

1

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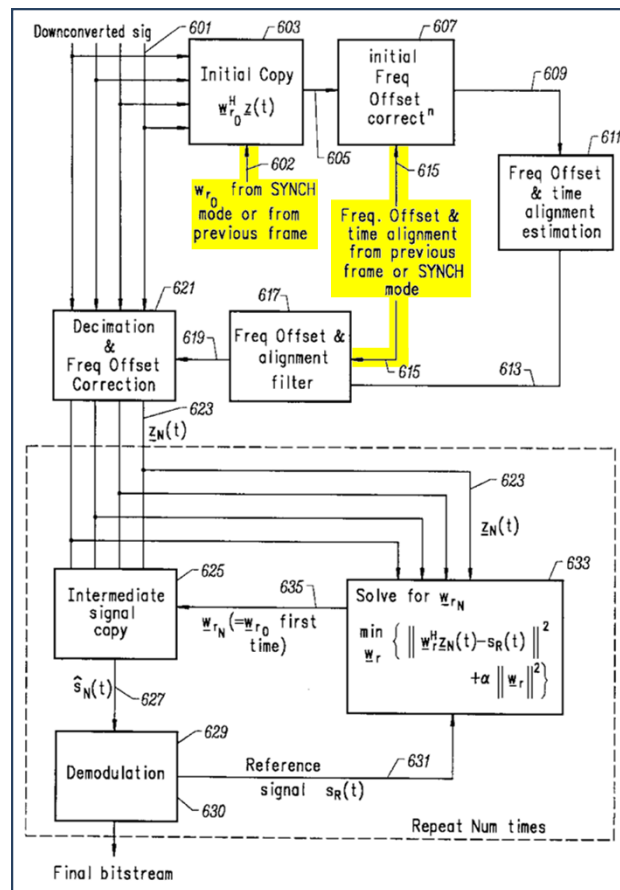
Petitioner cannot identify Barratt '470's alleged “profile parameter storage device” on Reply.

Petition at 47-48; POR at 38-47; Reply at 15-18; Sur-Reply at 14-21; Ex. 1003 at ¶¶ 134-135.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# Petitioner Did Not Allege Barratt '470 Discloses a “Profile Parameter Storage Device” that Stores Signal-Related and Channel-Related Parameters

**Barratt '470's Figure 6 does not indicate where parameters from SYNCH mode or previous frame are stored:**



Petition at 44-48; POR at 38-47; Reply at 15; Sur-Reply at 14-21; Ex. 1007 at Figure 6.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## Barratt '470 Summary

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Petition at 47-48; POR at 38-47; Reply at 15-18; Sur-Reply at 14-21; Ex. 1003 at ¶¶ 134-135.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## Petitioner Cannot Identify Barratt '470's Alleged “Profile Parameter Storage Device” on Reply

On Reply, Petitioner for the first time mentions the Motorola Inc. DSP56301 memory components:

***“[C]apable of maintaining the at-issue values”*** is insufficient for inherency:

(citing Ex. 1007 at 8:36-61, 16:17-17:7, 24:24-28), *see also* ¶ 172). Barratt '470 is explicit that each DSP 117 is a “Motorola Inc., DSP56301” (Ex. 1007 at 24:40). A Motorola Inc. DSP56301 has memory components **capable of maintaining the at-issue values** (Ex. 1039 at ¶ 29; Ex. 2004 at 27:9-18 (“Barratt is doing an almost textbook-level disclosure of how these antenna weights are processed. And again,

Sur-Reply at 17-21; Reply at 16-18; Ex. 1003 at ¶¶ 134-135.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

**WiMAX**

## WiMAX Summary

**1** The Petition did not establish that WiMAX qualifies as prior art.

**2** Petitioner cannot now establish that WiMAX is prior art.

POR at 31-38; Sur-Reply at 22-24.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## WiMAX Summary

**1** The Petition did not establish that WiMAX qualifies as prior art.

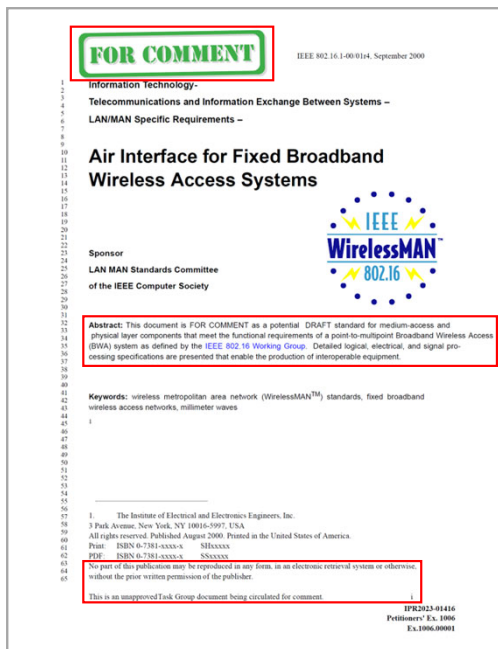
**2** Petitioner cannot now establish that WiMAX is prior art.

POR at 31-38; Sur-Reply at 22-24.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# WiMAX is Not Prior Art

The Petition did not establish that WiMax qualifies as prior art because:



**WiMAX is merely a “a potential DRAFT standard”:**

**Abstract:** This document is FOR COMMENT as a potential DRAFT standard for medium-access and physical layer components that meet the functional requirements of a point-to-multipoint Broadband Wireless Access (BWA) system as defined by the IEEE 802.16 Working Group. Detailed logical, electrical, and signal processing specifications are presented that enable the production of interoperable equipment.

**WiMAX is “an unapproved Task Group document being circulated for comment” and that may not be reproduced without permission:**



No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

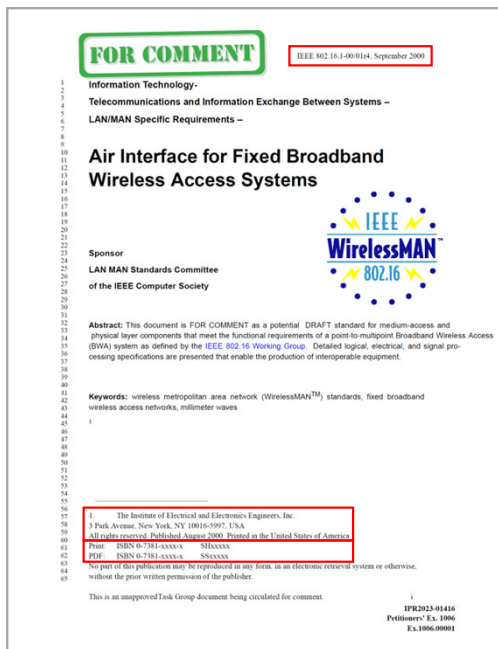
This is an unapproved Task Group document being circulated for comment.

Ex. 1006 at 1; POR at 31-38.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# WiMAX is Not Prior Art

The Petition did not establish that WiMax qualifies as prior art because:



WiMAX contains different purported publication dates:

IEEE 802.16.1-00/01r4, September 2000

1. The Institute of Electrical and Electronics Engineers, Inc.  
3 Park Avenue, New York, NY 10016-5997, USA  
All rights reserved. Published August 2000. Printed in the United States of America.

WiMAX merely contains a placeholder ISBN:

Print: ISBN 0-7381-xxxx-x SHxxxxx  
PDF: ISBN 0-7381-xxxx-x SSxxxxx

Ex. 1006 at 1; POR at 31-38.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## WiMAX Summary

**1** The Petition did not establish that WiMAX qualifies as prior art.

**2** Petitioner cannot now establish that WiMAX is prior art.

POR at 31-38; Sur-Reply at 22-24.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# Petitioner Cannot Establish that WiMAX is Prior Art

**The Board held in its Institution Decision that Petitioner did not establish that WiMAX qualifies as prior art:**

**The Board held in its Institution Decision that Petitioner did not establish that WiMax qualifies as prior art:**

We determine that Petitioner has not established adequately that WiMAX is prior art and, accordingly, that Petitioner has not demonstrated a reasonable likelihood of prevailing in its challenge to claims 2, 10–12, 14, and 18 as obvious over Genossar and WiMAX.

**The Board denied Petitioner’s request to submit supplemental information to establish that WiMAX is prior art:**

The Petition in this case failed to identify adequate evidence to meet the threshold showing at the institution stage. The Petition begins with the

challenges by Patent Owner.”). This is not a situation where a petitioner met the threshold showing of public accessibility but there remained a potential dispute on that issue that might be resolved via supplemental information. Rather, Petitioner here failed to satisfy that threshold burden and now seeks to make a showing after institution and after Patent Owner and our Institution Decision discussed problems with Petitioner’s initial case.

## IV. ORDER

For the foregoing reasons, it is

ORDERED that Petitioner’s request for leave to file a motion to submit supplemental information under 37 C.F.R. § 42.123 is *denied*.

Paper 12 at 34; Paper 18 at 7-8, 10; POR at 31-38; Sur-Reply at 22-24.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# **Barratt '470 + PHS**

## Barratt '470 + PHS Summary

### 1 Petitioner Maps Different Parameters for Claims 16 and 18.

Petition at 44-45, 67-68; POR at 48-49; Ex. 1001 at claims 2, 18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# Petitioner Maps Different Parameters for Claims 16 and 18

## Claim 18 depends from claim 16:

**18.** The method of claim 16 wherein the receiving station is operable in a communication system in which communication protocols include a contention period and wherein the initial burst of the first burst data signal responsive to which the at least one signal-related parameter and the at least one channel-related parameter are determined is transmitted to the receiving station during the contention period.

## Petitioner relies on claim 2 for its claim 18 analysis:

### *iv. Claim 18*

The combination of Barratt '470 and PHS renders obvious Claim 18 for the reasons discussed above for Claim 2. Ex. 1003, ¶215.

Petition at 68; POR at 48-49; Ex. 1001 at claims 2, 18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## Petitioner Maps Different Parameters for Claims 16 and 18

### In its claim 2 analysis, Petitioner refers to “frequency” and “timeslot” as the claimed “parameters”:

Thus, it would have been obvious to a POSITA that the combination of Barratt '470 and PHS discloses a communication system that includes a *contention period* (e.g., “LCCH”) in which the initial burst of a first burst data signal is communicated to the base station *during* the contention period (e.g., *during* “call initialization”), and where the initial burst is used by the base station to **determine the at least one parameter for the first burst data signal, including the “frequency” and “timeslot” of the SCH channel and other parameters described in the PHS standard.** Ex. 1009, 124-135; Ex. 1003, ¶213. Thus, the combination of Barratt '470 and PHS renders obvious Claim 2. *Id.*; *see also* Ex. 1011, 23-24.

Petition at 44-45, 67-68; POR at 48-49; Ex. 1001 at claims 2, 18.

### In its claims 1 and 16 analysis, Petitioner refers to different claimed “parameters”:

The '477 Patent states that “signal-related parameters” can also include, for instance, “changes in *time of the burst*” such as “*timing adjustment* parameters.” Ex. 1001, 6:10-18, 11:56-63. Barratt '470 discloses various parameter values including, for example, “time alignment.” Ex. 1007, 8:48-61, 16:17-17:7. Barratt '470 explains that “[t]he [time] alignment problem is to synchronize exactly the initial timing of the symbols in the signals sent and the signals received in the base station.” Barratt '470 teaches that “[t]he first parameter thus determined is the time alignment, *a time shift* (expressed as a number of samples).” *Id.*, 11:39-41. These values represent an unwanted change in time (“time shift”) of the burst as received at the base station that is to be corrected by applying an appropriate timing adjustment value. Ex. 1003, ¶139. Barratt '470 thus discloses a DSP (i.e., “profile parameter determiner”) for determining a value of at least one **signal-related parameter (e.g., frequency offset, time alignment, etc.).** Ex. 1003, ¶139.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

# Claim Construction

## Claim Construction Summary

1

The Coupled “Profile Parameter Storage Device” and “Profile Parameter Determiner” are Distinct.

POR at 13-15; Sur-Reply at 3-12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

42

# The Coupled “Profile Parameter Storage Device” and “Profile Parameter Determiner” are Presumed Distinct

There is a presumption that the separately-listed “profile parameter storage device” and the “profile parameter determiner” are two different and distinct components.

**“In the absence of any evidence to the contrary, we must presume that the use of ... different terms in the claims connotes different meanings.”**

*Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010).

**Petitioner did not rebut this presumption, as the Institution Decision indicates:**

Apparatus claim 1 recites, “a profile parameter storage device coupled to said profile parameter determiner.” Ex. 1001, 13:11–12. Patent Owner impliedly construes this phrase as requiring that the “profile parameter storage device” and the “profile parameter determiner” be two different and distinct components. *See* Prelim. Resp. 19 (citing *Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n*, 22 F.4th 1369, 1382 (Fed. Cir. 2022)); *id.* at 31 (citing *Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010)). Petitioner’s position on this issue is not clear. *See, e.g.*, Pet. 20 (Petitioner’s contentions for the subject limitation lacking any explicit allegation using the phrase “coupled to.”).

POR at 12-13; Sur-Reply at 3-12; Paper 12 at 16-17.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

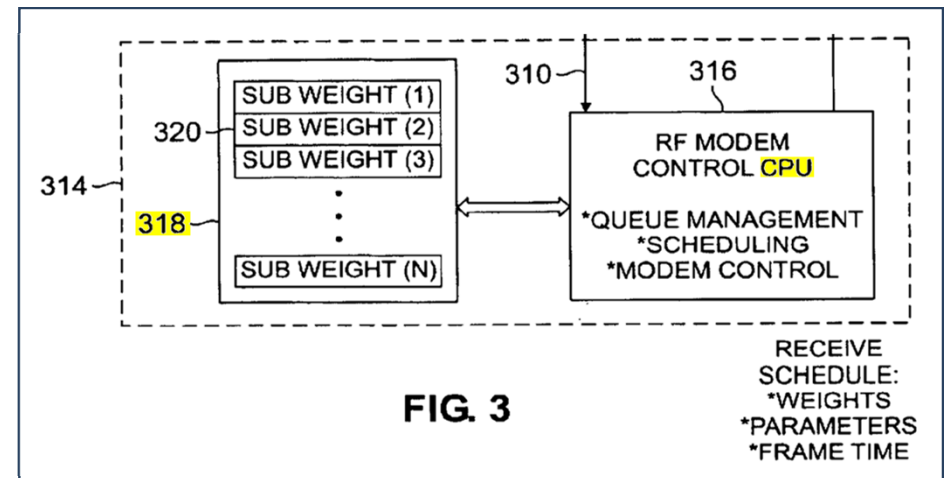
# The Coupled “Profile Parameter Storage Device” and “Profile Parameter Determiner” are Distinct in the Specification

The specification supports the presumption that the “profile parameter storage device” and “profile parameter determiner” are two distinct components.

The specification identifies controller 314 as including a separate memory device 318 (profile storage device) and control CPU 316 (profile parameter determiner):

The controller 314 is here again shown to include the memory device 318 and the control CPU 316. Here, the control CPU is operable to form a profile parameter determiner and updater, and the memory here forms a profile storage device.

The coupling between the separate “profile parameter storage device” and “profile parameter determiner” is shown by the double arrow, below:



Ex. 1001 at Figure 3, 11:9-14; POR at 12-13; Sur-Reply at 3-12.

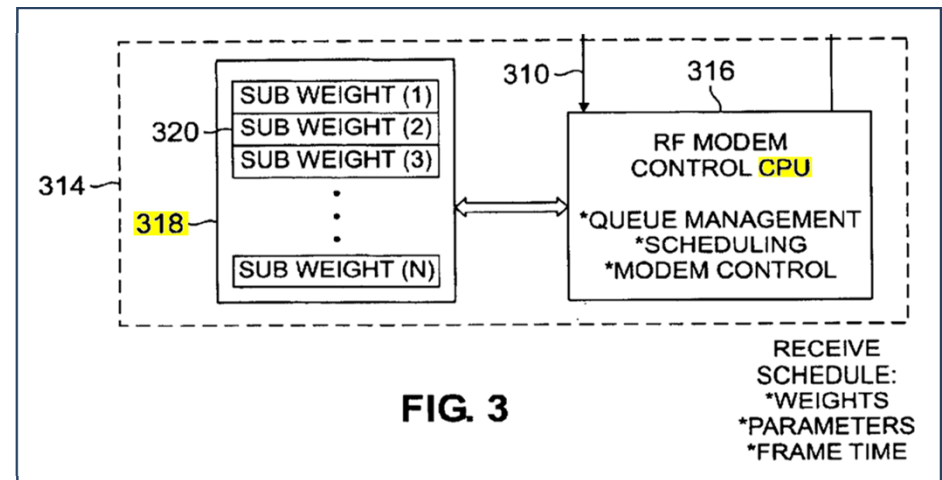
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## The Coupled “Profile Parameter Storage Device” and “Profile Parameter Determiner” are Distinct in the Specification

Petitioner is incorrect in arguing that “it is the overall controller 314 of Figure 3 which performs the claimed steps of receiving and determining.”

The specification makes clear that control CPU 316—contained within controller 14—performs these steps:

modems 304 and 302 respectively. The modems are shown to be functionally coupled to controller 316 via lines 310, for receiving contention results, and 312 for passing parameters, frame times and weight values for the modems to apply to the received signals. Controller 314 includes control CPU 316 and memory device 318.

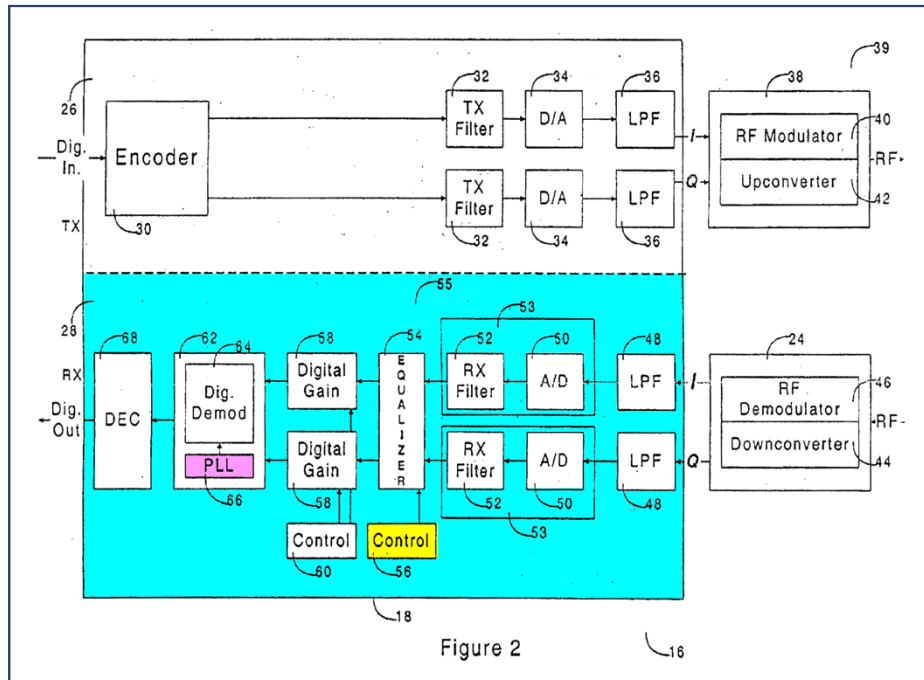


Ex. 1001 at Figure 3, 10:9-14; POR at 12-13; Sur-Reply at 3-12; Reply at 8.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

## A Component May Not Be “Coupled To” Itself

The Petition alleges that the “profile parameter storage” is contained within the “profile parameter determiner:



PLL 66

Equalizer controller 56

Alleged “profile  
parameter determiner”

POR at 16-24; Sur-Reply at 3-12; Ex. 1005 at Figure 2.

- “It goes beyond the plain meaning of ‘coupled’ to say that a sub-component (e.g., an engine in a car) is ‘coupled to’ the component as a whole (e.g., the car).”

*Cutsforth, Inc. v. MotivePower, Inc.*, 643 F. App’x 1008, 1012–13 (Fed. Cir. 2016)

- “It would be illogical to regard one unit as being ‘attached’ to itself.”  
*In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1280 (Fed. Cir. 2015) (quotation omitted)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE